CITY OF TULSA

CITY EXPERIENCE
City Design Studio

DATE:
October 28, 2025

TO:
Plan Holders
Contractors

FROM:
Jenna Richardson
918-596-9637
jennarichardson@cityoftulsa.org

EMAIL TRANSMITTAL

ADDENDUM NO. 2

PROJECT NO SP 20-6 GREENWOOD CULTURAL CENTER FACILITY REHABILITATION.

1836 × 1898

TUL × USA

Number of pages: 393

All addenda to the contract documents should be denoted on the last page of the Proposal in the space provided.

Thank you,
Contract Administration

CITY OF TULSA

PARKS & FACILITIES
CABS – City Architectural Building Services

DATE:
October 28, 2025

ADDENDUM NO. 2
TO
PROJECT NO. SP 20-6
GREENWOOD CULTURAL CENTER FACILITY REHABILITATION

This Addendum No.2 consisting of (1) clarification and (28) items, submitted by JCJ Architecture, is hereby made a part of the Contract Documents to the same extent as though it were originally included therein and shall supersede anything contained in the Plans and Specifications with which it might conflict. **All addenda to the contract documents should be denoted on the last page of the Proposal in the space provided.**

This Addendum No. 2 consists of the following:

1. The attached documents list the detail items that have been modified in Addendum No. 2. These documents shall be inclusive and apply to this project.
2. Delete the existing bid proposal form in its entirety and replace with the revised Bid Proposal located at: **https://www.cityoftulsa.org/government/departments/public-works/engineering-services/construction-bids/**. It is the Bidder's responsibility to download the revised Bid Proposal.
3. **Bid Opening Date** changing from October 31, 2025, to **November 07, 2025.**

All other provisions of the Plans and Specifications shall remain in full force and effect.

CITY OF TULSA

Paul Zachary
Deputy Director

MK/HAS/JR/ma

JCJARCHITECTURE JCJ.COM

addendum

Date: 10/22/2025 **Addendum No.:** 02

Project Name: Greenwood Cultural Center **Project No.:** SP 20-6

Facility Rehabilitation

The following changes or modifications are to be incorporated into and become a part of the Contract Documents. The Bidder shall note receipt and make acknowledgement of this Addendum on the Bid Proposal, incorporating these provisions in the bid.

GENERAL CLARIFICATIONS:

1. The drawing set from the City of Tulsa website is a half-size set.

SUBSTITTION REQUESTS:

2. 075423 THERMOPLASTIC POLYOLEFIN ROOFING
    a. "GAF", approved, see attached.
3. 102239 FOLDING PANEL PARTITIONS
    a. "Kwik-Wall" approved, see attached.
4. LED Interior and Exterior Lighting
    a. "ULA Lighting" approved as noted, see attached.
5. LED Interior and Exterior Lighting
    a. "Smith Lighting" approved as noted, see attached.

PROPOSAL

1. Revised Line 183
2. Added Lines 230-234

AE ESTIMATE

3. Revised Line 71
4. Revised Line 183
5. Added Lines 230-234

SPECIFICATIONS:

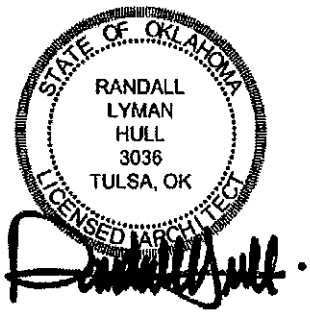
1. REVISED Table of Contents
2. REVISED Section 012300 - Alternates
3. REVISED Section 064100 – Architectural Wood Casework
4. REVISED Section 075400 – Thermoplastic Membrane Roofing

DRAWINGS:

1. G-000 COVER
    a. Revised sheet list.
2. G-001 PAY ITEMS
    a. Revised schedule layout, no revisions to information
3. G-002 PAY ITEMS
    a. Revised line 183
    b. Added Alternate 6, lines 230-234

4. A-001 GENERAL ARCHITECTURAL LEGENDS
    a. Added demolition notes
5. A-119 OVERALL ROOF PLAN
    a. Revise insulation thickness to r-value
6. A-800 ADD ALTERNATES DEMO OVERALL PLAN
    a. Added reference
7. A-802 ADD ALTERNATES OVERALL FLOOR PLAN
    a. Added exit signs to movable partition
    b. Added reference
8. A-833 ALT-3 ENLARGED FLOOR PLAN
    a. Revised note
9. A-870 ALT-6 OVERALL FLOOR PLAN
    a. Added sheet
10. A-871 ALT-6 – ENLARGED DEMO AND FLOOR PLAN
    a. Added sheet
11. A-872 ALT-6 INTERIOR ELEVATIONS AND DETAILS
    a. Added sheet
12. P-000 PLUMBING LEGEND
    a. Revised PLUMBING SHEET INDEX
13. P-800 LEVEL 1 SUPPLY PLAN – ADD ALTERNATE
    a. Added sheet
14. P-871 PLUMBING ENLARGED PLANS – ALT 6
    a. Added sheet
15. E-801 OVERALL LIGHTING PLAN – ALT BID
    a. Revised LIGHTING FIXTURE SCHEDULE ALT BID

End of Addendum No. 02



10/28/2025

Advancement of Construction Technology

SUBSTITUTION REQUEST

Project: Greenwood Cultural Center

Substitution Request Number: n/a

To: Project Manager

From: Tim Reed

Date: 10/6/25

Re: Roofing Substitution Request

A/E Project Number: n/a

Contract For: n/a

Specification Title: Thermoplastic Polyolefin Roofing

Description: Materials / Manufacturer

Section 075423 Page: 2-3

Article/Paragraph 2.01. A / 2.01.B / 2.01.C

Proposed Substitution: Everguard FB TPO / Energyguard Polyiso / DEXcell

Manufacturer: GAF Address: Wayne NJ Phone: 918 798-2773

Trade Name: GAF Model No.: n/a

Attached data includes product description, specifications, drawings, photographs, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.

Submitted by: Tim Reed

Signed by:

Firm: Roofing System Solutions, LLC

Address: P.O. Box 30355
Edmond, OK 73003

Telephone: 405-650-8915 tim@rssproducts.com

A/E's REVIEW AND ACTION

☒ Substitution approved - Make submittals in accordance with Specification Section 01330.
☐ Substitution approved as noted - Make submittals in accordance with Specification Section 01330.
☐ Substitution rejected - Use specified materials.
☐ Substitution Request received too late - Use specified materials.

Signed by: Alex Kuiper, JCJ Date: 10/28/2025

Supporting Data Attached: ☐ Drawings ☒ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ _____

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99 Canal Center Plaza, Suite 300 Alexandria, VA 22314

SECTION 012501 - SUBSTITUTION REQUEST FORM

Project: Greenwood Cultural Center
To: City of Tulsa
Re:

Substitution Request Number:
Date: 10/7/25
From: Timm Smith @ Murray Womble
COT Project Number: SP 20-6
Contract for:

Specification Section: 102239
Specification Title: FOLDING PANEL PARTITIONS

Description: FOLDING PANEL PARTITIONS
Page: 1 - 4 Article/Paragraph:

Proposed Substitution: Kwik-Wall Model 3020
Manufacturer: Kwik-Wall Inc.
Trade Name:

Address: 4650 Industrial Ave.
Springfield,IL 62703

Installer/Subcontractor: Murray Womble Inc.

Address: Owasso, OK

History: [ ] New Product [ ] 1-4 years old [ ] 5-10 years old [X] More than 10 years old

Differences between proposed substitution and specified products: Kwik-Wall has a 5-year warranty. Moderco has a 2-year warranty. Kwik-Wall is manufactured in the US. Moderco is manufactured in Canada.

[X] Point-by-Point comparative data attached -- REQUIRED BY A/E

Reason for not providing specified item: Requesting to bid a competitive product.

Similar Installation:
Project: OKANA CONVENTION CTR.
Address: OKC, OK

Address:
Owner: Chickasaw Nation
Date Installed:

Proposed substitution affects other parts of the Work: [x] No [ ] Yes; explain:

Savings to Owner (City of Tulsa) for accepting substitution: $
Proposed substitution changes Contract Time: [ ] No [ ] Yes [Add] [Deduct] days.

Supporting data attached: [ ] Drawings [x] Product Data [ ] Samples [x] Samples [x] Tests [x] Reports [ ] Other

Attached data includes product description, specifications, drawings, photographs, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.

Submitted by: Timm Smith
Firm: Murray Womble Inc.
Address: 8150 N. 116th East Ave.
Owasso, OK 74055
Telephone: 918-600-9286 email: tsmith@murraywomble.com

Signed by: _____ Date: 10/7/25

A/E's REVIEW AND ACTION

[X] Substitution Approved: Make submittals in accordance with Specification Section 012500 Substitution Procedures.
[ ] Substitutions Approved as Noted: Make submittals in accordance with Specification Section 012500 Substitution Procedures.
[ ] Substitution Rejected: Use specified materials.
[ ] Substitution Request received too late: Use specified materials.

Signed by: Alex Kuiper, JCJ Date: 10/28/2025

Supporting Data Attached: [ ] Drawings [ ] Product Data [ ] Samples [ ] Samples [ ] Tests
[ ] Reports [ ] Other _____

3020/3020GL TECHNICAL DATA

3000 Series panels, Individual Panels/Multi-Directional

KWIK-WALL... One Source for Wall Systems.

KWIK-WALL's 3000 Series - Steel Panel operable wall systems with heights up to 30'2" answer the challenge for space division needs posed by multi-purpose room layouts. Years of continuing research and development have produced many outstanding features!

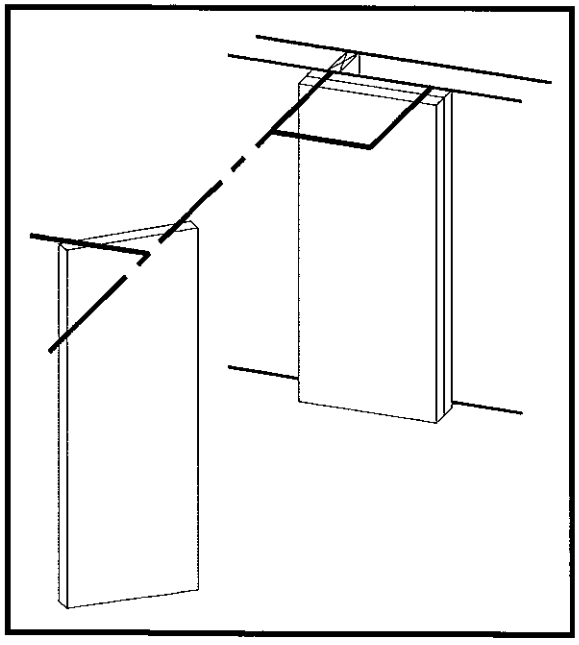
The Model 3020 combines durable steel skins with a welded steel frame to deliver superior durability and maximum sound control. Optional acoustical Glass inserts (3020GL) are also available.
Multi-Directional wall systems consist of manually operated, individual panels that are suspended from a structural aluminum track which utilizes 90° "X," "L" and "T" intersections, allowing unlimited directional versatility.

SOUND CONTROL...

KWIK-WALL's 3000 Series - Steel Panel is a complete line of acoustically rated wall systems that are designed and manufactured to meet the most demanding sound control requirements. Sound Transmission Class (STC) ratings from 43 STC to 56 STC have been tested and certified in an independent acoustical laboratory in accordance with ASTM E 90 and ASTM E 413 test procedures. The STC ratings represent a single number expression of the effectiveness of an operable wall in preventing the passage of transmitted sound in the range* of 125 Hz to 4,000 Hz.

For assistance with designing room division applications using Operable, Glass or Accordion wall systems, please contact your local KWIK-WALL distributor.

*The average human ear has an audibility range from 125 Hz to 4,000 Hz.Levels in excess of 65 dB to 70 dB are generally too loud for ordinary speech communication. When the sound pressure exceeds 120 dB, it normally passes the threshold of pain.



1.01 WORK INCLUDED

A. Operable Wall System shall be furnished, installed and serviced by KWIK-WALL's authorized distributor, in compliance with the architectural drawings and specifications contained herein.

1.02 RELATED WORK

A. Structural Support: Structural support system required for suspending the operable wall shall be designed, installed and pre-punched by others, in accordance with ASTM E 557 and KWIK-WALL's shop drawings.

B. Insulation: Sound insulation and baffles for the plenum area above the track system, under the permanent floor, inside air ducts passing over or around the operable wall, and in permanent walls adjoining the operable wall system shall be by others, in accordance with ASTM E 557.

C. Opening Preparation: Proper and complete preparation of the operable wall system opening shall be by others in accordance with ASTM E 557, and shall include floor leveling; plumbness of adjoining permanent walls; substrate and / or ceiling tile enclosures for the track system; and the painting and finishing of trim and other materials adjoining the head and jamb areas of the operable wall. Any permanent wall(s) receiving an adjustable or fixed wall jamb will require internal structural blocking in order to secure the jamb to the permanent wall. Refer to a copy of the shop drawings for additional details.

1.03 SYSTEM DESCRIPTION

A. The operable wall system shall consist of Individual Panels that are top supported by two (2) multi-directional carriers that are capable of negotiating 90° "X", "L" and "T" intersections.

B. The operable wall system shall consist of acoustically rated panels tested in accordance with ASTM E 90 and ASTM E 413 test procedures, and shall have achieved a STC rating as specified herein (see "Acoustical Performance" article listed under Part 2 – Products).

1.04 QUALITY ASSURANCE

A. The operable wall shall have been tested in an independent acoustical testing laboratory in accordance with ASTM E 90 and ASTM E 413 test procedures.

B. The operable wall panel construction and finish materials shall consist of Class A rated materials in accordance with ASTM E 84.

C. The operable wall shall be installed by KWIK-WALL's authorized distributor in accordance with ASTM E 557.

1.05 REFERENCES

A. ASTM E 90: Laboratory Measurement of Airborne-Sound Transmission Loss of Building Partitions.

B. ASTM E 413: Determination of Sound Transmission Class (STC).

C. ASTM E 557: Architectural Application and Installation of Operable Partitions.

D. ASTM E 84: Surface Burning Characteristics of Building Materials.

E. ASTM A 653: Specification for General Requirements for Steel Sheet, Alloy-Coated (Galvannealed) by the Hot Dip Process.

F. ASTM C 423: Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.

G. CCC-W-408A: Federal Specification which applies to Vinyl Coated Wall Coverings.

H. CFFA-W-101-D: Chemical Fabrics and Film Association Quality Standard for Vinyl Coated Fabric Wall Coverings.

I. ATTM E 2190: Certification and testing for Insulated Glass inserts

1.06 SUBMITTALS

A. KWIK-WALL shall provide written technical information and related detail drawings, which demonstrate that the products comply with contract documents for each type of operable partition specified.

B. KWIK-WALL shall provide detailed engineering drawings featuring track plan, panel elevation, horizontal and vertical details and beam punching template as required.

C. KWIK-WALL shall provide written test report of the independent acoustical testing laboratory certifying the attainment of the specified STC rating, upon request.

D. KWIK-WALL shall provide written instructions specifying the proper operation and maintenance of the operable wall system.

E. KWIK-WALL shall provide a color selector demonstrating KWIK-WALL's selections of the specified finish material. Samples shall consist of actual swatches of the specified finish material.

1.07 DELIVERY, STORAGE AND HANDLING

A. Panels shall be individually wrapped in a protective plastic covering to keep panels clean during delivery, storage and handling.

B. Panels shall be stored on edge and above the floor on cushioned blocking in a dry and ventilated area, protected from humidity and temperature extremes.

1.08 SEQUENCING / SCHEDULING

A. Beam Punching: KWIK-WALL shall provide beam punching template drawing detailing the anchor locations for the suspended track system (as required for Drop Rod Mounting), as required for the fabrication and installation of structural overhead support by others.

B. Track Installation: Scheduling of operable wall track installation shall occur after structural overhead support has been properly and completely fabricated and installed by others.

C. Panel Installation: Operable wall panel installation shall occur after fixed wall substrate construction is properly and completely installed by others, as required to protect panels from ongoing adjacent construction.

1.09 WARRANTY

A. KWIK-WALL shall warrant each operable wall panel and its component parts to be free from defects in material and workmanship for a period of five (5) years from the date of delivery to the original purchaser, when installed by an authorized KWIK-WALL distributor. KWIK-WALL also warrants the fixed top seals, track, carriers, and its component parts to be free from defects in material and workmanship for a period of ten (10) years. (see actual warranty on Page 16 for details and limitations).

2.01 ACCEPTABLE MANUFACTURER

A. Operable walls shall be Series 3000, Model 3020/3020GL

Individual Panels / Multi-Directional as manufactured by KWIK-WALL Company.

2.02 PANEL CONSTRUCTION

A. Panel Dimensions: Standard panel dimension shall be a nominal 4" [101.6] thick.

B. Panel Frame: Steel frame shall be 16-gauge galvanneal steel, horizontal top cross member shall be minimum 12-gauge galvanneal steel which meets or exceeds ASTM A 653 requirements. Frame shall be all-welded construction with steel corner supports and crossbracing reinforcement. Panel frame shall be Class A rated, fire retardant, non-combustible and non-corrosive in accordance with ASTM E 84.

C. Panel Skins: Panel skins shall be Class A rated (except Wood Veneer and High Pressure Laminate) in accordance with ASTM E 84. Panel skin material shall consist of (select):

1. Standard Steel Skins: consisting of minimum 22-gauge tension-leveled galvanneal steel, pressure laminated to a structural acoustical backer and mechanically fastened to the steel frame to form a rigid, unitized and structural panel.
2. Optional Acoustical Substrate: consisting of structural acoustical substrate pressure laminated to both sides of the steel frame to form a rigid, unitized and structural panel.
3. Optional Wood Veneer: consisting of particle board core covered with wood veneer and pressure laminated to both sides of the steel frame to form a rigid, unitized and structural panel.
4. Optional High Pressure Laminate: consisting of gypsum board core covered with general purpose plastic laminate and Phenolic backer sheet, which is pressure laminated to both sides of the steel frame to form a rigid, unitized and structural panel.

D. Optional Glass (3020GL): Opening cut out in panel shall be glazed with insulated glass that is manufactured in accordance with ASTM E 2190. Glass type shall be an acoustical insulated glass unit 1 3/4" [44.5] thick with 1" [25.4] air space Glass shall be retained in opening cut out using an aluminum extrusion

E. Panel Weight: Maximum panel weight shall be 5.9 – 12.9 lb./ft.^{2} (29 - 63 kg/m^2) depending on STC rating, size and options selected.

2.03 OPERATION

A. Operation shall be Individual Panels with a Multi-Directional track system that allows the panels to negotiate 90° "X", "L" and "T" intersections as required for movement of panels from storage location(s) to various installed positions. Panels shall be top supported by two (2) carriers featuring dual horizontal precision bearings with high strength polymer tires riding on a structural aluminum track.

2.04 STACK ARRANGEMENTS

A. Stack Type: Panel storage configuration shall be (select):

1. Standard Perpendicular Stack: consisting of panels stacked perpendicular to the wall's installed position.
2. Optional Parallel Stack: consisting of panels stacked parallel to the wall's installed position.
3. Optional Remote Stack: consisting of panels located remotely from the wall's installed position, as shown on submitted shop drawings.

B. Stack Quantity: Panels shall be stored in separate stack areas as required for panel storage.

2.05 FINISHES

A. Finish Material Type: Panel finish material shall be Class A (except wood veneer) rated in accordance with ASTM E 84, consisting of (select):

1. Vinyl: consisting of Type II, reinforced vinyl weighing 21 oz./lin. yd. (651 g/lin. m). Vinyl shall meet or exceed CCC-W-408A and CFFA-W-101-D quality standards.
2. Optional Upgrade Fabric: consisting of fade and tear resistant fabric that resists water-based stains weighing 13 oz./lin. yd. (403 g/lin. m).
3. Optional Basics Carpet: consisting of acoustically absorbent, non-woven needle punch fibers fused to prevent fraying and unraveling of material weighing 28.5 oz./lin. yd. (884 g/n.m). Basics Carpet shall achieve a minimum NRC (Noise Reduction Coefficient) rating of .20 (applied over gypsum substrate) accordance with ASTM C 423.
4. Optional Upgrade Carpet: consisting of acoustically absorbent, non-woven needle punch fibers fused to prevent fraying and unraveling of material weighing 23 oz. / lin. yd. (713 g / lin.m). Upgrade Carpet shall achieve a minimum NRC (Noise Reduction Coefficient) rating of .25 (applied over gypsum substrate) in accordance with ASTM C 423.
5. Optional Wood Veneer: consisting of unfinished flat cut wood veneer laminated to 1/2" [12.7] thick particle board core. Veneer shall be book / running matched within a panel, and vertically edge banded if trimless astragals are specified.

(Notes: Optional Class "A" rated particle board is available. Acoustical substrate STC ratings apply for Wood Veneer panel construction..)

6. Optional High Pressure Laminate: consisting of gypsum board core covered with general purpose plasticlaminate and Phenolic backer sheet, which is pressure laminated to both sides of the steel frame to form a rigid, unitized and structural panel.

(Note: Acoustical substrate STC ratings apply for High Pressure Laminate panel construction.)

7. Optional Unfinished: consisting of panels with exposed acoustical substrate or steel skins for field applied wall covering or painting.

B. Finish Material Supplier: Finish material shall be (select):

1. Standard Factory Supplied: from manufacturer's standard selection of finish materials, as specified.
2. Optional Customer Supplied: from customer's selection of finish material, by others, and as approved by KWIK-WALL Company.

C. Finish Material Application: Finish material shall be (select):

1. Standard Factory Applied: by KWIK-WALL's authorized distributor. Customer supplied finish material samples must be submitted to manufacturer for testing and approval prior to acceptance and application.
2. Optional Field Applied: by others.

2.06 PERIMETER TRIM AND SEALS

A. Vertical Trim and Seals: Panels shall have vertical astragals containing flexible vinyl seals and incorporate reversible tongue and-groove-type configurations for positive interlocking with adjacent panels. Vertical astragal type shall be (select):

1. Standard Trimless Astragal: consisting of an aluminum extrusion with tongue-and-groove-type vertical astragals. Vertical trim shall not be permitted on the panel faces, resulting in a minimal groove appearance between adjacent panels.
2. Optional Cap-type Astragal: consisting of an aluminum extrusion with tongue-and groove-type vertical astragals for encapsulating and protecting the finish material and substrate along the vertical edge of the panel.

B. Horizontal Top Trim and Seals: Top seals shall consist of flexible vinyl sweep seals installed on both sides of the panel. The seals shall consist of a compressed bulb between two (2) fingers of vinyl. Top seal type shall be (select):

1. Standard Fixed Top Seals: consisting of continuous-contact flexible vinyl sealing against the bottom flange of the overhead track.
2. Optional Operable Top Seals: consisting of an edge-activated seal using a removable wrench as supplied by KWIK-WALL. Top seals shall provide a maximum ½" [13] of travel.

(Note: Available only with Standard Operable Bottom Seals.)

C. Horizontal Bottom Trim and Seals: Bottom seals shall consist of multiple fingers of flexible vinyl for positive contact and sealing with various floor surfaces. Bottom seal type shall be (select):

1. Standard Operable Bottom Seals: consisting of an edge activated seal using a removable wrench as supplied by KWIK-WALL. Bottom seals shall provide 2" [50.8] of nominal travel.
2. Optional Adjustable Bottom Seals: consisting of field adjustable, continuous-contact vinyl sweep seals with 2" [50.8] nominal height with 3/4" [19] of nominal adjustment.
3. Optional Automatic Bottom Seals: consisting of self-activated seals providing 2" [50.8] of nominal travel.

D. Horizontal and Vertical Panel Trim: All exposed panel trim and hinges shall be of one (1) similar color (select):

1. Dark Bronze
2. Grey

2.07 CLOSURE SYSTEMS

A. Initial Closure System: The lead panel (the first panel exiting the stack) shall form a seal vertically against a rigid wall surface, as accomplished by a (select):

1. Standard Bulb Seal: consisting of continuous-contact, flexible inyl bulb seals installed along the vertical edge of the lead panel for positive compression against a rigid wall surface.
2. Optional Fixed Starter Jamb: consisting of an aluminum extrusion, which is permanently mounted to a structural wall surface. The Fixed Starter Jamb shall incorporate a tongue- and-groove-type vertical astragal for positive interlocking with the lead panel.
3. Optional Adjustable Starter Jamb: consisting of an aluminum extrusion which is permanently mounted to a structural wall surface and is field-adjustable to compensate for out-of-plumb conditions of the fixed wall. The Adjustable Starter Jamb shall incorporate a tongue-and-groove-type vertical astragal for positive interlocking with the lead panel.

B. Final Closure System: The final closure panel (the last panel exiting the stack) shall form a seal vertically against a rigid wall surface. The type of final closure panel shall be (select):

1. Standard Expander Panel Closure: consisting of an expander mechanism with a nominal 5" [127] of travel, activated from the face of the panel using a removable wrench as supplied by manufacturer. The Expander Panel shall be equipped with an adjustable bottom seal (standard) or (optional) operable bottom seal, and a flush pull handle.
2. Optional Hinged Panel(s) Closure: consisting of a panel hinged Permanently and directly to a structural wall surface. The Hinged Panel(s) shall be equipped with an adjustable bottom seal, a lap-type extrusion for sealing against its adjacent panel (standard) or (optional) expander mechanism with a nominal 5" [127] of travel, and a flush pull handle on each side of the panel.
3. Optional Pocket Door(s): (see "Series 3000 Pocket Door" brochure for complete details and specifications).

2.08 ACOUSTICAL PERFORMANCE

A. Certification: The operable wall shall have been tested in an independent acoustical testing laboratory in accordance with ASTM E 90 and ASTM E 413 test procedures.

B. STC Rating: The operable wall acoustical performance rating shall be based on (select):

1. Standard Steel Skins: with a standard rating of 52 STC, or optional ratings of 46 STC, 50 STC or 56 STC.

(Note: Not available with optional Wood Veneer ot High Pressure Laminate.)

2. Optional Acoustical Substrate: with optional ratings of 43 STC, 46 STC, 48 STC or 50 STC.
3. Optional Glass Insert (3020GL): Standard acoustical substrate: with a standard rating of 43 or 48 STC.

2.09 PANEL ACCESSORIES

A. Accessories including Pass Doors; Single or Double, Concealed Door Closures, Room Viewers, Exit Signs, Dry Marker Writing Surfaces, Recessed Eraser Trays, Vision Lites, Tack Surfaces and Pocket Doors shall be compatible with other accessories and options, furnished and installed by the operable wall manufacturer as noted on submitted shop drawings.

2.10 TRACK SYSTEMS

A. Track Type: The operable wall track system shall be extruded from structural aluminum alloy, which prohibits deterioration caused by rust or corrosion. The aluminum track shall have a durable anodized clear satin finish, which resists color fading and flaking. The track shall utilize grooves and interlocking steel pins for positive alignment of adjacent track sections. The track joints shall be reinforced overhead by a heavy-duty steel bracket made of hot-rolled, 3/8" [10] thick plate steel. Aluminum track shall include an integral nut slot to accept a hardened steel square nut to facilitate attachment of each steel all-rod and splice brackets to the overhead structural support.

B. Track Size: The track size shall be (selected from Track and Carrier Selection Chart - refer to Page 7):

1. Type 425 Multi-Directional Aluminum Track: certified to be capable of supporting up to 525 lb. (238 kg) of total live load weight per panel.
2. Type 850 Multi-Directional Aluminum Track: certified to be capable of supporting up to 850 lb. (386 kg) of total live load weight per panel.

2.11 CARRIER SYSTEMS

A. Carrier Type: Each Individual Panel shall be top supported by two (2) carriers utilizing a 5/8" [16] diameter pendant bolt. Each carrier shall consist of dual horizontal, permanently lubricated, precision ground steel bearings with high strength polymer tires as required for smooth and quiet operation. Multi-Directional carriers shall be capable of negotiating 90° "X", "L" and "T" intersections as required for moving panels from storage location(s) to various installed positions.

B. Carrier Size: The carrier size shall be (select from Track and Carrier Selection Chart - refer to Page 10):

1. Type 425 Multi-Directional Carrier: certified to be capable of supporting up to 525 lb. (238 kg) of total live load weight per panel.
2. Type 850 Multi-Directional Carrier: certified to be capable of supporting up to 850 lb. (386 kg) of total live load weight per panel.

2.12 SUSPENSION SYSTEMS

A. Mounting Systems: The track shall be supported by (select):

1. Standard Drop Rod Mount: consisting of adjustable rods of grade 2, 3/8" [10] diameter threaded steel all-rod provided with 3/8" [10] serrated steel nuts.
2. Optional Direct Mount: consisting of 3/8" [10] x 3" [76] lag screws for attachment to an overhead structural (wood) support. (Direct Mount track installations should not exceed 425 lb. (193 kg) of panel weight.)
3. Optional Drop Rod Bracket Mount: consisting of 3/8" [10] thick steel brackets mounted to top of track and supported with adjustable rods of grade 2, 3/8" [10] diameter threaded steel all rod provided with 3/8" [10] serrated steel nuts.

3.01 INSPECTION

A. Proper and complete preparation of the operable wall system opening shall be by others in accordance with the architectural drawings, KWIK-WALL's shop drawings and ASTM E 557. Any deviation of the actual opening from these specifications shall be called to the attention of the architect prior to the installation of the operable wall.

B. Deficiencies in the operable wall opening shall be corrected by others prior to installation of the operable wall.

3.02 INSTALLATION

A. The operable wall system shall be installed by KWIK-WALL's authorized distributor.

B. The operable wall shall be installed in accordance with KWIK-WALL's written instructions, shop drawings and ASTM E 557 installation guidelines.

3.03 ADJUSTING AND CLEANING

A. The operable wall panels and track system shall be adjusted and cleaned in accordance with KWIK-WALL's written instructions.

3.04 PROTECTION

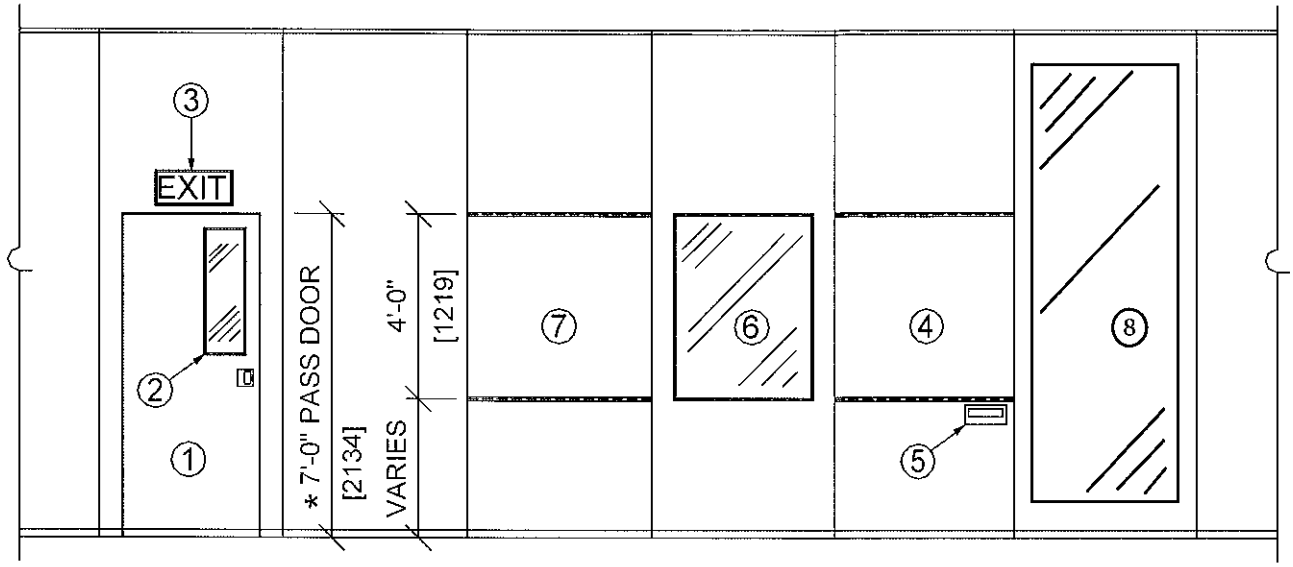
A. The operable wall panels shall be stored in the stacked (retracted) position prior to acceptance by the owner's representative.

3.05 DEMONSTRATION

A. KWIK-WALL's authorized distributor shall demonstrate proper operation and explain proper and necessary maintenance requirements of the operable wall system to the owner's representative.

MODEL 3020/3020GL OPTIONS AND ACCESSORIES

KWIK-WALL offers a full complement of accessories for customizing any operable wall system to meet the specific needs of the most demanding project.



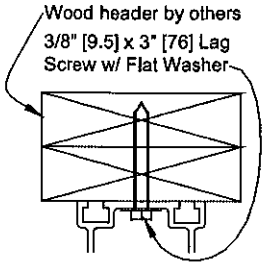
ACCESSORIES

1. Pass Door (Single shown, double available)
2. Pass Door Vision Lite
3. Exit Sign
4. Writing Surface
5. Recessed Eraser Tray
6. Panel Vision Lite
7. Tack Surface
8. Insulated Glass Insert (3020GL)
9. Pocket Door (Not shown)

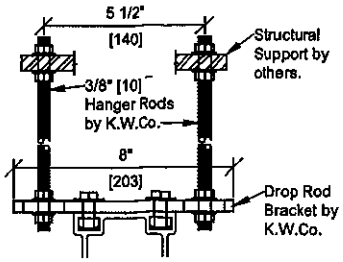
Notes:

1. * 7' - 8" (2.34m) minimum panel fabrication height required.
2. For complete specifications and details of KWIK-WALL Accessories, please visit our website at www.kwik-wall.com.

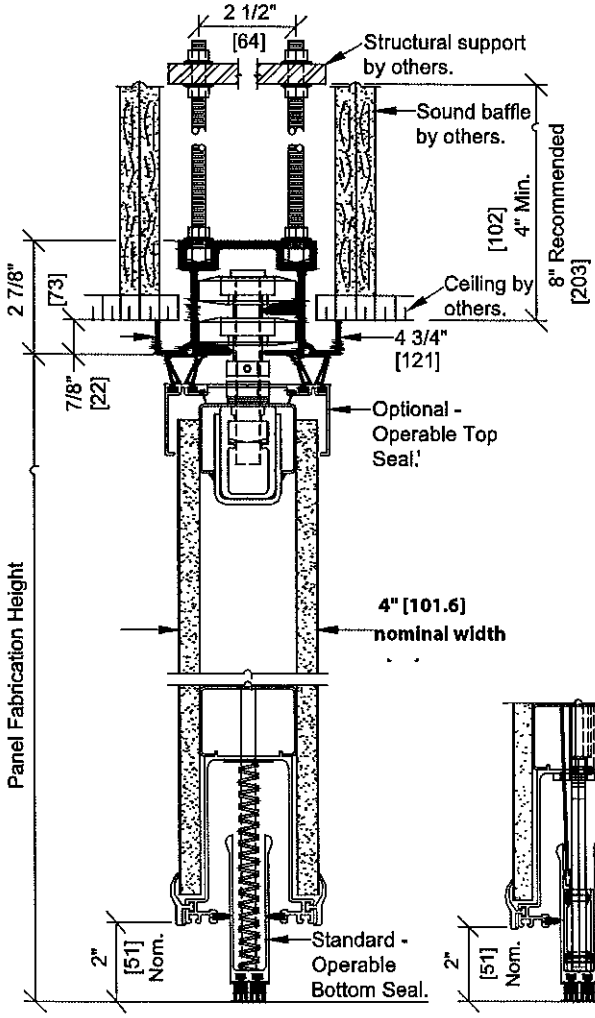
MODEL 3020 VERTICAL DETAILS



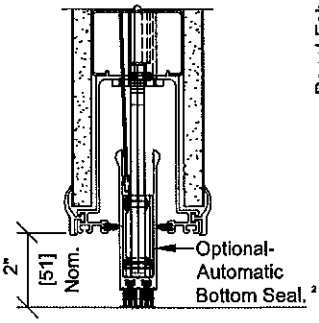
Optional Direct Mount



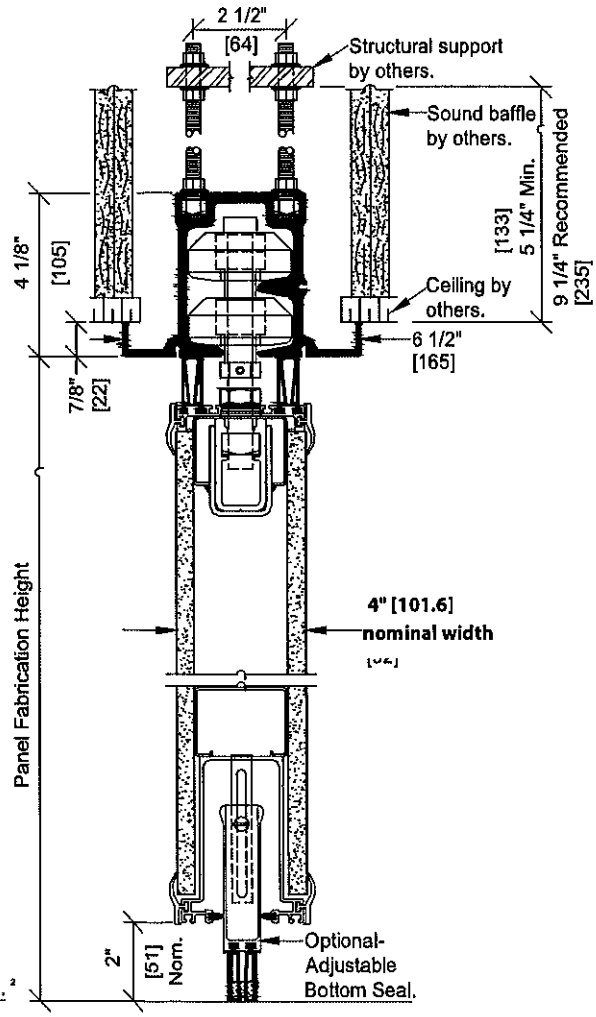
Optional Drop Rod Bracket Mount



425 Multi-Directional Aluminum Track and Carrier



Optional Automatic Bottom Seal

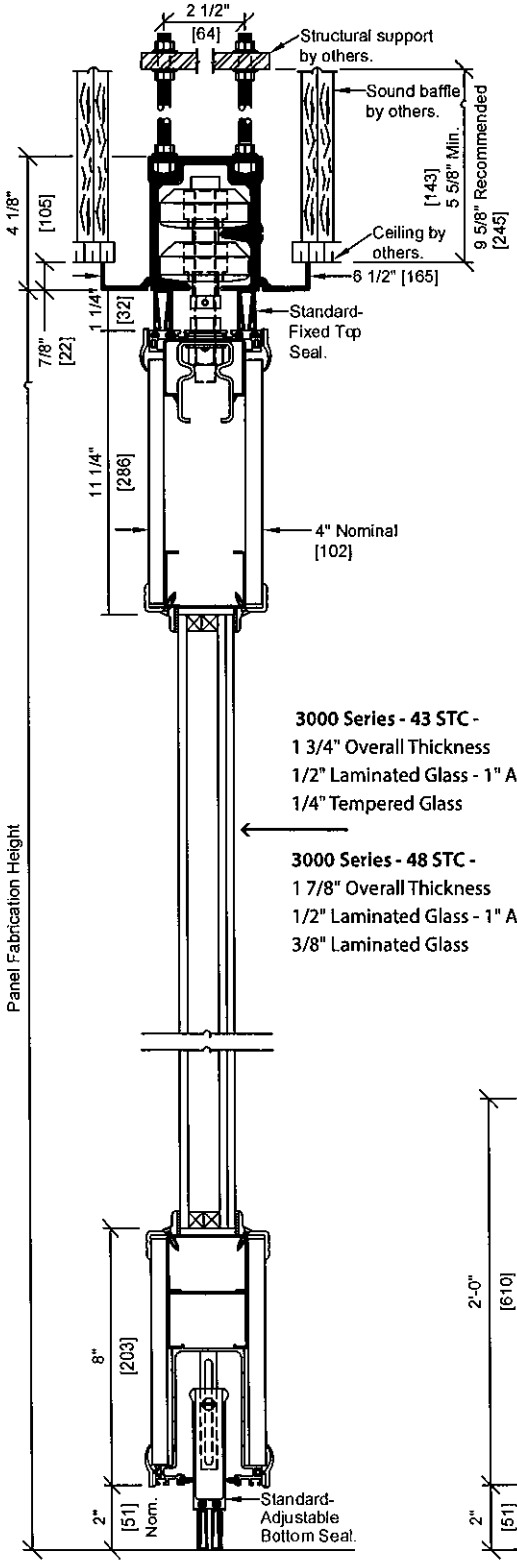


850 Multi-Directional Aluminum Track and Carrier

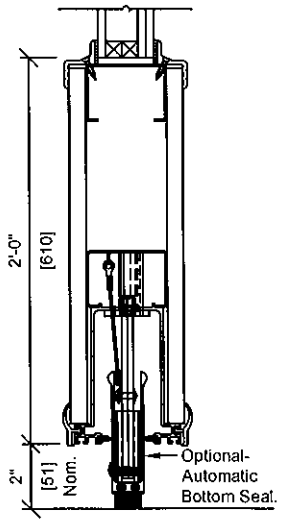
Notes:

1. Optional operable top seal requires standard operable bottom seal.
2. Optional automatic bottom seal is not available with final closure panel(s).

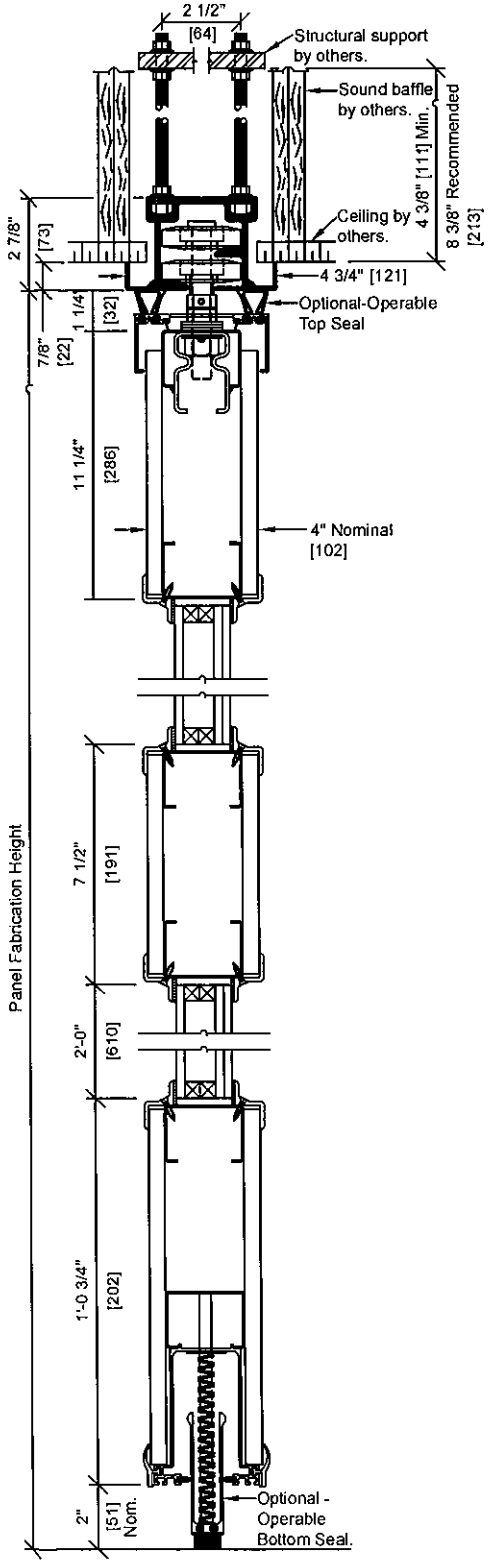
MODEL 3020 GL VERTICAL DETAILS



850 Multi-Directional Aluminum Track and Carrier



Optional Automatic Bottom Seal



425 Multi-Directional Aluminum Track and Carrier

Notes:

1. Optional operable top seal requires standard operable bottom seal.
2. Optional automatic bottom seal is not available with final closure panel(s).

3020/3020GL SERIES - TRACK AND CARRIER SELECTION CHART

3020 SERIES - TRACK AND CARRIER SELECTION CHART

Panel Skin Type	Maximum Panel Weight lb./ft²	STC Rating	Panel Fabrication Height*										
			Up to 11'-2" [3.40]	Up to 12'-2" [3.71]	Up to 13'-2" [4.01]	Up to 14'-2" [4.32]	Up to 15'-2" [4.62]	Up to 16'-2" [4.93]	Up to 22'-2" [6.76]	Up to 24'-2" [7.37]	Up to 26'-2" [7.37]	Up to 28'-2" [7.37]	Up to 30'-2" [7.37]
Acoustical Substrate	5.9 (29 kg/m²)	43					Not Available						
Acoustical Substrate	6.6 (32 kg/m²)	46											
Acoustical Substrate	7.5 (37 kg/m²)	48	425 C&D TRACK CARRIERS										
Acoustical Substrate	9.0 (44 kg/m²)	50											
Steel Skin	8.5 (41 kg/m²)	46											
Steel Skin	9.5 (46 kg/m²)	50						850 TRACK & CARRIERS				850 H.D. TRACK & CARRIERS	
Steel Skin	9.5 (46 kg/m²)	52											
Steel Skin	12.9 (63 kg/m²)	56											

** Estimated panel weights are for intermediate panels. Weight may vary due to substrate, size, or function of panel. Add 105 lbs. for pass door.
Add 6 lbs. per lin. ft height for expanders. Add 3.5 to 8 lbs. per lin. ft. for track. Depending on panel options selected Kwik-Wall may require 850 Track & Carriers

**For panel fabrication heights over 16' -2" [4.93] please contact KWIK-WALL Company for design assistance.

MODEL 3020 GL - TRACK AND CARRIER SELECTION CHART

PANEL SKIN TYPE	MAXIMUM PANEL WEIGHT lb. / ft.²	STC RATING	PANEL FABRICATION HEIGHT*								
			Up to 8'-2" (2.49 m)	Up to 9'-2" (2.79 m)	Up to 10'-2" (3.10 m)	Up to 11'-2" (3.40 m)	Up to 12'-2" (3.71 m)	Up to 13'-2" (4.01 m)	Up to 14'-2" (4.32 m)	Up to 16'-2" (4.93 m)	Up to 24'-2" (7.37 m)
Acoustical Substrate	11.3 (55 kg/m²)	43/48	425 Track & Carriers								
Steel Skin	12.3 (60.5 kg/m²)	43/48				850 TRACK & CARRIERS					

*Based on 4' - 0" [1.22] Intermediate panel widths.
*For Panel fabrication heights over 16'2" (4.93m) please contact Kwik-Wall Company for design assistance.

MODEL 3020/3020GL PANEL WEIGHTS

MODEL 3020 PRODUCT GUIDE
Standard Steel Skin Construction

STC Rating	Panel Thickness (nominal)	Max. Panel Weight lb./ft.²	Maximum Panel Height	Maximum Wall Width
46	4" [101.6]	8.5 (41 kg/m²)	30' - 2" [9.2]	Unlimited
50	4" [101.6]	9.5 (46 kg/m²)	30' - 2" [9.2]	Unlimited
52	4" [101.6]	9.5 (46 kg/m²)	30' - 2" [9.2]	Unlimited
56	4" [101.6]	12.9 (63 kg/m²)	30' - 2" [9.2]	Unlimited

MODEL 3020 PRODUCT GUIDE
Optional Acoustical Substrate Construction

STC Rating	Panel Thickness (nominal)	Max. Panel Weight lb./ft.²	Maximum Panel Height	Maximum Wall Width
43	4" [101.6]	5.9 (29 kg/m²)	14'-2" (4.32 m)	Unlimited
46	4" [101.6]	6.6 (32 kg/m²)	14'-2" (4.32 m)	Unlimited
48	4" [101.6]	7.5 (37 kg/m²)	14'-2" (4.32 m)	Unlimited
50	4" [101.6]	9.0 (44 kg/m²)	14'-2" (4.32 m)	Unlimited

*Optional Wood Veneer or High Pressure Laminate only available as Acoustical Substrate Construction.

** Estimated panel weights are for intermediate panels. Weight may vary due to substrate, size, or function of panel. Add 105 lbs [47kg] for pass door. Add 6 lbs [3kg] per lin ft height for expanders. Add 3.5 to 8 lbs [1.6 to 3.6kg] per lin ft for track.

*** Standard features can be modified, contact your Kwik-Wall distributor for the features you want.

**** Horizontal Splice: Heights over 14'2" [4.31] with Acoustical Substrate require a structural splice.

MODEL 3020 GL PRODUCT GUIDE
Standard Acoustical Substrate Construction

STC Rating	Panel Thickness (nominal)	Max. Panel Weight lb./ft.²	Maximum Panel Height	Maximum Wall Width
43/48	4" [101.6]	11.3 (55 kg/m²)	14'-2" (4.32 m)	unlimited

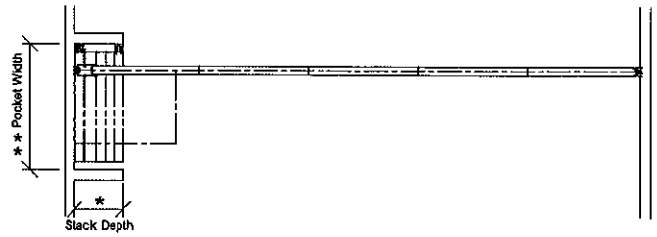
MODEL 3020 GL PRODUCT GUIDE
Optional Steel Skin Construction

STC Rating	Panel Thickness (nominal)	Max. Panel Weight lb./ft.²	Maximum Panel Height	Maximum Wall Width
43/48	4" [101.6]	12.3 (60.5 kg/m²)	24' - 2" [3.37m]	unlimited

Notes: Optional Class "A" rated particle board is available.
Acoustical substrate STC ratings apply for Wood Veneer panel construction.

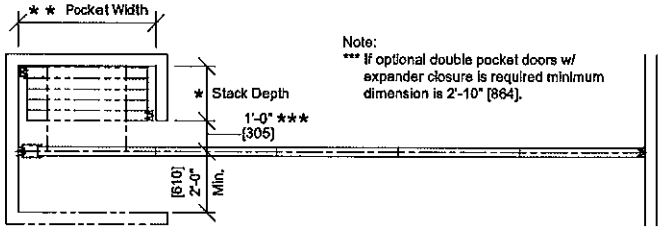
* For panel fabrication heights over 16' -2" [4.93] please contact KWIK-WALL Company for design assistance.

MODEL 3020/3020GL STACK ARRANGEMENTS



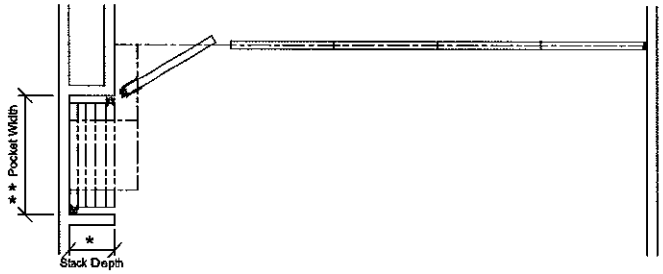
Standard Perpendicular Stack

Perpendicular stacking allows individual panels to be located at one (1) or both ends and stored perpendicular to the wall's installed position..



Optional Parallel Stack

In contrast to perpendicular stacking, Individual Panel arrangements may also be stored parallel to the wall's installed position, at one (1) or both ends..



Optional Remote Stack

For more complex wall system layouts, or when space or other room constraints dictate, Individual Panels may be located remotely from the wall's installed position.

Stack Depth*

The overall depth of the stack area, as required for panel storage, is dictated by the total number of panels in the wall system. KWIK-WALL's Model 3020 - Steel panels require an average stack depth of 4¼" [108] per panel. To determine the stack depth, calculate as follows:

Number of Panels x 4¼" [108]

*Note: Additional stack depth is required for wall systems containing the following type of panels:

- Expander Panel Closure or Pass Door Panel: ¾" [19]
- Hinged Panel(s) Closure: 4" [102]
- Pocket Door(s): 6" [152]

**Note: For wall systems that include Pocket Doors, please reference KWIK-WALL's "3000 Series Pocket Doors" brochure for pocket layout dimensions and applications.

Pocket Width**

The width of the pocket is determined by the widest panel in the wall run. For specification purposes, assume the widest panel is 4'-0" (122cm) maximum. Wall systems that utilize Automatic type bottom seals will require extra pocket width to allow clearance for the actuator that protrudes from the bottom of the lead panel. Pocket width may be calculated as follows:

If Adjustable or Operable Bottom Seals are specified:

Panel Width + 7" [178]
(allows 3½" [89] for hand clearance on each side)

If Automatic Bottom Seals are specified:

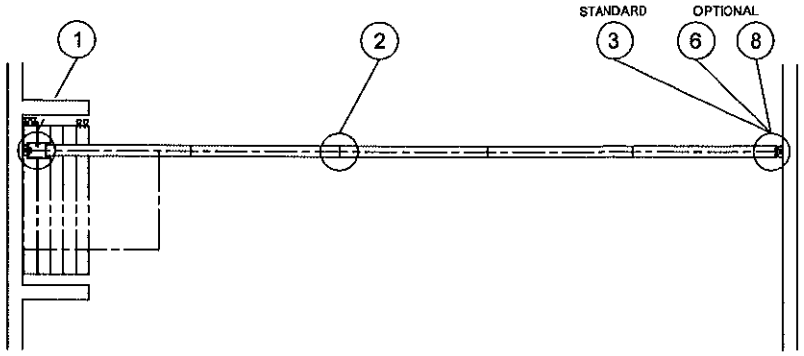
Panel Width + 10" [254]
(for actuator clearance on one side)

plus

3½" [89]
(for hand clearance on one side)

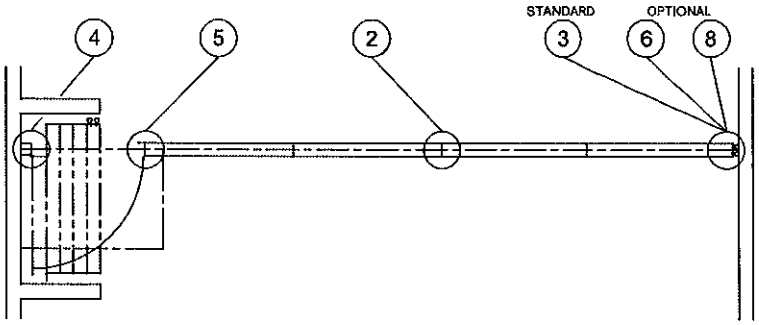
Standard Expander Panel Closure

The final closure panel is equipped with an expander saddle located on the vertical edge of the panel that mechanically telescopes outward to create a positive contact seal with a rigid wall, pocket door or jamb. The expansion of the expander saddle is activated by inserting a wrench into an escutcheon plate located on the panel face. The expander panel is equipped with a flush pull handle and an adjustable bottom seal (standard) or (optional) operable bottom seal.



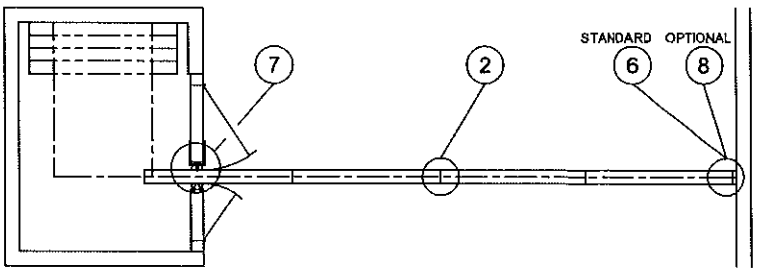
Optional Hinged Panel(s) Closure

This final closure configuration is accomplished by a panel(s) which is hinged permanently and directly to a structural wall member. The hinged panel(s) features adjustable bottom seals and includes a flush pull handle on each side of the panel.



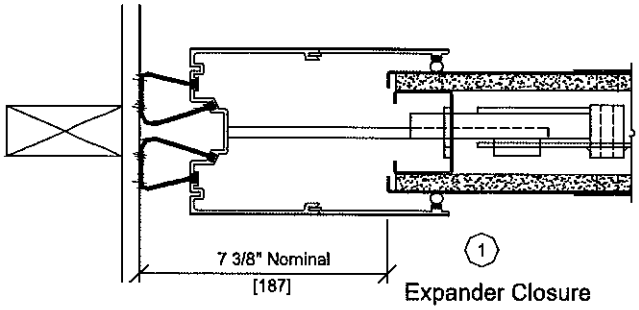
Optional Double Pocket Doors with Expander Closure

The pocket door is equipped with an expander mechanism in the same way as the more common expander panel. Rather than being located on a wall panel, the expander saddle is integrated into a pocket door panel. The saddle expander will be fully retracted with a pair of bulb seals compressed against the last panel exiting the stack. The pocket doors are provided with fixed bottom seals as a factory standard and includes a footbolt and flush pull handle.

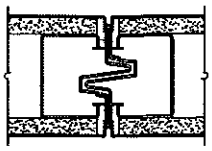


Note: Horizontal details for number 1-8 referenced above can be found on Pages 10 and 11.

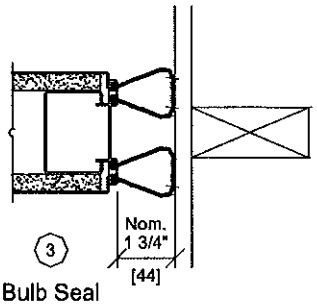
MODEL 3020/3020GL HORIZONTAL DETAILS
TRIMLESS VERTICAL ASTRAGAL



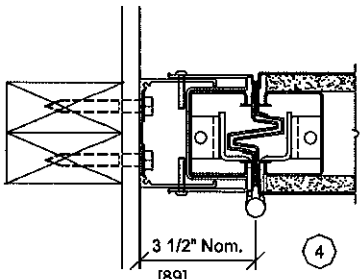
1 Expander Closure



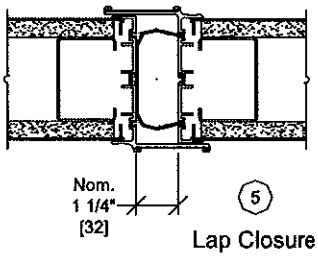
2 Typical Joint



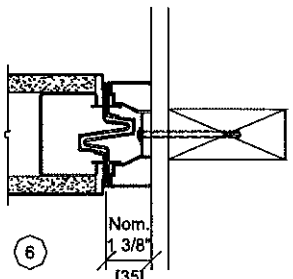
3 Bulb Seal



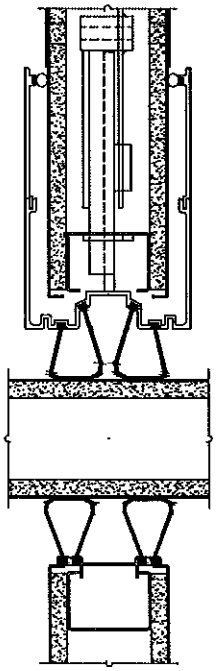
4 Adjustable Hinged Jamb



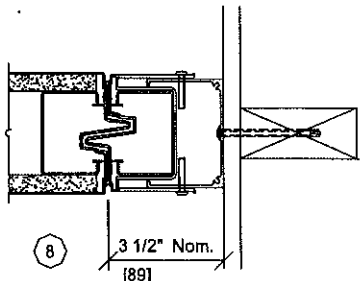
5 Lap Closure



6 Fixed Starter Jamb

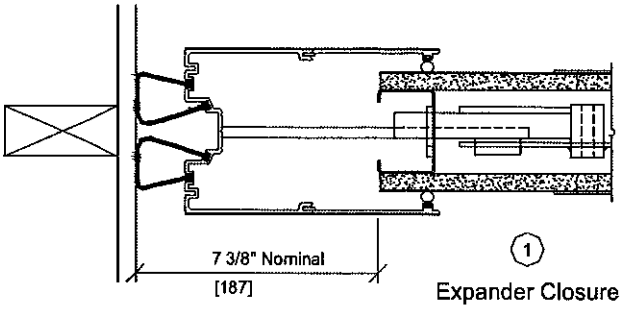


7 Expander Pocket Door Closure

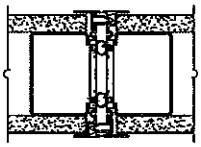


8 Adjustable Starter Jamb

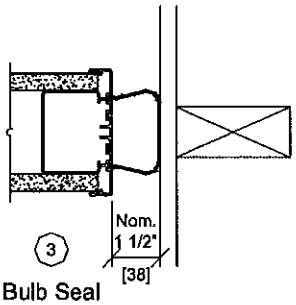
MODEL 3020/3020GL HORIZONTAL DETAILS
CAP-TYPE VERTICAL ASTRAGAL



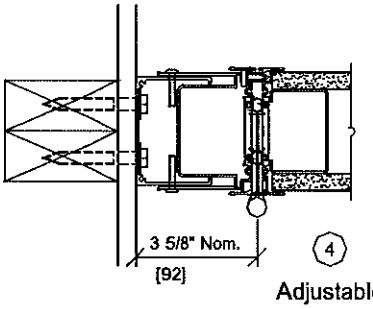
1 Expander Closure



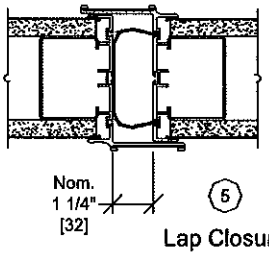
2 Typical Joint



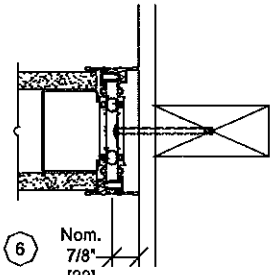
3 Bulb Seal



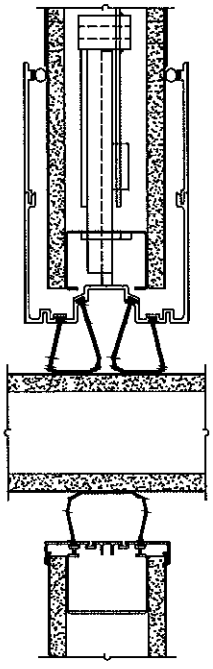
4 Adjustable Hinged Jamb



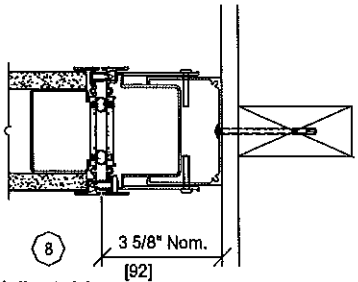
5 Lap Closure



6 Fixed Starter Jamb



7 Expander Pocket Door Closure



8 Adjustable Starter Jamb

Dimensions in [ ] are millimeters. Contact your local distributor for additional assistance or visit www.kwik-wall.com

MODEL 3020/3020GL OPERABLE WALL LIMITED WARRANTY

KWIK-WALL Company warrants each operable wall panel and its component parts to be free from defects in material and workmanship for a period of five (5) years from date of delivery to the original purchaser, when installed by an authorized KWIK-WALL distributor. KWIK-WALL also warrants the fixed top seals, track, carriers, and its component parts to be free from defects in material and workmanship for a period of ten (10) years. The Model 3050 electric wall because of its special track and carrier system will continue to carry the standard five (5) year warranty for all components. KWIK-WALL Company reserves the rights to have authorized personnel inspect any part alleged to be defective and to refuse any returned material unless the return was previously authorized by KWIK-WALL. (Glass is specifically excluded from the warranty.)

This warranty does not apply to any damage or deterioration caused by abuse or failure to provide reasonable and necessary maintenance. All field applied finishes, accessories or product modifications are specifically excluded under this warranty. KWIK-WALL's liability hereunder is limited to the replacement of any panel or component part found to be defective. Labor charges are the responsibility of the customer.

In order to keep the warranty valid, routine maintenance must be performed in accordance with manufacturer's specifications on the operable wall system. A maintenance log must be maintained indicating dates, type of service performed and the certified Kwik-Wall distributor who performed the service.

KWIK-WALL SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES. ALL OTHER WARRANTIES EXPRESSED OR IMPLIED INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY ARE HEREBY EXPRESSLY EXCLUDED.

Some states do not allow the exclusion or limitation of consequential or incidental damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may have other rights, which vary from state to state.

Note:
Due to ongoing research and development, some variation may occur In product specifications and design. Please refer to your actual KWIK-WALL shop drawing(s) for exact product dimensions and specifications.

Distributed By:

Kwik-Wall

USGBC
MEMBER



STANDARD VINYL

OPERABLE WALLS & ACCORDION PARTITIONS

Kwik-Wall

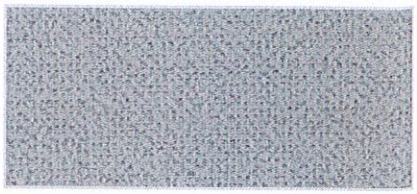
Transforming Space Into

POSSIBILITIES

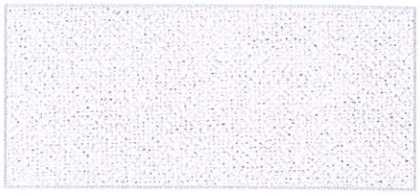
Classics



Kashi, Silver Fan, KWC-19



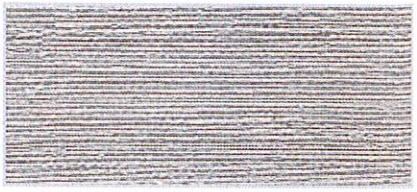
Linden, Dover Gray, KWC-5



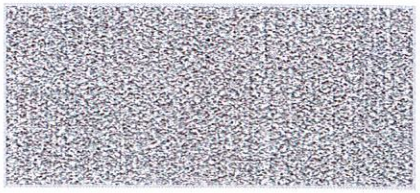
Linden, Rectory, KWC-3



Lino, Skylight, KWC-11

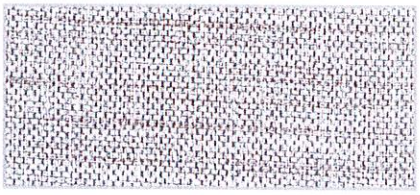


Patana, Frost, KWC-34

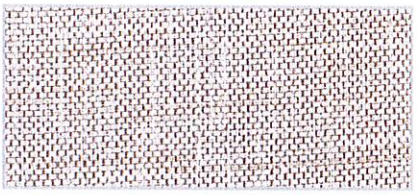


Tahiti, Surfside, KWC-17

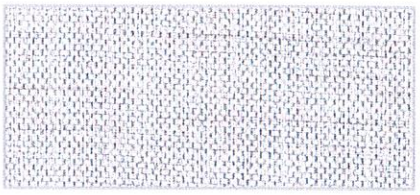
Ramie



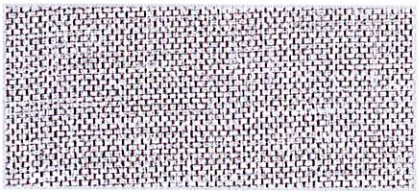
Mesh, KCS-1



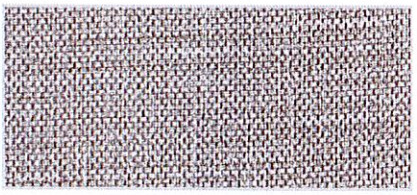
Nettle, KCS-2



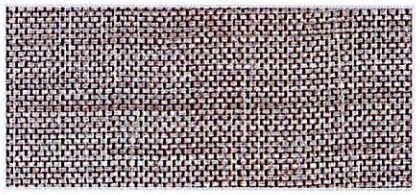
Fused, KCS-3



Tangle, KCS-4

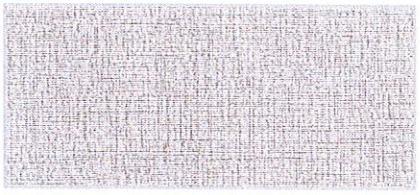


Spun, KCS-5

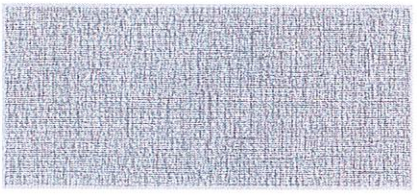


Rolled, KCS-6

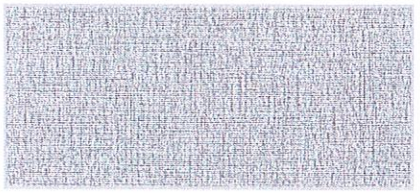
Orleans



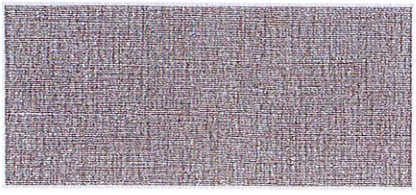
Inscription, KCS-7



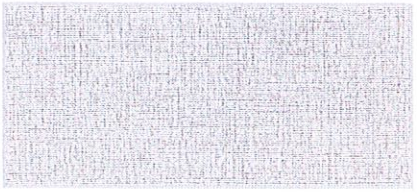
Joie de Vivre, KCS-8



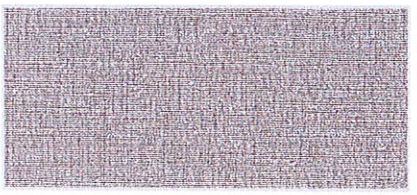
Zydeco, KCS-9



Fine Silver, KCS-10



Beignet, KCS-11

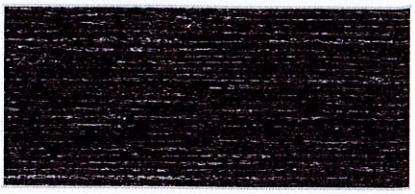


French Quarter, KCS-12

Hurstbourne



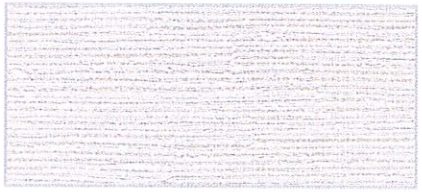
Mink, KCS-13



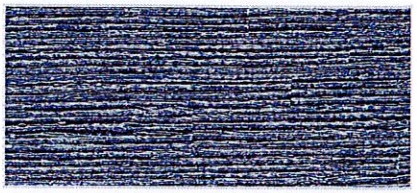
Tuxedo, KCS-14



Truffle, KCS-15



Ionic Grey, KCS-16

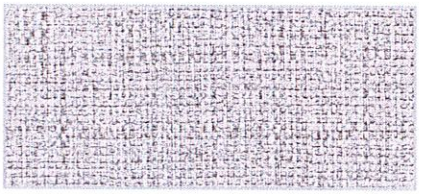


Inkwell, KCS-17

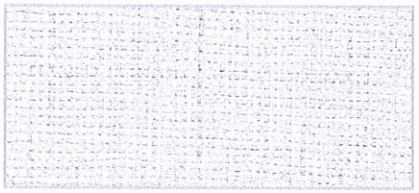


Magnolia, KCS-18

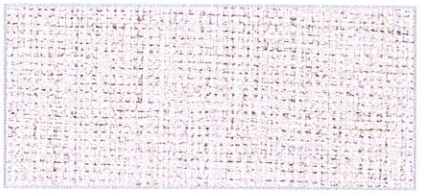
Bengal



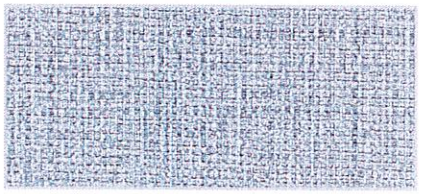
Cotton, KCS-19



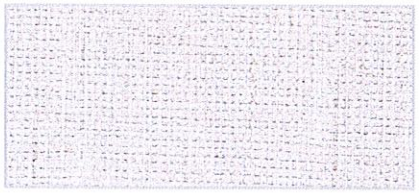
Silk, KCS-20



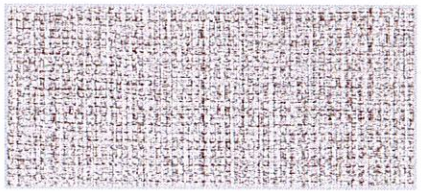
Cloth, KCS-21



Stitch, KCS-22

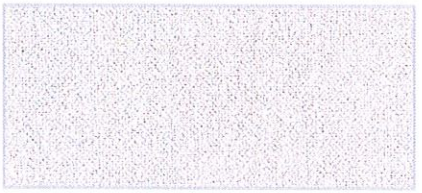


Origin, KCS-23

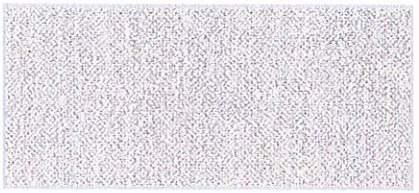


Artisan, KCS-24

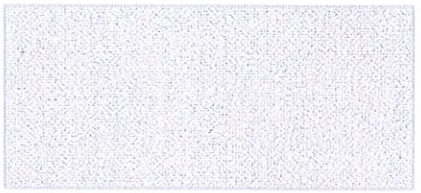
Linden II



Linen, KCS-25

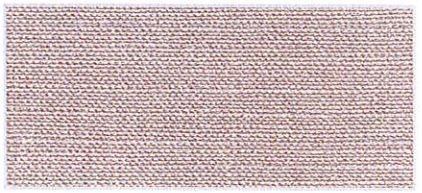


Bone, KCS-26

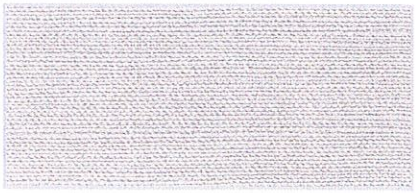


Eggshell, KCS-27

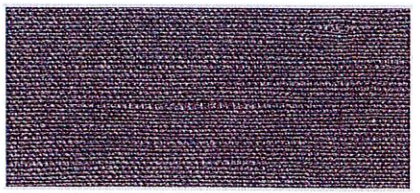
Lino



Hemline, KCS-28



Clothesline, KCS-29



Draperie, KCS-30

Koroseal®
3875 Embassy Parkway
Fairlawn, OH 44333
855.753.5474 · koroseal.com

PATTERNS
Kashi · Linden · Patana · Tahiti
Ramie · Orleans · Hurstbourne
Bengal · Linden II · Lino

		US UNITS	METRIC UNITS
Total Weight		20.0 oz. PLY	620 g PLM
Roll Width		52" – 54"	132 cm – 137 cm
Backing		Woven (Osnaburg)	
Tensile (Minimum)		50 x 55 lb_f	222 x 245 N
Tear (Minimum)		25 x 25 lb_f	111 x 111 N
Federal Spec		CCC-W-408D, Type II	
WA Spec.		WA-101, Type II	
ASTM F-793		Category V, Type II	
Fire Testing		NFPA 101® Life Safety Code® NFPA 255 (ASTM E-84, CAN S102M) Tunnel Test[1] Class A Rating Flame Spread – 10 Smoke Developed – 5 NFPA 286 Corner Burn Test[2] Meets requirements for Flame Spread, Smoke Developed and Flashover	
CE Certification		EU Classification in accordance with EN 15102:2007 + A1:2011	
Indoor Air Quality		California 01350 – Meets emission requirements for schools and offices	
Repeat	*Vertical*	N/A	
	Horizontal	N/A	
	Nominal Pattern Width	51"	
	Match Information	Reverse Hang, Random Match – all patterns except: Linden II: Random Match, Non-Reverse Hang	

1. When applied to GRC board with A-848-B adhesive
2. When applied to 5/8" Type-X-Gypsum board with A-848-B adhesive

Kwik-Wall™ standard and upgrade vinyls are supplied by Koroseal®. Both Kwik-Wall and Koroseal support sustainable construction practices offering ***option e™*** wallcoverings that meet the same characteristics of Type II vinyl but made from recycled materials that contribute to LEED® MR 4 & EQ 4. Contact Kwik-Wall for availability and pricing impacts.

Actual color provided may vary from swatch shown due to dye-lot variations. Room lighting may also change the color's appearance.

Actual color provided may vary from swatch shown due to dye-lot variations. Room lighting may also change thcolor's appearance.

All of our Koroseal standard and upgrade vinyl finishes contain mildew and staph-resistant additives in the vinyl and plastisol. This provides the wallcovering with resistance to the growth of mildew and bacteria, including mold, fungi, pink stain and black fungal stain.

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UPGRADE VINYL

OPERABLE WALLS & ACCORDION PARTITIONS

Kwik-Wall

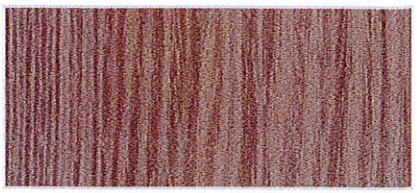
Transforming Space Into

POSSIBILITIES

White Creek



Ash, KCW-1



Jacobean , KCW-2



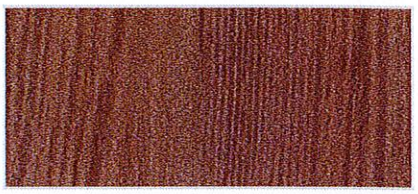
Mocha , KCW-3



Prairie , KCW-4



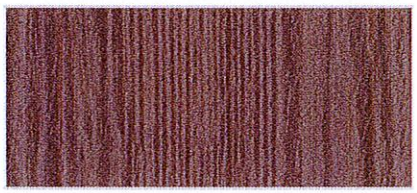
Rustic , KCW-5



Sedona , KCW-6



Slate, KCW-7

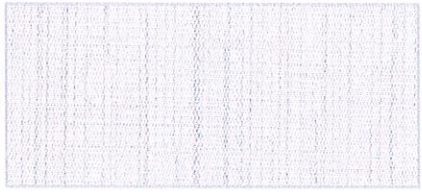


Vintage, KCW-8

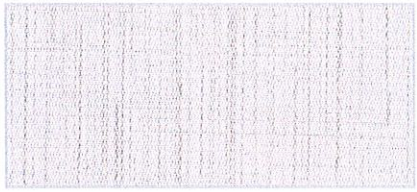


Willow, KCW-9

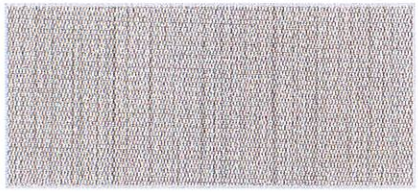
Lineage



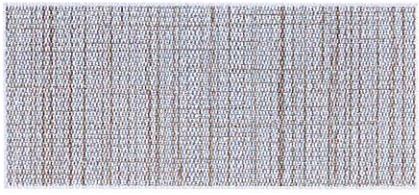
Origin, KCU-1



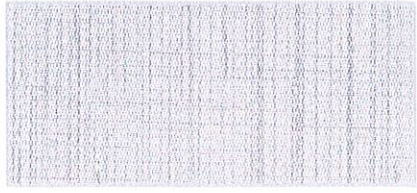
Heir, KCU-2



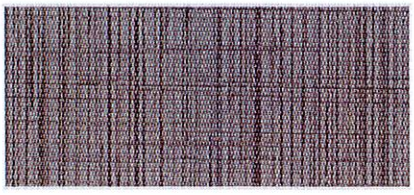
Heritage, KCU-3



Generation, KCU-4



Pedigree, KCU-5



Descent, KCU-6

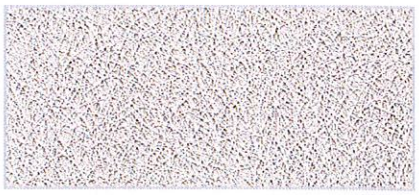
Destiny



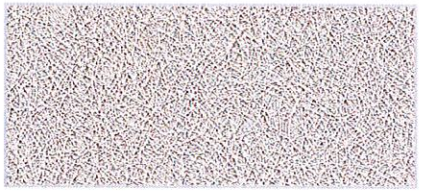
Illusion, KCU-7



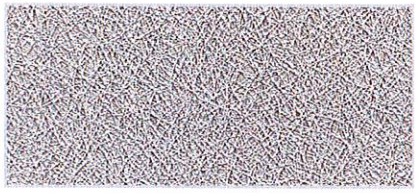
Mottled, KCU-8



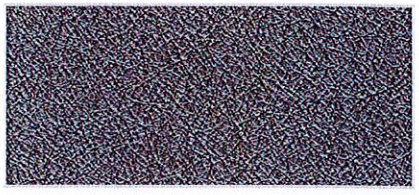
Opalescence, KCU-9



Enchanted, KCU-10

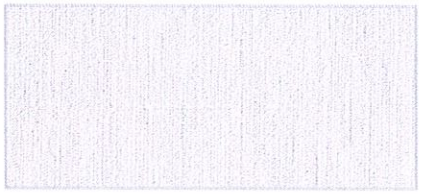


Melded, KCU-11

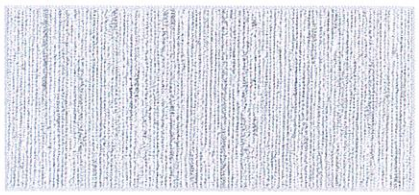


Fascination, KCU-12

Galerie



Earnest, KCU-13



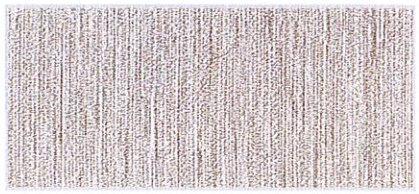
Baroness, KCU-14



Poplar, KCU-15



Hope, KCU-16



Expectation, KCU-17



Smoke, KCU-18

Koroseal®

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Fairlawn, OH 44333
855.753.5474 · koroseal.com

PATTERNS

White Creek · Lineage
Destiny · Galerie

		US UNITS	METRIC UNITS
Total Weight		20.0 oz. PLY 13.3 oz. PSY	620 g PLM 451 g PSM
Roll Width		52" – 54"	132 cm – 137 cm
Backing		Woven	
Tensile (Minimum)		50 x 55 lb_f	222 x 245 N
Tear (Minimum)		25 x 25 lb_f	111 x 111 N
Federal Spec		CCC-W-408D, Type II	
WA Spec.		WA-101, Type II	
ASTM F-793		Category V, Type II	
Fire Testing		NFPA 101® Life Safety Code® NFPA 255 (ASTM E-84, CAN S102M) Tunnel Test[1] Class A Rating Flame Spread – 10 Smoke Developed – 5 NFPA 286 Corner Burn Test[2] Meets requirements for Flame Spread, Smoke Developed and Flashover	
CE Certification		EU Classification in accordance with EN 15102:2007 + A1:2011	
Indoor Air Quality offices		California 01350 – Meets emission requirements for schools and	
Repeat	*Vertical*	N/A	
	Horizontal	N/A	
	Nomimal Pattern Width	51"	
	Match Information	Reverse Hang, Random Match – all patterns except: Lineage: Random Match, Non-Reverse Hang	

1. When applied to GRC board with A-848-B adhesive
2. When applied to 5/8" Type-X-Gypsum board with A-848-B adhesive

Kwik-Wall™ standard and upgrade vinyls are supplied by Koroseal®. Both Kwik-Wall and Koroseal support sustainable construction practices offering ***option e™*** wallcoverings that meet the same characteristics of Type II vinyl but made from recycled materials that contribute to LEED® MR 4 & EQ 4. Contact Kwik-Wall for availability and pricing impacts.

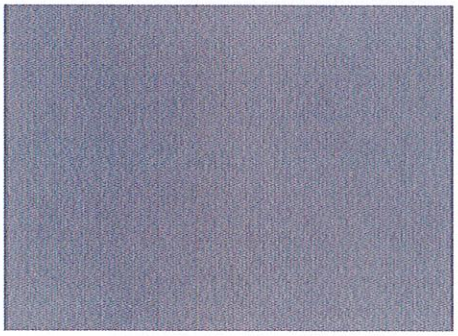
Actual color provided may vary from swatch shown due to dye-lot variations. Room lighting may also change thcolor's appearance.

All of our Koroseal standard and upgrade vinyl finishes contain mildew and staph-resistant additives in the vinyl and plastisol. This provides the wallcovering with resistance to the growth of mildew and bacteria, including mold, fungi, pink stain and black fungal stain.

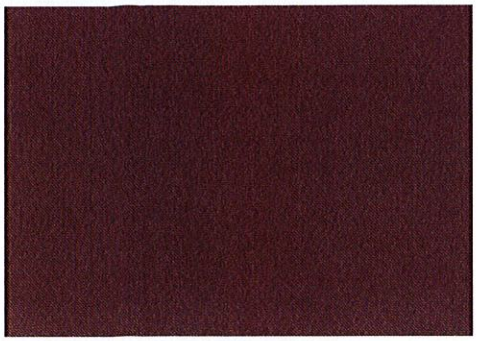
USGBC MEMBER
USGBC® and the related logo are trademarks owned by the U.S. Green Building Council® and are used with permission.

Standard Trim Finish Selections

Kwik-Wall offers two trim and hinge colors for our 3000 Series and 2000 series operable walls. You can specify either color with any standard vinyl, fabric, acoustical carpet, wood veneer or approved custom panel finish material.



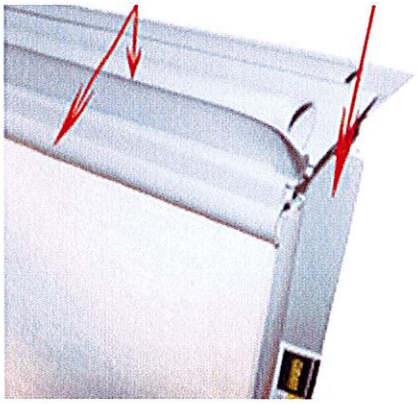
RAL# 7000
GREY



RAL# 8014
BRONZE

Kwik-Wall trim components include flexible vinyl sweep and seal extrusions, painted edge trim pieces, pull handles, eraser trays, and horizontal work surface trim.

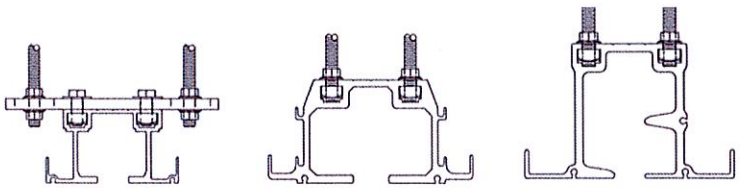
Vinyl Sweep & Trim Painted Metal



Actual color may vary from what is shown due to variations between the print, vinyl extrusion, and powder coating processes.

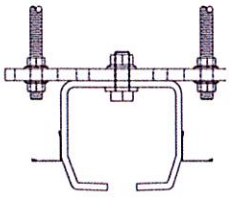
Room lighting may also change the color's appearance.

Standard Operable Wall Track Finish Options



Aluminum Track: Clear Satin-Anodized





Steel Track: Powder Coated
Standard: Off White
Optional: Custom RAL Colors

Moderco Aluminum Frame Panel Product Comparison

Manufacturer	**KWIK-WALL**	**MODERCO**
Model Number	**3010**	**Excel 781 Aluminum frame**
Construction	A. Panel Dimensions: Standard panel dimension shall be a nominal 3 5/8" [92] thick. B. Panel Frame: Steel frame shall be 16-gauge galvanneal steel, which meets or exceeds ASTM A653 requirements. Frame shall be all-welded construction with steel corner supports and cross-bracing reinforcement. Panel frame shall be Class A rated, fire retardant, non-combustible and non-corrosive in accordance with ASTM E84. C. Panel Skins: Panel skins shall be Class A rated in accordance with ASTM E84. Panel skin material shall consist of (select): 1. *Standard Steel Skins*: consisting of minimum 22-gauge tension-leveled galvanneal steel, pressure laminated to a structural acoustical backer and mechanically joined to the steel frame to form a rigid, unitized and structural panel. *Optional Acoustical Substrate*: consisting of structural acoustical substrate pressure laminated to both sides of the steel frame to form a rigid, unitized and structural panel.	Nominal 4" [102mm] thick panels, up to 48 1/2" [1230mm] width. Framing members to be steel-braced mechanically fastened 6065-T5 aluminum alloy extrusions. Thinnest extrusion section to be no less than 3/32" [2.5mm]. Trolley pipes welded to 1 1/2" X 1 1/2" X 3/32" [38mm X 38mm X 2.5mm] steel tube mechanically fastened to top frame extrusion. Panel cavity to be filled with acoustical insulation. Panel faces to be removable and replaceable on site to accommodate changes in room function, interior finishes, etc. Panel face construction (select one): 1. STC 49, 52, 53, 55: galvannealed steel skins laminated to 1/2" [13mm] gypsum board. Steel thickness based on STC rating. 2. STC 47, 49, 52, 53, 55: 1/2" [13mm] tackable gypsum board with galvannealed steel liner. Steel thickness based on STC rating. (Optional) 3. STC 43: 1/2" [13mm] tackable gypsum board. 4. STC 47, 49, 52, 53, 55 with optional plastic laminate or wood veneer finish: 1/2" [13mm] Particle board with galvannealed steel liner. Steel thickness based on STC rating. a. Standard Particle board. b. ULEF/NAUF Particle board. (Optional) 5. STC 43 with optional plastic laminate or wood veneer finish: 1/2" [13mm] Particle board. a. Standard Particle board. b. ULEF/NAUF Particle board. (Optional)
Vertical Seals	Vertical Trim and Seals: Panels shall have vertical astragals containing flexible vinyl seals and incorporate reversible tongue-and-groove-type configurations for positive interlocking with adjacent panels. Vertical astragal shall be (select): 1. *Standard Trimless Astragal*: consisting of an aluminum extrusion with tongue-and-groove-type vertical astragals. Vertical trim shall not be permitted on the panel faces, resulting in a minimal groove appearance between adjacent panels. 2. *Optional Cap-type Astragal*: consisting of an aluminum extrusion with tongue-and-groove-type vertical astragals for protecting the finish material and substrate along the vertical edge of the panel.	Vertical trims (select one): 1. Trimless vertical edges. 2. Protective trims cover and protect all edges of the panel faces and face finish. (Optional)
Top Seals	B. Horizontal Top Trim and Seals: Top seals shall consist of flexible vinyl sweep seals installed on both sides of the panel. The seals shall consist of a compressed bulb between two (2) finders of vinyl. Top seal shall be fixed providing continuous-contact flexible vinyl, which seals against the bottom flange of the overhead track.	Horizontal seals (select one): 1. Type FA: 1" [25mm] fixed pvc top sweeps and automatically operated bottom seals. Bottom seals automatically drop as panel are positioned without use of a tool. Bottom seals retract automatically when panel is pulled away from wall or adjacent panel. (Not available on 53 and 55 STC.)

Reference: Kwik-Wall & Moderco Web-Sites January 2022

Moderco Aluminum Frame Panel Product Comparison

		a. FA-2: 2" [51mm] floor clearance with 1 1/2" [38mm] operating range. 2. Type FM: 1" [25mm] fixed pvc top sweeps and manually operated bottom seals. Bottom seals extend and retract with half a turn of a removable lever handle. (Optional) (Not available on 53 and 55 STC.) (Select one) a. FM-1: 1" [25mm] floor clearance with 5/8" [16mm] operating range. b. FM-1.5: 1 1/2" [38mm] floor clearance with 3/4" [19mm] operating range. c. FM-2: 2" [51mm] floor clearance with 1" [25mm] operating range. d. FM-2.5: 2 1/2" [64mm] floor clearance with 2" [51mm] operating range. e. FM-4: 4" [102mm] floor clearance with 3 1/2" [89mm] operating range. 3. Type MM: Manually operated top and bottom seals. Top and bottom seals extend and retract simultaneously with half a turn of a removable lever handle. (Optional) (Select one) a. MM-1 *: 1" [25mm] track clearance. 1" [25mm] floor clearance with 5/8" [16mm] operating range. b. MM-1.5: 1" [25mm] track clearance. 1 1/2" [38mm] floor clearance with 3/4" [19mm] operating range. c. MM-2: 1" [25mm] track clearance. 2" [51mm] floor clearance with 1" [25mm] operating range. d. MM-2.5: 1" [25mm] track clearance. 2 1/2" [64mm] floor clearance with 2" [51mm] operating range. e. MM-4: 1" [25mm] track clearance. 4" [102mm] floor clearance with 3 1/2" [89mm] operating range. ** Type MM-1 horizontal seals are standard for STC 53 panels. Type MM-1 horizontal seals are standard for STC 55 panels with the addition of fixed top sweeps.* 4. Type AA: Automatically operated top and bottom seals. Top and bottom seals extend and retract simultaneously without use of a tool. Top and bottom seals retract automatically when panel is pulled away from wall or adjacent panel. (Optional) a. AA-1.5 1" [25mm] track clearance. 1 1/2" [38mm] floor clearance with 3/4" [19mm] operating range [38mm] operating range
Bottom Seals	Horizontal Bottom Trim and Seals: Bottom seals shall consist of multiple fingers of flexible vinyl for positive contact and sealing with various floor surfaces. Bottom seal type shall be (select): 1. Standard Operable Bottom Seals: consisting of an edge-activated seal using a removable wrench as supplied by manufacturer. Bottom seals shall provide 2" [50.8] of nominal	See Top Seals

Reference: Kwik-Wall & Moderco Web-Sites January 2022

Moderco Aluminum Frame Panel Product Comparison

	travel. 2. Optional Adjustable Bottom Seals: consisting of field adjustable, continuous-contact vinyl sweep seals with 2" [50.8] nominal height with 3/4" [19] of nominal adjustment. 3. Optional Automatic Bottom Seals: consisting of self-activated seals providing 2" [50] of nominal travel.	
Sound Rating-STC	A. Certification: The operable wall shall have been tested in an independent acoustical testing laboratory in accordance with ASTM E90 and ASTM E413 test procedures. B. STC Rating: The operable wall acoustical performance rating shall be based on (select): 1. *Standard Steel Skins*: with a standard rating of 52 STC, or optional ratings of 46 STC, 59 STC or 55 STC. 2. *Optional Acoustical Substrate*: with optional ratings of 43 STC, 46 STC, 48 STC or 50 STC.	Acoustical rating (select one): 1. 43 STC. 2. 47 STC. 3. 49 STC. 4. 52 STC. 5. 53 STC. 6. 55 STC. .
Sound Rating-NIC:	Not specified	Not specified
Sound Rating – NRC:	*Optional Basics Carpet*: Basics Carpet shall achieve a minimum NRC rating of .65 in accordance with ASTM C423. *Optional Upgrade Carpet*: Upgrade Carpet shall achieve a minimum NRC rating of .60 in accordance with ASTM C423.	Factory applied Class A vertically ribbed polyester carpet (NRC 0.20). Color selected from manufacturer's standard color selector. (Optional)
Panel Weight:	Panel Weight: Maximum panel weight shall be 5.9 – 12.9 lb. / ft.^{2} (29 – 63 kg / m^2) depending on STC rating, size and options selected.	Between 6 to 10.5 lbs/sq.ft [29.5 to 51.5 kg/sq.m] (based on STC rating).
Max. Panel Height:	24'-2" (7.37m)	23'3" (6780mm)
Max. Panel Length:	Unlimited	Unlimited
Fire Rating- Finish Material:	Class A rated in accordance with ASTM E84	Not specified
Fire Rating – Panel Construction:	Not specified	Not specified
Fire Rating – Wall System:	Not specified	Not specified
U.L. System:	N/A	Not specified
Warranty:	The manufacturer shall warrant each operable wall panel and its component parts to be free from defects in material and workmanship for a period of five (5) years from the date of delivery to the original purchaser, when installed by an authorized KWIK-WALL distributor. KWIK-WALL also warrants the fixed-top seals, track, carriers, and its component parts to be free from defects in material and workmanship for a period of ten (10) years. (Contact your local KWIK-WALL Distributor or KWIK-WALL Company for complete warranty information.)	Partition panels shall be guaranteed for a period of two years with all mechanical parts including track and carriers guaranteed for a period of five years. This guarantee is against defects in material or workmanship of manufacturer's product, excluding abuse
Operation Type	Individual Panels / Curve Diverter	Individual, Omni-Directional Panels
Track Model	Series 3000 Model 3010 Individual Panels /	#23-T, #33-T, #72

Reference: Kwik-Wall & Moderco Web-Sites January 2022

Moderco Aluminum Frame Panel Product Comparison

	Curve & Diverter	
Track Specification	*Type H.D. Curve & Diverter Steel Track*: The Curve & Diverter track running surface shall be made of cold-rolled, high carbon steel tread surfaces to facilitate ease of panel movement and operation. The steel tread surface shall be contained within a continuous structural track housing extruded from aluminum, which prohibits deterioration caused, by rust or corrosion. The track housing shall have a durable anodized clear satin finish, which resists color fading and flaking. The track housing shall utilize grooves and interlocking steel pins for positive alignment of adjacent track sections, and shall be reinforced overhead by heavy-duty steel drop rod brackets. Aluminum track housing shall include an integral nut slot to accept a hardened steel square nut for attaching each drop rod bracket to the top flange of the track. Each drop rod bracket shall have pair of steel all-rod extending to the overhead structural support.	Track and trolleys (select one): 1. #23-T aluminum track: 6063-T6 aluminum alloy extrusion with integral soffit trim supported by pairs of 3/8" [10mm] dia. threaded rods connected to structural support, with or without optional hanger brackets. a. #23 trolley: Each trolley shall have two counter-rotating precision ground ball bearing wheels with nylon tires. b. Multi-directional design: Trolley shall allow the panel to navigate through L, T and X intersections without mechanical switching devices. c. Each panel to be supported by two trolleys. 2. #72 steel track: 11 ga. roll-formed steel with integral soffit trim supported by pairs of 3/8" [10mm] dia. threaded rods connected to structural support with hanger brackets. (Optional) a. #72 trolley: Each trolley shall have four precision ground ball bearing wheels with steel tires. b. Multi-directional design: Trolleys shall be automatically guided through a pre-programmed stacking track switch. c. Each panel to be supported by two trolleys.
Carrier Model	Type H.D. Curve & Diverter Steel Wheel Carrier	See Track Specification
Carrier Specifications	Each Curve & Diverter panel shall be top supported by two (2) carriers utilizing 5/8" [16] diameter pendant bolts. Each carrier shall consist of four (4) permanently lubricated; precision ground ball bearing polished steel wheels, as required for ease of panel movement.	See Track Specification

Manufacturer	**KWIK-WALL**	**MODERCO**
Model Number	**3020**	**Excel 841 Aluminum Frame**
Construction	A. Panel Dimensions: Standard panel dimension shall be a nominal 3 5/8" [92] thick. B. Panel Frame: Steel frame shall be 16-gauge galvanneal steel, which meets or exceeds ASTM A653 requirements. Frame shall be all-welded construction with steel corner supports and cross-bracing reinforcement. Panel frame shall be Class A rated, fire retardant, non-combustible and non-corrosive in accordance with ASTM E84. C. Panel Skins: Panel skins hall be Class A rated in accordance with ASTM E84. Panel skin material shall consist of (select): 1. *Standard Steel Skins*: consisting of	Nominal 4" [102mm] thick panels, up to 48 1/2" [1230mm] width. Framing members to be steel-braced mechanically fastened 6065-T5 aluminum alloy extrusions. Thinnest extrusion section to be no less than 3/32" [2.5mm]. Trolley pipes welded to 1 1/2" X 1 1/2" X 3/32" [38mm X 38mm X 2.5mm] steel tube mechanically fastened to top frame extrusion. Panel cavity to be filled with acoustical insulation. Panel faces to be removable and replaceable on site to accommodate changes in room function, interior finishes, etc. Panel face construction (select one): 1. STC 49, 52, 53, 55: galvannealed steel skins laminated to 1/2" [13mm] gypsum board. Steel thickness based on STC rating.

Reference: Kwik-Wall & Moderco Web-Sites January 2022

Moderco Aluminum Frame Panel Product Comparison

	minimum of 22-gauge tension-leveled galvanneal steel, pressure laminated to a structural acoustical backer and mechanically-joined to the steel frame to form a rigid, unitized and structural panel. 2. *Optional Acoustical Substrate*: consisting of structural acoustical substrate pressure laminated to both sides of the steel frame to form a rigid, unitized and structural panel.	2. STC 47, 49, 52, 53, 55: 1/2" [13mm] tackable gypsum board with galvannealed steel liner. Steel thickness based on STC rating. (Optional) 3. STC 43: 1/2" [13mm] tackable gypsum board. 4. STC 47, 49, 52, 53, 55 with optional plastic laminate or wood veneer finish: 1/2" [13mm] Particle board with galvannealed steel liner. Steel thickness based on STC rating. a. Standard Particle board. b. ULEF/NAUF Particle board. (Optional) 5. STC 43 with optional plastic laminate or wood veneer finish: 1/2" [13mm] Particle board. a. Standard Particle board. b. ULEF/NAUF Particle board. (Optional)
Vertical Seals	Vertical Trim and Seal: Panels shall have vertical astragals containing flexible vinyl seals and incorporate reversible tongue-and-groove type configurations for positive interlocking with adjacent panels. Vertical astragal type shall be (select): 1. *Standard Trimless Astragal*: consisting of an aluminum extrusion with tongue-and-groove type	Vertical trims (select one): 2. Trimless vertical edges. 2. Protective trims cover and protect all edges of the panel faces and face finish. (Optional)
Top Seals	Horizontal Top Trim and Seals: Top seals shall consist of flexible vinyl sweep seals installed on both sides of the panel. The seals shall consist of a compressed bulb between two (2) fingers of vinyl. Top seal shall be (select): 1. *Standard Fixed Top Seals*: consisting of continuous-contact flexible vinyl sealing against the bottom of the overhead track. *Optional Operable Top Seals*: consisting of an edge-activated seal using a removable wrench as supplied by manufacturer. Top seals shall provide a maximum ½" [13] of travel.	Horizontal seals (select one): 1. Type FA: 1" [25mm] fixed pvc top sweeps and automatically operated bottom seals. Bottom seals automatically drop as panel are positioned without use of a tool. Bottom seals retract automatically when panel is pulled away from wall or adjacent panel. (Not available on 53 and 55 STC.) a. FA-2: 2" [51mm] floor clearance with 1 1/2" [38mm] operating range. 2. Type FM: 1" [25mm] fixed pvc top sweeps and manually operated bottom seals. Bottom seals extend and retract with half a turn of a removable lever handle. (Optional) (Not available on 53 and 55 STC.) (Select one) a. FM-1: 1" [25mm] floor clearance with 5/8" [16mm] operating range. b. FM-1.5: 1 1/2" [38mm] floor clearance with 3/4" [19mm] operating range. c. FM-2: 2" [51mm] floor clearance with 1" [25mm] operating range. d. FM-2.5: 2 1/2" [64mm] floor clearance with 2" [51mm] operating range. e. FM-4: 4" [102mm] floor clearance with 3 1/2" [89mm] operating range. 3. Type MM: Manually operated top and bottom seals. Top and bottom seals extend and retract simultaneously with half a turn of a removable lever handle. (Optional) (Select one) a. MM-1 *: 1" [25mm] track clearance. 1" [25mm] floor clearance with 5/8" [16mm] operating range.

Reference: Kwik-Wall & Moderco Web-Sites January 2022

Moderco Aluminum Frame Panel Product Comparison

		b. MM-1.5: 1" [25mm] track clearance. 1 1/2" [38mm] floor clearance with 3/4" [19mm] operating range. c. MM-2: 1" [25mm] track clearance. 2" [51mm] floor clearance with 1" [25mm] operating range. d. MM-2.5: 1" [25mm] track clearance. 2 1/2" [64mm] floor clearance with 2" [51mm] operating range. e. MM-4: 1" [25mm] track clearance. 4" [102mm] floor clearance with 3 1/2" [89mm] operating range. ** Type MM-1 horizontal seals are standard for STC 53 panels. Type MM-1 horizontal seals are standard for STC 55 panels with the addition of fixed top sweeps.* 4. Type AA: Automatically operated top and bottom seals. Top and bottom seals extend and retract simultaneously without use of a tool. Top and bottom seals retract automatically when panel is pulled away from wall or adjacent panel. (Optional) a. AA-1.5 1" [25mm] track clearance. 1 1/2" [38mm] floor clearance with 3/4" [19mm] operating range [38mm] operating range
Bottom Seals	Horizontal Bottom Trim and Seals: Bottom seals shall consist of multiple fingers of flexible vinyl for positive contact and sealing with various floor surfaces. Bottom seal type shall be (select): 1. Standard Operable Bottom Seals: consisting of an edge-activated seal using a removable wrench as supplied by manufacturer. Bottom seals shall provide 2" [50.8] of nominal travel. 2. Optional Adjustable Bottom Seals: consisting of field adjustable, continuous-contact vinyl sweep seals with 2" [50.8] nominal height with 3/4" [19] of nominal adjustment. 3. Optional Automatic Bottom Seals: consisting of self-activated seals providing 2" [50] of nominal travel.	See Top Seals
Sound Rating-STC	A. Certification: The operable wall shall have been tested in an independent acoustical testing laboratory in accordance with ASTM E90 and ASTM E413 test procedures. B. STC Rating: The operable wall acoustical performance rating shall be based on (select): 1. *Standard Steel Skins*: with a standard rating of 52 STC, or optional ratings of 46 STC, 50 STC or 55 STC. *Optional Acoustical Substrate*: with optional ratings of 43 STC, 46 STC, 48 STC or 50 STC.	Acoustical rating (select one): 1. 43 STC. 2. 47 STC. 3. 49 STC. 4. 52 STC. 5. 53 STC. 6. 55 STC. .
Sound Rating-NIC:	Not specified	Not specified
Sound Rating – NRC:	*Optional Basics Carpet*: Basics Carpet shall achieve a minimum NRC rating of .65 in accordance with ASTM C423.	Factory applied Class A vertically ribbed polyester carpet (NRC 0.20). Color selected from manufacturer's standard color selector. (Optional)

Reference: Kwik-Wall & Moderco Web-Sites January 2022

Moderco Aluminum Frame Panel Product Comparison

	Optional Upgrade Carpet: Upgrade Carpet shall achieve a minimum NRC rating of .60 in accordance with ASTM C423.	
Panel Weight:	Panel Weight: Maximum panel weight shall be 5.9 – 12.9 lb. / ft.^{2} (29 – 63 kg / m^2) depending on STC rating, size and options selected.	Between 6 to 10.5 lbs/sq.ft [29.5 to 51.5 kg/sq.m] (based on STC rating).
Max. Panel Height:	16'-2" (4.93m)	23'3" (6780mm)
Max. Panel Length:	Unlimited	Unlimited
Fire Rating- Finish Material:	Panel finish material shall be Class A rated in accordance with ASTM E84.	Not specified
Fire Rating – Panel Construction:	Panel frame shall be Class A rated, fire retardant, non-combustible and non-corrosive in accordance with ASTM E84.	Not specified
Fire Rating – Wall System:	Not specified	Not specified
U.L. System:	Not specified	Not specified
Warranty:	The manufacturer shall warrant each operable wall panel and its component parts to be free from defects in material and workmanship for a period of five (5) years from the date of delivery to the original purchaser, when installed by an authorized KWIK-WALL distributor. KWIK-WALL also warrants the fixed-top seals, track, carriers, and its component parts to be free from defects in material and workmanship for a period of ten (10) years. (Contact your local KWIK-WALL Distributor or KWIK-WALL Company for complete warranty information.)	Partition panels shall be guaranteed for a period of two years with all mechanical parts including track and carriers guaranteed for a period of five years. This guarantee is against defects in material or workmanship of manufacturer's product, excluding abuse
Track Model	Series 3000 Model 3020	Individual, Omni-Directional Panels
Track Specification	A. Track Type: The operable wall track system shall be extruded from structural aluminum alloy, which prohibits deterioration caused by rust or corrosion. The aluminum track shall have a durable anodized clear satin finish, which resists color fading and flaking. The track shall utilize grooves and interlocking steel pins for positive alignment of adjacent track sections. The track joints shall be reinforced overhead by a heavy-duty steel bracket made of hot-rolled, 3/8" [10] thick plate steel. Aluminum track shall include an integral nut slot to accept a hardened steel square nut to facilitate attachment of each steel all-rod and splice brackets to the overhead structural support. 1. *Type 425 Multi-Directional Aluminum Track*: certified to be capable of supporting up to 425 lbs. (193 kg) of total live load weight per panel. 2. *Type 850 Multi-Directional Aluminum Track*: certified to be capable of supporting up to 850 lbs. (386 kg) of total live load weight per panel.	#23-T, #33-T, #72

Reference: Kwik-Wall & Moderco Web-Sites January 2022

Moderco Aluminum Frame Panel Product Comparison

Carrier Model	Carrier Type: Each Individual Panel shall be top supported by two (2) carriers utilizing a 5/8" [16]-diameter pendant bolt. Each carrier shall consist of dual horizontal, permanently lubricated, precision ground steel bearings with high strength polymer tires as required for smooth and quiet operation. Multi-Directional carriers shall be capable of negotiating 90◦ "X", "L", and "T" intersections as required for moving panels from storage location(s) to various installed positions. 1. *Type 425 Multi-Directional Carrier*: certified to be capable of supporting up to 425 lb. (193 kg) of total live load weight per panel. 2. *Type 850 Multi-Directional*: certified to be capable of supporting up to 850 lb. (386 kg) of total live load weight per panel.	Track and trolleys (select one): 1. #23-T aluminum track: 6063-T6 aluminum alloy extrusion with integral soffit trim supported by pairs of 3/8" [10mm] dia. threaded rods connected to structural support, with or without optional hanger brackets. a. #23 trolley: Each trolley shall have two counter-rotating precision ground ball bearing wheels with nylon tires. b. Multi-directional design: Trolley shall allow the panel to navigate through L, T and X intersections without mechanical switching devices. c. Each panel to be supported by two trolleys. 2. #72 steel track: 11 ga. roll-formed steel with integral soffit trim supported by pairs of 3/8" [10mm] dia. threaded rods connected to structural support with hanger brackets. (Optional) a. #72 trolley: Each trolley shall have four precision ground ball bearing wheels with steel tires. b. Multi-directional design: Trolleys shall be automatically guided through a pre-programmed stacking track switch. c. Each panel to be supported by two trolleys.
Carrier Specifications	*Type 425 Multi-Directional Carrier*: certified to be capable of supporting up to 425 lb. (193kg) of total live load weight per panel. *Type 850 Multi-Directional Carrier*: certified to be capable of supporting up to 850 lb. (386kg) of total live load weight per panel	See Track Specification

Manufacturer	**KWIK-WALL**	**MODERCO**
Model Number	**3020 WT**	**N/A**
Construction	A. Panel Dimensions: Standard panel dimension shall be a nominal 4" [102] thick. B. Panel Frame: Steel frame shall be 16-gauge galvanneal steel, which meets or exceeds ASTM A653 requirements. Frame shall be all-welded construction with steel corner supports and cross-bracing reinforcement. Panel frame shall be Class A rated, fire retardant, non-combustible and non-corrosive in accordance with ASTM E84. C. Panel Skins: Panel skins shall be Class A rated in accordance with ASTM E84. Panel skin material shall consist of s(select): Standard Steel Skins: consisting of minimum 22-gauge tension-leveled galvanneal steel, pressure laminated to structural acoustical backer and welded to the steel frame to form a rigid, unitized and structural panel. Optional Acoustical Substrate: consisting of structural	N/A

Reference: Kwik-Wall & Moderco Web-Sites January 2022

Moderco Aluminum Frame Panel Product Comparison

	acoustical substrate pressure laminated to both sides of the steel frame to form a rigid, unitized and structural panel	
Vertical Seals	Vertical Trim and Seals: Panels shall have vertical astragals containing flexible vinyl seals and incorporate reversible tongue-and-groove-type configurations for positive interlocking with adjacent panels. Vertical astragal type shall be (select): 1.Standard Trimless Astragal: consisting of aluminum extrusion with tongue-and-groove-type vertical astragals. Vertical trim shall not be permitted on the panel faces, resulting in a minimal groove appearance between adjacent panels. 2.Optional Cap-type Astragal: consisting of an aluminum extrusion with tongue-and-groove-type vertical astragals for protecting the finish material and substrate along the vertical edge of the panel.	N/A
Top Seals	Horizontal Top Trim and Seals: Top seals shall consist of flexible vinyl sweep seal installed on both sides of the panel. The seals shall consist of a compressed bulb between two (2) fingers of vinyl. Top seal type shall be fixed providing continuous-contact flexible vinyl, which seals against the bottom flange of the overhead track.	N/A
Bottom Seals	Horizontal Bottom Trim and Seals: Bottom seals shall consist of multiple fingers of flexible vinyl for positive contact and sealing with various floor surfaces. Standard Weight Transfer Operable Bottom Seal shall consist of an edge-activated seal capable of transferring the weight of a panel (850 lbs. Maximum (386 kg)) from the overhead structural support to the floor using a removable wrench as supplied by manufacturer. Bottom seals shall provide 2 ¾" [70] of nominal travel. (Final Closure panel(s) shall incorporate an adjustable bottom seal(s), and shall provide 2 ¾" [70] of nominal adjustment.)	N/A
Sound Rating-STC	Certification: The operable wall shall have been tested in an independent acoustical testing laboratory in accordance with ASTM E90 and ASTM E413 test procedures. STC Rating: The operable wall acoustical performance rating shall be based on (select): 1.Standard Steel Skins: with a standard rating of 52 STC, or optional ratings of 46 STC, 50 STC, or 56 STC. 2.Optional Acoustical Substrate: with optional ratings of 43 STC, 46 STC, 48 STC or 50 STC.	N/A
Sound Rating-NIC:	Not specified	N/A
Sound Rating – NRC:	Optional Basics Carpet: Basics carpet shall achieve a minimum NRC rating of .20 in accordance with ASTM C423. Optional Upgrade Carpet: Upgrade Carpet shall achieve a minimum NRC rating of .25 in accordance with ASTM C423.	N/A
Panel Weight:	Maximum 12.9 lbs./ft^2 (63kg/m^2)	N/A
Max. Panel Height:	12'2" (3.71m)	N/A
Max. Panel Length:	Unlimited	N/A
Fire Rating-Finish Material:	Panel finish material shall be Class A rated in accordance with ASTM E84.	N/A
Fire Rating –	Standard panel construction shall be Class A rated per	N/A

Reference: Kwik-Wall & Moderco Web-Sites January 2022

Moderco Aluminum Frame Panel Product Comparison

Panel Construction:	ASTM E84	
Fire Rating – Wall System:	N/A	N/A
U.L. System:	N/A	N/A
Warranty:	Manufacturer shall warrant each partition and its component parts to be free from defect in material and workmanship for a period of five (5) years from the date of delivery to the original purchaser, when installed by an authorized Kwik-Wall Co. distributor	N/A
Track Model	Series 3000 Model 3020 Individual Panels / Multi-Directional	N/A
Track Specification	Track Type: The operable wall track system shall be extruded from structural aluminum alloy, which prohibits deterioration caused by rust or corrosion. The aluminum track shall have a durable anodized clear satin finish, which resist color fading and flaking. The track shall utilize grooves and interlocking steel pins for positive alignment of adjacent track sections. The track joints shall be reinforced overhead by a heavy-duty steel bracket made of hot-rolled, 3/8" [10] thick plate steel. Aluminum track shall include an integral nut slot to accept a hardened steel square nut to facilitate attachment of each steel all-rod and splice brackets to the overhead structural support.	N/A
Carrier Model	Carrier Type: Each Individual Panel shall be top supported by two (2) carriers utilizing a 5/8" [16]-diameter pendant bolt. Each carrier shall consist of dual horizontal, permanently lubricated, precision ground steel bearings with high strength polymer tires as required for smooth and quiet operation. Multi-Directional carriers shall be capable of negotiating 90° "X", "L", and "T" intersections as required for moving panels from storage location(s) to various installed positions.	N/A
Carrier Specifications	Type 425 Multi-Directional Carrier: certified to be capable of supporting up to 425 lb. (193kg) of total live load weight per panel. Type 850 Multi-Directional Carrier: certified to be capable of supporting up to 850 lb. (386kg) of total live load weight per panel.	N/A

Manufacturer	**KWIK-WALL**	**MODERCO**
Model Number	**3030**	**Excel 842 Aluminum Frame**
Construction	A. Panel Dimensions: Standard panel dimension shall be a nominal 4" [101] thick. B. Panel Frame: Steel frame shall be 16-gauge galvanneal steel, which meets or exceeds ASTM A653 requirements. Frame shall be all-welded construction with steel corned supports and cross-bracing reinforcement. Panel frame shall be Class A rated fire retardant, non-combustible and non-corrosive in accordance with ASTM E84. C. Panel Skins: Panel skins shall be	Nominal 4" [102mm] thick panels, up to 48 1/2" [1230mm] width. Framing members to be steel-braced mechanically fastened 6065-T5 aluminum alloy extrusions. Thinnest extrusion section to be no less than 3/32" [2.5mm]. Trolley pipes welded to 1 1/2" X 1 1/2" X 3/32" [38mm X 38mm X 2.5mm] steel tube mechanically fastened to top frame extrusion. Panel cavity to be filled with acoustical insulation. Panel faces to be removable and replaceable on site to accommodate changes in room function, interior finishes, etc.

Reference: Kwik-Wall & Moderco Web-Sites January 2022

Moderco Aluminum Frame Panel Product Comparison

	Class A rated in accordance with ASTM E84. Panel skin material shall consist of (select): 1. *Standard Steel Skins*: consisting of minimum 22-gauge tension-leveled galvanneal steel, pressure laminated to as structural acoustical backer and mechanically-joined to the steel frame to form a rigid, unitized and structural panel. 2. *Optional Acoustical Substrate*: consisting of structural acoustical substrate pressure laminated to both sides of the steel frame to form a rigid, unitized and structural panel.	Panel face construction (select one): 1. STC 49, 52, 53, 55: galvannealed steel skins laminated to 1/2" [13mm] gypsum board. Steel thickness based on STC rating. 2. STC 47, 49, 52, 53, 55: 1/2" [13mm] tackable gypsum board with galvannealed steel liner. Steel thickness based on STC rating. (Optional) 3. STC 43: 1/2" [13mm] tackable gypsum board. 4. STC 47, 49, 52, 53, 55 with optional plastic laminate or wood veneer finish: 1/2" [13mm] Particle board with galvannealed steel liner. Steel thickness based on STC rating. a. Standard Particle board. b. ULEF/NAUF Particle board. (Optional) 5. STC 43 with optional plastic laminate or wood veneer finish: 1/2" [13mm] Particle board. a. Standard Particle board. b. ULEF/NAUF Particle board. (Optional)
Hinges	Panel Hinges: Panel hinges shall be architectural grade, full leaf butt hinges. Hinges shall be attached to steel frame utilizing a steel mounting bracket welded to frame. Optional: Concealed (invisible) hinges	Hinges: 1. (With protective trims) Discreet steel hinges blend into the shape of the frame extrusion. 2. (With trimless edges) Discreet steel hinges to project no more than 1/4" [6mm] from the panel face.
Vertical Seals	Vertical Trim and Seals: Panels shall have vertical astragals containing flexible vinyl and seals and incorporate reversible tongue-and-groove-type configurations for positive interlocking with adjacent panels. Vertical astragal type shall be (select): 1. *Standard Trimless Astragal*: consisting of an aluminum extrusion with tongue-and-groove-type vertical astragals. Vertical trim shall not be permitted on the panel faces, resulting in a minimal groove appearance between adjacent panels. 2. *Optional Cap-type Astragal*: consisting of an aluminum extrusion with tongue-and-groove-type vertical astragals for protecting the finish material and substrate along the vertical edge of the panel.	Vertical trims (select one): 1. Trimless vertical edges. 2. Protective trims cover and protect all edges of the panel faces and face finish. (Optional
Top Seals	Horizontal Top Trim and Seals: Top seals shall consist of flexible vinyl sweep seals installed on both sides of the panel. The seals shall consist of a compressed bulb between two (2) fingers of vinyl. Top seal shall be (select): 1. *Standard Fixed Top Seals*: consisting of continuous-contact flexible vinyl sealing against the bottom flange of the overhead track. 2. *Optional Operable Top Seals*: consisting of an edge-activated seal using a	Horizontal seals (select one): 1. Type FA: 1" [25mm] fixed pvc top sweeps and automatically operated bottom seals. Bottom seals automatically drop as panel are positioned without use of a tool. Bottom seals retract automatically when panel is pulled away from wall or adjacent panel. (Not available on 53 and 55 STC.) a. FA-2:2" [51mm] floor clearance with 1 1/2" [38mm] operating range. 2. Type FM: 1" [25mm] fixed pvc top sweeps and manually operated bottom

Reference: Kwik-Wall & Moderco Web-Sites January 2022

Moderco Aluminum Frame Panel Product Comparison

	removable wrench as supplied by manufacturer. Top seals shall provide a maximum ½" [13] of travel.	seals. Bottom seals extend and retract with half a turn of a removable lever handle. (Optional) (Not available on 53 and 55 STC.) (Select one) a. FM-1: 1" [25mm] floor clearance with 5/8" [16mm] operating range. b. FM-1.5: 1 1/2" [38mm] floor clearance with 3/4" [19mm] operating range. c. FM-2: 2" [51mm] floor clearance with 1" [25mm] operating range. d. FM-2.5:2 1/2" [64mm] floor clearance with 2" [51mm] operating range. e. FM-4: 4" [102mm] floor clearance with 3 1/2" [89mm] operating range. 3. Type MM: Manually operated top and bottom seals. Top and bottom seals extend and retract simultaneously with half a turn of a removable lever handle. (Optional) (Select one) a. MM-1 *: 1" [25mm] track clearance. 1" [25mm] floor clearance with 5/8" [16mm] operating range. b. MM-1.5:1" [25mm] track clearance. 1 1/2" [38mm] floor clearance with 3/4" [19mm] operating range. c. MM-2: 1" [25mm] track clearance. 2" [51mm] floor clearance with 1" [25mm] operating range. d. MM-2.5: 1" [25mm] track clearance. 2 1/2" [64mm] floor clearance with 2" [51mm] operating range. e. MM-4: 1" [25mm] track clearance. 4" [102mm] floor clearance with 3 1/2" [89mm] operating range. * *Type MM-1 horizontal seals are standard for STC 53 panels. Type MM-1 horizontal seals are standard for STC 55 panels with the addition of fixed top sweeps.* 4. Type AA: Automatically operated top and bottom seals. Top and bottom seals extend and retract simultaneously without use of a tool. Top and bottom seals retract automatically when panel is pulled away from wall or adjacent panel. (Optional) a. AA-1.5: 1" [25mm] track clearance. 1 1/2" [38mm] floor clearance with 3/4" [19mm] operating range
Bottom Seals	Horizontal Bottom Trim and Seals: Bottom seals shall consist of multiple fingers of flexible vinyl for positive contact and sealing with various floor surfaces. Bottom seal type shall be (select): 1. Standard Operable Bottom Seals: consisting of an edge-activated seal using a removable wrench as supplied by manufacturer. Bottom seals shall provide 2" [50.8] of nominal travel. 2. Optional Adjustable Bottom Seals: consisting of field adjustable, continuous-	See Top Seals:

Reference: Kwik-Wall & Moderco Web-Sites January 2022

Moderco Aluminum Frame Panel Product Comparison

	contact vinyl sweep seals with 2" [50.8] nominal height with 3/4" [19] of nominal adjustment. 3. 3. Optional Automatic Bottom Seals: consisting of self-activated seals providing 2" [50] of nominal travel.	
Sound Rating-STC	Certification: The operable wall shall have been tested in an independent acoustical testing laboratory in accordance with ASTM E90 and ASTM E413 test procedures. A. STC Rating: The operable wall acoustical performance shall be based on (select): 1. *Standard Steel Skin*: with a standard rating of 52 STC, or optional ratings of 46 STC, 50 STC or 56 STC. 2. *Optional Acoustical Substrate*: with optional ratings of 43 STC, 46 STC, 48 STC or 50 STC.	Acoustical rating (select one): 1. 43 STC. 2. 47 STC. 3. 49 STC. 4. 52 STC. 5. 53 STC. 6. 55 STC.
Sound Rating-NIC:	Not specified	Not specified
Sound Rating – NRC:	*Optional Basics Carpet*: Basics carpet shall achieve a minimum NRC rating of .60 in accordance with ASTM C423. *Optional Upgrade Carpet*: Upgrade Carpet shall achieve a minimum NRC rating of .60 in accordance with ASTM C423.	Factory applied vertical ribbed carpet (N.R.C. .20)
Panel Weight:	Panel Weight: Maximum panel weight shall be 5.9-12.9 lbs./ft.2 (29-63 kg/m2) depending on STC rating, size and options.	Panel weight: 1. Between 6 to 10.5 lbs/sq.ft [29.5 to 51.5 kg/sq.m] (based on STC rating).
Max. Panel Height:	16'-2" (4.93 m)	22'-3" (6780mm)
Max. Panel Length:	Unlimited	Unlimited
Fire Rating- Finish Material:	Panel finish material shall be Class A rated in accordance with ASTM E84.	Class A rated
Fire Rating – Panel Construction:	Panel frame shall be Class A rated in accordance with ASTM E84.	Not specified
Fire Rating – Wall System:	Not specified	Not specified
U.L. System:	Not specified	Not specified
Warranty:	Manufacturer shall warrant each operable wall panel and its component parts to be free from defects in material and workmanship for a	A. Partition panels shall be guaranteed for a period of two years with all mechanical parts including track and carriers guaranteed for a

Reference: Kwik-Wall & Moderco Web-Sites January 2022

Moderco Aluminum Frame Panel Product Comparison

	period of five (5) years from the date of delivery to the original purchaser, when installed by an authorized KWIK-WALL distributor. KWIK-WALL also warrants the fixed top seals, track, carriers, and its component parts to be free from defects in material and workmanship for a period of ten (10) years. (Contact your local KWIK-WALL Distributor or KWIK-WALL Company for complete warranty information.)	period of five years. This guarantee is against defects in material or workmanship of manufacturer's product, excluding abuse.
Track Model	Series 3000 Model 3030	#45-T, #55-T, #72
Track Specification	A. Track Type: The operable wall track system shall be (select): 1. *Standard Hinged Pairs Aluminum Track*: extruded from structural aluminum alloy, which prohibits deterioration caused by rust or corrosion. The aluminum track shall have a durable anodized clear satin finish, which resist color fading and flaking. The track shall utilize grooves and interlocking steel pins for positive alignment of adjacent track sections. The track joints shall be reinforced overhead by a heavy-duty steel bracket made of hot-rolled, 3/8" [10] thick plate steel. Aluminum track shall include an integral nut slot to accept a hardened steel square nut to facilitate attachment of each steel all-rod and splice brackets to the overhead structural support. 2. *Optional Hinged Pairs Steel Track*: consisting of roll-formed, low carbon steel, .215" [5] thick. The steel track shall have a durable power-coated, off-white finish, which resist color fading and flaking. The steel track shall bee reinforced overhead by heavy duty steel brackets made of hot-rolled, 3/8" [10] thick plate steel, as required for attaching threaded all-rod to the overhead structural support and for aligning track sections at each splice joint. B. Track Size: The track size shall be (selected from Track and Carrier Selection Chart – refer to Chart Below): 1. *Type 425 Hinged Pairs Aluminum Track*: certified to be capable of supporting up to 425 lbs. (193 kg) of total live load weight per panel. 2. *Type 850 Hinged Pairs Aluminum Track*: certified to be capable of supporting up to 850 lbs. (386 kg) of total live load weight per panel. 3. *Type 850 Hinged Pairs Steel Track*: certified to be capable of supporting up to 850 lbs. (386 kg) of total live load weight per panel.	A. Track and trolleys (select one): 1. #45-T aluminum track: 6063-T6 aluminum alloy extrusion with integral soffit trim supported by pairs of 3/8" [10mm] dia. threaded rods connected to structural support, with or without optional hanger brackets. a. #45 trolley: Each trolley shall have four precision ground ball bearing wheels with nylon tires. b. Usage: For panels up to 15'-3" [4648mm] height. c. Articulated trolley body will keep all wheels on track rolling surfaces at all times. d. Each panel to be supported by one trolley. 2. #72 steel track: 11 ga. roll-formed steel with integral soffit trim supported by pairs of 3/8" [10mm] dia. threaded rods connected to structural support with hanger brackets. (Optional) a. #72 trolley: Each trolley shall have four precision ground ball bearing wheels with steel tires. b. Usage: For panels up to 15'-3" [4648mm] height. c. Each panel to be supported by one trolley. 5. #55-T aluminum track: 6063-T6 aluminum alloy extrusion with integral soffit trim supported by pairs of 3/8" [10mm] dia. threaded rods connected to structural support, with or without optional hanger brackets. a. #55 trolley: Each trolley shall have four precision ground ball bearing wheels with steel tires. b. Usage: For panels over 15'-3" [4648mm] height. c. Each panel to be supporteby one trolley.
Carrier Model	1. Type 425 & 850 Hinged Pairs.	See Track Specification

Reference: Kwik-Wall & Moderco Web-Sites January 2022

Moderco Aluminum Frame Panel Product Comparison

Carrier Specifications	1. *Type 425 Standard Polymer Tire Carrie & Type 850 Standard Polymer Tire Carrier*: consisting of four (4) permanently-lubricated, precision ball bearing steel wheels with high strength polymer tires, as required for smooth and quiet operation. 2. *Type 850 Optional Steel Wheel Carrier*: consisting of four (4) permanently lubricated, precision ground ball bearing polished steel wheels, as required for ease of panel movement.	See Track Specification

Manufacturer	**KWIK-WALL**	**MODERCO**
Model Number	**3050 Electric**	**Signature 743-E electrically operated Aluminum Frame**
Construction	A. Panel Dimensions: Standard panel dimension shall be a nominal 3 5/8" [92] thick. B. Panel Frame: Steel frame shall be 16-gauge galvanneal steel, which meets or exceeds ASTM A653 requirements. Frame shall be all-welded construction with steel corner supports and cross-bracing reinforcement. Top horizontal cross brace shall be a minimum 7-gauge structural rectangular steel tube designed to accept a spring-loaded floating carrier. Panel frame shall be Class A rated, fire retardant, non-combustible and non-corrosive in accordance with ASTM E84. C. Panel Skins: Panel skins shall be Class A rated in accordance with ASTM E84. Panel skin material shall consist of minimum 22-gauge tension-leveled galvanneal steel, pressure laminated to a structural acoustical backer and mechanically-joined to the steel frame to form a rigid, unitized and structural panel.	A. Nominal 4" [102mm] thick panels, up to 48 1/2" [1230mm] width. Framing members to be steel-braced mechanically fastened 6065-T5 aluminum alloy extrusions. Thinnest extrusion section to be no less than 3/32" [2.5mm]. Trolley pipes welded to 1 1/2" X 1 1/2" X 3/32" [38mm X 38mm X 2.5mm] steel tube mechanically fastened to top frame extrusion. Panel cavity to be filled with acoustical insulation. Panel faces to be removable and replaceable on site to accommodate changes in room function, interior finishes, etc. B. Panel face construction (select one): 1. STC 49, 52: galvannealed steel skins laminated to 1/2" [13mm] gypsum board. Steel thickness based on STC rating. 2. STC 47, 49, 52: 1/2" [13mm] tackable gypsum board with galvannealed steel liner. Steel thickness based on STC rating. (Optional) 3. STC 43: 1/2" [13mm] tackable gypsum board. 4. STC 47, 49, 52 with optional plastic laminate or wood veneer finish: 1/2" [13mm] Particle board with galvannealed steel liner. Steel thickness based on STC rating. a. Standard Particle board. b. ULEF/NAUF Particle board. 5. STC 43 with optional plastic laminate or wood veneer finish: 1/2" [13mm] Particle board. a. Standard Particle board. b. ULEF/NAUF Particle board
Panels Hinges	Panel Hinges: Panel hinges shall be	1. Discreet steel hinges blend into the

Reference: Kwik-Wall & Moderco Web-Sites January 2022

Moderco Aluminum Frame Panel Product Comparison

	architectural grade, full leaf butt hinges. Hinges shall be attached to steel frame utilizing a steel mounting bracket welded to frame. Bottom hinge shall be located 7'-0" (2.13 m) A.F.F. for partition heights over 16'-0" (4.88 m).	shape of the frame extrusion
Vertical Seals	Vertical Trim and Seals: Panels shall have Trimless vertical astragals containing flexible vinyl seals and incorporate reversible tongue-and-groove-type configurations for positive interlocking with adjacent panels. Vertical trim shall not be permitted on the panel faces, resulting in a minimal groove appearance between adjacent panels.	Protective trims cover and protect all edges of the panel faces and face finish. 1. Dual aluminum and pvc tongue and groove interlocking seals in each panel edge.
Top Seals	Horizontal Top Trim and Seals: Top seals shall consist of flexible vinyl sweep seals installed on both side of the panel. The seals shall consist of a compressed bulb between two (2) fingers of vinyl. Top seal shall be fixed, providing continuous-contact flexible vinyl sealing against the bottom flange of the overhead track.	1. Type FF: 1" [25mm] top and 2" [51mm] bottom fixed pvc sweep seals. 2. Type SC: 1" [25mm] fixed top sweeps and 2" [51mm] self-compensating bottom seals (optional).
Bottom Seals	Horizontal Bottom Trim and Seals: Bottom seals shall consist of multiple fingers of flexible vinyl for positive contact and sealing wit various floor surfaces. Bottom seal type shall be (select): 1. *Standard Adjustable Bottom Seals*: consisting of field-adjustable, continuous-contact vinyl sweep seals that allow for ¾" [19] of nominal adjustment. 2. *Optional Floating Bottom Seals*: consisting of continuous-contact, vinyl sweep seals that ride on an aluminum chassis containing two (2) omni-wheel rollers that are under constant spring pressure towards the floor surface. Floating Bottom Seals shall provide up to 3" [76] of nominal travel to accommodate uneven floor conditions.	1. Type FF: 1" [25mm] top and 2" [51mm] bottom fixed pvc sweep seals. 2. Type SC: 1" [25mm] fixed top sweeps and 2" [51mm] self-compensating bottom seals (optional).
Electric Motor	Drive System: Electric motor shall consist of (select): 1. *Standard Electric Motor:* consisting of a 1 Horsepower (.746 kw), 115 volt, 1 Phase, 60 Hz capacitance wound motor. 2. *Optional Electric Motor:* consisting of a 1 Horsepower (.746 kw), 208 volt, 3 Phase, 60 Hz capacitance wound motor.	Drive System: a. UL/ULC listed drive unit with NEMA-1 motor enclosure and controls and control enclosure conform to ANSI/NEMA ICS1, ICS 2 and ICS 6. Drive unit located at the storage end. b. 1.5 HP, 120 V, 1-phase, 60 Hz motor.
Drive System	Activation of the operator shall be controlled by a two (2) position (low voltage) key switch to arm the system. Control of the operator shall consist of two (2) stations with extend	Drive System: Driven by a #35 roller chain. The travel limits of the partition controlled by limit switches

Reference: Kwik-Wall & Moderco Web-Sites January 2022

Moderco Aluminum Frame Panel Product Comparison

	and retract constant-pressure push button switches. Switches shall be low voltage, wired in series, and located on opposite sides and ends of the partition. Electric operator shall include safety devices (limit switches) to automatically shut off the operator at the fully extended and fully retracted position. Operator shall be located at the opposite end of stack area off center to the side of the partition. All electric operator components shall be modularized for easy replacement in the field without removing the surrounding components and NFPA 70 approved. Access panels to the operator unit and return sprockets are required for adjustment and maintenance purposes, as provided by others. Electric operator shall consist of (select): 1. *Standard Speed Reducer Drive:* consisting of a 50 to 1 ratio worm gear, adjustable clutch and 1 H.P. (.746 kw) electric motor. Speed reducer drive system shall be capable of moving a wall system up to 600 ft.^{2} (56 m^2). 2. *Optional Hydraulic Drive:* consisting of a hydraulic pressure relief mechanism capable of limiting the closing force of the wall system. Hydraulic drive system shall be operated by a 1 H.P. (.746 kw) electric motor.	positioned on the track system, ensuring full travel before shut off. Emergency release allows manual operation during power outage. 3. Operation of the partition shall require the use of two simultaneously activated control stations positioned on opposite sides of the partition with a clear unobstructed view during operation of the partition. (Select control station layout) a. Control stations to be 3-position spring-loaded key switches. b. Control stations to be one 3-position spring-loaded key switch and one push button switch.
Sound Rating-STC	A. Certification: The operable wall shall have been tested in an independent acoustical testing laboratory in accordance with ASTM E90 and ASTM E413 test procedures. B. STC Rating: The operable wall acoustical performance rating shall be based on Standard Steel Skins with a standard rating of 52 STC, or optional ratings of 46 STC, 50 STC or 55 STC.	Acoustical rating (select one): 1. 43 STC. 2. 47 STC. 3. 49 STC. 4. 52 STC.
Sound Rating-NIC:	Not specified	Not specified
Sound Rating – NRC:	*Optional Basics Carpet*: Basics Carpet shall achieve a minimum NRC rating of .65 in accordance with ASTM C423. *Optional Upgrade Carpet*: Upgrade Carpet shall achieve a minimum NRC rating of .60 in accordance with ASTM C423.	Factory applied vertical ribbed carpet (N.R.C. .20)
Panel Weight:	12.9 (63 kg/m2)	Between 5.5 to 10.9 lbs./sq.ft [27 to 53.5 kg/sq.m] (based on STC rating).
Max. Panel Height:	24'-2" (7.37 m)	22'-3" (6780mm)
Max. Panel Length:	99'=9 3/8" (31.41 m)	Not specified
Fire Rating- Finish Material:	Panel finish material shall be Class A rated in accordance with ASTM E84.	Not specified

Reference: Kwik-Wall & Moderco Web-Sites January 2022

Moderco Aluminum Frame Panel Product Comparison

Fire Rating – Panel Construction:	Panel frame shall be Class A rated, fire retardant, non-combustible and non-corrosive in accordance with ASTM E84.	Not specified
Fire Rating – Wall System:	Not specified	Not specified
U.L. System:	Not specified	Not specified
Warranty:	Manufacturer shall warrant each partition and its component parts to be free from defects in material and workmanship for a period of five (5) years from the date of delivery to the original purchaser, when installed by an authorized KWIK-WALL distributor	. Partition panels shall be guaranteed for a period of two years with all mechanical parts including drive unit, track and carriers guaranteed for a period of five years. This guarantee is against defects in material or workmanship of manufacturer's product, excluding abuse.
Track Model	Series 3000 Model 3050 Continuously Hinged / Electric	Aluminum #55
Track Specification	*Type H.D. Continuously Hinged / Electric Steel Track*: The Continuously Hinged / Electric Steel track running surface shall be made of cold-rolled, high carbon steel tread surfaces to facilitate ease of panel movement and operation. Track system shall not require a panel guide to straighten out the wall system. B. The steel tread surface shall be contained within a continuous structural track housing extruded from aluminum, which prohibits deterioration caused by rust or corrosion. The track housing shall have a durable anodized clear satin finish, which resist color fading and flaking. The track housing shall utilize grooves and interlocking steel pins for positive alignment of adjacent track sections, and shall be reinforced overhead by a heavy-duty steel bracket made of hot-rolled, 3/8" [10] thick plate steel. Aluminum track housing shall include an integral nut slot to accept a hardened steel square nut to facilitate attachment of each steel all-rod and splice brackets to the overhead structural support.	Tracks and trolleys: 1. #55-T track: 6063-T6 aluminum alloy extrusion with integral soffit trim supported by pairs of 3/8" [10mm] dia. threaded rods connected to structural support with hanger brackets. a. #55 trolley: Each trolley shall have four precision ground ball bearing wheels with steel tires. b. Each alternating panel to be supported by one trolley. 1. Aluminum track finish shall be (select one): a. Clear satin anodized. b. Powder coating. Color selected from RAL Classic color system. (Optional)
Carrier Model	Type H.D. Continuously Hinged / Electric Steel Wheel Carrier	#55
Carrier Specifications	*Type H.D. Continuously Hinged / Electric Steel Wheel Carrier*: Each Continuously Hinged / Electric panel shall be top supported by one (1) carrier, utilizing a 5/8" [16] diameter pendant bolt. Each top carrier shall consist of four (4) permanently-lubricated, precision ball bearing polished steel bottom carrier shall consist of two (2) offset, permanently-lubricated, precision ground ball bearing steel wheels riding in a structural rectangular steel tube with 3/8" [10] diameter steel guide rails. Carrier shall utilize a constant-force spring allowing it to travel back and forth within the steel tube.	a. #55 trolley: Each trolley shall have four precision ground ball bearing wheels with steel tires. b. Each alternating panel to be supported by one trolley

Reference: Kwik-Wall & Moderco Web-Sites January 2022

Moderco Aluminum Frame Panel Product Comparison

Manufacturer	KWIK-WALL	MODERCO
Model Number	**2010, 2020, 2030 3" panels**	**N/A**
Construction	**Kwik-Wall manufactures these 3" panels: 2010, 2012, 2030, & 2050**	**Moderco does not manufacture a 3" thick panel**

Reference: Kwik-Wall & Moderco Web-Sites January 2022

Kwik-Wall
MOVEABLE WALL SYSTEMS

Acoustical Test Report

Steel Frame 3000 Series 50 STC Rating Steel Skin Panel Face Construction.

Conducted at: Riverbank Acoustical Laboratory
1512 Batavia Avenue
Geneva, IL 60134
November 4, 2002
Test No. RAL –TL02-309

Test Method:

The measurements reported on the follow pages conform to ASTM designation E90 and E413 test standards. Riverbank Acoustical Laboratories has been accredited by the U.S. Department of Commerce, National Institute of Standards, and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP) for this test procedure.

Description of the Specimen:

Panel consisted of a 16 gauge steel frame that housed two vinyl fabric faced 22 gauge steel skins applied over 12.7 mm (0.5 in) thick, gypsum board panels. The cavity was lined with mineral fiber blanket material. The panel measured 95 mm (3.75 in) thick. Average panel weight was 46 kg/m^2 (9.5 lb/ft^2).

Riverbank Acoustical Laboratories (RAL™)
Laboratory Measurement of Airborne Sound Transmission Loss
of Building Partitions ASTM E 90-02/NVLAP 08/P06

TEST NUMBER: TL02-309 TEST DATE: NOVEMBER 04, 2002

CLIENT: Kwik-Wall Co.
DESIGNATION: 3000 Steel Skin Panel With Eight 0.312 in. Holes

DIMENSIONS: 47.75" wide x 95.75" high x 3.75" thick
AREA: 32.0 ft²
WEIGHT: 228 lbs
SPECIMEN DETAILS:

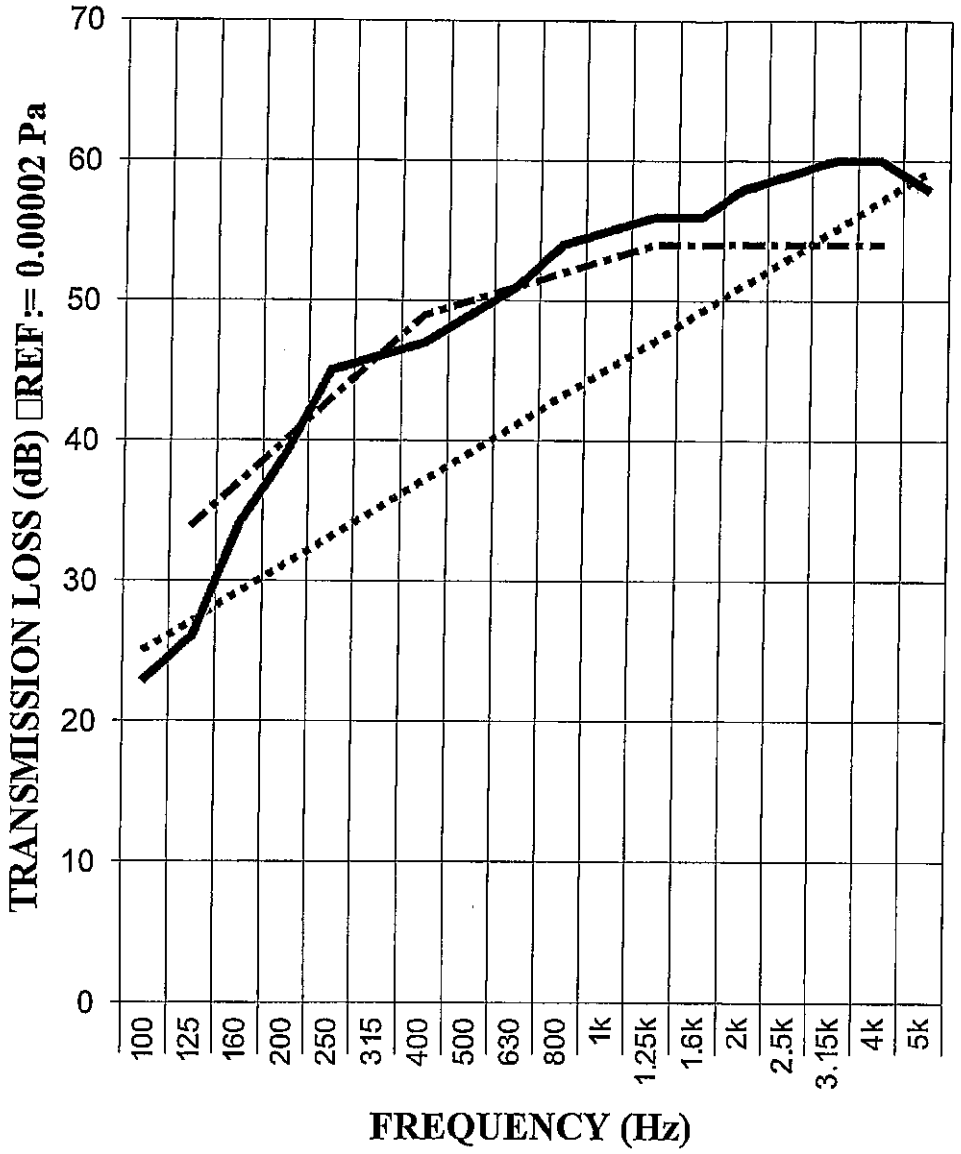
SOURCE ROOM: Room 2 Volume = 6297.6 ft³ Area = 2066.2 ft²
RECEIVE ROOM: Room 3 Volume = 4911.9 ft³ Area = 1690.3 ft²
FILE NAME: TL02_309_021104_A.doc

FREQ. (Hz)	T.L. (dB)	UNC. (dB) 95%CL	DEF. (dB) <CONT	FREQ. (Hz)	T.L. (dB)	UNC. (dB) 95%CL	DEF. (dB) <CONT
100	**23**	0.89		800	**54**	0.16	
125	**26**	0.76	8	1k	**55**	0.20	
160	**34**	0.47	3	1.25k	**56**	0.14	
200	**39**	0.52	1	1.6k	**56**	0.14	
250	**45**	0.49		2k	**58**	0.10	
315	**46**	0.41		2.5k	**59**	0.14	
400	**47**	0.41	2	3.15k	**60**	0.11	
500	**49**	0.28	1	4k	**60**	0.14	
630	**51**	0.22		5k	**58**	0.13	

Sound Transmission Class (STC) = 50

Total Deficiencies = 15

SOUND TRANSMISSION REPORT
RAL - TL02-309



STC = 50

TRANSMISSION LOSS

SOUND TRANSMISSION LOSS CONTOUR

MASS LAW

HP ENGINEERING

5400 N. Grand Boulevard, Suite 515, Oklahoma City, OK 73112 | 405-286-9945

SUBMITTAL REVIEW

PROJECT:	**Greenwood Cultural Center**
PROJECT NO:	**250017**
DATE:	**10/14/2025**
SUBMITTAL:	**LIGHTING SUBSTITUTION REQUEST FORM**
SUBMITTAL NO:	**ULAOK25-104**
REVIEWER:	**EB**

Checking of submittals is only for general conformance with the design concept of the project and general compliance with the information given in the contract documents. Any action shown is subject to the general requirements of the plans and specifications. Contractor is responsible for dimensions, quantities, and coordination between trades. Finishes must be approved by Architect/Owner.

ACTION CODES

1	2	3	4
No Exceptions Taken	Note Corrections	Revise & Resubmit	Rejected

Description	Action Code	Comments
	2	APPROVED WITH NOTED CORRECTIONS

Type A:
A1, A2 may not meet specified output of HEW BP (3,396-4,491LM). Cut Sheet does not provide enough information to confirm required output at 3500K.
A3 ILP VPAN24-65L-U-CCTS
Rejected. Luminoso does not meet 6,500LM delivered. Specified VPAN24 delivers 6,945LM
VPAN.pdf
D1, D1E
Rejected. Providing retrofits, not equal to 4DR new construction downlights/ aesthetics/ build quality. This is a lower-end product than specified.
H HEW PXF-44-11'06-L7/835-W-LCAP/RCAP-D-DIM-UNV PX-WASH_led.pdf
Provided Axis Beam 4 does not provide the specified wall wash optic. This is a different effect on your wall and can highlight imperfections in tile (like lippage).

TYPE B/BE:
ULA is offering a pendant linear. Specified is the LSI ALN (recessed)
B LSI ALN SMC 4 10L 835 UNV GCMKXXXX ALN-Specsheet.pdf
BE LSI ALN SMC 4 10L 835 UNV EM GCMKXXXX ALN-Specsheet.pdf

United Lighting Alliance of Oklahoma
1744 NW 15th St
Oklahoma City OK 73106
Phone:

Date: Oct 7, 2025

Job Name
Greenwood Cultural Center Facility Rehabilitation
ULAOK25-104
Tulsa OK

Bid Date
Oct 31, 2025

Submittal Date
Oct 3, 2025

Architect:
CJC Architecture
1401 S Denver Ave
Tulsa OK 74119

Engineer:
HP Engineering
520 W Broadway Ave
Broken Arrow OK 74012

ULA
UNITED LIGHTING ALLIANCE
OKLAHOMA

Transmittal

United Lighting Alliance of Oklahoma
1744 NW 15th St
Oklahoma City OK 73106
Phone:
From: Carson Logan

Project **Greenwood Cultural Center Facility Rehabilitation**
Quote# ULAOK25-104
Location Tulsa OK
Contact:

ATTACHED WE ARE SENDING YOU 1 COPY OF THE FOLLOWING ITEM:

- ☐ Drawings
- ☐ Prints
- ☐ Plans
- ☐ Specifications
- ☐ Information
- ☐ Submittals

Other:

THESE ARE TRANSMITTED FOR:

- ☐ Prior Approval
- ☐ Approval
- ☐ Approval as Submitted
- ☐ Approval as Noted
- ☐ Resubmittal for Approval
- ☐ Corrections
- ☐ Your Use
- ☐ Review and Comment
- ☐ Record

Bids due on:
Other:

Type	MFG	Part
A3	Luminoso 2x4 LED FP / 30-50w / 3750-6250lm / 35-50k / 0-10v DIm / 120-277v	SFP24 WS50 Y CCTS
D1	Luminoso LED DL / 27-40w / 2430-3200lm / 3-5k / 0-10v Dim / 120-277v	TCDE WS40 CCTS Y TRWR 4 TKFR
D1E	Luminoso LED DL / 27-40w / 2430-3200lm / 3-5k / 0-10v Dim / 120-277v / EM	TCDE WS40 CCTS Y EB8 TRWR 4 TKFR
EXW1	Life Safety Lighting Edge Lit Exit / Single Face / RD On CLR/ UNV MNT. / 120/277 v	LSXEL 1 R C A EM
H-11-6	Axis Lighting 11' 6" Regressed Wall Waher / 700lmf / 35k / 80cri / 0-10v Dim / 120-277v / WHT	BBPRLED-700-80-35-GZ-RG2-11'6"-W-UNV-DP-1-DF-ECR2
H-12-6	Axis Lighting 12' 6" Regressed Wall Waher / 700lmf / 35k / 80cri / 0-10v Dim / 120-277v / WHT	BBPRLED-700-80-35-GZ-RG2-12' 6"-W-UNV-DP-1-DF-ECR2
H-16	Axis Lighting 16' Regressed Wall Waher / 700lmf / 35k / 80cri / 0-10v Dim / 120-277v / WHT	BBPRLED-700-80-35-GZ-RG2-16'-W-UNV-DP-1-DF-ECR2
H-22	Axis Lighting 20' Regressed Wall Waher / 700lmf / 35k / 80cri / 0-10v Dim / 120-277v / WHT	BBPRLED-700-80-35-GZ-RG2-20'-W-UNV-DP-1-DF-ECR2
A1	Luminoso 1x4 LED FP / 20-40w / 2500-5000lm / 35-50k / 0-10v Dim / 120-277v	MFP 14 WS40 Y CCTS
A2	Luminoso 2x4 LED FP / 30-50w / 3750-6250lm / 35-50k / 0-10v Dim / 120-277v	MFP 24 WS50 Y CCTS
A2E	Luminoso 2x4 LED FP / 30-50w / 3750-6250lm / 35-50k / 0-10v Dim / 120-277v / EM	MFP 24 WS50 Y CCTS EB
B	Axis Lighting 4' LED Slot Pendant / 9.4wpf / 1000lmf / 35k / 80cri / 0-10v Dim / 120-277v / Finish TBD	TB4DLED-1000-80-35-SO-4-(STD COLOR)-UNV-DP-1-CA144

ULA
UNITED LIGHTING ALLIANCE
OKLAHOMA

Transmittal

United Lighting Alliance of Oklahoma
1744 NW 15th St
Oklahoma City OK 73106
Phone:
From: Carson Logan

Type	MFG	Part
BE	Axis Lighting	TB4DLED-1000-80-35-SO-4-(STD COLOR)-UNV-DP-1-CA144-B1
	4' LED Slot Pendant / 9.4wpf / 1000lmf / 35k / 80cri / 0-10v Dim / 120-277v / Finish TBD / EM	
C	Lumenpulse	LADM-TILT-A-120-L30-35K-CR80-M-RD-WH-DAMC-NC-NA
	Lumencore Recessed Discreet Medium Tilt, UL/cUL, 120 Volts, 3000 lm, 3500K, CRI 80+, Medium 40° , Round, White, Standard 0-10V Dimming 1% Linear Curve, New Construction Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142), No Accessory	
C2	Lumenpulse	LCRS-A-FD-120-R-L30-35K-80-M-DA1-SB-MWH-RD-MWH-NC-1-WET-PD-EBB
	Lumencore Recessed Small - 4 in, UL/cUL, Downlight, 120 Volts, Round, 3000 lm, 3500K, CRI 80+, Medium Reflector 40°, Standard 0-10V Dimming 1% Linear Curve, Standard, Matte White, Round, Matte White, New Construction Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142), 0.04 in to 1 in Ceiling Thickness, IP54 Rating Suitable for Wet Locations, Clear Glass Lens / EM	
DR	Lumenpulse	LADM-A-120-L20-35K-CR80-W-RD-WH-DA1-NC-NA
	Lumencore Recessed Discreet Medium, UL/cUL, 120 Volts, 2000 lm, 3500K, CRI 80+, Wide 60°, Round, White, Standard 0-10V Dimming 1% Linear Curve, New Construction Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142), No Accessory	
DRE	Lumenpulse	LADM-A-120-L20-35K-CR80-W-RD-WH-DAMC-NC-EBI-NA
	Lumencore Recessed Discreet Medium, UL/cUL, 120 Volts, 2000 lm, 3500K, CRI 80+, Wide 60°, Round, White, Standard 0-10V Dimming 1% Linear Curve, New Construction Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142), Emergency Battery Backup with Hanger Bar (Iota ILB-CP07-A TBTS), No Accessory	
F	Lumenpulse	LADM-TILT-A-120-L30-35K-CR80-M-RD-WH-DA1-NC-NA
	Lumencore Recessed Discreet Medium Tilt, UL/cUL, 120 Volts, 3000 lm, 3500K, CRI 80+, Medium 40° , Round, White, Standard 0-10V Dimming 1% Linear Curve, New Construction Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142), No Accessory	
G	Axis Lighting	TB4WDILED-750-750-80-35-SLA-GZ-12'6"-W-UNV-DP-1
	LED Direct/Indirect Wall Grazer / 750lmf Direct/ 750lmf Indirect / 80cri / 35k / 0-10v dim / 120-277v / WHT	
GE	Axis Lighting	TB4WDILED-750-750-80-35-SLA-GZ-12'6"-W-UNV-DP-1-B1
	LED Direct/Indirect Wall Grazer / 750lmf Direct/ 750lmf Indirect / 80cri / 35k / 0-10v dim / 120-277v / WHT / EM	

Submitted by United Lighting Alliance of Oklahoma		Catalog Number:	Type:
ULA UNITED LIGHTING ALLIANCE OKLAHOMA	**Job Name:** Greenwood Cultural Center Facility Rehabilitation Architect: CJC Architecture (Tulsa) Engineer: HP Engineering (Broken Arrow)	SFP24 WS50 Y CCTS Notes:	**A3** ULAOK25-104

LUMINOSO LED LIGHTING

SFP Series / Frame-less Panels

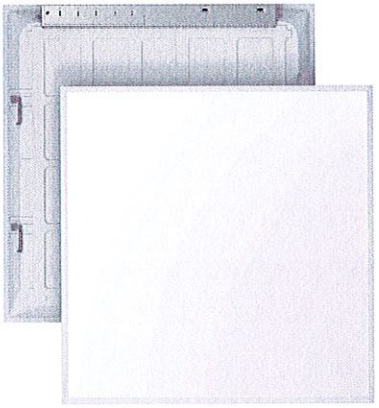
1x4, 2x4, 2x2 / Wattage & CCT Selectable

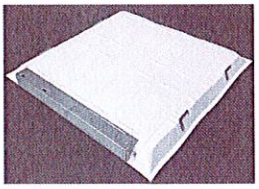
Project:	Date
Type:	
Model:	

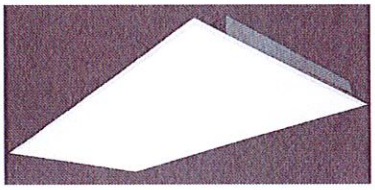
DESCRIPTION

Our Dual Selectable Backlit Panels are commercial luminaires that utilizes advanced driver technology to provide an all in one luminaire, providing 3 wattages and 3 CCT options in each size panel. This provides superior lighting performance while minimizing inventory by reducing the amount of stocking SKUs. They achieve high uniformity, DLC PREMIUM energy efficiency and reduced glare in typical T-bar grid ceiling applications.

Our state-of-the-art backlit LED technology utilizes PMMA lensing over the LEDs which will not discolor over time. The need for a light guide is eliminated, thus increasing photometric performance while keeping costs competitive. Combined with the rigid back enclosure that prevents warping in application, this luminaire is designed for worry-free longevity and reliability. Available with factory installed battery backup for 90 minutes emergency egress illumination.







SPECIFICATIONS

Construction

- Steel die-formed back-cover & frame, screw-less.

Optics

- PMMA lens over LEDs, PS diffuser
- Prismatic Lens, Low URG (17-19)
- 120° Beam angle
- 3CCT Selectable 3500K/4000K/5000K

Electrical

- 0-10VDC Dimming (10%-100%)

Certifications

- UL Listed for Damp Locations
- IC Rated for insulated ceilings
- RoHS, FCC
- DLC PREMIUM
- -5°F to 120°F

Warranty

- 5 Years

ORDER INFORMATION

EXAMPLE: SFP24-WS50-Y-CCTS

3 CCT SELECTABLE · POWER SELECTABLE · RoHS COMPLIANT · 80 CRI · 50,000 Hours · 5 YEAR · CERTIFIED · DLC LISTED PREMIUM Pending

Series	Wattage Selectable	Voltage	CCT	Emergency Battery Backup
SFP22 2x2 Frame-less Panel	**WS40** Wattage Selectable (20 / 30 / 40)	**Y** 120-277V	**CCTS** Color Temperature Selectable (3500K / 4000K / 5000K)	**(Blank)** w/o Battery Backup
SFP24 2x4 Frame-less Panel	**WS50** Wattage Selectable (30 / 40 / 50)			**EB** Emergency Battery Backup 90 minutes of illumination when AC power is removed. Input: 120-277VAC,50/60Hz,5W,0.1A Output: 120-200VDC,Constant Power 8W
SFP14 1x4 Frame-less Panel	**WS40** Wattage Selectable (20 / 30 / 40)			

Enter configuration: _____

Dimensions and values shown are nominal. LuminosoLED continually works to improve products and reserves the right to make changes which may alter the performance or appearance of products.

Submitted by United Lighting Alliance of Oklahoma			
ULA UNITED LIGHTING ALLIANCE OKLAHOMA	**Job Name:** Greenwood Cultural Center Facility Rehabilitation Architect: CJC Architecture (Tulsa) Engineer: HP Engineering (Broken Arrow)	**Catalog Number:** SFP24 WS50 Y CCTS Notes:	**Type:** A3 ULAOK25-104

SFP Series / Frame-less Panels

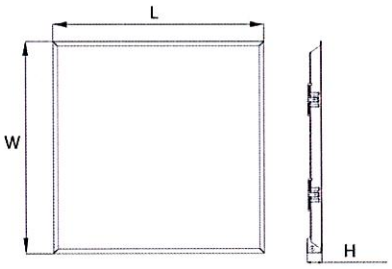
1x4, 2x4, 2x2 / Wattage & CCT Selectable

Luminoso LED LIGHTING

PERFORMANCE DATA

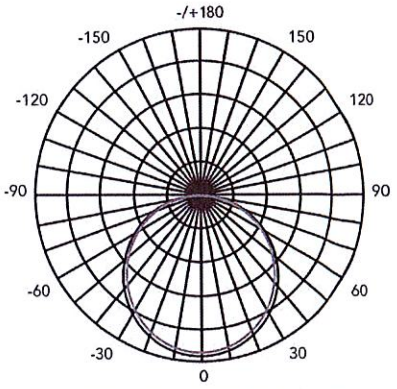
Series	SFP22 (2x2) & SFP14 (1x4)			SFP24 (2x4)		
Wattage	20	30	40	30	40	50
CCT	3500K	4000K	5000K	3500K	4000K	5000K
Lumens	2,500	3,750	5,000	3,750	5,000	6,250
Efficacy (LPW)	125			125		
CRI	80					
Input Voltage	120-277VAC 50/60Hz					
Certifications	UL Listed, FCC, RoHS					
Operating Temp.	-5°F to 120°F					
PF / THD	>0.9, <20%					
Dimming	0-10V (5%-100%)					

DIMENSIONS



Size (FT)	LxWxH
2x2	23.74"x23.74"x1.65"
1x4	47.76"x11.93"x1.65"
2x4	47.76"x23.74"x1.65"

PHOTOMETRICS



AVERAGE BEAM ANGLE (50%) : 114.3 DEG

SFP Series / Frame-less Panels

1x4, 2x4, 2x2 / Wattage & CCT Selectable

Luminoso LED LIGHTING

ACCESSORIES (Surface Mount kit & Flange kit)

Series	Description	
SFP24-SMK	2X4 Surface Mount Kit, White Finish	
SFP22-SMK	2X2 Surface Mount Kit, White Finish	
SFP14-SMK	1X4 Surface Mount Kit, White Finish	

Series	Description	
SFP24-DWK	2X4 Flange Kit, White Finish, 49.52 X 25.9 X 1.57 inch	
SFP22-DWK	2X2 Flange Kit, White Finish, 25.9 X 25.9 X 1.57 inch	
SFP14-DWK	1X4 Flange Kit, White Finish, 49.52 X 14.1 X 1.57 inch	



Emergency Battery Backup

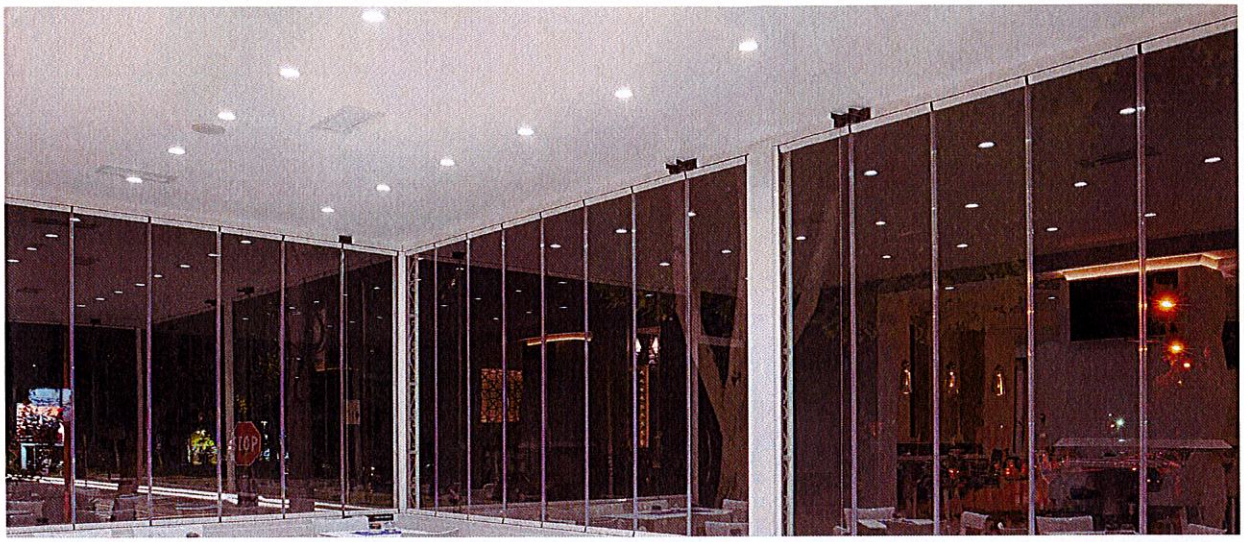
90 minutes of illumination when AC power is removed.
Input: 120-277VAC,50/60Hz,5W,0.1A
Output: 120-200VDC,Constant Power 8W

Submitted by United Lighting Alliance of Oklahoma			
ULA UNITED LIGHTING ALLIANCE OKLAHOMA	**Job Name:** Greenwood Cultural Center Facility Rehabilitation Architect: CJC Architecture (Tulsa) Engineer: HP Engineering (Broken Arrow)	**Catalog Number:** TCDE WS40 CCTS Y TRWR 4 TKFR Notes:	**Type:** D1 ULAOK25-104

LUMINOSO LED LIGHTING

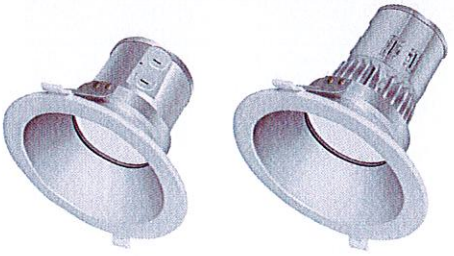
TCDE Series

LED Retrofit Commercial Down Light W/ Selectable CCT & Power



The TCDE Series Commercial Downlights are available in 4", 6", 8", and 10" sizes, with wattages up to 60W. Featuring an innovative separable design between the junction box and trim, these fixtures offer maximum installation flexibility.

The integral junction box eliminates the need for traditional recessed housings, allowing for direct mounting into ceilings—ideal for new construction projects. Adjustable butterfly clips make for a quick and secure installation, requiring no cans, bulbs, or additional labor. Simply wire to a wall switch and place into the ceiling.



TCDE-WS20 TCDE-WS40



TCDE-WS60

TRIM

Self-flanged spun aluminum reflector with frosted lens to shield direct view from LEDs. Trim Size available in 4, 6, 8, and 10 inch with haze reflector.

FEATURES

Selectable Kelvin temperature & Wattage.
Driver Info: 120-277V, 50/60 Hz
LED Life: 50,000 Hours
Operating Temperature: -4°F to 113°F
Warranty: 5 year limited warranty
0-10V dimming: 20W & 40W dims down to 10% / 60W dims down to 1%

Item	Lumen Output			Type
	High	Medium	Low	
TCDE-WS20	20W,1500LM (75LM/W)	15W,1170LM (78LM/W)	10W,800LM (80LM/W)	IC
TCDE-WS40	40W,3200LM (80LM/W)	34W,2890LM (85LM/W)	27W,2430LM (90LM/W)	NON-IC
TCDE-WS60	60W,6180LM (103LM/W)	50W,5300LM (106LM/W)	40W,4360LM (109LM/W)	NON-IC

NOTE: 20W LED engine can be used with all trims. 40W LED engine with all trims, 60W LED engine with 6in, 8in, 10in round trims and 6in square trim only. Efficacy listed at 4000K.

3 CCT SELECTABLE · POWER SELECTABLE

RoHS COMPLIANT · 50,000 Hours · 80 CRI · 5 YEAR · DAMP Rated · UL CERTIFIED

Ordering Guide

LUMINOSO LED LIGHTING

TCDE-WS-CCTS Series

Project:	Date
Type:	
Model:	

Ordering Chart

Example: TCDE-WS20-CCTS-Y

TCDE - [ ] - [ ] - Y - [ ]

Series	Selectable Wattage	Selectable CCT	Voltage	Emergency Battery Back-up
TCDE LED Engine	**WS20** (Wattage Selectable) 20W / 15W / 10W	**CCTS** (Color Temp. Selectable) 3000K / 3500K / 4000K	**Y** 120-277V	**Blank** Standard
	WS40 (Wattage Selectable) 40W / 34W / 27W			**EB8** 8W Emergency Battery Backup
	WS60 (Wattage Selectable) 60W / 50W / 40W	*For 5000K contact vendor for availability.		**EB25** 25W Emergency Battery Backup

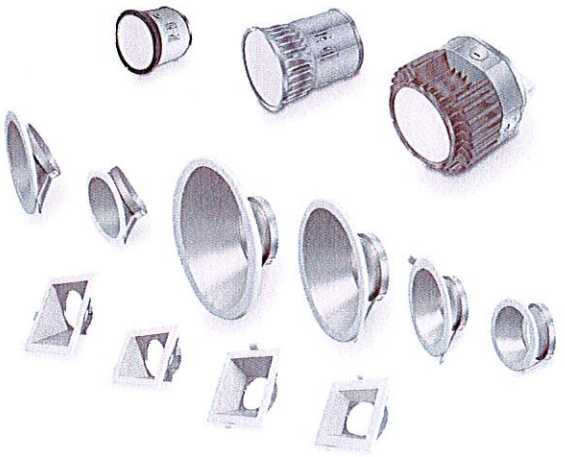
Accessories Ordering Chart

Trim Example: TRWR-4

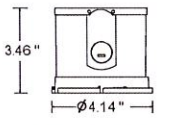
Frame Kit Example: TFKR-J

Round and Square Trim Options
TRWR-(4/6/8/10)4" Round White Ring
TRHR-(4/6/8) Round Haze Ring
TRRR-(4/6) Round Rose Ring
TSWR-(4/6) Square White Ring
Wall Washer Trim Options
TRWW-(4/6) Round Wall Wash White Ring
TSWW-(4/6) Square Wall Wash White Ring

New Construction Frame Kit
TFKR Round Frame Kit 3in - 8in
TFKS Square Frame Kit 4in - 6in
New Construction Frame Kit " with J-Box
TFKR-J Round Frame Kit with J-Box 3in - 8in
TFKS-J Square Frame Kit with J-Box 4in - 6in

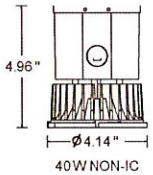


LED Engine dimensions & Trim compatibility



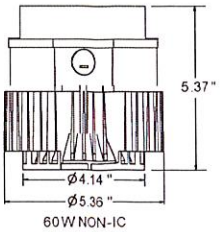
10W IC, 15W IC, 20W IC

20W Max (120-277VAC)
Fits with 4in, 6in, 8in trims, round and square.



40W NON-IC

40W Max (120-277VAC)
Fits all trims.



60W NON-IC

60W Max (120-277VAC)
Only for 6in / 8in / 10in round trims and 6in square trims.

Dimensions and values shown are nominal. LuminosoLED continually works to improve products and reserves the right to make changes which may alter the performance or appearance of products.

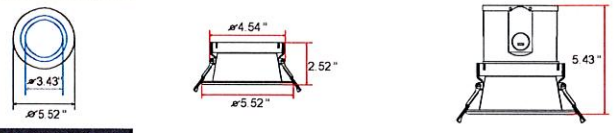
Dimensions: Trim / LED Engine / Cut-out

LUMINOSO LED LIGHTING

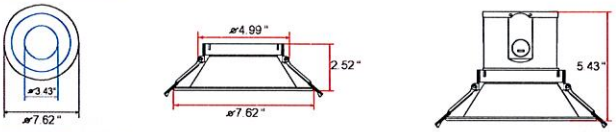
TCDE-WS-CCTS Series

Round Trims

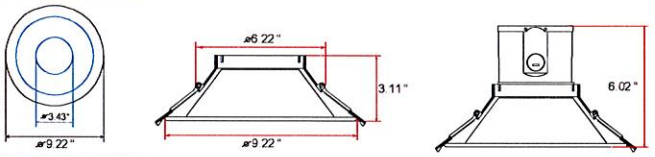
4" Round Trims



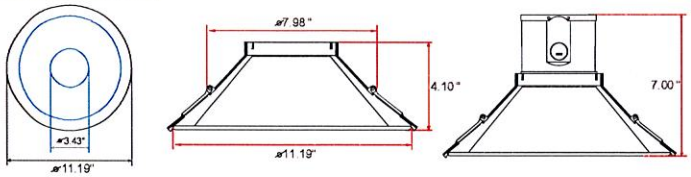
6" Round Trims



8" Round Trims

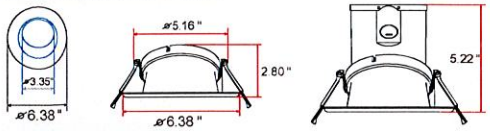


10" Round Trims

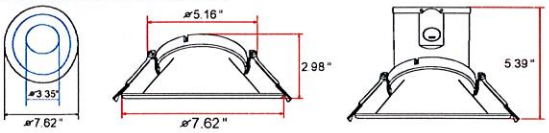


Round Wall Washer Trims

4" Round Wall Wash Trims

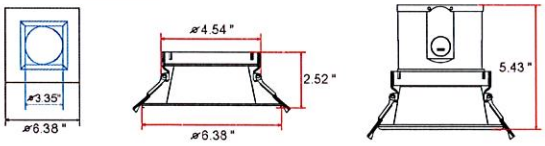


6" Round Wall Wash Trims

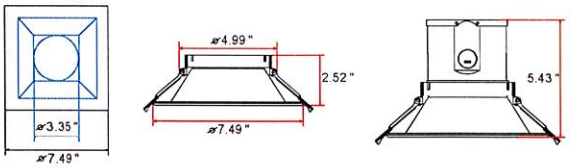


Sqaure Trims

4" Square Trims

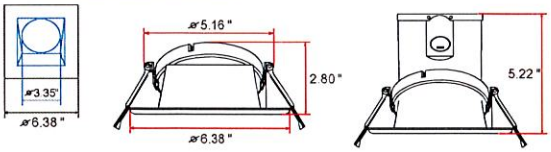


6" Square Trims

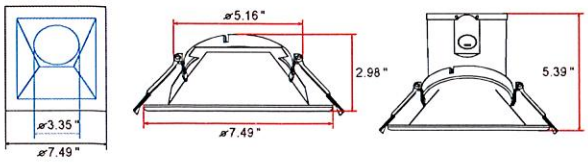


Sqaure Wall Washer Trims

4" Sqaure Wall Wash Trims



6" Sqaure Wall Wash Trims

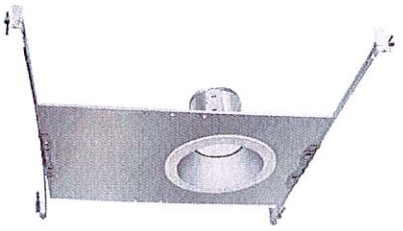


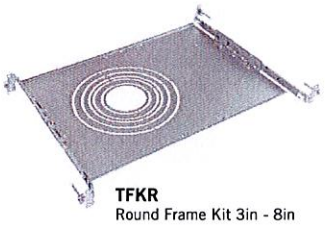
TCDE New Construction Frame Kits

Luminoso LED LIGHTING

OPTIONAL NEW CONSTRUCTION FRAME KITS

The Luminoso LED New Construction Frame kit is ideal for installing 4, 6, and 8 inch LED engine downlights in new construction projects. Crafted from durable cold-rolled steel, this frame is engineered to accommodate stud or joist spacings of up to 24 inches. It seamlessly integrates with standard 2x2 and 2x4 T-grid drop ceilings and comes equipped with adjustable and divisible bar hangers featuring pre-installed nails for added convenience.

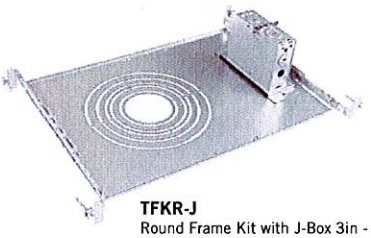




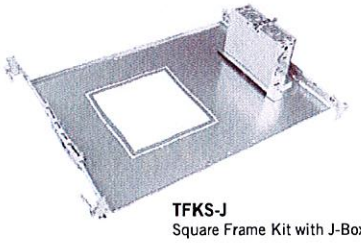
TFKR
Round Frame Kit 3in - 8in



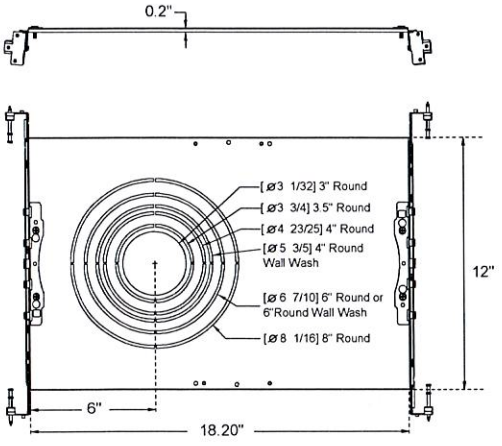
TFKS
Square Frame Kit 4in - 6in

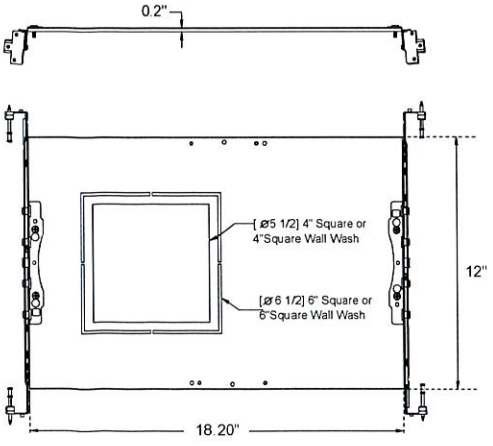


TFKR-J
Round Frame Kit with J-Box 3in - 8in



TFKS-J
Square Frame Kit with J-Box 4in - 6in





Submitted by United Lighting Alliance of Oklahoma			
ULA UNITED LIGHTING ALLIANCE OKLAHOMA	**Job Name:** Greenwood Cultural Center Facility Rehabilitation Architect: CJC Architecture (Tulsa) Engineer: HP Engineering (Broken Arrow)	**Catalog Number:** TCDE WS40 CCTS Y EB8 TRWR 4 TKFR Notes:	**Type:** D1E ULAOK25-104

LUMINOSO LED LIGHTING

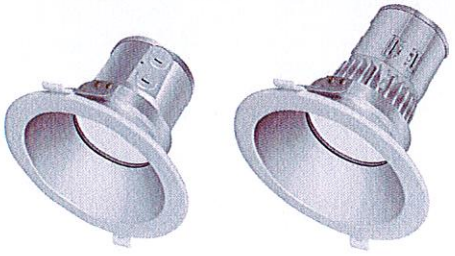
TCDE Series

LED Retrofit Commercial Down Light W/ Selectable CCT & Power

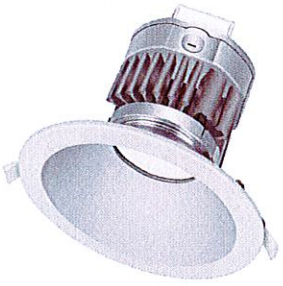


The TCDE Series Commercial Downlights are available in 4", 6", 8", and 10" sizes, with wattages up to 60W. Featuring an innovative separable design between the junction box and trim, these fixtures offer maximum installation flexibility.

The integral junction box eliminates the need for traditional recessed housings, allowing for direct mounting into ceilings—ideal for new construction projects. Adjustable butterfly clips make for a quick and secure installation, requiring no cans, bulbs, or additional labor. Simply wire to a wall switch and place into the ceiling.



TCDE-WS20 TCDE-WS40



TCDE-WS60

TRIM

Self-flanged spun aluminum reflector with frosted lens to shield direct view from LEDs. Trim Size available in 4, 6, 8, and 10 inch with haze reflector.

FEATURES

Selectable Kelvin temperature & Wattage.
Driver Info: 120-277V, 50/60 Hz
LED Life: 50,000 Hours
Operating Temperature: -4°F to 113°F
Warranty: 5 year limited warranty
0-10V dimming: 20W & 40W dims down to 10% / 60W dims down to 1%

Item	Lumen Output			Type
	High	Medium	Low	
TCDE-WS20	20W,1500LM (75LM/W)	15W,1170LM (78LM/W)	10W,800LM (80LM/W)	IC
TCDE-WS40	40W,3200LM (80LM/W)	34W,2890LM (85LM/W)	27W,2430LM (90LM/W)	NON-IC
TCDE-WS60	60W,6180LM (103LM/W)	50W,5300LM (106LM/W)	40W,4360LM (109LM/W)	NON-IC

NOTE: 20W LED engine can be used with all trims. 40W LED engine with all trims, 60W LED engine with 6in, 8in, 10in round trims and 6in square trim only. Efficacy listed at 4000K.

3 CCT SELECTABLE · POWER SELECTABLE · RoHS COMPLIANT · 50,000 Hours · 80 CRI · 5 YEAR LIMITED WARRANTY · DAMP Rated · UL CERTIFIED

Luminosoled.com

Ordering Guide

LUMINOSO LED LIGHTING

TCDE-WS-CCTS Series

Project:	Date
Type:	
Model:	

Ordering Chart

Example: TCDE-WS20-CCTS-Y

TCDE – ____ – ____ – Y – ____

Series	Selectable Wattage	Selectable CCT	Voltage	Emergency Battery Back-up
TCDE LED Engine	**WS20** (Wattage Selectable) 20W / 15W / 10W	**CCTS** (Color Temp. Selectable) 3000K / 3500K / 4000K	**Y** 120-277V	**Blank** Standard
	WS40 (Wattage Selectable) 40W / 34W / 27W			**EB8** 8W Emergency Battery Backup
	WS60 (Wattage Selectable) 60W / 50W / 40W	*For 5000K contact vendor for availability.		**EB25** 25W Emergency Battery Backup

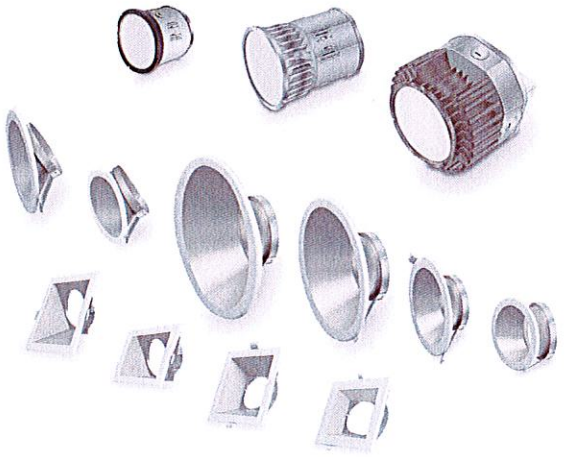
Accessories Ordering Chart

Trim Example: TRWR-4

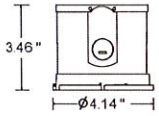
Round and Square Trim Options
TRWR-(4/6/8/10) 4" Round White Ring
TRHR-(4/6/8) Round Haze Ring
TRRR-(4/6) Round Rose Ring
TSWR-(4/6) Square White Ring
Wall Washer Trim Options
TRWW-(4/6) Round Wall Wash White Ring
TSWW-(4/6) Square Wall Wash White Ring

Frame Kit Example: TFKR-J

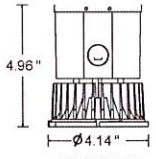
New Construction Frame Kit
TFKR Round Frame Kit 3in - 8in
TFKS Square Frame Kit 4in - 6in
New Construction Frame Kit " with J-Box
TFKR-J Round Frame Kit with J-Box 3in - 8in
TFKS-J Square Frame Kit with J-Box 4in - 6in



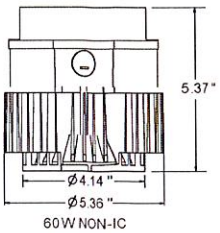
LED Engine dimensions & Trim compatibility



10W IC, 15W IC, 20W IC



40W NON-IC



60W NON-IC

20W Max (120-277VAC)
Fits with 4in, 6in, 8in trims, round and square.

40W Max (120-277VAC)
Fits all trims.

60W Max (120-277VAC)
Only for 6in / 8in / 10in round trims and 6in square trims.

Dimensions and values shown are nominal. LuminosoLED continually works to improve products and reserves the right to make changes which may alter the performance or appearance of products.

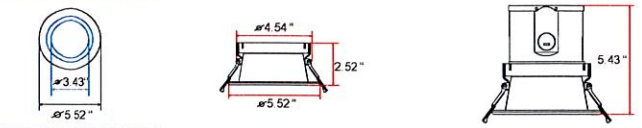
Dimensions: Trim / LED Engine / Cut-out

LUMINOSO LED LIGHTING

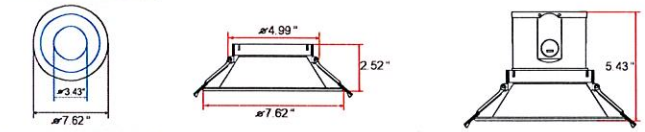
TCDE-WS-CCTS Series

Round Trims

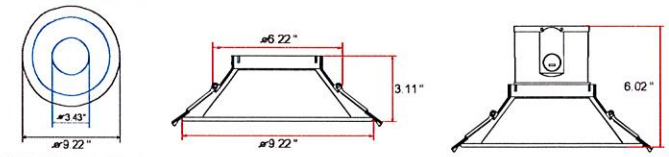
4" Round Trims



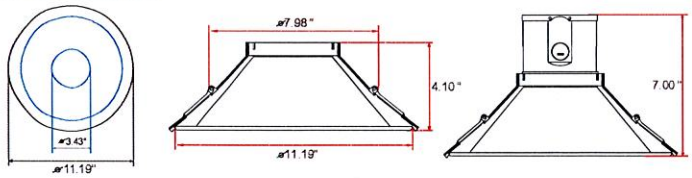
6" Round Trims



8" Round Trims

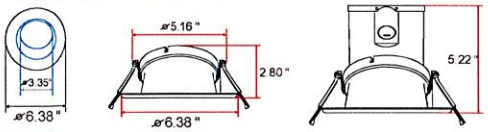


10" Round Trims

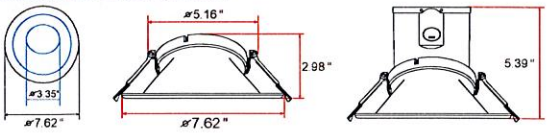


Round Wall Washer Trims

4" Round Wall Wash Trims

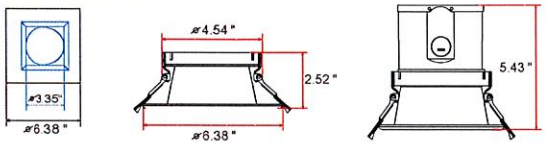


6" Round Wall Wash Trims

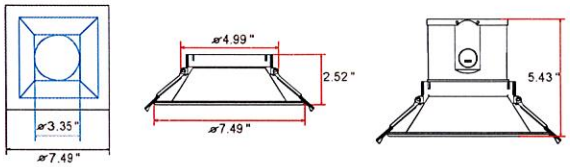


Sqaure Trims

4" Square Trims

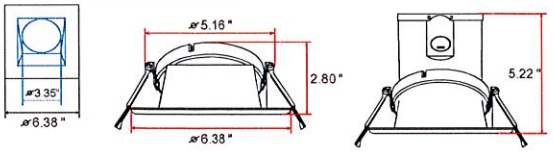


6" Square Trims

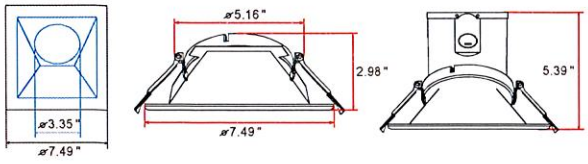


Sqaure Wall Washer Trims

4" Sqaure Wall Wash Trims



6" Sqaure Wall Wash Trims

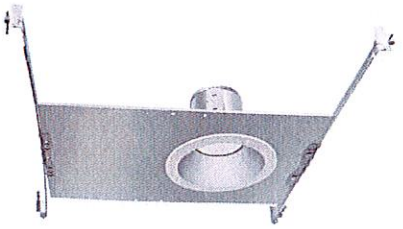


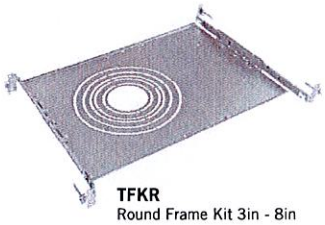
TCDE New Construction Frame Kits

Luminoso LED LIGHTING

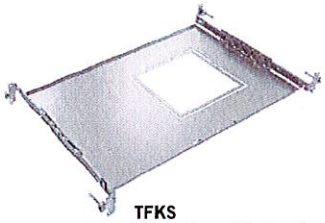
OPTIONAL NEW CONSTRUCTION FRAME KITS

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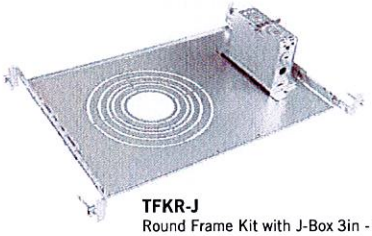




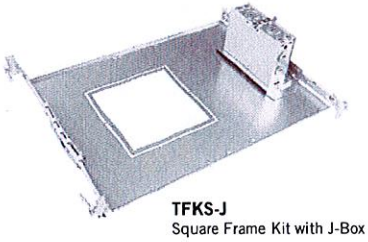
TFKR
Round Frame Kit 3in - 8in



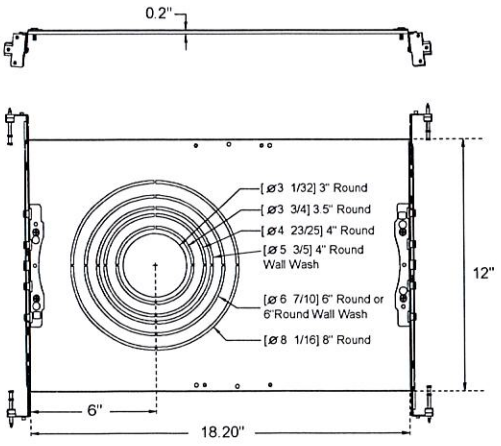
TFKS
Square Frame Kit 4in - 6in

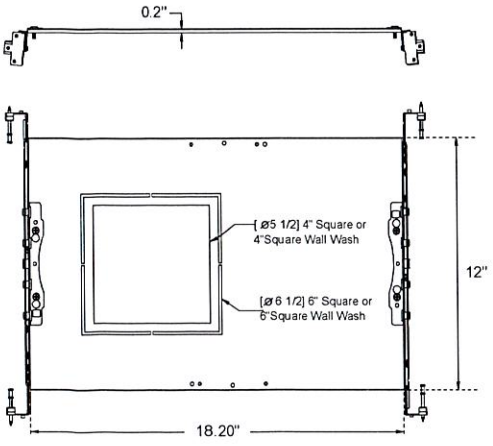


TFKR-J
Round Frame Kit with J-Box 3in - 8in



TFKS-J
Square Frame Kit with J-Box 4in - 6in





Submitted by United Lighting Alliance of Oklahoma	Catalog Number:	Type:
ULA UNITED LIGHTING ALLIANCE OKLAHOMA **Job Name:** Greenwood Cultural Center Facility Rehabilitation Architect: CJC Architecture (Tulsa) Engineer: HP Engineering (Broken Arrow)	LSXEL 1 R C A EM Notes:	**EXW1** ULAOK25-104

LIFE SAFETY LIGHTING LSL 24/7 EMERGENCY FIXTURES

Job Name:

Type:

Part #:

Notes:

LSXEL ALUMINUM LED EDGELIT EXIT SIGN





ILLUMINATION

- *Ultra bright, energy efficient, long life Red or Green LED.*
- *UV-stabilized ultra-clear acrylic edgelit panel provides consistent, uniform illumination.*
- *Double face utilizes factory installed silver or white mylar background panel.*

ELECTRICAL

- *Dual 120/277 voltage standard. Optional multi-tap 208/220/240 voltage available.*
- *Charge rate/power "ON" LED indicator light and push-to-test switch for mandated code compliance testing.*
- *4.8V long life maintenance-free, rechargeable NiCd battery.*
- *Internal solid-state transfer switch automatically connects the internal battery to lamp heads for minimum 90-minute emergency illumination.*
- *Fully automatic solid-state, two rate charger initiates battery charging to recharge a discharged battery in 24 hours.*

MOUNTING

- *Aluminum mounting canopy included for top, end or back mount.*

HOUSING

- *Premium-grade, extruded aluminum housing (also available in black or white powder-coated finishes).*
- *Self-adhesive chevron appliques and guide template provided for directional indication.*

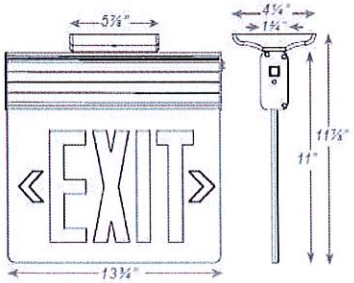
OPTIONS

- *SDT: Self-diagnostic feature performs monthly, biannual, and annual tests to ensure reliable operation and meet electrical and life safety codes.*
- *2C: Dual circuit option on the AC-only unit enables it to be connected to two different (one acting as a back-up to the other) supplies at the same time.*
- *Custom: Signs available with requested 'special' wording.*
- *USA: Substantial transformation assembly in the U.S. complies with "Assembled in the USA" under the Buy American Act.*
- *SPV: UL Listed for special voltage option.*

LISTINGS AND WARRANTIES

- *Five year warranty on all electronics and housing. Battery prorated for five years.*
- *Meets UL924, NFPA 101 Life Safety Code, NEC, OSHA, Local and State Codes.*
- *UL Listed for damp locations (0°C – 50°C).*

DIMENSIONS



ORDERING INFORMATION

Sample Part Number: ***LSXEL***

MODEL	# OF FACES	LETTER COLOR	PANEL	HOUSING COLOR	BATTERY	OPTIONS
LSXEL	*1 - Single Face* *2 - Double Face*	*R - Red* *G - Green*	*C - Clear* *M - Mirror* *W - White*	*W - White* *B - Black* *A - Aluminum*	*Blank - AC Only* *EM - Battery Backup*	*SDT - Self-Diagnostics [3]* *CUSTOM - Custom Wording* *2C - Dual circuit Operation [4]* *USA - Assembled in USA* *SPV - 208/220/240 Volt, 50/60Hz*

NOTES:
1. With single face only
2. Not available with SDT
3. Available only with EM units
4. Available only with AC units

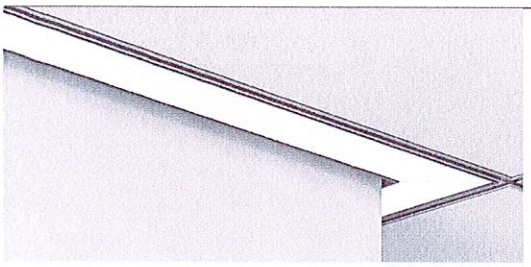
2021.07

Office: 410.404.0080
www.lsl247.com

Specifications subject to change without prior notice.
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Submitted by United Lighting Alliance of Oklahoma			
ULA UNITED LIGHTING ALLIANCE OKLAHOMA	**Job Name:** Greenwood Cultural Center Facility Rehabilitation Architect: CJC Architecture (Tulsa) Engineer: HP Engineering (Broken Arrow)	**Catalog Number:** BBPRLED-700-80-35-GZ-RG2-11'6"-W-UNV-DP-1-DF-ECR2 Notes:	**Type:** H-11-6 ULAOK25-104

BEAM4 LED | PERIMETER LINEAR - RECESSED



Project _____

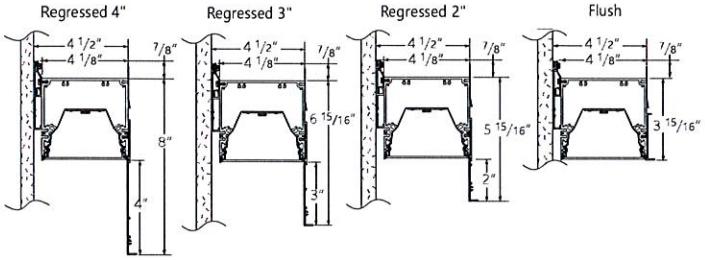
Type _____

Notes _____

PERFORMANCE PER LINEAR FOOT AT 3500K

NOMINAL LUMEN OUTPUT	INPUT WATTS*	EFFICACY	SHIELDING
1200 lm/ft	9.7 W/ft	124 lm/W	SO-FL
1200 lm/ft	10.4 W/ft	116 lm/W	UB-FL
1200 lm/ft	9.3 W/ft	129 lm/W	RFA-FL
1000 lm/ft	9.4 W/ft	114 lm/W	GZ-FL

Please consult factory for custom lumen output and wattage.



CCEA APPROVED | Axitune Tunable White | PoE | bios | cULus Listed | IC | cULus Listed Type I.C. | 5 YEAR LIMITED WARRANTY

DLC LISTED * Check the latest update on the DLC website for complete information. Not all versions may be DLC qualified. See page 2 for DLC Approved options

Ordering Guide

BBPRLED

PRODUCT ID		NOM. LUMENS/FT		CRI		COLOR TEMP. (choose one)				SHIELDING	
BBPRLED	Perimeter Recessed LED	**400**	400 lm/ft - Minimum	**80**	80 CRI	**27**	2700 K	**TW2750**	2700-5000 K - Tunable White	**SO**	Spotless lens
		1000	1000 lm/ft - max for GZ.*	**90**	90 CRI*	**30**	3000 K	**TW2765**	2700-6500 K - Tunable White	**UB**	Ultra blend lens*
		1200	1200 lm/ft - Maximum			**35**	3500 K	**BTW3527**	3500-2700 K - Tunable BIOS	**GZ**	Graze
			700lmf			**40**	4000 K	**BTW4027**	4000-2700 K - Tunable BIOS	**RFA**	room fill asymmetric lens**
						B30	3000 K - BIOS*				
						B35	3500 K - BIOS*				
						B40	4000 K - BIOS*				
		Outputs between listed min and max are available. * 1000 lm/ft max. only for GZ. Consult factory for outputs outside of the listed range. Consult factory for max output with BIOS.		* Not available with BIOS		Consult Axitune technical sheet for more information on color technology. *Consult BIOS guide for more information on BIOS technology BIOS (B30, B35, B40, BTW3527, BTW4027) is not available with Telescopic.				* Default lens for Tunable white and BIOS. ** Only available with flush (FL) Shielding Position. Consult factory for other lens.	

SHIELDING POSITION		TOTAL LENGTH		FINISH		VOLTAGE		DRIVER		CIRCUITS		MOUNTING	
FL	flush	**L**	total length	**W**	white	**120**	120 V	**DP**	dimming (0-10V) 1%	**1**	1 circuit	**TB9**	t-bar 9/16"
RG2	regressed 2"		11' 6"	**C**	custom	**277**	277 V	**LT(#)**	Lutron*	**2**	2 circuits	**TB15**	t-bar 15/16"
RG3	regressed 3"					**347**	347 V	**BI**	bi-level dimming	**+E(#)**	emergency circuit*	**ST**	screw slot t-bar
RG4	regressed 4"					**UNV**	universal	**O(#)**	other**	**+NL(#)**	night light circuit*	**TG9**	tegular 9/16"
						DC	low voltage*	**DPB(STC)**	dimming (0-10V) 1% with BIOS*	**+GTD(#)**	generator transfer device*	**TG15**	tegular 15/16"
								DPB(DYN)	Bio-dimming™ 100%-81% with BIOS*			**DF**	drywall flange
								TW(#)	tunable white drivers*			**DS**	drywall spackle flange
		Min total length 2'				* Only available with POE drivers.		**POE(#)**	POE drivers*				
								*See page 2 to specify system **Please consult factory; see page 2		*Specify quantity		TS section requires min length of 4'. Available on patterns. Recomended for longer runs or if exact perimeter length is not available. See page 2 for more details.	

END CAP		TYPE (OPTIONAL)		BATTERY (OPTIONAL)		OTHER (OPTIONAL)		IC CONTROLS (OPT.)		CUSTOM (OPTIONAL)	
ECR2	end cap for regressed 2"*	**TS(#)**	telescopic sections	**B(#)**	battery pack 4' sections	**EF**	end feed	**WC(#)**	wireless control dimming	**C**	custom
ECR3	end cap for regressed 3"**					**FW**	flex whip (6' std)*				
ECR4	end cap for regressed 4"***					**CP**	Chicago plenum				
ECFL	end cap flush with lens										
* Only available with RG2 regressed position ** Only available with RG3 regressed position *** Only available with RG4 regressed position See page 4 for additional information.		TS section requires min length of 4'. Available on patterns. Recomended for longer runs or if exact perimeter length is not available. See page 2 for more details. Not available with BIOS - B30, B35, B40, BTW3527, BTW4027.		Not available with 347V Please consult factory		* Other lengths available; please consult factory.		See integrated controls guide for more details. Specify quantity. Requires 8' blank Consult factory for Tunable White Not available with DPB (DYN) driver for BIOS with Dynamic Spectrum.		Please specify	

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axis axislighting.com

BEAM4 LED | PERIMETER LINEAR - RECESSED

SPECIFICATIONS

CONSTRUCTION

Housing	Extruded aluminum (0.075" nominal) Up to 70% recycled content
End Cap	Cast aluminum
Interior Brackets	Die formed sheet steel (18 gauge)
Reflectors	White powder coated sheet steel (22 gauge)
Blank	Extruded aluminum (0.075" nominal)
Lens	Spotless frosted acrylic lens
T-Bar Bracket	Die formed sheet steel (16 gauge)
Screw Slot T-Bar Bracket	Die formed sheet steel (16 gauge)
Spackle Flange	Extruded aluminum (0.070")
All Flanges	Extruded aluminum (0.070" nominal)

ELECTRICAL

Lutron driver	LDE1 - Hi-lume 1% EcoSystem with Soft-on, Fade-to-Black
Other drivers**	DALI - Digital Addressable Lighting Interface DMX - Digital Multiplex Xitanium SR - For wireless sensor
BIOS DPB drivers*	STC - BIOS control 0-10V with static spectrum and BIOS SkyBlue enabled from 100% to 1%. DYN - BIOS control 0-10V with dynamic spectrum and BIOS SkyBlue® with Bio-Dimming™, which changes spectral qualities by removing the SkyBlue component when dimming from 100% to 81%, while light output remains relatively constant; bio-dimming reduces CCT to 2700K. Dimming from 80% to 1% will then reduce light output.
Tunable White TW drivers*	DALIDT6 - DALI Type 6 (Two DALI Addresses) DALIDT8 - DALI Type 8 (One DALI Address) DPTW - two channel 0-10V dimming: one channel for brightness, one channel for CCT. LDTW - Lutron DALI Type 8 (One DALI adress) Tunable White series
Power over Ethernet POE drivers* UL2108 certified for integral or remote driver	MOLEX IGOR SMARTENGINE O - Other (Consult factory)
Emergency	Integral emergency battery pack or emergency circuit optional.
Input Voltage	120V, 277V, 347V, UNV, DC.
Flex Whip	Shipped in a separate box for contractors to install

*Choose driver from available options.

ℹ Incorporating these components may have limitations or affect the length of the luminaire. Please contact factory for more details.

DLC Approved Options

DLC LISTED *Check the latest update on the DLC website for complete information. Not all versions may be DLC qualified

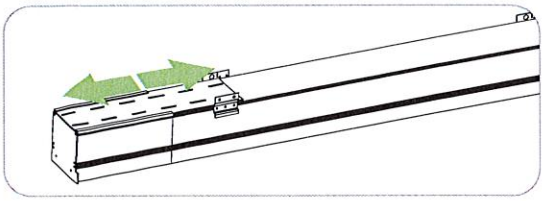
LUMEN OUTPUT	CRI	COLOR TEMP.	SHIELDING	SHIELDING POSITION	LENGTH	VOLTAGE	DRIVER
400 lm/ft 600 lm/ft 800 lm/ft 1000 lm/ft	80	3000 K 3500 K 4000 K	SO	FL	4' 8' 12'	universal	DP

7" TELESCOPIC ADJUSTMENT

Beam4 LED Perimeter system feature a patented telescopic sliding LED board design that allows runs to be field cut to facilitate installation and specification.

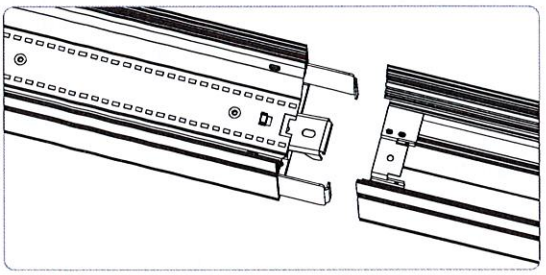
NOTE: Miter saw with aluminum cutting blade required on site for telescopic adjustments. If a 2nd telescopic section is required, minimum length is 8'.

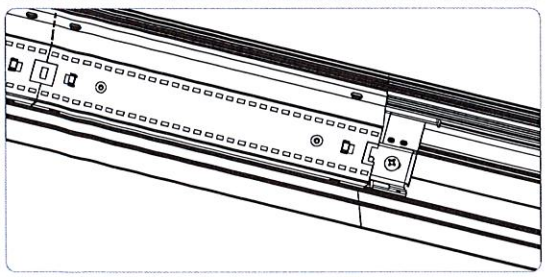
EXAMPLE: Telescopic adjustment 7" (+4"/-3"). If a 10' 6" (126") fixture is specified, adjustable lengths with (1) TS section are between 123"-130".



JOINERS

BEAM4 Perimeter LED has steel joiners with wedge alignment for easy installation.





JOINER SYSTEM

WEIGHT

Perimeter LED 4 ft	14.5 lbs / 6.6 kg
Perimeter LED 8 ft	29.0 lbs / 13.2 kg
Perimeter LED 12 ft	43.5 lbs / 19.7 kg

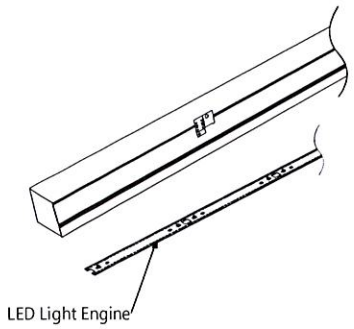
APPROVALS

Certified to UL and CSA standards
Meets CCEC requirements (Chicago plenum)
Meets NYC requirements
Suitable for damp locations
IC Rated (Insulated ceiling)

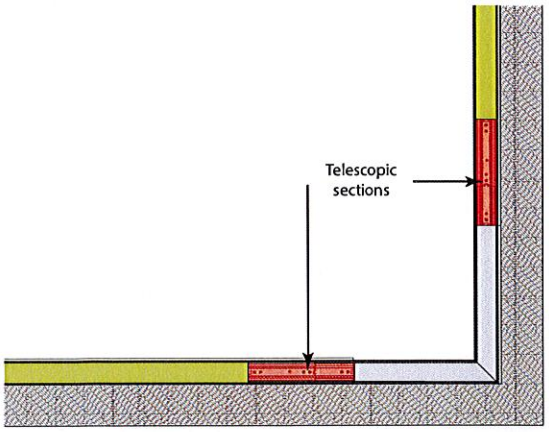
BEAM4 LED | PERIMETER LINEAR - RECESSED

LED SYSTEM

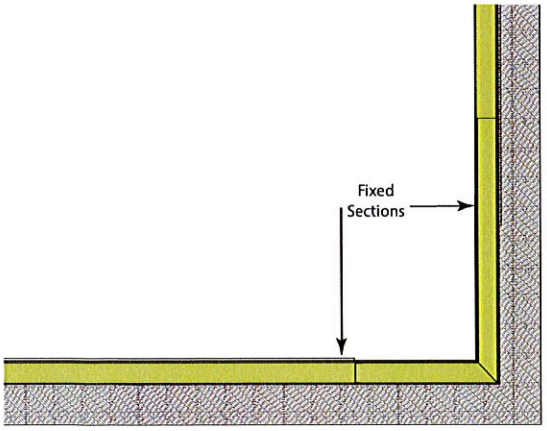
CRI	Minimum 80 or 90 color rendering index.
CRI BIOS	Minimum 80 color rendering index with R9>75 for all CCTs.
CCT Single Color	Choice of 2700K, 3000K, 3500K and 4000K color temperature with a great color consistency (within 3–step MacAdam ellipse). Both within fixture and fixture to fixture.
CCT BIOS	BIOS Static (STC) Choice of 3000K, 3500K and 4000K. BIOS SkyBlue® Dynamic (DYN) Choice of 3000K, 3500K, and 4000K with Bio-Dimming™ BIOS Tunable White (BTW) Choice of 4000-2700K and 3500-2700K; does not use a bio-dimmer, it uses TW drivers, which allow independent control of CCT and intensity; e.g., BTW4027 provides combined SkyBlue + white light at 4000K, SkyBlue is removed at 2700K. Light output can be adjusted for each CCT. Consult BIOS guide for more information on BIOS technology.
CCT Axitune Systems	Consult Axitune technical sheet for more information on color technology.
LED life	Minimum 50,000h with 85% of lumen maintenance in 25°C ambient temperature, in compliance with IES LM-80 testing measurements.
Thermal Management	Aluminum housing acting as the heat sink to maximize life.
Environment	Dry and damp rated for indoor use only in operating ambient temperatures of 0-40°C (32-104F).



SECTION QUANTITY



TS TELESCOPIC SECTIONS



FS FIXED SECTIONS

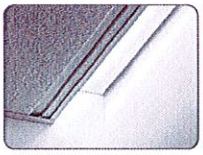
WARRANTY

Limited 5-year warranty is available. Warranty is valid provided luminaires are installed and used according to specifications. For full terms and conditions, please consult warranty section at axislighting.com.

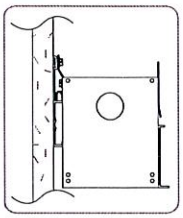
BEAM4 LED | PERIMETER LINEAR - RECESSED

END CAP

FLUSH END CAP



ECFL **END CAP FLUSH**



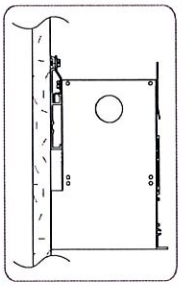
Side view.

REGRESSED END CAP



ECR2 **END CAP 2" REGRESSED (shown)**

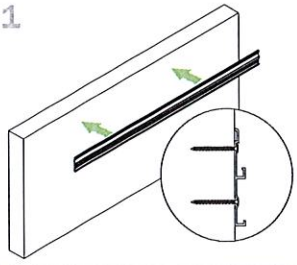
ECR3 - 3" End Cap is also available.
ECR4 - 4" End Cap is also available.



Side view.

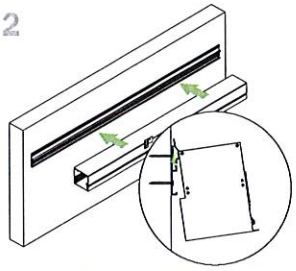
INSTALLATION GUIDE

1



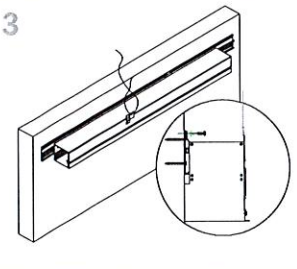
Install wall track level and secure to structure at small grooves in extrusion.

2



Hook beam Perimeter luminaire onto wall track.

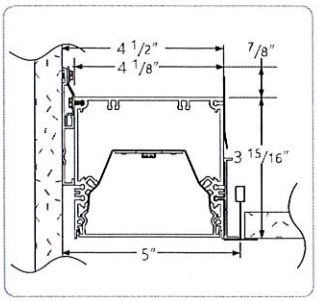
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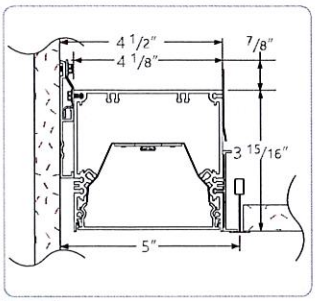
Secure to wall track, secure to structure.

BEAM4 LED | PERIMETER LINEAR - RECESSED

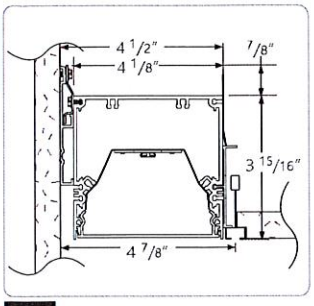
TB CEILING MOUNTING OPTIONS



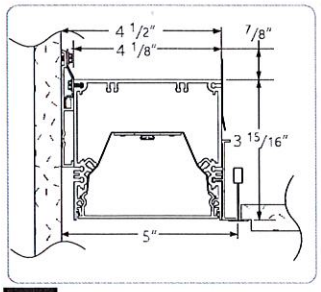
TB15 15/16" T-BAR



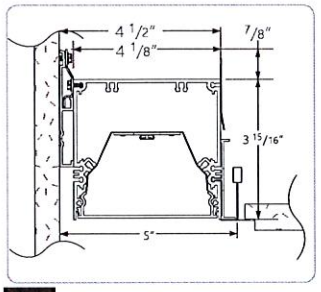
TB9 9/16" T-BAR



ST SCREW SLOT T-BAR

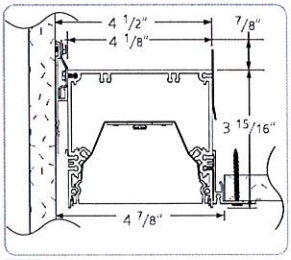


TG9 9/16" T-TEGULAR

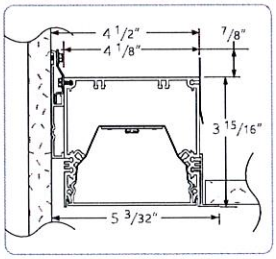


TG15 15/16" T-TEGULAR

DRYWALL CEILING MOUNTING OPTIONS



DS SPACKLE FLANGES



DF VISIBLE FLANGES WALL MOUNTING

BEAM4 LED | PERIMETER LINEAR - RECESSED

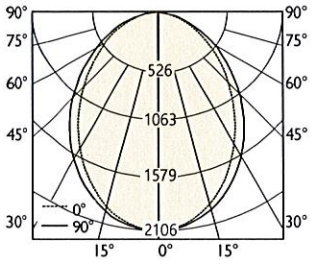
PHOTOMETRIC DATA

SO Spotless lens - FL

1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1200 lm/ft
Total Lumens: 4800 lm (for 4ft)
Input Watts: 38.7 W
Efficacy: 124 lm/W

IES FILE:BBPRLED-1200-80-35-SO-FL-4.IES

TESTED ACCORDING TO IES LM-79-2019

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	2106	2106	2106	2106	2106
5	2096	2093	2091	2089	2088
15	1989	1983	1969	1953	1945
25	1781	1767	1737	1702	1686
35	1495	1478	1434	1386	1364
45	1171	1155	1108	1056	1033
55	845	833	793	748	730
65	542	536	509	478	465
75	283	283	272	258	252
85	84	85	84	80	79
90	6	7	7	7	7

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	198
10-20	551
20-30	791
30-40	884
40-50	838
50-60	692
60-70	488
70-80	275
80-90	84
90	

LUMINANCE DATA (cd/m²)

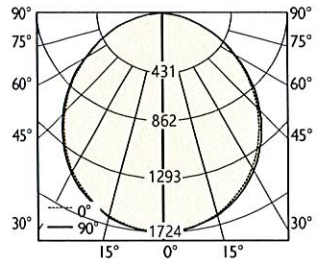
	Horizontal Angles		
Vertical Angle	0	45	90
45	13867	13117	12235
55	12338	11567	10649
65	10740	10085	9212
75	9146	8792	8142
85	8065	8042	7592

UB Ultra blend lens - FL

1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1200 lm/ft
Total Lumens: 4800 lm (for 4ft)
Input Watts: 41.5 W
Efficacy: 116 lm/W

IES FILE: BBPRLED-1200-80-35-UB-FL-4.IES

TESTED ACCORDING TO IES LM-79-2019

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	1724	1724	1724	1724	1724
5	1718	1719	1721	1721	1721
15	1651	1655	1659	1659	1659
25	1522	1528	1532	1532	1530
35	1338	1346	1350	1349	1347
45	1116	1125	1128	1125	1123
55	864	874	877	874	872
65	594	604	609	608	606
75	327	338	345	346	346
85	102	109	115	116	116
90	9	13	16	15	15

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	163
10-20	464
20-30	695
30-40	827
40-50	846
50-60	754
60-70	569
70-80	335
80-90	105
90	

LUMINANCE DATA (cd/m²)

	Horizontal Angles		
Vertical Angle	0	45	90
45	13211	13360	13290
55	12607	12803	12720
65	11766	12064	12006
75	10583	11168	11183
85	9829	11021	11133

All IES files are available for download at: www.axislighting.com

Product design and development is an ongoing process at Axis Lighting. We reserve the right to change specifications. Contact Axis for the latest product information.

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axis axislighting.com

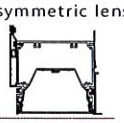
Submitted by United Lighting Alliance of Oklahoma			
ULA UNITED LIGHTING ALLIANCE OKLAHOMA	**Job Name:** Greenwood Cultural Center Facility Rehabilitation Architect: CJC Architecture (Tulsa) Engineer: HP Engineering (Broken Arrow)	**Catalog Number:** BBPRLED-700-80-35-GZ-RG2-11'6"-W-UNV-DP-1-DF-ECR2 Notes:	**Type:** **H-11-6** ULAOK25-104

BEAM4 LED | PERIMETER LINEAR - RECESSED

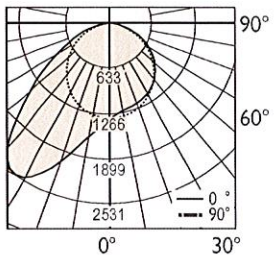
PHOTOMETRIC DATA

RFA - Room fill asymmetric lens

1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1200 lm/ft
Total Lumens: 4796 lm (for 4ft)
Input Watts: 37.09 W
Efficacy: 129 lm/W
IES FILE: BBPRLED-1200-80-35-RFA-4.ies
TESTED ACCORDING TO IES LM-79-2019

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	1343	1343	1343	1343	1343
5	1336	1308	1292	1280	1280
15	1284	1223	1206	1205	1209
25	1186	1113	1114	1131	1146
35	1046	970	986	1025	1049
45	869	798	826	879	905
55	661	601	639	691	716
65	438	399	433	468	482
75	220	200	220	234	239
85	45	42	47	43	44
90	5	6	7	7	7

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	129
10-20	397
20-30	676
30-40	902
40-50	947
50-60	806
60-70	566
70-80	297
80-90	74
90	

LUMINANCE DATA (cd/m²)

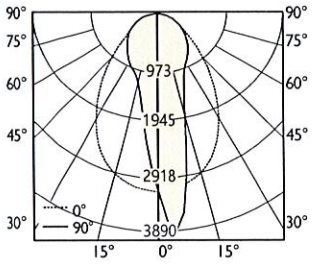
	Horizontal Angles		
Vertical Angle	0	45	90
45	10075	9576	10499
55	9455	9137	10235
65	8498	8407	9354
75	6969	6964	7565
85	4252	4447	4181

GZ Graze lens - FL

1000 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1000 lm/ft
Total Lumens: 4286 lm (for 4ft)
Input Watts: 37.6 W
Efficacy: 114 lm/W
IES FILE: BBPRLED-1000-80-35-GZ-FL-4.IES

TESTED ACCORDING TO IES LM-79-2019

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	3198	3198	3198	3198	3198
5	3160	3529	3781	3876	3890
15	2981	3569	2861	2211	1935
25	2553	2656	1559	1223	1149
35	1895	1742	1046	964	952
45	1220	1133	790	785	780
55	719	709	575	595	601
65	404	412	372	403	418
75	185	193	184	212	225
85	35	39	40	51	48
90	2	2	2	2	2

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	286
10-20	633
20-30	736
30-40	747
40-50	678
50-60	552
60-70	391
70-80	210
80-90	52
90	

LUMINANCE DATA (cd/m²)

	Horizontal Angles		
Vertical Angle	0	45	90
45	14136	9150	9034
55	10274	8220	8582
65	7825	7207	8103
75	5871	5834	7129
85	3302	3798	4525

All IES files are available for download at: www.axislighting.com

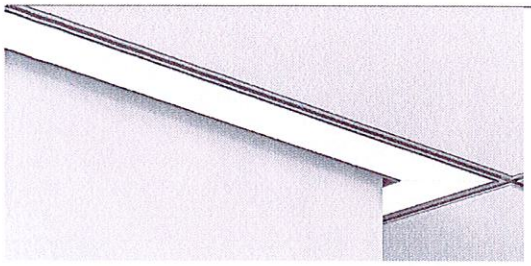
Product design and development is an ongoing process at Axis Lighting. We reserve the right to change specifications. Contact Axis for the latest product information.

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T: 800.223.2847
D: 626.969.8272

axis axislighting.com

Submitted by United Lighting Alliance of Oklahoma	Catalog Number:	Type:
ULA UNITED LIGHTING ALLIANCE OKLAHOMA **Job Name:** Greenwood Cultural Center Facility Rehabilitation Architect: CJC Architecture (Tulsa) Engineer: HP Engineering (Broken Arrow)	BBPRLED-700-80-35-GZ-RG2-12' 6"-W-UNV-DP-1-DF-ECR2 Notes:	**H-12-6** ULAOK25-104

BEAM4 LED | PERIMETER LINEAR - RECESSED



Project _____

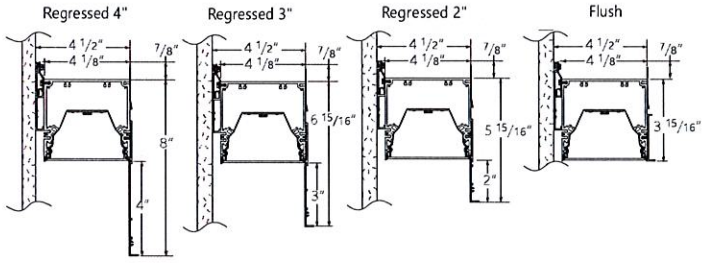
Type _____

Notes _____

PERFORMANCE PER LINEAR FOOT AT 3500K

NOMINAL LUMEN OUTPUT	INPUT WATTS*	EFFICACY	SHIELDING
1200 lm/ft	9.7 W/ft	124 lm/W	SO-FL
1200 lm/ft	10.4 W/ft	116 lm/W	UB-FL
1200 lm/ft	9.3 W/ft	129 lm/W	RFA-FL
1000 lm/ft	9.4 W/ft	114 lm/W	GZ-FL

Please consult factory for custom lumen output and wattage.



CCEA APPROVED | Axitune Tunable White | PoE | bios | cULus Listed Type I.C. | 5 YEAR LIMITED WARRANTY

DLC LISTED * Check the latest update on the DLC website for complete information. Not all versions may be DLC qualified.

See page 2 for DLC Approved options

Ordering Guide

BBPRLED

PRODUCT ID		NOM. LUMENS/FT		CRI		COLOR TEMP. (choose one)				SHIELDING	
BBPRLED	Perimeter Recessed LED	400	400 lm/ft - Minimum	80	80 CRI	27	2700 K	TW2750	2700-5000 K - Tunable White	SO	Spotless lens
		1000	1000 lm/ft - max for GZ.*	90	90 CRI*	30	3000 K	TW2765	2700-6500 K - Tunable White	UB	Ultra blend lens*
		1200	1200 lm/ft - Maximum			35	3500 K	BTW3527	3500-2700 K - Tunable BIOS	GZ	Graze
			700lmf			40	4000 K	BTW4027	4000-2700 K - Tunable BIOS	RFA	room fill asymmetric lens**
						B30	3000 K - BIOS*				
						B35	3500 K - BIOS*				
						B40	4000 K - BIOS*				
		Outputs between listed min and max are available. * 1000 lm/ft max. only for GZ. Consult factory for outputs outside of the listed range. Consult factory for max output with BIOS.		* Not available with BIOS.		Consult Axitune technical sheet for more information on color technology. *Consult BIOS guide for more information on BIOS technology BIOS (B30, B35, B40, BTW3527, BTW4027) is not available with Telescopic.				* Default lens for Tunable white and BIOS. ** Only available with flush (FL) Shielding Position. Consult factory for other lens.	

SHIELDING POSITION		TOTAL LENGTH		FINISH		VOLTAGE		DRIVER		CIRCUITS		MOUNTING	
FL	flush	L	total length	W	white	120	120 V	DP	dimming (0-10V) 1%	1	1 circuit	TB9	t-bar 9/16"
RG2	regressed 2"		12' 6"	C	custom	277	277 V	LT(#)	Lutron*	2	2 circuits	TB15	t-bar 15/16"
RG3	regressed 3"					347	347 V	BI	bi-level dimming	+E(#)	emergency circuit*	ST	screw slot t-bar
RG4	regressed 4"					UNV	universal	O(#)	other**	+NL(#)	night light circuit*	TG9	tegular 9/16"
						DC	low voltage*	DPB(STC)	dimming (0-10V) 1% with BIOS*	+GTD(#)	generator transfer device*	TG15	tegular 15/16"
								DPB(DYN)	Bio-dimming™ 100%-81% with BIOS*			DF	drywall flange
								TW(#)	tunable white drivers*			DS	drywall spackle flange
		Min total length 2'				* Only available with POE drivers.		POE(#)	POE drivers*				
								*See page 2 to specify system **Please consult factory; see page 2		*Specify quantity		TS section requires min length of 4'. Available on patterns. Recomended for longer runs or if exact perimeter length is not available. See page 2 for more details.	

END CAP		TYPE (OPTIONAL)		BATTERY (OPTIONAL)		OTHER (OPTIONAL)		IC CONTROLS (OPT.)		CUSTOM (OPTIONAL)	
ECR2	end cap for regressed 2"*	TS(#)	telescopic sections	B(#)	battery pack 4' sections	EF	end feed	WC(#)	wireless control dimming	C	custom
ECR3	end cap for regressed 3"**					FW	flex whip (6' std)*				
ECR4	end cap for regressed 4"***					CP	Chicago plenum				
ECFL	end cap flush with lens										
* Only available with RG2 regressed position ** Only available with RG3 regressed position *** Only available with RG4 regressed position See page 4 for additional information.		TS section requires min length of 4'. Available on patterns. Recomended for longer runs or if exact perimeter length is not available. See page 2 for more details. Not available with BIOS - B30, B35, B40, BTW3527, BTW4027.		Not available with 347V Please consult factory		* Other lengths available; please consult factory.		See integrated controls guide for more details. Specify quantity. Requires 8' blank Consult factory for Tunable White Not available with DPB (DYN) driver for BIOS with Dynamic Spectrum.		Please specify	

Product design and development is an ongoing process at Axis Lighting. We reserve the right to change specifications. Contact Axis for the latest product information.

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DT 214.849.8272
axislighting.com

BEAM4 LED | PERIMETER LINEAR - RECESSED

SPECIFICATIONS

CONSTRUCTION

Housing	Extruded aluminum (0.075" nominal) Up to 70% recycled content
End Cap	Cast aluminum
Interior Brackets	Die formed sheet steel (18 gauge)
Reflectors	White powder coated sheet steel (22 gauge)
Blank	Extruded aluminum (0.075" nominal)
Lens	Spotless frosted acrylic lens
T-Bar Bracket	Die formed sheet steel (16 gauge)
Screw Slot T-Bar Bracket	Die formed sheet steel (16 gauge)
Spackle Flange	Extruded aluminum (0.070")
All Flanges	Extruded aluminum (0.070" nominal)

ELECTRICAL

Lutron driver	LDE1 - Hi-lume 1% EcoSystem with Soft-on, Fade-to-Black
Other drivers**	DALI - Digital Addressable Lighting Interface DMX - Digital Multiplex Xitanium SR - For wireless sensor
BIOS DPB drivers*	STC - BIOS control 0-10V with static spectrum and BIOS SkyBlue enabled from 100% to 1%. DYN - BIOS control 0-10V with dynamic spectrum and BIOS SkyBlue® with Bio-Dimming™, which changes spectral qualities by removing the SkyBlue component when dimming from 100% to 81%, while light output remains relatively constant; bio-dimming reduces CCT to 2700K. Dimming from 80% to 1% will then reduce light output.
Tunable White TW drivers*	DALIDT6 - DALI Type 6 (Two DALI Addresses) DALIDT8 - DALI Type 8 (One DALI Address) DPTW - two channel 0-10V dimming: one channel for brightness, one channel for CCT. LDTW - Lutron DALI Type 8 (One DALI adress) Tunable White series
Power over Ethernet POE drivers* UL2108 certified for integral or remote driver	MOLEX IGOR SMARTENGINE O - Other (Consult factory)
Emergency	Integral emergency battery pack or emergency circuit optional.
Input Voltage	120V, 277V, 347V, UNV, DC.
Flex Whip	Shipped in a seperate box for contractors to install

*Choose driver from available options.

Incorporating these components may have limitations or affect the length of the luminaire. Please contact factory for more details.

DLC Approved Options

*Check the latest update on the DLC website for complete information. Not all versions may be DLC qualified

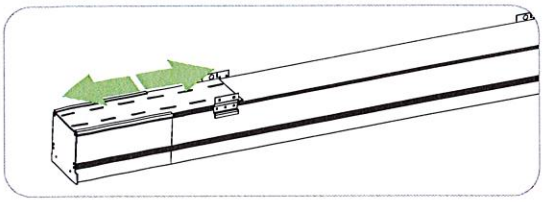
LUMEN OUTPUT	CRI	COLOR TEMP.	SHIELDING	SHIELDING POSITION	LENGTH	VOLTAGE	DRIVER
400 lm/ft 600 lm/ft 800 lm/ft 1000 lm/ft	80	3000 K 3500 K 4000 K	SO	FL	4' 8' 12'	universal	DP

7" TELESCOPIC ADJUSTMENT

Beam4 LED Perimeter system feature a patented telescopic sliding LED board design that allows runs to be field cut to facilitate installation and specification.

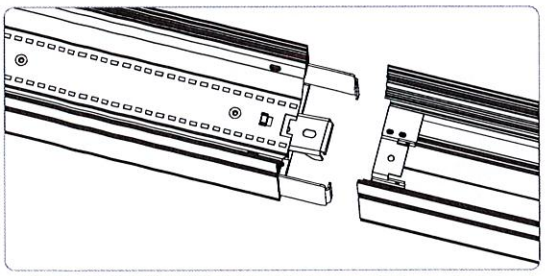
NOTE: Miter saw with aluminum cutting blade required on site for telescopic adjustments. If a 2nd telescopic section is required, minimum length is 8'.

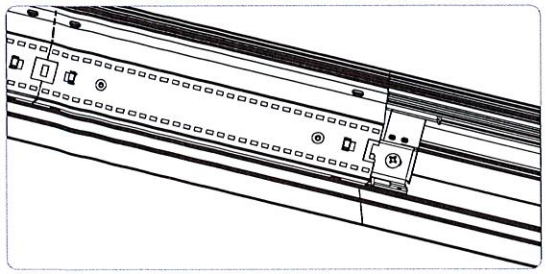
EXAMPLE: Telescopic adjustment 7" (+4"/-3"). If a 10' 6" (126") fixture is specified, adjustable lengths with (1) TS section are between 123"-130".



JOINERS

BEAM4 Perimeter LED has steel joiners with wedge alignment for easy installation.





JOINER SYSTEM

WEIGHT

Perimeter LED 4 ft	14.5 lbs / 6.6 kg
Perimeter LED 8 ft	29.0 lbs / 13.2 kg
Perimeter LED 12 ft	43.5 lbs / 19.7 kg

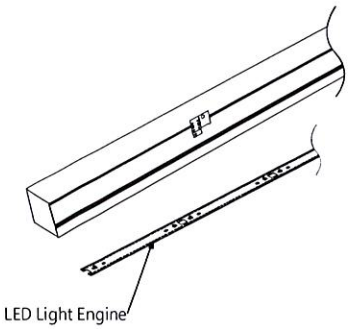
APPROVALS

Certified to UL and CSA standards
Meets CCEC requirements (Chicago plenum)
Meets NYC requirements
Suitable for damp locations
IC Rated (Insulated ceiling)

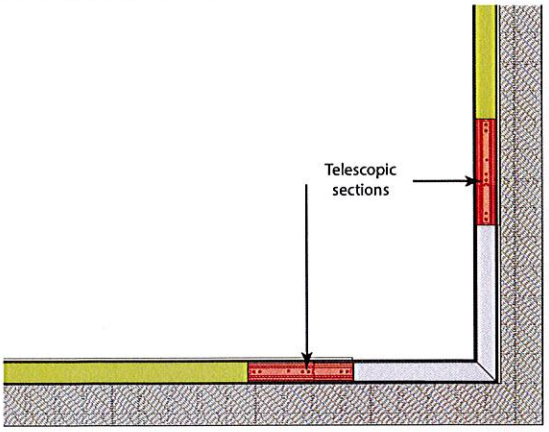
BEAM4 LED | PERIMETER LINEAR - RECESSED

LED SYSTEM

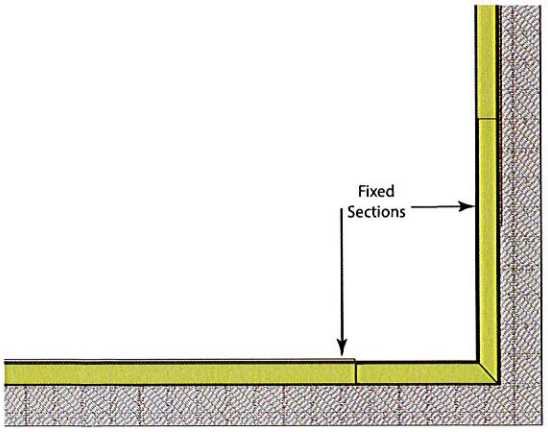
CRI	Minimum 80 or 90 color rendering index.
CRI BIOS	Minimum 80 color rendering index with R9>75 for all CCTs.
CCT Single Color	Choice of 2700K, 3000K, 3500K and 4000K color temperature with a great color consistency (within 3–step MacAdam ellipse). Both within fixture and fixture to fixture.
CCT BIOS	BIOS Static (STC) Choice of 3000K, 3500K and 4000K. BIOS SkyBlue® Dynamic (DYN) Choice of 3000K, 3500K, and 4000K with Bio-Dimming™ BIOS Tunable White (BTW) Choice of 4000-2700K and 3500-2700K; does not use a bio-dimmer, it uses TW drivers, which allow independent control of CCT and intensity; e.g., BTW4027 provides combined SkyBlue + white light at 4000K, SkyBlue is removed at 2700K. Light output can be adjusted for each CCT. Consult BIOS guide for more information on BIOS technology.
CCT Axitune Systems	Consult Axitune technical sheet for more information on color technology.
LED life	Minimum 50,000h with 85% of lumen maintenance in 25°C ambient temperature, in compliance with IES LM-80 testing measurements.
Thermal Management	Aluminum housing acting as the heat sink to maximize life.
Environment	Dry and damp rated for indoor use only in operating ambient temperatures of 0-40°C (32-104F).



SECTION QUANTITY



TS TELESCOPIC SECTIONS



FS FIXED SECTIONS

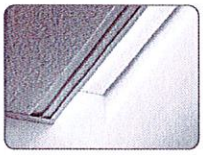
WARRANTY

Limited 5-year warranty is available. Warranty is valid provided luminaires are installed and used according to specifications. For full terms and conditions, please consult warranty section at axislighting.com.

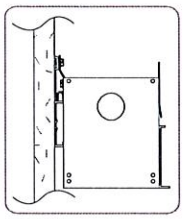
BEAM4 LED | PERIMETER LINEAR - RECESSED

END CAP

FLUSH END CAP

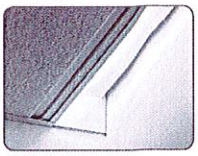


ECFL **END CAP FLUSH**



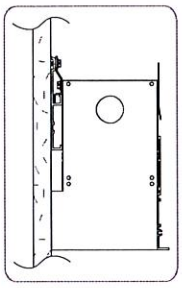
Side view

REGRESSED END CAP



ECR2 **END CAP 2" REGRESSED (shown)**

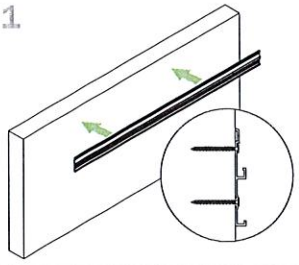
ECR3 - 3" End Cap is also available.
ECR4 - 4" End Cap is also available.



Side view

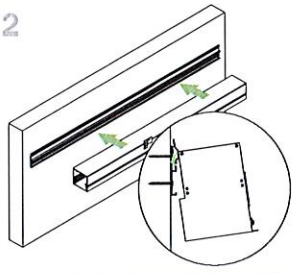
INSTALLATION GUIDE

1



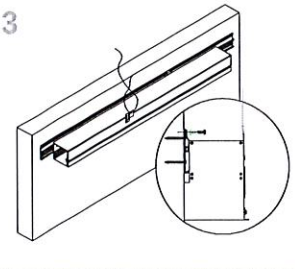
Install wall track level and secure to structure at small grooves in extrusion.

2



Hook beam Perimeter luminaire onto wall track.

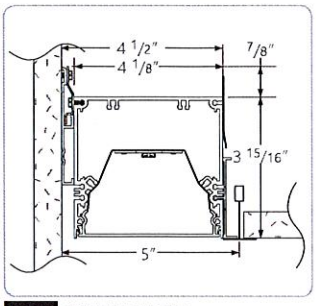
3



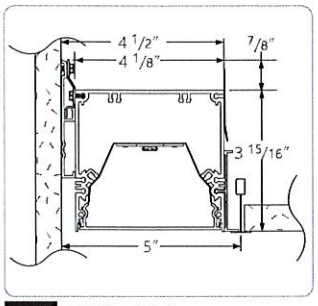
Secure to wall track, secure to structure.

BEAM4 LED | PERIMETER LINEAR - RECESSED

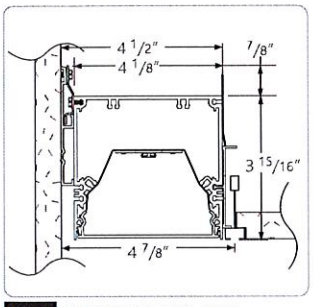
TB CEILING MOUNTING OPTIONS



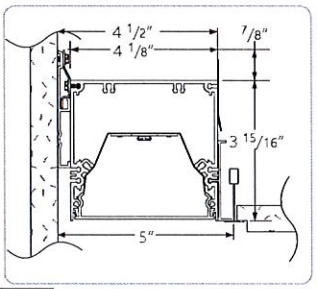
TB15 15/16" T-BAR



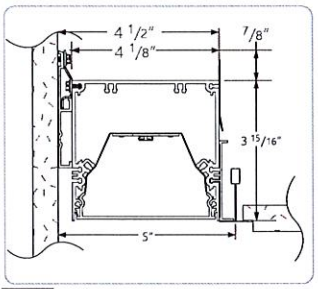
TB9 9/16" T-BAR



ST SCREW SLOT T-BAR

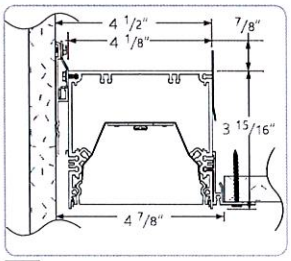


TG9 9/16" T-TEGULAR

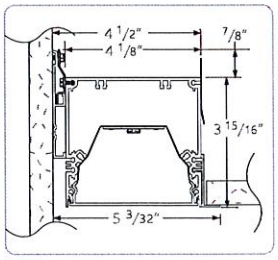


TG15 15/16" T-TEGULAR

DRYWALL CEILING MOUNTING OPTIONS



DS SPACKLE FLANGES



DF VISIBLE FLANGES WALL MOUNTING

BEAM4 LED | PERIMETER LINEAR - RECESSED

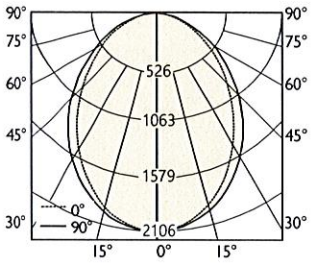
PHOTOMETRIC DATA

SO Spotless lens - FL

1200 lm/ft



PHOTOMETRIC CURVE



CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	2106	2106	2106	2106	2106
5	2096	2093	2091	2089	2088
15	1989	1983	1969	1953	1945
25	1781	1767	1737	1702	1686
35	1495	1478	1434	1386	1364
45	1171	1155	1108	1056	1033
55	845	833	793	748	730
65	542	536	509	478	465
75	283	283	272	258	252
85	84	85	84	80	79
90	6	7	7	7	7

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	198
10-20	551
20-30	791
30-40	884
40-50	838
50-60	692
60-70	488
70-80	275
80-90	84
90	

LUMINANCE DATA (cd/m²)

	Horizontal Angles		
Vertical Angle	0	45	90
45	13867	13117	12235
55	12338	11567	10649
65	10740	10085	9212
75	9146	8792	8142
85	8065	8042	7592

Lumen/ft: 1200 lm/ft
Total Lumens: 4800 lm (for 4ft)
Input Watts: 38.7 W
Efficacy: 124 lm/W

IES FILE:BBPRLED-1200-80-35-SO-FL-4.IES

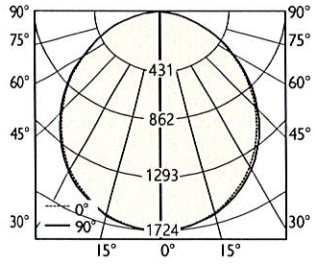
TESTED ACCORDING TO IES LM-79-2019

UB Ultra blend lens - FL

1200 lm/ft



PHOTOMETRIC CURVE



CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	1724	1724	1724	1724	1724
5	1718	1719	1721	1721	1721
15	1651	1655	1659	1659	1659
25	1522	1528	1532	1532	1530
35	1338	1346	1350	1349	1347
45	1116	1125	1128	1125	1123
55	864	874	877	874	872
65	594	604	609	608	606
75	327	338	345	346	346
85	102	109	115	116	116
90	9	13	16	15	15

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	163
10-20	464
20-30	695
30-40	827
40-50	846
50-60	754
60-70	569
70-80	335
80-90	105
90	

LUMINANCE DATA (cd/m²)

	Horizontal Angles		
Vertical Angle	0	45	90
45	13211	13360	13290
55	12607	12803	12720
65	11766	12064	12006
75	10583	11168	11183
85	9829	11021	11133

Lumen/ft: 1200 lm/ft
Total Lumens: 4800 lm (for 4ft)
Input Watts: 41.5 W
Efficacy: 116 lm/W

IES FILE: BBPRLED-1200-80-35-UB-FL-4.IES

TESTED ACCORDING TO IES LM-79-2019

All IES files are available for download at: www.axislighting.com

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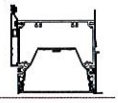
Submitted by United Lighting Alliance of Oklahoma			
ULA UNITED LIGHTING ALLIANCE OKLAHOMA	**Job Name:** Greenwood Cultural Center Facility Rehabilitation Architect: CJC Architecture (Tulsa) Engineer: HP Engineering (Broken Arrow)	**Catalog Number:** BBPRLED-700-80-35-GZ-RG2-12' 6"-W-UNV-DP-1-DF-ECR2 Notes:	**Type:** **H-12-6** ULAOK25-104

BEAM4 LED | PERIMETER LINEAR - RECESSED

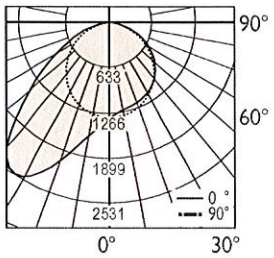
PHOTOMETRIC DATA

RFA - Room fill asymmetric lens

1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1200 lm/ft
Total Lumens: 4796 lm (for 4ft)
Input Watts: 37.09 W
Efficacy: 129 lm/W
IES FILE: BBPRLED-1200-80-35-RFA-4.ies
TESTED ACCORDING TO IES LM-79-2019

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	1343	1343	1343	1343	1343
5	1336	1308	1292	1280	1280
15	1284	1223	1206	1205	1209
25	1186	1113	1114	1131	1146
35	1046	970	986	1025	1049
45	869	798	826	879	905
55	661	601	639	691	716
65	438	399	433	468	482
75	220	200	220	234	239
85	45	42	47	43	44
90	5	6	7	7	7

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	129
10-20	397
20-30	676
30-40	902
40-50	947
50-60	806
60-70	566
70-80	297
80-90	74
90	

LUMINANCE DATA (cd/m²)

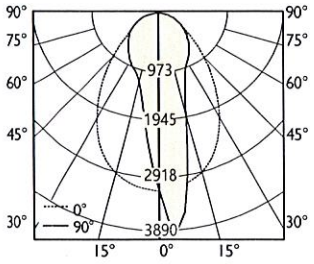
	Horizontal Angles		
Vertical Angle	0	45	90
45	10075	9576	10499
55	9455	9137	10235
65	8498	8407	9354
75	6969	6964	7565
85	4252	4447	4181

GZ Graze lens - FL

1000 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1000 lm/ft
Total Lumens: 4286 lm (for 4ft)
Input Watts: 37.6 W
Efficacy: 114 lm/W
IES FILE: BBPRLED-1000-80-35-GZ-FL-4.IES

TESTED ACCORDING TO IES LM-79-2019

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	3198	3198	3198	3198	3198
5	3160	3529	3781	3876	3890
15	2981	3569	2861	2211	1935
25	2553	2656	1559	1223	1149
35	1895	1742	1046	964	952
45	1220	1133	790	785	780
55	719	709	575	595	601
65	404	412	372	403	418
75	185	193	184	212	225
85	35	39	40	51	48
90	2	2	2	2	2

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	286
10-20	633
20-30	736
30-40	747
40-50	678
50-60	552
60-70	391
70-80	210
80-90	52
90	

LUMINANCE DATA (cd/m²)

	Horizontal Angles		
Vertical Angle	0	45	90
45	14136	9150	9034
55	10274	8220	8582
65	7825	7207	8103
75	5871	5834	7129
85	3302	3798	4525

All IES files are available for download at: www.axislighting.com

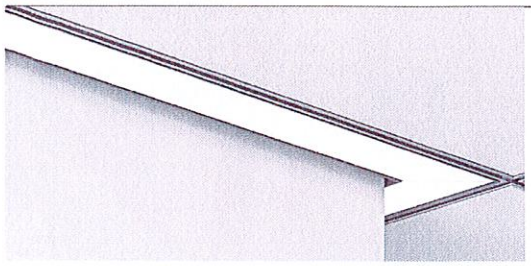
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Submitted by United Lighting Alliance of Oklahoma			
ULA UNITED LIGHTING ALLIANCE OKLAHOMA	**Job Name:** Greenwood Cultural Center Facility Rehabilitation Architect: CJC Architecture (Tulsa) Engineer: HP Engineering (Broken Arrow)	**Catalog Number:** BBPRLED-700-80-35-GZ-RG2-16'-W-UNV-DP-1-DF-ECR2 Notes:	**Type:** H-16 ULAOK25-104

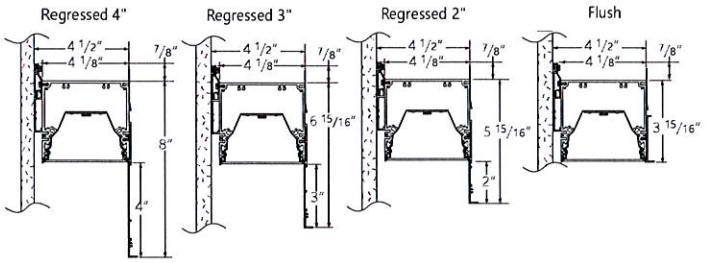
BEAM4 LED | PERIMETER LINEAR - RECESSED



Project _____

Type _____

Notes _____



PERFORMANCE PER LINEAR FOOT AT 3500K

NOMINAL LUMEN OUTPUT	INPUT WATTS*	EFFICACY	SHIELDING
1200 lm/ft	9.7 W/ft	124 lm/W	SO-FL
1200 lm/ft	10.4 W/ft	116 lm/W	UB-FL
1200 lm/ft	9.3 W/ft	129 lm/W	RFA-FL
1000 lm/ft	9.4 W/ft	114 lm/W	GZ-FL

Please consult factory for custom lumen output and wattage.

CCEA APPROVED | Axitune Tunable White | PoE | bios | cULus Listed Type I.C. | IC | 5 YEAR LIMITED WARRANTY

DLC LISTED * Check the latest update on the DLC website for complete information. Not all versions may be DLC qualified. See page 2 for DLC Approved options

Ordering Guide

BBPRLED

PRODUCT ID		NOM. LUMENS/FT		CRI		COLOR TEMP. (choose one)				SHIELDING	
BBPRLED	Perimeter Recessed LED	**400**	400 lm/ft - Minimum	**80**	80 CRI	**27**	2700 K	**TW2750**	2700-5000 K - Tunable White	**SO**	Spotless lens
		1000	1000 lm/ft - max for GZ.*	**90**	90 CRI*	**30**	3000 K	**TW2765**	2700-6500 K - Tunable White	**UB**	Ultra blend lens*
		1200	1200 lm/ft - Maximum			**35**	3500 K	**BTW3527**	3500-2700 K - Tunable BIOS	**GZ**	Graze
			700lmf			**40**	4000 K	**BTW4027**	4000-2700 K - Tunable BIOS	**RFA**	room fill asymmetric lens**
						B30	3000 K - BIOS*				
						B35	3500 K - BIOS*				
						B40	4000 K - BIOS*				
		Outputs between listed min and max are available. * 1000 lm/ft max. only for GZ. Consult factory for outputs outside of the listed range. Consult factory for max output with BIOS.		* Not available with BIOS.		Consult Axitune technical sheet for more information on color technology. *Consult BIOS guide for more information on BIOS technology BIOS (B30, B35, B40, BTW3527, BTW4027) is not available with Telescopic.				* Default lens for Tunable white and BIOS. ** Only available with flush (FL) Shielding Position. Consult factory for other lens.	

SHIELDING POSITION		TOTAL LENGTH		FINISH		VOLTAGE		DRIVER		CIRCUITS		MOUNTING	
FL	flush	**L**	total length	**W**	white	**120**	120 V	**DP**	dimming (0-10V) 1%	**1**	1 circuit	**TB9**	t-bar 9/16"
RG2	regressed 2"		**16'**	**C**	custom	**277**	277 V	**LT(#)**	Lutron*	**2**	2 circuits	**TB15**	t-bar 15/16"
RG3	regressed 3"					**347**	347 V	**BI**	bi-level dimming	**+E(#)**	emergency circuit*	**ST**	screw slot t-bar
RG4	regressed 4"					**UNV**	universal	**O(#)**	other**	**+NL(#)**	night light circuit*	**TG9**	tegular 9/16"
						DC	low voltage*	**DPB(STC)**	dimming (0-10V) 1% with BIOS*	**+GTD(#)**	generator transfer device*	**TG15**	tegular 15/16"
								DPB(DYN)	Bio-dimming™ 100%-81% with BIOS*			**DF**	drywall flange
								TW(#)	tunable white drivers*			**DS**	drywall spackle flange
								POE(#)	POE drivers*				
		Min total length 2'				* Only available with POE drivers.		*See page 2 to specify system **Please consult factory; see page 2		*Specify quantity		TS section requires min length of 4'. Available on patterns. Recomended for longer runs or if exact perimeter length is not available. See page 2 for more details.	

END CAP		TYPE (OPTIONAL)		BATTERY (OPTIONAL)		OTHER (OPTIONAL)		IC CONTROLS (OPT.)		CUSTOM (OPTIONAL)	
ECR2	end cap for regressed 2"*	**TS(#)**	telescopic sections	**B(#)**	battery pack 4' sections	**EF**	end feed	**WC(#)**	wireless control dimming	**C**	custom
ECR3	end cap for regressed 3"**					**FW**	flex whip (6' std)*				
ECR4	end cap for regressed 4"***					**CP**	Chicago plenum				
ECFL	end cap flush with lens										
* Only available with RG2 regressed position ** Only available with RG3 regressed position *** Only available with RG4 regressed position See page 4 for additional information.		TS section requires min length of 4'. Available on patterns. Recomended for longer runs or if exact perimeter length is not available. See page 2 for more details. Not available with BIOS - B30, B35, B40, BTW3527, BTW4027.		Not available with 347V Please consult factory		* Other lengths available; please consult factory.		See integrated controls guide for more details. Specify quantity. Requires 8" blank. Consult factory for Tunable White. Not available with DPB (DYN) driver for BIOS with Dynamic Spectrum.		Please specify	

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FILE NUMBER: [illegible]

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TF 844 947 2472

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BEAM4 LED | PERIMETER LINEAR - RECESSED

SPECIFICATIONS

CONSTRUCTION

Housing	Extruded aluminum (0.075" nominal) Up to 70% recycled content
End Cap	Cast aluminum
Interior Brackets	Die formed sheet steel (18 gauge)
Reflectors	White powder coated sheet steel (22 gauge)
Blank	Extruded aluminum (0.075" nominal)
Lens	Spotless frosted acrylic lens
T-Bar Bracket	Die formed sheet steel (16 gauge)
Screw Slot T-Bar Bracket	Die formed sheet steel (16 gauge)
Spackle Flange	Extruded aluminum (0.070")
All Flanges	Extruded aluminum (0.070" nominal)

ELECTRICAL

Lutron driver	LDE1 - Hi-lume 1% EcoSystem with Soft-on, Fade-to-Black
Other drivers**	DALI - Digital Addressable Lighting Interface DMX - Digital Multiplex Xitanium SR - For wireless sensor
BIOS DPB drivers*	STC - BIOS control 0-10V with static spectrum and BIOS SkyBlue enabled from 100% to 1%. DYN - BIOS control 0-10V with dynamic spectrum and BIOS SkyBlue® with Bio-Dimming™, which changes spectral qualities by removing the SkyBlue component when dimming from 100% to 81%, while light output remains relatively constant; bio-dimming reduces CCT to 2700K. Dimming from 80% to 1% will then reduce light output.
Tunable White TW drivers*	DALIDT6 - DALI Type 6 (Two DALI Addresses) DALIDT8 - DALI Type 8 (One DALI Address) DPTW - two channel 0-10V dimming: one channel for brightness, one channel for CCT. LDTW - Lutron DALI Type 8 (One DALI adress) Tunable White series
Power over Ethernet POE drivers* UL2108 certified for integral or remote driver	MOLEX IGOR SMARTENGINE O - Other (Consult factory)
Emergency	Integral emergency battery pack or emergency circuit optional.
Input Voltage	120V, 277V, 347V, UNV, DC.
Flex Whip	Shipped in a separate box for contractors to install

*Choose driver from available options.

Incorporating these components may have limitations or affect the length of the luminaire. Please contact factory for more details.

DLC Approved Options

*Check the latest update on the DLC website for complete information. Not all versions may be DLC qualified.

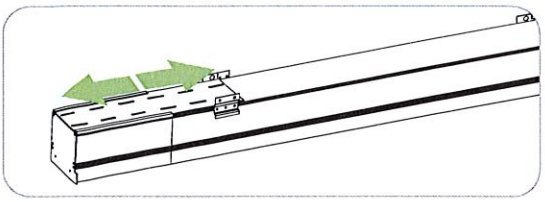
LUMEN OUTPUT	CRI	COLOR TEMP.	SHIELDING	SHIELDING POSITION	LENGTH	VOLTAGE	DRIVER
400 lm/ft 600 lm/ft 800 lm/ft 1000 lm/ft	80	3000 K 3500 K 4000 K	SO	FL	4' 8' 12'	universal	DP

7" TELESCOPIC ADJUSTMENT

Beam4 LED Perimeter system feature a patented telescopic sliding LED board design that allows runs to be field cut to facilitate installation and specification.

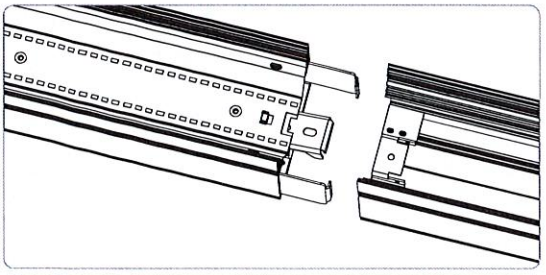
NOTE: Miter saw with aluminum cutting blade required on site for telescopic adjustments. If a 2nd telescopic section is required, minimum length is 8'.

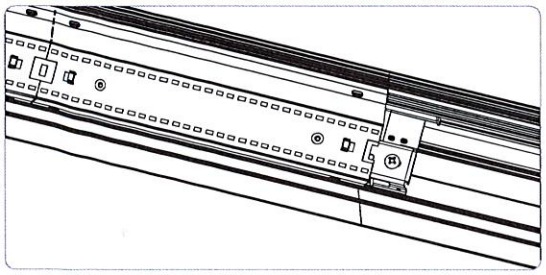
EXAMPLE: Telescopic adjustment 7" (+4"/-3"). If a 10' 6" (126") fixture is specified, adjustable lengths with (1) TS section are between 123"-130".



JOINERS

BEAM4 Perimeter LED has steel joiners with wedge alignment for easy installation.





JOINER SYSTEM

WEIGHT

Perimeter LED 4 ft	14.5 lbs / 6.6 kg
Perimeter LED 8 ft	29.0 lbs / 13.2 kg
Perimeter LED 12 ft	43.5 lbs / 19.7 kg

APPROVALS

Certified to UL and CSA standards
Meets CCEC requirements (Chicago plenum)
Meets NYC requirements
Suitable for damp locations
IC Rated (Insulated ceiling)

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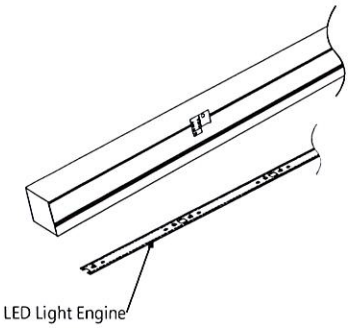
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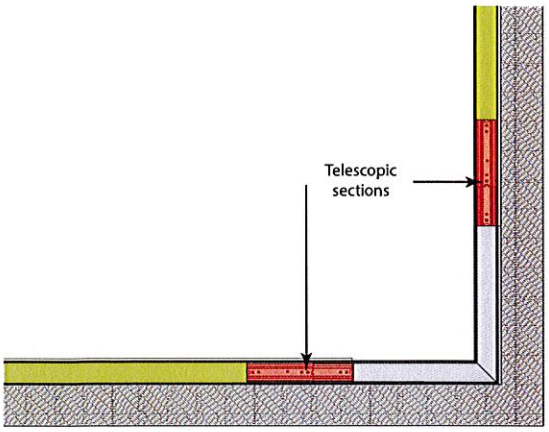
BEAM4 LED | PERIMETER LINEAR - RECESSED

LED SYSTEM

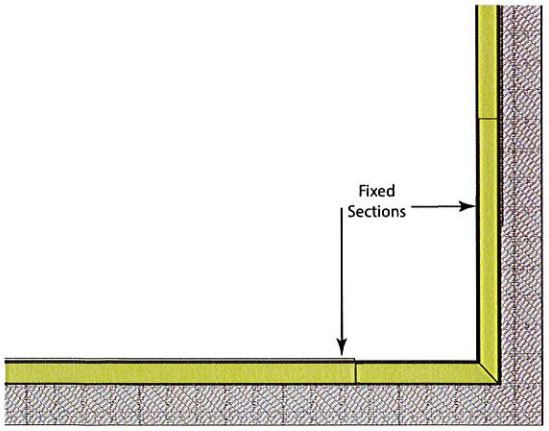
CRI	Minimum 80 or 90 color rendering index.
CRI BIOS	Minimum 80 color rendering index with R9>75 for all CCTs.
CCT Single Color	Choice of 2700K, 3000K, 3500K and 4000K color temperature with a great color consistency (within 3–step MacAdam ellipse). Both within fixture and fixture to fixture.
CCT BIOS	BIOS Static (STC) Choice of 3000K, 3500K and 4000K. BIOS SkyBlue® Dynamic (DYN) Choice of 3000K, 3500K, and 4000K with Bio-Dimming™ BIOS Tunable White (BTW) Choice of 4000-2700K and 3500-2700K; does not use a bio-dimmer, it uses TW drivers, which allow independent control of CCT and intensity; e.g., BTW4027 provides combined SkyBlue + white light at 4000K, SkyBlue is removed at 2700K. Light output can be adjusted for each CCT. Consult BIOS guide for more information on BIOS technology.
CCT Axitune Systems	Consult Axitune technical sheet for more information on color technology.
LED life	Minimum 50,000h with 85% of lumen maintenance in 25°C ambient temperature, in compliance with IES LM-80 testing measurements.
Thermal Management	Aluminum housing acting as the heat sink to maximize life.
Environment	Dry and damp rated for indoor use only in operating ambient temperatures of 0-40°C (32-104F).



SECTION QUANTITY



TS TELESCOPIC SECTIONS



FS FIXED SECTIONS

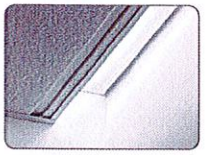
WARRANTY

Limited 5-year warranty is available. Warranty is valid provided luminaires are installed and used according to specifications. For full terms and conditions, please consult warranty section at axislighting.com.

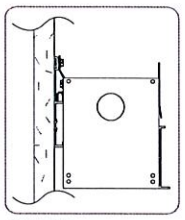
BEAM4 LED | PERIMETER LINEAR - RECESSED

END CAP

FLUSH END CAP

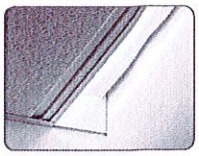


ECFL **END CAP FLUSH**



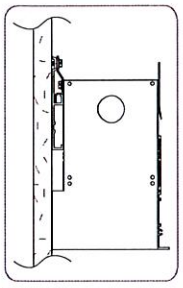
Side view.

REGRESSED END CAP



ECR2 **END CAP 2" REGRESSED (shown)**

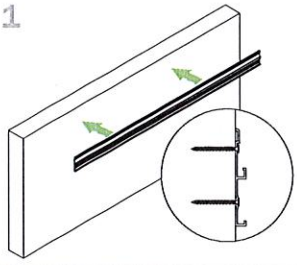
ECR3 - 3" End Cap is also available.
ECR4 - 4" End Cap is also available.



Side view.

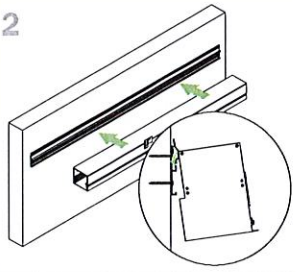
INSTALLATION GUIDE

1



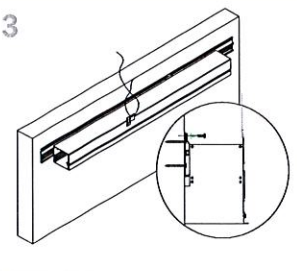
Install wall track level and secure to structure at small grooves in extrusion.

2



Hook beam Perimeter luminaire onto wall track.

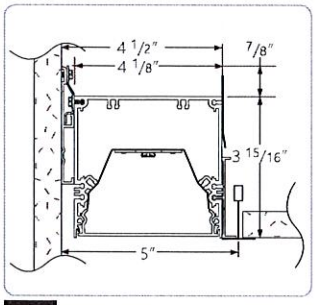
3



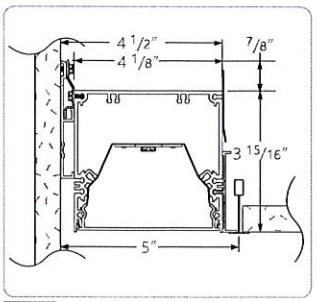
Secure to wall track, secure to structure.

BEAM4 LED | PERIMETER LINEAR - RECESSED

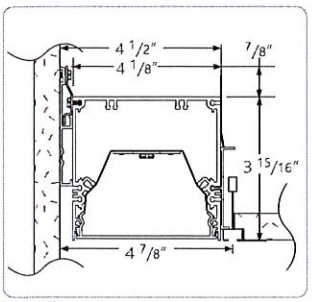
TB CEILING MOUNTING OPTIONS



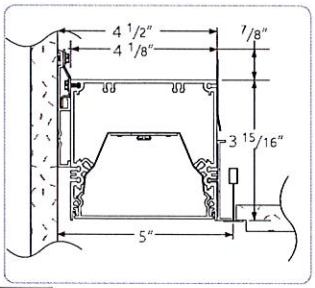
TB15 15/16" T-BAR



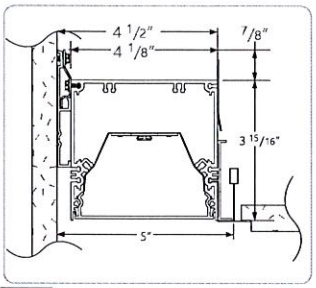
TB9 9/16" T-BAR



ST SCREW SLOT T-BAR

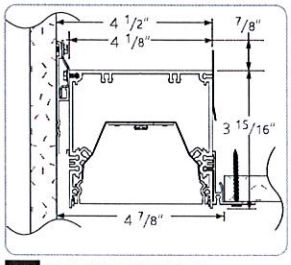


TG9 9/16" T-TEGULAR

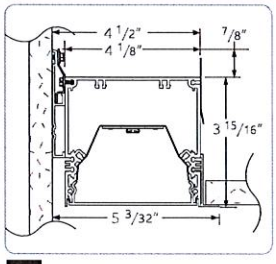


TG15 15/16" T-TEGULAR

DRYWALL CEILING MOUNTING OPTIONS



DS SPACKLE FLANGES



DF VISIBLE FLANGES WALL MOUNTING

BEAM4 LED | PERIMETER LINEAR - RECESSED

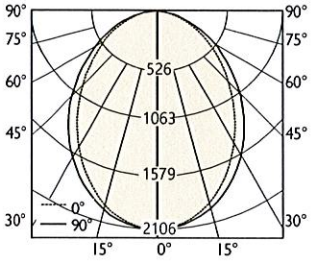
PHOTOMETRIC DATA

SO Spotless lens - FL

1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1200 lm/ft
Total Lumens: 4800 lm (for 4ft)
Input Watts: 38.7 W
Efficacy: 124 lm/W

IES FILE:BBPRLED-1200-80-35-SO-FL-4.IES

TESTED ACCORDING TO IES LM-79-2019

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	2106	2106	2106	2106	2106
5	2096	2093	2091	2089	2088
15	1989	1983	1969	1953	1945
25	1781	1767	1737	1702	1686
35	1495	1478	1434	1386	1364
45	1171	1155	1108	1056	1033
55	845	833	793	748	730
65	542	536	509	478	465
75	283	283	272	258	252
85	84	85	84	80	79
90	6	7	7	7	7

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	198
10-20	551
20-30	791
30-40	884
40-50	838
50-60	692
60-70	488
70-80	275
80-90	84
90	

LUMINANCE DATA (cd/m²)

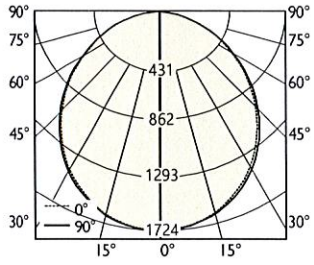
	Horizontal Angles		
Vertical Angle	0	45	90
45	13867	13117	12235
55	12338	11567	10649
65	10740	10085	9212
75	9146	8792	8142
85	8065	8042	7592

UB Ultra blend lens - FL

1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1200 lm/ft
Total Lumens: 4800 lm (for 4ft)
Input Watts: 41.5 W
Efficacy: 116 lm/W

IES FILE: BBPRLED-1200-80-35-UB-FL-4.IES

TESTED ACCORDING TO IES LM-79-2019

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	1724	1724	1724	1724	1724
5	1718	1719	1721	1721	1721
15	1651	1655	1659	1659	1659
25	1522	1528	1532	1532	1530
35	1338	1346	1350	1349	1347
45	1116	1125	1128	1125	1123
55	864	874	877	874	872
65	594	604	609	608	606
75	327	338	345	346	346
85	102	109	115	116	116
90	9	13	16	15	15

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	163
10-20	464
20-30	695
30-40	827
40-50	846
50-60	754
60-70	569
70-80	335
80-90	105
90	

LUMINANCE DATA (cd/m²)

	Horizontal Angles		
Vertical Angle	0	45	90
45	13211	13360	13290
55	12607	12803	12720
65	11766	12064	12006
75	10583	11168	11183
85	9829	11021	11133

All IES files are available for download at: www.axislighting.com

Product design and development is an ongoing process at Axis Lighting. We reserve the right to change specifications. Contact Axis for the latest product information.

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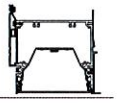
Submitted by United Lighting Alliance of Oklahoma			
ULA UNITED LIGHTING ALLIANCE OKLAHOMA	**Job Name:** Greenwood Cultural Center Facility Rehabilitation Architect: CJC Architecture (Tulsa) Engineer: HP Engineering (Broken Arrow)	**Catalog Number:** BBPRLED-700-80-35-GZ-RG2-16'-W-UNV-DP-1-DF-ECR2 Notes:	**Type:** **H-16** ULAOK25-104

BEAM4 LED | PERIMETER LINEAR - RECESSED

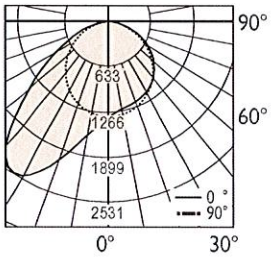
PHOTOMETRIC DATA

RFA - Room fill asymmetric lens

1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1200 lm/ft
Total Lumens: 4796 lm (for 4ft)
Input Watts: 37.09 W
Efficacy: 129 lm/W
IES FILE: BBPRLED-1200-80-35-RFA-4.ies
TESTED ACCORDING TO IES LM-79-2019

CANDELA DISTRIBUTION

Vertical Angle	Horizontal Angles 0	22.5	45	67.5	90
0	1343	1343	1343	1343	1343
5	1336	1308	1292	1280	1280
15	1284	1223	1206	1205	1209
25	1186	1113	1114	1131	1146
35	1046	970	986	1025	1049
45	869	798	826	879	905
55	661	601	639	691	716
65	438	399	433	468	482
75	220	200	220	234	239
85	45	42	47	43	44
90	5	6	7	7	7

ZONAL LUMENS

Zone	Lumens
0	
0-10	129
10-20	397
20-30	676
30-40	902
40-50	947
50-60	806
60-70	566
70-80	297
80-90	74
90	

LUMINANCE DATA (cd/m²)

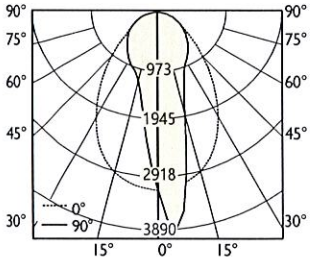
Vertical Angle	Horizontal Angles 0	45	90
45	10075	9576	10499
55	9455	9137	10235
65	8498	8407	9354
75	6969	6964	7565
85	4252	4447	4181

GZ Graze lens - FL

1000 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1000 lm/ft
Total Lumens: 4286 lm (for 4ft)
Input Watts: 37.6 W
Efficacy: 114 lm/W
IES FILE: BBPRLED-1000-80-35-GZ-FL-4.IES

TESTED ACCORDING TO IES LM-79-2019

CANDELA DISTRIBUTION

Vertical Angle	Horizontal Angles 0	22.5	45	67.5	90
0	3198	3198	3198	3198	3198
5	3160	3529	3781	3876	3890
15	2981	3569	2861	2211	1935
25	2553	2656	1559	1223	1149
35	1895	1742	1046	964	952
45	1220	1133	790	785	780
55	719	709	575	595	601
65	404	412	372	403	418
75	185	193	184	212	225
85	35	39	40	51	48
90	2	2	2	2	2

ZONAL LUMENS

Zone	Lumens
0	
0-10	286
10-20	633
20-30	736
30-40	747
40-50	678
50-60	552
60-70	391
70-80	210
80-90	52
90	

LUMINANCE DATA (cd/m²)

Vertical Angle	Horizontal Angles 0	45	90
45	14136	9150	9034
55	10274	8220	8582
65	7825	7207	8103
75	5871	5834	7129
85	3302	3798	4525

All IES files are available for download at: www.axislighting.com

Product design and development is an ongoing process at Axis Lighting. We reserve the right to change specifications. Contact Axis for the latest product information.

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Submitted by United Lighting Alliance of Oklahoma

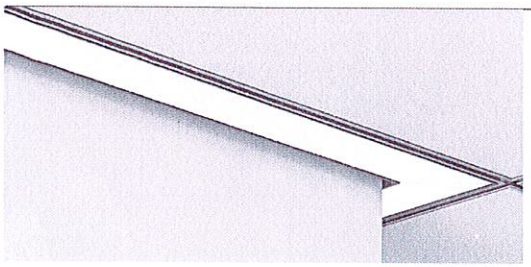
ULA UNITED LIGHTING ALLIANCE OKLAHOMA

Job Name:
Greenwood Cultural Center Facility Rehabilitation
Architect: CJC Architecture (Tulsa)
Engineer: HP Engineering (Broken Arrow)

Catalog Number:
BBPRLED-700-80-35-GZ-RG2-20'-W-UNV-DP-1-DF-ECR2
Notes:

Type:
H-22
ULAOK25-104

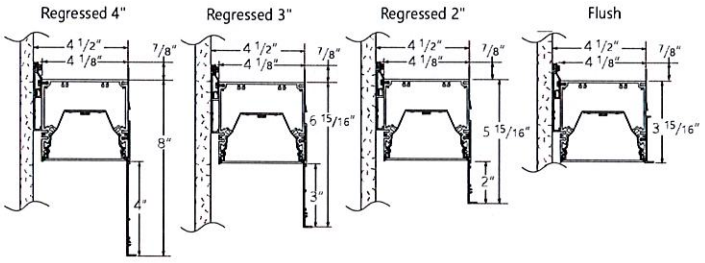
BEAM4 LED | PERIMETER LINEAR - RECESSED



Project _____

Type _____

Notes _____



PERFORMANCE PER LINEAR FOOT AT 3500K

NOMINAL LUMEN OUTPUT	INPUT WATTS*	EFFICACY	SHIELDING
1200 lm/ft	9.7 W/ft	124 lm/W	SO-FL
1200 lm/ft	10.4 W/ft	116 lm/W	UB-FL
1200 lm/ft	9.3 W/ft	129 lm/W	RFA-FL
1000 lm/ft	9.4 W/ft	114 lm/W	GZ-FL

Please consult factory for custom lumen output and wattage.

CCEA APPROVED · Axitune Tunable White · PoE · bios · cULus Listed Type I.C. · IC · 5 YEAR LIMITED WARRANTY

DLC LISTED * Check the latest update on the DLC website for complete information. Not all versions may be DLC qualified. See page 2 for DLC Approved options

Ordering Guide

BBPRLED

PRODUCT ID
- **BBPRLED** Perimeter Recessed LED

NOM. LUMENS/FT
- **400** 400 lm/ft - Minimum
- **1000** 1000 lm/ft - max for GZ.*
- **1200** 1200 lm/ft - Maximum

700lmf

Outputs between listed min and max are available.
* 1000 lm/ft max. only for GZ.
Consult factory for outputs outside of the listed range.
Consult factory for max output with BIOS.

CRI
- **80** 80 CRI
- **90** 90 CRI*

* Not available with BIOS

COLOR TEMP. (choose one)
- **27** 2700 K
- **30** 3000 K
- **35** 3500 K
- **40** 4000 K
- **B30** 3000 K - BIOS*
- **B35** 3500 K - BIOS*
- **B40** 4000 K - BIOS*
- **TW2750** 2700-5000 K - Tunable White
- **TW2765** 2700-6500 K - Tunable White
- **BTW3527** 3500-2700 K - Tunable BIOS
- **BTW4027** 4000-2700 K - Tunable BIOS

Consult Axitune technical sheet for more information on color technology.
*Consult BIOS guide for more information on BIOS technology
BIOS (B30, B35, B40, BTW3527, BTW4027) is not available with Telescopic.

SHIELDING
- **SO** Spotless lens
- **UB** Ultra blend lens*
- **GZ** Graze
- **RFA** room fill asymmetric lens**

* Default lens for Tunable white and BIOS.
** Only available with flush (FL) Shielding Position.
Consult factory for other lens.

SHIELDING POSITION
- **FL** flush
- **RG2** regressed 2"
- **RG3** regressed 3"
- **RG4** regressed 4"

TOTAL LENGTH
- **L** total length

20'

Min total length 2'

FINISH
- **W** white
- **C** custom

VOLTAGE
- **120** 120 V
- **277** 277 V
- **347** 347 V
- **UNV** universal
- **DC** low voltage*

* Only available with POE drivers.

DRIVER
- **DP** dimming (0-10V) 1%
- **LT(#)** Lutron*
- **BI** bi-level dimming
- **O(#)** other**
- **DPB(STC)** dimming (0-10V) 1% with BIOS*
- **DPB(DYN)** Bio-dimming™ 100%-81% with BIOS*
- **TW(#)** tunable white drivers*
- **POE(#)** POE drivers*

*See page 2 to specify system
**Please consult factory; see page 2

CIRCUITS
- **1** 1 circuit
- **2** 2 circuits
- **+E(#)** emergency circuit*
- **+NL(#)** night light circuit*
- **+GTD(#)** generator transfer device*

*Specify quantity

MOUNTING
- **TB9** t-bar 9/16"
- **TB15** t-bar 15/16"
- **ST** screw slot t-bar
- **TG9** tegular 9/16"
- **TG15** tegular 15/16"
- **DF** drywall flange
- **DS** drywall spackle flange

TS section requires min length of 4'.
Available on patterns.
Recomended for longer runs or if exact perimeter length is not available.
See page 2 for more details.

END CAP
- **ECR2** end cap for regressed 2"*
- **ECR3** end cap for regressed 3"**
- **ECR4** end cap for regressed 4"***
- **ECFL** end cap flush with lens

* Only available with RG2 regressed position
** Only available with RG3 regressed position
*** Only available with RG4 regressed position
See page 4 for additional information.

TYPE (OPTIONAL)
- **TS(#)** telescopic sections

TS section requires min length of 4'.
Available on patterns.
Recomended for longer runs or if exact perimeter length is not available. See page 2 for more details.
Not available with BIOS - B30, B35, B40, BTW3527, BTW4027.

BATTERY (OPTIONAL)
- **B(#)** battery pack 4' sections

Not available with 347V
Please consult factory

OTHER (OPTIONAL)
- **EF** end feed
- **FW** flex whip (6' std)*
- **CP** Chicago plenum

* Other lengths available; please consult factory.

IC CONTROLS (OPT.)
- **WC(#)** wireless control dimming

See integrated controls guide for more details.
Specify quantity. Requires 8" blank
Consult factory for Tunable White
Not available with DPB (DYN) driver for BIOS with Dynamic Spectrum.

CUSTOM (OPTIONAL)
- **C** custom

Please specify

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BEAM4 LED | PERIMETER LINEAR - RECESSED

SPECIFICATIONS

CONSTRUCTION

Housing	Extruded aluminum (0.075" nominal) Up to 70% recycled content
End Cap	Cast aluminum
Interior Brackets	Die formed sheet steel (18 gauge)
Reflectors	White powder coated sheet steel (22 gauge)
Blank	Extruded aluminum (0.075" nominal)
Lens	Spotless frosted acrylic lens
T-Bar Bracket	Die formed sheet steel (16 gauge)
Screw Slot T-Bar Bracket	Die formed sheet steel (16 gauge)
Spackle Flange	Extruded aluminum (0.070")
All Flanges	Extruded aluminum (0.070" nominal)

ELECTRICAL

Lutron driver	LDE1 - Hi-lume 1% EcoSystem with Soft-on, Fade-to-Black
Other drivers**	DALI - Digital Addressable Lighting Interface DMX - Digital Multiplex Xitanium SR - For wireless sensor
BIOS DPB drivers*	STC - BIOS control 0-10V with static spectrum and BIOS SkyBlue enabled from 100% to 1%. DYN - BIOS control 0-10V with dynamic spectrum and BIOS SkyBlue® with Bio-Dimming™, which changes spectral qualities by removing the SkyBlue component when dimming from 100% to 81%, while light output remains relatively constant; bio-dimming reduces CCT to 2700K. Dimming from 80% to 1% will then reduce light output.
Tunable White TW drivers*	DALIDT6 - DALI Type 6 (Two DALI Addresses) DALIDT8 - DALI Type 8 (One DALI Address) DPTW - two channel 0-10V dimming: one channel for brightness, one channel for CCT. LDTW - Lutron DALI Type 8 (One DALI adress) Tunable White series
Power over Ethernet POE drivers* UL2108 certified for integral or remote driver	MOLEX IGOR SMARTENGINE O - Other (Consult factory)
Emergency	Integral emergency battery pack or emergency circuit optional.
Input Voltage	120V, 277V, 347V, UNV, DC.
Flex Whip	Shipped in a separate box for contractors to install

*Choose driver from available options.

Incorporating these components may have limitations or affect the length of the luminaire. Please contact factory for more details.

DLC Approved Options

*Check the latest update on the DLC website for complete information. Not all versions may be DLC qualified

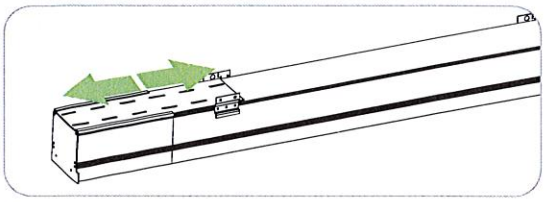
LUMEN OUTPUT	CRI	COLOR TEMP.	SHIELDING	SHIELDING POSITION	LENGTH	VOLTAGE	DRIVER
400 lm/ft 600 lm/ft 800 lm/ft 1000 lm/ft	80	3000 K 3500 K 4000 K	SO	FL	4' 8' 12'	universal	DP

7" TELESCOPIC ADJUSTMENT

Beam4 LED Perimeter system feature a patented telescopic sliding LED board design that allows runs to be field cut to facilitate installation and specification.

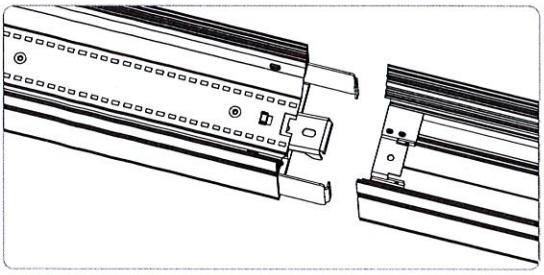
NOTE: Miter saw with aluminum cutting blade required on site for telescopic adjustments. If a 2nd telescopic section is required, minimum length is 8'.

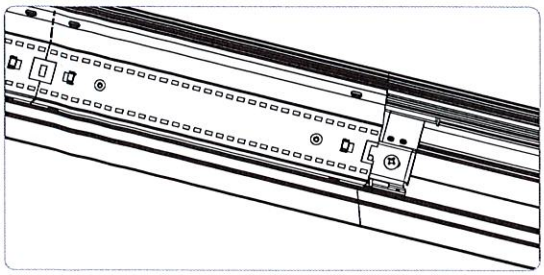
EXAMPLE: Telescopic adjustment 7" (+4"/-3"). If a 10' 6" (126") fixture is specified, adjustable lengths with (1) TS section are between 123"-130".



JOINERS

BEAM4 Perimeter LED has steel joiners with wedge alignment for easy installation.





JOINER SYSTEM

WEIGHT

Perimeter LED 4 ft	14.5 lbs / 6.6 kg
Perimeter LED 8 ft	29.0 lbs / 13.2 kg
Perimeter LED 12 ft	43.5 lbs / 19.7 kg

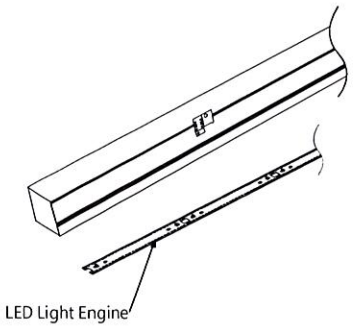
APPROVALS

Certified to UL and CSA standards
Meets CCEC requirements (Chicago plenum)
Meets NYC requirements
Suitable for damp locations
IC Rated (Insulated ceiling)

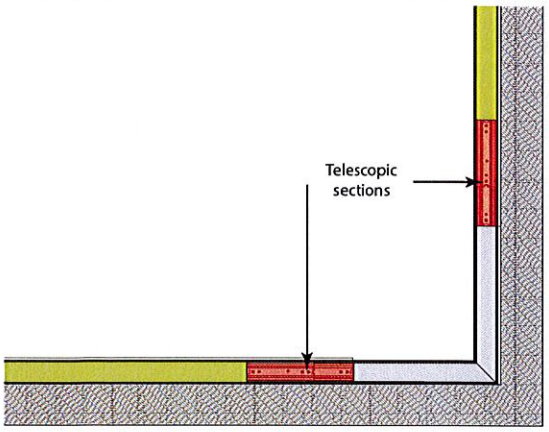
BEAM4 LED | PERIMETER LINEAR - RECESSED

LED SYSTEM

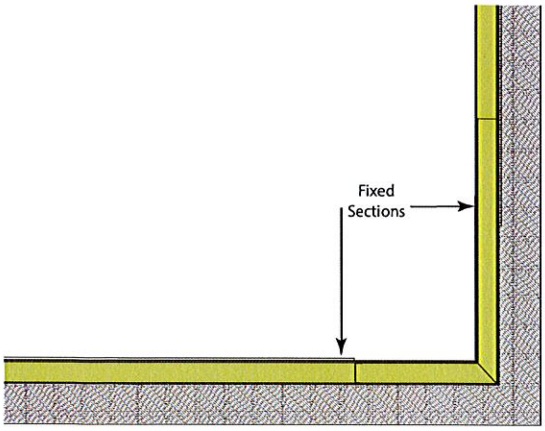
CRI	Minimum 80 or 90 color rendering index.
CRI BIOS	Minimum 80 color rendering index with R9>75 for all CCTs.
CCT Single Color	Choice of 2700K, 3000K, 3500K and 4000K color temperature with a great color consistency (within 3-step MacAdam ellipse). Both within fixture and fixture to fixture.
CCT BIOS	BIOS Static (STC) Choice of 3000K, 3500K and 4000K. BIOS SkyBlue® Dynamic (DYN) Choice of 3000K, 3500K, and 4000K with Bio-Dimming™ BIOS Tunable White (BTW) Choice of 4000-2700K and 3500-2700K; does not use a bio-dimmer, it uses TW drivers, which allow independent control of CCT and intensity; e.g., BTW4027 provides combined SkyBlue + white light at 4000K, SkyBlue is removed at 2700K. Light output can be adjusted for each CCT. Consult BIOS guide for more information on BIOS technology.
CCT Axitune Systems	Consult Axitune technical sheet for more information on color technology.
LED life	Minimum 50,000h with 85% of lumen maintenance in 25°C ambient temperature, in compliance with IES LM-80 testing measurements.
Thermal Management	Aluminum housing acting as the heat sink to maximize life.
Environment	Dry and damp rated for indoor use only in operating ambient temperatures of 0-40°C (32-104F).



SECTION QUANTITY



TS TELESCOPIC SECTIONS



FS FIXED SECTIONS

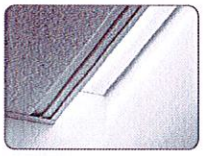
WARRANTY

Limited 5-year warranty is available. Warranty is valid provided luminaires are installed and used according to specifications. For full terms and conditions, please consult warranty section at axislighting.com.

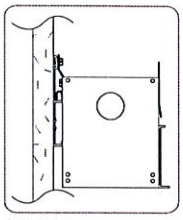
BEAM4 LED | PERIMETER LINEAR - RECESSED

END CAP

FLUSH END CAP

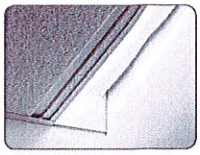


ECFL **END CAP FLUSH**



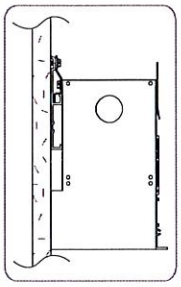
Side view

REGRESSED END CAP



ECR2 **END CAP 2" REGRESSED (shown)**

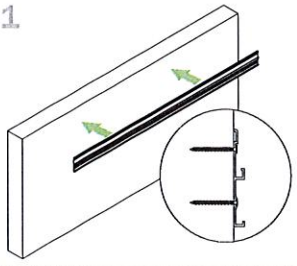
ECR3 - 3" End Cap is also available.
ECR4 - 4" End Cap is also available.



Side view

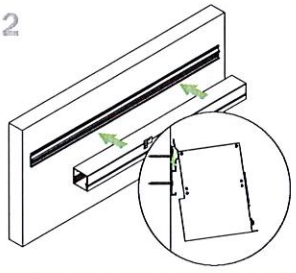
INSTALLATION GUIDE

1



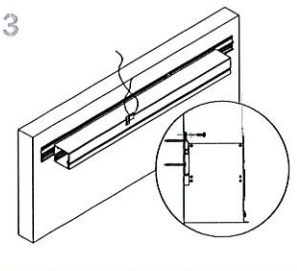
Install wall track level and secure to structure at small grooves in extrusion.

2



Hook beam Perimeter luminaire onto wall track.

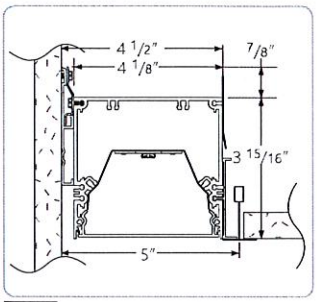
3



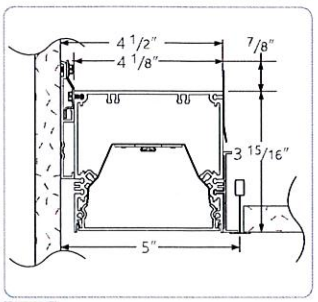
Secure to wall track, secure to structure.

BEAM4 LED | PERIMETER LINEAR - RECESSED

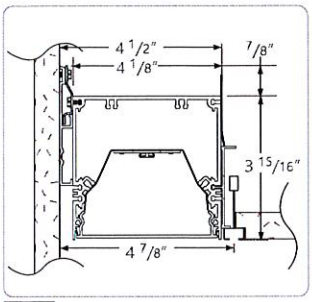
TB CEILING MOUNTING OPTIONS



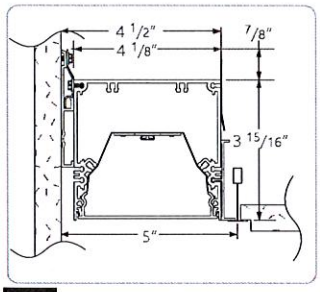
TB15 15/16" T-BAR



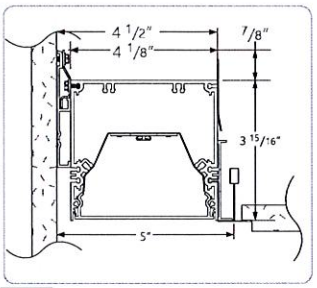
TB9 9/16" T-BAR



ST SCREW SLOT T-BAR

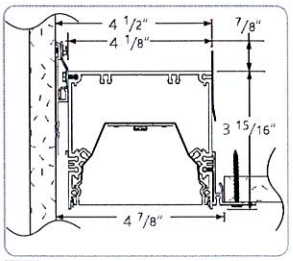


TG9 9/16" T-TEGULAR

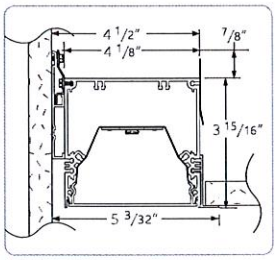


TG15 15/16" T-TEGULAR

DRYWALL CEILING MOUNTING OPTIONS



DS SPACKLE FLANGES



DF VISIBLE FLANGES WALL MOUNTING

BEAM4 LED | PERIMETER LINEAR - RECESSED

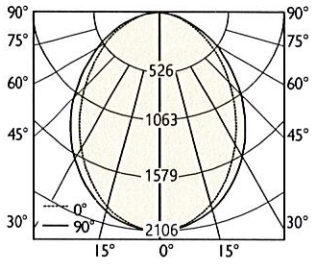
PHOTOMETRIC DATA

SO Spotless lens - FL

1200 lm/ft



PHOTOMETRIC CURVE



CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	2106	2106	2106	2106	2106
5	2096	2093	2091	2089	2088
15	1989	1983	1969	1953	1945
25	1781	1767	1737	1702	1686
35	1495	1478	1434	1386	1364
45	1171	1155	1108	1056	1033
55	845	833	793	748	730
65	542	536	509	478	465
75	283	283	272	258	252
85	84	85	84	80	79
90	6	7	7	7	7

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	198
10-20	551
20-30	791
30-40	884
40-50	838
50-60	692
60-70	488
70-80	275
80-90	84
90	

LUMINANCE DATA (cd/m²)

	Horizontal Angles		
Vertical Angle	0	45	90
45	13867	13117	12235
55	12338	11567	10649
65	10740	10085	9212
75	9146	8792	8142
85	8065	8042	7592

Lumen/ft: 1200 lm/ft
Total Lumens: 4800 lm (for 4ft)
Input Watts: 38.7 W
Efficacy: 124 lm/W

IES FILE:BBPRLED-1200-80-35-SO-FL-4.IES

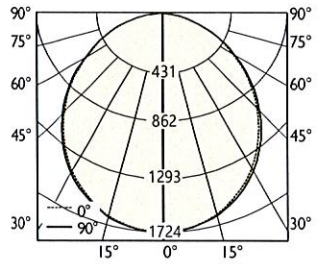
TESTED ACCORDING TO IES LM-79-2019

UB Ultra blend lens - FL

1200 lm/ft



PHOTOMETRIC CURVE



CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	1724	1724	1724	1724	1724
5	1718	1719	1721	1721	1721
15	1651	1655	1659	1659	1659
25	1522	1528	1532	1532	1530
35	1338	1346	1350	1349	1347
45	1116	1125	1128	1125	1123
55	864	874	877	874	872
65	594	604	609	608	606
75	327	338	345	346	346
85	102	109	115	116	116
90	9	13	16	15	15

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	163
10-20	464
20-30	695
30-40	827
40-50	846
50-60	754
60-70	569
70-80	335
80-90	105
90	

LUMINANCE DATA (cd/m²)

	Horizontal Angles		
Vertical Angle	0	45	90
45	13211	13360	13290
55	12607	12803	12720
65	11766	12064	12006
75	10583	11168	11183
85	9829	11021	11133

Lumen/ft: 1200 lm/ft
Total Lumens: 4800 lm (for 4ft)
Input Watts: 41.5 W
Efficacy: 116 lm/W

IES FILE: BBPRLED-1200-80-35-UB-FL-4.IES

TESTED ACCORDING TO IES LM-79-2019

All IES files are available for download at: www.axislighting.com

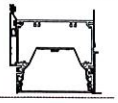
Submitted by United Lighting Alliance of Oklahoma			
ULA UNITED LIGHTING ALLIANCE OKLAHOMA	**Job Name:** Greenwood Cultural Center Facility Rehabilitation Architect: CJC Architecture (Tulsa) Engineer: HP Engineering (Broken Arrow)	**Catalog Number:** BBPRLED-700-80-35-GZ-RG2-20'-W-UNV-DP-1-DF-ECR2 Notes:	**Type:** H-22 ULAOK25-104

BEAM4 LED | PERIMETER LINEAR - RECESSED

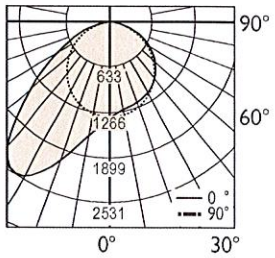
PHOTOMETRIC DATA

RFA - Room fill asymmetric lens

1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1200 lm/ft
Total Lumens: 4796 lm (for 4ft)
Input Watts: 37.09 W
Efficacy: 129 lm/W
IES FILE: BBPRLED-1200-80-35-RFA-4.ies
TESTED ACCORDING TO IES LM-79-2019

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	1343	1343	1343	1343	1343
5	1336	1308	1292	1280	1280
15	1284	1223	1206	1205	1209
25	1186	1113	1114	1131	1146
35	1046	970	986	1025	1049
45	869	798	826	879	905
55	661	601	639	691	716
65	438	399	433	468	482
75	220	200	220	234	239
85	45	42	47	43	44
90	5	6	7	7	7

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	129
10-20	397
20-30	676
30-40	902
40-50	947
50-60	806
60-70	566
70-80	297
80-90	74
90	

LUMINANCE DATA (cd/m²)

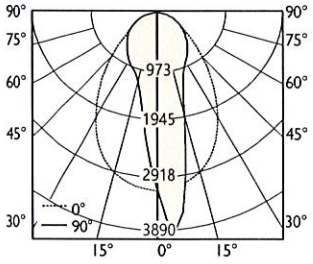
	Horizontal Angles		
Vertical Angle	0	45	90
45	10075	9576	10499
55	9455	9137	10235
65	8498	8407	9354
75	6969	6964	7565
85	4252	4447	4181

GZ Graze lens - FL

1000 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1000 lm/ft
Total Lumens: 4286 lm (for 4ft)
Input Watts: 37.6 W
Efficacy: 114 lm/W
IES FILE: BBPRLED-1000-80-35-GZ-FL-4.IES

TESTED ACCORDING TO IES LM-79-2019

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	3198	3198	3198	3198	3198
5	3160	3529	3781	3876	3890
15	2981	3569	2861	2211	1935
25	2553	2656	1559	1223	1149
35	1895	1742	1046	964	952
45	1220	1133	790	785	780
55	719	709	575	595	601
65	404	412	372	403	418
75	185	193	184	212	225
85	35	39	40	51	48
90	2	2	2	2	2

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	286
10-20	633
20-30	736
30-40	747
40-50	678
50-60	552
60-70	391
70-80	210
80-90	52
90	

LUMINANCE DATA (cd/m²)

	Horizontal Angles		
Vertical Angle	0	45	90
45	14136	9150	9034
55	10274	8220	8582
65	7825	7207	8103
75	5871	5834	7129
85	3302	3798	4525

All IES files are available for download at: www.axislighting.com

Product design and development is an ongoing process at Axis Lighting. We reserve the right to change specifications. Contact Axis for the latest product information.

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1.800.253.2947
FAX 614.842.2272

axis axislighting.com

Submitted by United Lighting Alliance of Oklahoma			
ULA UNITED LIGHTING ALLIANCE OKLAHOMA	**Job Name:** Greenwood Cultural Center Facility Rehabilitation Architect: CJC Architecture (Tulsa) Engineer: HP Engineering (Broken Arrow)	**Catalog Number:** MFP 14 WS40 Y CCTS Notes:	**Type:** A1 ULAOK25-104

LUMINOSO LED LIGHTING

MFP Series / Frameless Panels

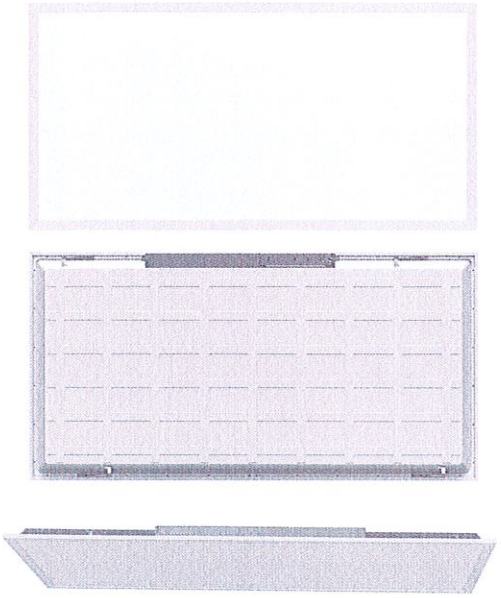
1x4, 2x4, 2x2 / Wattage & CCT Selectable

Project:	Date
Type:	
Model:	

DESCRIPTION

Our Dual Selectable Backlit Panels are commercial luminaires that utilizes advanced driver technology to provide an all in one luminaire, providing 3 wattages and 3 CCT options in each size panel. This provides superior lighting performance while minimizing inventory by reducing the amount of stocking SKUs. They achieve high uniformity, DLC PREMIUM energy efficiency and reduced glare in typical T-bar grid ceiling applications.

Our state-of-the-art backlit LED technology utilizes PMMA lensing over the LEDs which will not discolor over time. The need for a light guide is eliminated, thus increasing photometric performance while keeping costs competitive. Combined with the rigid back enclosure that prevents warping in application, this luminaire is designed for worry-free longevity and reliability. Available with factory installed battery backup for 90 minutes emergency egress illumination.



SPECIFICATIONS

Construction

- Steel die-formed back-cover & frame, screw-less.

Optics

- PMMA lens over LEDs, PS diffuser
- 120° Beam angle
- 3CCT Selectable 3500K/4000K/5000K

Electrical

- 0-10VDC Dimming (10%-100%)

Certifications

- UL Listed for Damp Locations
- IC Rated for insulated ceilings
- RoHS, FCC
- DLC PREMIUM
- -5°F to 120°F

Warranty

- 5 Years

ORDER INFORMATION

EXAMPLE: MFP-24-WS50-Y-CCTS

3 CCT SELECTABLE · POWER SELECTABLE · RoHS COMPLIANT · 80 CRI · 50,000 Hours · 5 YEAR · UL CERTIFIED · DLC LISTED PREMIUM Pending

Series	Size	Wattage Selectable	Voltage	CCT	Emergency Battery Backup
MFP Back-lit Panels	**22** 2x2	**WS40** Wattage Selectable (20 / 30 / 40)	**Y** 120-277V	**CCTS** Color Temperature Selectable (3500K / 4000K / 5000K)	**(Blank)** w/o Battery Backup
	24 2x4	**WS50** Wattage Selectable (30 / 40 / 50)			**EB** Emergency Battery Backup (90 minutes of illumination when AC power is removed)
	14 1x4	**WS40** Wattage Selectable (20 / 30 / 40)			

Enter configuration: _____

Dimensions and values shown are nominal. LuminosoLED continually works to improve products and reserves the right to make changes which may alter the performance or appearance of products.

Submitted by United Lighting Alliance of Oklahoma			
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MFP Series / Back-lit Panel

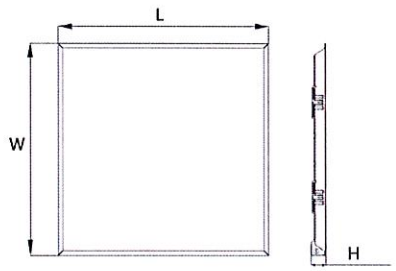
1x4, 2x4, 2x2 / Wattage & CCT Selectable

Luminoso LED LIGHTING

PERFORMANCE DATA

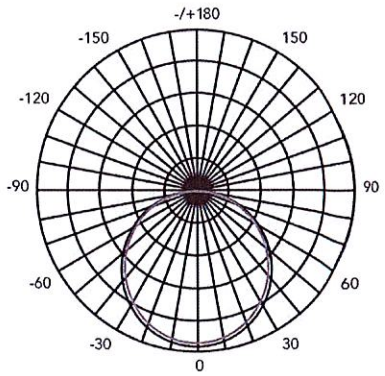
Series	MFP22 (2x2) & MFP14 (1x4)			MFP24 (2x4)		
Wattage	20	30	40	30	40	50
CCT	3500K	4000K	5000K	3500K	4000K	5000K
Lumens	2,500	3,750	5,000	3,750	5,000	6,250
Efficacy (LPW)	125			125		
Power Supply	Class2 with 2.5KV					
CRI	80					
Input Voltage	120-277VAC 50/60Hz					
Certifications	UL Listed, FCC, RoHS					
Operating Temp.	-5°F to 120°F					
PF / THD	>0.9, <20%					
Dimming	0-10V (5%-100%)					

DIMENSIONS



Size (FT)	LxWxH
2x2	23.74" x 23.74" x 1.42"
1x4	47.76" x 11.93" x 1.42"
2x4	47.76" x 23.74" x 1.42"

PHOTOMETRICS



AVERAGE BEAM ANGLE (50%) : 114.3 DEG

MFP Series / Back-lit Panel

1x4, 2x4, 2x2 / Wattage & CCT Selectable

Luminoso LED LIGHTING

ACCESSORIES (Surface Mount kit & Flange kit)

Series	Description	
MFP24-SMK	2X4 Surface Mount Kit, White Finish 48 X 24 X 2.8 inch	
MFP22-SMK	2X2 Surface Mount Kit, White Finish 24 X 24 X 2.8 inch	
MFP14-SMK	1X4 Surface Mount Kit, White Finish 48 X 12.2 X 2.8 inch	

Series	Description	
MFP24-DWK	2X4 Flange Kit, White Finish, 49.1 X 25.1 X 0.8 inch	
MFP22-DWK	2X2 Flange Kit, White Finish, 25.1 X 25.1 X 0.8 inch	
MFP14-DWK	1X4 Flange Kit, White Finish, 49.1 X 13.2 X 0.8 inch	

Submitted by United Lighting Alliance of Oklahoma			
ULA UNITED LIGHTING ALLIANCE OKLAHOMA	**Job Name:** Greenwood Cultural Center Facility Rehabilitation Architect: CJC Architecture (Tulsa) Engineer: HP Engineering (Broken Arrow)	**Catalog Number:** MFP 24 WS50 Y CCTS Notes:	**Type:** A2 ULAOK25-104

LUMINOSO LED LIGHTING

MFP Series / Frameless Panels

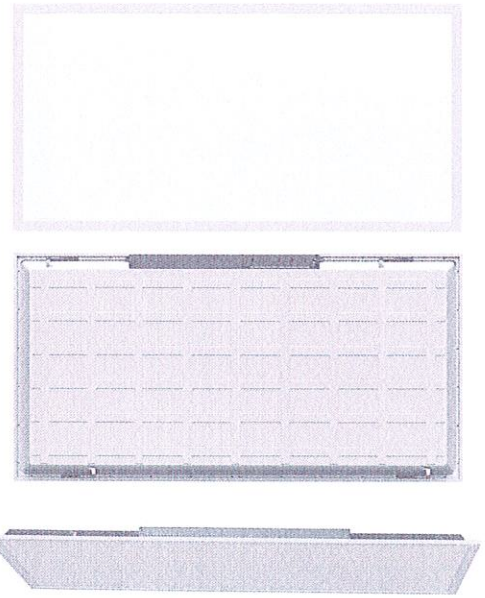
1x4, 2x4, 2x2 / Wattage & CCT Selectable

Project:	Date
Type:	
Model:	

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Series	Size	Wattage Selectable	Voltage	CCT	Emergency Battery Backup
MFP Back-lit Panels	**22** 2x2	**WS40** Wattage Selectable (20 / 30 / 40)	**Y** 120-277V	**CCTS** Color Temperature Selectable (3500K / 4000K / 5000K)	**(Blank)** w/o Battery Backup
	24 2x4	**WS50** Wattage Selectable (30 / 40 / 50)			**EB** Emergency Battery Backup (90 minutes of illumination when AC power is removed)
	14 1x4	**WS40** Wattage Selectable (20 / 30 / 40)			

Enter configuration: _____

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MFP Series / Back-lit Panel

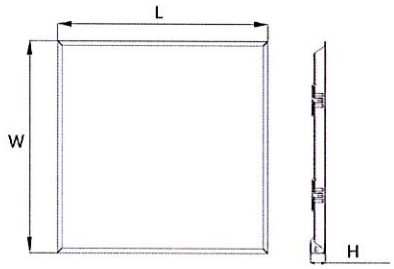
1x4, 2x4, 2x2 / Wattage & CCT Selectable

Luminoso LED LIGHTING

PERFORMANCE DATA

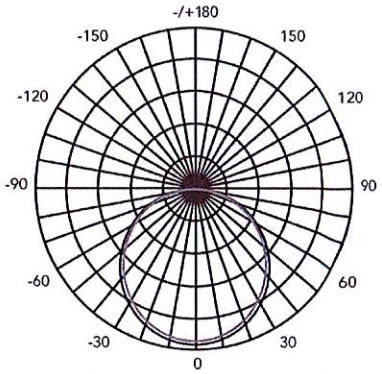
Series	MFP22 (2x2) & MFP14 (1x4)			MFP24 (2x4)		
Wattage	20	30	40	30	40	50
CCT	3500K	4000K	5000K	3500K	4000K	5000K
Lumens	2,500	3,750	5,000	3,750	5,000	6,250
Efficacy (LPW)	125			125		
Power Supply	Class2 with 2.5KV					
CRI	80					
Input Voltage	120-277VAC 50/60Hz					
Certifications	UL Listed, FCC, RoHS					
Operating Temp.	-5°F to 120°F					
PF / THD	>0.9, <20%					
Dimming	0-10V (5%-100%)					

DIMENSIONS



Size (FT)	LxWxH
2x2	23.74" x 23.74" x 1.42"
1x4	47.76" x 11.93" x 1.42"
2x4	47.76" x 23.74" x 1.42"

PHOTOMETRICS



AVERAGE BEAM ANGLE (50%) : 114.3 DEG

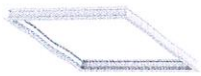
MFP Series / Back-lit Panel

1x4, 2x4, 2x2 / Wattage & CCT Selectable

Luminoso LED LIGHTING

ACCESSORIES (Surface Mount kit & Flange kit)

Series	Description	
MFP24-SMK	2X4 Surface Mount Kit, White Finish 48 X 24 X 2.8 inch	
MFP22-SMK	2X2 Surface Mount Kit, White Finish 24 X 24 X 2.8 inch	
MFP14-SMK	1X4 Surface Mount Kit, White Finish 48 X 12.2 X 2.8 inch	

Series	Description	
MFP24-DWK	2X4 Flange Kit, White Finish, 49.1 X 25.1 X 0.8 inch	
MFP22-DWK	2X2 Flange Kit, White Finish, 25.1 X 25.1 X 0.8 inch	
MFP14-DWK	1X4 Flange Kit, White Finish, 49.1 X 13.2 X 0.8 inch	

Submitted by United Lighting Alliance of Oklahoma			
ULA UNITED LIGHTING ALLIANCE OKLAHOMA	**Job Name:** Greenwood Cultural Center Facility Rehabilitation Architect: CJC Architecture (Tulsa) Engineer: HP Engineering (Broken Arrow)	**Catalog Number:** MFP 24 WS50 Y CCTS EB Notes:	**Type:** **A2E** ULAOK25-104

LUMINOSO LED LIGHTING

MFP Series / Frameless Panels

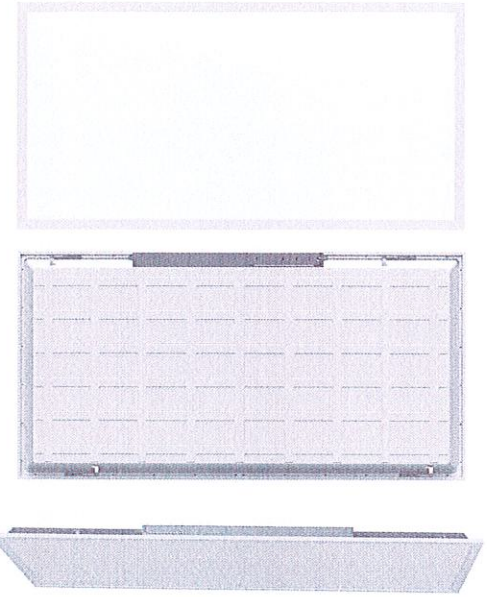
1x4, 2x4, 2x2 / Wattage & CCT Selectable

Project:	Date
Type:	
Model:	

DESCRIPTION

Our Dual Selectable Backlit Panels are commercial luminaires that utilizes advanced driver technology to provide an all in one luminaire, providing 3 wattages and 3 CCT options in each size panel. This provides superior lighting performance while minimizing inventory by reducing the amount of stocking SKUs. They achieve high uniformity, DLC PREMIUM energy efficiency and reduced glare in typical T-bar grid ceiling applications.

Our state-of-the-art backlit LED technology utilizes PMMA lensing over the LEDs which will not discolor over time. The need for a light guide is eliminated, thus increasing photometric performance while keeping costs competitive. Combined with the rigid back enclosure that prevents warping in application, this luminaire is designed for worry-free longevity and reliability. Available with factory installed battery backup for 90 minutes emergency egress illumination.



SPECIFICATIONS

Construction

- Steel die-formed back-cover & frame, screw-less.

Optics

- PMMA lens over LEDs, PS diffuser
- 120° Beam angle
- 3CCT Selectable 3500K/4000K/5000K

Electrical

- 0-10VDC Dimming (10%-100%)

Certifications

- UL Listed for Damp Locations
- IC Rated for insulated ceilings
- RoHS, FCC
- DLC PREMIUM
- -5°F to 120°F

Warranty

- 5 Years

ORDER INFORMATION

EXAMPLE: MFP-24-WS50-Y-CCTS

3 CCT SELECTABLE · POWER SELECTABLE · RoHS COMPLIANT · 80 CRI · 50,000 Hours · 5 YEAR · UL CERTIFIED · DLC LISTED PREMIUM Pending

Series	Size	Wattage Selectable	Voltage	CCT	Emergency Battery Backup
MFP Back-lit Panels	**22** 2x2	**WS40** Wattage Selectable (20 / 30 / 40)	**Y** 120-277V	**CCTS** Color Temperature Selectable (3500K / 4000K / 5000K)	**(Blank)** w/o Battery Backup
	24 2x4	**WS50** Wattage Selectable (30 / 40 / 50)			**EB** Emergency Battery Backup (90 minutes of illumination when AC power is removed)
	14 1x4	**WS40** Wattage Selectable (20 / 30 / 40)			

Enter configuration: _____

Dimensions and values shown are nominal. LuminosoLED continually works to improve products and reserves the right to make changes which may alter the performance or appearance of products.

MFP Series / Back-lit Panel

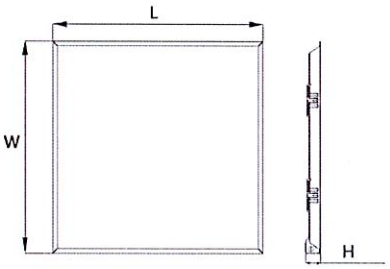
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Luminoso LED LIGHTING

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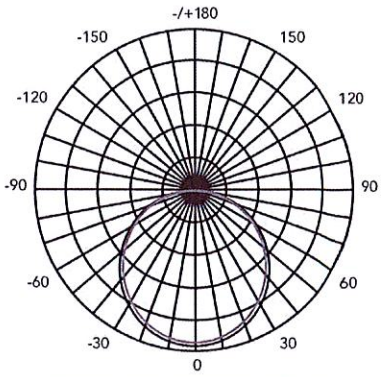
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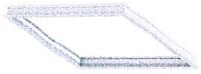
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Submitted by United Lighting Alliance of Oklahoma

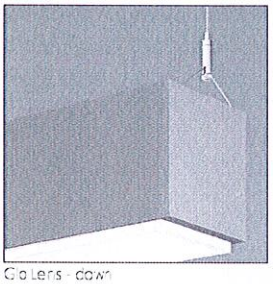
ULA UNITED LIGHTING ALLIANCE OKLAHOMA

Job Name:
Greenwood Cultural Center Facility Rehabilitation
Architect: CJC Architecture (Tulsa)
Engineer: HP Engineering (Broken Arrow)

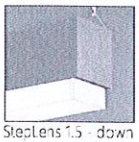
Catalog Number:
TB4DLED-1000-80-35-SO-4-(STD COLOR)-UNV-DP-1-CA144
Notes:

Type:
B
ULAOK25-104

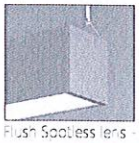
Beam 4 | Pendant mount - Direct



Glo Lens - down



StepLens 1.5 - down



Flush Spotless lens - down

Project _____

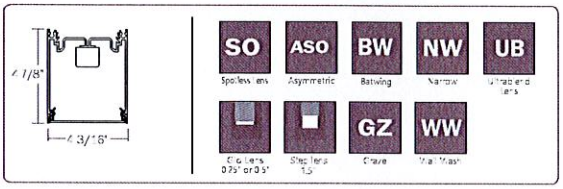
Type _____

Notes _____

PERFORMANCE PER LINEAR FOOT AT 3500K

NOMINAL LUMEN OUTPUT	INPUT WATTS*	EFFICACY	SHIELDING
1200 lm/ft	9.6 W/ft	126 lm/W	0.25G
1200 lm/ft	9.5 W/ft	126 lm/W	0.5G
1200 lm/ft	9.3 W/ft	129 lm/W	1.5M
1200 lm/ft	9.7 W/ft	124 lm/W	SO
1000 lm/ft	9.5W/ft	111 lm/W	WW
1000 lm/ft	9.5W/ft	111 lm/W	ASO
1200 lm/ft	9.8 W/ft	122 lm/W	BW
1000 lm/ft	9.4 W/ft	144 lm/W	GZ
1000 lm/ft	9.8 W/ft	109 lm/W	NW
1200 lm/ft	10.4 W/ft	116 lm/W	UB

Please consult factory for custom lumen output and wattage.



DLC LISTED * Check the latest update on the DLC website for complete information. Not all versions may be DLC qualified. See page 2 for DLC Approved options

Axitune Tunable White

PoE

bios

cULus Listed

CONTROL SENSORS

Ordering Guide

TB4DLED

PRODUCT ID		NOM. LUM/FT DOWN		CRI		COLOR TEMP. (choose one)				SHIELDING	
TB4DLED	BEAM4 - Pendant Direct LED	400	400 lm/ft - Minimum	80	80 CRI	27	2700 K	TW2750	2700-5000 K - Tunable White	SO	spotless lens
		1000	1000 lm/ft - max for GZ, NW, WW, ASO.*	90	90 CRI*	30	3000 K	TW2765	2700-6500 K - Tunable White	ASO	asymmetric, flush only
		1200	1200 lm/ft - Maximum			35	3500 K	BTW3527	3500-2700 K - Tunable BIOS	0.25G	0.25" Glo lens
						40	4000 K	BTW4027	4000-2700 K - Tunable BIOS	0.5G	0.5" Glo lens
						B30	3000 K - BIOS*			1.5M	StepLens , lum. end cap
						B35	3500 K - BIOS*			UB	Ultra blend lens*
						B40	4000 K - BIOS*			BW	batwing, flush only
										NW	narrow, flush only
										GZ	graze, flush only
										WW	wallwash, flush only
		Outputs between listed min and max are available. * 1000 lm/ft max. only for GZ, NW, WW and ASO. Consult factory for outputs outside of the listed range. Consult factory for max output with BIOS		* Not available with BIOS.		Consult Axitune technical sheet for more information on color technology. *Consult BIOS guide for more information on BIOS technology				Choose only one of the options above; SurroundLite not available with direct * Default lens for Tunable white and BIOS. Consult factory for other lens.	

LENGTH (FT)		MR (OPTIONAL)		FINISH		VOLTAGE		DRIVER	
2	2'	M16LED(#)	MR16 LED lamp - Line voltage (by other)*	AP	aluminum paint	120	120 V	DP	dimming (0-10V) 1%
3	3'	M16LEDB(#)	MR16 LED lamp - Dimmable (provided)**	W	white	277	277 V	LT(#)	Lutron*
4	4'			BLK	black	347	347 V	BI	bi-level dimming
5	5'			C	custom	UNV	universal	O(#)	other**
8	8'					DC	low voltage*	DPB(STC)	dimming (0-10V) 1% with BIOS*
12	12'							DPB(DYN)	Bio-dimming™ 100%-81% with BIOS*
S(L)	System Run							TW(#)	tunable white drivers*
								POE(#)	POE drivers*
		*Specify quantity; Available with 120V or 277V only; Line wattage only; Seperate circuits included. **Consult factory; See page 3 for more details; Available with UNV, 120V or 277V only; MR16 constant current for 0-10V & DALI only. Available in 3000K or 4000K. Available in luminaires with Axitune and BIOS but downlight will not be tunable white or BIOS LEDs				* Only available with POE drivers.		*See page 2 to specify system **Please consult factory; see page 2 Consult factory for other control options.	

CIRCUITS		MOUNTING/SUSPENSION		BATTERY (OPT.)		IC CONTROLS (OPT.)		CUSTOM (OPT.)	
1	1 circuit	CA(#)	drywall+cable length (36" std.)	B(#)	battery pack (integral)	DS(#)	daylight sensor	C	custom
2	2 circuits	CT9(#)	TB/TG 9/16+cable length (36" std.)			OS(#)	occupancy sensor		
+E(#)	emergency circuit*	CT15(#)	TB/TG15/16+cable length (36" std.)			DOS(#)	daylight & occupancy sensor		
+NL(#)	night light circuit*	CTS(#)	screw slot+cable length (36" std.)			WC(#)	wireless control dimming		
+GTD(#)	generator transfer device*	SA(#)	drywall+stem length >48" (18" std.)						
+M	MR	CASL(#)	drywall cable sloped ceiling						
		SASL(#)	drywall stem sloped ceiling						
		+SM	seismic kit						
*Specify quantity		See Mounting kit guide for full specification code. White canopy standard 144"		Minimum 4ft; Not available with 347V Please consult factory		Specify quantity. Requires 8" blank. See integrated controls guide for more details. Consult factory for Tunable White. Not available with DPB (DYN) driver for BIOS with Dynamic Spectrum.		Please specify	

Product design and development is an ongoing process at Axis Lighting. We reserve the right to change specifications. Contact Axis for the latest product information.

©2025 Axis Lighting
4200 SW 29th
OKC, OK 73179
T: 844.842.8272

axis lighting.com

Beam 4 | Pendant mount - Direct

CONSTRUCTION

Housing	Extruded aluminum (0.075" nominal) Up to 70% recycled content
End Cap	Cast aluminum
Interior Brackets	Die formed sheet steel (20 gauge)
Reflectors	White powder coated sheet steel (22 gauge)
Lenses	Extruded acrylic (0.070" nominal)
Hanger	Die cast aluminum
Suspension	Sliding aircraft cable along product length

ELECTRICAL

Lutron driver	LDE1 - Hi-lume 1% EcoSystem with Soft-on, Fade-to-Black
Other drivers**	DALI - Digital Addressable Lighting Interface DMX - Digital Multiplex Xitanium SR - For wireless sensor
BIOS DPB drivers*	STC - BIOS control 0-10V with static spectrum and BIOS SkyBlue enabled from 100% to 1%. DYN - BIOS control 0-10V with dynamic spectrum and BIOS SkyBlue® with Bio-Dimming™, which changes spectral qualities by removing the SkyBlue component when dimming from 100% to 81%, while light output remains relatively constant; bio-dimming reduces CCT to 2700K. Dimming from 80% to 1% will then reduce light output.
Tunable White TW drivers*	DALIDT6 - DALI Type 6 (Two DALI Addresses) DALIDT8 - DALI Type 8 (One DALI Address) DPTW - two channel 0-10V dimming: one channel for brightness, one channel for CCT. LDTW - Lutron DALI Type 8 (One DALI adress) Tunable White series
Power over Ethernet POE drivers* UL2108 certified for integral or remote driver	MOLEX IGOR SMARTENGINE O - Other (Consult factory)
Emergency	Integral emergency battery pack or emergency circuit optional.
Input Voltage Flex Whip	120V, 277V, 347V, UNV, DC. Shipped in a separate box for contractors to install

*Choose driver from available options.

ⓘ Incorporating these components may have limitations or affect the length of the luminaire. Please contact factory for more details.

SYSTEM (S#)

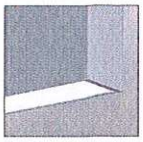
BEAM 4 linear systems, with the use of a strong profile, allow for a nearly hair thin connection system of continuous runs.
Lengths of 4', 8', 12' as well as custom lengths are available.
Runs of BEAM 4 that are greater than 12' in length are designated as systems (S#). This means that the run is comprised of a combination of 4', 8' and/or 12' sections to be assembled on site using our joining system. System runs with SurroundLite available in 1' increments only. For more information on systems and joining, please refer to the BEAM installation sheets available for download at www.axislighting.com.

DLC Approved Options

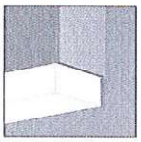
DLC LISTED * Check the latest update on the DLC website for complete information. Not all versions may be DLC qualified.

OUTPUT / DN	CRI	COLOR TEMP.	SHIELDING	LENGTH	FINISH	VOLTAGE	DRIVER
400 lm/ft	80	3000 K	SO	4'	all	universal	DP
600 lm/ft	90	3500 K		8'			
800 lm/ft		4000 K		12'			
1000 lm/ft							

OPTICS


SO Spotless lens
UB Ultra Blend Lens


0.25G Glo lens
0.5G Glo lens


1.5M 1.5" StepLens

ULTRA BLEND LENS
Frosted acrylic snap-in micro lens suitable for Tunable White and BIOS applications.

SPOTLESS LENS
Frosted acrylic snap-in micro lens. Used for SO, ASO, BW, NW, GZ and WW shielding options.

GLO LENS
0.25" or 0.5" frosted acrylic drop lens. Patented design.

STEPLENS
1.5" StepLens illuminated end cap.

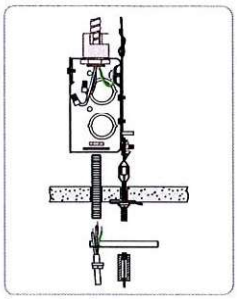
LED SYSTEM

CRI	Minimum 80 or 90 color rendering index.
CRI BIOS	Minimum 80 color rendering index with R9>75 for all CCTs.
CCT Single Color	Choice of 2700K, 3000K, 3500K and 4000K color temperature with a great color consistency (within 3-step MacAdam ellipse). Both within fixture and fixture to fixture.
CCT BIOS	BIOS Static (STC) Choice of 3000K, 3500K and 4000K. BIOS SkyBlue® Dynamic (DYN) Choice of 3000K, 3500K, and 4000K with Bio-Dimming™ BIOS Tunable White (BTW) Choice of 4000-2700K and 3500-2700K; does not use a bio-dimmer, it uses TW drivers, which allow independent control of CCT and intensity; e.g., BTW4027 provides combined SkyBlue + white light at 4000K, SkyBlue is removed at 2700K. Light output can be adjusted for each CCT. Consult BIOS guide for more information on BIOS technology.
CCT Axitune Systems	Consult Axitune technical sheet for more information on color technology.
LED life	Minimum 50,000h with 85% of lumen maintenance in 25°C ambient temperature, in compliance with IES LM-80 testing measurements.
Thermal Management	Aluminum housing acting as the heat sink to maximize life.
Environment	Dry and damp rated for indoor use only in operating ambient temperatures of 0-40°C (32-104F).

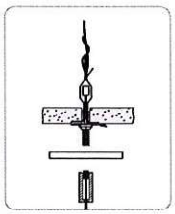
Beam 4 | Pendant mount - Direct

MOUNTING OPTIONS

CT TILE CEILING - ON GRID

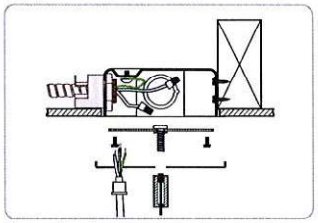


Power feed

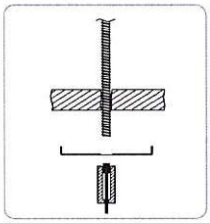


Non power feed

CA DRYWALL CEILING

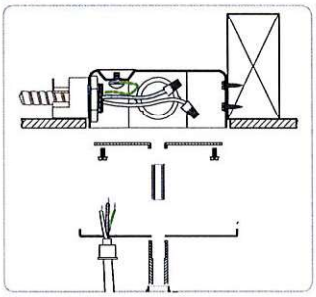


Power feed

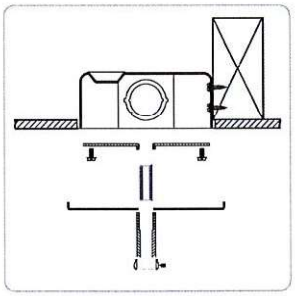


Non power feed

SA STEM MOUNT IN DRYWALL CEILING



Power feed



Non power feed

OTHER MOUNTING OPTIONS

BEAM 4 is also available with wall mounted option.

Specification sheets and installation sheets for all mountings for BEAM 4 luminaires are available for download at www.axislighting.com

FINISH

Aluminium paint, powder coated and custom finishes are also available.

APPROVALS

Certified to UL and CSA standards

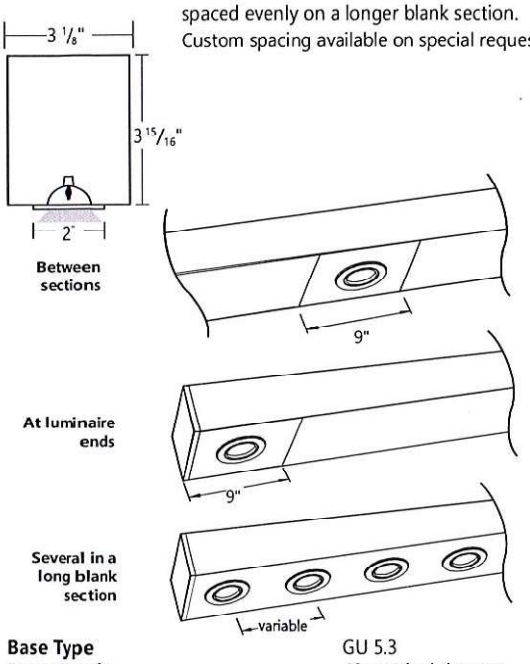
Meets NYC requirements

Meets ADA requirements.

Suitable for damp locations.

MR16 LED LAMPS

Blank	Extruded aluminum (0.075" nominal)
MR16 LED	Adjustable LED lamp (provided)
MR16 LEDB	Constant current LED lamp (provided)- Dimmable by control system for 0-10V & DALI only
Quantity	For every 4' section, there may be up to a maximum of 4 x MR16 LED lamps.
Spacing	Each MR16 is placed centered on a blank section 9" in length. Within a given section length, a series of downlights will be spaced evenly on a longer blank section. Custom spacing available on special request.



Base Type	GU 5.3
Beam Angle	40 nominal degrees
Input Watts	6W
Nominal Lumens	300 lumens
Efficacy	50 lumens per watt
Color Rendering Index (CRI)	85
Center Beam Candle Power (CBCP)	584 candelas
Life	25,000 hours at L_{70}
Correlated color temperature (CCT)	3000K, 4000K
Adjustability	15° tilt

More options are available upon request. Please consult factory.

WARRANTY

Limited 5-year warranty is available. Warranty is valid provided luminaires are installed and used according to specifications. For full terms and conditions, please consult warranty section at axislighting.com.

Product design and development is an ongoing process at Axis Lighting. We reserve the right to change specifications. Contact Axis for the latest product information.

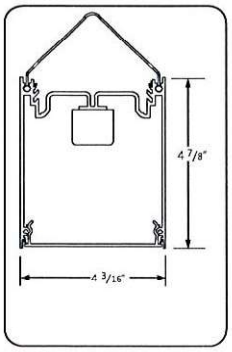
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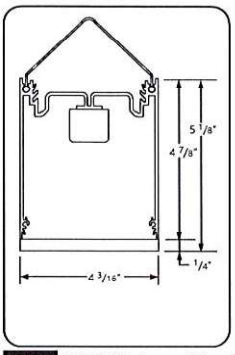
Submitted by United Lighting Alliance of Oklahoma			
ULA UNITED LIGHTING ALLIANCE OKLAHOMA	**Job Name:** Greenwood Cultural Center Facility Rehabilitation Architect: CJC Architecture (Tulsa) Engineer: HP Engineering (Broken Arrow)	**Catalog Number:** TB4DLED-1000-80-35-SO-4-(STD COLOR)-UNV-DP-1-CA144 Notes:	**Type:** B ULAOK25-104

Beam 4 | Pendant mount - Direct

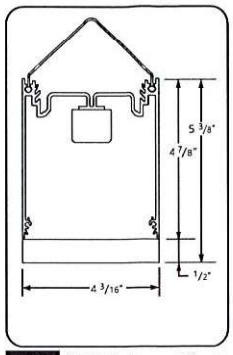
SECTION VIEWS



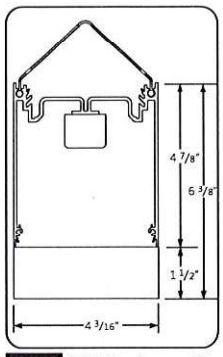
SO Spotless lens
ASO Asymm. lens
NW Narrow lens
GZ Graze lens
WW Wallwash lens
UB Ultra Bend lens
BW Batwing lens



0.25G 0.25" Glo lens - Direct



0.5G 0.5" Glo lens - Direct



1.5M 1.5" StepLens - Direct

Product design and development is an ongoing process at Axis Lighting. We reserve the right to change specifications. Contact Axis for the latest product information.

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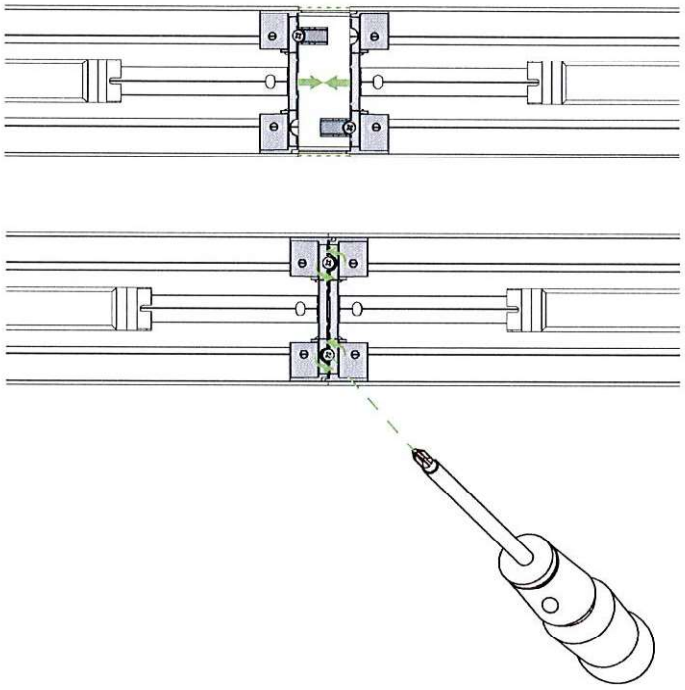
Beam 4 | Pendant mount - Direct

JOINERS

BEAM 4 luminaires feature the joining mechanism shown below. This mechanism joins and aligns multiple luminaires to create long continuous runs of light.

NOTE: Mount each system segment individually.

Do not assemble system prior to mounting



Submitted by United Lighting Alliance of Oklahoma			
ULA UNITED LIGHTING ALLIANCE OKLAHOMA	**Job Name:** Greenwood Cultural Center Facility Rehabilitation Architect: CJC Architecture (Tulsa) Engineer: HP Engineering (Broken Arrow)	**Catalog Number:** TB4DLED-1000-80-35-SO-4-(STD COLOR)-UNV-DP-1-CA144 Notes:	**Type:** B ULAOK25-104

Beam 4 | Pendant mount - Direct

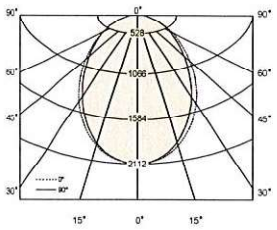
PHOTOMETRIC DATA

0.25G 0.25" Glo lens

1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1200 lm/ft
Total Lumens: 4800 lm (for 4ft)
Input Watts: 38.2 W
Efficacy: 126 lm/W
IES FILE: TB4DLED-1200-80-35-0.25G-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	2112	2112	2112	2112	2112
5	2102	2102	2102	2101	2099
15	1996	1994	1982	1967	1958
25	1787	1779	1747	1710	1693
35	1497	1483	1436	1382	1357
45	1165	1152	1101	1045	1020
55	833	825	786	742	724
65	529	530	512	488	478
75	274	285	291	289	287
85	84	101	121	133	136
90	12	32	54	69	74

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	198
10-20	552
20-30	789
30-40	875
40-50	823
50-60	677
60-70	483
70-80	287
80-90	116
90	

LUMINANCE DATA (cd/m²)

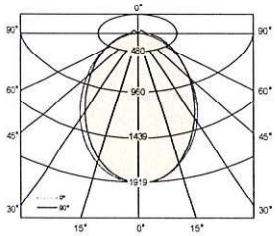
	Horizontal Angles		
Vertical Angle	0	45	90
45	13797	13039	12075
55	12164	11471	10562
65	10472	10139	9467
75	8862	9405	9281
85	8029	11617	13111

0.5G 0.5" Glo lens

1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1200 lm/ft
Total Lumens: 4799 lm (for 4ft)
Input Watts: 38 W
Efficacy: 126 lm/W
IES FILE: TB4DLED-1200-80-35-0.5G-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	1916	1916	1916	1916	1916
5	1908	1910	1910	1910	1911
15	1804	1809	1806	1799	1796
25	1606	1611	1600	1578	1568
35	1337	1344	1326	1300	1285
45	1037	1049	1036	1012	999
55	744	761	761	748	740
65	477	503	518	519	517
75	255	286	317	333	336
85	84	118	157	182	189
90	17	52	91	117	125
95	15	41	71	92	98
105	13	34	58	80	86
115	11	25	46	62	69
125	10	20	38	51	59

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	198
10-20	552
20-30	789
30-40	875
40-50	823
50-60	677
60-70	483
70-80	287
80-90	116
90	
90-100	71
100-110	58
110-120	44
120-130	33
130-140	
140-150	
150-160	
160-170	
170-180	38
180	

LUMINANCE DATA (cd/m²)

	Horizontal Angles		
Vertical Angle	0	45	90
45	12274	12268	11832
55	10855	11111	10796
65	9446	10252	10247
75	8246	10239	10868
85	8029	15113	18141

All IES files are available for download at: www.axislighting.com

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Beam 4 | Pendant mount - Direct

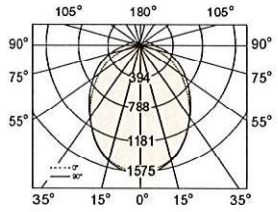
PHOTOMETRIC DATA

1.5M 1.5" Step lens

1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1200 lm/ft
Total Lumens: 4800 lm (for 4ft)
Input Watts: 37.1 W
Efficacy: 129 lm/W
IES FILE: TB4DLED-1200-80-35-1.5M-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	1575	1575	1575	1575	1575
5	1567	1566	1567	1569	1570
15	1482	1487	1495	1498	1497
25	1320	1332	1345	1344	1343
35	1104	1129	1147	1155	1155
45	869	906	940	955	960
55	638	687	734	764	773
65	422	481	541	583	597
75	236	298	368	415	430
85	86	153	227	274	287
90	31	98	170	216	229
95	28	88	151	190	200
105	23	77	131	166	174
115	19	61	104	131	142
125	15	49	90	113	124

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	149
10-20	417
20-30	609
30-40	702
40-50	702
50-60	630
60-70	506
70-80	358
80-90	219
90	
90-100	146
100-110	122
110-120	93
120-130	69
130-140	
140-150	
150-160	
160-170	
170-180	78
180	

LUMINANCE DATA (cd/m²)

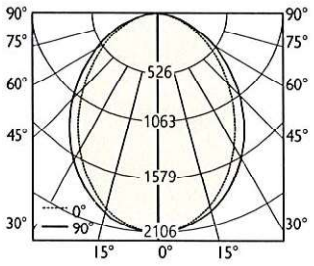
	Horizontal Angles		
Vertical Angle	0	45	90
45	10288	11130	11360
55	9312	10711	11286
65	8356	10716	11817
75	7628	11896	13893
85	8286	21778	27606

SO Spotless lens

1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1200 lm/ft
Total Lumens: 4800 lm (for 4ft)
Input Watts: 38.7 W
Efficacy: 124 lm/W
IES FILE: TB4DLED-1200-80-35-SO-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	2106	2106	2106	2106	2106
5	2096	2093	2091	2089	2088
15	1989	1983	1969	1953	1945
25	1781	1767	1737	1702	1686
35	1495	1478	1434	1386	1364
45	1171	1155	1108	1056	1033
55	845	833	793	748	730
65	542	536	509	478	465
75	283	283	272	258	252
85	84	85	84	80	79
90	6	7	7	7	7

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	198
10-20	551
20-30	791
30-40	884
40-50	838
50-60	692
60-70	488
70-80	275
80-90	84
90	

LUMINANCE DATA (cd/m²)

	Horizontal Angles		
Vertical Angle	0	45	90
45	13867	13117	12235
55	12338	11567	10649
65	10740	10085	9212
75	9146	8792	8142
85	8065	8042	7592

All IES files are available for download at: www.axislighting.com

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Submitted by United Lighting Alliance of Oklahoma			
ULA UNITED LIGHTING ALLIANCE OKLAHOMA	**Job Name:** Greenwood Cultural Center Facility Rehabilitation Architect: CJC Architecture (Tulsa) Engineer: HP Engineering (Broken Arrow)	**Catalog Number:** TB4DLED-1000-80-35-SO-4-(STD COLOR)-UNV-DP-1-CA144 Notes:	**Type:** B ULAOK25-104

Beam 4 | Pendant mount - Direct

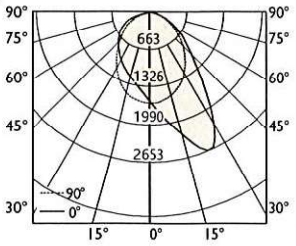
PHOTOMETRIC DATA

WW Wallwash lens

1000 lm/ft



PHOTOMETRIC CURVE



CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	1608	1608	1608	1608	1608
5	1599	1672	1738	1786	1783
15	1507	1737	1999	2212	2261
25	1324	1727	2250	2574	2638
35	1078	1582	2048	1830	1721
45	812	1256	1401	1089	1026
55	563	849	857	692	676
65	349	496	492	417	415
75	169	225	223	196	198
85	30	41	44	39	44
90	2	2	2	2	4

ZONAL LUMENS

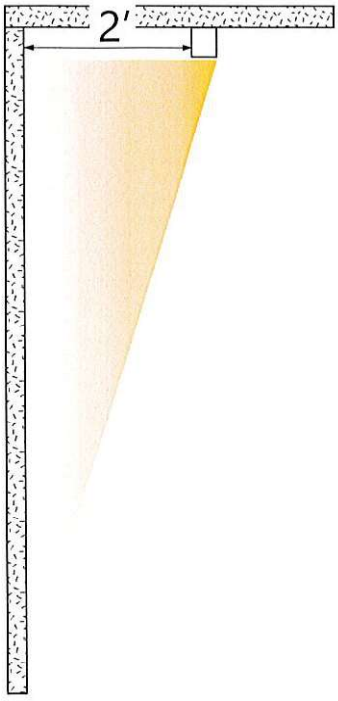
Zone	Lumens
0	
0-10	154
10-20	462
20-30	742
30-40	832
40-50	747
50-60	599
60-70	419
70-80	220
80-90	52
90	

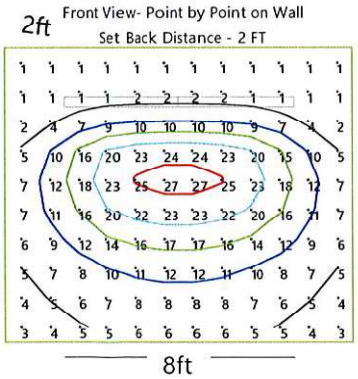
LUMINANCE DATA (cd/m²)

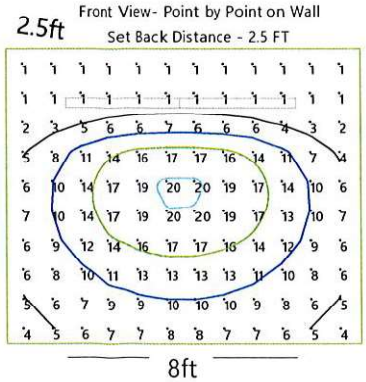
	Horizontal Angles		
Vertical Angle	0	45	90
45	9406	16231	11891
55	8037	12238	9662
65	6763	9532	8052
75	5338	7059	6258
85	2803	4134	4099

Lumen/ft: 1000 lm/ft
Total Lumens: 4227 lm (for 4ft)
Input Watts: 38 W
Efficacy: 111 lm/W
IES FILE: TB4DLED-1000-80-35-WW-4.IES

TESTED ACCORDING TO IES LM-79-2008







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8 / 11
September 4, 2025

FILE: NUTB4DLED_SPEC

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Beam 4 | Pendant mount - Direct

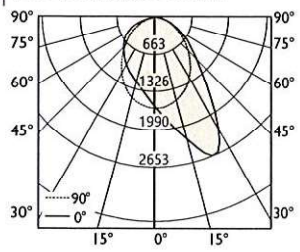
PHOTOMETRIC DATA

ASO Asy. Flush Lens

1000 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1000 lm/ft
Total Lumens: 4227 lm (for 4ft)
Input Watts: 38 W
Efficacy: 111 lm/W
IES FILE: TB4DLED-1000-80-35-ASO-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	1608	1608	1608	1608	1608
5	1599	1672	1738	1786	1783
15	1507	1737	1999	2212	2261
25	1324	1727	2250	2574	2638
35	1078	1582	2048	1830	1721
45	812	1256	1401	1089	1026
55	563	849	857	692	676
65	349	496	492	417	415
75	169	225	223	196	198
85	30	41	44	39	44
90	2	2	2	2	4

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	154
10-20	462
20-30	742
30-40	832
40-50	747
50-60	599
60-70	419
70-80	220
80-90	52
90	

LUMINANCE DATA (cd/m²)

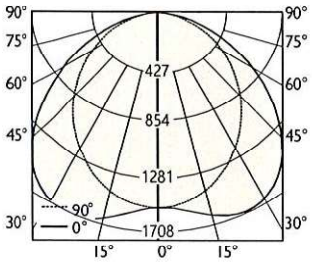
	Horizontal Angles		
Vertical Angle	0	45	90
45	9406	16231	11891
55	8037	12238	9662
65	6763	9532	8052
75	5338	7059	6258
85	2803	4134	4099

BW Batwing lens

1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1200 lm/ft
Total Lumens: 4800 lm (for 4ft)
Input Watts: 39.2 W
Efficacy: 122 lm/W
IES FILE: TB4DLED-1200-80-35-BW-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	1395	1395	1395	1395	1395
5	1388	1383	1388	1395	1399
15	1317	1333	1413	1493	1525
25	1183	1246	1435	1590	1642
35	1011	1117	1386	1566	1614
45	823	945	1240	1400	1430
55	627	736	1005	1117	1123
65	425	504	705	762	747
75	226	270	379	396	382
85	49	66	99	103	98
90	4	7	11	12	12

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	135
10-20	410
20-30	667
30-40	848
40-50	903
50-60	817
60-70	606
70-80	330
80-90	83
90	

LUMINANCE DATA (cd/m²)

	Horizontal Angles		
Vertical Angle	0	45	90
45	9742	14682	16931
55	9152	14668	16386
65	8413	13972	14806
75	7303	12259	12345
85	4741	9556	9394

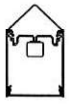
All IES files are available for download at: www.axislighting.com

Beam 4 | Pendant mount - Direct

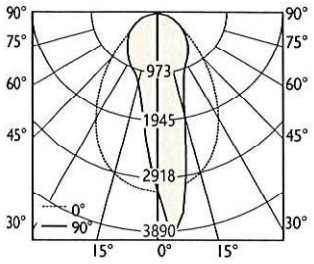
PHOTOMETRIC DATA

GZ Graze lens - FL

1000 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1000 lm/ft
Total Lumens: 4286 lm (for 4ft)
Input Watts: 37.6 W
Efficacy: 114 lm/W

IES FILE: TB4DLED-1000-80-35-GZ-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	3198	3198	3198	3198	3198
5	3160	3529	3781	3876	3890
15	2981	3569	2861	2211	1935
25	2553	2656	1559	1223	1149
35	1895	1742	1046	964	952
45	1220	1133	790	785	780
55	719	709	575	595	601
65	404	412	372	403	418
75	185	193	184	212	225
85	35	39	40	51	48
90	2	2	2	2	2

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	286
10-20	633
20-30	736
30-40	747
40-50	678
50-60	552
60-70	391
70-80	210
80-90	52
90	

LUMINANCE DATA (cd/m²)

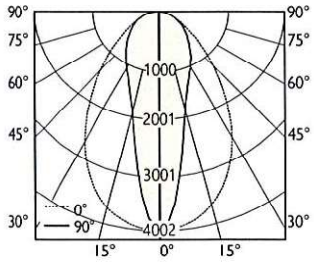
	Horizontal Angles		
Vertical Angle	0	45	90
45	14136	9150	9034
55	10274	8220	8582
65	7825	7207	8103
75	5871	5834	7129
85	3302	3798	4525

NW Narrow lens

1000 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1000 lm/ft
Total Lumens: 4260 lm (for 4ft)
Input Watts: 39.1 W
Efficacy: 109 lm/W

IES FILE: TB4DLED-1000-80-35-NW-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	4002	4002	4002	4002	4002
5	3960	3903	3669	3459	3261
15	3606	2962	2108	1737	1600
25	2877	1986	1334	1199	1171
35	1971	1339	1004	988	982
45	1200	914	766	783	789
55	682	596	548	584	602
65	376	357	350	390	412
75	173	172	174	203	215
85	34	36	38	49	48
90	2	2	2	2	2

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	317
10-20	645
20-30	744
30-40	746
40-50	663
50-60	529
60-70	369
70-80	197
80-90	49
90	

LUMINANCE DATA (cd/m²)

	Horizontal Angles		
Vertical Angle	0	45	90
45	13901	8881	9137
55	9736	7827	8605
65	7293	6782	7978
75	5491	5509	6797
85	3166	3617	4467

All IES files are available for download at: www.axislighting.com

Product design and development is an ongoing process at Axis Lighting. We reserve the right to change specifications. Contact Axis for the latest product information.

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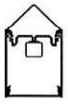
Submitted by United Lighting Alliance of Oklahoma			
ULA UNITED LIGHTING ALLIANCE OKLAHOMA	**Job Name:** Greenwood Cultural Center Facility Rehabilitation Architect: CJC Architecture (Tulsa) Engineer: HP Engineering (Broken Arrow)	**Catalog Number:** TB4DLED-1000-80-35-SO-4-(STD COLOR)-UNV-DP-1-CA144 Notes:	**Type:** B ULAOK25-104

Beam 4 | Pendant mount - Direct

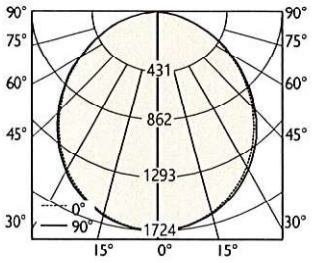
PHOTOMETRIC DATA

UB Ultra blend lens

1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1200 lm/ft
Total Lumens: 4800 lm (for 4ft)
Input Watts: 41.5 W
Efficacy: 116 lm/W

IES FILE: TB4DLED-1200-80-35-UB-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	1724	1724	1724	1724	1724
5	1718	1719	1721	1721	1721
15	1651	1655	1659	1659	1659
25	1522	1528	1532	1532	1530
35	1338	1346	1350	1349	1347
45	1116	1125	1128	1125	1123
55	864	874	877	874	872
65	594	604	609	608	606
75	327	338	345	346	346
85	102	109	115	116	116
90	9	13	16	15	15

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	163
10-20	464
20-30	695
30-40	827
40-50	846
50-60	754
60-70	569
70-80	335
80-90	105
90	

LUMINANCE DATA (cd/m²)

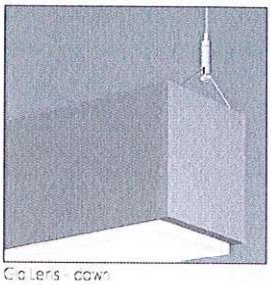
	Horizontal Angles		
Vertical Angle	0	45	90
45	13211	13360	13290
55	12607	12803	12720
65	11766	12064	12006
75	10583	11168	11183
85	9829	11021	11133

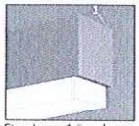
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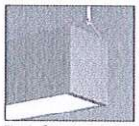
Submitted by United Lighting Alliance of Oklahoma			
ULA UNITED LIGHTING ALLIANCE OKLAHOMA	**Job Name:** Greenwood Cultural Center Facility Rehabilitation Architect: CJC Architecture (Tulsa) Engineer: HP Engineering (Broken Arrow)	**Catalog Number:** TB4DLED-1000-80-35-SO-4-(STD COLOR)-UNV-DP-1-CA144-B1 Notes:	**Type:** BE ULAOK25-104

Beam 4 | Pendant mount - Direct



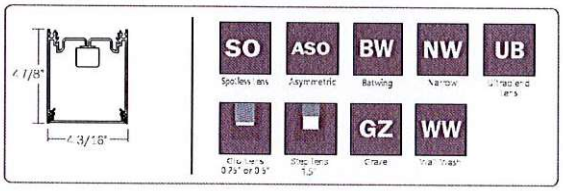


StepLens 1.5" down



Glo Lens - down

Flush Spotless lens - down



Project _____

Type _____

Notes _____

PERFORMANCE PER LINEAR FOOT AT 3500K

NOMINAL LUMEN OUTPUT	INPUT WATTS*	EFFICACY	SHIELDING
1200 lm/ft	9.6 W/ft	126 lm/W	0.25G
1200 lm/ft	9.5 W/ft	126 lm/W	0.5G
1200 lm/ft	9.3 W/ft	129 lm/W	1.5M
1200 lm/ft	9.7 W/ft	124 lm/W	SO
1000 lm/ft	9.5W/ft	111 lm/W	WW
1000 lm/ft	9.5W/ft	111 lm/W	ASO
1200 lm/ft	9.8 W/ft	122 lm/W	BW
1000 lm/ft	9.4 W/ft	144 lm/W	GZ
1000 lm/ft	9.8 W/ft	109 lm/W	NW
1200 lm/ft	10.4 W/ft	116 lm/W	UB

Please consult factory for custom lumen output and wattage.

DLC LISTED * Check the latest update on the DLC website for complete information. Not all versions may be DLC qualified. See page 2 for DLC Approved options

Axitune Tunable White

PoE

bios

c UL us Listed

CONTROL SURROUND

Ordering Guide

TB4DLED

PRODUCT ID		NOM. LUM/FT DOWN		CRI		COLOR TEMP. (choose one)				SHIELDING	
TB4DLED	BEAM4 - Pendant Direct LED	400	400 lm/ft - Minimum	80	80 CRI	27	2700 K	TW2750	2700-5000 K - Tunable White	SO	spotless lens
		1000	1000 lm/ft - max for GZ, NW, WW, ASO.*	90	90 CRI*	30	3000 K	TW2765	2700-6500 K - Tunable White	ASO	asymmetric, flush only
		1200	1200 lm/ft - Maximum			35	3500 K	BTW3527	3500-2700 K - Tunable BIOS	0.25G	0.25" Glo lens
						40	4000 K	BTW4027	4000-2700 K - Tunable BIOS	0.5G	0.5" Glo lens
						B30	3000 K - BIOS*			1.5M	StepLens , lum. end cap
						B35	3500 K - BIOS*			UB	Ultra blend lens*
						B40	4000 K - BIOS*			BW	batwing, flush only
										NW	narrow, flush only
										GZ	graze, flush only
										WW	wallwash, flush only
		Outputs between listed min and max are available. * 1000 lm/ft max. only for GZ, NW, WW and ASO. Consult factory for outputs outside of the listed range. Consult factory for max output with BIOS		* Not available with BIOS.		Consult Axitune technical sheet for more information on color technology. *Consult BIOS guide for more information on BIOS technology				Choose only one of the options above; SurroundLite not available with direct * Default lens for Tunable white and BIOS. Consult factory for other lens.	

LENGTH (FT)		MR (OPTIONAL)		FINISH		VOLTAGE		DRIVER	
2	2'	M16LED(#)	MR16 LED lamp - Line voltage (by other)*	AP	aluminum paint	120	120 V	DP	dimming (0-10V) 1%
3	3'	M16LEDB(#)	MR16 LED lamp - Dimmable (provided)**	W	white	277	277 V	LT(#)	Lutron*
4	4'			BLK	black	347	347 V	BI	bi-level dimming
5	5'			C	custom	UNV	universal	O(#)	other**
8	8'					DC	low voltage*	DPB(STC)	dimming (0-10V) 1% with BIOS*
12	12'							DPB(DYN)	Bio-dimming™ 100%-81% with BIOS*
S(L)	System Run							TW(#)	tunable white drivers*
								POE(#)	POE drivers*
		*Specify quantity; Available with 120V or 277V only; Line wattage only; Seperate circuits included. **Consult factory; See page 3 for more details; Available with UNV, 120V or 277V only; MR16 constant current for 0-10V & DALI only. Available in 3000K or 4000K. Available in luminaires with Axitune and BIOS but downlight will not be tunable white or BIOS LEDs				* Only available with POE drivers.		*See page 2 to specify system **Please consult factory; see page 2 Consult factory for other control options.	

CIRCUITS		MOUNTING/SUSPENSION		BATTERY (OPT.)		IC CONTROLS (OPT.)		CUSTOM (OPT.)	
1	1 circuit	CA(#)	drywall+cable length (36" std.)	B(#)	battery pack (integral)	DS(#)	daylight sensor	C	custom
2	2 circuits	CT9(#)	TB/TG 9/16+cable length (36" std.)			OS(#)	occupancy sensor		
+E(#)	emergency circuit*	CT15(#)	TB/TG15/16+cable length (36" std.)			DOS(#)	daylight & occupancy sensor		
+NL(#)	night light circuit*	CTS(#)	screw slot+cable length (36" std.)			WC(#)	wireless control dimming		
+GTD(#)	generator transfer device*	SA(#)	drywall+stem length >48" (18" std.)						
+M	MR	CASL(#)	drywall cable sloped ceiling						
		SASL(#)	drywall stem sloped ceiling						
		+SM	seismic kit						
*Specify quantity		See Mounting kit guide for full specification code. White canopy standard 144"		Minimum 4ft; Not available with 347V Please consult factory		Specify quantity. Requires 8" blank. See integrated controls guide for more details. Consult factory for Tunable White. Not available with DPB (DYN) driver for BIOS with Dynamic Spectrum.		Please specify	

Product design and development is an ongoing process at Axis Lighting. We reserve the right to change specifications. Contact Axis for the latest product information.

1 / 11

September 4, 2025

FILE NAME:TB4DLED.SLDPRT

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T. 214.630.2272
axislighting.com

Beam 4 | Pendant mount - Direct

CONSTRUCTION

Housing	Extruded aluminum (0.075" nominal) Up to 70% recycled content
End Cap	Cast aluminum
Interior Brackets	Die formed sheet steel (20 gauge)
Reflectors	White powder coated sheet steel (22 gauge)
Lenses	Extruded acrylic (0.070" nominal)
Hanger	Die cast aluminum
Suspension	Sliding aircraft cable along product length

ELECTRICAL

Lutron driver	**LDE1** - Hi-lume 1% EcoSystem with Soft-on, Fade-to-Black
Other drivers**	**DALI** - Digital Addressable Lighting Interface **DMX** - Digital Multiplex **Xitanium SR** - For wireless sensor
BIOS DPB drivers*	**STC** - BIOS control 0-10V with static spectrum and BIOS SkyBlue enabled from 100% to 1%. **DYN** - BIOS control 0-10V with dynamic spectrum and BIOS SkyBlue® with Bio-Dimming™, which changes spectral qualities by removing the SkyBlue component when dimming from 100% to 81%, while light output remains relatively constant; bio-dimming reduces CCT to 2700K. Dimming from 80% to 1% will then reduce light output.
Tunable White TW drivers*	**DALIDT6** - DALI Type 6 (Two DALI Addresses) **DALIDT8** - DALI Type 8 (One DALI Address) **DPTW** - two channel 0-10V dimming: one channel for brightness, one channel for CCT. **LDTW** - Lutron DALI Type 8 (One DALI adress) Tunable White series
Power over Ethernet POE drivers* UL2108 certified for integral or remote driver	MOLEX IGOR SMARTENGINE **O** - Other (Consult factory)
Emergency	Integral emergency battery pack or emergency circuit optional.
Input Voltage	120V, 277V, 347V, UNV, DC.
Flex Whip	Shipped in a separate box for contractors to install

*Choose driver from available options.

ℹ Incorporating these components may have limitations or affect the length of the luminaire. Please contact factory for more details.

SYSTEM (S#)

BEAM 4 linear systems, with the use of a strong profile, allow for a nearly hair thin connection system of continuous runs.
Lengths of 4', 8', 12' as well as custom lengths are available.
Runs of BEAM 4 that are greater than 12' in length are designated as systems (S#). This means that the run is comprised of a combination of 4', 8' and/or 12' sections to be assembled on site using our joining system. System runs with SurroundLite available in 1' increments only. For more information on systems and joining, please refer to the BEAM installation sheets available for download at www.axislighting.com.

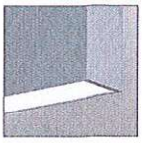
DLC Approved Options

DLC LISTED

* Check the latest update on the DLC website for complete information. Not all versions may be DLC qualified.

OUTPUT / DN	CRI	COLOR TEMP.	SHIELDING	LENGTH	FINISH	VOLTAGE	DRIVER
400 lm/ft	80	3000 K	SO	4'	all	universal	DP
600 lm/ft	90	3500 K		8'			
800 lm/ft		4000 K		12'			
1000 lm/ft							

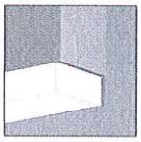
OPTICS



SO Spotless lens
UB Ultra Blend Lens



0.25G Glo lens
0.5G Glo lens



1.5M 1.5" StepLens

ULTRA BLEND LENS
Frosted acrylic snap-in micro lens suitable for Tunable White and BIOS applications.

SPOTLESS LENS
Frosted acrylic snap-in micro lens. Used for SO, ASO, BW, NW, GZ and WW shielding options.

GLO LENS
0.25" or 0.5" frosted acrylic drop lens. Patented design.

STEPLENS
1.5" StepLens illuminated end cap.

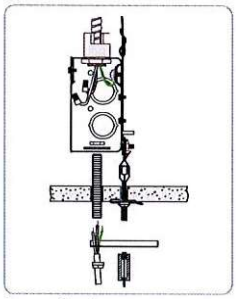
LED SYSTEM

CRI	Minimum 80 or 90 color rendering index.
CRI BIOS	Minimum 80 color rendering index with R9>75 for all CCTs.
CCT Single Color	Choice of 2700K, 3000K, 3500K and 4000K color temperature with a great color consistency (within 3-step MacAdam ellipse). Both within fixture and fixture to fixture.
CCT BIOS	BIOS Static (STC) Choice of 3000K, 3500K and 4000K. BIOS SkyBlue® Dynamic (DYN) Choice of 3000K, 3500K, and 4000K with Bio-Dimming™ BIOS Tunable White (BTW) Choice of 4000-2700K and 3500-2700K; does not use a bio-dimmer, it uses TW drivers, which allow independent control of CCT and intensity; e.g., BTW4027 provides combined SkyBlue + white light at 4000K, SkyBlue is removed at 2700K. Light output can be adjusted for each CCT. Consult BIOS guide for more information on BIOS technology.
CCT Axitune Systems	Consult Axitune technical sheet for more information on color technology.
LED life	Minimum 50,000h with 85% of lumen maintenance in 25°C ambient temperature, in compliance with IES LM-80 testing measurements.
Thermal Management	Aluminum housing acting as the heat sink to maximize life.
Environment	Dry and damp rated for indoor use only in operating ambient temperatures of 0-40°C (32-104F).

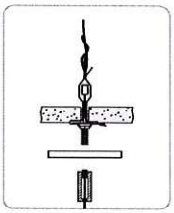
Beam 4 | Pendant mount - Direct

MOUNTING OPTIONS

CT TILE CEILING - ON GRID

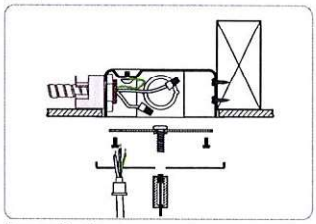


Power feed

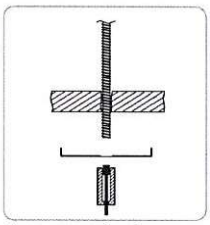


Non power feed

CA DRYWALL CEILING

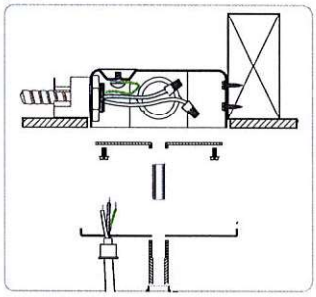


Power feed

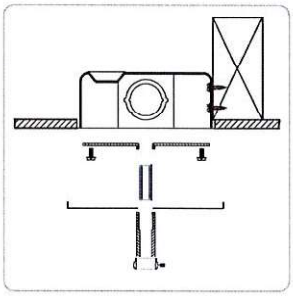


Non power feed

SA STEM MOUNT IN DRYWALL CEILING



Power feed



Non power feed

OTHER MOUNTING OPTIONS

BEAM 4 is also available with wall mounted option.

Specification sheets and installation sheets for all mountings for BEAM 4 luminaires are available for download at www.axislighting.com

FINISH

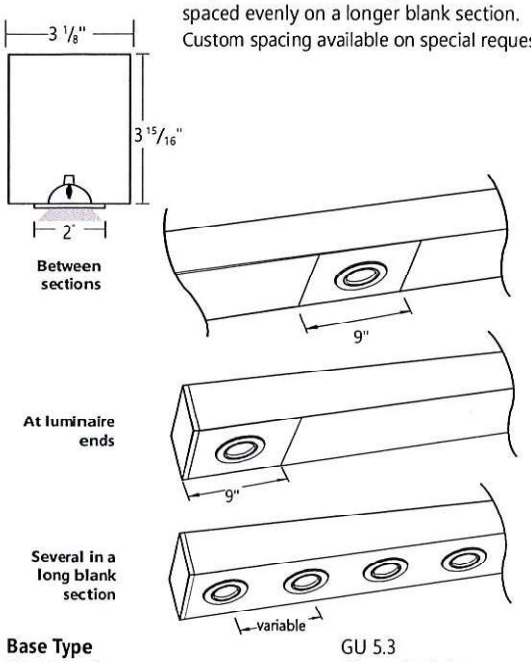
Aluminium paint, powder coated and custom finishes are also available.

APPROVALS

Certified to UL and CSA standards
Meets NYC requirements
Meets ADA requirements.
Suitable for damp locations.

MR16 LED LAMPS

Blank	Extruded aluminum (0.075" nominal)
MR16 LED	Adjustable LED lamp (provided)
MR16 LEDB	Constant current LED lamp (provided)- Dimmable by control system for 0-10V & DALI only
Quantity	For every 4' section, there may be up to a maximum of 4 x MR16 LED lamps.
Spacing	Each MR16 is placed centered on a blank section 9" in length. Within a given section length, a series of downlights will be spaced evenly on a longer blank section. Custom spacing available on special request.



Base Type	GU 5.3
Beam Angle	40 nominal degrees
Input Watts	6W
Nominal Lumens	300 lumens
Efficacy	50 lumens per watt
Color Rendering Index (CRI)	85
Center Beam Candle Power (CBCP)	584 candelas
Life	25,000 hours at L_{70}
Correlated color temperature (CCT)	3000K, 4000K
Adjustability	15° tilt

More options are available upon request. Please consult factory.

WARRANTY

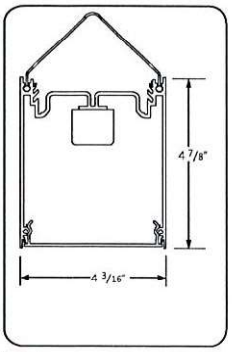
Limited 5-year warranty is available. Warranty is valid provided luminaires are installed and used according to specifications. For full terms and conditions, please consult warranty section at axislighting.com.

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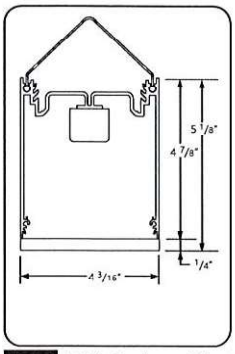
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Beam 4 | Pendant mount - Direct

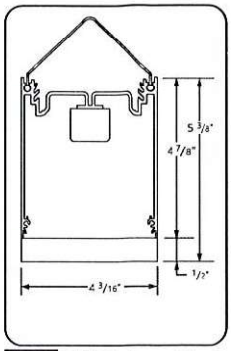
SECTION VIEWS



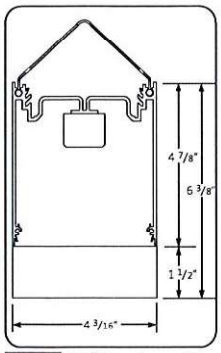
SO Spotless lens
ASO Asymm. lens
NW Narrow lens
GZ Graze lens
WW Wallwash lens
UB Ultra Bend lens
BW Batwing lens



0.25G 0.25" Glo lens - Direct



0.5G 0.5" Glo lens - Direct



1.5M 1.5" StepLens - Direct

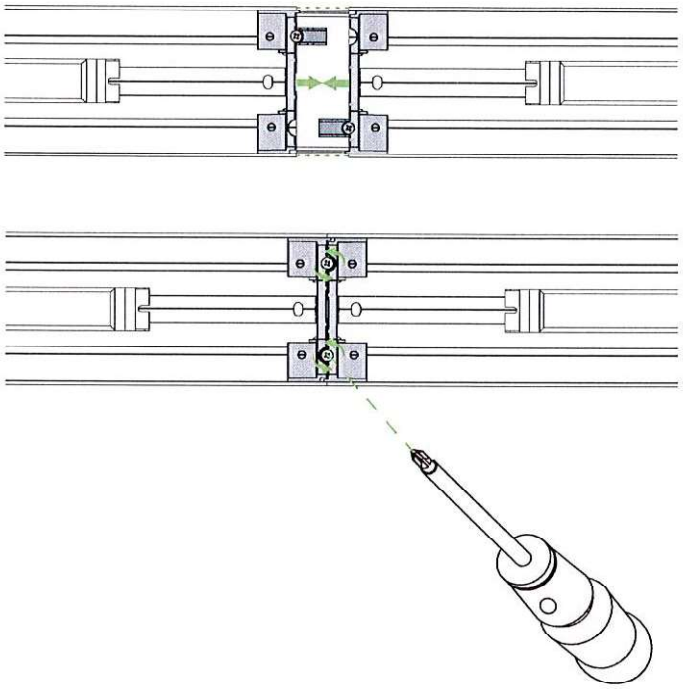
Beam 4 | Pendant mount - Direct

JOINERS

BEAM 4 luminaires feature the joining mechanism shown below. This mechanism joins and aligns multiple luminaires to create long continuous runs of light.

NOTE: Mount each system segment individually.

Do not assemble system prior to mounting



Beam 4 | Pendant mount - Direct

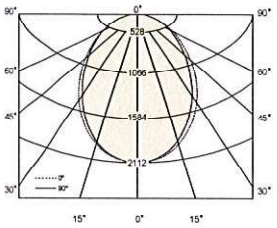
PHOTOMETRIC DATA

0.25G 0.25" Glo lens

1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1200 lm/ft
Total Lumens: 4800 lm (for 4ft)
Input Watts: 38.2 W
Efficacy: 126 lm/W
IES FILE: TB4DLED-1200-80-35-0.25G-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	2112	2112	2112	2112	2112
5	2102	2102	2102	2101	2099
15	1996	1994	1982	1967	1958
25	1787	1779	1747	1710	1693
35	1497	1483	1436	1382	1357
45	1165	1152	1101	1045	1020
55	833	825	786	742	724
65	529	530	512	488	478
75	274	285	291	289	287
85	84	101	121	133	136
90	12	32	54	69	74

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	198
10-20	552
20-30	789
30-40	875
40-50	823
50-60	677
60-70	483
70-80	287
80-90	116
90	

LUMINANCE DATA (cd/m²)

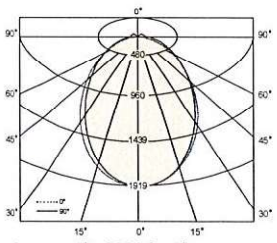
	Horizontal Angles		
Vertical Angle	0	45	90
45	13797	13039	12075
55	12164	11471	10562
65	10472	10139	9467
75	8862	9405	9281
85	8029	11617	13111

0.5G 0.5" Glo lens

1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1200 lm/ft
Total Lumens: 4799 lm (for 4ft)
Input Watts: 38 W
Efficacy: 126 lm/W
IES FILE: TB4DLED-1200-80-35-0.5G-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	1916	1916	1916	1916	1916
5	1908	1910	1910	1910	1911
15	1804	1809	1806	1799	1796
25	1606	1611	1600	1578	1568
35	1337	1344	1326	1300	1285
45	1037	1049	1036	1012	999
55	744	761	761	748	740
65	477	503	518	519	517
75	255	286	317	333	336
85	84	118	157	182	189
90	17	52	91	117	125
95	15	41	71	92	98
105	13	34	58	80	86
115	11	25	46	62	69
125	10	20	38	51	59

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	198
10-20	552
20-30	789
30-40	875
40-50	823
50-60	677
60-70	483
70-80	287
80-90	116
90	
90-100	71
100-110	58
110-120	44
120-130	33
130-140	
140-150	
150-160	
160-170	
170-180	38
180	

LUMINANCE DATA (cd/m²)

	Horizontal Angles		
Vertical Angle	0	45	90
45	12274	12268	11832
55	10855	11111	10796
65	9446	10252	10247
75	8246	10239	10868
85	8029	15113	18141

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FILE NAME IS DELETED

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Submitted by United Lighting Alliance of Oklahoma			
ULA UNITED LIGHTING ALLIANCE OKLAHOMA	**Job Name:** Greenwood Cultural Center Facility Rehabilitation Architect: CJC Architecture (Tulsa) Engineer: HP Engineering (Broken Arrow)	**Catalog Number:** TB4DLED-1000-80-35-SO-4-(STD COLOR)-UNV-DP-1-CA144-B1 Notes:	**Type:** BE ULAOK25-104

Beam 4 | Pendant mount - Direct

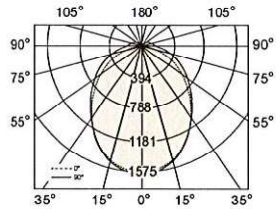
PHOTOMETRIC DATA

1.5M 1.5" Step lens

1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1200 lm/ft
Total Lumens: 4800 lm (for 4ft)
Input Watts: 37.1 W
Efficacy: 129 lm/W
IES FILE: TB4DLED-1200-80-35-1.5M-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	1575	1575	1575	1575	1575
5	1567	1566	1567	1569	1570
15	1482	1487	1495	1498	1497
25	1320	1332	1345	1344	1343
35	1104	1129	1147	1155	1155
45	869	906	940	955	960
55	638	687	734	764	773
65	422	481	541	583	597
75	236	298	368	415	430
85	86	153	227	274	287
90	31	98	170	216	229
95	28	88	151	190	200
105	23	77	131	166	174
115	19	61	104	131	142
125	15	49	90	113	124

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	149
10-20	417
20-30	609
30-40	702
40-50	702
50-60	630
60-70	506
70-80	358
80-90	219
90	
90-100	146
100-110	122
110-120	93
120-130	69
130-140	
140-150	
150-160	
160-170	
170-180	78
180	

LUMINANCE DATA (cd/m²)

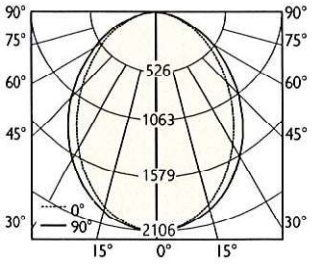
	Horizontal Angles		
Vertical Angle	0	45	90
45	10288	11130	11360
55	9312	10711	11286
65	8356	10716	11817
75	7628	11896	13893
85	8286	21778	27606

SO Spotless lens

1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1200 lm/ft
Total Lumens: 4800 lm (for 4ft)
Input Watts: 38.7 W
Efficacy: 124 lm/W
IES FILE: TB4DLED-1200-80-35-SO-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	2106	2106	2106	2106	2106
5	2096	2093	2091	2089	2088
15	1989	1983	1969	1953	1945
25	1781	1767	1737	1702	1686
35	1495	1478	1434	1386	1364
45	1171	1155	1108	1056	1033
55	845	833	793	748	730
65	542	536	509	478	465
75	283	283	272	258	252
85	84	85	84	80	79
90	6	7	7	7	7

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	198
10-20	551
20-30	791
30-40	884
40-50	838
50-60	692
60-70	488
70-80	275
80-90	84
90	

LUMINANCE DATA (cd/m²)

	Horizontal Angles		
Vertical Angle	0	45	90
45	13867	13117	12235
55	12338	11567	10649
65	10740	10085	9212
75	9146	8792	8142
85	8065	8042	7592

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Submitted by United Lighting Alliance of Oklahoma			
ULA UNITED LIGHTING ALLIANCE OKLAHOMA	**Job Name:** Greenwood Cultural Center Facility Rehabilitation Architect: CJC Architecture (Tulsa) Engineer: HP Engineering (Broken Arrow)	**Catalog Number:** TB4DLED-1000-80-35-SO-4-(STD COLOR)-UNV-DP-1-CA144-B1 Notes:	**Type:** BE ULAOK25-104

Beam 4 | Pendant mount - Direct

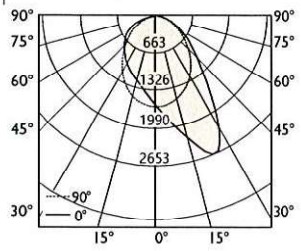
PHOTOMETRIC DATA

WW Wallwash lens

1000 lm/ft



PHOTOMETRIC CURVE



CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	1608	1608	1608	1608	1608
5	1599	1672	1738	1786	1783
15	1507	1737	1999	2212	2261
25	1324	1727	2250	2574	2638
35	1078	1582	2048	1830	1721
45	812	1256	1401	1089	1026
55	563	849	857	692	676
65	349	496	492	417	415
75	169	225	223	196	198
85	30	41	44	39	44
90	2	2	2	2	4

ZONAL LUMENS

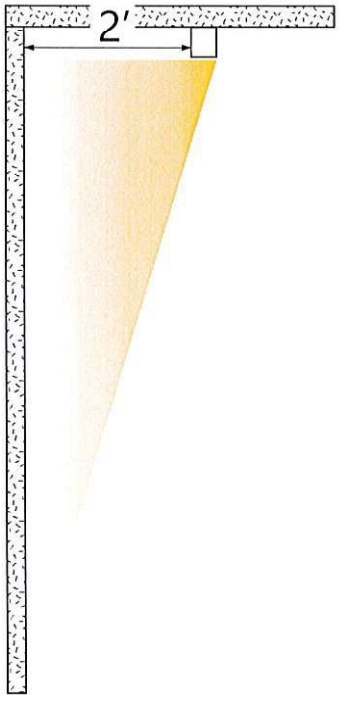
	Lumens
Zone	
0	
0-10	154
10-20	462
20-30	742
30-40	832
40-50	747
50-60	599
60-70	419
70-80	220
80-90	52
90	

LUMINANCE DATA (cd/m²)

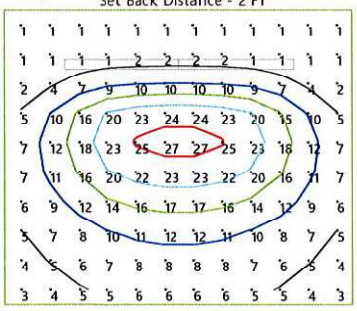
	Horizontal Angles		
Vertical Angle	0	45	90
45	9406	16231	11891
55	8037	12238	9662
65	6763	9532	8052
75	5338	7059	6258
85	2803	4134	4099

Lumen/ft: 1000 lm/ft
Total Lumens: 4227 lm (for 4ft)
Input Watts: 38 W
Efficacy: 111 lm/W
IES FILE: TB4DLED-1000-80-35-WW-4.IES

TESTED ACCORDING TO IES LM-79-2008

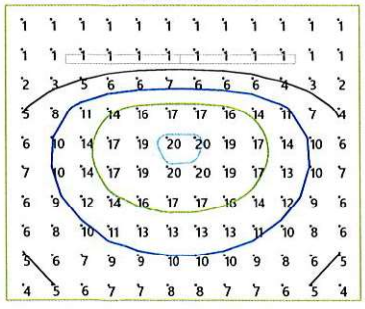


2ft Front View- Point by Point on Wall
Set Back Distance - 2 FT



8ft

2.5ft Front View- Point by Point on Wall
Set Back Distance - 2.5 FT



8ft

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8 / 11
September 4, 2025

FILENAME: TB4DLED-SPEC

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Submitted by United Lighting Alliance of Oklahoma			
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Beam 4 | Pendant mount - Direct

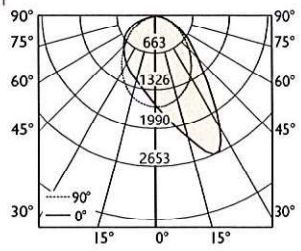
PHOTOMETRIC DATA

ASO Asy. Flush Lens

1000 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1000 lm/ft
Total Lumens: 4227 lm (for 4ft)
Input Watts: 38 W
Efficacy: 111 lm/W
IES FILE: TB4DLED-1000-80-35-ASO-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	1608	1608	1608	1608	1608
5	1599	1672	1738	1786	1783
15	1507	1737	1999	2212	2261
25	1324	1727	2250	2574	2638
35	1078	1582	2048	1830	1721
45	812	1256	1401	1089	1026
55	563	849	857	692	676
65	349	496	492	417	415
75	169	225	223	196	198
85	30	41	44	39	44
90	2	2	2	2	4

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	154
10-20	462
20-30	742
30-40	832
40-50	747
50-60	599
60-70	419
70-80	220
80-90	52
90	

LUMINANCE DATA (cd/m²)

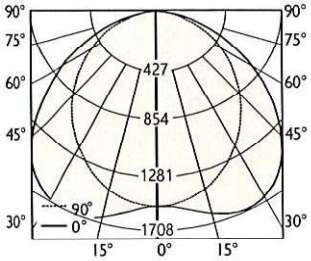
	Horizontal Angles		
Vertical Angle	0	45	90
45	9406	16231	11891
55	8037	12238	9662
65	6763	9532	8052
75	5338	7059	6258
85	2803	4134	4099

BW Batwing lens

1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1200 lm/ft
Total Lumens: 4800 lm (for 4ft)
Input Watts: 39.2 W
Efficacy: 122 lm/W
IES FILE: TB4DLED-1200-80-35-BW-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	1395	1395	1395	1395	1395
5	1388	1383	1388	1395	1399
15	1317	1333	1413	1493	1525
25	1183	1246	1435	1590	1642
35	1011	1117	1386	1566	1614
45	823	945	1240	1400	1430
55	627	736	1005	1117	1123
65	425	504	705	762	747
75	226	270	379	396	382
85	49	66	99	103	98
90	4	7	11	12	12

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	135
10-20	410
20-30	667
30-40	848
40-50	903
50-60	817
60-70	606
70-80	330
80-90	83
90	

LUMINANCE DATA (cd/m²)

	Horizontal Angles		
Vertical Angle	0	45	90
45	9742	14682	16931
55	9152	14668	16386
65	8413	13972	14806
75	7303	12259	12345
85	4741	9556	9394

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Submitted by United Lighting Alliance of Oklahoma			
ULA UNITED LIGHTING ALLIANCE OKLAHOMA	**Job Name:** Greenwood Cultural Center Facility Rehabilitation Architect: CJC Architecture (Tulsa) Engineer: HP Engineering (Broken Arrow)	**Catalog Number:** TB4DLED-1000-80-35-SO-4-(STD COLOR)-UNV-DP-1-CA144-B1 Notes:	**Type:** BE ULAOK25-104

Beam 4 | Pendant mount - Direct

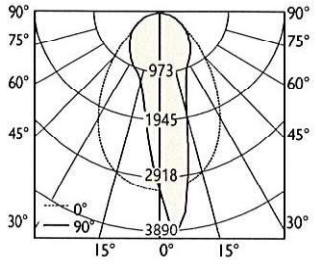
PHOTOMETRIC DATA

GZ Graze lens - FL

1000 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1000 lm/ft
Total Lumens: 4286 lm (for 4ft)
Input Watts: 37.6 W
Efficacy: 114 lm/W

IES FILE: TB4DLED-1000-80-35-GZ-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	3198	3198	3198	3198	3198
5	3160	3529	3781	3876	3890
15	2981	3569	2861	2211	1935
25	2553	2656	1559	1223	1149
35	1895	1742	1046	964	952
45	1220	1133	790	785	780
55	719	709	575	595	601
65	404	412	372	403	418
75	185	193	184	212	225
85	35	39	40	51	48
90	2	2	2	2	2

ZONAL LUMENS

Zone	Lumens
0	
0-10	286
10-20	633
20-30	736
30-40	747
40-50	678
50-60	552
60-70	391
70-80	210
80-90	52
90	

LUMINANCE DATA (cd/m²)

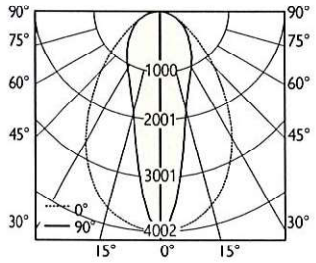
	Horizontal Angles		
Vertical Angle	0	45	90
45	14136	9150	9034
55	10274	8220	8582
65	7825	7207	8103
75	5871	5834	7129
85	3302	3798	4525

NW Narrow lens

1000 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1000 lm/ft
Total Lumens: 4260 lm (for 4ft)
Input Watts: 39.1 W
Efficacy: 109 lm/W

IES FILE: TB4DLED-1000-80-35-NW-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	4002	4002	4002	4002	4002
5	3960	3903	3669	3459	3261
15	3606	2962	2108	1737	1600
25	2877	1986	1334	1199	1171
35	1971	1339	1004	988	982
45	1200	914	766	783	789
55	682	596	548	584	602
65	376	357	350	390	412
75	173	172	174	203	215
85	34	36	38	49	48
90	2	2	2	2	2

ZONAL LUMENS

Zone	Lumens
0	
0-10	317
10-20	645
20-30	744
30-40	746
40-50	663
50-60	529
60-70	369
70-80	197
80-90	49
90	

LUMINANCE DATA (cd/m²)

	Horizontal Angles		
Vertical Angle	0	45	90
45	13901	8881	9137
55	9736	7827	8605
65	7293	6782	7978
75	5491	5509	6797
85	3166	3617	4467

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Submitted by United Lighting Alliance of Oklahoma			
ULA UNITED LIGHTING ALLIANCE OKLAHOMA	**Job Name:** Greenwood Cultural Center Facility Rehabilitation Architect: CJC Architecture (Tulsa) Engineer: HP Engineering (Broken Arrow)	**Catalog Number:** TB4DLED-1000-80-35-SO-4-(STD COLOR)-UNV-DP-1-CA144-B1 Notes:	**Type:** BE ULAOK25-104

Beam 4 | Pendant mount - Direct

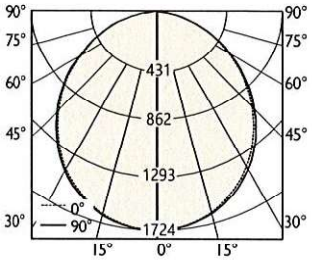
PHOTOMETRIC DATA

UB Ultra blend lens

1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft: 1200 lm/ft
Total Lumens: 4800 lm (for 4ft)
Input Watts: 41.5 W
Efficacy: 116 lm/W

IES FILE: TB4DLED-1200-80-35-UB-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	1724	1724	1724	1724	1724
5	1718	1719	1721	1721	1721
15	1651	1655	1659	1659	1659
25	1522	1528	1532	1532	1530
35	1338	1346	1350	1349	1347
45	1116	1125	1128	1125	1123
55	864	874	877	874	872
65	594	604	609	608	606
75	327	338	345	346	346
85	102	109	115	116	116
90	9	13	16	15	15

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	163
10-20	464
20-30	695
30-40	827
40-50	846
50-60	754
60-70	569
70-80	335
80-90	105
90	

LUMINANCE DATA (cd/m²)

	Horizontal Angles		
Vertical Angle	0	45	90
45	13211	13360	13290
55	12607	12803	12720
65	11766	12064	12006
75	10583	11168	11183
85	9829	11021	11133

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Submitted by United Lighting Alliance of Oklahoma

ULA UNITED LIGHTING ALLIANCE OKLAHOMA

Job Name:
Greenwood Cultural Center Facility Rehabilitation
Architect: CJC Architecture (Tulsa)
Engineer: HP Engineering (Broken Arrow)

Catalog Number:
LADM-TILT-A-120-L30-35K-CR80-M-RD-WH-DAMC-NC-NA
Notes:

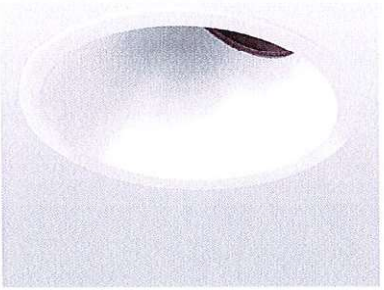
Type:
C
ULAOK25-104

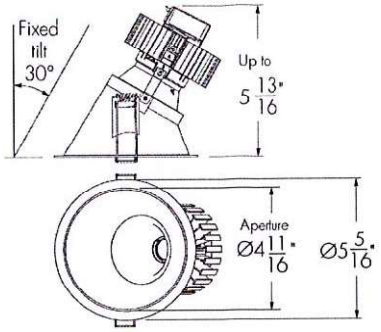
Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

Project Name _____ **Qty** _____

Type _____ **Catalog / Part Number** _____





Side view

Ceiling cutout: Ø 4 13/16"
Maximum ceiling thickness: 1"

Bottom view

Photometric Summary

Based on Narrow Optic (nominal 25°), 4000K, CRI 90+

Nominal output [lm]	Delivered output [lm][1]	Insulated ceiling		Non-insulated ceiling	
		Power (120V) [W]	Efficacy [lm/W]	Power (120V)[2] [W]	Efficacy [lm/W]
700	605	6.5	93	8.5	71
1000	799	8	100	10	80
1300	1,091	11	99	13	84
2000	1,696			20	85

1. Consult website for latest IES files.
2. Add 3 watts per fixture when specifying Lumentalk™.
3. Photometric performance is measured in compliance with IESNA LM-79-24.

Optics

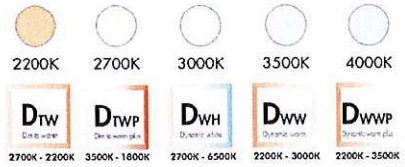


XN - 5° VN - 10° NS - 15° N/NFR - 25°



M/MFR - 40°

Color and Color temperature



Description

The Lumencore Recessed Discreet Medium Tilt achieves a sleek, trimless appearance without the cost and complexity of plastering in small luminaires. Designed with a deep-set soft reflector, the luminaire blends harmoniously into ceilings, making it ideal for commercial and residential applications looking for a clean, minimalist look. The luminaire offers wide a choice of outputs, beam angles, color temperatures, color rendering options and accessories.

Features

Output (Nominal Lumens)	700 lm, 1000 lm, 1300 lm, 2000 lm, 3000 lm
Color and Color Temperature	2200K 2700K 3000K 3500K 4000K Dim to Warm Dim to Warm Plus Dynamic White Dynamic Warm White Dynamic Warm White Plus
Optics (Nominal Distribution)	Extra Narrow Spot 5°, Very Narrow Spot 10°, Narrow Spot 15°, Narrow/Narrow Faceted Reflector 25°, Medium/Medium Faceted Reflector 40°
Installation Type	Remodel Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142), New Construction Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142), New Construction Insulated Ceiling (Enclosed Box), New Construction Insulated Ceiling - Chicago Plenum Rated Option (Airtight, Enclosed Box)
Certifications	UL compliant (this luminaire is listed & labeled for such use in accordance with UL2043 & CAN/ULC-S142)

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Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

Controls

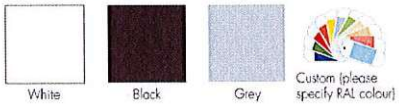
ON/OFF 0-10V PRO 0-10V DALI PRO DALI DALI T8 DMX rdm LUTRON lumentalk PH PPH

Trim shape



Round

Trim finishes



White Black Grey Custom (please specify RAL colour)

Options



Emergency battery backup

Adjustability

30°

Fixed tilt 30° (factory set)

Certifications

c UL us RoHS 5 YEARS lumenpulse

Warranty	5-year limited warranty
Option	Emergency Battery Backup with Hanger Bar (Bodine BSL17C-C2), Emergency Battery Backup with Hanger Bar (Iota ILB-CP07-A TBTS)

Performance

Maximum Delivered Output	Up to 2,554 lm (medium faceted reflector optic 40°, 4000K, CRI 80)
Efficacy	Up to 85 lm/W (medium faceted reflector 40°, 4000K, CRI 80)
Color Consistency	2 SDCM, 3 SDCM (XN optic only)
Color Rendering	CRI 80+ CRI 90+ CRI 95+
Lumen Maintenance	L95 55,000 hrs L70 225,000 hrs

Physical

Housing Material	Aluminum
TIR Optics Material	Clear polycarbonate
Reflector Material	Aluminum
Trim Shape	Round
Trim Finish	White, Black, Gray, Custom (Please Specify RAL Color)
Adjustability	Fixed tilt 30° (factory set)

Electrical and Control

Voltage	120 Volts, 277 Volts
Control	On/Off Control, Standard 0-10V Dimming 1% Linear Curve, Standard 0-10V Dimming 1% (Linear or Logarithmic Curve), Professional 0-10V Dimming 0.1% (Linear or Logarithmic Curve), Standard DALI Dimming 1% (Linear or Logarithmic Curve), Professional DALI Dimming 0.1% (Linear or Logarithmic Curve), DALI-2 T8 Enabled Dimming 1%, DMX/RDM Enabled, Lutron® Hi-lume 1% EcoSystem® LDE1/PEQ1 Soft-on/Fade-to-Black, Lumentalk, Phase Dimming (Consult Factory), Phase Dimming 1%

Environmental

Environment	Damp location rating (interior applications only)
Operating Temperature	-4 °F to 104 °F
Ingress Protection Rating	IP44 (with narrow spot and narrow optics) IP44 (with medium optics, CL/SL/PD accessories) IP20 (with medium optics without accessories)

Accessories (Order Separately)

Control Systems	Pharos® Lighting Control Kit (PHAROS), Pharos® Expert Control Kit (EXPERT)
Diagnostic and Addressing Tools	LumenID (LID)

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Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

Important

Fixed tilt construction is factory set and cannot be adjusted in the field.

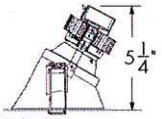
Virtual Patent Marking Notice

This website (https://www.lmpg.com/patents-trademarks) is provided to satisfy the virtual patent marking provisions of applicable jurisdictions. Some products listed may be covered by additional patents not referenced here.

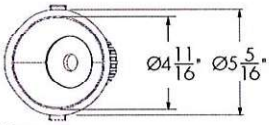
Static Color Dimensions (22K, 27K, 30K, 35K, 40K)

XN (5°)/ VN (10°)

700lm CR80/CR90 (XN/VN)

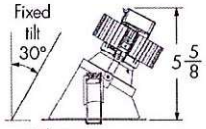


Side view



Bottom view

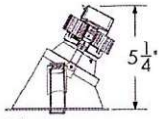
1000/1300lm CR80/CR90 (VN)



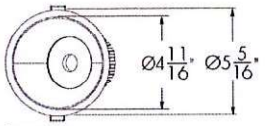
Side view

NS (15°)

700/1000lm CR80/CR90/CR95
1300lm CR80/CR90

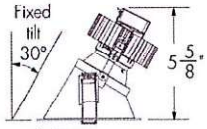


Side view



Bottom view

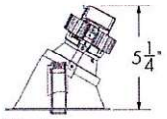
1300lm CR95
2000lm CR80/CR90



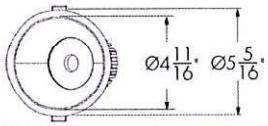
Side view

N (25°)

700/1000lm CR80/CR90/CR95
1300lm CR80/CR90

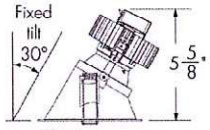


Side view



Bottom view

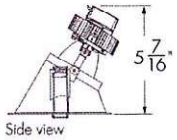
2000lm CR80/CR95
3000lm CR80/CR90



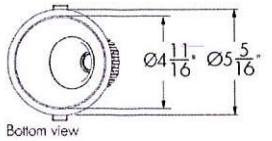
Side view

M (40°)/ MFR (40°)

700/1000/1300lm CR80/CR90/CR95

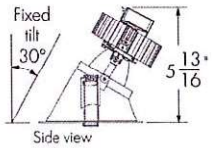


Side view



Bottom view

2000lm CR80/CR90/CR95
3000lm CR80/CR90



Side view

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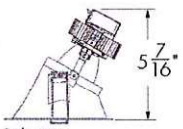
Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

Dynamic Color Dimensions (DTW, DTWP, DWH, DWW, DWWP)

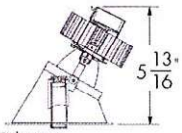
M (40°)/ MFR (40°)

1000lm/1300lm CR90 (DTW/DTWP)



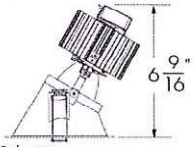
Side view

1300lm CR90 (DTW/DTWP)



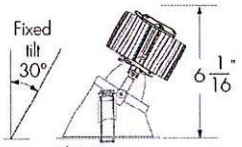
Side view

2000lm CR90 (DTW/DTWP)

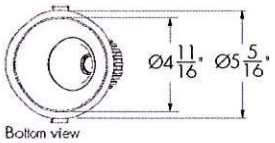


Side view

1300lm CR80 (DWH/DWW/DWWP)



Side view



Bottom view

Color temperature options may vary according to optic. Refer to website product configurator for details.

Photometric Information - Color Rendering Options Comparison, 3000K

Color sample	Ra	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
CRI 80+	84	82	90	97	83	82	88	86	63	15	77	83	68	84	98	75
CRI 90+	94	95	98	99	95	94	97	91	80	55	93	97	83	96	99	89
CRI 95+	97	96	97	99	96	96	95	96	97	97	96	95	86	96	98	97
Radiant CRI 80+	84	83	91	96	81	82	89	83	62	15	79	80	69	85	98	76
Radiant CRI 95+	95	95	94	95	98	94	90	94	96	96	89	95	80	94	98	96

Optics

TIR Optic
XN/VN/NS/N



Semi-specular reflector
M



Faceted reflector
NFR/MFR



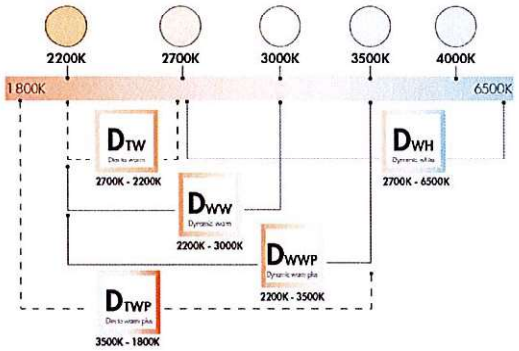
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Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

Color and Color Temperature

Color Temperature Ranges

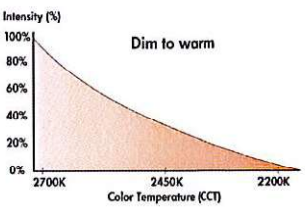


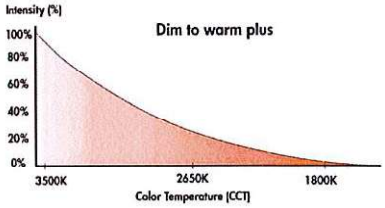
--- 1 channel (DTW, DTWP) Compatible with: DA1 SDALI DMXrdm lumentalk

—— 2 channels (DWH, DWW, DWWP) Compatible with: DALIT8 DMXrdm lumentalk

—— 3 channels* (DWH, DWW, DWWP) Compatible with: DALIT8 DMXrdm lumentalk

*Can be field changeable via RDM & LT for individual CCT control.





Control

Refer to website product configurator for exceptions

On/off control
NO - On/off control

Standard 0-10V dimming down to 1%
DAMC - Standard 0-10V dimming to 1% linear curve
DA1 - Standard 0-10V dimming, 1% linear
DA2 - Standard 0-10V dimming, 1% logarithmic

Professional 0-10V dimming down to 0.1%
PDA1 - Pro 0-10V dimming, 0.1% linear
PDA2 - Pro 0-10V dimming, 0.1% logarithmic

Standard DALI dimming down to 1%
SDALI1 - Standard DALI dimming,1% linear
SDALI2 - Standard DALI dimming, 1% logarithmic

Professional DALI dimming down to 0.1%
DALI1 - Pro DALI dimming, 0.1% linear
DALI2 - Pro DALI dimming, 0.1% logarithmic

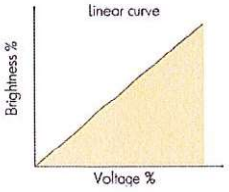
Lutron® EcoSystem®
ES - Lutron® Hi-lume 1% EcoSystem® LDE1/PEQ1 Soft-on/Fade-to-Black, 1% minimum dimming value

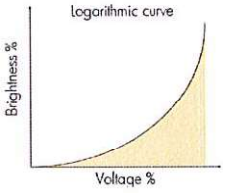
DALI dimming Type 8
DALIT8 - DALI dimming Type 8 (multi channel capability)

DMXrdm
DMX/RDM - DMX/RDM enabled

lumentalk dimming
LT - Lumentalk dimming, 1% minimum dimming value

Phase dimming (consult factory)
PH - Phase dimming
PPH - Phase 1% dimming





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Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

Photometric Information (RM And NC Installation Types)

XN - Extra Narrow Spot (Nominal 5°), 4000K

Nominal output [lm]	Power (120V) [W]†		Power (277V) [W]†		Delivered output [lm]††	
	CR80	CR90	CR80	CR90	CR80	CR90
700	12.5	12.5	13.5	13.5	684	616

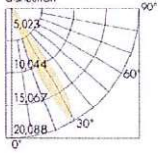
VN - Very Narrow Spot (Nominal 10°), 4000K

Nominal output [lm]	Power (120V) [W]†		Power (277V) [W]†		Delivered output [lm]††	
	CR80	CR90	CR80	CR90	CR80	CR90
700	12.5	12.5	13.5	13.5	763	687
1000	17	17	18	18	1,013	912
1300	22	22	23	23	1,316	1,184

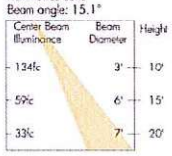
NS - Narrow Spot (Nominal 15°), 4000K

Nominal output [lm]	Power (120V) [W]†			Power (277V) [W]†			Delivered output [lm]††		
	CR80	CR90	CR95	CR80	CR90	CR95	CR80	CR90	CR95
700	9.5	9.5	10.5	11	11	12.5	673	673	605
1000	13	13	15	15	15	17	888	888	799
1300	15	15	20	17	17	22	1,211	1,211	1,090
2000	23	23	N/A	24	24	N/A	1,884	1,884	N/A

Candlepower distribution



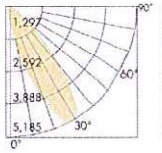
Illuminance cone
Beam angle: 15.1°



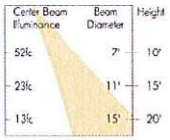
N - Narrow (Nominal 25°), 4000K

Nominal output [lm]	Power (120V) [W]†			Power (277V) [W]†			Delivered output [lm]††		
	CR80	CR90	CR95	CR80	CR90	CR95	CR80	CR90	CR95
700	8.5	8.5	9	10	10	11	605	605	545
1000	10	10	13	12	12	15	799	799	718
1300	13	13	15	15	15	17	1,091	1,091	982
2000	20	20	23	21	21	24	1,696	1,696	1,527

Candlepower distribution



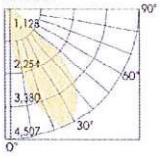
Illuminance cone
Beam angle: 30.5°



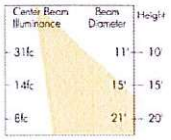
M - Medium (Nominal 40°), 4000K

Nominal output [lm]	Power (120V) [W]†			Power (277V) [W]†			Delivered output [lm]††		
	CR80	CR90	CR95	CR80	CR90	CR95	CR80	CR90	CR95
700	8.5	8.5	9	10	10	11	569	569	512
1000	10	10	13	12	12	15	750	750	674
1300	13	13	15	15	15	17	1,024	1,024	922
2000	20	20	23	21	21	24	1,593	1,593	1,433
3000	30	25	42	31	26	42	2,387	2,387	N/A

Candlepower distribution



Illuminance cone
Beam angle: 44.9°



MFR - Medium Faceted Reflector (Nominal 40°), 4000K

Nominal output [lm]	Power (120V) [W]†			Power (277V) [W]†			Delivered output [lm]††		
	CR80	CR90	CR95	CR80	CR90	CR95	CR80	CR90	CR95
700	8.5	8.5	9	10	10	11	609	609	548
1000	10	10	13	12	12	15	803	803	721
1300	13	13	15	15	15	17	1,096	1,096	987
2000	20	20	23	21	21	24	1,705	1,705	1,533
3000	30	25	42	31	26	42	2,554	2,554	N/A

1Remove 2 watts per fixture when specifying new construction insulated ceiling installation types (IC and CP).
2Add 3 watts per fixture when specifying Lumentalk™.
†Delivered wattage: +/- 10% tolerance.
††Consult website for latest IES files. Delivered output: +/- 10% tolerance.
Photometric performance is measured in compliance with IESNA LM-79-24.

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JC - R19

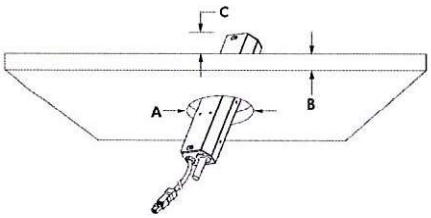
Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

Ceiling Requirements

Minimum Ceiling Height

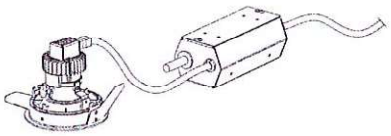
Installation type	700lm		1000lm		1300lm		2000lm	3000lm	4000lm
RM	6"						6.5"		N/A
NC									7"
IC/CP	XN/VN optics	N to WW optics	VN optic	N to WW optics	VN optic	NS to WFR optics	N/A		
	CRI 80 = 9" CRI 90 = 9"	CRI 80/90 = 7" CRI 95 = 7"	CRI 80 = 9" CRI 90 = 9"	CRI 80/90 = 7" CRI 95 = 9"	CRI 80 = 9" CRI 90 = 9"	CRI 80/90 = 7" CRI 95 = 9"			



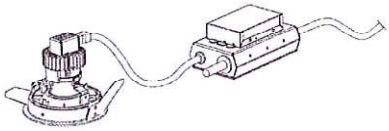
A - Ceiling cutout: Ø 4 13/16 in
B - Maximum ceiling thickness: 1 in
C - Minimum ceiling height

Installation Types

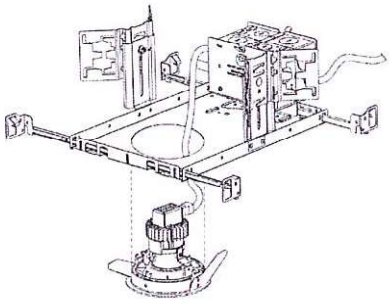
RM: Remodel Non-Insulated Ceiling (Plenum Rated In Accordance To UL 2043 & CAN/ULC-S142) (NO and LT Controls)



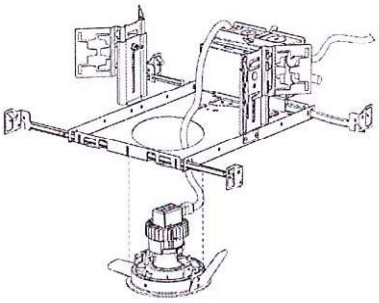
RM: Remodel Non-Insulated Ceiling (Plenum Rated In Accordance To UL 2043 & CAN/ULC-S142) (Dimming)



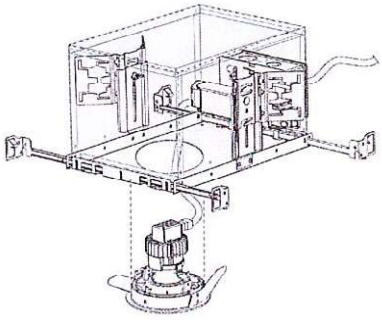
NC: New Construction Non-Insulated Ceiling (Plenum Rated In Accordance To UL 2043 & CAN/ULC-S142) (NO Control)



NC: New Construction Non-Insulated Ceiling (Plenum Rated In Accordance To UL 2043 & CAN/ULC-S142) (Dimming)



IC/CP: New Construction Insulated Ceiling (Enclosed Box)



Fixture shown for reference only. Refer to Ceiling Requirements section and installation instructions for dimensions and ceiling cutout requirements.

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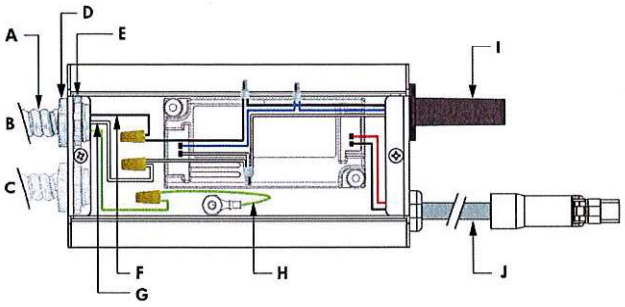
Submitted by United Lighting Alliance of Oklahoma			
ULA UNITED LIGHTING ALLIANCE OKLAHOMA	**Job Name:** Greenwood Cultural Center Facility Rehabilitation Architect: CJC Architecture (Tulsa) Engineer: HP Engineering (Broken Arrow)	**Catalog Number:** LADM-TILT-A-120-L30-35K-CR80-M-RD-WH-DAMC-NC-NA Notes:	**Type:** C ULAOK25-104

Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

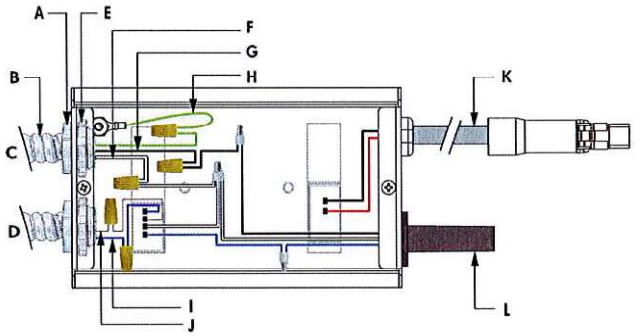
Wiring Details RM: Remodel Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142)

On/Off Control



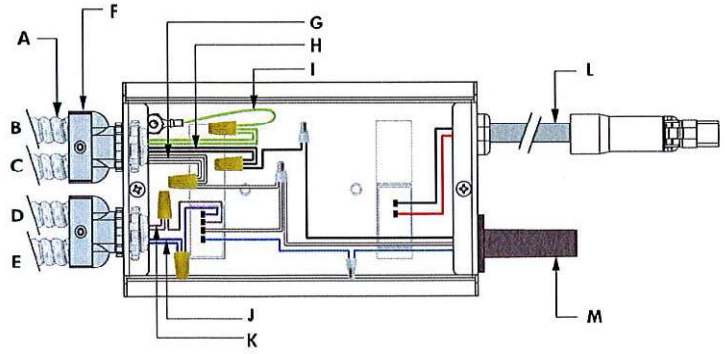
A - Conduit (by others)
B - Power Input
C - Optional Output
D - Conduit fitting (by others)
E - Locknut (by others)
F - Line (black)
G - Neutral (white)
H - Ground (green)
I - Thermal protector
J - Output to luminaire

Control (DAMC, DA1, DA2, PDA1, PDA2, DALI1, DALI2, EcoSystem®)*



A - Conduit fitting (by others)
B - Conduit (by others)
C - Power Input
D - Data Input from Control System
E - Locknut (by others)
F - Neutral (white)
G - Line (black)
H - Ground (green)
I - Data + (purple)
J- Data - (gray)
K- Output to luminaire
L - Thermal protector

Control (Daisy Chain Layout) (DAMC, DA1, DA2, PDA1, PDA2, DALI1, DALI2, EcoSystem®)*



A - Conduit (by others)
B - Power Output to next luminaire
C - Power Input
D - Data Output to next luminaire
E - Data Input from Control System
F - Duplex connector (by others)
G - Neutral (white)
H- Line (black)
I - Ground (green)
J - Data - (gray)
K- Data + (purple)
L - Output to luminaire
M- Thermal protector

*Each Lutron® EcoSystem® enabled fixture has its own address; for each of the examples shown above, there is one EcoSystem® address. Lutron® EcoSystem® Enabled dimming is not available for 700 lumens or 1000 lumens.

Refer to installation instructions for additional wiring details.

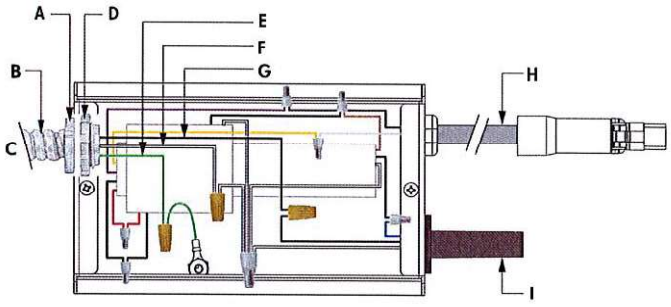
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Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

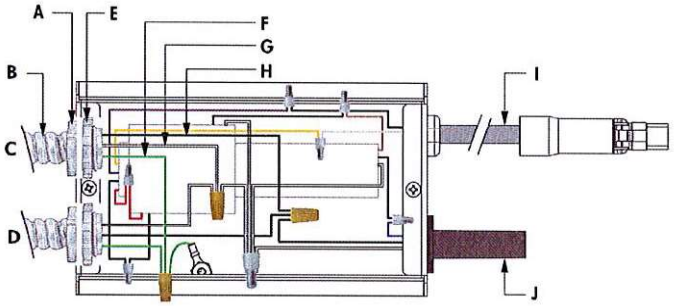
Wiring Details RM: Remodel Non-Insulated Ceiling (Plenum Rated In Accordance To UL 2043 & CAN/ULC-S142) (LT Control)

Control (LT)



A - Conduit fitting (by others)
B - Conduit (by others)
C - Power Input
D - Locknut (by others)
E - Ground (green)
F - Neutral (white)
G - Line (black)
H - Output to luminaire
I - Thermal protector

Control (Daisy Chain Layout) (LT)



A - Conduit fitting (by others)
B - Conduit (by others)
C - Power Input
D - Power Output to next luminaire
E - Locknut (by others)
F - Ground (green)
G - Neutral (white)
H - Line (black)
I - Output to luminaire
J - Thermal protector

Refer to installation instructions for additional wiring details.

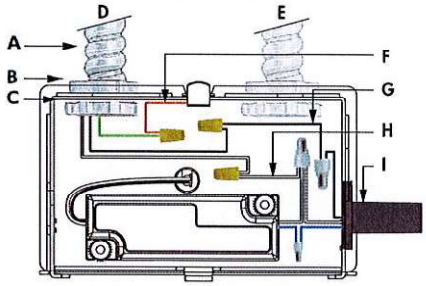
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Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

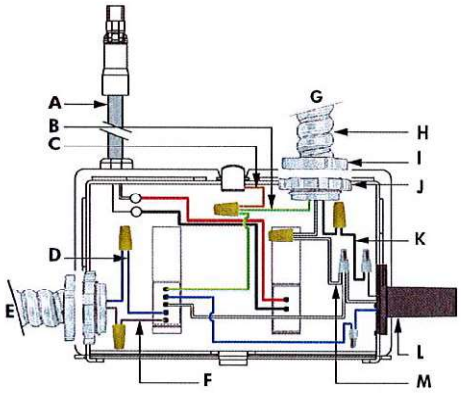
Wiring Details NC: New Construction Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142)

On/Off Control



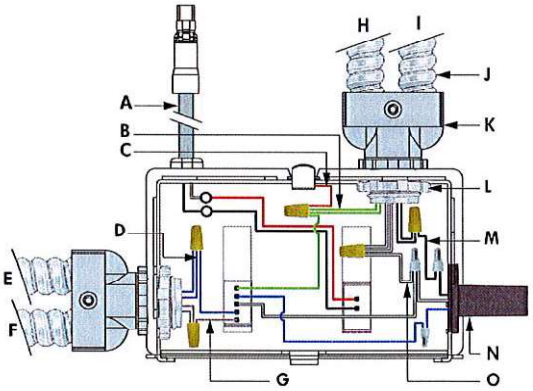
A - Conduit (by others)
B - Conduit fitting (by others)
C - Locknut (by others)
D - Power Input
E - Optional Output
F - Ground (copper)
G - Line (black)
H - Neutral (white)
I - Thermal protector

Control (DAMC, DA1, DA2, PDA1, PDA2, DALI1, DALI2, EcoSystem®)*



A - Output to luminaire
B - Ground (green)
C - Ground (copper)
D - Data + (purple
E - Data Input from Control System
F - Data - (gray)
G - Power Input
H - Conduit (by others)
I- Conduit fitting (by others)
J - Locknut (by others)
K- Line (black)
L - Thermal protector
M- Neutral (white)

Control (Daisy Chain Layout) (DAMC, DA1, DA2, PDA1, PDA2, DALI1, DALI2, EcoSystem®)*



A - Output to luminaire
B - Ground (green)
C - Ground (copper)
D - Data + (purple)
E - Data Output to next luminaire
F - Data Input from Control System
G - Data - (gray)
H - Power Input
I - Power Output to next luminaire
J- Conduit (by others)
K- Duplex connector (by others)
L - Locknut (by others)
M- Line (black)
N - Thermal protector
O- Neutral (white)

Refer to installation instructions for additional wiring details.

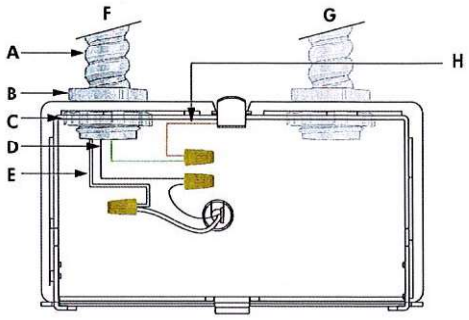
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Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

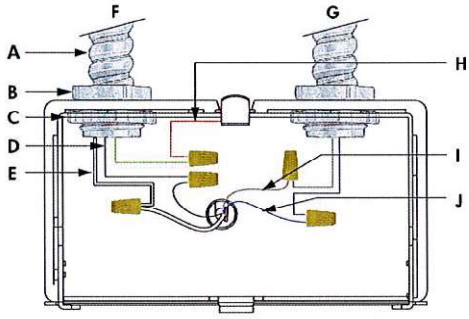
Wiring Details IC/CP: New Construction Insulated Ceiling (Enclosed Box)

On/Off Control



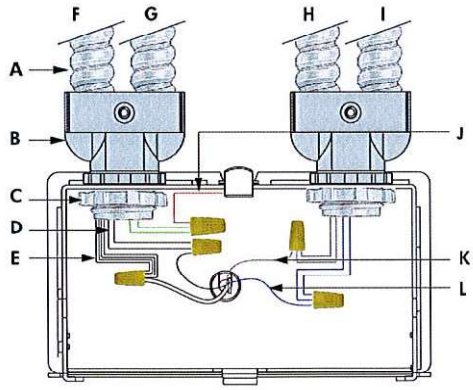
A - Conduit (by others)
B - Conduit fitting (by others)
C - Locknut (by others)
D - Line (black)
E - Neutral (white)
F - Power Input
G - Optional Output
H - Ground (copper)

Control (DA1, DA2, PDA1, PDA2, DALI1, DALI2)



A - Conduit (by others)
B - Conduit fitting (by others)
C - Locknut (by others)
D - Line (black)
E - Neutral (white)
F - Power Input
G - Data Input from Control System
H - Ground (copper)
I - Data - (gray)
J - Data + (purple)

Control (Daisy Chain Layout) (DA1, DA2, PDA1, PDA2, DALI1, DALI2)



A - Conduit (by others
B - Duplex connector (by others)
C - Locknut (by others)
D - Line (black
E - Neutral (white)
F - Power Input
G - Power Output to next luminaire
H - Data Input from Control System
I - Data Output to next luminaire
J - Ground (copper)
K - Data - (gray)
L - Data + (purple)

Refer to installation instructions for additional wiring details.

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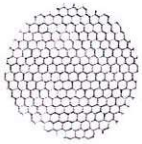
Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

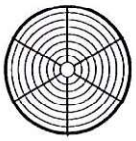
Optical Accessories

SL - Softening Glass Lens

HL - Honeycomb Louver



XLVR - Concentric Ring Louver



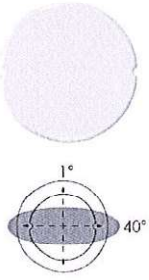
CL - Clear Glass Lens



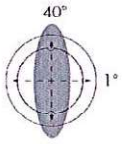
PD – Prismatic Diffuser



LSN - Linear Spread Lens Narrow (1° x 40°)

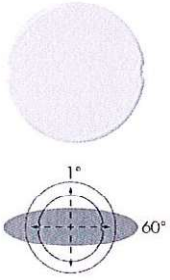


Horizontal Beam Distribution

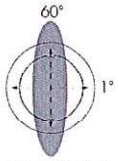


Vertical Beam Distribution

LSW - Linear Spread Lens Wide (1° x 60°)



Horizontal Beam Distribution



Vertical Beam Distribution

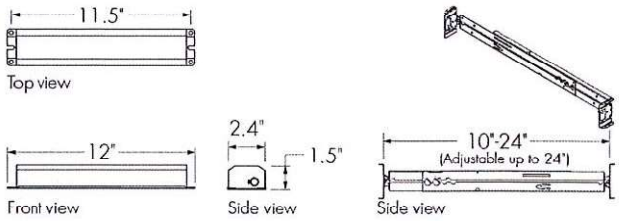
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Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

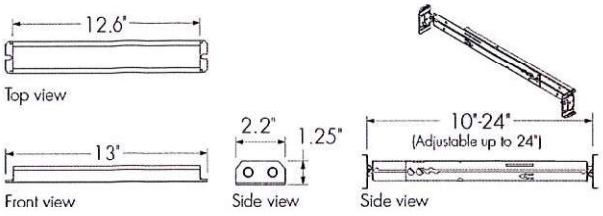
Options

EBB - Emergency Battery Backup With Hanger Bar (Bodine BSL17C-C2)



Hardware to mount the battery backup to the hanger bar is included. A test button is included. The unit comes pre-wired with 2 ft flexible conduit in and out. Refer to installation instructions for details.

EBI - Emergency Battery Backup With Hanger Bar (Iota ILB-CP07-A TBTS)



Hardware to mount the battery backup to the hanger bar is included. A test button is included. The unit comes pre-wired with 2 ft flexible conduit in and out. Refer to installation instructions for details.

Diagnostic And Addressing Tools (Order Separately)

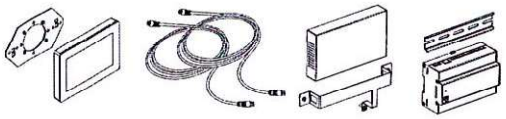
LID - LumenID



The updated LumenID (LID) is now your all-in-one diagnostic and addressing solution for both DMX/RDM and Lumentalk (LT) systems. Engineered for versatility, it streamlines commissioning and troubleshooting across protocols—no need for multiple tools. Consult the LID specification sheet for full details.

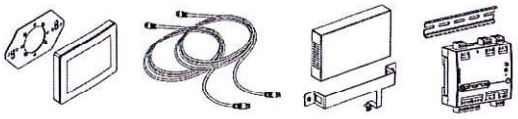
Control Systems (Order Separately)

PHAROS - Pharos® Designer Lighting Control Kit



The Pharos Designer Lighting Contol Kit, available for 1 or 2 DMX universes, allows for complete control of large lighting installations.

EXPERT - Pharos® Expert Control Kit



The Pharos Expert Control Kit, available for 1, 2, 4 or 6 DMX universes, allows for complete control of large lighting installations.

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Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

How to Order

Housing [1]	Certification	Voltage [2]	Output (Nominal Lumens)	Color and Color Temperature	Color Rendering	Optics (Nominal Distribution)	Trim Shape	Trim Finish
LADM-TILT Lumencore Recessed Discreet Medium Tilt	**A** UL/cUL	**120** 120 Volts **277** 277 Volts	**L07** 700 lm **L10** 1000 lm [3] **L13** 1300 lm [3] **L20** 2000 lm [4] **L30** 3000 lm [5]	**22K** 2200K [6] [7] **27K** 2700K **30K** 3000K **35K** 3500K **40K** 4000K **DTW** Dim to Warm (2700K to 2200K) [8] [9] [10] **DTWP** Dim to Warm Plus (3500K to 1800K) [8] [9] [10] **DWH** Dynamic White (2700K to 6500K) [9] [11] **DWW** Dynamic Warm White (2200K to 3000K) [9] [11] **DWWP** Dynamic Warm White Plus (2200K to 3500K) [9] [11]	**CR80** CRI 80+ [12] **CR90** CRI 90+ **CR95** CRI 95+ [13] **RCR80** Radiant CRI 80+ [7] [14] **RCR95** Radiant CRI 95+ [7] [13] [14]	**XN** Extra Narrow Spot 5° [15] **VN** Very Narrow Spot 10° [16] **NS** Narrow Spot 15° [17] **N** Narrow 25° [17] **NFR** Narrow Faceted Reflector 25° **M** Medium 40° **MFR** Medium Faceted Reflector 40°	**RD** Round	**WH** White **BK** Black **GRY** Gray **CC** Custom [18]

Notes:

1. Refer to website product configurator for all exceptions.
2. Consult factory for 347 volts.
3. Available for VN, NS, N, NFR, M, MFR, W and WFR optics only.
4. Available for NS, N, NFR, M, MFR, W and WFR optics only.
5. Available for NFR, M and MFR optics only.
6. Available for CR80 only.
7. Not available for XN and VN optics.
8. Available for 1000, 1300 and 2000 lumens when combined with NFR, M and MFR optics only.
9. NFR and MFR faceted reflector optics are recommended for optimal performance.
10. Available with CR90 only.
11. Available for 1300 lumens when combined with CR80 and NFR, M, or MFR optics only.
12. Available for 2200K, 2700K, 3000K, 3500K, 4000K and DWH, DWW or DWWP color options only.
13. CR95 and RCR95 available up to 1300 lumens for NS optic, up to 2000 lumens for N, NFR, M and MFR optics only.
14. Radiant CRI options available for 3000K only.
15. Available for 700 lumens when combined with CR80 or CR90 color rendering options only.
16. Available for 700, 1000 and 1300 lumens when combined with CR80 or CR90 color rendering options only.
17. Available up to 2000 lumens.
18. Longer lead times can be expected for custom RAL color finishes.

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Submitted by United Lighting Alliance of Oklahoma

ULA UNITED LIGHTING ALLIANCE OKLAHOMA

Job Name:
Greenwood Cultural Center Facility Rehabilitation
Architect: CJC Architecture (Tulsa)
Engineer: HP Engineering (Broken Arrow)

Catalog Number:
LADM-TILT-A-120-L30-35K-CR80-M-RD-WH-DAMC-NC-NA
Notes:

Type:
C
ULAOK25-104

Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

How to Order

Control [21]	Installation Type	Option	Accessories [51] [52]
NO On/Off Control [19] [20]	**RM** Remodel Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142)	**EBB** Emergency Battery Backup with Hanger Bar (Bodine BSL17C-C2) [23] [46] [47] [48] [49]	**NA** No Accessory
DAMC Standard 0-10V Dimming 1% Linear Curve [20] [22] [23] [24] [25]	**NC** New Construction Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142)	**EBI** Emergency Battery Backup with Hanger Bar (Iota ILB-CP07-A TBTS) [25] [46] [48] [49] [50]	**SL** Softening Glass Lens
DA1 Standard 0-10V Dimming 1% Linear Curve [26] [27]	**IC** New Construction Insulated Ceiling (Enclosed Box) [44] [45]		**HL** Honeycomb Louver [53]
DA2 Standard 1-10V Dimming 1% Logarithmic Curve [26] [27]	**CP** New Construction Insulated Ceiling - Chicago Plenum Rated Option (Airtight, Enclosed Box) [44] [45]		**XLVR** Concentric Ring Louver [54]
PDA1 Professional 0-10V Dimming 0.1% Linear Curve [20] [26]			**CL** Clear Glass Lens
PDA2 Professional 0-10V Dimming 0.1% Logarithmic Curve [20] [26]			**PD** Prismatic Diffuser
SDALI1 Standard DALI Dimming 1% Linear Curve [28]			**LSN** Linear Spread Lens Narrow (1° x 40°) [55]
SDALI2 Standard DALI Dimming 1% Logarithmic Curve [28]			**LSW** Linear Spread Lens Wide (1° x 60°) [55]
DALI1 Professional DALI Dimming 0.1% Linear Curve [20] [29]			
DALI2 Professional DALI Dimming 0.1% Logarithmic Curve [20] [29]			
DALIT8 DALI-2 T8 Enabled Dimming 1% [30] [31]			
DMX/RDM DMX/RDM Enabled Dimming 1% [32] [33] [34]			
ES Lutron® Hi-lume 1% EcoSystem® LDE1/PEQ1 Soft-on/Fade-to-Black [7] [20] [35]			
LT Lumentalk Enabled Dimming [36] [37] [38]			
PH Phase Dimming (Consult Factory) [39] [40] [41] [42]			
PPH Phase Dimming 1% [7] [22] [40] [43]			

Notes:

7. Not available for XN and VN optics.
19. Manufacturer's choice driver. Order code may change to NO1.
20. Not available for DTW, DTWP, DWH, DWW or DWWP color options.
21. Control options vary according to color temperature, color rendering, optics and installation type combination. Refer to website product configurator for details.
22. Manufacturer's choice driver. Order code may change to DAMC1 or DAMC2.
23. Not available for XN and VN optics.
24. Available up to 3000 lumens when combined with CR80 or CR90 color rendering option. Available up to 2000 lumens when combined with CR80, CR90 or CR95 color rendering options.
25. Available for RM and NC installation types only.
26. Driver cuts off power to the fixture when the control signal drops below 0.5V.
27. Not available for DWH, DWW or DWWP color options.
28. Available for DTW and DTWP color options only, when combined with 1000, 1300 or 2000 lumens.
29. Consult factory for other DALI control options for static color temperatures.
30. Available for DWH, DWW and DWWP color options only. DALI-2 Type 8 controller required.
31. Consult factory for DALIT8 control option.
32. Configurable to 1, 2, or 3 channel control via RDM in the field.
33. A Control Box (CBX-DS or CBX-ST) and lumenID (LID) must be specified.
34. Available for DTW, DTWP, DWH, DWW and DWWP color options only.
35. One EcoSystem® address per fixture. 1% minimum dimming value. Lutron® EcoSystem® Enabled dimming available for RM and NC installation types only. Lutron® EcoSystem® Enabled dimming not available for 700 lumens or 1000 lumens.
36. 1% minimum dimming value. Lumentalk dimming available for RM installation type when combined with 2200K, 2700K, 3000K, 3500K or 4000K color options and any of the optic options. Lumentalk dimming available for NC installation type when combined with 2200K, 2700K, 3000K, 3500K or 4000K color options and XN or VN optic options. Lumentalk is available for RM and NC installation types when combined with DTW, DTWP, DWH, DWW or DWWP color options and NFR, M or MFR optic options. Lumentalk dimming available up to 1300 lumens (CR80, RCR80, CR90, CR95 or RCR95). 2000 lumens (CR80, RCR80 or CR90).
37. Lumentalk is not available for emergency battery backup options.
38. A Lumentranslator 2 (LTL2) and lumenID (LID) must be specified for Lumentalk applications. Consult Lumentranslator 2 and Lumentalk pages and specification sheets for details.
39. Manufacturer's choice driver. Order code may change to PH1 or PH2.
40. Available for 120V only. Not available for IC and CP installation types.
41. Available for 2700K, 3000K, 3500K and 4000K color options when combined with XN or VN optics only.
42. Not available for emergency battery backup options.
43. Manufacturer's choice driver. Order code is subject to change.
44. Insulated ceiling available up to 1000 lumens (CR80, RCR80, CR90, CR95 or RCR95). 1300 lumens (CR80, RCR80 or CR90).
45. Insulated ceiling available for DTW or DTWP color options when combined with the DA1, DA2, SDALI1 or SDALI2 control options.
46. Emergency battery backup options require ceiling access for test button use. The battery will operate for 90 minutes minimum and maintain a minimum of 1 fc from a 7 ft 2 in height as per UL 924. For indoor use only in dry or damp locations.
47. Consult factory for use with LT or DMX/RDM control options combined with DTW or DTWP color options. Not available for XN and VN optics.
48. Not available for DWH, DWW or DWWP color options.
49. Emergency battery backup options are field installed and not presided by Lumenpulse. Refer to related installation instructions for details.
50. Consult factory for use with LT or DMX/RDM control options combined with DTW or DTWP color options or LT control combined with XN or VN optics.
51. Factory installed.
52. Maximum one accessory per fixture.
53. HL accessory is available for 2200K, 2700K, 3000K, 3500K and 4000K color options only.
54. Available for XN, VN and NS optics only.
55. Available for XN, VN, NS, N and NFR optics when combined with 2200K, 2700K, 3000K, 3500K, 4000K color options only. Available for NFR optic only when combined with DTW, DTWP, DWH, DWW or DWWP color options only.

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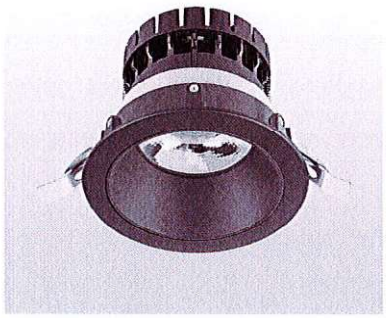
Submitted by United Lighting Alliance of Oklahoma			
ULA UNITED LIGHTING ALLIANCE OKLAHOMA	**Job Name:** Greenwood Cultural Center Facility Rehabilitation Architect: CJC Architecture (Tulsa) Engineer: HP Engineering (Broken Arrow)	**Catalog Number:** LCRS-A-FD-120-R-L30-35K-80-M-DA1-SB-MWH-RD-MWH-NC-1-WET-PD-EBB Notes:	**Type:** C2 ULAOK25-104

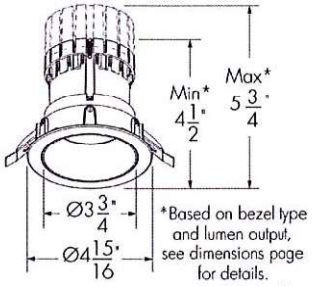
Specification Sheet

Lumencore Recessed
Small Downlight
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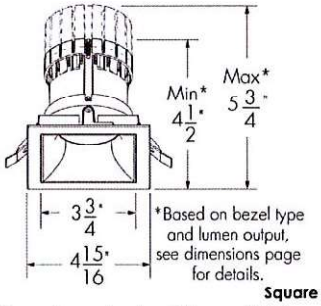
Project Name _____ **Qty** _____

Type _____ **Catalog / Part Number** _____



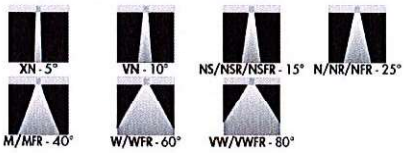


Round trim
(Deep decorative bezel shown with 1 in ceiling springs)
Round trim ceiling cutout: Ø4.5 in

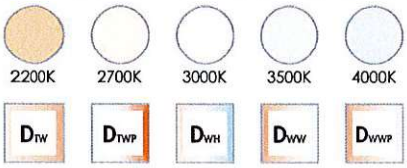


Square trim
(Deep decorative bezel shown with 1 in ceiling springs)
Square trim ceiling cutout: 4.5 in x 4.5 in

Optics



Color and Color Temperature



Certifications

cULus RoHS 5 YEARS lumenpulse ENERGY STAR

Description

The Lumencore Recessed Small Downlight is a high-performance LED downlight for ceiling applications. Available in an array of trims and finishes, outputs (up to 4000lm), optics, color renderings, accessories, and a WET IP54 option, these luminaires are here to outperform. The Lumencore Recessed Small Downlight possesses a previously unseen lifespan, is quick to install, and can be used with a number of different control options.

Features

Output (Nominal Lumens)	**L07:** 700 lm, **L10:** 1000 lm, **L13:** 1300 lm, **L20:** 2000 lm, **L30:** 3000 lm, **L40:** 4000 lm, **L50:** 5000 lm
Options	**EBB:** Emergency Battery Backup with Hanger Bar (Bodine BSL17C-C2) **EBI:** Emergency Battery Backup with Hanger Bar (Iota ILB-CP07-A TBTS) **WET:** IP54 rating suitable for wet locations. For IP55 Shower Rated "Dead Front" applications see Lumencore Small Shower Rated specification sheet
Warranty	5-year limited warranty

Electrical and Control

Wattage Range	8.5W to 42W (wattage will vary based on voltage, output, color temperature, color rendering, optic, control and installation type, refer to Power Consumption table for details)

Physical

Trim	**RD:** Round, **SR:** Square Trim with Round Hole, **TLR:** Trimless Round, **SQ:** Square, **TLS:** Trimless Square
Ceiling Thickness	**1:** 0.04 in to 1 in Ceiling Thickness **2:** 1.05 in to 2 in Ceiling Thickness

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Lumencore Recessed
Small Downlight
LCRS

Weight	3.4 lbs with RM installation type, 4.75 lbs with NC installation type, 10.8 lbs with PC, IC, IC/AT and RMR installation types (Weights are approximate based on the heaviest fixture configuration) Please consult factory if exact fixture weight is needed
Ceiling Space Requirements (Length x Width x Height)	Up to 18 in x 18 in x 8 in with RM and NC installation types, Up to 18 in x 15 in x 9 in with PC/IC/ICAT/RMR installation types Dimensions will vary by output and color rendering, refer to Ceiling Requirements table for details

Performance

Maximum Delivered Output	Up to 4,539 lm (Narrow Faceted Reflector optic 25°, 4000K, CRI 90)
Maximum Delivered Intensity	Up to 45,181 cd (Extra Narrow Spot optic 5°, 4000K, CRI 80)
Lumen Maintenance	L95 55,000 hrs (Ta 25 °C) L70 225,000 hrs (Ta 25 °C)

Environmental

Operating Temperature (Ceiling Cavity Ambient Temperature)	-4 °F to 104 °F (DA1, DA2, DA3, PDA1, PDA2, SDALI1, SDALI2, DALI1, DALI2, DALIT8, LT, DMX/RDM, PH and PPH control options), 14 °F to 104 °F (NO, NL, NLER, NL347 control options), 32 °F to 104 °F (NO3, VI, PPH2, ES, ESP and CA control options and EBB and EBI options)

Important

Virtual Patent Marking Notice

This website (https://www.lmpg.com/patents-trademarks) is provided to satisfy the virtual patent marking provisions of applicable jurisdictions. Some products listed may be covered by additional patents not referenced here.

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How to Order

Housing [1]	EZ Ship	Certification	Type	Voltage	Cutout	Output (Nominal Lumens)	Color and Color Temperature	Color Rendering	Optics (Nominal Distribution)
LCRS Lumencore Recessed Small - 4 in	**EZ** EZ Ship [2]	**A** UL/cUL **ESR** UL/cUL & ENERGY STAR® [3]	**FD** Downlight	**120** 120 Volts **277** 277 Volts **347** 347 Volts [4] [5] [6] [7] [8]	**R** Round **S** Square	**L07** 700 lm [9] **L10** 1000 lm **L13** 1300 lm **L20** 2000 lm **L30** 3000 lm [10] [11] **L40** 4000 lm [9] [10] [11] **L50** 5000 lm [10] [12] [13]	**22K** 2200K [7] [14] [15] **27K** 2700K [15] **30K** 3000K [15] **35K** 3500K [15] **40K** 4000K [15] **DTW** Dim to Warm (2700K to 2200K) [7] [16] [17] [18] **DTWP** Dim to Warm Plus (3500K to 1800K) [7] [16] [17] [18] **DWH** Dynamic White (2700K to 6500K) [7] [17] [19] [20] **DWW** Dynamic Warm White (2200K to 3000K) [7] [17] [19] [20] **DWWP** Dynamic Warm White Plus (2200K to 3500K) [7] [17] [19] [20]	**80** CRI 80+ **90** CRI 90+ **95** CRI 95+ [7]	**XN** Extra Narrow Spot Distribution 5° [7] [21] **VN** Very Narrow Spot Distribution 10° [7] [22] **NS** Narrow Spot Distribution 15° [23] **NSR** 15° Reflector [24] [25] **NSFR** 15° Faceted reflector [24] [25] **N** Narrow Distribution 25° [26] **NR** 25° Reflector **NFR** 25° Faceted Reflector **M** 40° Reflector **MFR** 40° Faceted Reflector **W** 60° Reflector **WFR** 60° Faceted Reflector **VW** 80° Reflector **VWFR** 80° Faceted Reflector

Notes:

1. Refer to website product configurator for all exceptions.
2. Refer to website for EZ Ship configurations.
3. Refer to website for ENERGY STAR certified product configurations.
4. Not available for 700 lumens. Not available for 1000 lumens when combined with 80 color rendering option.
5. Not available for DTW, DTWP, DWH, DWW or DWWP color options.
6. Not available for XN and VN optics.
7. Not available for ENERGY STAR certification.
8. Not available for CR90.
9. For ENERGY STAR certification, not available with RM or NC installation types when combined with 90 color rendering option.
10. Available for NR, NFR, M, MFR, W, WFR, VW and VWFR optics only.
11. Not available with PC, IC, IC/AT or RMR installation types.
12. Available for CR90 only.
13. Available for RM and NC installation Types only.
14. Available for CRI 80 only.
15. Compatible with all control options except for DALI18.
16. Available for 1000, 1300 and 2000 lumens when combined with 90 color rendering option and NR, NFR, M, MFR, W, WFR, VW or VWFR optics only.
17. NFR, MFR, WFR and VWFR faceted reflector optics are recommended for optimal performance.
18. Compatible with DA1, ES, SDALI1, SDALI2, DMX/RDM and LT control options only.
19. Available for 1300 lumens when combined with 80 color rendering option and NR, NFR, M, MFR, W, WFR, VW or VWFR optics only.
20. Compatible with LT, DMX/RDM and DALI18 control options only.
21. Available for 700 lumens when combined with 80 or 90 color rendering options and 27K, 30K, 35K or 40K color temperature options only.
22. Available up to 1300 lumens when combined with 80 or 90 color rendering options and 27K, 30K, 35K or 40K color temperature options only.
23. Available up to 2000 lumens when combined with 80 color rendering option. Available up to 1300 lumens when combined with 90 or 95 color rendering options.
24. Available up to 1300 lumens when combined with 80, 90 or 95 color rendering options.
25. Available with SB bezel only.
26. Available up to 2000 lumens when combined with 80, 90 or 95 color rendering options.

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Small Downlight
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How to Order

Control [27]	Decorative Bezel	Decorative Bezel Finish	Trim [61]	Trim Finish	Installation Type	Ceiling Thickness [69]	Option	Accessories [77]
NO On/Off Control [1] [28] [29]	**SB** Standard	**MWH** Matte White	**RD** Round [62]	**MWH** Matte White	**RM** Remodel Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142) [64]	**1** 0.04 in to 1 in Ceiling Thickness	**WET** IP54 Rating Suitable for Wet Locations [70] [71] [72] [73]	**NA** No Accessory
NO3 On/Off Control 347V [4] [6] [7]	**MB** Mid/Semi Recess	**MBK** Matte Black [54]	**SR** Square Trim with Round Hole [62]	**MBK** Matte Black	**NC** New Construction Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142) [64]	**2** 1.05 in to 2 in Ceiling Thickness	**EBB** Emergency Battery Backup with Hanger Bar (Bodine BSL17C-C2) [5] [7] [29] [74] [75] [76]	**HL** Honeycomb Louver [7] [78]
DAMC Standard 0-10V Dimming 1% Linear Curve [5] [7] [29] [30] [31] [32]	**DB** Deep Recess	**NKS** Nickel Satin [55]	**TLR** Trimless Round [62]	**NKS** Nickel Satin	**PC** Plenum Non-Insulated Ceiling (Enclosed Box) [43] [65] [66] [67]		**EBI** Emergency Battery Backup with Hanger Bar (Iota ILB-CP07-A T8TS) [5] [7] [29] [74] [75] [76]	**XLVR** Concentric Ring Louver [7] [79] [80]
DA1 Standard 0-10V Dimming 1% Linear Curve [29] [33]	**DR** Deep Rollover	**DCH** Dark Chrome [54]	**SQ** Square [63]	**CC** Custom Color Trim [59]	**IC** New Construction Insulated Ceiling (Enclosed Box) [43] [65] [66] [67]			**CL** Clear Glass Lens [73]
DA2 Standard 1-10V Dimming 1% Logarithmic Curve [29] [33]		**BCH** Bright Chrome [55]	**TLS** Trimless Square [63]	**SP** Special Point Source Color [60]	**IC/AT** New Construction Insulated Ceiling (Chicago Plenum/airtight, enclosed box) [43] [65] [66] [67]			**SL** Softening Glass Lens [7]
DA3 Standard 0-10V Dimming 1% Linear Curve (347V) [4] [6] [7]		**SWT** Satin Wheat [56]			**RMR** Remote Recessed Insulated Ceiling/Plenum (enclosed box) [43] [65] [66] [67] [68]			**PD** Prismatic Diffuser [73] [81]
PDA1 Professional 0-10V Dimming 0.1% Linear Curve [29] [33]		**CPG** Champagne Gold [57] [58]						**LSN** Linear Spread Lens Narrow (1° x 40°) [7] [82] [83]
PDA2 Professional 0-10V Dimming 0.1% Logarithmic Curve [29] [33]		**CC** Custom Color Trim [56] [59]						**LSW** Linear Spread Lens Wide (1° x 60°) [7] [83] [84]
PH Phase Dimming [34] [35]		**SP** Special Point Source Color [56] [60]						**BW1** Beam Widening Lens (+10°) [7] [83]
PPH Phase Dimming 1% [5] [6] [7] [32] [35] [36]								**BW2** Beam Widening Lens (+20°) [7] [83]
PHB Pro Phase Dimming ERP PHB Series [5] [31] [37] [38] [39]								**BW3** Beam Widening Lens (+30°) [7] [83]
ES Lutron® Hi-lume 1% EcoSystem® LDE1/PEQ1 Soft-on/Fade-to-Black [7] [29] [40] [41]								
ESP Lutron® Hi-lume Premier 0.1% EcoSystem® PEQ0 Soft-on/Fade-to-Black [7] [29] [42] [43]								
CA Lutron® Caséta dimming compatible (Lutron Hi-lume 1% 2-wire LTEA) (temporarily unavailable) [6] [35] [37] [44] [45]								
VI Lutron® Vive control enabled (Lutron VIVE FCJS-010) [7] [29] [46] [47]								
NL nLight® control enabled (nPS-80-EZ) [7] [29] [46] [47]								
NLER nLight® emergency control enabled (nPS-80-EZ-ER) [7] [29] [46] [47]								
NL347 nLight® control enabled 347V (nPS-80-EZ-347) [6] [7] [37] [46] [47]								
SDALI1 Standard DALI Dimming 1% Linear Curve [7] [29]								
SDALI2 Standard DALI Dimming 1% Logarithmic Curve [7] [29]								
DALI1 Professional DALI Dimming 0.1% Linear Curve [7] [29]								
DALI2 Professional DALI Dimming 0.1% Logarithmic Curve [7] [29]								
DALIT8 DALI-2 T8 Enabled Dimming 1% [6] [7] [29] [48] [49]								
DMX/RDM DMX/RDM Enabled Dimming 1% [7] [29] [50] [51] [52]								
LT Lumentalk Enabled Dimming [7] [29] [53]								

Notes:

4. Not available for 700 lumens. Not available for 1000 lumens when combined with 80 color rendering option.
5. Not available for DTW, DTWP, DWH, DWW or DWWP color options.
6. Not available for XN and VN optics.
7. Not available for ENERGY STAR certification.
27. Control options vary according to color temperature, color rendering, optics and installation type combination. Refer to website product configurator for details.
28. Manufacturer's choice driver. Order code may change to NO1.
29. Not available with 347V.
30. Manufacturer's choice driver. Order code may change to DAMC1 or DAMC2.
31. Not available for XN and VN optics.
32. Available up to 3000 lumens when combined with 80 color rendering option. Available up to 2000 lumens when combined with 90 or 95 color rendering options.
33. Driver cuts off power to the fixture when the control signal drops below 0.5V.
34. Manufacturer's choice driver. Order code may change to PH1 or PH2.

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35. Available for 120V voltage option only.
36. Manufacturer's choice driver. Order code is subject to change.
37. Not available for 700 lumens.
38. Not available for N, NR, NFR, M, MFR, W, WFR, VW and VWFR optics when combined with 1000 lumens.
39. Not available for 5000 lumens when combined CR80.
40. One EcoSystem® address per fixture. Available for static white color temperature options and DTW, DTWP color options only.
41. Available for 3000 lumens and 4000 lumens only.
42. One EcoSystem® address per fixture. Lutron® EcoSystem® Enabled dimming not available for 1300 lumens combined with VN optic. Available for static white color temperatures only.
43. Not available for 3000 and 4000 lumens.
44. Consult factory for CA control option.
45. Requires Caseta Wireless Dimmer PRO Wall Dimmer.
46. Available for RM, NC And RMR installation types only.
47. When used with RMR installation type, the installer is responsible for verifying the wireless distance limitations of the main controller to the remote driver installation.
48. Available for DWH, DWW and DWWP color options only. DALI-2 Type 8 controller required.
49. Not available for PC, IC or IC/AT installation types.
50. Configurable between 8 or 16-bit dimming control via RDM. DMX/RDM requires LumenID, LumenID software and onsite commissioning.
51. A Control Box (CBX-DS or CBX-ST) and lumenID (LID) must be specified.
52. Configurable to 1, 2, or 3 channel control via RDM in the field.
53. A Lumentranslator 2 (LTL2) and LumenID (LID) must be specified for Lumentalk applications. Consult Lumentranslator 2 and Lumentalk pages and specification sheets for details.
54. For ENERGY STAR certification, not available with MB, DB and DR decorative bezels when combined with RM or NC installation types or PC, IC and IC/AT installation types when combined with 90 color rendering option.
55. For ENERGY STAR certification, not available with MB, DB and DR decorative bezels when combined with RM or NC installation types.
56. For ENERGY STAR certification, not available with MB, DB and DR decorative bezels.
57. Coming soon, consult factory for details.
58. Available with DB and DR Bezels only.
59. Longer lead times can be expected for custom RAL color finishes.
60. Refer to Cylinder specification sheet and brochure for color options.
61. Not applicable to DR bezel option.
62. Cannot be combined with square ceiling cutout.
63. Cannot be combined with round ceiling cutout.
64. Available for 700 lumens when combined with XN optic and up to 1300 lumens when combined with VN. Available up to 2000 lumens when combined with NS, NSR, NSFR and N optics. Available up to 4000 lumens when combined with NR and NFR, M, MFR, W, WFR, VW and VWFR optics. Refer to optic option notes for color rendering limitations.
65. Available for 700 lumens when combined with XN optic. Available up to 1300 lumens when combined with VN, NS, NSR and NSFR optics. Available up to 2000 lumens when combined with N, NR, NFR, M, MFR, W, WFR, VW and VWFR optics. Refer to optic option notes for color rendering limitations.
66. Not available for 2000 lumens when combined with DTW and DTWP color options.
67. Not available for DWH, DWW or DWWP color options.
68. Remote distance is a maximum of 75 ft. For longer remote distances, please contact Lumenpulse Application Engineering Team for application validation.
69. Ceiling springs are field changeable, consult factory and installation instructions for details.
70. IP54 rating only if installation is interior covered recessed ceiling-mounted or exterior canopy-mounted.
71. DR bezel is recommended for outdoor canopy installations.
72. A CL, SL or PD must be specified to maintain an IP54 rating. A second accessory may be specified.
73. For ENERGY STAR certification, not available with RM or NC installation types when combined with 90 color rendering option combined and 2000 lumens.
74. Available for RM and NC installation types only.
75. Emergency battery backup options require ceiling access for test button use. The battery will operate for 90 minutes minimum and maintain a minimum of 1 fc from a 7 ft 2 in height as per UL 924. For indoor use only in dry or damp locations.
76. Emergency battery backup options are field installed and not presided by Lumenpulse. Refer to related installation instructions for details.
77. Maximum two accessories per fixture.
78. Not available for DTW and DTWP color options.
79. Available for XN, VN and NS optics only.
80. Can be combined with PD accessory only.
81. Recommended to be combined with HL or XLVR accessory only.
82. Recommended for XN, VN, NS, NSR, NSFR, N, NR and NFR optics when combined with 2200K, 2700K, 3000K, 3500K, 4000K color temperature options. Nominal 10° x 40° distribution when used with the NS optic. Available for NFR optic when combined with DTW, DTWP, DWH, DWW or DWWP color options only.
83. For optimal performance, it is not recommended to mix with other accessories.
84. Recommended for XN, VN, NS, NSR, NSFR, N, NR and NFR optics when combined with 2200K, 2700K, 3000K, 3500K, 4000K color temperature options. Nominal 10° x 60° distribution when used with the NS optic. Available for NFR optic when combined with DTW, DTWP, DWH, DWW or DWWP color options only.

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Submitted by United Lighting Alliance of Oklahoma

ULA UNITED LIGHTING ALLIANCE OKLAHOMA

Job Name:
Greenwood Cultural Center Facility Rehabilitation
Architect: CJC Architecture (Tulsa)
Engineer: HP Engineering (Broken Arrow)

Catalog Number:
LADM-A-120-L20-35K-CR80-W-RD-WH-DA1-NC-NA
Notes:

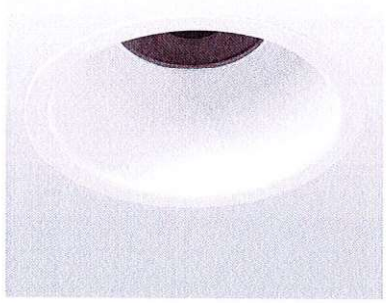
Type:
DR
ULAOK25-104

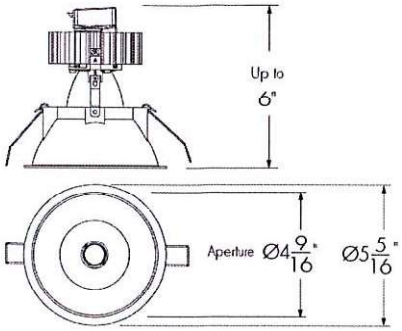
Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

Project Name _____ **Qty** _____

Type _____ **Catalog / Part Number** _____





Side view

Ceiling cutout: Ø 4 13/16"
Maximum ceiling thickness: 1"

Bottom view

Photometric Summary

Based on Narrow Optic (nominal 25°), 4000K, CRI 90+

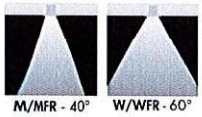
Nominal output [lm]	Delivered output [lm][1]	Insulated ceiling		Non-insulated ceiling	
		Power (120V)[2] [W]	Efficacy [lm/W]	Power (120V)[2] [W]	Efficacy [lm/W]
700	707	6.5	108	8.5	83
1000	933	8	117	10	93
1300	1,272	11	116	13	98
2000	1,977			20	99

1. Consult website for latest IES files.
2. Add 3 watts per fixture when specifying Lumentalk™.
3. Photometric performance is measured in compliance with IESNA LM-79-24.

Optics

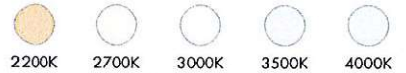


XN - 5° VN - 10° NS - 15° N/NFR - 25°



M/MFR - 40° W/WFR - 60°

Color and Color temperature



2200K 2700K 3000K 3500K 4000K



2700K - 2200K 3500K - 1800K 2700K - 6500K 2200K - 3000K 2200K - 3500K

Description

The Lumencore Recessed Discreet Medium achieves a sleek, trimless appearance without the cost and complexity of plastering in small luminaires. Designed with a deep-set soft reflector, the luminaire blends harmoniously into ceilings, making it ideal for commercial and residential applications looking for a clean, minimalist look. The luminaire offers wide a choice of outputs, beam angles, color temperatures, color rendering options and accessories.

Features

Output (Nominal Lumens)	700 lm, 1000 lm, 1300 lm, 2000 lm, 3000 lm
Color and Color Temperature	2200K 2700K 3000K 3500K 4000K Dim to Warm Dim to Warm Plus Dynamic White Dynamic Warm White Dynamic Warm White Plus
Optics (Nominal Distribution)	Extra Narrow Spot 5°, Very Narrow Spot 10°, Narrow Spot 15°, Narrow/Narrow Faceted Reflector 25°, Medium/Medium Faceted Reflector 40°, Wide/Wide Faceted Reflector 60°
Installation Type	Remodel Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142), New Construction Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142), New Construction Insulated Ceiling (Enclosed Box), New Construction Insulated Ceiling - Chicago Plenum Rated Option (Airtight, Enclosed Box)
Certifications	UL compliant (this luminaire is listed & labeled for such use in accordance with UL2043 & CAN/ULC-S142)

lumenpulse
1220 Marie-Victorin Blvd., Longueuil QC, J4G 2H9, CAN | T 514.937.3003 | 1.877.937.3003 | info@lumenpulse.com
www.lumenpulse.com www.lumenpulse.com/products/5101

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JC - R18

Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

Controls

ON/OFF 0-10V PRO 0-10V DALI PRO DALI DALI T8 DMX rdm LUTRON lumentalk PH PPH

Trim shape



Round

Trim finishes



White



Black



Grey



Custom (please specify RAL colour)

Options



Emergency battery backup

Certifications

c UL us RoHS 5 YEARS lumenpulse

Warranty	5-year limited warranty
Option	Emergency Battery Backup with Hanger Bar (Bodine BSL17C-C2), Emergency Battery Backup with Hanger Bar (Iota ILB-CP07-A TBTS)

Performance

Maximum Delivered Output	Up to 2,840 lm (wide faceted reflector 60°, 4000K, CRI 80)
Maximum Delivered Intensity	Up to 63,952 cd (extra narrow spot optic 5°, 4000K, CRI 80)
Efficacy	Up to 95 lm/W (wide faceted reflector 60°, 4000K, CRI 80)
Color Consistency	2 SDCM, 3 SDCM (XN optic only)
Color Rendering	CRI 80+ CRI 90+ CRI 95+
Lumen Maintenance	L95 55,000 hrs L70 225,000 hrs

Physical

Housing Material	Aluminum
TIR Optics Material	Clear polycarbonate
Reflector Material	Aluminum
Trim Shape	Round
Trim Finish	White, Black, Gray, Custom (Please Specify RAL Color)

Electrical and Control

Voltage	120 Volts, 277 Volts
Control	On/Off Control, Standard 0-10V Dimming 1% (Linear or Logarithmic Curve), Professional 0-10V Dimming 0.1% (Linear or Logarithmic Curve), Standard DALI Dimming 1% (Linear or Logarithmic Curve), Professional DALI Dimming 0.1% (Linear or Logarithmic Curve), DALI-2 T8 Enabled Dimming 1%, DMX/RDM Enabled Dimming 1%, Lutron® Hi-lume 1% EcoSystem® LDE1/PEQ1 Soft-on/Fade-to-Black, Lumentalk Enabled Dimming, Phase Dimming (Consult Factory), Phase Dimming 1%

Environmental

Environment	Damp location rating (interior applications only)
Operating Temperature	-4 °F to 104 °F
Ingress Protection Rating	IP44 (with narrow spot and narrow optics) IP44 (with medium and wide optics, CL/SL/PD accessories) IP20 (with medium and wide optics without accessories)

Accessories (Order Separately)

Control Systems	Pharos® Lighting Control Kit (PHAROS), Pharos® Expert Control Kit (EXPERT)
Diagnostic and Addressing Tools	LumenID (LID)

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JC-R18

Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

Important

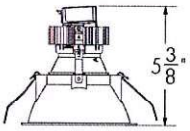
Virtual Patent Marking Notice

This website (https://www.lmpg.com/patents-trademarks) is provided to satisfy the virtual patent marking provisions of applicable jurisdictions. Some products listed may be covered by additional patents not referenced here.

Static Color Dimensions (22K, 27K, 30K, 35K, 40K)

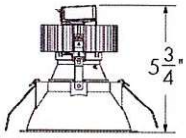
XN (5°)/ VN (10°)

700lm CR80/CR90 (XN/VN)

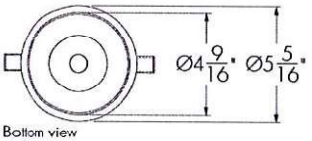


Side view

1000/1300lm CR80/CR90 (VN)



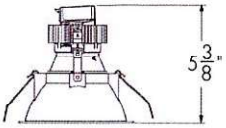
Side view



Bottom view

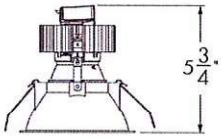
NS (15°)/ N (25°)

700/1000lm CR80/CR90/CR95
1300lm CR80/CR90

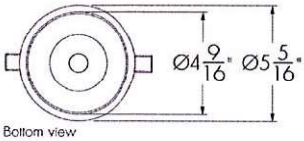


Side view

1300lm CR95
2000lm CR80/CR90



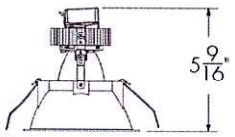
Side view



Bottom view

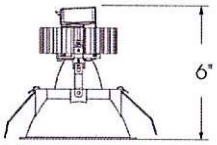
NFR (25°)/ M (40°)/ MFR (40°)/ W (60°)/ WFR (60°)

700/1000/1300lm CR80/CR90/CR95

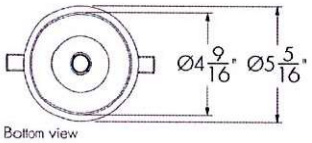


Side view

2000lm CR80/CR90/CR95
3000lm CR80/CR90



Side view



Bottom view

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JC - R1B

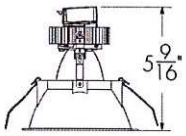
Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

Dynamic Color Dimensions (DTW, DTWP, DWH, DWW, DWWP)

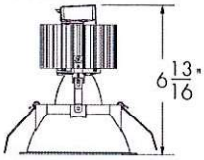
NFR (25°)/ M (40°)/ MFR (40°)/ W (60°)/ WFR (60°)

1000lm/1300lm CR90 (DTW/DTWP)



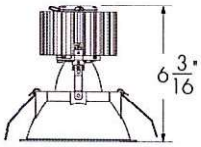
Side view

2000lm CR90 (DTW/DTWP)

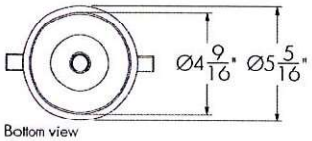


Side view

1300lm CR80 (DWH/DWW/DWWP)



Side view



Bottom view

Color temperature options may vary according to optic. Refer to website product configurator for details.

Photometric Information - Color Rendering Options Comparison, 3000K

Color sample	Ra	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
CRI 80+	84	82	90	97	83	82	88	86	63	15	77	83	68	84	98	75
CRI 90+	94	95	98	99	95	94	97	91	80	55	93	97	83	96	99	89
CRI 95+	97	96	97	99	96	96	95	96	97	97	96	95	86	96	98	97
Radiant CRI 80+	84	83	91	96	81	82	89	83	62	15	79	80	69	85	98	76
Radiant CRI 95+	95	95	94	95	98	94	90	94	96	96	89	95	80	94	98	96

Optics

TIR Optic
XN/WN/NS/N



Semi-Specular reflector
M/W



Faceted reflector
NFR/MFR/WFR



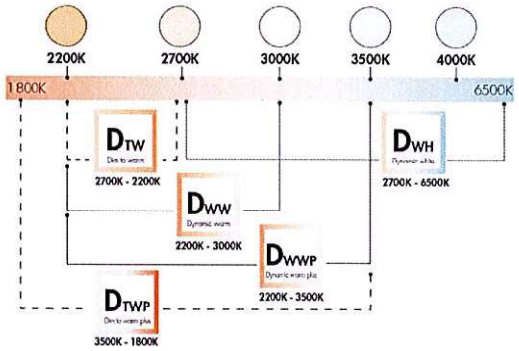
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JC - R18

Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

Color and Color Temperature

Color Temperature Ranges

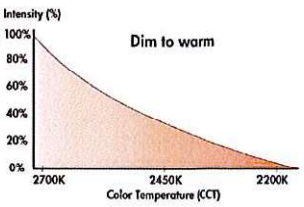


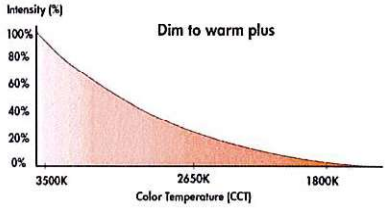
--- 1 channel (DTW, DTWP) Compatible with: DA1 SDALI DMXrdm lumentalk

—— 2 channels (DWH, DWW, DWWP) Compatible with: DALIT8 DMXrdm lumentalk

—— 3 channels* (DWH, DWW, DWWP) Compatible with: DALIT8 DMXrdm lumentalk

*Can be field changeable via RDM & LT for individual CCT control.





Control

Refer to website product configurator for exceptions

On/off control
NO - On/off control

Standard 0-10V dimming down to 1%
DAMC - Standard 0-10V dimming to 1% linear curve
DA1 - Standard 0-10V dimming, 1% linear
DA2 - Standard 0-10V dimming, 1% logarithmic

Professional 0-10V dimming down to 0.1%
PDA1 - Pro 0-10V dimming, 0.1% linear
PDA2 - Pro 0-10V dimming, 0.1% logarithmic

Standard DALI dimming down to 1%
SDALI1 - Standard DALI dimming, 1% linear
SDALI2 - Standard DALI dimming, 1% logarithmic

Professional DALI dimming down to 0.1%
DALI1 - Pro DALI dimming, 0.1% linear
DALI2 - Pro DALI dimming, 0.1% logarithmic

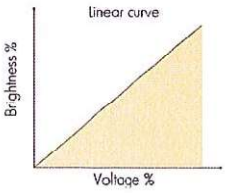
Lutron® EcoSystem®
ES - Lutron® Hi-lume 1% EcoSystem® LDE1/PEQ1 Soft-on/Fade-to-Black, 1% minimum dimming value

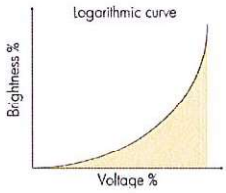
DALI dimming Type 8
DALIT8 - DALI dimming Type 8 (multi channel capability)

DMXrdm
DMX/RDM - DMX/RDM enabled

lumentalk dimming
LT - Lumentalk dimming, 1% minimum dimming value

Phase dimming (consult factory)
PH - Phase dimming
PPH - Phase 1% dimming





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Specification Sheet

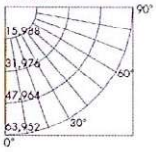
Lumencore Recessed
Discreet Medium
LADM

Photometric Information (RM And NC Installation Types)

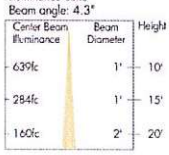
XN - Extra Narrow Spot (Nominal 5°), 4000K

Nominal output [lm]	Power (120V) [W]†		Power (277V) [W]†		Delivered output [lm]††	
	CR80	CR90	CR80	CR90	CR80	CR90
700	12.5	12.5	13.5	13.5	684	616

Candlepower distribution



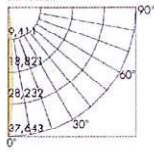
Illuminance cone
Beam angle: 4.3°



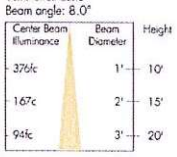
VN - Very Narrow Spot (Nominal 10°), 4000K

Nominal output [lm]	Power (120V) [W]†		Power (277V) [W]†		Delivered output [lm]††	
	CR80	CR90	CR80	CR90	CR80	CR90
700	12.5	12.5	13.5	13.5	763	687
1000	17	17	18	18	1,013	912
1300	22	22	23	23	1,316	1,184

Candlepower distribution



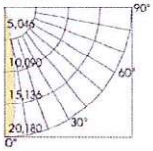
Illuminance cone
Beam angle: 8.0°



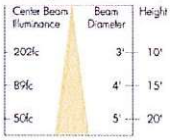
NS - Narrow Spot (Nominal 15°), 4000K

Nominal output [lm]	Power (120V) [W]†			Power (277V) [W]†			Delivered output [lm]††		
	CR80	CR90	CR95	CR80	CR90	CR95	CR80	CR90	CR95
700	9.5	9.5	10.5	11	11	12.5	652	652	586
1000	13	13	15	15	15	17	859	859	774
1300	15	15	20	17	17	22	1,173	1,173	1,056
2000	23	23	N/A	24	24	N/A	1,825	1,825	N/A

Candlepower distribution



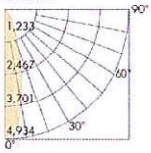
Illuminance cone
Beam angle: 15.1°



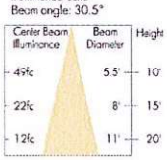
N - Narrow (Nominal 25°), 4000K

Nominal output [lm]	Power (120V) [W]†			Power (277V) [W]†			Delivered output [lm]††		
	CR80	CR90	CR95	CR80	CR90	CR95	CR80	CR90	CR95
700	8.5	8.5	9	10	10	11	707	707	636
1000	10	10	13	12	12	15	933	933	839
1300	13	13	15	15	15	17	1,272	1,272	1,145
2000	20	20	23	21	21	24	1,977	1,977	1,780

Candlepower distribution



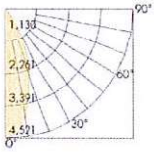
Illuminance cone
Beam angle: 30.5°



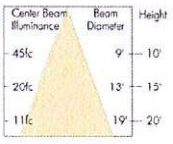
M - Medium (Nominal 40°), 4000K

Nominal output [lm]	Power (120V) [W]†			Power (277V) [W]†			Delivered output [lm]††		
	CR80	CR90	CR95	CR80	CR90	CR95	CR80	CR90	CR95
700	8.5	8.5	9	10	10	11	625	625	562
1000	10	10	13	12	12	15	824	824	741
1300	13	13	15	15	15	17	1,126	1,126	1,014
2000	20	20	23	21	21	24	1,751	1,751	1,576
3000	30	25	42	31	26	42	2,624	2,624	N/A

Candlepower distribution



Illuminance cone
Beam angle: 42.6°



MFR - Medium Faceted Reflector (Nominal 40°), 4000K

Nominal output [lm]	Power (120V) [W]†			Power (277V) [W]†			Delivered output [lm]††		
	CR80	CR90	CR95	CR80	CR90	CR95	CR80	CR90	CR95
700	8.5	8.5	9	10	10	11	669	669	601
1000	10	10	13	12	12	15	882	882	793
1300	13	13	15	15	15	17	1,205	1,205	1,085
2000	20	20	23	21	21	24	1,874	1,874	1,686
3000	30	25	42	31	26	42	2,808	2,808	N/A

1Remove 2 watts per fixture when specifying new construction insulated ceiling installation types (IC and CP).
2Add 3 watts per fixture when specifying Lumentalk™.
†Delivered wattage: +/- 10% tolerance.
††Consult website for latest IES files. Delivered output: +/- 10% tolerance.
Photometric performance is measured in compliance with IESNA LM-79-24.

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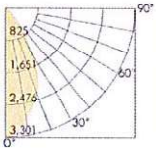
Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

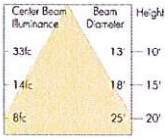
W - Wide (Nominal 60°), 4000K

Nominal output [lm]	Power (120V) [W]†			Power (277V) [W]†			Delivered output [lm]††		
	CR80	CR90	CR95	CR80	CR90	CR95	CR80	CR90	CR95
700	8.5	8.5	9	10	10	11	631	631	568
1000	10	10	13	12	12	15	834	834	750
1300	13	13	15	15	15	17	1,139	1,139	1025
2000	20	20	23	21	21	24	1,770	1,770	1593
3000	30	25	42	31	26	42	2,654	2,654	N/A

Candlepower distribution



Illuminance cone
Beam angle: 55.2°



WFR - Wide Faceted Reflector (Nominal 60°), 4000K

Nominal output [lm]	Power (120V) [W]†			Power (277V) [W]†			Delivered output [lm]††		
	CR80	CR90	CR95	CR80	CR90	CR95	CR80	CR90	CR95
700	8.5	8.5	9	10	10	11	675	675	608
1000	10	10	13	12	12	15	892	892	803
1300	13	13	15	15	15	17	1,219	1,219	1,097
2000	20	20	23	21	21	24	1,894	1,894	1,705
3000	30	25	42	31	26	42	2,840	2,840	N/A

1Remove 2 watts per fixture when specifying new construction insulated ceiling installation types (IC and CP).
2Add 3 watts per fixture when specifying Lumentalk™.
†Delivered wattage: +/- 10% tolerance.
††Consult website for latest IES files. Delivered output: +/- 10% tolerance.
Photometric performance is measured in compliance with IESNA LM-79-24.

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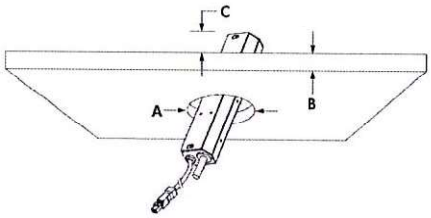
Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

Ceiling Requirements

Minimum Ceiling Height

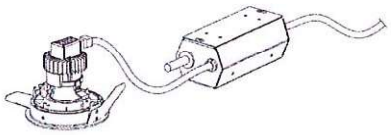
Installation type	700lm		1000lm		1300lm		2000lm	3000lm	4000lm
RM	6"						6.5"		N/A
NC									7"
IC/CP	XN/VN optics	N to WW optics	VN optic	N to WW optics	VN optic	NS to WFR optics	N/A		
	CRI 80 = 9" CRI 90 = 9"	CRI 80/90 = 7" CRI 95 = 7"	CRI 80 = 9" CRI 90 = 9"	CRI 80/90 = 7" CRI 95 = 9"	CRI 80 = 9" CRI 90 = 9"	CRI 80/90 = 7" CRI 95 = 9"			



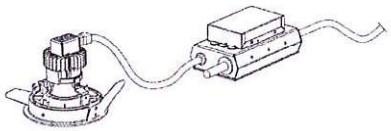
A - Ceiling cutout: Ø 4 13/16 in
B - Maximum ceiling thickness: 1 in
C - Minimum ceiling height

Installation Types

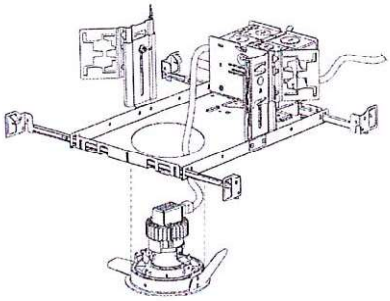
RM: Remodel Non-Insulated Ceiling (Plenum Rated In Accordance To UL 2043 & CAN/ULC-S142) (NO and LT Controls)



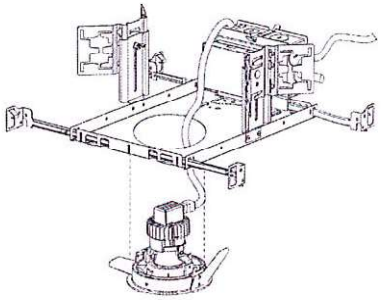
RM: Remodel Non-Insulated Ceiling (Plenum Rated In Accordance To UL 2043 & CAN/ULC-S142) (Dimming)



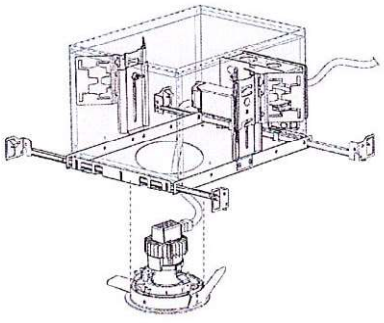
NC: New Construction Non-Insulated Ceiling (Plenum Rated In Accordance To UL 2043 & CAN/ULC-S142) (NO Control)



NC: New Construction Non-Insulated Ceiling (Plenum Rated In Accordance To UL 2043 & CAN/ULC-S142) (Dimming)



IC/CP: New Construction Insulated Ceiling (Enclosed Box)



Fixture shown for reference only. Refer to Ceiling Requirements section and installation instructions for dimensions and ceiling cutout requirements.

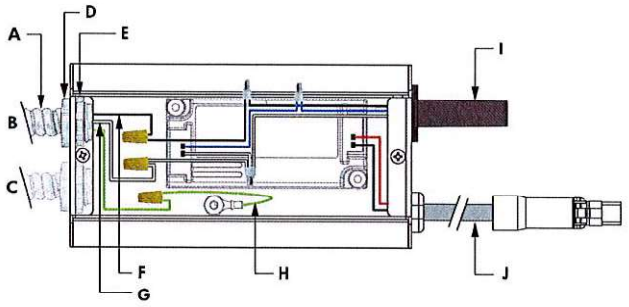
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Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

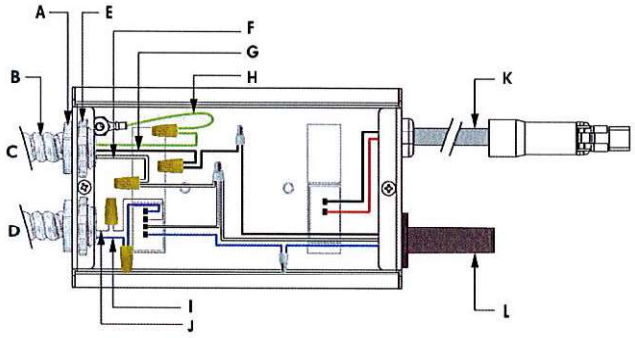
Wiring Details RM: Remodel Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142)

On/Off Control



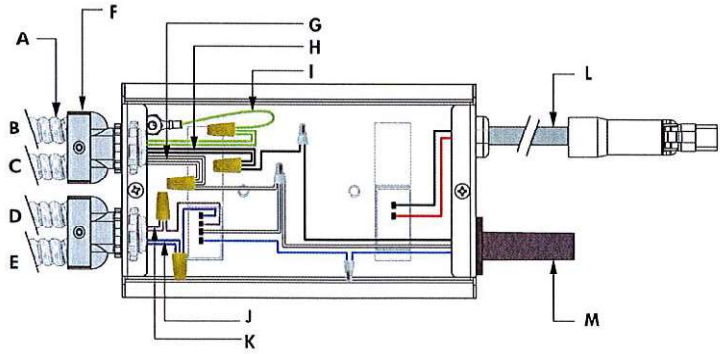
A - Conduit (by others)
B - Power Input
C - Optional Output
D - Conduit fitting (by others)
E - Locknut (by others)
F - Line (black)
G - Neutral (white)
H - Ground (green)
I - Thermal protector
J - Output to luminaire

Control (DAMC, DA1, DA2, PDA1, PDA2, DALI1, DALI2, EcoSystem®)*



A - Conduit fitting (by others)
B - Conduit (by others)
C - Power Input
D - Data Input from Control System
E - Locknut (by others)
F - Neutral (white)
G - Line (black)
H - Ground (green)
I - Data + (purple)
J- Data - (gray)
K- Output to luminaire
L - Thermal protector

Control (Daisy Chain Layout) (DAMC, DA1, DA2, PDA1, PDA2, DALI1, DALI2, EcoSystem®)*



A - Conduit (by others)
B - Power Output to next luminaire
C - Power Input
D - Data Output to next luminaire
E - Data Input from Control System
F - Duplex connector (by others)
G - Neutral (white)
H- Line (black)
I - Ground (green)
J - Data - (gray)
K- Data + (purple)
L - Output to luminaire
M- Thermal protector

*Each Lutron® EcoSystem® enabled fixture has its own address; for each of the examples shown above, there is one EcoSystem® address. Lutron® EcoSystem® Enabled dimming is not available for 700 lumens or 1000 lumens.

Refer to installation instructions for additional wiring details.

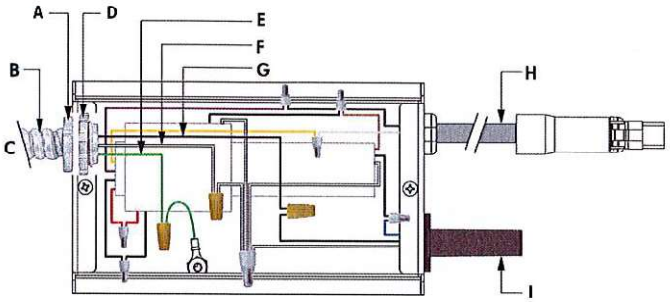
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Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

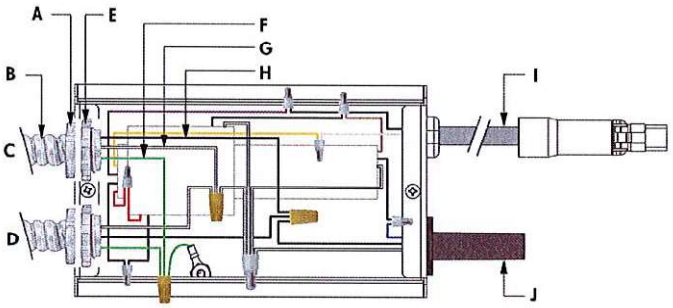
Wiring Details RM: Remodel Non-Insulated Ceiling (Plenum Rated In Accordance To UL 2043 & CAN/ULC-S142) (LT Control)

Control (LT)



A - Conduit fitting (by others)
B - Conduit (by others)
C - Power Input
D - Locknut (by others)
E - Ground (green)
F - Neutral (white)
G - Line (black)
H - Output to luminaire
I - Thermal protector

Control (Daisy Chain Layout) (LT)



A - Conduit fitting (by others)
B - Conduit (by others)
C - Power Input
D - Power Output to next luminaire
E - Locknut (by others)
F - Ground (green)
G - Neutral (white)
H - Line (black)
I - Output to luminaire
J - Thermal protector

Refer to installation instructions for additional wiring details.

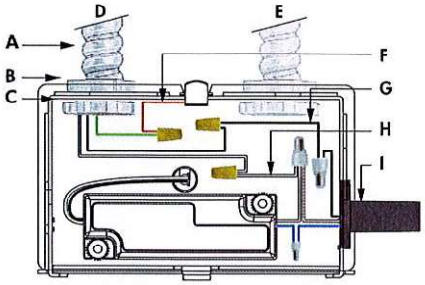
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Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

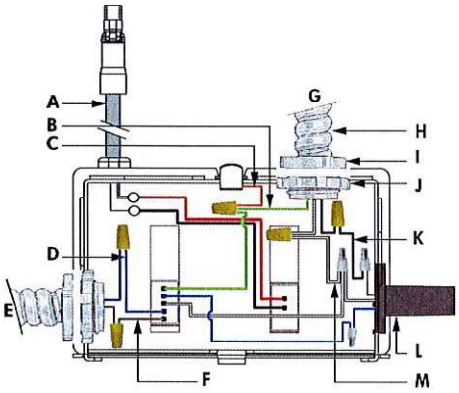
Wiring Details NC: New Construction Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142)

On/Off Control



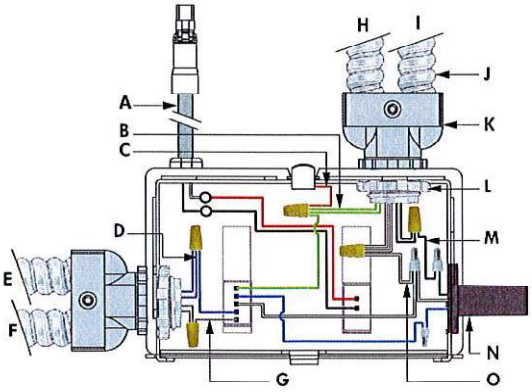
A - Conduit (by others)
B - Conduit fitting (by others)
C - Locknut (by others)
D - Power Input
E - Optional Output
F - Ground (copper)
G - Line (black)
H - Neutral (white)
I - Thermal protector

Control (DAMC, DA1, DA2, PDA1, PDA2, DALI1, DALI2, EcoSystem®)*



A - Output to luminaire
B - Ground (green)
C - Ground (copper)
D - Data + (purple
E - Data Input from Control System
F - Data - (gray)
G - Power Input
H - Conduit (by others)
I- Conduit fitting (by others)
J - Locknut (by others)
K- Line (black)
L - Thermal protector
M- Neutral (white)

Control (Daisy Chain Layout) (DAMC, DA1, DA2, PDA1, PDA2, DALI1, DALI2, EcoSystem®)*



A - Output to luminaire
B - Ground (green)
C - Ground (copper)
D - Data + (purple)
E - Data Output to next luminaire
F - Data Input from Control System
G - Data - (gray)
H - Power Input
I - Power Output to next luminaire
J- Conduit (by others)
K- Duplex connector (by others)
L - Locknut (by others)
M- Line (black)
N - Thermal protector
O- Neutral (white)

Refer to Installation Instructions for additional wiring details.

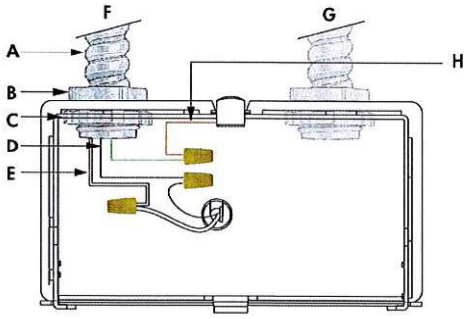
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Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

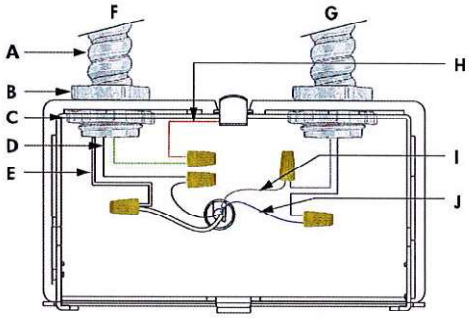
Wiring Details IC/CP: New Construction Insulated Ceiling (Enclosed Box)

On/Off Control



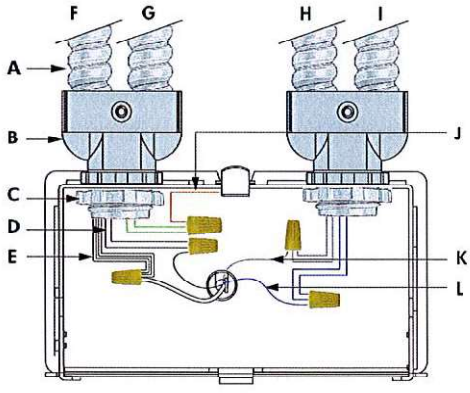
A - Conduit (by others)
B - Conduit fitting (by others)
C - Locknut (by others)
D - Line (black)
E - Neutral (white)
F - Power Input
G - Optional Output
H - Ground (copper)

Control (DA1, DA2, PDA1, PDA2, DALI1, DALI2)



A - Conduit (by others)
B - Conduit fitting (by others)
C - Locknut (by others)
D - Line (black)
E - Neutral (white)
F - Power Input
G - Data Input from Control System
H - Ground (copper)
I - Data - (gray)
J - Data + (purple)

Control (Daisy Chain Layout) (DA1, DA2, PDA1, PDA2, DALI1, DALI2)



A - Conduit (by others
B - Duplex connector (by others)
C - Locknut (by others)
D - Line (black
E - Neutral (white)
F - Power Input
G - Power Output to next luminaire
H - Data Input from Control System
I - Data Output to next luminaire
J - Ground (copper)
K - Data - (gray)
L - Data + (purple)

Refer to Installation Instructions for additional wiring details.

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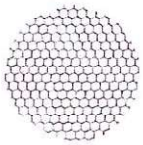
Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

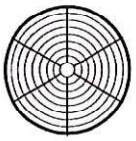
Optical Accessories

SL - Softening Glass Lens

HL - Honeycomb Louver



XLVR - Concentric Ring Louver



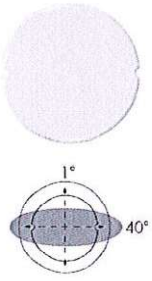
CL - Clear Glass Lens



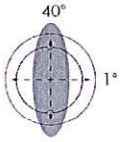
PD – Prismatic Diffuser



LSN - Linear Spread Lens Narrow (1° x 40°)

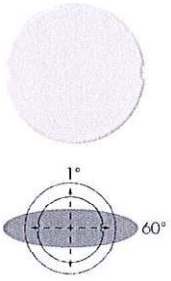


Horizontal Beam Distribution

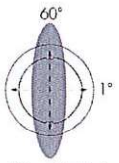


Vertical Beam Distribution

LSW - Linear Spread Lens Wide (1° x 60°)



Horizontal Beam Distribution



Vertical Beam Distribution

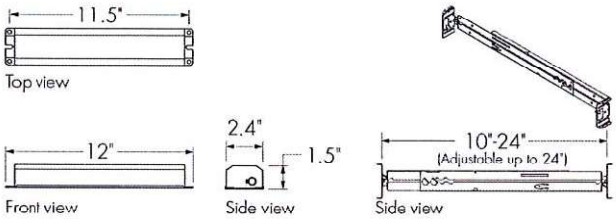
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JC - R10

Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

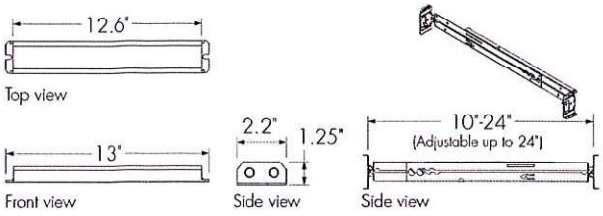
Options

EBB - Emergency Battery Backup With Hanger Bar (Bodine BSL17C-C2)



Hardware to mount the battery backup to the hanger bar is included. A test button is included. The unit comes pre-wired with 2 ft flexible conduit in and out. Refer to installation instructions for details.

EBI - Emergency Battery Backup With Hanger Bar (Iota ILB-CP07-A TBTS)



Hardware to mount the battery backup to the hanger bar is included. A test button is included. The unit comes pre-wired with 2 ft flexible conduit in and out. Refer to installation instructions for details.

Diagnostic And Addressing Tools (Order Separately)

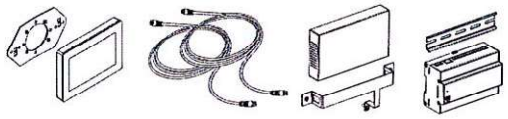
LID - LumenID



The updated LumenID (LID) is now your all-in-one diagnostic and addressing solution for both DMX/RDM and Lumentalk (LT) systems. Engineered for versatility, it streamlines commissioning and troubleshooting across protocols—no need for multiple tools. Consult the LID specification sheet for full details.

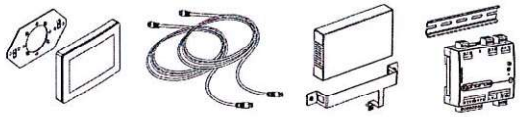
Control Systems (Order Separately)

PHAROS - Pharos® Designer Lighting Control Kit



The Pharos Designer Lighting Contol Kit, available for 1 or 2 DMX universes, allows for complete control of large lighting installations.

EXPERT - Pharos® Expert Control Kit



The Pharos Expert Control Kit, available for 1, 2, 4 or 6 DMX universes, allows for complete control of large lighting installations.

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Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

How to Order

Housing [1]	Certification	Voltage [2]	Output (Nominal Lumens)	Color and Color Temperature	Color Rendering	Optics (Nominal Distribution)	Trim Shape	Trim Finish
LADM Lumencore Recessed Discreet Medium	**A** UL/cUL	**120** 120 Volts **277** 277 Volts	**L07** 700 lm **L10** 1000 lm [3] **L13** 1300 lm [3] **L20** 2000 lm [4] **L30** 3000 lm [5]	**22K** 2200K [6] [7] **27K** 2700K **30K** 3000K **35K** 3500K **40K** 4000K **DTW** Dim to Warm (2700K to 2200K) [8] [9] [10] **DTWP** Dim to Warm Plus (3500K to 1800K) [8] [9] [10] **DWH** Dynamic White (2700K to 6500K) [9] [11] **DWW** Dynamic Warm White (2200K to 3000K) [9] [11] **DWWP** Dynamic Warm White Plus (2200K to 3500K) [9] [11]	**CR80** CRI 80+ [12] **CR90** CRI 90+ **CR95** CRI 95+ [13] **RCR80** Radiant CRI 80+ [7] [14] **RCR95** Radiant CRI 95+ [7] [13] [14]	**XN** Extra Narrow Spot 5° [15] **VN** Very Narrow Spot 10° **NS** Narrow Spot 15° [16] **N** Narrow 25° [16] **NFR** Narrow Faceted Reflector 25° **M** Medium 40° **MFR** Medium Faceted Reflector 40° **W** Wide 60° **WFR** Wide Faceted Reflector 60°	**RD** Round	**WH** White **BK** Black **GRY** Gray **CC** Custom [17]

Notes:

1. Refer to website product configurator for all exceptions.
2. Consult factory for 347 volts.
3. Available for VN, NS, N, NFR, M, MFR, W and WFR optics only.
4. Available for NS, N, NFR, M, MFR, W and WFR optics only.
5. Available for NFR, M, MFR, W and WFR optics only.
6. Available for CR80 only.
7. Not available for XN and VN optics.
8. Available for 1000, 1300 and 2000 lumens when combined with NFR, M, MFR, W and WFR optics only.
9. NFR, MFR and WFR faceted reflector optics are recommended for optimal performance.
10. Available with CR90 only.
11. Available for 1300 lumens when combined with CR80 and NFR, M, MFR, W or WFR optics only.
12. Available for 2200K, 2700K, 3000K, 3500K, 4000K and DWH, DWW or DWWP color options only.
13. CR95 and RCR95 available up to 1300 lumens for NS optic, up to 2000 lumens for N, NFR, M, MFR, W and WFR optics only.
14. Radiant CRI options available for 3000K only.
15. Available for 700 lumens when combined with CR80 or CR90 color rendering options only.
16. Available up to 2000 lumens.
17. Longer lead times can be expected for custom RAL color finishes.

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Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

How to Order

Control [20]	Installation Type	Option	Accessories [49] [50]
NO On/Off Control [18] [19]	**RM** Remodel Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142)	**EBB** Emergency Battery Backup with Hanger Bar (Bodine BSL17C-C2) [24] [44] [45] [46] [47]	**NA** No Accessory
DAMC Standard 0-10V Dimming 1% Linear Curve [19] [21] [22] [23] [24]	**NC** New Construction Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142)	**EBI** Emergency Battery Backup with Hanger Bar (Iota ILB-CP07-A TBTS) [24] [44] [45] [47] [48]	**SL** Softening Glass Lens
DA1 Standard 0-10V Dimming 1% Linear Curve [25] [26]	**IC** New Construction Insulated Ceiling (Enclosed Box) [42] [43] [44]		**HL** Honeycomb Louver [51]
DA2 Standard 1-10V Dimming 1% Logarithmic Curve [25] [26]	**CP** New Construction Insulated Ceiling - Chicago Plenum Rated Option (Airtight, Enclosed Box) [42] [43] [44]		**XLVR** Concentric Ring Louver [52]
PDA1 Professional 0-10V Dimming 0.1% Linear Curve [19] [25]			**CL** Clear Glass Lens
PDA2 Professional 0-10V Dimming 0.1% Logarithmic Curve [19] [25]			**PD** Prismatic Diffuser
SDALI1 Standard DALI Dimming 1% Linear Curve [27]			**LSN** Linear Spread Lens Narrow (18 x 40°) [53]
SDALI2 Standard DALI Dimming 1% Logarithmic Curve [27]			**LSW** Linear Spread Lens Wide (18 x 60°) [53]
DALI1 Professional DALI Dimming 0.1% Linear Curve [19] [28]			
DALI2 Professional DALI Dimming 0.1% Logarithmic Curve [19] [28]			
DALIT8 DALI-2 T8 Enabled Dimming 1% [29] [30]			
DMX/RDM DMX/RDM Enabled Dimming 1% [31] [32]			
ES Lutron® Hi-lume 1% EcoSystem® LDE1/PEQ1 Soft-on/Fade-to-Black [7] [19] [33]			
LT Lumentalk Enabled Dimming [34] [35] [36]			
PH Phase Dimming (Consult Factory) [37] [38] [39] [40]			
PPH Phase Dimming 1% [7] [19] [38] [41]			

Notes:

7. Not available for XN and VN optics.
18. Manufacturer's choice driver. Order code may change to NO1.
19. Not available for DTW, DTWP, DWH, DWW or DWWP color options.
20. Control options vary according to color temperature, color rendering, optics and installation type combination. Refer to website product configurator for details.
21. Manufacturer's choice driver. Order code may change to DAMC1 or DAMC2.
22. Not available for XN and VN optics.
23. Available up to 3000 lumens when combined with CR80 or CR90 color rendering option. Available up to 2000 lumens when combined with CR80, CR90 or CR95 color rendering options.
24. Available for RM and NC installation types only.
25. Driver cuts off power to the fixture when the control signal drops below 0.5V.
26. Not available for DWH, DWW or DWWP color options.
27. Available for DTW and DTWP color options only, when combined with 1000, 1300 or 2000 lumens.
28. Consult factory for other DALI control options for static color temperatures.
29. Available for DWH, DWW and DWWP color options only. DALI-2 Type 8 controller required.
30. Consult factory for DALIT8 control option.
31. A Control Box (CBX-DS or CBX-ST) and lumenID (LID) must be specified.
32. Available for DTW, DTWP, DWH, DWW and DWWP color options only.
33. One EcoSystem® address per fixture. 1% minimum dimming value. Lutron® EcoSystem® Enabled dimming available for RM and NC installation types only. Lutron® EcoSystem® Enabled dimming not available for 700 lumens or 1000 lumens.
34. 1% minimum dimming value. Lumentalk dimming available for RM installation type when combined with 2200K, 2700K, 3000K, 3500K or 4000K color options and any of the optic options. Lumentalk dimming available for NC installation type when combined with 2200K, 2700K, 3000K, 3500K or 4000K color options and XN or VN optic options. Lumentalk is available for RM and NC installation types when combined with DTW, DTWP, DWH, DWW or DWWP color options and NFR, M, MFR, W or WFR optic options. Lumentalk dimming available up to 1300 lumens (CR80, RCR80, CR90, CR95 or RCR95), 2000 lumens (CR80, RCR80 or CR90).
35. Lumentalk is not available for emergency battery backup options.
36. A Lumentranslator 2 (LTL2) and LumenID (LID) must be specified for Lumentalk applications. Consult Lumentranslator 2 and Lumentalk pages and specification sheets for details.
37. Manufacturer's choice driver. Order code may change to PH1 or PH2.
38. Available for 120V only. Not available for IC and CP installation types.
39. Available for 2700K, 3000K, 3500K and 4000K color options when combined with XN or VN optics only.
40. Not available for emergency battery backup options.
41. Manufacturer's choice driver. Order code is subject to change.
42. Insulated ceiling available up to 1000 lumens (CR80, RCR80, CR90, CR95 or RCR95), 1300 lumens (CR80, RCR80 or CR90).
43. Insulated ceiling available for DTW or DTWP color options when combined with the DA1, DA2, SDALI1 or SDALI2 control options.
44. Not available for DWH, DWW or DWWP color options.
45. Emergency battery backup options require ceiling access for test button use. The battery will operate for 90 minutes minimum and maintain a minimum of 1 fc from a 7 ft 2 in height as per UL 924. For indoor use only in dry or damp locations.
46. Consult factory for use with LT or DMX/RDM control options combined with DTW or DTWP color options. Not available for XN and VN optics.
47. Emergency battery backup options are field installed and not presided by Lumenpulse. Refer to related installation instructions for details.
48. Consult factory for use with LT or DMX/RDM control options combined with DTW or DTWP color options or LT control combined with XN or VN optics.
49. Factory installed.
50. Maximum one accessory per fixture.
51. HL accessory is available for 2200K, 2700K, 3000K, 3500K and 4000K color options only.
52. Available for XN, VN and NS optics only.
53. Available for XN, VN, NS, N and NFR optics when combined with 2200K, 2700K, 3000K, 3500K, 4000K color options only. Available for NFR optic only when combined with DTW, DTWP, DWH, DWW or DWWP color options only.

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Submitted by United Lighting Alliance of Oklahoma

Job Name:
Greenwood Cultural Center Facility Rehabilitation
Architect: CJC Architecture (Tulsa)
Engineer: HP Engineering (Broken Arrow)

Catalog Number:
LADM-A-120-L20-35K-CR80-W-RD-WH-DAMC-NC-EBI-NA
Notes:

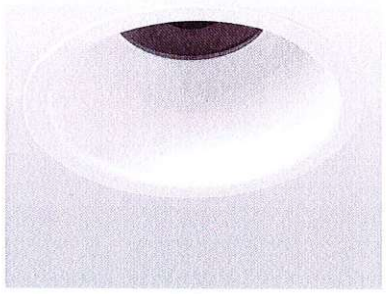
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ULAOK25-104

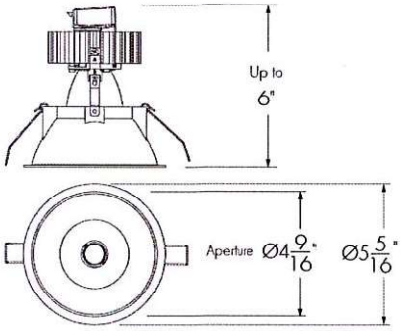
Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

Project Name _____ **Qty** _____

Type _____ **Catalog / Part Number** _____





Side view

Ceiling cutout: Ø 4 13/16"
Maximum ceiling thickness: 1"

Bottom view

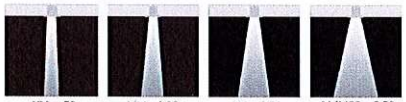
Photometric Summary

Based on Narrow Optic (nominal 25°), 4000K, CRI 90+

Nominal output [lm]	Delivered output [lm][1]	Insulated ceiling		Non-insulated ceiling	
		Power (120V) [W]	Efficacy [lm/W]	Power (120V)[2] [W]	Efficacy [lm/W]
700	707	6.5	108	8.5	83
1000	933	8	117	10	93
1300	1,272	11	116	13	98
2000	1,977			20	99

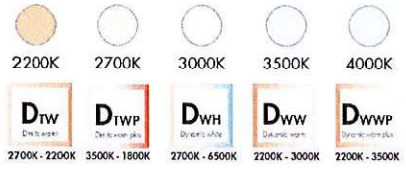
1. Consult website for latest IES files.
2. Add 3 watts per fixture when specifying Lumentalk™.
3. Photometric performance is measured in compliance with IESNA LM-79-24.

Optics





Color and Color temperature



Description

The Lumencore Recessed Discreet Medium achieves a sleek, trimless appearance without the cost and complexity of plastering in small luminaires. Designed with a deep-set soft reflector, the luminaire blends harmoniously into ceilings, making it ideal for commercial and residential applications looking for a clean, minimalist look. The luminaire offers wide a choice of outputs, beam angles, color temperatures, color rendering options and accessories.

Features

Output (Nominal Lumens)	700 lm, 1000 lm, 1300 lm, 2000 lm, 3000 lm
Color and Color Temperature	2200K 2700K 3000K 3500K 4000K Dim to Warm Dim to Warm Plus Dynamic White Dynamic Warm White Dynamic Warm White Plus
Optics (Nominal Distribution)	Extra Narrow Spot 5°, Very Narrow Spot 10°, Narrow Spot 15°, Narrow/Narrow Faceted Reflector 25°, Medium/Medium Faceted Reflector 40°, Wide/Wide Faceted Reflector 60°
Installation Type	Remodel Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142). New Construction Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142). New Construction Insulated Ceiling (Enclosed Box). New Construction Insulated Ceiling - Chicago Plenum Rated Option (Airtight, Enclosed Box)
Certifications	UL compliant (this luminaire is listed & labeled for such use in accordance with UL2043 & CAN/ULC-S142)

lumenpulse™
1220 Marie-Victorin Blvd., Longueuil, QC, J4G 2H9, CAN | T 514.937.3003 | 1.877.937.3003 | info@lumenpulse.com
www.lumenpulse.com www.lumenpulse.com/products/6101

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Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

Controls

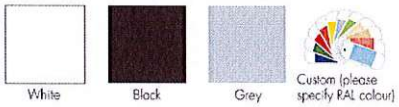
ON/OFF 0-10V PRO 0-10V DALI PRO DALI DALI T8 DMX rdm OLUTRON lumentalk PH PPH

Trim shape



Round

Trim finishes



White Black Grey Custom (please specify RAL colour)

Options



Emergency battery backup

Certifications

c UL us RoHS 5 YEARS lumenpulse

Warranty	5-year limited warranty
Option	Emergency Battery Backup with Hanger Bar (Bodine BSL17C-C2), Emergency Battery Backup with Hanger Bar (Iota ILB-CP07-A TBTS)

Performance

Maximum Delivered Output	Up to 2,840 lm (wide faceted reflector 60°, 4000K, CRI 80)
Maximum Delivered Intensity	Up to 63,952 cd (extra narrow spot optic 5°, 4000K, CRI 80)
Efficacy	Up to 95 lm/W (wide faceted reflector 60°, 4000K, CRI 80)
Color Consistency	2 SDCM, 3 SDCM (XN optic only)
Color Rendering	CRI 80+ CRI 90+ CRI 95+
Lumen Maintenance	L95 55,000 hrs L70 225,000 hrs

Physical

Housing Material	Aluminum
TIR Optics Material	Clear polycarbonate
Reflector Material	Aluminum
Trim Shape	Round
Trim Finish	White, Black, Gray, Custom (Please Specify RAL Color)

Electrical and Control

Voltage	120 Volts, 277 Volts
Control	On/Off Control, Standard 0-10V Dimming 1% (Linear or Logarithmic Curve), Professional 0-10V Dimming 0.1% (Linear or Logarithmic Curve), Standard DALI Dimming 1% (Linear or Logarithmic Curve), Professional DALI Dimming 0.1% (Linear or Logarithmic Curve), DALI-2 T8 Enabled Dimming 1%, DMX/RDM Enabled Dimming 1%, Lutron® Hi-lume 1% EcoSystem® LDE1/PEQ1 Soft-on/Fade-to-Black, Lumentalk Enabled Dimming, Phase Dimming (Consult Factory), Phase Dimming 1%

Environmental

Environment	Damp location rating (interior applications only)
Operating Temperature	-4 °F to 104 °F
Ingress Protection Rating	IP44 (with narrow spot and narrow optics) IP44 (with medium and wide optics, CL/SL/PD accessories) IP20 (with medium and wide optics without accessories)

Accessories (Order Separately)

Control Systems	Pharos® Lighting Control Kit (PHAROS), Pharos® Expert Control Kit (EXPERT)
Diagnostic and Addressing Tools	LumenID (LID)

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Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

Important

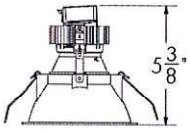
Virtual Patent Marking Notice

This website (https://www.lmpg.com/patents-trademarks) is provided to satisfy the virtual patent marking provisions of applicable jurisdictions. Some products listed may be covered by additional patents not referenced here.

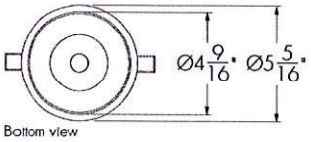
Static Color Dimensions (22K, 27K, 30K, 35K, 40K)

XN (5°)/ VN (10°)

700lm CR80/CR90 (XN/VN)

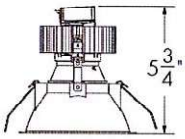


Side view



Bottom view

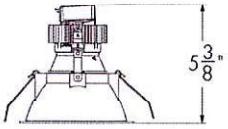
1000/1300lm CR80/CR90 (VN)



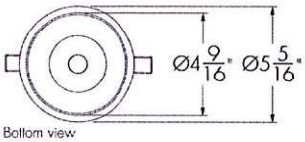
Side view

NS (15°)/ N (25°)

700/1000lm CR80/CR90/CR95
1300lm CR80/CR90

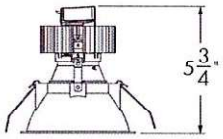


Side view



Bottom view

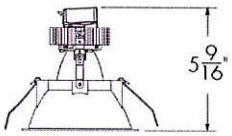
1300lm CR95
2000lm CR80/CR90



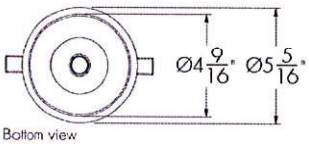
Side view

NFR (25°)/ M (40°)/ MFR (40°)/ W (60°)/ WFR (60°)

700/1000/1300lm CR80/CR90/CR95

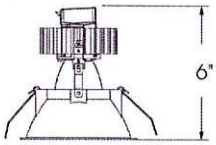


Side view



Bottom view

2000lm CR80/CR90/CR95
3000lm CR80/CR90



Side view

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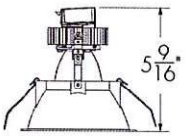
Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

Dynamic Color Dimensions (DTW, DTWP, DWH, DWW, DWWP)

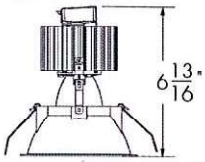
NFR (25°)/ M (40°)/ MFR (40°)/ W (60°)/ WFR (60°)

1000lm/1300lm CR90 (DTW/DTWP)



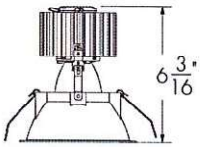
Side view

2000lm CR90 (DTW/DTWP)

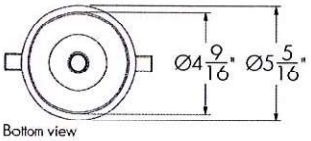


Side view

1300lm CR80 (DWH/DWW/DWWP)



Side view



Bottom view

Color temperature options may vary according to optic. Refer to website product configurator for details.

Photometric Information - Color Rendering Options Comparison, 3000K

Color sample	Ra	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
CRI 80+	84	82	90	97	83	82	88	86	63	15	77	83	68	84	98	75
CRI 90+	94	95	98	99	95	94	97	91	80	55	93	97	83	96	99	89
CRI 95+	97	96	97	99	96	96	95	96	97	97	96	95	86	96	98	97
Radiant CRI 80+	84	83	91	96	81	82	89	83	62	15	79	80	69	85	98	76
Radiant CRI 95+	95	95	94	95	98	94	90	94	96	96	89	95	80	94	98	96

Optics

TIR Optic
XN/VN/NS/N



Semi-Specular reflector
M/W



Faceted reflector
NFR/MFR/WFR



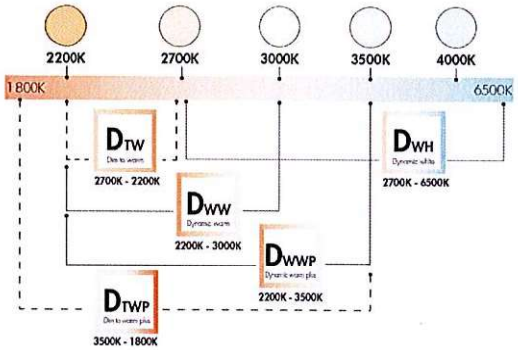
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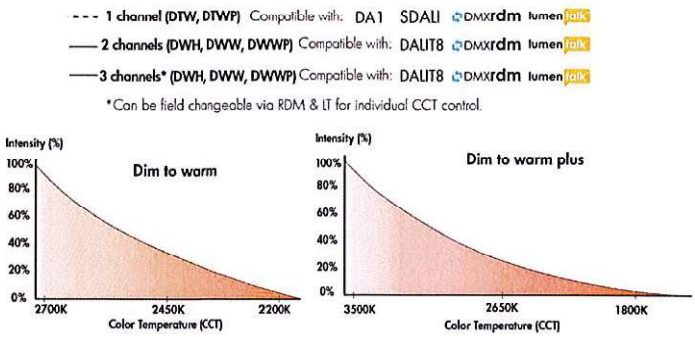
Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

Color and Color Temperature

Color Temperature Ranges





Control

Refer to website product configurator for exceptions

On/off control
NO - On/off control

Standard 0-10V dimming down to 1%
DAMC - Standard 0-10V dimming to 1% linear curve
DA1 - Standard 0-10V dimming, 1% linear
DA2 - Standard 0-10V dimming, 1% logarithmic

Professional 0-10V dimming down to 0.1%
PDA1 - Pro 0-10V dimming, 0.1% linear
PDA2 - Pro 0-10V dimming, 0.1% logarithmic

Standard DALI dimming down to 1%
SDALI1 - Standard DALI dimming, 1% linear
SDALI2 - Standard DALI dimming, 1% logarithmic

Professional DALI dimming down to 0.1%
DALI1 - Pro DALI dimming, 0.1% linear
DALI2 - Pro DALI dimming, 0.1% logarithmic

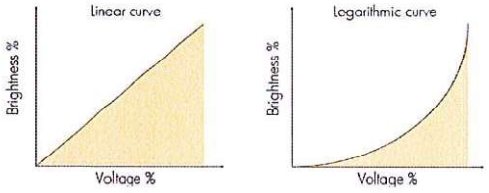
Lutron® EcoSystem®
ES - Lutron® Hi-lume 1% EcoSystem® LDE1/PEQ1 Soft-on/Fade-to-Black, 1% minimum dimming value

DALI dimming Type 8
DALIT8 - DALI dimming Type 8 (multi channel capability)

DMXrdm
DMX/RDM - DMX/RDM enabled

lumentalk **dimming**
LT - Lumentalk dimming, 1% minimum dimming value

Phase dimming (consult factory)
PH - Phase dimming
PPH - Phase 1% dimming



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Specification Sheet

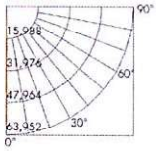
Lumencore Recessed
Discreet Medium
LADM

Photometric Information (RM And NC Installation Types)

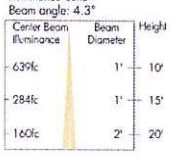
XN - Extra Narrow Spot (Nominal 5°), 4000K

Nominal output [lm]	Power (120V) [W]†		Power (277V) [W]†		Delivered output [lm]††	
	CR80	CR90	CR80	CR90	CR80	CR90
700	12.5	12.5	13.5	13.5	684	616

Candlepower distribution



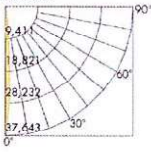
Illuminance cone
Beam angle: 4.3°



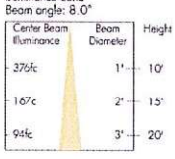
VN - Very Narrow Spot (Nominal 10°), 4000K

Nominal output [lm]	Power (120V) [W]†		Power (277V) [W]†		Delivered output [lm]††	
	CR80	CR90	CR80	CR90	CR80	CR90
700	12.5	12.5	13.5	13.5	763	687
1000	17	17	18	18	1,013	912
1300	22	22	23	23	1,316	1,184

Candlepower distribution



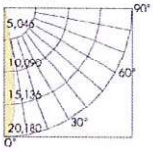
Illuminance cone
Beam angle: 8.0°



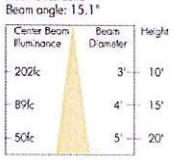
NS - Narrow Spot (Nominal 15°), 4000K

Nominal output [lm]	Power (120V) [W]†			Power (277V) [W]†			Delivered output [lm]††		
	CR80	CR90	CR95	CR80	CR90	CR95	CR80	CR90	CR95
700	9.5	9.5	10.5	11	11	12.5	652	652	586
1000	13	13	15	15	15	17	859	859	774
1300	15	15	20	17	17	22	1,173	1,173	1,056
2000	23	23	N/A	24	24	N/A	1,825	1,825	N/A

Candlepower distribution



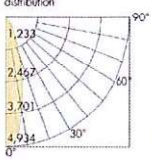
Illuminance cone
Beam angle: 15.1°



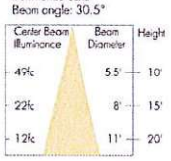
N - Narrow (Nominal 25°), 4000K

Nominal output [lm]	Power (120V) [W]†			Power (277V) [W]†			Delivered output [lm]††		
	CR80	CR90	CR95	CR80	CR90	CR95	CR80	CR90	CR95
700	8.5	8.5	9	10	10	11	707	707	636
1000	10	10	13	12	12	15	933	933	839
1300	13	13	15	15	15	17	1,272	1,272	1,145
2000	20	20	23	21	21	24	1,977	1,977	1,780

Candlepower distribution



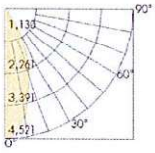
Illuminance cone
Beam angle: 30.5°



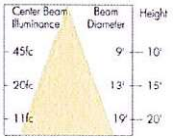
M - Medium (Nominal 40°), 4000K

Nominal output [lm]	Power (120V) [W]†			Power (277V) [W]†			Delivered output [lm]††		
	CR80	CR90	CR95	CR80	CR90	CR95	CR80	CR90	CR95
700	8.5	8.5	9	10	10	11	625	625	562
1000	10	10	13	12	12	15	824	824	741
1300	13	13	15	15	15	17	1,126	1,126	1,014
2000	20	20	23	21	21	24	1,751	1,751	1,576
3000	30	25	42	31	26	42	2,624	2,624	N/A

Candlepower distribution



Illuminance cone
Beam angle: 42.6°



MFR - Medium Faceted Reflector (Nominal 40°), 4000K

Nominal output [lm]	Power (120V) [W]†			Power (277V) [W]†			Delivered output [lm]††		
	CR80	CR90	CR95	CR80	CR90	CR95	CR80	CR90	CR95
700	8.5	8.5	9	10	10	11	669	669	601
1000	10	10	13	12	12	15	882	882	793
1300	13	13	15	15	15	17	1,205	1,205	1,085
2000	20	20	23	21	21	24	1,874	1,874	1,686
3000	30	25	42	31	26	42	2,808	2,808	N/A

1Remove 2 watts per fixture when specifying new construction insulated ceiling installation types (IC and CP).
2Add 3 watts per fixture when specifying Lumentalk™.
†Delivered wattage: +/- 10% tolerance.
††Consult website for latest IES files. Delivered output: +/- 10% tolerance.
Photometric performance is measured in compliance with IESNA LM-79-24.

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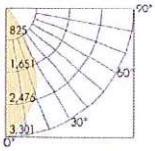
Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

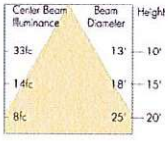
W - Wide (Nominal 60°), 4000K

Nominal output [lm]	Power (120V) [W]†			Power (277V) [W]†			Delivered output [lm]††		
	CR80	CR90	CR95	CR80	CR90	CR95	CR80	CR90	CR95
700	8.5	8.5	9	10	10	11	631	631	568
1000	10	10	13	12	12	15	834	834	750
1300	13	13	15	15	15	17	1,139	1,139	1025
2000	20	20	23	21	21	24	1,770	1,770	1593
3000	30	25	42	31	26	42	2,654	2,654	N/A

Candlepower distribution



Illuminance cone
Beam angle: 55.2°



WFR - Wide Faceted Reflector (Nominal 60°), 4000K

Nominal output [lm]	Power (120V) [W]†			Power (277V) [W]†			Delivered output [lm]††		
	CR80	CR90	CR95	CR80	CR90	CR95	CR80	CR90	CR95
700	8.5	8.5	9	10	10	11	675	675	608
1000	10	10	13	12	12	15	892	892	803
1300	13	13	15	15	15	17	1,219	1,219	1,097
2000	20	20	23	21	21	24	1,894	1,894	1,705
3000	30	25	42	31	26	42	2,840	2,840	N/A

1Remove 2 watts per fixture when specifying new construction insulated ceiling installation types (IC and CP).
2Add 3 watts per fixture when specifying Lumentalk™.
†Delivered wattage: +/- 10% tolerance.
††Consult website for latest IES files. Delivered output: +/- 10% tolerance.
Photometric performance is measured in compliance with IESNA LM-79-24.

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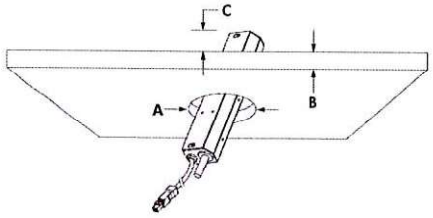
Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

Ceiling Requirements

Minimum Ceiling Height

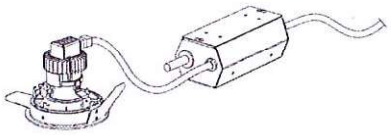
Installation type	700lm		1000lm		1300lm		2000lm	3000lm	4000lm
RM	6"						6.5"		N/A
NC									7"
IC/CP	XN/VN optics	N to WW optics	VN optic	N to WW optics	VN optic	NS to WFR optics	N/A		
	CRI 80 = 9" CRI 90 = 9"	CRI 80/90 = 7" CRI 95 = 7"	CRI 80 = 9" CRI 90 = 9"	CRI 80/90 = 7" CRI 95 = 9"	CRI 80 = 9" CRI 90 = 9"	CRI 80/90 = 7" CRI 95 = 9"			



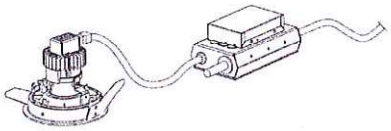
A - Ceiling cutout: Ø 4 13/16 in
B - Maximum ceiling thickness: 1 in
C - Minimum ceiling height

Installation Types

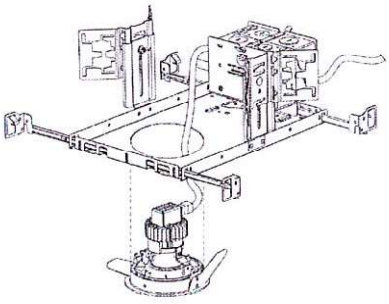
RM: Remodel Non-Insulated Ceiling (Plenum Rated In Accordance To UL 2043 & CAN/ULC-S142) (NO and LT Controls)



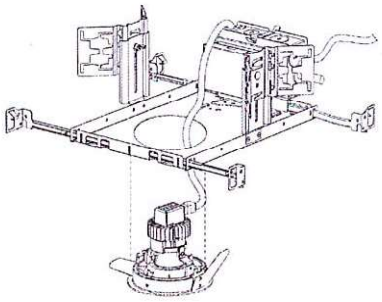
RM: Remodel Non-Insulated Ceiling (Plenum Rated In Accordance To UL 2043 & CAN/ULC-S142) (Dimming)



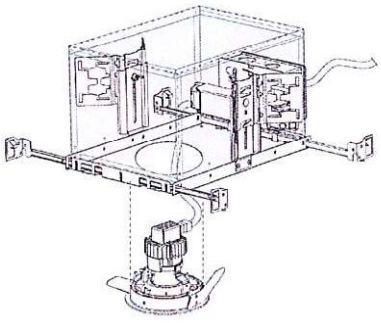
NC: New Construction Non-Insulated Ceiling (Plenum Rated In Accordance To UL 2043 & CAN/ULC-S142) (NO Control)



NC: New Construction Non-Insulated Ceiling (Plenum Rated In Accordance To UL 2043 & CAN/ULC-S142) (Dimming)



IC/CP: New Construction Insulated Ceiling (Enclosed Box)



Fixture shown for reference only. Refer to Ceiling Requirements section and installation instructions for dimensions and ceiling cutout requirements.

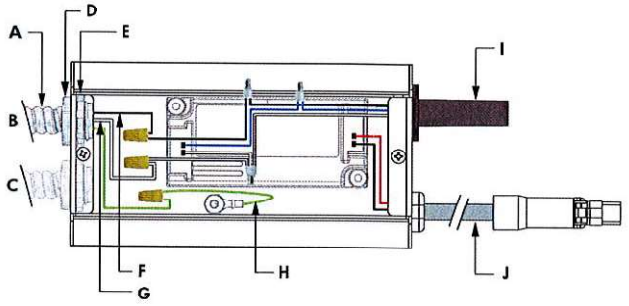
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Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

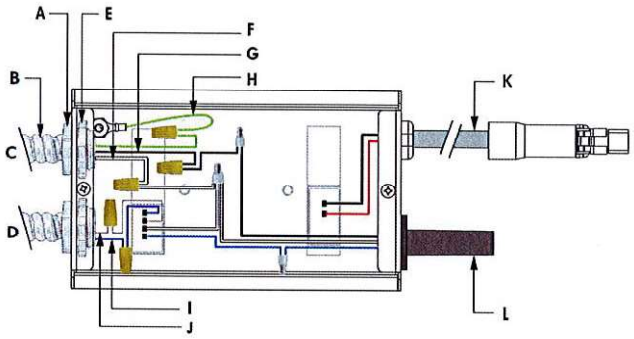
Wiring Details RM: Remodel Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142)

On/Off Control



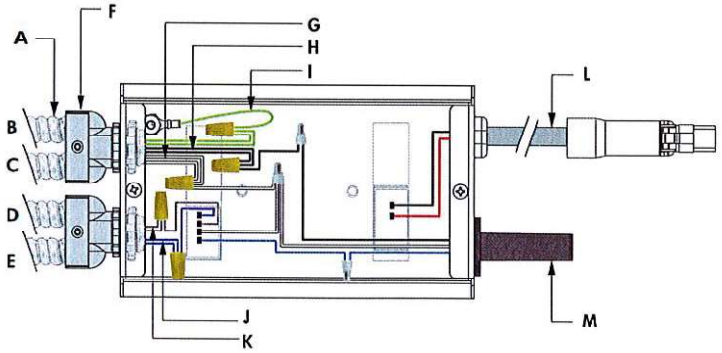
A - Conduit (by others)
B - Power Input
C - Optional Output
D - Conduit fitting (by others)
E - Locknut (by others)
F - Line (black)
G - Neutral (white)
H - Ground (green)
I - Thermal protector
J - Output to luminaire

Control (DAMC, DA1, DA2, PDA1, PDA2, DALI1, DALI2, EcoSystem®)*



A - Conduit fitting (by others)
B - Conduit (by others)
C - Power Input
D - Data Input from Control System
E - Locknut (by others)
F - Neutral (white)
G - Line (black)
H - Ground (green)
I - Data + (purple)
J- Data - (gray)
K- Output to luminaire
L - Thermal protector

Control (Daisy Chain Layout) (DAMC, DA1, DA2, PDA1, PDA2, DALI1, DALI2, EcoSystem®)*



A - Conduit (by others)
B - Power Output to next luminaire
C - Power Input
D - Data Output to next luminaire
E - Data Input from Control System
F - Duplex connector (by others)
G - Neutral (white)
H- Line (black)
I - Ground (green)
J - Data - (gray)
K- Data + (purple)
L - Output to luminaire
M- Thermal protector

*Each Lutron® EcoSystem® enabled fixture has its own address; for each of the examples shown above, there is one EcoSystem® address. Lutron® EcoSystem® Enabled dimming is not available for 700 lumens or 1000 lumens.

Refer to installation instructions for additional wiring details.

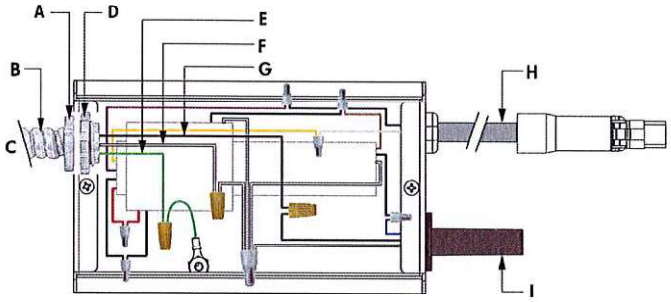
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Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

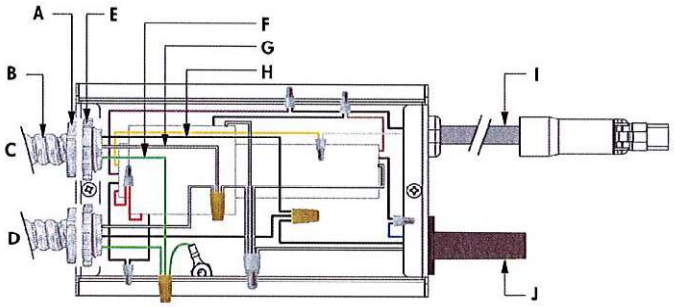
Wiring Details RM: Remodel Non-Insulated Ceiling (Plenum Rated In Accordance To UL 2043 & CAN/ULC-S142) (LT Control)

Control (LT)



A - Conduit fitting (by others)
B - Conduit (by others)
C - Power Input
D - Locknut (by others)
E - Ground (green)
F - Neutral (white)
G - Line (black)
H - Output to luminaire
I - Thermal protector

Control (Daisy Chain Layout) (LT)



A - Conduit fitting (by others)
B - Conduit (by others)
C - Power Input
D - Power Output to next luminaire
E - Locknut (by others)
F - Ground (green)
G - Neutral (white)
H - Line (black)
I - Output to luminaire
J - Thermal protector

Refer to installation instructions for additional wiring details.

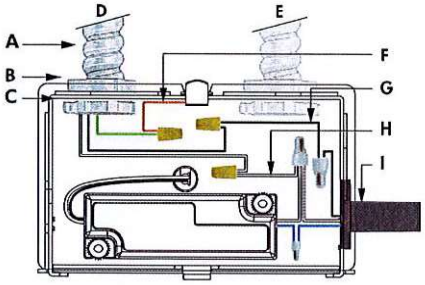
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JC - R18

Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

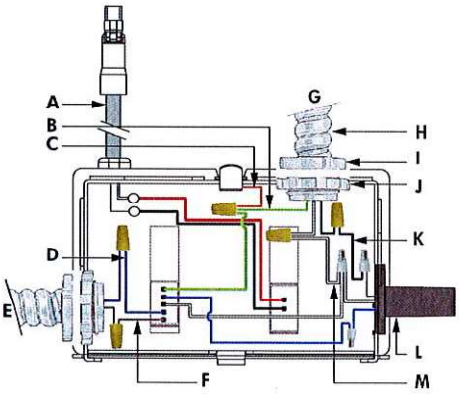
Wiring Details NC: New Construction Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142)

On/Off Control



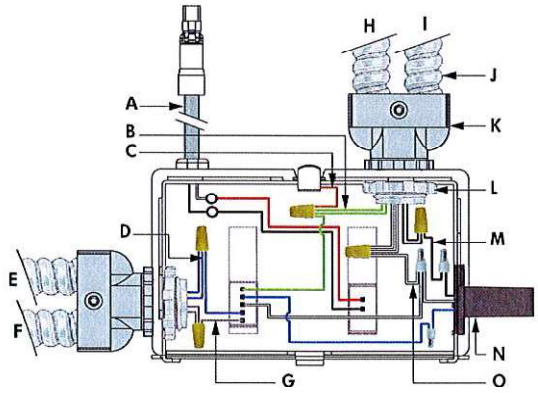
A - Conduit (by others)
B - Conduit fitting (by others)
C - Locknut (by others)
D - Power Input
E - Optional Output
F - Ground (copper)
G - Line (black)
H - Neutral (white)
I - Thermal protector

Control (DAMC, DA1, DA2, PDA1, PDA2, DALI1, DALI2, EcoSystem®)*



A - Output to luminaire
B - Ground (green)
C - Ground (copper)
D - Data + (purple
E - Data Input from Control System
F - Data - (gray)
G - Power Input
H - Conduit (by others)
I- Conduit fitting (by others)
J - Locknut (by others)
K- Line (black)
L - Thermal protector
M- Neutral (white)

Control (Daisy Chain Layout) (DAMC, DA1, DA2, PDA1, PDA2, DALI1, DALI2, EcoSystem®)*



A - Output to luminaire
B - Ground (green)
C - Ground (copper)
D - Data + (purple)
E - Data Output to next luminaire
F - Data Input from Control System
G - Data - (gray)
H - Power Input
I - Power Output to next luminaire
J- Conduit (by others)
K- Duplex connector (by others)
L - Locknut (by others)
M- Line (black)
N - Thermal protector
O- Neutral (white)

Refer to Installation Instructions for additional wiring details.

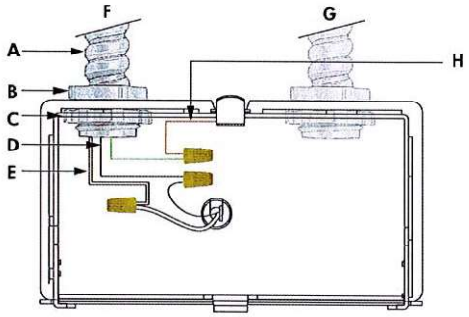
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Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

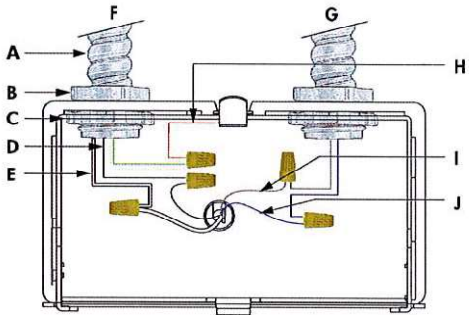
Wiring Details IC/CP: New Construction Insulated Ceiling (Enclosed Box)

On/Off Control



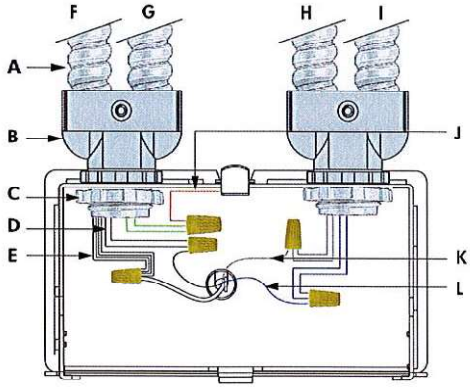
A - Conduit (by others)
B - Conduit fitting (by others)
C - Locknut (by others)
D - Line (black)
E - Neutral (white)
F - Power Input
G - Optional Output
H - Ground (copper)

Control (DA1, DA2, PDA1, PDA2, DALI1, DALI2)



A - Conduit (by others)
B - Conduit fitting (by others)
C - Locknut (by others)
D - Line (black)
E - Neutral (white)
F - Power Input
G - Data Input from Control System
H - Ground (copper)
I - Data - (gray)
J - Data + (purple)

Control (Daisy Chain Layout) (DA1, DA2, PDA1, PDA2, DALI1, DALI2)



A - Conduit (by others
B - Duplex connector (by others)
C - Locknut (by others)
D - Line (black
E - Neutral (white)
F - Power Input
G - Power Output to next luminaire
H - Data Input from Control System
I - Data Output to next luminaire
J - Ground (copper)
K - Data - (gray)
L - Data + (purple)

Refer to Installation Instructions for additional wiring details.

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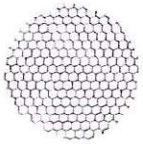
Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

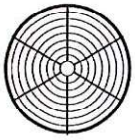
Optical Accessories

SL - Softening Glass Lens

HL - Honeycomb Louver



XLVR - Concentric Ring Louver



CL - Clear Glass Lens

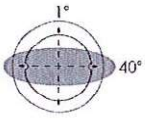


PD – Prismatic Diffuser

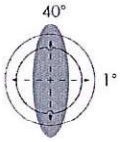


LSN - Linear Spread Lens Narrow (1° x 40°)





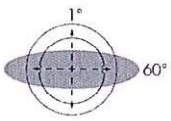
Horizontal Beam Distribution



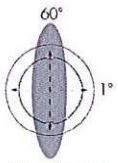
Vertical Beam Distribution

LSW - Linear Spread Lens Wide (1° x 60°)





Horizontal Beam Distribution



Vertical Beam Distribution

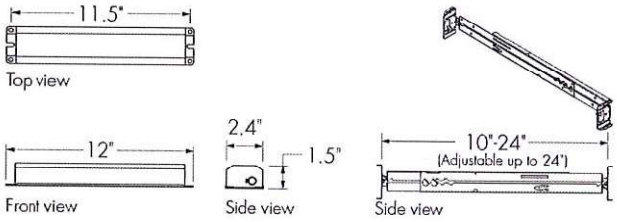
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JC - R1B

Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

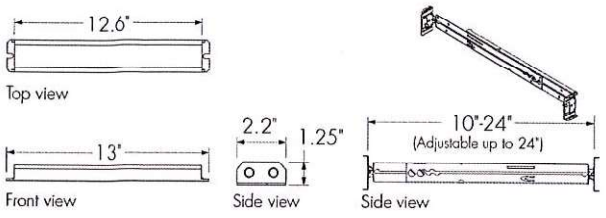
Options

EBB - Emergency Battery Backup With Hanger Bar (Bodine BSL17C-C2)



Hardware to mount the battery backup to the hanger bar is included. A test button is included. The unit comes pre-wired with 2 ft flexible conduit in and out. Refer to installation instructions for details.

EBI - Emergency Battery Backup With Hanger Bar (Iota ILB-CP07-A TBTS)



Hardware to mount the battery backup to the hanger bar is included. A test button is included. The unit comes pre-wired with 2 ft flexible conduit in and out. Refer to installation instructions for details.

Diagnostic And Addressing Tools (Order Separately)

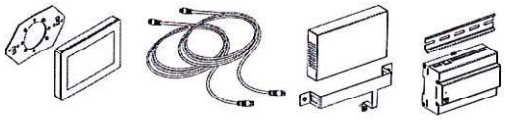
LID - LumenID



The updated LumenID (LID) is now your all-in-one diagnostic and addressing solution for both DMX/RDM and Lumentalk (LT) systems. Engineered for versatility, it streamlines commissioning and troubleshooting across protocols—no need for multiple tools. Consult the LID specification sheet for full details.

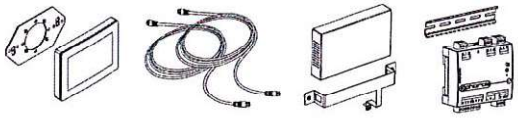
Control Systems (Order Separately)

PHAROS - Pharos® Designer Lighting Control Kit



The Pharos Designer Lighting Contol Kit, available for 1 or 2 DMX universes, allows for complete control of large lighting installations.

EXPERT - Pharos® Expert Control Kit



The Pharos Expert Control Kit, available for 1, 2, 4 or 6 DMX universes, allows for complete control of large lighting installations.

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JC - RIB

Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

How to Order

Housing [1]	Certification	Voltage [2]	Output (Nominal Lumens)	Color and Color Temperature	Color Rendering	Optics (Nominal Distribution)	Trim Shape	Trim Finish
LADM Lumencore Recessed Discreet Medium	**A** UL/cUL	**120** 120 Volts **277** 277 Volts	**L07** 700 lm **L10** 1000 lm [3] **L13** 1300 lm [3] **L20** 2000 lm [4] **L30** 3000 lm [5]	**22K** 2200K [6] [7] **27K** 2700K **30K** 3000K **35K** 3500K **40K** 4000K **DTW** Dim to Warm (2700K to 2200K) [8] [9] [10] **DTWP** Dim to Warm Plus (3500K to 1800K) [8] [9] [10] **DWH** Dynamic White (2700K to 6500K) [9] [11] **DWW** Dynamic Warm White (2200K to 3000K) [9] [11] **DWWP** Dynamic Warm White Plus (2200K to 3500K) [9] [11]	**CR80** CRI 80+ [12] **CR90** CRI 90+ **CR95** CRI 95+ [13] **RCR80** Radiant CRI 80+ [7] [14] **RCR95** Radiant CRI 95+ [7] [13] [14]	**XN** Extra Narrow Spot 5° [15] **VN** Very Narrow Spot 10° **NS** Narrow Spot 15° [16] **N** Narrow 25° [16] **NFR** Narrow Faceted Reflector 25° **M** Medium 40° **MFR** Medium Faceted Reflector 40° **W** Wide 60° **WFR** Wide Faceted Reflector 60°	**RD** Round	**WH** White **BK** Black **GRY** Gray **CC** Custom [17]

Notes:

1. Refer to website product configurator for all exceptions.
2. Consult factory for 347 volts.
3. Available for VN, NS, N, NFR, M, MFR, W and WFR optics only.
4. Available for NS, N, NFR, M, MFR, W and WFR optics only.
5. Available for NFR, M, MFR, W and WFR optics only.
6. Available for CR80 only.
7. Not available for XN and VN optics.
8. Available for 1000, 1300 and 2000 lumens when combined with NFR, M, MFR, W and WFR optics only.
9. NFR, MFR and WFR faceted reflector optics are recommended for optimal performance.
10. Available with CR90 only.
11. Available for 1300 lumens when combined with CR80 and NFR, M, MFR, W or WFR optics only.
12. Available for 2200K, 2700K, 3000K, 3500K, 4000K and DWH, DWW or DWWP color options only.
13. CR95 and RCR95 available up to 1300 lumens for NS optic, up to 2000 lumens for N, NFR, M, MFR, W and WFR optics only.
14. Radiant CRI options available for 3000K only.
15. Available for 700 lumens when combined with CR80 or CR90 color rendering options only.
16. Available up to 2000 lumens.
17. Longer lead times can be expected for custom RAL color finishes.

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JC - R18

Specification Sheet

Lumencore Recessed
Discreet Medium
LADM

How to Order

Control [20]	Installation Type	Option	Accessories [49] [50]
NO On/Off Control [18] [19]	**RM** Remodel Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142)	**EBB** Emergency Battery Backup with Hanger Bar (Bodine BSL17C-C2) [24] [44] [45] [46] [47]	**NA** No Accessory
DAMC Standard 0-10V Dimming 1% Linear Curve [19] [21] [22] [23] [24]	**NC** New Construction Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142)	**EBI** Emergency Battery Backup with Hanger Bar (Iota ILB-CP07-A TBTS) [24] [44] [45] [47] [48]	**SL** Softening Glass Lens
DA1 Standard 0-10V Dimming 1% Linear Curve [25] [26]	**IC** New Construction Insulated Ceiling (Enclosed Box) [42] [43] [44]		**HL** Honeycomb Louver [51]
DA2 Standard 1-10V Dimming 1% Logarithmic Curve [25] [26]	**CP** New Construction Insulated Ceiling - Chicago Plenum Rated Option (Airtight, Enclosed Box) [42] [43] [44]		**XLVR** Concentric Ring Louver [52]
PDA1 Professional 0-10V Dimming 0.1% Linear Curve [19] [25]			**CL** Clear Glass Lens
PDA2 Professional 0-10V Dimming 0.1% Logarithmic Curve [19] [25]			**PD** Prismatic Diffuser
SDALI1 Standard DALI Dimming 1% Linear Curve [27]			**LSN** Linear Spread Lens Narrow (1° x 40°) [53]
SDALI2 Standard DALI Dimming 1% Logarithmic Curve [27]			**LSW** Linear Spread Lens Wide (1° x 60°) [53]
DALI1 Professional DALI Dimming 0.1% Linear Curve [19] [28]			
DALI2 Professional DALI Dimming 0.1% Logarithmic Curve [19] [28]			
DALIT8 DALI-2 T8 Enabled Dimming 1% [29] [30]			
DMX/RDM DMX/RDM Enabled Dimming 1% [31] [32]			
ES Lutron® Hi-lume 1% EcoSystem® LDE1/PEQ1 Soft-on/Fade-to-Black [7] [19] [33]			
LT Lumentalk Enabled Dimming [34] [35] [36]			
PH Phase Dimming (Consult Factory) [37] [38] [39] [40]			
PPH Phase Dimming 1% [7] [19] [38] [41]			

Notes:

7. Not available for XN and VN optics.
18. Manufacturer's choice driver. Order code may change to NO1.
19. Not available for DTW, DTWP, DWH, DWW or DWWP color options.
20. Control options vary according to color temperature, color rendering, optics and installation type combination. Refer to website product configurator for details.
21. Manufacturer's choice driver. Order code may change to DAMC1 or DAMC2.
22. Not available for XN and VN optics.
23. Available up to 3000 lumens when combined with CR80 or CR90 color rendering option. Available up to 2000 lumens when combined with CR80, CR90 or CR95 color rendering options.
24. Available for RM and NC installation types only.
25. Driver cuts off power to the fixture when the control signal drops below 0.5V.
26. Not available for DWH, DWW or DWWP color options.
27. Available for DTW and DTWP color options only, when combined with 1000, 1300 or 2000 lumens.
28. Consult factory for other DALI control options for static color temperatures.
29. Available for DWH, DWW and DWWP color options only. DALI-2 Type 8 controller required.
30. Consult factory for DALIT8 control option.
31. A Control Box (CBX-DS or CBX-ST) and lumenID (LID) must be specified.
32. Available for DTW, DTWP, DWH, DWW and DWWP color options only.
33. One EcoSystem® address per fixture. 1% minimum dimming value. Lutron® EcoSystem® Enabled dimming available for RM and NC installation types only. Lutron® EcoSystem® Enabled dimming not available for 700 lumens or 1000 lumens.
34. 1% minimum dimming value. Lumentalk dimming available for RM installation type when combined with 2200K, 2700K, 3000K, 3500K or 4000K color options and any of the optic options. Lumentalk dimming available for NC installation type when combined with 2200K, 2700K, 3000K, 3500K or 4000K color options and XN or VN optic options. Lumentalk is available for RM and NC installation types when combined with DTW, DTWP, DWH, DWW or DWWP color options and NFR, M, MFR, W or WFR optic options. Lumentalk dimming available up to 1300 lumens (CR80, RCR80, CR90, CR95 or RCR95), 2000 lumens (CR80, RCR80 or CR90).
35. Lumentalk is not available for emergency battery backup options.
36. A Lumentranslator 2 (LTL2) and LumenID (LID) must be specified for Lumentalk applications. Consult Lumentranslator 2 and Lumentalk pages and specification sheets for details.
37. Manufacturer's choice driver. Order code may change to PH1 or PH2.
38. Available for 120V only. Not available for IC and CP installation types.
39. Available for 2700K, 3000K, 3500K and 4000K color options when combined with XN or VN optics only.
40. Not available for emergency battery backup options.
41. Manufacturer's choice driver. Order code is subject to change.
42. Insulated ceiling available up to 1000 lumens (CR80, RCR80, CR90, CR95 or RCR95), 1300 lumens (CR80, RCR80 or CR90).
43. Insulated ceiling available for DTW or DTWP color options when combined with the DA1, DA2, SDALI1 or SDALI2 control options.
44. Not available for DWH, DWW or DWWP color options.
45. Emergency battery backup options require ceiling access for test button use. The battery will operate for 90 minutes minimum and maintain a minimum of 1 fc from a 7 ft 2 in height as per UL 924. For indoor use only in dry or damp locations.
46. Consult factory for use with LT or DMX/RDM control options combined with DTW or DTWP color options. Not available for XN and VN optics.
47. Emergency battery backup options are field installed and not presided by Lumenpulse. Refer to related installation instructions for details.
48. Consult factory for use with LT or DMX/RDM control options combined with DTW or DTWP color options or LT control combined with XN or VN optics.
49. Factory installed.
50. Maximum one accessory per fixture.
51. HL accessory is available for 2200K, 2700K, 3000K, 3500K and 4000K color options only.
52. Available for XN, VN and NS optics only.
53. Available for XN, VN, NS, N and NFR optics when combined with 2200K, 2700K, 3000K, 3500K, 4000K color options only. Available for NFR optic only when combined with DTW, DTWP, DWH, DWW or DWWP color options only.

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JC - R18

Submitted by United Lighting Alliance of Oklahoma

ULA UNITED LIGHTING ALLIANCE OKLAHOMA

Job Name:
Greenwood Cultural Center Facility Rehabilitation
Architect: CJC Architecture (Tulsa)
Engineer: HP Engineering (Broken Arrow)

Catalog Number:
LADM-TILT-A-120-L30-35K-CR80-M-RD-WH-DA1-NC-NA
Notes:

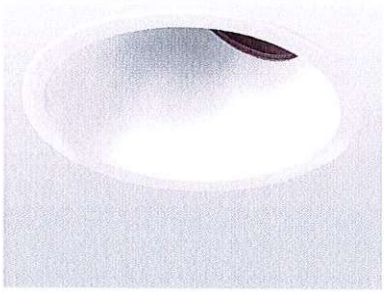
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ULAOK25-104

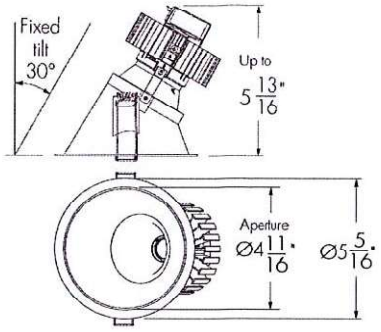
Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

Project Name _____ **Qty** _____

Type _____ **Catalog / Part Number** _____





Side view

Ceiling cutout: Ø 4 13/16"
Maximum ceiling thickness: 1"

Bottom view

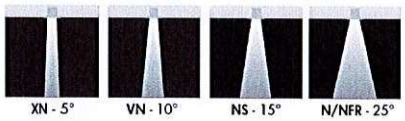
Photometric Summary

Based on Narrow Optic (nominal 25°), 4000K, CRI 90+

Nominal output [lm]	Delivered output [lm][1]	Insulated ceiling Power (120V) [W]	Insulated ceiling Efficacy [lm/W]	Non-insulated ceiling Power (120V)[2][3] [W]	Non-insulated ceiling Efficacy [lm/W]
700	605	6.5	93	8.5	71
1000	799	8	100	10	80
1300	1,091	11	99	13	84
2000	1,696			20	85

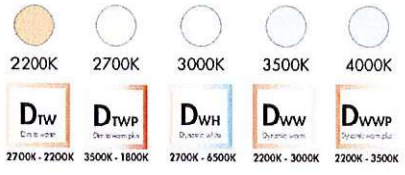
1. Consult website for latest IES files.
2. Add 3 watts per fixture when specifying Lumentalk™.
3. Photometric performance is measured in compliance with IESNA LM-79-24.

Optics





Color and Color temperature



Description

The Lumencore Recessed Discreet Medium Tilt achieves a sleek, trimless appearance without the cost and complexity of plastering in small luminaires. Designed with a deep-set soft reflector, the luminaire blends harmoniously into ceilings, making it ideal for commercial and residential applications looking for a clean, minimalist look. The luminaire offers wide a choice of outputs, beam angles, color temperatures, color rendering options and accessories.

Features

Output (Nominal Lumens)	700 lm, 1000 lm, 1300 lm, 2000 lm, 3000 lm
Color and Color Temperature	2200K 2700K 3000K 3500K 4000K Dim to Warm Dim to Warm Plus Dynamic White Dynamic Warm White Dynamic Warm White Plus
Optics (Nominal Distribution)	Extra Narrow Spot 5°, Very Narrow Spot 10°, Narrow Spot 15°, Narrow/Narrow Faceted Reflector 25°, Medium/Medium Faceted Reflector 40°
Installation Type	Remodel Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142), New Construction Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142), New Construction Insulated Ceiling (Enclosed Box), New Construction Insulated Ceiling - Chicago Plenum Rated Option (Airtight, Enclosed Box)
Certifications	UL compliant (this luminaire is listed & labeled for such use in accordance with UL2043 & CAN/ULC-S142)

lumenpulse
1220 Marie-Victorin Blvd., Longueuil QC, J4G 2H9, CAN | T 514.937.3003 | 1.877.937.3003 | info@lumenpulse.com
www.lumenpulse.com www.lumenpulse.com/products/5102

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Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

Controls

ON/OFF 0-10V PRO 0-10V DALI PRO DALI DALI T8 DMX rdm LUTRON lumentalk PH PPH

Trim shape



Round

Trim finishes



White Black Grey Custom (please specify RAL colour)

Options



Emergency battery backup

Adjustability

30°

Fixed tilt 30° (factory set)

Certifications

c UL us RoHS 5 YEARS lumenpulse

Warranty	5-year limited warranty
Option	Emergency Battery Backup with Hanger Bar (Bodine BSL17C-C2), Emergency Battery Backup with Hanger Bar (Iota ILB-CP07-A TBTS)

Performance

Maximum Delivered Output	Up to 2,554 lm (medium faceted reflector optic 40°, 4000K, CRI 80)
Efficacy	Up to 85 lm/W (medium faceted reflector 40°, 4000K, CRI 80)
Color Consistency	2 SDCM, 3 SDCM (XN optic only)
Color Rendering	CRI 80+ CRI 90+ CRI 95+
Lumen Maintenance	L95 55,000 hrs L70 225,000 hrs

Physical

Housing Material	Aluminum
TIR Optics Material	Clear polycarbonate
Reflector Material	Aluminum
Trim Shape	Round
Trim Finish	White, Black, Gray, Custom (Please Specify RAL Color)
Adjustability	Fixed tilt 30° (factory set)

Electrical and Control

Voltage	120 Volts, 277 Volts
Control	On/Off Control, Standard 0-10V Dimming 1% Linear Curve, Standard 0-10V Dimming 1% (Linear or Logarithmic Curve), Professional 0-10V Dimming 0.1% (Linear or Logarithmic Curve), Standard DALI Dimming 1% (Linear or Logarithmic Curve), Professional DALI Dimming 0.1% (Linear or Logarithmic Curve), DALI-2 T8 Enabled Dimming 1%, DMX/RDM Enabled, Lutron® Hi-lume 1% EcoSystem® LDE1/PEQ1 Soft-on/Fade-to-Black, Lumentalk, Phase Dimming (Consult Factory), Phase Dimming 1%

Environmental

Environment	Damp location rating (interior applications only)
Operating Temperature	-4 °F to 104 °F
Ingress Protection Rating	IP44 (with narrow spot and narrow optics) IP44 (with medium optics, CL/SL/PD accessories) IP20 (with medium optics without accessories)

Accessories (Order Separately)

Control Systems	Pharos® Lighting Control Kit (PHAROS), Pharos® Expert Control Kit (EXPERT)
Diagnostic and Addressing Tools	LumenID (LID)

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Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

Important

Fixed tilt construction is factory set and cannot be adjusted in the field.

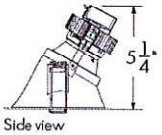
Virtual Patent Marking Notice

This website (https://www.lmpg.com/patents-trademarks) is provided to satisfy the virtual patent marking provisions of applicable jurisdictions. Some products listed may be covered by additional patents not referenced here.

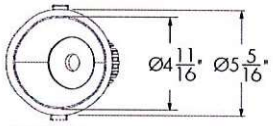
Static Color Dimensions (22K, 27K, 30K, 35K, 40K)

XN (5°)/ VN (10°)

700lm CR80/CR90 (XN/VN)

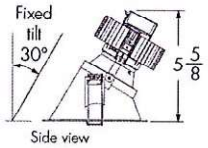


Side view



Bottom view

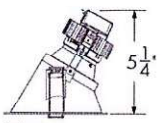
1000/1300lm CR80/CR90 (VN)



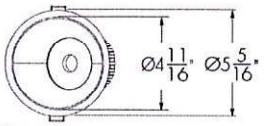
Side view

NS (15°)

700/1000lm CR80/CR90/CR95
1300lm CR80/CR90

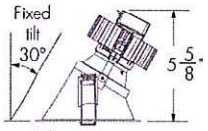


Side view



Bottom view

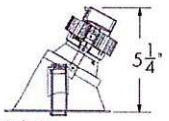
1300lm CR95
2000lm CR80/CR90



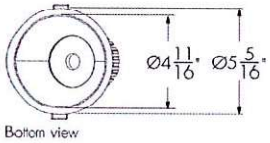
Side view

N (25°)

700/1000lm CR80/CR90/CR95
1300lm CR80/CR90

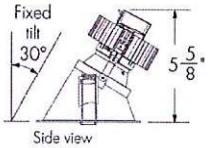


Side view



Bottom view

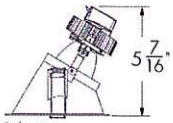
2000lm CR80/CR95
3000lm CR80/CR90



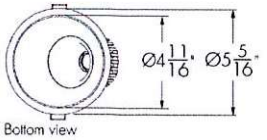
Side view

M (40°)/ MFR (40°)

700/1000/1300lm CR80/CR90/CR95

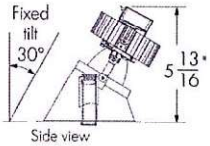


Side view



Bottom view

2000lm CR80/CR90/CR95
3000lm CR80/CR90



Side view

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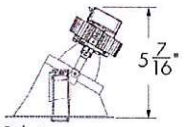
Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

Dynamic Color Dimensions (DTW, DTWP, DWH, DWW, DWWP)

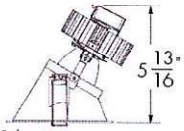
M (40°)/ MFR (40°)

1000lm/1300lm CR90 (DTW/DTWP)



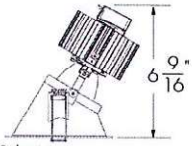
Side view

1300lm CR90 (DTW/DTWP)



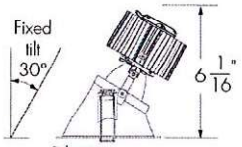
Side view

2000lm CR90 (DTW/DTWP)

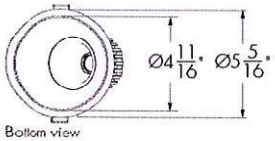


Side view

1300lm CR80 (DWH/DWW/DWWP)



Side view



Bottom view

Color temperature options may vary according to optic. Refer to website product configurator for details.

Photometric Information - Color Rendering Options Comparison, 3000K

Color sample	Ra	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
CRI 80+	84	82	90	97	83	82	88	86	63	15	77	83	68	84	98	75
CRI 90+	94	95	98	99	95	94	97	91	80	55	93	97	83	96	99	89
CRI 95+	97	96	97	99	96	96	95	96	97	97	96	95	86	96	98	97
Radiant CRI 80+	84	83	91	96	81	82	89	83	62	15	79	80	69	85	98	76
Radiant CRI 95+	95	95	94	95	98	94	90	94	96	96	89	95	80	94	98	96

Optics

TIR Optic
XN/VN/NS/N



Semi-specular reflector
M



Faceted reflector
NFR/MFR



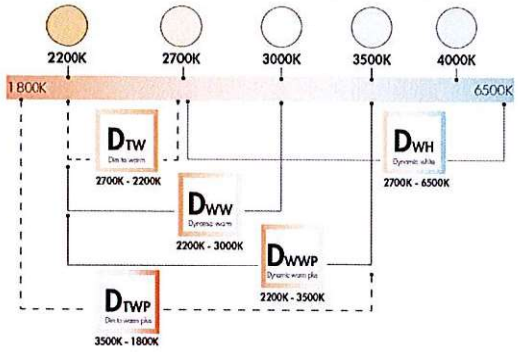
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Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

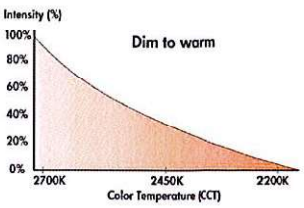
Color and Color Temperature

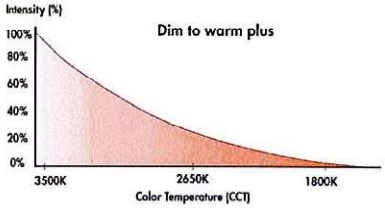
Color Temperature Ranges



--- 1 channel (DTW, DTWP) Compatible with: DA1 SDALI DMXrdm lumentalk
—— 2 channels (DWH, DWW, DWWP) Compatible with: DALIT8 DMXrdm lumentalk
—— 3 channels* (DWH, DWW, DWWP) Compatible with: DALIT8 DMXrdm lumentalk

*Can be field changeable via RDM & LT for individual CCT control.





Control

Refer to website product configurator for exceptions

On/off control
NO - On/off control

Standard 0-10V dimming down to 1%
DAMC - Standard 0-10V dimming to 1% linear curve
DA1 - Standard 0-10V dimming, 1% linear
DA2 - Standard 0-10V dimming, 1% logarithmic

Professional 0-10V dimming down to 0.1%
PDA1 - Pro 0-10V dimming, 0.1% linear
PDA2 - Pro 0-10V dimming, 0.1% logarithmic

Standard DALI dimming down to 1%
SDALI1 - Standard DALI dimming, 1% linear
SDALI2 - Standard DALI dimming, 1% logarithmic

Professional DALI dimming down to 0.1%
DALI1 - Pro DALI dimming, 0.1% linear
DALI2 - Pro DALI dimming, 0.1% logarithmic

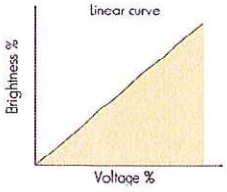
Lutron® EcoSystem®
ES - Lutron® Hi-lume 1% EcoSystem® LDE1/PEQ1 Soft-on/Fade-to-Black, 1% minimum dimming value

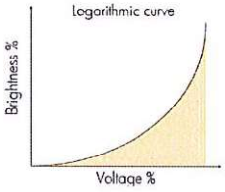
DALI dimming Type 8
DALIT8 - DALI dimming Type 8 (multi channel capability)

DMXrdm
DMX/RDM - DMX/RDM enabled

lumentalk dimming
LT - Lumentalk dimming, 1% minimum dimming value

Phase dimming (consult factory)
PH - Phase dimming
PPH - Phase 1% dimming





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Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

Photometric Information (RM And NC Installation Types)

XN - Extra Narrow Spot (Nominal 5°), 4000K

Nominal output [lm]	Power (120V) [W]†		Power (277V) [W]†		Delivered output [lm]††	
	CR80	CR90	CR80	CR90	CR80	CR90
700	12.5	12.5	13.5	13.5	684	616

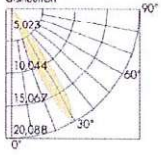
VN - Very Narrow Spot (Nominal 10°), 4000K

Nominal output [lm]	Power (120V) [W]†		Power (277V) [W]†		Delivered output [lm]††	
	CR80	CR90	CR80	CR90	CR80	CR90
700	12.5	12.5	13.5	13.5	763	687
1000	17	17	18	18	1,013	912
1300	22	22	23	23	1,316	1,184

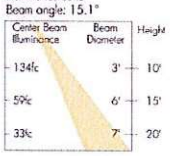
NS - Narrow Spot (Nominal 15°), 4000K

Nominal output [lm]	Power (120V) [W]†			Power (277V) [W]†			Delivered output [lm]††		
	CR80	CR90	CR95	CR80	CR90	CR95	CR80	CR90	CR95
700	9.5	9.5	10.5	11	11	12.5	673	673	605
1000	13	13	15	15	15	17	888	888	799
1300	15	15	20	17	17	22	1,211	1,211	1,090
2000	23	23	N/A	24	24	N/A	1,884	1,884	N/A

Candlepower distribution



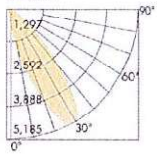
Illuminance cone
Beam angle: 15.1°



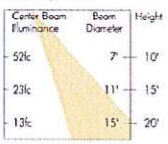
N - Narrow (Nominal 25°), 4000K

Nominal output [lm]	Power (120V) [W]†			Power (277V) [W]†			Delivered output [lm]††		
	CR80	CR90	CR95	CR80	CR90	CR95	CR80	CR90	CR95
700	8.5	8.5	9	10	10	11	605	605	545
1000	10	10	13	12	12	15	799	799	718
1300	13	13	15	15	15	17	1,091	1,091	982
2000	20	20	23	21	21	24	1,696	1,696	1,527

Candlepower distribution



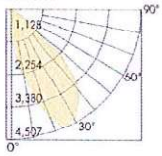
Illuminance cone
Beam angle: 30.5°



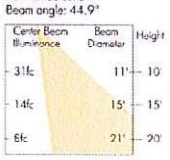
M - Medium (Nominal 40°), 4000K

Nominal output [lm]	Power (120V) [W]†			Power (277V) [W]†			Delivered output [lm]††		
	CR80	CR90	CR95	CR80	CR90	CR95	CR80	CR90	CR95
700	8.5	8.5	9	10	10	11	569	569	512
1000	10	10	13	12	12	15	750	750	674
1300	13	13	15	15	15	17	1,024	1,024	922
2000	20	20	23	21	21	24	1,593	1,593	1,433
3000	30	25	42	31	26	42	2,387	2,387	N/A

Candlepower distribution



Illuminance cone
Beam angle: 44.9°



MFR - Medium Faceted Reflector (Nominal 40°), 4000K

Nominal output [lm]	Power (120V) [W]†			Power (277V) [W]†			Delivered output [lm]††		
	CR80	CR90	CR95	CR80	CR90	CR95	CR80	CR90	CR95
700	8.5	8.5	9	10	10	11	609	609	548
1000	10	10	13	12	12	15	803	803	721
1300	13	13	15	15	15	17	1,096	1,096	987
2000	20	20	23	21	21	24	1,705	1,705	1,533
3000	30	25	42	31	26	42	2,554	2,554	N/A

1Remove 2 watts per fixture when specifying new construction insulated ceiling installation types (IC and CP).
2Add 3 watts per fixture when specifying Lumentalk™.
†Delivered wattage: +/- 10% tolerance.
††Consult website for latest IES files. Delivered output: +/- 10% tolerance.
Photometric performance is measured in compliance with IESNA LM-79-24.

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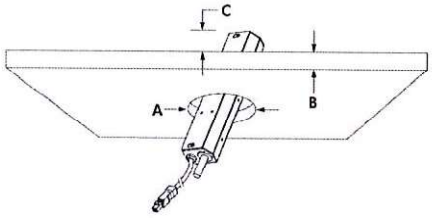
Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

Ceiling Requirements

Minimum Ceiling Height

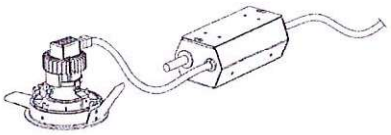
Installation type	700lm		1000lm		1300lm		2000lm	3000lm	4000lm
RM	6"						6.5"		N/A
NC									7"
IC/CP	XN/VN optics	N to WW optics	VN optic	N to WW optics	VN optic	NS to WFR optics	N/A		
	CRI 80 = 9" CRI 90 = 9"	CRI 80/90 = 7" CRI 95 = 7"	CRI 80 = 9" CRI 90 = 9"	CRI 80/90 = 7" CRI 95 = 9"	CRI 80 = 9" CRI 90 = 9"	CRI 80/90 = 7" CRI 95 = 9"			



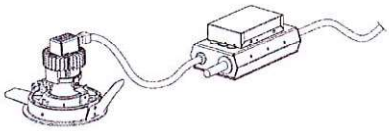
A - Ceiling cutout: Ø 4 13/16 in
B - Maximum ceiling thickness: 1 in
C - Minimum ceiling height

Installation Types

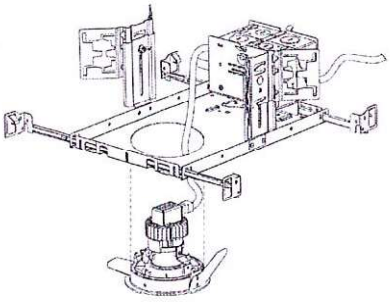
RM: Remodel Non-Insulated Ceiling (Plenum Rated In Accordance To UL 2043 & CAN/ULC-S142) (NO and LT Controls)



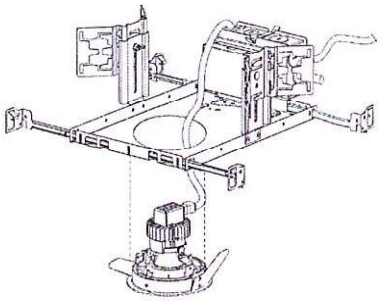
RM: Remodel Non-Insulated Ceiling (Plenum Rated In Accordance To UL 2043 & CAN/ULC-S142) (Dimming)



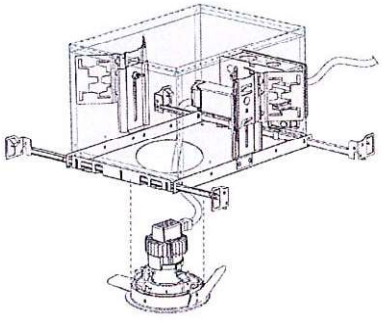
NC: New Construction Non-Insulated Ceiling (Plenum Rated In Accordance To UL 2043 & CAN/ULC-S142) (NO Control)



NC: New Construction Non-Insulated Ceiling (Plenum Rated In Accordance To UL 2043 & CAN/ULC-S142) (Dimming)



IC/CP: New Construction Insulated Ceiling (Enclosed Box)



Fixture shown for reference only. Refer to Ceiling Requirements section and installation instructions for dimensions and ceiling cutout requirements.

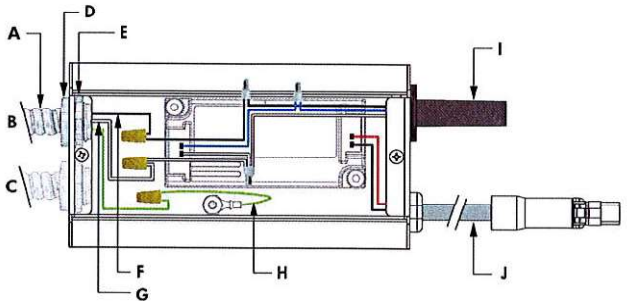
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Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

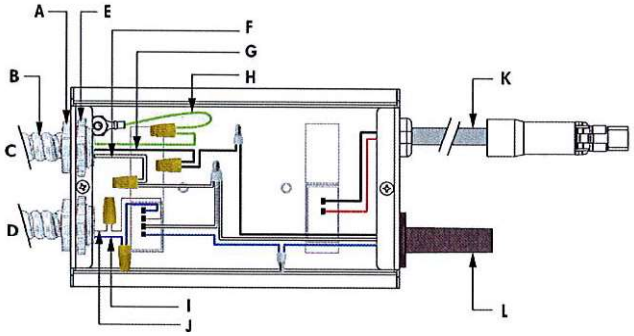
Wiring Details RM: Remodel Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142)

On/Off Control



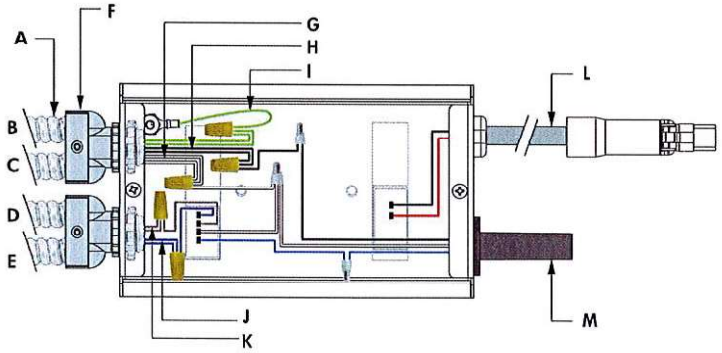
A - Conduit (by others)
B - Power Input
C - Optional Output
D - Conduit fitting (by others)
E - Locknut (by others)
F - Line (black)
G - Neutral (white)
H - Ground (green)
I - Thermal protector
J - Output to luminaire

Control (DAMC, DA1, DA2, PDA1, PDA2, DALI1, DALI2, EcoSystem®)*



A - Conduit fitting (by others)
B - Conduit (by others)
C - Power Input
D - Data Input from Control System
E - Locknut (by others)
F - Neutral (white)
G - Line (black)
H - Ground (green)
I - Data + (purple)
J- Data - (gray)
K- Output to luminaire
L - Thermal protector

Control (Daisy Chain Layout) (DAMC, DA1, DA2, PDA1, PDA2, DALI1, DALI2, EcoSystem®)*



A - Conduit (by others)
B - Power Output to next luminaire
C - Power Input
D - Data Output to next luminaire
E - Data Input from Control System
F - Duplex connector (by others)
G - Neutral (white)
H- Line (black)
I - Ground (green)
J - Data - (gray)
K- Data + (purple)
L - Output to luminaire
M- Thermal protector

*Each Lutron® EcoSystem® enabled fixture has its own address; for each of the examples shown above, there is one EcoSystem® address. Lutron® EcoSystem® Enabled dimming is not available for 700 lumens or 1000 lumens.

Refer to installation instructions for additional wiring details.

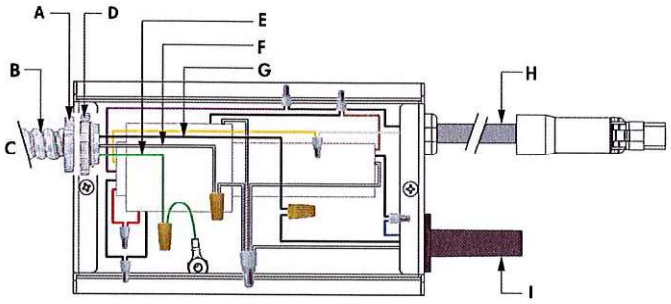
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Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

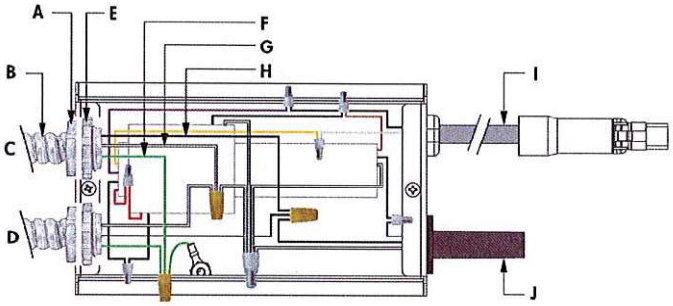
Wiring Details RM: Remodel Non-Insulated Ceiling (Plenum Rated In Accordance To UL 2043 & CAN/ULC-S142) (LT Control)

Control (LT)



A - Conduit fitting (by others)
B - Conduit (by others)
C - Power Input
D - Locknut (by others)
E - Ground (green)
F - Neutral (white)
G - Line (black)
H - Output to luminaire
I - Thermal protector

Control (Daisy Chain Layout) (LT)



A - Conduit fitting (by others)
B - Conduit (by others)
C - Power Input
D - Power Output to next luminaire
E - Locknut (by others)
F - Ground (green)
G - Neutral (white)
H - Line (black)
I - Output to luminaire
J - Thermal protector

Refer to Installation Instructions for additional wiring details.

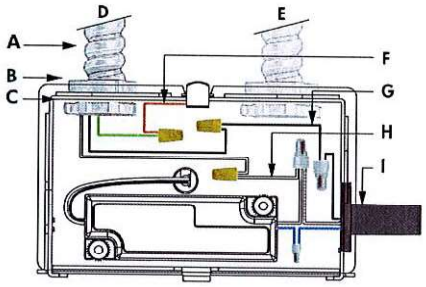
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Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

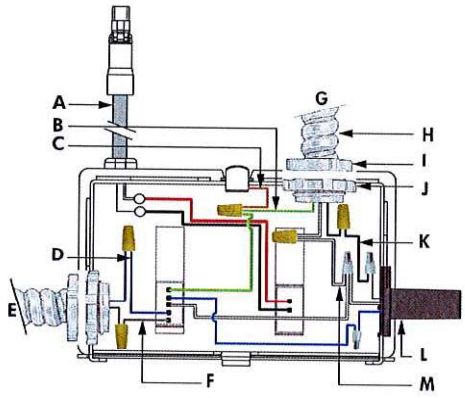
Wiring Details NC: New Construction Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142)

On/Off Control



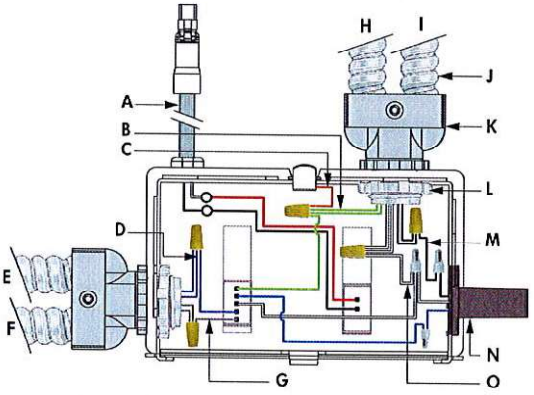
A - Conduit (by others)
B - Conduit fitting (by others)
C - Locknut (by others)
D - Power Input
E - Optional Output
F - Ground (copper)
G - Line (black)
H - Neutral (white)
I - Thermal protector

Control (DAMC, DA1, DA2, PDA1, PDA2, DALI1, DALI2, EcoSystem®)*



A - Output to luminaire
B - Ground (green)
C - Ground (copper)
D - Data + (purple
E - Data Input from Control System
F - Data - (gray)
G - Power Input
H - Conduit (by others)
I- Conduit fitting (by others)
J - Locknut (by others)
K- Line (black)
L - Thermal protector
M- Neutral (white)

Control (Daisy Chain Layout) (DAMC, DA1, DA2, PDA1, PDA2, DALI1, DALI2, EcoSystem®)*



A - Output to luminaire
B - Ground (green)
C - Ground (copper)
D - Data + (purple)
E - Data Output to next luminaire
F - Data Input from Control System
G - Data - (gray)
H - Power Input
I - Power Output to next luminaire
J- Conduit (by others)
K- Duplex connector (by others)
L - Locknut (by others)
M- Line (black)
N - Thermal protector
O- Neutral (white)

Refer to Installation Instructions for additional wiring details.

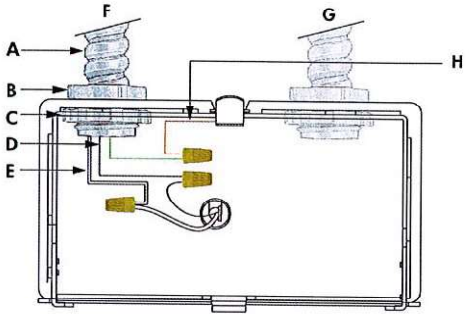
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Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

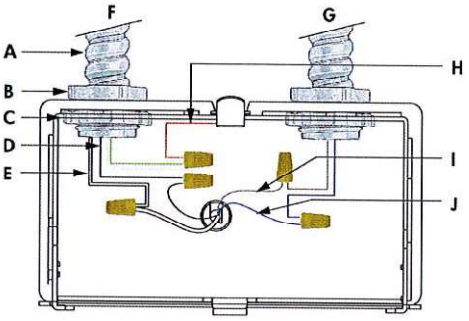
Wiring Details IC/CP: New Construction Insulated Ceiling (Enclosed Box)

On/Off Control



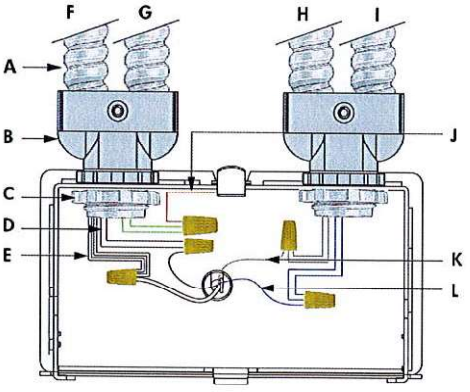
A - Conduit (by others)
B - Conduit fitting (by others)
C - Locknut (by others)
D - Line (black)
E - Neutral (white)
F - Power Input
G - Optional Output
H - Ground (copper)

Control (DA1, DA2, PDA1, PDA2, DALI1, DALI2)



A - Conduit (by others)
B - Conduit fitting (by others)
C - Locknut (by others)
D - Line (black)
E - Neutral (white)
F - Power Input
G - Data Input from Control System
H - Ground (copper)
I - Data - (gray)
J - Data + (purple)

Control (Daisy Chain Layout) (DA1, DA2, PDA1, PDA2, DALI1, DALI2)



A - Conduit (by others
B - Duplex connector (by others)
C - Locknut (by others)
D - Line (black
E - Neutral (white)
F - Power Input
G - Power Output to next luminaire
H - Data Input from Control System
I - Data Output to next luminaire
J - Ground (copper)
K - Data - (gray)
L - Data + (purple)

Refer to Installation Instructions for additional wiring details.

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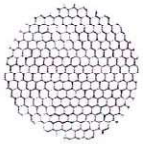
Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

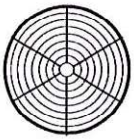
Optical Accessories

SL - Softening Glass Lens

HL - Honeycomb Louver



XLVR - Concentric Ring Louver



CL - Clear Glass Lens

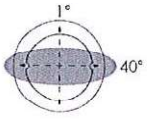


PD – Prismatic Diffuser

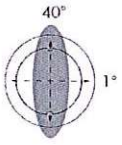


LSN - Linear Spread Lens Narrow (1° x 40°)





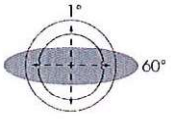
Horizontal Beam Distribution



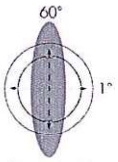
Vertical Beam Distribution

LSW - Linear Spread Lens Wide (1° x 60°)





Horizontal Beam Distribution



Vertical Beam Distribution

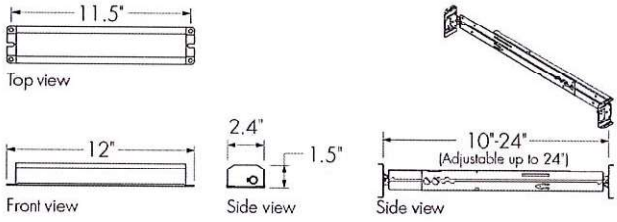
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Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

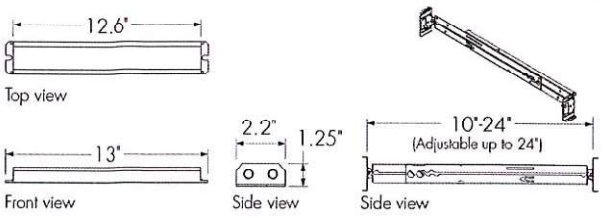
Options

EBB - Emergency Battery Backup With Hanger Bar (Bodine BSL17C-C2)



Hardware to mount the battery backup to the hanger bar is included. A test button is included. The unit comes pre-wired with 2 ft flexible conduit in and out. Refer to installation instructions for details.

EBI - Emergency Battery Backup With Hanger Bar (Iota ILB-CP07-A TBTS)



Hardware to mount the battery backup to the hanger bar is included. A test button is included. The unit comes pre-wired with 2 ft flexible conduit in and out. Refer to installation instructions for details.

Diagnostic And Addressing Tools (Order Separately)

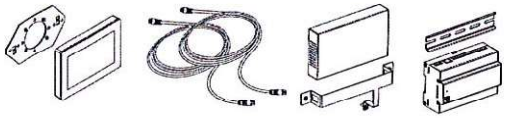
LID - LumenID



The updated LumenID (LID) is now your all-in-one diagnostic and addressing solution for both DMX/RDM and Lumentalk (LT) systems. Engineered for versatility, it streamlines commissioning and troubleshooting across protocols—no need for multiple tools. Consult the LID specification sheet for full details.

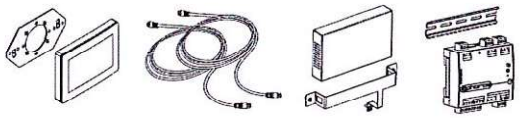
Control Systems (Order Separately)

PHAROS - Pharos® Designer Lighting Control Kit



The Pharos Designer Lighting Contol Kit, available for 1 or 2 DMX universes, allows for complete control of large lighting installations.

EXPERT - Pharos® Expert Control Kit



The Pharos Expert Control Kit, available for 1, 2, 4 or 6 DMX universes, allows for complete control of large lighting installations.

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Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

How to Order

Housing [1]	Certification	Voltage [2]	Output (Nominal Lumens)	Color and Color Temperature	Color Rendering	Optics (Nominal Distribution)	Trim Shape	Trim Finish
LADM-TILT Lumencore Recessed Discreet Medium Tilt	**A** UL/cUL	**120** 120 Volts **277** 277 Volts	**L07** 700 lm **L10** 1000 lm [3] **L13** 1300 lm [3] **L20** 2000 lm [4] **L30** 3000 lm [5]	**22K** 2200K [6] [7] **27K** 2700K **30K** 3000K **35K** 3500K **40K** 4000K **DTW** Dim to Warm (2700K to 2200K) [8] [9] [10] **DTWP** Dim to Warm Plus (3500K to 1800K) [8] [9] [10] **DWH** Dynamic White (2700K to 6500K) [9] [11] **DWW** Dynamic Warm White (2200K to 3000K) [9] [11] **DWWP** Dynamic Warm White Plus (2200K to 3500K) [9] [11]	**CR80** CRI 80+ [12] **CR90** CRI 90+ **CR95** CRI 95+ [13] **RCR80** Radiant CRI 80+ [7] [14] **RCR95** Radiant CRI 95+ [7] [13] [14]	**XN** Extra Narrow Spot 5° [15] **VN** Very Narrow Spot 10° [16] **NS** Narrow Spot 15° [17] **N** Narrow 25° [17] **NFR** Narrow Faceted Reflector 25° **M** Medium 40° **MFR** Medium Faceted Reflector 40°	**RD** Round	**WH** White **BK** Black **GRY** Gray **CC** Custom [18]

Notes:

1. Refer to website product configurator for all exceptions.
2. Consult factory for 347 volts.
3. Available for VN, NS, N, NFR, M, MFR, W and WFR optics only.
4. Available for NS, N, NFR, M, MFR, W and WFR optics only.
5. Available for NFR, M and MFR optics only.
6. Available for CR80 only.
7. Not available for XN and VN optics.
8. Available for 1000, 1300 and 2000 lumens when combined with NFR, M and MFR optics only.
9. NFR and MFR faceted reflector optics are recommended for optimal performance.
10. Available with CR90 only.
11. Available for 1300 lumens when combined with CR80 and NFR, M, or MFR optics only.
12. Available for 2200K, 2700K, 3000K, 3500K, 4000K and DWH, DWW or DWWP color options only.
13. CR95 and RCR95 available up to 1300 lumens for NS optic, up to 2000 lumens for N, NFR, M and MFR optics only.
14. Radiant CRI options available for 3000K only.
15. Available for 700 lumens when combined with CR80 or CR90 color rendering options only.
16. Available for 700, 1000 and 1300 lumens when combined with CR80 or CR90 color rendering options only.
17. Available up to 2000 lumens.
18. Longer lead times can be expected for custom RAL color finishes.

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Specification Sheet

Lumencore Recessed
Discreet Medium Tilt
LADM-TILT

How to Order

Control [21]	Installation Type	Option	Accessories [51] [52]
NO On/Off Control [19] [20]	**RM** Remodel Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142)	**EBB** Emergency Battery Backup with Hanger Bar (Bodine BSL17C-C2) [25] [46] [47] [48] [49]	**NA** No Accessory
DAMC Standard 0-10V Dimming 1% Linear Curve [20] [22] [23] [24] [25]	**NC** New Construction Non-Insulated Ceiling (Plenum Rated in Accordance to UL 2043 & CAN/ULC-S142)	**EBI** Emergency Battery Backup with Hanger Bar (Iota ILB-CP07-A TBTS) [25] [46] [48] [49] [50]	**SL** Softening Glass Lens
DA1 Standard 0-10V Dimming 1% Linear Curve [26] [27]	**IC** New Construction Insulated Ceiling (Enclosed Box) [44] [45]		**HL** Honeycomb Louver [53]
DA2 Standard 1-10V Dimming 1% Logarithmic Curve [26] [27]	**CP** New Construction Insulated Ceiling - Chicago Plenum Rated Option (Airtight, Enclosed Box) [44] [45]		**XLVR** Concentric Ring Louver [54]
PDA1 Professional 0-10V Dimming 0.1% Linear Curve [20] [26]			**CL** Clear Glass Lens
PDA2 Professional 0-10V Dimming 0.1% Logarithmic Curve [20] [26]			**PD** Prismatic Diffuser
SDALI1 Standard DALI Dimming 1% Linear Curve [28]			**LSN** Linear Spread Lens Narrow (1° x 40°) [55]
SDALI2 Standard DALI Dimming 1% Logarithmic Curve [28]			**LSW** Linear Spread Lens Wide (1° x 60°) [55]
DALI1 Professional DALI Dimming 0.1% Linear Curve [20] [29]			
DALI2 Professional DALI Dimming 0.1% Logarithmic Curve [20] [29]			
DALIT8 DALI-2 T8 Enabled Dimming 1% [30] [31]			
DMX/RDM DMX/RDM Enabled Dimming 1% [32] [33] [34]			
ES Lutron® Hi-lume 1% EcoSystem® LDE1/PEQ1 Soft-on/Fade-to-Black [7] [20] [35]			
LT Lumentalk Enabled Dimming [36] [37] [38]			
PH Phase Dimming (Consult Factory) [39] [40] [41] [42]			
PPH Phase Dimming 1% [7] [20] [40] [43]			

Notes:

7. Not available for XN and VN optics.
19. Manufacturer's choice driver. Order code may change to NO1.
20. Not available for DTW, DTWP, DWH, DWW or DWWP color options.
21. Control options vary according to color temperature, color rendering, optics and installation type combination. Refer to website product configurator for details.
22. Manufacturer's choice driver. Order code may change to DAMC1 or DAMC2.
23. Not available for XN and VN optics.
24. Available up to 3000 lumens when combined with CR80 or CR90 color rendering option. Available up to 2000 lumens when combined with CR80, CR90 or CR95 color rendering options.
25. Available for RM and NC installation types only.
26. Driver cuts off power to the fixture when the control signal drops below 0.5V.
27. Not available for DWH, DWW or DWWP color options.
28. Available for DTW and DTWP color options only, when combined with 1000, 1300 or 2000 lumens.
29. Consult factory for other DALI control options for static color temperatures.
30. Available for DWH, DWW and DWWP color options only. DALI-2 Type 8 controller required.
31. Consult factory for DALIT8 control option.
32. Configurable to 1, 2, or 3 channel control via RDM in the field.
33. A Control Box (CBX-DS or CBX-ST) and lumenID (LID) must be specified.
34. Available for DTW, DTWP, DWH, DWW and DWWP color options only.
35. One EcoSystem® address per fixture. 1% minimum dimming value. Lutron® EcoSystem® Enabled dimming available for RM and NC installation types only. Lutron® EcoSystem® Enabled dimming not available for 700 lumens or 1000 lumens.
36. 1% minimum dimming value. Lumentalk dimming available for RM installation type when combined with 2200K, 2700K, 3000K, 3500K or 4000K color options and any of the optic options. Lumentalk dimming available for NC installation type when combined with 2200K, 2700K, 3000K, 3500K or 4000K color options and XN or VN optic options. Lumentalk is available for RM and NC installation types when combined with DTW, DTWP, DWH, DWW or DWWP color options and NFR, M or MFR optic options. Lumentalk dimming available up to 1300 lumens (CR80, RCR80, CR90, CR95 or RCR95). 2000 lumens (CR80, RCR80 or CR90).
37. Lumentalk is not available for emergency battery backup options.
38. A Lumentranslator 2 (LT2) and LumenID (LID) must be specified for Lumentalk applications. Consult Lumentranslator 2 and Lumentalk pages and specification sheets for details.
39. Manufacturer's choice driver. Order code may change to PH1 or PH2.
40. Available for 120V only. Not available for IC and CP installation types.
41. Available for 2700K, 3000K, 3500K and 4000K color options when combined with XN or VN optics only.
42. Not available for emergency battery backup options.
43. Manufacturer's choice driver. Order code is subject to change.
44. Insulated ceiling available up to 1000 lumens (CR80, RCR80, CR90, CR95 or RCR95), 1300 lumens (CR80, RCR80 or CR90).
45. Insulated ceiling available for DTW or DTWP color options when combined with the DA1, DA2, SDALI1 or SDALI2 control options.
46. Emergency battery backup options require ceiling access for test button use. The battery will operate for 90 minutes minimum and maintain a minimum of 1 fc from a 7 ft 2 in height as per UL 924. For indoor use only in dry or damp locations.
47. Consult factory for use with LT or DMX/RDM control options combined with DTW or DTWP color options. Not available for XN and VN optics.
48. Not available for DWH, DWW or DWWP color options.
49. Emergency battery backup options are field installed and not presided by Lumenpulse. Refer to related installation instructions for details.
50. Consult factory for use with LT or DMX/RDM control options combined with DTW or DTWP color options or LT control combined with XN or VN optics.
51. Factory installed.
52. Maximum one accessory per fixture.
53. HL accessory is available for 2200K, 2700K, 3000K, 3500K and 4000K color options only.
54. Available for XN, VN and NS optics only.
55. Available for XN, VN, NS, N and NFR optics when combined with 2200K, 2700K, 3000K, 3500K, 4000K color options only. Available for NFR optic only when combined with DTW, DTWP, DWH, DWW or DWWP color options only.

LMPG Inc. reserves the right to make changes to this product at any time without prior notice and such modification shall be effective immediately.
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JC - R19

Submitted by United Lighting Alliance of Oklahoma

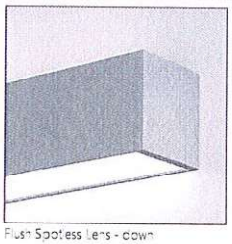
Job Name: Greenwood Cultural Center Facility Rehabilitation
Architect: CJC Architecture (Tulsa)
Engineer: HP Engineering (Broken Arrow)

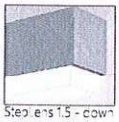
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Notes:

Type: G

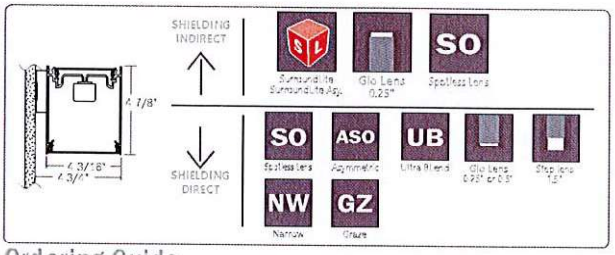
ULAOK25-104

Beam 4 | Wall mount - Direct / Indirect


Flush Spotless Lens - down
Glo Lens - up


Step Lens 1.5 - down


Surroundlite Asy. up
Glo Lens - down



Project _____

Type _____

Notes _____

PERFORMANCE PER LINEAR FOOT AT 3500K

NOMINAL LUMEN OUTPUT		INPUT WATTS	EFFICACY	SHIELDING I/D
UPLIGHT	DOWNLIGHT			
1200 lm/ft	1200 lm/ft	18 W/ft	133 lm/W	0.25G/0.25G
1200 lm/ft	1200 lm/ft	18 W/ft	134 lm/W	0.25G/0.5G
1200 lm/ft	1200 lm/ft	17.7 W/ft	135 lm/W	0.25G/1.5M
1200 lm/ft	1200 lm/ft	18.1 W/ft	132 lm/W	SO/SO
1200 lm/ft	1000 lm/ft	17.9 W/ft	126 lm/W	SO/ASO
1200 lm/ft	1200 lm/ft	18.8 W/ft	127 lm/W	SO/UB
1200 lm/ft	1000 lm/ft	19.2 W/ft	118 lm/W	SLA/NW
1200 lm/ft	1000 lm/ft	18.9 W/ft	120 lm/W	SLA/GZ

Please consult factory for custom lumen output and wattage.

Axitune Tunable White | PoE | bios | cULus Listed | Control Sensor | SurroundLite | 5 Year Limited Warranty

Ordering Guide

TB4WDILED

PRODUCT ID		NOM. LUM/FT UP		NOM. LUM/FT DOWN		CRI		COLOR TEMP. (choose one)				SHIELDING INDIRECT	
TB4WDILED	BEAM 4 - Wall Direct/Indirect LED	400	400 lm/ft - Min.	400	400 lm/ft - Min.	80	80 CRI	27	2700 K	TW2750	2700-5000 K - Tunable White	SO	spotless lens
		1200	1200 lm/ft - Max.	1000	1000 lm/ft - Max for GZ, NW, ASO.*	90	90 CRI*	30	3000 K	TW2765	2700-6500 K - Tunable White	SLA	surroundlite asy.
		750lmf		1200	1200 lm/ft - Max.			35	3500 K	BTW3527	3500-2700 K - Tunable BIOS	0.25G	0.25" Glo lens
				750lmf				40	4000 K	BTW4027	4000-2700 K - Tunable BIOS		
								B30	3000 K - BIOS*				
								B35	3500 K - BIOS*				
								B40	4000 K - BIOS*				
		Outputs between listed min and max are available. Consult factory for outputs outside of the listed range. Consult factory for max output with BIOS		Outputs between listed min and max are available. * 1000 lm/ft max. only for GZ, NW, and ASO. Consult factory for outputs outside of the listed range. Consult factory for max output with BIOS		* Not available with BIOS.		Consult Axitune technical sheet for more information on color technology. *Consult BIOS guide for more information on BIOS technology				Choose only one of the options above	

SHIELDING DIRECT		LENGTH (FT)		MR (OPTIONAL)		FINISH		VOLTAGE		DRIVER	
SO	spotless lens	2	2'	M16LED(#)	MR16 LED lamp - Line voltage (by other)*	AP	aluminum paint	120	120 V	DP	dimming (0-10V) 1%
ASO	asymmetric, flush only	3	3'	M16LEDB(#)	MR16 LED lamp - Dimmable (provided)**	W	white	277	277 V	LT(#)	Lutron *
0.25G	0.25" Glo lens	4	4'			BLK	black	347	347 V	BI	bi-level dimming
0.5G	0.5" Glo lens	5	5'			C	custom	UNV	universal	O(#)	other **
1.5M	StepLens , lum. end cap	8	8'					DC	low voltage*	DPB(STC)	dimming (0-10V) 1% with BIOS*
UB	Ultra blend lens*	12	12'							DPB(DYN)	Bio-dimming™ 100%-81% with BIOS*
NW	narrow, flush only	S(L)	System Run*							TW(#)	tunable white drivers*
GZ	graze, flush only	12' 6"								POE(#)	POE drivers*
Choose only one of the options above; SurroundLite not available with direct * Default lens for Tunable white and BIOS. Consult factory for other lens.		* SurroundLite available in 1' increments		*Specify quantity; Available with 120V or 277V only; Line wattage only; Seperate circuits included. **Consult factory; See page 3 for more details; Available with UNV, 120V or 277V only; MR16 constant current for 0-10V & DALI only. Available in 3000K or 4000K. Available in luminaires with Axitune and BIOS but downlight will not be tunable white or BIOS LEDs				* Only available with POE drivers.		* See page 2 to specify system ** Please consult factory; see page 2	

CIRCUITS		BATTERY (OPTIONAL)		IC CONTROLS (OPTIONAL)		CUSTOM (OPTIONAL)	
1	1 circuit	B(#)	battery pack (integral)	DS(#)	daylight sensor	C	custom
2	2 circuits			OS(#)	occupancy sensor		
+E(#)	emergency circuit*			DOS(#)	daylight & occupancy sensor		
+NL(#)	night light circuit*			WC(#)	wireless control dimming		
+GTD(#)	generator transfer device*						
+M	MR						
*Specify quantity		Minimum 5ft; Not available with 347V Please consult factory		Specify quantity. Requires 8" blank. See integrated controls guide for more details. Consult factory for Tunable White. Not available with DPB (DYN) driver for BIOS with Dynamic Spectrum.		Please specify	

Product design and development is an ongoing process at Axis Lighting. We reserve the right to change specifications. Contact Axis for the latest product information.

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1.800.223.2947
[T] 214.942.9292

axis lighting.com

Beam 4 | Wall mount - Direct / Indirect

CONSTRUCTION

Housing	Extruded aluminum (0.075" nominal) Up to 70% recycled content
End Cap	Cast aluminum
Interior Brackets	Die formed sheet steel (20 gauge)
Reflectors	White powder coated sheet steel (22 gauge)
Lenses	Extruded acrylic (0.070" nominal)
Mounting	Sheet metal bracket with fixture-mounted clip

ELECTRICAL

Lutron driver	LDE1 - Hi-lume 1% EcoSystem with Soft-on, Fade-to-Black
Other drivers**	DALI - Digital Addressable Lighting Interface DMX - Digital Multiplex Xitanium SR - For wireless sensor
BIOS DPB drivers*	STC - BIOS control 0-10V with static spectrum and BIOS SkyBlue enabled from 100% to 1%. DYN - BIOS control 0-10V with dynamic spectrum and BIOS SkyBlue® with Bio-Dimming™, which changes spectral qualities by removing the SkyBlue component when dimming from 100% to 81%, while light output remains relatively constant; bio-dimming reduces CCT to 2700K. Dimming from 80% to 1% will then reduce light output.
Tunable White TW drivers*	DALIDT6 - DALI Type 6 (Two DALI Addresses) DALIDT8 - DALI Type 8 (One DALI Address) DPTW - two channel 0-10V dimming: one channel for brightness, one channel for CCT. LDTW - Lutron DALI Type 8 (One DALI adress) Tunable White series
Power over Ethernet POE drivers* UL2108 certified for integral or remote driver	MOLEX IGOR SMARTENGINE O - Other (Consult factory)
Emergency	Integral emergency battery pack or emergency circuit optional.
Input Voltage Flex Whip	120V, 277V, 347V, UNV, DC. Shipped in a separate box for contractors to install

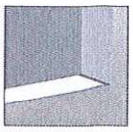
*Choose driver from available options.

Incorporating these components may have limitations or affect the length of the luminaire. Please contact factory for more details.

WARRANTY

Limited 5-year warranty is available. Warranty is valid provided luminaires are installed and used according to specifications. For full terms and conditions, please consult warranty section at axislighting.com.

OPTICS


SO Spotless lens
UB Ultra Blend Lens


0.25G Glo lens
0.5G Glo lens


1.5M 1.5" StepLens

ULTRA BLEND LENS
Frosted acrylic snap-in micro lens suitable for Tunable White and BIOS applications.

SPOTLESS LENS
Frosted acrylic snap-in micro lens. Used for SO, ASO, NW, and GZ shielding options.

GLO LENS
0.25" or 0.5" frosted acrylic druse lens. Patented design.

STEPLENS
1.5" StepLens, illuminated end cap.

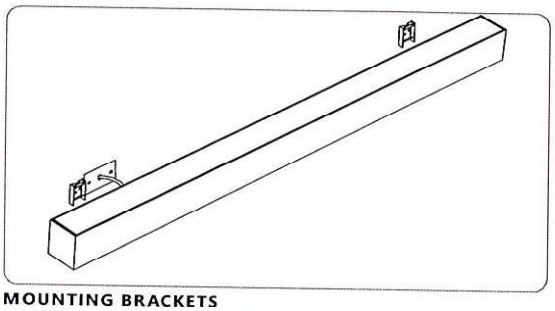
LED SYSTEM

CRI	Minimum 80 or 90 color rendering index.
CRI BIOS	Minimum 80 color rendering index with R9>75 for all CCTs.
CCT Single Color	Choice of 2700K, 3000K, 3500K and 4000K color temperature with a great color consistency (within 3–step MacAdam ellipse). Both within fixture and fixture to fixture.
CCT BIOS	BIOS Static (STC) Choice of 3000K, 3500K and 4000K. BIOS SkyBlue® Dynamic (DYN) Choice of 3000K, 3500K, and 4000K with Bio-Dimming™ BIOS Tunable White (BTW) Choice of 4000-2700K and 3500-2700K; does not use a bio-dimmer, it uses TW drivers, which allow independent control of CCT and intensity; e.g., BTW4027 provides combined SkyBlue + white light at 4000K, SkyBlue is removed at 2700K. Light output can be adjusted for each CCT. Consult BIOS guide for more information on BIOS technology.
CCT Axitune Systems	Consult Axitune technical sheet for more information on color technology.
LED life	Minimum 50,000h with 85% of lumen maintenance in 25°C ambient temperature, in compliance with IES LM-80 testing measurements.
Thermal Management	Aluminum housing acting as the heat sink to maximize life.
Environment	Dry and damp rated for indoor use only in operating ambient temperatures of 0-40°C (32-104F).

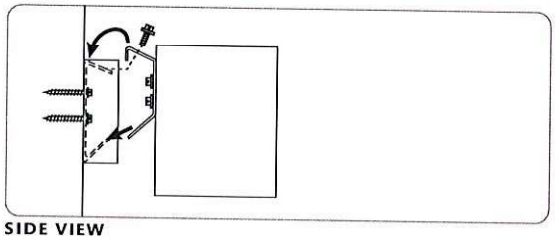
Beam 4 | Wall mount - Direct / Indirect

MOUNTING OPTIONS

HORIZONTAL MOUNTING DETAILS



MOUNTING BRACKETS



SIDE VIEW

OTHER MOUNTING OPTIONS

BEAM 4 is also available with pendant mounted option.

Specification sheets and installation sheets for all mountings for BEAM 4 luminaires are available for download at www.axislighting.com

FINISH

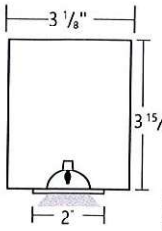
Aluminium paint, powder coated and custom finishes are also available.

APPROVALS

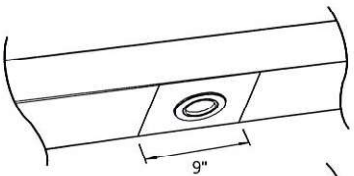
Certified to UL and CSA standards
Meets NYC requirements
Meets ADA requirements.
Suitable for damp locations.

MR16 LED LAMPS

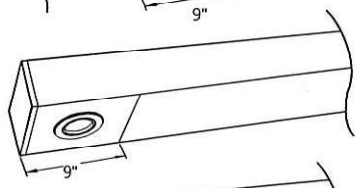
Blank	Extruded aluminum (0.075" nominal)
MR16 LED	Adjustable LED lamp (provided)
MR16 LEDB	Constant current LED lamp (provided)- Dimmable by control system for 0-10V & DALI only
Quantity	For every 4' section, there may be up to a maximum of 4 x MR16 LED lamps.
Spacing	Each MR16 is placed centered on a blank section 9" in length. Within a given section length, a series of downlights will be spaced evenly on a longer blank section. Custom spacing available on special request.



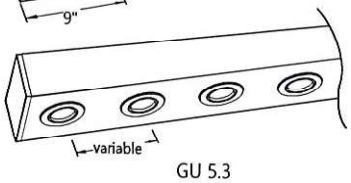
Between sections



At luminaire ends



Several in a long blank section



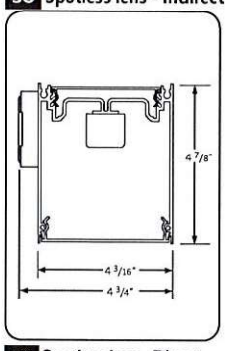
Base Type	GU 5.3
Beam Angle	40 nominal degrees
Input Watts	6W
Nominal Lumens	300 lumens
Efficacy	50 lumens per watt
Color Rendering Index (CRI)	85
Center Beam Candle Power (CBCP)	584 candelas
Life	25,000 hours at L_{70}
Correlated color temperature (CCT)	3000K, 4000K
Adjustability	15° tilt

More options are available upon request. Please consult factory.

Beam 4 | Wall mount - Direct / Indirect

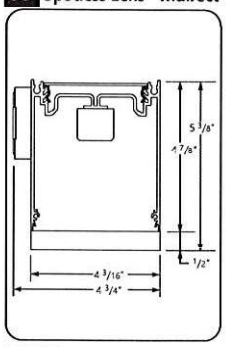
SECTION VIEWS

SO Spotless lens - Indirect



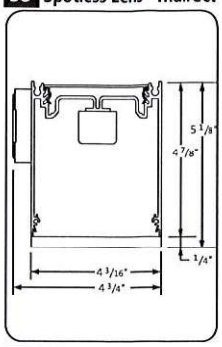
SO Spotless lens - Direct
NW Narrow lens - Direct
GZ Graze lens - Direct
ASO Asymm. lens - Direct
UB Ultra Blend lens - Direct

SO Spotless Lens - Indirect



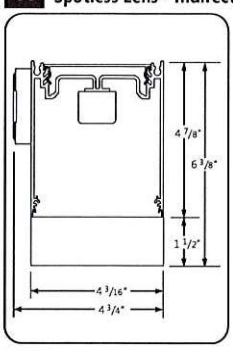
0.5G 0.5" Glo lens - Direct

SO Spotless Lens - Indirect



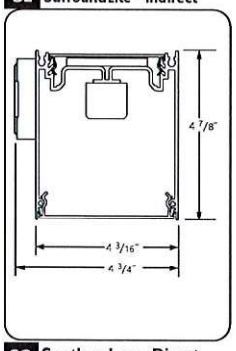
0.25G 0.25" Glo lens - Direct

SO Spotless Lens - Indirect



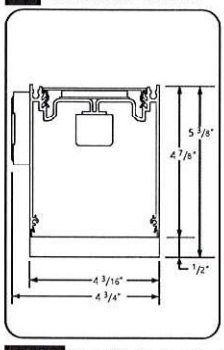
1.5M StepLens - Direct

SLA SurroundLite Asymm. - Indirect
SL SurroundLite - Indirect



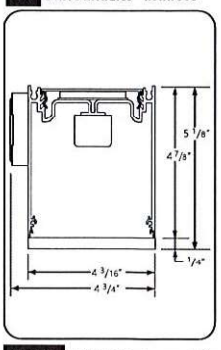
SO Spotless lens - Direct
NW Narrow lens - Direct
GZ Graze lens - Direct
ASO Asymm. lens - Direct
UB Ultra Blend lens - Direct

SLA SurroundLite Asymm. - Indirect
SL SurroundLite - Indirect



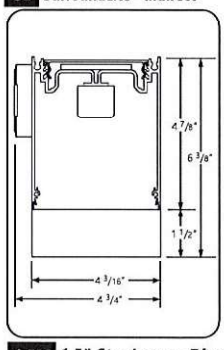
0.5G 0.5" Glo lens - Direct

SLA SurroundLite Asymm. - Indirect
SL SurroundLite - Indirect



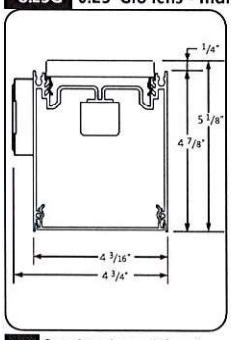
0.25G 0.25" Glo lens - Direct

SLA SurroundLite Asymm. - Indirect
SL SurroundLite - Indirect



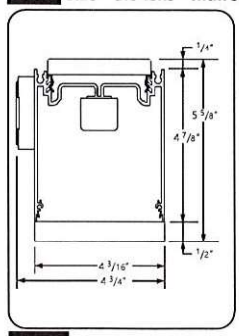
1.5M 1.5" StepLerns - Direct

0.25G 0.25"Glo lens - Indirect



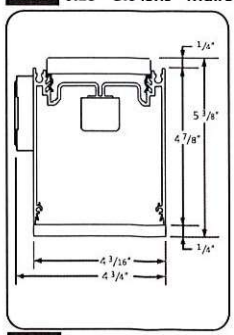
SO Spotless lens - Direct
NW Narrow lens - Direct
GZ Graze lens - Direct
ASO Asymm. lens - Direct
UB Ultra Blend lens - Direct

0.25G 0.25" Glo lens - Indirect



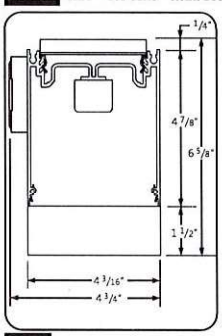
0.5G 0.5" Glo lens - Direct

0.25G 0.25" Glo lens - Indirect



0.25G 0.25" Glo lens - Direct

0.25G 0.25" Glo lens - Indirect



1.5M 1.5" StepLens - Direct

Beam 4 | Wall mount - Direct / Indirect

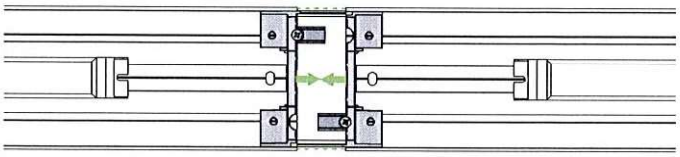
SYSTEM (S#)

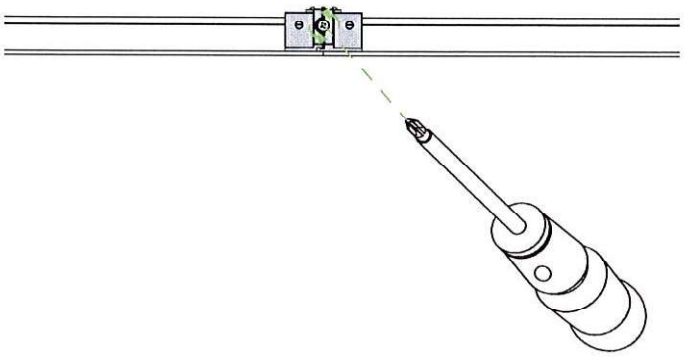
BEAM 4 linear systems, with the use of a strong profile, allow for a nearly hair thin connection system of continuous runs.
Lengths of 4', 8', 12' as well as custom lengths are available.
Runs of BEAM 4 that are greater than 12' in length are designated as systems (S#). This means that the run is comprised of a combination of 4', 8' and/or 12' sections to be assembled on site using our joining system. System runs with SurroundLite available in 1' increments only. For more information on systems and joining, please refer to the BEAM installation sheets available for download at www.axislighting.com.

JOINERS

BEAM 4 luminaires feature the joining mechanism shown below. This mechanism joins and aligns multiple luminaires to create long continuous runs of light.

NOTE: Mount each system segment individually.
Do not assemble system prior to mounting.





Beam 4 | Wall mount - Direct / Indirect

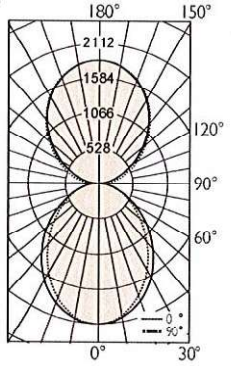
PHOTOMETRIC DATA

0.25G 0.25 Glo Lens - **Up**
0.25G 0.25 Glo Lens - **Down**

Uplight
1200 lm/ft
Downlight
1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft up: 1200 lm/ft
Lumen/ft down: 1200 lm/ft
Total Lumens: 9602 lm (for 4ft)
Input Watts: 72 W
Efficacy: 133 lm/W
IES FILE: TB4WDILED-1200-1200-80-35-0.25G-0.25G-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	2112	2112	2112	2112	2112
5	2102	2102	2102	2101	2099
15	1996	1994	1982	1967	1958
25	1787	1779	1747	1710	1693
35	1497	1483	1436	1382	1357
45	1165	1152	1101	1045	1020
55	833	825	786	742	724
65	529	530	512	488	478
75	274	285	291	289	287
85	84	101	121	133	136
90	14	33	61	88	98
95	85	108	140	169	181
105	272	292	323	352	364
115	517	536	552	570	577
125	799	812	823	831	825
135	1094	1102	1110	1116	1104
145	1375	1381	1396	1388	1379
155	1623	1625	1619	1610	1608
165	1765	1771	1768	1765	1765
175	1843	1843	1843	1843	1842
180	1850	1850	1850	1850	1850

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	198
10-20	552
20-30	789
30-40	875
40-50	823
50-60	677
60-70	483
70-80	287
80-90	118
90	
90-100	142
100-110	327
110-120	529
120-130	713
130-140	835
140-150	850
150-160	734
160-170	495
170-180	175
180	

LUMINANCE DATA (cd/m²)

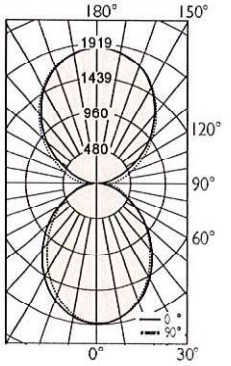
	Horizontal Angles		
Vertical Angle	0	45	90
45	13797	13039	12075
55	12164	11471	10562
65	10472	10139	9467
75	8862	9405	9281
85	8029	11617	13111

0.25G 0.25 Glo Lens - **Up**
0.5G 0.5 Glo Lens - **Down**

Uplight
1200 lm/ft
Downlight
1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft up: 1200 lm/ft
Lumen/ft down: 1200 lm/ft
Total Lumens: 9620 lm (for 4ft)
Input Watts: 71.8 W
Efficacy: 134 lm/W
IES FILE: TB4WDILED-1200-1200-80-35-0.25G-0.5G-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	1916	1916	1916	1916	1916
5	1908	1910	1910	1910	1911
15	1804	1809	1806	1799	1796
25	1606	1611	1600	1578	1568
35	1337	1344	1326	1300	1285
45	1037	1049	1036	1012	999
55	744	761	761	748	740
65	477	503	518	519	517
75	255	286	317	333	336
85	84	118	157	182	189
90	31	85	152	205	223
95	100	148	211	261	279
105	285	325	381	432	450
115	528	561	598	631	646
125	808	832	861	883	884
135	1103	1120	1141	1158	1152
145	1383	1394	1421	1421	1416
155	1628	1635	1636	1634	1635
165	1768	1777	1779	1779	1781
175	1844	1845	1846	1848	1847
180	1850	1850	1850	1850	1850

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	180
10-20	501
20-30	719
30-40	804
40-50	768
50-60	648
60-70	481
70-80	306
80-90	155
90	
90-100	213
100-110	385
110-120	573
120-130	747
130-140	859
140-150	865
150-160	742
160-170	498
170-180	175
180	

LUMINANCE DATA (cd/m²)

	Horizontal Angles		
Vertical Angle	0	45	90
45	18785	18776	18108
55	16614	17006	16524
65	14457	15690	15683
75	12621	15670	16632
85	12288	23130	27764

All IES files are available for download at: www.axislighting.com

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Beam 4 | Wall mount - Direct / Indirect

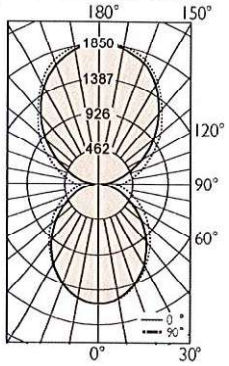
PHOTOMETRIC DATA

0.25G 0.25 Glo Lens - **Up**
1.5M 1.5 Step Lens - **Down**

Uplight
1200 lm/ft
Downlight
1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft up: 1200 lm/ft
Lumen/ft down: 1200 lm/ft
Total Lumens: 9537 lm (for 4ft)
Input Watts: 70.9 W
Efficacy: 135 lm/W
IES FILE: TB4WDILED-1200-1200-80-35-0.25G-1.5M-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

Vertical Angle	Horizontal Angles 0	22.5	45	67.5	90
0	1575	1575	1575	1575	1575
5	1567	1566	1567	1569	1570
15	1482	1487	1495	1498	1497
25	1320	1332	1345	1344	1343
35	1104	1129	1147	1155	1155
45	869	906	940	955	960
55	638	687	734	764	773
65	422	481	541	583	597
75	236	298	368	415	430
85	86	153	227	274	287
90	45	131	232	304	326
95	113	195	291	360	381
105	295	368	454	518	538
115	535	597	656	701	718
125	814	861	912	945	949
135	1094	1102	1110	1116	1104
145	1375	1381	1396	1388	1379
155	1623	1625	1619	1610	1608
165	1765	1771	1768	1765	1765
175	1843	1843	1843	1843	1842
180	1850	1850	1850	1850	1850

ZONAL LUMENS

Zone	Lumens
0	
0-10	149
10-20	417
20-30	609
30-40	702
40-50	702
50-60	630
60-70	506
70-80	358
80-90	226
90	
90-100	289
100-110	449
110-120	622
120-130	783
130-140	842
140-150	850
150-160	734
160-170	495
170-180	175
180	

LUMINANCE DATA (cd/m²)

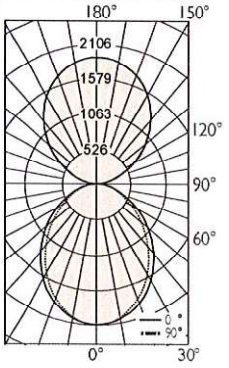
Vertical Angle	Horizontal Angles 0	45	90
45	15746	17035	17387
55	14252	16393	17272
65	12788	16401	18085
75	11675	18206	21263
85	12681	33330	42249

SO Spotless Lens - **Up**
SO Spotless Lens - **Down**

Uplight
1200 lm/ft
Downlight
1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft up: 1200 lm/ft
Lumen/ft down: 1200 lm/ft
Total Lumens: 9601 lm (for 4ft)
Input Watts: 72.5 W
Efficacy: 132 lm/W
IES FILE: TB4WDILED-1200-1200-80-35-SO-SO-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

Vertical Angle	Horizontal Angles 0	22.5	45	67.5	90
0	2106	2106	2106	2106	2106
5	2096	2093	2091	2089	2088
15	1989	1983	1969	1953	1945
25	1781	1767	1737	1702	1686
35	1495	1478	1434	1386	1364
45	1171	1155	1108	1056	1033
55	845	833	793	748	730
65	542	536	509	478	465
75	283	283	272	258	252
85	84	85	84	80	79
90	5	4	4	3	4
95	82	86	91	92	101
105	279	284	294	300	311
115	535	538	545	548	559
125	823	825	828	829	840
135	1122	1121	1121	1120	1131
145	1405	1403	1403	1397	1406
155	1642	1640	1635	1633	1639
165	1801	1799	1801	1799	1802
175	1885	1883	1883	1883	1885
180	1891	1891	1891	1891	1891

ZONAL LUMENS

Zone	Lumens
0	
0-10	198
10-20	551
20-30	791
30-40	884
40-50	838
50-60	692
60-70	488
70-80	275
80-90	84
90	
90-100	93
100-110	302
110-120	527
120-130	728
130-140	853
140-150	867
150-160	747
160-170	505
170-180	178
180	

LUMINANCE DATA (cd/m²)

Vertical Angle	Horizontal Angles 0	45	90
45	13867	13117	12235
55	12338	11567	10649
65	10740	10085	9212
75	9146	8792	8142
85	8065	8042	7592

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Beam 4 | Wall mount - Direct / Indirect

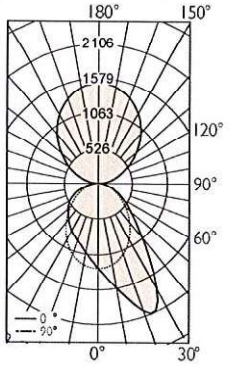
PHOTOMETRIC DATA

SO Spotless Lens - **Up**
ASO Asymmetric Lens - **Down**

Uplight
1200 lm/ft
Downlight
1000 lm/ft



PHOTOMETRIC CURVE



Lumen/ft up: 1200 lm/ft
Lumen/ft down: 1000 lm/ft
Total Lumens: 9028 lm (for 4ft)
Input Watts: 71.8 W
Efficacy: 126 lm/W
IES FILE: TB4WDILED-1200-1000-80-35-SO-ASO-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

Vertical Angle	Horizontal Angles 0	22.5	45	67.5	90
0	1608	1608	1608	1608	1608
5	1599	1672	1738	1786	1783
15	1507	1737	1999	2212	2261
25	1324	1727	2250	2574	2638
35	1078	1582	2048	1830	1721
45	812	1256	1401	1089	1026
55	563	849	857	692	676
65	349	496	492	417	415
75	169	225	223	196	198
85	30	41	44	39	44
90	5	4	4	3	4
95	82	86	91	92	101
105	279	284	294	300	311
115	535	538	545	548	559
125	823	825	828	829	840
135	1122	1121	1121	1120	1131
145	1405	1403	1403	1397	1406
155	1642	1640	1635	1633	1639
165	1801	1799	1801	1799	1802
175	1885	1883	1883	1883	1885
180	1891	1891	1891	1891	1891

ZONAL LUMENS

Zone	Lumens
0	
0-10	154
10-20	462
20-30	742
30-40	832
40-50	747
50-60	599
60-70	419
70-80	220
80-90	52
90	
90-100	93
100-110	302
110-120	527
120-130	728
130-140	853
140-150	867
150-160	747
160-170	505
170-180	178
180	

LUMINANCE DATA (cd/m²)

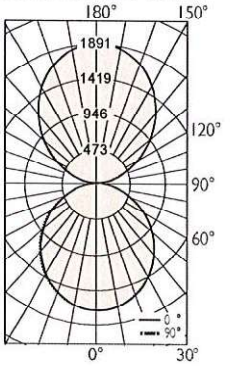
Vertical Angle	Horizontal Angles 0	45	90
45	9611	16584	12150
55	8212	12504	9872
65	6910	9740	8227
75	5454	7212	6394
85	2864	4224	4188

SO Spotless Lens - **Up**
UB Ultra blend Lens - **Down**

Uplight
1200 lm/ft
Downlight
1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft up: 1200 lm/ft
Lumen/ft down: 1200 lm/ft
Total Lumens: 9557 lm (for 4ft)
Input Watts: 75.3 W
Efficacy: 127 lm/W
IES FILE: TB4WDILED-1200-1200-80-35-SO-UB-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

Vertical Angle	Horizontal Angles 0	22.5	45	67.5	90
0	1724	1724	1724	1724	1724
5	1718	1719	1721	1721	1721
15	1651	1655	1659	1659	1659
25	1522	1528	1532	1532	1530
35	1338	1346	1350	1349	1347
45	1116	1125	1128	1125	1123
55	864	874	877	874	872
65	594	604	609	608	606
75	327	338	345	346	346
85	102	109	115	116	116
90	5	4	4	3	4
95	82	86	91	92	101
105	279	284	294	300	311
115	535	538	545	548	559
125	823	825	828	829	840
135	1122	1121	1121	1120	1131
145	1405	1403	1403	1397	1406
155	1642	1640	1635	1633	1639
165	1801	1799	1801	1799	1802
175	1885	1883	1883	1883	1885
180	1891	1891	1891	1891	1891

ZONAL LUMENS

Zone	Lumens
0	
0-10	163
10-20	464
20-30	695
30-40	827
40-50	846
50-60	754
60-70	569
70-80	335
80-90	104
90	
90-100	93
100-110	302
110-120	527
120-130	728
130-140	853
140-150	867
150-160	747
160-170	505
170-180	178
180	

LUMINANCE DATA (cd/m²)

Vertical Angle	Horizontal Angles 0	45	90
45	13211	13360	13290
55	12607	12803	12720
65	11766	12064	12006
75	10583	11168	11183
85	9829	11021	11133

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Submitted by United Lighting Alliance of Oklahoma			
ULA UNITED LIGHTING ALLIANCE OKLAHOMA	**Job Name:** Greenwood Cultural Center Facility Rehabilitation Architect: CJC Architecture (Tulsa) Engineer: HP Engineering (Broken Arrow)	**Catalog Number:** TB4WDILED-750-750-80-35-SLA-GZ-12'6"-W-UNV-DP-1 Notes:	**Type:** G ULAOK25-104

Beam 4 | Wall mount - Direct / Indirect

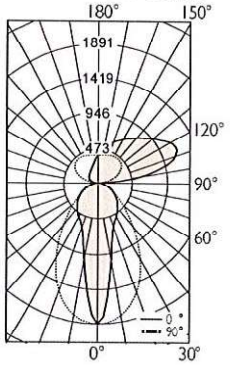
PHOTOMETRIC DATA

SLA Asymmetric Lens - **Up**
NW Narrow Lens - **Down**

Uplight
1200 lm/ft
Downlight
1000 lm/ft



PHOTOMETRIC CURVE



Lumen/ft up: 1200 lm/ft
Lumen/ft down: 1000 lm/ft
Total Lumens: 9060 lm (for 4ft)
Input Watts: 77 W
Efficacy: 118 lm/W
IES FILE: TB4WDILED-1200-1000-80-35-SLA-NW-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	4002	4002	4002	4002	4002
5	3960	3903	3669	3459	3261
15	3606	2962	2108	1737	1600
25	2877	1986	1334	1199	1171
35	1971	1339	1004	988	982
45	1200	914	766	783	789
55	682	596	548	584	602
65	376	357	350	390	412
75	173	172	174	203	215
85	34	36	38	49	48
90	5	4	3	2	2
95	80	240	428	600	602
105	376	656	1170	1814	2048
115	650	931	1409	2103	2448
125	823	1093	1451	1913	2153
135	892	1153	1406	1683	1808
145	892	1125	1317	1479	1540
155	858	1043	1193	1295	1331
165	821	936	1035	1100	1126
175	797	834	869	892	899
180	794	794	794	794	794

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	317
10-20	645
20-30	744
30-40	746
40-50	663
50-60	529
60-70	369
70-80	197
80-90	50
90	
90-100	244
100-110	742
110-120	916
120-130	871
130-140	739
140-150	575
150-160	402
160-170	234
170-180	76
180	

LUMINANCE DATA (cd/m²)

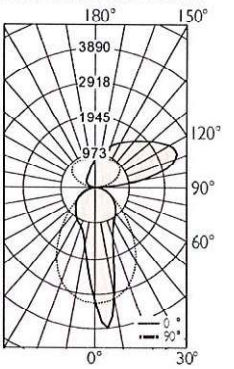
	Horizontal Angles		
Vertical Angle	0	45	90
45	19761	12625	12988
55	13840	11126	12232
65	10367	9641	11341
75	7806	7830	9662
85	4501	5142	6350

SLA Asymmetric Lens - **Up**
GZ Graze Lens - **Down**

Uplight
1200 lm/ft
Downlight
1000 lm/ft



PHOTOMETRIC CURVE



Lumen/ft up: 1200 lm/ft
Lumen/ft down: 1000 lm/ft
Total Lumens: 9086 lm (for 4ft)
Input Watts: 75.5 W
Efficacy: 120 lm/W
IES FILE: TB4WDILED-1200-1000-80-35-SLA-GZ-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

	Horizontal Angles				
Vertical Angle	0	22.5	45	67.5	90
0	3198	3198	3198	3198	3198
5	3160	3529	3781	3876	3890
15	2981	3569	2861	2211	1935
25	2553	2656	1559	1223	1149
35	1895	1742	1046	964	952
45	1220	1133	790	785	780
55	719	709	575	595	601
65	404	412	372	403	418
75	185	193	184	212	225
85	35	39	40	51	48
90	5	4	3	2	2
95	80	240	428	600	602
105	376	656	1170	1814	2048
115	650	931	1409	2103	2448
125	823	1093	1451	1913	2153
135	892	1153	1406	1683	1808
145	892	1125	1317	1479	1540
155	858	1043	1193	1295	1331
165	821	936	1035	1100	1126
175	797	834	869	892	899
180	794	794	794	794	794

ZONAL LUMENS

	Lumens
Zone	
0	
0-10	286
10-20	633
20-30	736
30-40	747
40-50	678
50-60	552
60-70	391
70-80	210
80-90	52
90	
90-100	244
100-110	742
110-120	916
120-130	871
130-140	739
140-150	575
150-160	402
160-170	234
170-180	76
180	

LUMINANCE DATA (cd/m²)

	Horizontal Angles		
Vertical Angle	0	45	90
45	20095	13007	12843
55	14605	11684	12200
65	11123	10245	11518
75	8345	8294	10134
85	4693	5399	6433

All IES files are available for download at: www.axislighting.com

Product design and development is an ongoing process at Axis Lighting. We reserve the right to change specifications. Contact Axis for the latest product information.

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axislighting.com

Submitted by United Lighting Alliance of Oklahoma

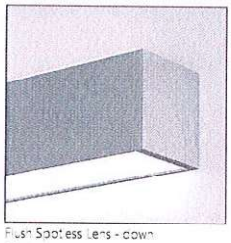
ULA UNITED LIGHTING ALLIANCE OKLAHOMA

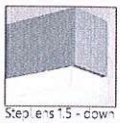
Job Name:
Greenwood Cultural Center Facility Rehabilitation
Architect: CJC Architecture (Tulsa)
Engineer: HP Engineering (Broken Arrow)

Catalog Number:
TB4WDILED-750-750-80-35-SLA-GZ-12'6"-W-UNV-DP-1-B1
Notes:

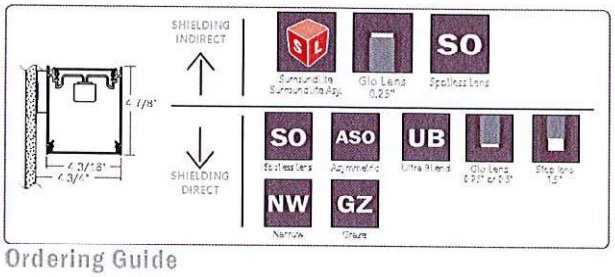
Type:
GE
ULAOK25-104

Beam 4 | Wall mount - Direct / Indirect


Flush Spotless Lens - down
Glo Lens - up


StepLens 1.5 - down


Surroundlite Asy. up
Glo Lens - down



Project _____

Type _____

Notes _____

PERFORMANCE PER LINEAR FOOT AT 3500K

NOMINAL LUMEN OUTPUT		INPUT WATTS	EFFICACY	SHIELDING I/D
UPLIGHT	DOWNLIGHT			
1200 lm/ft	1200 lm/ft	18 W/ft	133 lm/W	0.25G/0.25G
1200 lm/ft	1200 lm/ft	18 W/ft	134 lm/W	0.25G/0.5G
1200 lm/ft	1200 lm/ft	17.7 W/ft	135 lm/W	0.25G/1.5M
1200 lm/ft	1200 lm/ft	18.1 W/ft	132 lm/W	SO/SO
1200 lm/ft	1000 lm/ft	17.9 W/ft	126 lm/W	SO/ASO
1200 lm/ft	1200 lm/ft	18.8 W/ft	127 lm/W	SO/UB
1200 lm/ft	1000 lm/ft	19.2 W/ft	118 lm/W	SLA/NW
1200 lm/ft	1000 lm/ft	18.9 W/ft	120 lm/W	SLA/GZ

Please consult factory for custom lumen output and wattage.

Axitune Tunable White | PoE | bios | cULus Listed | CONTROL-ENSURE | SurroundLite | LED BOARD & DRIVER 5 YEAR LIMITED WARRANTY

Ordering Guide

TB4WDILED

PRODUCT ID		NOM. LUM/FT UP		NOM. LUM/FT DOWN		CRI		COLOR TEMP. (choose one)			SHIELDING INDIRECT	
TB4WDILED	BEAM 4 - Wall Direct/Indirect LED	400	400 lm/ft - Min.	400	400 lm/ft - Min.	80	80 CRI	27	2700 K	TW2750	2700-5000 K - Tunable White	SO spotless lens
		1200	1200 lm/ft - Max.	1000	1000 lm/ft - Max for GZ, NW, ASO.*	90	90 CRI*	30	3000 K	TW2765	2700-6500 K - Tunable White	SLA surroundlite asy.
			750lmf	1200	1200 lm/ft - Max.			35	3500 K	BTW3527	3500-2700 K - Tunable BIOS	0.25G 0.25" Glo lens
					750lmf			40	4000 K	BTW4027	4000-2700 K - Tunable BIOS	
								B30	3000 K - BIOS*			
								B35	3500 K - BIOS*			
								B40	4000 K - BIOS*			
		Outputs between listed min and max are available. Consult factory for outputs outside of the listed range. Consult factory for max output with BIOS		Outputs between listed min and max are available. * 1000 lm/ft max. only for GZ, NW, and ASO. Consult factory for outputs outside of the listed range. Consult factory for max output with BIOS		* Not available with BIOS.		Consult Axitune technical sheet for more information on color technology. *Consult BIOS guide for more information on BIOS technology			Choose only one of the options above	

SHIELDING DIRECT		LENGTH (FT)		MR (OPTIONAL)		FINISH		VOLTAGE		DRIVER	
SO	spotless lens	2	2'	M16LED(#)	MR16 LED lamp - Line voltage (by other)*	AP	aluminum paint	120	120 V	DP	dimming (0-10V) 1%
ASO	asymmetric, flush only	3	3'	M16LEDB(#)	MR16 LED lamp - Dimmable (provided)**	W	white	277	277 V	LT(#)	Lutron *
0.25G	0.25" Glo lens	4	4'			BLK	black	347	347 V	BI	bi-level dimming
0.5G	0.5" Glo lens	5	5'			C	custom	UNV	universal	O(#)	other **
1.5M	StepLens , lum. end cap	8	8'					DC	low voltage*	DPB(STC)	dimming (0-10V) 1% with BIOS*
UB	Ultra blend lens*	12	12'							DPB(DYN)	Bio-dimming™ 100%-81% with BIOS*
NW	narrow, flush only	S(L)	System Run*							TW(#)	tunable white drivers*
GZ	graze, flush only		12'6"							POE(#)	POE drivers*
Choose only one of the options above. SurroundLite not available with direct * Default lens for Tunable white and BIOS. Consult factory for other lens.		* SurroundLite available in 1' increments		*Specify quantity; Available with 120V or 277V only; Line wattage only; Seperate circuits included. **Consult factory; See page 3 for more details; Available with UNV, 120V or 277V only; MR16 constant current for 0-10V & DALI only. Available in 3000K or 4000K. Available in luminaires with Axitune and BIOS but downlight will not be tunable white or BIOS LEDs				* Only available with POE drivers.		* See page 2 to specify system ** Please consult factory; see page 2	

CIRCUITS		BATTERY (OPTIONAL)		IC CONTROLS (OPTIONAL)		CUSTOM (OPTIONAL)	
1	1 circuit	B(#)	battery pack (integral)	DS(#)	daylight sensor	C	custom
2	2 circuits			OS(#)	occupancy sensor		
+E(#)	emergency circuit*			DOS(#)	daylight & occupancy sensor		
+NL(#)	night light circuit*			WC(#)	wireless control dimming		
+GTD(#)	generator transfer device*						
+M	MR						
*Specify quantity		Minimum 5ft. Not available with 347V Please consult factory		Specify quantity. Requires 8" blank. See integrated controls guide for more details. Consult factory for Tunable White. Not available with DPB (DYN) driver for BIOS with Dynamic Spectrum.		Please specify	

Beam 4 | Wall mount - Direct / Indirect

CONSTRUCTION

Housing	Extruded aluminum (0.075" nominal) Up to 70% recycled content
End Cap	Cast aluminum
Interior Brackets	Die formed sheet steel (20 gauge)
Reflectors	White powder coated sheet steel (22 gauge)
Lenses	Extruded acrylic (0.070" nominal)
Mounting	Sheet metal bracket with fixture-mounted clip

ELECTRICAL

Lutron driver	LDE1 - Hi-lume 1% EcoSystem with Soft-on, Fade-to-Black
Other drivers**	DALI - Digital Addressable Lighting Interface DMX - Digital Multiplex Xitanium SR - For wireless sensor
BIOS DPB drivers*	STC - BIOS control 0-10V with static spectrum and BIOS SkyBlue enabled from 100% to 1%. DYN - BIOS control 0-10V with dynamic spectrum and BIOS SkyBlue® with Bio-Dimming™, which changes spectral qualities by removing the SkyBlue component when dimming from 100% to 81%, while light output remains relatively constant; bio-dimming reduces CCT to 2700K. Dimming from 80% to 1% will then reduce light output.
Tunable White TW drivers*	DALIDT6 - DALI Type 6 (Two DALI Addresses) DALIDT8 - DALI Type 8 (One DALI Address) DPTW - two channel 0-10V dimming: one channel for brightness, one channel for CCT. LDTW - Lutron DALI Type 8 (One DALI adress) Tunable White series
Power over Ethernet POE drivers* UL2108 certified for integral or remote driver	MOLEX IGOR SMARTENGINE O - Other (Consult factory)
Emergency	Integral emergency battery pack or emergency circuit optional.
Input Voltage Flex Whip	120V, 277V, 347V, UNV, DC. Shipped in a separate box for contractors to install

*Choose driver from available options.

Incorporating these components may have limitations or affect the length of the luminaire. Please contact factory for more details.

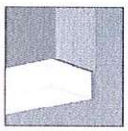
WARRANTY

Limited 5-year warranty is available. Warranty is valid provided luminaires are installed and used according to specifications. For full terms and conditions, please consult warranty section at axislighting.com.

OPTICS


SO Spotless lens
UB Ultra Blend Lens


0.25G Glo lens
0.5G Glo lens


1.5M 1.5" StepLens

ULTRA BLEND LENS
Frosted acrylic snap-in micro lens suitable for Tunable White and BIOS applications

SPOTLESS LENS
Frosted acrylic snap-in micro lens. Used for SO, ASO, NW, and GZ shielding options.

GLO LENS
0.25" or 0.5" frosted acrylic drop lens. Patented design.

STEPLENS
1.5" StepLens, illuminated end cap.

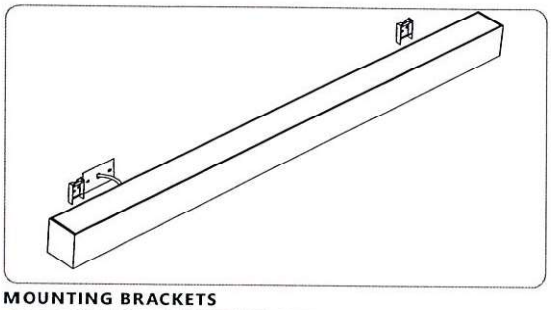
LED SYSTEM

CRI	Minimum 80 or 90 color rendering index.
CRI BIOS	Minimum 80 color rendering index with R9>75 for all CCTs.
CCT Single Color	Choice of 2700K, 3000K, 3500K and 4000K color temperature with a great color consistency (within 3–step MacAdam ellipse). Both within fixture and fixture to fixture.
CCT BIOS	BIOS Static (STC) Choice of 3000K, 3500K and 4000K. BIOS SkyBlue® Dynamic (DYN) Choice of 3000K, 3500K, and 4000K with Bio-Dimming™ BIOS Tunable White (BTW) Choice of 4000-2700K and 3500-2700K; does not use a bio-dimmer, it uses TW drivers, which allow independent control of CCT and intensity; e.g., BTW4027 provides combined SkyBlue + white light at 4000K, SkyBlue is removed at 2700K. Light output can be adjusted for each CCT. Consult BIOS guide for more information on BIOS technology.
CCT Axitune Systems	Consult Axitune technical sheet for more information on color technology.
LED life	Minimum 50,000h with 85% of lumen maintenance in 25°C ambient temperature, in compliance with IES LM-80 testing measurements.
Thermal Management	Aluminum housing acting as the heat sink to maximize life.
Environment	Dry and damp rated for indoor use only in operating ambient temperatures of 0-40°C (32-104F).

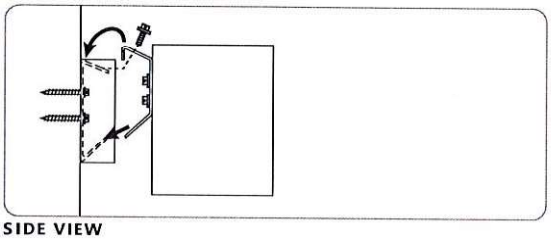
Beam 4 | Wall mount - Direct / Indirect

MOUNTING OPTIONS

HORIZONTAL MOUNTING DETAILS



MOUNTING BRACKETS



SIDE VIEW

OTHER MOUNTING OPTIONS

BEAM 4 is also available with pendant mounted option.

Specification sheets and installation sheets for all mountings for BEAM 4 luminaires are available for download at www.axislighting.com

FINISH

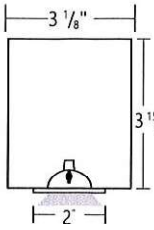
Aluminium paint, powder coated and custom finishes are also available.

APPROVALS

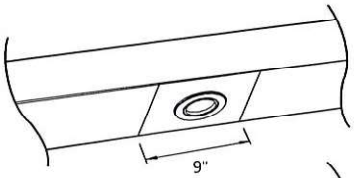
Certified to UL and CSA standards
Meets NYC requirements
Meets ADA requirements.
Suitable for damp locations.

MR16 LED LAMPS

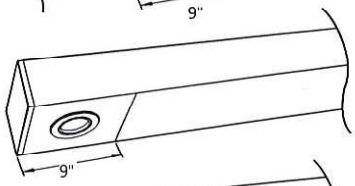
Blank	Extruded aluminum (0.075" nominal)
MR16 LED	Adjustable LED lamp (provided)
MR16 LEDB	Constant current LED lamp (provided)- Dimmable by control system for 0-10V & DALI only
Quantity	For every 4' section, there may be up to a maximum of 4 x MR16 LED lamps.
Spacing	Each MR16 is placed centered on a blank section 9" in length. Within a given section length, a series of downlights will be spaced evenly on a longer blank section. Custom spacing available on special request.



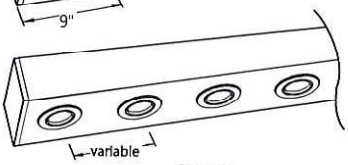
Between sections



At luminaire ends



Several in a long blank section



Base Type	GU 5.3
Beam Angle	40 nominal degrees
Input Watts	6W
Nominal Lumens	300 lumens
Efficacy	50 lumens per watt
Color Rendering Index (CRI)	85
Center Beam Candle Power (CBCP)	584 candelas
Life	25,000 hours at L_{70}
Correlated color temperature (CCT)	3000K, 4000K
Adjustability	15° tilt

More options are available upon request. Please consult factory.

Product design and development is an ongoing process at Axis Lighting. We reserve the right to change specifications. Contact Axis for the latest product information.

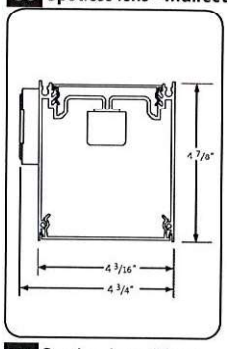
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Beam 4 | Wall mount - Direct / Indirect

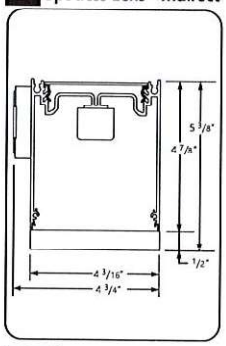
SECTION VIEWS

SO Spotless lens - Indirect



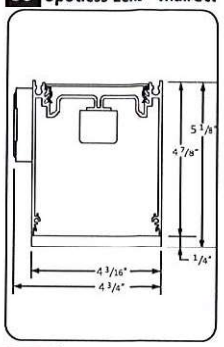
SO Spotless lens - Direct
NW Narrow lens - Direct
GZ Graze lens - Direct
ASO Asymm. lens - Direct
UB Ultra Blend lens - Direct

SO Spotless Lens - Indirect



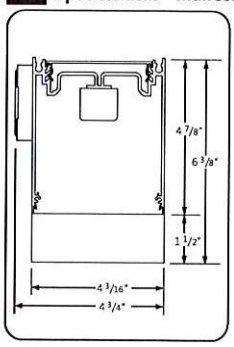
0.5G 0.5" Glo lens - Direct

SO Spotless Lens - Indirect



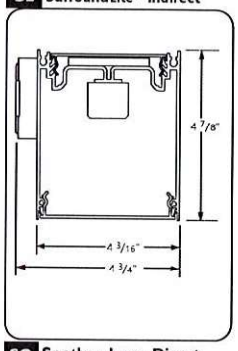
0.25G 0.25" Glo lens - Direct

SO Spotless Lens - Indirect



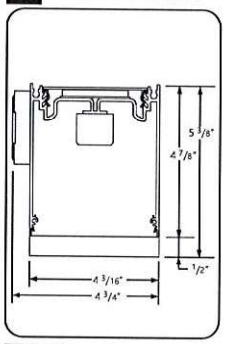
1.5M StepLens - Direct

SLA SurroundLite Asymm. - Indirect
SL SurroundLite - Indirect



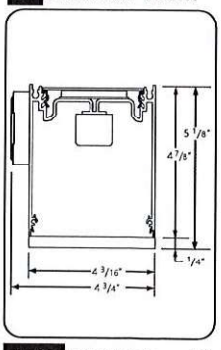
SO Spotless lens - Direct
NW Narrow lens - Direct
GZ Graze lens - Direct
ASO Asymm. lens - Direct
UB Ultra Blend lens - Direct

SLA SurroundLite Asymm. - Indirect
SL SurroundLite - Indirect



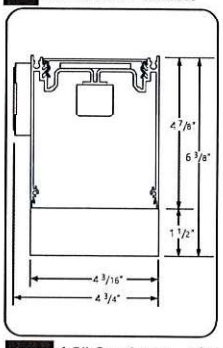
0.5G 0.5" Glo lens - Direct

SLA SurroundLite Asymm. - Indirect
SL SurroundLite - Indirect



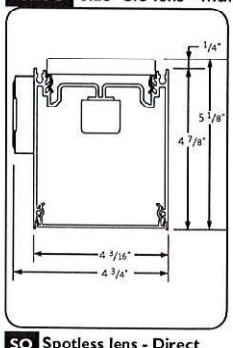
0.25G 0.25" Glo lens - Direct

SLA SurroundLite Asymm. - Indirect
SL SurroundLite - Indirect



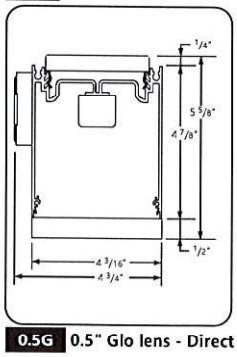
1.5M 1.5" StepLerns - Direct

0.25G 0.25"Glo lens - Indirect



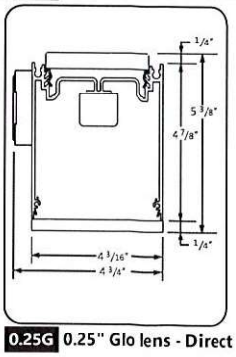
SO Spotless lens - Direct
NW Narrow lens - Direct
GZ Graze lens - Direct
ASO Asymm. lens - Direct
UB Ultra Blend lens - Direct

0.25G 0.25" Glo lens - Indirect



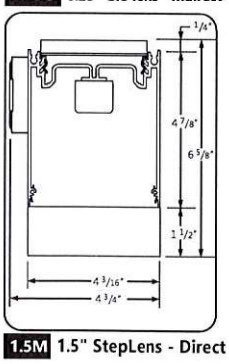
0.5G 0.5" Glo lens - Direct

0.25G 0.25" Glo lens - Indirect



0.25G 0.25" Glo lens - Direct

0.25G 0.25" Glo lens - Indirect



1.5M 1.5" StepLens - Direct

Product design and development is an ongoing process at Axis Lighting. We reserve the right to change specifications. Contact Axis for the latest product information.

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Beam 4 | Wall mount - Direct / Indirect

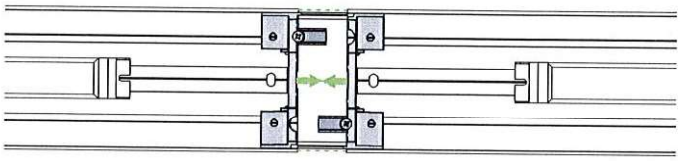
SYSTEM (S#)

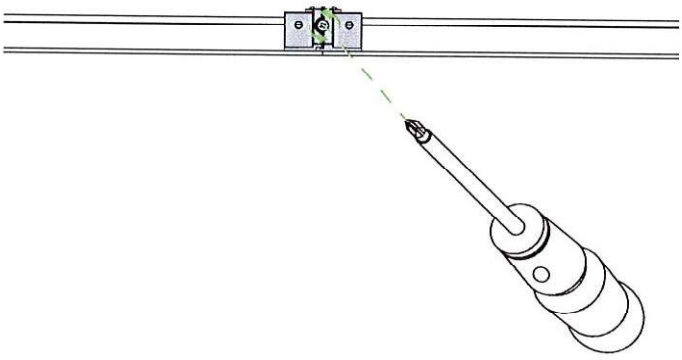
BEAM 4 linear systems, with the use of a strong profile, allow for a nearly hair thin connection system of continuous runs.
Lengths of 4', 8', 12' as well as custom lengths are available.
Runs of BEAM 4 that are greater than 12' in length are designated as systems (S#). This means that the run is comprised of a combination of 4', 8' and/or 12' sections to be assembled on site using our joining system. System runs with SurroundLite available in 1' increments only. For more information on systems and joining, please refer to the BEAM installation sheets available for download at www.axislighting.com.

JOINERS

BEAM 4 luminaires feature the joining mechanism shown below. This mechanism joins and aligns multiple luminaires to create long continuous runs of light.

NOTE: Mount each system segment individually.
Do not assemble system prior to mounting.





Beam 4 | Wall mount - Direct / Indirect

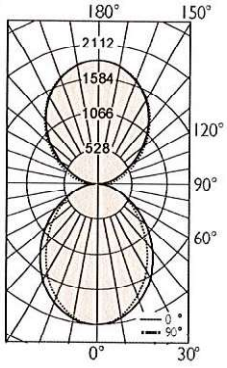
PHOTOMETRIC DATA

0.25G 0.25 Glo Lens - **Up**
0.25G 0.25 Glo Lens - **Down**

Uplight
1200 lm/ft
Downlight
1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft up: 1200 lm/ft
Lumen/ft down: 1200 lm/ft
Total Lumens: 9602 lm (for 4ft)
Input Watts: 72 W
Efficacy: 133 lm/W
IES FILE: TB4WDILED-1200-1200-80-35-0.25G-0.25G-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

Vertical Angle	Horizontal Angles 0	22.5	45	67.5	90
0	2112	2112	2112	2112	2112
5	2102	2102	2102	2101	2099
15	1996	1994	1982	1967	1958
25	1787	1779	1747	1710	1693
35	1497	1483	1436	1382	1357
45	1165	1152	1101	1045	1020
55	833	825	786	742	724
65	529	530	512	488	478
75	274	285	291	289	287
85	84	101	121	133	136
90	14	33	61	88	98
95	85	108	140	169	181
105	272	292	323	352	364
115	517	536	552	570	577
125	799	812	823	831	825
135	1094	1102	1110	1116	1104
145	1375	1381	1396	1388	1379
155	1623	1625	1619	1610	1608
165	1765	1771	1768	1765	1765
175	1843	1843	1843	1843	1842
180	1850	1850	1850	1850	1850

ZONAL LUMENS

Zone	Lumens
0	
0-10	198
10-20	552
20-30	789
30-40	875
40-50	823
50-60	677
60-70	483
70-80	287
80-90	118
90	
90-100	142
100-110	327
110-120	529
120-130	713
130-140	835
140-150	850
150-160	734
160-170	495
170-180	175
180	

LUMINANCE DATA (cd/m²)

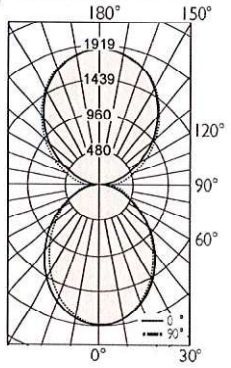
Vertical Angle	Horizontal Angles 0	45	90
45	13797	13039	12075
55	12164	11471	10562
65	10472	10139	9467
75	8862	9405	9281
85	8029	11617	13111

0.25G 0.25 Glo Lens - **Up**
0.5G 0.5 Glo Lens - **Down**

Uplight
1200 lm/ft
Downlight
1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft up: 1200 lm/ft
Lumen/ft down: 1200 lm/ft
Total Lumens: 9620 lm (for 4ft)
Input Watts: 71.8 W
Efficacy: 134 lm/W
IES FILE: TB4WDILED-1200-1200-80-35-0.25G-0.5G-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

Vertical Angle	Horizontal Angles 0	22.5	45	67.5	90
0	1916	1916	1916	1916	1916
5	1908	1910	1910	1910	1911
15	1804	1809	1806	1799	1796
25	1606	1611	1600	1578	1568
35	1337	1344	1326	1300	1285
45	1037	1049	1036	1012	999
55	744	761	761	748	740
65	477	503	518	519	517
75	255	286	317	333	336
85	84	118	157	182	189
90	31	85	152	205	223
95	100	148	211	261	279
105	285	325	381	432	450
115	528	561	598	631	646
125	808	832	861	883	884
135	1103	1120	1141	1158	1152
145	1383	1394	1421	1421	1416
155	1628	1635	1636	1634	1635
165	1768	1777	1779	1779	1781
175	1844	1845	1846	1848	1847
180	1850	1850	1850	1850	1850

ZONAL LUMENS

Zone	Lumens
0	
0-10	180
10-20	501
20-30	719
30-40	804
40-50	768
50-60	648
60-70	481
70-80	306
80-90	155
90	
90-100	213
100-110	385
110-120	573
120-130	747
130-140	859
140-150	865
150-160	742
160-170	498
170-180	175
180	

LUMINANCE DATA (cd/m²)

Vertical Angle	Horizontal Angles 0	45	90
45	18785	18776	18108
55	16614	17006	16524
65	14457	15690	15683
75	12621	15670	16632
85	12288	23130	27764

All IES files are available for download at: www.axislighting.com

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2 9 x x 2 8 5 2 3 4 7
1 1 x x 1 4 4 8 2 7 4

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Beam 4 | Wall mount - Direct / Indirect

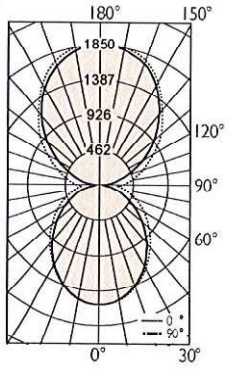
PHOTOMETRIC DATA

0.25G 0.25 Glo Lens - **Up**
1.5M 1.5 Step Lens - **Down**

Uplight
1200 lm/ft
Downlight
1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft up: 1200 lm/ft
Lumen/ft down: 1200 lm/ft
Total Lumens: 9537 lm (for 4ft)
Input Watts: 70.9 W
Efficacy: 135 lm/W
IES FILE: TB4WDILED-1200-1200-80-35-0.25G-1.5M-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

Vertical Angle	Horizontal Angles 0	22.5	45	67.5	90
0	1575	1575	1575	1575	1575
5	1567	1566	1567	1569	1570
15	1482	1487	1495	1498	1497
25	1320	1332	1345	1344	1343
35	1104	1129	1147	1155	1155
45	869	906	940	955	960
55	638	687	734	764	773
65	422	481	541	583	597
75	236	298	368	415	430
85	86	153	227	274	287
90	45	131	232	304	326
95	113	195	291	360	381
105	295	368	454	518	538
115	535	597	656	701	718
125	814	861	912	945	949
135	1094	1102	1110	1116	1104
145	1375	1381	1396	1388	1379
155	1623	1625	1619	1610	1608
165	1765	1771	1768	1765	1765
175	1843	1843	1843	1843	1842
180	1850	1850	1850	1850	1850

ZONAL LUMENS

Zone	Lumens
0	
0-10	149
10-20	417
20-30	609
30-40	702
40-50	702
50-60	630
60-70	506
70-80	358
80-90	226
90	
90-100	289
100-110	449
110-120	622
120-130	783
130-140	842
140-150	850
150-160	734
160-170	495
170-180	175
180	

LUMINANCE DATA (cd/m²)

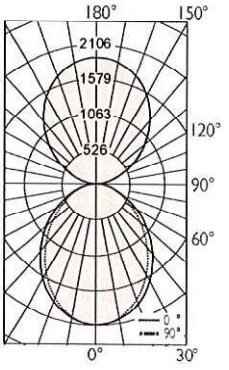
Vertical Angle	Horizontal Angles 0	45	90
45	15746	17035	17387
55	14252	16393	17272
65	12788	16401	18085
75	11675	18206	21263
85	12681	33330	42249

SO Spotless Lens - **Up**
SO Spotless Lens - **Down**

Uplight
1200 lm/ft
Downlight
1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft up: 1200 lm/ft
Lumen/ft down: 1200 lm/ft
Total Lumens: 9601 lm (for 4ft)
Input Watts: 72.5 W
Efficacy: 132 lm/W
IES FILE: TB4WDILED-1200-1200-80-35-SO-SO-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

Vertical Angle	Horizontal Angles 0	22.5	45	67.5	90
0	2106	2106	2106	2106	2106
5	2096	2093	2091	2089	2088
15	1989	1983	1969	1953	1945
25	1781	1767	1737	1702	1686
35	1495	1478	1434	1386	1364
45	1171	1155	1108	1056	1033
55	845	833	793	748	730
65	542	536	509	478	465
75	283	283	272	258	252
85	84	85	84	80	79
90	5	4	4	3	4
95	82	86	91	92	101
105	279	284	294	300	311
115	535	538	545	548	559
125	823	825	828	829	840
135	1122	1121	1121	1120	1131
145	1405	1403	1403	1397	1406
155	1642	1640	1635	1633	1639
165	1801	1799	1801	1799	1802
175	1885	1883	1883	1883	1885
180	1891	1891	1891	1891	1891

ZONAL LUMENS

Zone	Lumens
0	
0-10	198
10-20	551
20-30	791
30-40	884
40-50	838
50-60	692
60-70	488
70-80	275
80-90	84
90	
90-100	93
100-110	302
110-120	527
120-130	728
130-140	853
140-150	867
150-160	747
160-170	505
170-180	178
180	

LUMINANCE DATA (cd/m²)

Vertical Angle	Horizontal Angles 0	45	90
45	13867	13117	12235
55	12338	11567	10649
65	10740	10085	9212
75	9146	8792	8142
85	8065	8042	7592

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axis lighting

Beam 4 | Wall mount - Direct / Indirect

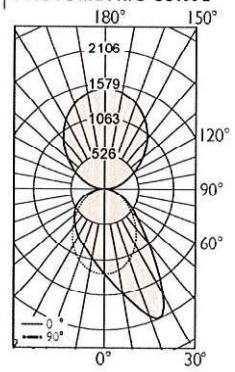
PHOTOMETRIC DATA

SO Spotless Lens - **Up**
ASO Asymmetric Lens - **Down**

Uplight
1200 lm/ft
Downlight
1000 lm/ft



PHOTOMETRIC CURVE



Lumen/ft up: 1200 lm/ft
Lumen/ft down: 1000 lm/ft
Total Lumens: 9028 lm (for 4ft)
Input Watts: 71.8 W
Efficacy: 126 lm/W
IES FILE: TB4WDILED-1200-1000-80-35-SO-ASO-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

Vertical Angle	Horizontal Angles 0	22.5	45	67.5	90
0	1608	1608	1608	1608	1608
5	1599	1672	1738	1786	1783
15	1507	1737	1999	2212	2261
25	1324	1727	2250	2574	2638
35	1078	1582	2048	1830	1721
45	812	1256	1401	1089	1026
55	563	849	857	692	676
65	349	496	492	417	415
75	169	225	223	196	198
85	30	41	44	39	44
90	5	4	4	3	4
95	82	86	91	92	101
105	279	284	294	300	311
115	535	538	545	548	559
125	823	825	828	829	840
135	1122	1121	1121	1120	1131
145	1405	1403	1403	1397	1406
155	1642	1640	1635	1633	1639
165	1801	1799	1801	1799	1802
175	1885	1883	1883	1883	1885
180	1891	1891	1891	1891	1891

ZONAL LUMENS

Zone	Lumens
0	
0-10	154
10-20	462
20-30	742
30-40	832
40-50	747
50-60	599
60-70	419
70-80	220
80-90	52
90	
90-100	93
100-110	302
110-120	527
120-130	728
130-140	853
140-150	867
150-160	747
160-170	505
170-180	178
180	

LUMINANCE DATA (cd/m²)

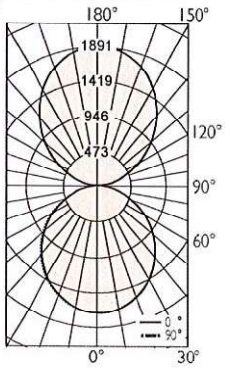
Vertical Angle	Horizontal Angles 0	45	90
45	9611	16584	12150
55	8212	12504	9872
65	6910	9740	8227
75	5454	7212	6394
85	2864	4224	4188

SO Spotless Lens - **Up**
UB Ultra blend Lens - **Down**

Uplight
1200 lm/ft
Downlight
1200 lm/ft



PHOTOMETRIC CURVE



Lumen/ft up: 1200 lm/ft
Lumen/ft down: 1200 lm/ft
Total Lumens: 9557 lm (for 4ft)
Input Watts: 75.3 W
Efficacy: 127 lm/W
IES FILE: TB4WDILED-1200-1200-80-35-SO-UB-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

Vertical Angle	Horizontal Angles 0	22.5	45	67.5	90
0	1724	1724	1724	1724	1724
5	1718	1719	1721	1721	1721
15	1651	1655	1659	1659	1659
25	1522	1528	1532	1532	1530
35	1338	1346	1350	1349	1347
45	1116	1125	1128	1125	1123
55	864	874	877	874	872
65	594	604	609	608	606
75	327	338	345	346	346
85	102	109	115	116	116
90	5	4	4	3	4
95	82	86	91	92	101
105	279	284	294	300	311
115	535	538	545	548	559
125	823	825	828	829	840
135	1122	1121	1121	1120	1131
145	1405	1403	1403	1397	1406
155	1642	1640	1635	1633	1639
165	1801	1799	1801	1799	1802
175	1885	1883	1883	1883	1885
180	1891	1891	1891	1891	1891

ZONAL LUMENS

Zone	Lumens
0	
0-10	163
10-20	464
20-30	695
30-40	827
40-50	846
50-60	754
60-70	569
70-80	335
80-90	104
90	
90-100	93
100-110	302
110-120	527
120-130	728
130-140	853
140-150	867
150-160	747
160-170	505
170-180	178
180	

LUMINANCE DATA (cd/m²)

Vertical Angle	Horizontal Angles 0	45	90
45	13211	13360	13290
55	12607	12803	12720
65	11766	12064	12006
75	10583	11168	11183
85	9829	11021	11133

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Beam 4 | Wall mount - Direct / Indirect

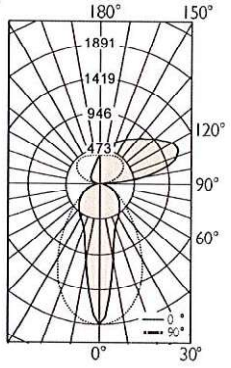
PHOTOMETRIC DATA

SLA Asymmetric Lens - **Up**
NW Narrow Lens - **Down**

Uplight
1200 lm/ft
Downlight
1000 lm/ft



PHOTOMETRIC CURVE



Lumen/ft up: 1200 lm/ft
Lumen/ft down: 1000 lm/ft
Total Lumens: 9060 lm (for 4ft)
Input Watts: 77 W
Efficacy: 118 lm/W
IES FILE: TB4WDILED-1200-1000-80-35-SLA-NW-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

Vertical Angle	Horizontal Angles 0	22.5	45	67.5	90
0	4002	4002	4002	4002	4002
5	3960	3903	3669	3459	3261
15	3606	2962	2108	1737	1600
25	2877	1986	1334	1199	1171
35	1971	1339	1004	988	982
45	1200	914	766	783	789
55	682	596	548	584	602
65	376	357	350	390	412
75	173	172	174	203	215
85	34	36	38	49	48
90	5	4	3	2	2
95	80	240	428	600	602
105	376	656	1170	1814	2048
115	650	931	1409	2103	2448
125	823	1093	1451	1913	2153
135	892	1153	1406	1683	1808
145	892	1125	1317	1479	1540
155	858	1043	1193	1295	1331
165	821	936	1035	1100	1126
175	797	834	869	892	899
180	794	794	794	794	794

ZONAL LUMENS

Zone	Lumens
0	
0-10	317
10-20	645
20-30	744
30-40	746
40-50	663
50-60	529
60-70	369
70-80	197
80-90	50
90	
90-100	244
100-110	742
110-120	916
120-130	871
130-140	739
140-150	575
150-160	402
160-170	234
170-180	76
180	

LUMINANCE DATA (cd/m²)

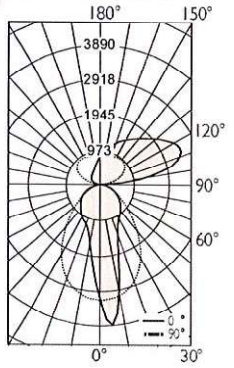
Vertical Angle	Horizontal Angles 0	45	90
45	19761	12625	12988
55	13840	11126	12232
65	10367	9641	11341
75	7806	7830	9662
85	4501	5142	6350

SLA Asymmetric Lens - **Up**
GZ Graze Lens - **Down**

Uplight
1200 lm/ft
Downlight
1000 lm/ft



PHOTOMETRIC CURVE



Lumen/ft up: 1200 lm/ft
Lumen/ft down: 1000 lm/ft
Total Lumens: 9086 lm (for 4ft)
Input Watts: 75.5 W
Efficacy: 120 lm/W
IES FILE: TB4WDILED-1200-1000-80-35-SLA-GZ-4.IES

TESTED ACCORDING TO IES LM-79-2008

CANDELA DISTRIBUTION

Vertical Angle	Horizontal Angles 0	22.5	45	67.5	90
0	3198	3198	3198	3198	3198
5	3160	3529	3781	3876	3890
15	2981	3569	2861	2211	1935
25	2553	2656	1559	1223	1149
35	1895	1742	1046	964	952
45	1220	1133	790	785	780
55	719	709	575	595	601
65	404	412	372	403	418
75	185	193	184	212	225
85	35	39	40	51	48
90	5	4	3	2	2
95	80	240	428	600	602
105	376	656	1170	1814	2048
115	650	931	1409	2103	2448
125	823	1093	1451	1913	2153
135	892	1153	1406	1683	1808
145	892	1125	1317	1479	1540
155	858	1043	1193	1295	1331
165	821	936	1035	1100	1126
175	797	834	869	892	899
180	794	794	794	794	794

ZONAL LUMENS

Zone	Lumens
0	
0-10	286
10-20	633
20-30	736
30-40	747
40-50	678
50-60	552
60-70	391
70-80	210
80-90	52
90	
90-100	244
100-110	742
110-120	916
120-130	871
130-140	739
140-150	575
150-160	402
160-170	234
170-180	76
180	

LUMINANCE DATA (cd/m²)

Vertical Angle	Horizontal Angles 0	45	90
45	20095	13007	12843
55	14605	11684	12200
65	11123	10245	11518
75	8345	8294	10134
85	4693	5399	6433

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HP ENGINEERING

5400 N. Grand Boulevard, Suite 515, Oklahoma City, OK 73112 | 405-286-9945

SUBMITTAL REVIEW

PROJECT: Greenwood Cultural Center

PROJECT NO: 250017

DATE: 10/14/2025

SUBMITTAL: LIGHTING SUBSTITUTION REQUEST FORM

SUBMITTAL NO: SLSI22-5128

REVIEWER: EB

Checking of submittals is only for general conformance with the design concept of the project and general compliance with the information given in the contract documents. Any action shown is subject to the general requirements of the plans and specifications. Contractor is responsible for dimensions, quantities, and coordination between trades. Finishes must be approved by Architect/Owner.

ACTION CODES

1	2	3	4
No Exceptions Taken	Note Corrections	Revise & Resubmit	Rejected

Description	Action Code	Comments
	2	APPROVED WITH NOTED CORRECTIONS

Type BE:
Integral battery backup does not appear to be integral or standard – Please have HP confirm they are okay with the offering provided. I do not see any cut sheets that confirm battery details.

G LUX EOS 4.0-W-DI-GRZ-750-ASY-750-12'-6"-35K-8-1-UNV-S1-W
GE LUX EOS 4.0-W-DI-GRZ-750-ASY-750-12'-6"-35K-8-1-UNV-S1-W-EB

Not Equal to specified and will not meet the performance spec.
Wall wash distribution is not equal to GRZ and should not be mounted so . 'ASM' (asymmetric) is not included as an indirect distribution for the OLS-WDI-LED per the cut sheet – If you choose to accept this fixture, I would call out in writing that the manufacturer MUST provide the asymmetric optic for the indirect source.

Smith Lighting

Date: Oct 2, 2025

Smith Lighting Sales, Inc.
4101 North Walnut
Oklahoma City OK 73105
Phone: (405) 521-0093

Job Name
Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation
SLSI22-5128
322 N Greenwood Ave, Tulsa OK

Bid Date
Oct 30, 2025

Submittal Date
Oct 2, 2025

Date: Oct 2, 2025

Smith Lighting

Transmittal

Smith Lighting Sales, Inc.
4101 North Walnut
Oklahoma City OK 73105
Phone: (405) 521-0093
From: Keegan Demario

Project **Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation**
Quote# SLSI22-5128
Location 322 N Greenwood Ave, Tulsa OK
Contact:

ATTACHED WE ARE SENDING YOU 1 COPY OF THE FOLLOWING ITEM:

☐ Drawings ☐ Specifications Other:
☐ Prints ☐ Information
☐ Plans ☐ Submittals

THESE ARE TRANSMITTED FOR:

☐ Prior Approval ☐ Resubmittal for Approval ☐ Record
☐ Approval ☐ Corrections Bids due on:
☐ Approval as Submitted ☐ Your Use Other:
☐ Approval as Noted ☐ Review and Comment

Type	MFG	Part
A3	ELITE LIGHTING	24-FPL-BL-LED-4000L/5000L/6000L-DIM10-MVOLT-35K/40K/50K-85
D1	ELITE LIGHTING	HH4-LED-2000L-DIM10-MVOLT-WD-35K-90 HH4-4501-W-WH
D1E	ELITE LIGHTING	HH4-LED-2000L-DIM10-MVOLT-WD-35K-90-O-EMG-LED-10W HH4-4501-W-WH
EXW1	ELITE LIGHTING	ELX-604-R-AL-1-CL
H-11-6	ELITE LIGHTING	OLS-PR-LED-4-HC-FT-CR-11'6"-700L-WW-DIM10-MVOLT-35K-85-WH-4"
H-12-6	ELITE LIGHTING	OLS-PR-LED-4-HC-FT-CR-12'6"-700L-WW-DIM10-MVOLT-35K-85-WH-4"
H-16	ELITE LIGHTING	OLS-PR-LED-4-HC-FT-CR-16'-700L-WW-DIM10-MVOLT-35K-85-WH-4"
H-22	ELITE LIGHTING	OLS-PR-LED-4-HC-FT-CR-122'-700L-WW-DIM10-MVOLT-35K-85-WH-4"
A1	ELITE LIGHTING	14-FPL-BL-LED-2000L/3000L/4000L-DIM10-MVOLT-35K/40K/50K-85
A2	ELITE LIGHTING	24-FPL-BL-LED-3000L/4000L/5000L-DIM10-MVOLT-35K/40K/50K-85
A2E	ELITE LIGHTING	24-FPL-BL-LED-3000L/4000L/5000L-DIM10-MVOLT-35K/40K/50K-85-O-EMG-LED-10W
B	ABOVE ALL LIGHTING INC	SLPL4-12SPSW1-RM
BE	ABOVE ALL LIGHTING INC	SLPL4-12SPSW1-RM EBU-H08170
C	ELITE LIGHTING	HH4ADJ-LED-3000L-DIM10-MVOLT-WD-35K-90 HH4ADJ-4555-CL-SCH
C1	ELITE LIGHTING	HH4-LED-900L-DIM10-MVOLT-WD-35K-90-O-EMG-LED-10W HH4-4501-CL-SCH
D2	ELITE LIGHTING	HH4-LED-3000L-DIM10-MVOLT-WD-35K-90 HH4-4501-CL-SCH

Smith Lighting

Transmittal

Smith Lighting Sales, Inc.
4101 North Walnut
Oklahoma City OK 73105
Phone: (405) 521-0093
From: Keegan Demario

Type	MFG	Part
D2E	ELITE LIGHTING	HH4-LED-3000L-DIM10-MVOLT-WD-35K-90-O-EMG-LED-10W HH4-4501-CL-SCH
DR	ELITE LIGHTING	HH6-LED-1500L-DIM10-MVOLT-WD-35K-90 HH6-6501-CL-SCH
DRE	ELITE LIGHTING	HH6-LED-1500L-DIM10-MVOLT-WD-35K-90-O-EMG-LED-10W HH6-6501-CL-SCH
F	ELITE LIGHTING	HH4-LED-3000L-DIM10-MVOLT-WD-35K-90 HH4-4507-CL-SCH
G	ELITE LIGHTING	OLS-WDI-LED-4-CR-12'6"-D750L-WW-U750L-ASM-1C-DIM10-MVOLT-35K-85-WH
GE	ELITE LIGHTING	OLS-WDI-LED-4-CR-12'6"-D750L-WW-U750L-ASM-1C-DIM10-MVOLT-35K-85-WH-O-EMG-LED-10W

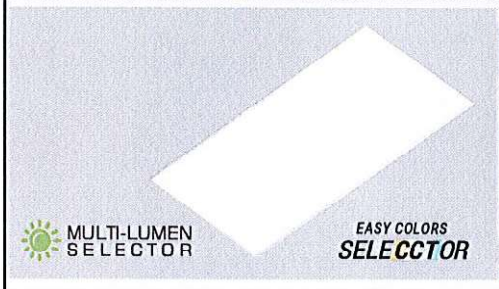
Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** 24-FPL-BL-LED-4000L/5000L/6000L-DIM10-MVOLT-35K/40K/50K-85 Notes:	**Type:** A3 SLSI22-5128

ORACLE LIGHTING By Elite Lighting

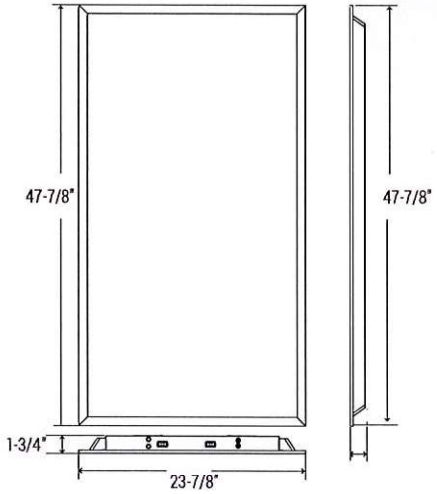
24-FPL-BL-LED

2' x 4' Architectural LED Flat Panel Backlit with Multiple Lumens and CCT

2'x4'







FEATURES

The clean design of the FPL-BL provides a modern alternative to traditional fluorescent troffers. Available in 1x4, 2x2, and 2x4. Backlit design delivers unmatchable uniform light distribution. Easily adjust brightness level (multi-lumen) and color options (multi-CCT) in the field with multi-lumen and multi-CCT selectors. Perfect for offices, schools, healthcare, hospital, retail, among other applications.

LUMENS	2000/3000/4000 3000/4000/5000 4000/5000/6000 6000/7000/8000	3000/4000/5000/6000 5000/6000/7000/8000
CCT	35K/ 40K/ 50K 30K/ 35K/ 40K 30K/35K/40K/50K	
CRI	85+	
COLOR QUALITY	3 Step MacAdam Ellipse	
SIZE	2'x4', 2'x2', 1'x4'	
MOUNTING	Recessed, Suspended, Surface Mount	
DIMMING & CONTROL	0-10V Flicker Free 10% Dimming Standard (DIM10)	
EMERGENCY	10W - Up to 1000L output (Bodine BSL310) 20W - Up to 2000L output (Bodine BSL20)	
LIFETIME	L70 at 60,000 Hours	
PHOTOMETRIC TESTS	In Accordance with IES LM79-08, LM80 and TM-30, TM-21	

6000/7000/8000

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
8000	7372	54W
7000	7097	52W
6000	6106	44W

Based on 4000K, 85+ CRI. Actual wattage may vary +/- 5%

4000/5000/6000

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
6000	6365	56W
5000	5652	48W
4000	4642	38W

Based on 4000K, 85+ CRI. Actual wattage may vary +/- 5%

3000/4000/5000

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
5000	5435	49W
4000	4814	39W
3000	3799	30W

Based on 4000K, 85+ CRI. Actual wattage may vary +/- 5%

5000/6000/7000/8000

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
8000	7372	54W
7000	7097	52W
6000	6106	44W
5000	5652	41W

Based on 4000K, 85+ CRI. Actual wattage may vary +/- 5%

3000/4000/5000/6000

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
6000	6106	51W
5000	5435	41W
4000	4814	33W
3000	3799	23W

Based on 4000K, 85+ CRI. Actual wattage may vary +/- 5%

IC RATED · DLC QPL LISTED · c UL us LISTED · TITLE 24 · PROUDLY ASSEMBLED in AMERICA · QUICKSHIP CONSULT FACTORY · 5 YEARS LIMITED WARRANTY · DAMP LOCATION

elite LED LIGHTING

www.iuseelite.com

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.
031824

ORACLE LIGHTING
By Elite Lighting

24-FPL-BL-LED 2'x4'

2' x 4' Architectural LED Flat Panel Backlit with Multiple Lumens and CCT

MAINTENANCE
The driver is removable and upgradable even after installation. Luminaire can be regularly and safely wiped down for peak performance.

OPTICAL SYSTEM
Backlit design provides exceptional light distribution. Illumination is spread across the entire surface of the panel, emitting soft, even light. A 110-degree beam angle ensures clear, shadow-free light.

CONSTRUCTION
20-gauge cold rolled steel body, post-painted for durability. White finish standard. All corners are rounded for safe handling. Multiple wiring entrances allow for easy access.

MOUNTING
Easy to install. Mounting hardware included. Accommodates lay-in ceilings, Slot T, and T-bar suspension systems for 5/8" and 3/8" ceiling widths. Four corner tie points and built-in earthquake clips come standard. Options for flange kits, surface mounted kits, and more. SMK required if suspending the fixture.

OPTIONS
Luminaires can be shipped pre-installed with whips, modular wiring systems.

DRIVER ELECTRICAL INFORMATION
Powered by high-quality constant-current power LED drivers which are rated for 50 to 60Hz at 120/277V input. Available in 347V., produce less than 20% THD, and have a power factor of .90 to 1.00.

DIMMING & DRIVER INFORMATION
DIM10 - Flicker Free 10% Dimming Standard (DIM10) 0-10V dimming on either MVOLT 120, 277V and 347V

WARRANTY
Five-year warranty for parts and components. (Labor not included)

LISTINGS
c-UL-us - Listed for Feed Through Wiring.
Can be used to comply with Title 24, non residential lighting requirements.
Damp location rated.
For DesignLights Consortium® (DLC) qualified products please visit www.designlights.org. Not all family members will be listed for DLC Premium or DLC Standard.

Example: **24-FPL-BL-LED-3000L/4000L/5000L-DIM10-MVOLT-35K/40K/50K-85**

24	FPL-BL	LED							
FIXTURE SIZE	SERIES	TYPE	LUMENS	DIMMING	VOLTAGE	CCT	CRI	EMERGENCY	OTHER OPTIONS
24 - 2' X 4'	FPL-BL - LED Flat Panel Backlit	LED	3000L/4000L/5000L 4000L/5000L/6000L 6000L/7000L/8000L *3000L/4000L/5000L/6000L *5000L/6000L/7000L/8000L	DIM10 - 0-10V Dimming	MVOLT 120-347V 347V	35K/40K/50K 30K/35K/40K *30K/35K/40K/50K *Available for 3000/4000/5000/6000 *5000/6000/7000/8000 lumen output & MVOLT Only	85	O-EMG-LED-10W O-EMG-LED-20W O-EMG-LED-10W-347	24FK - 2'x4' Flange Kit 24-FPL1-LED-SMK - 2'x4' Surface Mount Kit USA - Made in America Compliance AM - Antimicrobial

ORACLE LIGHTING
By Elite Lighting

24-FPL-BL-LED 2'x4'

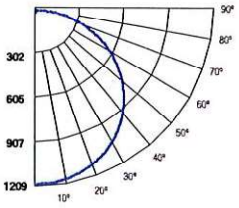
2' x 4' Architectural LED Flat Panel Backlit with Multiple Lumens and CCT

24-FPL-BL-LED-3000L-4000L-5000L-DIM10-MVOLT-35K-40K-50K-85(3000L)

TEST NO.: EL05212055

INPUT WATTS: **30** LUMENS: **3799** CRI: **85** EFFICACY: **127** CCT: **40K** SPACING CRITERIA: **1.42**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	442.34	11.60	11.60
0-30	946.75	24.90	24.90
0-40	1567.01	41.30	41.20
0-60	2851.05	75.10	75.10
0-80	3655.98	96.20	96.20
0-90	3766.15	99.10	99.10

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	1622	1632	1651
55	1607	1623	1651
65	1564	1588	1633
75	1501	1532	1609
85	1509	1557	1701

Lumens Per Zone

Zone	Lumens
0-10	113.92
10-20	328.42
20-30	504.42
30-40	620.26
40-50	663.13
50-60	620.91
60-70	494.75
70-80	310.17
80-90	110.18

Candela Tabulation

Angle	0
0	1202.581
5	1202.100
15	1165.530
25	1095.690
35	991.390
45	853.220
55	685.790
65	491.790
75	289.080
85	97.830
90	22.650

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99
1	108	103	98	94	105	100	96	92	96	92	89	92	89	86	88	86	84	81
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	76	73	69	67
3	89	78	69	62	86	76	68	62	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	59	52	64	57	51	62	55	50	60	54	50	47
5	74	61	52	45	72	60	51	45	58	50	44	55	49	43	53	48	43	41
6	68	55	46	39	66	54	45	39	52	44	38	50	43	38	48	42	37	35
7	63	50	41	34	62	49	40	34	47	39	34	45	39	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	42	35	30	40	34	30	28
9	55	41	33	27	54	41	33	27	39	32	27	38	32	27	37	31	27	25
10	52	38	30	25	50	38	30	25	36	29	24	35	29	24	34	28	24	22

ROOM CAVITY RATIO

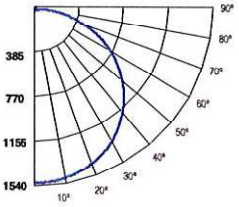
RC - Ceiling Cavity Reflectance RW - Wall Reflectance

24-FPL-BL-LED-3000L-4000L-5000L-DIM10-MVOLT-35K-40K-50K-85(4000L)

TEST NO.: EL05212058

INPUT WATTS: **38.9** LUMENS: **4814** CRI: **85** EFFICACY: **124** CCT: **40K** SPACING CRITERIA: **1.42**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	563.96	11.70	11.70
0-30	1206.55	25.10	25.10
0-40	1996.13	41.50	41.50
0-60	3620.21	75.20	75.20
0-80	4636.73	96.30	96.30
0-90	4773.11	99.10	99.10

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	2075	2078	2083
55	2060	2064	2072
65	2011	2017	2030
75	1924	1935	1939
85	1982	1960	1943

Lumens Per Zone

Zone	Lumens
0-10	145.29
10-20	418.67
20-30	642.59
30-40	789.57
40-50	839.30
50-60	784.79
60-70	626.73
70-80	389.79
80-90	136.38

Candela Tabulation

Angle	0
0	1534.167
5	1532.450
15	1488.220
25	1399.400
35	1266.570
45	1091.670
55	879.130
65	632.160
75	370.530
85	128.500
90	31.130

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99
1	108	103	98	94	105	100	96	92	96	92	89	92	89	86	88	86	84	81
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	69	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	67	62	58	56
4	81	69	59	52	79	67	59	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	45	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	48	42	38	35
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	31	57	44	36	30	43	36	30	42	35	30	40	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	38	32	27	37	31	27	25
10	52	38	30	25	50	38	30	25	37	29	25	36	29	24	35	29	24	22

ROOM CAVITY RATIO

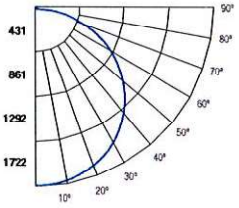
RC - Ceiling Cavity Reflectance RW - Wall Reflectance

24-FPL-BL-LED-3000L-4000L-5000L-DIM10-MVOLT-35K-40K-50K-85(5000L)

TEST NO.: **EL01102031**

INPUT WATTS: **49.1** LUMENS: **5435** CRI: **N/A** EFFICACY: **111** CCT: **3500K** SPACING CRITERIA: **1.42**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	631.16	11.60	11.60
0-30	1351.00	24.90	24.90
0-40	2236.37	41.10	41.10
0-60	4059.28	74.70	74.70
0-80	5211.67	95.90	95.90
0-90	5372.62	98.90	98.90

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	2356	2282	2254
55	2342	2245	2209
65	2303	2157	2111
75	2204	2005	1945
85	2305	1835	1732

Lumens Per Zone

Zone	Lumens
0-10	162.56
10-20	468.61
20-30	719.83
30-40	885.37
40-50	942.46
50-60	880.45
60-70	708.05
70-80	444.34
80-90	160.95

Candela Tabulation

Angle	0
0.0	1716.424
5.0	1715.660
15.0	1667.880
25.0	1572.350
35.0	1429.560
45.0	1239.330
55.0	999.370
65.0	724.000
75.0	424.450
85.0	149.450
90.0	30.110

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	110	110	110	106	106	106	101	101	101	99
1	108	103	98	94	105	100	96	92	96	92	89	91	89	86	88	85	83	81
2	97	89	82	75	95	87	80	74	83	77	73	79	75	71	76	72	69	67
3	89	78	69	62	86	76	68	62	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	52	64	57	51	62	55	50	59	54	49	47
5	74	61	52	45	72	60	51	44	57	50	44	55	49	43	53	47	43	40
6	68	55	45	39	66	54	45	39	52	44	38	50	43	38	48	42	37	35
7	63	49	40	34	61	49	40	34	47	39	34	45	38	33	44	38	33	31
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9	55	41	33	27	53	41	33	27	39	32	27	38	32	27	37	31	27	25
10	52	38	30	25	50	37	30	25	36	29	24	35	29	24	34	28	24	22

ROOM CAVITY RATIO

RC - Ceiling Cavity Reflectance

ORACLE LIGHTING
By Elite Lighting

24-FPL-BL-LED 2'x4'

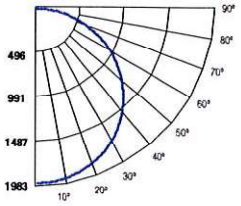
2' x 4' Architectural LED Flat Panel Backlit with Multiple Lumens and CCT

24-FPL-BL-LED-6000L-7000L-8000L-DIM10-120-347V-35K-40K-50K-85(6000L)

TEST NO.: **EL10062037**

INPUT WATTS: **44.6** LUMENS: **6106** CRI: **90** EFFICACY: **137** CCT: **3500K** SPACING CRITERIA: **1.42**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	721.55	11.8	11.8
0-30	1541.68	25.2	25.2
0-40	2546.43	41.7	41.7
0-60	4598.4	75.3	75.3
0-80	5881.45	96.3	96.3
0-90	6052.98	99.1	99.1

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	2543	2548	2588
55	2479	2479	2538
65	2347	2350	2437
75	2126	2116	2251
85	1742	1631	1872

Lumens Per Zone

Zone	Lumens
0-10	186.06
10-20	535.49
20-30	820.13
30-40	1004.75
40-50	1064.21
50-60	987.75
60-70	789.42
70-80	493.64
80-90	171.53

Candela Tabulation

Ω	
0	1964.883
5	1957.76
15	1889.73
25	1760.75
35	1578.3
45	1337.47
55	1057.6
65	738
75	409.42
85	112.92
90	5.17

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99
1	108	103	98	94	105	100	96	92	96	92	89	92	89	86	88	86	84	82
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3	89	78	69	63	86	76	68	62	73	66	61	70	64	59	67	62	58	56
4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	54	50	47
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	40	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	31	43	36	30	42	35	30	41	34	30	28
9	55	42	33	28	54	41	33	27	40	32	27	39	32	27	37	31	27	25
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ROOM CAVITY RATIO

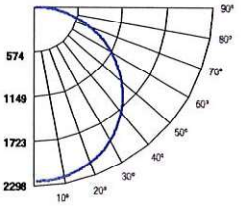
RC - Ceiling Cavity Reflectance *RW - Wall Reflectance*

24-FPL-BL-LED-6000L-7000L-8000L-DIM10-120-347V-35K-40K-50K-85(7000L)

TEST NO.: **EL10062038**

INPUT WATTS: **52.5** LUMENS: **7097** CRI: **90** EFFICACY: **135** CCT: **3500K** SPACING CRITERIA: **1.42**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	839.21	11.8	11.8
0-30	1793.12	25.3	25.3
0-40	2961.49	41.7	41.7
0-60	5347.8	75.3	75.3
0-80	6836.23	96.3	96.3
0-90	7035.74	99.1	99.1

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	2961	2964	3011
55	2882	2881	2951
65	2728	2729	2840
75	2470	2464	2608
85	2016	1887	2164

Lumens Per Zone

Zone	Lumens
0-10	216.36
10-20	622.85
20-30	953.91
30-40	1168.37
40-50	1237.65
50-60	1148.66
60-70	914.74
70-80	573.7
80-90	199.5

Candela Tabulation

Ω	
0	2285.622
5	2281.64
15	2197.82
25	2046.97
35	1832.77
45	1557.51
55	1229.75
65	857.6
75	475.57
85	130.7
90	6.32

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99
1	108	103	98	94	105	100	96	92	96	92	89	92	89	86	88	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	69	67
3	89	78	69	63	86	76	68	62	73	66	61	70	64	59	67	62	58	56
4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	40	34	46	39	34	44	38	33	31
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9	55	42	33	28	54	41	33	27	40	32	27	39	32	27	37	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

ROOM CAVITY RATIO

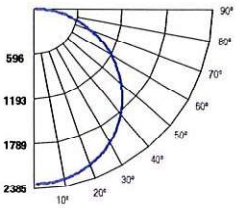
RC - Ceiling Cavity Reflectance *RW - Wall Reflectance*

24-FPL-BL-LED-6000L-7000L-8000L-DIM10-120-347V-35K-40K-50K-85(8000L)

TEST NO.: **EL10062039**

INPUT WATTS: **54.9** LUMENS: **7372** CRI: **90** EFFICACY: **134** CCT: **3500K** SPACING CRITERIA: **1.42**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	871.97	11.8	11.8
0-30	1863.06	25.3	25.3
0-40	3077.02	41.7	41.7
0-60	5555.72	75.4	75.4
0-80	7100.43	96.3	96.3
0-90	7307.22	99.1	99.1

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	3074	3077	3129
55	2987	2995	3071
65	2835	2840	2946
75	2568	2561	2715
85	2082	1956	2258

Lumens Per Zone

Zone	Lumens
0-10	224.85
10-20	647.12
20-30	991.09
30-40	1213.96
40-50	1285.64
50-60	1193.06
60-70	949.21
70-80	595.5
80-90	206.79

Candela Tabulation

Ω	
0	2375.637
5	2365.44
15	2281.58
25	2127.85
35	1904.24
45	1617.11
55	1274.74
65	891.34
75	494.42
85	135
90	6.53

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99
1	108	103	98	94	105	100	96	92	96	93	89	92	89	86	88	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	69	67
3	89	78	69	63	86	76	68	62	73	66	61	70	64	59	67	62	58	56
4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39	50	43	38	49	42	38	36
7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	44	38	33	31
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9	55	42	33	28	54	41	33	27	40	32	27	39	32	27	37	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

ROOM CAVITY RATIO

RC - Ceiling Cavity Reflectance *RW - Wall Reflectance*

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH4-LED-2000L-DIM10-MVOLT-WD-35K-90 HH4-4501-W-WH Notes:	**Type:** D1 SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED

4" Architectural High Lumen LED Downlight





HH4-4501
Flanged Downlight



HH4-4507
Flanged Wall Wash



HH4-4577
Flanged Double Wall Wash



HH4-TL-4501
Trimless Downlight

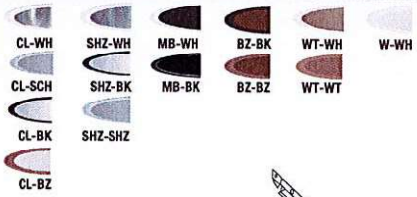


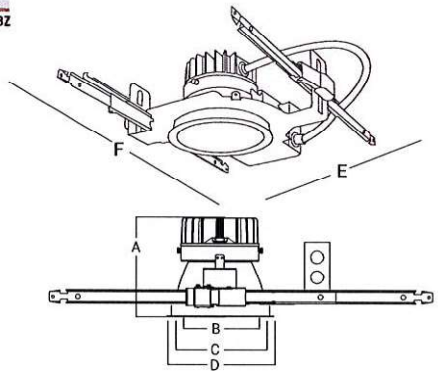
HH4-TL-4507
Trimless Wall Wash



HH4-4535-WH
Polycarbonate

REFLECTOR/ FLANGE COLORS





A: Height = 5-3/4"
B: Trim Aperture = 4"
C: Cut-Out = 4-1/2"
D: Trim Outside Dia = 5-3/8"
E: Width = 16"
F: Length = 12-1/2"

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
3000	3579	32W
2000	2144	24W
1500	1699	18W
1200	1341	14W
900	995	10W
NOMINAL LUMENS (HP)	DELIVERED LUMENS (HP)	WATTAGE (HP)
1200	1401	12W
2000	2059	18W

Based on 4000K, 90+CRI with semi-specular chrome reflector.
Actual wattage may vary +/-5%

FEATURES

A highly sustainable and ultra-efficient architectural LED downlight that provides even, glare-free illumination. Available in a range of finishes, distributions, and lumen packages, it is ideally suited for use in corporate office space, hospitality, healthcare, commercial, academic, churches and retail.

OPTICS AND REFLECTOR

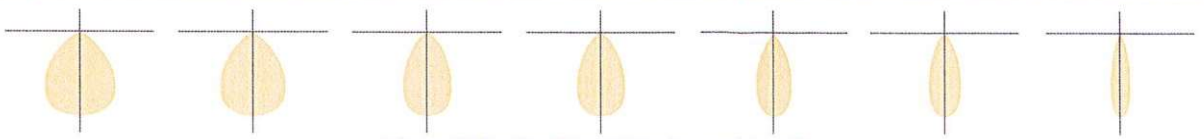
The reflector has a 45° visual cutoff, and is shipped standard with a Solite lens in a smooth frosted finish. Spun from 0.05" thick aluminum, with a 1-step anodized finish, and available in different colors or custom RAL finishes. Reflector flange options include self-flanged and white painted flange. Various distribution options are available, and all optics are field changeable.

LUMENS	900, 1200, 1500, 2000, 3000*1 (Custom lumen packages available), HL6-IP-VR, HL6-LED
CCT & DYNAMIC PLATFORMS	22K, 27K, 30K, 35K, 40K, 50K, Tunable White, Dims to Warm, RGB + White
CRI	90+ Standard, 98+ Optional
COLOR QUALITY	2 Step MacAdam Ellipse
DISTRIBUTIONS	VWD, WD, MWD, MD, ND, SPD, NSPD
TRIM OPTIONS	Downlight, Wall Wash, Double Wall Wash, Wet Location
REFLECTOR COLORS	CL (Semi-Specular Chrome), SHZ (Low Iridescent Satin Haze), WT (Wheat), W (White), MB (Black). BZ (Bronze) WAM(White Anti Macrobial), Custom RAL
FLANGE COLORS	Self-Flanged WH (White), SCH (Semi-Specular Chrome), SHZ (Low Iridescent Satin Haze), BK (Black), BZ (Bronze)
DIMMING	0-10V Flicker Free 1% Dimming Standard (DIM10), LUTH, LUTFTB, ELD010.1-LIN, ELDODMX.1, ELDODALI.1, DIMTR, BLE,POE, ELD010-LOG, XSR, DIM10-AUX, DIM10-0-Off
EMERGENCY	10W - Up to 1000L Output 20W - Up to 2000L Output EMG-LED-G2-10W-SDT - Self Diagnostic (Consult Factory) GTD-UL924
LIFETIME	L70>60,000-hour reported lifetime L70>200,000-hour calculated lifetime
PHOTOMETRIC TESTS	In Accordance with IES LM79-08, LM80 and TM-30, TM-21

*1 3000 Lumens is not ENERGY STAR certified

* Only Available on 85+ CRI

VWD: Very Wide	WD:Wide	MWD:Medium Wide	MD:Medium	ND: Narrow	SPD:Spot	NSPD:Narrow Spot



Reference IES files for additional distribution curve information.

PROUDLY ASSEMBLED IN AMERICA · QUICKSHIP CONSULT FACTORY · 5 YEARS LIMITED WARRANTY · FOR WET LOCATION · BABAA BUILD BUY AMERICA

elite LED LIGHTING

www.iuseelite.com

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.
RS190627/NS190711/ BB190711

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED
4" Architectural High Lumen LED Downlight

4"

THERMAL MANAGEMENT SYSTEM

Passive cooling Diecast Aluminum Heat Sink, LED light engine and driver are replaceable, upgradeable, and can be accessed from below the ceiling. The consistency in the quality of light is delivered with precision performance by the use of a unique locking mechanism that aligns the reflector with the light engine.

MOUNTING FRAME & BRACKETS

The downlight mounting frame is a fabricated assembly constructed of 16-gauge steel, with C-channel mounting brackets, included. The versatility of the mounting brackets allow for an adjustability of up to 28" horizontally, and 2-3/4" vertically, locking into place. With the added die-formed! construction of the mounting frame, it provides maximum heat dissipation and rust protection.

DRIVER ELECTRICAL INFORMATION

The LED driver is rated for 50 to 60Hz at 120V/277V, also available in 347V input, produces less than 20%THD, has a power factor between 90% and 100%, and is thermally protected for additional safety. Junction box and Driver can be accessed from below the ceiling and above the ceiling. Junction Box is Listed for through branch circuit wiring.

DIMMING & DRIVER INFORMATION

DIM10 - 0-10V dimming on either MVOLT 120, 277 or 347V. Dimmable down to 1% of initial lumens, standard.
DIMTR - Triac & Electronic low voltage dimming. Available in 120V, and up to 6000 lumens only.
LUTH - Lutron LDE1 Hi-Lume 1% Eco System LED driver with Soft-on, Fade to Black dimming technology.
LUTFB - Lutron PEQ0E Hi-Lume Premier 1% Eco System LED Driver with Soft-on, Fade to Black dimming technology. Available on all luminaires up to 1500 lumens.
ELDO10.1-LIN - EldoLED SoloDrive 0-10V. Dimming down to 0.1%. Linear dimming curve.
DALI - DALI DT6, DT8 dimming down to 1%.
ELDODMX - EldoLED PowerDrive dimming down to 0.1%.
BLE - Luminaires may be controlled, grouped, scheduled or placed in scenes and or zones Via Cassambi Bluetooth 4.0 App.
DIM10-0-OFF - Program DIM10-to OFF withlinear dimming curve 0.1%
ELDO10- LOG - ELDO10-LOG with logarithmic dimming curve.
POE - Power-over-Ethernet Depending on the PoE manufacturer selected, The Node will install the node in factory as either integral to the luminaire or as a remote module.
XSR - Xitanium SR Dimming
DIM10-AUX - 0-10V with Auxiliry power

LED DYNAMIC PLATFORM OPTIONS

Tunable White with Smart White Technology utilizing the Lumenetix Platform allows you to color tune the luminaire via various controls. Create the perfect environment for the desired use of the space, while maintaining a CRI of 90+ across the tunable range of 8000 to 1650K. (Click here for more details)

Dims to Warm with Smart Dimming Technology. At 100% full brightness the luminaire is at 3000K. When dimmed to 1%, the light transitions to 1800K, creating a warm ambiance within the space. (Click here for more details)

RGB+White with Smart Hue Technology provides full color mixing of RGB and white colors. Utilizing the Lumenetix Platform allows you to choose from unlimited RGB color options, via various controls. Ideal for Circadian Rhythm applications or to create the perfect human centric environment. (Click here for more details)

OPTICAL

Modular Optics Available with 15°, 24°, 30°, 36°, 52°, 60° and 70° field interchangeable optics design with 45° cutoff to source.
Top-down flash characteristic for superior glare control. The optics attached directly the light engine to the Trim for complete optical alignment and sufficient efficacy.

WARRANTY

Five-year warranty for parts and components. (Labor not included)

LISTINGS

c-UL-us - Listed for Wet Location if used with HH4-4501 Trim.
c-UL-us - Listed for Feed Through Wiring.

U.S Patent No. - D685,118S
CP-City of Chicago environmental air (CCEA) marking for plenum applications.
Energy Star and California Title 24 compliant
Optional Black color trim is not ENERGYSTAR certified and won't meet the requirement.
BAA- Buy American Act Compliant government procurement requirements under FAR, DFARS and DOT regulations.

Example: **HH4-LED-2000L-DIM10-MVOLT-MD-40K-90-HH4-4501-CL-WH**

SERIES	LUMENS	DRIVER	VOLTAGE	CCT	EMERGENCY	TRIM TYPE	REFLECTOR/FLANGE COLORS
HH4-LED	☐ 900L	☐ DIM10	☐ 120	☐ 22K	☐ EMG-LED-10W	☐ HH4-4501 Flanged Downlight	☐ CL-WH ☐ W-WH ☐ SHZ-SHZ
	☐ 1200L	☐ DIMTR [3] [5]	☐ 277	☐ 27K	☐ EMG-LED-20W	☐ HH4-4507 Flanged Wall Wash	☐ CL-SCH ☐ MB-WH* ☐ SHZ-BK
	☐ 1500L	☐ LUTH [3]	☐ MVOLT	☐ 30K	☐ INTG-EMG-LED-10W	☐ HH4-4577 Flanged Double Wall Wash	☐ CL-BK ☐ MB-BK* ☐ WT-WH
	☐ 2000L	☐ LUTFTB [4]	☐ 347 (DIM10 only)	☐ 35K	☐ INTG-EMG-LED-20W	☐ HH4-4535 Polycarbonate non conductive with "Dead Front" construction	☐ CL-BZ ☐ BZ-BK ☐ WT-WT
	☐ 3000L* [4]	☐ ELDO10-.1-LIN		☐ 40K	☐ EMG-LED-G2-10W-SDT*		☐ SHZ-WH ☐ BZ-BZ * Black color trim is not ENERGYSTAR certified
	☐ 1200L-HP	☐ ELDODALI-.1		☐ 50K [2]	☐ GTD-UL924		☐ RAL ☐ WAM White Anti Microbial
	☐ 2000L-HP	☐ ELDODMX-.1			Typical lumen output of the luminaire is up to 1000L with EMG-LED-10W option & 2000L with EMG-LED-20W option in emergency mode. Contact the factory for details. Remote mounted installation • Consult Factory for Self Diagnostic		**FLANGE COLORS**
		☐ BLE					☐ WH ☐ BZ ☐ BK
		☐ POE					☐ SCH ☐ SHZ
		☐ DIM10-0-OFF	**OPTICS**	**CRI**	**OPTIONS**	**TRIMLESS**	**TRIMLESS FINISH**
		☐ ELDO10-LOG	☐ VWD [7] [8]	☐ 90+	☐ CP (Chicago Plenum)	☐ HH4-TL-4501 Trimless Downlight	☐ CL
		☐ XSR	☐ WD [5] [8]	☐ 98+ [3]	☐ BAA	☐ HH4-TL-4507 Trimless Wall Wash	☐ MB
		☐ DIM10-AUX	☐ MWD [5] [8]	☐ Xicato 95 [7]	☐ HP (High Performance) [6]		☐ SHZ
			☐ MD [3] [8]		☐ Remote LED Driver Mounting		☐ WH
			☐ ND [3] [8]				
			☐ SPD [2] [8]				
			☐ NSPD [1] [8]				

[1] **DIMTR** is available in 120V only
[2] **50K** series are available with 85+ CRI only
[3] **98+**CRI is available in 27K, 30K and 40K only
[4] 3000 Lumens is not energy Star certified
[5] LUTFTB Available for luminaires up to 1500L
[6] 3000K, 3500K and 4000K based on 90 CRI
[7] Available on 30K, 35K, 40K
-Reference last page for Control Options
* Only Available on 85+ CRI

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH4-LED-2000L-DIM10-MVOLT-WD-35K-90 HH4-4501-W-WH Notes:	**Type:** D1 SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED

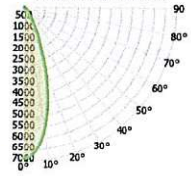
4" Architectural High Lumen LED Downlight

HH4-LED-3000L-DIM10-MVOLT-MD-40K-90-HH4-4501-CL-WH

TEST NO.: EL05022201

INPUT WATTS: 32.1 | LUMENS: 3074 | EFFICACY: 96 | BEAM ANGLE: 37 | SPACING CRITERIA: 0.57

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	6865	6865
10°	5563	5499
20°	2816	2708
30°	777	740
40°	208	220
50°	32	36
60°	3	4
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	147009	147009
45.00°	2646	2904
55.00°	255	274
65.00°	98	106
75.00°	57	63
85.00°	10	15

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	604
10° - 20°	1224
20° - 30°	817
30° - 40°	313
40° - 50°	98
50° - 60°	14
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1828	59%
0° - 30°	2645	86%
0° - 40°	2958	96%
0° - 60°	3069	100%
0° - 80°	3072	100%
0° - 90°	3073	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	190.7 fc	4.0 ft	4.0 ft
8.0 ft	107.3 fc	5.4 ft	5.4 ft
10.0 ft	68.7 fc	6.7 ft	6.7 ft
12.0 ft	47.7 fc	8.1 ft	8.1 ft
14.0 ft	35.0 fc	9.4 ft	9.4 ft
16.0 ft	26.8 fc	10.8 ft	10.8 ft
18.0 ft	21.2 fc	12.1 ft	12.1 ft
20.0 ft	17.2 fc	13.5 ft	13.4 ft

INDOOR COEFFICIENTS OF UTILIZATION

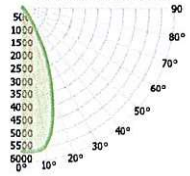
pf																			
pc	80%				70%				50%				30%			10%			0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
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9	83	75	70	66	82	74	69	66	73	69	66	73	69	66	72	68	66	64	
10	80	72	67	63	79	71	67	63	71	66	63	70	66	63	69	66	63	62	

HH4-LED-3000L-DIM10-MVOLT-MWD-40K-90-HH4-4501-CL-WH

TEST NO.: EL05022201

INPUT WATTS: 32.2 | LUMENS: 3579 | EFFICACY: 111 | BEAM ANGLE: 48 | SPACING CRITERIA: 0.74

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	5579	5579
10°	5439	5397
20°	3446	3683
30°	1237	1423
40°	215	229
50°	40	48
60°	5	5
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	477859	477859
45.00°	11776	13161
55.00°	1298	1653
65.00°	608	655
75.00°	374	410
85.00°	69	88

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	537
10° - 20°	1328
20° - 30°	1180
30° - 40°	410
40° - 50°	100
50° - 60°	17
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1865	52%
0° - 30°	3045	85%
0° - 40°	3455	97%
0° - 60°	3572	100%
0° - 80°	3577	100%
0° - 90°	3577	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	155.0 fc	5.3 ft	5.3 ft
8.0 ft	87.2 fc	7.1 ft	7.1 ft
10.0 ft	55.8 fc	8.8 ft	8.8 ft
12.0 ft	38.7 fc	10.6 ft	10.6 ft
14.0 ft	28.5 fc	12.4 ft	12.3 ft
16.0 ft	21.8 fc	14.1 ft	14.1 ft
18.0 ft	17.2 fc	15.9 ft	15.9 ft
20.0 ft	13.9 fc	17.7 ft	17.6 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf																			
pc	80%				70%				50%				30%			10%			0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	114	112	109	107	112	109	107	106	105	104	102	102	100	99	98	97	96	95	
2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	92	91	89	
3	104	99	94	91	103	97	93	90	95	91	89	92	90	87	90	88	86	84	
4	100	93	88	85	98	92	88	84	90	86	83	88	85	82	86	83	81	80	
5	96	88	83	79	94	87	82	79	86	81	78	84	80	77	82	79	77	75	
6	92	84	78	75	90	83	78	74	81	77	74	80	76	73	79	75	73	72	
7	88	80	74	70	87	79	74	70	78	73	70	77	73	70	75	72	69	68	
8	84	76	70	67	83	75	70	67	74	70	66	73	69	66	72	69	66	65	
9	81	72	67	63	80	72	67	63	71	66	63	70	66	63	69	65	63	61	
10	78	69	64	60	77	68	64	60	68	63	60	67	63	60	66	62	60	59	

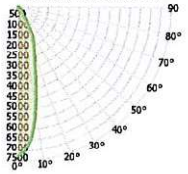
MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED
4" Architectural High Lumen LED Downlight

HH4-LED-3000L-DIM10-MVOLT-SPD-40K-90-HH4-4501-CL-WH TEST NO.: **EL05022201**

INPUT WATTS: **32.1** LUMENS: **3026** EFFICACY: **94** BEAM ANGLE: **25** SPACING CRITERIA: **0.44**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	7242	7242
10°	4864	5172
20°	2219	2261
30°	778	910
40°	270	295
50°	55	66
60°	7	7
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	155070	155070
45.00°	4421	4921
55.00°	529	564
65.00°	199	220
75.00°	105	117
85.00°	12	22

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	617
10° - 20°	1049
20° - 30°	828
30° - 40°	347
40° - 50°	148
50° - 60°	28
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1667	53%
0° - 30°	2494	86%
0° - 40°	2842	96%
0° - 60°	3018	100%
0° - 80°	3024	100%
0° - 90°	3025	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	201.2 fc	3.3 ft	3.2 ft
8.0 ft	113.1 fc	4.4 ft	4.3 ft
10.0 ft	72.4 fc	5.5 ft	5.4 ft
12.0 ft	50.3 fc	6.5 ft	6.5 ft
14.0 ft	36.9 fc	7.6 ft	7.6 ft
16.0 ft	28.3 fc	8.7 ft	8.6 ft
18.0 ft	22.4 fc	9.8 ft	9.7 ft
20.0 ft	18.1 fc	10.9 ft	10.8 ft

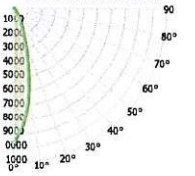
INDOOR COEFFICIENTS OF UTILIZATION

pf																			
pc	80%				70%				50%				30%				10%		0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	114	112	109	107	112	109	107	106	105	104	102	102	100	99	98	97	96	95	
2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	93	91	90	
3	105	99	94	91	103	98	93	90	95	92	89	93	90	87	90	88	86	85	
4	100	93	89	85	98	92	88	84	90	86	83	88	85	82	87	84	82	80	
5	96	89	84	80	94	88	83	79	86	82	79	84	81	78	83	80	77	76	
6	92	84	79	75	91	83	79	75	82	78	75	81	77	74	79	76	74	72	
7	88	80	75	71	87	80	75	71	78	74	71	77	73	70	76	73	70	69	
8	85	77	71	68	84	76	71	68	75	71	67	74	70	67	73	70	67	66	
9	82	73	68	65	81	73	68	65	72	67	64	71	67	64	70	67	64	63	
10	79	70	65	62	78	70	65	62	69	65	62	68	64	61	68	64	61	60	

HH4-LED-3000L-DIM10-MVOLT-NSPD-40K-90-HH4-4501-CL-WH TEST NO.: **EL05022201**

INPUT WATTS: **32.1** LUMENS: **3153** EFFICACY: **98** BEAM ANGLE: **19** SPACING CRITERIA: **0.42**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	9601	9601
10°	5978	6553
20°	2033	2040
30°	737	645
40°	202	223
50°	32	39
60°	3	3
70°	1	1
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	205607	205607
45.00°	2565	2863
55.00°	214	255
65.00°	73	85
75.00°	41	50
85.00°	7	15

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	798
10° - 20°	1304
20° - 30°	643
30° - 40°	291
40° - 50°	98
50° - 60°	15
60° - 70°	2
70° - 80°	1
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	2102	67%
0° - 30°	2745	87%
0° - 40°	3036	96%
0° - 60°	3149	100%
0° - 80°	3151	100%
0° - 90°	3151	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	266.7 fc	3.1 ft	3.1 ft
8.0 ft	150.0 fc	4.2 ft	4.1 ft
10.0 ft	96.0 fc	5.2 ft	5.1 ft
12.0 ft	66.7 fc	6.3 ft	6.1 ft
14.0 ft	49.0 fc	7.3 ft	7.1 ft
16.0 ft	37.5 fc	8.3 ft	8.2 ft
18.0 ft	29.6 fc	9.4 ft	9.2 ft
20.0 ft	24.0 fc	10.4 ft	10.2 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf																			
pc	80%				70%				50%				30%				10%		0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95	
2	110	106	103	100	108	104	101	99	101	99	97	98	96	95	96	94	93	91	
3	106	101	97	93	104	99	96	93	97	94	91	94	92	90	92	90	88	87	
4	102	96	91	88	100	95	91	87	93	89	86	91	88	85	89	86	84	83	
5	98	91	87	83	97	91	86	83	89	85	82	87	84	81	86	83	81	80	
6	95	87	83	79	93	87	82	79	85	81	78	84	81	78	83	80	77	76	
7	91	84	79	76	90	83	79	75	82	78	75	81	77	75	80	77	74	73	
8	88	81	76	73	87	80	76	72	79	75	72	78	74	72	77	74	72	70	
9	85	78	73	70	84	77	73	70	76	72	69	75	72	69	75	71	69	68	
10	82	75	70	67	82	74	70	67	74	70	67	73	69	67	72	69	66	65	

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED 4"

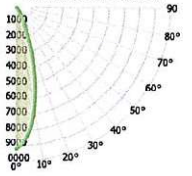
4" Architectural High Lumen LED Downlight

HH4-LED-3000L-DIM10-MVOLT-ND-40K-90-HH4-4501-CL-WH

TEST NO.: **EL05022201**

INPUT WATTS: **32.1** LUMENS: **3181** EFFICACY: **99** BEAM ANGLE: **31** SPACING CRITERIA: **0.48**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	9196	9196
10°	6567	6688
20°	2387	2402
30°	702	665
40°	185	201
50°	31	36
60°	3	3
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	196917	196917
45.00°	2395	2596
55.00°	225	242
65.00°	82	89
75.00°	49	54
85.00°	10	15

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	771
10° - 20°	1328
20° - 30°	694
30° - 40°	281
40° - 50°	90
50° - 60°	14
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	2099	66%
0° - 30°	2792	88%
0° - 40°	3073	97%
0° - 60°	3176	100%
0° - 80°	3179	100%
0° - 90°	3179	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	255.4 fc	3.4 ft	3.4 ft
8.0 ft	143.7 fc	4.5 ft	4.5 ft
10.0 ft	92.0 fc	5.6 ft	5.6 ft
12.0 ft	63.9 fc	6.7 ft	6.7 ft
14.0 ft	46.9 fc	7.9 ft	7.9 ft
16.0 ft	35.9 fc	9.0 ft	9.0 ft
18.0 ft	28.4 fc	10.1 ft	10.1 ft
20.0 ft	23.0 fc	11.2 ft	11.2 ft



INDOOR COEFFICIENTS OF UTILIZATION

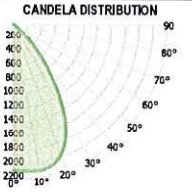
pf																			
pc	80%				70%				50%			30%			10%			0%	
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95	
2	110	106	103	100	108	104	101	99	101	99	97	98	96	95	96	94	93	91	
3	106	101	96	93	104	99	95	92	97	94	91	94	92	90	92	90	88	87	
4	102	96	91	88	100	95	90	87	93	89	86	91	88	85	89	86	84	83	
5	98	91	87	83	97	90	86	83	89	85	82	87	84	81	86	83	81	79	
6	94	87	83	79	93	87	82	79	85	81	78	84	80	78	83	80	77	76	
7	91	84	79	75	90	83	79	75	82	78	75	81	77	75	80	77	74	73	
8	88	80	76	72	87	80	75	72	79	75	72	78	74	72	77	74	71	70	
9	85	77	73	69	84	77	72	69	76	72	69	75	72	69	74	71	69	68	
10	82	74	70	67	81	74	70	67	73	69	66	73	69	66	72	69	66	65	

HH4-LED-3000L-DIM10-MVOLT-VWD-40K-90-HH4-4501-CL-WH

TEST NO.: **EL05022201**

INPUT WATTS: **32.2** LUMENS: **2628** EFFICACY: **82** BEAM ANGLE: **72** SPACING CRITERIA: **1.09 x 1.09**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	2071	2071
10°	2101	2092
20°	1972	1967
30°	1421	1437
40°	590	617
50°	76	85
60°	9	9
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	44349	44349
45.00°	7851	8507
55.00°	724	750
65.00°	243	258
75.00°	119	130
85.00°	12	22

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	199
10° - 20°	584
20° - 30°	825
30° - 40°	697
40° - 50°	278
50° - 60°	35
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	783	30%
0° - 30°	1609	61%
0° - 40°	2306	90%
0° - 60°	2619	100%
0° - 80°	2626	100%
0° - 90°	2627	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	57.5 fc	8.7 ft	8.7 ft
8.0 ft	32.4 fc	11.6 ft	11.6 ft
10.0 ft	20.7 fc	14.5 ft	14.5 ft
12.0 ft	14.4 fc	17.4 ft	17.5 ft
14.0 ft	10.6 fc	20.3 ft	20.4 ft
16.0 ft	8.1 fc	23.2 ft	23.3 ft
18.0 ft	6.4 fc	26.1 ft	26.2 ft
20.0 ft	5.2 fc	29.0 ft	29.1 ft



INDOOR COEFFICIENTS OF UTILIZATION

pf																			
pc	80%				70%				50%			30%			10%			0%	
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	113	110	108	105	111	108	106	104	104	102	100	100	99	97	97	96	95	93	
2	107	102	98	94	105	100	96	93	97	94	91	94	91	89	91	89	87	85	
3	101	94	89	85	99	93	88	84	90	86	83	88	84	81	85	83	80	78	
4	95	87	81	77	94	86	81	76	84	79	76	82	78	75	80	77	74	72	
5	90	81	75	70	88	80	74	70	78	73	69	77	72	69	75	71	68	66	
6	85	75	69	64	84	75	69	64	73	68	64	72	67	63	70	66	63	61	
7	80	70	64	59	79	70	64	59	68	63	59	67	62	59	66	62	58	57	
8	76	66	59	55	75	65	59	55	64	59	55	63	58	54	62	57	54	53	
9	72	62	55	51	71	61	55	51	60	55	51	59	54	50	58	54	50	49	
10	68	58	52	47	67	57	51	47	57	51	47	56	51	47	55	50	47	46	

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH4-LED-2000L-DIM10-MVOLT-WD-35K-90 HH4-4501-W-WH Notes:	**Type:** D1 SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

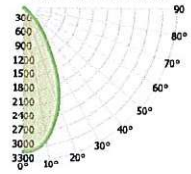
HH4-LED

4" Architectural High Lumen LED Downlight

HH4-LED-3000L-DIM10-MVOLT-WD-40K-90-HH4-4501-CL-WH TEST NO.: **EL05022201**

INPUT WATTS: **32.2** LUMENS: **2791** EFFICACY: **87** BEAM ANGLE: **58** SPACING CRITERIA: **0.84**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	3079	3079
10°	2876	2898
20°	2205	2247
30°	1260	1315
40°	459	504
50°	65	80
60°	8	0
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	65935	65935
45.00°	6347	7185
55.00°	629	682
65.00°	226	247
75.00°	115	125
85.00°	12	12

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	288
10° - 20°	747
20° - 30°	874
30° - 40°	606
40° - 50°	234
50° - 60°	13
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1034	37%
0° - 30°	1908	68%
0° - 40°	2515	90%
0° - 60°	2782	100%
0° - 80°	2790	100%
0° - 90°	2790	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	85.5 fc	6.7 ft	6.6 ft
8.0 ft	48.1 fc	8.9 ft	8.9 ft
10.0 ft	30.8 fc	11.1 ft	11.1 ft
12.0 ft	21.4 fc	13.3 ft	13.3 ft
14.0 ft	15.7 fc	15.5 ft	15.5 ft
16.0 ft	12.0 fc	17.7 ft	17.7 ft
18.0 ft	9.5 fc	20.0 ft	19.9 ft
20.0 ft	7.7 fc	22.2 ft	22.1 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf																			
pc	80%				70%				50%				30%				10%		0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93	
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87	
3	102	96	91	87	100	94	90	86	92	88	85	89	86	83	87	84	82	80	
4	97	89	84	79	95	88	83	79	86	81	78	84	80	77	82	79	76	75	
5	92	83	77	73	90	82	77	73	81	76	72	79	75	71	77	74	71	69	
6	87	78	72	68	86	77	72	67	76	71	67	74	70	66	73	69	66	65	
7	83	73	67	63	81	73	67	63	71	66	62	70	65	62	69	65	62	60	
8	79	69	63	59	77	68	63	59	67	62	58	66	61	58	65	61	58	56	
9	75	65	59	55	74	64	59	55	63	58	55	63	58	54	62	57	54	53	
10	71	61	55	52	70	61	55	51	60	55	51	59	55	51	59	54	51	50	

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH4-LED-2000L-DIM10-MVOLT-WD-35K-90 HH4-4501-W-WH Notes:	**Type:** D1 SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING By Elite Lighting

HH4-LED

4" Architectural High Lumen LED Downlight

1- Luminaire will be shipped with Powerpacks pre-installed, ready to be integrated to designated contol systems
2- Luminaire will be shipped with Sensors installed on the luminaire, allowing for individual luminaire control. Luminaires will be ready to be integrated with designated control systems
3- Luminaire will be shipped with Sensors to be remotely installed on the ceiling. Luminaires will be ready to be integrated with designated control systems

BRAND	NX LIGHTING CONTROLS	LUTRON	enlighted	LEVITON	ENCELIUM	PHILIPS EasySense	legrand
CONTROL UNIT	❑ NXFM-1R2D-0-UNV NX Fixture Module, Offset, 1 Relay, 2 0-10V Dimming Channels, 120-347VAC, Blue	❑ FCJS-010 Lutron Vive 0-10V Individual Pow Pak (Luminare is shipped Vive Enabled) [14] ❑ FCJS-ECO Lutron Vive Eco-system Pow Pak (Luminare is shipped Vive Enabled) ❑ A-WN-D01-RF-WH Athena wireless node (RF only) (White) ❑ A-WN-D01-OCC-WH Athena wireless node with sensor (White)	❑ CU-4E-FMH Fixture Mount Control Unit [15]	❑ ZL027 –NOW Intellect Power Control Module [16] ❑ ZL027 –NOW Intellect Power Control Module [16]	❑ EN-WCM2-ZB-DR Wireless Control Module[17] ❑ EN- ALC-ZB-BK-DR Wireless Area Lighting Control Module [17] ❑ ZBHA-CLM-DIM-ENC Connected Lighting Module DIM [17]	❑ SBR -BS Xitanium SR Bridge [18]	❑ LMFC-011 ON/OFF/0-10V dimming fixture controller [19]
INTEGRAT SENSOR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
*WIRELESS OCCUPANCY SENSOR	❑ NXSMP2-SMI NX Slide Mount Indoor Sensor Module	N/A	N/A	N/A	N/A	N/A	❑ LMDC-100 Dual technology PIR Ceiling Mount Occupancy Sensor [3]
*WIRELESS DAYLIGHT SENSOR	❑ LUXSTATLS Luxstat Light Sensor for Luxstat Control Modules, 3 to 6000 FC	N/A	N/A	N/A	N/A	N/A	❑ LMLS-400 Single zone switching and dimming digital photosensor [3]
*WIRELESS OCCUPANCY & DAYLIGHT SENSOR	❑ NXSMDT Indoor Ceiling Mount Sensor - OMNI	N/A	❑ SU-5E-IoT IoT Node Micro Sensor [3] ❑ SU-5E-CL Connected Lighting Micro Sensor [3] ❑ SU-5E-IL Independent Lighting / Enlighted One Micro Sensor [3] ❑ SU-5S-H-(IoT/CL/IL) Surface Mount Sensor [3] **(Must be specified with CU-4E-FMH Control Unit)**	❑ ZL00J -TOW Intellect Intelligent Fixture Control System [3] **(Must be specified with ZL027 –NOW Control Unit)**	❑ EN-CLM-PIR-DD-ZB SensiLUM™ Wireless Integrated Sensor ❑ EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors [3] **(Must be specified with EN-WCM2-ZB-DR or EN-ALC-ZB-BK-DR Control Unit)**	❑ SNS200-CMP SNS200 for grouping [3]	N/A
ACCESORIES	N/A	N/A	❑ TMC-SU-5E Tile Mount Carrier ❑ CBL-5E-CU4-30N 30 inch Sensor Cable for CU-4 and IoT ReadyTM drivers ❑ CBL-5E-CU4-7F 7 foot Sensor Cable for CU-4 and IoT ReadyTM drivers	N/A	N/A	N/A	N/A
NOTES	N/A	4- Luminaire will be compatible with Lutron LRF2-OCR2B-P-WH Ceiling mount360° occupancy/vacancy sensor & LRF2-DCRB-WH Ceiling-mount daylight sensor. Sensors must be ordered through Lutron.	5- Luminaire will be compatible with ENLIGHTED SU-5E-IoT, SU-5E-CL, SU-5E-IL, SU-5S-H, Sensors.	6-Luminaire will be compatible with Leviton Intellect App & Keypad Room Controller	7-Luminaire will be compatible with EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors	8-Luminaire will be compatible with Philips field and wireless switch.	9-Luminaire will be compatiable with DLM Room control system LMPB-100. DLM control system must be orderd through Legrand.

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH4-LED-2000L-DIM10-MVOLT-WD-35K-90-O-EMG-LED-10W HH4-4501-W-WH Notes:	**Type:** D1E SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED 4"

4" Architectural High Lumen LED Downlight




HH4-4501
Flanged Downlight


HH4-4507
Flanged Wall Wash

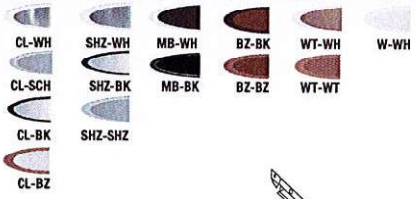

HH4-4577
Flanged Double Wall Wash

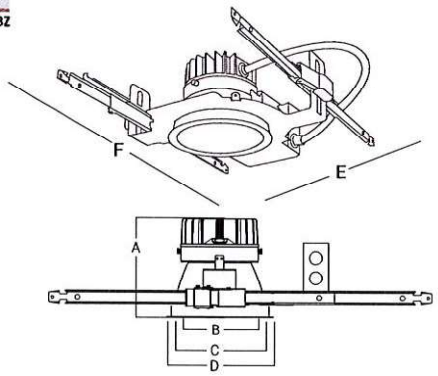

HH4-TL-4501
Trimless Downlight


HH4-TL-4507
Trimless Wall Wash


HH4-4535-WH
Polycarbonate

REFLECTOR/FLANGE COLORS





A: Height = 5-3/4"
B: Trim Aperture = 4"
C: Cut-Out = 4-1/2"
D: Trim Outside Dia = 5-3/8"
E: Width = 16"
F: Length = 12-1/2"

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
3000	3579	32W
2000	2144	24W
1500	1699	18W
1200	1341	14W
900	995	10W
NOMINAL LUMENS (HP)	DELIVERED LUMENS (HP)	WATTAGE (HP)
1200	1401	12W
2000	2059	18W

Based on 4000K, 90+CRI with semi-specular chrome reflector.
Actual wattage may vary +/-5%

FEATURES

A highly sustainable and ultra-efficient architectural LED downlight that provides even, glare-free illumination. Available in a range of finishes, distributions, and lumen packages, it is ideally suited for use in corporate office space, hospitality, healthcare, commercial, academic, churches and retail.

OPTICS AND REFLECTOR

The reflector has a 45° visual cutoff, and is shipped standard with a Solite lens in a smooth frosted finish. Spun from 0.05" thick aluminum, with a 1-step anodized finish, and available in different colors or custom RAL finishes. Reflector flange options include self-flanged and white painted flange. Various distribution options are available, and all optics are field changeable.

LUMENS	900, 1200, 1500, 2000, 3000*[1] (Custom lumen packages available), HL6-IP-VR, HL6-LED
CCT & DYNAMIC PLATFORMS	22K, 27K, 30K, 35K, 40K, 50K, Tunable White, Dims to Warm, RGB + White
CRI	90+ Standard, 98+ Optional
COLOR QUALITY	2 Step MacAdam Ellipse
DISTRIBUTIONS	VWD, WD, MWD, MD, ND, SPD, NSPD
TRIM OPTIONS	Downlight, Wall Wash, Double Wall Wash, Wet Location
REFLECTOR COLORS	CL (Semi-Specular Chrome), SHZ (Low Iridescent Satin Haze), WT (Wheat), W (White), MB (Black). BZ (Bronze) WAM(White Anti Macrobial), Custom RAL
FLANGE COLORS	Self-Flanged WH (White), SCH (Semi-Specular Chrome), SHZ (Low Iridescent Satin Haze), BK (Black), BZ (Bronze)
DIMMING	0-10V Flicker Free 1% Dimming Standard (DIM10), LUTH, LUTFTB, ELDO10.1-LIN, ELDODMX.1, ELDODALI.1, DIMTR, BLE,POE, ELDO10-LOG, XSR, DIM10-AUX, DIM10-0-Off
EMERGENCY	10W - Up to 1000L Output 20W - Up to 2000L Output EMG-LED-G2-10W-SDT - Self Diagnostic (Consult Factory) GTD-UL924
LIFETIME	L70>60,000-hour reported lifetime L70>200,000-hour calculated lifetime
PHOTOMETRIC TESTS	In Accordance with IES LM79-08, LM80 and TM-30, TM-21

[1] 3000 Lumens is not ENERGY STAR certified

* Only Available on 85+ CRI

VWD: Very Wide	WD:Wide	MWD:Medium Wide	MD:Medium	ND: Narrow	SPD:Spot	NSPD:Narrow Spot



Reference IES files for additional distribution curve information.



elite LED LIGHTING

www.iuseelite.com

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.
RS190627/NS190711/ BB190711

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED

4" Architectural High Lumen LED Downlight

4"

THERMAL MANAGEMENT SYSTEM

Passive cooling Diecast Aluminum Heat Sink, LED light engine and driver are replaceable, upgradeable, and can be accessed from below the ceiling. The consistency in the quality of light is delivered with precision performance by the use of a unique locking mechanism that aligns the reflector with the light engine.

MOUNTING FRAME & BRACKETS

The downlight mounting frame is a fabricated assembly constructed of 16-gauge steel, with C-channel mounting brackets, included. The versatility of the mounting brackets allow for an adjustability of up to 28" horizontally, and 2-3/4" vertically, locking into place. With the added die-formed construction of the mounting frame, it provides maximum heat dissipation and rust protection.

DRIVER ELECTRICAL INFORMATION

The LED driver is rated for 50 to 60Hz at 120V/277V, also available in 347V input, produces less than 20%THD, has a power factor between 90% and 100%, and is thermally protected for additional safety. Junction box and Driver can be accessed from below the ceiling and above the ceiling. Junction Box is Listed for through branch circuit wiring.

DIMMING & DRIVER INFORMATION

DIM10 - 0-10V dimming on either MVOLT 120, 277 or 347V. Dimmable down to 1% of initial lumens, standard.
DIMTR - Triac & Electronic low voltage dimming. Available in 120V, and up to 6000 lumens only.
LUTH - Lutron LDE1 Hi-Lume 1% Eco System LED driver with Soft-on, Fade to Black dimming technology.
LUTFB - Lutron PEQ0E Hi-Lume Premier 1% Eco System LED Driver with Soft-on, Fade to Black dimming technology. Available on all luminaires up to 1500 lumens.
ELDO10.1-LIN - EldoLED SoloDrive 0-10V. Dimming down to 0.1%. Linear dimming curve.
DALI - DALI DT6, DT8 dimming down to 1%.
ELDODMX - EldoLED PowerDrive dimming down to 0.1%.
BLE - Luminaires may be controlled, grouped, scheduled or placed in scenes and or zones Via Cassambi Bluetooth 4.0 App.
DIM10-0-OFF - Program DIM10-to OFF with linear dimming curve 0.1%
ELDO10- LOG - ELDO10-LOG with logarithmic dimming curve.
POE - Power-over-Ethernet Depending on the PoE manufacturer selected, The Node will install the node in factory as either integral to the luminaire or as a remote module.
XSR - Xitanium SR Dimming
DIM10-AUX - 0-10V with Auxiliry power

LED DYNAMIC PLATFORM OPTIONS

Tunable White with Smart White Technology utilizing the Lumenetix Platform allows you to color tune the luminaire via various controls. Create the perfect environment for the desired use of the space, while maintaining a CRI of 90+ across the tunable range of 8000 to 1650K. (Click here for more details)

Dims to Warm with Smart Dimming Technology. At 100% full brightness the luminaire is at 3000K. When dimmed to 1%, the light transitions to 1800K, creating a warm ambiance within the space. (Click here for more details)

RGB+White with Smart Hue Technology provides full color mixing of RGB and white colors. Utilizing the Lumenetix Platform allows you to choose from unlimited RGB color options, via various controls. Ideal for Circadian Rhythm applications or to create the perfect human centric environment. (Click here for more details)

OPTICAL

Modular Optics Available with 15°, 24°, 30°, 36°, 52°, 60° and 70° field interchangeable optics design with 45° cutoff to source.
Top-down flash characteristic for superior glare control. The optics attached directly the light engine to the Trim for complete optical alignment and sufficient efficacy.

WARRANTY

Five-year warranty for parts and components. (Labor not included)

LISTINGS

c-UL-us - Listed for Wet Location if used with HH4-4501 Trim.
c-UL-us - Listed for Feed Through Wiring.

U.S Patent No. - D685,118S
CP-City of Chicago environmental air (CCEA) marking for plenum applications.
Energy Star and California Title 24 compliant
Optional Black color trim is not ENERGYSTAR certified and won't meet the requirement.
BAA- Buy American Act Compliant government procurement requirements under FAR, DFARS and DOT regulations.

Example: **HH4-LED-2000L-DIM10-MVOLT-MD-40K-90-HH4-4501-CL-WH**

SERIES	LUMENS	DRIVER	VOLTAGE	CCT	EMERGENCY	TRIM TYPE	REFLECTOR/FLANGE COLORS
HH4-LED	❑ 900L ❑ 1200L ❑ 1500L ❑ 2000L ❑ 3000L* [4] ❑ 1200L-HP ❑ 2000L-HP	❑ DIM10 ❑ DIMTR [3] [5] ❑ LUTH [3] ❑ LUTFTB [4] ❑ ELDO10-.1-LIN ❑ ELDODALI-.1 ❑ ELDODMX-.1 ❑ BLE ❑ POE ❑ DIM10-0-OFF ❑ ELDO10-LOG ❑ XSR ❑ DIM10-AUX	❑ 120 ❑ 277 ❑ MVOLT ❑ 347 (DIM10 only)	❑ 22K ❑ 27K ❑ 30K ❑ 35K ❑ 40K ❑ 50K [2]	❑ EMG-LED-10W ❑ EMG-LED-20W ❑ INTG-EMG-LED-10W ❑ INTG-EMG-LED-20W ❑ EMG-LED-G2-10W-SDT* ❑ GTD-UL924 Typical lumen output of the luminaire is up to 1000L with EMG-LED-10W option & 2000L with EMG-LED-20W option in emergency mode. Contact the factory for details. Remote mounted installation * Consult Factory for Self Diagnostic	❑ HH4-4501 Flanged Downlight ❑ HH4-4507 Flanged Wall Wash ❑ HH4-4577 Flanged Double Wall Wash ❑ HH4-4535 Polycarbonate non conductive with "Dead Front" construction	❑ CL-WH ❑ W-WH ❑ SHZ-SHZ ❑ CL-SCH ❑ MB-WH* ❑ SHZ-BK ❑ CL-BK ❑ MB-BK* ❑ WT-WH ❑ CL-BZ ❑ BZ-BK ❑ WT-WT ❑ SHZ-WH ❑ BZ-BZ * Black color trim is not ENERGYSTAR certified ❑ RAL ❑ WAM White Anti Microbial

OPTICS	CRI	OPTIONS	TRIMLESS	TRIMLESS FINISH
❑ VWD 70°	❑ 90+	❑ CP (Chicago Plenum)	❑ HH4-TL-4501 Trimless Downlight	❑ CL
❑ WD 52°	❑ 98+ [3]	❑ BAA	❑ HH4-TL-4507 Trimless Wall Wash	❑ MB
❑ MWD 52°	❑ Xicato 95 [7]	❑ HP (High Performance) [6]		❑ SHZ
❑ MD 35°		❑ Remote LED Driver Mounting		❑ WH
❑ ND 30°				
❑ SPD 24°				
❑ NSPD 15°				

FLANGE COLORS	
❑ WH	❑ BZ ❑ BK
❑ SCH	❑ SHZ

[1] **DIMTR** is available in 120V only
[2] **50K** series are available with 85+ CRI only
[3] **98+**CRI is available in 27K, 30K and 40K only
[4] 3000 Lumens is not energy Star certified
[5] LUTFTB Available for luminaires up to 1500L
[6] 3000K, 3500K and 4000K based on 90 CRI
[7] Available on 30K, 35K, 40K
-Reference last page for Control Options
* Only Available on 85+ CRI

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED

4" Architectural High Lumen LED Downlight

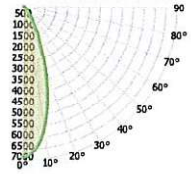
4"

HH4-LED-3000L-DIM10-MVOLT-MD-40K-90-HH4-4501-CL-WH

TEST NO.: **EL05022201**

INPUT WATTS: **32.1** LUMENS: **3074** EFFICACY: **96** BEAM ANGLE: **37** SPACING CRITERIA: **0.57**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	6865	6865
10°	5563	5499
20°	2816	2708
30°	777	740
40°	208	220
50°	32	36
60°	3	4
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	147009	147009
45.00°	2646	2904
55.00°	255	274
65.00°	98	106
75.00°	57	63
85.00°	10	15

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	604
10° - 20°	1224
20° - 30°	817
30° - 40°	313
40° - 50°	98
50° - 60°	14
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1828	59%
0° - 30°	2645	86%
0° - 40°	2958	96%
0° - 60°	3069	100%
0° - 80°	3072	100%
0° - 90°	3073	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	190.7 fc	4.0 ft	4.0 ft
8.0 ft	107.3 fc	5.4 ft	5.4 ft
10.0 ft	68.7 fc	6.7 ft	6.7 ft
12.0 ft	47.7 fc	8.1 ft	8.1 ft
14.0 ft	35.0 fc	9.4 ft	9.4 ft
16.0 ft	26.8 fc	10.8 ft	10.8 ft
18.0 ft	21.2 fc	12.1 ft	12.1 ft
20.0 ft	17.2 fc	13.5 ft	13.4 ft

INDOOR COEFFICIENTS OF UTILIZATION

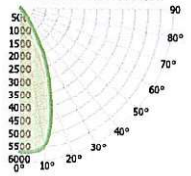
pf																			
	80%				70%				50%				30%				10%		0%
pc/pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95	
2	110	105	102	99	107	104	101	98	100	98	96	98	95	94	95	93	92	90	
3	105	100	95	92	103	98	94	91	95	92	90	93	91	88	91	89	87	86	
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8	86	78	73	69	85	77	73	69	76	72	69	76	72	69	75	71	69	67	
9	83	75	70	66	82	74	69	66	73	69	66	73	69	66	72	68	66	64	
10	80	72	67	63	79	71	67	63	71	66	63	70	66	63	69	66	63	62	

HH4-LED-3000L-DIM10-MVOLT-MWD-40K-90-HH4-4501-CL-WH

TEST NO.: **EL05022201**

INPUT WATTS: **32.2** LUMENS: **3579** EFFICACY: **111** BEAM ANGLE: **48** SPACING CRITERIA: **0.74**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	5579	5579
10°	5439	5397
20°	3446	3683
30°	1237	1423
40°	215	229
50°	40	48
60°	5	5
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	477859	477859
45.00°	11776	13161
55.00°	1298	1653
65.00°	608	655
75.00°	374	410
85.00°	69	88

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	537
10° - 20°	1328
20° - 30°	1180
30° - 40°	410
40° - 50°	100
50° - 60°	17
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1865	52%
0° - 30°	3045	85%
0° - 40°	3455	97%
0° - 60°	3572	100%
0° - 80°	3577	100%
0° - 90°	3577	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	155.0 fc	5.3 ft	5.3 ft
8.0 ft	87.2 fc	7.1 ft	7.1 ft
10.0 ft	55.8 fc	8.8 ft	8.8 ft
12.0 ft	38.7 fc	10.6 ft	10.6 ft
14.0 ft	28.5 fc	12.4 ft	12.3 ft
16.0 ft	21.8 fc	14.1 ft	14.1 ft
18.0 ft	17.2 fc	15.9 ft	15.9 ft
20.0 ft	13.9 fc	17.7 ft	17.6 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf																			
	80%				70%				50%				30%				10%		0%
pc/pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	114	112	109	107	112	109	107	106	105	104	102	102	100	99	98	97	96	95	
2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	92	91	89	
3	104	99	94	91	103	97	93	90	95	91	89	92	90	87	90	88	86	84	
4	100	93	88	85	98	92	88	84	90	86	83	88	85	82	86	83	81	80	
5	96	88	83	79	94	87	82	79	86	81	78	84	80	77	82	79	77	75	
6	92	84	78	75	90	83	78	74	81	77	74	80	76	73	79	75	73	72	
7	88	80	74	70	87	79	74	70	78	73	70	77	73	70	75	72	69	68	
8	84	76	70	67	83	75	70	67	74	70	66	73	69	66	72	69	66	65	
9	81	72	67	63	80	72	67	63	71	66	63	70	66	63	69	65	63	61	
10	78	69	64	60	77	68	64	60	68	63	60	67	63	60	66	62	60	59	

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED

4" Architectural High Lumen LED Downlight

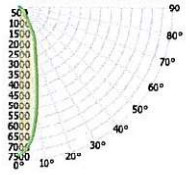
4"

HH4-LED-3000L-DIM10-MVOLT-SPD-40K-90-HH4-4501-CL-WH

TEST NO.: **EL05022201**

INPUT WATTS: **32.1** LUMENS: **3026** EFFICACY: **94** BEAM ANGLE: **25** SPACING CRITERIA: **0.44**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	7242	7242
10°	4864	5172
20°	2219	2261
30°	778	910
40°	270	295
50°	55	66
60°	7	7
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	155070	155070
45.00°	4421	4921
55.00°	529	564
65.00°	199	220
75.00°	105	117
85.00°	12	22

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	617
10° - 20°	1049
20° - 30°	828
30° - 40°	347
40° - 50°	148
50° - 60°	28
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1667	53%
0° - 30°	2494	86%
0° - 40°	2842	96%
0° - 60°	3018	100%
0° - 80°	3024	100%
0° - 90°	3025	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	201.2 fc	3.3 ft	3.2 ft
8.0 ft	113.1 fc	4.4 ft	4.3 ft
10.0 ft	72.4 fc	5.5 ft	5.4 ft
12.0 ft	50.3 fc	6.5 ft	6.5 ft
14.0 ft	36.9 fc	7.6 ft	7.6 ft
16.0 ft	28.3 fc	8.7 ft	8.6 ft
18.0 ft	22.4 fc	9.8 ft	9.7 ft
20.0 ft	18.1 fc	10.9 ft	10.8 ft

INDOOR COEFFICIENTS OF UTILIZATION

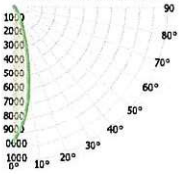
pf																			
	80%				70%				50%				30%				10%		0%
pc / pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	114	112	109	107	112	109	107	106	105	104	102	102	100	99	98	97	96	95	
2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	93	91	90	
3	105	99	94	91	103	98	93	90	95	92	89	93	90	87	90	88	86	85	
4	100	93	89	85	98	92	88	84	90	86	83	88	85	82	87	84	82	80	
5	96	89	84	80	94	88	83	79	86	82	79	84	81	78	83	80	77	76	
6	92	84	79	75	91	83	79	75	82	78	75	81	77	74	79	76	74	72	
7	88	80	75	71	87	80	75	71	78	74	71	77	73	70	76	73	70	69	
8	85	77	71	68	84	76	71	68	75	71	67	74	70	67	73	70	67	66	
9	82	73	68	65	81	73	68	65	72	67	64	71	67	64	70	67	64	63	
10	79	70	65	62	78	70	65	62	69	65	62	68	64	61	68	64	61	60	

HH4-LED-3000L-DIM10-MVOLT-NSPD-40K-90-HH4-4501-CL-WH

TEST NO.: **EL05022201**

INPUT WATTS: **32.1** LUMENS: **3153** EFFICACY: **98** BEAM ANGLE: **19** SPACING CRITERIA: **0.42**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	9601	9601
10°	5978	6553
20°	2033	2040
30°	737	645
40°	202	223
50°	32	39
60°	3	3
70°	1	1
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	205607	205607
45.00°	2565	2863
55.00°	214	255
65.00°	73	85
75.00°	41	50
85.00°	7	15

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	798
10° - 20°	1304
20° - 30°	643
30° - 40°	291
40° - 50°	98
50° - 60°	15
60° - 70°	2
70° - 80°	1
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	2102	67%
0° - 30°	2745	87%
0° - 40°	3036	96%
0° - 60°	3149	100%
0° - 80°	3151	100%
0° - 90°	3151	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	266.7 fc	3.1 ft	3.1 ft
8.0 ft	150.0 fc	4.2 ft	4.1 ft
10.0 ft	96.0 fc	5.2 ft	5.1 ft
12.0 ft	66.7 fc	6.3 ft	6.1 ft
14.0 ft	49.0 fc	7.3 ft	7.1 ft
16.0 ft	37.5 fc	8.3 ft	8.2 ft
18.0 ft	29.6 fc	9.4 ft	9.2 ft
20.0 ft	24.0 fc	10.4 ft	10.2 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf																			
	80%				70%				50%				30%				10%		0%
pc / pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95	
2	110	106	103	100	108	104	101	99	101	99	97	98	96	95	96	94	93	91	
3	106	101	97	93	104	99	96	93	97	94	91	94	92	90	92	90	88	87	
4	102	96	91	88	100	95	91	87	93	89	86	91	88	85	89	86	84	83	
5	98	91	87	83	97	91	86	83	89	85	82	87	84	81	86	83	81	80	
6	95	87	83	79	93	87	82	79	85	81	78	84	81	78	83	80	77	76	
7	91	84	79	76	90	83	79	75	82	78	75	81	77	75	80	77	74	73	
8	88	81	76	73	87	80	76	72	79	75	72	78	74	72	77	74	72	70	
9	85	78	73	70	84	77	73	70	76	72	69	75	72	69	75	71	69	68	
10	82	75	70	67	82	74	70	67	74	70	67	73	69	67	72	69	66	65	

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

Submitted by Smith Lighting Sales, Inc.

Smith Lighting

Job Name:
Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation

Catalog Number:
HH4-LED-2000L-DIM10-MVOLT-WD-35K-90-O-EMG-LED-10W HH4-4501-W-WH

Notes:

Type:
D1E

SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED
4" Architectural High Lumen LED Downlight

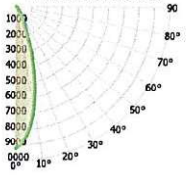
4"

HH4-LED-3000L-DIM10-MVOLT-ND-40K-90-HH4-4501-CL-WH

TEST NO.: EL05022201

INPUT WATTS: 32.1 | LUMENS: 3181 | EFFICACY: 99 | BEAM ANGLE: 31 | SPACING CRITERIA: 0.48

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	9196	9196
10°	6567	6688
20°	2387	2402
30°	702	665
40°	185	201
50°	31	36
60°	3	3
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	196917	196917
45.00°	2395	2596
55.00°	225	242
65.00°	82	89
75.00°	49	54
85.00°	10	15

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	771
10° - 20°	1328
20° - 30°	694
30° - 40°	281
40° - 50°	90
50° - 60°	14
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	2099	66%
0° - 30°	2792	88%
0° - 40°	3073	97%
0° - 60°	3176	100%
0° - 80°	3179	100%
0° - 90°	3179	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	255.4 fc	3.4 ft	3.4 ft
8.0 ft	143.7 fc	4.5 ft	4.5 ft
10.0 ft	92.0 fc	5.6 ft	5.6 ft
12.0 ft	63.9 fc	6.7 ft	6.7 ft
14.0 ft	46.9 fc	7.9 ft	7.9 ft
16.0 ft	35.9 fc	9.0 ft	9.0 ft
18.0 ft	28.4 fc	10.1 ft	10.1 ft
20.0 ft	23.0 fc	11.2 ft	11.2 ft

INDOOR COEFFICIENTS OF UTILIZATION

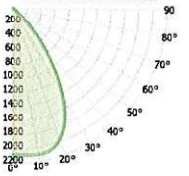
pf																			
	20%																		0%
pc	80%				70%				50%			30%			10%				0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95	
2	110	106	103	100	108	104	101	99	101	99	97	98	96	95	96	94	93	91	
3	106	101	96	93	104	99	95	92	97	94	91	94	92	90	92	90	88	87	
4	102	96	91	88	100	95	90	87	93	89	86	91	88	85	89	86	84	83	
5	98	91	87	83	97	90	86	83	89	85	82	87	84	81	86	83	81	79	
6	94	87	83	79	93	87	82	79	85	81	78	84	80	78	83	80	77	76	
7	91	84	79	75	90	83	79	75	82	78	75	81	77	75	80	77	74	73	
8	88	80	76	72	87	80	75	72	79	75	72	78	74	72	77	74	71	70	
9	85	77	73	69	84	77	72	69	76	72	69	75	72	69	74	71	69	68	
10	82	74	70	67	81	74	70	67	73	69	66	73	69	66	72	69	66	65	

HH4-LED-3000L-DIM10-MVOLT-VWD-40K-90-HH4-4501-CL-WH

TEST NO.: EL05022201

INPUT WATTS: 32.2 | LUMENS: 2628 | EFFICACY: 82 | BEAM ANGLE: 72 | SPACING CRITERIA: 1.09 x 1.09

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	2071	2071
10°	2101	2092
20°	1972	1967
30°	1421	1437
40°	590	617
50°	76	85
60°	9	9
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	44349	44349
45.00°	7851	8507
55.00°	724	750
65.00°	243	258
75.00°	119	130
85.00°	12	22

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	199
10° - 20°	584
20° - 30°	825
30° - 40°	697
40° - 50°	278
50° - 60°	35
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	783	30%
0° - 30°	1609	61%
0° - 40°	2306	90%
0° - 60°	2619	100%
0° - 80°	2626	100%
0° - 90°	2627	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	57.5 fc	8.7 ft	8.7 ft
8.0 ft	32.4 fc	11.6 ft	11.6 ft
10.0 ft	20.7 fc	14.5 ft	14.5 ft
12.0 ft	14.4 fc	17.4 ft	17.5 ft
14.0 ft	10.6 fc	20.3 ft	20.4 ft
16.0 ft	8.1 fc	23.2 ft	23.3 ft
18.0 ft	6.4 fc	26.1 ft	26.2 ft
20.0 ft	5.2 fc	29.0 ft	29.1 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf																			
	20%																		0%
pc	80%				70%				50%			30%			10%				0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	113	110	108	105	111	108	106	104	104	102	100	100	99	97	97	96	95	93	
2	107	102	98	94	105	100	96	93	97	94	91	94	91	89	91	89	87	85	
3	101	94	89	85	99	93	88	84	90	86	83	88	84	81	85	83	80	78	
4	95	87	81	77	94	86	81	76	84	79	76	82	78	75	80	77	74	72	
5	90	81	75	70	88	80	74	70	78	73	69	77	72	69	75	71	68	66	
6	85	75	69	64	84	75	69	64	73	68	64	72	67	63	70	66	63	61	
7	80	70	64	59	79	70	64	59	68	63	59	67	62	59	66	62	58	57	
8	76	66	59	55	75	65	59	55	64	59	55	63	58	54	62	57	54	53	
9	72	62	55	51	71	61	55	51	60	55	51	59	54	50	58	54	50	49	
10	68	58	52	47	67	57	51	47	57	51	47	56	51	47	55	50	47	46	

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED

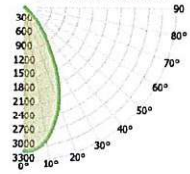
4" Architectural High Lumen LED Downlight

4"

HH4-LED-3000L-DIM10-MVOLT-WD-40K-90-HH4-4501-CL-WH TEST NO.: **EL05022201**

INPUT WATTS: **32.2** LUMENS: **2791** EFFICACY: **87** BEAM ANGLE: **58** SPACING CRITERIA: **0.84**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	3079	3079
10°	2876	2898
20°	2205	2247
30°	1260	1315
40°	459	504
50°	65	80
60°	8	0
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	65935	65935
45.00°	6347	7185
55.00°	629	682
65.00°	226	247
75.00°	115	125
85.00°	12	12

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	288
10° - 20°	747
20° - 30°	874
30° - 40°	606
40° - 50°	234
50° - 60°	13
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1034	37%
0° - 30°	1908	68%
0° - 40°	2515	90%
0° - 60°	2782	100%
0° - 80°	2790	100%
0° - 90°	2790	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	85.5 fc	6.7 ft	6.6 ft
8.0 ft	48.1 fc	8.9 ft	8.9 ft
10.0 ft	30.8 fc	11.1 ft	11.1 ft
12.0 ft	21.4 fc	13.3 ft	13.3 ft
14.0 ft	15.7 fc	15.5 ft	15.5 ft
16.0 ft	12.0 fc	17.7 ft	17.7 ft
18.0 ft	9.5 fc	20.0 ft	19.9 ft
20.0 ft	7.7 fc	22.2 ft	22.1 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf																			
pc	80%				70%				50%				30%				10%		0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%	10%	0%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100			
1	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93			
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87			
3	102	96	91	87	100	94	90	86	92	88	85	89	86	83	87	84	82	80			
4	97	89	84	79	95	88	83	79	86	81	78	84	80	77	82	79	76	75			
5	92	83	77	73	90	82	77	73	81	76	72	79	75	71	77	74	71	69			
6	87	78	72	68	86	77	72	67	76	71	67	74	70	66	73	69	66	65			
7	83	73	67	63	81	73	67	63	71	66	62	70	65	62	69	65	62	60			
8	79	69	63	59	77	68	63	59	67	62	58	66	61	58	65	61	58	56			
9	75	65	59	55	74	64	59	55	63	58	55	63	58	54	62	57	54	53			
10	71	61	55	52	70	61	55	51	60	55	51	59	55	51	59	54	51	50			

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH4-LED-2000L-DIM10-MVOLT-WD-35K-90-O-EMG-LED-10W HH4-4501-W-WH Notes:	**Type:** D1E SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED

4" Architectural High Lumen LED Downlight

4"

1- Luminaire will be shipped with Powerpacks pre-installed, ready to be integrated to designated contol systems
2- Luminaire will be shipped with Sensors installed on the luminaire, allowing for individual luminaire control. Luminaires will be ready to be integrated with designated control systems
3- Luminaire will be shipped with Sensors to be remotely installed on the ceiling. Luminaires will be ready to be integrated with designated control systems

BRAND	NX LIGHTING CONTROLS	LUTRON	enlighted	LEVITON	ENCELIUM	PHILIPS EasySense	legrand
CONTROL UNIT	❑ NXFM-1R2D-O-UNV NX Fixture Module, Offset, 1 Relay, 2 0-10V Dimming Channels, 120-347VAC, Blue	❑ FCJS-010 Lutron Vive 0-10V Individual Pow Pak (Luminare is shipped Vive Enabled) [14] ❑ FCJS-ECO Lutron Vive Eco-system Pow Pak (Luminare is shipped Vive Enabled) ❑ A-WN-D01-RF-WH Athena wireless node (RF only) (White) ❑ A-WN-D01-OCC-WH Athena wireless node with sensor (White)	❑ CU-4E-FMH Fixture Mount Control Unit [15]	❑ ZL027 –NOW Intellect Power Control Module [16] ❑ ZL027 –NOW Intellect Power Control Module [16]	❑ EN-WCM2-ZB-DR Wireless Control Module [17] ❑ EN- ALC-ZB-BK-DR Wireless Area Lighting Control Module [17] ❑ ZBHA-CLM-DIM-ENC Connected Lighting Module DIM [17]	❑ SBR -BS Xitanium SR Bridge [18]	❑ LMFC-011 ON/OFF/0-10V dimming fixture controller [19]
INTEGRAT SENSOR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
*WIRELESS OCCUPANCY SENSOR	❑ NXSMP2-SMI NX Slide Mount Indoor Sensor Module	N/A	N/A	N/A	N/A	N/A	❑ LMDC-100 Dual technology PIR Ceiling Mount Occupancy Sensor [3]
*WIRELESS DAYLIGHT SENSOR	❑ LUXSTATLS Luxstat Light Sensor for Luxstat Control Modules, 3 to 6000 FC	N/A	N/A	N/A	N/A	N/A	❑ LMLS-400 Single zone switching and dimming digital photosensor [3]
*WIRELESS OCCUPANCY & DAYLIGHT SENSOR	❑ NXSMDT Indoor Ceiling Mount Sensor - OMNI	N/A	❑ SU-5E-IoT IoT Node Micro Sensor [3] ❑ SU-5E-CL Connected Lighting Micro Sensor [3] ❑ SU-5E-IL Independent Lighting / Enlighted One Micro Sensor [3] ❑ SU-5S-H-(IoT/CL/IL) Surface Mount Sensor [3] **(Must be specified with CU-4E-FMH Control Unit)**	❑ ZL00J -T0W Intellect Intelligent Fixture Control System [3] **(Must be specified with ZL027 –NOW Control Unit)**	❑ EN-CLM-PIR-DD-ZB SensiLUM™ Wireless Integrated Sensor ❑ EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors [3] **(Must be specified with EN-WCM2-ZB-DR or EN-ALC-ZB-BK-DR Control Unit)**	❑ SNS200-CMP SNS200 for grouping [3]	N/A
ACCESORIES	N/A	N/A	❑ TMC-SU-5E Tile Mount Carrier ❑ CBL-5E-CU4-30N 30 inch Sensor Cable for CU-4 and IoT ReadyTM drivers ❑ CBL-5E-CU4-7F 7 foot Sensor Cable for CU-4 and IoT ReadyTM drivers	N/A	N/A	N/A	N/A
NOTES	N/A	4- Luminaire will be compatible with Lutron LRF2-OCR2B-P-WH Ceiling mount360° occupancy/vacancy sensor & LRF2-DCRB-WH Ceiling-mount daylight sensor. Sensors must be ordered through Lutron.	5- Luminaire will be compatible with ENLIGHTED SU-5E-IoT, SU-5E-CL, SU-5E-IL, SU-5S-H, Sensors.	6-Luminaire will be compatible with Leviton Intellect App & Keypad Room Controller	7-Luminaire will be compatible with EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors	8-Luminaire will be compatible with Philips field and wireless switch.	9-Luminaire will be compatiable with DLM Room control system LMPB-100. DLM control system must be orderd through Legrand.

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

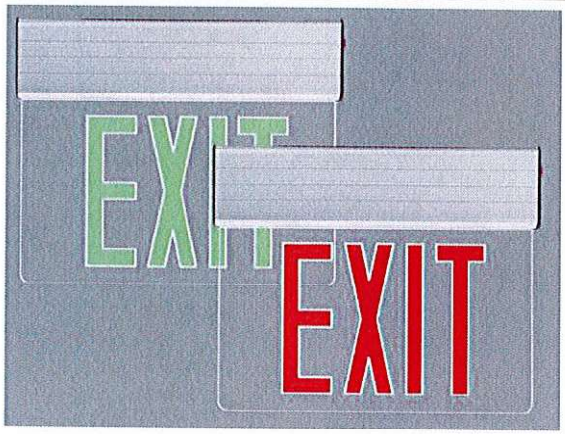
Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** ELX-604-R-AL-1-CL Notes:	**Type:** **EXW1** SLSI22-5128

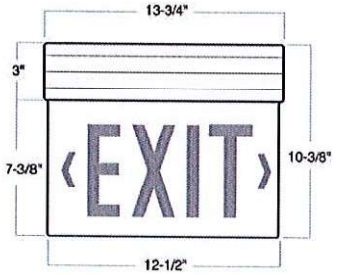
ELX-604

LED Edge-Lit Exit Sign with Emergency Battery Back-Up

Architectural

Catalog Number:	
Project Name:	**Type:**
Note:	MAXILUME ARCHITECTURAL LIGHTING







FEATURES
This fixture is intended for use in applications where performance and appearance are high priorities. In the event of AC power failure, the fixture provides at least 90 minutes of illumination. The product uses long-life LEDs, which consume very little energy - less than 3 watts - and it has a rated life of up to 25 years with no drop in illumination.

BODY
- This fixture is made from injection-molded acrylic panels that are supported by a small extruded aluminum frame.
- Aluminum and acrylic panel compartments.
- 2-Piece flexible aluminum that contains the PC board, battery, LED source, and the upper end of the acrylic face.

FACE
- Single- and double-faced exit lights are available.
- An appealing exterior is the result of the precisely designed edges of the acrylic face.
- 6" letters in red or green colors are within the cover. Adhesive chevrons are also provided.

MOUNTING
- Unique universal mounting design permits top, back and side mounting. Necessary hardware and canopy are provided

ELECTRICAL
- Universal 120V or 277V Dual Input
- Normally 3 Watts, 5 Watts in Emergency Use
- Light source - Led Strips

BATTERY
- Internal solid-state wiring for charging purposes
- Ni-cad battery
- Minimum 90 minutes of illumination
- Indicator light will reflect high charge and readiness for operation
- Test Button
- Short-circuit safeguard
- Brown-out safeguard
- Disconnection for full discharge

LISTED
- UL 924, NFPA, NEC, State & Municipal
- Damp location approved

ELX-604 - ITEM SELECTOR: (Please check the boxes below for the option desired)

LETTER COLOR	HOUSING COLOR	NUMBER OF FACES	PANEL COLOR
☐ G - Green	☐ AL - Natural Aluminum	☐ 1 - FACE	☐ CLEAR ACRYLIC
☐ R - Red	☐ W - White	2 - FACE*	☐ MIRROR
	☐ B - Black		

2 YEARS LIMITED WARRANTY

TITLE 20 California Title 20 Compliant

Specified:

ELX-604 _____ - _____ - _____ - _____

LETTER COLOR - HOUSING COLOR - NO. OF FACE - PANEL COLOR

*2 face is only available for Mirror panel option

Submitted by Smith Lighting Sales, Inc.

Smith Lighting

Job Name:
Greenwood Cultural Center Renovation -
Greenwood Cultural Center Renovation

Catalog Number:
OLS-PR-LED-4-HC-FT-CR-11'6"-700L-WW-DIM10-MVOLT-35K-85-WH-4"

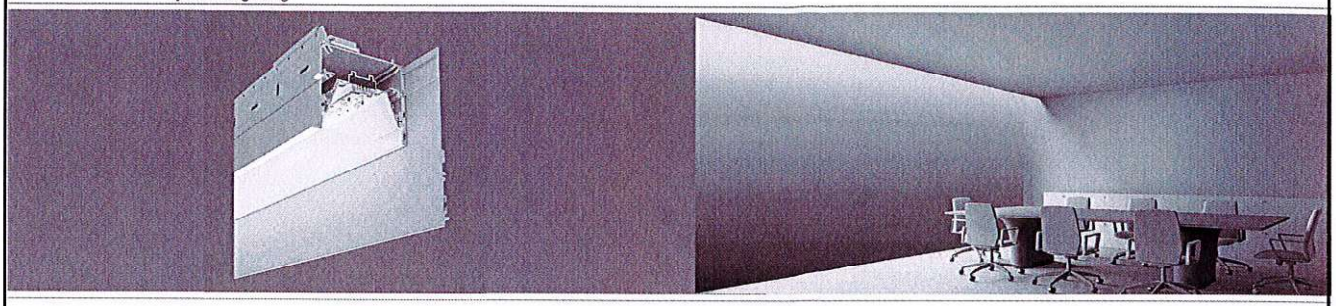
Notes:

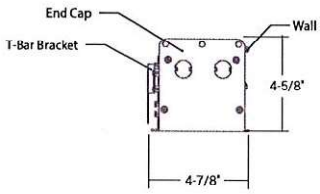
Type:
H-11-6

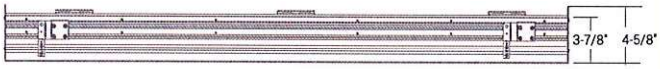
SLSI22-5128

ORACLE LIGHTING
By Elite Lighting

OLS-PR-LED 4"
LED Architectural Perimeter Linear







LUMENS/FT	WATTS/FT
1500	12.7
1250	10.5
1000	8.2
750	6.5
500	4.5
400	3.6

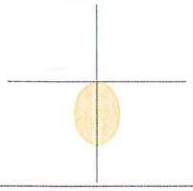
FEATURES

The OLS Perimeter provides a continuous glow at transition between ceiling and wall. OLS Perimeter is hidden in slot between ceiling and wall, presenting complete invisibility of lamps. 4" or 6" regress options, and can sit flush in ceiling. Accommodates drywall, grid, suspended, and hard ceiling. Available in custom shapes including wall-to-ceiling, 90° corner continuous runs, tees, crosses, and corners of various angles. Ambient lighting perfect for office, education, library, commercial, and retail applications.

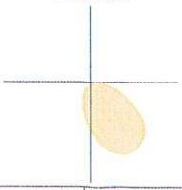
LUMENS PER FOOT	400, 500, 750, 1000, 1250, 1500 or Custom
CCT & DYNAMIC PLATFORMS	27K, 30K, 35K, 40K, 50K, Tunable White,
CRI	85+ Standard, 90+
COLOR QUALITY	3 Step MacAdam Ellipses
WIDTHS	4"
LENGTHS	2', 4', 6', 8', Continuous with 1" Increments
DISTRIBUTION PATTERNS	Standard, Wall Wash
CONFIGURATION PATTERNS & LENGTHS	Single, Continous, Square, Rectangular, L-Shape, Custom with 90, 60, or 45 ° Angles
MOUNTING	Ceiling, Wall
FINISH	WH (White)
DIMMING & CONTROLS	0-10V Flicker Free 1% Dimming Standard (DIM10), LUTH, LUT2W, DIMST, ELD010.1, ELDODMX.1, DALI.1
EMERGENCY	10W - Up to 1000L Output (Bodine BSL310) 20W - Up to 2000L Output (Bodine BSL20)
LIFETIME	L70 at 50,000 Hours
PHOTOMETRIC TESTS	In Accordance with IES LM79-08, LM80 and TM-30, TM-21

c UL us LISTED · PROUDLY ASSEMBLED in AMERICA · 5 YEARS LIMITED WARRANTY · DAMP LOCATION

Distribution Pattern: Standard



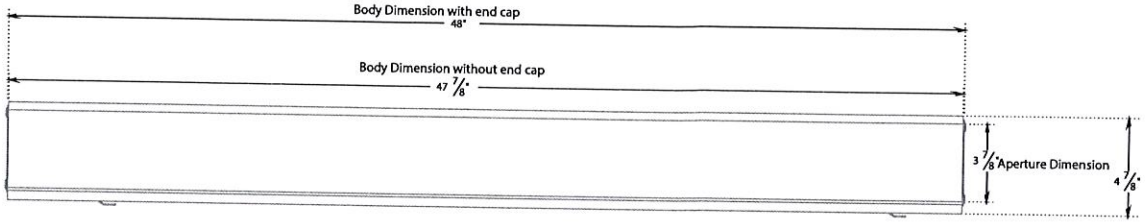
Distribution Pattern: Wall Wash



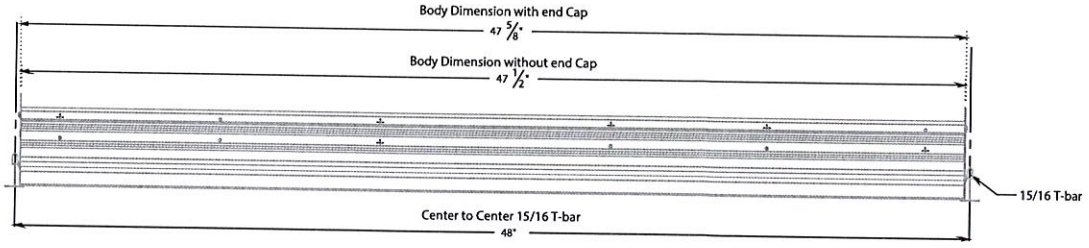
ORACLE LIGHTING
By Elite Lighting

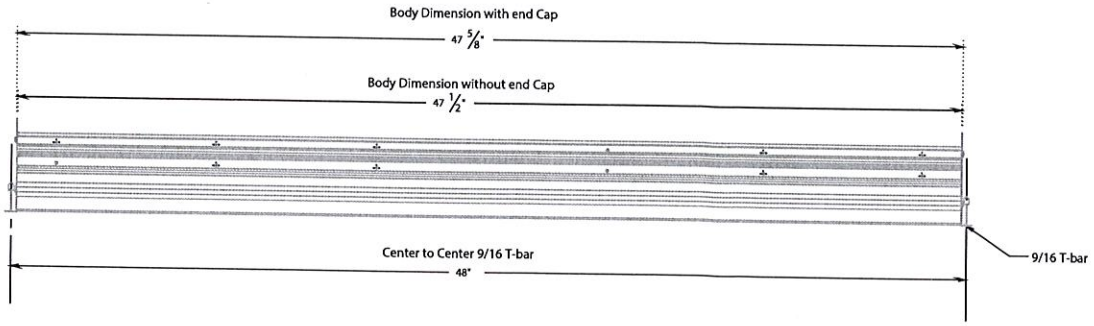
OLS-PR-LED 4"
LED Architectural Perimeter Linear

Hard Ceiling



T-Bar

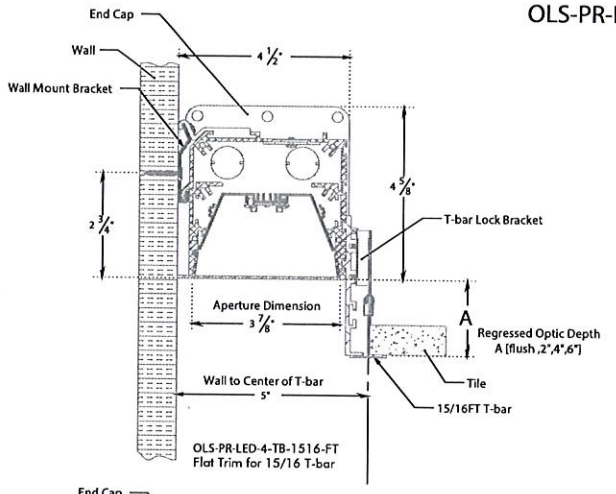




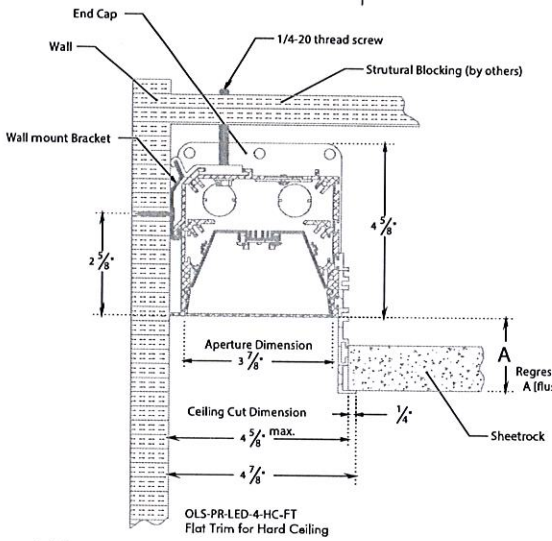
ORACLE LIGHTING
By Elite Lighting

OLS-PR-LED
LED Architectural Perimeter Linear 4"

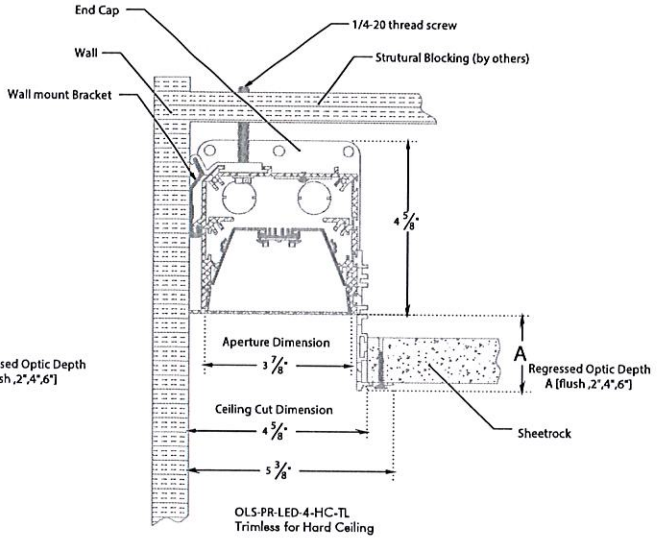
OLS-PR-LED-4



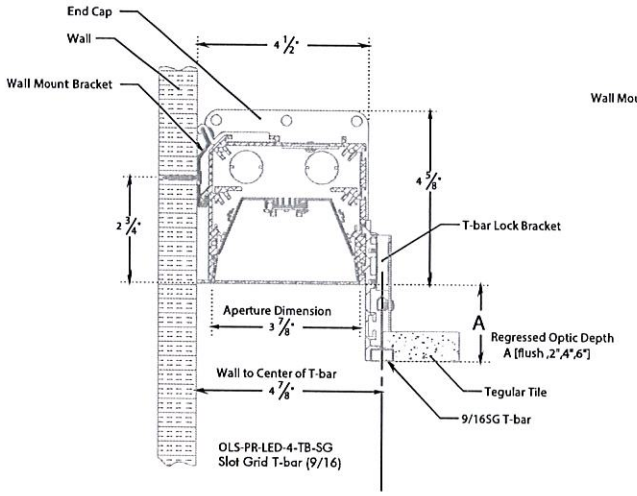
OLS-PR-LED-4-TB-1516-FT
Flat Trim for 15/16 T-bar



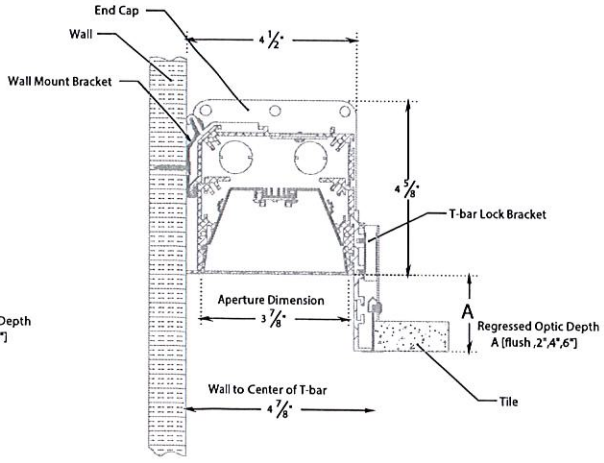
OLS-PR-LED-4-HC-FT
Flat Trim for Hard Ceiling



OLS-PR-LED-4-HC-TL
Trimless for Hard Ceiling



OLS-PR-LED-4-TB-SG
Slot Grid T-bar (9/16)



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ORACLE LIGHTING
By Elite Lighting

OLS-PR-LED 4"

LED Architectural Perimeter Linear

OPTICS & PERFORMANCE

Fabricated from 20-gauge aluminum, with mitered corners, and post-painted with 95% reflective premium paint. The optical system delivers high efficiency LED light that passes through a high-quality acrylic lens for optimal distribution patterns, creating a glare-free and even distribution. Distributions include Direct Downlight or Wall Wash, with zero light leakage.

CONSTRUCTION

One-piece rigid aluminum extrusion, flanged or flange-less, made of T6063-T5 aluminum, cast aluminum end caps. Extruded frosted snap-in lens is easy to pop in and out for quick access to driver and LED boards.

OPTICAL ASSEMBLY

Highly efficient LEDs with side-kicking MIRO reflectors that pass through a smooth acrylic lens, creating glare-free, even distribution. MIRO reflectors deliver 95% reflectivity and smooth acrylic lens provides durability and zero pixilation.

DISTRIBUTION PATTERNS & DIFFUSER

Standard Distribution provides glare-free, even illumination.
Wall Wash Distribution-Illuminates from the ceiling, down, for uniform vertical illumination.

CRM INSTALLATION

For continuous row mounting, the first luminaire in the row will always be the power supply feed. After plugging in the male and female harnesses, which are supplied with each luminaire, they will easily slide together, then secured with two screws from opposite directions in the connecting brackets.

DRIVER ELECTRICAL INFORMATION

Powered by high-quality constant-current power LED drivers which are rated for 50 to 60Hz at 120-277V input, produce less than 20% THD, and have a power factor of .90 to 1.00. Male and female 18-gauge 6 wire plug connectors are included with every fixture. Each fixture must be installed male to female.

MOUNTING

The OLS-PR-LED is available in multiple recessed options. Flange kit is available for recessed dry wall application and bracket accessories are available for T-bar application. Also available in pendant and wall mount. Single or tandem mounting for field-adjustable continuous runs made easy with quick connectors.

LED DYNAMIC PLATFORM OPTIONS

Tunable White with Smart White Technology utilizing the Lumenetix Platform allows you to color tune the luminaire via various controls. Create the perfect environment for the desired use of the space, while maintaining a CRI of 90+ across the tunable range of 8000 to 1650K. (Click here for more details)

EMERGENCY BACK-UP BATTERY

Emergency back-up battery comes pre-installed on the luminaire and emergency push button is installed on the luminaire for easy access

DIMMING & DRIVER INFORMATION

DIM10 - Flicker Free 1% Dimming Standard (DIM10) 0-10V dimming on either MVOLT 120, 277 or 347V.
LUT2W - Lutron LTEA2W Hi-Lume 1%. 2-wire LED Driver Forward Phase Control, 1% dimming in 120V only.
LUTH - Lutron LDE1 Hi-Lume Eco System. 1% dimming with Soft in Fade to Black dimming technology.
ELDO10.1 - EldoLED SoloDrive 0-10V. Dimming down to 0.1%.
DALI - DALI DT6, DT8 dimming down to 1%.
ELDODMX - EldoLED PowerDrive dimming down to 0.1%.
Please see EldoLED website for wiring diagrams and a list of compatible DMX and DALI control systems.
DIMST - Step Dimming

WARRANTY

Five-year warranty for parts and components. (Labor not included)

OPTIONS

Can be shipped preinstalled with daylight harvesting controls, occupancy sensors, and/or power packs. Available manufacturer options include Leviton, Wattstopper, Hubble Automation, and others.

LISTINGS

c-UL-us - Listed for Feed Through Wiring.
All LED luminaires are rated and tested to LM-79 and LM-80 standards by an independent laboratory. Listed for DLC, California Title 24 compliant.
Listed for Damp location.

ORACLE LIGHTING
By Elite Lighting

OLS-PR-LED 4"

LED Architectural Perimeter Linear

Example: **OLS-PR-LED-4-TB-SG-REC-W8-L6-500L-DIM10-MVOLT-30K-85-WH**

OLS-PR-LED [ ] [ ] [ ] — SELECT RUN TYPE

SERIES
OLS-PR-LED-Oracle Recessed LED Linear

WIDTH
4 - 4"

CEILING TYPE
TB-SG - Slot Grid T-bar (9/16)
TB-1516-FT - Flat Trim for 15/16 T-bar
HC-TL - Trimless for Hard Ceiling
HC-FT - Flat Trim for Hard Ceiling

SHAPE
S - Single Unit
CR - Continuous Run
REC - Rectangle

Single Run
2, 4, 6 OR 8'

Cont. Run
XX . YY*
TOTAL RUN
*XX is Length in Feet
YY is Fraction in Inches
e.g. 22.6 is 22 feet and 6 inches

W **L** Rectangle
WIDTH
LENGTH

11'6"

*Contact company for any custom shape

LUMENS	DISTRIBUTION	DIMMING	VOLTAGE	CCT	CRI	FINISH	EMERGENCY	OTHER OPTIONS	SHEILDING	MOUNTING
700L - per ft.	(blank) - Standard	**DIM10** - 0-10V Dimming	120	27K	85	**WH** - White	**0-EMG-LED-10W**	**FBF** - Internal Fast Blow Fuse	Flush 0	Wall Bracket
500L - per ft.	**WW** - Wall Wash	**DIMST** - Step Dimming	277	30K	90		**0-EMG-LED-20W**	**SBF** - Internal Slow Blow Fuse	2"	Ceiling threaded rod
750L - per ft.		**LUTH** - Lutron HiLum	**MVOLT**	**35K**		*EMG-LED-20 watt is only for 4" width		**RIS** - Radio Interference Sensor	**4"**	
1000L - per ft.		**LUT2W** - Lutron 2- Wire	347*	**40K**				**USA** - Made in America Compliance	6"	
1250L - per ft.		**ELDO10.1** - EldoLED 0-10V	*Consult Factory for details	50K						
1500L - per ft.		**DALI.1** - EldoLED DALI Type 8								
		ELDODMX.1 - EldoLED DMX								

- LUT2W available in 120V
- ELD010, ELDODMX, LUTH available 120-277

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ORACLE LIGHTING By Elite Lighting

OLS-PR-LED 4"

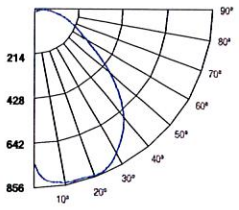
LED Architectural Perimeter Linear

OLS-PR-LED-4-S-4-400L-WW-DIM10-MVOLT-40K-85-WH

TEST NO.: EL09182047

INPUT WATTS: **14.9** LUMENS: 1653 CRI: **85** EFFICACY: **111** CCT: **4000K** SPACING CRITERIA: **1.18**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	253.6	15.3	15.3
0-30	514.06	31.1	31.1
0-40	811.84	49.1	49.1
0-60	1328.45	80.3	80.3
0-80	1573.87	95.2	95.2
0-90	1614.28	97.6	97.6

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	747	1429	5350
55	31	795	4613
65	10	77	3706
75	24	64	2860
85	103	157	1799

Lumens Per Zone

Zone	Lumens
0-10	70.72
10-20	182.88
20-30	260.46
30-40	297.78
40-50	287.5
50-60	229.11
60-70	155.82
70-80	89.6
80-90	40.41

Candela Tabulation

Q	
0	773.829
5	648.78
15	317.42
25	213.96
35	128.34
45	58.91
55	2
65	0.47
75	0.68
85	1
90	1.23

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	109	104	100	96	106	102	98	94	97	94	91	93	90	88	89	87	85	83
2	99	92	85	80	97	89	83	78	86	81	76	82	78	74	79	75	72	70
3	91	81	73	67	88	79	72	66	76	70	65	73	68	63	70	66	62	60
4	84	72	64	58	81	71	63	57	68	61	56	66	60	55	63	58	54	52
5	77	65	56	50	75	64	56	50	61	54	49	59	53	48	57	52	48	45
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	52	47	42	40
7	67	54	45	39	65	53	45	39	51	44	39	49	43	38	48	42	38	36
8	62	49	41	35	61	48	41	35	47	40	35	46	39	35	44	38	34	32
9	58	45	37	32	57	45	37	32	43	36	32	42	36	31	41	35	31	29
10	55	42	34	29	53	41	34	29	40	34	29	39	33	29	38	32	28	27

ROOM CAVITY RATIO

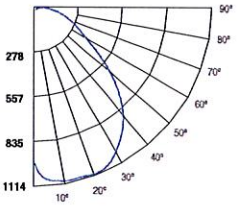
RC - Ceiling Cavity Reflectance RW - Wall Reflectance

OLS-PR-LED-4-S-4-500L-WW-DIM10-MVOLT-40K-85-WH

TEST NO.: EL09172045

INPUT WATTS: **18.6** LUMENS: 2170 CRI: **85** EFFICACY: **117** CCT: **4000K** SPACING CRITERIA: **1.18**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	331.3	15.3	15.3
0-30	671.67	31	31
0-40	1060.64	48.9	48.9
0-60	1740.09	80.2	80.2
0-80	2064.63	95.2	95.2
0-90	2118.11	97.6	97.6

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	981	1902	7046
55	41	1064	6128
65	13	102	4957
75	31	86	3828
85	136	199	2444

Lumens Per Zone

Zone	Lumens
0-10	92.33
10-20	238.97
20-30	340.38
30-40	388.96
40-50	377.79
50-60	301.67
60-70	205.82
70-80	118.72
80-90	53.47

Candela Tabulation

Q	
0	1008.809
5	844.45
15	412.16
25	282
35	168.84
45	77.43
55	2.61
65	0.62
75	0.89
85	1.32
90	1.64

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	109	104	100	96	106	101	98	94	97	94	91	93	90	88	89	87	85	82
2	99	91	85	79	97	89	83	78	85	80	76	82	78	74	79	75	72	70
3	91	81	73	67	88	79	72	66	76	70	65	73	68	63	70	66	62	60
4	84	72	64	57	81	71	63	57	68	61	56	65	60	55	63	58	54	52
5	77	65	56	50	75	64	56	50	61	54	49	59	53	48	57	52	47	45
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	52	47	42	40
7	67	54	45	39	65	53	45	39	51	44	39	49	43	38	48	42	38	36
8	62	49	41	35	61	48	41	35	47	40	35	45	39	34	44	38	34	32
9	58	45	37	32	57	45	37	32	43	36	32	42	36	31	41	35	31	29
10	55	42	34	29	53	41	34	29	40	33	29	39	33	29	38	32	28	27

ROOM CAVITY RATIO

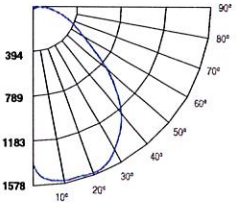
RC - Ceiling Cavity Reflectance RW - Wall Reflectance

OLS-PR-LED-4-S-4-750L-WW-DIM10-MVOLT-40K-85-WH

TEST NO.: EL09182048

INPUT WATTS: **25.7** LUMENS: 3072 CRI: **85** EFFICACY: **120** CCT: **4000K** SPACING CRITERIA: **1.18**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	469.3	15.3	15.3
0-30	951.63	31	31
0-40	1503.32	48.9	48.9
0-60	2462.93	80.2	80.2
0-80	2923.06	95.1	95.1
0-90	2998.99	97.6	97.6

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	1404	2683	9911
55	59	1495	8550
65	19	144	6953
75	45	122	5356
85	195	300	3374

Lumens Per Zone

Zone	Lumens
0-10	130.87
10-20	338.44
20-30	482.33
30-40	551.69
40-50	532.67
50-60	426.93
60-70	291.63
70-80	168.5
80-90	75.93

Candela Tabulation

Q	
0	1432.798
5	1205.18
15	586.81
25	399.04
35	241.23
45	110.8
55	3.77
65	0.91
75	1.29
85	1.9
90	2.35

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	109	104	100	96	106	101	98	94	97	94	91	92	90	88	89	87	85	82
2	99	91	85	79	97	89	83	78	85	80	76	82	78	74	79	75	72	70
3	91	81	73	67	88	79	72	66	76	70	65	73	68	63	70	66	62	60
4	84	72	64	57	81	71	63	57	68	61	56	65	60	55	63	58	54	52
5	77	65	56	50	75	64	56	50	61	54	49	59	53	48	57	52	47	45
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	52	47	42	40
7	67	54	45	39	65	53	45	39	51	44	39	49	43	38	48	42	38	36
8	62	49	41	35	61	48	41	35	47	40	35	45	39	34	44	38	34	32
9	58	45	37	32	57	45	37	32	43	36	32	42	36	31	41	35	31	29
10	55	42	34	29	53	41	34	29	40	33	29	39	33	29	38	32	28	27

ROOM CAVITY RATIO

RC - Ceiling Cavity Reflectance RW - Wall Reflectance

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

Submitted by Smith Lighting Sales, Inc.

Smith Lighting

Job Name: Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation

Catalog Number: OLS-PR-LED-4-HC-FT-CR-11'6"-700L-WW-DIM10-MVOLT-35K-85-WH-4"

Notes:

Type: H-11-6

SLSI22-5128

ORACLE LIGHTING By Elite Lighting

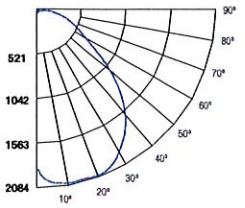
OLS-PR-LED 4"

LED Architectural Perimeter Linear

OLS-PR-LED-4-S-4-1000L-WW-DIM10-MVOLT-40K-85-WH — **TEST NO.: EL09182049**

INPUT WATTS: **33.5** LUMENS: 4057 CRI: **85** EFFICACY: **121** CCT: **4000K** SPACING CRITERIA: **1.18**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	620.21	15.3	15.3
0-30	1256.62	31	31
0-40	1985.12	48.9	48.9
0-60	3251.87	80.2	80.2
0-80	3859.58	95.1	95.1
0-90	3960.05	97.6	97.6

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	1847	3538	13091
55	78	1972	11289
65	26	191	9057
75	60	161	7069
85	260	400	4265

Lumens Per Zone

Zone	Lumens
0-10	173.07
10-20	447.13
20-30	636.42
30-40	728.5
40-50	704.11
50-60	562.64
60-70	385.11
70-80	222.59
80-90	100.48

Candela Tabulation

	0
0	1895.265
5	1593.11
15	772.66
25	521.37
35	317.57
45	145.77
55	4.98
65	1.21
75	1.72
85	2.53
90	3.12

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	109	104	100	96	106	101	98	94	97	94	91	92	90	88	89	87	85	82
2	99	91	85	79	97	89	83	78	85	80	76	82	78	74	79	75	72	70
3	91	81	73	67	88	79	72	66	76	70	65	73	68	63	70	66	62	60
4	84	72	64	57	81	71	63	57	68	61	56	65	60	55	63	58	54	52
5	77	65	56	50	75	64	56	50	61	54	49	59	53	48	57	52	47	45
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	52	47	42	40
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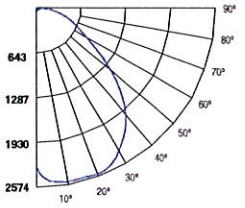
ROOM CAVITY RATIO

RC - Ceiling Cavity Reflectance RW - Wall Reflectance

OLS-PR-LED-4-S-4-1250L-WW-DIM10-MVOLT-40K-85-WH — **TEST NO.: EL09182050**

INPUT WATTS: **41.9** LUMENS: 4989 CRI: **85** EFFICACY: **119** CCT: **4000K** SPACING CRITERIA: **1.18**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	765.29	15.3	15.3
0-30	1549.06	31	31
0-40	2444.63	49	49
0-60	3997.07	80.1	80.1
0-80	4743.4	95.1	95.1
0-90	4869.24	97.6	97.6

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	2273	4329	16047
55	210	2461	13729
65	32	306	10938
75	75	271	8585
85	325	617	5139

Lumens Per Zone

Zone	Lumens
0-10	213.85
10-20	551.44
20-30	783.77
30-40	895.57
40-50	863.37
50-60	689.07
60-70	471.47
70-80	274.86
80-90	125.84

Candela Tabulation

	0
0	2344.19
5	1974.89
15	951.68
25	640.38
35	386.55
45	179.33
55	13.44
65	1.53
75	2.17
85	3.16
90	3.89

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	109	104	100	96	106	101	98	94	97	94	91	92	90	88	89	87	85	82
2	99	91	85	79	96	89	83	78	85	80	76	82	78	74	78	75	72	70
3	91	81	73	67	88	79	72	66	76	70	65	73	68	63	70	66	62	60
4	84	72	64	57	81	71	63	57	68	61	56	65	60	55	63	58	54	52
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9	58	45	37	32	57	45	37	32	43	36	32	42	36	31	41	35	31	29
10	55	42	34	29	53	41	34	29	40	33	29	39	33	29	38	32	28	27

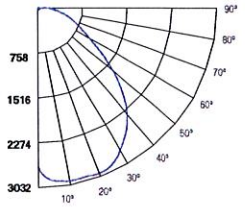
ROOM CAVITY RATIO

RC - Ceiling Cavity Reflectance RW - Wall Reflectance

OLS-PR-LED-4-S-4-1500L-WW-DIM10-MVOLT-40K-85-WH — **TEST NO.: EL09182050**

INPUT WATTS: **50.7** LUMENS: 5882 CRI: **85** EFFICACY: **116** CCT: **4000K** SPACING CRITERIA: **1.18**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	901.93	15.3	15.3
0-30	1825.49	31	31
0-40	2880.57	49	49
0-60	4711.83	80.1	80.1
0-80	5591.53	95.1	95.1
0-90	5740.06	97.6	97.6

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	2680	5060	18931
55	250	2903	16185
65	38	368	12893
75	89	322	10127
85	386	734	6058

Lumens Per Zone

Zone	Lumens
0-10	252.11
10-20	649.82
20-30	923.57
30-40	1055.08
40-50	1018.05
50-60	813.21
60-70	555.27
70-80	324.43
80-90	148.53

Candela Tabulation

	0
0	2763.293
5	2329.2
15	1120.46
25	753.38
35	451.88
45	211.45
55	15.99
65	1.81
75	2.57
85	3.75
90	4.58

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	109	104	100	96	106	101	98	94	97	94	91	92	90	88	89	87	85	82
2	99	91	85	79	96	89	83	78	85	80	76	82	78	74	78	75	72	70
3	91	81	73	67	88	79	72	66	76	70	65	73	68	63	70	66	62	60
4	84	72	64	57	81	71	63	57	68	61	56	65	60	55	63	58	54	52
5	77	65	56	50	75	64	56	50	61	54	49	59	53	48	57	52	47	45
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	52	47	42	40
7	67	54	45	39	65	53	45	39	51	44	39	49	43	38	48	42	38	36
8	62	49	41	35	61	48	41	35	47	40	35	45	39	34	44	38	34	32
9	58	45	37	32	57	45	37	32	43	36	32	42	36	31	41	35	31	29
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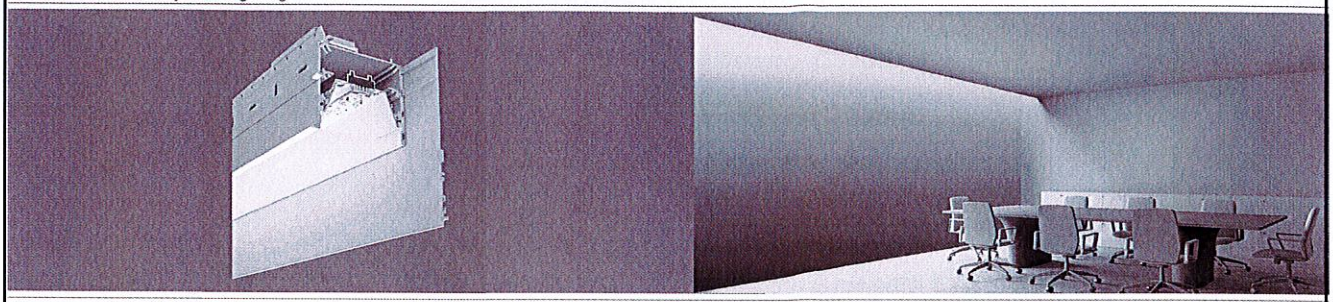
ROOM CAVITY RATIO

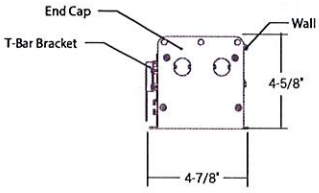
RC - Ceiling Cavity Reflectance RW - Wall Reflectance

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** OLS-PR-LED-4-HC-FT-CR-12'6"-700L-WW-DIM10-MVOLT-35K-85-WH-4" Notes:	**Type:** H-12-6 SLSI22-5128

ORACLE LIGHTING
By Elite Lighting

OLS-PR-LED 4"
LED Architectural Perimeter Linear







LUMENS/FT	WATTS/FT
1500	12.7
1250	10.5
1000	8.2
750	6.5
500	4.5
400	3.6

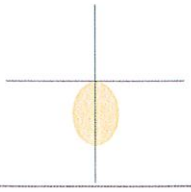
FEATURES

The OLS Perimeter provides a continuous glow at transition between ceiling and wall. OLS Perimeter is hidden in slot between ceiling and wall, presenting complete invisibility of lamps. 4" or 6" regress options, and can sit flush in ceiling. Accommodates drywall, grid, suspended, and hard ceiling. Available in custom shapes including wall-to-ceiling, 90° corner continuous runs, tees, crosses, and corners of various angles. Ambient lighting perfect for office, education, library, commercial, and retail applications.

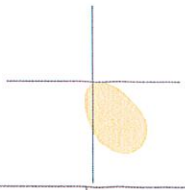
LUMENS PER FOOT	400, 500, 750, 1000, 1250, 1500 or Custom
CCT & DYNAMIC PLATFORMS	27K, 30K, 35K, 40K, 50K, Tunable White,
CRI	85+ Standard, 90+
COLOR QUALITY	3 Step MacAdam Ellipses
WIDTHS	4"
LENGTHS	2', 4', 6', 8', Continuous with 1" Increments
DISTRIBUTION PATTERNS	Standard, Wall Wash
CONFIGURATION PATTERNS & LENGTHS	Single, Continous, Square, Rectangular, L-Shape, Custom with 90, 60, or 45 ° Angles
MOUNTING	Ceiling, Wall
FINISH	WH (White)
DIMMING & CONTROLS	0-10V Flicker Free 1% Dimming Standard (DIM10), LUTH, LUT2W, DIMST, ELDO10.1, ELDODMX.1, DALI.1
EMERGENCY	10W - Up to 1000L Output (Bodine BSL310) 20W - Up to 2000L Output (Bodine BSL20)
LIFETIME	L70 at 50,000 Hours
PHOTOMETRIC TESTS	In Accordance with IES LM79-08, LM80 and TM-30, TM-21

c UL us LISTED · PROUDLY ASSEMBLED in AMERICA · 5 YEARS LIMITED WARRANTY · DAMP LOCATION

Distribution Pattern: Standard



Distribution Pattern: Wall Wash

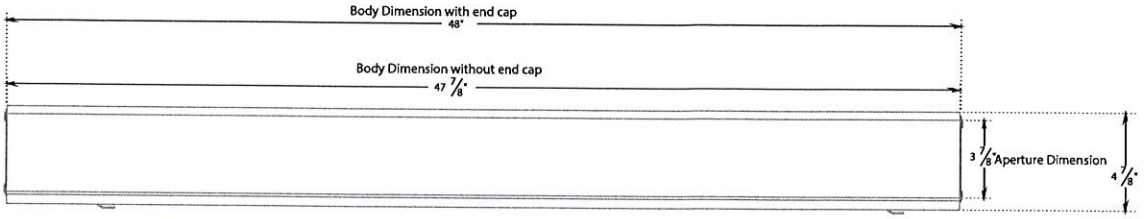


Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

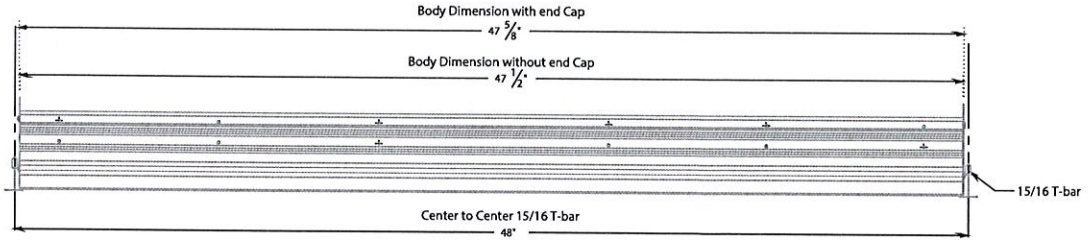
ORACLE LIGHTING
By Elite Lighting

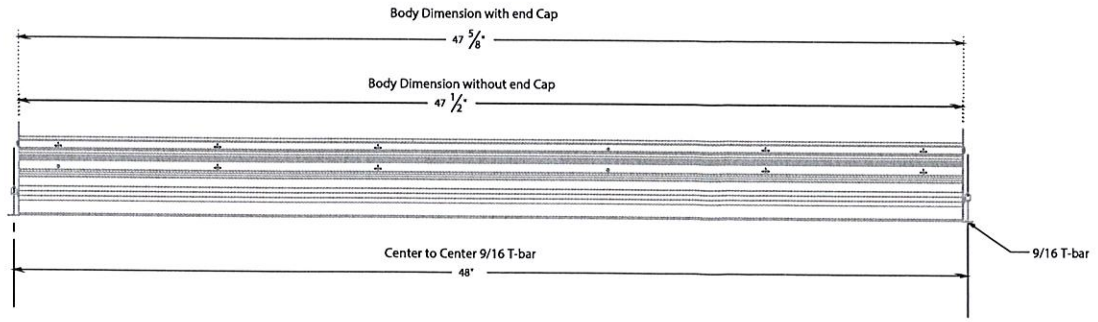
OLS-PR-LED 4"
LED Architectural Perimeter Linear

Hard Ceiling



T-Bar



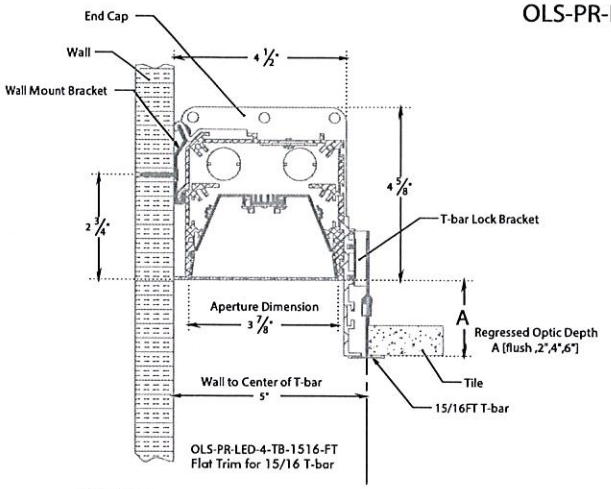


ORACLE LIGHTING By Elite Lighting

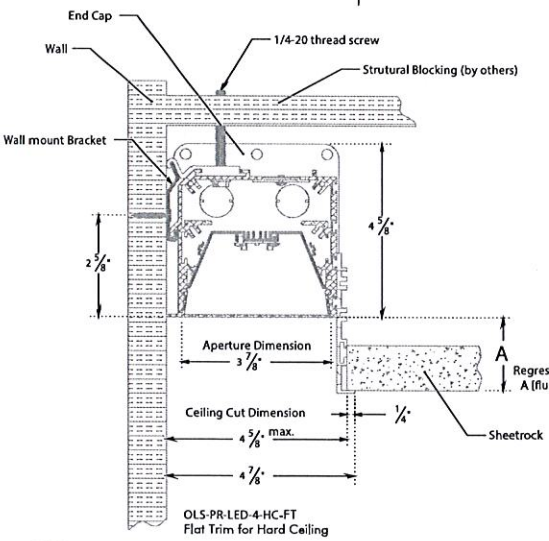
OLS-PR-LED 4"

LED Architectural Perimeter Linear

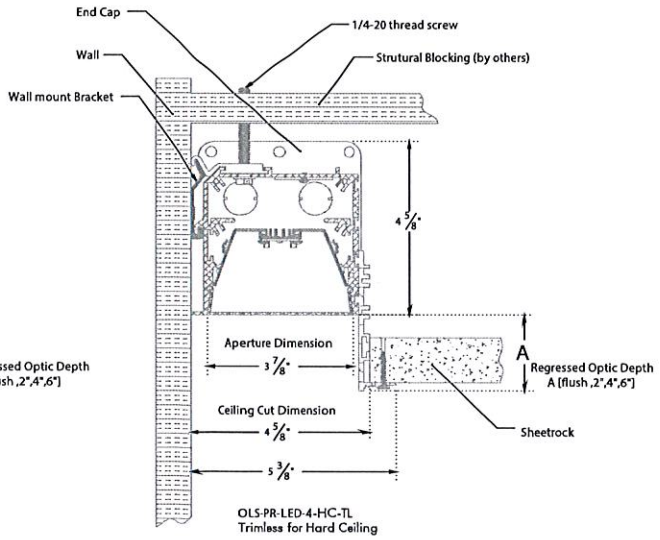
OLS-PR-LED-4



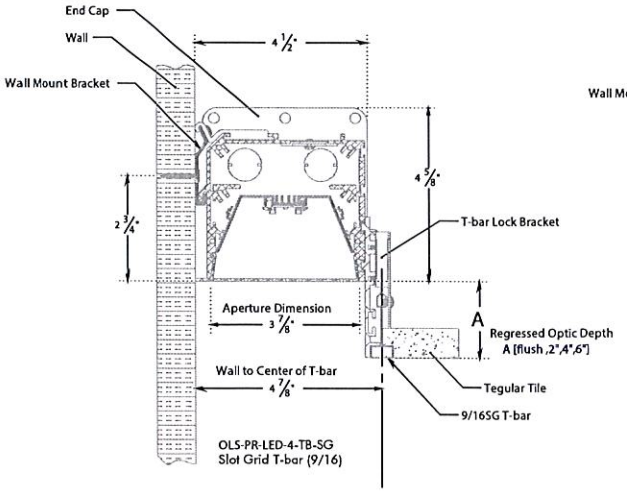
OLS-PR-LED-4-TB-1516-FT
Flat Trim for 15/16 T-bar



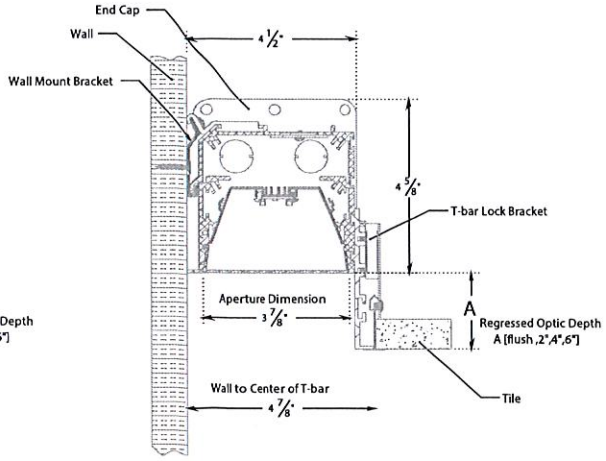
OLS-PR-LED-4-HC-FT
Flat Trim for Hard Ceiling



OLS-PR-LED-4-HC-TL
Trimless for Hard Ceiling



OLS-PR-LED-4-TB-SG
Slot Grid T-bar (9/16)



ORACLE LIGHTING
By Elite Lighting

OLS-PR-LED 4"
LED Architectural Perimeter Linear

OPTICS & PERFORMANCE
Fabricated from 20-gauge aluminum, with mitered corners, and post-painted with 95% reflective premium paint. The optical system delivers high efficiency LED light that passes through a high-quality acrylic lens for optimal distribution patterns, creating a glare-free and even distribution. Distributions include Direct Downlight or Wall Wash, with zero light leakage.

CONSTRUCTION
One-piece rigid aluminum extrusion, flanged or flange-less, made of T6063-T5 aluminum, cast aluminum end caps. Extruded frosted snap-in lens is easy to pop in and out for quick access to driver and LED boards.

OPTICAL ASSEMBLY
Highly efficient LEDs with side-kicking MIRO reflectors that pass through a smooth acrylic lens, creating glare-free, even distribution. MIRO reflectors deliver 95% reflectivity and smooth acrylic lens provides durability and zero pixilation.

DISTRIBUTION PATTERNS & DIFFUSER
Standard Distribution provides glare-free, even illumination.
Wall Wash Distribution-Illuminates from the ceiling, down, for uniform vertical illumination.

CRM INSTALLATION
For continuous row mounting, the first luminaire in the row will always be the power supply feed. After plugging in the male and female harnesses, which are supplied with each luminaire, they will easily slide together, then secured with two screws from opposite directions in the connecting brackets.

DRIVER ELECTRICAL INFORMATION
Powered by high-quality constant-current power LED drivers which are rated for 50 to 60Hz at 120-277V input, produce less than 20% THD, and have a power factor of .90 to 1.00. Male and female 18-gauge 6 wire plug connectors are included with every fixture. Each fixture must be installed male to female.

MOUNTING
The OLS-PR-LED is available in multiple recessed options. Flange kit is available for recessed dry wall application and bracket accessories are available for T-bar application. Also available in pendant and wall mount. Single or tandem mounting for field-adjustable continuous runs made easy with quick connectors.

LED DYNAMIC PLATFORM OPTIONS
Tunable White with Smart White Technology utilizing the Lumenetix Platform allows you to color tune the luminaire via various controls. Create the perfect environment for the desired use of the space, while maintaining a CRI of 90+ across the tunable range of 8000 to 1650K. (Click here for more details)

EMERGENCY BACK-UP BATTERY
Emergency back-up battery comes pre-installed on the luminaire and emergency push button is installed on the luminaire for easy access

DIMMING & DRIVER INFORMATION
DIM10 - Flicker Free 1% Dimming Standard (DIM10) 0-10V dimming on either MVOLT 120, 277 or 347V.
LUT2W - Lutron LTEA2W Hi-Lume 1%. 2-wire LED Driver Forward Phase Control, 1% dimming in 120V only.
LUTH - Lutron LDE1 Hi-Lume Eco System. 1% dimming with Soft in Fade to Black dimming technology.
ELDO10.1 - EldoLED SoloDrive 0-10V. Dimming down to 0.1%.
DALI - DALI DT6, DT8 dimming down to 1%.
ELDODMX - EldoLED PowerDrive dimming down to 0.1%.
Please see EldoLED website for wiring diagrams and a list of compatible DMX and DALI control systems.
DIMST - Step Dimming

WARRANTY
Five-year warranty for parts and components. (Labor not included)

OPTIONS
Can be shipped preinstalled with daylight harvesting controls, occupancy sensors, and/or power packs. Available manufacturer options include Leviton, Wattstopper, Hubble Automation, and others.

LISTINGS
c-UL-us - Listed for Feed Through Wiring.
All LED luminaires are rated and tested to LM-79 and LM-80 standards by an independent laboratory. Listed for DLC, California Title 24 compliant.
Listed for Damp location.

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** OLS-PR-LED-4-HC-FT-CR-12'6"-700L-WW-DIM10-MVOLT-35K-85-WH-4" Notes:	**Type:** H-12-6 SLSI22-5128

ORACLE LIGHTING By Elite Lighting

OLS-PR-LED 4"

LED Architectural Perimeter Linear

Example: **OLS-PR-LED-4-TB-SG-REC-W8-L6-500L-DIM10-MVOLT-30K-85-WH**

OLS-PR-LED | | | | — SELECT RUN TYPE

SERIES
OLS-PR-LED - Oracle Recessed LED Linear

WIDTH
4 - 4"

CEILING TYPE
TB-SG - Slot Grid T-bar (9/16)
TB-1516-FT - Flat Trim for 15/16 T-bar
HC-TL - Trimless for Hard Ceiling
HC-FT - Flat Trim for Hard Ceiling

SHAPE
S - Single Unit
CR - Continuous Run
REC - Rectangle

Single Run
2, 4, 6 OR 8'

Cont. Run
XX. YY*
TOTAL RUN
*XX is Length in Feet
YY is Fraction in Inches
e.g. 22.6 is 22 feet and 6 inches

W **L** — Rectangle
WIDTH
LENGTH

12'6"

*Contact company for any custom shape

LUMENS	DISTRIBUTION	DIMMING	VOLTAGE	CCT	CRI	FINISH	EMERGENCY	OTHER OPTIONS	SHEILDING	MOUNTING
700L 400L - per ft. 500L - per ft. 750L - per ft. 1000L - per ft. 1250L - per ft. 1500L - per ft.	(blank) - Standard WW - Wall Wash	DIM10 - 0-10V Dimming DIMST - Step Dimming LUTH - Lutron HiLum LUT2W - Lutron 2- Wire ELD010.1 - EldoLED 0-10V DALI.1 - EldoLED DALI Type 8 ELDODMX.1 - EldoLED DMX	120 277 MVOLT 347* * Consult Factory for details	27K 30K 35K 40K 50K	85 90	WH - White	0-EMG-LED-10W 0-EMG-LED-20W *EMG-LED-20 watt is only for 4" width	FBF - Internal Fast Blow Fuse SBF - Internal Slow Blow Fuse RIS - Radio Interference Sensor USA - Made in America Compliance	Flush 0 2" 4" 6"	Wall Bracket Ceiling threaded rod

- LUT2W available in 120V
- ELD010, ELDODMX, LUTH available 120-277

ORACLE LIGHTING By Elite Lighting

OLS-PR-LED 4"

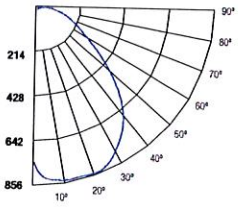
LED Architectural Perimeter Linear

OLS-PR-LED-4-S-4-400L-WW-DIM10-MVOLT-40K-85-WH

INPUT WATTS: **14.9** LUMENS: 1653 CRI: **85** EFFICACY: **111** CCT: **4000K**

TEST NO.: EL09182047 SPACING CRITERIA: **1.18**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	253.6	15.3	15.3
0-30	514.06	31.1	31.1
0-40	811.84	49.1	49.1
0-60	1328.45	80.3	80.3
0-80	1573.87	95.2	95.2
0-90	1614.28	97.6	97.6

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	747	1429	5350
55	31	795	4613
65	10	77	3706
75	24	64	2860
85	103	157	1799

Lumens Per Zone

Zone	Lumens
0-10	70.72
10-20	182.88
20-30	260.46
30-40	297.78
40-50	287.5
50-60	229.11
60-70	155.82
70-80	89.6
80-90	40.41

Candela Tabulation

	0
0	773.829
5	648.78
15	317.42
25	213.96
35	128.34
45	58.91
55	2
65	0.47
75	0.68
85	1
90	1.23

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	109	104	100	96	106	102	98	94	97	94	91	93	90	88	89	87	85	83
2	99	92	85	80	97	89	83	78	86	81	76	82	78	74	79	75	72	70
3	91	81	73	67	88	79	72	66	76	70	65	73	68	63	70	66	62	60
4	84	72	64	58	81	71	63	57	68	61	56	66	60	55	63	58	54	52
5	77	65	56	50	75	64	56	50	61	54	49	59	53	48	57	52	48	45
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	52	47	42	40
7	67	54	45	39	65	53	45	39	51	44	39	49	43	38	48	42	38	36
8	62	49	41	35	61	48	41	35	47	40	35	46	39	35	44	38	34	32
9	58	45	37	32	57	45	37	32	43	36	32	42	36	31	41	35	31	29
10	55	42	34	29	53	41	34	29	40	34	29	39	33	29	38	32	28	27

ROOM CAVITY RATIO

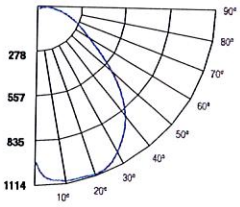
RC - Ceiling Cavity Reflectance RW - Wall Reflectance

OLS-PR-LED-4-S-4-500L-WW-DIM10-MVOLT-40K-85-WH

INPUT WATTS: **18.6** LUMENS: 2170 CRI: **85** EFFICACY: **117** CCT: **4000K**

TEST NO.: EL09172045 SPACING CRITERIA: **1.18**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	331.3	15.3	15.3
0-30	671.67	31	31
0-40	1060.64	48.9	48.9
0-60	1740.09	80.2	80.2
0-80	2064.63	95.2	95.2
0-90	2118.11	97.6	97.6

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	981	1902	7046
55	41	1064	6128
65	13	102	4957
75	31	86	3828
85	136	199	2444

Lumens Per Zone

Zone	Lumens
0-10	92.33
10-20	238.97
20-30	340.38
30-40	388.96
40-50	377.79
50-60	301.67
60-70	205.82
70-80	118.72
80-90	53.47

Candela Tabulation

	0
0	1008.809
5	844.45
15	412.16
25	282
35	168.84
45	77.43
55	2.61
65	0.62
75	0.89
85	1.32
90	1.64

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	109	104	100	96	106	101	98	94	97	94	91	93	90	88	89	87	85	82
2	99	91	85	79	97	89	83	78	85	80	76	82	78	74	79	75	72	70
3	91	81	73	67	88	79	72	66	76	70	65	73	68	63	70	66	62	60
4	84	72	64	57	81	71	63	57	68	61	56	65	60	55	63	58	54	52
5	77	65	56	50	75	64	56	50	61	54	49	59	53	48	57	52	47	45
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	52	47	42	40
7	67	54	45	39	65	53	45	39	51	44	39	49	43	38	48	42	38	36
8	62	49	41	35	61	48	41	35	47	40	35	45	39	35	44	38	34	32
9	58	45	37	32	57	45	37	32	43	36	32	42	36	31	41	35	31	29
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ROOM CAVITY RATIO

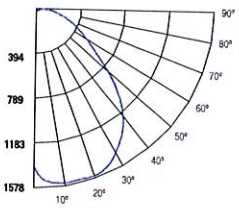
RC - Ceiling Cavity Reflectance RW - Wall Reflectance

OLS-PR-LED-4-S-4-750L-WW-DIM10-MVOLT-40K-85-WH

INPUT WATTS: **25.7** LUMENS: 3072 CRI: **85** EFFICACY: **120** CCT: **4000K**

TEST NO.: EL09182048 SPACING CRITERIA: **1.18**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	469.3	15.3	15.3
0-30	951.63	31	31
0-40	1503.32	48.9	48.9
0-60	2462.93	80.2	80.2
0-80	2923.06	95.1	95.1
0-90	2998.99	97.6	97.6

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	1404	2683	9911
55	59	1495	8550
65	19	144	6953
75	45	122	5356
85	195	300	3374

Lumens Per Zone

Zone	Lumens
0-10	130.87
10-20	338.44
20-30	482.33
30-40	551.69
40-50	532.67
50-60	426.93
60-70	291.63
70-80	168.5
80-90	75.93

Candela Tabulation

	0
0	1432.798
5	1205.18
15	586.81
25	399.04
35	241.23
45	110.8
55	3.77
65	0.91
75	1.29
85	1.9
90	2.35

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	109	104	100	96	106	101	98	94	97	94	91	92	90	88	89	87	85	82
2	99	91	85	79	97	89	83	78	85	80	76	82	78	74	79	75	72	70
3	91	81	73	67	88	79	72	66	76	70	65	73	68	63	70	66	62	60
4	84	72	64	57	81	71	63	57	68	61	56	65	60	55	63	58	54	52
5	77	65	56	50	75	64	56	50	61	54	49	59	53	48	57	52	47	45
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	52	47	42	40
7	67	54	45	39	65	53	45	39	51	44	39	49	43	38	48	42	38	36
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9	58	45	37	32	57	45	37	32	43	36	32	42	36	31	41	35	31	29
10	55	42	34	29	53	41	34	29	40	33	29	39	33	29	38	32	28	27

ROOM CAVITY RATIO

RC - Ceiling Cavity Reflectance RW - Wall Reflectance

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

Submitted by Smith Lighting Sales, Inc.

Smith Lighting

Job Name:
Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation

Catalog Number:
OLS-PR-LED-4-HC-FT-CR-12'6"-700L-WW-DIM10-MVOLT-35K-85-WH-4"

Notes:

Type:
H-12-6

SLSI22-5128

ORACLE LIGHTING
By Elite Lighting

OLS-PR-LED 4"
LED Architectural Perimeter Linear

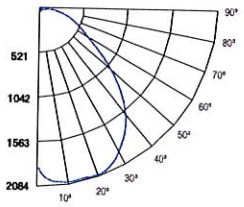
OLS-PR-LED-4-S-4-1000L-WW-DIM10-MVOLT-40K-85-WH

INPUT WATTS: **33.5** LUMENS: 4057 CRI: **85** EFFICACY: **121** CCT: **4000K**

TEST NO.: EL09182049

SPACING CRITERIA: **1.18**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	620.21	15.3	15.3
0-30	1256.62	31	31
0-40	1985.12	48.9	48.9
0-60	3251.87	80.2	80.2
0-80	3859.58	95.1	95.1
0-90	3960.05	97.6	97.6

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	1847	3538	13091
55	78	1972	11289
65	26	191	9057
75	60	161	7069
85	260	400	4265

Lumens Per Zone

Zone	Lumens
0-10	173.07
10-20	447.13
20-30	636.42
30-40	728.5
40-50	704.11
50-60	562.64
60-70	385.11
70-80	222.59
80-90	100.48

Candela Tabulation

Angle	Q
0	1895.265
5	1593.11
15	772.66
25	521.37
35	317.57
45	145.77
55	4.98
65	1.21
75	1.72
85	2.53
90	3.12

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	109	104	100	96	106	101	98	94	97	94	91	92	90	88	89	87	85	82
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3	91	81	73	67	88	79	72	66	76	70	65	73	68	63	70	66	62	60
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9	58	45	37	32	57	45	37	32	43	36	32	42	36	31	41	35	31	29
10	55	42	34	29	53	41	34	29	40	33	29	39	33	29	38	32	28	27

ROOM CAVITY RATIO

RC - Ceiling Cavity Reflectance RW - Wall Reflectance

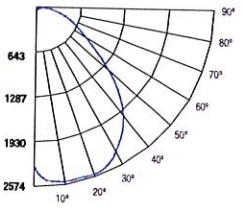
OLS-PR-LED-4-S-4-1250L-WW-DIM10-MVOLT-40K-85-WH

INPUT WATTS: **41.9** LUMENS: 4989 CRI: **85** EFFICACY: **119** CCT: **4000K**

TEST NO.: EL09182050

SPACING CRITERIA: **1.18**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	765.29	15.3	15.3
0-30	1549.06	31	31
0-40	2444.63	49	49
0-60	3997.07	80.1	80.1
0-80	4743.4	95.1	95.1
0-90	4869.24	97.6	97.6

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	2273	4329	16047
55	210	2461	13729
65	32	306	10938
75	75	271	8585
85	325	617	5139

Lumens Per Zone

Zone	Lumens
0-10	213.85
10-20	551.44
20-30	783.77
30-40	895.57
40-50	863.37
50-60	689.07
60-70	471.47
70-80	274.86
80-90	125.84

Candela Tabulation

Angle	Q
0	2344.19
5	1974.89
15	951.68
25	640.38
35	386.55
45	179.33
55	13.44
65	1.53
75	2.17
85	3.16
90	3.89

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	109	104	100	96	106	101	98	94	97	94	91	92	90	88	89	87	85	82
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3	91	81	73	67	88	79	72	66	76	70	65	73	68	63	70	66	62	60
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5	77	65	56	50	75	64	56	50	61	54	49	59	53	48	57	52	47	45
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	52	47	42	40
7	67	54	45	39	65	53	45	39	51	44	39	49	43	38	48	42	38	36
8	62	49	41	35	61	48	41	35	47	40	35	45	39	34	44	38	34	32
9	58	45	37	32	57	45	37	32	43	36	32	42	36	31	41	35	31	29
10	55	42	34	29	53	41	34	29	40	33	29	39	33	29	38	32	28	27

ROOM CAVITY RATIO

RC - Ceiling Cavity Reflectance RW - Wall Reflectance

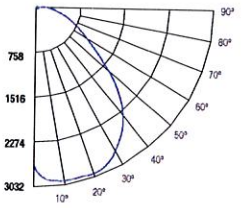
OLS-PR-LED-4-S-4-1500L-WW-DIM10-MVOLT-40K-85-WH

INPUT WATTS: **50.7** LUMENS: 5882 CRI: **85** EFFICACY: **116** CCT: **4000K**

TEST NO.: EL09182050

SPACING CRITERIA: **1.18**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	901.93	15.3	15.3
0-30	1825.49	31	31
0-40	2880.57	49	49
0-60	4711.83	80.1	80.1
0-80	5591.53	95.1	95.1
0-90	5740.06	97.6	97.6

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	2680	5060	18931
55	250	2903	16185
65	38	368	12893
75	89	322	10127
85	386	734	6058

Lumens Per Zone

Zone	Lumens
0-10	252.11
10-20	649.82
20-30	923.57
30-40	1055.08
40-50	1018.05
50-60	813.21
60-70	555.27
70-80	324.43
80-90	148.53

Candela Tabulation

Angle	Q
0	2763.293
5	2329.2
15	1120.46
25	753.38
35	451.88
45	211.45
55	15.99
65	1.81
75	2.57
85	3.75
90	4.58

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	109	104	100	96	106	101	98	94	97	94	91	92	90	88	89	87	85	82
2	99	91	85	79	96	89	83	78	85	80	76	82	78	74	79	75	72	70
3	91	81	73	67	88	79	72	66	76	70	65	73	68	63	70	66	62	60
4	84	72	64	57	81	71	63	57	68	61	56	65	60	55	63	58	54	52
5	77	65	56	50	75	64	56	50	61	54	49	59	53	48	57	52	47	45
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	52	47	42	40
7	67	54	45	39	65	53	45	39	51	44	39	49	43	38	48	42	38	36
8	62	49	41	35	61	48	41	35	47	40	35	45	39	34	44	38	34	32
9	58	45	37	32	57	45	37	32	43	36	32	42	36	31	41	35	31	29
10	55	42	34	29	53	41	34	29	40	33	29	39	33	29	38	32	28	27

ROOM CAVITY RATIO

RC - Ceiling Cavity Reflectance RW - Wall Reflectance

Submitted by Smith Lighting Sales, Inc.

Smith Lighting

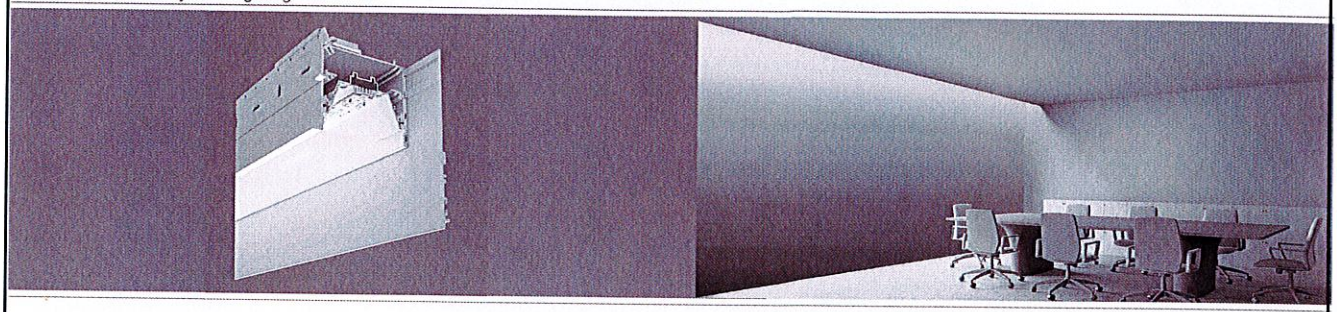
Job Name:
Greenwood Cultural Center Renovation -
Greenwood Cultural Center Renovation

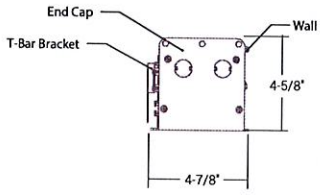
Catalog Number:
OLS-PR-LED-4-HC-FT-CR-16'-700L-WW-DIM10-MVOLT-35K-85-WH-4"
Notes:

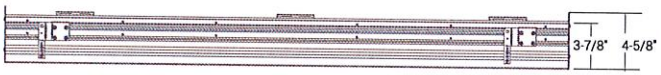
Type:
H-16
SLSI22-5128

ORACLE LIGHTING
By Elite Lighting

OLS-PR-LED 4"
LED Architectural Perimeter Linear







LUMENS/FT	WATTS/FT
1500	12.7
1250	10.5
1000	8.2
750	6.5
500	4.5
400	3.6

FEATURES

The OLS Perimeter provides a continuous glow at transition between ceiling and wall. OLS Perimeter is hidden in slot between ceiling and wall, presenting complete invisibility of lamps. 4" or 6" regress options, and can sit flush in ceiling. Accommodates drywall, grid, suspended, and hard ceiling. Available in custom shapes including wall-to-ceiling, 90° corner continuous runs, tees, crosses, and corners of various angles. Ambient lighting perfect for office, education, library, commercial, and retail applications.

LUMENS PER FOOT	400, 500, 750, 1000, 1250, 1500 or Custom
CCT & DYNAMIC PLATFORMS	27K, 30K, 35K, 40K, 50K, Tunable White,
CRI	85+ Standard, 90+
COLOR QUALITY	3 Step MacAdam Ellipses
WIDTHS	4"
LENGTHS	2', 4', 6', 8', Continuous with 1" Increments
DISTRIBUTION PATTERNS	Standard, Wall Wash
CONFIGURATION PATTERNS & LENGTHS	Single, Continous, Square, Rectangular, L-Shape, Custom with 90, 60, or 45 ° Angles
MOUNTING	Ceiling, Wall
FINISH	WH (White)
DIMMING & CONTROLS	0-10V Flicker Free 1% Dimming Standard (DIM10), LUTH, LUT2W, DIMST, ELDO10.1, ELDODMX.1, DALI.1
EMERGENCY	10W - Up to 1000L Output (Bodine BSL310) 20W - Up to 2000L Output (Bodine BSL20)
LIFETIME	L70 at 50,000 Hours
PHOTOMETRIC TESTS	In Accordance with IES LM79-08, LM80 and TM-30, TM-21

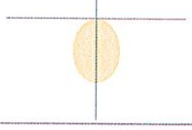
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PROUDLY ASSEMBLED in AMERICA

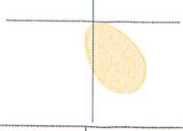
5 YEARS LIMITED WARRANTY

DAMP LOCATION

Distribution Pattern:
Standard



Distribution Pattern:
Wall Wash



elite LED LIGHTING

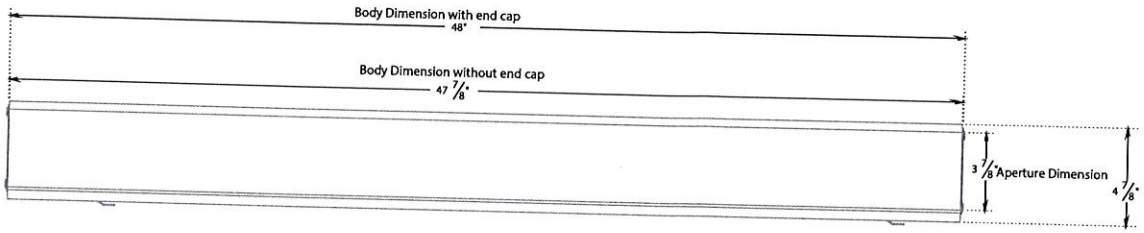
www.iuseelite.com

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

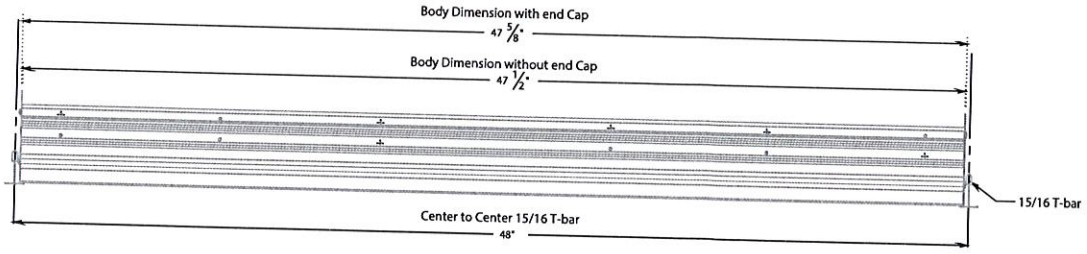
ORACLE LIGHTING
By Elite Lighting

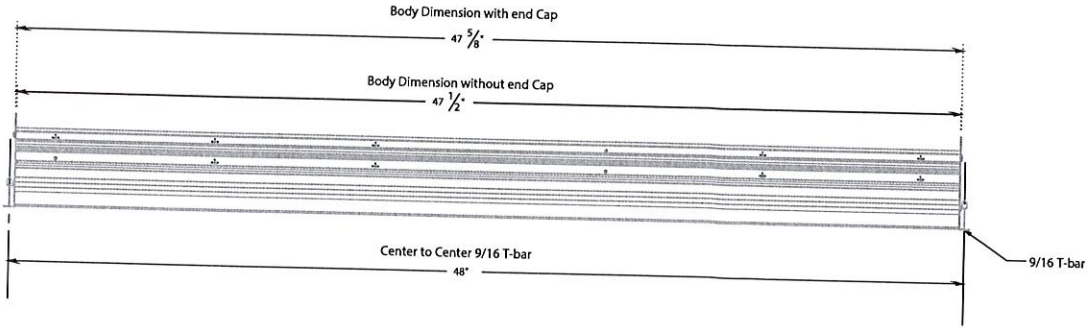
OLS-PR-LED
LED Architectural Perimeter Linear 4"

Hard Ceiling



T-Bar

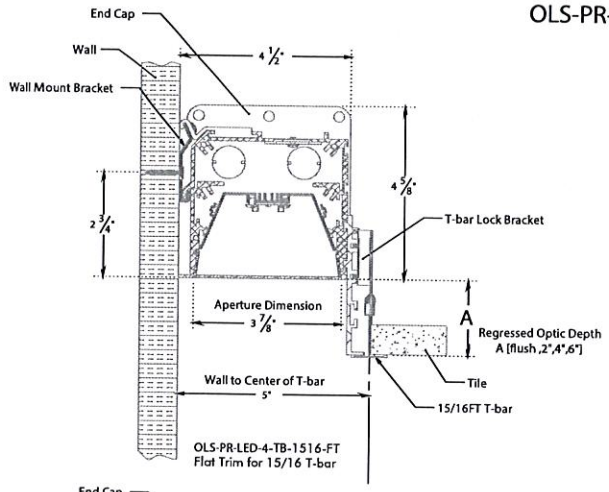




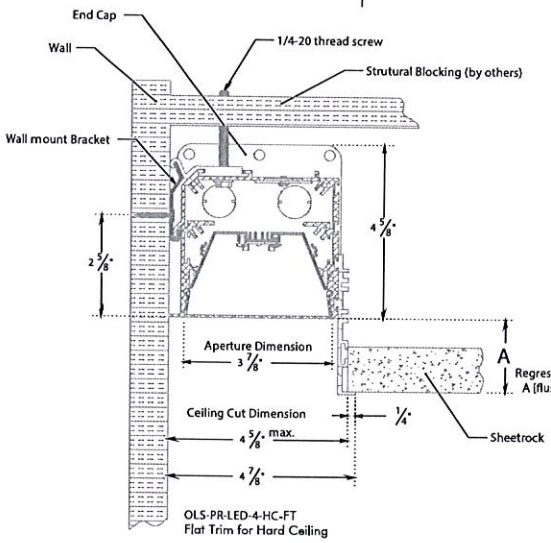
ORACLE LIGHTING
By Elite Lighting

OLS-PR-LED
LED Architectural Perimeter Linear 4"

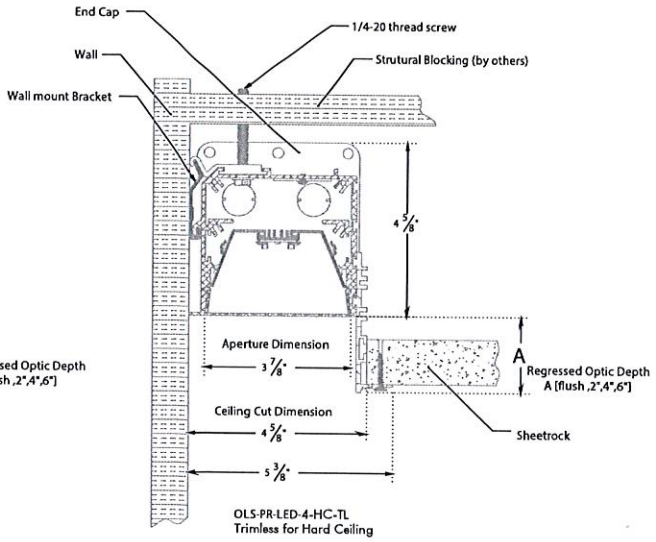
OLS-PR-LED-4



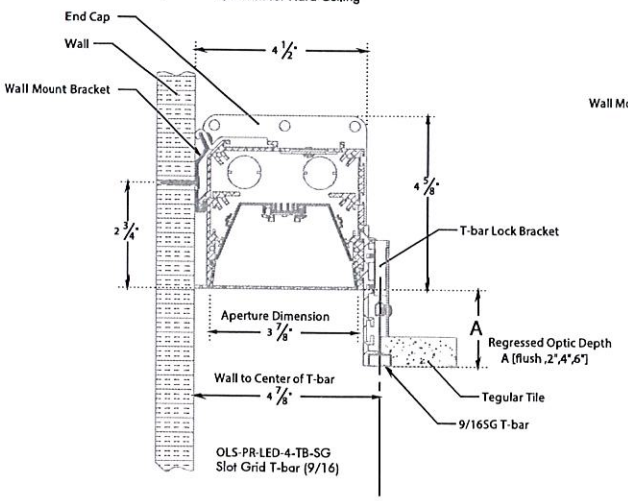
OLS-PR-LED-4-TB-1516-FT
Flat Trim for 15/16 T-bar



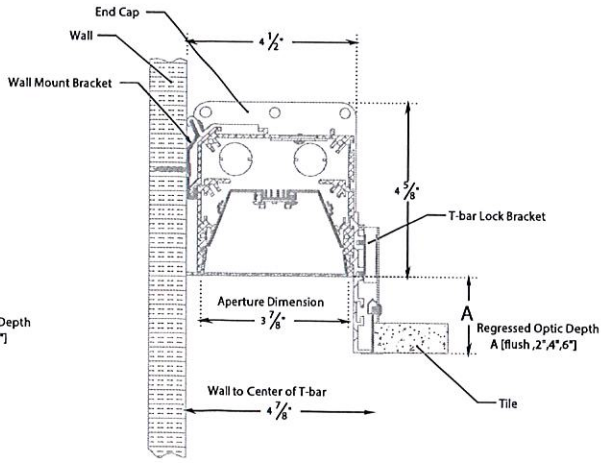
OLS-PR-LED-4-HC-FT
Flat Trim for Hard Ceiling



OLS-PR-LED-4-HC-TL
Trimless for Hard Ceiling



OLS-PR-LED-4-TB-SG
Slot Grid T-bar (9/16)



Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

ORACLE LIGHTING
By Elite Lighting

OLS-PR-LED 4"
LED Architectural Perimeter Linear

OPTICS & PERFORMANCE
Fabricated from 20-gauge aluminum, with mitered corners, and post-painted with 95% reflective premium paint. The optical system delivers high efficiency LED light that passes through a high-quality acrylic lens for optimal distribution patterns, creating a glare-free and even distribution. Distributions include Direct Downlight or Wall Wash, with zero light leakage.

CONSTRUCTION
One-piece rigid aluminum extrusion, flanged or flange-less, made of T6063-T5 aluminum, cast aluminum end caps. Extruded frosted snap-in lens is easy to pop in and out for quick access to driver and LED boards.

OPTICAL ASSEMBLY
Highly efficient LEDs with side-kicking MIRO reflectors that pass through a smooth acrylic lens, creating glare-free, even distribution. MIRO reflectors deliver 95% reflectivity and smooth acrylic lens provides durability and zero pixilation.

DISTRIBUTION PATTERNS & DIFFUSER
Standard Distribution provides glare-free, even illumination.
Wall Wash Distribution-Illuminates from the ceiling, down, for uniform vertical illumination.

CRM INSTALLATION
For continuous row mounting, the first luminaire in the row will always be the power supply feed. After plugging in the male and female harnesses, which are supplied with each luminaire, they will easily slide together, then secured with two screws from opposite directions in the connecting brackets.

DRIVER ELECTRICAL INFORMATION
Powered by high-quality constant-current power LED drivers which are rated for 50 to 60Hz at 120-277V input, produce less than 20% THD, and have a power factor of .90 to 1.00. Male and female 18-gauge 6 wire plug connectors are included with every fixture. Each fixture must be installed male to female.

MOUNTING
The OLS-PR-LED is available in multiple recessed options. Flange kit is available for recessed dry wall application and bracket accessories are available for T-bar application. Also available in pendant and wall mount. Single or tandem mounting for field-adjustable continuous runs made easy with quick connectors.

LED DYNAMIC PLATFORM OPTIONS
Tunable White with Smart White Technology utilizing the Lumenetix Platform allows you to color tune the luminaire via various controls. Create the perfect environment for the desired use of the space, while maintaining a CRI of 90+ across the tunable range of 8000 to 1650K. (Click here for more details)

EMERGENCY BACK-UP BATTERY
Emergency back-up battery comes pre-installed on the luminaire and emergency push button is installed on the luminaire for easy access

DIMMING & DRIVER INFORMATION
DIM10 - Flicker Free 1% Dimming Standard (DIM10) 0-10V dimming on either MVOLT 120, 277 or 347V.
LUT2W - Lutron LTEA2W Hi-Lume 1%. 2-wire LED Driver Forward Phase Control, 1% dimming in 120V only.
LUTH - Lutron LDE1 Hi-Lume Eco System. 1% dimming with Soft in Fade to Black dimming technology.
ELDO10.1 - EldoLED SoloDrive 0-10V. Dimming down to 0.1%.
DALI - DALI DT6, DT8 dimming down to 1%.
ELDODMX - EldoLED PowerDrive dimming down to 0.1%.
Please see EldoLED website for wiring diagrams and a list of compatible DMX and DALI control systems.
DIMST - Step Dimming

WARRANTY
Five-year warranty for parts and components. (Labor not included)

OPTIONS
Can be shipped preinstalled with daylight harvesting controls, occupancy sensors, and/or power packs. Available manufacturer options include Leviton, Wattstopper, Hubble Automation, and others.

LISTINGS
c-UL-us - Listed for Feed Through Wiring.
All LED luminaires are rated and tested to LM-79 and LM-80 standards by an independent laboratory. Listed for DLC, California Title 24 compliant.
Listed for Damp location.

ORACLE LIGHTING
By Elite Lighting

OLS-PR-LED 4"
LED Architectural Perimeter Linear

Example: **OLS-PR-LED-4-TB-SG-REC-W8-L6-500L-DIM10-MVOLT-30K-85-WH**

OLS-PR-LED [ ] [ ] [ ] — SELECT RUN TYPE

SERIES
OLS-PR-LED - Oracle Recessed LED Linear

WIDTH
4 - 4"

CEILING TYPE
TB-SG - Slot Grid T-bar (9/16)
TB-1516-FT - Flat Trim for 15/16 T-bar
HC-TL - Trimless for Hard Ceiling
HC-FT - Flat Trim for Hard Ceiling

SHAPE
S - Single Unit
CR - Continuous Run
REC - Rectangle

Single Run
2, 4, 6 OR 8'

Cont. Run
XX . YY*
TOTAL RUN
*XX is Length in Feet
YY is Fraction in Inches
e.g. 22.6 is 22 feet and 6 inches

W **L** — Rectangle
WIDTH
LENGTH

16'

*Contact company for any custom shape

LUMENS	DISTRIBUTION	DIMMING	VOLTAGE	CCT	CRI	FINISH	EMERGENCY	OTHER OPTIONS	SHEILDING	MOUNTING
700L 400L - per ft. 500L - per ft. 750L - per ft. 1000L - per ft. 1250L - per ft. 1500L - per ft.	(blank) - Standard WW - Wall Wash	DIM10 - 0-10V Dimming DIMST - Step Dimming LUTH - Lutron HiLum LUT2W - Lutron 2- Wire ELD010.1 - EldoLED 0-10V DALI.1 - EldoLED DALI Type 8 ELDODMX.1 - EldoLED DMX	120 277 MVOLT 347* *Consult Factory for details	27K 30K 35K 40K 50K	85 90	WH - White	0-EMG-LED-10W 0-EMG-LED-20W *EMG-LED-20 watt is only for 4" width	FBF - Internal Fast Blow Fuse SBF - Internal Slow Blow Fuse RIS - Radio Interference Sensor USA - Made in America Compliance	Flush 0 2 " 4 " 6 "	Wall Bracket Ceiling threaded rod

- LUT2W available in 120V
- ELD010, ELDODMX, LUTH available 120-277

ORACLE LIGHTING
By Elite Lighting

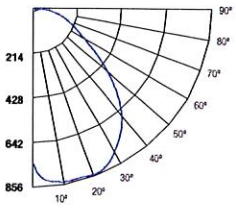
OLS-PR-LED 4"
LED Architectural Perimeter Linear

OLS-PR-LED-4-S-4-400L-WW-DIM10-MVOLT-40K-85-WH

TEST NO.: EL09182047

INPUT WATTS: **14.9** LUMENS: 1653 CRI: **85** EFFICACY: **111** CCT: **4000K** SPACING CRITERIA: **1.18**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	253.6	15.3	15.3
0-30	514.06	31.1	31.1
0-40	811.84	49.1	49.1
0-60	1328.45	80.3	80.3
0-80	1573.87	95.2	95.2
0-90	1614.28	97.6	97.6

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	747	1429	5350
55	31	795	4613
65	10	77	3706
75	24	64	2860
85	103	157	1799

Lumens Per Zone

Zone	Lumens
0-10	70.72
10-20	182.88
20-30	260.46
30-40	297.78
40-50	287.5
50-60	229.11
60-70	155.82
70-80	89.6
80-90	40.41

Candela Tabulation

Ø	
0	773.829
5	648.78
15	317.42
25	213.96
35	128.34
45	58.91
55	2
65	0.47
75	0.68
85	1
90	1.23

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	109	104	100	96	106	102	98	94	97	94	91	93	90	88	89	87	85	83
2	99	92	85	80	97	89	83	78	86	81	76	82	78	74	79	75	72	70
3	91	81	73	67	88	79	72	66	76	70	65	73	68	63	70	66	62	60
4	84	72	64	58	81	71	63	57	68	61	56	66	60	55	63	58	54	52
5	77	65	56	50	75	64	56	50	61	54	49	59	53	48	57	52	48	45
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	52	47	42	40
7	67	54	45	39	65	53	45	39	51	44	39	49	43	38	48	42	38	36
8	62	49	41	35	61	48	41	35	47	40	35	46	39	35	44	38	34	32
9	58	45	37	32	57	45	37	32	43	36	32	42	36	31	41	35	31	29
10	55	42	34	29	53	41	34	29	40	34	29	39	33	29	38	32	28	27

ROOM CAVITY RATIO

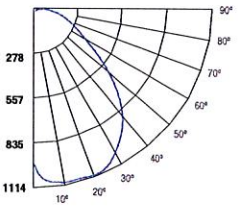
RC - Ceiling Cavity Reflectance RW - Wall Reflectance

OLS-PR-LED-4-S-4-500L-WW-DIM10-MVOLT-40K-85-WH

TEST NO.: EL09172045

INPUT WATTS: **18.6** LUMENS: 2170 CRI: **85** EFFICACY: **117** CCT: **4000K** SPACING CRITERIA: **1.18**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	331.3	15.3	15.3
0-30	671.67	31	31
0-40	1060.64	48.9	48.9
0-60	1740.09	80.2	80.2
0-80	2064.63	95.2	95.2
0-90	2118.11	97.6	97.6

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	981	1902	7046
55	41	1064	6128
65	13	102	4957
75	31	86	3828
85	136	199	2444

Lumens Per Zone

Zone	Lumens
0-10	92.33
10-20	238.97
20-30	340.38
30-40	388.96
40-50	377.79
50-60	301.67
60-70	205.82
70-80	118.72
80-90	53.47

Candela Tabulation

Ø	
0	1008.809
5	844.45
15	412.16
25	282
35	168.84
45	77.43
55	2.61
65	0.62
75	0.89
85	1.32
90	1.64

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	109	104	100	96	106	101	98	94	97	94	91	93	90	88	89	87	85	82
2	99	91	85	79	97	89	83	78	85	80	76	82	78	74	79	75	72	70
3	91	81	73	67	88	79	72	66	76	70	65	73	68	63	70	66	62	60
4	84	72	64	57	81	71	63	57	68	61	56	65	60	55	63	58	54	52
5	77	65	56	50	75	64	56	50	61	54	49	59	53	48	57	52	47	45
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	52	47	42	40
7	67	54	45	39	65	53	45	39	51	44	39	49	43	38	48	42	38	36
8	62	49	41	35	61	48	41	35	47	40	35	45	39	34	44	38	34	32
9	58	45	37	32	57	45	37	32	43	36	32	42	36	31	41	35	31	29
10	55	42	34	29	53	41	34	29	40	33	29	39	33	29	38	32	28	27

ROOM CAVITY RATIO

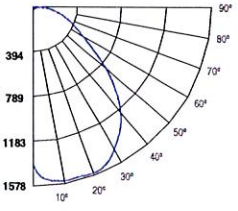
RC - Ceiling Cavity Reflectance RW - Wall Reflectance

OLS-PR-LED-4-S-4-750L-WW-DIM10-MVOLT-40K-85-WH

TEST NO.: EL09182048

INPUT WATTS: **25.7** LUMENS: 3072 CRI: **85** EFFICACY: **120** CCT: **4000K** SPACING CRITERIA: **1.18**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	469.3	15.3	15.3
0-30	951.63	31	31
0-40	1503.32	48.9	48.9
0-60	2462.93	80.2	80.2
0-80	2923.06	95.1	95.1
0-90	2998.99	97.6	97.6

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	1404	2683	9911
55	59	1495	8550
65	19	144	6953
75	45	122	5356
85	195	300	3374

Lumens Per Zone

Zone	Lumens
0-10	130.87
10-20	338.44
20-30	482.33
30-40	551.69
40-50	532.67
50-60	426.93
60-70	291.63
70-80	168.5
80-90	75.93

Candela Tabulation

Ø	
0	1432.798
5	1205.18
15	586.81
25	399.04
35	241.23
45	110.8
55	3.77
65	0.91
75	1.29
85	1.9
90	2.35

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	109	104	100	96	106	101	98	94	97	94	91	92	90	88	89	87	85	82
2	99	91	85	79	97	89	83	78	85	80	76	82	78	74	79	75	72	70
3	91	81	73	67	88	79	72	66	76	70	65	73	68	63	70	66	62	60
4	84	72	64	57	81	71	63	57	68	61	56	65	60	55	63	58	54	52
5	77	65	56	50	75	64	56	50	61	54	49	59	53	48	57	52	47	45
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	52	47	42	40
7	67	54	45	39	65	53	45	39	51	44	39	49	43	38	48	42	38	36
8	62	49	41	35	61	48	41	35	47	40	35	45	39	34	44	38	34	32
9	58	45	37	32	57	45	37	32	43	36	32	42	36	31	41	35	31	29
10	55	42	34	29	53	41	34	29	40	33	29	39	33	29	38	32	28	27

ROOM CAVITY RATIO

RC - Ceiling Cavity Reflectance RW - Wall Reflectance

Submitted by Smith Lighting Sales, Inc.

Smith Lighting

Job Name:
Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation

Catalog Number:
OLS-PR-LED-4-HC-FT-CR-16'-700L-WW-DIM10-MVOLT-35K-85-WH-4"
Notes:

Type:
H-16
SLSI22-5128

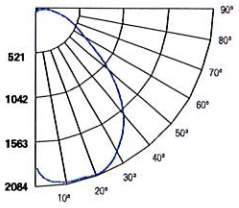
ORACLE LIGHTING
By Elite Lighting

OLS-PR-LED 4"
LED Architectural Perimeter Linear

OLS-PR-LED-4-S-4-1000L-WW-DIM10-MVOLT-40K-85-WH — **TEST NO.: EL09182049**

INPUT WATTS: **33.5** LUMENS: 4057 CRI: **85** EFFICACY: **121** CCT: **4000K** SPACING CRITERIA: **1.18**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	620.21	15.3	15.3
0-30	1256.62	31	31
0-40	1985.12	48.9	48.9
0-60	3251.87	80.2	80.2
0-80	3859.58	95.1	95.1
0-90	3960.05	97.6	97.6

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	1847	3538	13091
55	78	1972	11289
65	26	191	9057
75	60	161	7069
85	260	400	4265

Lumens Per Zone

Zone	Lumens
0-10	173.07
10-20	447.13
20-30	636.42
30-40	728.5
40-50	704.11
50-60	562.64
60-70	385.11
70-80	222.59
80-90	100.48

Candela Tabulation

Q
0 1895.265
5 1593.11
15 772.66
25 521.37
35 317.57
45 145.77
55 4.98
65 1.21
75 1.72
85 2.53
90 3.12

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	109	104	100	96	106	101	98	94	97	94	91	92	90	88	89	87	85	82
2	99	91	85	79	97	89	83	78	85	80	76	82	78	74	79	75	72	70
3	91	81	73	67	88	79	72	66	76	70	65	73	68	63	70	66	62	60
4	84	72	64	57	81	71	63	57	68	61	56	65	60	55	63	58	54	52
5	77	65	56	50	75	64	56	50	61	54	49	59	53	48	57	52	47	45
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	52	47	42	40
7	67	54	45	39	65	53	45	39	51	44	39	49	43	38	48	42	38	36
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9	58	45	37	32	57	45	37	32	43	36	32	42	36	31	41	35	31	29
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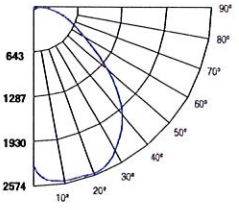
ROOM CAVITY RATIO

RC - Ceiling Cavity Reflectance RW - Wall Reflectance

OLS-PR-LED-4-S-4-1250L-WW-DIM10-MVOLT-40K-85-WH — **TEST NO.: EL09182050**

INPUT WATTS: **41.9** LUMENS: 4989 CRI: **85** EFFICACY: **119** CCT: **4000K** SPACING CRITERIA: **1.18**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	765.29	15.3	15.3
0-30	1549.06	31	31
0-40	2444.63	49	49
0-60	3997.07	80.1	80.1
0-80	4743.4	95.1	95.1
0-90	4869.24	97.6	97.6

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	2273	4329	16047
55	210	2461	13729
65	32	306	10938
75	75	271	8585
85	325	617	5139

Lumens Per Zone

Zone	Lumens
0-10	213.85
10-20	551.44
20-30	783.77
30-40	895.57
40-50	863.37
50-60	689.07
60-70	471.47
70-80	274.86
80-90	125.84

Candela Tabulation

Q
0 2344.19
5 1974.89
15 951.68
25 640.38
35 386.55
45 179.33
55 13.44
65 1.53
75 2.17
85 3.16
90 3.89

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	109	104	100	96	106	101	98	94	97	94	91	92	90	88	89	87	85	82
2	99	91	85	79	97	89	83	78	85	80	76	82	78	74	79	75	72	70
3	91	81	73	67	88	79	72	66	76	70	65	73	68	63	70	66	62	60
4	84	72	64	57	81	71	63	57	68	61	56	65	60	55	63	58	54	52
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8	62	49	41	35	61	48	41	35	47	40	35	45	39	34	44	38	34	32
9	58	45	37	32	57	45	37	32	43	36	32	42	36	31	41	35	31	29
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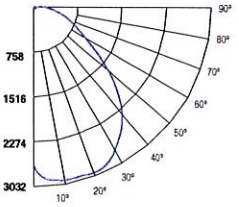
ROOM CAVITY RATIO

RC - Ceiling Cavity Reflectance RW - Wall Reflectance

OLS-PR-LED-4-S-4-1500L-WW-DIM10-MVOLT-40K-85-WH — **TEST NO.: EL09182050**

INPUT WATTS: **50.7** LUMENS: 5882 CRI: **85** EFFICACY: **116** CCT: **4000K** SPACING CRITERIA: **1.18**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	901.93	15.3	15.3
0-30	1825.49	31	31
0-40	2880.57	49	49
0-60	4711.83	80.1	80.1
0-80	5591.53	95.1	95.1
0-90	5740.06	97.6	97.6

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	2680	5060	18931
55	250	2903	16185
65	38	368	12893
75	89	322	10127
85	386	734	6058

Lumens Per Zone

Zone	Lumens
0-10	252.11
10-20	649.82
20-30	923.57
30-40	1055.08
40-50	1018.05
50-60	813.21
60-70	555.27
70-80	324.43
80-90	148.53

Candela Tabulation

Q
0 2763.293
5 2329.2
15 1120.46
25 753.38
35 451.88
45 211.45
55 15.99
65 1.81
75 2.57
85 3.75
90 4.58

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	109	104	100	96	106	101	98	94	97	94	91	92	90	88	89	87	85	82
2	99	91	85	79	96	89	83	78	85	80	76	82	78	74	78	75	72	70
3	91	81	73	67	88	79	72	66	76	70	65	73	68	63	70	66	62	60
4	84	72	64	57	81	71	63	57	68	61	56	65	60	55	63	58	54	52
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6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	52	47	42	40
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9	58	45	37	32	57	45	37	32	43	36	32	42	36	31	41	35	31	29
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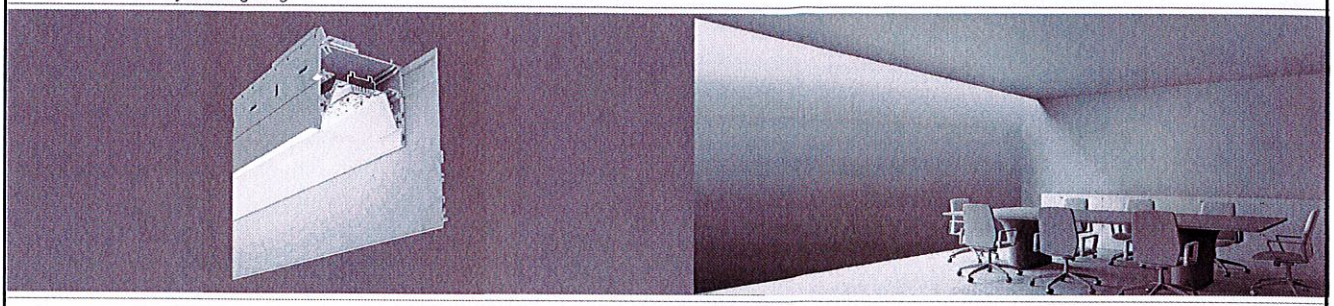
ROOM CAVITY RATIO

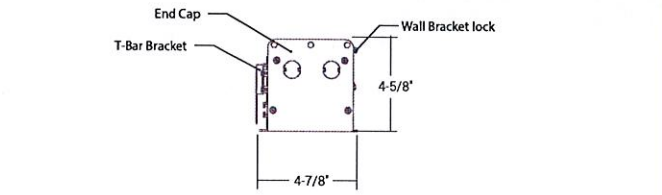
RC - Ceiling Cavity Reflectance RW - Wall Reflectance

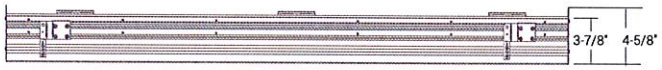
Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** OLS-PR-LED-4-HC-FT-CR-122'-700L-WW-DIM10-MVOLT-35K-85-WH-4" Notes:	**Type:** H-22 SLSI22-5128

ORACLE LIGHTING
By Elite Lighting

OLS-PR-LED 4"
LED Architectural Perimeter Linear







LUMENS/FT	WATTS/FT
1500	12.7
1250	10.5
1000	8.2
750	6.5
500	4.5
400	3.6

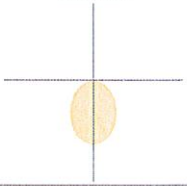
FEATURES

The OLS Perimeter provides a continuous glow at transition between ceiling and wall. OLS Perimeter is hidden in slot between ceiling and wall, presenting complete invisibility of lamps. 4" or 6" regress options, and can sit flush in ceiling. Accommodates drywall, grid, suspended, and hard ceiling. Available in custom shapes including wall-to-ceiling, 90° corner continuous runs, tees, crosses, and corners of various angles. Ambient lighting perfect for office, education, library, commercial, and retail applications.

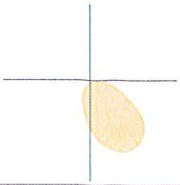
LUMENS PER FOOT	400, 500, 750, 1000, 1250, 1500 or Custom
CCT & DYNAMIC PLATFORMS	27K, 30K, 35K, 40K, 50K, Tunable White,
CRI	85+ Standard, 90+
COLOR QUALITY	3 Step MacAdam Ellipses
WIDTHS	4"
LENGTHS	2', 4', 6', 8', Continuous with 1" Increments
DISTRIBUTION PATTERNS	Standard, Wall Wash
CONFIGURATION PATTERNS & LENGTHS	Single, Continous, Square, Rectangular, L-Shape, Custom with 90, 60, or 45 ° Angles
MOUNTING	Ceiling, Wall
FINISH	WH (White)
DIMMING & CONTROLS	0-10V Flicker Free 1% Dimming Standard (DIM10), LUTH, LUT2W, DIMST, ELDO10.1, ELDODMX.1, DALI.1
EMERGENCY	10W - Up to 1000L Output (Bodine BSL310) 20W - Up to 2000L Output (Bodine BSL20)
LIFETIME	L70 at 50,000 Hours
PHOTOMETRIC TESTS	In Accordance with IES LM79-08, LM80 and TM-30, TM-21

c UL us LISTED · PROUDLY ASSEMBLED in AMERICA · 5 YEARS LIMITED WARRANTY · DAMP LOCATION

Distribution Pattern: Standard



Distribution Pattern: Wall Wash

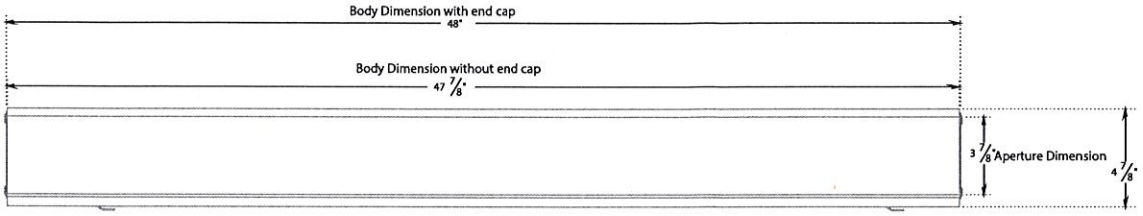


Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

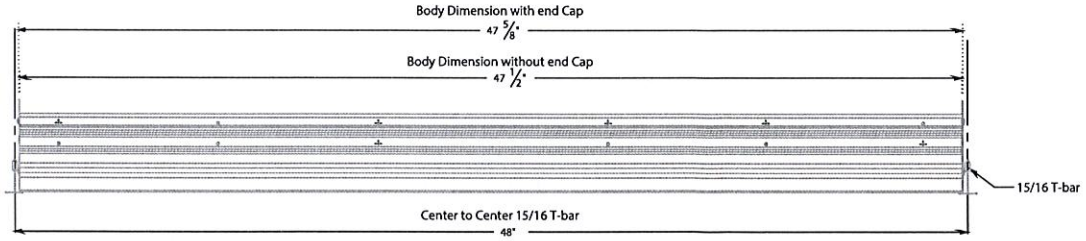
ORACLE LIGHTING
By Elite Lighting

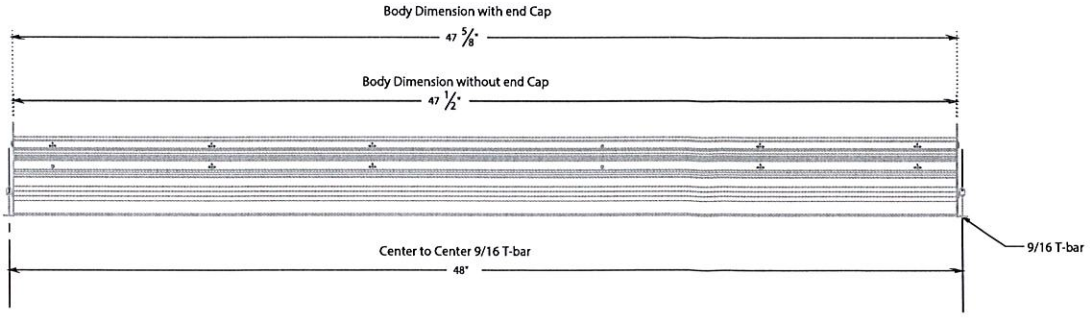
OLS-PR-LED 4"
LED Architectural Perimeter Linear

Hard Ceiling



T-Bar



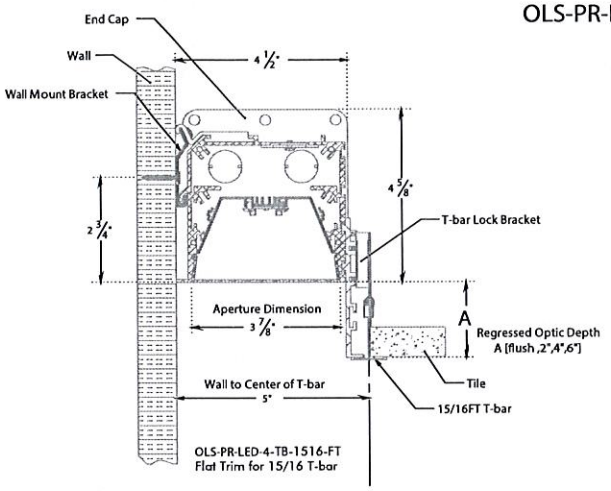


Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** OLS-PR-LED-4-HC-FT-CR-122'-700L-WW-DIM10-MVOLT-35K-85-WH-4" Notes:	**Type:** H-22 SLSI22-5128

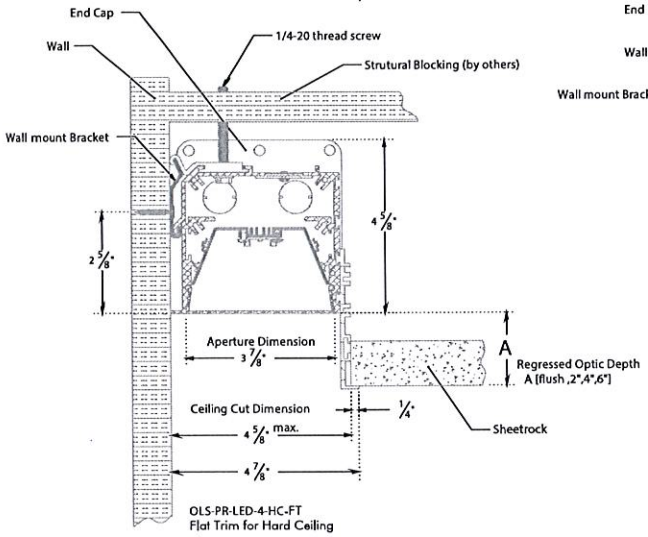
ORACLE LIGHTING
By Elite Lighting

OLS-PR-LED 4"
LED Architectural Perimeter Linear

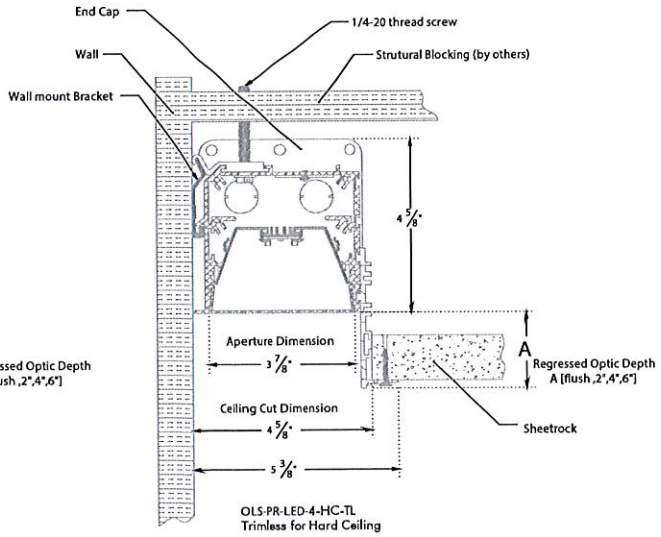
OLS-PR-LED-4



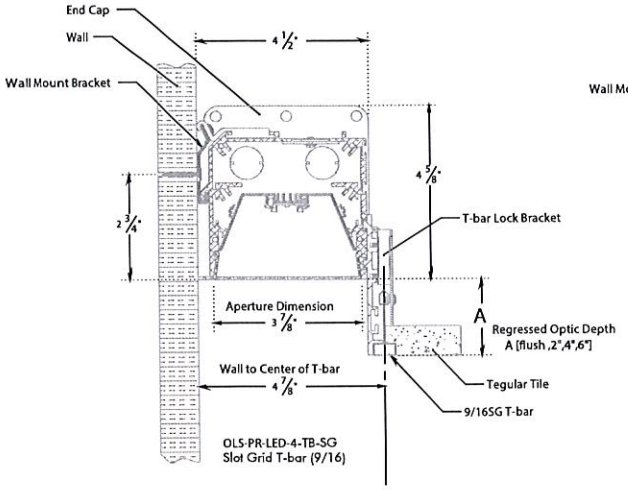
OLS-PR-LED-4-TB-1516-FT
Flat Trim for 15/16 T-bar



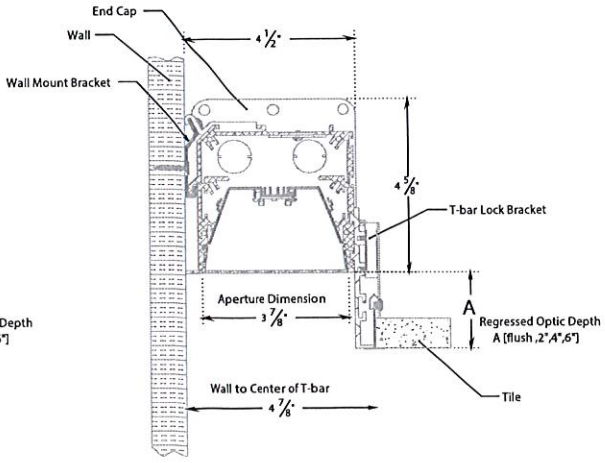
OLS-PR-LED-4-HC-FT
Flat Trim for Hard Ceiling



OLS-PR-LED-4-HC-TL
Trimless for Hard Ceiling



OLS-PR-LED-4-TB-SG
Slot Grid T-bar (9/16)



Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** OLS-PR-LED-4-HC-FT-CR-122'-700L-WW-DIM10-MVOLT-35K-85-WH-4" Notes:	**Type:** **H-22** SLSI22-5128

ORACLE LIGHTING
By Elite Lighting

OLS-PR-LED 4"
LED Architectural Perimeter Linear

OPTICS & PERFORMANCE
Fabricated from 20-gauge aluminum, with mitered corners, and post-painted with 95% reflective premium paint. The optical system delivers high efficiency LED light that passes through a high-quality acrylic lens for optimal distribution patterns, creating a glare-free and even distribution. Distributions include Direct Downlight or Wall Wash, with zero light leakage.

CONSTRUCTION
One-piece rigid aluminum extrusion, flanged or flange-less, made of T6063-T5 aluminum, cast aluminum end caps. Extruded frosted snap-in lens is easy to pop in and out for quick access to driver and LED boards.

OPTICAL ASSEMBLY
Highly efficient LEDs with side-kicking MIRO reflectors that pass through a smooth acrylic lens, creating glare-free, even distribution. MIRO reflectors deliver 95% reflectivity and smooth acrylic lens provides durability and zero pixilation.

DISTRIBUTION PATTERNS & DIFFUSER
Standard Distribution provides glare-free, even illumination.
Wall Wash Distribution-Illuminates from the ceiling, down, for uniform vertical illumination.

CRM INSTALLATION
For continuous row mounting, the first luminaire in the row will always be the power supply feed. After plugging in the male and female harnesses, which are supplied with each luminaire, they will easily slide together, then secured with two screws from opposite directions in the connecting brackets.

DRIVER ELECTRICAL INFORMATION
Powered by high-quality constant-current power LED drivers which are rated for 50 to 60Hz at 120-277V input, produce less than 20% THD, and have a power factor of .90 to 1.00. Male and female 18-gauge 6 wire plug connectors are included with every fixture. Each fixture must be installed male to female.

MOUNTING
The OLS-PR-LED is available in multiple recessed options. Flange kit is available for recessed dry wall application and bracket accessories are available for T-bar application. Also available in pendant and wall mount. Single or tandem mounting for field-adjustable continuous runs made easy with quick connectors.

LED DYNAMIC PLATFORM OPTIONS
Tunable White with Smart White Technology utilizing the Lumenetix Platform allows you to color tune the luminaire via various controls. Create the perfect environment for the desired use of the space, while maintaining a CRI of 90+ across the tunable range of 8000 to 1650K. (Click here for more details)

EMERGENCY BACK-UP BATTERY
Emergency back-up battery comes pre-installed on the luminaire and emergency push button is installed on the luminaire for easy access

DIMMING & DRIVER INFORMATION
DIM10 - Flicker Free 1% Dimming Standard (DIM10) 0-10V dimming on either MVOLT 120, 277 or 347V.
LUT2W - Lutron LTEA2W Hi-Lume 1%. 2-wire LED Driver Forward Phase Control, 1% dimming in 120V only.
LUTH - Lutron LDE1 Hi-Lume Eco System. 1% dimming with Soft in Fade to Black dimming technology.
ELDO10.1 - EldoLED SoloDrive 0-10V. Dimming down to 0.1%.
DALI - DALI DT6, DT8 dimming down to 1%.
ELDODMX - EldoLED PowerDrive dimming down to 0.1%.
Please see EldoLED website for wiring diagrams and a list of compatible DMX and DALI control systems.
DIMST - Step Dimming

WARRANTY
Five-year warranty for parts and components. (Labor not included)

OPTIONS
Can be shipped preinstalled with daylight harvesting controls, occupancy sensors, and/or power packs. Available manufacturer options include Leviton, Wattstopper, Hubble Automation, and others.

LISTINGS
c-UL-us - Listed for Feed Through Wiring.
All LED luminaires are rated and tested to LM-79 and LM-80 standards by an independent laboratory. Listed for DLC, California Title 24 compliant.
Listed for Damp location.

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** OLS-PR-LED-4-HC-FT-CR-122'-700L-WW-DIM10-MVOLT-35K-85-WH-4" Notes:	**Type:** H-22 SLSI22-5128

ORACLE LIGHTING
By Elite Lighting

OLS-PR-LED 4"
LED Architectural Perimeter Linear

Example: **OLS-PR-LED-4-TB-SG-REC-W8-L6-500L-DIM10-MVOLT-30K-85-WH**

OLS-PR-LED [ ] [ ] [ ] — SELECT RUN TYPE

SERIES
OLS-PR-LED - Oracle Recessed LED Linear

WIDTH
4 - 4"

CEILING TYPE
TB-SG - Slot Grid T-bar (9/16)
TB-1516-FT - Flat Trim for 15/16 T-bar
HC-TL - Trimless for Hard Ceiling
HC-FT - Flat Trim for Hard Ceiling

SHAPE
S - Single Unit
CR - Continuous Run
REC - Rectangle

Single Run
2, 4, 6 OR 8'

Cont. Run
XX . YY*
TOTAL RUN
*XX is Length in Feet
YY is Fraction in Inches
e.g. 22.6 is 22 feet and 6 inches

W **L** — **Rectangle**
WIDTH
LENGTH

122'

*Contact company for any custom shape

LUMENS	DISTRIBUTION	DIMMING	VOLTAGE	CCT	CRI	FINISH	EMERGENCY	OTHER OPTIONS	SHEILDING	MOUNTING
700L 400L - per ft. 500L - per ft. 750L - per ft. 1000L - per ft. 1250L - per ft. 1500L - per ft.	(blank) - Standard WW - Wall Wash	DIM10 - 0-10V Dimming DIMST - Step Dimming LUTH - Lutron HiLum LUT2W - Lutron 2- Wire ELD010.1 - EldoLED 0-10V DALI.1 - EldoLED DALI Type 8 ELDODMX.1 - EldoLED DMX	120 277 MVOLT 347* *Consult Factory for details	27K 30K 35K 40K 50K	85 90	WH - White	0-EMG-LED-10W 0-EMG-LED-20W *EMG-LED-20 watt is only for 4" width	FBF - Internal Fast Blow Fuse SBF - Internal Slow Blow Fuse RIS - Radio Interference Sensor USA - Made in America Compliance	Flush 0 2" 4" 6"	Wall Bracket Ceiling threaded rod

- LUT2W available in 120V
- ELD010, ELDODMX, LUTH available 120-277

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** OLS-PR-LED-4-HC-FT-CR-122'-700L-WW-DIM10-MVOLT-35K-85-WH-4" Notes:	**Type:** **H-22** SLSI22-5128

ORACLE LIGHTING By Elite Lighting

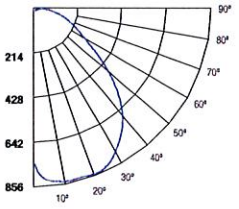
OLS-PR-LED 4"

LED Architectural Perimeter Linear

OLS-PR-LED-4-S-4-400L-WW-DIM10-MVOLT-40K-85-WH **TEST NO.: EL09182047**

INPUT WATTS: **14.9** LUMENS: 1653 CRI: **85** EFFICACY: **111** CCT: **4000K** SPACING CRITERIA: **1.18**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	253.6	15.3	15.3
0-30	514.06	31.1	31.1
0-40	811.84	49.1	49.1
0-60	1328.45	80.3	80.3
0-80	1573.87	95.2	95.2
0-90	1614.28	97.6	97.6

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	747	1429	5350
55	31	795	4613
65	10	77	3706
75	24	64	2860
85	103	157	1799

Lumens Per Zone

Zone	Lumens
0-10	70.72
10-20	182.88
20-30	260.46
30-40	297.78
40-50	287.5
50-60	229.11
60-70	155.82
70-80	89.6
80-90	40.41

Candela Tabulation

	0
0	773.829
5	648.78
15	317.42
25	213.96
35	128.34
45	58.91
55	2
65	0.47
75	0.68
85	1
90	1.23

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	109	104	100	96	106	102	98	94	97	94	91	93	90	88	89	87	85	83
2	99	92	85	80	97	89	83	78	86	81	76	82	78	74	79	75	72	70
3	91	81	73	67	88	79	72	66	76	70	65	73	68	63	70	66	62	60
4	84	72	64	58	81	71	63	57	68	61	56	66	60	55	63	58	54	52
5	77	65	56	50	75	64	56	50	61	54	49	59	53	48	57	52	48	45
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	52	47	42	40
7	67	54	45	39	65	53	45	39	51	44	39	49	43	38	48	42	38	36
8	62	49	41	35	61	48	41	35	47	40	35	46	39	35	44	38	34	32
9	58	45	37	32	57	45	37	32	43	36	32	42	36	31	41	35	31	29
10	55	42	34	29	53	41	34	29	40	34	29	39	33	29	38	32	28	27

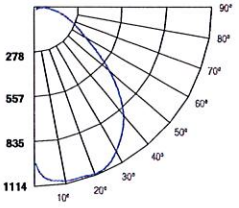
ROOM CAVITY RATIO

RC - Ceiling Cavity Reflectance RW - Wall Reflectance

OLS-PR-LED-4-S-4-500L-WW-DIM10-MVOLT-40K-85-WH **TEST NO.: EL09172045**

INPUT WATTS: **18.6** LUMENS: 2170 CRI: **85** EFFICACY: **117** CCT: **4000K** SPACING CRITERIA: **1.18**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	331.3	15.3	15.3
0-30	671.67	31	31
0-40	1060.64	48.9	48.9
0-60	1740.09	80.2	80.2
0-80	2064.63	95.2	95.2
0-90	2118.11	97.6	97.6

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	981	1902	7046
55	41	1064	6128
65	13	102	4957
75	31	86	3828
85	136	199	2444

Lumens Per Zone

Zone	Lumens
0-10	92.33
10-20	238.97
20-30	340.38
30-40	388.96
40-50	377.79
50-60	301.67
60-70	205.82
70-80	118.72
80-90	53.47

Candela Tabulation

	0
0	1008.809
5	844.45
15	412.16
25	282
35	168.84
45	77.43
55	2.61
65	0.62
75	0.89
85	1.32
90	1.64

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	109	104	100	96	106	101	98	94	97	94	91	92	90	88	89	87	85	82
2	99	91	85	79	97	89	83	78	85	80	76	82	78	74	79	75	72	70
3	91	81	73	67	88	79	72	66	76	70	65	73	68	63	70	66	62	60
4	84	72	64	57	81	71	63	57	68	61	56	65	60	55	63	58	54	52
5	77	65	56	50	75	64	56	50	61	54	49	59	53	48	57	52	47	45
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	52	47	42	40
7	67	54	45	39	65	53	45	39	51	44	39	49	43	38	48	42	38	36
8	62	49	41	35	61	48	41	35	47	40	35	45	39	34	44	38	34	32
9	58	45	37	32	57	45	37	32	43	36	32	42	36	31	41	35	31	29
10	55	42	34	29	53	41	34	29	40	33	29	39	33	29	38	32	28	27

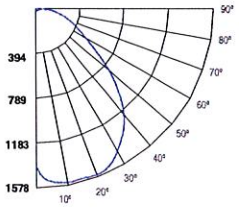
ROOM CAVITY RATIO

RC - Ceiling Cavity Reflectance RW - Wall Reflectance

OLS-PR-LED-4-S-4-750L-WW-DIM10-MVOLT-40K-85-WH **TEST NO.: EL09182048**

INPUT WATTS: **25.7** LUMENS: 3072 CRI: **85** EFFICACY: **120** CCT: **4000K** SPACING CRITERIA: **1.18**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	469.3	15.3	15.3
0-30	951.63	31	31
0-40	1503.32	48.9	48.9
0-60	2462.93	80.2	80.2
0-80	2923.06	95.1	95.1
0-90	2998.99	97.6	97.6

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	1404	2683	9911
55	59	1495	8550
65	19	144	6953
75	45	122	5356
85	195	300	3374

Lumens Per Zone

Zone	Lumens
0-10	130.87
10-20	338.44
20-30	482.33
30-40	551.69
40-50	532.67
50-60	426.93
60-70	291.63
70-80	168.5
80-90	75.93

Candela Tabulation

	0
0	1432.798
5	1205.18
15	586.81
25	399.04
35	241.23
45	110.8
55	3.77
65	0.91
75	1.29
85	1.9
90	2.35

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	109	104	100	96	106	101	98	94	97	94	91	92	90	88	89	87	85	82
2	99	91	85	79	97	89	83	78	85	80	76	82	78	74	79	75	72	70
3	91	81	73	67	88	79	72	66	76	70	65	73	68	63	70	66	62	60
4	84	72	64	57	81	71	63	57	68	61	56	65	60	55	63	58	54	52
5	77	65	56	50	75	64	56	50	61	54	49	59	53	48	57	52	47	45
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	52	47	42	40
7	67	54	45	39	65	53	45	39	51	44	39	49	43	38	48	42	38	36
8	62	49	41	35	61	48	41	35	47	40	35	45	39	34	44	38	34	32
9	58	45	37	32	57	45	37	32	43	36	32	42	36	31	41	35	31	29
10	55	42	34	29	53	41	34	29	40	33	29	39	33	29	38	32	28	27

ROOM CAVITY RATIO

RC - Ceiling Cavity Reflectance RW - Wall Reflectance

Submitted by Smith Lighting Sales, Inc.

Smith Lighting

Job Name:
Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation

Catalog Number:
OLS-PR-LED-4-HC-FT-CR-122'-700L-WW-DIM10-MVOLT-35K-85-WH-4"
Notes:

Type:
H-22
SLSI22-5128

ORACLE LIGHTING
By Elite Lighting

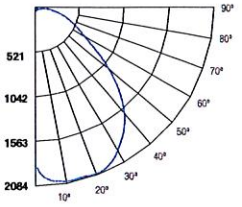
OLS-PR-LED 4"
LED Architectural Perimeter Linear

OLS-PR-LED-4-S-4-1000L-WW-DIM10-MVOLT-40K-85-WH

TEST NO.: EL09182049

INPUT WATTS: **33.5** LUMENS: 4057 CRI: **85** EFFICACY: **121** CCT: **4000K** SPACING CRITERIA: **1.18**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	620.21	15.3	15.3
0-30	1256.62	31	31
0-40	1985.12	48.9	48.9
0-60	3251.87	80.2	80.2
0-80	3859.58	95.1	95.1
0-90	3960.05	97.6	97.6

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	1847	3538	13091
55	78	1972	11289
65	26	191	9057
75	60	161	7069
85	260	400	4265

Lumens Per Zone

Zone	Lumens
0-10	173.07
10-20	447.13
20-30	636.42
30-40	728.5
40-50	704.11
50-60	562.64
60-70	385.11
70-80	222.59
80-90	100.48

Candela Tabulation

	Q
0	1895.265
5	1593.11
15	772.66
25	521.37
35	317.57
45	145.77
55	4.98
65	1.21
75	1.72
85	2.53
90	3.12

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	109	104	100	96	106	101	98	94	97	94	91	92	90	88	89	87	85	82
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4	84	72	64	57	81	71	63	57	68	61	56	65	60	55	63	58	54	52
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9	58	45	37	32	57	45	37	32	43	36	32	42	36	31	41	35	31	29
10	55	42	34	29	53	41	34	29	40	33	29	39	33	29	38	32	28	27

ROOM CAVITY RATIO

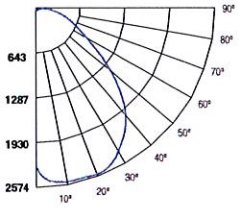
RC - Ceiling Cavity Reflectance RW - Wall Reflectance

OLS-PR-LED-4-S-4-1250L-WW-DIM10-MVOLT-40K-85-WH

TEST NO.: EL09182050

INPUT WATTS: **41.9** LUMENS: 4989 CRI: **85** EFFICACY: **119** CCT: **4000K** SPACING CRITERIA: **1.18**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	765.29	15.3	15.3
0-30	1549.06	31	31
0-40	2444.63	49	49
0-60	3997.07	80.1	80.1
0-80	4743.4	95.1	95.1
0-90	4869.24	97.6	97.6

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	2273	4329	16047
55	210	2461	13729
65	32	306	10938
75	75	271	8585
85	325	617	5139

Lumens Per Zone

Zone	Lumens
0-10	213.85
10-20	551.44
20-30	783.77
30-40	895.57
40-50	863.37
50-60	689.07
60-70	471.47
70-80	274.86
80-90	125.84

Candela Tabulation

	Q
0	2344.19
5	1974.89
15	951.68
25	640.38
35	386.55
45	179.33
55	13.44
65	1.53
75	2.17
85	3.16
90	3.89

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	109	104	100	96	106	101	98	94	97	94	91	92	90	88	89	87	85	82
2	99	91	85	79	96	89	83	78	85	80	76	82	78	74	79	75	72	70
3	91	81	73	67	88	79	72	66	76	70	65	73	68	63	70	66	62	60
4	84	72	64	57	81	71	63	57	68	61	56	65	60	55	63	58	54	52
5	77	65	56	50	75	64	56	50	61	54	49	59	53	48	57	52	47	45
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	52	47	42	40
7	67	54	45	39	65	53	45	39	51	44	39	49	43	38	48	42	38	36
8	62	49	41	35	61	48	41	35	47	40	35	45	39	34	44	38	34	32
9	58	45	37	32	57	45	37	32	43	36	32	42	36	31	41	35	31	29
10	55	42	34	29	53	41	34	29	40	33	29	39	33	29	38	32	28	27

ROOM CAVITY RATIO

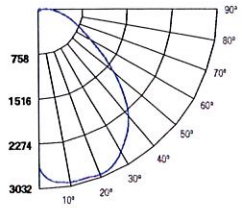
RC - Ceiling Cavity Reflectance RW - Wall Reflectance

OLS-PR-LED-4-S-4-1500L-WW-DIM10-MVOLT-40K-85-WH

TEST NO.: EL09182050

INPUT WATTS: **50.7** LUMENS: 5882 CRI: **85** EFFICACY: **116** CCT: **4000K** SPACING CRITERIA: **1.18**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	901.93	15.3	15.3
0-30	1825.49	31	31
0-40	2880.57	49	49
0-60	4711.83	80.1	80.1
0-80	5591.53	95.1	95.1
0-90	5740.06	97.6	97.6

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	2680	5060	18931
55	250	2903	16185
65	38	368	12893
75	89	322	10127
85	386	734	6058

Lumens Per Zone

Zone	Lumens
0-10	252.11
10-20	649.82
20-30	923.57
30-40	1055.08
40-50	1018.05
50-60	813.21
60-70	555.27
70-80	324.43
80-90	148.53

Candela Tabulation

	Q
0	2763.293
5	2329.2
15	1120.46
25	753.38
35	451.88
45	211.45
55	15.99
65	1.81
75	2.57
85	3.75
90	4.58

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	118	118	118	118	115	115	115	115	110	110	110	105	105	105	100	100	100	98
1	109	104	100	96	106	101	98	94	97	94	91	92	90	88	88	87	85	82
2	99	91	85	79	96	89	83	78	85	80	76	82	78	74	78	75	72	70
3	91	81	73	67	88	79	72	66	76	70	65	73	68	63	70	66	62	60
4	84	72	64	57	81	71	63	57	68	61	56	65	60	55	63	58	54	52
5	77	65	56	50	75	64	56	50	61	54	49	59	53	48	57	52	47	45
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	52	47	42	40
7	67	54	45	39	65	53	45	39	51	44	39	49	43	38	48	42	38	36
8	62	49	41	35	61	48	41	35	47	40	35	45	39	34	44	38	34	32
9	58	45	37	32	57	45	37	32	43	36	32	42	36	31	41	35	31	29
10	55	42	34	29	53	41	34	29	40	33	29	39	33	29	38	32	28	27

ROOM CAVITY RATIO

RC - Ceiling Cavity Reflectance RW - Wall Reflectance

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** 14-FPL-BL-LED-2000L/3000L/4000L-DIM10-MVOLT-35K/40K/50K-85 Notes:	**Type:** A1 SLSI22-5128

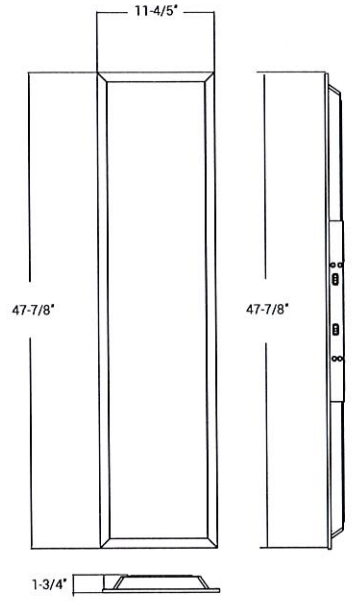
ORACLE LIGHTING
By Elite Lighting

14-FPL-BL-LED

1' x 4' Architectural LED Flat Panel Backlit with Multiple Lumens and CCT

1'x4'





2000/3000/4000

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
4000	4446	37W
3000	3544	28W
2000	2518	19W

Based on 4000K, 85+ CRI. Actual wattage may vary +/- 5%

4000/5000/6000

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
6000	6029	52W
5000	5180	43W
4000	4030	32W

Based on 4000K, 85+ CRI. Actual wattage may vary +/- 5%

FEATURES

The clean design of the FPL-BL provides a modern alternative to traditional fluorescent troffers. Available in 1x4, 2x2, and 2x4. Backlit design delivers unmatchable uniform light distribution. Easily adjust brightness level (multi-lumen) and color options (multi-CCT) in the field with multi-lumen and multi-CCT selectors. Perfect for offices, schools, healthcare, hospital, retail, among other applications.

LUMENS	2000/ 3000/ 4000 4000/ 5000/ 6000
CCT	35K/ 40K/ 50K 30K/ 35K/ 40K 30K/35K/40K/50K (Only for 2000/3000/4000L Lumen)
CRI	85+
COLOR QUALITY	3 Step MacAdam Ellipse
SIZE	2'x4', 2'x2', 1'x4'
MOUNTING	Recessed, Suspended, Surface Mount
DIMMING & CONTROL	0-10V Flicker Free 10% Dimming Standard (DIM10)
EMERGENCY	10W - Up to 1000L output (Bodine BSL310) 20W - Up to 2000L output (Bodine BSL20)
LIFETIME	L70 at 60,000 Hours
PHOTOMETRIC TESTS	In Accordance with IES LM79-08, LM80 and TM-30, TM-21

IC RATED · DLC QPL LISTED · c UL us LISTED · TITLE 24 · PROUDLY ASSEMBLED in AMERICA · QUICKSHIP CONSULT FACTORY · 5 YEARS LIMITED WARRANTY · DAMP LOCATION

elite LED LIGHTING

www.iuseelite.com

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.
07142021

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** 14-FPL-BL-LED-2000L/3000L/4000L-DIM10-MVOLT-35K/40K/50K-85 Notes:	**Type:** A1 SLSI22-5128

ORACLE LIGHTING By Elite Lighting

14-FPL-BL-LED 1x4'

1' x 4' Architectural LED Flat Panel Backlit with Multiple Lumens and CCT

MAINTENANCE
The driver is removable and upgradable even after installation. Luminaire can be regularly and safely wiped down for peak performance.

OPTICAL SYSTEM
Backlit design provides exceptional light distribution. Illumination is spread across the entire surface of the panel, emitting soft, even light. A 110-degree beam angle ensures clear, shadow-free light.

CONSTRUCTION
20-gauge cold rolled steel body, post-painted for durability. White finish standard. All corners are rounded for safe handling. Multiple wiring entrances allow for easy access.

MOUNTING
Easy to install. Mounting hardware included. Accommodates lay-in ceilings, Slot T, and T-bar suspension systems for 5/8" and 3/8" ceiling widths. Four corner tie points and built-in earthquake clips come standard. Options for flange kits, surface mounted kits, and more. SMK required if suspending the fixture.

OPTIONS
Luminaires can be shipped pre-installed with whips, modular wiring systems.

DRIVER ELECTRICAL INFORMATION
Powered by high-quality constant-current power LED drivers which are rated for 50 to 60Hz at 120/277V input. Available in 347V., produce less than 20% THD, and have a power factor of .90 to 1.00.

DIMMING & DRIVER INFORMATION
DIM10 - Flicker Free 10% Dimming Standard (DIM10) 0-10V dimming on either MVOLT 120, 277V and 347V

WARRANTY
Five-year warranty for parts and components. (Labor not included)

LISTINGS
c-UL-us - Listed for Feed Through Wiring.

Can be used to comply with Title 24, non residential lighting requirements.

Damp location rated.

For DesignLights Consortium® (DLC) qualified products please visit www.designlights.org. Not all family members will be listed for DLC Premium or DLC Standard.

Example: **14-FPL-BL-LED-2000/3000/4000L-DIM10-MVOLT-35K/40K/50K-85**

14	FPL-BL	LED							
FIXTURE SIZE	SERIES	TYPE	LUMENS	DIMMING	VOLTAGE	CCT	CRI	EMERGENCY	OTHER OPTIONS
14 - 1' X 4'	**FPL-BL** - LED Flat Panel Backlit	**LED**	**2000/3000/4000L** **4000/5000/6000L**	**DIM10** - 0-10V Dimming	**MVOLT** **347V**	**35K/40K/50K** **30K/35K/40K** ***30K/35K/40K/50K** *2000/3000/4000 lumen output Only	**85**	**0-EMG-LED-10W** **0-EMG-LED-20W**	**14FK** - 1'x4' Flange Kit **14-FPL1-LED-SMK** - 1'x4' Surface Mount Kit **USA** - Made in America Compliance

Submitted by Smith Lighting Sales, Inc.

Smith Lighting

Job Name:
Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation

Catalog Number:
14-FPL-BL-LED-2000L/3000L/4000L-DIM10-MVOLT-35K/40K/50K-85
Notes:

Type:
A1
SLSI22-5128

ORACLE LIGHTING
By Elite Lighting

14-FPL-BL-LED 1x4'

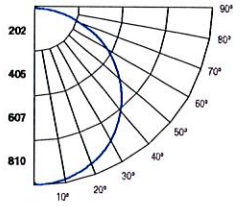
1' x 4' Architectural LED Flat Panel Backlit with Multiple Lumens and CCT

14-FPL-BL-LED-2000L-3000L-4000L-DIM10-MVOLT-35K-40K-50K-85(2000L)

TEST NO.: **EL05212053**

INPUT WATTS: **19.5** LUMENS: **2518** CRI: **N/A** EFFICACY: **129** CCT: **3500K** SPACING CRITERIA: **1.42**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	295.23	11.70	11.70
0-30	631.52	25.10	25.10
0-40	1044.53	41.50	41.50
0-60	1892.21	75.10	75.10
0-80	2420.84	96.10	96.10
0-90	2493.34	99.00	99.00

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	2135	2161	2202
55	2099	2137	2199
65	2023	2081	2171
75	1889	1976	2107
85	1802	1958	2221

Lumens Per Zone

Zone	Lumens
0-10	76.06
10-20	219.16
20-30	336.30
30-40	413.00
40-50	438.85
50-60	408.82
60-70	325.43
70-80	203.20
80-90	72.50

Candela Tabulation

	0
0.0	803.349
5.0	805.930
15.0	779.010
25.0	729.240
35.0	655.950
45.0	561.650
55.0	447.850
65.0	317.980
75.0	181.820
85.0	58.430
90.0	10.400

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

ROOM CAVITY RATIO	RC	80%				70%				50%			30%			10%			0%
	RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
	0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99
	1	108	103	98	94	105	100	96	92	96	92	89	92	89	86	88	86	84	81
	2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	76	73	69	67
	3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	67	62	58	56
	4	81	69	59	53	79	67	59	52	64	57	51	62	56	50	60	54	50	47
	5	74	61	52	45	72	60	51	45	58	50	44	55	49	43	54	48	43	41
	6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	48	42	38	35
	7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
	8	59	45	37	31	57	44	36	30	43	36	30	42	35	30	40	34	30	28
	9	55	41	33	27	54	41	33	27	40	32	27	38	32	27	37	31	27	25
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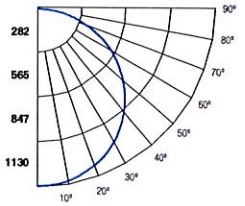
RC - Ceiling Cavity Reflectance RW - Wall Reflectance

14-FPL-BL-LED-2000L-3000L-4000L-DIM10-MVOLT-35K-40K-50K-85(3000L)

TEST NO.: **EL05212054**

INPUT WATTS: **28.6** LUMENS: **3544** CRI: **N/A** EFFICACY: **124** CCT: **3500K** SPACING CRITERIA: **1.42**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	412.89	11.60	11.60
0-30	883.24	24.90	24.90
0-40	1461.23	41.20	41.20
0-60	2657.15	75.00	75.00
0-80	3405.63	96.10	96.10
0-90	3508.52	99.00	99.00

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	3079	3060	3009
55	3079	3051	2979
65	3039	3001	2903
75	2992	2946	2800
85	3149	3087	2797

Lumens Per Zone

Zone	Lumens
0-10	106.37
10-20	306.51
20-30	470.35
30-40	578.00
40-50	618.99
50-60	576.92
60-70	459.68
70-80	288.80
80-90	102.89

Candela Tabulation

	0
0.0	1122.918
5.0	1120.680
15.0	1090.240
25.0	1027.520
35.0	934.690
45.0	809.920
55.0	656.960
65.0	477.700
75.0	288.000
85.0	102.070
90.0	24.120

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

ROOM CAVITY RATIO	RC	80%				70%				50%			30%			10%			0%
	RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
	0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99
	1	108	103	98	94	105	100	96	92	96	92	89	92	89	86	88	86	83	81
	2	98	89	82	76	95	87	80	75	83	77	73	80	75	71	76	73	69	67
	3	89	78	69	62	86	76	68	62	73	66	60	70	64	59	67	62	58	56
	4	81	68	59	52	78	67	59	52	64	57	51	62	55	50	60	54	49	47
	5	74	61	52	45	72	60	51	45	57	50	44	55	49	43	53	47	43	41
	6	68	55	46	39	66	54	45	39	52	44	38	50	43	38	48	42	37	35
	7	63	50	41	34	62	49	40	34	47	39	34	45	39	33	44	38	33	31
	8	59	45	36	30	57	44	36	30	43	35	30	42	35	30	40	34	30	28
	9	55	41	33	27	54	41	33	27	39	32	27	38	32	27	37	31	27	25
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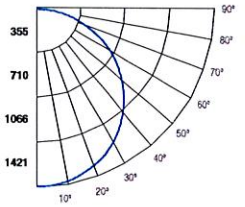
RC - Ceiling Cavity Reflectance RW - Wall Reflectance

14-FPL-BL-LED-2000L-3000L-4000L-DIM10-MVOLT-35K-40K-50K-85(4000L)

TEST NO.: **EL05212055**

INPUT WATTS: **37.6** LUMENS: **4446** CRI: **N/A** EFFICACY: **118** CCT: **3500K** SPACING CRITERIA: **1.42**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	518.92	11.70	11.70
0-30	1110.06	25.00	25.00
0-40	1836.14	41.30	41.30
0-60	3331.78	74.90	74.90
0-80	4271.49	96.10	96.10
0-90	4400.83	99.00	99.00

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	3874	3845	3781
55	3876	3835	3744
65	3819	3774	3648
75	3747	3703	3516
85	3938	3879	3521

Lumens Per Zone

Zone	Lumens
0-10	133.70
10-20	385.22
20-30	591.14
30-40	726.08
40-50	771.67
50-60	723.97
60-70	577.59
70-80	362.13
80-90	129.33

Candela Tabulation

	0
0.0	1411.47
5.0	1409.09
15.0	1370.45
25.0	1292.69
35.0	1175.56
45.0	1018.98
55.0	826.93
65.0	600.30
75.0	360.73
85.0	127.65
90.0	30.56

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

ROOM CAVITY RATIO	RC	80%				70%				50%			30%			10%			0%
	RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
	0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99
	1	108	103	98	94	105	100	96	92	96	92	89	92	89	86	88	86	83	81
	2	98	89	82	76	95	87	80	75	83	77	73	80	75	71	76	73	69	67
	3	89	78	69	62	86	76	68	62	73	66	60	70	64	59	67	62	58	56
	4	81	68	59	52	78	67	59	52	64	57	51	62	55	50	60	54	49	47
	5	74	61	52	45	72	60	51	45	57	50	44	55	49	43	53	48	43	41
	6	68	55	46	39	66	54	45	39	52	44	38	50	43	38	48	42	37	35
	7	63	50	41	34	62	49	40	34	47	39	34	45	39	33	44	38	33	31
	8	59	45	36	30	57	44	36	30	43	35	30	42	35	30	40	34	30	28
	9	55	41	33	27	54	41	33	27	39	32	27	38	32	27	37	31	27	25
	10	52	38	30	25	50	38	30	25	36	29	24	35	29	24	34	28	24	22

RC - Ceiling Cavity Reflectance RW - Wall Reflectance

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

ORACLE LIGHTING
By Elite Lighting

14-FPL-BL-LED 1x4'

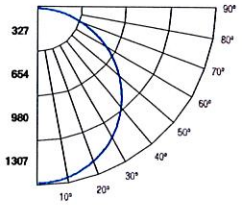
1' x 4' Architectural LED Flat Panel Backlit with Multiple Lumens and CCT

14-FPL-BL-LED-4000L-5000L-6000L-DIM10-120-347V-35K-40K-50K-85(4000L)

TEST NO.: **EL10052021**

INPUT WATTS: **32.9** LUMENS: **4030** CRI: **N/A** EFFICACY: **123** CCT: **3500K** SPACING CRITERIA: **1.42**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	475.33	11.80	11.80
0-30	1015.44	25.20	25.20
0-40	1676.87	41.60	41.60
0-60	3034.39	75.30	75.30
0-80	3878.53	96.20	96.20
0-90	3990.81	99.00	99.00

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	3490	3408	3351
55	3453	3341	3275
65	3362	3218	3132
75	3221	3027	2921
85	3013	2684	2607

Lumens Per Zone

Zone	Lumens
0-10	122.55
10-20	352.78
20-30	540.11
30-40	661.43
40-50	702.46
50-60	655.06
60-70	519.41
70-80	324.73
80-90	112.28

Candela Tabulation

	0
0.0	1294.258
5.0	1291.200
15.0	1254.060
25.0	1178.620
35.0	1066.140
45.0	917.990
55.0	736.610
65.0	528.550
75.0	310.130
85.0	97.680
90.0	9.990

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99
1	108	103	98	94	105	100	96	92	96	92	89	92	89	86	88	86	84	81
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3	89	78	69	63	86	76	68	62	73	66	61	70	64	59	67	62	58	56
4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	54	50	47
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	48	42	38	36
7	64	50	41	34	62	49	40	34	47	40	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	31	43	36	30	42	35	30	41	34	30	28
9	55	42	33	27	54	41	33	27	40	32	27	38	32	27	37	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

ROOM CAVITY RATIO

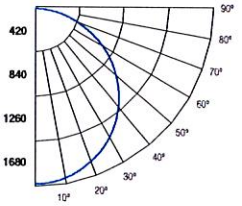
RC - Ceiling Cavity Reflectance RW - Wall Reflectance

14-FPL-BL-LED-4000L-5000L-6000L-DIM10-120-347V-35K-40K-50K-85(5000L)

TEST NO.: **EL10052023**

INPUT WATTS: **43.8** LUMENS: **5188** CRI: **N/A** EFFICACY: **118** CCT: **3500K** SPACING CRITERIA: **1.42**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	612.91	11.80	11.80
0-30	1309.37	25.20	25.20
0-40	2162.12	41.70	41.70
0-60	3904.4	75.30	75.30
0-80	4991.7	96.20	96.20
0-90	5136.44	99.00	99.00

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	4500	4394	4323
55	4452	4314	4222
65	4331	4143	4033
75	4117	3888	3757
85	3881	3454	3363

Lumens Per Zone

Zone	Lumens
0-10	158.04
10-20	454.87
20-30	696.47
30-40	852.75
40-50	902.70
50-60	839.58
60-70	669.70
70-80	417.60
80-90	144.74

Candela Tabulation

	0
0.0	1668.922
5.0	1664.420
15.0	1617.070
25.0	1518.530
35.0	1372.330
45.0	1183.690
55.0	949.770
65.0	680.820
75.0	396.320
85.0	125.810
90.0	14.590

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99
1	108	103	98	94	105	100	96	92	96	92	89	92	89	86	88	86	84	81
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	69	67
3	89	78	69	63	86	76	68	62	73	66	61	70	64	59	67	62	58	56
4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	54	50	47
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39	50	43	38	48	42	38	36
7	64	50	41	34	62	49	40	34	47	40	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	31	43	36	30	42	35	30	41	34	30	28
9	55	42	33	28	54	41	33	27	40	32	27	38	32	27	37	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

ROOM CAVITY RATIO

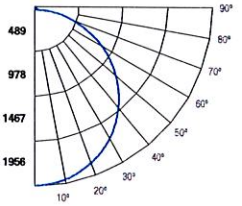
RC - Ceiling Cavity Reflectance RW - Wall Reflectance

14-FPL-BL-LED-4000L-5000L-6000L-DIM10-120-347V-35K-40K-50K-85(6000L)

TEST NO.: **EL10052024**

INPUT WATTS: **52.8** LUMENS: **6029** CRI: **N/A** EFFICACY: **114** CCT: **3500K** SPACING CRITERIA: **1.42**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	712.60	11.80	11.80
0-30	1522.48	25.30	25.30
0-40	2514.23	41.70	41.70
0-60	4537.76	75.30	75.30
0-80	5800.63	96.20	96.20
0-90	5969.04	99.00	99.00

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	5236	5111	5028
55	5180	5022	4909
65	5051	4824	4690
75	4778	4490	4331
85	4519	4024	3908

Lumens Per Zone

Zone	Lumens
0-10	183.77
10-20	528.83
20-30	809.89
30-40	991.75
40-50	1049.78
50-60	973.75
60-70	777.62
70-80	485.23
80-90	168.42

Candela Tabulation

	0
0.0	1940.358
5.0	1935.200
15.0	1881.690
25.0	1767.720
35.0	1600.880
45.0	1377.130
55.0	1105.140
65.0	793.950
75.0	459.970
85.0	146.500
90.0	17.110

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99
1	108	103	98	94	105	100	96	92	96	92	89	92	89	86	88	86	84	81
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	69	67
3	89	78	69	63	86	76	68	62	73	66	61	70	64	59	67	62	58	56
4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	54	50	47
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39	50	43	38	49	42	38	36
7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	31	43	36	30	42	35	30	41	34	30	28
9	55	42	33	28	54	41	33	27	40	32	27	39	32	27	37	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

ROOM CAVITY RATIO

RC - Ceiling Cavity Reflectance RW - Wall Reflectance

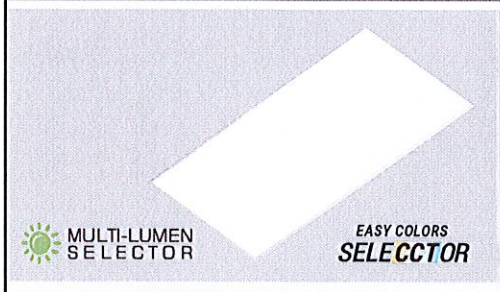
Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** 24-FPL-BL-LED-3000L/4000L/5000L-DIM10-MVOLT-35K/40K/50K-85 Notes:	**Type:** A2 SLSI22-5128

ORACLE LIGHTING
By Elite Lighting

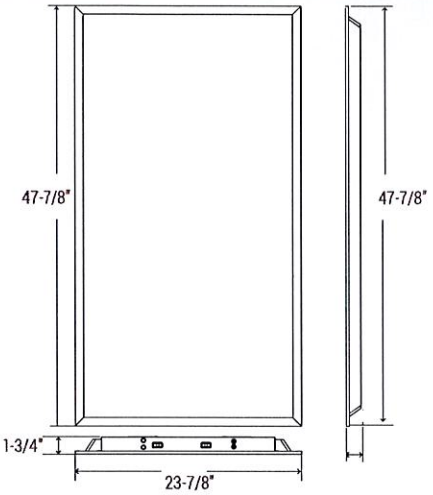
24-FPL-BL-LED

2' x 4' Architectural LED Flat Panel Backlit with Multiple Lumens and CCT

2'x4'







FEATURES

The clean design of the FPL-BL provides a modern alternative to traditional fluorescent troffers. Available in 1x4, 2x2, and 2x4. Backlit design delivers unmatchable uniform light distribution. Easily adjust brightness level (multi-lumen) and color options (multi-CCT) in the field with multi-lumen and multi-CCT selectors. Perfect for offices, schools, healthcare, hospital, retail, among other applications.

LUMENS	2000/3000/4000 3000/4000/5000 4000/5000/6000 6000/7000/8000 3000/4000/5000/6000 5000/6000/7000/8000
CCT	35K/ 40K/ 50K 30K/ 35K/ 40K 30K/35K/40K/50K
CRI	85+
COLOR QUALITY	3 Step MacAdam Ellipse
SIZE	2'x4', 2'x2', 1'x4'
MOUNTING	Recessed, Suspended, Surface Mount
DIMMING & CONTROL	0-10V Flicker Free 10% Dimming Standard (DIM10)
EMERGENCY	10W - Up to 1000L output (Bodine BSL310) 20W - Up to 2000L output (Bodine BSL20)
LIFETIME	L70 at 60,000 Hours
PHOTOMETRIC TESTS	In Accordance with IES LM79-08, LM80 and TM-30, TM-21

6000/7000/8000

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
8000	7372	54W
7000	7097	52W
6000	6106	44W

Based on 4000K, 85+ CRI. Actual wattage may vary +/- 5%

4000/5000/6000

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
6000	6365	56W
5000	5652	48W
4000	4642	38W

Based on 4000K, 85+ CRI. Actual wattage may vary +/- 5%

3000/4000/5000

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
5000	5435	49W
4000	4814	39W
3000	3799	30W

Based on 4000K, 85+ CRI. Actual wattage may vary +/- 5%

5000/6000/7000/8000

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
8000	7372	54W
7000	7097	52W
6000	6106	44W
5000	5652	41W

Based on 4000K, 85+ CRI. Actual wattage may vary +/- 5%

3000/4000/5000/6000

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
6000	6106	51W
5000	5435	41W
4000	4814	33W
3000	3799	23W

Based on 4000K, 85+ CRI. Actual wattage may vary +/- 5%

IC RATED · DLC · c UL us LISTED · TITLE 24 · PROUDLY ASSEMBLED in AMERICA · QUICKSHIP CONSULT FACTORY · 5 YEARS LIMITED WARRANTY · DAMP LOCATION

elite LED LIGHTING

www.iuseelite.com

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.
031824

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** 24-FPL-BL-LED-3000L/4000L/5000L-DIM10-MVOLT-35K/40K/50K-85 Notes:	**Type:** A2 SLSI22-5128

ORACLE LIGHTING
By Elite Lighting

24-FPL-BL-LED 2'x4'

2' x 4' Architectural LED Flat Panel Backlit with Multiple Lumens and CCT

MAINTENANCE
The driver is removable and upgradable even after installation. Luminaire can be regularly and safely wiped down for peak performance.

OPTICAL SYSTEM
Backlit design provides exceptional light distribution. Illumination is spread across the entire surface of the panel, emitting soft, even light. A 110-degree beam angle ensures clear, shadow-free light.

CONSTRUCTION
20-gauge cold rolled steel body, post-painted for durability. White finish standard. All corners are rounded for safe handling. Multiple wiring entrances allow for easy access.

MOUNTING
Easy to install. Mounting hardware included. Accommodates lay-in ceilings, Slot T, and T-bar suspension systems for 5/8" and 3/8" ceiling widths. Four corner tie points and built-in earthquake clips come standard. Options for flange kits, surface mounted kits, and more. SMK required if suspending the fixture.

OPTIONS
Luminaires can be shipped pre-installed with whips, modular wiring systems.

DRIVER ELECTRICAL INFORMATION
Powered by high-quality constant-current power LED drivers which are rated for 50 to 60Hz at 120/277V input. Available in 347V., produce less than 20% THD, and have a power factor of .90 to 1.00.

DIMMING & DRIVER INFORMATION
DIM10 - Flicker Free 10% Dimming Standard (DIM10) 0-10V dimming on either MVOLT 120, 277V and 347V

WARRANTY
Five-year warranty for parts and components. (Labor not included)

LISTINGS
c-UL-us - Listed for Feed Through Wiring.
Can be used to comply with Title 24, non residential lighting requirements.
Damp location rated.
For DesignLights Consortium® (DLC) qualified products please visit www.designlights.org. Not all family members will be listed for DLC Premium or DLC Standard.

Example: **24-FPL-BL-LED-3000L/4000L/5000L-DIM10-MVOLT-35K/40K/50K-85**

24	FPL-BL	LED								
FIXTURE SIZE	SERIES	TYPE	LUMENS	DIMMING	VOLTAGE	CCT	CRI	EMERGENCY	OTHER OPTIONS
24 - 2' X 4'	**FPL-BL** - LED Flat Panel Backlit	**LED**	**3000L/4000L/5000L** **4000L/5000L/6000L** **6000L/7000L/8000L** *3000L/4000L/5000L/6000L *5000L/6000L/7000L/8000L	**DIM10** - 0-10V Dimming	**MVOLT** 120-347V 347V	**35K/40K/50K** **30K/35K/40K** ***30K/35K/40K/50K** *Available for 3000/4000/5000/6000 *5000/6000/7000/8000 lumen output & MVOLT Only	**85**	**0-EMG-LED-10W** **0-EMG-LED-20W** **0-EMG-LED-10W-347**	**24FK** - 2'x4' Flange Kit **24-FPL1-LED-SMK** - 2'x4' Surface Mount Kit **USA** - Made in America Compliance **AM** - Antimicrobial

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** 24-FPL-BL-LED-3000L/4000L/5000L-DIM10-MVOLT-35K/40K/50K-85 Notes:	**Type:** A2 SLSI22-5128

ORACLE LIGHTING By Elite Lighting

24-FPL-BL-LED 2'x4'

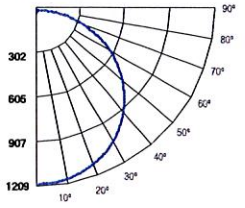
2' x 4' Architectural LED Flat Panel Backlit with Multiple Lumens and CCT

24-FPL-BL-LED-3000L-4000L-5000L-DIM10-MVOLT-35K-40K-50K-85(3000L)

TEST NO.: EL05212055

INPUT WATTS: **30** LUMENS: **3799** CRI: **85** EFFICACY: **127** CCT: **40K** SPACING CRITERIA: **1.42**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	442.34	11.60	11.60
0-30	946.75	24.90	24.90
0-40	1567.01	41.30	41.20
0-60	2851.05	75.10	75.10
0-80	3655.98	96.20	96.20
0-90	3766.15	99.10	99.10

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	1622	1632	1651
55	1607	1623	1651
65	1564	1588	1633
75	1501	1532	1609
85	1509	1557	1701

Lumens Per Zone

Zone	Lumens
0-10	113.92
10-20	328.42
20-30	504.42
30-40	620.26
40-50	663.13
50-60	620.91
60-70	494.75
70-80	310.17
80-90	110.18

Candela Tabulation

	0
0	1202.581
5	1202.100
15	1165.530
25	1095.690
35	991.390
45	853.220
55	685.790
65	491.790
75	289.080
85	97.830
90	22.650

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99
1	108	103	98	94	105	100	96	92	96	92	89	92	89	86	88	86	84	81
2	98	89	82	76	96	87	80	75	83	78	73	80	75	71	76	73	69	67
3	89	78	69	62	86	76	68	62	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	59	52	64	57	51	62	55	50	60	54	50	47
5	74	61	52	45	72	60	51	45	58	50	44	55	49	43	53	48	43	41
6	68	55	46	39	66	54	45	39	52	44	38	50	43	38	48	42	37	35
7	63	50	41	34	62	49	40	34	47	39	34	45	39	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	42	35	30	40	34	30	28
9	55	41	33	27	54	41	33	27	39	32	27	38	32	27	37	31	27	25
10	52	38	30	25	50	38	30	25	36	29	24	35	29	24	34	28	24	22

ROOM CAVITY RATIO

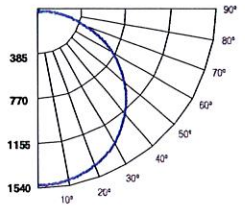
RC - Ceiling Cavity Reflectance RW - Wall Reflectance

24-FPL-BL-LED-3000L-4000L-5000L-DIM10-MVOLT-35K-40K-50K-85(4000L)

TEST NO.: EL05212058

INPUT WATTS: **38.9** LUMENS: **4814** CRI: **85** EFFICACY: **124** CCT: **40K** SPACING CRITERIA: **1.42**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	563.96	11.70	11.70
0-30	1206.55	25.10	25.10
0-40	1996.13	41.50	41.50
0-60	3620.21	75.20	75.20
0-80	4636.73	96.30	96.30
0-90	4773.11	99.10	99.10

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	2075	2078	2083
55	2060	2064	2072
65	2011	2017	2030
75	1924	1935	1939
85	1982	1960	1943

Lumens Per Zone

Zone	Lumens
0-10	145.29
10-20	418.67
20-30	642.59
30-40	789.57
40-50	839.30
50-60	784.79
60-70	626.73
70-80	389.79
80-90	136.38

Candela Tabulation

	0
0	1534.167
5	1532.450
15	1488.220
25	1399.400
35	1266.570
45	1091.670
55	879.130
65	632.160
75	370.530
85	128.500
90	31.130

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99
1	108	103	98	94	105	100	96	92	96	92	89	92	89	86	88	86	84	81
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	69	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	67	62	58	56
4	81	69	59	52	79	67	59	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	45	58	50	44	56	49	43	54	48	43	41
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7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
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ROOM CAVITY RATIO

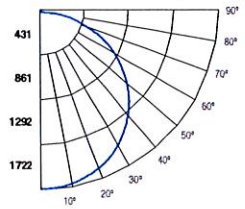
RC - Ceiling Cavity Reflectance RW - Wall Reflectance

24-FPL-BL-LED-3000L-4000L-5000L-DIM10-MVOLT-35K-40K-50K-85(5000L)

TEST NO.: **EL01102031**

INPUT WATTS: **49.1** LUMENS: **5435** CRI: **N/A** EFFICACY: **111** CCT: **3500K** SPACING CRITERIA: **1.42**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	631.16	11.60	11.60
0-30	1351.00	24.90	24.90
0-40	2236.37	41.10	41.10
0-60	4059.28	74.70	74.70
0-80	5211.67	95.90	95.90
0-90	5372.62	98.90	98.90

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	2356	2282	2254
55	2342	2245	2209
65	2303	2157	2111
75	2204	2005	1945
85	2305	1835	1732

Lumens Per Zone

Zone	Lumens
0-10	162.56
10-20	468.61
20-30	719.83
30-40	885.37
40-50	942.46
50-60	880.45
60-70	708.05
70-80	444.34
80-90	160.95

Candela Tabulation

	0
0.0	1716.424
5.0	1715.660
15.0	1667.880
25.0	1572.350
35.0	1429.560
45.0	1239.330
55.0	999.370
65.0	724.000
75.0	424.450
85.0	149.450
90.0	30.110

Coefficients of Utilization - Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	110	110	110	106	106	106	101	101	101	99
1	108	103	98	94	105	100	96	92	96	92	89	91	89	86	88	85	83	81
2	97	89	82	75	95	87	80	74	83	77	73	79	75	71	76	72	69	67
3	89	78	69	62	86	76	68	62	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	52	64	57	51	62	55	50	59	54	49	47
5	74	61	52	45	72	60	51	44	57	50	44	55	49	43	53	47	43	40
6	68	55	45	39	66	54	45	39	52	44	38	50	43	38	48	42	37	35
7	63	49	40	34	61	49	40	34	47	39	34	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	42	35	30	40	34	29	27
9	55	41	33	27	53	41	33	27	39	32	27	38	32	27	37	31	27	25
10	52	38	30	25	50	37	30	25	36	29	24	35	29	24	34	28	24	22

ROOM CAVITY RATIO

RC - Ceiling Cavity Reflectance

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

ORACLE LIGHTING
By Elite Lighting

24-FPL-BL-LED 2'x4'

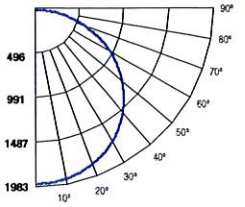
2' x 4' Architectural LED Flat Panel Backlit with Multiple Lumens and CCT

24-FPL-BL-LED-6000L-7000L-8000L-DIM10-120-347V-35K-40K-50K-85(6000L)

TEST NO.: **EL10062037**

INPUT WATTS: **44.6** LUMENS: **6106** CRI: **90** EFFICACY: **137** CCT: **3500K** SPACING CRITERIA: **1.42**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	721.55	11.8	11.8
0-30	1541.68	25.2	25.2
0-40	2546.43	41.7	41.7
0-60	4598.4	75.3	75.3
0-80	5881.45	96.3	96.3
0-90	6052.98	99.1	99.1

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	2543	2548	2588
55	2479	2479	2538
65	2347	2350	2437
75	2126	2116	2251
85	1742	1631	1872

Lumens Per Zone

Zone	Lumens
0-10	186.06
10-20	535.49
20-30	820.13
30-40	1004.75
40-50	1064.21
50-60	987.75
60-70	789.42
70-80	493.64
80-90	171.53

Candela Tabulation

Ω	
0	1964.883
5	1957.76
15	1889.73
25	1760.75
35	1578.3
45	1337.47
55	1057.6
65	738
75	409.42
85	112.92
90	5.17

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99
1	108	103	98	94	105	100	96	92	96	92	89	92	89	86	88	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	69	67
3	89	78	69	63	86	76	68	62	73	66	61	70	64	59	67	62	58	56
4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	54	50	47
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	40	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	31	43	36	30	42	35	30	41	34	30	28
9	55	42	33	28	54	41	33	27	40	32	27	39	32	27	37	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

ROOM CAVITY RATIO

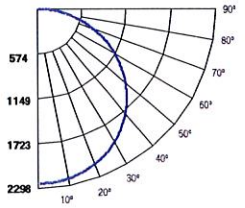
RC - Ceiling Cavity Reflectance *RW - Wall Reflectance*

24-FPL-BL-LED-6000L-7000L-8000L-DIM10-120-347V-35K-40K-50K-85(7000L)

TEST NO.: **EL10062038**

INPUT WATTS: **52.5** LUMENS: **7097** CRI: **90** EFFICACY: **135** CCT: **3500K** SPACING CRITERIA: **1.42**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	839.21	11.8	11.8
0-30	1793.12	25.3	25.3
0-40	2961.49	41.7	41.7
0-60	5347.8	75.3	75.3
0-80	6836.23	96.3	96.3
0-90	7035.74	99.1	99.1

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	2961	2964	3011
55	2882	2881	2951
65	2728	2729	2840
75	2470	2464	2608
85	2016	1887	2164

Lumens Per Zone

Zone	Lumens
0-10	216.36
10-20	622.85
20-30	953.91
30-40	1168.37
40-50	1237.65
50-60	1148.66
60-70	914.74
70-80	573.7
80-90	199.5

Candela Tabulation

Ω	
0	2285.622
5	2281.64
15	2197.82
25	2046.97
35	1832.77
45	1557.51
55	1229.75
65	857.6
75	475.57
85	130.7
90	6.32

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99
1	108	103	98	94	105	100	96	92	96	92	89	92	89	86	88	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	69	67
3	89	78	69	63	86	76	68	62	73	66	61	70	64	59	67	62	58	56
4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	54	50	48
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7	64	50	41	34	62	49	40	34	47	40	34	46	39	34	44	38	33	31
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ROOM CAVITY RATIO

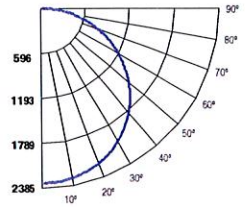
RC - Ceiling Cavity Reflectance *RW - Wall Reflectance*

24-FPL-BL-LED-6000L-7000L-8000L-DIM10-120-347V-35K-40K-50K-85(8000L)

TEST NO.: **EL10062039**

INPUT WATTS: **54.9** LUMENS: **7372** CRI: **90** EFFICACY: **134** CCT: **3500K** SPACING CRITERIA: **1.42**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	871.97	11.8	11.8
0-30	1863.06	25.3	25.3
0-40	3077.02	41.7	41.7
0-60	5555.72	75.4	75.4
0-80	7100.43	96.3	96.3
0-90	7307.22	99.1	99.1

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	3074	3077	3129
55	2987	2995	3071
65	2835	2840	2946
75	2568	2561	2715
85	2082	1956	2258

Lumens Per Zone

Zone	Lumens
0-10	224.85
10-20	647.12
20-30	991.09
30-40	1213.96
40-50	1285.64
50-60	1193.06
60-70	949.21
70-80	595.5
80-90	206.79

Candela Tabulation

Ω	
0	2375.637
5	2365.44
15	2281.58
25	2127.85
35	1904.24
45	1617.11
55	1274.74
65	891.34
75	494.42
85	135
90	6.53

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99
1	108	103	98	94	105	100	96	92	96	93	89	92	89	86	88	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	69	67
3	89	78	69	63	86	76	68	62	73	66	61	70	64	59	67	62	58	56
4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	54	50	48
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6	69	55	46	39	67	54	45	39	52	44	39	50	43	38	49	42	38	36
7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	44	38	33	31
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9	55	42	33	28	54	41	33	27	40	32	27	39	32	27	37	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

ROOM CAVITY RATIO

RC - Ceiling Cavity Reflectance *RW - Wall Reflectance*

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** 24-FPL-BL-LED-3000L/4000L/5000L-DIM10-MVOLT-35K/40K/50K-85-O-EMG-LED-10W Notes:	**Type:** A2E SLSI22-5128

ORACLE LIGHTING
By Elite Lighting

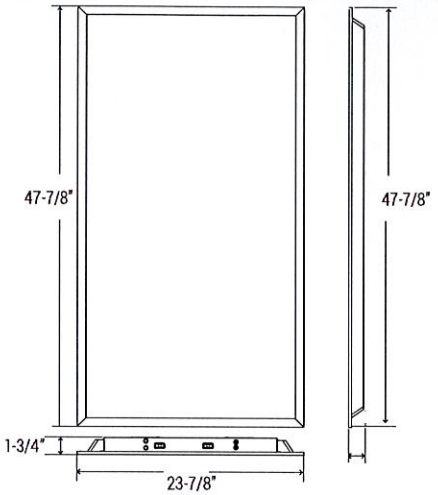
24-FPL-BL-LED

2' x 4' Architectural LED Flat Panel Backlit with Multiple Lumens and CCT

2'x4'







FEATURES

The clean design of the FPL-BL provides a modern alternative to traditional fluorescent troffers. Available in 1x4, 2x2, and 2x4. Backlit design delivers unmatchable uniform light distribution. Easily adjust brightness level (multi-lumen) and color options (multi-CCT) in the field with multi-lumen and multi-CCT selectors. Perfect for offices, schools, healthcare, hospital, retail, among other applications.

LUMENS	2000/3000/4000 3000/4000/5000 4000/5000/6000 6000/7000/8000	3000/4000/5000/6000 5000/6000/7000/8000
CCT	35K/ 40K/ 50K 30K/ 35K/ 40K 30K/35K/40K/50K	
CRI	85+	
COLOR QUALITY	3 Step MacAdam Ellipse	
SIZE	2'x4', 2'x2', 1'x4'	
MOUNTING	Recessed, Suspended, Surface Mount	
DIMMING & CONTROL	0-10V Flicker Free 10% Dimming Standard (DIM10)	
EMERGENCY	10W - Up to 1000L output (Bodine BSL310) 20W - Up to 2000L output (Bodine BSL20)	
LIFETIME	L70 at 60,000 Hours	
PHOTOMETRIC TESTS	In Accordance with IES LM79-08, LM80 and TM-30, TM-21	

6000/7000/8000

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
8000	7372	54W
7000	7097	52W
6000	6106	44W

Based on 4000K, 85+ CRI. Actual wattage may vary +/- 5%

4000/5000/6000

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
6000	6365	56W
5000	5652	48W
4000	4642	38W

Based on 4000K, 85+ CRI. Actual wattage may vary +/- 5%

3000/4000/5000

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
5000	5435	49W
4000	4814	39W
3000	3799	30W

Based on 4000K, 85+ CRI. Actual wattage may vary +/- 5%

5000/6000/7000/8000

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
8000	7372	54W
7000	7097	52W
6000	6106	44W
5000	5652	41W

Based on 4000K, 85+ CRI. Actual wattage may vary +/- 5%

3000/4000/5000/6000

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
6000	6106	51W
5000	5435	41W
4000	4814	33W
3000	3799	23W

Based on 4000K, 85+ CRI. Actual wattage may vary +/- 5%

IC RATED · DLC QPL LISTED · c UL us LISTED · TITLE 24 · PROUDLY ASSEMBLED in AMERICA · QUICKSHIP CONSULT FACTORY · 5 YEARS LIMITED WARRANTY · DAMP LOCATION

ORACLE LIGHTING
By Elite Lighting

24-FPL-BL-LED 2'x4'

2' x 4' Architectural LED Flat Panel Backlit with Multiple Lumens and CCT

MAINTENANCE
The driver is removable and upgradable even after installation. Luminaire can be regularly and safely wiped down for peak performance.

OPTICAL SYSTEM
Backlit design provides exceptional light distribution. Illumination is spread across the entire surface of the panel, emitting soft, even light. A 110-degree beam angle ensures clear, shadow-free light.

CONSTRUCTION
20-gauge cold rolled steel body, post-painted for durability. White finish standard. All corners are rounded for safe handling. Multiple wiring entrances allow for easy access.

MOUNTING
Easy to install. Mounting hardware included. Accommodates lay-in ceilings, Slot T, and T-bar suspension systems for 5/8" and 3/8" ceiling widths. Four corner tie points and built-in earthquake clips come standard. Options for flange kits, surface mounted kits, and more. SMK required if suspending the fixture.

OPTIONS
Luminaires can be shipped pre-installed with whips, modular wiring systems.

DRIVER ELECTRICAL INFORMATION
Powered by high-quality constant-current power LED drivers which are rated for 50 to 60Hz at 120/277V input. Available in 347V., produce less than 20% THD, and have a power factor of .90 to 1.00.

DIMMING & DRIVER INFORMATION
DIM10 - Flicker Free 10% Dimming Standard (DIM10) 0-10V dimming on either MVOLT 120, 277V and 347V

WARRANTY
Five-year warranty for parts and components. (Labor not included)

LISTINGS
c-UL-us - Listed for Feed Through Wiring.
Can be used to comply with Title 24, non residential lighting requirements.
Damp location rated.
For DesignLights Consortium® (DLC) qualified products please visit www.designlights.org. Not all family members will be listed for DLC Premium or DLC Standard.

Example: **24-FPL-BL-LED-3000L/4000L/5000L-DIM10-MVOLT-35K/40K/50K-85**

24	FPL-BL	LED							
FIXTURE SIZE	SERIES	TYPE	LUMENS	DIMMING	VOLTAGE	CCT	CRI	EMERGENCY	OTHER OPTIONS
24 - 2' X 4'	**FPL-BL** - LED Flat Panel Backlit	**LED**	**3000L/4000L/5000L** **4000L/5000L/6000L** **6000L/7000L/8000L** *3000L/4000L/5000L/6000L *5000L/6000L/7000L/8000L	**DIM10** - 0-10V Dimming	**MVOLT** 120-347V 347V	**35K/40K/50K** **30K/35K/40K** ***30K/35K/40K/50K** *Available for 3000/4000/5000/6000 *5000/6000/7000/8000 lumen output & MVOLT Only	**85**	**O-EMG-LED-10W** **O-EMG-LED-20W** **O-EMG-LED-10W-347**	**24FK** - 2'x4' Flange Kit **24-FPL1-LED-SMK** - 2'x4' Surface Mount Kit **USA** - Made in America Compliance **AM** - Antimicrobial

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** 24-FPL-BL-LED-3000L/4000L/5000L-DIM10-MVOLT-35K/40K/50K-85-O-EMG-LED-10W Notes:	**Type:** **A2E** SLSI22-5128

ORACLE LIGHTING
By Elite Lighting

24-FPL-BL-LED 2'x4'

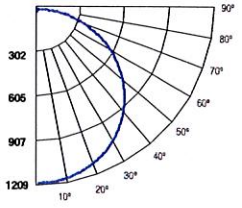
2' x 4' Architectural LED Flat Panel Backlit with Multiple Lumens and CCT

24-FPL-BL-LED-3000L-4000L-5000L-DIM10-MVOLT-35K-40K-50K-85(3000L)

TEST NO.: EL05212055

INPUT WATTS: **30** LUMENS: **3799** CRI: **85** EFFICACY: **127** CCT: **40K** SPACING CRITERIA: **1.42**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	442.34	11.60	11.60
0-30	946.75	24.90	24.90
0-40	1567.01	41.30	41.20
0-60	2851.05	75.10	75.10
0-80	3655.98	96.20	96.20
0-90	3766.15	99.10	99.10

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	1622	1632	1651
55	1607	1623	1651
65	1564	1588	1633
75	1501	1532	1609
85	1509	1557	1701

Lumens Per Zone

Zone	Lumens
0-10	113.92
10-20	328.42
20-30	504.42
30-40	620.26
40-50	663.13
50-60	620.91
60-70	494.75
70-80	310.17
80-90	110.18

Candela Tabulation

	0
0	1202.581
5	1202.100
15	1165.530
25	1095.690
35	991.390
45	853.220
55	685.790
65	491.790
75	289.080
85	97.830
90	22.650

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99
1	108	103	98	94	105	100	96	92	96	92	89	92	89	86	88	86	84	81
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	76	73	69	67
3	89	78	69	62	86	76	68	62	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	59	52	64	57	51	62	55	50	60	54	50	47
5	74	61	52	45	72	60	51	45	58	50	44	55	49	43	53	48	43	41
6	68	55	46	39	66	54	45	39	52	44	38	50	43	38	48	42	37	35
7	63	50	41	34	62	49	40	34	47	39	34	45	39	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	42	35	30	40	34	30	28
9	55	41	33	27	54	41	33	27	39	32	27	38	32	27	37	31	27	25
10	52	38	30	25	50	38	30	25	36	29	24	35	29	24	34	28	24	22

ROOM CAVITY RATIO

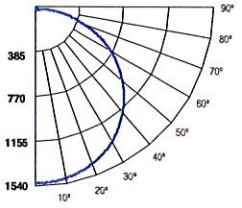
RC - Ceiling Cavity Reflectance RW - Wall Reflectance

24-FPL-BL-LED-3000L-4000L-5000L-DIM10-MVOLT-35K-40K-50K-85(4000L)

TEST NO.: EL05212058

INPUT WATTS: **38.9** LUMENS: **4814** CRI: **85** EFFICACY: **124** CCT: **40K** SPACING CRITERIA: **1.42**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	563.96	11.70	11.70
0-30	1206.55	25.10	25.10
0-40	1996.13	41.50	41.50
0-60	3620.21	75.20	75.20
0-80	4636.73	96.30	96.30
0-90	4773.11	99.10	99.10

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	2075	2078	2083
55	2060	2064	2072
65	2011	2017	2030
75	1924	1935	1939
85	1982	1960	1943

Lumens Per Zone

Zone	Lumens
0-10	145.29
10-20	418.67
20-30	642.59
30-40	789.57
40-50	839.30
50-60	784.79
60-70	626.73
70-80	389.79
80-90	136.38

Candela Tabulation

	0
0	1534.167
5	1532.450
15	1488.220
25	1399.400
35	1266.570
45	1091.670
55	879.130
65	632.160
75	370.530
85	128.500
90	31.130

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99
1	108	103	98	94	105	100	96	92	96	92	89	92	89	86	88	86	84	81
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	69	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	67	62	58	56
4	81	69	59	52	79	67	59	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	45	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	48	42	38	35
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
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9	55	41	33	27	54	41	33	27	40	32	27	38	32	27	37	31	27	25
10	52	38	30	25	50	38	30	25	37	29	25	36	29	24	35	29	24	22

ROOM CAVITY RATIO

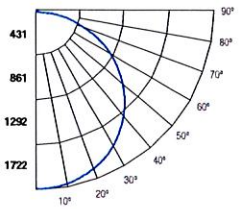
RC - Ceiling Cavity Reflectance RW - Wall Reflectance

24-FPL-BL-LED-3000L-4000L-5000L-DIM10-MVOLT-35K-40K-50K-85(5000L)

TEST NO.: **EL01102031**

INPUT WATTS: **49.1** LUMENS: **5435** CRI: **N/A** EFFICACY: **111** CCT: **3500K** SPACING CRITERIA: **1.42**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	631.16	11.60	11.60
0-30	1351.00	24.90	24.90
0-40	2236.37	41.10	41.10
0-60	4059.28	74.70	74.70
0-80	5211.67	95.90	95.90
0-90	5372.62	98.90	98.90

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	2356	2282	2254
55	2342	2245	2209
65	2303	2157	2111
75	2204	2005	1945
85	2305	1835	1732

Lumens Per Zone

Zone	Lumens
0-10	162.56
10-20	468.61
20-30	719.83
30-40	885.37
40-50	942.46
50-60	880.45
60-70	708.05
70-80	444.34
80-90	160.95

Candela Tabulation

	0
0.0	1716.424
5.0	1715.660
15.0	1667.880
25.0	1572.350
35.0	1429.560
45.0	1239.330
55.0	999.370
65.0	724.000
75.0	424.450
85.0	149.450
90.0	30.110

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC	80%				70%				50%			30%			10%			0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	110	110	110	106	106	106	101	101	101	99
1	108	103	98	94	105	100	96	92	96	92	89	91	89	86	88	85	83	81
2	97	89	82	75	95	87	80	74	83	77	73	79	75	71	76	72	69	67
3	89	78	69	62	86	76	68	62	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	52	64	57	51	62	55	50	59	54	49	47
5	74	61	52	45	72	60	51	44	57	50	44	55	49	43	53	47	43	40
6	68	55	45	39	66	54	45	39	52	44	38	50	43	38	48	42	37	35
7	63	49	40	34	61	49	40	34	47	39	34	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	42	35	30	40	34	29	27
9	55	41	33	27	53	41	33	27	39	32	27	38	32	27	37	31	27	25
10	52	38	30	25	50	37	30	25	36	29	24	35	29	24	34	28	24	22

ROOM CAVITY RATIO

RC - Ceiling Cavity Reflectance

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** 24-FPL-BL-LED-3000L/4000L/5000L-DIM10-MVOLT-35K/40K/50K-85-O-EMG-LED-10W Notes:	**Type:** A2E SLSI22-5128

ORACLE LIGHTING By Elite Lighting

24-FPL-BL-LED 2'x4'

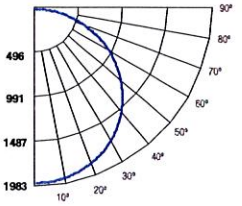
2' x 4' Architectural LED Flat Panel Backlit with Multiple Lumens and CCT

24-FPL-BL-LED-6000L-7000L-8000L-DIM10-120-347V-35K-40K-50K-85(6000L)

TEST NO.: **EL10062037**

INPUT WATTS: **44.6** LUMENS: **6106** CRI: **90** EFFICACY: **137** CCT: **3500K** SPACING CRITERIA: **1.42**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	721.55	11.8	11.8
0-30	1541.68	25.2	25.2
0-40	2546.43	41.7	41.7
0-60	4598.4	75.3	75.3
0-80	5881.45	96.3	96.3
0-90	6052.98	99.1	99.1

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	2543	2548	2588
55	2479	2479	2538
65	2347	2350	2437
75	2126	2116	2251
85	1742	1631	1872

Lumens Per Zone

Zone	Lumens
0-10	186.06
10-20	535.49
20-30	820.13
30-40	1004.75
40-50	1064.21
50-60	987.75
60-70	789.42
70-80	493.64
80-90	171.53

Candela Tabulation

Ø	
0	1964.883
5	1957.76
15	1889.73
25	1760.75
35	1578.3
45	1337.47
55	1057.6
65	738
75	409.42
85	112.92
90	5.17

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

	RC	80%				70%				50%			30%			10%			0%
	RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
ROOM CAVITY RATIO	0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99
	1	108	103	98	94	105	100	96	92	96	92	89	92	89	86	88	86	84	82
	2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	69	67
	3	89	78	69	63	86	76	68	62	73	66	61	70	64	59	67	62	58	56
	4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	54	50	47
	5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
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	9	55	42	33	28	54	41	33	27	40	32	27	39	32	27	37	31	27	25
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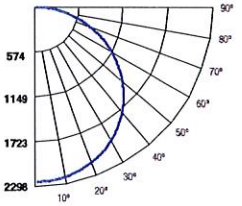
RC - Ceiling Cavity Reflectance *RW - Wall Reflectance*

24-FPL-BL-LED-6000L-7000L-8000L-DIM10-120-347V-35K-40K-50K-85(7000L)

TEST NO.: **EL10062038**

INPUT WATTS: **52.5** LUMENS: **7097** CRI: **90** EFFICACY: **135** CCT: **3500K** SPACING CRITERIA: **1.42**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	839.21	11.8	11.8
0-30	1793.12	25.3	25.3
0-40	2961.49	41.7	41.7
0-60	5347.8	75.3	75.3
0-80	6836.23	96.3	96.3
0-90	7035.74	99.1	99.1

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	2961	2964	3011
55	2882	2881	2951
65	2728	2729	2840
75	2470	2464	2608
85	2016	1887	2164

Lumens Per Zone

Zone	Lumens
0-10	216.36
10-20	622.85
20-30	953.91
30-40	1168.37
40-50	1237.65
50-60	1148.66
60-70	914.74
70-80	573.7
80-90	199.5

Candela Tabulation

Ø	
0	2285.622
5	2281.64
15	2197.82
25	2046.97
35	1832.77
45	1557.51
55	1229.75
65	857.6
75	475.57
85	130.7
90	6.32

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

	RC	80%				70%				50%			30%			10%			0%
	RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
ROOM CAVITY RATIO	0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99
	1	108	103	98	94	105	100	96	92	96	92	89	92	89	86	88	86	84	82
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	3	89	78	69	63	86	76	68	62	73	66	61	70	64	59	67	62	58	56
	4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	54	50	48
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	6	69	55	46	39	67	54	45	39	52	44	39	50	43	38	49	42	38	36
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	9	55	42	33	28	54	41	33	27	40	32	27	39	32	27	37	31	27	25
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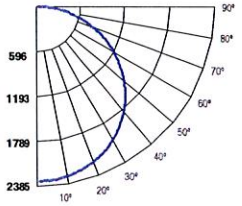
RC - Ceiling Cavity Reflectance *RW - Wall Reflectance*

24-FPL-BL-LED-6000L-7000L-8000L-DIM10-120-347V-35K-40K-50K-85(8000L)

TEST NO.: **EL10062039**

INPUT WATTS: **54.9** LUMENS: **7372** CRI: **90** EFFICACY: **134** CCT: **3500K** SPACING CRITERIA: **1.42**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	871.97	11.8	11.8
0-30	1863.06	25.3	25.3
0-40	3077.02	41.7	41.7
0-60	5555.72	75.4	75.4
0-80	7100.43	96.3	96.3
0-90	7307.22	99.1	99.1

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	3074	3077	3129
55	2987	2995	3071
65	2835	2840	2946
75	2568	2561	2715
85	2082	1956	2258

Lumens Per Zone

Zone	Lumens
0-10	224.85
10-20	647.12
20-30	991.09
30-40	1213.96
40-50	1285.64
50-60	1193.06
60-70	949.21
70-80	595.5
80-90	206.79

Candela Tabulation

Ø	
0	2375.637
5	2365.44
15	2281.58
25	2127.85
35	1904.24
45	1617.11
55	1274.74
65	891.34
75	494.42
85	135
90	6.53

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

	RC	80%				70%				50%			30%			10%			0%
	RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
ROOM CAVITY RATIO	0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99
	1	108	103	98	94	105	100	96	92	96	93	89	92	89	86	88	86	84	82
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	3	89	78	69	63	86	76	68	62	73	66	61	70	64	59	67	62	58	56
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	5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
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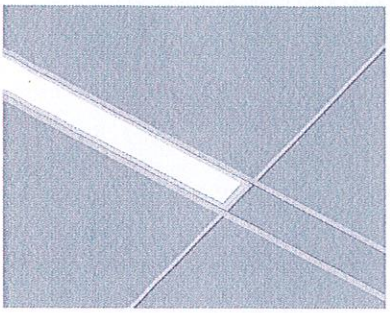
RC - Ceiling Cavity Reflectance *RW - Wall Reflectance*

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** SLPL4-12SPSW1-RM Notes:	**Type:** B SLSI22-5128

ABOVE ALL
www.AboveAllLighting.com

Project Name
Product Code
SKU No.
Memo
Data



SLENDER LINEAR PANEL LIGHT

PRODUCT DESCRIPTION

The Slender Linear Panel light features popular 4", 6" width and length up to 8'. It provides powerful lines in any applications. Wattage adjustable and CCT selectable technology. Edge-lit with a light guide for soft illumination. It works with most ceiling types which will be your go-to-choice for offices, schools, hospital, corridor light industrial spaces or anywhere stylish lines of light are desired.

FEATURES

- Slim and linear design
- 2ft, 4ft and 8ft lengths
- Available in 4", 6" width
- Wattage adjustable (50%/75%/100%)
- 3000K, 3500K and 4000K selectable

ELECTRICAL SYSTEM

- Input Voltage: 120-277V, 50/60Hz
- Operating temperature range: -4-104°F(-20-40°C)
- Power Factor: > 0.9 at full load
- Total Harmonic Distortion: < 20% at full load

PERFORMANCE

CRI

80

CCT

3000K、3500K、4000K

Dimming

1-10V Dimming

Projected Lifetime

L70 - 100,000 Hours

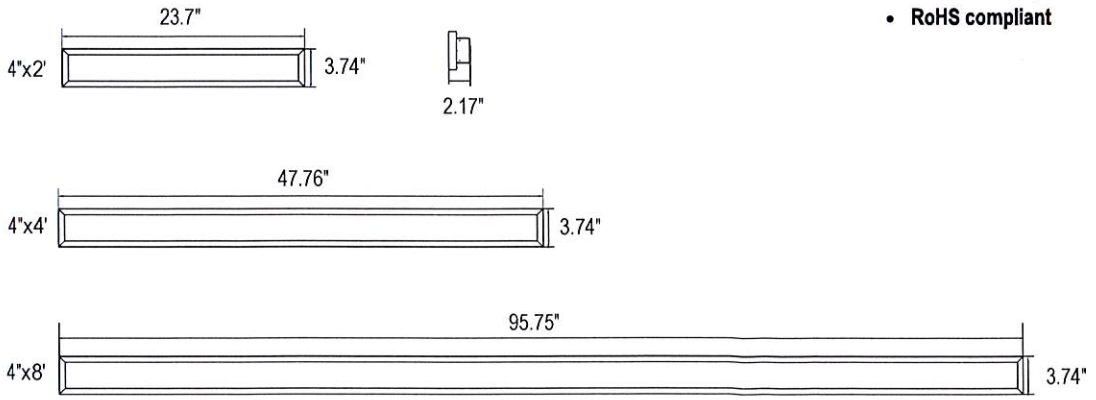
Working Temperature

-4-104°F (-20-40°C)

Certifications

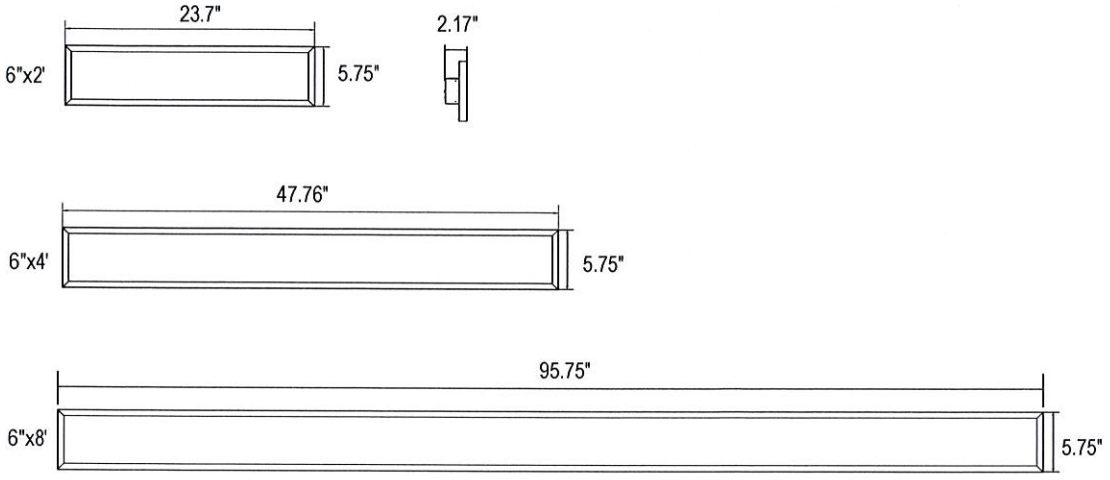
- **cULus conforms to UL Std. 1598Cert. to CSA Std. C22.2 No.250.0**
- **Suitable for dry locations**
- **RoHS compliant**

SPECIFICATION



1135 Tropmes Busch Highway,
Pennsauken, NJ 08110
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866-222-8868
info@aboveallighting.com
www.AboveAllLighting.com

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Ordering Information

Example: SLPL6-12SPSW1-RM

SLPL	4	–	12SP	SW	1	–		–	RM	–	
1	2		3	4	5		6		7		8

1. Series

☑ SLPL

2. Width

☐ 4 - 4 inch ☐ 6 - 6 inch

3. Length and Wattage

☐ 06SP - 2FT//20W Selectable[1] ☐ 12SP - 4FT/40W Selectable[1] ☐ 24SP - 8FT//80W Selectable[1]

1. 50%/75%/100% selectable

4. CCT

☐ SW - 3000K / 3500K / 4000K Selectable

5. Voltage

☐ 1 - 120-277V

6. Driver

☐ Blank - 1-10V dimming driver
☐ DALI - DALI driver*

* DALI driver is special for single Wattage and CCT only. Please contact Customer Service in advance.

7. Mounting Options

☐ RM - Recessed

8. Finish

☐ Blank - White

* White finish is standard. Custom color is available for a premium setup fee. Consult customer service for additional information.

1135 Thomas Busch Highway,
Pennsauken, NJ 08110
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info@aboveallilighting.com
www.AboveAllLighting.com

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** SLPL4-12SPSW1-RM Notes:	**Type:** B SLSI22-5128

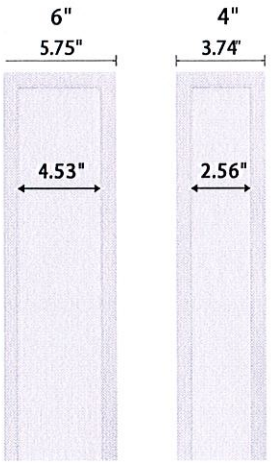
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Ref#: 20230207

PERFORMANCE DATA

Lumen values are measured by third party certified laboratories performed in accordance with IESNA **LM-79-08 as well as Lighting Facts listed.**

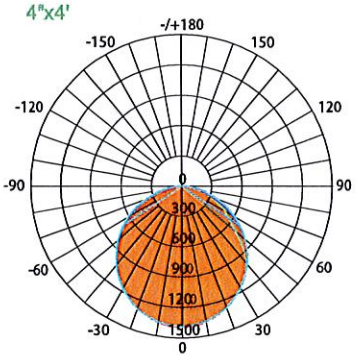
Lengths	2FT	4FT	8FT
Width	**4"/6"**	**4"/6"**	**4"/6"**
Wattage	20W selectable	40W selectable	80W selectable
Voltage	120-277V	120-277V	120-277V
Efficacy	100lm/w @ 3500K	100lm/w @ 3500K	100lm/w @ 3500K
Lumen Output	2000lm @ 3500K	4000lm @ 3500K	8000lm @ 3500K



PHOTOMETRY

All published luminaire photo metric testing performed to IESNA LM-79-08 standards by a NVLAP certified laboratory. IESNA LM-79-08 specifies the entire luminaire as the source resulting in a fixture efficiency of 100%.Result may vary per actual order.

4"x4'

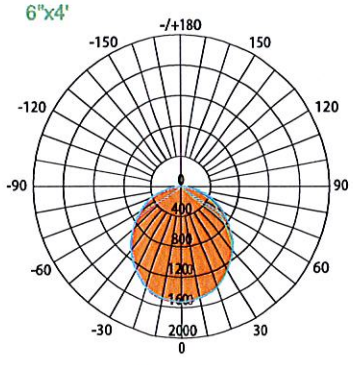


AVERAGE BEAM ANGLE(50%): 110.2°

Lumens: 3773.4 Lm
Watts: 40 W
LPW: 94.34 Lm/W
CCT: 3500K

UNIT: cd
C0/180,111.1°
C30/210,105.7°
C60/240,111.3°
C90/270,112.8°

6"x4'



AVERAGE BEAM ANGLE(50%): 110.2°

Lumens: 4180.4 Lm
Watts: 40 W
LPW: 104.51 Lm/W
CCT: 3500K

UNIT: cd
C0/180,110.8°
C30/210,107.0°
C60/240,111.2°
C90/270,111.8°

Warranty

Five year limited warranty. Full warranty terms located at www.aboveallLighting.com/warrantystatements.

Note:

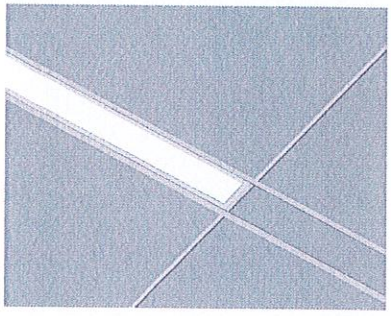
Specifications subject to change without notice.

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Pennsauken, NJ 08110
866-222-8868
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Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** SLPL4-12SPSW1-RM EBU-H08170 Notes:	**Type:** **BE** SLSI22-5128

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Project Name
Product Code
SKU No.
Memo
Data



SLENDER LINEAR PANEL LIGHT

c UL us LISTED · 5 YEAR LIMITED WARRANTY · RoHS COMPLIANCE

PRODUCT DESCRIPTION

The Slender Linear Panel light features popular 4", 6" width and length up to 8'. It provides powerful lines in any applications. Wattage adjustable and CCT selectable technology. Edge-lit with a light guide for soft illumination. It works with most ceiling types which will be your go-to-choice for offices, schools, hospital, corridor light industrial spaces or anywhere stylish lines of light are desired.

FEATURES

- Slim and linear design
- 2ft, 4ft and 8ft lengths
- Available in 4", 6" width
- Wattage adjustable (50%/75%/100%)
- 3000K, 3500K and 4000K selectable

ELECTRICAL SYSTEM

- Input Voltage: 120-277V, 50/60Hz
- Operating temperature range: -4-104°F(-20-40°C)
- Power Factor: > 0.9 at full load
- Total Harmonic Distortion: < 20% at full load

PERFORMANCE

CRI

80

CCT

3000K、3500K、4000K

Dimming

1-10V Dimming

Projected Lifetime

L70 - 100,000 Hours

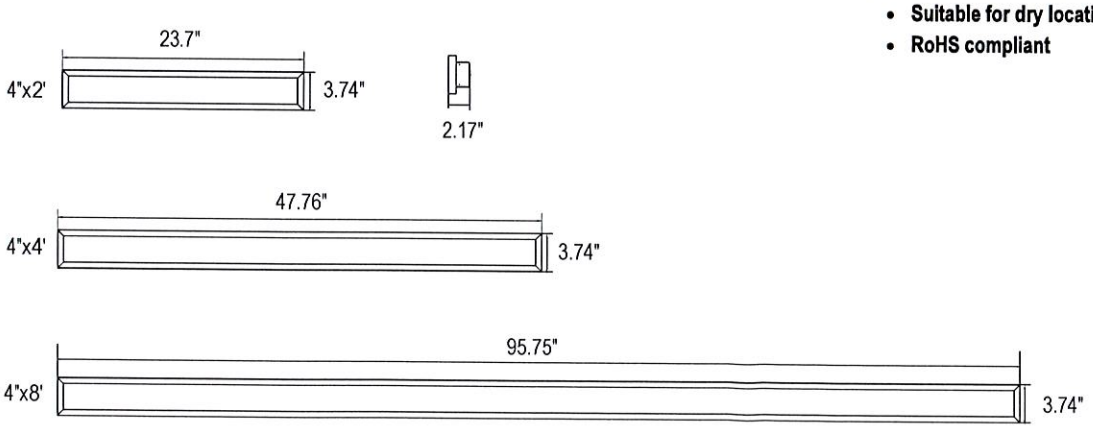
Working Temperature

-4-104°F (-20-40°C)

Certifications

- **cULus conforms to UL Std. 1598Cert. to CSA Std. C22.2 No.250.0**
- **Suitable for dry locations**
- **RoHS compliant**

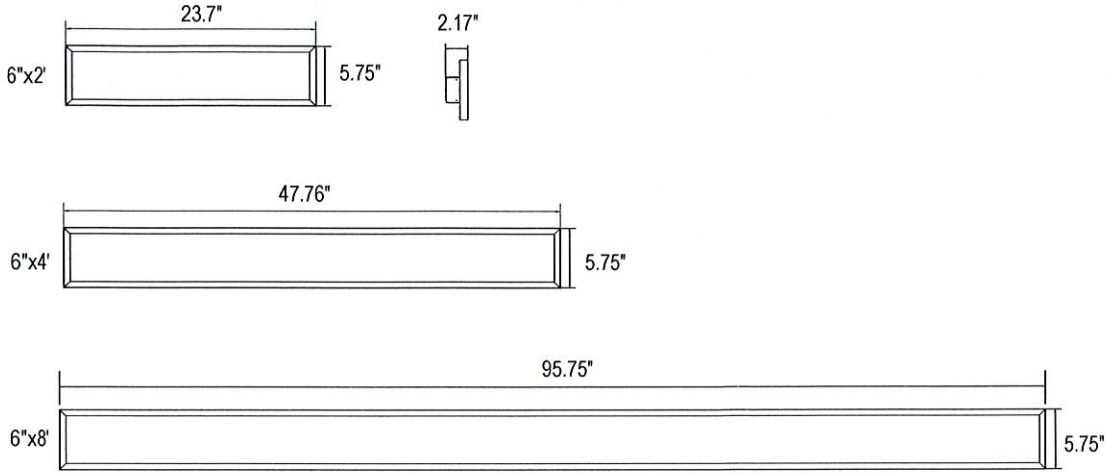
SPECIFICATION



1135 Thomas Busch Highway,
Pennsauken, NJ 08110
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866-222-8888
info@abovealllighting.com
www.AboveAllLighting.com

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** SLPL4-12SPSW1-RM EBU-H08170 Notes:	**Type:** BE SLSI22-5128

ABOVE ALL
www.AboveAllLighting.com



Ordering Information

Example: SLPL6-12SPSW1-RM

SLPL	4	–	12SP	SW	1	–		–	RM	–	
1	2		3	4	5		6		7		8

1. Series
☑ SLPL

2. Width
☐ 4 - 4 inch ☐ 6 - 6 inch

3. Length and Wattage
☐ 06SP - 2FT//20W Selectable[1] ☐ 12SP - 4FT/40W Selectable[1] ☐ 24SP - 8FT//80W Selectable[1]

1. 50%/75%/100% selectable

4. CCT
☐ SW - 3000K / 3500K / 4000K Selectable

5. Voltage
☐ 1 - 120-277V

6. Driver
☐ Blank - 1-10V dimming driver
☐ DALI - DALI driver*

* DALI driver is special for single Wattage and CCT only. Please contact Customer Service in advance.

7. Mounting Options
☐ RM - Recessed

8. Finish
☐ Blank - White EBU

* White finish is standard. Custom color is available for a premium setup fee. Consult customer service for additional information.

H08170

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info@abovealllighting.com
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Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** SLPL4-12SPSW1-RM EBU-H08170 Notes:	**Type:** BE SLSI22-5128

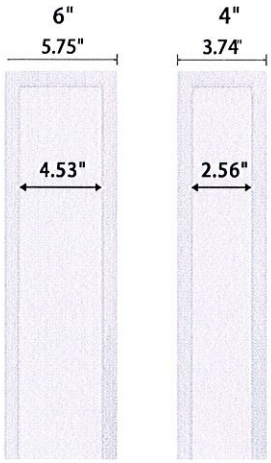
ABOVE ALL
www.AboveAllLighting.com

Ref#: 20230207

PERFORMANCE DATA

Lumen values are measured by third party certified laboratories performed in accordance with IESNA **LM-79-08 as well as Lighting Facts listed.**

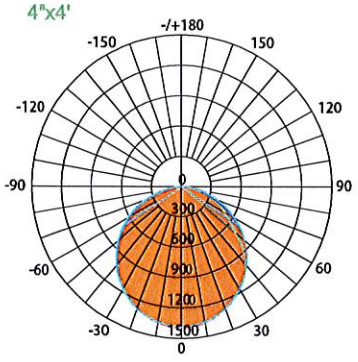
Lengths	2FT	4FT	8FT
Width	**4"/6"**	**4"/6"**	**4"/6"**
Wattage	20W selectable	40W selectable	80W selectable
Voltage	120-277V	120-277V	120-277V
Efficacy	100lm/w @ 3500K	100lm/w @ 3500K	100lm/w @ 3500K
Lumen Output	2000lm @ 3500K	4000lm @ 3500K	8000lm @ 3500K



PHOTOMETRY

All published luminaire photo metric testing performed to IESNA LM-79-08 standards by a NVLAP certified laboratory. IESNA LM-79-08 specifies the entire luminaire as the source resulting in a fixture efficiency of 100%.Result may vary per actual order.

4"x4'

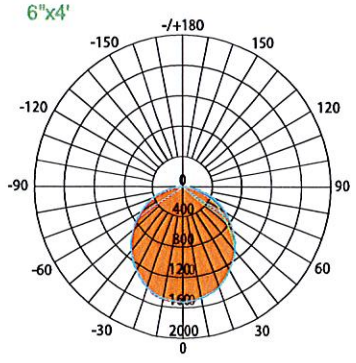


AVERAGE BEAM ANGLE(50%): 110.2°

Lumens: 3773.4 Lm
Watts: 40 W
LPW: 94.34 Lm/W
CCT: 3500K

UNIT: cd
C0/180 111.1°
C30/210 105.7°
C60/240 111.3°
C90/270 112.8°

6"x4'



AVERAGE BEAM ANGLE(50%): 110.2°

Lumens: 4180.4 Lm
Watts: 40 W
LPW: 104.51 Lm/W
CCT: 3500K

UNIT: cd
C0/180 110.8°
C30/210 107.0°
C60/240 111.2°
C90/270 111.8°

Warranty

Five year limited warranty. Full warranty terms located at www.aboveallLighting.com/warrantystatements.

Note:

Specifications subject to change without notice.

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info@aboveallLighting.com
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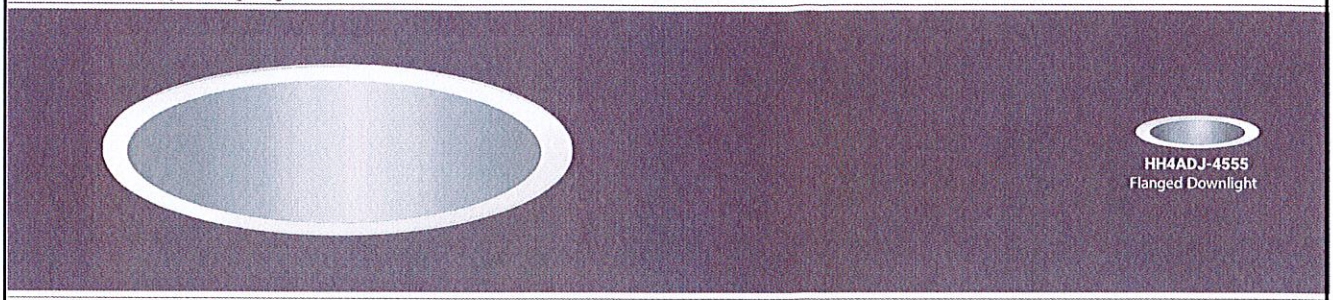
Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH4ADJ-LED-3000L-DIM10-MVOLT-WD-35K-90 HH4ADJ-4555-CL-SCH Notes:	**Type:** C SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4ADJ-LED

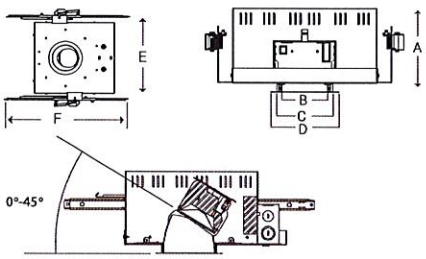
4" Architectural High Lumen LED Downlight - Adjustable/Wall Wash

4"



REFLECTOR/ FLANGE COLORS





A: Height = 5-7/8"
B: Trim Aperture = 4-1/8"
C: Cut-Out = 4-3/8"
D: Trim Outside Dia = 5-3/8"
E: Width = 13-1/8"
F: Length = 13-1/8"

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
3000	3394	32W
2000	2144	26W
1500	1699	20W
1200	1341	16W
900	995	12W
NOMINAL LUMENS (HP)	DELIVERED LUMENS (HP)	WATTAGE (HP)
1200	1401	12W
2000	2059	18W

Based on 4000K, 90+CRI with semi-specular chrome reflector.
Actual wattage may vary +/-5%

FEATURES

A highly sustainable and ultra-efficient architectural LED downlight that provides even, glare-free illumination. Available in a range of finishes, distributions, and lumen packages, it is ideally suited for use in corporate office space, hospitality, healthcare, commercial, academic, churches and retail.

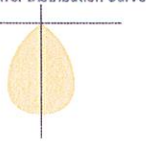
OPTICS AND REFLECTOR

The reflector has a 45 ° visual cutoff, and is shipped standard with a Solite lens in a smooth frosted finish. Spun from 0.05" thick aluminum, with a 1-step anodized finish, and available in different colors or custom RAL finishes. Reflector flange options include self-flanged and white painted flange. Various distribution options are available, and all optics are field changeable.

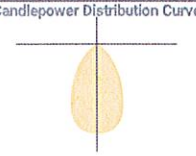
LUMENS	900, 1200, 1500, 2000, 3000 [1] (Custom lumen packages available)
CCT & DYNAMIC PLATFORMS	22K, 27K, 30K, 35K, 40K, 50K, Tunable White, Dims to Warm, RGB + White
CRI	90+ Standard, 98+ Optional
COLOR QUALITY	2 Step MacAdam Ellipse
DISTRIBUTIONS	WD (Wide Distribution), MD (Medium Distribution) and ND (Narrow Distribution)
TRIM OPTIONS	Adjustable, Wall Wash
REFLECTOR COLORS	CL (Semi-Specular Chrome), SHZ (Low Iridescent Satin Haze), WT (Wheat), W (White), MB (Black). BZ (Bronze) WAM(White Anti Macrobial), Custom RAL
FLANGE COLORS	Self-Flanged WH (White), SCH (Semi-Specular Chrome), SHZ (Low Iridescent Satin Haze), BK (Black)
DIMMING	0-10V Flicker Free 1% Dimming Standard (DIM10), LUTH, LUTFTB, ELDO10.1-LIN, ELDODMX.1, ELDODALI.1, DIMTR, BLE,POE,ELDO10-LOG, XSR, DIM10-AUX, DIM10-0-Off
EMERGENCY	10W - Up to 1000L Output (Bodine BSL310) 20W - Up to 2000L Output (Bodine BSL20) GTD-UL924
LIFETIME	L70>60,000-hour reported lifetime L70>250,000-hour calculated lifetime
PHOTOMETRIC TESTS	In Accordance with IES LM79-08, LM80 and TM-30, TM-21

[1] 3000 Lumens is not ENERGY STAR certified

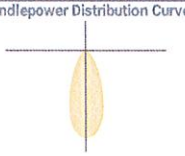
WD: Wide
Candlepower Distribution Curve



MD: Medium
Candlepower Distribution Curve



ND: Narrow
Candlepower Distribution Curve



Reference IES files for additional distribution curve information.



elite LED LIGHTING

www.iuseelite.com

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.
RS190627/NS190711/ BB190711

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH4ADJ-LED-3000L-DIM10-MVOLT-WD-35K-90 HH4ADJ-4555-CL-SCH Notes:	**Type:** C SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4ADJ-LED

4" Architectural High Lumen LED Downlight - Adjustable/Wall Wash

4"

THERMAL MANAGEMENT SYSTEM

Passive cooling Diecast Aluminum Heat Sink, LED light engine and driver are replaceable, upgradeable, and can be accessed from below the ceiling. The consistency in the quality of light is delivered with precision performance by the use of a unique locking mechanism that aligns the reflector with the light engine.

MOUNTING FRAME & BRACKETS

Has full adjustable aiming capability, allowing the double gimbal mechanism to rotate 360°, pivot 45°, and lock into place at any desired position.

DRIVER ELECTRICAL INFORMATION

The LED driver is rated for 50 to 60Hz at 120V/277V, also available in 347V input, produces less than 20%THD, has a power factor between 90% and 100%, and is thermally protected for additional safety. Junction box and Driver can be accessed from below the ceiling and above the ceiling. Junction Box is Listed for through branch circuit wiring.

DIMMING & DRIVER INFORMATION

DIM10 - 0-10V dimming on either MVOLT 120, 277 or 347V. Dimmable down to 1% of initial lumens, standard.
DIMTR - Triac & Electronic low voltage dimming. Available in 120V, and up to 6000 lumens only.
LUTH - Lutron LDE1 Hi-Lume 1% Eco System LED driver with Soft-on, Fade to Black dimming technology.
LUTFB - Lutron PEQ0E Hi-Lume Premier 1% Eco System LED Driver with Soft-on, Fade to Black dimming technology. Available on all luminaires up to 1500 lumens.
ELD010.1-LIN - EldoLED SoloDrive 0-10V. Dimming down to 0.1%. Linear dimming curve.
DALI - DALI DT6, DT8 dimming down to 1%.
ELD0DMX - EldoLED PowerDrive dimming down to 0.1%.
BLE - Luminaires may be controlled, grouped, scheduled or placed in scenes and or zones Via Cassambi Bluetooth 4.0 App.
DIM10-0-OFF - Program DIM10-to OFF withlinear dimming curve 0.1%
ELD010- LOG - ELD010-LOG with logarithmic dimming curve.
POE - Power-over-Ethernet Depending on the PoE manufacturer selected, The Node will install the node in factory as either integral to the luminaire or as a remote module.
XSR - Xitanium SR Dimming
DIM10-AUX - 0-10V with Auxiliry power

LED DYNAMIC PLATFORM OPTIONS

Tunable White with Smart White Technology utilizing the Lumenetix Platform allows you to color tune the luminaire via various controls. Create the perfect environment for the desired use of the space, while maintaining a CRI of 90+ across the tunable range of 8000 to 1650K. (Click here for more details)

Dims to Warm with Smart Dimming Technology. At 100% full brightness the luminaire is at 3000K. When dimmed to 1%, the light transitions to 1800K, creating a warm ambiance within the space. (Click here for more details)

RGB+White with Smart Hue Technology provides full color mixing of RGB and white colors. Utilizing the Lumenetix Platform allows you to choose from unlimited RGB color options, via various controls. Ideal for Circadian Rhythm applications or to create the perfect human centric environment. (Click here for more details)

WARRANTY

Five-year warranty for parts and components. (Labor not included)

LISTINGS

c-UL-us - Listed for Feed Through Wiring.
U.S Patent No. - D685,118S
Energy Star and California Title 24 compliant
Optional Black color trim is not ENERGYSTAR certified and won't meet the requirement.
BAA- Buy American Act Compliant government procurement requirements under FAR, DFARS and DOT regulations.

Example: **HH4ADJ-LED-3000L-DIM10-MVOLT-MD-40K-85-HH4ADJ-4501-CL-WH**

SERIES	LUMENS	DRIVER	VOLTAGE	CCT	EMERGENCY	TRIM TYPE	REFLECTOR/FLANGE COLORS
HH4ADJ-LED	❑ 900L	❑ DIM10	❑ 120	❑ 22K	❑ EMG-LED-10W	❑ HH4ADJ-4555	❑ CL-WH
	❑ 1200L	❑ DIMTR [3] [5]	❑ 277	❑ 27K	❑ EMG-LED-20W		❑ CL-SCH
	❑ 1500L	❑ LUTH [3]	❑ MVOLT	❑ 30K	❑ GTD-UL924		❑ SHZ-WH
	❑ 2000L	❑ LUTFTB [4]	❑ 347 (DIM10 only)	❑ 35K	Typical lumen output of the luminaire is up to 1000L with EMG-LED-10W option & 2000L with EMG-LED-20W option in emergency mode. Contact the factory for details. Remote mounted installation		❑ SHZ-SHZ
	❑ 3000L [5]	❑ ELD010-.1-LIN		❑ 40K			❑ WT-WH
		❑ ELD0DALI-.1		❑ 50K [3]			❑ WH-WH
		❑ ELD0DMX-.1					❑ MB-WH*
		❑ BLE					❑ CL-BK
		❑ POE					❑ MB-BK*
		❑ DIM10-0-OFF					❑ RAL
		❑ ELD010-LOG	OPTICS	CRI	OPTIONS		❑ WAM White Anti Macrobial
		❑ XSR	❑ WD	❑ 90+	❑ CP (Chicago Plenum)		
		❑ DIM10-AUX	❑ MD	❑ 98+ [4]	❑ BAA		
			❑ ND	❑ Xicato 95 [7]	❑ Slopped Ceiling Adopter		
					❑ HP (High Performance) [6]		
					❑ Remote LED Driver Mounting		* Black color trim is not ENERGYSTAR certified

[1] **DIMTR** is available in 120V only
[2] **LUTH, ELD010-.1, ELD0DALI-.1,** and **ELD0DMX-.1** are available in 120V and 277V
[3] **50K** series are available with 85+ CRI only
[4] **98+** CRI is available in 27K, 30K and 40K only
[5] 3000 Lumens is not energy Star certified
[6] LUTFTB Available for luminaires up to 1500L
[7] 3000K, 3500K and 4000K based on 90 CRI

-Reference last page for Control Options

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH4ADJ-LED-3000L-DIM10-MVOLT-WD-35K-90 HH4ADJ-4555-CL-SCH Notes:	**Type:** C SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4ADJ-LED

4" Architectural High Lumen LED Downlight - Adjustable/Wall Wash

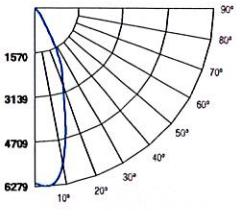
4"

HH4ADJ-LED-3000L-DIM10-MVOLT-ND-40K-80-HH4ADJ-4555-CL-WH

TEST NO.: **EL011931**

INPUT WATTS: **32.5** LUMENS: **3394** CRI: **80** EFFICACY: **104** CCT: **4000K** SPACING CRITERIA: **0.68**

Candle Power Distribution (Candelas)



Cone of Light			
2	1543	1.4	1.4
4	386	2.8	2.7
6	171	4.2	4.1
8	96.4	5.6	5.5
10	61.7	7	6.8
12	42.9	8.5	8.2
(FT.)Distance to Plane	(FC.) Initial Footcandle at Nadir	(FT.) Beam Vert. Spread	(FT.) Beam Horiz. Spread

BEAM DIA. MEASURED AT 50% OF NADIR F.C.

Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	1701.94	50.10	50.10
0-30	2669.2	78.60	78.60
0-40	3112.88	91.70	91.70
0-60	3371.36	99.30	99.30
0-80	3392.3	99.90	99.90
0-90	3394.27	100.00	100.00

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	36201	40313	59400
55	7212	13319	15011
65	2565	3279	7949
75	1244	1870	2395
85	519	3765	4487

Lumens Per Zone

Zone	Lumens
0-10	556.52
10-20	1145.42
20-30	967.26
30-40	443.68
40-50	204.13
50-60	54.35
60-70	16.67
70-80	4.26
80-90	1.98

Candela Tabulation

Ω	
0	6170.90
5	6260.87
15	4115.63
25	2139.08
35	507.54
45	203.59
55	32.90
65	8.62
75	2.56
85	0.36
90	0.11

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

ROOM CAVITY RATIO	RC	80%			70%				50%			30%			10%			0%
	RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
	0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
	1	114	111	109	107	111	109	107	105	105	103	102	101	100	99	98	97	96	94
	2	109	104	100	97	106	102	99	96	99	96	94	96	94	92	93	92	90	88
	3	104	98	93	89	102	96	92	89	94	90	87	91	88	86	89	87	85	83
	4	99	92	87	83	97	91	86	82	89	85	81	87	83	80	85	82	80	78
	5	94	87	81	77	93	86	81	77	84	80	76	82	79	76	81	78	75	74
	6	90	82	77	73	89	81	76	72	80	75	72	78	74	71	77	74	71	70
	7	86	78	72	68	85	77	72	68	76	71	68	75	71	67	74	70	67	66
	8	83	74	68	65	82	73	68	65	72	68	64	71	67	64	70	67	64	62
	9	79	70	65	61	78	70	65	61	69	64	61	68	64	61	67	63	61	59
	10	76	67	62	58	75	67	62	58	66	61	58	65	61	58	65	61	58	57

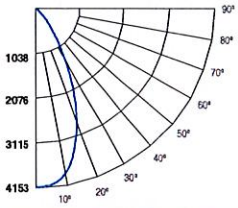
RC - Ceiling Cavity Reflectance *RW - Wall Reflectance*

HH4ADJ-LED-3000L-DIM10-MVOLT-MD-40K-80-HH4ADJ-4555-CL-WH

TEST NO.: **EL011930**

INPUT WATTS: **32.5** LUMENS: **3219** CRI: **80** EFFICACY: **99** CCT: **4000K** SPACING CRITERIA: **0.80**

Candle Power Distribution (Candelas)



Cone of Light			
2	1038	1.9	1.9
4	260	3.9	3.8
6	115	5.8	5.7
8	64.9	7.7	7.6
10	41.5	9.6	9.5
12	28.8	11.6	11.4
(FT.)Distance to Plane	(FC.) Initial Footcandle at Nadir	(FT.) Beam Vert. Spread	(FT.) Beam Horiz. Spread

BEAM DIA. MEASURED AT 50% OF NADIR F.C.

Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	1325.49	41.20	41.20
0-30	2298.48	71.40	71.40
0-40	2873.04	89.20	89.20
0-60	3195.41	99.30	99.30
0-80	3217.25	99.90	99.90
0-90	3219.12	100.00	100.00

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	43102	49739	69914
55	7569	15134	16416
65	2562	3323	8571
75	1248	1861	2322
85	519	3433	4068

Lumens Per Zone

Zone	Lumens
0-10	381.93
10-20	943.57
20-30	972.99
30-40	574.56
40-50	260.76
50-60	61.61
60-70	17.62
70-80	4.23
80-90	1.87

Candela Tabulation

Ω	
0	4152.88
5	4102.36
15	3431.97
25	2073.84
35	760.44
45	242.40
55	34.53
65	8.61
75	2.57
85	0.36
90	0.12

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

ROOM CAVITY RATIO	RC	80%			70%				50%			30%			10%			0%
	RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
	0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
	1	113	111	108	106	111	109	106	104	105	103	101	101	99	98	97	96	95	93
	2	108	103	99	96	106	101	98	94	98	95	92	95	93	90	92	90	89	87
	3	102	96	91	87	100	95	90	86	92	88	85	90	86	84	87	85	82	81
	4	97	90	84	80	95	89	83	79	86	82	79	84	81	78	83	79	77	75
	5	92	84	78	74	91	83	78	74	81	77	73	80	76	72	78	75	72	70
	6	88	79	73	69	86	78	73	68	77	72	68	75	71	68	74	70	67	66
	7	84	74	68	64	82	74	68	64	72	67	64	71	67	63	70	66	63	62
	8	80	70	64	60	78	70	64	60	68	63	60	67	63	59	66	62	59	58
	9	76	66	60	56	75	66	60	56	65	60	56	64	59	56	63	59	56	54
	10	72	63	57	53	71	62	57	53	62	57	53	61	56	53	60	56	53	51

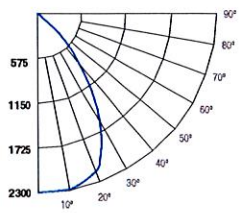
RC - Ceiling Cavity Reflectance *RW - Wall Reflectance*

HH4ADJ-LED-3000L-DIM10-MVOLT-WD-40K-80-HH4ADJ-4555-CL-WH

TEST NO.: **EL011929**

INPUT WATTS: **32.6** LUMENS: **2945** CRI: **80** EFFICACY: **90** CCT: **4000K** SPACING CRITERIA: **1.04**

Candle Power Distribution (Candelas)



Cone of Light			
2	567	2.7	2.9
4	142	5.4	5.9
6	62.9	8.1	8.8
8	35.4	10.7	11.7
10	22.7	13.4	14.6
12	15.7	16.1	17.6
(FT.)Distance to Plane	(FC.) Initial Footcandle at Nadir	(FT.) Beam Vert. Spread	(FT.) Beam Horiz. Spread

BEAM DIA. MEASURED AT 50% OF NADIR F.C.

Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-20	848.20	28.80	28.80
0-30	1723.95	58.50	58.50
0-40	2470.74	83.90	83.90
0-60	2917.72	99.10	99.10
0-80	2943.56	99.90	99.90
0-90	2945.36	100.00	100.00

Luminance (Average candela/M²)

Angle in Degrees	Average 0°	Average 45°	Average 90°
45	62264	77268	86719
55	9027	20993	21528
65	2782	3695	10901
75	1307	1880	2303
85	548	3073	3607

Lumens Per Zone

Zone	Lumens
0-10	216.98
10-20	631.22
20-30	875.76
30-40	746.78
40-50	365.81
50-60	81.17
60-70	21.33
70-80	4.50
80-90	1.80

Candela Tabulation

Ω	
0	2266.06
5	2267.18
15	2253.87
25	1927.37
35	1137.92
45	350.17
55	41.18
65	9.35
75	2.69
85	0.38
90	0.14

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

ROOM CAVITY RATIO	RC	80%			70%				50%			30%			10%			0%
	RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
	0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
	1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92
	2	107	101	97	93	104	100	96	92	96	93	90	93	91	88	90	88	86	85
	3	101	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77
	4	95	86	80	76	93	85	80	75	83	78	74	81	77	73	79	75	72	71
	5	89	80	74	69	87	79	73	68	77	72	68	75	71	67	74	70	67	65
	6	84	74	68	63	82	73	67	63	72	66	62	70	66	62	69	65	61	60
	7	79	69	62	58	78	68	62	58	67	61	57	66	61	57	65	60	57	55
	8	75	64	58	53	74	64	58	53	63	57	53	62	56	53	61	56	53	51
	9	71	60	54	49	70	60	54	49	59	53	49	58	53	49	57	52	49	47
	10	67	57	50	46	66	56	50	46	55	50	46	54	49	46	54	49	45	44

RC - Ceiling Cavity Reflectance *RW - Wall Reflectance*

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH4ADJ-LED-3000L-DIM10-MVOLT-WD-35K-90 HH4ADJ-4555-CL-SCH Notes:	**Type:** C SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4ADJ-LED

4" Architectural High Lumen LED Downlight - Adjustable/Wall Wash

4"

1- Luminaire will be shipped with Powerpacks pre-installed, ready to be integrated to designated contol systems
2- Luminaire will be shipped with Sensors installed on the luminaire, allowing for individual luminaire control. Luminaires will be ready to be integrated with designated control systems
3- Luminaire will be shipped with Sensors to be remotely installed on the ceiling. Luminaires will be ready to be integrated with designated control systems

BRAND	NX LIGHTING CONTROLS	LUTRON	enlighted	LEVITON	ENCELIUM	PHILIPS EasySense	legrand®
CONTROL UNIT	❑ NXFM-1R2D-0-UNV NX Fixture Module, Offset, 1 Relay, 2 0-10V Dimming Channels, 120-347VAC, Blue	❑ FCJS-010 Lutron Vive 0-10V Individual Pow Pak (Luminare is shipped Vive Enabled) [14] ❑ FCJS-ECO Lutron Vive Eco-system Pow Pak (Luminare is shipped Vive Enabled) ❑ A-WN-D01-RF-WH Athena wireless node (RF only) (White) ❑ A-WN-D01-OCC-WH Athena wireless node with sensor (White)	❑ CU-4E-FMH Fixture Mount Control Unit [15]	❑ ZL027 –NOW Intellect Power Control Module [16] ❑ ZL027 –NOW Intellect Power Control Module [16]	❑ EN-WCM2-ZB-DR Wireless Control Module[17] ❑ EN- ALC-ZB-BK-DR Wireless Area Lighting Control Module [17] ❑ ZBHA-CLM-DIM-ENC Connected Lighting Module DIM [17]	❑ SBR -BS Xitanium SR Bridge [18]	❑ LMFC-011 ON/OFF/0-10V dimming fixture controller [19]
INTEGRAT SENSOR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
*WIRELESS OCCUPANCY SENSOR	❑ NXSMP2-SMI NX Slide Mount Indoor Sensor Module	N/A	N/A	N/A	N/A	N/A	❑ LMDC-100 Dual technology PIR Ceiling Mount Occupancy Sensor [3]
*WIRELESS DAYLIGHT SENSOR	❑ LUXSTATLS Luxstat Light Sensor for Luxstat Control Modules, 3 to 6000 FC	N/A	N/A	N/A	N/A	N/A	❑ LMLS-400 Single zone switching and dimming digital photosensor [3]
*WIRELESS OCCUPANCY & DAYLIGHT SENSOR	❑ NXSMDT Indoor Ceiling Mount Sensor - OMNI	N/A	❑ SU-5E-IoT IoT Node Micro Sensor [3] ❑ SU-5E-CL Connected Lighting Micro Sensor [3] ❑ SU-5E-IL Independent Lighting / Enlighted One Micro Sensor [3] ❑ SU-5S-H-(IoT/CL/IL) Surface Mount Sensor [3] **(Must be specified with CU-4E-FMH Control Unit)**	❑ ZL00J -T0W Intellect Intelligent Fixture Control System [3] **(Must be specified with ZL027 –NOW Control Unit)**	❑ EN-CLM-PIR-DD-ZB SensiLUM™ Wireless Integrated Sensor ❑ EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors [3] **(Must be specified with EN-WCM2-ZB-DR or EN-ALC-ZB-BK-DR Control Unit)**	❑ SNS200-CMP SNS200 for grouping [3]	N/A
ACCESORIES	N/A	N/A	❑ TMC-SU-5E Tile Mount Carrier ❑ CBL-5E-CU4-30N 30 inch Sensor Cable for CU-4 and IoT ReadyTM drivers ❑ CBL-5E-CU4-7F 7 foot Sensor Cable for CU-4 and IoT ReadyTM drivers	N/A	N/A	N/A	N/A
NOTES	N/A	4- Luminaire will be compatible with Lutron LRF2-OCR2B-P-WH Ceiling mount360° occupancy/vacancy sensor & LRF2-DCRB-WH Ceiling-mount daylight sensor. Sensors must be ordered through Lutron.	5- Luminaire will be compatible with ENLIGHTED SU-5E-IoT, SU-5E-CL, SU-5E-IL, SU-5S-H, Sensors.	6-Luminaire will be compatible with Leviton Intellect App & Keypad Room Controller	7-Luminaire will be compatible with EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors	8-Luminaire will be compatible with Philips field and wireless switch.	9-Luminaire will be compatiable with DLM Room control system LMPB-100. DLM control system must be orderd through Legrand.

Submitted by Smith Lighting Sales, Inc.

Smith Lighting

Job Name:
Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation

Catalog Number:
HH4-LED-900L-DIM10-MVOLT-WD-35K-90-O-EMG-LED-10W HH4-4501-CL-SCH

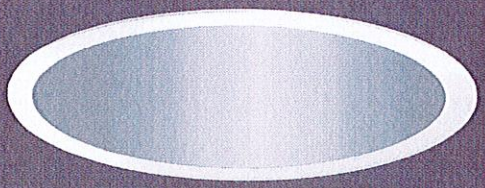
Notes:

Type:
C1

SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED
4" Architectural High Lumen LED Downlight




HH4-4501
Flanged Downlight


HH4-4507
Flanged Wall Wash

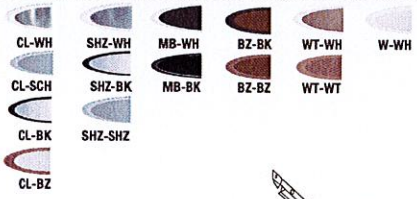

HH4-4577
Flanged Double Wall Wash

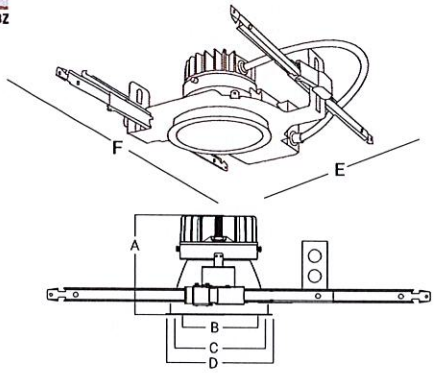

HH4-TL-4501
Trimless Downlight


HH4-TL-4507
Trimless Wall Wash


HH4-4535-WH
Polycarbonate

REFLECTOR/ FLANGE COLORS





A: Height = 5-3/4"
B: Trim Aperture = 4"
C: Cut-Out = 4-1/2"
D: Trim Outside Dia = 5-3/8"
E: Width = 16"
F: Length = 12-1/2"

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
3000	3579	32W
2000	2144	24W
1500	1699	18W
1200	1341	14W
900	995	10W
NOMINAL LUMENS (HP)	DELIVERED LUMENS (HP)	WATTAGE (HP)
1200	1401	12W
2000	2059	18W

Based on 4000K, 90+CRI with semi-specular chrome reflector.
Actual wattage may vary +/-5%

FEATURES
A highly sustainable and ultra-efficient architectural LED downlight that provides even, glare-free illumination. Available in a range of finishes, distributions, and lumen packages, it is ideally suited for use in corporate office space, hospitality, healthcare, commercial, academic, churches and retail.

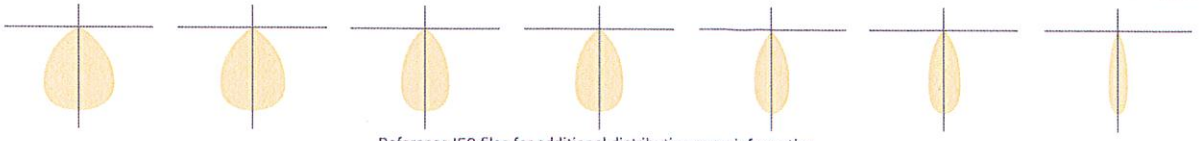
OPTICS AND REFLECTOR
The reflector has a 45° visual cutoff, and is shipped standard with a Solite lens in a smooth frosted finish. Spun from 0.05" thick aluminum, with a 1-step anodized finish, and available in different colors or custom RAL finishes. Reflector flange options include self-flanged and white painted flange. Various distribution options are available, and all optics are field changeable.

LUMENS	900, 1200, 1500, 2000, 3000*[1] (Custom lumen packages available), HL6-IP-VR, HL6-LED
CCT & DYNAMIC PLATFORMS	22K, 27K, 30K, 35K, 40K, 50K, Tunable White, Dims to Warm, RGB + White
CRI	90+ Standard, 98+ Optional
COLOR QUALITY	2 Step MacAdam Ellipse
DISTRIBUTIONS	VWD, WD, MWD, MD, ND, SPD, NSPD
TRIM OPTIONS	Downlight, Wall Wash, Double Wall Wash, Wet Location
REFLECTOR COLORS	CL (Semi-Specular Chrome), SHZ (Low Iridescent Satin Haze), WT (Wheat), W (White), MB (Black). BZ (Bronze) WAM(White Anti Macrobial), Custom RAL
FLANGE COLORS	Self-Flanged WH (White), SCH (Semi-Specular Chrome), SHZ (Low Iridescent Satin Haze), BK (Black), BZ (Bronze)
DIMMING	0-10V Flicker Free 1% Dimming Standard (DIM10), LUTH, LUTFTB, ELDO10.1-LIN, ELDODMX.1, ELDODALI.1, DIMTR, BLE,POE, ELDO10-LOG, XSR, DIM10-AUX, DIM10-0-Off
EMERGENCY	10W - Up to 1000L Output 20W - Up to 2000L Output EMG-LED-G2-10W-SDT - Self Diagnostic (Consult Factory) GTD-UL924
LIFETIME	L70>60,000-hour reported lifetime L70>200,000-hour calculated lifetime
PHOTOMETRIC TESTS	In Accordance with IES LM79-08, LM80 and TM-30, TM-21

[1] 3000 Lumens is not ENERGY STAR certified

* Only Available on 85+ CRI

VWD: Very Wide | WD:Wide | MWD:Medium Wide | MD:Medium | ND: Narrow | SPD:Spot | NSPD:Narrow Spot



Reference IES files for additional distribution curve information.

elite LED LIGHTING

www.iuseelite.com

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.
RS190627/NS190711/ BB190711

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED 4"

4" Architectural High Lumen LED Downlight

THERMAL MANAGEMENT SYSTEM

Passive cooling Diecast Aluminum Heat Sink, LED light engine and driver are replaceable, upgradeable, and can be accessed from below the ceiling. The consistency in the quality of light is delivered with precision performance by the use of a unique locking mechanism that aligns the reflector with the light engine.

MOUNTING FRAME & BRACKETS

The downlight mounting frame is a fabricated assembly constructed of 16-gauge steel, with C-channel mounting brackets, included. The versatility of the mounting brackets allow for an adjustability of up to 28" horizontally, and 2-3/4" vertically, locking into place. With the added die-formed! construction of the mounting frame, it provides maximum heat dissipation and rust protection.

DRIVER ELECTRICAL INFORMATION

The LED driver is rated for 50 to 60Hz at 120V/277V, also available in 347V input, produces less than 20%THD, has a power factor between 90% and 100%, and is thermally protected for additional safety. Junction box and Driver can be accessed from below the ceiling and above the ceiling. Junction Box is Listed for through branch circuit wiring.

DIMMING & DRIVER INFORMATION

DIM10 - 0-10V dimming on either MVOLT 120, 277 or 347V. Dimmable down to 1% of initial lumens, standard.
DIMTR - Triac & Electronic low voltage dimming. Available in 120V, and up to 6000 lumens only.
LUTH - Lutron LDE1 Hi-Lume 1% Eco System LED driver with Soft-on, Fade to Black dimming technology.
LUTFB - Lutron PEQ0E Hi-Lume Premier 1% Eco System LED Driver with Soft-on, Fade to Black dimming technology. Available on all luminaires up to 1500 lumens.
ELDO10.1-LIN - EldoLED SoloDrive 0-10V. Dimming down to 0.1%. Linear dimming curve.
DALI - DALI DT6, DT8 dimming down to 1%.
ELDODMX - EldoLED PowerDrive dimming down to 0.1%.
BLE - Luminaires may be controlled, grouped, scheduled or placed in scenes and or zones Via Cassambi Bluetooth 4.0 App.
DIM10-0-OFF - Program DIM10-to OFF with linear dimming curve 0.1%
ELDO10- LOG - ELDO10-LOG with logarithmic dimming curve.
POE - Power-over-Ethernet Depending on the PoE manufacturer selected, The Node will install the node in factory as either integral to the luminaire or as a remote module.
XSR - Xitanium SR Dimming
DIM10-AUX - 0-10V with Auxiliry power

LED DYNAMIC PLATFORM OPTIONS

Tunable White with Smart White Technology utilizing the Lumenetix Platform allows you to color tune the luminaire via various controls. Create the perfect environment for the desired use of the space, while maintaining a CRI of 90+ across the tunable range of 8000 to 1650K. (Click here for more details)

Dims to Warm with Smart Dimming Technology. At 100% full brightness the luminaire is at 3000K. When dimmed to 1%, the light transitions to 1800K, creating a warm ambiance within the space. (Click here for more details)

RGB+White with Smart Hue Technology provides full color mixing of RGB and white colors. Utilizing the Lumenetix Platform allows you to choose from unlimited RGB color options, via various controls. Ideal for Circadian Rhythm applications or to create the perfect human centric environment. (Click here for more details)

OPTICAL

Modular Optics Available with 15°, 24°, 30°, 36°, 52°, 60° and 70° field interchangeable optics design with 45° cutoff to source.
Top-down flash characteristic for superior glare control. The optics attached directly the light engine to the Trim for complete optical alignment and sufficient efficacy.

WARRANTY

Five-year warranty for parts and components. (Labor not included)

LISTINGS

c-UL-us - Listed for Wet Location if used with HH4-4501 Trim.
c-UL-us - Listed for Feed Through Wiring.

U.S Patent No. - D685,118S
CP-City of Chicago environmental air (CCEA) marking for plenum applications.
Energy Star and California Title 24 compliant
Optional Black color trim is not ENERGYSTAR certified and won't meet the requirement.
BAA- Buy American Act Compliant government procurement requirements under FAR, DFARS and DOT regulations.

Example: **HH4-LED-2000L-DIM10-MVOLT-MD-40K-90-HH4-4501-CL-WH**

SERIES	LUMENS	DRIVER	VOLTAGE	CCT	EMERGENCY	TRIM TYPE	REFLECTOR/FLANGE COLORS
HH4-LED	❑ 900L	❑ DIM10	❑ 120	❑ 22K	❑ EMG-LED-10W	❑ HH4-4501 Flanged Downlight	❑ CL-WH ❑ W-WH ❑ SHZ-SHZ
	❑ 1200L	❑ DIMTR [3] [5]	❑ 277	❑ 27K	❑ EMG-LED-20W	❑ HH4-4507 Flanged Wall Wash	❑ CL-SCH ❑ MB-WH* ❑ SHZ-BK
	❑ 1500L	❑ LUTH [3]	❑ MVOLT	❑ 30K	❑ INTG-EMG-LED-10W	❑ HH4-4577 Flanged Double Wall Wash	❑ CL-BK ❑ MB-BK* ❑ WT-WH
	❑ 2000L	❑ LUTFTB [4]	❑ 347 (DIM10 only)	❑ 35K	❑ INTG-EMG-LED-20W	❑ HH4-4535 Polycarbonate non conductive with "Dead Front" construction	❑ CL-BZ ❑ BZ-BK ❑ WT-WT
	❑ 3000L* [4]	❑ ELDO10-.1-LIN		❑ 40K	❑ EMG-LED-G2-10W-SDT*		❑ SHZ-WH ❑ BZ-BZ * Black color trim is not ENERGYSTAR certified
	❑ 1200L-HP	❑ ELDODALI-.1		❑ 50K [2]	❑ GTD-UL924		❑ RAL ❑ WAM White Anti Microbial
	❑ 2000L-HP	❑ ELDODMX-.1			Typical lumen output of the luminaire is up to 1000L with EMG-LED-10W option & 2000L with EMG-LED-20W option in emergency mode. Contact the factory for details. Remote mounted installation • Consult Factory for Self Diagnostic		
		❑ BLE					**FLANGE COLORS**
		❑ POE					❑ WH ❑ BZ ❑ BK ❑ SCH ❑ SHZ
		❑ DIM10-0-OFF					
		❑ ELDO10-LOG					
		❑ XSR					
		❑ DIM10-AUX					

OPTICS	CRI	OPTIONS	TRIMLESS	TRIMLESS FINISH
❑ VWD 70°	❑ 90+	❑ CP (Chicago Plenum)	❑ HH4-TL-4501 Trimless Downlight	❑ CL
❑ WD 60°	❑ 98+ [3]	❑ BAA	❑ HH4-TL-4507 Trimless Wall Wash	❑ MB
❑ MWD 52°	❑ Xicato 95 [7]	❑ HP (High Performance) [6]		❑ SHZ
❑ MD 38°		❑ Remote LED Driver Mounting		❑ WH
❑ ND 30°				
❑ SPD 24°				
❑ NSPD 15°				

[1] **DIMTR** is available in 120V only
[2] **50K** series are available with 85+ CRI only
[3] **98+**CRI is available in 27K, 30K and 40K only
[4] 3000 Lumens is not energy Star certified
[5] LUTFTB Available for luminaires up to 1500L
[6] 3000K, 3500K and 4000K based on 90 CRI
[7] Available on 30K, 35K, 40K
-Reference last page for Control Options
* Only Available on 85+ CRI

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH4-LED-900L-DIM10-MVOLT-WD-35K-90-O-EMG-LED-10W HH4-4501-CL-SCH Notes:	**Type:** C1 SLSI22-5128

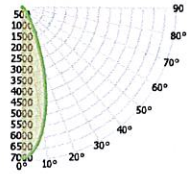
MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED
4" Architectural High Lumen LED Downlight

HH4-LED-3000L-DIM10-MVOLT-MD-40K-90-HH4-4501-CL-WH TEST NO.: **EL05022201**

INPUT WATTS: **32.1** LUMENS: **3074** EFFICACY: **96** BEAM ANGLE: **37** SPACING CRITERIA: **0.57**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	6865	6865
10°	5563	5499
20°	2816	2708
30°	777	740
40°	208	220
50°	32	36
60°	3	4
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	147009	147009
45.00°	2646	2904
55.00°	255	274
65.00°	98	106
75.00°	57	63
85.00°	10	15

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	604
10° - 20°	1224
20° - 30°	817
30° - 40°	313
40° - 50°	98
50° - 60°	14
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1828	59%
0° - 30°	2645	86%
0° - 40°	2958	96%
0° - 60°	3069	100%
0° - 80°	3072	100%
0° - 90°	3073	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	190.7 fc	4.0 ft	4.0 ft
8.0 ft	107.3 fc	5.4 ft	5.4 ft
10.0 ft	68.7 fc	6.7 ft	6.7 ft
12.0 ft	47.7 fc	8.1 ft	8.1 ft
14.0 ft	35.0 fc	9.4 ft	9.4 ft
16.0 ft	26.8 fc	10.8 ft	10.8 ft
18.0 ft	21.2 fc	12.1 ft	12.1 ft
20.0 ft	17.2 fc	13.5 ft	13.4 ft

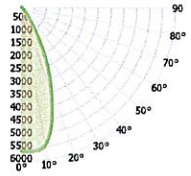
INDOOR COEFFICIENTS OF UTILIZATION

pf																			
pc	80%				70%				50%				30%				10%		0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95	
2	110	105	102	99	107	104	101	98	100	98	96	98	95	94	95	93	92	90	
3	105	100	95	92	103	98	94	91	96	92	90	93	91	88	91	89	87	86	
4	101	94	90	86	99	93	89	86	91	88	85	89	86	84	88	85	83	81	
5	97	90	85	81	95	89	84	81	87	83	80	86	82	79	84	81	79	77	
6	93	85	80	77	92	85	80	77	83	79	76	82	78	76	81	78	75	74	
7	89	82	76	73	88	81	76	73	80	75	72	79	75	72	78	74	72	70	
8	86	78	73	69	85	77	73	69	76	72	69	76	72	69	75	71	69	67	
9	83	75	70	66	82	74	69	66	73	69	66	73	69	66	72	68	66	64	
10	80	72	67	63	79	71	67	63	71	66	63	70	66	63	69	66	63	62	

HH4-LED-3000L-DIM10-MVOLT-MWD-40K-90-HH4-4501-CL-WH TEST NO.: **EL05022201**

INPUT WATTS: **32.2** LUMENS: **3579** EFFICACY: **111** BEAM ANGLE: **48** SPACING CRITERIA: **0.74**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	5579	5579
10°	5439	5397
20°	3446	3683
30°	1237	1423
40°	215	229
50°	40	48
60°	5	5
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	477859	477859
45.00°	11776	13161
55.00°	1298	1653
65.00°	608	655
75.00°	374	410
85.00°	69	88

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	537
10° - 20°	1328
20° - 30°	1180
30° - 40°	410
40° - 50°	100
50° - 60°	17
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1865	52%
0° - 30°	3045	85%
0° - 40°	3455	97%
0° - 60°	3572	100%
0° - 80°	3577	100%
0° - 90°	3577	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	155.0 fc	5.3 ft	5.3 ft
8.0 ft	87.2 fc	7.1 ft	7.1 ft
10.0 ft	55.8 fc	8.8 ft	8.8 ft
12.0 ft	38.7 fc	10.6 ft	10.6 ft
14.0 ft	28.5 fc	12.4 ft	12.3 ft
16.0 ft	21.8 fc	14.1 ft	14.1 ft
18.0 ft	17.2 fc	15.9 ft	15.9 ft
20.0 ft	13.9 fc	17.7 ft	17.6 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf																			
pc	80%				70%				50%				30%				10%		0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	114	112	109	107	112	109	107	106	105	104	102	102	100	99	98	97	96	95	
2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	92	91	89	
3	104	99	94	91	103	97	93	90	95	91	89	92	90	87	90	88	86	84	
4	100	93	88	85	98	92	88	84	90	86	83	88	85	82	86	83	81	80	
5	96	88	83	79	94	87	82	79	86	81	78	84	80	77	82	79	77	75	
6	92	84	78	75	90	83	78	74	81	77	74	80	76	73	79	75	73	72	
7	88	80	74	70	87	79	74	70	78	73	70	77	73	70	75	72	69	68	
8	84	76	70	67	83	75	70	67	74	70	66	73	69	66	72	69	66	65	
9	81	72	67	63	80	72	67	63	71	66	63	70	66	63	69	65	63	61	
10	78	69	64	60	77	68	64	60	68	63	60	67	63	60	66	62	60	59	

MAXILUME ARCHITECTURAL LIGHTING By Elite Lighting

HH4-LED

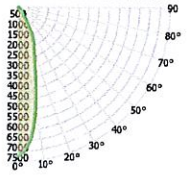
4" Architectural High Lumen LED Downlight

HH4-LED-3000L-DIM10-MVOLT-SPD-40K-90-HH4-4501-CL-WH

TEST NO.: **EL05022201**

INPUT WATTS: **32.1** LUMENS: **3026** EFFICACY: **94** BEAM ANGLE: **25** SPACING CRITERIA: **0.44**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	7242	7242
10°	4864	5172
20°	2219	2261
30°	778	910
40°	270	295
50°	55	66
60°	7	7
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	155070	155070
45.00°	4421	4921
55.00°	529	564
65.00°	199	220
75.00°	105	117
85.00°	12	22

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	617
10° - 20°	1049
20° - 30°	828
30° - 40°	347
40° - 50°	148
50° - 60°	28
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1667	53%
0° - 30°	2494	86%
0° - 40°	2842	96%
0° - 60°	3018	100%
0° - 80°	3024	100%
0° - 90°	3025	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	201.2 fc	3.3 ft	3.2 ft
8.0 ft	113.1 fc	4.4 ft	4.3 ft
10.0 ft	72.4 fc	5.5 ft	5.4 ft
12.0 ft	50.3 fc	6.5 ft	6.5 ft
14.0 ft	36.9 fc	7.6 ft	7.6 ft
16.0 ft	28.3 fc	8.7 ft	8.6 ft
18.0 ft	22.4 fc	9.8 ft	9.7 ft
20.0 ft	18.1 fc	10.9 ft	10.8 ft

INDOOR COEFFICIENTS OF UTILIZATION

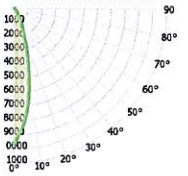
pf																			
	20%																		0%
pc	80%				70%				50%			30%			10%			0%	
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	114	112	109	107	112	109	107	106	105	104	102	102	100	99	98	97	96	95	
2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	93	91	90	
3	105	99	94	91	103	98	93	90	95	92	89	93	90	87	90	88	86	85	
4	100	93	89	85	98	92	88	84	90	86	83	88	85	82	87	84	82	80	
5	96	89	84	80	94	88	83	79	86	82	79	84	81	78	83	80	77	76	
6	92	84	79	75	91	83	79	75	82	78	75	81	77	74	79	76	74	72	
7	88	80	75	71	87	80	75	71	78	74	71	77	73	70	76	73	70	69	
8	85	77	71	68	84	76	71	68	75	71	67	74	70	67	73	70	67	66	
9	82	73	68	65	81	73	68	65	72	67	64	71	67	64	70	67	64	63	
10	79	70	65	62	78	70	65	62	69	65	62	68	64	61	68	64	61	60	

HH4-LED-3000L-DIM10-MVOLT-NSPD-40K-90-HH4-4501-CL-WH

TEST NO.: **EL05022201**

INPUT WATTS: **32.1** LUMENS: **3153** EFFICACY: **98** BEAM ANGLE: **19** SPACING CRITERIA: **0.42**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	9601	9601
10°	5978	6553
20°	2033	2040
30°	737	645
40°	202	223
50°	32	39
60°	3	3
70°	1	1
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	205607	205607
45.00°	2565	2863
55.00°	214	255
65.00°	73	85
75.00°	41	50
85.00°	7	15

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	798
10° - 20°	1304
20° - 30°	643
30° - 40°	291
40° - 50°	98
50° - 60°	15
60° - 70°	2
70° - 80°	1
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	2102	67%
0° - 30°	2745	87%
0° - 40°	3036	96%
0° - 60°	3149	100%
0° - 80°	3151	100%
0° - 90°	3151	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	266.7 fc	3.1 ft	3.1 ft
8.0 ft	150.0 fc	4.2 ft	4.1 ft
10.0 ft	96.0 fc	5.2 ft	5.1 ft
12.0 ft	66.7 fc	6.3 ft	6.1 ft
14.0 ft	49.0 fc	7.3 ft	7.1 ft
16.0 ft	37.5 fc	8.3 ft	8.2 ft
18.0 ft	29.6 fc	9.4 ft	9.2 ft
20.0 ft	24.0 fc	10.4 ft	10.2 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf																			
	20%																		0%
pc	80%				70%				50%			30%			10%			0%	
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95	
2	110	106	103	100	108	104	101	99	101	99	97	98	96	95	96	94	93	91	
3	106	101	97	93	104	99	96	93	97	94	91	94	92	90	92	90	88	87	
4	102	96	91	88	100	95	91	87	93	89	86	91	88	85	89	86	84	83	
5	98	91	87	83	97	91	86	83	89	85	82	87	84	81	86	83	81	80	
6	95	87	83	79	93	87	82	79	85	81	78	84	81	78	83	80	77	76	
7	91	84	79	76	90	83	79	75	82	78	75	81	77	75	80	77	74	73	
8	88	81	76	73	87	80	76	72	79	75	72	78	74	72	77	74	72	70	
9	85	78	73	70	84	77	73	70	76	72	69	75	72	69	75	71	69	68	
10	82	75	70	67	82	74	70	67	74	70	67	73	69	67	72	69	66	65	

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

MAXILUME ARCHITECTURAL LIGHTING By Elite Lighting

HH4-LED

4" Architectural High Lumen LED Downlight

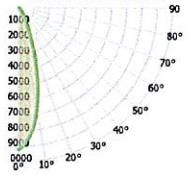
4"

HH4-LED-3000L-DIM10-MVOLT-ND-40K-90-HH4-4501-CL-WH

TEST NO.: **EL05022201**

INPUT WATTS: **32.1** LUMENS: **3181** EFFICACY: **99** BEAM ANGLE: **31** SPACING CRITERIA: **0.48**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	9196	9196
10°	6567	6688
20°	2387	2402
30°	702	665
40°	185	201
50°	31	36
60°	3	3
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	196917	196917
45.00°	2395	2596
55.00°	225	242
65.00°	82	89
75.00°	49	54
85.00°	10	15

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	771
10° - 20°	1328
20° - 30°	694
30° - 40°	281
40° - 50°	90
50° - 60°	14
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	2099	66%
0° - 30°	2792	88%
0° - 40°	3073	97%
0° - 60°	3176	100%
0° - 80°	3179	100%
0° - 90°	3179	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	255.4 fc	3.4 ft	3.4 ft
8.0 ft	143.7 fc	4.5 ft	4.5 ft
10.0 ft	92.0 fc	5.6 ft	5.6 ft
12.0 ft	63.9 fc	6.7 ft	6.7 ft
14.0 ft	46.9 fc	7.9 ft	7.9 ft
16.0 ft	35.9 fc	9.0 ft	9.0 ft
18.0 ft	28.4 fc	10.1 ft	10.1 ft
20.0 ft	23.0 fc	11.2 ft	11.2 ft

INDOOR COEFFICIENTS OF UTILIZATION

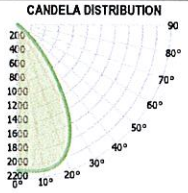
pf																			
pc	80%				70%				50%				30%				10%		0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95	
2	110	106	103	100	108	104	101	99	101	99	97	98	96	95	96	94	93	91	
3	106	101	96	93	104	99	95	92	97	94	91	94	92	90	92	90	88	87	
4	102	96	91	88	100	95	90	87	93	89	86	91	88	85	89	86	84	83	
5	98	91	87	83	97	90	86	83	89	85	82	87	84	81	86	83	81	79	
6	94	87	83	79	93	87	82	79	85	81	78	84	80	78	83	80	77	76	
7	91	84	79	75	90	83	79	75	82	78	75	81	77	75	80	77	74	73	
8	88	80	76	72	87	80	75	72	79	75	72	78	74	72	77	74	71	70	
9	85	77	73	69	84	77	72	69	76	72	69	75	72	69	74	71	69	68	
10	82	74	70	67	81	74	70	67	73	69	66	73	69	66	72	69	66	65	

HH4-LED-3000L-DIM10-MVOLT-VWD-40K-90-HH4-4501-CL-WH

TEST NO.: **EL05022201**

INPUT WATTS: **32.2** LUMENS: **2628** EFFICACY: **82** BEAM ANGLE: **72** SPACING CRITERIA: **1.09 x 1.09**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	2071	2071
10°	2101	2092
20°	1972	1967
30°	1421	1437
40°	590	617
50°	76	85
60°	9	9
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	44349	44349
45.00°	7851	8507
55.00°	724	750
65.00°	243	258
75.00°	119	130
85.00°	12	22

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	199
10° - 20°	584
20° - 30°	825
30° - 40°	697
40° - 50°	278
50° - 60°	35
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	783	30%
0° - 30°	1609	61%
0° - 40°	2306	90%
0° - 60°	2619	100%
0° - 80°	2626	100%
0° - 90°	2627	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	57.5 fc	8.7 ft	8.7 ft
8.0 ft	32.4 fc	11.6 ft	11.6 ft
10.0 ft	20.7 fc	14.5 ft	14.5 ft
12.0 ft	14.4 fc	17.4 ft	17.5 ft
14.0 ft	10.6 fc	20.3 ft	20.4 ft
16.0 ft	8.1 fc	23.2 ft	23.3 ft
18.0 ft	6.4 fc	26.1 ft	26.2 ft
20.0 ft	5.2 fc	29.0 ft	29.1 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf																			
pc	80%				70%				50%				30%				10%		0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	113	110	108	105	111	108	106	104	104	102	100	100	99	97	97	96	95	93	
2	107	102	98	94	105	100	96	93	97	94	91	94	91	89	91	89	87	85	
3	101	94	89	85	99	93	88	84	90	86	83	88	84	81	85	83	80	78	
4	95	87	81	77	94	86	81	76	84	79	76	82	78	75	80	77	74	72	
5	90	81	75	70	88	80	74	70	78	73	69	77	72	69	75	71	68	66	
6	85	75	69	64	84	75	69	64	73	68	64	72	67	63	70	66	63	61	
7	80	70	64	59	79	70	64	59	68	63	59	67	62	59	66	62	58	57	
8	76	66	59	55	75	65	59	55	64	59	55	63	58	54	62	57	54	53	
9	72	62	55	51	71	61	55	51	60	55	51	59	54	50	58	54	50	49	
10	68	58	52	47	67	57	51	47	57	51	47	56	51	47	55	50	47	46	

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH4-LED-900L-DIM10-MVOLT-WD-35K-90-O-EMG-LED-10W HH4-4501-CL-SCH Notes:	**Type:** C1 SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED

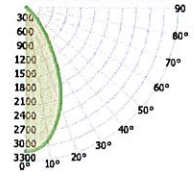
4" Architectural High Lumen LED Downlight

4"

HH4-LED-3000L-DIM10-MVOLT-WD-40K-90-HH4-4501-CL-WH TEST NO.: **EL05022201**

INPUT WATTS: **32.2** LUMENS: **2791** EFFICACY: **87** BEAM ANGLE: **58** SPACING CRITERIA: **0.84**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	3079	3079
10°	2876	2898
20°	2205	2247
30°	1260	1315
40°	459	504
50°	65	80
60°	8	0
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	65935	65935
45.00°	6347	7185
55.00°	629	682
65.00°	226	247
75.00°	115	125
85.00°	12	12

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	288
10° - 20°	747
20° - 30°	874
30° - 40°	606
40° - 50°	234
50° - 60°	13
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1034	37%
0° - 30°	1908	68%
0° - 40°	2515	90%
0° - 60°	2782	100%
0° - 80°	2790	100%
0° - 90°	2790	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	85.5 fc	6.7 ft	6.6 ft
8.0 ft	48.1 fc	8.9 ft	8.9 ft
10.0 ft	30.8 fc	11.1 ft	11.1 ft
12.0 ft	21.4 fc	13.3 ft	13.3 ft
14.0 ft	15.7 fc	15.5 ft	15.5 ft
16.0 ft	12.0 fc	17.7 ft	17.7 ft
18.0 ft	9.5 fc	20.0 ft	19.9 ft
20.0 ft	7.7 fc	22.2 ft	22.1 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf																		
pc	80%				70%				50%				30%				0%	
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87
3	102	96	91	87	100	94	90	86	92	88	85	89	86	83	87	84	82	80
4	97	89	84	79	95	88	83	79	86	81	78	84	80	77	82	79	76	75
5	92	83	77	73	90	82	77	73	81	76	72	79	75	71	77	74	71	69
6	87	78	72	68	86	77	72	67	76	71	67	74	70	66	73	69	66	65
7	83	73	67	63	81	73	67	63	71	66	62	70	65	62	69	65	62	60
8	79	69	63	59	77	68	63	59	67	62	58	66	61	58	65	61	58	56
9	75	65	59	55	74	64	59	55	63	58	55	63	58	54	62	57	54	53
10	71	61	55	52	70	61	55	51	60	55	51	59	55	51	59	54	51	50

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH4-LED-900L-DIM10-MVOLT-WD-35K-90-O-EMG-LED-10W HH4-4501-CL-SCH Notes:	**Type:** C1 SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED 4"

4" Architectural High Lumen LED Downlight

1- Luminaire will be shipped with Powerpacks pre-installed, ready to be integrated to designated contol systems
2- Luminaire will be shipped with Sensors installed on the luminaire, allowing for individual luminaire control. Luminaires will be ready to be integrated with designated control systems
3- Luminaire will be shipped with Sensors to be remotely installed on the ceiling. Luminaires will be ready to be integrated with designated control systems

BRAND	NX LIGHTING CONTROLS	LUTRON	enlighted	LEVITON	ENCELIUM	PHILIPS EasySense	legrand
CONTROL UNIT	❑ NXFM-1R2D-O-UNV NX Fixture Module, Offset, 1 Relay, 2 0-10V Dimming Channels, 120-347VAC, Blue	❑ FCJS-010 Lutron Vive 0-10V Individual Pow Pak (Luminare is shipped Vive Enabled) [14] ❑ FCJS-ECO Lutron Vive Eco-system Pow Pak (Luminare is shipped Vive Enabled) ❑ A-WN-D01-RF-WH Athena wireless node (RF only) (White) ❑ A-WN-D01-OCC-WH Athena wireless node with sensor (White)	❑ CU-4E-FMH Fixture Mount Control Unit [15]	❑ ZL027 –NOW Intellect Power Control Module [16] ❑ ZL027 –NOW Intellect Power Control Module [16]	❑ EN-WCM2-ZB-DR Wireless Control Module [17] ❑ EN- ALC-ZB-BK-DR Wireless Area Lighting Control Module [17] ❑ ZBHA-CLM-DIM-ENC Connected Lighting Module DIM [17]	❑ SBR -BS Xitanium SR Bridge [18]	❑ LMFC-011 ON/OFF/0-10V dimming fixture controller [19]
INTEGRAT SENSOR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
*WIRELESS OCCUPANCY SENSOR	❑ NXSMP2-SMI NX Slide Mount Indoor Sensor Module	N/A	N/A	N/A	N/A	N/A	❑ LMDC-100 Dual technology PIR Ceiling Mount Occupancy Sensor [3]
*WIRELESS DAYLIGHT SENSOR	❑ LUXSTATLS Luxstat Light Sensor for Luxstat Control Modules, 3 to 6000 FC	N/A	N/A	N/A	N/A	N/A	❑ LMLS-400 Single zone switching and dimming digital photosensor [3]
*WIRELESS OCCUPANCY & DAYLIGHT SENSOR	❑ NXSMDT Indoor Ceiling Mount Sensor - OMNI	N/A	❑ SU-5E-IoT IoT Node Micro Sensor [3] ❑ SU-5E-CL Connected Lighting Micro Sensor [3] ❑ SU-5E-IL Independent Lighting / Enlighted One Micro Sensor [3] ❑ SU-5S-H-(IoT/CL/IL) Surface Mount Sensor [3] **(Must be specified with CU-4E-FMH Control Unit)**	❑ ZL00J -T0W Intellect Intelligent Fixture Control System [3] **(Must be specified with ZL027 –NOW Control Unit)**	❑ EN-CLM-PIR-DD-ZB SensiLUM™ Wireless Integrated Sensor ❑ EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors [3] **(Must be specified with EN-WCM2-ZB-DR or EN-ALC-ZB-BK-DR Control Unit)**	❑ SNS200-CMP SNS200 for grouping [3]	N/A
ACCESORIES	N/A	N/A	❑ TMC-SU-5E Tile Mount Carrier ❑ CBL-5E-CU4-30N 30 inch Sensor Cable for CU-4 and IoT ReadyTM drivers ❑ CBL-5E-CU4-7F 7 foot Sensor Cable for CU-4 and IoT ReadyTM drivers	N/A	N/A	N/A	N/A
NOTES	N/A	4- Luminaire will be compatible with Lutron LRF2-OCR2B-P-WH Ceiling mount360° occupancy/vacancy sensor & LRF2-DCRB-WH Ceiling-mount daylight sensor. Sensors must be ordered through Lutron.	5- Luminaire will be compatible with ENLIGHTED SU-5E-IoT, SU-5E-CL, SU-5E-IL, SU-5S-H, Sensors.	6-Luminaire will be compatible with Leviton Intellect App & Keypad Room Controller	7-Luminaire will be compatible with EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors	8-Luminaire will be compatible with Philips field and wireless switch.	9-Luminaire will be compatiable with DLM Room control system LMPB-100. DLM control system must be orderd through Legrand.

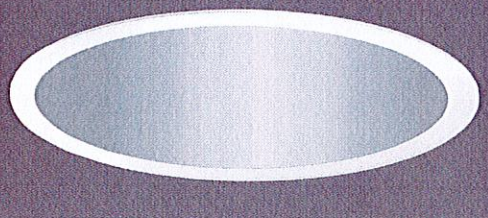
Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH4-LED-3000L-DIM10-MVOLT-WD-35K-90 HH4-4501-CL-SCH Notes:	**Type:** D2 SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

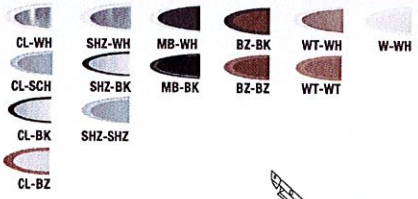
HH4-LED

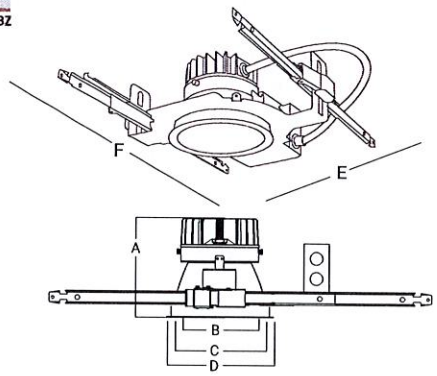
4" Architectural High Lumen LED Downlight





REFLECTOR/ FLANGE COLORS





A: Height = 5-3/4"
B: Trim Aperture = 4"
C: Cut-Out = 4-1/2"
D: Trim Outside Dia = 5-3/8"
E: Width = 16"
F: Length = 12-1/2"

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
3000	3579	32W
2000	2144	24W
1500	1699	18W
1200	1341	14W
900	995	10W
NOMINAL LUMENS (HP)	DELIVERED LUMENS (HP)	WATTAGE (HP)
1200	1401	12W
2000	2059	18W

Based on 4000K, 90+CRI with semi-specular chrome reflector.
Actual wattage may vary +/-5%

FEATURES

A highly sustainable and ultra-efficient architectural LED downlight that provides even, glare-free illumination. Available in a range of finishes, distributions, and lumen packages, it is ideally suited for use in corporate office space, hospitality, healthcare, commercial, academic, churches and retail.

OPTICS AND REFLECTOR

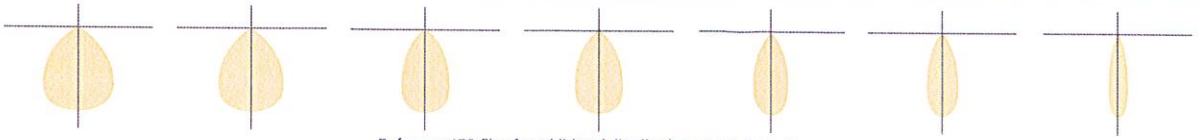
The reflector has a 45° visual cutoff, and is shipped standard with a Solite lens in a smooth frosted finish. Spun from 0.05" thick aluminum, with a 1-step anodized finish, and available in different colors or custom RAL finishes. Reflector flange options include self-flanged and white painted flange. Various distribution options are available, and all optics are field changeable.

LUMENS	900, 1200, 1500, 2000, 3000*[1] (Custom lumen packages available), HL6-IP-VR, HL6-LED
CCT & DYNAMIC PLATFORMS	22K, 27K, 30K, 35K, 40K, 50K, Tunable White, Dims to Warm, RGB + White
CRI	90+ Standard, 98+ Optional
COLOR QUALITY	2 Step MacAdam Ellipse
DISTRIBUTIONS	VWD, WD, MWD, MD, ND, SPD, NSPD
TRIM OPTIONS	Downlight, Wall Wash, Double Wall Wash, Wet Location
REFLECTOR COLORS	CL (Semi-Specular Chrome), SHZ (Low Iridescent Satin Haze), WT (Wheat), W (White), MB (Black). BZ (Bronze) WAM(White Anti Macrobial), Custom RAL
FLANGE COLORS	Self-Flanged WH (White), SCH (Semi-Specular Chrome), SHZ (Low Iridescent Satin Haze), BK (Black), BZ (Bronze)
DIMMING	0-10V Flicker Free 1% Dimming Standard (DIM10), LUTH, LUTFTB, ELDO10.1-LIN, ELDODMX.1, ELDODALI.1, DIMTR, BLE,POE, ELDO10-LOG, XSR, DIM10-AUX, DIM10-0-Off
EMERGENCY	10W - Up to 1000L Output 20W - Up to 2000L Output EMG-LED-G2-10W-SDT - Self Diagnostic (Consult Factory) GTD-UL924
LIFETIME	L70>60,000-hour reported lifetime L70>200,000-hour calculated lifetime
PHOTOMETRIC TESTS	In Accordance with IES LM79-08, LM80 and TM-30, TM-21

[1] 3000 Lumens is not ENERGY STAR certified

* Only Available on 85+ CRI

VWD: Very Wide | WD:Wide | MWD:Medium Wide | MD:Medium | ND: Narrow | SPD:Spot | NSPD:Narrow Spot



Reference IES files for additional distribution curve information.

PROUDLY ASSEMBLED in AMERICA | QUICKSHIP CONSULT FACTORY | 5 YEARS LIMITED WARRANTY | FOR WET LOCATION | BABAA BUILD BUY AMERICA ACT

elite LED LIGHTING

www.iuseelite.com

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.
RS190627/NS190711/ BB190711

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED

4" Architectural High Lumen LED Downlight

4"

THERMAL MANAGEMENT SYSTEM

Passive cooling Diecast Aluminum Heat Sink, LED light engine and driver are replaceable, upgradeable, and can be accessed from below the ceiling. The consistency in the quality of light is delivered with precision performance by the use of a unique locking mechanism that aligns the reflector with the light engine.

MOUNTING FRAME & BRACKETS

The downlight mounting frame is a fabricated assembly constructed of 16-gauge steel, with C-channel mounting brackets, included. The versatility of the mounting brackets allow for an adjustability of up to 28" horizontally, and 2-3/4" vertically, locking into place. With the added die-formed construction of the mounting frame, it provides maximum heat dissipation and rust protection.

DRIVER ELECTRICAL INFORMATION

The LED driver is rated for 50 to 60Hz at 120V/277V, also available in 347V input, produces less than 20%THD, has a power factor between 90% and 100%, and is thermally protected for additional safety. Junction box and Driver can be accessed from below the ceiling and above the ceiling. Junction Box is Listed for through branch circuit wiring.

DIMMING & DRIVER INFORMATION

DIM10 - 0-10V dimming on either MVOLT 120, 277 or 347V. Dimmable down to 1% of initial lumens, standard.
DIMTR - Triac & Electronic low voltage dimming. Available in 120V, and up to 6000 lumens only.
LUTH - Lutron LDE1 Hi-Lume 1% Eco System LED driver with Soft-on, Fade to Black dimming technology.
LUTFB - Lutron PEQ0E Hi-Lume Premier 1% Eco System LED Driver with Soft-on, Fade to Black dimming technology. Available on all luminaires up to 1500 lumens.
ELDO10.1-LIN - EldoLED SoloDrive 0-10V. Dimming down to 0.1%. Linear dimming curve.
DALI - DALI DT6, DT8 dimming down to 1%.
ELDODMX - EldoLED PowerDrive dimming down to 0.1%.
BLE - Luminaires may be controlled, grouped, scheduled or placed in scenes and or zones Via Cassambi Bluetooth 4.0 App.
DIM10-0-OFF - Program DIM10-to OFF withlinear dimming curve 0.1%
ELDO10- LOG - ELDO10-LOG with logarithmic dimming curve.
POE - Power-over-Ethernet Depending on the PoE manufacturer selected, The Node will install the node in factory as either integral to the luminaire or as a remote module.
XSR - Xitanium SR Dimming
DIM10-AUX - 0-10V with Auxiliry power

LED DYNAMIC PLATFORM OPTIONS

Tunable White with Smart White Technology utilizing the Lumenetix Platform allows you to color tune the luminaire via various controls. Create the perfect environment for the desired use of the space, while maintaining a CRI of 90+ across the tunable range of 8000 to 1650K. (Click here for more details)

Dims to Warm with Smart Dimming Technology. At 100% full brightness the luminaire is at 3000K. When dimmed to 1%, the light transitions to 1800K, creating a warm ambiance within the space. (Click here for more details)

RGB+White with Smart Hue Technology provides full color mixing of RGB and white colors. Utilizing the Lumenetix Platform allows you to choose from unlimited RGB color options, via various controls. Ideal for Circadian Rhythm applications or to create the perfect human centric environment. (Click here for more details)

OPTICAL

Modular Optics Available with 15°, 24°, 30°, 36°, 52°, 60° and 70° field interchangeable optics design with 45° cutoff to source.
Top-down flash characteristic for superior glare control. The optics attached directly the light engine to the Trim for complete optical alignment and sufficient efficacy.

WARRANTY

Five-year warranty for parts and components. (Labor not included)

LISTINGS

c-UL-us - Listed for Wet Location if used with HH4-4501 Trim.
c-UL-us - Listed for Feed Through Wiring.

U.S Patent No. - D685,118S
CP-City of Chicago environmental air (CCEA) marking for plenum applications.
Energy Star and California Title 24 compliant
Optional Black color trim is not ENERGYSTAR certified and won't meet the requirement.
BAA- Buy American Act Compliant government procurement requirements under FAR, DFARS and DOT regulations.

Example: **HH4-LED-2000L-DIM10-MVOLT-MD-40K-90-HH4-4501-CL-WH**

SERIES	LUMENS	DRIVER	VOLTAGE	CCT	EMERGENCY
HH4-LED	❑ 900L ❑ 1200L ❑ 1500L ❑ 2000L ❑ 3000L [4] ❑ 1200L-HP ❑ 2000L-HP	❑ DIM10 ❑ DIMTR [3] [5] ❑ LUTH [3] ❑ LUTFTB [4] ❑ ELDO10-.1-LIN ❑ ELDODALI-.1 ❑ ELDODMX-.1 ❑ BLE ❑ POE ❑ DIM10-0-OFF ❑ ELDO10-LOG ❑ XSR ❑ DIM10-AUX	❑ 120 ❑ 277 ❑ MVOLT ❑ 347 (DIM10 only)	❑ 22K ❑ 27K ❑ 30K ❑ 35K ❑ 40K ❑ 50K [2]	❑ EMG-LED-10W ❑ EMG-LED-20W ❑ INTG-EMG-LED-10W ❑ INTG-EMG-LED-20W ❑ EMG-LED-G2-10W-SDT* ❑ GTD-UL924 Typical lumen output of the luminaire is up to 1000L with EMG-LED-10W option & 2000L with EMG-LED-20W option in emergency mode. Contact the factory for details. Remote mounted Installation * Consult Factory for Self Diagnostic

OPTICS	CRI	OPTIONS
❑ VWD 70°	❑ 90+	❑ CP (Chicago Plenum)
❑ WD 60°	❑ 98+ [3]	❑ BAA
❑ MWD 52°	❑ Xicato 95 [7]	❑ HP (High Performance) [6]
❑ MD 36°		❑ Remote LED Driver Mounting
❑ ND 30°		
❑ SPD 24°		
❑ NSPD 15°		

TRIM TYPE	REFLECTOR/FLANGE COLORS
❑ HH4-4501 Flanged Downlight ❑ HH4-4507 Flanged Wall Wash ❑ HH4-4577 Flanged Double Wall Wash ❑ HH4-4535 Polycarbonate non conductive with "Dead Front" construction	❑ CL-WH ❑ W-WH ❑ SHZ-SHZ ❑ CL-SCH ❑ MB-WH* ❑ SHZ-BK ❑ CL-BK ❑ MB-BK* ❑ WT-WH ❑ CL-BZ ❑ BZ-BK ❑ WT-WT ❑ SHZ-WH ❑ BZ-BZ * Black color trim is not ENERGYSTAR certified ❑ RAL ❑ WAM White Anti Microbial
TRIMLESS	**FLANGE COLORS**
❑ HH4-TL-4501 Trimless Downlight ❑ HH4-TL-4507 Trimless Wall Wash	❑ WH ❑ BZ ❑ BK ❑ SCH ❑ SHZ
	TRIMLESS FINISH
	❑ CL ❑ MB ❑ SHZ ❑ WH

[1] **DIMTR** is available in 120V only
[2] **50K** series are available with 85+ CRI only
[3] **98+**CRI is available in 27K, 30K and 40K only
[4] 3000 Lumens is not energy Star certified
[5] LUTFTB Available for luminaires up to 1500L
[6] 3000K, 3500K and 4000K based on 90 CRI
[7] Available on 30K, 35K, 40K
-Reference last page for Control Options
* Only Available on 85+ CRI

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH4-LED-3000L-DIM10-MVOLT-WD-35K-90 HH4-4501-CL-SCH Notes:	**Type:** D2 SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED

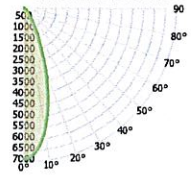
4" Architectural High Lumen LED Downlight

HH4-LED-3000L-DIM10-MVOLT-MD-40K-90-HH4-4501-CL-WH

TEST NO.: **EL05022201**

INPUT WATTS: **32.1** LUMENS: **3074** EFFICACY: **96** BEAM ANGLE: **37** SPACING CRITERIA: **0.57**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	6865	6865
10°	5563	5499
20°	2816	2708
30°	777	740
40°	208	220
50°	32	36
60°	3	4
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	147009	147009
45.00°	2646	2904
55.00°	255	274
65.00°	98	106
75.00°	57	63
85.00°	10	15

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	604
10° - 20°	1224
20° - 30°	817
30° - 40°	313
40° - 50°	98
50° - 60°	14
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1828	59%
0° - 30°	2645	86%
0° - 40°	2958	96%
0° - 60°	3069	100%
0° - 80°	3072	100%
0° - 90°	3073	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	190.7 fc	4.0 ft	4.0 ft
8.0 ft	107.3 fc	5.4 ft	5.4 ft
10.0 ft	68.7 fc	6.7 ft	6.7 ft
12.0 ft	47.7 fc	8.1 ft	8.1 ft
14.0 ft	35.0 fc	9.4 ft	9.4 ft
16.0 ft	26.8 fc	10.8 ft	10.8 ft
18.0 ft	21.2 fc	12.1 ft	12.1 ft
20.0 ft	17.2 fc	13.5 ft	13.4 ft

INDOOR COEFFICIENTS OF UTILIZATION

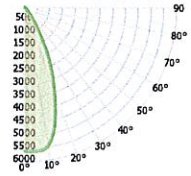
pf																			
pc	80%				70%				50%				30%				10%		0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95	
2	110	105	102	99	107	104	101	98	100	98	96	98	95	94	95	93	92	90	
3	105	100	95	92	103	98	94	91	96	92	90	93	91	88	91	89	87	86	
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6	93	85	80	77	92	85	80	77	83	79	76	82	78	76	81	78	75	74	
7	89	82	76	73	88	81	76	73	80	75	72	79	75	72	78	74	72	70	
8	86	78	73	69	85	77	73	69	76	72	69	76	72	69	75	71	69	67	
9	83	75	70	66	82	74	69	66	73	69	66	73	69	66	72	68	66	64	
10	80	72	67	63	79	71	67	63	71	66	63	70	66	63	69	66	63	62	

HH4-LED-3000L-DIM10-MVOLT-MWD-40K-90-HH4-4501-CL-WH

TEST NO.: **EL05022201**

INPUT WATTS: **32.2** LUMENS: **3579** EFFICACY: **111** BEAM ANGLE: **48** SPACING CRITERIA: **0.74**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	5579	5579
10°	5439	5397
20°	3446	3683
30°	1237	1423
40°	215	229
50°	40	48
60°	5	5
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	477859	477859
45.00°	11776	13161
55.00°	1298	1653
65.00°	608	655
75.00°	374	410
85.00°	69	88

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	537
10° - 20°	1328
20° - 30°	1180
30° - 40°	410
40° - 50°	100
50° - 60°	17
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1865	52%
0° - 30°	3045	85%
0° - 40°	3455	97%
0° - 60°	3572	100%
0° - 80°	3577	100%
0° - 90°	3577	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	155.0 fc	5.3 ft	5.3 ft
8.0 ft	87.2 fc	7.1 ft	7.1 ft
10.0 ft	55.8 fc	8.8 ft	8.8 ft
12.0 ft	38.7 fc	10.6 ft	10.6 ft
14.0 ft	28.5 fc	12.4 ft	12.3 ft
16.0 ft	21.8 fc	14.1 ft	14.1 ft
18.0 ft	17.2 fc	15.9 ft	15.9 ft
20.0 ft	13.9 fc	17.7 ft	17.6 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf																			
pc	80%				70%				50%				30%				10%		0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	114	112	109	107	112	109	107	106	105	104	102	102	100	99	98	97	96	95	
2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	92	91	89	
3	104	99	94	91	103	97	93	90	95	91	89	92	90	87	90	88	86	84	
4	100	93	88	85	98	92	88	84	90	86	83	88	85	82	86	83	81	80	
5	96	88	83	79	94	87	82	79	86	81	78	84	80	77	82	79	77	75	
6	92	84	78	75	90	83	78	74	81	77	74	80	76	73	79	75	73	72	
7	88	80	74	70	87	79	74	70	78	73	70	77	73	70	75	72	69	68	
8	84	76	70	67	83	75	70	67	74	70	66	73	69	66	72	69	66	65	
9	81	72	67	63	80	72	67	63	71	66	63	70	66	63	69	65	63	61	
10	78	69	64	60	77	68	64	60	68	63	60	67	63	60	66	62	60	59	

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH4-LED-3000L-DIM10-MVOLT-WD-35K-90 HH4-4501-CL-SCH Notes:	**Type:** D2 SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

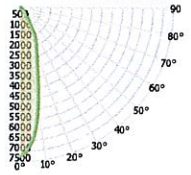
HH4-LED

4" Architectural High Lumen LED Downlight

HH4-LED-3000L-DIM10-MVOLT-SPD-40K-90-HH4-4501-CL-WH TEST NO.: **EL05022201**

INPUT WATTS: **32.1** LUMENS: **3026** EFFICACY: **94** BEAM ANGLE: **25** SPACING CRITERIA: **0.44**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	7242	7242
10°	4864	5172
20°	2219	2261
30°	778	910
40°	270	295
50°	55	66
60°	7	7
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	155070	155070
45.00°	4421	4921
55.00°	529	564
65.00°	199	220
75.00°	105	117
85.00°	12	22

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	617
10° - 20°	1049
20° - 30°	828
30° - 40°	347
40° - 50°	148
50° - 60°	28
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1667	53%
0° - 30°	2494	86%
0° - 40°	2842	96%
0° - 60°	3018	100%
0° - 80°	3024	100%
0° - 90°	3025	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	201.2 fc	3.3 ft	3.2 ft
8.0 ft	113.1 fc	4.4 ft	4.3 ft
10.0 ft	72.4 fc	5.5 ft	5.4 ft
12.0 ft	50.3 fc	6.5 ft	6.5 ft
14.0 ft	36.9 fc	7.6 ft	7.6 ft
16.0 ft	28.3 fc	8.7 ft	8.6 ft
18.0 ft	22.4 fc	9.8 ft	9.7 ft
20.0 ft	18.1 fc	10.9 ft	10.8 ft

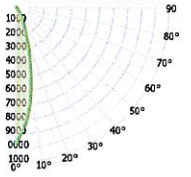
INDOOR COEFFICIENTS OF UTILIZATION

pf																			
	20%																		0%
pc	80%				70%				50%			30%			10%			0%	
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	114	112	109	107	112	109	107	106	105	104	102	102	100	99	98	97	96	95	
2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	93	91	90	
3	105	99	94	91	103	98	93	90	95	92	89	93	90	87	90	88	86	85	
4	100	93	89	85	98	92	88	84	90	86	83	88	85	82	87	84	82	80	
5	96	89	84	80	94	88	83	79	86	82	79	84	81	78	83	80	77	76	
6	92	84	79	75	91	83	79	75	82	78	75	81	77	74	79	76	74	72	
7	88	80	75	71	87	80	75	71	78	74	71	77	73	70	76	73	70	69	
8	85	77	71	68	84	76	71	68	75	71	67	74	70	67	73	70	67	66	
9	82	73	68	65	81	73	68	65	72	67	64	71	67	64	70	67	64	63	
10	79	70	65	62	78	70	65	62	69	65	62	68	64	61	68	64	61	60	

HH4-LED-3000L-DIM10-MVOLT-NSPD-40K-90-HH4-4501-CL-WH TEST NO.: **EL05022201**

INPUT WATTS: **32.1** LUMENS: **3153** EFFICACY: **98** BEAM ANGLE: **19** SPACING CRITERIA: **0.42**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	9601	9601
10°	5978	6553
20°	2033	2040
30°	737	645
40°	202	223
50°	32	39
60°	3	3
70°	1	1
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	205607	205607
45.00°	2565	2863
55.00°	214	255
65.00°	73	85
75.00°	41	50
85.00°	7	15

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	798
10° - 20°	1304
20° - 30°	643
30° - 40°	291
40° - 50°	98
50° - 60°	15
60° - 70°	2
70° - 80°	1
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	2102	67%
0° - 30°	2745	87%
0° - 40°	3036	96%
0° - 60°	3149	100%
0° - 80°	3151	100%
0° - 90°	3151	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	266.7 fc	3.1 ft	3.1 ft
8.0 ft	150.0 fc	4.2 ft	4.1 ft
10.0 ft	96.0 fc	5.2 ft	5.1 ft
12.0 ft	66.7 fc	6.3 ft	6.1 ft
14.0 ft	49.0 fc	7.3 ft	7.1 ft
16.0 ft	37.5 fc	8.3 ft	8.2 ft
18.0 ft	29.6 fc	9.4 ft	9.2 ft
20.0 ft	24.0 fc	10.4 ft	10.2 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf																			
	20%																		0%
pc	80%				70%				50%			30%			10%			0%	
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95	
2	110	106	103	100	108	104	101	99	101	99	97	98	96	95	96	94	93	91	
3	106	101	97	93	104	99	96	93	97	94	91	94	92	90	92	90	88	87	
4	102	96	91	88	100	95	91	87	93	89	86	91	88	85	89	86	84	83	
5	98	91	87	83	97	91	86	83	89	85	82	87	84	81	86	83	81	80	
6	95	87	83	79	93	87	82	79	85	81	78	84	81	78	83	80	77	76	
7	91	84	79	76	90	83	79	75	82	78	75	81	77	75	80	77	74	73	
8	88	81	76	73	87	80	76	72	79	75	72	78	74	72	77	74	72	70	
9	85	78	73	70	84	77	73	70	76	72	69	75	72	69	75	71	69	68	
10	82	75	70	67	82	74	70	67	74	70	67	73	69	67	72	69	66	65	

MAXILUME ARCHITECTURAL LIGHTING By Elite Lighting

HH4-LED

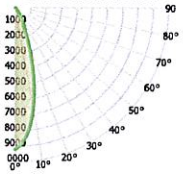
4" Architectural High Lumen LED Downlight

HH4-LED-3000L-DIM10-MVOLT-ND-40K-90-HH4-4501-CL-WH

TEST NO.: **EL05022201**

INPUT WATTS: **32.1** LUMENS: **3181** EFFICACY: **99** BEAM ANGLE: **31** SPACING CRITERIA: **0.48**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	9196	9196
10°	6567	6688
20°	2387	2402
30°	702	665
40°	185	201
50°	31	36
60°	3	3
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	196917	196917
45.00°	2395	2596
55.00°	225	242
65.00°	82	89
75.00°	49	54
85.00°	10	15

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	771
10° - 20°	1328
20° - 30°	694
30° - 40°	281
40° - 50°	90
50° - 60°	14
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	2099	66%
0° - 30°	2792	88%
0° - 40°	3073	97%
0° - 60°	3176	100%
0° - 80°	3179	100%
0° - 90°	3179	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	255.4 fc	3.4 ft	3.4 ft
8.0 ft	143.7 fc	4.5 ft	4.5 ft
10.0 ft	92.0 fc	5.6 ft	5.6 ft
12.0 ft	63.9 fc	6.7 ft	6.7 ft
14.0 ft	46.9 fc	7.9 ft	7.9 ft
16.0 ft	35.9 fc	9.0 ft	9.0 ft
18.0 ft	28.4 fc	10.1 ft	10.1 ft
20.0 ft	23.0 fc	11.2 ft	11.2 ft



INDOOR COEFFICIENTS OF UTILIZATION

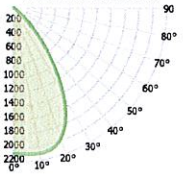
pf																		
pc	80%				70%				50%				30%				10%	0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95
2	110	106	103	100	108	104	101	99	101	99	97	98	96	95	96	94	93	91
3	106	101	96	93	104	99	95	92	97	94	91	94	92	90	92	90	88	87
4	102	96	91	88	100	95	90	87	93	89	86	91	88	85	89	86	84	83
5	98	91	87	83	97	90	86	83	89	85	82	87	84	81	86	83	81	79
6	94	87	83	79	93	87	82	79	85	81	78	84	80	78	83	80	77	76
7	91	84	79	75	90	83	79	75	82	78	75	81	77	75	80	77	74	73
8	88	80	76	72	87	80	75	72	79	75	72	78	74	72	77	74	71	70
9	85	77	73	69	84	77	72	69	76	72	69	75	72	69	74	71	69	68
10	82	74	70	67	81	74	70	67	73	69	66	73	69	66	72	69	66	65

HH4-LED-3000L-DIM10-MVOLT-VWD-40K-90-HH4-4501-CL-WH

TEST NO.: **EL05022201**

INPUT WATTS: **32.2** LUMENS: **2628** EFFICACY: **82** BEAM ANGLE: **72** SPACING CRITERIA: **1.09 x 1.09**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	2071	2071
10°	2101	2092
20°	1972	1967
30°	1421	1437
40°	590	617
50°	76	85
60°	9	9
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	44349	44349
45.00°	7851	8507
55.00°	724	750
65.00°	243	258
75.00°	119	130
85.00°	12	22

LUMENS PER ZONE

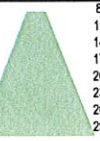
ZONE	LUMENS
0° - 10°	199
10° - 20°	584
20° - 30°	825
30° - 40°	697
40° - 50°	278
50° - 60°	35
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	783	30%
0° - 30°	1609	61%
0° - 40°	2306	90%
0° - 60°	2619	100%
0° - 80°	2626	100%
0° - 90°	2627	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	57.5 fc	8.7 ft	8.7 ft
8.0 ft	32.4 fc	11.6 ft	11.6 ft
10.0 ft	20.7 fc	14.5 ft	14.5 ft
12.0 ft	14.4 fc	17.4 ft	17.5 ft
14.0 ft	10.6 fc	20.3 ft	20.4 ft
16.0 ft	8.1 fc	23.2 ft	23.3 ft
18.0 ft	6.4 fc	26.1 ft	26.2 ft
20.0 ft	5.2 fc	29.0 ft	29.1 ft



INDOOR COEFFICIENTS OF UTILIZATION

pf																		
pc	80%				70%				50%				30%				10%	0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	113	110	108	105	111	108	106	104	104	102	100	100	99	97	97	96	95	93
2	107	102	98	94	105	100	96	93	97	94	91	94	91	89	91	89	87	85
3	101	94	89	85	99	93	88	84	90	86	83	88	84	81	85	83	80	78
4	95	87	81	77	94	86	81	76	84	79	76	82	78	75	80	77	74	72
5	90	81	75	70	88	80	74	70	78	73	69	77	72	69	75	71	68	66
6	85	75	69	64	84	75	69	64	73	68	64	72	67	63	70	66	63	61
7	80	70	64	59	79	70	64	59	68	63	59	67	62	59	66	62	58	57
8	76	66	59	55	75	65	59	55	64	59	55	63	58	54	62	57	54	53
9	72	62	55	51	71	61	55	51	60	55	51	59	54	50	58	54	50	49
10	68	58	52	47	67	57	51	47	57	51	47	56	51	47	55	50	47	46

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH4-LED-3000L-DIM10-MVOLT-WD-35K-90 HH4-4501-CL-SCH Notes:	**Type:** D2 SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED

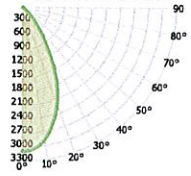
4" Architectural High Lumen LED Downlight

4"

HH4-LED-3000L-DIM10-MVOLT-WD-40K-90-HH4-4501-CL-WH TEST NO.: **EL05022201**

INPUT WATTS: **32.2** LUMENS: **2791** EFFICACY: **87** BEAM ANGLE: **58** SPACING CRITERIA: **0.84**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	3079	3079
10°	2876	2898
20°	2205	2247
30°	1260	1315
40°	459	504
50°	65	80
60°	8	0
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	65935	65935
45.00°	6347	7185
55.00°	629	682
65.00°	226	247
75.00°	115	125
85.00°	12	12

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	288
10° - 20°	747
20° - 30°	874
30° - 40°	606
40° - 50°	234
50° - 60°	13
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1034	37%
0° - 30°	1908	68%
0° - 40°	2515	90%
0° - 60°	2782	100%
0° - 80°	2790	100%
0° - 90°	2790	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	85.5 fc	6.7 ft	6.6 ft
8.0 ft	48.1 fc	8.9 ft	8.9 ft
10.0 ft	30.8 fc	11.1 ft	11.1 ft
12.0 ft	21.4 fc	13.3 ft	13.3 ft
14.0 ft	15.7 fc	15.5 ft	15.5 ft
16.0 ft	12.0 fc	17.7 ft	17.7 ft
18.0 ft	9.5 fc	20.0 ft	19.9 ft
20.0 ft	7.7 fc	22.2 ft	22.1 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf																		
pc	80%				70%				50%				30%				10%	0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87
3	102	96	91	87	100	94	90	86	92	88	85	89	86	83	87	84	82	80
4	97	89	84	79	95	88	83	79	86	81	78	84	80	77	82	79	76	75
5	92	83	77	73	90	82	77	73	81	76	72	79	75	71	77	74	71	69
6	87	78	72	68	86	77	72	67	76	71	67	74	70	66	73	69	66	65
7	83	73	67	63	81	73	67	63	71	66	62	70	65	62	69	65	62	60
8	79	69	63	59	77	68	63	59	67	62	58	66	61	58	65	61	58	56
9	75	65	59	55	74	64	59	55	63	58	55	63	58	54	62	57	54	53
10	71	61	55	52	70	61	55	51	60	55	51	59	55	51	59	54	51	50

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH4-LED-3000L-DIM10-MVOLT-WD-35K-90 HH4-4501-CL-SCH Notes:	**Type:** D2 SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED 4"

4" Architectural High Lumen LED Downlight

1- Luminaire will be shipped with Powerpacks pre-installed, ready to be integrated to designated contol systems
2- Luminaire will be shipped with Sensors installed on the luminaire, allowing for individual luminaire control. Luminaires will be ready to be integrated with designated control systems
3- Luminaire will be shipped with Sensors to be remotely installed on the ceiling. Luminaires will be ready to be integrated with designated control systems

BRAND	NX LIGHTING CONTROLS	LUTRON	enlighted	LEVITON	ENCELIUM	PHILIPS EasySense	legrand
CONTROL UNIT	❑ NXFM-1R2D-0-UNV NX Fixture Module, Offset, 1 Relay, 2 0-10V Dimming Channels, 120-347VAC, Blue	❑ FCJS-010 Lutron Vive 0-10V Individual Pow Pak (Luminare is shipped Vive Enabled) [14] ❑ FCJS-ECO Lutron Vive Eco-system Pow Pak (Luminare is shipped Vive Enabled) ❑ A-WN-D01-RF-WH Athena wireless node (RF only) (White) ❑ A-WN-D01-OCC-WH Athena wireless node with sensor (White)	❑ CU-4E-FMH Fixture Mount Control Unit [15]	❑ ZL027 –N0W Intellect Power Control Module [16] ❑ ZL027 –N0W Intellect Power Control Module [16]	❑ EN-WCM2-ZB-DR Wireless Control Module [17] ❑ EN- ALC-ZB-BK-DR Wireless Area Lighting Control Module [17] ❑ ZBHA-CLM-DIM-ENC Connected Lighting Module DIM [17]	❑ SBR -BS Xitanium SR Bridge [18]	❑ LMFC-011 ON/OFF/0-10V dimming fixture controller [19]
INTEGRAT SENSOR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
*WIRELESS OCCUPANCY SENSOR	❑ NXSMP2-SMI NX Slide Mount Indoor Sensor Module	N/A	N/A	N/A	N/A	N/A	❑ LMDC-100 Dual technology PIR Ceiling Mount Occupancy Sensor [3]
*WIRELESS DAYLIGHT SENSOR	❑ LUXSTATLS Luxstat Light Sensor for Luxstat Control Modules, 3 to 6000 FC	N/A	N/A	N/A	N/A	N/A	❑ LMLS-400 Single zone switching and dimming digital photosensor [3]
*WIRELESS OCCUPANCY & DAYLIGHT SENSOR	❑ NXSMDT Indoor Ceiling Mount Sensor - OMNI	N/A	❑ SU-5E-IoT IoT Node Micro Sensor [3] ❑ SU-5E-CL Connected Lighting Micro Sensor [3] ❑ SU-5E-IL Independent Lighting / Enlighted One Micro Sensor [3] ❑ SU-5S-H-(IoT/CL/IL) Surface Mount Sensor [3] **(Must be specified with CU-4E-FMH Control Unit)**	❑ ZL00J -T0W Intellect Intelligent Fixture Control System [3] **(Must be specified with ZL027 –N0W Control Unit)**	❑ EN-CLM-PIR-DD-ZB SensiLUM™ Wireless Integrated Sensor ❑ EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors [3] **(Must be specified with EN-WCM2-ZB-DR or EN-ALC-ZB-BK-DR Control Unit)**	❑ SNS200-CMP SNS200 for grouping [3]	N/A
ACCESORIES	N/A	N/A	❑ TMC-SU-5E Tile Mount Carrier ❑ CBL-5E-CU4-30N 30 inch Sensor Cable for CU-4 and IoT ReadyTM drivers ❑ CBL-5E-CU4-7F 7 foot Sensor Cable for CU-4 and IoT ReadyTM drivers	N/A	N/A	N/A	N/A
NOTES	N/A	4- Luminaire will be compatible with Lutron LRF2-OCR2B-P-WH Ceiling mount360° occupancy/vacancy sensor & LRF2-DCRB-WH Ceiling-mount daylight sensor. Sensors must be ordered through Lutron.	5- Luminaire will be compatible with ENLIGHTED SU-5E-IoT, SU-5E-CL, SU-5E-IL, SU-5S-H, Sensors.	6-Luminaire will be compatible with Leviton Intellect App & Keypad Room Controller	7-Luminaire will be compatible with EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors	8-Luminaire will be compatible with Philips field and wireless switch.	9-Luminaire will be compatible with DLM Room control system LMPB-100. DLM control system must be orderd through Legrand.

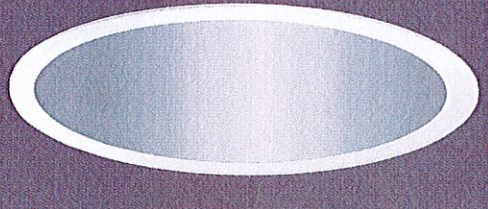
Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH4-LED-3000L-DIM10-MVOLT-WD-35K-90-O-EMG-LED-10W HH4-4501-CL-SCH Notes:	**Type:** D2E SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED

4" Architectural High Lumen LED Downlight





HH4-4501
Flanged Downlight



HH4-4507
Flanged Wall Wash



HH4-4577
Flanged Double Wall Wash



HH4-TL-4501
Trimless Downlight

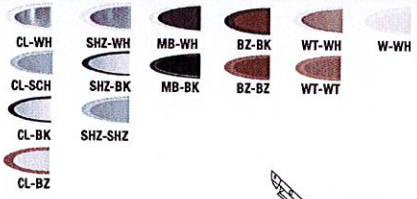


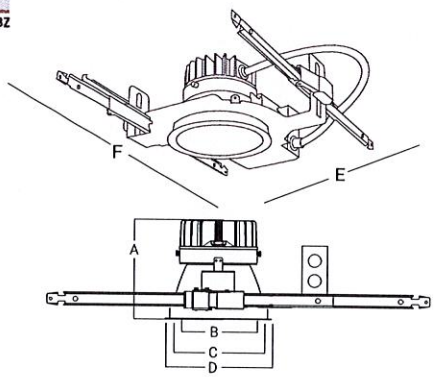
HH4-TL-4507
Trimless Wall Wash



HH4-4535-WH
Polycarbonate

REFLECTOR/ FLANGE COLORS





A: Height = 5-3/4"
B: Trim Aperture = 4"
C: Cut-Out = 4-1/2"
D: Trim Outside Dia = 5-3/8"
E: Width = 16"
F: Length = 12-1/2"

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
3000	3579	32W
2000	2144	24W
1500	1699	18W
1200	1341	14W
900	995	10W
NOMINAL LUMENS (HP)	DELIVERED LUMENS (HP)	WATTAGE (HP)
1200	1401	12W
2000	2059	18W

Based on 4000K, 90+CRI with semi-specular chrome reflector.
Actual wattage may vary +/-5%

FEATURES

A highly sustainable and ultra-efficient architectural LED downlight that provides even, glare-free illumination. Available in a range of finishes, distributions, and lumen packages, it is ideally suited for use in corporate office space, hospitality, healthcare, commercial, academic, churches and retail.

OPTICS AND REFLECTOR

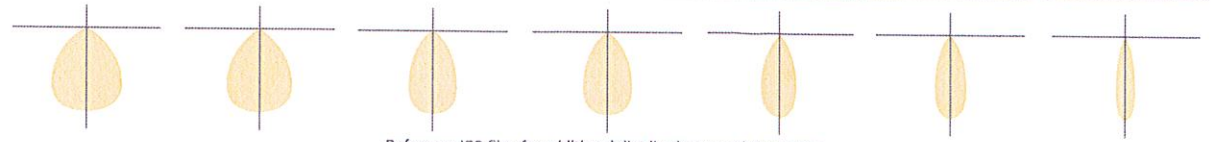
The reflector has a 45° visual cutoff, and is shipped standard with a Solite lens in a smooth frosted finish. Spun from 0.05" thick aluminum, with a 1-step anodized finish, and available in different colors or custom RAL finishes. Reflector flange options include self-flanged and white painted flange. Various distribution options are available, and all optics are field changeable.

LUMENS	900, 1200, 1500, 2000, 3000*[1] (Custom lumen packages available), HL6-IP-VR, HL6-LED
CCT & DYNAMIC PLATFORMS	22K, 27K, 30K, 35K, 40K, 50K, Tunable White, Dims to Warm, RGB + White
CRI	90+ Standard, 98+ Optional
COLOR QUALITY	2 Step MacAdam Ellipse
DISTRIBUTIONS	VWD, WD, MWD, MD, ND, SPD, NSPD
TRIM OPTIONS	Downlight, Wall Wash, Double Wall Wash, Wet Location
REFLECTOR COLORS	CL (Semi-Specular Chrome), SHZ (Low Iridescent Satin Haze), WT (Wheat), W (White), MB (Black). BZ (Bronze) WAM(White Anti Macrobial), Custom RAL
FLANGE COLORS	Self-Flanged WH (White), SCH (Semi-Specular Chrome), SHZ (Low Iridescent Satin Haze), BK (Black), BZ (Bronze)
DIMMING	0-10V Flicker Free 1% Dimming Standard (DIM10), LUTH, LUTFTB, ELDO10.1-LIN, ELDODMX.1, ELDODALI.1, DIMTR, BLE,POE, ELDO10-LOG, XSR, DIM10-AUX, DIM10-0-Off
EMERGENCY	10W - Up to 1000L Output 20W - Up to 2000L Output EMG-LED-G2-10W-SDT - Self Diagnostic (Consult Factory) GTD-UL924
LIFETIME	L70>60,000-hour reported lifetime L70>200,000-hour calculated lifetime
PHOTOMETRIC TESTS	In Accordance with IES LM79-08, LM80 and TM-30, TM-21

[1] 3000 Lumens is not ENERGY STAR certified

* Only Available on 85+ CRI

VWD: Very Wide	WD:Wide	MWD:Medium Wide	MD:Medium	ND: Narrow	SPD:Spot	NSPD:Narrow Spot



Reference IES files for additional distribution curve information.



elite LED LIGHTING

www.iuseelite.com

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.
RS190627/NS190711/ BB190711

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED

4" Architectural High Lumen LED Downlight

4"

THERMAL MANAGEMENT SYSTEM

Passive cooling Diecast Aluminum Heat Sink, LED light engine and driver are replaceable, upgradeable, and can be accessed from below the ceiling. The consistency in the quality of light is delivered with precision performance by the use of a unique locking mechanism that aligns the reflector with the light engine.

MOUNTING FRAME & BRACKETS

The downlight mounting frame is a fabricated assembly constructed of 16-gauge steel, with C-channel mounting brackets, included. The versatility of the mounting brackets allow for an adjustability of up to 28" horizontally, and 2-3/4" vertically, locking into place. With the added die-formed! construction of the mounting frame, it provides maximum heat dissipation and rust protection.

DRIVER ELECTRICAL INFORMATION

The LED driver is rated for 50 to 60Hz at 120V/277V, also available in 347V input, produces less than 20%THD, has a power factor between 90% and 100%, and is thermally protected for additional safety. Junction box and Driver can be accessed from below the ceiling and above the ceiling. Junction Box is Listed for through branch circuit wiring.

DIMMING & DRIVER INFORMATION

DIM10 - 0-10V dimming on either MVOLT 120, 277 or 347V. Dimmable down to 1% of initial lumens, standard.
DIMTR - Triac & Electronic low voltage dimming. Available in 120V, and up to 6000 lumens only.
LUTH - Lutron LDE1 Hi-Lume 1% Eco System LED driver with Soft-on, Fade to Black dimming technology.
LUTFB - Lutron PEQ0E Hi-Lume Premier 1% Eco System LED Driver with Soft-on, Fade to Black dimming technology. Available on all luminaires up to 1500 lumens.
ELDO10.1-LIN - EldoLED SoloDrive 0-10V. Dimming down to 0.1%. Linear dimming curve.
DALI - DALI DT6, DT8 dimming down to 1%.
ELDODMX - EldoLED PowerDrive dimming down to 0.1%.
BLE - Luminaires may be controlled, grouped, scheduled or placed in scenes and or zones Via Cassambi Bluetooth 4.0 App.
DIM10-0-OFF - Program DIM10-to OFF withlinear dimming curve 0.1%
ELDO10- LOG - ELDO10-LOG with logarithmic dimming curve.
POE - Power-over-Ethernet Depending on the PoE manufacturer selected, The Node will install the node in factory as either integral to the luminaire or as a remote module.
XSR - Xitanium SR Dimming
DIM10-AUX - 0-10V with Auxiliry power

LED DYNAMIC PLATFORM OPTIONS

Tunable White with Smart White Technology utilizing the Lumenetix Platform allows you to color tune the luminaire via various controls. Create the perfect environment for the desired use of the space, while maintaining a CRI of 90+ across the tunable range of 8000 to 1650K. (Click here for more details)

Dims to Warm with Smart Dimming Technology. At 100% full brightness the luminaire is at 3000K. When dimmed to 1%, the light transitions to 1800K, creating a warm ambiance within the space. (Click here for more details)

RGB+White with Smart Hue Technology provides full color mixing of RGB and white colors. Utilizing the Lumenetix Platform allows you to choose from unlimited RGB color options, via various controls. Ideal for Circadian Rhythm applications or to create the perfect human centric environment. (Click here for more details)

OPTICAL

Modular Optics Available with 15°, 24°, 30°, 36°, 52°, 60° and 70° field interchangeable optics design with 45° cutoff to source.
Top-down flash characteristic for superior glare control. The optics attached directly the light engine to the Trim for complete optical alignment and sufficient efficacy.

WARRANTY

Five-year warranty for parts and components. (Labor not included)

LISTINGS

c-UL-us - Listed for Wet Location if used with HH4-4501 Trim.
c-UL-us - Listed for Feed Through Wiring.

U.S Patent No. - D685,118S
CP-City of Chicago environmental air (CCEA) marking for plenum applications.
Energy Star and California Title 24 compliant
Optional Black color trim is not ENERGYSTAR certified and won't meet the requirement.
BAA- Buy American Act Compliant government procurement requirements under FAR, DFARS and DOT regulations.

Example: **HH4-LED-2000L-DIM10-MVOLT-MD-40K-90-HH4-4501-CL-WH**

SERIES	LUMENS	DRIVER	VOLTAGE	CCT	EMERGENCY	TRIM TYPE	REFLECTOR/FLANGE COLORS
HH4-LED	❑ 900L ❑ 1200L ❑ 1500L ❑ 2000L ❑ 3000L[4] ❑ 1200L-HP ❑ 2000L-HP	❑ DIM10 ❑ DIMTR [3] [5] ❑ LUTH [3] ❑ LUTFTB [4] ❑ ELDO10-.1-LIN ❑ ELDODALI-.1 ❑ ELDODMX-.1 ❑ BLE ❑ POE ❑ DIM10-0-OFF ❑ ELDO10-LOG ❑ XSR ❑ DIM10-AUX	❑ 120 ❑ 277 ❑ MVOLT ❑ 347 (DIM10 only)	❑ 22K ❑ 27K ❑ 30K ❑ 35K ❑ 40K ❑ 50K[2]	❑ EMG-LED-10W ❑ EMG-LED-20W ❑ INTG-EMG-LED-10W ❑ INTG-EMG-LED-20W ❑ EMG-LED-G2-10W-SDT* ❑ GTD-UL924 Typical lumen output of the luminaire is up to 1000L with EMG-LED-10W option & 2000L with EMG-LED-20W option in emergency mode. Contact the factory for details. Remote mounted installation • Consult Factory for Self Diagnostic	❑ HH4-4501 Flanged Downlight ❑ HH4-4507 Flanged Wall Wash ❑ HH4-4577 Flanged Double Wall Wash ❑ HH4-4535 Polycarbonate non conductive with "Dead Front" construction	❑ CL-WH ❑ W-WH ❑ SHZ-SHZ ❑ CL-SCH ❑ MB-WH* ❑ SHZ-BK ❑ CL-BK ❑ MB-BK* ❑ WT-WH ❑ CL-BZ ❑ BZ-BK ❑ WT-WT ❑ SHZ-WH ❑ BZ-BZ * Black color trim is not ENERGYSTAR certified ❑ RAL ❑ WAM White Anti Microbial

OPTICS	CRI	OPTIONS	TRIMLESS	FLANGE COLORS
❑ VWD 70° ❑ WD 60° ❑ MWD 52° ❑ MD 38° ❑ ND 30° ❑ SPD 24° ❑ NSPD 15°	❑ 90+ ❑ 98+[3] ❑ Xicato 95[7]	❑ CP (Chicago Plenum) ❑ BAA ❑ HP (High Performance)[6] ❑ Remote LED Driver Mounting	❑ HH4-TL-4501 Trimless Downlight ❑ HH4-TL-4507 Trimless Wall Wash	❑ WH ❑ BZ ❑ BK ❑ SCH ❑ SHZ

TRIMLESS FINISH
❑ CL ❑ MB ❑ SHZ ❑ WH

[1] **DIMTR** is available in 120V only
[2] **50K** series are available with 85+ CRI only
[3] **98+**CRI is available in 27K, 30K and 40K only
[4] 3000 Lumens is not energy Star certified
[5] LUTFTB Available for luminaires up to 1500L
[6] 3000K, 3500K and 4000K based on 90 CRI
[7] Available on 30K, 35K, 40K
-Reference last page for Control Options
* Only Available on 85+ CRI

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH4-LED-3000L-DIM10-MVOLT-WD-35K-90-O-EMG-LED-10W HH4-4501-CL-SCH Notes:	**Type:** D2E SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

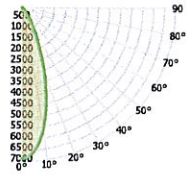
HH4-LED
4" Architectural High Lumen LED Downlight

4"

HH4-LED-3000L-DIM10-MVOLT-MD-40K-90-HH4-4501-CL-WH TEST NO.: **EL05022201**

INPUT WATTS: **32.1** LUMENS: **3074** EFFICACY: **96** BEAM ANGLE: **37** SPACING CRITERIA: **0.57**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	6865	6865
10°	5563	5499
20°	2816	2708
30°	777	740
40°	208	220
50°	32	36
60°	3	4
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	147009	147009
45.00°	2646	2904
55.00°	255	274
65.00°	98	106
75.00°	57	63
85.00°	10	15

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	604
10° - 20°	1224
20° - 30°	817
30° - 40°	313
40° - 50°	98
50° - 60°	14
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1828	59%
0° - 30°	2645	86%
0° - 40°	2958	96%
0° - 60°	3069	100%
0° - 80°	3072	100%
0° - 90°	3073	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	190.7 fc	4.0 ft	4.0 ft
8.0 ft	107.3 fc	5.4 ft	5.4 ft
10.0 ft	68.7 fc	6.7 ft	6.7 ft
12.0 ft	47.7 fc	8.1 ft	8.1 ft
14.0 ft	35.0 fc	9.4 ft	9.4 ft
16.0 ft	26.8 fc	10.8 ft	10.8 ft
18.0 ft	21.2 fc	12.1 ft	12.1 ft
20.0 ft	17.2 fc	13.5 ft	13.4 ft

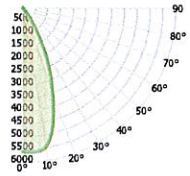
INDOOR COEFFICIENTS OF UTILIZATION

pf								20%										0%
pc		80%				70%				50%				30%				0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95
2	110	105	102	99	107	104	101	98	100	98	96	98	95	94	95	93	92	90
3	105	100	95	92	103	98	94	91	96	92	90	93	91	88	91	89	87	86
4	101	94	90	86	99	93	89	86	91	88	85	89	86	84	88	85	83	81
5	97	90	85	81	95	89	84	81	87	83	80	86	82	79	84	81	79	77
6	93	85	80	77	92	85	80	77	83	79	76	82	78	76	81	78	75	74
7	89	82	76	73	88	81	76	73	80	75	72	79	75	72	78	74	72	70
8	86	78	73	69	85	77	73	69	76	72	69	76	72	69	75	71	69	67
9	83	75	70	66	82	74	69	66	73	69	66	73	69	66	72	68	66	64
10	80	72	67	63	79	71	67	63	71	66	63	70	66	63	69	66	63	62

HH4-LED-3000L-DIM10-MVOLT-MWD-40K-90-HH4-4501-CL-WH TEST NO.: **EL05022201**

INPUT WATTS: **32.2** LUMENS: **3579** EFFICACY: **111** BEAM ANGLE: **48** SPACING CRITERIA: **0.74**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	5579	5579
10°	5439	5397
20°	3446	3683
30°	1237	1423
40°	215	229
50°	40	48
60°	5	5
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	477859	477859
45.00°	11776	13161
55.00°	1298	1653
65.00°	608	655
75.00°	374	410
85.00°	69	88

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	537
10° - 20°	1328
20° - 30°	1180
30° - 40°	410
40° - 50°	100
50° - 60°	17
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1865	52%
0° - 30°	3045	85%
0° - 40°	3455	97%
0° - 60°	3572	100%
0° - 80°	3577	100%
0° - 90°	3577	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	155.0 fc	5.3 ft	5.3 ft
8.0 ft	87.2 fc	7.1 ft	7.1 ft
10.0 ft	55.8 fc	8.8 ft	8.8 ft
12.0 ft	38.7 fc	10.6 ft	10.6 ft
14.0 ft	28.5 fc	12.4 ft	12.3 ft
16.0 ft	21.8 fc	14.1 ft	14.1 ft
18.0 ft	17.2 fc	15.9 ft	15.9 ft
20.0 ft	13.9 fc	17.7 ft	17.6 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf								20%										0%
pc		80%				70%				50%				30%				0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	114	112	109	107	112	109	107	106	105	104	102	102	100	99	98	97	96	95
2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	92	91	89
3	104	99	94	91	103	97	93	90	95	91	89	92	90	87	90	88	86	84
4	100	93	88	85	98	92	88	84	90	86	83	88	85	82	86	83	81	80
5	96	88	83	79	94	87	82	79	86	81	78	84	80	77	82	79	77	75
6	92	84	78	75	90	83	78	74	81	77	74	80	76	73	79	75	73	72
7	88	80	74	70	87	79	74	70	78	73	70	77	73	70	75	72	69	68
8	84	76	70	67	83	75	70	67	74	70	66	73	69	66	72	69	66	65
9	81	72	67	63	80	72	67	63	71	66	63	70	66	63	69	65	63	61
10	78	69	64	60	77	68	64	60	68	63	60	67	63	60	66	62	60	59

MAXILUME ARCHITECTURAL LIGHTING By Elite Lighting

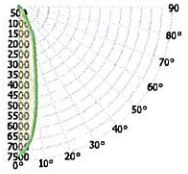
HH4-LED

4" Architectural High Lumen LED Downlight

HH4-LED-3000L-DIM10-MVOLT-SPD-40K-90-HH4-4501-CL-WH TEST NO.: **EL05022201**

INPUT WATTS: **32.1** LUMENS: **3026** EFFICACY: **94** BEAM ANGLE: **25** SPACING CRITERIA: **0.44**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	7242	7242
10°	4864	5172
20°	2219	2261
30°	778	910
40°	270	295
50°	55	66
60°	7	7
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	155070	155070
45.00°	4421	4921
55.00°	529	564
65.00°	199	220
75.00°	105	117
85.00°	12	22

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	617
10° - 20°	1049
20° - 30°	828
30° - 40°	347
40° - 50°	148
50° - 60°	28
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1667	53%
0° - 30°	2494	86%
0° - 40°	2842	96%
0° - 60°	3018	100%
0° - 80°	3024	100%
0° - 90°	3025	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	201.2 fc	3.3 ft	3.2 ft
8.0 ft	113.1 fc	4.4 ft	4.3 ft
10.0 ft	72.4 fc	5.5 ft	5.4 ft
12.0 ft	50.3 fc	6.5 ft	6.5 ft
14.0 ft	36.9 fc	7.6 ft	7.6 ft
16.0 ft	28.3 fc	8.7 ft	8.6 ft
18.0 ft	22.4 fc	9.8 ft	9.7 ft
20.0 ft	18.1 fc	10.9 ft	10.8 ft

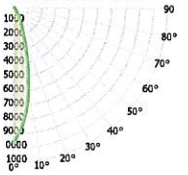
INDOOR COEFFICIENTS OF UTILIZATION

pf																			
pc	80%				70%				50%				30%			10%			0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	114	112	109	107	112	109	107	106	105	104	102	102	100	99	98	97	96	95	
2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	93	91	90	
3	105	99	94	91	103	98	93	90	95	92	89	93	90	87	90	88	86	85	
4	100	93	89	85	98	92	88	84	90	86	83	88	85	82	87	84	82	80	
5	96	89	84	80	94	88	83	79	86	82	79	84	81	78	83	80	77	76	
6	92	84	79	75	91	83	79	75	82	78	75	81	77	74	79	76	74	72	
7	88	80	75	71	87	80	75	71	78	74	71	77	73	70	76	73	70	69	
8	85	77	71	68	84	76	71	68	75	71	67	74	70	67	73	70	67	66	
9	82	73	68	65	81	73	68	65	72	67	64	71	67	64	70	67	64	63	
10	79	70	65	62	78	70	65	62	69	65	62	68	64	61	68	64	61	60	

HH4-LED-3000L-DIM10-MVOLT-NSPD-40K-90-HH4-4501-CL-WH TEST NO.: **EL05022201**

INPUT WATTS: **32.1** LUMENS: **3153** EFFICACY: **98** BEAM ANGLE: **19** SPACING CRITERIA: **0.42**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	9601	9601
10°	5978	6553
20°	2033	2040
30°	737	645
40°	202	223
50°	32	39
60°	3	3
70°	1	1
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	205607	205607
45.00°	2565	2863
55.00°	214	255
65.00°	73	85
75.00°	41	50
85.00°	7	15

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	798
10° - 20°	1304
20° - 30°	643
30° - 40°	291
40° - 50°	98
50° - 60°	15
60° - 70°	2
70° - 80°	1
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	2102	67%
0° - 30°	2745	87%
0° - 40°	3036	96%
0° - 60°	3149	100%
0° - 80°	3151	100%
0° - 90°	3151	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	266.7 fc	3.1 ft	3.1 ft
8.0 ft	150.0 fc	4.2 ft	4.1 ft
10.0 ft	96.0 fc	5.2 ft	5.1 ft
12.0 ft	66.7 fc	6.3 ft	6.1 ft
14.0 ft	49.0 fc	7.3 ft	7.1 ft
16.0 ft	37.5 fc	8.3 ft	8.2 ft
18.0 ft	29.6 fc	9.4 ft	9.2 ft
20.0 ft	24.0 fc	10.4 ft	10.2 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf																			
pc	80%				70%				50%				30%			10%			0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95	
2	110	106	103	100	108	104	101	99	101	99	97	98	96	95	96	94	93	91	
3	106	101	97	93	104	99	96	93	97	94	91	94	92	90	92	90	88	87	
4	102	96	91	88	100	95	91	87	93	89	86	91	88	85	89	86	84	83	
5	98	91	87	83	97	91	86	83	89	85	82	87	84	81	86	83	81	80	
6	95	87	83	79	93	87	82	79	85	81	78	84	81	78	83	80	77	76	
7	91	84	79	76	90	83	79	75	82	78	75	81	77	75	80	77	74	73	
8	88	81	76	73	87	80	76	72	79	75	72	78	74	72	77	74	72	70	
9	85	78	73	70	84	77	73	70	76	72	69	75	72	69	75	71	69	68	
10	82	75	70	67	82	74	70	67	74	70	67	73	69	67	72	69	66	65	

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH4-LED-3000L-DIM10-MVOLT-WD-35K-90-O-EMG-LED-10W HH4-4501-CL-SCH Notes:	**Type:** D2E SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING By Elite Lighting

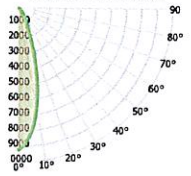
HH4-LED

4" Architectural High Lumen LED Downlight

HH4-LED-3000L-DIM10-MVOLT-ND-40K-90-HH4-4501-CL-WH TEST NO.: **EL05022201**

INPUT WATTS: **32.1** LUMENS: **3181** EFFICACY: **99** BEAM ANGLE: **31** SPACING CRITERIA: **0.48**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	9196	9196
10°	6567	6688
20°	2387	2402
30°	702	665
40°	185	201
50°	31	36
60°	3	3
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	196917	196917
45.00°	2395	2596
55.00°	225	242
65.00°	82	89
75.00°	49	54
85.00°	10	15

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	771
10° - 20°	1328
20° - 30°	694
30° - 40°	281
40° - 50°	90
50° - 60°	14
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	2099	66%
0° - 30°	2792	88%
0° - 40°	3073	97%
0° - 60°	3176	100%
0° - 80°	3179	100%
0° - 90°	3179	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	255.4 fc	3.4 ft	3.4 ft
8.0 ft	143.7 fc	4.5 ft	4.5 ft
10.0 ft	92.0 fc	5.6 ft	5.6 ft
12.0 ft	63.9 fc	6.7 ft	6.7 ft
14.0 ft	46.9 fc	7.9 ft	7.9 ft
16.0 ft	35.9 fc	9.0 ft	9.0 ft
18.0 ft	28.4 fc	10.1 ft	10.1 ft
20.0 ft	23.0 fc	11.2 ft	11.2 ft

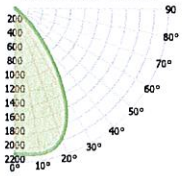
INDOOR COEFFICIENTS OF UTILIZATION

pf																		
pc	80%				70%				50%				30%			10%		0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95
2	110	106	103	100	108	104	101	99	101	99	97	98	96	95	96	94	93	91
3	106	101	96	93	104	99	95	92	97	94	91	94	92	90	92	90	88	87
4	102	96	91	88	100	95	90	87	93	89	86	91	88	85	89	86	84	83
5	98	91	87	83	97	90	86	83	89	85	82	87	84	81	86	83	81	79
6	94	87	83	79	93	87	82	79	85	81	78	84	80	78	83	80	77	76
7	91	84	79	75	90	83	79	75	82	78	75	81	77	75	80	77	74	73
8	88	80	76	72	87	80	75	72	79	75	72	78	74	72	77	74	71	70
9	85	77	73	69	84	77	72	69	76	72	69	75	72	69	74	71	69	68
10	82	74	70	67	81	74	70	67	73	69	66	73	69	66	72	69	66	65

HH4-LED-3000L-DIM10-MVOLT-VWD-40K-90-HH4-4501-CL-WH TEST NO.: **EL05022201**

INPUT WATTS: **32.2** LUMENS: **2628** EFFICACY: **82** BEAM ANGLE: **72** SPACING CRITERIA: **1.09 x 1.09**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	2071	2071
10°	2101	2092
20°	1972	1967
30°	1421	1437
40°	590	617
50°	76	85
60°	9	9
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	44349	44349
45.00°	7851	8507
55.00°	724	750
65.00°	243	258
75.00°	119	130
85.00°	12	22

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	199
10° - 20°	584
20° - 30°	825
30° - 40°	697
40° - 50°	278
50° - 60°	35
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	783	30%
0° - 30°	1609	61%
0° - 40°	2306	90%
0° - 60°	2619	100%
0° - 80°	2626	100%
0° - 90°	2627	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	57.5 fc	8.7 ft	8.7 ft
8.0 ft	32.4 fc	11.6 ft	11.6 ft
10.0 ft	20.7 fc	14.5 ft	14.5 ft
12.0 ft	14.4 fc	17.4 ft	17.5 ft
14.0 ft	10.6 fc	20.3 ft	20.4 ft
16.0 ft	8.1 fc	23.2 ft	23.3 ft
18.0 ft	6.4 fc	26.1 ft	26.2 ft
20.0 ft	5.2 fc	29.0 ft	29.1 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf																		
pc	80%				70%				50%				30%			10%		0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	113	110	108	105	111	108	106	104	104	102	100	100	99	97	97	96	95	93
2	107	102	98	94	105	100	96	93	97	94	91	94	91	89	91	89	87	85
3	101	94	89	85	99	93	88	84	90	86	83	88	84	81	85	83	80	78
4	95	87	81	77	94	86	81	76	84	79	76	82	78	75	80	77	74	72
5	90	81	75	70	88	80	74	70	78	73	69	77	72	69	75	71	68	66
6	85	75	69	64	84	75	69	64	73	68	64	72	67	63	70	66	63	61
7	80	70	64	59	79	70	64	59	68	63	59	67	62	59	66	62	58	57
8	76	66	59	55	75	65	59	55	64	59	55	63	58	54	62	57	54	53
9	72	62	55	51	71	61	55	51	60	55	51	59	54	50	58	54	50	49
10	68	58	52	47	67	57	51	47	57	51	47	56	51	47	55	50	47	46

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH4-LED-3000L-DIM10-MVOLT-WD-35K-90-O-EMG-LED-10W HH4-4501-CL-SCH Notes:	**Type:** D2E SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED

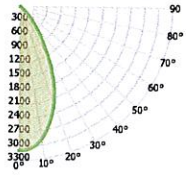
4" Architectural High Lumen LED Downlight

4"

HH4-LED-3000L-DIM10-MVOLT-WD-40K-90-HH4-4501-CL-WH TEST NO.: **EL05022201**

INPUT WATTS: **32.2** LUMENS: **2791** EFFICACY: **87** BEAM ANGLE: **58** SPACING CRITERIA: **0.84**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	3079	3079
10°	2876	2898
20°	2205	2247
30°	1260	1315
40°	459	504
50°	65	80
60°	8	0
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	65935	65935
45.00°	6347	7185
55.00°	629	682
65.00°	226	247
75.00°	115	125
85.00°	12	12

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	288
10° - 20°	747
20° - 30°	874
30° - 40°	606
40° - 50°	234
50° - 60°	13
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1034	37%
0° - 30°	1908	68%
0° - 40°	2515	90%
0° - 60°	2782	100%
0° - 80°	2790	100%
0° - 90°	2790	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	85.5 fc	6.7 ft	6.6 ft
8.0 ft	48.1 fc	8.9 ft	8.9 ft
10.0 ft	30.8 fc	11.1 ft	11.1 ft
12.0 ft	21.4 fc	13.3 ft	13.3 ft
14.0 ft	15.7 fc	15.5 ft	15.5 ft
16.0 ft	12.0 fc	17.7 ft	17.7 ft
18.0 ft	9.5 fc	20.0 ft	19.9 ft
20.0 ft	7.7 fc	22.2 ft	22.1 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf																		
pc	80%				70%				50%				30%			10%		0%
cw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87
3	102	96	91	87	100	94	90	86	92	88	85	89	86	83	87	84	82	80
4	97	89	84	79	95	88	83	79	86	81	78	84	80	77	82	79	76	75
5	92	83	77	73	90	82	77	73	81	76	72	79	75	71	77	74	71	69
6	87	78	72	68	86	77	72	67	76	71	67	74	70	66	73	69	66	65
7	83	73	67	63	81	73	67	63	71	66	62	70	65	62	69	65	62	60
8	79	69	63	59	77	68	63	59	67	62	58	66	61	58	65	61	58	56
9	75	65	59	55	74	64	59	55	63	58	55	63	58	54	62	57	54	53
10	71	61	55	52	70	61	55	51	60	55	51	59	55	51	59	54	51	50

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH4-LED-3000L-DIM10-MVOLT-WD-35K-90-O-EMG-LED-10W HH4-4501-CL-SCH Notes:	**Type:** D2E SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED

4" Architectural High Lumen LED Downlight

4"

1- Luminaire will be shipped with Powerpacks pre-installed, ready to be integrated to designated contol systems
2- Luminaire will be shipped with Sensors installed on the luminaire, allowing for individual luminaire control. Luminaires will be ready to be integrated with designated control systems
3- Luminaire will be shipped with Sensors to be remotely installed on the ceiling. Luminaires will be ready to be integrated with designated control systems

BRAND	NX LIGHTING CONTROLS	LUTRON	enlighted	LEVITON	ENCELIUM	PHILIPS EasySense	legrand
CONTROL UNIT	❑ NXFM-1R2D-0-UNV NX Fixture Module, Offset, 1 Relay, 2 0-10V Dimming Channels, 120-347VAC, Blue	❑ FCJS-010 Lutron Vive 0-10V Individual Pow Pak (Luminare is shipped Vive Enabled) [14] ❑ FCJS-ECO Lutron Vive Eco-system Pow Pak (Luminare is shipped Vive Enabled) ❑ A-WN-D01-RF-WH Athena wireless node (RF only) (White) ❑ A-WN-D01-OCC-WH Athena wireless node with sensor (White)	❑ CU-4E-FMH Fixture Mount Control Unit [15]	❑ ZL027 –N0W Intellect Power Control Module [16] ❑ ZL027 –N0W Intellect Power Control Module [16]	❑ EN-WCM2-ZB-DR Wireless Control Module[17] ❑ EN- ALC-ZB-BK-DR Wireless Area Lighting Control Module [17] ❑ ZBHA-CLM-DIM-ENC Connected Lighting Module DIM [17]	❑ SBR -BS Xitanium SR Bridge [18]	❑ LMFC-011 ON/OFF/0-10V dimming fixture controller [19]
INTEGRAT SENSOR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
*WIRELESS OCCUPANCY SENSOR	❑ NXSMP2-SMI NX Slide Mount Indoor Sensor Module	N/A	N/A	N/A	N/A	N/A	❑ LMDC-100 Dual technology PIR Ceiling Mount Occupancy Sensor [3]
*WIRELESS DAYLIGHT SENSOR	❑ LUXSTATLS Luxstat Light Sensor for Luxstat Control Modules, 3 to 6000 FC	N/A	N/A	N/A	N/A	N/A	❑ LMLS-400 Single zone switching and dimming digital photosensor [3]
*WIRELESS OCCUPANCY & DAYLIGHT SENSOR	❑ NXSMDT Indoor Ceiling Mount Sensor - OMNI	N/A	❑ SU-5E-IoT IoT Node Micro Sensor [3] ❑ SU-5E-CL Connected Lighting Micro Sensor [3] ❑ SU-5E-IL Independent Lighting / Enlighted One Micro Sensor [3] ❑ SU-5S-H-(IoT/CL/IL) Surface Mount Sensor [3] **(Must be specified with CU-4E-FMH Control Unit)**	❑ ZL00J -T0W Intellect Intelligent Fixture Control System [3] **(Must be specified with ZL027 –N0W Control Unit)**	❑ EN-CLM-PIR-DD-ZB SensiLUM™ Wireless Integrated Sensor ❑ EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors [3] **(Must be specified with EN-WCM2-ZB-DR or EN-ALC-ZB-BK-DR Control Unit)**	❑ SNS200-CMP SNS200 for grouping [3]	N/A
ACCESORIES	N/A	N/A	❑ TMC-SU-5E Tile Mount Carrier ❑ CBL-5E-CU4-30N 30 inch Sensor Cable for CU-4 and IoT ReadyTM drivers ❑ CBL-5E-CU4-7F 7 foot Sensor Cable for CU-4 and IoT ReadyTM drivers	N/A	N/A	N/A	N/A
NOTES	N/A	4- Luminaire will be compatible with Lutron LRF2-OCR2B-P-WH Ceiling mount360° occupancy/vacancy sensor & LRF2-DCRB-WH Ceiling-mount daylight sensor. Sensors must be ordered through Lutron.	5- Luminaire will be compatible with ENLIGHTED SU-5E-IoT, SU-5E-CL, SU-5E-IL, SU-5S-H, Sensors.	6-Luminaire will be compatible with Leviton Intellect App & Keypad Room Controller	7-Luminaire will be compatible with EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors	8-Luminaire will be compatible with Philips field and wireless switch.	9-Luminaire will be compatiable with DLM Room control system LMPB-100. DLM control system must be orderd through Legrand.

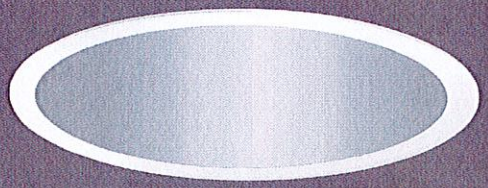
Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH6-LED-1500L-DIM10-MVOLT-WD-35K-90 HH6-6501-CL-SCH Notes:	**Type:** DR SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH6-LED 6"

6" Architectural High Lumen LED Downlight





HH6-6501
Flanged Downlight



HH6-6507
Flanged Wall Wash



HH6-6577
Flanged Double Wall Wash

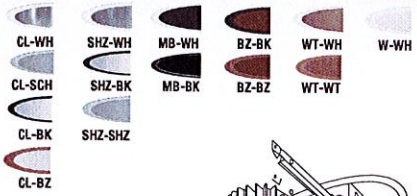


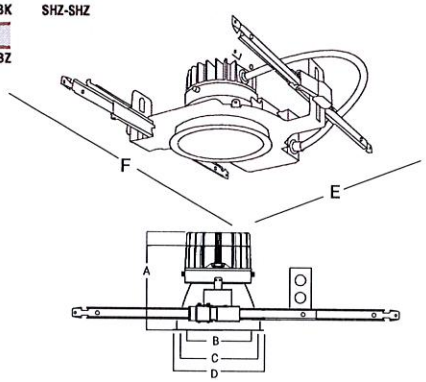
HH6-TL-6501
Trimless Downlight



HH6-TL-6507
Trimless Wall Wash

REFLECTOR/ FLANGE COLORS





A 900L to 4000L: Height = 5-5/8"
A 6000L to 8000L: Height = 9"
B: Trim Aperture = 6-3/6"
C: Cut-Out = 6-13/16"
D: Trim Outside Dia = 7-3/8"
E: Width = 16"
F: Length = 20-33"

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
6000	6696	61 W
4000	4575	38 W
3000	3374	32 W
2000	2252	20 W
1500	1785	15 W
1200	1422	11 W
900	1065	9 W
NOMINAL LUMENS (HP)	DELIVERED LUMENS (HP)	WATTAGE (HP)
1200	1398	12W
2000	2102	18W
3000	3259	28W

Based on 4000K, 90+CRI with semi-specular chrome reflector.
Actual wattage may vary +/-5%

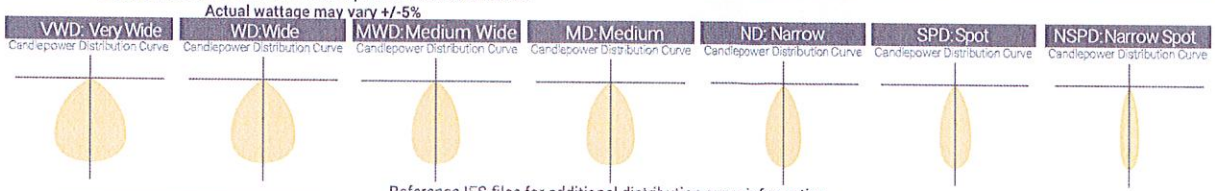
FEATURES

A highly sustainable and ultra-efficient architectural LED downlight that provides even, glare-free illumination. Available in a range of finishes, distributions, and lumen packages, it is ideally suited for use in corporate office space, hospitality, healthcare, commercial, academic, churches and retail.

OPTICS AND REFLECTOR

The reflector has a 45° visual cutoff, and is shipped standard with a Solite lens in a smooth frosted finish. Spun from 0.05" thick aluminum, with a 1-step anodized finish, and available in different colors or custom RAL finishes. Reflector flange options include self-flanged and white painted flange. Various distribution options are available, and all optics are field changeable.

LUMENS	900, 1200, 1500, 2000, 3000, 4000, 6000 (Custom lumen packages available)
CCT & DYNAMIC PLATFORMS	22K, 27K, 30K, 35K, 40K, 50K, Tunable White, Dims to Warm, RGB + White
CRI	90+ Standard, 98+ Optional
COLOR QUALITY	2 Step MacAdam Ellipse
DISTRIBUTIONS	WD, WD, MWD, MD, ND, SPD, NSPD
TRIM OPTIONS	Downlight, Wall Wash, Double Wall Wash, Wet Location
REFLECTOR COLORS	CL (Semi-Specular Chrome), SHZ (Low Iridescent Satin Haze), WT (Wheat), W (White), MB (Black). BZ (Bronze)
FLANGE COLORS	Self-Flanged WH (White), SCH (Semi-Specular Chrome), SHZ (Low Iridescent Satin Haze), BK (Black), BZ (Bronze)
DIMMING	0-10V Flicker Free 1% Dimming Standard (DIM10), LUTH, LUTFTB, ELDO10.1, ELDODMX.1, ELDODALI.1, DIMTR, BLE
EMERGENCY	10W - Up to 1000L Output 20W - Up to 2000L Output EMG-LED-G2-10W-SDT - Self Diagnostic (Consult Factory)
LIFETIME	L70 at 102,000 Hours
PHOTOMETRIC TESTS	In Accordance with IES LM79-08, LM80 and TM-30, TM-21



Reference IES files for additional distribution curve information.

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH6-LED
6" Architectural High Lumen LED Downlight

6"

THERMAL MANAGEMENT SYSTEM
Passive cooling Diecast Aluminum Heat Sink, LED light engine and driver are replaceable, upgradeable, and can be accessed from below the ceiling. The consistency in the quality of light is delivered with precision performance by the use of a unique locking mechanism that aligns the reflector with the light engine.

MOUNTING FRAME & BRACKETS
The downlight mounting frame is a fabricated assembly constructed of 16-gauge steel, with C-channel mounting brackets, included. The versatility of the mounting brackets allow for an adjustability of up to 28" horizontally, and 2-3/4" vertically, locking into place. With the added die-formed construction of the mounting frame, it provides maximum heat dissipation and rust protection.

DRIVER ELECTRICAL INFORMATION
The LED driver is rated for 50 to 60Hz at 120V/277V, also available in 347V input, produces less than 20%THD, has a power factor between 90% and 100%, and is thermally protected for additional safety. Junction box and Driver can be accessed from below the ceiling and above the ceiling. Junction Box is Listed for through branch circuit wiring.

DIMMING & DRIVER INFORMATION
DIM10 - 0-10V dimming on either MVOLT 120, 277 or 347V. Dimmable down to 1% of initial lumens, standard.
DIMTR - Triac & Electronic low voltage dimming. Available in 120V, and up to 4000 lumens only.
LUTH - Lutron LDE1 Hi-Lume 1% Eco System LED driver with Soft-on, Fade to Black dimming technology.
LUTFB - Lutron PEQ0E Hi-Lume Premier 1% Eco System LED Driver with Soft-on, Fade to Black dimming technology. Available on all luminaires up to 1500 lumens.
ELDO10.1 - EldoLED SoloDrive 0-10V. Dimming down to 0.1%.
DALI - DALI DT6, DT8 dimming down to 1%.
ELDODMX - EldoLED PowerDrive dimming down to 0.1%.
Please see EldoLED website for wiring diagrams and a list of compatible DMX and DALI control systems.
BLE - Luminaires may be controlled, grouped, scheduled or placed in scenes and or zones Via Cassambi Bluetooth 4.0 App.

LED DYNAMIC PLATFORM OPTIONS
Tunable White with Smart White Technology utilizing the Lumenetix Platform allows you to color tune the luminaire via various controls. Create the perfect environment for the desired use of the space, while maintaining a CRI of 90+ across the tunable range of 8000 to 1650K. (Click here for more details)

Dims to Warm with Smart Dimming Technology. At 100% full brightness the luminaire is at 3000K. When dimmed to 1%, the light transitions to 1800K, creating a warm ambiance within the space. (Click here for more details)

RGB+White with Smart Hue Technology provides full color mixing of RGB and white colors. Utilizing the Lumenetix Platform allows you to choose from unlimited RGB color options, via various controls. Ideal for Circadian Rhythm applications or to create the perfect human centric environment. (Click here for more details)

OPTICAL
Modular Optics Available with 15°, 24°, 30°, 36°, 52°, 60° and 70° field interchangeable optics design with 45° cutoff to source.
Top-down flash characteristic for superior glare control. The optics attached directly the light engine to the Trim for complete optical alignment and sufficient efficacy.

WARRANTY
Five-year warranty for parts and components. (Labor not included)

LISTINGS
c-UL-us - Listed for Wet Location if used with HH6-6501 Trim.
c-UL-us - Listed for Feed Through Wiring.

U.S Patent No. - D685,118S
CP-City of Chicago environmental air (CCEA) marking for plenum applications.
Energy Star and California Title 24 compliant
Optional Black color trim is not ENERGYSTAR certified and won't meet the requirement.

Example: **HH6-LED-2000L-DIM10-MVOLT-MD-40K-90-HH6-6501-CL-WH**

SERIES
- ☑ HH6-LED

LUMENS
- ☐ 900L
- ☐ 1200L
- ☑ 1500L
- ☐ 2000L
- ☐ 3000L
- ☐ 4000L
- ☐ 6000L

DRIVER
- ☑ DIM10
- ☐ DIMTR [3] [5]
- ☐ LUTH [3]
- ☐ LUTFTB [4]
- ☐ ELDO10-.1
- ☐ ELDODALI-.1
- ☐ ELDODMX-.1
- ☐ BLE

VOLTAGE
- ☐ 120
- ☐ 277
- ☑ MVOLT
- ☐ 347 (DIM10 only)

CCT
- ☐ 22K
- ☐ 27K
- ☐ 30K
- ☑ 35K
- ☐ 40K
- ☐ 50K [1]

EMERGENCY
- ☐ EMG-LED-10W
- ☐ EMG-LED-20W
- ☐ INTG-EMG-LED-10W
- ☐ INTG-EMG-LED-20W
- ☐ EMG-LED-G2-10W-SDT*

Typical lumen output of the luminaire is up to 1000L with EMG-LED-10W option & 2000L with EMG-LED-20W option in emergency mode. Contact the factory for details.
Remote mounted installation
* Consult Factory for Self Diagnostic

OPTICS
- ☐ VWD 70°
- ☑ WD 80°
- ☐ MWD 52°
- ☐ MD 35°
- ☐ ND 30°
- ☐ SPD 24°
- ☐ NSPD 15°

CRI
- ☑ 90+
- ☐ 98+ [2]

OTHER OPTIONS
- ☐ CP (Chicago Plenum)
- ☐ HP (High Performance) [6]

TRIM TYPE
- ☑ HH6-6501 Flanged Downlight
- ☐ HH6-6507 Flanged Wall Wash
- ☐ HH6-6577 Flanged Double Wall Wash
- ☐ HH6-6535 Polycarbonate "Dead Front" Trim with Tempered Albalite Lens
- ☐ HH6-6534 Polycarbonate "Dead Front" Trim with Polycarbonate ClearLens

TRIMLESS
- ☐ HH6-TL-6501 Trimless Downlight
- ☐ HH6-TL-6507 Trimless Wall Wash

OPTIONS
- ☐ INTG (Reflector shipped with pre-punched hole to accept INTG-EMG-LED)

REFLECTOR/FLANGE COLORS

☐ CL-WH	☐ W-WH	☐ SHZ-SHZ
☑ CL-SCH	☐ MB-WH*	☐ SHZ-BK
☐ CL-BK	☐ MB-BK*	☐ WT-WH
☐ CL-BZ	☐ BZ-BK	☐ WT-WT
☐ SHZ-WH	☐ BZ-BZ	* Black color trim is not ENERGYSTAR certified

FLANGE COLORS

☐ WH	☐ BK	☐ SHZ
☐ SCH	☐ BZ	

TRIMLESS FINISH
- ☐ CL
- ☐ MB
- ☐ SHZ
- ☐ WH

[1] **50K** series are available with 85+ CRI only [2] **98+** CRI is available in 27K, 30K and 40K only -**Reference last page for Control Options**
[3] **LUTH** and **DIMTR** Available for luminaires up to 4000L [4] **LUTFTB** Available for luminaires up to 1500L [5] **DIMTR** is available in 120V only [6] 3000K, 3500K and 4000K based on 90CRI

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Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH6-LED-1500L-DIM10-MVOLT-WD-35K-90 HH6-6501-CL-SCH Notes:	**Type:** DR SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

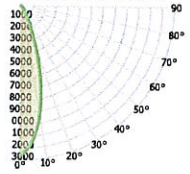
HH6-LED 6"

6" Architectural High Lumen LED Downlight

HH6-LED-4000L-DIM10-MVOLT-MD-40K-90-HH6-6501-CL-WH TEST NO.: **EL05112270**

INPUT WATTS: **38.7** LUMENS: **4576** EFFICACY: **118** BEAM ANGLE: **34** SPACING CRITERIA: **0.50**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	12618	12618
10°	9225	9999
20°	3340	4245
30°	738	925
40°	207	265
50°	72	93
60°	10	14
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	480355	480355
45.00°	6651	8234
55.00°	1872	2742
65.00°	211	223
75.00°	106	115
85.00°	35	39

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	1081
10° - 20°	1990
20° - 30°	1000
30° - 40°	334
40° - 50°	122
50° - 60°	41
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	3070	67%
0° - 30°	4070	89%
0° - 40°	4404	96%
0° - 60°	4568	100%
0° - 80°	4573	100%
0° - 90°	4574	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	350.5 fc	3.6 ft	3.6 ft
8.0 ft	197.2 fc	4.8 ft	4.8 ft
10.0 ft	126.2 fc	6.0 ft	6.0 ft
12.0 ft	87.6 fc	7.3 ft	7.2 ft
14.0 ft	64.4 fc	8.5 ft	8.4 ft
16.0 ft	49.3 fc	9.7 ft	9.6 ft
18.0 ft	38.9 fc	10.9 ft	10.8 ft
20.0 ft	31.5 fc	12.1 ft	12.0 ft

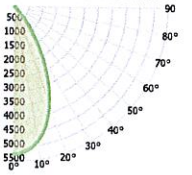
INDOOR COEFFICIENTS OF UTILIZATION

pf																			
								20%											0%
pc		80%			70%				50%			30%			10%			0%	
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95	
2	110	106	103	100	108	104	101	99	101	99	97	98	96	95	96	94	93	91	
3	106	101	96	93	104	99	95	92	97	94	91	94	92	90	92	90	88	87	
4	102	96	91	88	100	95	90	87	93	89	86	91	88	85	89	86	84	83	
5	98	91	87	83	97	90	86	83	89	85	82	87	84	81	86	83	81	79	
6	95	87	83	79	93	87	82	79	85	81	78	84	81	78	83	80	77	76	
7	91	84	79	76	90	83	79	75	82	78	75	81	77	75	80	77	74	73	
8	88	80	76	72	87	80	75	72	79	75	72	78	74	72	77	74	71	70	
9	85	77	73	70	84	77	72	69	76	72	69	75	72	69	75	71	69	68	
10	82	75	70	67	82	74	70	67	74	69	67	73	69	66	72	69	66	65	

HH6-LED-4000L-DIM10-MVOLT-MWD-40K-90-HH6-6501-CL-WH TEST NO.: **EL05112270**

INPUT WATTS: **38.8** LUMENS: **4110** EFFICACY: **106** BEAM ANGLE: **55** SPACING CRITERIA: **0.81**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	5246	5246
10°	4838	4975
20°	3649	3917
30°	1808	2107
40°	338	509
50°	75	83
60°	8	13
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	199717	199717
45.00°	7686	8369
55.00°	1766	2428
65.00°	250	289
75.00°	149	179
85.00°	52	83

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	488
10° - 20°	1258
20° - 30°	1393
30° - 40°	758
40° - 50°	166
50° - 60°	38
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1746	42%
0° - 30°	3139	76%
0° - 40°	3897	95%
0° - 60°	4101	100%
0° - 80°	4107	100%
0° - 90°	4108	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	145.7 fc	6.3 ft	6.2 ft
8.0 ft	82.0 fc	8.4 ft	8.3 ft
10.0 ft	52.5 fc	10.5 ft	10.4 ft
12.0 ft	36.4 fc	12.6 ft	12.5 ft
14.0 ft	26.8 fc	14.6 ft	14.5 ft
16.0 ft	20.5 fc	16.7 ft	16.6 ft
18.0 ft	16.2 fc	18.8 ft	18.7 ft
20.0 ft	13.1 fc	20.9 ft	20.8 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf																			
								20%											0%
pc		80%			70%				50%			30%			10%			0%	
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	114	111	109	107	111	109	107	105	105	103	102	101	100	99	98	97	96	94	
2	108	104	100	97	106	102	98	96	99	96	93	96	93	91	93	91	90	88	
3	103	97	92	89	101	96	91	88	93	89	86	91	88	85	88	86	84	82	
4	98	91	86	82	96	90	85	81	88	84	80	86	82	79	84	81	78	77	
5	94	86	80	76	92	85	79	76	83	78	75	81	77	74	80	76	74	72	
6	89	81	75	71	88	80	74	71	78	74	70	77	73	70	76	72	69	68	
7	85	76	70	66	84	75	70	66	74	69	66	73	69	65	72	68	65	64	
8	81	72	66	62	80	71	66	62	70	65	62	69	65	62	68	64	61	60	
9	77	68	62	59	76	68	62	58	67	62	58	66	61	58	65	61	58	57	
10	74	65	59	55	73	64	59	55	63	58	55	63	58	55	62	58	55	54	

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Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH6-LED-1500L-DIM10-MVOLT-WD-35K-90 HH6-6501-CL-SCH Notes:	**Type:** DR SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH6-LED

6" Architectural High Lumen LED Downlight

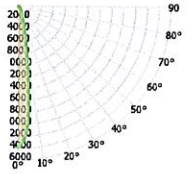
6"

HH6-LED-4000L-DIM10-MVOLT-NSPD-40K-90-HH6-6501-CL-WH

TEST NO.: **EL05112270**

INPUT WATTS: **38.6** LUMENS: **3986** EFFICACY: **103** BEAM ANGLE: **19** SPACING CRITERIA: **0.26**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	23792	23792
10°	7538	10215
20°	1485	1942
30°	596	690
40°	202	250
50°	62	73
60°	9	14
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	905757	905757
45.00°	5537	6698
55.00°	1777	2295
65.00°	187	208
75.00°	90	110
85.00°	31	35

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	1691
10° - 20°	1327
20° - 30°	535
30° - 40°	283
40° - 50°	108
50° - 60°	35
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	3018	76%
0° - 30°	3553	89%
0° - 40°	3836	96%
0° - 60°	3979	100%
0° - 80°	3984	100%
0° - 90°	3984	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	660.9 fc	2.0 ft	2.0 ft
8.0 ft	371.8 fc	2.7 ft	2.6 ft
10.0 ft	237.9 fc	3.4 ft	3.3 ft
12.0 ft	165.2 fc	4.1 ft	4.0 ft
14.0 ft	121.4 fc	4.7 ft	4.6 ft
16.0 ft	92.9 fc	5.4 ft	5.3 ft
18.0 ft	73.4 fc	6.1 ft	6.0 ft
20.0 ft	59.5 fc	6.8 ft	6.6 ft

INDOOR COEFFICIENTS OF UTILIZATION

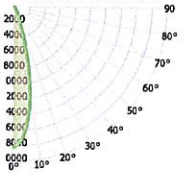
pf																		
pc	80%				70%				50%				30%			10%		0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	115	113	111	109	112	111	109	107	107	105	104	103	102	101	100	99	98	96
2	111	107	104	102	109	106	103	101	103	100	98	100	98	96	97	96	94	93
3	107	103	99	96	106	101	98	95	99	96	94	97	94	92	94	93	91	90
4	104	99	95	91	102	97	94	91	95	92	90	94	91	89	92	90	88	87
5	101	95	91	88	99	94	90	87	92	89	87	91	88	86	89	87	85	84
6	98	92	87	84	97	91	87	84	90	86	84	88	85	83	87	85	83	81
7	95	89	84	82	94	88	84	81	87	83	81	86	83	81	85	82	80	79
8	93	86	82	79	92	86	82	79	85	81	79	84	81	78	83	80	78	77
9	90	84	80	77	89	83	79	77	82	79	76	82	78	76	81	78	76	75
10	88	81	77	75	87	81	77	75	80	77	74	80	77	74	79	76	74	73

HH6-LED-4000L-DIM10-MVOLT-ND-40K-90-HH6-6501-CL-WH

TEST NO.: **EL05112270**

INPUT WATTS: **38.6** LUMENS: **4575** EFFICACY: **119** BEAM ANGLE: **32** SPACING CRITERIA: **0.42**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	18099	18099
10°	11695	13524
20°	2196	3060
30°	722	807
40°	254	284
50°	75	84
60°	11	14
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	689034	689034
45.00°	6994	7930
55.00°	2028	2470
65.00°	213	222
75.00°	112	121
85.00°	35	44

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	1475
10° - 20°	1937
20° - 30°	651
30° - 40°	330
40° - 50°	133
50° - 60°	42
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	3411	75%
0° - 30°	4062	89%
0° - 40°	4392	96%
0° - 60°	4567	100%
0° - 80°	4573	100%
0° - 90°	4573	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	502.8 fc	2.9 ft	2.8 ft
8.0 ft	282.8 fc	3.8 ft	3.8 ft
10.0 ft	181.0 fc	4.8 ft	4.7 ft
12.0 ft	125.7 fc	5.7 ft	5.7 ft
14.0 ft	92.3 fc	6.7 ft	6.6 ft
16.0 ft	70.7 fc	7.7 ft	7.6 ft
18.0 ft	55.9 fc	8.6 ft	8.5 ft
20.0 ft	45.2 fc	9.6 ft	9.4 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf																		
pc	80%				70%				50%				30%			10%		0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	115	112	110	109	112	110	109	107	106	105	104	103	102	101	99	98	98	96
2	111	107	104	101	108	105	102	100	102	100	98	99	97	96	96	95	94	92
3	107	102	98	95	105	100	97	94	98	95	93	96	93	91	93	91	90	88
4	103	97	93	90	101	96	92	89	94	91	88	92	90	87	91	88	86	85
5	100	93	89	86	98	92	88	85	91	87	85	89	86	84	88	85	83	82
6	96	90	85	82	95	89	85	82	88	84	81	86	83	81	85	82	80	79
7	93	86	82	79	92	86	82	79	85	81	78	84	80	78	83	80	78	76
8	91	84	79	76	90	83	79	76	82	78	76	81	78	75	80	77	75	74
9	88	81	76	73	87	80	76	73	80	76	73	79	75	73	78	75	73	72
10	85	78	74	71	85	78	74	71	77	74	71	77	73	71	76	73	71	70

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH6-LED-1500L-DIM10-MVOLT-WD-35K-90 HH6-6501-CL-SCH Notes:	**Type:** DR SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH6-LED

6" Architectural High Lumen LED Downlight

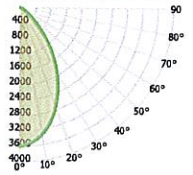
6"

HH6-LED-4000L-DIM10-MVOLT-WD-40K-90-HH6-6501-CL-WH

TEST NO.: **EL05112270**

INPUT WATTS: **38.5** LUMENS: **4082** EFFICACY: **106** BEAM ANGLE: **65** SPACING CRITERIA: **0.90**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	3601	3601
10°	3333	3448
20°	2724	2887
30°	1903	2051
40°	1032	1152
50°	281	335
60°	41	52
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	137096	137096
45.00°	31651	36489
55.00°	8079	9507
65.00°	986	993
75.00°	459	484
85.00°	144	135

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	337
10° - 20°	898
20° - 30°	1132
30° - 40°	996
40° - 50°	544
50° - 60°	14
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1235	30%
0° - 30°	2367	58%
0° - 40°	3363	95%
0° - 60°	4057	100%
0° - 80°	4080	100%
0° - 90°	4081	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	100.0 fc	7.7 ft	7.7 ft
8.0 ft	56.3 fc	10.3 ft	10.2 ft
10.0 ft	36.0 fc	12.8 ft	12.8 ft
12.0 ft	25.0 fc	15.4 ft	15.3 ft
14.0 ft	18.4 fc	18.0 ft	17.9 ft
16.0 ft	14.1 fc	20.5 ft	20.5 ft
18.0 ft	11.1 fc	23.1 ft	23.0 ft
20.0 ft	9.0 fc	25.7 ft	25.6 ft

INDOOR COEFFICIENTS OF UTILIZATION

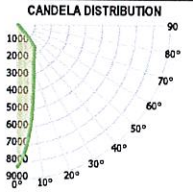
ρf																			
	20%																		0%
ρc	80%				70%				50%			30%			10%			0%	
ρw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92	
2	107	101	97	93	104	100	96	92	96	93	90	93	91	88	90	88	86	85	
3	101	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77	
4	95	86	80	76	93	85	80	75	83	78	74	81	77	73	79	75	72	71	
5	89	80	74	69	87	79	73	68	77	72	68	75	71	67	74	70	67	65	
6	84	74	68	63	83	73	67	63	72	66	62	70	66	62	69	65	61	60	
7	79	69	63	58	78	68	62	58	67	62	57	66	61	57	65	60	57	55	
8	75	65	58	54	74	64	58	53	63	57	53	62	57	53	61	56	53	51	
9	71	60	54	50	70	60	54	50	59	53	49	58	53	49	57	52	49	48	
10	67	57	50	46	66	56	50	46	55	50	46	55	49	46	54	49	46	44	

HH6-LED-4000L-DIM10-MVOLT-SPD-40K-90-HH6-6501-CL-WH

TEST NO.: **EL05112270**

INPUT WATTS: **38.5** LUMENS: **4390** EFFICACY: **114** BEAM ANGLE: **29** SPACING CRITERIA: **0.41**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	8250	8250
10°	4918	5790
20°	2668	2925
30°	1897	2004
40°	845	1167
50°	123	136
60°	39	46
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	314092	314092
45.00°	10848	13237
55.00°	4866	5380
65.00°	886	832
75.00°	437	424
85.00°	135	114

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	660
10° - 20°	1130
20° - 30°	1084
30° - 40°	1063
40° - 50°	348
50° - 60°	8
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1789	41%
0° - 30°	2873	65%
0° - 40°	3937	94%
0° - 60°	4365	100%
0° - 80°	4388	100%
0° - 90°	4388	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	229.2 fc	3.1 ft	3.0 ft
8.0 ft	128.9 fc	4.1 ft	4.0 ft
10.0 ft	82.5 fc	5.1 ft	5.0 ft
12.0 ft	57.3 fc	6.2 ft	6.0 ft
14.0 ft	42.1 fc	7.2 ft	7.0 ft
16.0 ft	32.2 fc	8.2 ft	8.0 ft
18.0 ft	25.5 fc	9.2 ft	9.0 ft
20.0 ft	20.6 fc	10.3 ft	10.0 ft

INDOOR COEFFICIENTS OF UTILIZATION

ρf																			
	20%																		0%
ρc	80%				70%				50%			30%			10%			0%	
ρw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	113	111	108	106	111	109	106	104	104	103	101	101	99	98	97	96	95	93	
2	108	103	99	95	106	101	98	94	98	95	92	95	93	90	92	90	88	87	
3	102	96	91	87	100	95	90	86	92	88	85	89	86	84	87	85	82	81	
4	97	90	84	80	95	88	83	79	86	82	78	84	81	77	82	79	77	75	
5	92	84	78	74	91	83	77	73	81	76	73	79	75	72	78	74	71	70	
6	88	79	73	68	86	78	72	68	76	71	68	75	71	67	74	70	67	65	
7	83	74	68	64	82	73	68	64	72	67	63	71	66	63	70	66	63	61	
8	79	70	64	60	78	69	64	60	68	63	59	67	63	59	66	62	59	58	
9	76	66	60	56	75	66	60	56	65	60	56	64	59	56	63	59	56	54	
10	72	63	57	53	71	62	57	53	61	56	53	61	56	53	60	56	53	51	

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH6-LED-1500L-DIM10-MVOLT-WD-35K-90 HH6-6501-CL-SCH Notes:	**Type:** DR SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING By Elite Lighting

HH6-LED

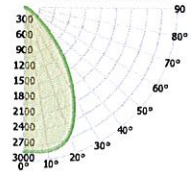
6" Architectural High Lumen LED Downlight

6"

HH6-LED-4000L-DIM10-MVOLT-VWD-40K-90-HH6-6501-CL-WH TEST NO.: **EL05112270**

INPUT WATTS: **38.6** LUMENS: **3979** EFFICACY: **103** BEAM ANGLE: **74** SPACING CRITERIA: **1.06**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	2813	2813
10°	2833	2805
20°	2619	2639
30°	1899	2009
40°	1077	1199
50°	340	440
60°	39	57
70°	6	7
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	107095	107095
45.00°	36820	43347
55.00°	8980	11859
65.00°	973	1122
75.00°	444	528
85.00°	122	157

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	270
10° - 20°	788
20° - 30°	1097
30° - 40°	997
40° - 50°	617
50° - 60°	184
60° - 70°	20
70° - 80°	1
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1058	27%
0° - 30°	2155	54%
0° - 40°	3152	89%
0° - 60°	3953	100%
0° - 80°	3977	100%
0° - 90°	3977	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	78.1 fc	9.1 ft	9.1 ft
8.0 ft	44.0 fc	12.1 ft	12.1 ft
10.0 ft	28.1 fc	15.1 ft	15.1 ft
12.0 ft	19.5 fc	18.1 ft	18.2 ft
14.0 ft	14.4 fc	21.1 ft	21.2 ft
16.0 ft	11.0 fc	24.2 ft	24.2 ft
18.0 ft	8.7 fc	27.2 ft	27.2 ft
20.0 ft	7.0 fc	30.2 ft	30.3 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf																			
pc	80%				70%				50%			30%			10%			0%	
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	30%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	113	110	107	104	110	107	105	103	103	101	100	100	98	97	96	95	94	92	
2	106	101	96	92	104	99	95	91	96	92	89	93	90	87	90	87	85	84	
3	100	92	87	82	98	91	86	82	88	84	80	86	82	79	84	80	78	76	
4	94	85	79	74	92	84	78	74	82	77	73	80	75	72	78	74	71	69	
5	88	79	72	67	86	78	71	67	76	70	66	74	69	65	72	68	65	63	
6	83	73	66	61	81	72	65	61	70	64	60	69	64	60	67	63	59	58	
7	78	67	60	56	76	67	60	56	65	59	55	64	59	55	63	58	55	53	
8	73	63	56	51	72	62	56	51	61	55	51	60	54	51	59	54	50	49	
9	69	58	52	47	68	58	51	47	57	51	47	56	51	47	55	50	47	45	
10	65	55	48	44	64	54	48	44	53	47	44	52	47	43	52	47	43	42	

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH6-LED-1500L-DIM10-MVOLT-WD-35K-90 HH6-6501-CL-SCH Notes:	**Type:** DR SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH6-LED 6"

6" Architectural High Lumen LED Downlight

1- Luminaire will be shipped with Powerpacks pre-installed, ready to be integrated to designated contol systems
2- Luminaire will be shipped with Sensors installed on the luminaire, allowing for individual luminaire control. Luminaires will be ready to be integrated with designated control systems
3- Luminaire will be shipped with Sensors to be remotely installed on the ceiling. Luminaires will be ready to be integrated with designated control systems

BRAND	EASYFIT by EnOcean	LUTRON	enlighted	LEVITON	OSRAM	PHILIPS EasySense	legrand
CONTROL UNIT	❑ LEDRU LED Relay Zone Controller 0-10V [1]	❑ FCJS-010 Lutron Vive 0-10V Individual Pow Pak (Luminare is shipped Vive Enabled) [14]	❑ CU-4E-FMH Fixture Mount Control Unit [15]	❑ ZL027 –NOW Intellect Power Control Module [16]	❑ EN-WCM2-ZB-DR Wireless Control Module [17]	❑ SBR -BS Xitanium SR Bridge [18]	❑ LMFC-011 ON/OFF/0-10V dimming fixture controller [19]
	❑ LEDDU LED Zone Controller 0-10V [1]	❑ A-WN-D01-RF-WH Athena wireless node (RF only)		❑ ZL027 –NOW Intellect Power Control Module [16]	❑ EN- ALC-ZB-BK-DR Wireless Area Lighting Control Module [17]		❑ LMFS-601 Integrated Fixture Sensor & Controller
					❑ ZBHA-CLM-DIM-ENC Connected Lighting Module DIM [17]		
INTEGRAT SENSOR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
*WIRELESS OCCUPANCY SENSOR	❑ EOSCU-W-EO Occupancy Sensor - Ceiling Mounted **(Must be specified with LEDRU or LEDDU control unit)** [3]	N/A	N/A	N/A	N/A	N/A	❑ LMDC-100 Dual technology PIR Ceiling Mount Occupancy Sensor [3]
*WIRELESS DAYLIGHT SENSOR	❑ ELLSU-W-EO Light Level Sensor - Ceiling Mounted **(Must be specified with LEDRU or LEDDU control unit)** [3]	N/A	N/A	N/A	N/A	N/A	❑ LMLS-400 Single zone switching and dimming digital photosensor [3]
*WIRELESS OCCUPANCY & DAYLIGHT SENSOR	N/A	N/A	❑ SU-5E-IoT IoT Node Micro Sensor [3] ❑ SU-5E-CL Connected Lighting Micro Sensor [3] ❑ SU-5E-IL Independent Lighting / Enlighted One Micro Sensor [3] ❑ SU-5S-H-(IoT/CL/IL) Surface Mount Sensor [3] **(Must be specified with CU 4E-FMH Control Unit)**	❑ ZL00J -T0W Intellect Intelligent Fixture Control System [3] **(Must be specified with ZL027 –NOW Control Unit)**	❑ EN-CLM-PIR-DD-ZB SensiLUM™ Wireless Integrated Sensor ❑ EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors [3] **(Must be specified with EN-WCM2-ZB-DR or EN-ALC-ZB-BK-DR Control Unit)**	❑ SNS200-CMP SNS200 for grouping [3]	❑ LMFS-601 DLM Fixture Sensor and Controller, Occupancy, Daylight Harvesting, and IPv6/Bluetooth® Low Energy Technology
ACCESORIES	N/A	N/A	❑ TMC-SU-5E Tile Mount Carrier ❑ CBL-5E-CU4-30N 30 Inch Sensor Cable for CU-4 and IoT ReadyTM drivers ❑ CBL-5E-CU4-7F 7 foot Sensor Cable for CU-4 and IoT ReadyTM drivers	N/A	N/A	N/A	N/A
NOTES	N/A	4- Luminaire will be compatible with Lutron LRF2-OCR2B-P-WH Ceiling mount360° occupancy/vacancy sensor & LRF2-DCRB-WH Ceiling-mount daylight sensor. Sensors must be ordered through Lutron.	5- Luminaire will be compatible with ENLIGHTED SU-5E-IoT, SU-5E-CL, SU-5E-IL, SU-5S-H, Sensors.	6-Luminaire will be compatible with Leviton Intellect App & Keypad Room Controller	7-Luminaire will be compatible with EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors	8-Luminaire will be compatible with Philips field and wireless switch.	9-Luminaire will be compatiable with DLM Room control system LMPB-100. DLM control system must be orderd through Legrand.

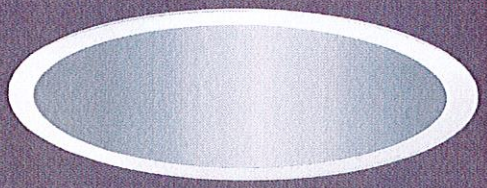
Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH6-LED-1500L-DIM10-MVOLT-WD-35K-90-O-EMG-LED-10W HH6-6501-CL-SCH Notes:	**Type:** DRE SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH6-LED 6"

6" Architectural High Lumen LED Downlight




HH6-6501
Flanged Downlight

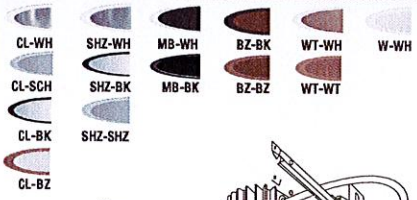

HH6-6507
Flanged Wall Wash

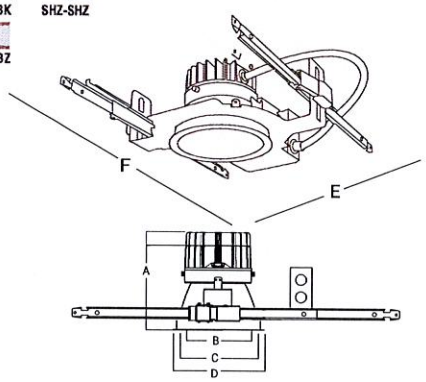

HH6-6577
Flanged Double Wall Wash


HH6-TL-6501
Trimless Downlight


HH6-TL-6507
Trimless Wall Wash

REFLECTOR/ FLANGE COLORS





A 900L to 4000L: Height = 5-5/8"
A 6000L to 8000L: Height = 9"
B: Trim Aperture = 6-3/6"
C: Cut-Out = 6-13/16"
D: Trim Outside Dia = 7-3/8"
E: Width = 16"
F: Length = 20-33"

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
6000	6696	61 W
4000	4575	38 W
3000	3374	32 W
2000	2252	20 W
1500	1785	15 W
1200	1422	11 W
900	1065	9 W
NOMINAL LUMENS (HP)	DELIVERED LUMENS (HP)	WATTAGE (HP)
1200	1398	12W
2000	2102	18W
3000	3259	28W

Based on 4000K, 90+CRI with semi-specular chrome reflector.
Actual wattage may vary +/-5%

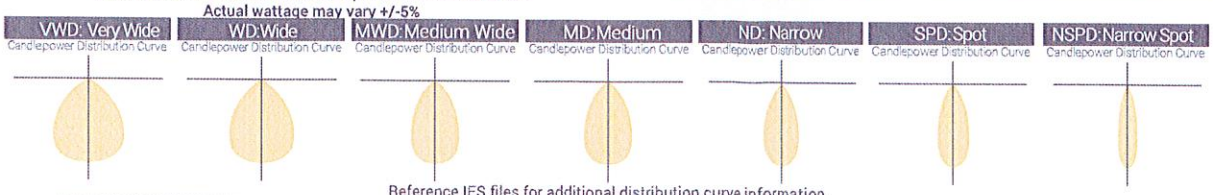
FEATURES

A highly sustainable and ultra-efficient architectural LED downlight that provides even, glare-free illumination. Available in a range of finishes, distributions, and lumen packages, it is ideally suited for use in corporate office space, hospitality, healthcare, commercial, academic, churches and retail.

OPTICS AND REFLECTOR

The reflector has a 45° visual cutoff, and is shipped standard with a Solite lens in a smooth frosted finish. Spun from 0.05" thick aluminum, with a 1-step anodized finish, and available in different colors or custom RAL finishes. Reflector flange options include self-flanged and white painted flange. Various distribution options are available, and all optics are field changeable.

LUMENS	900, 1200, 1500, 2000, 3000, 4000, 6000 (Custom lumen packages available)
CCT & DYNAMIC PLATFORMS	22K, 27K, 30K, 35K, 40K, 50K, Tunable White, Dims to Warm, RGB + White
CRI	90+ Standard, 98+ Optional
COLOR QUALITY	2 Step MacAdam Ellipse
DISTRIBUTIONS	VWD, WD, MWD, MD, ND, SPD, NSPD
TRIM OPTIONS	Downlight, Wall Wash, Double Wall Wash, Wet Location
REFLECTOR COLORS	CL (Semi-Specular Chrome), SHZ (Low Iridescent Satin Haze), WT (Wheat), W (White), MB (Black). BZ (Bronze)
FLANGE COLORS	Self-Flanged WH (White), SCH (Semi-Specular Chrome), SHZ (Low Iridescent Satin Haze), BK (Black), BZ (Bronze)
DIMMING	0-10V Flicker Free 1% Dimming Standard (DIM10), LUTH, LUTFTB, ELDO10.1, ELDODMX.1, ELDODALI.1, DIMTR, BLE
EMERGENCY	10W - Up to 1000L Output 20W - Up to 2000L Output EMG-LED-G2-10W-SDT - Self Diagnostic (Consult Factory)
LIFETIME	L70 at 102,000 Hours
PHOTOMETRIC TESTS	In Accordance with IES LM79-08, LM80 and TM-30, TM-21



Reference IES files for additional distribution curve information.

PROUDLY ASSEMBLED In AMERICA
QUICKSHIP CONSULT FACTORY
5 YEARS LIMITED
FOR WET LOCATION

elite LED LIGHTING

www.iuseelite.com

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.
RS190627/NS190711/ BB190711//AS210316

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH6-LED

6" Architectural High Lumen LED Downlight

6"

THERMAL MANAGEMENT SYSTEM

Passive cooling Diecast Aluminum Heat Sink, LED light engine and driver are replaceable, upgradeable, and can be accessed from below the ceiling. The consistency in the quality of light is delivered with precision performance by the use of a unique locking mechanism that aligns the reflector with the light engine.

MOUNTING FRAME & BRACKETS

The downlight mounting frame is a fabricated assembly constructed of 16-gauge steel, with C-channel mounting brackets, included. The versatility of the mounting brackets allow for an adjustability of up to 28" horizontally, and 2-3/4" vertically, locking into place. With the added die-formed construction of the mounting frame, it provides maximum heat dissipation and rust protection.

DRIVER ELECTRICAL INFORMATION

The LED driver is rated for 50 to 60Hz at 120V/277V, also available in 347V input, produces less than 20%THD, has a power factor between 90% and 100%, and is thermally protected for additional safety. Junction box and Driver can be accessed from below the ceiling and above the ceiling. Junction Box is Listed for through branch circuit wiring.

DIMMING & DRIVER INFORMATION

DIM10 - 0-10V dimming on either MVOLT 120, 277 or 347V. Dimmable down to 1% of initial lumens, standard.
DIMTR - Triac & Electronic low voltage dimming. Available in 120V, and up to 4000 lumens only.
LUTH - Lutron LDE1 Hi-Lume 1% Eco System LED driver with Soft-on, Fade to Black dimming technology.
LUTFB - Lutron PEQ0E Hi-Lume Premier 1% Eco System LED Driver with Soft-on, Fade to Black dimming technology. Available on all luminaires up to 1500 lumens.
ELDO10.1 - EldoLED SoloDrive 0-10V. Dimming down to 0.1%.
DALI - DALI DT6, DT8 dimming down to 1%.
ELDODMX - EldoLED PowerDrive dimming down to 0.1%.
Please see EldoLED website for wiring diagrams and a list of compatible DMX and DALI control systems.
BLE - Luminaires may be controlled, grouped, scheduled or placed in scenes and or zones Via Cassambi Bluetooth 4.0 App.

LED DYNAMIC PLATFORM OPTIONS

Tunable White with Smart White Technology utilizing the Lumenetix Platform allows you to color tune the luminaire via various controls. Create the perfect environment for the desired use of the space, while maintaining a CRI of 90+ across the tunable range of 8000 to 1650K. (Click here for more details)

Dims to Warm with Smart Dimming Technology. At 100% full brightness the luminaire is at 3000K. When dimmed to 1%, the light transitions to 1800K, creating a warm ambiance within the space. (Click here for more details)

RGB+White with Smart Hue Technology provides full color mixing of RGB and white colors. Utilizing the Lumenetix Platform allows you to choose from unlimited RGB color options, via various controls. Ideal for Circadian Rhythm applications or to create the perfect human centric environment. (Click here for more details)

OPTICAL

Modular Optics Available with 15°, 24°, 30°, 36°, 52°, 60° and 70° field interchangeable optics design with 45° cutoff to source.
Top-down flash characteristic for superior glare control. The optics attached directly the light engine to the Trim for complete optical alignment and sufficient efficacy.

WARRANTY

Five-year warranty for parts and components. (Labor not included)

LISTINGS

c-UL-us - Listed for Wet Location if used with HH6-6501 Trim.
c-UL-us - Listed for Feed Through Wiring.

U.S Patent No. - D685,118S
CP-City of Chicago environmental air (CCEA) marking for plenum applications.
Energy Star and California Title 24 compliant
Optional Black color trim is not ENERGYSTAR certified and won't meet the requirement.

Example: **HH6-LED-2000L-DIM10-MVOLT-MD-40K-90-HH6-6501-CL-WH**

SERIES	LUMENS	DRIVER	VOLTAGE	CCT	EMERGENCY
HH6-LED	❑ 900L	❑ DIM10	❑ 120	❑ 22K	❑ EMG-LED-10W
	❑ 1200L	❑ DIMTR [3] [5]	❑ 277	❑ 27K	❑ EMG-LED-20W
	❑ 1500L	❑ LUTH [3]	❑ MVOLT	❑ 30K	❑ INTG-EMG-LED-10W
	❑ 2000L	❑ LUTFTB [4]	❑ 347 (DIM10 only)	❑ 35K	❑ INTG-EMG-LED-20W
	❑ 3000L	❑ ELDO10-.1		❑ 40K	❑ EMG-LED-G2-10W-SDT* Typical lumen output of the luminaire is up to 1000L with EMG-LED-10W option & 2000L with EMG-LED-20W option in emergency mode. Contact the factory for details. Remote mounted installation * Consult Factory for Self Diagnostic
	❑ 4000L	❑ ELDODALI-.1		❑ 50K [1]	
	❑ 6000L	❑ ELDODMX-.1			
		❑ BLE			

OPTICS	CRI	OTHER OPTIONS
❑ VWD 70°	❑ 90+	❑ CP (Chicago Plenum)
❑ WD 80°	❑ 98+ [2]	❑ HP (High Performance) [6]
❑ MWD 52°		
❑ MD 35°		
❑ ND 30°		
❑ SPD 24°		
❑ NSPD 15°		

TRIM TYPE	REFLECTOR/FLANGE COLORS
❑ HH6-6501 Flanged Downlight	❑ CL-WH ❑ W-WH ❑ SHZ-SHZ
❑ HH6-6507 Flanged Wall Wash	❑ CL-SCH ❑ MB-WH* ❑ SHZ-BK
❑ HH6-6577 Flanged Double Wall Wash	❑ CL-BK ❑ MB-BK* ❑ WT-WH
❑ HH6-6535 Polycarbonate "Dead Front" Trim with Tempered Albalite Lens	❑ CL-BZ ❑ BZ-BK ❑ WT-WT
❑ HH6-6534 Polycarbonate "Dead Front" Trim with Polycarbonate ClearLens	❑ SHZ-WH ❑ BZ-BZ * Black color trim is not ENERGYSTAR certified
TRIMLESS	**FLANGE COLORS**
❑ HH6-TL-6501 Trimless Downlight	❑ WH ❑ BK ❑ SHZ
❑ HH6-TL-6507 Trimless Wall Wash	❑ SCH ❑ BZ
OPTIONS	**TRIMLESS FINISH**
❑ INTG (Reflector shipped with pre-punched hole to accept INTG-EMG-LED)	❑ CL ❑ MB ❑ SHZ ❑ WH

[1] **50K** series are available with 85+ CRI only [2] **98+** CRI is available in 27K, 30K and 40K only -**Reference last page for Control Options**
[3] **LUTH** and **DIMTR** Available for luminaires up to 4000L [4] **LUTFTB** Available for luminaires up to 1500L [5] **DIMTR** is available in 120V only [6] 3000K, 3500K and 4000K based on 90CRI

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH6-LED-1500L-DIM10-MVOLT-WD-35K-90-O-EMG-LED-10W HH6-6501-CL-SCH Notes:	**Type:** DRE SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH6-LED

6" Architectural High Lumen LED Downlight

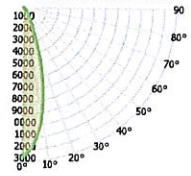
6"

HH6-LED-4000L-DIM10-MVOLT-MD-40K-90-HH6-6501-CL-WH

TEST NO.: **EL05112270**

INPUT WATTS: **38.7** LUMENS: **4576** EFFICACY: **118** BEAM ANGLE: **34** SPACING CRITERIA: **0.50**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	12618	12618
10°	9225	9999
20°	3340	4245
30°	738	925
40°	207	265
50°	72	93
60°	10	14
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	480355	480355
45.00°	6651	8234
55.00°	1872	2742
65.00°	211	223
75.00°	106	115
85.00°	35	39

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	1081
10° - 20°	1990
20° - 30°	1000
30° - 40°	334
40° - 50°	122
50° - 60°	41
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	3070	67%
0° - 30°	4070	89%
0° - 40°	4404	96%
0° - 60°	4568	100%
0° - 80°	4573	100%
0° - 90°	4574	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	350.5 fc	3.6 ft	3.6 ft
8.0 ft	197.2 fc	4.8 ft	4.8 ft
10.0 ft	126.2 fc	6.0 ft	6.0 ft
12.0 ft	87.6 fc	7.3 ft	7.2 ft
14.0 ft	64.4 fc	8.5 ft	8.4 ft
16.0 ft	49.3 fc	9.7 ft	9.6 ft
18.0 ft	38.9 fc	10.9 ft	10.8 ft
20.0 ft	31.5 fc	12.1 ft	12.0 ft

INDOOR COEFFICIENTS OF UTILIZATION

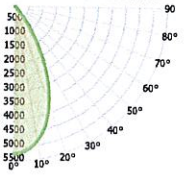
pf																		
							20%											0%
pc		80%			70%			50%			30%			10%			0%	
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95
2	110	106	103	100	108	104	101	99	101	99	97	98	96	95	96	94	93	91
3	106	101	96	93	104	99	95	92	97	94	91	94	92	90	92	90	88	87
4	102	96	91	88	100	95	90	87	93	89	86	91	88	85	89	86	84	83
5	98	91	87	83	97	90	86	83	89	85	82	87	84	81	86	83	81	79
6	95	87	83	79	93	87	82	79	85	81	78	84	81	78	83	80	77	76
7	91	84	79	76	90	83	79	75	82	78	75	81	77	75	80	77	74	73
8	88	80	76	72	87	80	75	72	79	75	72	78	74	72	77	74	71	70
9	85	77	73	70	84	77	72	69	76	72	69	75	72	69	75	71	69	68
10	82	75	70	67	82	74	70	67	74	69	67	73	69	66	72	69	66	65

HH6-LED-4000L-DIM10-MVOLT-MWD-40K-90-HH6-6501-CL-WH

TEST NO.: **EL05112270**

INPUT WATTS: **38.8** LUMENS: **4110** EFFICACY: **106** BEAM ANGLE: **55** SPACING CRITERIA: **0.81**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	5246	5246
10°	4838	4975
20°	3649	3917
30°	1808	2107
40°	338	509
50°	75	83
60°	8	13
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	199717	199717
45.00°	7686	8369
55.00°	1766	2428
65.00°	250	289
75.00°	149	179
85.00°	52	83

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	488
10° - 20°	1258
20° - 30°	1393
30° - 40°	758
40° - 50°	166
50° - 60°	38
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1746	42%
0° - 30°	3139	76%
0° - 40°	3897	95%
0° - 60°	4101	100%
0° - 80°	4107	100%
0° - 90°	4108	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	145.7 fc	6.3 ft	6.2 ft
8.0 ft	82.0 fc	8.4 ft	8.3 ft
10.0 ft	52.5 fc	10.5 ft	10.4 ft
12.0 ft	36.4 fc	12.6 ft	12.5 ft
14.0 ft	26.8 fc	14.6 ft	14.5 ft
16.0 ft	20.5 fc	16.7 ft	16.6 ft
18.0 ft	16.2 fc	18.8 ft	18.7 ft
20.0 ft	13.1 fc	20.9 ft	20.8 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf																		
							20%											0%
pc		80%			70%			50%			30%			10%			0%	
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	114	111	109	107	111	109	107	105	105	103	102	101	100	99	98	97	96	94
2	108	104	100	97	106	102	98	96	99	96	93	96	93	91	93	91	90	88
3	103	97	92	89	101	96	91	88	93	89	86	91	88	85	88	86	84	82
4	98	91	86	82	96	90	85	81	88	84	80	86	82	79	84	81	78	77
5	94	86	80	76	92	85	79	76	83	78	75	81	77	74	80	76	74	72
6	89	81	75	71	88	80	74	71	78	74	70	77	73	70	76	72	69	68
7	85	76	70	66	84	75	70	66	74	69	66	73	69	65	72	68	65	64
8	81	72	66	62	80	71	66	62	70	65	62	69	65	62	68	64	61	60
9	77	68	62	59	76	68	62	58	67	62	58	66	61	58	65	61	58	57
10	74	65	59	55	73	64	59	55	63	58	55	63	58	55	62	58	55	54

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH6-LED-1500L-DIM10-MVOLT-WD-35K-90-O-EMG-LED-10W HH6-6501-CL-SCH Notes:	**Type:** DRE SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH6-LED

6" Architectural High Lumen LED Downlight

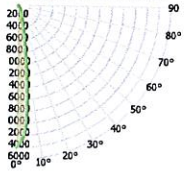
6"

HH6-LED-4000L-DIM10-MVOLT-NSPD-40K-90-HH6-6501-CL-WH

TEST NO.: **EL05112270**

INPUT WATTS: **38.6** LUMENS: **3986** EFFICACY: **103** BEAM ANGLE: **19** SPACING CRITERIA: **0.26**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	23792	23792
10°	7538	10215
20°	1485	1942
30°	596	690
40°	202	250
50°	62	73
60°	9	14
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	905757	905757
45.00°	5537	6698
55.00°	1777	2295
65.00°	187	208
75.00°	90	110
85.00°	31	35

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	1691
10° - 20°	1327
20° - 30°	535
30° - 40°	283
40° - 50°	108
50° - 60°	35
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	3018	76%
0° - 30°	3553	89%
0° - 40°	3836	96%
0° - 60°	3979	100%
0° - 80°	3984	100%
0° - 90°	3984	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	660.9 fc	2.0 ft	2.0 ft
8.0 ft	371.8 fc	2.7 ft	2.6 ft
10.0 ft	237.9 fc	3.4 ft	3.3 ft
12.0 ft	165.2 fc	4.1 ft	4.0 ft
14.0 ft	121.4 fc	4.7 ft	4.6 ft
16.0 ft	92.9 fc	5.4 ft	5.3 ft
18.0 ft	73.4 fc	6.1 ft	6.0 ft
20.0 ft	59.5 fc	6.8 ft	6.6 ft

INDOOR COEFFICIENTS OF UTILIZATION

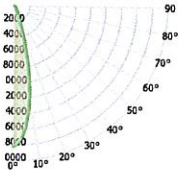
pf																			
pc	80%				70%				50%			30%			10%			0%	
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	115	113	111	109	112	111	109	107	107	105	104	103	102	101	100	99	98	96	
2	111	107	104	102	109	106	103	101	103	100	98	100	98	96	97	96	94	93	
3	107	103	99	96	106	101	98	95	99	96	94	97	94	92	94	93	91	90	
4	104	99	95	91	102	97	94	91	95	92	90	94	91	89	92	90	88	87	
5	101	95	91	88	99	94	90	87	92	89	87	91	88	86	89	87	85	84	
6	98	92	87	84	97	91	87	84	90	86	84	88	85	83	87	85	83	81	
7	95	89	84	82	94	88	84	81	87	83	81	86	83	81	85	82	80	79	
8	93	86	82	79	92	86	82	79	85	81	79	84	81	78	83	80	78	77	
9	90	84	80	77	89	83	79	77	82	79	76	82	78	76	81	78	76	75	
10	88	81	77	75	87	81	77	75	80	77	74	80	77	74	79	76	74	73	

HH6-LED-4000L-DIM10-MVOLT-ND-40K-90-HH6-6501-CL-WH

TEST NO.: **EL05112270**

INPUT WATTS: **38.6** LUMENS: **4575** EFFICACY: **119** BEAM ANGLE: **32** SPACING CRITERIA: **0.42**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	18099	18099
10°	11695	13524
20°	2196	3060
30°	722	807
40°	254	284
50°	75	84
60°	11	14
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	689034	689034
45.00°	6994	7930
55.00°	2028	2470
65.00°	213	222
75.00°	112	121
85.00°	35	44

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	1475
10° - 20°	1937
20° - 30°	651
30° - 40°	330
40° - 50°	133
50° - 60°	42
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	3411	75%
0° - 30°	4062	89%
0° - 40°	4392	96%
0° - 60°	4567	100%
0° - 80°	4573	100%
0° - 90°	4573	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	502.8 fc	2.9 ft	2.8 ft
8.0 ft	282.8 fc	3.8 ft	3.8 ft
10.0 ft	181.0 fc	4.8 ft	4.7 ft
12.0 ft	125.7 fc	5.7 ft	5.7 ft
14.0 ft	92.3 fc	6.7 ft	6.6 ft
16.0 ft	70.7 fc	7.7 ft	7.6 ft
18.0 ft	55.9 fc	8.6 ft	8.5 ft
20.0 ft	45.2 fc	9.6 ft	9.4 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf																			
pc	80%				70%				50%			30%			10%			0%	
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	115	112	110	109	112	110	109	107	106	105	104	103	102	101	99	98	98	96	
2	111	107	104	101	108	105	102	100	102	100	98	99	97	96	96	95	94	92	
3	107	102	98	95	105	100	97	94	98	95	93	96	93	91	93	91	90	88	
4	103	97	93	90	101	96	92	89	94	91	88	92	90	87	91	88	86	85	
5	100	93	89	86	98	92	88	85	91	87	85	89	86	84	88	85	83	82	
6	96	90	85	82	95	89	85	82	88	84	81	86	83	81	85	82	80	79	
7	93	86	82	79	92	86	82	79	85	81	78	84	80	78	83	80	78	76	
8	91	84	79	76	90	83	79	76	82	78	76	81	78	75	80	77	75	74	
9	88	81	76	73	87	80	76	73	80	76	73	79	75	73	78	75	73	72	
10	85	78	74	71	85	78	74	71	77	74	71	77	73	71	76	73	71	70	

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH6-LED-1500L-DIM10-MVOLT-WD-35K-90-O-EMG-LED-10W HH6-6501-CL-SCH Notes:	**Type:** DRE SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH6-LED

6" Architectural High Lumen LED Downlight

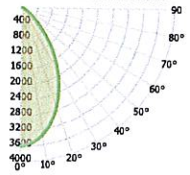
6"

HH6-LED-4000L-DIM10-MVOLT-WD-40K-90-HH6-6501-CL-WH

TEST NO.: **EL05112270**

INPUT WATTS: **38.5** LUMENS: **4082** EFFICACY: **106** BEAM ANGLE: **65** SPACING CRITERIA: **0.90**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	3601	3601
10°	3333	3448
20°	2724	2887
30°	1903	2051
40°	1032	1152
50°	281	335
60°	41	52
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	137096	137096
45.00°	31651	36489
55.00°	8079	9507
65.00°	986	993
75.00°	459	484
85.00°	144	135

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	337
10° - 20°	898
20° - 30°	1132
30° - 40°	996
40° - 50°	544
50° - 60°	14
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1235	30%
0° - 30°	2367	58%
0° - 40°	3363	95%
0° - 60°	4057	100%
0° - 80°	4080	100%
0° - 90°	4081	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	100.0 fc	7.7 ft	7.7 ft
8.0 ft	56.3 fc	10.3 ft	10.2 ft
10.0 ft	36.0 fc	12.8 ft	12.8 ft
12.0 ft	25.0 fc	15.4 ft	15.3 ft
14.0 ft	18.4 fc	18.0 ft	17.9 ft
16.0 ft	14.1 fc	20.5 ft	20.5 ft
18.0 ft	11.1 fc	23.1 ft	23.0 ft
20.0 ft	9.0 fc	25.7 ft	25.6 ft

INDOOR COEFFICIENTS OF UTILIZATION

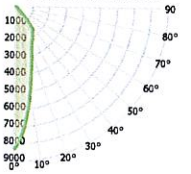
pf																			
pc	80%				70%				50%			30%			10%			0%	
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92	
2	107	101	97	93	104	100	96	92	96	93	90	93	91	88	90	88	86	85	
3	101	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77	
4	95	86	80	76	93	85	80	75	83	78	74	81	77	73	79	75	72	71	
5	89	80	74	69	87	79	73	68	77	72	68	75	71	67	74	70	67	65	
6	84	74	68	63	83	73	67	63	72	66	62	70	66	62	69	65	61	60	
7	79	69	63	58	78	68	62	58	67	62	57	66	61	57	65	60	57	55	
8	75	65	58	54	74	64	58	53	63	57	53	62	57	53	61	56	53	51	
9	71	60	54	50	70	60	54	50	59	53	49	58	53	49	57	52	49	48	
10	67	57	50	46	66	56	50	46	55	50	46	55	49	46	54	49	46	44	

HH6-LED-4000L-DIM10-MVOLT-SPD-40K-90-HH6-6501-CL-WH

TEST NO.: **EL05112270**

INPUT WATTS: **38.5** LUMENS: **4390** EFFICACY: **114** BEAM ANGLE: **29** SPACING CRITERIA: **0.41**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	8250	8250
10°	4918	5790
20°	2668	2925
30°	1897	2004
40°	845	1167
50°	123	136
60°	39	46
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	314092	314092
45.00°	10848	13237
55.00°	4866	5380
65.00°	886	832
75.00°	437	424
85.00°	135	114

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	660
10° - 20°	1130
20° - 30°	1084
30° - 40°	1063
40° - 50°	348
50° - 60°	8
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1789	41%
0° - 30°	2873	65%
0° - 40°	3937	94%
0° - 60°	4365	100%
0° - 80°	4388	100%
0° - 90°	4388	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	229.2 fc	3.1 ft	3.0 ft
8.0 ft	128.9 fc	4.1 ft	4.0 ft
10.0 ft	82.5 fc	5.1 ft	5.0 ft
12.0 ft	57.3 fc	6.2 ft	6.0 ft
14.0 ft	42.1 fc	7.2 ft	7.0 ft
16.0 ft	32.2 fc	8.2 ft	8.0 ft
18.0 ft	25.5 fc	9.2 ft	9.0 ft
20.0 ft	20.6 fc	10.3 ft	10.0 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf																			
pc	80%				70%				50%			30%			10%			0%	
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	113	111	108	106	111	109	106	104	104	103	101	101	99	98	97	96	95	93	
2	108	103	99	95	106	101	98	94	98	95	92	95	93	90	92	90	88	87	
3	102	96	91	87	100	95	90	86	92	88	85	89	86	84	87	85	82	81	
4	97	90	84	80	95	88	83	79	86	82	78	84	81	77	82	79	77	75	
5	92	84	78	74	91	83	77	73	81	76	73	79	75	72	78	74	71	70	
6	88	79	73	68	86	78	72	68	76	71	68	75	71	67	74	70	67	65	
7	83	74	68	64	82	73	68	64	72	67	63	71	66	63	70	66	63	61	
8	79	70	64	60	78	69	64	60	68	63	59	67	63	59	66	62	59	58	
9	76	66	60	56	75	66	60	56	65	60	56	64	59	56	63	59	56	54	
10	72	63	57	53	71	62	57	53	61	56	53	61	56	53	60	56	53	51	

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH6-LED-1500L-DIM10-MVOLT-WD-35K-90-O-EMG-LED-10W HH6-6501-CL-SCH Notes:	**Type:** DRE SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

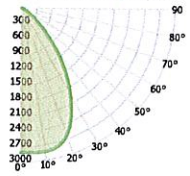
HH6-LED
6" Architectural High Lumen LED Downlight

6"

HH6-LED-4000L-DIM10-MVOLT-VWD-40K-90-HH6-6501-CL-WH TEST NO.: **EL05112270**

INPUT WATTS: **38.6** LUMENS: **3979** EFFICACY: **103** BEAM ANGLE: **74** SPACING CRITERIA: **1.06**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	2813	2813
10°	2833	2805
20°	2619	2639
30°	1899	2009
40°	1077	1199
50°	340	440
60°	39	57
70°	6	7
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	107095	107095
45.00°	36820	43347
55.00°	8980	11859
65.00°	973	1122
75.00°	444	528
85.00°	122	157

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	270
10° - 20°	788
20° - 30°	1097
30° - 40°	997
40° - 50°	617
50° - 60°	184
60° - 70°	20
70° - 80°	1
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1058	27%
0° - 30°	2155	54%
0° - 40°	3152	89%
0° - 60°	3953	100%
0° - 80°	3977	100%
0° - 90°	3977	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	78.1 fc	9.1 ft	9.1 ft
8.0 ft	44.0 fc	12.1 ft	12.1 ft
10.0 ft	28.1 fc	15.1 ft	15.1 ft
12.0 ft	19.5 fc	18.1 ft	18.2 ft
14.0 ft	14.4 fc	21.1 ft	21.2 ft
16.0 ft	11.0 fc	24.2 ft	24.2 ft
18.0 ft	8.7 fc	27.2 ft	27.2 ft
20.0 ft	7.0 fc	30.2 ft	30.3 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf																			
	20%																		0%
pc	80%				70%				50%			30%			10%			0%	
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	113	110	107	104	110	107	105	103	103	101	100	100	98	97	96	95	94	92	
2	106	101	96	92	104	99	95	91	96	92	89	93	90	87	90	87	85	84	
3	100	92	87	82	98	91	86	82	88	84	80	86	82	79	84	80	78	76	
4	94	85	79	74	92	84	78	74	82	77	73	80	75	72	78	74	71	69	
5	88	79	72	67	86	78	71	67	76	70	66	74	69	65	72	68	65	63	
6	83	73	66	61	81	72	65	61	70	64	60	69	64	60	67	63	59	58	
7	78	67	60	56	76	67	60	56	65	59	55	64	59	55	63	58	55	53	
8	73	63	56	51	72	62	56	51	61	55	51	60	54	51	59	54	50	49	
9	69	58	52	47	68	58	51	47	57	51	47	56	51	47	55	50	47	45	
10	65	55	48	44	64	54	48	44	53	47	44	52	47	43	52	47	43	42	

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH6-LED-1500L-DIM10-MVOLT-WD-35K-90-O-EMG-LED-10W HH6-6501-CL-SCH Notes:	**Type:** DRE SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH6-LED 6"

6" Architectural High Lumen LED Downlight

1- Luminaire will be shipped with Powerpacks pre-installed, ready to be integrated to designated contol systems
2- Luminaire will be shipped with Sensors installed on the luminaire, allowing for individual luminaire control. Luminaires will be ready to be integrated with designated control systems
3- Luminaire will be shipped with Sensors to be remotely installed on the ceiling. Luminaires will be ready to be integrated with designated control systems

BRAND	EASYFIT by EnOcean	LUTRON	enlighted	LEVITON	OSRAM	PHILIPS EasySense	legrand
CONTROL UNIT	❑ LEDRU LED Relay Zone Controller 0-10V [1]	❑ FCJS-010 Lutron Vive 0-10V Individual Pow Pak (Luminare is shipped Vive Enabled) [14]	❑ CU-4E-FMH Fixture Mount Control Unit [15]	❑ ZL027 –N0W Intellect Power Control Module [16]	❑ EN-WCM2-ZB-DR Wireless Control Module [17]	❑ SBR -BS Xitanium SR Bridge [18]	❑ LMFC-011 ON/OFF/0-10V dimming fixture controller [19] ❑ LMFS-601 Integrated Fixture Sensor & Controller
	❑ LEDDU LED Zone Controller 0-10V [1]	❑ A-WN-D01-RF-WH Athena wireless node (RF only)		❑ ZL027 –N0W Intellect Power Control Module [16]	❑ EN- ALC-ZB-BK-DR Wireless Area Lighting Control Module [17] ❑ ZBHA-CLM-DIM-ENC Connected Lighting Module DIM [17]		
INTEGRAT SENSOR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
*WIRELESS OCCUPANCY SENSOR	❑ EOSCU-W-EO Occupancy Sensor - Ceiling Mounted **(Must be specified with LEDRU or LEDDU control unit)** [3]	N/A	N/A	N/A	N/A	N/A	❑ LMDC-100 Dual technology PIR Ceiling Mount Occupancy Sensor [3]
*WIRELESS DAYLIGHT SENSOR	❑ ELLSU-W-EO Light Level Sensor - Ceiling Mounted **(Must be specified with LEDRU or LEDDU control unit)** [3]	N/A	N/A	N/A	N/A	N/A	❑ LMLS-400 Single zone switching and dimming digital photosensor [3]
*WIRELESS OCCUPANCY & DAYLIGHT SENSOR	N/A	N/A	❑ SU-5E-IoT IoT Node Micro Sensor [3] ❑ SU-5E-CL Connected Lighting Micro Sensor [3] ❑ SU-5E-IL Independent Lighting / Enlighted One Micro Sensor [3] ❑ SU-5S-H-(IoT/CL/IL) Surface Mount Sensor [3] **(Must be specified with CU 4E-FMH Control Unit)**	❑ ZL00J -T0W Intellect Intelligent Fixture Control System [3] **(Must be specified with ZL027 –N0W Control Unit)**	❑ EN-CLM-PIR-DD-ZB SensiLUM™ Wireless Integrated Sensor ❑ EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors [3] **(Must be specified with EN-WCM2-ZB-DR or EN-ALC-ZB-BK-DR Control Unit)**	❑ SNS200-CMP SNS200 for grouping [3]	❑ LMFS-601 DLM Fixture Sensor and Controller, Occupancy, Daylight Harvesting, and IPv6/Bluetooth® Low Energy Technology
ACCESORIES	N/A	N/A	❑ TMC-SU-5E Tile Mount Carrier ❑ CBL-5E-CU4-30N 30 inch Sensor Cable for CU-4 and IoT ReadyTM drivers ❑ CBL-5E-CU4-7F 7 foot Sensor Cable for CU-4 and IoT ReadyTM drivers	N/A	N/A	N/A	N/A
NOTES	N/A	4- Luminaire will be compatible with Lutron LRF2-OCR2B-P-WH Ceiling mount360° occupancy/vacancy sensor & LRF2-DCRB-WH Ceiling-mount daylight sensor. Sensors must be ordered through Lutron.	5- Luminaire will be compatible with ENLIGHTED SU-5E-IoT, SU-5E-CL, SU-5E-IL, SU-5S-H, Sensors.	6-Luminaire will be compatible with Leviton Intellect App & Keypad Room Controller	7-Luminaire will be compatible with EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors	8-Luminaire will be compatible with Philips field and wireless switch.	9-Luminaire will be compatiable with DLM Room control system LMPB-100. DLM control system must be orderd through Legrand.

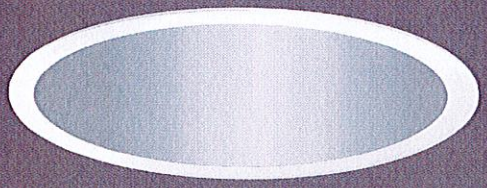
Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH4-LED-3000L-DIM10-MVOLT-WD-35K-90 HH4-4507-CL-SCH Notes:	**Type:** F SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

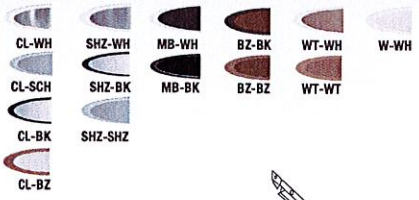
HH4-LED

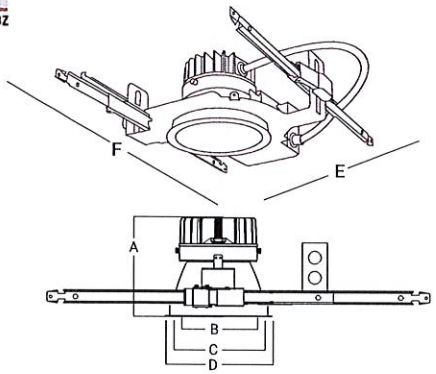
4" Architectural High Lumen LED Downlight





REFLECTOR/ FLANGE COLORS





A: Height = 5-3/4"
B: Trim Aperture = 4"
C: Cut-Out = 4-1/2"
D: Trim Outside Dia = 5-3/8"
E: Width = 16"
F: Length = 12-1/2"

NOMINAL LUMENS	DELIVERED LUMENS	WATTAGE
3000	3579	32W
2000	2144	24W
1500	1699	18W
1200	1341	14W
900	995	10W
NOMINAL LUMENS (HP)	DELIVERED LUMENS (HP)	WATTAGE (HP)
1200	1401	12W
2000	2059	18W

Based on 4000K, 90+CRI with semi-specular chrome reflector.
Actual wattage may vary +/-5%

FEATURES

A highly sustainable and ultra-efficient architectural LED downlight that provides even, glare-free illumination. Available in a range of finishes, distributions, and lumen packages, it is ideally suited for use in corporate office space, hospitality, healthcare, commercial, academic, churches and retail.

OPTICS AND REFLECTOR

The reflector has a 45° visual cutoff, and is shipped standard with a Solite lens in a smooth frosted finish. Spun from 0.05" thick aluminum, with a 1-step anodized finish, and available in different colors or custom RAL finishes. Reflector flange options include self-flanged and white painted flange. Various distribution options are available, and all optics are field changeable.

LUMENS	900, 1200, 1500, 2000, 3000*[1] (Custom lumen packages available), HL6-IP-VR, HL6-LED
CCT & DYNAMIC PLATFORMS	22K, 27K, 30K, 35K, 40K, 50K, Tunable White, Dims to Warm, RGB + White
CRI	90+ Standard, 98+ Optional
COLOR QUALITY	2 Step MacAdam Ellipse
DISTRIBUTIONS	VWD, WD, MWD, MD, ND, SPD, NSPD
TRIM OPTIONS	Downlight, Wall Wash, Double Wall Wash, Wet Location
REFLECTOR COLORS	CL (Semi-Specular Chrome), SHZ (Low Iridescent Satin Haze), WT (Wheat), W (White), MB (Black). BZ (Bronze) WAM(White Anti Macrobial), Custom RAL
FLANGE COLORS	Self-Flanged WH (White), SCH (Semi-Specular Chrome), SHZ (Low Iridescent Satin Haze), BK (Black), BZ (Bronze)
DIMMING	0-10V Flicker Free 1% Dimming Standard (DIM10), LUTH, LUTFTB, ELDO10.1-LIN, ELDODMX.1, ELDODALI.1, DIMTR, BLE,POE, ELDO10-LOG, XSR, DIM10-AUX, DIM10-0-Off
EMERGENCY	10W - Up to 1000L Output 20W - Up to 2000L Output EMG-LED-G2-10W-SDT - Self Diagnostic (Consult Factory) GTD-UL924
LIFETIME	L70>60,000-hour reported lifetime L70>200,000-hour calculated lifetime
PHOTOMETRIC TESTS	In Accordance with IES LM79-08, LM80 and TM-30, TM-21

[1] 3000 Lumens is not ENERGY STAR certified

* Only Available on 85+ CRI

VWD: Very Wide	WD:Wide	MWD:Medium Wide	MD:Medium	ND: Narrow	SPD:Spot	NSPD:Narrow Spot



Reference IES files for additional distribution curve information.



elite LED LIGHTING

www.iuseelite.com

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.
RS190627/NS190711/ BB190711

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED 4"

4" Architectural High Lumen LED Downlight

THERMAL MANAGEMENT SYSTEM

Passive cooling Diecast Aluminum Heat Sink, LED light engine and driver are replaceable, upgradeable, and can be accessed from below the ceiling. The consistency in the quality of light is delivered with precision performance by the use of a unique locking mechanism that aligns the reflector with the light engine.

MOUNTING FRAME & BRACKETS

The downlight mounting frame is a fabricated assembly constructed of 16-gauge steel, with C-channel mounting brackets, included. The versatility of the mounting brackets allow for an adjustability of up to 28" horizontally, and 2-3/4" vertically, locking into place. With the added die-formed construction of the mounting frame, it provides maximum heat dissipation and rust protection.

DRIVER ELECTRICAL INFORMATION

The LED driver is rated for 50 to 60Hz at 120V/277V, also available in 347V input, produces less than 20%THD, has a power factor between 90% and 100%, and is thermally protected for additional safety. Junction box and Driver can be accessed from below the ceiling and above the ceiling. Junction Box is Listed for through branch circuit wiring.

DIMMING & DRIVER INFORMATION

DIM10 - 0-10V dimming on either MVOLT 120, 277 or 347V. Dimmable down to 1% of initial lumens, standard.
DIMTR - Triac & Electronic low voltage dimming. Available in 120V, and up to 6000 lumens only.
LUTH - Lutron LDE1 Hi-Lume 1% Eco System LED driver with Soft-on, Fade to Black dimming technology.
LUTFB - Lutron PEQ0E Hi-Lume Premier 1% Eco System LED Driver with Soft-on, Fade to Black dimming technology. Available on all luminaires up to 1500 lumens.
ELDO10.1-LIN - EldoLED SoloDrive 0-10V. Dimming down to 0.1%. Linear dimming curve.
DALI - DALI DT6, DT8 dimming down to 1%.
ELDODMX - EldoLED PowerDrive dimming down to 0.1%.
BLE - Luminaires may be controlled, grouped, scheduled or placed in scenes and or zones Via Cassambi Bluetooth 4.0 App.
DIM10-0-OFF - Program DIM10-to OFF with linear dimming curve 0.1%
ELDO10- LOG - ELDO10-LOG with logarithmic dimming curve.
POE - Power-over-Ethernet Depending on the PoE manufacturer selected, The Node will install the node in factory as either integral to the luminaire or as a remote module.
XSR - Xitanium SR Dimming
DIM10-AUX - 0-10V with Auxiliry power

LED DYNAMIC PLATFORM OPTIONS

Tunable White with Smart White Technology utilizing the Lumenetix Platform allows you to color tune the luminaire via various controls. Create the perfect environment for the desired use of the space, while maintaining a CRI of 90+ across the tunable range of 8000 to 1650K. (Click here for more details)

Dims to Warm with Smart Dimming Technology. At 100% full brightness the luminaire is at 3000K. When dimmed to 1%, the light transitions to 1800K, creating a warm ambiance within the space. (Click here for more details)

RGB+White with Smart Hue Technology provides full color mixing of RGB and white colors. Utilizing the Lumenetix Platform allows you to choose from unlimited RGB color options, via various controls. Ideal for Circadian Rhythm applications or to create the perfect human centric environment. (Click here for more details)

OPTICAL

Modular Optics Available with 15°, 24°, 30°, 36°, 52°, 60° and 70° field interchangeable optics design with 45° cutoff to source.
Top-down flash characteristic for superior glare control. The optics attached directly the light engine to the Trim for complete optical alignment and sufficient efficacy.

WARRANTY

Five-year warranty for parts and components. (Labor not included)

LISTINGS

c-UL-us - Listed for Wet Location if used with HH4-4501 Trim.
c-UL-us - Listed for Feed Through Wiring.

U.S Patent No. - D685,118S
CP-City of Chicago environmental air (CCEA) marking for plenum applications.
Energy Star and California Title 24 compliant
Optional Black color trim is not ENERGYSTAR certified and won't meet the requirement.
BAA- Buy American Act Compliant government procurement requirements under FAR, DFARS and DOT regulations.

Example: **HH4-LED-2000L-DIM10-MVOLT-MD-40K-90-HH4-4501-CL-WH**

SERIES	LUMENS	DRIVER	VOLTAGE	CCT	EMERGENCY
HH4-LED	❑ 900L ❑ 1200L ❑ 1500L ❑ 2000L ❑ 3000L* [4] ❑ 1200L-HP ❑ 2000L-HP	❑ DIM10 ❑ DIMTR [3] [5] ❑ LUTH [3] ❑ LUTFTB [4] ❑ ELDO10-.1-LIN ❑ ELDODALI-.1 ❑ ELDODMX-.1 ❑ BLE ❑ POE ❑ DIM10-0-OFF ❑ ELDO10-LOG ❑ XSR ❑ DIM10-AUX	❑ 120 ❑ 277 ❑ MVOLT ❑ 347 (DIM10 only)	❑ 22K ❑ 27K ❑ 30K ❑ 35K ❑ 40K ❑ 50K [2]	❑ EMG-LED-10W ❑ EMG-LED-20W ❑ INTG-EMG-LED-10W ❑ INTG-EMG-LED-20W ❑ EMG-LED-G2-10W-SDT* ❑ GTD-UL924 Typical lumen output of the luminaire is up to 1000L with EMG-LED-10W option & 2000L with EMG-LED-20W option in emergency mode. Contact the factory for details. Remote mounted Installation • Consult Factory for Self Diagnostic

OPTICS	CRI	OPTIONS
❑ VWD 70°	❑ 90+	❑ CP (Chicago Plenum)
❑ WD 60°	❑ 98+ [3]	❑ BAA
❑ MWD 52°	❑ Xicato 95 [7]	❑ HP (High Performance) [8]
❑ MD 38°		❑ Remote LED Driver Mounting
❑ ND 32°		
❑ SPD 24°		
❑ NSPD 15°		

TRIM TYPE	REFLECTOR/FLANGE COLORS
❑ HH4-4501 Flanged Downlight ❑ HH4-4507 Flanged Wall Wash ❑ HH4-4577 Flanged Double Wall Wash ❑ HH4-4535 Polycarbonate non conductive with "Dead Front" construction	❑ CL-WH ❑ W-WH ❑ SHZ-SHZ ❑ CL-SCH ❑ MB-WH* ❑ SHZ-BK ❑ CL-BK ❑ MB-BK* ❑ WT-WH ❑ CL-BZ ❑ BZ-BK ❑ WT-WT ❑ SHZ-WH ❑ BZ-BZ * Black color trim is not ENERGYSTAR certified ❑ RAL ❑ WAM White Ant Macrobial
	FLANGE COLORS ❑ WH ❑ BZ ❑ BK ❑ SCH ❑ SHZ
TRIMLESS	**TRIMLESS FINISH**
❑ HH4-TL-4501 Trimless Downlight ❑ HH4-TL-4507 Trimless Wall Wash	❑ CL ❑ MB ❑ SHZ ❑ WH

[1] **DIMTR** is available in 120V only
[2] **50K** series are available with 85+ CRI only
[3] **98+**CRI is available in 27K, 30K and 40K only
[4] 3000 Lumens is not energy Star certified
[5] LUTFTB Available for luminaires up to 1500L
[7] Available on 30K, 35K, 40K
[8] 3000K, 3500K and 4000K based on 90 CRI
-Reference last page for Control Options
* Only Available on 85+ CRI

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

Submitted by Smith Lighting Sales, Inc.

Smith Lighting

Job Name:
Greenwood Cultural Center Renovation -
Greenwood Cultural Center Renovation

Catalog Number:
HH4-LED-3000L-DIM10-MVOLT-WD-35K-90 HH4-4507-CL-SCH
Notes:

Type:
F
SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED
4" Architectural High Lumen LED Downlight

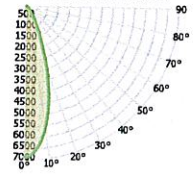
4"

HH4-LED-3000L-DIM10-MVOLT-MD-40K-90-HH4-4501-CL-WH

INPUT WATTS: 32.1 LUMENS: 3074 EFFICACY: 96 BEAM ANGLE: 37

TEST NO.: EL05022201
SPACING CRITERIA: 0.57

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	6865	6865
10°	5563	5499
20°	2816	2708
30°	777	740
40°	208	220
50°	32	36
60°	3	4
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	147009	147009
45.00°	2646	2904
55.00°	255	274
65.00°	98	106
75.00°	57	63
85.00°	10	15

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	604
10° - 20°	1224
20° - 30°	817
30° - 40°	313
40° - 50°	98
50° - 60°	14
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1828	59%
0° - 30°	2645	86%
0° - 40°	2958	96%
0° - 60°	3069	100%
0° - 80°	3072	100%
0° - 90°	3073	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	190.7 fc	4.0 ft	4.0 ft
8.0 ft	107.3 fc	5.4 ft	5.4 ft
10.0 ft	68.7 fc	6.7 ft	6.7 ft
12.0 ft	47.7 fc	8.1 ft	8.1 ft
14.0 ft	35.0 fc	9.4 ft	9.4 ft
16.0 ft	26.8 fc	10.8 ft	10.8 ft
18.0 ft	21.2 fc	12.1 ft	12.1 ft
20.0 ft	17.2 fc	13.5 ft	13.4 ft

INDOOR COEFFICIENTS OF UTILIZATION

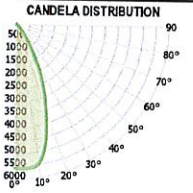
pf																		
pc	80%				70%				50%				30%			10%		0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95
2	110	105	102	99	107	104	101	98	100	98	96	98	95	94	95	93	92	90
3	105	100	95	92	103	98	94	91	96	92	90	93	91	88	91	89	87	86
4	101	94	90	86	99	93	89	86	91	88	85	89	86	84	88	85	83	81
5	97	90	85	81	95	89	84	81	87	83	80	86	82	79	84	81	79	77
6	93	85	80	77	92	85	80	77	83	79	76	82	78	76	81	78	75	74
7	89	82	76	73	88	81	76	73	80	75	72	79	75	72	78	74	72	70
8	86	78	73	69	85	77	73	69	76	72	69	76	72	69	75	71	69	67
9	83	75	70	66	82	74	69	66	73	69	66	73	69	66	72	68	66	64
10	80	72	67	63	79	71	67	63	71	66	63	70	66	63	69	66	63	62

HH4-LED-3000L-DIM10-MVOLT-MWD-40K-90-HH4-4501-CL-WH

INPUT WATTS: 32.2 LUMENS: 3579 EFFICACY: 111 BEAM ANGLE: 48

TEST NO.: EL05022201
SPACING CRITERIA: 0.74

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	5579	5579
10°	5439	5397
20°	3446	3683
30°	1237	1423
40°	215	229
50°	40	48
60°	5	5
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	477859	477859
45.00°	11776	13161
55.00°	1298	1653
65.00°	608	655
75.00°	374	410
85.00°	69	88

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	537
10° - 20°	1328
20° - 30°	1180
30° - 40°	410
40° - 50°	100
50° - 60°	17
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1865	52%
0° - 30°	3045	85%
0° - 40°	3455	97%
0° - 60°	3572	100%
0° - 80°	3577	100%
0° - 90°	3577	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	155.0 fc	5.3 ft	5.3 ft
8.0 ft	87.2 fc	7.1 ft	7.1 ft
10.0 ft	55.8 fc	8.8 ft	8.8 ft
12.0 ft	38.7 fc	10.6 ft	10.6 ft
14.0 ft	28.5 fc	12.4 ft	12.3 ft
16.0 ft	21.8 fc	14.1 ft	14.1 ft
18.0 ft	17.2 fc	15.9 ft	15.9 ft
20.0 ft	13.9 fc	17.7 ft	17.6 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf																		
pc	80%				70%				50%				30%			10%		0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	114	112	109	107	112	109	107	106	105	104	102	102	100	99	98	97	96	95
2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	92	91	89
3	104	99	94	91	103	97	93	90	95	91	89	92	90	87	90	88	86	84
4	100	93	88	85	98	92	88	84	90	86	83	88	85	82	86	83	81	80
5	96	88	83	79	94	87	82	79	86	81	78	84	80	77	82	79	77	75
6	92	84	78	75	90	83	78	74	81	77	74	80	76	73	79	75	73	72
7	88	80	74	70	87	79	74	70	78	73	70	77	73	70	75	72	69	68
8	84	76	70	67	83	75	70	67	74	70	66	73	69	66	72	69	66	65
9	81	72	67	63	80	72	67	63	71	66	63	70	66	63	69	65	63	61
10	78	69	64	60	77	68	64	60	68	63	60	67	63	60	66	62	60	59

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH4-LED-3000L-DIM10-MVOLT-WD-35K-90 HH4-4507-CL-SCH Notes:	**Type:** F SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED

4" Architectural High Lumen LED Downlight

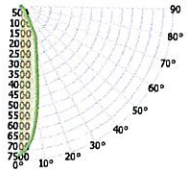
4"

HH4-LED-3000L-DIM10-MVOLT-SPD-40K-90-HH4-4501-CL-WH

TEST NO.: **EL05022201**

INPUT WATTS: **32.1** LUMENS: **3026** EFFICACY: **94** BEAM ANGLE: **25** SPACING CRITERIA: **0.44**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	7242	7242
10°	4864	5172
20°	2219	2261
30°	778	910
40°	270	295
50°	55	66
60°	7	7
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	155070	155070
45.00°	4421	4921
55.00°	529	564
65.00°	199	220
75.00°	105	117
85.00°	12	22

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	617
10° - 20°	1049
20° - 30°	828
30° - 40°	347
40° - 50°	148
50° - 60°	28
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1667	53%
0° - 30°	2494	86%
0° - 40°	2842	96%
0° - 60°	3018	100%
0° - 80°	3024	100%
0° - 90°	3025	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	201.2 fc	3.3 ft	3.2 ft
8.0 ft	113.1 fc	4.4 ft	4.3 ft
10.0 ft	72.4 fc	5.5 ft	5.4 ft
12.0 ft	50.3 fc	6.5 ft	6.5 ft
14.0 ft	36.9 fc	7.6 ft	7.6 ft
16.0 ft	28.3 fc	8.7 ft	8.6 ft
18.0 ft	22.4 fc	9.8 ft	9.7 ft
20.0 ft	18.1 fc	10.9 ft	10.8 ft

INDOOR COEFFICIENTS OF UTILIZATION

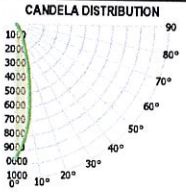
pf																			
	20%																		0%
pc	80%				70%				50%				30%			10%			0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	114	112	109	107	112	109	107	106	105	104	102	102	100	99	98	97	96	95	
2	109	105	101	98	107	103	100	97	100	97	95	97	95	93	94	93	91	90	
3	105	99	94	91	103	98	93	90	95	92	89	93	90	87	90	88	86	85	
4	100	93	89	85	98	92	88	84	90	86	83	88	85	82	87	84	82	80	
5	96	89	84	80	94	88	83	79	86	82	79	84	81	78	83	80	77	76	
6	92	84	79	75	91	83	79	75	82	78	75	81	77	74	79	76	74	72	
7	88	80	75	71	87	80	75	71	78	74	71	77	73	70	76	73	70	69	
8	85	77	71	68	84	76	71	68	75	71	67	74	70	67	73	70	67	66	
9	82	73	68	65	81	73	68	65	72	67	64	71	67	64	70	67	64	63	
10	79	70	65	62	78	70	65	62	69	65	62	68	64	61	68	64	61	60	

HH4-LED-3000L-DIM10-MVOLT-NSPD-40K-90-HH4-4501-CL-WH

TEST NO.: **EL05022201**

INPUT WATTS: **32.1** LUMENS: **3153** EFFICACY: **98** BEAM ANGLE: **19** SPACING CRITERIA: **0.42**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	9601	9601
10°	5978	6553
20°	2033	2040
30°	737	645
40°	202	223
50°	32	39
60°	3	3
70°	1	1
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	205607	205607
45.00°	2565	2863
55.00°	214	255
65.00°	73	85
75.00°	41	50
85.00°	7	15

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	798
10° - 20°	1304
20° - 30°	643
30° - 40°	291
40° - 50°	98
50° - 60°	15
60° - 70°	2
70° - 80°	1
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	2102	67%
0° - 30°	2745	87%
0° - 40°	3036	96%
0° - 60°	3149	100%
0° - 80°	3151	100%
0° - 90°	3151	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	266.7 fc	3.1 ft	3.1 ft
8.0 ft	150.0 fc	4.2 ft	4.1 ft
10.0 ft	96.0 fc	5.2 ft	5.1 ft
12.0 ft	66.7 fc	6.3 ft	6.1 ft
14.0 ft	49.0 fc	7.3 ft	7.1 ft
16.0 ft	37.5 fc	8.3 ft	8.2 ft
18.0 ft	29.6 fc	9.4 ft	9.2 ft
20.0 ft	24.0 fc	10.4 ft	10.2 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf																			
	20%																		0%
pc	80%				70%				50%				30%			10%			0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95	
2	110	106	103	100	108	104	101	99	101	99	97	98	96	95	96	94	93	91	
3	106	101	97	93	104	99	96	93	97	94	91	94	92	90	92	90	88	87	
4	102	96	91	88	100	95	91	87	93	89	86	91	88	85	89	86	84	83	
5	98	91	87	83	97	91	86	83	89	85	82	87	84	81	86	83	81	80	
6	95	87	83	79	93	87	82	79	85	81	78	84	81	78	83	80	77	76	
7	91	84	79	76	90	83	79	75	82	78	75	81	77	75	80	77	74	73	
8	88	81	76	73	87	80	76	72	79	75	72	78	74	72	77	74	72	70	
9	85	78	73	70	84	77	73	70	76	72	69	75	72	69	75	71	69	68	
10	82	75	70	67	82	74	70	67	74	70	67	73	69	67	72	69	66	65	

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH4-LED-3000L-DIM10-MVOLT-WD-35K-90 HH4-4507-CL-SCH Notes:	**Type:** F SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED

4" Architectural High Lumen LED Downlight

4"

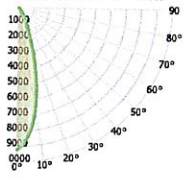
HH4-LED-3000L-DIM10-MVOLT-ND-40K-90-HH4-4501-CL-WH

INPUT WATTS: **32.1** LUMENS: **3181** EFFICACY: **99** BEAM ANGLE: **31**

TEST NO.: **EL05022201**

SPACING CRITERIA: **0.48**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	9196	9196
10°	6567	6688
20°	2387	2402
30°	702	665
40°	185	201
50°	31	36
60°	3	3
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	196917	196917
45.00°	2395	2596
55.00°	225	242
65.00°	82	89
75.00°	49	54
85.00°	10	15

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	771
10° - 20°	1328
20° - 30°	694
30° - 40°	281
40° - 50°	90
50° - 60°	14
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	2099	66%
0° - 30°	2792	88%
0° - 40°	3073	97%
0° - 60°	3176	100%
0° - 80°	3179	100%
0° - 90°	3179	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	255.4 fc	3.4 ft	3.4 ft
8.0 ft	143.7 fc	4.5 ft	4.5 ft
10.0 ft	92.0 fc	5.6 ft	5.6 ft
12.0 ft	63.9 fc	6.7 ft	6.7 ft
14.0 ft	46.9 fc	7.9 ft	7.9 ft
16.0 ft	35.9 fc	9.0 ft	9.0 ft
18.0 ft	28.4 fc	10.1 ft	10.1 ft
20.0 ft	23.0 fc	11.2 ft	11.2 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf		80%			70%				50%			30%			10%		0%
pc								20%									
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95
2	110	106	103	100	108	104	101	99	101	99	97	98	96	95	96	94	93	91
3	106	101	96	93	104	99	95	92	97	94	91	94	92	90	92	90	88	87
4	102	96	91	88	100	95	90	87	93	89	86	91	88	85	89	86	84	83
5	98	91	87	83	97	90	86	83	89	85	82	87	84	81	86	83	81	79
6	94	87	83	79	93	87	82	79	85	81	78	84	80	78	83	80	77	76
7	91	84	79	75	90	83	79	75	82	78	75	81	77	75	80	77	74	73
8	88	80	76	72	87	80	75	72	79	75	72	78	74	72	77	74	71	70
9	85	77	73	69	84	77	72	69	76	72	69	75	72	69	74	71	69	68
10	82	74	70	67	81	74	70	67	73	69	66	73	69	66	72	69	66	65

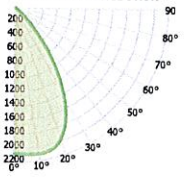
HH4-LED-3000L-DIM10-MVOLT-VWD-40K-90-HH4-4501-CL-WH

INPUT WATTS: **32.2** LUMENS: **2628** EFFICACY: **82** BEAM ANGLE: **72**

TEST NO.: **EL05022201**

SPACING CRITERIA: **1.09 x 1.09**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	2071	2071
10°	2101	2092
20°	1972	1967
30°	1421	1437
40°	590	617
50°	76	85
60°	9	9
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	44349	44349
45.00°	7851	8507
55.00°	724	750
65.00°	243	258
75.00°	119	130
85.00°	12	22

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	199
10° - 20°	584
20° - 30°	825
30° - 40°	697
40° - 50°	278
50° - 60°	35
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	783	30%
0° - 30°	1609	61%
0° - 40°	2306	90%
0° - 60°	2619	100%
0° - 80°	2626	100%
0° - 90°	2627	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	57.5 fc	8.7 ft	8.7 ft
8.0 ft	32.4 fc	11.6 ft	11.6 ft
10.0 ft	20.7 fc	14.5 ft	14.5 ft
12.0 ft	14.4 fc	17.4 ft	17.5 ft
14.0 ft	10.6 fc	20.3 ft	20.4 ft
16.0 ft	8.1 fc	23.2 ft	23.3 ft
18.0 ft	6.4 fc	26.1 ft	26.2 ft
20.0 ft	5.2 fc	29.0 ft	29.1 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf		80%			70%				50%			30%			10%		0%
pc								20%									
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	113	110	108	105	111	108	106	104	104	102	100	100	99	97	97	96	95	93
2	107	102	98	94	105	100	96	93	97	94	91	94	91	89	91	89	87	85
3	101	94	89	85	99	93	88	84	90	86	83	88	84	81	85	83	80	78
4	95	87	81	77	94	86	81	76	84	79	76	82	78	75	80	77	74	72
5	90	81	75	70	88	80	74	70	78	73	69	77	72	69	75	71	68	66
6	85	75	69	64	84	75	69	64	73	68	64	72	67	63	70	66	63	61
7	80	70	64	59	79	70	64	59	68	63	59	67	62	59	66	62	58	57
8	76	66	59	55	75	65	59	55	64	59	55	63	58	54	62	57	54	53
9	72	62	55	51	71	61	55	51	60	55	51	59	54	50	58	54	50	49
10	68	58	52	47	67	57	51	47	57	51	47	56	51	47	55	50	47	46

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH4-LED-3000L-DIM10-MVOLT-WD-35K-90 HH4-4507-CL-SCH Notes:	**Type:** F SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED

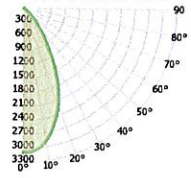
4" Architectural High Lumen LED Downlight

4"

HH4-LED-3000L-DIM10-MVOLT-WD-40K-90-HH4-4501-CL-WH TEST NO.: **EL05022201**

INPUT WATTS: **32.2** LUMENS: **2791** EFFICACY: **87** BEAM ANGLE: **58** SPACING CRITERIA: **0.84**

CANDELA DISTRIBUTION



CANDELA TABLE

	0°	90°
0°	3079	3079
10°	2876	2898
20°	2205	2247
30°	1260	1315
40°	459	504
50°	65	80
60°	8	0
70°	0	0
80°	0	0
90°	0	0

LUMINANCE (cd/sq.m)

	0.00°	90.00°
0.00°	65935	65935
45.00°	6347	7185
55.00°	629	682
65.00°	226	247
75.00°	115	125
85.00°	12	12

LUMENS PER ZONE

ZONE	LUMENS
0° - 10°	288
10° - 20°	747
20° - 30°	874
30° - 40°	606
40° - 50°	234
50° - 60°	13
60° - 70°	0
70° - 80°	0
80° - 90°	0

ZONAL LUMEN SUMMARY

ZONE	UMENS	% LUMINAIRE
0° - 20°	1034	37%
0° - 30°	1908	68%
0° - 40°	2515	90%
0° - 60°	2782	100%
0° - 80°	2790	100%
0° - 90°	2790	100%

CONE OF LIGHT

MOUNTING HEIGHT	FC AT BEAM CENTER	BEAM DIA. 0°-180°	BEAM DIA. 90°-270°
6.0 ft	85.5 fc	6.7 ft	6.6 ft
8.0 ft	48.1 fc	8.9 ft	8.9 ft
10.0 ft	30.8 fc	11.1 ft	11.1 ft
12.0 ft	21.4 fc	13.3 ft	13.3 ft
14.0 ft	15.7 fc	15.5 ft	15.5 ft
16.0 ft	12.0 fc	17.7 ft	17.7 ft
18.0 ft	9.5 fc	20.0 ft	19.9 ft
20.0 ft	7.7 fc	22.2 ft	22.1 ft

INDOOR COEFFICIENTS OF UTILIZATION

pf																			
								20%											0%
pc		80%				70%				50%				30%			10%		0%
pw	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93	
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87	
3	102	96	91	87	100	94	90	86	92	88	85	89	86	83	87	84	82	80	
4	97	89	84	79	95	88	83	79	86	81	78	84	80	77	82	79	76	75	
5	92	83	77	73	90	82	77	73	81	76	72	79	75	71	77	74	71	69	
6	87	78	72	68	86	77	72	67	76	71	67	74	70	66	73	69	66	65	
7	83	73	67	63	81	73	67	63	71	66	62	70	65	62	69	65	62	60	
8	79	69	63	59	77	68	63	59	67	62	58	66	61	58	65	61	58	56	
9	75	65	59	55	74	64	59	55	63	58	55	63	58	54	62	57	54	53	
10	71	61	55	52	70	61	55	51	60	55	51	59	55	51	59	54	51	50	

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** HH4-LED-3000L-DIM10-MVOLT-WD-35K-90 HH4-4507-CL-SCH Notes:	**Type:** F SLSI22-5128

MAXILUME ARCHITECTURAL LIGHTING
By Elite Lighting

HH4-LED

4" Architectural High Lumen LED Downlight

4"

1- Luminaire will be shipped with Powerpacks pre-installed, ready to be integrated to designated contol systems
2- Luminaire will be shipped with Sensors installed on the luminaire, allowing for individual luminaire control. Luminaires will be ready to be integrated with designated control systems
3- Luminaire will be shipped with Sensors to be remotely installed on the ceiling. Luminaires will be ready to be integrated with designated control systems

BRAND	NX LIGHTING CONTROLS	LUTRON	enlighted	LEVITON	ENCELIUM	PHILIPS EasySense	legrand®
CONTROL UNIT	❑ NXFM-1R2D-0-UNV NX Fixture Module, Offset, 1 Relay, 2 0-10V Dimming Channels, 120-347VAC, Blue	❑ FCJS-010 Lutron Vive 0-10V Individual Pow Pak (Luminare is shipped Vive Enabled) [14] ❑ FCJS-ECO Lutron Vive Eco-system Pow Pak (Luminare is shipped Vive Enabled) ❑ A-WN-D01-RF-WH Athena wireless node (RF only) (White) ❑ A-WN-D01-OCC-WH Athena wireless node with sensor (White)	❑ CU-4E-FMH Fixture Mount Control Unit [15]	❑ ZL027 –NOW Intellect Power Control Module [16] ❑ ZL027 –NOW Intellect Power Control Module [16]	❑ EN-WCM2-ZB-DR Wireless Control Module [17] ❑ EN- ALC-ZB-BK-DR Wireless Area Lighting Control Module [17] ❑ ZBHA-CLM-DIM-ENC Connected Lighting Module DIM [17]	❑ SBR -BS Xitanium SR Bridge [18]	❑ LMFC-011 ON/OFF/0-10V dimming fixture controller [19]
INTEGRAT SENSOR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
*WIRELESS OCCUPANCY SENSOR	❑ NXSMP2-SMI NX Slide Mount Indoor Sensor Module	N/A	N/A	N/A	N/A	N/A	❑ LMDC-100 Dual technology PIR Ceiling Mount Occupancy Sensor [3]
*WIRELESS DAYLIGHT SENSOR	❑ LUXSTATLS Luxstat Light Sensor for Luxstat Control Modules, 3 to 6000 FC	N/A	N/A	N/A	N/A	N/A	❑ LMLS-400 Single zone switching and dimming digital photosensor [3]
*WIRELESS OCCUPANCY & DAYLIGHT SENSOR	❑ NXSMDT Indoor Ceiling Mount Sensor - OMNI	N/A	❑ SU-5E-IoT IoT Node Micro Sensor [3] ❑ SU-5E-CL Connected Lighting Micro Sensor [3] ❑ SU-5E-IL Independent Lighting / Enlighted One Micro Sensor [3] ❑ SU-5S-H-(IoT/CL/IL) Surface Mount Sensor [3] **(Must be specified with CU-4E-FMH Control Unit)**	❑ ZL00J -T0W Intellect Intelligent Fixture Control System [3] **(Must be specified with ZL027 –NOW Control Unit)**	❑ EN-CLM-PIR-DD-ZB SensiLUM™ Wireless Integrated Sensor ❑ EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors [3] **(Must be specified with EN-WCM2-ZB-DR or EN-ALC-ZB-BK-DR Control Unit)**	❑ SNS200-CMP SNS200 for grouping [3]	N/A
ACCESORIES	N/A	N/A	❑ TMC-SU-5E Tile Mount Carrier ❑ CBL-5E-CU4-30N 30 inch Sensor Cable for CU-4 and IoT ReadyTM drivers ❑ CBL-5E-CU4-7F 7 foot Sensor Cable for CU-4 and IoT ReadyTM drivers	N/A	N/A	N/A	N/A
NOTES	N/A	4- Luminaire will be compatible with Lutron LRF2-OCR2B-P-WH Ceiling mount360° occupancy/vacancy sensor & LRF2-DCRB-WH Ceiling-mount daylight sensor. Sensors must be ordered through Lutron.	5- Luminaire will be compatible with ENLIGHTED SU-5E-IoT, SU-5E-CL, SU-5E-IL, SU-5S-H, Sensors.	6-Luminaire will be compatible with Leviton Intellect App & Keypad Room Controller	7-Luminaire will be compatible with EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors	8-Luminaire will be compatible with Philips field and wireless switch.	9-Luminaire will be compatiable with DLM Room control system LMPB-100. DLM control system must be orderd through Legrand.

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

Submitted by Smith Lighting Sales, Inc.

Smith Lighting

Job Name:
Greenwood Cultural Center Renovation -
Greenwood Cultural Center Renovation

Catalog Number:
OLS-WDI-LED-4-CR-12'6"-D750L-WW-U750L-ASM-1C-DIM10-MVOLT-35K-85-WH

Notes:

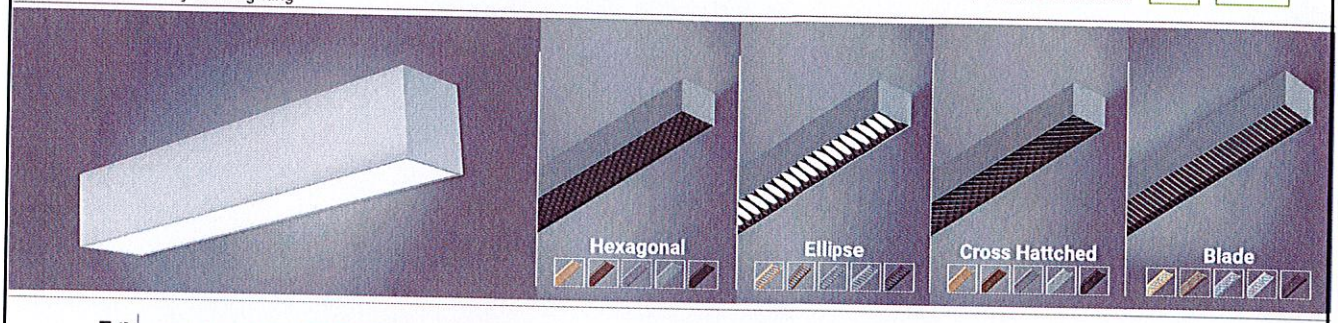
Type:
G

SLSI22-5128

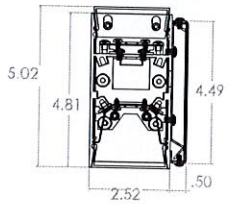
ORACLE LIGHTING
By Elite Lighting

OLS-WDI-LED

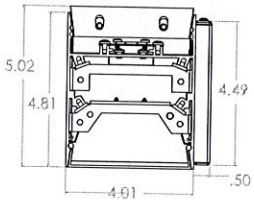
LED Architectural Wall Mount Direct/Indirect Linear 2" 4"



CUSTOM COLORS



2" PROFILE



4" PROFILE

FEATURES

FLEX Architectural LED Wall Mount Linear delivers an endless array of flexibility, from straight runs to complex 90 ° turns. Available in small standard profiles of 2" and 4", or custom lengths, it accommodates most surfaces and installations, with fully illuminated corners to provide seamless, continuous lengths of light. Be inspired to create a long-lasting impression with a unique design that complements corporate offices, educational, commercial, and retail spaces.

HIGH PERFORMANCE

DIRECT

LUMENS/FT	NOMINAL LUMENS/FT	DELIVERED WATTS/FT
1500	1450	10.3
1250	1182	8.5
1000	1023	7.3
750	780	5.5
500	520	3.5

INDIRECT

LUMENS/FT	NOMINAL LUMENS/FT	DELIVERED WATTS/FT
1500	1450	10.3
1250	1182	8.5
1000	1023	7.3
750	780	5.5
500	520	3.5

DIRECT

LUMENS/FT	WATTS/FT
2000	17.5
1500	12.7
1250	10.5
1000	8.2
750	6.5
500	4.5

INDIRECT

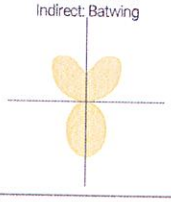
LUMENS/FT	WATTS/FT
2000	17.5
1500	12.7
1250	10.5
1000	8.2
750	6.5
500	4.5

*Based on 4000K, 90+CRI with semi-specular chrome reflector. Actual wattage may vary +/-5%
**Lumens are based on Standard distribution

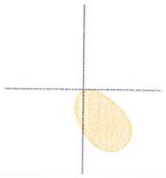
LUMENS PER FOOT	500, 750, 1000, 1250, 1500, 2000 or Custom
CCT & DYNAMIC PLATFORMS	27K, 30K, 35K, 40K, 50K, Tunable White, Dims to Warm, RGB + White
CRI	85+ Standard, 90+
COLOR QUALITY	3 Step MacAdam Ellipses (+85), 2 Step MacAdam Ellipses (+90)
WIDTHS	2", 4"
LENGTHS	2', 4', 6', 8', Continuous with 1" Increments
DISTRIBUTION PATTERNS	Direct: Standard, Wall Wash, Blade Louver, Hexagonal Louver, Cross Hatched Louver, Ellipse Louver Indirect: Standard, Wall Wash, Batwing
CONFIGURATION PATTERNS & LENGTHS	Single, Continous, L-Shape
MOUNTING	Wall
FINISH	WH (White), BK (Black), SI (Silver), Custom RAL
DIMMING & CONTROLS	0-10V Flicker Free 1% Dimming Standard (DIM10), LUTH, DIMST, ELDO10.1, ELDODMX.1, DALI.1, DIMTR
EMERGENCY	10W - Up to 1000L Output 20W - Up to 2000L Output EMG-LED-G2-10W-SDT - Self Diagnostic (Consult Factory) EMG-LED-G2-20W-SDT - Self Diagnostic (Consult Factory)
LIFETIME	L70 at 200,000 Hours
PHOTOMETRIC TESTS	In Accordance with IES LM79-08, LM80 and TM-30, TM-21

24 MONTH WARRANTY · DLC LISTED · cULus LISTED · PROUDLY ASSEMBLED in AMERICA · 5 YEARS LIMITED WARRANTY · DAMP LOCATION

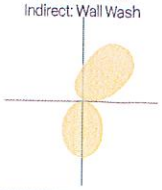
Distribution Pattern:
Direct: Standard
Indirect: Batwing



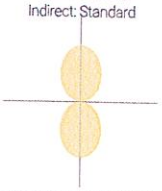
Distribution Pattern:
Direct: Wall Wash



Distribution Pattern:
Direct: Standard
Indirect: Wall Wash



Distribution Pattern:
Direct: Standard
Indirect: Standard



elite LED LIGHTING

www.iuseelite.com

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.
08112021

ORACLE LIGHTING
By Elite Lighting

OLS-WDI-LED

LED Architectural Wall Mount Direct/Indirect Linear 2" 4"

OPTICS & PERFORMANCE

Fabricated from 20-gauge aluminum, with mitered corners, and post-painted with 95% reflective premium paint. The optical system delivers high efficiency LED light that passes through a high quality acrylic lens for optimal distribution patterns, creating a glare-free and even distribution. Distributions include Direct Downlight, Blade Louver, Ellipse Louver, Cross Hatched Louver, Hexagonal Louver, Indirect (Uplight) or Wall Wash with zero light leakage.

CONSTRUCTION

One-piece rigid aluminum extrusion, made of T6063-T5 aluminum, with cast aluminum end caps. A precision cut, smooth white extruded frosted lens with snap in design attaches firmly into the grooves of the body and can be easily removed for access to the driver and LED boards. For indirect distribution, the lens can be installed flush against the luminaire, or extended off the surface of the luminaire, creating a soft glow of illumination.

OPTICAL ASSEMBLY

Reflector is fabricated from 20-gauge aluminum, and post-painted finish with 95% reflective premium paint. Wall Wash reflectors are positioned at an angle.

DISTRIBUTION PATTERNS & DIFFUSER

Standard Distribution-A high-quality, smooth white frosted efficient acrylic lens is shipped standard for optimal distribution patterns, for most applications, and provides glare-free, even illumination.
Wall Wash Distribution-Illuminates from the ceiling, down, for uniform vertical illumination.

LUMINAIRE CONTROL

Luminaire can be pre-wired for independent 2-circuit control of uplight, downlight, or 1-circuit control for combined up/downlight.

CRM INSTALLATION

For continuous row mounting, the first luminaire in the row will always be the power supply feed. After plugging in the male and female harnesses, which are supplied with each luminaire, they will easily slide together, then secured with two screws from opposite directions in the connecting brackets.

DRIVER ELECTRICAL INFORMATION

Powered by high-quality constant-current power LED drivers which are rated for 50 to 60Hz at 120-277V input, produce less than 20% THD, and have a power factor of .90 to 1.00. Male and female 18-gauge 6 wire plug connectors are included with every luminaire to allow for simple hassle-free continuous wiring, and each lumianire must be installed male to female.

LED DYNAMIC PLATFORM OPTIONS

Tunable White with Smart White Technology utilizing the Lumenetix Platform allows you to color tune the luminaire via various controls. Create the perfect environment for the desired use of the space, while maintaining a CRI of 90+ across the tunable range of 8000 to 1650K. (Click here for more details)

Dims to Warm with Smart Dimming Technology. At 100% full brightness the luminaire is at 3500K. When dimmed to 1%, the light transitions to 1800K, creating a warm ambiance within the space. (Click here for more details)

RGB+White with Smart Hue Technology provides full color mixing of RGB and white colors. Utilizing the Lumenetix Platform allows you to choose from unlimited RGB color options, via various controls. Ideal for Circadian Rhythm applications or to create the perfect human centric environment. (Click here for more details)

DIMMING & DRIVER INFORMATION

DIM10 - Flicker Free 1% Dimming Standard (DIM10) 0-10V dimming on either MVOLT 120, 277 or 347V.
LUTH - Lutron LDE1 Hi-Lume Eco System. 1% dimming with Soft in Fade to Black dimming technology.
ELDO10.1 - EldoLED SoloDrive 0-10V. Dimming down to 0.1%.
DALI - DALI DT6, DT8 dimming down to 1%.
ELDODMX - EldoLED PowerDrive dimming down to 0.1%.
Please see EldoLED website for wiring diagrams and a list of compatible DMX and DALI control systems.
DIMST - Step Dimming
DIMTR - Triac & Electronic low voltage dimming. Available in 120V.

WARRANTY

Five-year warranty for parts and components. (Labor not included)

LISTINGS

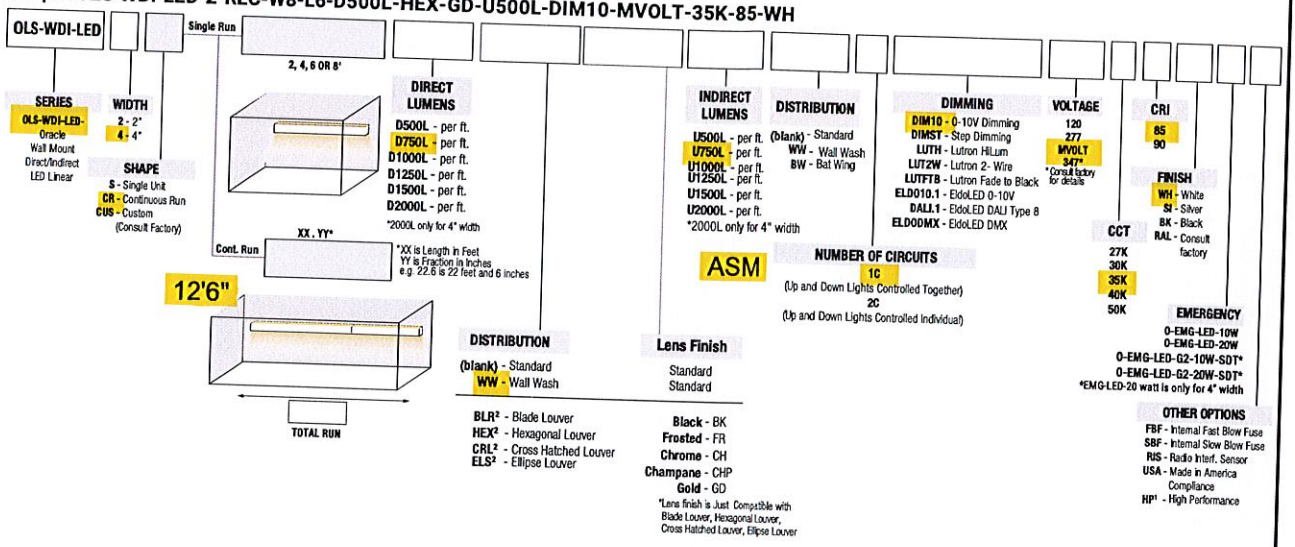
c-UL-us - Listed for Feed Through Wiring.
All LED luminaires are rated and tested to LM-79 and LM-80 standards by an independent laboratory. Listed for DLC, California Title 24 compliant. UI Listed for Damp location.

ORACLE LIGHTING By Elite Lighting

OLS-WDI-LED

LED Architectural Wall Mount Direct/Indirect Linear 2" 4"

Example: **OLS-WDI-LED-2-REC-W8-L6-D500L-HEX-GD-U500L-DIM10-MVOLT-35K-85-WH**



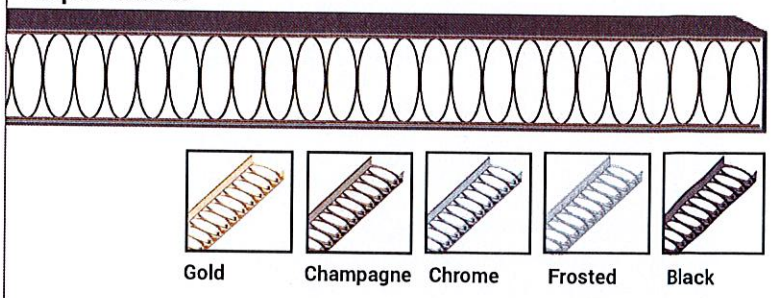
- LUT2W available in 120V
- ELDO10, ELDODMX, LUTH available 120-277
  * Consult Factory
  * See last page for sensor options

- 1 HP(high performance) option is available on 3000K, 3500K and 4000K
- 2 Lens finishes just apply on BLR, HEX, CRL, ELS distribution

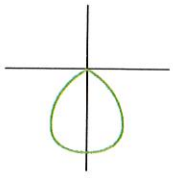
ORACLE LIGHTING
By Elite Lighting

DISTRIBUTION PATTERNS

Ellipse Louver

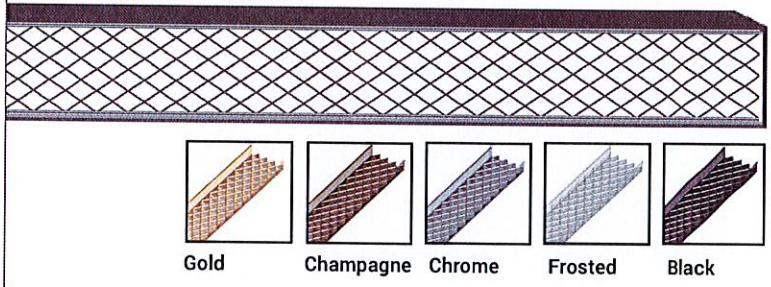


Gold Champagne Chrome Frosted Black

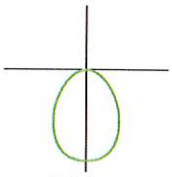


Up & Down
Ellipse Louver

Cross Hatched Louver

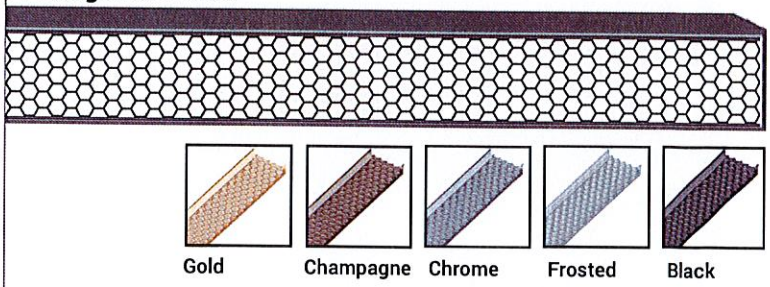


Gold Champagne Chrome Frosted Black

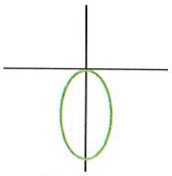


Up & Down
Cross Hatched Louver

Hexagonal Louver

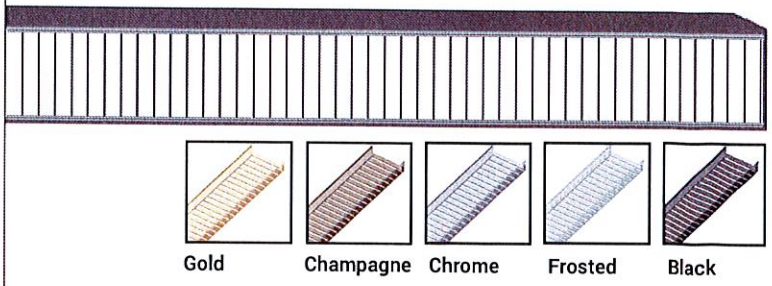


Gold Champagne Chrome Frosted Black

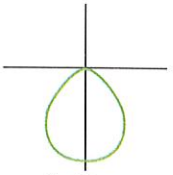


Up & Down
Blade Louver

Blade Louver



Gold Champagne Chrome Frosted Black



Up & Down
Blade Louver

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

ORACLE LIGHTING By Elite Lighting

OLS-WDI-LED

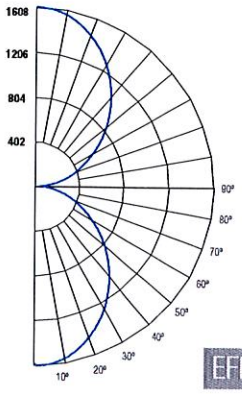
LED Architectural Wall Mount Direct/Indirect Linear 2" 4"

OLS-WDI-LED-2-S-4-D1000L-U1000L-DIM10-MVOLT-40K-85

TEST NO.: **EL081815**

INPUT WATTS: **76** LUMENS: **8326** CRI: **85** EFFICACY: **110** CCT: **4000K**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-30°	1199.64	N.A.	14.40
0-40°	1924.15	N.A.	23.10
0-60°	3288.36	N.A.	39.50
0-90°	4163.18	N.A.	50.00
0-180°	8326.37	N.A.	100.00

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0°	Average 45°	Average 90°
45°	19753	20906	22163
55°	18172	19416	20850
65°	16650	17872	19306
75°	15376	16393	17640
85°	15109	15772	16893

Candela Tabulation

	0	45	90	180
0	1587.911	1587.911	1587.911	1587.911
25	1322.160	1355.780	1389.000	1329.110
45	883.230	934.760	990.970	894.720
65	444.950	477.600	515.930	456.560
85	83.270	86.920	93.100	91.350
90	33.110	28.640	20.360	33.110
130	782.340	825.120	878.470	769.900
145	1119.860	1160.660	1205.750	1110.310
165	1496.030	1508.430	1521.900	1493.220
175	1588.610	1588.750	1591.100	1590.300
180	1608.340	1608.340	1608.340	1608.340

Spacing Criteria

0-180	:	N.A.
90-270	:	N.A.
Diagonal	:	N.A.

EFFICACY: **110 LM/W**

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 20% = PF

ROOM CAVITY RATIO	RC 80% RW 70%	50%	30%	10%	70% 70%	50%	30%	10%	50% 50%	30%	10%	30% 50%	30%	10%	10% 50%	30%	10%	0% 0%
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	98	93	89	86	90	86	83	80	73	70	68	61	59	57	49	48	47	42
2	89	81	75	70	82	75	70	65	64	60	56	53	50	48	43	41	39	35
3	81	71	64	58	74	66	60	54	56	51	47	47	43	40	38	36	34	29
4	74	63	55	49	68	59	52	46	50	44	40	42	38	34	34	31	29	25
5	68	56	48	42	62	52	45	40	45	39	35	37	33	30	31	28	25	22
6	63	50	42	37	58	47	40	34	40	34	30	34	30	26	28	25	22	19
7	58	46	38	32	53	42	35	30	36	31	27	31	26	23	26	22	20	17
8	54	41	34	28	49	39	32	27	33	28	24	28	24	21	23	20	18	15
9	50	38	30	25	45	35	28	24	30	25	21	26	22	19	22	18	16	14
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	14	13

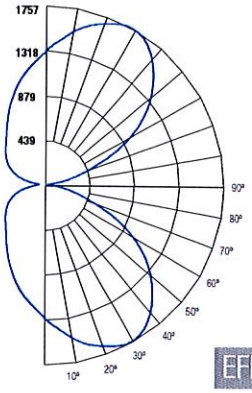
RC - Ceiling Cavity Reflectance RW - Wall Reflectance

OLS-WDI-LED-2-S-4-D1000L-WW-U1000L-WW-DIM10-MVOLT-40K-85

TEST NO.: **EL081815**

INPUT WATTS: **76.3** LUMENS: **8278** CRI: **85** EFFICACY: **108** CCT: **4000K**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-30°	1047.28	12.70	12.70
0-40°	1752.00	21.20	21.20
0-60°	3199.88	38.70	38.70
0-90°	4139.19	50.10	50.00
0-180°	8278.37	100.10	100.00

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0°	Average 45°	Average 90°
45°	40999	39838	22374
55°	40607	40193	20522
65°	34997	39001	18302
75°	24298	34384	15022
85°	17505	27434	10016

Candela Tabulation

	0	45	90	180
0	1292.846	1292.846	1292.846	1292.846
25	1734.480	1558.810	1141.660	807.150
45	1509.680	1466.930	823.870	537.300
65	770.200	858.320	402.780	364.300
85	79.450	124.510	202.470	226.560
90	35.190	45.690	45.460	89.280
130	1372.740	1345.170	8.080	55.390
145	1720.990	1590.350	748.010	498.840
165	1606.860	1501.800	1029.250	645.640
175	1398.140	1368.520	1253.860	999.930
180	1277.240	1277.240	1296.580	1195.710

Spacing Criteria

0-180	:	N.A.
90-270	:	N.A.
Diagonal	:	N.A.

EFFICACY: **108 LM/W**

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 20% = PF

ROOM CAVITY RATIO	RC 80% RW 70%	50%	30%	10%	70% 70%	50%	30%	10%	50% 50%	30%	10%	30% 50%	30%	10%	10% 50%	30%	10%	0% 0%
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	98	93	89	85	90	86	83	79	73	70	68	60	59	57	49	48	47	41
2	89	81	75	69	81	75	69	65	63	59	56	53	50	47	43	41	39	34
3	81	71	63	57	74	66	59	54	56	51	46	46	43	39	38	35	33	29
4	74	62	54	48	67	58	51	45	49	44	39	41	37	33	33	30	28	24
5	67	55	47	41	62	51	44	39	44	38	34	37	32	29	30	27	24	21
6	62	50	41	35	57	46	39	33	39	33	29	33	28	25	27	24	21	18
7	57	45	37	31	53	42	34	29	36	30	26	30	25	22	25	21	19	16
8	53	40	33	27	49	38	31	26	32	27	23	27	23	20	23	19	17	14
9	49	37	29	24	45	34	27	23	30	24	20	25	21	17	21	17	15	13
10	46	34	26	22	42	31	25	20	27	22	18	23	19	16	19	16	13	11

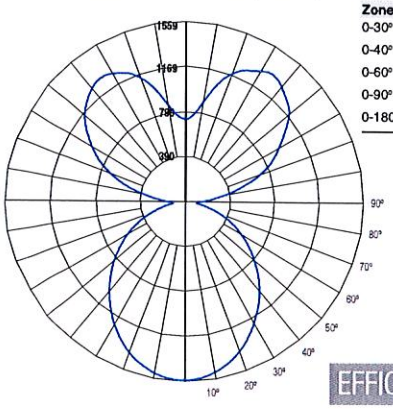
RC - Ceiling Cavity Reflectance RW - Wall Reflectance

OLS-WDI-LED-4-S-4-D1000L-U1000L-BW-DIM10-MVOLT-40K-85

TEST NO.: **EL081815**

INPUT WATTS: **76.6** LUMENS: **8335** CRI: **85** EFFICACY: **109** CCT: **4000K**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-30°	1180.17	14.20	14.20
0-40°	1907.46	22.90	22.90
0-60°	3310.83	39.70	39.70
0-90°	4253.63	51.00	51.00
0-180°	8335.08	100.00	100.00

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0°	Average 45°	Average 90°
45°	10688	10873	11085
55°	10078	10301	10437
65°	9403	9612	9625
75°	8838	8880	8527
85°	11366	9974	7462

Candela Tabulation

	0	45	90	180
0	1546.766	1546.766	1546.766	1546.766
25	1317.980	1327.740	1345.400	1335.830
45	927.660	943.690	962.120	942.630
65	487.770	498.600	499.280	494.920
85	121.590	106.700	79.830	125.340
90	96.010	66.390	9.980	104.650
130	1204.320	1025.170	472.100	1168.810
145	1370.510	1118.380	592.150	1325.560
165	1069.610	898.090	708.870	1020.070
175	747.400	747.400	740.140	767.760
180	804.170	804.170	747.400	747.400

Spacing Criteria

0-180	:	N.A.
90-270	:	N.A.
Diagonal	:	N.A.

EFFICACY: **109 LM/W**

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 20% = PF

ROOM CAVITY RATIO	RC 80% RW 70%	50%	30%	10%	70% 70%	50%	30%	10%	50% 50%	30%	10%	30% 50%	30%	10%	10% 50%	30%	10%	0% 0%
0	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	98	93	89	86	90	86	83	80	73	71	68	61	59	58	50	49	47	42
2	89	81	75	70	82	75	70	65	64	60	56	53	50	48	44	42	40	35
3	81	71	64	58	74	68	59	54	56	51	47	47	43	40	39	36	34	30
4	74	63	55	49	68	58	51	46	50	44	40	42	38	34	34	31	29	25
5	68	56	48	42	62	52	45	39	45	39	34	38	33	30	31	28	25	22
6	62	50	42	36	57	47	39	34	40	34	30	34	29	26	28	25	22	19
7	58	45	37	32	53	42	35	30	36	31	26	31	26	23	26	22	20	17
8	54	41	33	28	49	38	31	26	33	27	23	28	24	20	24	20	18	15
9	50	38	30	25	46	35	28	24	30	25	21	26	22	18	22	18	16	14
10	47	34	27	22	43	32	26	21	28	23	19	24	20	17	20	17	14	12

RC - Ceiling Cavity Reflectance RW - Wall Reflectance

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

ORACLE LIGHTING By Elite Lighting

OLS-WDI-LED

LED Architectural Wall Mount Direct/Indirect Linear 2" 4"

1- Luminaire will be shipped with Powerpacks pre-installed, ready to be integrated to designated contol systems
2- Luminaire will be shipped with Sensors installed on the luminaire, allowing for individual luminaire control. Luminaires will be ready to be integrated with designated control systems
3- Luminaire will be shipped with Sensors to be remotely installed on the ceiling. Luminaires will be ready to be integrated with designated control systems

BRAND	EASYFIT by EnOcean	LUTRON	enlighted	LEVITON	OSRAM	PHILIPS EasySense	legrand
CONTROL UNIT	❑ LEDRU LED Relay Zone Controller 0-10V [1]	❑ FCJS-0-10 Lutron Vive 0-10V Individual Control Models [14]	❑ CU-4E-FMH Fixture Mount Control Unit [15]	❑ ZL027 –N0W Intellect Power Control Module [15]	❑ EN-WCM2-ZB-DR Wireless Control Module [17]	❑ XITANIUM SR LED DRIVER The Philips Advance Xitanium SR LED driver [18]	❑ LMFC-011 ON/OFF/0-10V dimming fixture controller [19]
	❑ LEDDU LED Zone Controller 0-10V [1]	❑ FCJS-ECO Lutron Vive Eco-system Individual Control Models [14]		❑ ZL027 –DLE Intellect Power Control Module [16]	❑ EN- ALC-ZB-BK-DR Wireless Area Lighting Control Module [17]		❑ FS-PP-V2 FS-PP Fixture Integrated Sensor Power Pack [19]
INTEGRATED OCCOPANCY& DAYLIGHT SENSOR	N/A	❑ DFCSJ-0EM-OCC Clear Connect (RF) and Occupancy/ Daylight Sensing [2]	❑ SU-5E-IoT IoT Node Micro Sensor ❑ SU-5E-CL Connected Micro Sensor ❑ SU-5E-IL Indipendent Micro Sensor ❑ SU-5S-H(IoT/CL/IL) Serface Mount Sensor **(Must be Specified with CU-4E-FMH Control Unit)** [2]	❑ ZL00J -T0W Intellect Intelligent Fixture Control System [2]	❑ EN-CLM-PIR-DD-ZB SensiLUM™ Wireless Integrated Sensor	❑ SNS200 SNS200 for grouping [2]	❑ FD-301 Fixture integrated Daylight Dimming Sensor [2]
				❑ ZL00J-D0W Intellect Intelligent Fixture Control System [2]	❑ ZBHA-CLM-DIM-ENC Connected Lighting Module DIM [3]	❑ SNS300 SNS300 for networks [2]	❑ FS-205 Fixture integrated passive infrared occupancy sensor [2]
*WIRELESS OCCUPANCY SENSOR	❑ EOSCU-W-E0 Occupancy Sensor - Ceiling Mounted [3]	❑ LRF2-0CR2B-P-WH Ceiling mount360° ,occupancy/vacancy sensor [3]	N/A	N/A	❑ EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors [3]	N/A	❑ LMDC-100 Dual technology PIR Ceiling Mount Occupancy Sensor [3]
*WIRELESS DAYLIGHT SENSOR	❑ ELLSU-W-E0 Light Level Sensor - Ceiling Mounted [3]	❑ LRF2-DCRB-WH Ceiling-mount daylight sensor [3]	N/A	N/A	❑ EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors [3]	N/A	❑ LMLS-400 Single zone switching and dimming digital photosensor [3]
*WIRELESS OCCUPANCY & DAYLIGHT SENSOR	N/A	N/A	❑ SU-5E-IoT IoT Node Micro Sensor ❑ SU-5E-CL Connected Micro Sensor ❑ SU-5E-IL Indipendent Micro Sensor ❑ SU-5S-H(IoT/CL/IL) Serface Mount Sensor **(Must be specified with CU-4E-FMH Control Unit)** [3]	❑ ZL00J -T0W Intellect Intelligent Fixture Control System ❑ ZL00J-D0W Intellect Intelligent Fixture Control System **(Must be specified with ZL027-N0W and ZL00J-D0W Control unit)** [3]	❑ EN-CLM-PIR-DD-ZB SensiLUM™ Wireless Integrated Sensor ❑ ZBHA-CLM-DIM-ENC Connected Lighting Module DIM **(Must be specified with EN-WCM2-ZB-DR or EN- ALC-ZB-BK-DR Control Unit)** [3]	❑ SNS200-CMP SNS-200 for Grouping [3]	N/A
ACCESSORIES	N/A	N/A	❑ TMC-SU-5E Tile Mount Carrier ❑ CBL-5E-CU4-30N 30 Inch Sensor cable for CU-4 and IoT Ready ❑ CBL-5E-CU4-7F 7 Foot sensor cable for CU-4 and IoT Ready Driver	N/A	N/A	N/A	N/A
NOTES	N/A	4- Luminaire will be compatible with LUTRON LRF2-0CR2B-PWH Ceiling mount 360deg occupancy/ vacancy sensor & LRF2-DCRB-WH ceiling mount daylight sensor. Sensors must be orderd through Lutron	5- Luminaire will be compatible with ENLIGHTED SU-5E-IoT, SU-5E-CL, SU-5E-IL, SU-5SH, Sensors	6- Luminaire will be compatible with LEVITON I ntellect APP & Keypad room controller	7- Luminaire will be compatible with EN-SCPPH-1500-ZB Wireless passive infrared occupancy and photo sensor	8- Luminaire will be compatiable with philips field and wireless switch	9- Luminaire will be compatiable with DLM Room control system LMPB-100. . Sensors must be orderd through Legrand.

Submitted by Smith Lighting Sales, Inc.

Smith Lighting

Job Name:
Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation

Catalog Number:
OLS-WDI-LED-4-CR-12'6"-D750L-WW-U750L-ASM-1C-DIM10-MVOLT-35K-85-WH

Notes:

Type:
G

SLSI22-5128

ORACLE LIGHTING
By Elite Lighting

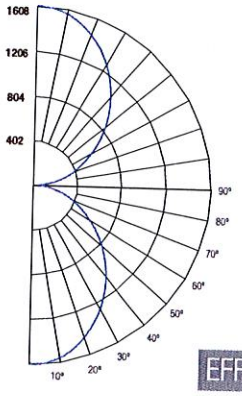
OLS-WDI-LED

Flex Series LED Architectural Wall Mount Direct/Indirect Linear 2" 4"

OLS-WDI-LED-2-S-4-D1000L-U1000L-DIM10-MVOLT-40K-85

INPUT WATTS: **76** LUMENS: **8326** CRI: **85** EFFICACY: **110** CCT: **4000K** TEST NO.: **EL081815**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-30°	1199.64	N.A.	14.40
0-40°	1924.15	N.A.	23.10
0-60°	3288.36	N.A.	39.50
0-90°	4163.18	N.A.	50.00
0-180°	8326.37	N.A.	100.00

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0°	Average 45°	Average 90°
45°	19753	20906	22163
55°	18172	19416	20850
65°	16650	17872	19306
75°	15376	16393	17640
85°	15109	15772	16893

Candela Tabulation

	0	45	90	180
0	1587.911	1587.911	1587.911	1587.911
25	1322.160	1355.780	1389.000	1329.110
45	883.230	934.760	990.970	894.720
65	444.950	477.600	515.930	456.560
85	83.270	86.920	93.100	91.350
90	33.110	28.640	20.360	33.110
130	782.340	825.120	878.470	769.900
145	1119.860	1160.660	1205.750	1110.310
165	1496.030	1508.430	1521.900	1493.220
175	1588.610	1588.750	1591.100	1590.300
180	1608.340	1608.340	1608.340	1608.340

Spacing Criteria

0-180	:	N.A.
90-270	:	N.A.
Diagonal	:	N.A.

EFFICACY: **110** LM/W

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 20% = PF

RC	80%				70%				50%			30%			10%		0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	98	93	89	86	90	86	83	80	73	70	68	61	59	57	49	48	47	42
2	89	81	75	70	82	75	70	65	64	60	56	53	50	48	43	41	39	35
3	81	71	64	58	74	66	60	54	56	51	47	47	43	40	38	36	34	29
4	74	63	55	49	68	59	52	46	50	44	40	42	38	34	34	31	29	25
5	68	56	48	42	62	52	45	40	45	39	35	37	33	30	31	28	25	22
6	63	50	42	37	58	47	40	34	40	34	30	34	30	26	28	25	22	19
7	58	46	38	32	53	42	35	30	36	31	27	31	26	23	26	22	20	17
8	54	41	34	28	49	39	32	27	33	28	24	28	24	21	23	20	18	15
9	50	38	30	25	46	35	28	24	30	25	21	26	22	19	22	18	16	14
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	14	13

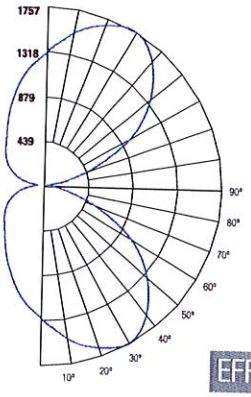
ROOM CAVITY RATIO

RC - Ceiling Cavity Reflectance RW - Wall Reflectance

OLS-WDI-LED-2-S-4-D1000L-WW-U1000L-WW-DIM10-MVOLT-40K-85

INPUT WATTS: **76.3** LUMENS: **8278** CRI: **85** EFFICACY: **108** CCT: **4000K** TEST NO.: **EL081815**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-30°	1047.28	12.70	12.70
0-40°	1752.00	21.20	21.20
0-60°	3199.88	38.70	38.70
0-90°	4139.19	50.10	50.00
0-180°	8278.37	100.10	100.00

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0°	Average 45°	Average 90°
45°	40999	39838	22374
55°	40607	40193	20522
65°	34997	39001	18302
75°	24298	34384	15022
85°	17505	27434	10016

Candela Tabulation

	0	45	90	180
0	1292.846	1292.846	1292.846	1292.846
25	1734.480	1558.810	1141.660	807.150
45	1509.680	1466.930	823.870	537.300
65	770.200	858.320	402.780	364.300
85	79.450	124.510	202.470	226.560
90	35.190	45.690	45.460	89.280
130	1372.740	1345.170	8.080	55.390
145	1720.990	1590.350	748.010	498.840
165	1606.860	1501.800	1029.250	645.640
175	1398.140	1368.520	1253.860	999.930
180	1277.240	1277.240	1296.580	1195.710

Spacing Criteria

0-180	:	N.A.
90-270	:	N.A.
Diagonal	:	N.A.

EFFICACY: **108** LM/W

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 20% = PF

RC	80%				70%				50%			30%			10%		0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	98	93	89	85	90	86	83	79	73	70	68	60	59	57	49	48	47	41
2	89	81	75	69	81	75	69	65	63	59	56	53	50	47	43	41	39	34
3	81	71	63	57	74	66	59	54	56	51	46	46	43	39	38	35	33	29
4	74	62	54	48	67	58	51	45	49	44	39	41	37	33	33	30	28	24
5	67	55	47	41	62	51	44	39	44	38	34	37	32	29	30	27	24	21
6	62	50	41	35	57	46	39	33	39	33	29	33	28	25	27	24	21	18
7	57	45	37	31	53	42	34	29	36	30	26	30	25	22	25	21	19	16
8	53	40	33	27	49	38	31	26	32	27	23	27	23	20	23	19	17	14
9	49	37	29	24	45	34	27	23	30	24	20	25	21	17	21	17	15	13
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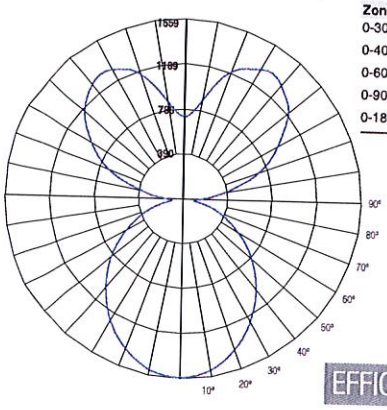
ROOM CAVITY RATIO

RC - Ceiling Cavity Reflectance RW - Wall Reflectance

OLS-WDI-LED-4-S-4-D1000L-U1000L-BW-DIM10-MVOLT-40K-85

INPUT WATTS: **76.6** LUMENS: **8335** CRI: **85** EFFICACY: **109** CCT: **4000K** TEST NO.: **EL081815**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-30°	1180.17	14.20	14.20
0-40°	1907.46	22.90	22.90
0-60°	3310.83	39.70	39.70
0-90°	4253.63	51.00	51.00
0-180°	8335.08	100.00	100.00

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0°	Average 45°	Average 90°
45°	10688	10873	11085
55°	10078	10301	10437
65°	9403	9612	9625
75°	8838	8880	8527
85°	11366	9974	7462

Candela Tabulation

	0	45	90	180
0	1546.766	1546.766	1546.766	1546.766
25	1317.980	1327.740	1345.400	1335.830
45	927.660	943.690	962.120	942.630
65	487.770	498.600	499.280	494.920
85	121.590	106.700	79.830	125.340
90	96.010	66.390	9.980	104.650
130	1204.320	1025.170	472.100	1168.810
145	1370.510	1118.380	592.150	1325.560
165	1069.610	898.090	708.870	1020.070
175	747.400	747.400	740.140	767.760
180	804.170	804.170	747.400	747.400

Spacing Criteria

0-180	:	N.A.
90-270	:	N.A.
Diagonal	:	N.A.

EFFICACY: **109** LM/W

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 20% = PF

RC	80%				70%				50%			30%			10%		0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	98	93	89	86	90	86	83	80	73	71	68	61	59	58	50	49	47	42
2	89	81	75	70	82	75	70	65	64	60	56	53	50	48	44	42	40	35
3	81	71	64	58	74	66	59	54	56	51	47	47	43	40	39	36	34	30
4	74	63	55	49	68	58	51	46	50	44	40	42	38	34	34	31	29	25
5	68	56	48	42	62	52	45	39	45	39	34	38	33	30	31	28	25	22
6	62	50	42	36	57	47	39	34	40	34	30	34	29	26	28	25	22	19
7	58	45	37	32	53	42	35	30	36	31	26	31	26	23	26	22	20	17
8	54	41	33	28	49	38	31	26	33	27	23	28	24	20	24	20	18	15
9	50	38	30	25	46	35	28	24	30	25	21	26	22	18	22	18	16	14
10	47	34	27	22	43	32	26	21	28	23	19	24	20	17	20	17	14	12

ROOM CAVITY RATIO

RC - Ceiling Cavity Reflectance RW - Wall Reflectance

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** OLS-WDI-LED-4-CR-12'6"-D750L-WW-U750L-ASM-1C-DIM10-MVOLT-35K-85-WH Notes:	**Type:** G SLSI22-5128

ORACLE LIGHTING By Elite Lighting

OLS-WDI-LED
Flex Series LED Architectural Wall Mount Direct/Indirect Linear 2" 4"

ANSI/IES TM-30-18 Color Rendition Report

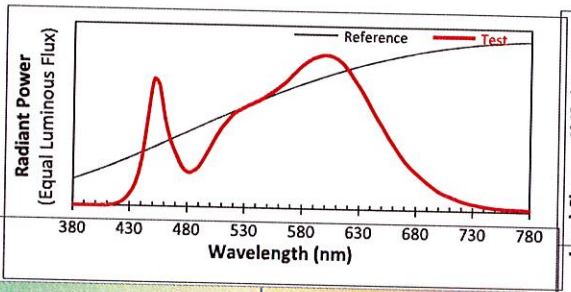
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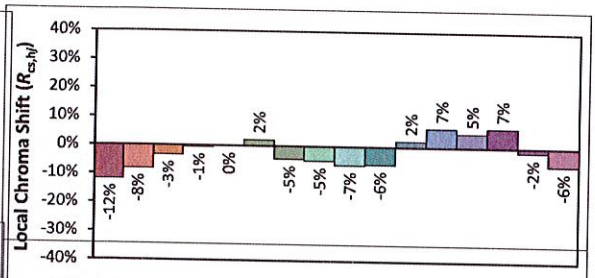
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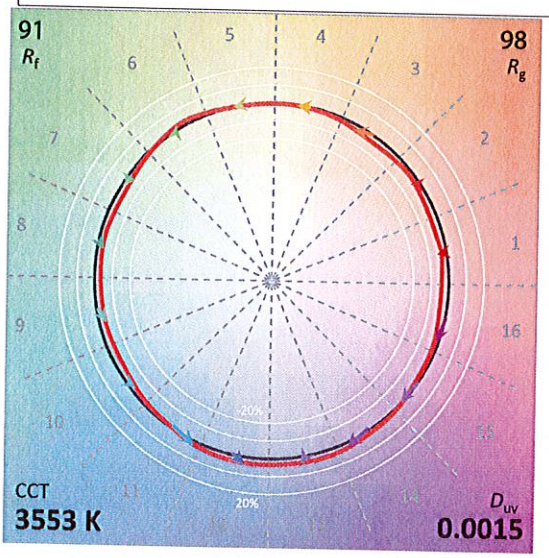
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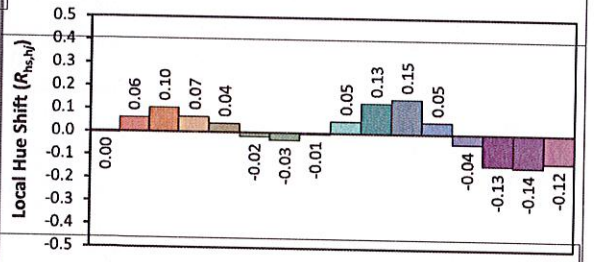
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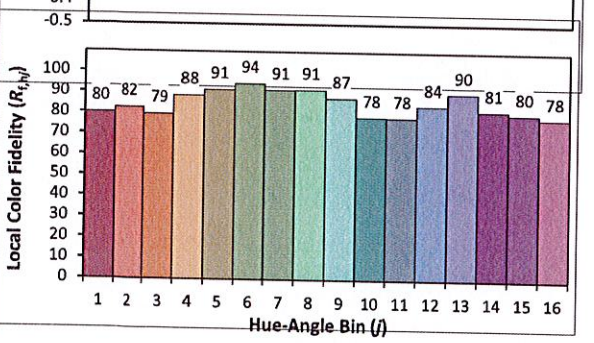
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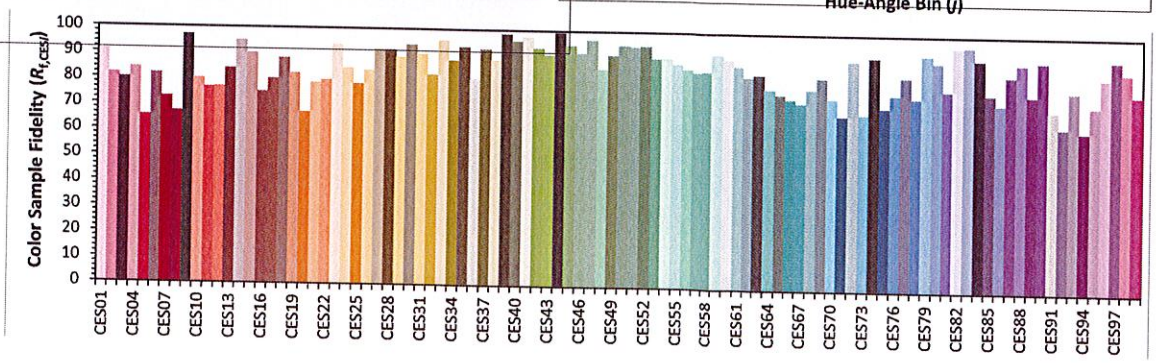












ORACLE LIGHTING
By Elite Lighting

OLS-WDI-LED

Flex Series LED Architectural Wall Mount Direct/Indirect Linear 2" 4"

1- Luminair e will be shipped with Powerpacks pr e-installed, ready to be integrated to designated contol systems
2- Luminaire will be shipped with Sensors installed on the luminaire, allowing for individual luminaire control. Luminaires will be ready to be integrated with designated cont rol systems
3- Luminair e will be shipped with Sensors to be remotely installed on the ceiling. Luminair es will be ready to be integrated with designated cont rol systems

BRAND	LUTRON	enlighted	LEVITON	ENCELIUM	PHILIPS EasySense	legrand	NX LIGHTING CONTROLS
CONTROL UNIT	❑ FCJS-010 Lutron Vive 0-10V Individual Pow Pak (Luminare is shipped Vive Enabled) [14] ❑ FCJS-ECO Lutron Vive Eco-system Pow Pak (Luminare is shipped Vive Enabled)	❑ CU-4E-FMH Fixture Mount Control Unit [15]	❑ ZL027 –N0W Intellect Power Control Module [16]	❑ EN-WCM2-ZB-DR Wireless Control Module [17]	❑ XITANIUM SR LED DRIVER The Philips Advance Xitanium SR LED driver [18]	❑ LMFC-011 ON/ OFF/0-10V dimming fixture controller [19] ❑ FS-PP-V2 FS-PP Fixture Integrated Sensor Power Pack [19]	❑ NXFM-1R2D-0-UNV NX Fixture Module, Offset, 1 Relay, 2 0-10V Dimming Channels, 120-347VAC, Blue
	❑ A-WN-D01-RF-WH Athena wireless node (RF only) (White) ❑ A-WN-D01-OCC-WH Athena wireless node with sensor (White)		❑ ZL027 –DLE Intellect Power Control Module [16]	❑ EN- ALC-ZB-BK-DR Wireless Area Lighting Control Module [17]		❑ LMFS-601 Integrated Fixture Sensor & Controller	
INTEGRATED OCCOPANCY& DAYLIGHT SENSOR	❑ DFCSJ-0EM-OCC Clear Connect (RF) and Occupancy/ Daylight Sensing [2]	❑ SU-5E-IoT IoT Node Micro Sensor ❑ SU-5E-CL Connected Micro Sensor ❑ SU-5E-IL Indipendent Micro Sensor ❑ SU-5S-H(IoT/CL/IL) Serface Mount Sensor **(Must be Specified with CU-4E-FMH Control Unit)** [2]	❑ ZL00J -T0W Intellect Intelligent Fixture Control System [2]	❑ EN-CLM-PIR-DD-ZB SensiLUM™ Wireless Integrated Sensor	❑ SNS 212 EasyAir Daylight and Occupancy sensor	❑ FD-301 Fixture integrated Daylight Dimming Sensor [2]	❑ NXRM HubbNETTM Radio Module
			❑ ZL00J-D0W Intellect Intelligent Fixture Control System [2]	❑ ZBHA-CLM-DIM-ENC Connected Lighting Module DIM [2]	❑ SNS300 SNS300 for networks [2]	❑ FS-205 Fixture integrated passive infrared occupancy sensor [2]	❑ NXSMP2-OMNI Integrated Fixture Sensor & Controller ❑ NXSMP2-LMI Integrated Fixture Sensor & Controller
*WIRELESS OCCUPANCY SENSOR	❑ LRF2-OCR2B-P-WH Ceiling mount360° ,occupancy/vacancy sensor [3]	N/A	N/A	❑ EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors [3]	N/A	❑ LMDC-100 Dual technology PIR Ceiling Mount Occupancy Sensor [3]	❑ NXSMP2-SMI NX Slide Mount Indoor Sensor Module
*WIRELESS DAYLIGHT SENSOR	❑ LRF2-DCRB-WH Ceiling-mount daylight sensor [3]	N/A	N/A	❑ EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors [3]	N/A	❑ LMLS-400 Single zone switching and dimming digital photosensor [3]	❑ LUXSTATLS Luxstat Light Sensor for Luxstat Control Modules, 3 to 6000 FC
*WIRELESS OCCUPANCY & DAYLIGHT SENSOR	N/A	❑ SU-5E-IoT IoT Node Micro Sensor ❑ SU-5E-CL Connected Micro Sensor ❑ SU-5E-IL Indipendent Micro Sensor ❑ SU-5S-H(IoT/CL/IL) Serface Mount Sensor **(Must be specified with CU-4E-FMH Control Unit)** [3]	❑ ZL00J -T0W Intellect Intelligent Fixture Control System ❑ ZL00J-D0W Intellect Intelligent Fixture Control System **(Must be specified with ZL027-N0W and ZL00J-D0W Control unit)** [3]	❑ EN-CLM-PIR-DD-ZB SensiLUM™ Wireless Integrated Sensor ❑ ZBHA-CLM-DIM-ENC Connected Lighting Module DIM **(Must be specified with EN-WCM2-ZB-DR or EN- ALC-ZB-BK-DR Control Unit)** [3]	❑ SNS212-CMP SNS-212 for Grouping [3]	N/A	❑ NXSMDT Indoor Ceiling Mount Sensor - OMNI
ACCESSORIES	N/A	❑ TMC-SU-5E Tile Mount Carrier ❑ CBL-5E-CU4-30N 30 linch Sensor cable for CU-4 and IoT Ready ❑ CBL-5E-CU4-7F 7 Foot sensor cable for CU-4 and IoT Ready Driver	N/A	N/A	N/A	N/A	N/A
NOTES	4- Luminaire will be compatible with LUTRON LRF2-OCR2B-PWH Ceiling mount 360deg occupancy/vacancy sensor & LRF2-DCRB-WH ceiling mount daylight sensor Sensors must be orderd through Lutron	5- Luminaire will be compatible with ENLIGHTED SU-5E-IoT, SU-5E-CL, SU-5E-IL, SU-5SH, Sensors	6- Luminaire will be compatible with LEVITON I ntellect APP & Keypad room controller	7- Luminaire will be compatible with EN-SCPPH-1500-ZB Wireless passive infrared occupancy and photo sensor	8- Luminaire will be compatiable with philips field and wireless switch	9- Luminaire will be compatiable with DLM Room control system LMPB-100. . Sensors must be orderd through Legrand.	N/A

Submitted by Smith Lighting Sales, Inc.

Smith Lighting

Job Name:
Greenwood Cultural Center Renovation -
Greenwood Cultural Center Renovation

Catalog Number:
OLS-WDI-LED-4-CR-12'6"-D750L-WW-U750L-ASM-1C-DIM10-MVOLT-35K-85-WH-O-EMG-LED-10W

Notes:

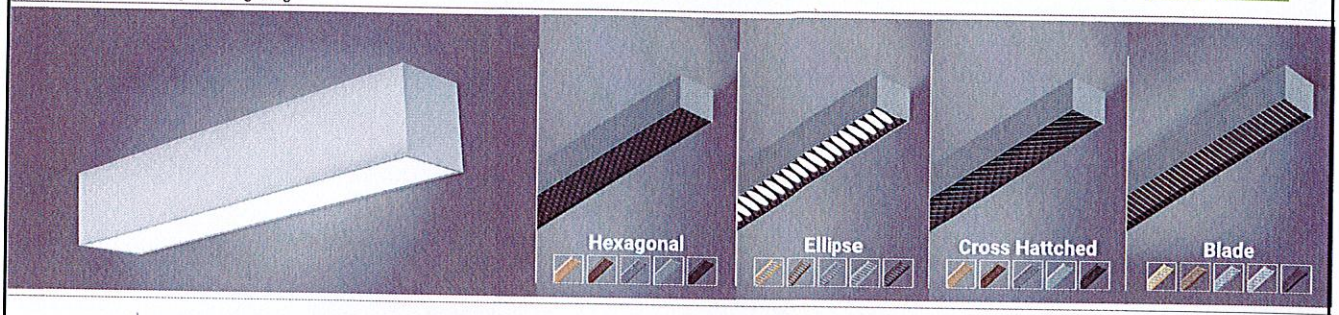
Type:
GE
SLSI22-5128

ORACLE LIGHTING
By Elite Lighting

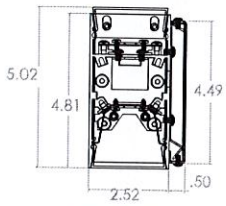
OLS-WDI-LED

LED Architectural Wall Mount Direct/Indirect Linear

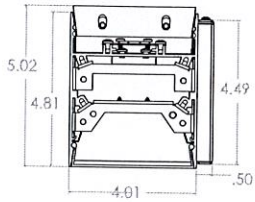
2" 4"



CUSTOM COLORS



2" PROFILE



4" PROFILE

FEATURES

FLEX Architectural LED Wall Mount Linear delivers an endless array of flexibility, from straight runs to complex 90 ° turns. Available in small standard profiles of 2" and 4", or custom lengths, it accommodates most surfaces and installations, with fully illuminated corners to provide seamless, continuous lengths of light. Be inspired to create a long-lasting impression with a unique design that complements corporate offices, educational, commercial, and retail spaces.

HIGH PERFORMANCE

DIRECT

LUMENS/FT	NOMINAL LUMENS/FT	DELIVERED WATTS/FT
1500	1450	10.3
1250	1182	8.5
1000	1023	7.3
750	780	5.5
500	520	3.5

INDIRECT

LUMENS/FT	NOMINAL LUMENS/FT	DELIVERED WATTS/FT
1500	1450	10.3
1250	1182	8.5
1000	1023	7.3
750	780	5.5
500	520	3.5

DIRECT

LUMENS/FT	WATTS/FT
2000	17.5
1500	12.7
1250	10.5
1000	8.2
750	6.5
500	4.5

INDIRECT

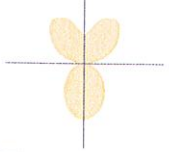
LUMENS/FT	WATTS/FT
2000	17.5
1500	12.7
1250	10.5
1000	8.2
750	6.5
500	4.5

*Based on 4000K, 90+CRI with semi-specular chrome reflector. Actual wattage may vary +/-5%
**Lumens are based on Standard distribution

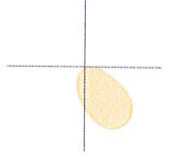
LUMENS PER FOOT	500, 750, 1000, 1250, 1500, 2000 or Custom
CCT & DYNAMIC PLATFORMS	27K, 30K, 35K, 40K, 50K, Tunable White, Dims to Warm, RGB + White
CRI	85+ Standard, 90+
COLOR QUALITY	3 Step MacAdam Ellipses (+85), 2 Step MacAdam Ellipses (+90)
WIDTHS	2", 4"
LENGTHS	2', 4', 6', 8', Continuous with 1" Increments
DISTRIBUTION PATTERNS	Direct: Standard, Wall Wash, Blade Louver, Hexagonal Louver, Cross Hatched Louver, Ellipse Louver Indirect: Standard, Wall Wash, Batwing
CONFIGURATION PATTERNS & LENGTHS	Single, Continous, L-Shape
MOUNTING	Wall
FINISH	WH (White), BK (Black), SI (Silver), Custom RAL
DIMMING & CONTROLS	0-10V Flicker Free 1% Dimming Standard (DIM10), LUTH, DIMST, ELDO10.1, ELDODMX.1, DALI.1, DIMTR
EMERGENCY	10W - Up to 1000L Output 20W - Up to 2000L Output EMG-LED-G2-10W-SDT - Self Diagnostic (Consult Factory) EMG-LED-G2-20W-SDT - Self Diagnostic (Consult Factory)
LIFETIME	L70 at 200,000 Hours
PHOTOMETRIC TESTS	In Accordance with IES LM79-08, LM80 and TM-30, TM-21

24 MONTH WARRANTY · DLC · cULus LISTED · PROUDLY ASSEMBLED in AMERICA · 5 YEARS LIMITED WARRANTY · DAMP LOCATION

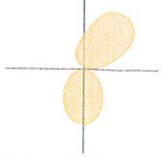
Distribution Pattern:
Direct: Standard
Indirect: Batwing



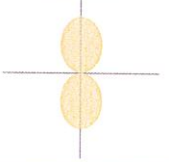
Distribution Pattern:
Direct: Wall Wash



Distribution Pattern:
Direct: Standard
Indirect: Wall Wash



Distribution Pattern:
Direct: Standard
Indirect: Standard



elite LED LIGHTING

www.iuseelite.com

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.
08112021

ORACLE LIGHTING
By Elite Lighting

OLS-WDI-LED 2" 4"

LED Architectural Wall Mount Direct/Indirect Linear

OPTICS & PERFORMANCE

Fabricated from 20-gauge aluminum, with mitered corners, and post-painted with 95% reflective premium paint. The optical system delivers high efficiency LED light that passes through a high quality acrylic lens for optimal distribution patterns, creating a glare-free and even distribution. Distributions include Direct Downlight, Blade Louver, Ellipse Louver, Cross Hatched Louver, Hexagonal Louver, Indirect (Uplight) or Wall Wash with zero light leakage.

CONSTRUCTION

One-piece rigid aluminum extrusion, made of T6063-T5 aluminum, with cast aluminum end caps. A precision cut, smooth white extruded frosted lens with snap in design attaches firmly into the grooves of the body and can be easily removed for access to the driver and LED boards. For indirect distribution, the lens can be installed flush against the luminaire, or extended off the surface of the luminaire, creating a soft glow of illumination.

OPTICAL ASSEMBLY

Reflector is fabricated from 20-gauge aluminum, and post-painted finish with 95% reflective premium paint. Wall Wash reflectors are positioned at an angle.

DISTRIBUTION PATTERNS & DIFFUSER

Standard Distribution-A high-quality, smooth white frosted efficient acrylic lens is shipped standard for optimal distribution patterns, for most applications, and provides glare-free, even illumination.
Wall Wash Distribution-Illuminates from the ceiling, down, for uniform vertical illumination.

LUMINAIRE CONTROL

Luminaire can be pre-wired for independent 2-circuit control of uplight, downlight, or 1-circuit control for combined up/downlight.

CRM INSTALLATION

For continuous row mounting, the first luminaire in the row will always be the power supply feed. After plugging in the male and female harnesses, which are supplied with each luminaire, they will easily slide together, then secured with two screws from opposite directions in the connecting brackets.

DRIVER ELECTRICAL INFORMATION

Powered by high-quality constant-current power LED drivers which are rated for 50 to 60Hz at 120-277V input, produce less than 20% THD, and have a power factor of .90 to 1.00. Male and female 18-gauge 6 wire plug connectors are included with every luminaire to allow for simple hassle-free continuous wiring, and each lumianire must be installed male to female.

LED DYNAMIC PLATFORM OPTIONS

Tunable White with Smart White Technology utilizing the Lumenetix Platform allows you to color tune the luminaire via various controls. Create the perfect environment for the desired use of the space, while maintaining a CRI of 90+ across the tunable range of 8000 to 1650K. (Click here for more details)

Dims to Warm with Smart Dimming Technology. At 100% full brightness the luminaire is at 3500K. When dimmed to 1%, the light transitions to 1800K, creating a warm ambiance within the space. (Click here for more details)

RGB+White with Smart Hue Technology provides full color mixing of RGB and white colors. Utilizing the Lumenetix Platform allows you to choose from unlimited RGB color options, via various controls. Ideal for Circadian Rhythm applications or to create the perfect human centric environment. (Click here for more details)

DIMMING & DRIVER INFORMATION

DIM10 - Flicker Free 1% Dimming Standard (DIM10) 0-10V dimming on either MVOLT 120, 277 or 347V.
LUTH - Lutron LDE1 Hi-Lume Eco System. 1% dimming with Soft in Fade to Black dimming technology.
ELDO10.1 - EldoLED SoloDrive 0-10V. Dimming down to 0.1%.
DALI - DALI DT6, DT8 dimming down to 1%.
ELDODMX - EldoLED PowerDrive dimming down to 0.1%.
Please see EldoLED website for wiring diagrams and a list of compatible DMX and DALI control systems.
DIMST - Step Dimming
DIMTR - Triac & Electronic low voltage dimming. Available in 120V.

WARRANTY

Five-year warranty for parts and components. (Labor not included)

LISTINGS

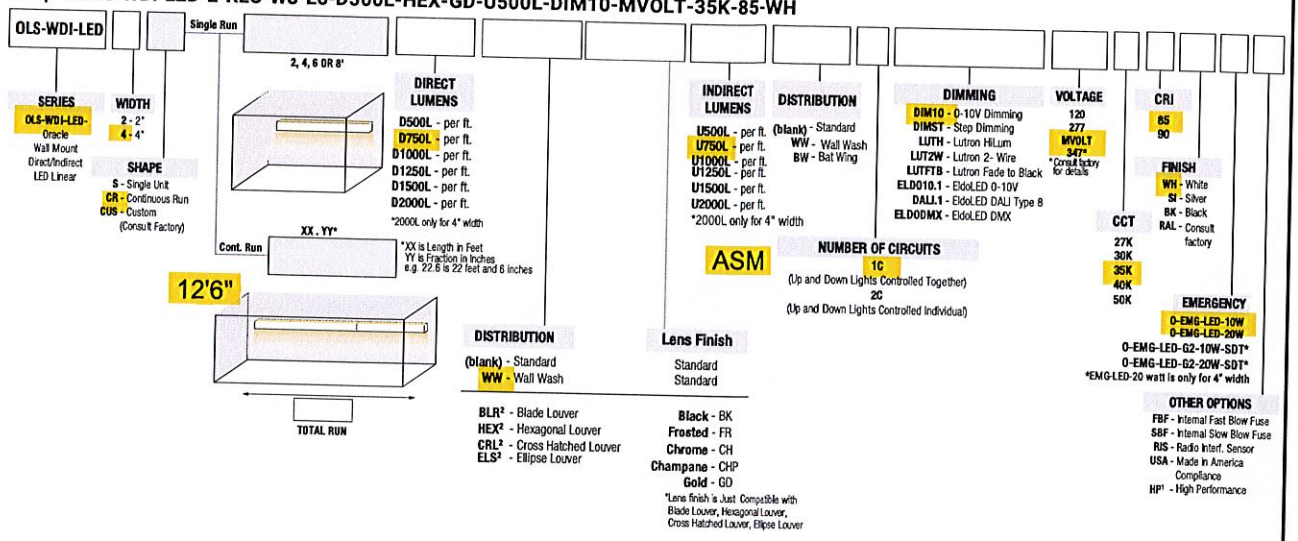
c-UL-us - Listed for Feed Through Wiring.
All LED luminaires are rated and tested to LM-79 and LM-80 standards by an independent laboratory. Listed for DLC, California Title 24 compliant. UI Listed for Damp location.

ORACLE LIGHTING
By Elite Lighting

OLS-WDI-LED

LED Architectural Wall Mount Direct/Indirect Linear 2" 4"

Example: **OLS-WDI-LED-2-REC-W8-L6-D500L-HEX-GD-U500L-DIM10-MVOLT-35K-85-WH**



- LUT2W available in 120V
- ELDO10, ELDODMX, LUTH available 120-277
  * Consult Factory
  * See last page for sensor options

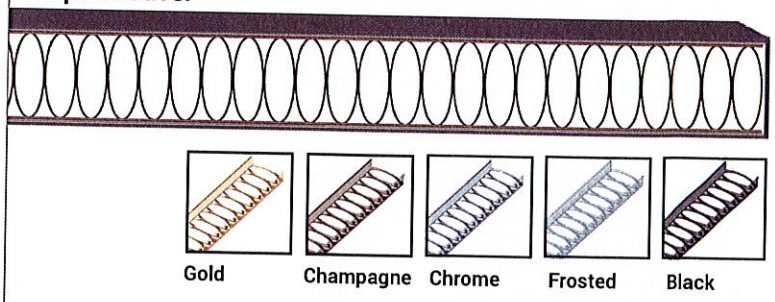
- 1 HP(high performance) option is available on 3000K, 3500K and 4000K

- 2 Lens finishes just apply on BLR, HEX, CRL, ELS distribution

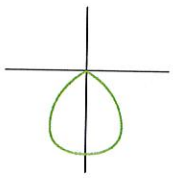
ORACLE LIGHTING
By Elite Lighting

DISTRIBUTION PATTERNS

Ellipse Louver



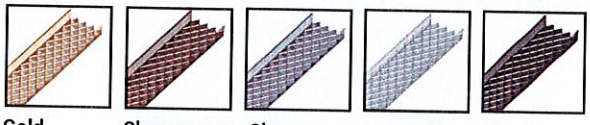
Gold Champagne Chrome Frosted Black



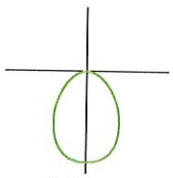
Up & Down
Ellipse Louver

Cross Hatched Louver



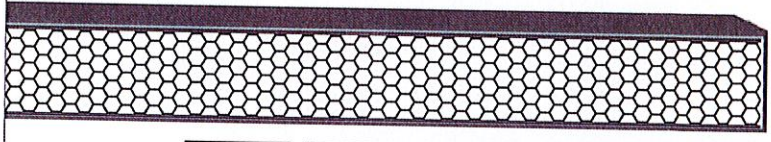


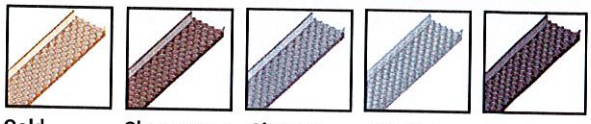
Gold Champagne Chrome Frosted Black



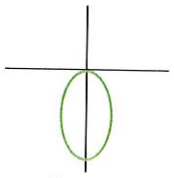
Up & Down
Cross Hatched Louver

Hexagonal Louver



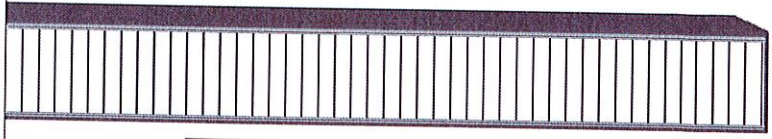


Gold Champagne Chrome Frosted Black



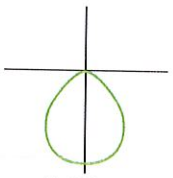
Up & Down
Blade Louver

Blade Louver





Gold Champagne Chrome Frosted Black



Up & Down
Blade Louver

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

Submitted by Smith Lighting Sales, Inc.

Smith Lighting

Job Name:
Greenwood Cultural Center Renovation -
Greenwood Cultural Center Renovation

Catalog Number:
OLS-WDI-LED-4-CR-12'6"-D750L-WW-U750L-ASM-1C-DIM10-MVOLT-35K-85-WH-O-EMG-LED-10W

Notes:

Type:
GE

SLSI22-5128

ORACLE LIGHTING
By Elite Lighting

OLS-WDI-LED

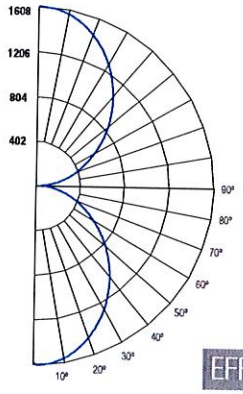
LED Architectural Wall Mount Direct/Indirect Linear 2" 4"

OLS-WDI-LED-2-S-4-D1000L-U1000L-DIM10-MVOLT-40K-85

TEST NO.: **EL081815**

INPUT WATTS: **76** LUMENS: **8326** CRI: **85** EFFICACY: **110** CCT: **4000K**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-30°	1199.64	N.A.	14.40
0-40°	1924.15	N.A.	23.10
0-60°	3288.36	N.A.	39.50
0-90°	4163.18	N.A.	50.00
0-180°	8326.37	N.A.	100.00

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0°	Average 45°	Average 90°
45°	19753	20906	22163
55°	18172	19416	20850
65°	16650	17872	19306
75°	15376	16393	17640
85°	15109	15772	16893

Candela Tabulation

	0	45	90	180
0	1587.911	1587.911	1587.911	1587.911
25	1322.160	1355.780	1389.000	1329.110
45	883.230	934.760	990.970	894.720
65	444.950	477.600	515.930	456.560
85	83.270	86.920	93.100	91.350
90	33.110	28.640	20.360	33.110
130	782.340	825.120	878.470	769.900
145	1119.860	1160.660	1205.750	1110.310
165	1496.030	1508.430	1521.900	1493.220
175	1588.610	1588.750	1591.100	1590.300
180	1608.340	1608.340	1608.340	1608.340

Spacing Criteria

0-180	:	N.A.
90-270	:	N.A.
Diagonal	:	N.A.

EFFICACY: **110 LM/W**

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 20% = PF

RC	80%				70%				50%			30%			10%		0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	98	93	89	86	90	86	83	80	73	70	68	61	59	57	49	48	47	42
2	89	81	75	70	82	75	70	65	64	60	56	53	50	48	43	41	39	35
3	81	71	64	58	74	66	60	54	56	51	47	47	43	40	38	36	34	29
4	74	63	55	49	68	59	52	46	50	44	40	42	38	34	34	31	29	25
5	68	56	48	42	62	52	45	40	45	39	35	37	33	30	31	28	25	22
6	63	50	42	37	58	47	40	34	40	34	30	34	30	26	28	25	22	19
7	58	46	38	32	53	42	35	30	36	31	27	31	26	23	26	22	20	17
8	54	41	34	28	49	39	32	27	33	28	24	28	24	21	23	20	18	15
9	50	38	30	25	46	35	28	24	30	25	21	26	22	19	22	18	16	14
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	14	13

ROOM CAVITY RATIO

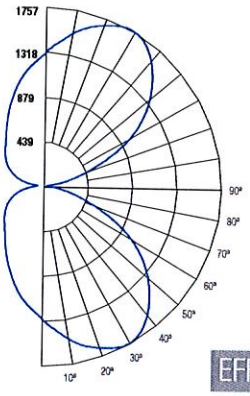
RC - Ceiling Cavity Reflectance RW - Wall Reflectance

OLS-WDI-LED-2-S-4-D1000L-WW-U1000L-WW-DIM10-MVOLT-40K-85

TEST NO.: **EL081815**

INPUT WATTS: **76.3** LUMENS: **8278** CRI: **85** EFFICACY: **108** CCT: **4000K**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-30°	1047.28	12.70	12.70
0-40°	1752.00	21.20	21.20
0-60°	3199.88	38.70	38.70
0-90°	4139.19	50.10	50.00
0-180°	8278.37	100.10	100.00

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0°	Average 45°	Average 90°
45°	40999	39838	22374
55°	40607	40193	20522
65°	34997	39001	18302
75°	24298	34384	15022
85°	17505	27434	10016

Candela Tabulation

	0	45	90	180
0	1292.846	1292.846	1292.846	1292.846
25	1734.480	1558.810	1141.660	807.150
45	1509.680	1466.930	823.870	537.300
65	770.200	858.320	402.780	364.300
85	79.450	124.510	202.470	226.560
90	35.190	45.690	45.460	89.280
130	1372.740	1345.170	8.080	55.390
145	1720.990	1590.350	748.010	498.840
165	1606.860	1501.800	1029.250	645.640
175	1398.140	1368.520	1253.860	999.930
180	1277.240	1277.240	1296.580	1195.710

Spacing Criteria

0-180	:	N.A.
90-270	:	N.A.
Diagonal	:	N.A.

EFFICACY: **108 LM/W**

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 20% = PF

RC	80%				70%				50%			30%			10%		0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	98	93	89	85	90	86	83	79	73	70	68	60	59	57	49	48	47	41
2	89	81	75	69	81	75	69	65	63	59	56	53	50	47	43	41	39	34
3	81	71	63	57	74	66	59	54	56	51	46	46	43	39	38	35	33	29
4	74	62	54	48	67	58	51	45	49	44	39	41	37	33	33	30	28	24
5	67	55	47	41	62	51	44	39	44	38	34	37	32	29	30	27	24	21
6	62	50	41	35	57	46	39	33	39	33	29	33	28	25	27	24	21	18
7	57	45	37	31	53	42	34	29	35	30	26	30	25	22	25	21	19	16
8	53	40	33	27	49	38	31	26	32	27	23	27	23	20	23	19	17	14
9	49	37	29	24	45	34	27	23	30	24	20	25	21	17	21	17	15	13
10	46	34	26	22	42	31	25	20	27	22	18	23	19	16	19	16	13	11

ROOM CAVITY RATIO

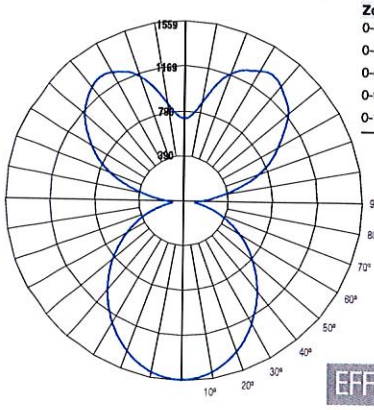
RC - Ceiling Cavity Reflectance RW - Wall Reflectance

OLS-WDI-LED-4-S-4-D1000L-U1000L-BW-DIM10-MVOLT-40K-85

TEST NO.: **EL081815**

INPUT WATTS: **76.6** LUMENS: **8335** CRI: **85** EFFICACY: **109** CCT: **4000K**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-30°	1180.17	14.20	14.20
0-40°	1907.46	22.90	22.90
0-60°	3310.83	39.70	39.70
0-90°	4253.63	51.00	51.00
0-180°	8335.08	100.00	100.00

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0°	Average 45°	Average 90°
45°	10688	10873	11085
55°	10078	10301	10437
65°	9403	9612	9625
75°	8838	8880	8527
85°	11366	9974	7462

Candela Tabulation

	0	45	90	180
0	1546.766	1546.766	1546.766	1546.766
25	1317.980	1327.740	1345.400	1335.830
45	927.660	943.690	962.120	942.630
65	487.770	498.600	499.280	494.920
85	121.590	106.700	79.830	125.340
90	96.010	66.390	9.980	104.650
130	1204.320	1025.170	472.100	1168.810
145	1370.510	1118.380	592.150	1325.560
165	1069.610	898.090	708.870	1020.070
175	747.400	747.400	740.140	767.760
180	804.170	804.170	747.400	747.400

Spacing Criteria

0-180	:	N.A.
90-270	:	N.A.
Diagonal	:	N.A.

EFFICACY: **109 LM/W**

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 20% = PF

RC	80%				70%				50%			30%			10%		0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	98	93	89	86	90	86	83	80	73	71	68	61	59	58	50	49	47	42
2	89	81	75	70	82	75	70	65	64	60	56	53	50	48	44	42	40	35
3	81	71	64	58	74	66	59	54	56	51	47	47	43	40	39	36	34	30
4	74	63	55	49	68	58	51	46	50	44	40	42	38	34	34	31	29	25
5	68	56	48	42	62	52	45	39	45	39	34	38	33	30	31	28	25	22
6	62	50	42	36	57	47	39	34	40	34	30	34	29	26	28	25	22	19
7	58	45	37	32	53	42	35	30	36	31	26	31	26	23	26	22	20	17
8	54	41	33	28	49	38	31	26	33	27	23	28	24	20	24	20	18	15
9	50	38	30	25	46	35	28	24	30	25	21	26	22	18	22	18	16	14
10	47	34	27	22	43	32	26	21	28	23	19	24	20	17	20	17	14	12

ROOM CAVITY RATIO

RC - Ceiling Cavity Reflectance RW - Wall Reflectance

ORACLE LIGHTING
By Elite Lighting

OLS-WDI-LED

LED Architectural Wall Mount Direct/Indirect Linear 2" 4"

1- Luminaire will be shipped with Powerpacks pre-installed, ready to be integrated to designated contol systems
2- Luminaire will be shipped with Sensors installed on the luminaire, allowing for individual luminaire control. Luminaires will be ready to be integrated with designated control systems
3- Luminaire will be shipped with Sensors to be remotely installed on the ceiling. Luminaires will be ready to be integrated with designated control systems

BRAND	EASYFIT by EnOcean	LUTRON	enlighted	LEVITON	OSRAM	PHILIPS EasySense	legrand
CONTROL UNIT	❑ LEDRU LED Relay Zone Controller 0-10V [1]	❑ FCJS-0-10 Lutron Vive 0-10V Individual Control Models [14]	❑ CU-4E-FMH Fixture Mount Control Unit [15]	❑ ZL027 –NOW Intellect Power Control Module [16]	❑ EN-WCM2-ZB-DR Wireless Control Module [17]	❑ XITANIUM SR LED DRIVER The Philips Advance Xitanium SR LED driver [18]	❑ LMFC-011 ON/OFF/0-10V dimming fixture controller [19]
	❑ LEDDU LED Zone Controller 0-10V [1]	❑ FCJS-ECO Lutron Vive Eco-system Individual Control Models [14]		❑ ZL027 –DLE Intellect Power Control Module [16]	❑ EN- ALC-ZB-BK-DR Wireless Area Lighting Control Module [17]		❑ FS-PP-V2 FS-PP Fixture Integrated Sensor Power Pack [19]
INTEGRATED OCCOPANCY& DAYLIGHT SENSOR	N/A	❑ DFCSJ-OEM-OCC Clear Connect (RF) and Occupancy/ Daylight Sensing [2]	❑ SU-5E-IoT IoT Node Micro Sensor ❑ SU-5E-CL Connected Micro Sensor ❑ SU-5E-IL Indipendent Micro Sensor ❑ SU-5S-H(IoT/CL/IL) Serface Mount Sensor **(Must be Specified with CU-4E-FMH Control Unit)** [2]	❑ ZL00J -T0W Intellect Intelligent Fixture Control System [2]	❑ EN-CLM-PIR-DD-ZB SensiLUM™ Wireless Integrated Sensor	❑ SNS200 SNS200 for grouping [2]	❑ FD-301 Fixture integrated Daylight Dimming Sensor [2]
				❑ ZL00J-D0W Intellect Intelligent Fixture Control System [2]	❑ ZBHA-CLM-DIM-ENC Connected Lighting Module DIM [2]	❑ SNS300 SNS300 for networks [2]	❑ FS-205 Fixture integrated passive infrared occupancy sensor [2]
*WIRELESS OCCUPANCY SENSOR	❑ EOSCU-W-EO Occupancy Sensor - Ceiling Mounted [3]	❑ LRF2-OCR2B-P-WH Ceiling mount360° ,occupancy/vacancy sensor [3]	N/A	N/A	❑ EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors [3]	N/A	❑ LMDC-100 Dual technology PIR Ceiling Mount Occupancy Sensor [3]
*WIRELESS DAYLIGHT SENSOR	❑ ELLSU-W-EO Light Level Sensor - Ceiling Mounted [3]	❑ LRF2-DCRB-WH Ceiling-mount daylight sensor [3]	N/A	N/A	❑ EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors [3]	N/A	❑ LMLS-400 Single zone switching and dimming digital photosensor [3]
*WIRELESS OCCUPANCY & DAYLIGHT SENSOR	N/A	N/A	❑ SU-5E-IoT IoT Node Micro Sensor ❑ SU-5E-CL Connected Micro Sensor ❑ SU-5E-IL Indipendent Micro Sensor ❑ SU-5S-H(IoT/CL/IL) Serface Mount Sensor **(Must be specified with CU-4E-FMH Control Unit)** [3]	❑ ZL00J -T0W Intellect Intelligent Fixture Control System ❑ ZL00J-D0W Intellect Intelligent Fixture Control System **(Must be specified with ZL027-NOW and ZL00J-D0W Control unit)** [3]	❑ EN-CLM-PIR-DD-ZB SensiLUM™ Wireless Integrated Sensor ❑ ZBHA-CLM-DIM-ENC Connected Lighting Module DIM **(Must be specified with EN-WCM2-ZB-DR or EN- ALC-ZB-BK-DR Control Unit)** [3]	❑ SNS200-CMP SNS-200 for Grouping [3]	N/A
ACCESSORIES	N/A	N/A	❑ TMC-SU-5E Tile Mount Carrier ❑ CBL-5E-CU4-30N 30 Inch Sensor cable for CU-4 and IoT Ready ❑ CBL-5E-CU4-7F 7 Foot sensor cable for CU-4 and IoT Ready Driver	N/A	N/A	N/A	N/A
NOTES	N/A	4- Luminaire will be compatible with LUTRON LRF2-OCR2B-PWH Ceiling mount 360deg occupancy/ vacancy sensor & LRF2-DCRB-WH ceiling mount daylight sensor. Sensors must be orderd through Lutron	5- Luminaire will be compatible with ENLIGHTED SU-5E-IoT, SU-5E-CL, SU-5E-IL, SU-5SH, Sensors	6- Luminaire will be compatible with LEVITON I ntellect APP & Keypad room controller	7- Luminaire will be compatible with EN-SCPPH-1500-ZB Wireless passive infrared occupancy and photo sensor	8- Luminaire will be compatiable with philips field and wireless switch	9- Luminaire will be compatiable with DLM Room control system LMPB-100. . Sensors must be orderd through Legrand.

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

Submitted by Smith Lighting Sales, Inc.

Smith Lighting

Job Name:
Greenwood Cultural Center Renovation -
Greenwood Cultural Center Renovation

Catalog Number:
OLS-WDI-LED-4-CR-12'6"-D750L-WW-U750L-ASM-1C-DIM10-MVOLT-35K-85-WH-O-EMG-LED-10W

Notes:

Type:
GE
SLSI22-5128

ORACLE LIGHTING
By Elite Lighting

OLS-WDI-LED

Flex Series LED Architectural Wall Mount Direct/Indirect Linear

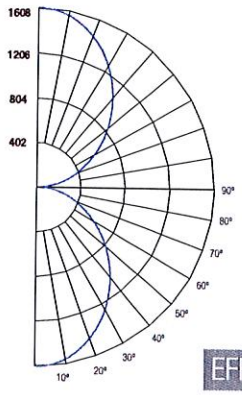
2" 4"

OLS-WDI-LED-2-S-4-D1000L-U1000L-DIM10-MVOLT-40K-85

TEST NO.: **EL081815**

INPUT WATTS: **76** LUMENS: **8326** CRI: **85** EFFICACY: **110** CCT: **4000K**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-30°	1199.64	N.A.	14.40
0-40°	1924.15	N.A.	23.10
0-60°	3288.36	N.A.	39.50
0-90°	4163.18	N.A.	50.00
0-180°	8326.37	N.A.	100.00

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0°	Average 45°	Average 90°
45°	19753	20906	22163
55°	18172	19416	20850
65°	16650	17872	19306
75°	15376	16393	17640
85°	15109	15772	16893

Candela Tabulation

	0	45	90	180
0	1587.911	1587.911	1587.911	1587.911
25	1322.160	1355.780	1389.000	1329.110
45	883.230	934.760	990.970	894.720
65	444.950	477.600	515.930	456.560
85	83.270	86.920	93.100	91.350
90	33.110	28.640	20.360	33.110
130	782.340	825.120	878.470	769.900
145	1119.860	1160.660	1205.750	1110.310
165	1496.030	1508.430	1521.900	1493.220
175	1588.610	1588.750	1591.100	1590.300
180	1608.340	1608.340	1608.340	1608.340

Spacing Criteria

0-180	:	N.A.
90-270	:	N.A.
Diagonal	:	N.A.

EFFICACY: 110 LM/W

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 20% = PF

RC	80%				70%				50%			30%			10%		0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	98	93	89	86	90	86	83	80	73	70	68	61	59	57	49	48	47	42
2	89	81	75	70	82	75	70	65	64	60	56	53	50	48	43	41	39	35
3	81	71	64	58	74	66	60	54	56	51	47	47	43	40	38	36	34	29
4	74	63	55	49	68	59	52	46	50	44	40	42	38	34	34	31	29	25
5	68	56	48	42	62	53	45	40	45	39	35	37	33	30	31	28	25	22
6	63	50	42	37	58	47	40	34	40	34	30	34	30	26	28	25	22	19
7	58	46	38	32	53	42	35	30	36	31	27	31	26	23	26	22	20	17
8	54	41	34	28	49	39	32	27	33	28	24	28	24	21	23	20	18	15
9	50	38	30	25	46	35	28	24	30	25	21	26	22	19	22	18	16	14
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	14	13

ROOM CAVITY RATIO

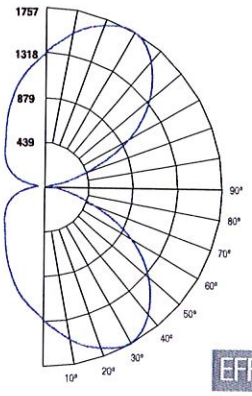
RC - Ceiling Cavity Reflectance RW - Wall Reflectance

OLS-WDI-LED-2-S-4-D1000L-WW-U1000L-WW-DIM10-MVOLT-40K-85

TEST NO.: **EL081815**

INPUT WATTS: **76.3** LUMENS: **8278** CRI: **85** EFFICACY: **108** CCT: **4000K**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-30°	1047.28	12.70	12.70
0-40°	1752.00	21.20	21.20
0-60°	3199.88	38.70	38.70
0-90°	4139.19	50.10	50.00
0-180°	8278.37	100.10	100.00

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0°	Average 45°	Average 90°
45°	40999	39838	22374
55°	40607	40193	20522
65°	34997	39001	18302
75°	24298	34384	15022
85°	17505	27434	10016

Candela Tabulation

	0	45	90	180
0	1292.846	1292.846	1292.846	1292.846
25	1734.480	1558.810	1141.660	807.150
45	1509.680	1466.930	823.870	537.300
65	770.200	858.320	402.780	364.300
85	79.450	124.510	202.470	226.560
90	35.190	45.690	45.460	89.280
130	1372.740	1345.170	8.080	55.390
145	1720.990	1590.350	748.010	498.840
165	1606.860	1501.800	1029.250	645.640
175	1398.140	1368.520	1253.860	999.930
180	1277.240	1277.240	1296.580	1195.710

Spacing Criteria

0-180	:	N.A.
90-270	:	N.A.
Diagonal	:	N.A.

EFFICACY: 108 LM/W

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 20% = PF

RC	80%				70%				50%			30%			10%		0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	98	93	89	85	90	86	83	79	73	70	68	60	59	57	49	48	47	41
2	89	81	75	69	81	75	69	65	63	59	56	53	50	47	43	41	39	34
3	81	71	63	57	74	66	59	54	56	51	46	46	43	39	38	35	33	29
4	74	62	54	48	67	58	51	45	49	44	39	41	37	33	33	30	28	24
5	67	55	47	41	62	51	44	39	44	38	34	37	32	29	30	27	24	21
6	62	50	41	35	57	46	39	33	39	33	29	33	28	25	27	24	21	18
7	57	45	37	31	53	42	34	29	35	30	26	30	25	22	25	21	19	16
8	53	40	33	27	49	38	31	26	32	27	23	27	23	20	23	19	17	14
9	49	37	29	24	45	34	27	23	30	24	20	25	21	17	21	17	15	13
10	46	34	26	22	42	31	25	20	27	22	18	23	19	16	19	16	13	11

ROOM CAVITY RATIO

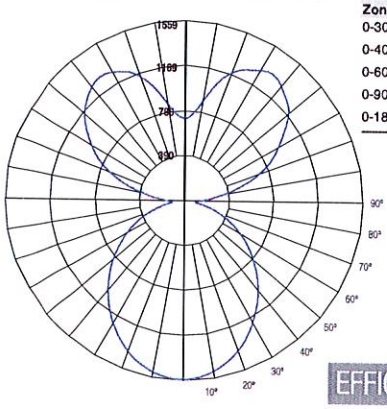
RC - Ceiling Cavity Reflectance RW - Wall Reflectance

OLS-WDI-LED-4-S-4-D1000L-U1000L-BW-DIM10-MVOLT-40K-85

TEST NO.: **EL081815**

INPUT WATTS: **76.6** LUMENS: **8335** CRI: **85** EFFICACY: **109** CCT: **4000K**

Candle Power Distribution (Candelas)



Zonal Lumens Summary

Zone	Lumens	%Lamp	%Fixt
0-30°	1180.17	14.20	14.20
0-40°	1907.46	22.90	22.90
0-60°	3310.83	39.70	39.70
0-90°	4253.63	51.00	51.00
0-180°	8335.08	100.00	100.00

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0°	Average 45°	Average 90°
45°	10688	10873	11085
55°	10078	10301	10437
65°	9403	9612	9625
75°	8838	8880	8527
85°	11366	9974	7462

Candela Tabulation

	0	45	90	180
0	1546.766	1546.766	1546.766	1546.766
25	1317.980	1327.740	1345.400	1335.830
45	927.660	943.690	962.120	942.630
65	487.770	498.600	499.280	494.920
85	121.590	106.700	79.830	125.340
90	96.010	66.390	9.980	104.650
130	1204.320	1025.170	472.100	1168.810
145	1370.510	1118.380	592.150	1325.560
165	1069.610	898.090	708.870	1020.070
175	747.400	747.400	740.140	767.760
180	804.170	804.170	747.400	747.400

Spacing Criteria

0-180	:	N.A.
90-270	:	N.A.
Diagonal	:	N.A.

EFFICACY: 109 LM/W

Coefficients of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 20% = PF

RC	80%				70%				50%			30%			10%		0%
RW	70%	50%	30%	10%	70%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0%
0	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	98	93	89	86	90	86	83	80	73	71	68	61	59	58	50	49	47	42
2	89	81	75	70	82	75	70	65	64	60	56	53	50	48	44	42	40	35
3	81	71	64	58	74	66	59	54	56	51	47	47	43	40	39	36	34	30
4	74	63	55	49	68	58	51	46	50	44	40	42	38	34	34	31	29	25
5	68	56	48	42	62	52	45	39	45	39	34	38	33	30	31	28	25	22
6	62	50	42	36	57	47	39	34	40	34	30	34	29	26	28	25	22	19
7	58	45	37	32	53	42	35	30	36	31	26	31	26	23	26	22	20	17
8	54	41	33	28	49	38	31	26	33	27	23	28	24	20	24	20	18	15
9	50	38	30	25	46	35	28	24	30	25	21	26	22	18	22	18	16	14
10	47	34	27	22	43	32	26	21	28	23	19	24	20	17	20	17	14	12

ROOM CAVITY RATIO

RC - Ceiling Cavity Reflectance RW - Wall Reflectance

elite LED LIGHTING

www.iuseelite.com

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

Submitted by Smith Lighting Sales, Inc.			
Smith Lighting	**Job Name:** Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation	**Catalog Number:** OLS-WDI-LED-4-CR-12'6"-D750L-WW-U750L-ASM-1C-DIM10-MVOLT-35K-85-WH-O-EMG-LED-10W **Notes:**	**Type:** GE SLSI22-5128

ORACLE LIGHTING By Elite Lighting

OLS-WDI-LED
Flex Series LED Architectural Wall Mount Direct/Indirect Linear 2" 4"

ANSI/IES TM-30-18 Color Rendition Report

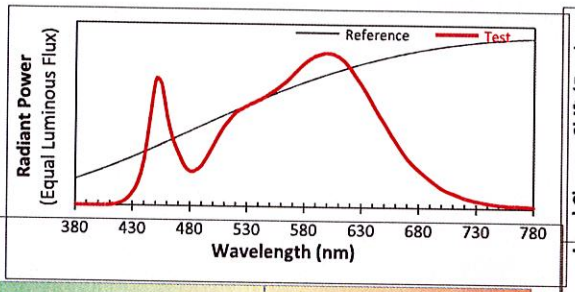
Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

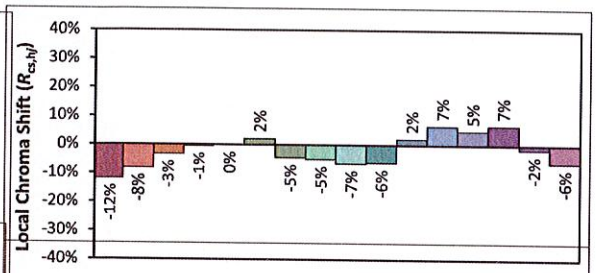
x	0.4039
y	0.3935
u'	0.2337
v'	0.5122

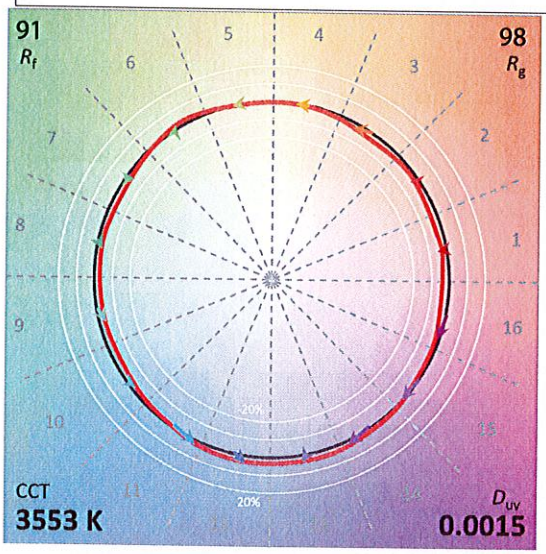
CIE 13.3-1995 (CRI)

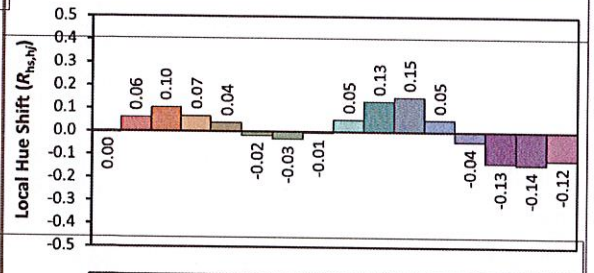
R_a	91
R_9	58

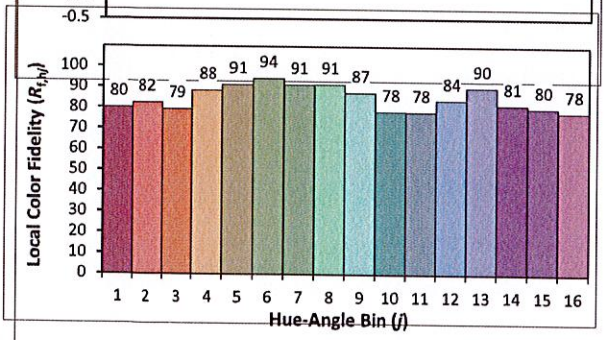
Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

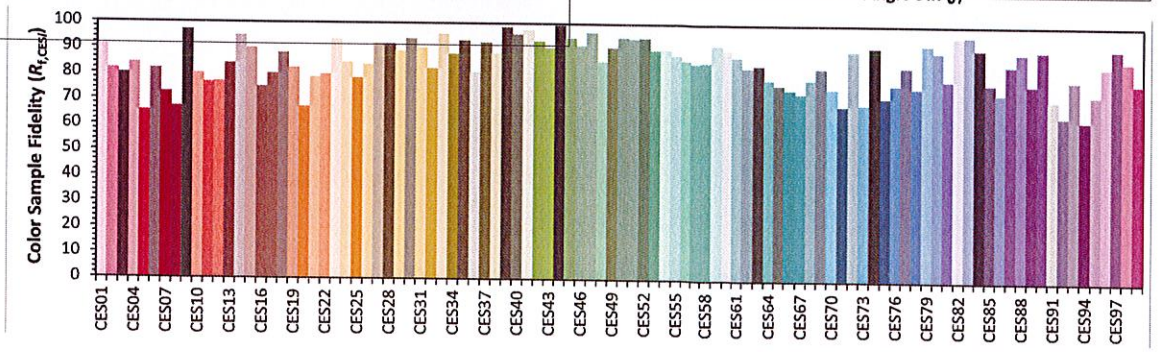












Submitted by Smith Lighting Sales, Inc.

Smith Lighting

Job Name:
Greenwood Cultural Center Renovation - Greenwood Cultural Center Renovation

Catalog Number:
OLS-WDI-LED-4-CR-12'6"-D750L-WW-U750L-ASM-1C-DIM10-MVOLT-35K-85-WH-O-EMG-LED-10W

Notes:

Type:
GE
SLSI22-5128

ORACLE LIGHTING
By Elite Lighting

OLS-WDI-LED
Flex Series LED Architectural Wall Mount Direct/Indirect Linear

2" 4"

1- Luminair e will be shipped with Powerpacks pr e-installed, ready to be integrated to designated contol systems
2- Luminaire will be shipped with Sensors installed on the luminaire, allowing for individual luminaire control. Luminaires will be ready to be integrated with designated cont rol systems
3- Luminair e will be shipped with Sensors to be remotely installed on the ceiling. Luminair es will be ready to be integrated with designated cont rol systems

BRAND	LUTRON	enlighted	LEVITON	ENCELIUM	PHILIPS EasySense	legrand®	NX LIGHTING CONTROLS
CONTROL UNIT	❑ FCJS-010 Lutron Vive 0-10V Individual Pow Pak (Luminare is shipped Vive Enabled) [14] ❑ FCJS-ECO Lutron Vive Eco-system Pow Pak (Luminare is shipped Vive Enabled)	❑ CU-4E-FMH Fixture Mount Control Unit [15]	❑ ZL027 –NOW Intellect Power Control Module [16]	❑ EN-WCM2-ZB-DR Wireless Control Module [17]	❑ XITANIUM SR LED DRIVER The Philips Advance Xitanium SR LED driver [18]	❑ LMFC-011 ON/ OFF/0-10V dimming fixture controller [19] ❑ FS-PP-V2 FS-PP Fixture Integrated Sensor Power Pack [19]	❑ NXFM-1R2D-0-UNV NX Fixture Module, Offset, 1 Relay, 2 0-10V Dimming Channels, 120-347VAC, Blue
	❑ A-WN-D01-RF-WH Athena wireless node (RF only) (White) ❑ A-WN-D01-OCC-WH Athena wireless node with sensor (White)		❑ ZL027 –DLE Intellect Power Control Module [16]	❑ EN- ALC-ZB-BK-DR Wireless Area Lighting Control Module [17]		❑ LMFS-601 Integrated Fixture Sensor & Controller	
INTEGRATED OCCOPANCY& DAYLIGHT SENSOR	❑ DFCSJ-OEM-OCC Clear Connect (RF) and Occupancy/ Daylight Sensing [2]	❑ SU-5E-IoT IoT Node Micro Sensor ❑ SU-5E-CL Connected Micro Sensor ❑ SU-5E-IL Indipendent Micro Sensor ❑ SU-5S-H(IoT/CL/IL) Serface Mount Sensor **(Must be Specified with CU-4E-FMH Control Unit)** [2]	❑ ZL00J -T0W Intellect Intelligent Fixture Control System [2]	❑ EN-CLM-PIR-DD-ZB SensiLUM™ Wireless Integrated Sensor	❑ SNS 212 EasyAir Daylight and Occupancy sensor	❑ FD-301 Fixture Integrated Daylight Dimming Sensor [2]	❑ NXRM HubbNETTM Radio Module ❑ NXSMP2-OMNI Integrated Fixture Sensor & Controller
			❑ ZL00J-D0W Intellect Intelligent Fixture Control System [2]	❑ ZBHA-CLM-DIM-ENC Connected Lighting Module DIM [2]	❑ SNS300 SNS300 for networks [2]	❑ FS-205 Fixture Integrated passive infrared occupancy sensor [2]	❑ NXSMP2-LMI Integrated Fixture Sensor & Controller
*WIRELESS OCCUPANCY SENSOR	❑ LRF2-OCR2B-P-WH Ceiling mount360° ,occupancy/vacancy sensor [3]	N/A	N/A	❑ EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors [3]	N/A	❑ LMDC-100 Dual technology PIR Ceiling Mount Occupancy Sensor [3]	❑ NXSMP2-SMI NX Slide Mount Indoor Sensor Module
*WIRELESS DAYLIGHT SENSOR	❑ LRF2-DCRB-WH Ceiling-mount daylight sensor [3]	N/A	N/A	❑ EN-SCPPH-1500-ZB Wireless Passive Infrared Occupancy and Photo Sensors [3]	N/A	❑ LMLS-400 Single zone switching and dimming digital photosensor [3]	❑ LUXSTATLS Luxstat Light Sensor for Luxstat Control Modules, 3 to 6000 FC
*WIRELESS OCCUPANCY & DAYLIGHT SENSOR	N/A	❑ SU-5E-IoT IoT Node Micro Sensor ❑ SU-5E-CL Connected Micro Sensor ❑ SU-5E-IL Indipendent Micro Sensor ❑ SU-5S-H(IoT/CL/IL) Serface Mount Sensor **(Must be specified with CU-4E-FMH Control Unit)** [3]	❑ ZL00J -T0W Intellect Intelligent Fixture Control System ❑ ZL00J-D0W Intellect Intelligent Fixture Control System **(Must be specified with ZL027-NOW and ZL00J-D0W Control unit)** [3]	❑ EN-CLM-PIR-DD-ZB SensiLUM™ Wireless Integrated Sensor ❑ ZBHA-CLM-DIM-ENC Connected Lighting Module DIM **(Must be specified with EN-WCM2-ZB-DR or EN- ALC-ZB-8K-DR Control Unit)** [3]	❑ SNS212-CMP SNS-212 for Grouping [3]	N/A	❑ NXSMDT Indoor Ceiling Mount Sensor - OMNI
ACCESSORIES	N/A	❑ TMC-SU-5E Tile Mount Carrier ❑ CBL-5E-CU4-30N 30 linch Sensor cable for CU-4 and IoT Ready ❑ CBL-5E-CU4-7F 7 Foot sensor cable for CU-4 and IoT Ready Driver	N/A	N/A	N/A	N/A	N/A
NOTES	4- Luminaire will be compatible with LUTRON LRF2-OCR2B-PWH Ceiling mount 360deg occupancy/vacancy sensor & LRF2-DCRB-WH ceiling mount daylight sensor Sensors must be orderd through Lutron	5- Luminaire will be compatible with ENLIGHTED SU-5E-IoT, SU-5E-CL, SU-5E-IL, SU-5SH, Sensors	6- Luminaire will be compatible with LEVITON I ntellect APP & Keypad room controller	7- Luminaire will be compatible with EN-SCPPH-1500-ZB Wireless passive infrared occupancy and photo sensor	8- Luminaire will be compatible with philips field and wireless switch	9- Luminaire will be compatible with DLM Room control system LMPB-100. . Sensors must be orderd through Legrand.	N/A

Due to the changes of constant improvement in LED technology, all details are subject to change without notice. Consult factory for up to date information.

ELECTRONIC BID PROPOSAL INSTRUCTIONS - EXCEL SPREADSHEET
Greenwood Cultural Center Facility Rehabilitation
PROJECT NO: SP 20-6

Please read the following instructions carefully.

1. After opening this file re-save it as your company's name.
2. Open the BID FORM Sheet from the tabs below.
3. Input the unit price of the appropriate pay item in the Data Input cells.
4. Review all data input and check calculations to ensure accuracy of Bid.
5. Print 1hardcopy of the "PROPOSAL" tab, BID FORM and the "SIGNATURE PAGE" tab.
6. Complete and sign the "Signature Page" document.
7. Submit hardcopy and electronic disk with Contract Documents and Specifications for Bid opening date.

AGREEMENT FOR USING ELECTRONIC BID PROPOSAL

By and Between: **JCJ Architecture PC**, (ARCHITECT/ENGINEER) and RECIPIENT. The enclosed electronic media is provided pursuant to your request and is for your limited use in connection with your submittal of Bid Proposal for **Project No. SP 20-6.** In no event shall the information be used for any other purpose or be released to third parties without the written consent of the ARCHITECT/ENGINEER. In the event of a discrepancy between the hard copy and this electronic media at delivery or in the future, the hard copy shall govern. ARCHITECT/ENGINEER hereby disclaims any and all liability for the consequences from use of the electronic media and makes no warranty or guarantee of accuracy. RECIPIENT shall assume full responsibility for the uses and consequences of the electronic media. It is agreed that ARCHITECT/ENGINEER has and retains ownership of the electronic media. ARCHITECT/ENGINEER does not warrant or guarantee that the electronic data is compatible with RECIPIENT'S computer hardware or software, and ARCHITECT/ENGINEER'S responsibility for the electronic media is limited to replacement of defective media for a period of thirty (30) days after delivery to RECIPIENT. By opening and using this FILE, You AGREE to these TERMS AND CONDITIONS.

PROPOSAL
Greenwood Cultural Center Facility Rehabilitation
PROJECT NO: SP 20-6

TO: HONORABLE MAYOR
CITY OF TULSA, OKLAHOMA

THE UNDERSIGNED BIDDER, having carefully examined the drawings, specifications, and other Contract Documents of the above project presently on file in the City Clerk, City of Tulsa Oklahoma:

CERTIFIES THAT he has inspected the site of the proposed work and has full knowledge of the extent and character of the work involved, construction difficulties that may be encountered, and materials necessary for construction, class and type of excavation, and all other factors affecting or which may be affected by the specified work; and

CERTIFIES THAT he has not entered into collusion with any other bidder or prospective bidder relative to the project and/or bid: and

HEREBY PROPOSES: to enter into a contract to provide all necessary labor, materials, equipment and tools to completely construct and finish all the work required by the Contract Documents hereto attached and other documents referred to therein: to complete said work within **180** calendar days after the work order is issued; and to accept in full payment therefore the amount set forth below for all work actually performed as computed by the Engineer as set forth in the Contract.

Basis of Award

IT SHOULD BE NOTED THAT THE LOWEST RESPONSIBLE BID SHALL BE DETERMINED BY THE TOTAL BASE BID PLUS ADDITIVE ALTERNATES NO. 1 thru 6. THE ITEMS IN ADDITIVE ALTERNATES NO. 1 thru 6 MAY OR MAY NOT BE INCLUDED IN THE CONTRACT AWARD AT THE SOLE DISCRETION OF THE CITY OF TULSA. ANY PROPOSAL SUBMITTED WITH THE ADDITIVE ALTERNATES 1 thru 6 INCOMPLETE SHALL BE CONSIDERED NON-RESPONSIVE.

Note: - Item numbers omitted are not a part of the Contract.

PROPOSAL
Greenwood Cultural Center Facility Rehabilitation
PROJECT NO: SP 20-6

BID ITEM	SPEC NO.	DESCRIPTION	UNIT	QTY	DATA INPUT UNIT PRICE	TOTAL EACH ITEM
		BASE BID:				
	01 GENERAL REQUIREMENTS					
001	010000	GENERAL CONDITIONS	MONTH	6		
002	010000	OWNER ALLOWANCE	ALLOW	80,000	$1.00	$80,000.00
	02 EXISTING CONDITIONS					
003	024100	SELECTIVE DEMOLITION - INTERIOR REMODEL	SF	1,700		
	03 CONCRETE					
004	033000	CONCRETE	CY	15		
005	033000	REBAR REINFORCEMENT	LF	1225		
006	033511	PENETRATING CLEAR SEALER - CONC-S1	SF	30		
	05 METALS					
007	053100	STEEL DECKING - REPAIR	SF	1,000		
008	053100	STEEL DECKING - REPLACEMENT OR OVERLAY	SF	1,000		
009	055000	METAL FABRICATIONS	LF	24		
	06 WOOD, PLASTICS, & COMPOSITES					
010	061053	ROUGH CARPENTRY - WOOD BLOCKING, CURBING, AND NAILERS	LF	1,400		
011	068316	PLASTIC PANELING - FRP-1	SF	150		
	07 THERMAL & MOISTURE PROTECTION					
012	070150.19	PREPARATION FOR RE-ROOFING - BUILT-UP ROOFING	SF	16,850		
013	070150.19	PREPARATION FOR RE-ROOFING - BALLASTED ROOFING	SF	1,450		
014	075400	THERMOPLASTIC MEMBRANE ROOFING	SF	18,300		
015	076200	SHEET METAL FLASHING AND TRIM	LF	900		
016	076200	GUTTERS	LF	35		
017	076200	THROUGH WALL SCUPPERS	EA	5		
018	076200	ROOF SPECIALITIES - COPINGS	LF	505		
019	077200	ROOF ACCESSORIES - EQUIPMENT SUPPORTS	EA	8		
020	077200	ROOF ACCESSORIES - PIPE SUPPORTS	EA	55		
021	079200	JOINT SEALANTS	SYS	1		
	08 OPENINGS					
022	081213	HOLLOW METAL DOOR FRAMES	EA	5		
023	081416	FLUSH WOOD DOORS	EA	5		
024	084313	ALUMINUM FRAMED STOREFRONTS	SF	202		
025	087100	DOOR HARDWARE - SET 3.0	EA	1		
026	087100	DOOR HARDWARE - SET 5.0	EA	1		
027	087100	DOOR HARDWARE - SET 7.0	EA	1		
028	087100	DOOR HARDWARE - SET 8.0	EA	2		
029	088000	GLAZING	SF	180		
	09 FINISHES					
030	090561	COMMON WORK RESULTS FOR FLOORING PREPARATION	SF	910		
031	092116	A1 PARTITION	SF	240		
032	092116	A2 PARTITION	SF	850		
033	092116	A3 PARTITION	SF	330		
034	092116	C2 PARTITION	SF	30		
035	092116	F1 PARTITION	SF	410		
036	092116	GYP CEILING	SF	880		
037	093000	TILING - T-1	SF	880		
038	093000	TILING - T-2	SF	1,490		
039	095100	ACOUSTICAL CEILINGS - ACP-1	SF	130		
040	096500	RESILIENT BASE - WB-1	LF	40		
041	099123	INTERIOR PAINTING - P-1	SF	1,720		
042	099123	INTERIOR PAINTING - P-2	SF	660		
043	099123	INTERIOR PAINTING - P-3	EA	5		
044	101419	ROOM ID SIGNAGE	EA	3		
045	102113.19	PLASTIC TOILET COMPARTMENTS - STANDARD STALL	EA	10		
046	102113.19	PLASTIC TOILET COMPARTMENTS - WHEELCHAIR ACCESS. STALL	EA	2		
047	102113.19	PLASTIC TOILET COMPARTMENTS - AMBULATORY ACCESS. STALL	EA	2		
048	102113.19	PLASTIC TOILET COMPARTMENTS - URINAL SCREEN	EA	3		
049	102800	TOILET ACCESSORIES - TA-1B	EA	3		
050	102800	TOILET ACCESSORIES - TA-1D	EA	3		
051	102800	TOILET ACCESSORIES - TA-1E	EA	7		
052	102800	TOILET ACCESSORIES - TA-2	EA	15		

BID ITEM	SPEC NO.	DESCRIPTION	UNIT	QTY	DATA INPUT UNIT PRICE	TOTAL EACH ITEM
053	102800	TOILET ACCESSORIES - TA-3D	EA	3		
054	102800	TOILET ACCESSORIES - TA-5B	EA	12		
055	102800	TOILET ACCESSORIES - TA-11	EA	9		
056	102800	TOILET ACCESSORIES - TA-13A	EA	14		
057	102800	TOILET ACCESSORIES - TA-14	EA	1		
058	102800	TOILET ACCESSORIES - TA-22D	EA	1		
059	104400	FIRE EXTINGUISHER CABINET	EA	2		
060	104400	FIRE EXTINGUISHER	EA	2		
	21 FIRE SUPPRESSION					
061	211300	FIRE PROTECTION DEMOLITION	SYS	1		
062	211300	FIRE PROTECTION	SYS	1		
	22 PLUMBING					
063	220719	PLUMBING PIPING INSULATION	SYS	1		
064	221005	PLUMBING DEMOLITION	SYS	1		
065	221005	PLUMBING PIPING - DOMESTIC WATER	SYS	1		
066	221005	PLUMBING PIPING - WASTE AND VENT	SYS	1		
067	221005	PLUMBING PIPING - NATURAL GAS	SYS	1		
068	223000	PLUMBING EQUIPMENT - WATER HEATERS	EA	2		
069	223000	PLUMBING EQUIPMENT - CIRCULATOR PUMPS	EA	2		
070	224000	PLUMBING FIXTURES - WATER CLOSETS AND URINALS	EA	18		
071	224000	PLUMBING FIXTURES - SINKS AND LAVATORIES	EA	3		
072	224000	PLUMBING FIXTURES - MOP AND SERVICE SINKS	EA	1		
073	224000	PLUMBING FIXTURES - WATER FOUNTAINS	EA	2		
	23 HVAC					
074	230130.51	DUCT CLEANING	SYS	1		
075	233100	MECHANICAL DEMOLITION	SYS	1		
076	233100	DUCTWORK	LBS	650		
077	231123	FACILITY NATURAL-GAS PIPING	FT	100		
078	233700	D/G/R	EA	14		
079	233423	HVAC POWER VENTILATORS	EA	3		
080	232300	REFRIGERATION PIPING	FT	305		
081	230593	TESTING, ADJUSTING, AND BALANCING FOR HVAC	SYS	1		
082	230713	DUCT INSULATION	SF	1000		
083	230719	PIPE INSULATION	FT	305		
084	235100	BREECHINGS, CHIMNEYS, STACKS	SYS	1		
085	235400	FURNACES	EA	9		
086	237416	PACKAGED ROOFTOP UNITS	EA	6		
087	238126.13	SMALL CAPACITY SPLIT SYSTEM AIR CONDITIONERS	EA	1		
088	233600	ELECTRIC DUCT COIL	EA	7		
089	233700	GRAVITY VENTILATOR	EA	4		
090	233423	ROOF INTAKE FANS (MAKE UP AIR UNIT)	EA	1		
	26 ELECTRICAL					
091	260505	ELECTRICAL DEMOLITION	SYS	1		
092	260519	LOW VOLTAGE ELECTRICAL POWER CONDUCTORS	SYS	1		
093	260526	GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS	SYS	1		
094	260529	HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS	SYS	1		
095	260533.13	CONDUIT FOR ELECTRICAL SYSTEMS	SYS	1		
096	260533.16	BOXES FOR ELECTRICAL SYSTEMS	SYS	1		
097	260533.23	SURFACE RACEWAYS FOR ELECTRICAL SYSTEMS	SYS	1		
098	260553	IDENTIFICATION FOR ELECTRICAL SYSTEMS	SYS	1		
099	260583	WIRING CONNECTIONS	SYS	1		
100	260923	LIGHTING CONTROL DEVICES	EA	2		
101	262416	PANELBOARDS	EA	1		
102	262726	WIRING DEVICES	EA	60		
103	265100	INTERIOR LIGHTING	EA	50		
	CITY OF TULSA ENGINEERING SERVICES STANDARD DETAILS					
104	230(A)	SOLID SLAB SODDING	SY	187		
105	315	SEWER SERVICE CONNECTION	EA	1		
106	610(A)	CONCRETE SIDEWALK (4")	SY	53		
107	619(B)	REMOVAL OF SIDEWALK	SY	53		
		TOTAL BASE BID				**$ 80,000.00**

		ADD ALTERNATE #1				
	02 EXISTING CONDITIONS					
108	024100	SELECTIVE DEMOLITION - INTERIOR REMODEL	SF	200		
	06 WOOD, PLASTICS, & COMPOSITES					

BID ITEM	SPEC NO.	DESCRIPTION	UNIT	QTY	DATA INPUT UNIT PRICE	TOTAL EACH ITEM
109	064100	GIFT SHOP DISPLAY	SYS	1		
110	064100	ARCHITECTURAL WOOD CASEWORK	LF	18		
	08 OPENINGS					
111	081213	HOLLOW METAL DOOR FRAMES	EA	1		
112	081413	FLUSH WOOD DOORS	EA	1		
113	084313	ALUMINUM FRAMED STOREFRONTS	SF	40		
114	087100	DOOR HARDWARE - SET 4.0	EA	1		
115	087100	DOOR HARDWARE - SET 6.0	EA	1		
	09 FINISHES					
116	090561	COMMON WORK RESULTS FOR FLOORING PREPARATION	SF	3,620		
117	092116	A1 PARTITION	SF	150		
118	092116	C2 PARTITION	SF	120		
119	092116	GYP CEILING	SF	40		
120	093000	TILING - T-4	SF	80		
121	095100	ACOUSTICAL CEILINGS - ACP-1	SF	170		
122	096500	RESILIENT BASE - WB-1	LF	420		
123	096500	RESILIENT TILE FLOORING - FT-2	SF	3,400		
124	096813	TILE CARPETING - CPT-2	SF	140		
125	097200	WALL COVERINGS - WC-2	SF	560		
126	099123	INTERIOR PAINTING - P-1	SF	6,050		
127	099123	INTERIOR PAINTING - P-2	SF	2,700		
128	099123	INTERIOR PAINTING - P-3	EA	12		
	10 SPECIALITIES					
129	101419	DIMENSIONAL SIGNAGE - 12" CHARACTERS	EA	23		
	21 FIRE PROTECTION					
130	211300	FIRE PROTECTION DEMOLITION	SYS	1		
131	211300	FIRE PROTECTION	SYS	1		
	23 HVAC					
132	233100	MECHANICAL DEMOLITION	SYS	1		
133	233100	DUCTWORK	LBS	8		
134	233700	D/G/R	EA	1		
135	230593	TESTING, ADJUSTING, AND BALANCING FOR HVAC	SYS	1		
136	230713	DUCT INSULATION	SF	4		
	26 ELECTRICAL					
137	260505	ELECTRICAL DEMOLITION	SYS	1		
138	265100	INTERIOR LIGHTING	EA	2		
		TOTAL ADD ALTERNATE #1				$ -

		ADD ALTERNATE #2				
	02 EXISTING CONDITIONS					
139	024100	SELECTIVE DEMOLITION - INTERIOR REMODEL	SF	700		
140	024100	SELECTIVE DEMOLITION - GALLERY LIGHT FIXTURES	LF	160		
	09 FINISHES					
141	092116	C2 PARTITION	SF	950		
142	092116	GYP CEILING	SF	40		
143	095100	ACOUSTICAL CEILINGS - ACP-1	SF	700		
144	099123	INTERIOR PAINTING - P-1	SF	950		
145	099123	INTERIOR PAINTING - P-2	SF	40		
	21 FIRE PROTECTION					
146	211300	FIRE PROTECTION DEMOLITION	SYS	1		
147	211300	FIRE PROTECTION	SYS	1		
	23 HVAC					
148	233100	MECHANICAL DEMOLITION	SYS	1		
149	233100	DUCTWORK	LBS	16		
150	233700	D/G/R	EA	2		
151	230593	TESTING, ADJUSTING, AND BALANCING FOR HVAC	SYS	1		
152	230713	DUCT INSULATION	SF	65		
	26 ELECTRICAL					
153	260505	ELECTRICAL DEMOLITION	SYS	1		
154	260533.13	CONDUIT FOR ELECTRICAL SYSTEMS	SYS	1		
155	260533.16	BOXES FOR ELECTRICAL SYSTEMS	SYS	1		
156	260583	WIRING CONNECTIONS	SYS	1		
157	265100	INTERIOR LIGHTING	EA	35		
		TOTAL ADD ALTERNATE #2				$ -

BID ITEM	SPEC NO.	DESCRIPTION	UNIT	QTY	DATA INPUT UNIT PRICE	TOTAL EACH ITEM
		ADD ALTERNATE #3				
		02 EXISTING CONDITIONS				
158	024100	SELECTIVE DEMOLITION	SF	5,720		
		08 OPENINGS				
159	081213	HOLLOW METAL DOOR FRAMES	EA	3		
160	081416	FLUSH WOOD DOORS	EA	6		
161	084313	ALUMINUM FRAMED STOREFRONTS	SF	42		
162	087100	DOOR HARDWARE - SET 1.0	EA	1		
163	087100	DOOR HARDWARE - SET 2.0	EA	3		
164	087100	DOOR HARDWARE - SET 10.0	EA	3		
		09 FINISHES				
165	090561	COMMON WORK RESULTS FOR FLOORING PREPARATION	SF	9,850		
166	092116	C1 PARTITION	SF	560		
167	092116	C3 PARTITION	SF	320		
168	092116	D1 PARTITION	SF	1,470		
169	092116	GB-11 AT WEST WALL OF MULTIPURPOSE ROOM	SF	950		
170	092116	GYP CEILING	SF	800		
171	095100	ACOUSTICAL CEILINGS - ACP-1	SF	5,480		
172	096500	RESILIENT BASE - WB-1	LF	560		
173	096500	RESILIENT TILE FLOORING - FT-1	SF	2,830		
174	096500	RESILIENT TILE FLOORING - FT-2	SF	7,020		
175	097200	WALL COVERINGS - WC-1	SF	640		
176	097200	WALL COVERINGS - WC-3	SF	1,250		
177	099123	INTERIOR PAINTING - P-1	SF	5,830		
178	099123	INTERIOR PAINTING - P-2	SF	11,670		
179	099123	INTERIOR PAINTING - P-3	EA	8		
		10 SPECIALITIES				
180	104400	FIRE EXTINGUISHER CABINET	EA	4		
181	104400	FIRE EXTINGUISHER	EA	4		
182	107316.13	METAL CANOPIES	EA	1		
		12 FURNISHINGS				
183	-	TICKET TABLES	EA	2		
		21 FIRE PROTECTION				
184	211300	FIRE PROTECTION DEMOLITION	SYS	1		
185	211300	FIRE PROTECTION	SYS	1		
		23 HVAC				
186	233100	MECHANICAL DEMOLITION	SYS	1		
187	233100	DUCTWORK	LBS	605		
188	233700	D/G/R	EA	64		
189	230593	TESTING, ADJUSTING, AND BALANCING FOR HVAC	SYS	1		
190	230713	DUCT INSULATION	SF	2400		
		26 ELECTRICAL				
191	260505	ELECTRICAL DEMOLITION	SYS	1		
192	260526	GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS	SYS	1		
193	260529	HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS	SYS	1		
194	260533.13	CONDUIT FOR ELECTRICAL SYSTEMS	SYS	1		
195	260533.16	BOXES FOR ELECTRICAL SYSTEMS	SYS	1		
196	260553	IDENTIFICATION FOR ELECTRICAL SYSTEMS	SYS	1		
197	260583	WIRING CONNECTIONS	SYS	1		
198	262416	PANELBOARDS	EA	1		
199	262726	WIRING DEVICES	SYS	1		
200	262813	FUSES	SYS	1		
201	265100	INTERIOR LIGHTING	EA	88		
		TOTAL ADD ALTERNATE #3				
		ADD ALTERNATE #4				
		10 SPECIALITIES				
202	102239	OPERABLE PARTITIONS	SF	5,300		
		TOTAL ADD ALTERNATE #4				
		ADD ALTERNATE #5				
		02 EXISTING CONDITIONS				
203	024100	SELECTIVE DEMOLITION	SF	4,100		

BID ITEM	SPEC NO.	DESCRIPTION	UNIT	QTY	DATA INPUT UNIT PRICE	TOTAL EACH ITEM
	09 FINISHES					
204	090561	COMMON WORK RESULTS FOR FLOORING PREPARATION	SF	4,280		
205	092116	GYP CEILING	SF	480		
206	095100	ACOUSTICAL CEILINGS - ACP-1	SF	3,600		
207	096500	RESILIENT BASE - WB-1	LF	770		
208	096500	RESILIENT TILE FLOORING - FT-2	SF	260		
209	096813	TILE CARPETING - CPT-1	SF	4,020		
210	099123	INTERIOR PAINTING - P-1	SF	6,020		
211	099123	INTERIOR PAINTING - P-2	SF	500		
212	099123	INTERIOR PAINTING - P-3	EA	18		
	12 FURNISHINGS					
213	122400	ROLLER WINDOW SHADES - WT-1	EA	6		
214	122400	ROLLER WINDOW SHADES - WT-2	EA	5		
	21 FIRE PROTECTION					
215	211300	FIRE PROTECTION DEMOLITION	SYS	1		
216	211300	FIRE PROTECTION	SYS	1		
	23 HVAC					
217	230130.51	DUCT CLEANING	SYS	1		
218	233100	MECHANICAL DEMOLITION	SYS	1		
219	233100	DUCTWORK	LBS	480		
220	233700	D/G/R	EA	49		
221	232300	REFRIGERATION PIPING	FT	40		
222	230593	TESTING, ADJUSTING, AND BALANCING FOR HVAC	SYS	1		
223	230713	DUCT INSULATION	SF	3105		
224	230719	PIPE INSULATION	FT	40		
225	235100	BREECHINGS, CHIMNEYS, STACKS	SYS	1		
226	238126.13	SMALL CAPACITY SPLIT SYSTEM AIR CONDITIONERS	EA	1		
227	238419	DEHUMIDIFIER	EA	1		
	26 ELECTRICAL					
228	260505	ELECTRICAL DEMOLITION	SYS	1		
229	265100	INTERIOR LIGHTING	EA	70		
		TOTAL ADD ALTERNATE #5				

		ADD ALTERNATE #6				
	02 EXISTING CONDITIONS					
230	024100	SELECTIVE DEMOLITION	SF	49		
	06 WOOD, PLASTICS, & COMPOSITES					
231	064100	ARCHITECTURAL WOOD CASEWORK	LF	18		
	22 PLUMBING					
232	221005	PLUMBING DEMOLITION	SYS	1		
233	221005	PLUMBING PIPING - DOMESTIC WATER	SYS	1		
234	224000	PLUMBING FIXTURES - SINK, FAUCET	SYS	1		
		TOTAL ADD ALTERNATE #6				

TOTAL BASE BID plus ALTERNATES 1 thru 6	**$80,000.00**

BASE BID (ITEMS 001 thru 107)	$	80,000.00
ADD ALT #1 (ITEMS 108 thru 138)	$	-
ADD ALT #2 (ITEMS 139 thru 157)	$	-
ADD ALT #3 (ITEMS 158 thru 201)	$	-
ADD ALT #4 (ITEM 202)	$	-
ADD ALT #5 (ITEMS 203 thru 229)	$	-
ADD ALT #6 (ITEMS 230 thru 232)	$	-
TOTAL (BASE BID + ADD ALTERNATES 1 thru 6)	$	80,000.00

Enclosed is a ( ) Bidder's Surety Bond, ( ) Certified Check, ( ) Cashier's Check for

_____ Dollars ($_____)
Words Figures

which the City of Tulsa may retain or recover as liquidated damages in the event that the undersigned fails to enter into contract for the work covered by this proposal, provided the Contract is awarded to the undersigned within thirty (30) days, from the date fixed for opening of bids and the undersigned fails to execute said Contract and furnish the required bonds and other requirements as called for in these Contract Documents within thirty (30) days after award of Contract.

Dated at Tulsa, Oklahoma, this _____ day of _____, 20____.

Respectfully submitted,

_____
(Complete legal name of company)

_____
(State of Organization)

By: _____
Title:
Printed Name:

ATTEST: _____
Title: Corporate Secretary
Printed Name:
(SEAL)

Address: _____

Telephone Number: _____

Fax Number: _____

By signing above the bidder acknowledges receipt of the following Addenda (give number and date of each):

_____
_____
_____

ARCHITECT/ENGINEER ESTIMATE
Greenwood Cultural Center Facility Rehabilitation
PROJECT NO: SP 20-6

BID ITEM	SPEC NO.	DESCRIPTION	UNIT	QTY	DATA INPUT UNIT PRICE	TOTAL EACH ITEM
		BASE BID:				
	01 GENERAL REQUIREMENTS					
001	010000	GENERAL CONDITIONS	MONTH	6	$70,000.00	$420,000.00
002	010000	OWNER ALLOWANCE	ALLOW	80,000	$1.00	$80,000.00
	02 EXISTING CONDITIONS					
003	024100	SELECTIVE DEMOLITION - INTERIOR REMODEL	SF	1,700	$6.75	$11,475.00
	03 CONCRETE					
004	033000	CONCRETE	CY	15	$227.75	$3,416.25
005	033000	REBAR REINFORCEMENT	LF	1225	$0.50	$612.50
006	033511	PENETRATING CLEAR SEALER - CONC-S1	SF	30	$6.75	$202.50
	05 METALS					
007	053100	STEEL DECKING - REPAIR	SF	1,000	$4.00	$4,000.00
008	053100	STEEL DECKING - REPLACEMENT OR OVERLAY	SF	1,000	$6.75	$6,750.00
009	055000	METAL FABRICATIONS	LF	24	$67.00	$1,608.00
	06 WOOD, PLASTICS, & COMPOSITES					
010	061053	ROUGH CARPENTRY - WOOD BLOCKING, CURBING, AND NAILERS	LF	1,400	$8.00	$11,200.00
011	068316	PLASTIC PANELING - FRP-1	SF	150	$6.75	$1,012.50
	07 THERMAL & MOISTURE PROTECTION					
012	070150.19	PREPARATION FOR RE-ROOFING - BUILT-UP ROOFING	SF	16,850	$6.75	$113,737.50
013	070150.19	PREPARATION FOR RE-ROOFING - BALLASTED ROOFING	SF	1,450	$6.75	$9,787.50
014	075400	THERMOPLASTIC MEMBRANE ROOFING	SF	18,300	$30.75	$562,725.00
015	076200	SHEET METAL FLASHING AND TRIM	LF	900	$26.75	$24,075.00
016	076200	GUTTERS	LF	35	$60.25	$2,108.75
017	076200	THROUGH WALL SCUPPERS	EA	5	$2,010.00	$10,050.00
018	076200	ROOF SPECIALITIES - COPINGS	LF	505	$40.25	$20,326.25
019	077200	ROOF ACCESSORIES - EQUIPMENT SUPPORTS	EA	8	$335.00	$2,680.00
020	077200	ROOF ACCESSORIES - PIPE SUPPORTS	EA	55	$67.00	$3,685.00
021	079200	JOINT SEALANTS	SYS	1	$50,920.00	$50,920.00
	08 OPENINGS					
022	081213	HOLLOW METAL DOOR FRAMES	EA	5	$536.00	$2,680.00
023	081416	FLUSH WOOD DOORS	EA	5	$2,546.00	$12,730.00
024	084313	ALUMINUM FRAMED STOREFRONTS	SF	202	$87.00	$17,574.00
025	087100	DOOR HARDWARE - SET 3.0	EA	1	$2,010.00	$2,010.00
026	087100	DOOR HARDWARE - SET 5.0	EA	1	$2,010.00	$2,010.00
027	087100	DOOR HARDWARE - SET 7.0	EA	1	$2,010.00	$2,010.00
028	087100	DOOR HARDWARE - SET 8.0	EA	2	$2,010.00	$4,020.00
029	088000	GLAZING	SF	180	$53.50	$9,630.00
	09 FINISHES					
030	090561	COMMON WORK RESULTS FOR FLOORING PREPARATION	SF	910	$2.75	$2,502.50
031	092116	A1 PARTITION	SF	240	$13.50	$3,240.00
032	092116	A2 PARTITION	SF	850	$13.50	$11,475.00
033	092116	A3 PARTITION	SF	330	$13.50	$4,455.00
034	092116	C2 PARTITION	SF	30	$13.50	$405.00
035	092116	F1 PARTITION	SF	410	$13.50	$5,535.00
036	092116	GYP CEILING	SF	880	$8.00	$7,040.00
037	093000	TILING - T-1	SF	880	$17.50	$15,400.00
038	093000	TILING - T-2	SF	1,490	$17.50	$26,075.00
039	095100	ACOUSTICAL CEILINGS - ACP-1	SF	130	$13.50	$1,755.00
040	096500	RESILIENT BASE - WB-1	LF	40	$4.00	$160.00
041	099123	INTERIOR PAINTING - P-1	SF	1,720	$2.75	$4,730.00
042	099123	INTERIOR PAINTING - P-2	SF	660	$3.25	$2,145.00
043	099123	INTERIOR PAINTING - P-3	EA	5	$67.00	$335.00
	10 SPECIALITIES					
044	101419	ROOM ID SIGNAGE	EA	3	$67.00	$201.00
045	102113.19	PLASTIC TOILET COMPARTMENTS - STANDARD STALL	EA	10	$1,742.00	$17,420.00
046	102113.19	PLASTIC TOILET COMPARTMENTS - WHEELCHAIR ACCESS. STALL	EA	2	$1,742.00	$3,484.00
047	102113.19	PLASTIC TOILET COMPARTMENTS - AMBULATORY ACCESS. STALL	EA	2	$1,742.00	$3,484.00
048	102113.19	PLASTIC TOILET COMPARTMENTS - URINAL SCREEN	EA	3	$603.00	$1,809.00
049	102800	TOILET ACCESSORIES - TA-1B	EA	3	$100.50	$301.50
050	102800	TOILET ACCESSORIES - TA-1D	EA	3	$100.50	$301.50
051	102800	TOILET ACCESSORIES - TA-1E	EA	7	$100.50	$703.50
052	102800	TOILET ACCESSORIES - TA-2	EA	15	$201.00	$3,015.00
053	102800	TOILET ACCESSORIES - TA-3D	EA	3	$804.00	$2,412.00
054	102800	TOILET ACCESSORIES - TA-5B	EA	12	$268.00	$3,216.00
055	102800	TOILET ACCESSORIES - TA-11	EA	9	$294.75	$2,652.75
056	102800	TOILET ACCESSORIES - TA-13A	EA	14	$67.00	$938.00
057	102800	TOILET ACCESSORIES - TA-14	EA	1	$603.00	$603.00
058	102800	TOILET ACCESSORIES - TA-22D	EA	1	$2,613.00	$2,613.00
059	104400	FIRE EXTINGUISHER CABINET	EA	2	$536.00	$1,072.00

060	104400	FIRE EXTINGUISHER	EA	2	$201.00	$402.00
	21 FIRE SUPPRESSION					
061	211300	FIRE PROTECTION DEMOLITION	SYS	1	$6,700.00	$6,700.00
062	211300	FIRE PROTECTION	SYS	1	$20,100.00	$20,100.00
	22 PLUMBING					
063	220719	PLUMBING PIPING INSULATION	SYS	1	$8,040.00	$8,040.00
064	221005	PLUMBING DEMOLITION	SYS	1	$4,690.00	$4,690.00
065	221005	PLUMBING PIPING - DOMESTIC WATER	SYS	1	$13,400.00	$13,400.00
066	221005	PLUMBING PIPING - WASTE AND VENT	SYS	1	$13,400.00	$13,400.00
067	221005	PLUMBING PIPING - NATURAL GAS	SYS	1	$13,400.00	$13,400.00
068	223000	PLUMBING EQUIPMENT - WATER HEATERS	EA	2	$8,040.00	$16,080.00
069	223000	PLUMBING EQUIPMENT - CIRCULATOR PUMPS	EA	2	$1,340.00	$2,680.00
070	224000	PLUMBING FIXTURES - WATER CLOSETS AND URINALS	EA	18	$1,340.00	$24,120.00
071	224000	PLUMBING FIXTURES - SINKS AND LAVATORIES	EA	3	$13,360.00	$40,080.00
072	224000	PLUMBING FIXTURES - MOP AND SERVICE SINKS	EA	1	$1,608.00	$1,608.00
073	224000	PLUMBING FIXTURES - WATER FOUNTAINS	EA	2	$2,680.00	$5,360.00
	23 HVAC					
074	230130.51	DUCT CLEANING	SYS	1	$30,820.00	$30,820.00
075	233100	MECHANICAL DEMOLITION	SYS	1	$11,390.00	$11,390.00
076	233100	DUCTWORK	LBS	650	$67.00	$43,550.00
077	231123	FACILITY NATURAL-GAS PIPING	FT	100	$33.50	$3,350.00
078	233700	D/G/R	EA	14	$402.00	$5,628.00
079	233423	HVAC POWER VENTILATORS	EA	3	$1,340.00	$4,020.00
080	232300	REFRIGERATION PIPING	FT	305	$40.25	$12,276.25
081	230593	TESTING, ADJUSTING, AND BALANCING FOR HVAC	SYS	1	$2,278.00	$2,278.00
082	230713	DUCT INSULATION	SF	1000	$26.75	$26,750.00
083	230719	PIPE INSULATION	FT	305	$67.00	$20,435.00
084	235100	BREECHINGS, CHIMNEYS, STACKS	SYS	1	$13,400.00	$13,400.00
085	235400	FURNACES	EA	9	$11,524.00	$103,716.00
086	237416	PACKAGED ROOFTOP UNITS	EA	6	$26,800.00	$160,800.00
087	238126.13	SMALL CAPACITY SPLIT SYSTEM AIR CONDITIONERS	EA	1	$3,350.00	$3,350.00
088	233600	ELECTRIC DUCT COIL	EA	7	$1,005.00	$7,035.00
089	233700	GRAVITY VENTILATOR	EA	4	$3,350.00	$13,400.00
090	233423	ROOF INTAKE FANS (MAKE UP AIR UNIT)	EA	1	$10,720.00	$10,720.00
	26 ELECTRICAL					
091	260505	ELECTRICAL DEMOLITION	SYS	1	$4,556.00	$4,556.00
092	260519	LOW VOLTAGE ELECTRICAL POWER CONDUCTORS	SYS	1	$4,020.00	$4,020.00
093	260526	GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS	SYS	1	$1,340.00	$1,340.00
094	260529	HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS	SYS	1	$3,082.00	$3,082.00
095	260533.13	CONDUIT FOR ELECTRICAL SYSTEMS	SYS	1	$8,040.00	$8,040.00
096	260533.16	BOXES FOR ELECTRICAL SYSTEMS	SYS	1	$1,340.00	$1,340.00
097	260533.23	SURFACE RACEWAYS FOR ELECTRICAL SYSTEMS	SYS	1	$2,010.00	$2,010.00
098	260553	IDENTIFICATION FOR ELECTRICAL SYSTEMS	SYS	1	$1,340.00	$1,340.00
099	260583	WIRING CONNECTIONS	SYS	1	$670.00	$670.00
100	260923	LIGHTING CONTROL DEVICES	EA	2	$201.00	$402.00
101	262416	PANELBOARDS	EA	1	$6,700.00	$6,700.00
102	262726	WIRING DEVICES	EA	60	$67.00	$4,020.00
103	265100	INTERIOR LIGHTING	EA	50	$268.00	$13,400.00
	CITY OF TULSA ENGINEERING SERVICES STANDARD DETAILS					
104	230(A)	SOLID SLAB SODDING	SY	187	$33.50	$6,264.50
105	315	SEWER SERVICE CONNECTION	EA	1	$214,400.00	$214,400.00
106	610(A)	CONCRETE SIDEWALK (4")	SY	53	$134.00	$7,102.00
107	619(B)	REMOVAL OF SIDEWALK	SY	53	$67.00	$3,551.00
		TOTAL BASE BID				**$ 2,447,730.25**

		ADD ALTERNATE #1				
	02 EXISTING CONDITIONS					
108	024100	SELECTIVE DEMOLITION - INTERIOR REMODEL	SF	200	$4.00	$800.00
	06 WOOD, PLASTICS, & COMPOSITES					
109	064100	GIFT SHOP DISPLAY	SYS	1	$26,800.00	$26,800.00
110	064100	ARCHITECTURAL WOOD CASEWORK	LF	18	$1,340.00	$24,120.00
	08 OPENINGS					
111	081213	HOLLOW METAL DOOR FRAMES	EA	1	$536.00	$536.00
112	081416	FLUSH WOOD DOORS	EA	1	$2,546.00	$2,546.00
113	084313	ALUMINUM FRAMED STOREFRONTS	SF	40	$87.00	$3,480.00
114	087100	DOOR HARDWARE - SET 4.0	EA	1	$2,010.00	$2,010.00
115	087100	DOOR HARDWARE - SET 6.0	EA	1	$2,010.00	$2,010.00
	09 FINISHES					
116	090561	COMMON WORK RESULTS FOR FLOORING PREPARATION	SF	3,620	$2.75	$9,955.00
117	092116	A1 PARTITION	SF	150	$13.50	$2,025.00
118	092116	C2 PARTITION	SF	120	$13.50	$1,620.00
119	092116	GYP CEILING	SF	40	$8.00	$320.00
120	093000	TILING - T-4	SF	80	$17.50	$1,400.00
121	095100	ACOUSTICAL CEILINGS - ACP-1	SF	170	$13.50	$2,295.00
122	096500	RESILIENT BASE - WB-1	LF	420	$4.00	$1,680.00
123	096500	RESILIENT TILE FLOORING - FT-2	SF	3,400	$10.75	$36,550.00

124	096813	TILE CARPETING - CPT-2	SF	140	$9.50	$1,330.00
125	097200	WALL COVERINGS - WC-2	SF	560	$8.00	$4,480.00
126	099123	INTERIOR PAINTING - P-1	SF	6,050	$2.75	$16,637.50
127	099123	INTERIOR PAINTING - P-2	SF	2,700	$3.25	$8,775.00
128	099123	INTERIOR PAINTING - P-3	EA	12	$67.00	$804.00
	10 SPECIALITIES					
129	101419	DIMENSIONAL SIGNAGE - 12" CHARACTERS	EA	23	$234.50	$5,393.50
	21 FIRE PROTECTION					
130	211300	FIRE PROTECTION DEMOLITION	SYS	1	$402.00	$402.00
131	211300	FIRE PROTECTION	SYS	1	$804.00	$804.00
	23 HVAC					
132	233100	MECHANICAL DEMOLITION	SYS	1	$1,340.00	$1,340.00
133	233100	DUCTWORK	LBS	8	$67.00	$536.00
134	233700	D/G/R	EA	1	$402.00	$402.00
135	230593	TESTING, ADJUSTING, AND BALANCING FOR HVAC	SYS	1	$2,278.00	$2,278.00
136	230713	DUCT INSULATION	SF	4	$26.75	$107.00
	26 ELECTRICAL					
137	260505	ELECTRICAL DEMOLITION	SYS	1	$536.00	$536.00
138	265100	INTERIOR LIGHTING	EA	2	$268.00	$536.00
		TOTAL ADD ALTERNATE #1				**$ 162,508.00**

		ADD ALTERNATE #2				
	02 EXISTING CONDITIONS					
139	024100	SELECTIVE DEMOLITION - INTERIOR REMODEL	SF	700	$4.00	$2,800.00
140	024100	SELECTIVE DEMOLITION - GALLERY LIGHT FIXTURES	LF	160	$26.75	$4,280.00
	09 FINISHES					
141	092116	C2 PARTITION	SF	950	$13.50	$12,825.00
142	092116	GYP CEILING	SF	40	$8.00	$320.00
143	095100	ACOUSTICAL CEILINGS - ACP-1	SF	700	$13.50	$9,450.00
144	099123	INTERIOR PAINTING - P-1	SF	950	$2.75	$2,612.50
145	099123	INTERIOR PAINTING - P-2	SF	40	$3.25	$130.00
	21 FIRE PROTECTION					
146	211300	FIRE PROTECTION DEMOLITION	SYS	1	$1,474.00	$1,474.00
147	211300	FIRE PROTECTION	SYS	1	$2,948.00	$2,948.00
	23 HVAC					
148	233100	MECHANICAL DEMOLITION	SYS	1	$1,340.00	$1,340.00
149	233100	DUCTWORK	LBS	16	$67.00	$1,072.00
150	233700	D/G/R	EA	2	$402.00	$804.00
151	230593	TESTING, ADJUSTING, AND BALANCING FOR HVAC	SYS	1	$268.00	$268.00
152	230713	DUCT INSULATION	SF	64	$26.75	$1,712.00
	26 ELECTRICAL					
153	260505	ELECTRICAL DEMOLITION	SYS	1	$1,876.00	$1,876.00
154	260533.13	CONDUIT FOR ELECTRICAL SYSTEMS	SYS	1	$4,690.00	$4,690.00
155	260533.16	BOXES FOR ELECTRICAL SYSTEMS	SYS	1	$2,010.00	$2,010.00
156	260583	WIRING CONNECTIONS	SYS	1	$670.00	$670.00
157	265100	INTERIOR LIGHTING	EA	35	$670.00	$23,450.00
		TOTAL ADD ALTERNATE #2				**$ 74,731.50**

		ADD ALTERNATE #3				
	02 EXISTING CONDITIONS					
158	024100	SELECTIVE DEMOLITION	SF	5,720	$4.00	$22,880.00
	08 OPENINGS					
159	081213	HOLLOW METAL DOOR FRAMES	EA	3	$536.00	$1,608.00
160	081416	FLUSH WOOD DOORS	EA	6	$2,546.00	$15,276.00
161	084313	ALUMINUM FRAMED STOREFRONTS	SF	42	$87.00	$3,654.00
162	087100	DOOR HARDWARE - SET 1.0	EA	1	$2,010.00	$2,010.00
163	087100	DOOR HARDWARE - SET 2.0	EA	3	$2,010.00	$6,030.00
164	087100	DOOR HARDWARE - SET 10.0	EA	3	$2,010.00	$6,030.00
	09 FINISHES					
165	090561	COMMON WORK RESULTS FOR FLOORING PREPARATION	SF	9,850	$2.75	$27,087.50
166	092116	C1 PARTITION	SF	560	$13.50	$7,560.00
167	092116	C3 PARTITION	SF	320	$13.50	$4,320.00
168	092116	D1 PARTITION	SF	1,470	$13.50	$19,845.00
169	092116	GB-11 AT WEST WALL OF MULTIPURPOSE ROOM	SF	950	$6.75	$6,412.50
170	092116	GYP CEILING	SF	800	$8.00	$6,400.00
171	095100	ACOUSTICAL CEILINGS - ACP-1	SF	5,480	$13.50	$73,980.00
172	096500	RESILIENT BASE - WB-1	LF	560	$4.00	$2,240.00
173	096500	RESILIENT TILE FLOORING - FT-1	SF	2,830	$10.75	$30,422.50
174	096500	RESILIENT TILE FLOORING - FT-2	SF	7,020	$10.75	$75,465.00
175	097200	WALL COVERINGS - WC-1	SF	640	$8.00	$5,120.00
176	097200	WALL COVERINGS - WC-3	SF	1,250	$8.00	$10,000.00
177	099123	INTERIOR PAINTING - P-1	SF	5,830	$2.75	$16,032.50
178	099123	INTERIOR PAINTING - P-2	SF	11,670	$3.25	$37,927.50
179	099123	INTERIOR PAINTING - P-3	EA	8	$67.00	$536.00
	10 SPECIALITIES					

180	104400	FIRE EXTINGUISHER CABINET	EA	4	$536.00	$2,144.00
181	104400	FIRE EXTINGUISHER	EA	4	$201.00	$804.00
182	107316.13	METAL CANOPIES	EA	1	$9,380.00	$9,380.00
	12 FURNISHINGS					
183	-	TICKET TABLES - FURNITURE	EA	2	$3,685.00	$7,370.00
	21 FIRE PROTECTION					
184	211300	FIRE PROTECTION DEMOLITION	SYS	1	$11,524.00	$11,524.00
185	211300	FIRE PROTECTION	SYS	1	$23,048.00	$23,048.00
	23 HVAC					
186	233100	MECHANICAL DEMOLITION	SYS	1	$15,410.00	$15,410.00
187	233100	DUCTWORK	LBS	605	$67.00	$40,535.00
188	233700	D/G/R	EA	64	$402.00	$25,728.00
189	230593	TESTING, ADJUSTING, AND BALANCING FOR HVAC	SYS	1	$7,664.75	$7,664.75
190	230713	DUCT INSULATION	SF	2400	$26.75	$64,200.00
	26 ELECTRICAL					
191	260505	ELECTRICAL DEMOLITION	SYS	1	$15,410.00	$15,410.00
192	260526	GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS	SYS	1	$2,680.00	$2,680.00
193	260529	HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS	SYS	1	$5,360.00	$5,360.00
194	260533.13	CONDUIT FOR ELECTRICAL SYSTEMS	SYS	1	$8,040.00	$8,040.00
195	260533.16	BOXES FOR ELECTRICAL SYSTEMS	SYS	1	$4,020.00	$4,020.00
196	260553	IDENTIFICATION FOR ELECTRICAL SYSTEMS	SYS	1	$1,340.00	$1,340.00
197	260583	WIRING CONNECTIONS	SYS	1	$2,680.00	$2,680.00
198	262416	PANELBOARDS	EA	1	$6,700.00	$6,700.00
199	262726	WIRING DEVICES	SYS	1	$4,690.00	$4,690.00
200	262813	FUSES	SYS	1	$2,680.00	$2,680.00
201	265100	INTERIOR LIGHTING	EA	88	$268.00	$23,584.00
		TOTAL ADD ALTERNATE #3				**$665,828.25**

		ADD ALTERNATE #4				
	10 SPECIALITIES					
202	102239	OPERABLE PARTITIONS	SF	5,300	$105.00	$556,500.00
		TOTAL ADD ALTERNATE #4				**$556,500.00**

		ADD ALTERNATE #5				
	02 EXISTING CONDITIONS					
203	024100	SELECTIVE DEMOLITION	SF	4,100	$4.00	$16,400.00
	09 FINISHES					
204	090561	COMMON WORK RESULTS FOR FLOORING PREPARATION	SF	4,280	$2.75	$11,770.00
205	092116	GYP CEILING	SF	480	$8.00	$3,840.00
206	095100	ACOUSTICAL CEILINGS - ACP-1	SF	3,600	$13.50	$48,600.00
207	096500	RESILIENT BASE - WB-1	LF	770	$4.00	$3,080.00
208	096500	RESILIENT TILE FLOORING - FT-2	SF	260	$10.75	$2,795.00
209	096813	TILE CARPETING - CPT-1	SF	4,020	$9.50	$38,190.00
210	099123	INTERIOR PAINTING - P-1	SF	6,020	$2.75	$16,555.00
211	099123	INTERIOR PAINTING - P-2	SF	500	$3.25	$1,625.00
212	099123	INTERIOR PAINTING - P-3	EA	18	$67.00	$1,206.00
	12 FURNISHINGS					
213	122400	ROLLER WINDOW SHADES - WT-1	EA	6	$335.00	$2,010.00
214	122400	ROLLER WINDOW SHADES - WT-2	EA	5	$268.00	$1,340.00
	21 FIRE PROTECTION					
215	211300	FIRE PROTECTION DEMOLITION	SYS	1	$8,308.00	$8,308.00
216	211300	FIRE PROTECTION	SYS	1	$24,790.00	$24,790.00
	23 HVAC					
217	230130.51	DUCT CLEANING	SYS	1	$5,494.00	$5,494.00
218	233100	MECHANICAL DEMOLITION	SYS	1	$10,988.00	$10,988.00
219	233100	DUCTWORK	LBS	480	$67.00	$32,160.00
220	233700	D/G/R	EA	49	$402.00	$19,698.00
221	232300	REFRIGERATION PIPING	FT	40	$40.25	$1,610.00
222	230593	TESTING, ADJUSTING, AND BALANCING FOR HVAC	SYS	1	$5,494.00	$5,494.00
223	230713	DUCT INSULATION	SF	3105	$26.75	$83,058.75
224	230719	PIPE INSULATION	FT	40	$67.00	$2,680.00
225	235100	BREECHINGS, CHIMNEYS, STACKS	SYS	1	$6,700.00	$6,700.00
226	238126.13	SMALL CAPACITY SPLIT SYSTEM AIR CONDITIONERS	EA	1	$3,350.00	$3,350.00
227	238419	DEHUMIDIFIER	EA	1	$6,700.00	$6,700.00
	26 ELECTRICAL					
228	260505	ELECTRICAL DEMOLITION	SYS	1	$10,988.00	$10,988.00
229	265100	INTERIOR LIGHTING	EA	70	$268.00	$18,760.00
		TOTAL ADD ALTERNATE #5				**$388,189.75**

		ADD ALTERNATE #6				
	02 EXISTING CONDITIONS					
230	024100	SELECTIVE DEMOLITION	SF	49	$4.00	$196.00
	06 WOOD, PLASTICS, & COMPOSITES					
231	064100	ARCHITECTURAL WOOD CASEWORK	LF	18	$1,150.00	$20,700.00

	22 PLUMBING					
232	221005	PLUMBING DEMOLITION	SYS	1	$400.00	$300.00
233	221005	PLUMBING PIPING - DOMESTIC WATER	SYS	1	$582.00	$600.00
234	224000	PLUMBING FIXTURES - SINK, FAUCET	SYS	1	$2,800.00	$2,826.00
						$24,622.00

INDICATES REVISION

RESPONSIBLE DISCIPLINES:
AA - ASSA ABLOY *(Hardware Consultant)*
COT - CITY OF TULSA *(Owner)*
HP - HP ENGINEERING *(M/E/P/FP & Low Voltage & Technology)*
JCJ - JCJ ARCHITECTURE *(Architect of Record)*
RA - RICHARDS & ASSOCIATES *(Structural Engineers of Record)*

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	000110	Table of Contents	JCJ	***10/22/2025***
DIVISION 01 – GENERAL REQUIREMENTS				
Section	011000	Summary	COT/JCJ	8/15/2025
	012100	Allowances	COT	8/15/2025
	012200	Unit Prices	COT	8/15/2025
	012300	Alternates	JCJ	***10/22/2025***
	012500	Substitution Procedures	COT	8/15/2025
	012501	Substitution Request Form	COT	8/15/2025
	013100	Project Management and Coordination	COT	8/15/2025
		"RFI" Form	JCJ	8/15/2025
	013300	Submittal Procedures	COT	8/15/2025
		"Transmittal/Submittal Coversheet"	JCJ	8/15/2025
		"Submittal Routing Review Stamp Coversheet"	JCJ	8/15/2025
	014000	Quality Requirements	COT	8/15/2025
	014533	Code-Required Special Inspections and Procedures	JCJ	8/15/2025
		"Structural Statement of Special Inspections"	RA	8/15/2025
	015000	Temporary Facilities and Controls	COT	8/15/2025
	016000	Product Requirements	COT	8/15/2025
	017300	Execution	COT	8/15/2025
	017700	Closeout Procedures	COT	8/15/2025
DIVISION 02 – EXISTING CONDITIONS				
Section	024100	Selective Demolition	JCJ	8/15/2025
DIVISION 03 – CONCRETE				
Section	033000	Cast-In-Place Concrete	RA	8/15/2025
	033511	Concrete Finishes	JCJ	8/15/2025
DIVISION 05 – METALS				
Section	053100	Steel Decking	JCJ	8/15/2025
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DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES				
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	064100	Architectural Wood Casework	JCJ	***10/22/2025***
	068316	Fiberglass Reinforced Paneling	JCJ	8/15/2025
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	075400	Thermoplastic Membrane Roofing	JCJ	***10/22/2025***
	076200	Sheet Metal Flashing and Trim	JCJ	8/15/2025
	077200	Roof Accessories	JCJ	8/15/2025
	078400	Firestopping	JCJ	8/15/2025
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DIVISION 08 – OPENINGS				
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	081416	Flush Wood Doors	JCJ	8/15/2025
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	095100	Acoustical Ceilings	JCJ	8/15/2025
	096500	Resilient Flooring	JCJ	8/15/2025
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SECTION 012300 - ALTERNATES

PART 1 GENERAL

1.01 SECTION INCLUDES ***- INDICATES REVISION***

A. Description of Alternates.

B. Procedures for pricing Alternates.

C. Documentation of changes to Contract Price and Contract Time.

1.02 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
   1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
   2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

1.03 PROCEDURES

A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
   1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.

B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated revisions to alternates.

C. Execute accepted alternates under the same conditions as other work of the Contract.

D. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

1.04 SCHEDULE OF ALTERNATES

A. Alternate No. **ALT-1**: Gift Shop at Main Gallery.
   1. Base Bid Item: Gift Shop at Main Gallery shall remain as is.
   2. Alternate Items: Remove existing flooring, wall paneling, ceilings, and built-in wall cases. Infill and patch walls to meet and match adjacent walls. Install new flooring, ceilings, wallcovering, where indicated. Paint walls. Install new reception desk and Gift Shop millwork, as indicated on Drawings.

B. Alternate No. **ALT-2**: Main Gallery and Corridors.
   1. Base Bid Item: Main Gallery and Corridors shall remain as is.

2. Alternate Items: Remove existing ceiling and wall light fixtures. Remove existing ceilings. Patch and repair wall at removed light fixtures to meet and match adjacent walls. Install new ceilings, lighting, and new ceiling mechanical diffusers and return air grills. Remove, paint, and reinstall existing wall diffusers.

C. Alternate No. **ALT-3**: Multipurpose Room.
   1. Base Bid Item: Multipurpose Room shall remain as is.
   2. Alternate Items: Remove existing flooring, acoustical ceilings, and lighting. Install new exterior metal canopy, exterior doors, and interior walls for the new Vestibule and Storage Room. Install new flooring, acoustical ceilings, lighting, and mechanical diffusers and return air grills. Remove exising gypsum board from column surrounds and replace with impact-resistant gypsum board and finish with Level 5 finish. Paint existing gypsum board soffits, and new and existing gypsum board walls.

D. Alternate No. **ALT-4**: Operable Panel Partitions in Multipurpose Room.
   1. Base Bid Item: Existing operable panel partitions shall remain as is.
   2. Alternate Items: Remove existing panels and replace with new panels. Existing track to remain.

E. Alternate No. **ALT-5**: Administration Spaces and Goodwin Chappelle Gallery.
   1. Base Bid Item: Administration Spaces and Goodwin Chappelle Gallery shall remain as is.
   2. Alternate Item: Remove existing flooring, acoustical ceilings, and lighting. Install new flooring, ceilings, and lighting. Paint existing walls.

F. ***Alternate No. ALT-6: Breakroom Cabinets.***
   1. ***Base Bid Item: Breakroom shall remain as is.***
   2. ***Alternate Item: Remove existing cabinets. Install new cabinets.***

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 012300

SECTION 064100 - ARCHITECTURAL WOOD CASEWORK

PART 1 GENERAL

1.01 SECTION INCLUDES ***- INDICATES REVISION***

A. Specially fabricated cabinet units.

B. Countertops and panels.

C. Hardware.

1.02 RELATED REQUIREMENTS

A. Section 061053 - Miscellaneous Rough Carpentry: Support framing, grounds, and concealed blocking.

1.03 SUBMITTALS

A. See Section 013300 - Submittal Procedures for submittal procedures.

B. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.
   1. Scale of Drawings: 1-1/2 inch to 1 foot, minimum.
   2. Provide information as required by AWI/AWMAC/WI (AWS).

C. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Specimen warranty.

D. Samples: Submit actual samples of architectural cabinet construction, minimum 12 inches square, illustrating proposed cabinet, countertop, and shelf unit substrate and finish.

E. Samples: Submit actual sample items of proposed pulls, hinges, shelf standards, and locksets, demonstrating hardware design, quality, and finish.

1.04 QUALITY ASSURANCE

A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of documented experience.
   1. Company with at least one project in the past 5 years with value of woodwork within 20 percent of cost of woodwork for this Project.

B. Quality Certification:
   1. Provide letters indicating that the installed work complies with AWI/AWMAC/WI (AWS) requirements for grade or grades specified.
   2. Submit letters upon completion of installation that verifies this work is in compliance with specified requirements.

1.05 MOCK-UPS

A. Provide mock-up of typical base cabinet, wall cabinet, and countertop, including hardware and finishes.

B. Locate where directed.

C. Mock-up may remain as part of the work, if approved.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Protect units from moisture damage.

1.07 FIELD CONDITIONS

A. During and after installation of custom cabinets, maintain temperature and humidity conditions in building spaces at same levels planned for occupancy.

PART 2 PRODUCTS

2.01 CABINETS

A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS), unless noted otherwise.

B. Custom Cabinets:
1. Finish - Exposed Exterior Surfaces: Decorative laminate and wall panels below.
2. Finish - Exposed Interior Surfaces: Decorative laminate.
3. Finish - Semi-Exposed Surfaces: Decorative laminate
4. Finish - Concealed Surfaces: Manufacturer's option.
5. Door and Drawer Front Edge Profiles: Square edge with thin applied band.
6. Casework Construction Type: Type A - Frameless.
7. Grained Face Layout for Cabinet and Door Fronts: Flush panel.
   a. Custom Grade: Doors, drawer fronts and false fronts wood grain to run and match vertically within each cabinet unit.
8. Adjustable Shelf Loading: 50 psf.
   a. Deflection: L/144.
9. Drawer Side Construction: Manufacturer's option.
10. Drawer Construction Technique: As recommended by fabricator.

2.02 PANEL CORE MATERIALS

A. Medium Density Fiberboard (MDF): Composite panel composed of cellulosic fibers, additives, and bonding system; cured under heat and pressure; comply with ANSI A208.2.
1. Grade: 130; moisture resistance: MR30.
2. Panel Thickness: 1 inch.

2.03 THERMALLY FUSED LAMINATE PANELS

A. Thermally Fused Laminate (TFL): Melamine- or polyester-resin-saturated decorative papers; for fusion to composite wood substrates under heat and pressure.
1. Test in accordance with NEMA LD 3 Section 3.
2. Panel Core Substrate: Medium Density Fiberboard (MDF).
3. Color: As selected from manufacturer's standard range of colors.

2.04 LAMINATE MATERIALS

A. Manufacturers: Provide products indicated by the following, or an approved equivalent.
1. Formica Corporation; Commercial: www.formica.com/#sle.
2. Wilsonart LLC; Standard Laminate: www.wilsonart.com/#sle.
3. Substitutions: See Section 016000 - Product Requirements.

B. High Pressure Decorative Laminate (HPDL): NEMA LD 3, colors as indicated.
   1. **PL-1**: Wilsonart; #8211K-28 "*Phantom Pearl*," Gloss Line finish.
   2. **PL-2**: Formica; #5796-NG "*Graphite Elm*," Natural Grain finish.
   3. ***PL-3: As selected by Architect from manufacturer's standard finishes.***

C. Provide specific types as indicated.
   1. Horizontal Surfaces: HGL, 0.039 inch nominal thickness, colors as indicated, finish as indicated.
   2. Vertical Surfaces: VGS, 0.028 inch nominal thickness, colors as indicated, finish as indicated.
   3. Cabinet Liner: CLS, 0.020 inch nominal thickness, white color.
   4. Laminate Backer: BKL, 0.020 inch nominal thickness, undecorated; for application to concealed backside of panels faced with high pressure decorative laminate.

2.05 COUNTERTOPS AND SIDE PANELS

A. Solid Quartz Surfacing ~~*(CT-1)*~~: Solid quartz surfacing with plastic resin casting over continuous substrate.
   1. Flat Sheet Thickness: 1/2 inch, minimum.
   2. Natural Quartz and Resin Composite Sheets, Slabs and Castings: Complying with ISFA 3-01 and NEMA LD 3; orthophthalic polyester resin, mineral filler, and pigments; homogenous, non-porous and capable of being worked and repaired using standard woodworking tools; no surface coating; color and pattern consistent throughout thickness.
      a. Basis-of-Design Product: Vicostone; Classic Collection: www.us.vicostone.com, or approved equivalent.
      b. Surface Burning Characteristics: Flame spread index of 25, maximum; smoke developed index of 450, maximum; when tested in accordance with ASTM E84.
      c. Finish on Exposed Surfaces: Polished, gloss rating of 55 to 80.
      d. Color and Pattern: ~~#BQ262 "Carbon."~~
         1) ***CT-1: #BQ262 "Carbon."***
         2) ***CT-2: As selected from manufacturer's standard range.***
   3. Other Components Thickness: 1/2 inch, minimum.
   4. Exposed Edge Treatment: Built up to minimum 1-1/4 inch thick; square edge.
   5. Vertical Panels: As indicated on drawings.
   6. Fabricate in accordance with manufacturer's standard requirements.

2.06 ACCESSORIES

A. Adhesive: Type recommended by fabricator to suit application.

B. Plastic Edge Banding: Extruded ABS or PVC, flat shaped; smooth finish; self locking serrated tongue; of width to match component thickness.
   1. Color: As selected by Architect from manufacturer's full range.
   2. Use at all exposed panel edges.
   3. Use at all exposed shelf edges.

C. Mouldings (**MT-1**): Primed FJ pine trim.
   1. Type: S4SSE 1x3.
   2. Finish: Shop finished as indicated below.
      a. Color: Black.
   3. Basis-of-Design Product: WindsorONE; Traditional Boards: www.windsorone.com, or approved equivalent.

D. Fasteners: Size and type to suit application.

E. Concealed Joint Fasteners: Threaded steel.

F. Grommets: Standard plastic, painted metal, or rubber grommets for cut-outs, in color to blend with adjacent surface, as selected by Architect.

2.07 HARDWARE

A. Cabinet Hardware: Comply with BHMA A156.9 for hardware types and grades indicated below:
   1. Hardware Types: As indicated on drawings, with types indicated below.
   2. Product Grade: As required by specified woodworking quality grade.

B. Adjustable Shelf Supports: Standard side-mounted system using recessed metal shelf standards or multiple holes for pin supports and coordinated self rests, polished chrome finish, for nominal 1 inch spacing adjustments.

C. Shelf Unit: B+N; Sorbetti 2.0 electrified Modular Shelving System: www.bnind.com, or approved equivalent. Configuration as indicated on drawings.
   1. Components:
      a. Electrified uprights with spanning steel hang rails.
      b. Spanning laminate wood shelves.
      c. Spanning cabinet w/laminate wood doors.
   2. Finishes: Anodized black metal. Black matte laminate.

D. Countertop Brackets; L-shaped and Flat, Single-Leg-Support, top of knee wall mounting.
   1. Material: Industrial aluminum.
   2. Finish: Manufacturer's standard, factory-applied, powder coat.
   3. Color: Black.
   4. Support Length: 22 inches.
   5. Bracket Thickness and Width: 1/2 inches by 2-1/2 inches.
   6. Basis-of-Design Product: The Original Granite Bracket; Original Knee Wall Countertop Support Bracket #IKW-22: www.originalgranitebracket.com, or approved equivalent.
      a. Substitutions: See Section 016000 - Product Requirements.

E. Drawer and Door Pulls: Bar pull. Provide Studio 917; Cornerstone Collection Bar Pull, Multiple CC #DHP140BSN-96: www.studio917hardware.com, or approved equivalent.
   1. Size: 96 mm center-to-center length.
   2. Finish: Matte Black.

F. Keyed Cabinet Locks: Keyed cylinder, two keys per lock, master keyed, steel with chrome finish.

G. Cabinet Hinges:
   1. Provide european style concealed self-closing type cabinet door hinges, steel with nickel-plated finish, unless otherwise indicated.

H. Pocket Door Hardware System (**DH-4**): Provide Hawa; Concepta 50 pivoting and lateral sliding-in paired for a flush-fitting design, or approved equivalent.
   1. Description: Hardware kit; facilitates doors to slide into dedicated door pockets; includes swinging door hinges, two-leaf folding door hinges.
   2. Door Opening Width: As indicated on drawings.
   3. Pocket Opening Width: As indicated on drawings.
   4. Door Opening Configuration: Two single-leaf doors.

2.08 FABRICATION

A. Assembly: Shop assemble cabinets for delivery to site in units easily handled and to permit passage through building openings.

B. Edging: Fit shelves, doors, and exposed edges with specified edging. Do not use more than one piece for any single length.

C. Plastic Laminate: Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Slightly bevel arises.

2.09 SHOP FINISHING

A. Sand work smooth and set exposed nails and screws.

B. For opaque finishes, apply wood filler in exposed nail and screw indentations and sand smooth.

C. Finish work in accordance with AWI/AWMAC/WI (AWS), Section 5 - Finishing for grade specified and as follows:
1. Opaque: ~~*Semi-concealed*~~ ***MT-1*** surfaces.
~~*System - 5, Varnish, Conversion.*~~
a. Color: As selected by Architect.
b. Sheen: Satin.
c. Products:
1) ***Sherwin-Williams Sher-Wood F3 Hi-Bild Precat Lacquer, White & Colors, AWI Finishing System 2: www.sherwin-williams.com/#sle.***
~~*Sherwin-Williams Sher-Wood F3 Komvar Plus Conversion Varnish, AWI Finishing System 2: www.sherwin-williams.com/#sle.*~~
2) Substitutions: Section 016000 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify adequacy of backing and support framing.

3.02 INSTALLATION

A. Install work in accordance with AWI/AWMAC/WI (AWS) requirements for grade indicated.

B. Set and secure custom cabinets in place, assuring that they are rigid, plumb, and level.

C. Use fixture attachments in concealed locations for wall mounted components.

D. Use concealed joint fasteners to align and secure adjoining cabinet units and countertops.

E. Carefully scribe casework abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim for this purpose.

F. Secure cabinets to floor using appropriate concealed angles and anchorages.

3.03 ADJUSTING

A. Test installed work for rigidity and ability to support loads.

B. Adjust moving or operating parts to function smoothly and correctly.

3.04 CLEANING

A. Clean casework.

END OF SECTION 064100

SECTION 075400 - THERMOPLASTIC MEMBRANE ROOFING

PART 1 GENERAL

1.01 SECTION INCLUDES ***- INDICATES REVISION***

A. Adhered system with thermoplastic roofing membrane.

B. Insulation, flat and tapered.

C. Cover boards.

D. Membrane and liguid flashings.

E. Roofing stack boots, roofing expansion joints, and walkway pads.

1.02 RELATED REQUIREMENTS

A. Section 061053 - Miscellaneous Rough Carpentry, for wood nailers, curbs, and blocking.

B. Section 070150.19 - Preparation for Re-Roofing.

C. Section 076200 - Sheet Metal Flashing and Trim, for metal roof flashings and counterflashings.

D. Section 077200 – Roof Accessories, for roof pipe & conduit supports.

1.03 DEFINITIONS

A. Roofing Terminology: Definitions in ASTM D 1079 and glossary in NRCA's "The NRCA Roofing and Waterproofing Manual" apply to work of this Section.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene one week before starting work of this section.
   1. Review preparation and installation procedures and coordinating and scheduling required with related work.

1.05 SUBMITTALS

A. See Section 013300 - Submittal Procedures for submittal procedures.

B. Product Data: Provide data indicating membrane materials, flashing materials, insulation, fasteners, and adhesive.

C. Shop Drawings: Submit drawings that indicate joint or termination detail conditions, conditions of interface with other materials, and setting plan for tapered insulation.

D. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

E. Manufacturer's Installation Instructions: Indicate membrane seaming precautions, special procedures, and perimeter conditions requiring special attention.

F. Manufacturer's Field Reports: Indicate procedures followed, ambient temperatures, humidity, wind velocity during application, and supplementary instructions given.

G. Manufacturer's qualification statement.

H. Installer's qualification statement.

I. Testing firm's qualification statement.

J. Informational Submittals:
   1. Qualification Data: For Installer and manufacturer.
   2. Roofing installer's current Oklahoma Roofer Registration number with Commercial Endorsement from the Oklahoma Construction Industries Board.
   3. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article. Provide evidence that system manufacturer has reviewed and approved roofing system for compliance with minimum warranty requirements.
   4. Manufacturer's Thermal Resistance Calculations: Submit manufacturer's calculations for average R-value for each roof area.
   5. Sample Warranties: For manufacturer's special warranties.

K. Closeout Submittals:
   1. Maintenance Data: For roofing system to include in maintenance manuals.
   2. Manufacturer's weatherproof sign indicating that this roof is under warranty with phone number to call in case of damage to roof.
   3. Warranties: Submit manufacturer's and installer's warranties and lists of circumstances and conditions that would affect validity of warranties. Include Owner's responsibilities for notification of installer, supplier, and manufacturer to maintain warranties.

1.06 QUALITY ASSURANCE

A. Preliminary Roofing Conference: Before starting roof preparation, conduct conference at Project site.
   1. Meet with Owner, Architect, roofing Installer, roofing system manufacturer's representative, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
   2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
   3. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
   4. Review deck substrate requirements for conditions and finishes, including flatness and fastening.
   5. Review structural loading limitations of roof deck during and after roofing.
   6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
   7. Review temporary protection requirements for roofing system during and after installation.
   8. Review roof observation and repair procedures after roofing installation.

B. Manufacturer Qualifications: Company specializing in manufacturing products specified or UL listed as applicable for roofing system specified in this section, with minimum three years of documented experience.

C. Installer Qualifications: Company specializing in performing work of this section with at least three years of documented experience, and approved, authorized, or licensed by roofing system manufacturer.
   1. Roofing installer shall be registered with the Oklahoma Construction Industry Board and have active Commercial Endorsement.

D. Testing Firm Qualifications: Company specializing in performing work of the type specified and approved by manufacturer.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in manufacturer's original containers, dry and undamaged, with seals and labels intact, approval or listing agency markings, and directions for storing and mixing with other components.
   1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

B. Store materials in weather protected environment, clear of ground and moisture.

C. Ensure storage and staging of materials does not exceed static and dynamic load-bearing capacities of roof decking.

D. Protect foam insulation from direct exposure to sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.

1.08 FIELD CONDITIONS

A. Do not apply roofing membrane during unsuitable weather. Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

B. Do not apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.

C. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.

D. Schedule applications so that no partially completed sections of roof are left exposed at end of workday.

1.09 WARRANTY

A. See Section 017700 - Closeout Procedures for additional warranty requirements.

B. Roofing Manufacturer's Warranty: Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period, including the following.
   1. Special warranty shall include cost of labor and materials for loss of weather tightness without financial limit (NDL).
   2. Manufacturer's Warranty includes roofing, base flashings, roof insulation, fasteners, cover boards, substrate board, roofing accessories, and other components of roofing system.
   3. Manufacturer's Warranty shall also include Roofing Specialties specified in Section 077100.
   4. Warranty wind speeds up to 105 mph.
   5. Hail Damage: Caused by hail up to 3 inches in diameter.
   6. Warranty Period: 20 years from date of Final Completion.

C. 115-mil FleeceBack adhered TPO, with manufacturer's full system NDL 20-year warranty and 3-inch hail impact resistance warranty with 20 hours per year accidental puncture repair at no additional cost to the Owner, plus covering both labor and material, for 72 mph sustained wind resistance and 90 mph wind gust for 3 seconds per IBC 2018.

D. If Carlisle "Flexible FAST" adhesive is used, full coverage or 4" oc beads, add 1-inch additional hail coverage and 4 extra hours of Accidental Puncture coverage.

E. Installer's Warranty: Submit roofing Installer's warranty, signed by Installer, covering the Work of this Section, including all components of roofing system such as roofing membrane, base flashing, roof insulation, fasteners, cover boards, substrate boards, vapor retarders, and walkway products, for the following warranty period:
   1. Warranty Period: Two years (min) from date of Final Completion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Thermoplastic Polyolefin (TPO) Membrane Roofing Materials: ASTM D 6878, internally fabric- or scrim-reinforced, uniform, flexible fleece-backed TPO sheet.
   1. Basis-of-Design Product: Carlisle SynTec Systems; FleeceBACK TPO Adhered: www.carlisle-syntec.com/#sle.
   2. Elevate; UltraPly TPO XR Membrane: www.holcimelevate.com/#sle.
   3. Versico Roofing Systems~~: VersiFleece RL TPO RapidLock Membrane; VersiFleece TPO~~: www.versico.com/#sle.
   4. Substitutions: Not permitted.

B. Insulation:
   1. Carlisle SynTec Systems; SecurShield Insulation: www.carlisle-syntec.com/#sle.
   2. Elevate; ISO 95+ GL Insulation: www.holcimelevate.com.
   3. Versico Roofing Systems; SecurShield Insulation: www.versico.com/#sle.
   4. Substitutions: See Section 016000 - Product Requirements.

C. Parapet/Cover Boards (**GB-14**): ASTM C1177, glass-mat, water-resistant gypsum substrate, 1/2 inch thick. Subject to compliance with requirements, available products that may be incorporated into the Work include the following:
   ~~CertainTeed Corporation; GlasRoc Sheathing; www.certainteed.com.~~
   1. Georgia-Pacific Corporation; Dens Deck ~~Prime~~ ***StormX***: www.buildgp.com.
   2. National Gypsum Company; Gold Bond ~~eXP Extended Exposure Sheathing~~ ***DEXcell FA Glass Mat Roof Board***: www.goldbondbu*ilding.com*.
   3. USG Corporation; Securock Glass Mat Roof Board: www.usg.com.
   4. Substitutions: Not permitted.

2.02 ROOFING

A. Thermoplastic Membrane Roofing: One ply membrane, fully adhered, over insulation.

B. Roofing Assembly Requirements:
   1. Installed roofing and base flashings shall withstand required uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Roofing and base flashings shall remain watertight.
      a. Accelerated Weathering: Roofing system shall withstand 2000 hours of exposure when tested according to ASTM G152, ASTM G154, or ASTM G155.
      b. Impact Resistance: Roofing system shall resist impact damage when tested according to ASTM D3746 or ASTM D4272.
   2. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.

3. SPRI's Directory of Roof Assemblies Listing: Roof membrane, base flashings, and component materials comply with requirements in FM Approvals 4450 or FM Approvals 4470 as part of a roofing system and are listed in SPRI's Directory of Roof Assemblies for roof assembly identical for that specified for this Project.
   a. Wind Uplift Load Capacity: 105 psf.
   b. Hail-Resistance Rating: Up to 3 inches in diameter.
4. Exterior Fire-Test Exposure: ASTM E108 or UL 790, Class A; for application and roof slopes indicated; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

C. Acceptable Insulation Types - Constant Thickness Application:
   1. Minimum 2 layers of polyisocyanurate board.

D. Acceptable Insulation Types - Tapered Application:
   1. Tapered polyisocyanurate board.

2.03 MEMBRANE ROOFING AND ASSOCIATED MATERIALS

A. Membrane Roofing Materials:
   1. TPO: Thermoplastic polyolefin (TPO) complying with ASTM D6878/D6878M, sinternally fabric- or scrim-reinforced, uniform, flexible fleece-backed TPO sheet.
      a. Thickness: 115 mil, 0.115 inch, minimum.
   2. Sheet Width: Factory fabricated into widest possible sheets.
      a. Adhered Application: Limit width to 120 inches, maximum, when ambient temperatures are less than 40 degrees F for extended period of time during installation.
   3. Color: White.

B. Seaming Materials: As recommended by membrane manufacturer.

C. Membrane Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening roofing to substrate, and acceptable to roofing system manufacturer.

D. Flexible Flashing Material: Material recommended by membrane manufacturer.
   1. Base Flashing: Manufacturer's standard unreinforced TPO sheet flashing, 60 mils thick, minimum, of same color as TPO sheet.
   2. Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, lap sealants, termination reglets, and other accessories.

E. Liquid-Applied Flashing: Manufacturer's single ply liquid and fabric reinforced flashing system created with a fleece polyester scrim and a two-component polyurethane-based liquid applied flashing material, consisting of a liquid resin and a curing agent.
   1. Liquid Applied Flashing Primer: Manufacturer's single ply liquid flashing primer.

F. Bonding Adhesive: Flexible FAST Adhesive at Full Spray or 4" o.c. beads.

G. Metal Termination Bars: Manufacturer's standard, predrilled stainless-steel or aluminum bars, approximately 1 by 1/8-inch thick; with anchors.

2.04 PARAPET/COVER BOARDS

A. Parapet/Cover Boards: Glass-mat faced gypsum panels complying with ASTM C1177/C1177M.
   1. ***Thickness: 5/8 inch, Type X, fire-resistant.***
      ~~***Thickness: 1/2 inch, fire-resistant.***~~

2. Products:
   a. CertainTeed Corporation; GlasRoc Sheathing: www.certainteed.com.
   b. Georgia-Pacific; DensDeck Prime with EONIC Technology: www.densdeck.com/#sle.
   c. Gold Bond Building Products, LLC; National Gypsum Company; Gold Bond eXP Extended Exposure Sheathing: www.goldbondbuilding.com.
   d. USG Corporation; Securock Glass Mat Roof Board: www.usg.com.
   e. Substitutions: See Section 016000 - Product Requirements.

2.05 INSULATION

A. Polyisocyanurate (ISO) Board Insulation (**IN-3b**): Rigid cellular foam, complying with ASTM C1289.
   1. Classifications:
      a. Type II: Faced with either cellulosic facers or glass fiber mat facers on both major surfaces of the core foam.
         1) Class 1 - Faced with glass fiber reinforced cellulosic facers on both major surfaces of the core foam.
         2) Compressive Strength: Classes 1-2-3, Grade 2, 20 psi (138 kPa), minimum.
         3) Thermal Resistance, R-value: At 1-1/2 inches thick; Class 1, Grades 1-2-3, 8.4 (1.48), minimum, at 75 degrees F.
   2. Board Size: 48 by 48 inches.
   3. Minimum Board Thickness: 2.0 inches.
   4. Tapered Board: Slope 1/2 inch per 12 inches; minimum thickness 1/2 inch; fabricate of fewest layers possible.
   5. Board Edges: Square.
   6. Provide preformed saddles, tapered edge strips, and other insulation shapes where indicated and required for sloping to drain. Fabricate to slopes indicated.

B. Mineral Wool Block and Board Thermal Insulation (**IN-6c**): Complying with ASTM C612, Type III.
   1. Facing: None, unfaced.
   2. Flame Spread Index: 25 or less, when tested with facing, if any, in accordance with ASTM E84.
   3. Smoke Developed Index: 50 or less, when tested with facing, if any, in accordance with ASTM E84.
   4. Size: As indicated on drawings.
   5. Thermal Conductivity (k-factor): Btu inch/hr sq ft degrees F of 0.26 per inch, minimum, at 75 degrees F when tested in accordance with ASTM C518.
   6. Maximum Density: 4 pcf, nominal.

2.06 ACCESSORIES

A. Conductive Primer for Electronic Leak Detection (ELD): Enables ELD of conventional roofing assemblies by providing required conductive substrate directly below roofing membrane.
   1. Apply primer directly under roofing membrane on nonconductive surface in accordance with manufacturer's requirements.

B. Prefabricated Roofing Expansion Joint Flashing: Sheet butyl over closed-cell foam backing seamed to galvanized steel flanges.

C. Stack Boots: Prefabricated flexible boot and collar for pipe stacks through membrane; same material as membrane.

D. Insulation Joint Tape: Glass fiber reinforced type as recommended by insulation manufacturer, compatible with roofing materials; 6 inches wide; self adhering.

E. Insulation Fasteners: Appropriate for purpose intended and approved by roofing manufacturer.
   1. Length as required for thickness of first layer of insulation material and penetration of deck substrate, with metal washers.

F. Membrane Adhesive: As recommended by membrane manufacturer.

G. Insulation Adhesive: As recommended by insulation manufacturer.

H. Insulation Adhesive: Insulation manufacturer's recommended adhesive formulated to attach subsequent layers of roof insulation to another insulation layer as follows:
   1. Bead-applied, low-rise, one-component or multicomponent urethane adhesive.

I. Walkway Pads: Factory-formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway pads and rolls, approximately 3/16 inch thick and acceptable to roofing system manufacturer.
   1. Walkway to remain flat, without wrinkles and fishmouths after installation.
   2. Surface Color: White or Yellow.

J. Pipe Support Pads: Same as walkways, size as shown on drawings, adhered underneath pipe supports specified in Section 077200.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work:
   1. Verify that roof openings and penetrations are in place, curbs are set and braced, and roof-drain bodies are securely clamped in place.
   2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
   3. Verify that surfaces and site conditions are ready to receive work.
   4. Verify deck is supported and secure.
   5. Verify deck is clean and smooth, flat, free of depressions, waves, or projections, properly sloped and suitable for installation of roof system.
   6. Verify deck surfaces are dry and free of snow or ice.
   7. Verify that roof openings, curbs, and penetrations through roof are solidly set, and nailing strips are in place.

3.02 PREPARATION

A. Prepare work area in accordance with Section 070150.19 - Preparation for Re-Roofing.

B. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Substrate must be relatively smooth, free of protrusions, sharp edges and projections, foreign materials, free of accumulated water, ice and snow. Cracks or voids greater than 1/4-inch shall be filled with material suitable to roofing manufacturer.

C. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.

3.03 INSTALLATION, GENERAL

A. Perform work in accordance with roofing system manufacturer's instructions applicable requirements.

B. Do not apply roofing membrane during cold or wet weather conditions.

C. Do not apply roofing membrane when ambient temperature is outside the temperature range recommended by manufacturer.

D. Do not apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.

E. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.

F. Coordinate this work with installation of associated counterflashings installed by other sections as the work of this section proceeds.

G. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

H. Install parapet board with long joints in continuous straight lines, perpendicular to roof slopes with end joints staggered between rows. Tightly butt parapet boards together.

3.04 INSTALLATION - INSULATION, UNDER MEMBRANE

A. Coordinate installing roofing system components, so insulation is not exposed to precipitation or left exposed at the end of the workday.

B. Attachment of Insulation:
   1. Mechanically fasten first layer of insulation to deck in accordance with roofing manufacturer's instructions and FM DS 1-28 Factory Mutual requirements.
   2. Set each subsequent layer of insulation in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining insulation in place.

C. Install tapered insulation to conform to slopes indicated.

D. Install flat insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 2.7 inches or greater, install two or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 12 inches in each direction.

E. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.

F. Lay subsequent layers of insulation with joints staggered minimum 6 inches from joints of preceding layer.
   1. Fill gaps exceeding 1/4 inch with insulation.
   2. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.

G. Place tapered insulation to the required slope pattern in accordance with manufacturer's instructions.

H. On metal deck, place boards parallel to flutes with insulation board edges bearing on deck flutes.

I. Lay boards with edges in moderate contact without forcing. Cut insulation to fit neatly to perimeter blocking and around penetrations through roof.

J. Tape joints of insulation in accordance with roofing and insulation manufacturers' instructions.

K. Do not install more insulation than can be covered with membrane in same day.

3.05 INSTALLATION - COVER BOARD

A. Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches in each direction.

B. Trim cover board neatly to fit around penetrations and projections, and to fit tight to intersecting sloping roof decks.

C. At internal roof drains, conform to slope of drain sump.
   a. Trim cover board so that water flow is unrestricted.

D. Cut and fit cover board tight to nailers, projections, and penetrations.

E. Adhere cover board to substrate using adhesive according to SPRI's Directory of Roof Assemblies listed roof assembly requirements for specified Wind Uplift Load Capacity and FM Global Property Loss Prevention Data Sheet 1-29, as follows:
   a. Set cover board in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining insulation in place.

3.06 INSTALLATION - ELECTRONIC LEAK DETECTION (ELD) SYSTEM

A. Install components in accordance with manufacturer's installation instructions and at locations indicated on drawings.

3.07 INSTALLATION - MEMBRANE

A. Roll out membrane, free from wrinkles or tears. Place sheet into place without stretching.

B. Shingle joints on sloped substrate in direction of drainage.

C. Start installation of roofing in presence of roofing system manufacturer's technical personnel per warranty requirements.

D. Accurately align roofing and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.

E. Bonding Adhesive: Apply to substrate and underside of roofing at rate required by manufacturer and allow to partially dry before installing roofing. Fully adhere one roll before proceeding to adjacent rolls.

F. Overlap edges and ends and seal seams by contact adhesive, minimum 3 inches. Seal permanently waterproof. Apply uniform bead of sealant to joint edge.

G. In addition to adhering, mechanically fasten roofing securely at terminations, penetrations, and perimeter of roofing.

H. At intersections with vertical surfaces:
   1. Extend membrane up a minimum of 4 inches onto vertical surfaces.

2. Fully adhere flexible flashing over membrane and up to and over nailing strips.
3. Secure flashing to nailing strips at 4 inches on center.

I. Around roof penetrations, seal flanges and flashings with flexible flashing.

J. Install roofing expansion joints where indicated. Make joints watertight.
1. Install prefabricated joint components in accordance with manufacturer's instructions.

K. Seams: Clean seam areas, overlap roofing, and hot-air weld side and end laps of roofing and sheet flashings according to manufacturer's written instructions, to ensure a watertight seam installation.
1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of sheet.
2. Verify field strength of seams a minimum of twice daily, and repair seam sample areas.
3. Repair tears, voids, and lapped seams in roofing that do not comply with requirements.

L. Coordinate replacement of non-functioning roof drains and sumps and related flashings.

3.08 INSTALLATION - BASE FLASHING

A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to roofing system manufacturer's written instructions.

B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply to seam area of flashing.

C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.

D. Clean seam areas, overlap, and firmly roll sheet flashings into the adhesive. Hot-air weld side and end laps to ensure a watertight seam installation.

E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars and sealant.

3.09 WALKWAY INSTALLATION

A. Flexible Walkways: Install walkway products in locations indicated. Heat weld to substrate or adhere walkway products to substrate with compatible adhesive according to roofing system manufacturer's written instructions.

3.10 FIELD QUALITY CONTROL

A. See Section 014000 - Quality Requirements for additional requirements.

B. Owner will provide testing services, and Contractor to provide temporary construction and materials for testing in accordance with requirements.

C. Provide daily on-site attendance of roofing and insulation manufacturer's representative during installation of this work.

D. Electronic Leak Detection (ELD) Testing: Test roofing areas for leaks using ELD method that locates discontinuities in membrane roofing in accordance with ASTM D7877 or ASTM D8231.
1. Testing agency to submit Daily Field Report (DFR) in accordance with ASTM D8231 indicating daily details of work performed.

2. Testing agency to submit training certification to ensure that technician performing ELD testing is currently certified in accordance with relevant training program.

E. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.

F. Repair or remove and replace components of roofing system where inspections indicate that they do not comply with specified requirements.

G. Additional testing and inspecting, at Contractor's expense, will be performed to determine if replaced or additional work complies with specified requirements.

3.11 CLEANING

A. See Section 017300 - Execution for additional requirements.

B. In areas where finished surfaces are soiled by work of this section, consult manufacturer of surfaces for cleaning advice and comply with their documented instructions.

C. Repair or replace defaced or damaged finishes caused by work of this section.

D. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from roof area.
1. Remove adhesive and other blemishes from entire roof surface, surfaces at seams, perimeter edges, and adjacent surfaces.
2. Sweep surfaces thoroughly.
3. Wash surfaces to remove marks and soil.

E. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

F. Leave roof membrane in a clean and pristine condition at Final Completion inspection.

3.12 PROTECTION

A. Protect installed roofing and flashings from mars, marks, indentations, and other construction operations in accordance with manufacturer's written instructions.

B. Where traffic must continue over finished roof membrane, protect surfaces using durable materials.

C. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Project Completion and according to warranty requirements.

END OF SECTION 075400

DRAWING INDEX

SHEET NO	TITLE
G-000	COVER
G-001	PAY ITEMS
G-002	PAY ITEMS
C-001	NOTES & LEGEND
C-100	EXISTING SITE AND DEMO PLAN
C-200	SANITARY PLAN AND PROFILE
C-300	CIVIL DETAILS
S-001	GENERAL NOTES
S-100	OVERALL FLOOR PLAN
S-200	OVERALL ROOF FRAMING PLAN - BASE BID
A-000	GENERAL ARCHITECTURAL LEGENDS
A-001	GENERAL ARCHITECTURAL LEGENDS
A-010	TYPICAL ACCESSORY MOUNTING
A-020	CODE INFORMATION
A-021	CODE EGRESS PLAN
A-030	PARTITION TYPES
A-050	ARCHITECTURAL SITE PLAN
AD-111	DEMO OVERALL FLOOR PLAN
AD-119	DEMO OVERALL ROOF PLAN
AD-151	DEMO OVERALL REFLECTED CEILING PLAN
AD-430	DEMO ENLARGED FLOOR PLANS AND RCPS
A-111	OVERALL FLOOR PLAN
A-119	OVERALL ROOF PLAN
A-131	OVERALL FINISH PLAN
A-151	OVERALL REFLECTED CEILING PLAN
A-430	RESTROOM FLOOR PLAN AND RCP
A-431	RESTROOM FINISH AND ACCESSORY PLAN
A-432	RESTROOM ELEVATIONS
A-540	ROOF DETAILS
A-541	ROOF DETAILS
A-542	ROOF DETAILS
A-610	DOOR SCHEDULES AND DETAILS
A-620	ROOM FINISH SCHEDULE
A-800	ADD ALTERNATES DEMO OVERALL FLOOR PLAN
A-801	ADD ALTERNATES DEMO OVERALL RCP
A-802	ADD ALTERNATES OVERALL FLOOR PLAN
A-803	ADD ALTERNATES OVERALL FINISH PLAN
A-804	ADD ALTERNATES OVERALL RCP
A-810	ALT-1 - OVERALL FLOOR PLAN
A-811	ALT-1 - DEMOLITION ENLARGED PLANS
A-812	ALT-1 - DEMOLITION INTERIOR ELEVATIONS
A-813	ALT-1 - ENLARGED PLANS
A-814	ALT-1 - INTERIOR ELEVATIONS
A-815	ALT-1 - RECEPTION PLAN, ELEV, AND DETAILS
A-816	ALT-1 - RECEPTION DESK DETAILS
A-820	ALT-2 - OVERALL RCP
A-821	ALT-2 - DEMOLITION ENLARGED RCP
A-822	ALT-2 - ENLARGED RCP
A-830	ALT-3 - OVERALL FLOOR PLAN
A-831	ALT-3 - DEMO ENLARGED PLANS
A-832	ALT-3 - DEMO ENLARGED RCP
A-833	ALT-3 - ENLARGED FLOOR PLAN
A-834	ALT-3 - ENLARGED FINISH PLAN
A-835	ALT-3 - ENLARGED REFLECTED CEILING PLAN
A-836	ALT-3 - ENLARGED ELEVATIONS
A-850	ALT-5 - OVERALL FLOOR PLAN
A-851	ALT-5 - DEMO ENLARGED RCP
A-852	ALT-5 - ENLARGED RCP AND FINISH PLAN
A-860	ADD ALTERNATES DOOR SCHED. AND DETAILS
A-861	ADD ALTERNATES - ROOM FINISH SCHEDULE
A-870	ALT-6 - OVERALL FLOOR PLAN
A-871	ALT-6 - ENLARGED DEMO AND FLOOR PLAN
A-872	ALT-6 - INTERIOR ELEVATIONS AND DETAILS

P-000	PLUMBING LEGEND
P-001	LEVEL 1 PLUMBING DEMO PLAN - BASE BID
P-010	ROOF PLUMBING DEMO PLAN - BASE BID
P-100	LEVEL 1 SANITARY PLAN - BASE BID
P-101	LEVEL 1 SUPPLY PLAN - BASE BID
P-110	ROOF PLUMBING PLAN - BASE BID
P-400	PLUMBING ENLARGED PLANS - BASE BID
P-401	PLUMBING ENLARGED PLANS - BASE BID
P-500	PLUMBING DETAILS
P-501	PLUMBING DETAILS
P-502	PLUMBING DETAILS
P-600	PLUMBING SCHEDULES - BASE BID
P-800	LEVEL 1 SUPPLY PLAN - ADD ALTERNATE
P-871	PLUMBING ENLARGED PLANS - ALT 6
P-900	SANITARY/WASTE RISER
P-901	SUPPLY RISER
M-000	MECHANICAL LEGEND
M-001	LEVEL 1 HVAC DEMO PLAN - BASE BID
M-010	ROOF LEVEL HVAC DEMO PLAN - BASE BID
M-101	LEVEL 1 HVAC PLAN - BASE BID
M-110	ROOF LEVEL HVAC PLAN - BASE BID
M-400	MECHANICAL ENLARGED PLANS - BASE BID
M-401	MECHANICAL ENLARGED PLANS - BASE BID
M-402	MECHANICAL ENLARGED PLANS - BASE BID
M-403	MECHANICAL ENLARGED PLANS - BASE BID
M-500	MECHANICAL DETAILS
M-501	MECHANICAL DETAILS
M-502	MECHANICAL DETAILS
M-600	MECHANICAL SCHEDULES - BASE BID
M-601	MECHANICAL SCHEDULES - BASE BID
M-700	SEQUENCE OF OPERATIONS
M-800	LEVEL 1 HVAC ALT BID DEMO PLAN
M-801	LEVEL 1 HVAC ALT BID PLAN
M-810	MECHANICAL ENLARGED PLANS - ALT1
M-820	MECHANICAL ENLARGED PLANS - ALT 2
M-830	MECHANICAL ENLARGED PLANS - ALT 3 DEMO
M-831	MECHANICAL ENLARGED PLANS - ALT 3
M-850	MECHANICAL ENLARGED PLANS - ALT 5 DEMO
M-851	MECHANICAL ENLARGED PLANS - ALT 5
M-852	ROOF MECHANICAL PLAN - ALT 5
E-000	ELECTRICAL LEGEND
E-001	LEVEL 1 ELECTRICAL DEMO PLAN - BASE BID
E-101	LEVEL 1 POWER PLAN - BASE BID
E-110	LEVEL 1 EQUIPMENT POWER PLAN - BASE BID
E-111	ROOF EQUIPMENT POWER PLAN - BASE BID
E-200	LEVEL 1 LIGHTING PLAN - BASE BID
E-400	ELECTRICAL ENLARGED PLANS - BASE BID
E-501	ELECTRICAL DETAILS
E-600	ELECTRICAL SCHEDULES AND RISER
E-601	ELECTRICAL SCHEDULES
E-800	OVERALL ELECTRICAL PLAN - ALT BID
E-801	OVERALL LIGHTING PLAN - ALT BID
E-810	ELECTRICAL ENLARGED PLANS - ALT 1
E-820	ELECTRICAL ENLARGED PLANS - ALT 2
E-830	ELECTRICAL ENLARGED PLANS - ALT 3 DEMO
E-831	ELECTRICAL ENLARGED PLANS - ALT 3
E-850	ELECTRICAL ENLARGED PLANS - ALT 5 DEMO
E-851	ELECTRICAL ENLARGED PLANS - ALT-5

CONSTRUCTION PLANS FOR

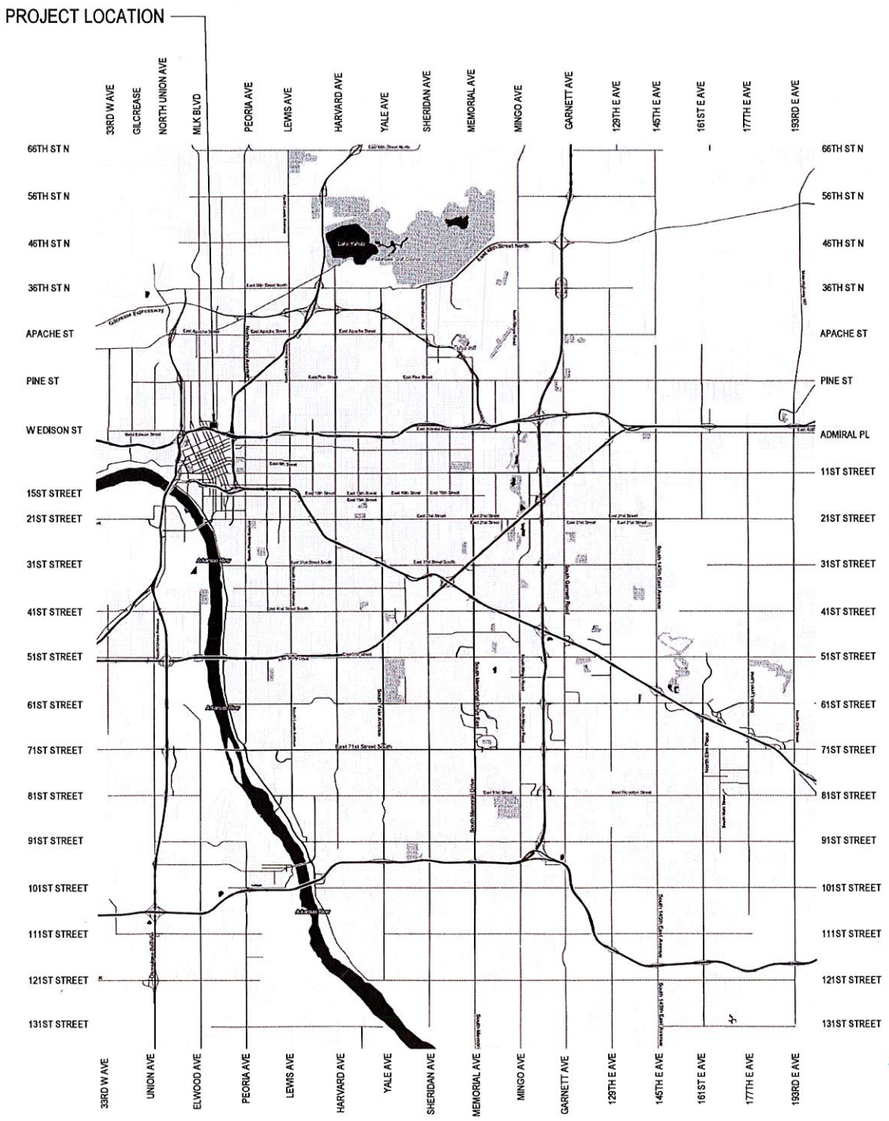
GREENWOOD CULTURAL CENTER FACILITY REHABILITATION

322 N GREENWOOD AVE
TULSA, OK 74120

PROJECT NO: SP 20-6

CITY OF TULSA, OKLAHOMA
DEPARTMENT OF PARKS, CULTURE AND RECREATION

PROJECT LOCATION



UTILITY COORDINATION

INSIDE OF RIGHT OF WAY		
COMPANY	CONTACT	OFFICE
CITY OF TULSA	TONY GLYNN	918.596.9245
AEP / PSO	EMERGENCY	888.216.3523
ONG	EMERGENCY	800.664.5463
AT&T	EMERGENCY	800.288.2020
COX COMMUNICATIONS	CUSTOMER SERVICE	918.806.6000
VERIZON	CUSTOMER SERVICE	888.294.6804
WINDSTREAM	CUSTOMER SERVICE	800.347.1991
OUTSIDE OF RIGHT OF WAY		
AEP / PSO	BRAD CUNNINGHAM	918.250.6247
AT&T	KEVIN BENDER	918.859.9147
ONG	CHANCE MARSHALL	918.831.8385
ONG	STEVE BOLIN	918.831.8389
COX COMMUNICATIONS	CUSTOMER SERVICE	918.806.6000
VERIZON	CUSTOMER SERVICE	888.294.6804
WINDSTREAM	CUSTOMER SERVICE	800.347.1991

OKIE811

JCJARCHITECTURE
© 2025 JCJ Architecture
8801 SOUTH YALE AVENUE
SUITE 100
TULSA, OK 74137
918.936.2320

JCJ PROJECT NO: T21018.03

STATE OF OKLAHOMA
RANDALL LYMAN HULL
3036
TULSA, OK
LICENSED ARCHITECT
8/15/2025

CEC
1300 SOUTH MAIN STREET
TULSA, OK 74119
918.663.9401

RICHARDS AND ASSOCIATES, INC.
424 EAST MAIN STREET
JENKS, OK 74037
405.627.9584

HP ENGINEERING
6666 SOUTH SHERIDAN ROAD
SUITE 230
TULSA, OK 74133
918.324.2172

CITY OF TULSA

APPROVED BY

PARKS, CULTURE AND RECREATION DIRECTOR — DATE

CITY ENGINEER — DATE 10/28/25

BUILDING PAY ITEM SCHEDULE - BASE BID

ITEM NO.	SPEC. NO.	DESCRIPTION	UNIT	QUANTITY	NOTE
	01 GENERAL REQUIREMENTS				
001	010000	GENERAL CONDITIONS	MONTH	6	A-1
002	010000	OWNER ALLOWANCE	ALLOW	80,000	A-2
	02 EXISTING CONDITIONS				
003	024100	SELECTIVE DEMOLITION - INTERIOR REMODEL	SF	1,700	A-3
	03 CONCRETE				
004	033000	CONCRETE	CY	15	S-2, 4, 5
005	033000	REBAR REINFORCEMENT	LF	1225	S-3
006	033511	PENETRATING CLEAR SEALER - CONC-S1	SF	30	
	05 METALS				
007	053100	STEEL DECKING - REPAIR	SF	1,000	
008	053100	STEEL DECKING - REPLACEMENT OR OVERLAY	SF	1,000	
009	055000	METAL FABRICATIONS	LF	24	S-1
	06 WOOD, PLASTICS, & COMPOSITES				
010	061053	ROUGH CARPENTRY - WOOD BLOCKING, CURBING, AND NAILERS	LF	1,400	A-6
011	068316	PLASTIC PANELING - FRP-1	SF	150	
	07 THERMAL & MOISTURE PROTECTION				
012	070150.19	PREPARATION FOR RE-ROOFING - BUILT-UP ROOFING	SF	16,850	A-7
013	070150.19	PREPARATION FOR RE-ROOFING - BALLASTED ROOFING	SF	1,450	A-7
014	075400	THERMOPLASTIC MEMBRANE ROOFING	SF	18,300	A-8
015	076200	SHEET METAL FLASHING AND TRIM	LF	900	
016	076200	GUTTERS	LF	35	
017	076200	THROUGH WALL SCUPPERS	EA	5	A-9
018	076200	ROOF SPECIALITIES - COPINGS	LF	505	
019	077200	ROOF ACCESSORIES - EQUIPMENT SUPPORTS	EA	8	
020	077200	ROOF ACCESSORIES - PIPE SUPPORTS	EA	55	
021	079200	JOINT SEALANTS	SYS	1	A-10
	08 OPENINGS				
022	081213	HOLLOW METAL DOOR FRAMES	EA	5	A-11
023	081416	FLUSH WOOD DOORS	EA	5	
024	084313	ALUMINUM FRAMED STOREFRONTS	SF	202	A-27
025	087100	DOOR HARDWARE - SET 3.0	EA	1	
026	087100	DOOR HARDWARE - SET 5.0	EA	1	
027	087100	DOOR HARDWARE - SET 7.0	EA	1	
028	087100	DOOR HARDWARE - SET 8.0	EA	2	
029	088000	GLAZING	SF	180	A-12
	09 FINISHES				
030	090561	COMMON WORK RESULTS FOR FLOORING PREPARATION	SF	910	A-13
031	092116	A1 PARTITION	SF	240	A-14
032	092116	A2 PARTITION	SF	650	A-14
033	092116	A3 PARTITION	SF	330	A-14
034	092116	C2 PARTITION	SF	30	A-14
035	092116	F1 PARTITION	SF	410	A-14
036	092116	GYP CEILING	SF	880	A-15
037	093000	TILING - T-1	SF	880	A-16
038	093000	TILING - T-2	SF	1,490	A-17
039	095100	ACOUSTICAL CEILINGS - ACP-1	SF	130	A-15
040	096500	RESILIENT BASE - WB-1	LF	40	A-18
041	099123	INTERIOR PAINTING - P-1	SF	1,720	A-19
042	099123	INTERIOR PAINTING - P-2	SF	660	A-19
043	099123	INTERIOR PAINTING - P-3	EA	5	A-19
	10 SPECIALITIES				
044	101419	ROOM ID SIGNAGE	EA	3	
045	102113.19	PLASTIC TOILET COMPARTMENTS - STANDARD STALL, TP-1	EA	10	A-20
046	102113.19	PLASTIC TOILET COMPARTMENTS - WHEELCHAIR ACCESS. STALL, TP-1	EA	2	A-20
047	102113.19	PLASTIC TOILET COMPARTMENTS - AMBULATORY ACCESS. STALL, TP-1	EA	2	A-20
048	102113.19	PLASTIC TOILET COMPARTMENTS - URINAL SCREEN, TP-2	EA	3	A-20
049	102800	TOILET ACCESSORIES - TA-1B	EA	3	
050	102800	TOILET ACCESSORIES - TA-1D	EA	3	
051	102800	TOILET ACCESSORIES - TA-1E	EA	7	
052	102800	TOILET ACCESSORIES - TA-2	EA	15	
053	102800	TOILET ACCESSORIES - TA-3D	EA	3	
054	102800	TOILET ACCESSORIES - TA-5B	EA	12	
055	102800	TOILET ACCESSORIES - TA-11	EA	9	
056	102800	TOILET ACCESSORIES - TA-13A	EA	14	
057	102800	TOILET ACCESSORIES - TA-14	EA	1	
058	102800	TOILET ACCESSORIES - TA-22D	EA	1	
059	104400	FIRE EXTINGUISHER CABINET	EA	2	
060	104400	FIRE EXTINGUISHER	EA	2	
	21 FIRE SUPPRESSION				
061	211300	FIRE PROTECTION DEMOLITION	SYS	1	
062	211300	FIRE PROTECTION	SYS	1	MEP-1, FP-1, 2
	22 PLUMBING				
063	220719	PLUMBING PIPING INSULATION	SYS	1	P-1
064	221005	PLUMBING DEMOLITION	SYS	1	
065	221005	PLUMBING PIPING - DOMESTIC WATER	SYS	1	P-1
066	221005	PLUMBING PIPING - WASTE AND VENT	SYS	1	P-1
067	221005	PLUMBING PIPING - NATURAL GAS	SYS	1	P-1
068	223000	PLUMBING EQUIPMENT - WATER HEATERS	EA	2	MEP-1
069	223000	PLUMBING EQUIPMENT - CIRCULATOR PUMPS	EA	2	MEP-1
070	224000	PLUMBING FIXTURES - WATER CLOSETS AND URINALS	EA	18	MEP-1
071	224000	PLUMBING FIXTURES - SINKS AND LAVATORIES	EA	3	MEP-1
072	224000	PLUMBING FIXTURES - MOP AND SERVICE SINKS	EA	1	MEP-1
073	224000	PLUMBING FIXTURES - DRINKING FOUNTAINS	EA	2	MEP-1
	23 HVAC				
074	230130.51	DUCT CLEANING	SYS	1	
075	233100	MECHANICAL DEMOLITION	SYS	1	
076	233100	DUCTWORK	LBS	650	MEP-1, M-1
077	231123	FACILITY NATURAL-GAS PIPING	FT	100	
078	233700	D/G/R	EA	14	MEP-1, M-1
079	233423	HVAC POWER VENTILATORS	EA	3	

BUILDING PAY ITEM SCHEDULE - BASE BID, CONTINUED

ITEM NO.	SPEC. NO.	DESCRIPTION	UNIT	QUANTITY	NOTE
	23 HVAC - CONTINUED				
080	232300	REFRIGERATION PIPING	FT	305	
081	230593	TESTING, ADJUSTING, AND BALANCING FOR HVAC	SYS	1	
082	230713	DUCT INSULATION	SF	1000	MEP-1
083	230719	PIPE INSULATION	FT	305	MEP-1
084	235100	BREECHINGS, CHIMNEYS, STACKS	SYS	1	MEP-1
085	235400	FURNACES	EA	9	MEP-1
086	237416	PACKAGED ROOFTOP UNITS	EA	6	MEP-1
087	238126.13	SMALL CAPACITY SPLIT SYSTEM AIR CONDITIONERS	EA	1	MEP-1
088	233600	ELECTRIC DUCT COIL	EA	7	MEP-1
089	233700	GRAVITY VENTILATOR	EA	4	MEP-1
090	233423	ROOF INTAKE FANS (MAKE UP AIR UNIT)	EA	1	MEP-1
	26 ELECTRICAL				
091	260505	ELECTRICAL DEMOLITION	SYS	1	
092	260519	LOW VOLTAGE ELECTRICAL POWER CONDUCTORS	SYS	1	MEP-1
093	260526	GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS	SYS	1	MEP-1
094	260529	HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS	SYS	1	MEP-1
095	260533.13	CONDUIT FOR ELECTRICAL SYSTEMS	SYS	1	MEP-1
096	260533.16	BOXES FOR ELECTRICAL SYSTEMS	SYS	1	MEP-1
097	260533.23	SURFACE RACEWAYS FOR ELECTRICAL SYSTEMS	SYS	1	MEP-1
098	260553	IDENTIFICATION FOR ELECTRICAL SYSTEMS	SYS	1	MEP-1
099	260583	WIRING CONNECTIONS	SYS	1	MEP-1
100	260923	LIGHTING CONTROL DEVICES	EA	2	MEP-1
101	262416	PANELBOARDS	EA	1	MEP-1
102	262726	WIRING DEVICES	EA	60	MEP-1
103	265100	INTERIOR LIGHTING	EA	50	MEP-1
	CITY OF TULSA ENGINEERING SERVICES STANDARD DETAILS				
104	230(A)	SOLID SLAB SODDING	SY	187	C-1, 2
105	315	SEWER SERVICE CONNECTION	EA	1	C-3, 4
106	610(A)	CONCRETE SIDEWALK (4")	SY	53	C-5, 6
107	619(B)	REMOVAL OF SIDEWALK	SY	53	C-7, 8

BUILDING PAY ITEM SCHEDULE - ADD ALT 1

ITEM NO.	SPEC. NO.	DESCRIPTION	UNIT	QUANTITY	NOTE
	02 EXISTING CONDITIONS				
108	024100	SELECTIVE DEMOLITION - INTERIOR REMODEL	SF	200	A-3
	06 WOOD, PLASTICS, & COMPOSITES				
109	064100	GIFT SHOP DISPLAY	SYS	1	A-22
110	064100	ARCHITECTURAL WOOD CASEWORK	LF	18	A-21
	08 OPENINGS				
111	081213	HOLLOW METAL DOOR FRAMES	EA	1	A-11
112	081416	FLUSH WOOD DOORS	EA	1	
113	084313	ALUMINUM FRAMED STOREFRONTS	SF	40	
114	087100	DOOR HARDWARE - SET 4.0	EA	1	
115	087100	DOOR HARDWARE - SET 6.0	EA	1	
	09 FINISHES				
116	090561	COMMON WORK RESULTS FOR FLOORING PREPARATION	SF	3,620	A-13
117	092116	A1 PARTITION	SF	150	A-14
118	092116	C2 PARTITION	SF	120	A-14
119	092116	GYP CEILING	SF	40	A-15
120	093000	TILING - T-4	SF	80	A-16
121	095100	ACOUSTICAL CEILINGS - ACP-1	SF	170	A-15
122	096500	RESILIENT BASE - WB-1	LF	420	A-18
123	096500	RESILIENT TILE FLOORING - FT-2	SF	3,400	A-16
124	096813	TILE CARPETING - CPT-2	SF	140	A-16
125	097200	WALL COVERINGS - WC-2	SF	560	
126	099123	INTERIOR PAINTING - P-1	SF	6,050	A-19
127	099123	INTERIOR PAINTING - P-2	SF	2,700	A-19
128	099123	INTERIOR PAINTING - P-3	EA	12	A-19
	10 SPECIALITIES				
129	101419	DIMENSIONAL SIGNAGE - 12" CHARACTERS	EA	23	
	21 FIRE PROTECTION				
130	211300	FIRE PROTECTION DEMOLITION	SYS	1	
131	211300	FIRE PROTECTION	SYS	1	MEP-1, FP-1,2
	23 HVAC				
132	233100	MECHANICAL DEMOLITION	SYS	1	
133	233100	DUCTWORK	LBS	8	MEP-1, M-1
134	233700	D/G/R	EA	1	MEP-1, M-1
135	230593	TESTING, ADJUSTING, AND BALANCING FOR HVAC	SYS	1	
136	230713	DUCT INSULATION	SF	4	MEP-1
	26 ELECTRICAL				
137	260505	ELECTRICAL DEMOLITION	SYS	1	
138	265100	INTERIOR LIGHTING	EA	2	MEP-1

BUILDING PAY ITEM SCHEDULE - ADD ALT 2

ITEM NO.	SPEC. NO.	DESCRIPTION	UNIT	QUANTITY	NOTE
	02 EXISTING CONDITIONS				
139	024100	SELECTIVE DEMOLITION - INTERIOR REMODEL	SF	700	A-3
140	024100	SELECTIVE DEMOLITION - GALLERY LIGHT FIXTURES	LF	160	A-23
	09 FINISHES				
141	092116	C2 PARTITION	SF	950	A-14
142	092116	GYP CEILING	SF	40	A-15
143	095100	ACOUSTICAL CEILINGS - ACP-1	SF	700	A-15
144	099123	INTERIOR PAINTING - P-1	SF	950	A-19
145	099123	INTERIOR PAINTING - P-2	SF	40	A-19
	21 FIRE PROTECTION				
146	211300	FIRE PROTECTION DEMOLITION	SYS	1	
147	211300	FIRE PROTECTION	SYS	1	MEP-1, FP-1, 2
	23 HVAC				
148	233100	MECHANICAL DEMOLITION	SYS	1	
149	233100	DUCTWORK	LBS	16	MEP-1, M-1
150	233700	D/G/R	EA	2	MEP-1, M-1
151	230593	TESTING, ADJUSTING, AND BALANCING FOR HVAC	SYS	1	
152	230713	DUCT INSULATION	SF	64	MEP-1
	26 ELECTRICAL				
153	260505	ELECTRICAL DEMOLITION	SYS	1	
154	260533.13	CONDUIT FOR ELECTRICAL SYSTEMS	SYS	1	MEP-1
155	260533.16	BOXES FOR ELECTRICAL SYSTEMS	SYS	1	MEP-1
156	260583	WIRING CONNECTIONS	SYS	1	MEP-1
157	265100	INTERIOR LIGHTING	EA	35	MEP-1

STATE OF OKLAHOMA
RANDALL LYMAN HULL
3036
TULSA, OK
LICENSED ARCHITECT

8/15/2025

JCJARCHITECTURE (C) 2025 JCJ Architecture
8801 SOUTH YALE AVENUE
SUITE 100
TULSA, OK 74137
918.936.2320

CONSULTANT:

GREENWOOD CULTURAL CENTER
FACILITY REHABILITATION
322 N GREENWOOD AVE
TULSA, OK 74120

PROJECT NO: SP 20-6 JCJ PROJECT NO: T21018.03

CITY OF TULSA
PARKS, CULTURE & RECREATION
CABS (City Architectural Building Services)

10/28/25

PLAN SCALE:						
	DRAWN			PROJ MGR		
	DESIGN			LEAD ENG		
	SURVEY			FIELD MGR		

PERMIT SET DATE: 08.15.2025

MK	REVISION	DATE
2	ADDENDUM 02	10.22.2025

SHEET NAME
PAY ITEMS

SHEET OF SHEETS

SHEET NUMBER
G-001

BUILDING PAY ITEM SCHEDULE - ADD ALT 3

ITEM NO.	SPEC. NO.	DESCRIPTION	UNIT	QUANTITY	NOTE
	02 EXISTING CONDITIONS				
158	024100	SELECTIVE DEMOLITION	SF	5,720	A-3
	08 OPENINGS				
159	081213	HOLLOW METAL DOOR FRAMES	EA	3	A-11
160	081416	FLUSH WOOD DOORS	EA	6	
161	084313	ALUMINUM FRAMED STOREFRONTS	SF	42	
162	087100	DOOR HARDWARE - SET 1.0	EA	1	
163	087100	DOOR HARDWARE - SET 2.0	EA	3	
164	087100	DOOR HARDWARE - SET 10.0	EA	3	
	09 FINISHES				
165	090561	COMMON WORK RESULTS FOR FLOORING PREPARATION	SF	9,850	A-13
166	092116	C1 PARTITION	SF	560	A-14
167	092116	C3 PARTITION	SF	320	A-14
168	092116	D1 PARTITION	SF	1,470	A-14
169	092116	GB-11 AT WEST WALL OF MULTIPURPOSE ROOM	SF	950	A-15
170	092116	GYP CEILING	SF	800	A-15
171	095100	ACOUSTICAL CEILINGS - ACP-1	SF	5,480	A-15
172	096500	RESILIENT BASE - WB-1	LF	560	A-18
173	096500	RESILIENT TILE FLOORING - FT-1	SF	2,830	A-16
174	096500	RESILIENT TILE FLOORING - FT-2	SF	7,020	A-16
175	097200	WALL COVERINGS - WC-1	SF	640	
176	097200	WALL COVERINGS - WC-3	SF	1,250	
177	099123	INTERIOR PAINTING - P-1	SF	5,830	A-19
178	099123	INTERIOR PAINTING - P-2	SF	11,670	A-19
179	099123	INTERIOR PAINTING - P-3	EA	8	A-19
	10 SPECIALITIES				
180	104400	FIRE EXTINGUISHER CABINET	EA	4	
181	104400	FIRE EXTINGUISHER	EA	4	
182	107316.13	METAL CANOPIES	EA	1	
	12 FURNISHINGS				2
183	-	TICKET TABLES - FURNITURE	EA	2	
	21 FIRE PROTECTION				
184	211300	FIRE PROTECTION DEMOLITION	SYS	1	
185	211300	FIRE PROTECTION	SYS	1	MEP-1, FP-1, 2
	23 HVAC				
186	233100	MECHANICAL DEMOLITION	SYS	1	
187	233100	DUCTWORK	LBS	605	MEP-1, M-1
188	233700	D/G/R	EA	64	MEP-1, M-1
189	230593	TESTING, ADJUSTING, AND BALANCING FOR HVAC	SYS	1	
190	230713	DUCT INSULATION	SF	2400	MEP-1
	26 ELECTRICAL				
191	260505	ELECTRICAL DEMOLITION	SYS	1	
192	260526	GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS	SYS	1	MEP-1
193	260529	HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS	SYS	1	MEP-1
194	260533.13	CONDUIT FOR ELECTRICAL SYSTEMS	SYS	1	MEP-1
195	260533.16	BOXES FOR ELECTRICAL SYSTEMS	SYS	1	MEP-1
196	260553	IDENTIFICATION FOR ELECTRICAL SYSTEMS	SYS	1	MEP-1
197	260583	WIRING CONNECTIONS	SYS	1	MEP-1
198	262416	PANELBOARDS	EA	1	MEP-1
199	262726	WIRING DEVICES	SYS	1	MEP-1
200	262813	FUSES	SYS	1	MEP-1
201	265100	INTERIOR LIGHTING	EA	88	MEP-1

BUILDING PAY ITEM SCHEDULE - ADD ALT 4

ITEM NO.	SPEC. NO.	DESCRIPTION	UNIT	QUANTITY	NOTE
	10 SPECIALITIES				
202	102239	OPERABLE PARTITIONS	SF	5,300	A-25

BUILDING PAY ITEM SCHEDULE - ADD ALT 5

ITEM NO.	SPEC. NO.	DESCRIPTION	UNIT	QUANTITY	NOTE
	02 EXISTING CONDITIONS				
203	024100	SELECTIVE DEMOLITION	SF	4,100	A-3
	09 FINISHES				
204	090561	COMMON WORK RESULTS FOR FLOORING PREPARATION	SF	4,280	A-13
205	092116	GYP CEILING	SF	480	A-15
206	095100	ACOUSTICAL CEILINGS - ACP-1	SF	3,600	A-15
207	096500	RESILIENT BASE - WB-1	LF	770	A-18
208	096500	RESILIENT TILE FLOORING - FT-2	SF	260	A-16
209	096813	TILE CARPETING - CPT-1	SF	4,020	A-16
210	099123	INTERIOR PAINTING - P-1	SF	6,020	A-19
211	099123	INTERIOR PAINTING - P-2	SF	500	A-19
212	099123	INTERIOR PAINTING - P-3	EA	18	A-19
	12 FURNISHINGS				
213	122400	ROLLER WINDOW SHADES - WT-1	EA	6	A-26
214	122400	ROLLER WINDOW SHADES - WT-2	EA	5	A-26
	21 FIRE PROTECTION				
215	211300	FIRE PROTECTION DEMOLITION	SYS	1	
216	211300	FIRE PROTECTION	SYS	1	MEP-1, FP-1, 2
	23 HVAC				
217	230130.51	DUCT CLEANING	SYS	1	
218	233100	MECHANICAL DEMOLITION	SYS	1	
219	233100	DUCTWORK	LBS	480	MEP-1, M-1
220	233700	D/G/R	EA	49	MEP-1, M-1
221	232300	REFRIGERATION PIPING	FT	40	
222	230593	TESTING, ADJUSTING, AND BALANCING FOR HVAC	SYS	1	
223	230713	DUCT INSULATION	SF	3105	MEP-1
224	230719	PIPE INSULATION	FT	40	MEP-1
225	235100	BREECHINGS, CHIMNEYS, STACKS	SYS	1	MEP-1

BUILDING PAY ITEM SCHEDULE - ADD ALT 5, CONTINUED

ITEM NO.	SPEC. NO.	DESCRIPTION	UNIT	QUANTITY	NOTE
	23 HVAC - CONTINUED				
226	238126.13	SMALL CAPACITY SPLIT SYSTEM AIR CONDITIONERS	EA	1	
227	238419	DEHUMIDIFIER	EA	1	
	26 ELECTRICAL				
228	260505	ELECTRICAL DEMOLITION	SYS	1	
229	265100	INTERIOR LIGHTING	EA	70	MEP-1

BUILDING PAY ITEM SCHEDULE - ADD ALT 6

ITEM NO.	SPEC. NO.	DESCRIPTION	UNIT	QUANTITY	NOTE
	02 EXISTING CONDITIONS				
230	024100	SELECTIVE DEMOLITION	SF	49	A-3
	06 WOOD, PLASTICS, & COMPOSITES				
231	064100	ARCHITECTURAL WOOD CASEWORK	LF	18	A-21
	22 PLUMBING				
232	221005	PLUMBING DEMOLITION	SYS	1	
233	221005	PLUMBING PIPING - DOMESTIC WATER	SYS	1	P-1
234	224000	PLUMBING FIXTURES - SINK, FAUCET	SYS	1	MEP-1

2

BUILDING PAY ITEM SCHEDULE NOTES

CIVIL KEY NOTES

C-1 ESTIMATED QUANTITY IS BASED ON SODDING OF ALL DISTURBED AREAS OUTSIDE THE FINAL PAVING LIMITS AND WITHIN THE FINAL GRADING LIMITS AS INDICATED BY THE TOP-OF-CUT/TOE-OF-SLOPE LINE ON THE PLANS (EXCLUDING SURFACES OF STRUCTURES, FIXTURES AND APPURTENANCES). SOD SHALL BE OF LIKE-KIND TO EXISTING SOD. PRICE BID INCLUDES PLACEMENT AND COMPACTION OF SUITABLE BACKFILL. ANY EXISTING GRASSED AREAS BEYOND THE ABOVE STATED LIMITS THAT ARE DAMAGED AS A RESULT OF CONSTRUCTION OPERATIONS SHALL BE RESODDED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S SOLE EXPENSE.

C-2 COST OF WATERING AND FERTILIZING SHALL BE INCLUDED. FERTILIZERS SHALL BE 10-20-10 AND SHALL BE APPLIED AT THE RATE OF 1.5 LBS PER 10 SQ YDS. FERTILIZER SHALL BE APPLIED PER SECTION 230.04H OF ODOT STANDARD SPECIFICATIONS. WATERING SHALL BE APPLIED AS NECESSARY UNTIL VEGETATION IS ESTABLISHED OR UNTIL THE WORK IS ACCEPTED AS COMPLETE.

C-3 INCLUDES COSTS FOR ALL FITTINGS, CLEAN OUTS, AND PIPE REQUIRED TO EXTEND SERVICE CONNECTION, COMPLETE IN PLACE, IN ACCORDANCE WITH CITY OF TULSA STANDARDS.

C-4 INCLUDES ALL COST FOR TRENCH EXCAVATION AND BACKFILL.

C-5 THE USE OF FLY-ASH IN CONCRETE IS PROHIBITED.

C-6 INCLUDES ALL COST OF SAWED JOINTS AND SEALING OF ALL JOINTS INCLUDING LONGITUDINAL JOINTS.

C-7 WASTE MATERIAL TO BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE IN A MANNER APPROVED BY THE ENGINEER.

C-8 ALL SAW CUTTING AND REMOVAL SHALL BE INCLUDED IN THE COST OF THE ITEM TO BE ADJUSTED, REMOVED, REPAIRED, OR REPLACED.

STRUCTURAL KEY NOTES

S-1 AMOUNT OF STEEL ANGLE FOR REINFORCING WEBS OF EXISTING STEEL JOISTS.

S-2 ALL SAW CUTTING AND REMOVAL SHALL BE INCLUDED IN THE COST OF THE ITEM TO BE ADJUSTED, REMOVED, REPAIRED, OR REPLACED AS REQUIRED.

S-3 TO INCLUDE EPOXY ADHESIVE FOR DOWELING IN NEW REBAR DOWELS INTO EXISTING SLAB EDGES AS REQUIRED.

S-4 INCLUDES ALL COST FOR TRENCH EXCAVATION AND BACKFILL COMPACTION OF SUBGRADE PRIOR TO NEW SLAB PLACEMENT.

S-5 WASTE MATERIAL TO BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE IN A MANNER APPROVED BY THE ENGINEER.

ARCHITECTURAL GENERAL NOTES

- QUANTITIES LISTED ARE ESTIMATES FOR NET IN PLACE TAKE-OFF QUANTITIES AND NOT QUANTITIES OF MATERIALS REQUIRED. NO EXTENDED QUANTITIES OR ADDITIONAL PAYMENT ALLOWED FOR GROSS QUANTITIES, EXCESS, OR UNUSED CONSTRUCTION WASTE.
- ITEMS LISTED TO INCLUDE LABOR, EQUIPMENT, MATERIAL, AND BLOCKING NECESSARY TO COMPLETE THE PROJECT IN ACCORDANCE WITH THE DOCUMENTS AND SPECIFICATIONS. INCLUDES REMOVAL AND DISPOSAL OF PACKAGING MATERIALS.
- UNIT PRICE TO INCLUDE AN AMOUNT CONSIDERED BY THE CONTRACTOR TO BE ADEQUATE TO COVER CONTRACTOR'S OVERHEAD AND PROFIT FOR EACH SEPARATELY IDENTIFIED ITEM.
- REFER TO SPECIFICATIONS FOR FULL DESCRIPTION OF SYSTEM COMPONENTS AND INSTALLATION REQUIREMENTS.

ARCHITECTURAL KEY NOTES

A-1 GENERAL CONDITIONS AND MISCELLANEOUS DIRECT AND INDIRECT PROJECT COSTS REQUIRED BY THE CONTRACT DOCUMENTS BUT NOT LISTED AS A SPECIFIC UNIT PRICE PAY ITEM IN THE PROPOSAL. INCLUDES, BUT IS NOT LIMITED TO: GENERAL CONDITIONS COVERING MISCELLANEOUS NON-STAFFING COSTS DIRECTLY RELATED TO THE PROJECT, SUCH AS JOB TRAILER, MOBILIZATION, PERMIT FEES (OTHER THAN BUILDING PERMIT PROVIDED BY CITY OF TULSA), TEMPORARY UTILITIES, PERMANENT UTILITY CONNECTION FEES, BARRIERS, SCAFFOLDING, EQUIPMENT RENTAL, CLEANING AND DUMPSTERS, ETC.

A-2 ALLOWANCE INCLUDED FOR UNFORESEEN CONDITIONS REQUIRING ADDITIONAL WORK NOT DEFINED IN THE CONTRACT DOCUMENTS. USED ONLY AT THE DISCRETION OF THE OWNER, IN STRICT ACCORDANCE WITH THE REFERENCED SPECIFICATION SECTION.

A-3 QUANITIY LISTED IS FOR GENERAL FLOOR AREA OF BUILDING WHERE SELECTIVE DEMOLITION IS TO OCCUR. TO INCLUDE WORK REQUIRED FOR SELECTIVE DEMOLITION OR SALVAGE OF SITE, BUILDING, AND UTILITY ELEMENTS REQUIRED FOR EACH PORTION OF THE PROJECT. SELECTIVE DEMOLITION WORK FOR THE BASE BID AND EACH ALTERNATE TO BE LISTED SEPERATELY IN THE RESPECTIVE SECTION OF THIS SCHEDULE. DEMOLITION WORK FOR THIS PAY ITEM IS SEPARATE FROM DEMOLITION WORK REQUIRED FOR REROOFING OR REFLOORING.

A-4 - NOTE NOT USED -

A-5 - NOTE NOT USED -

A-6 REMOVE WOOD NAILERS AND REPLACE WITH NEW TREATED LUMBER OF EQUAL SIZE.

A-7 REMOVAL OF EXISTING ROOFING SYSTEM IN PREPARATION FOR NEW ROOF. INCLUDES REMOVAL AND DISPOSAL OF EXISTING ROOFING AND WATER PROOFING SYSTEM DOWN TO STRUCTURAL DECK, PARAPETS, AND OTHER SUBSTRATES. INCLUDES EXISTING ABANDONED EQUIPMENT PLATFORMS, MECHANICAL EQUIPMENT, CURBS, AND OTHER OBJECTS INTERFERING WITH NEW CONSTRUCTION AND INDICATED TO BE REMOVED. CONTRACTOR SHALL EXAMINE EXISTING SUBSTRATE(S) AND ADJACENT MATERIALS FOR RUST, DRY ROT, AND OTHER DAMAGE WHICH COULD HINDER THE SUCCESSFUL APPLICATION OF NEW ROOFING SYSTEM. CONTACT ARCHITECT IMMEDIATELY UPON DISCOVERY OF DAMAGE.

A-8 INCLUDES INSTALLATION AND ACCESSORIES, COMPONENTS, FLASHING, COUNTER-FLASHING, COVERBOARD, RIGID INSULATION, CRICKETS, FASTENERS, ADHESIVES, ROOFING SPECIALTIES, COPINGS, CURBS, AND WALK MATS. CONTRACTOR TO CONFIRM HIS OWN QUANTITIES AND BID THE ENTIRE ROOF SYSTEM ACCORDINGLY.

A-9 INCLUDES WORK REQUIRED TO MODIFY EXISTING PARAPETS FOR SCUPPER INSTALLATION.

A-10 REMOVE EXISTING SEALANTS AS REQUIRED. CLEAN, PRIME, AND PREPARE SURFACES FOR NEW SEALANT APPLICATION. SEAL MASONRY WHERE CRACKS OR SETTLEMENT HAS OCCURRED.

A-11 INCLUDES INSTALLATION OF DOOR, FRAME, AND HARDWARE.

A-12 INCLUDES REMOVAL OF EXISTING GLAZING PANES, GASKETS, AND SEALS. REINSTALL NEW PANES WITH NEW GASKETS AND SEALS AS REQUIRED.

A-13 INCLUDES WORK AND MATERIALS REQUIRED TO REMOVE EXISTING FLOORING, PREPARE EXISTING SLAB FOR NEW FLOORING INCLUDING FILLING AND SMOOTHING OF IRREGULARITIES WITH PATCHING COMPOUND AS WELL AS TESTING OF THE EXISTING SLAB.\

A-14 QUANTITY GIVEN IS BASED ON SQUARE FOOTAGE OF PARTITION CALCULATED AS LENGTH OF PARTITION MULTIPLIED BY HEIGHT OF PARTITION FOR ONE SIDE OF PARTITION. REFER TO PARTITION TYPES FOR ACTUAL COMPOSITION OF EACH PARTITION TYPE.

A-15 INCLUDES COMPLETE CEILING SYSTEM WITH FRAMING OR BRACING AS REQUIRED.

A-16 INCLUDES ASSOCIATED FLOORING TRANSITIONS.

A-17 INCLUDES ASSOCIATED TRIM.

BUILDING PAY ITEM SCHEDULE NOTES - CONTINUED

ARCHITECTURAL KEY NOTES - CONTINUED

A-18 INCLUDES ASSOCIATED RUBBER BASE TRANSITIONS AND COMPONENTS FOR INSTALLATION.

A-19 INCLUDES PATCHING, REPAIR, AND PREPARATION FOR PAINTING OF SURFACES.

A-20 INCLUDES PANELS, ACCESSORIES, HARDWARE, AND COMPONENTS FOR INSTALLATION OF TOILET COMPARTMENTS.

A-21 INCLUDES HARDWARE, COMPONENTS, AND MATERIAL FOR COUNTERS, CASEWORK, AND FRAMING.

A-22 INCLUDES COST OF DISPLAY SHELVING SYSTEM AND MILLWORK DOORS AS WELL AS ASSOCIATED HARDWARE REQUIRED FOR ASSEMBLY.

A-23 INCLUDES REMOVAL OF EXISTING LIGHT FIXTURES AND VALANCE.

A-24 INCLUDES PAINTING OF EXISTING EXPOSED ROOF DECK AND STRUCTURE.

A-25 QUANTITY GIVEN IS BASED ON SQUARE FOOTAGE OF PARTITION CALCULATED AS LENGTH OF PARTITION MULTIPLIED BY HEIGHT OF PARTITION FOR ONE SIDE OF PARTITION INCLUDES REMOVAL AND DISPOSAL OF EXISTING PANELS, REPAIR OF EXISTING TRACK SYSTEM TO REMAIN, AND ANY MODIFICATIONS REQUIRED TO INSTALL NEW PANELS.

A-26 INCLUDES REMOVAL AND DISPOSAL OF EXISTING WINDOW SHADE SYSTEMS.

A-27 INCLUDES REMOVAL AND DISPOSAL OF EXISTING STOREFRONT WINDOW SYSTEM, PREPARARTION OF EXISTING OPENING, REPAIR OF MOISTURE DAMAGE, ADDITIONAL FLASHING INSTALLATION, AND TIE IN TO NEW ROOFING SYSTEM.

MECHANICAL, ELECTRICAL, & PLUMBING KEY NOTES

M-1 INCLUDES HANGERS, ACCESSORIES, IDENTIFICATION, ETC FOR A COMPLETE INSTALLATION

MEP-1 FURNISH ALL LABOR, EQUIPMENT, MATERIALS NECESSARY TO COMPLETE THE PROJECT IN ACCORDANCE WITH THE DOCUMENTS AND SPECIFICATIONS. INCLUDES REMOVAL OF PACKAGING MATERIAL, CONSTRUCTION DEBRIS, ETC.

PLUMBING KEY NOTES

P-1 INCLUDES HANGERS, ACCESSORIES, IDENTIFICATION, ETC FOR A COMPLETE INSTALLATION.

FIRE PROTECTION KEY NOTES

FP-1 INCLUDES COMPLETE DESIGN BY A LICENSED FIRE PROTECTION ENGINEER.

FP-2 INCLUDES SPRINKLER HEADS, PIPING, HANGERS, VALVES, IDENTIFICATION, ETC FOR A COMPLETE INSTALLATION.

STATE OF OKLAHOMA
RANDALL LYMAN HULL
3036
TULSA, OK
LICENSED ARCHITECT

8/15/2025

JCJARCHITECTURE

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8801 SOUTH YALE AVENUE
SUITE 100
TULSA, OK 74137
918.936.2320

CONSULTANT:

GREENWOOD CULTURAL CENTER
FACILITY REHABILITATION
322 N GREENWOOD AVE
TULSA, OK 74120

PROJECT NO: SP 20-6 JCJ PROJECT NO: T21018.03

CITY OF TULSA
PARKS, CULTURE & RECREATION
CAPS (City Architectural Building Services)

10/22/25

PLAN SCALE:						
	DRAWN			PROJ MGR		
	DESIGN			LEAD ENG		
	SURVEY			FIELD MGR		

PERMIT SET DATE: 08.15.2025

MK	REVISION	DATE
2	ADDENDUM 02	10.22.2025

SHEET NAME
PAY ITEMS

SHEET OF SHEETS

SHEET NUMBER
G-002

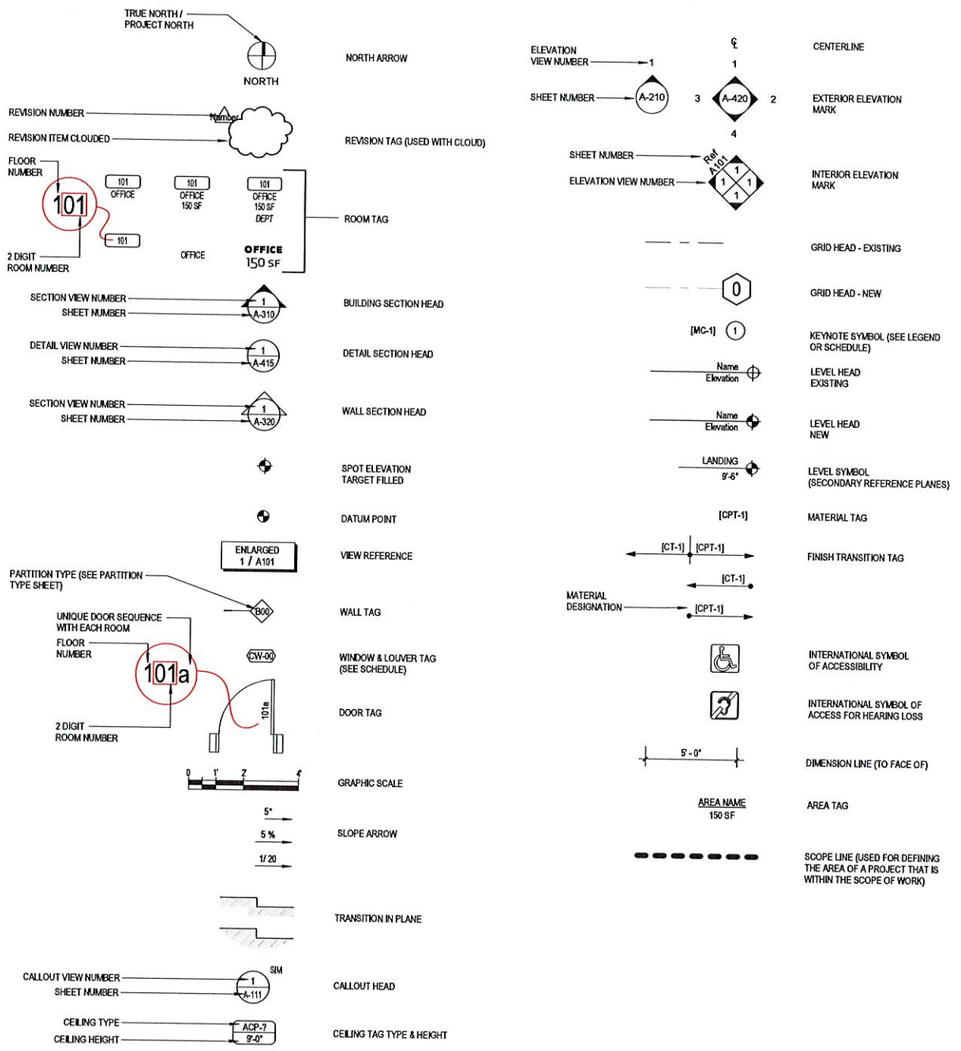
DEMOLITION GENERAL NOTES

1. CONTRACTOR TO FIELD SURVEY EXISTING FACILITY & COORDINATE DEMOLITION AS REQUIRED FOR INSTALLATION OF NEW CONSTRUCTION.
2. MATERIAL & EQUIPMENT THAT IS SCHEDULED FOR DEMOLITION SHALL BE REMOVED FROM THE SITE & DISPOSED OF PER DIRECTION OF OWNER'S REPRESENTATIVE. COMPLY WITH LOCAL & STATE REQUIREMENTS FOR REMOVAL & DISPOSAL.
3. IF DURING THE DEMOLITION PHASE OF THE PROJECT THE CONTRACTOR DISCOVERS MECHANICAL, ELECTRICAL, PLUMBING, OR FIRE PROTECTION SYSTEMS THAT ARE PART OF THE EXISTING BUILDING SYSTEM TO REMAIN OPERATIONAL, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN THIS SYSTEM IN WORKING ORDER AT ALL TIMES.
4. PROTECT ADJACENT SPACES, SURFACES, STRUCTURES, EQUIPMENT, & FURNISHINGS TO REMAIN FROM DAMAGE OR SOILING DUE TO WORK UNDER THIS CONTRACT. REPAIR, REFINISH, & REPLACE DAMAGED ITEMS DUE TO ADJACENT DEMOLITION.
5. PROTECT EXISTING BUILDING UTILITIES TO REMAIN INCLUDING: FIRE PROTECTION SYSTEMS, DUCTWORK, MAINS, SUPPLIES, RETURNS, & DIFFUSERS. REPAIR OR REPLACE EQUIPMENT TO REMAIN DAMAGED DURING DEMOLITION.
6. CONTRACTOR TO PROVIDE REQUIRED SHORING & BRACING PRIOR TO DEMOLITION. CONTRACTOR TO NOTIFY ARCHITECT IN WRITING IMMEDIATELY IF UNFORESEEN STRUCTURAL ISSUES ARE ENCOUNTERED DURING DEMOLITION FOR POSSIBLE FURTHER DIRECTION.
7. COORDINATE MECHANICAL, ELECTRICAL, PLUMBING, & FIRE PROTECTION SYSTEMS NOTED TO BE DEMOLISHED WITH MEP & FIRE PROTECTION DRAWINGS PRIOR TO DEMOLITION. NOTIFY ARCHITECT IN WRITING OF OBSERVED DISCREPANCIES PRIOR TO PROCEEDING WITH THE WORK.
8. REMOVE EXISTING FLOOR FINISH & ADHESIVES WHERE INDICATED IN THE DRAWINGS. PATCH, CLEAN, & PREPARE CONCRETE SLAB AS NECESSARY TO RECEIVE NEW FINISH PER FINISH SCHEDULE.
9. MOVEABLE FURNITURE, ART, AND ARTIFACTS SHALL BE REMOVED BY THE OWNER PRIOR TO DEMOLITION.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR SELECTIVE DEMOLITION WORK REQUIRED TO INSTALL NEW MEP, LIGHTING, & FOOD SERVICE WORK. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS WHICH MAY BE AFFECTED BY THE PROJECT. COORDINATE WITH THE OWNER FOR ACCESS AND SCHEDULING OF WORK TO HAPPEN OUTSIDE OF THE AREA OF WORK DEFINED ON THESE SHEETS. CONTRACTOR RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF FINISHES AFFECTED BY INSTALLATION WORK REQUIRED AS A PART OF THIS PROJECT.

DEMOLITION KEY NOTES MASTER LIST

#	KEY NOTE
D1	REMOVE PORTION OF EXISTING METAL STUD WALL.
D2	EXISTING DISPLAY CASE, TO REMAIN, REMOVE EXISTING TRIM.
D3	REMOVE EXISTING DOOR AND FRAME.
D4	REMOVE EXISTING PLUMBING FIXTURE, SEE PLUMBING DRAWINGS FOR TERMINATION INFORMATION.
D5	REMOVE EXISTING MILLWORK.
D6	REMOVE EXISTING SOFFIT, ABOVE. REMOVE EXISTING FRAMING BACK TO WALL OR CEILING, PREPARE FOR INSTALLATION OF NEW GYPSUM BOARD
D7	REMOVE EXISTING TOILET ACCESSORIES, TOILET PARTITIONS, AND MIRRORS.
D8	REMOVE EXISTING FLOORING, PREPARE SLAB FOR INSTALLATION OF NEW FLOORING.
D9	REMOVE EXISTING TILE UP TO THIS POINT, SAW CUT EXISTING FLOOR TILE TO ALLOW TILE TO REMAIN IN CORRIDOR, PREPARE FOR INSTALLATION OF NEW WALL FRAMING.
D10	REMOVE EXISTING WALL TILE AND GYPSUM BOARD FROM WALLS THAT ARE TO REMAIN, PREPARE FOR INSTALLATION OF NEW GYPSUM BOARD AND WALL FINISHES.
D11	EXISTING IT RACK TO REMAIN, PROTECT EQUIPMENT FROM DUST AND DAMAGE DURING CONSTRUCTION, RACK TO BE ROTATED TO FACE NEW DOOR.
D12	EXISTING CEILING SYSTEM TO BE REMOVED.
D13	EXISTING LIGHT FIXTURE TO BE REMOVED, SEE ELECTRICAL DRAWINGS FOR MODIFICATION OF WIRING AND CIRCUITS.
D14	MODIFY EXISTING PARAPET WALL FOR INSTALLATION OF NEW THROUGH WALL OVERFLOW SCUPPER, SEE 4/A-541 FOR PENETRATION DIMENSIONS FOR NEW SCUPPERS.
D15	EXISTING CURB FOR ROOF MOUNTED EQUIPMENT TO BE REMOVED, PREPARE ROOF DECK FOR INSTALLATION OF NEW CURB, COORDINATE CURB DIMENSIONS W/ REQUIREMENTS OF NEW UNITS, SEE STRUCTURAL DRAWINGS FOR ROOF DECK MODIFICATIONS, SEE MECHANICAL DRAWINGS FOR NEW RTUS.
D16	EXISTING COPING TO BE REMOVED, REMOVE EXISTING WOOD NAILERS.
D17	EXISTING ROOF DRAIN TO REMAIN, MODIFY DRAIN AS REQUIRED FOR INSTALLATION OF NEW RETROFIT ROOF DRAIN AND ROOFING MATERIAL, TYPICAL.
D18	REMOVE PORTION OF EXISTING METAL ROOFING AT LOW ROOF AS REQUIRED TO INSTALL PARAPET RAKE FLASHING AND COUNTER FLASHING ALONG MASONRY WALL. SALVAGE METAL ROOFING FOR REINSTALLATION, PREPARE WALL AND ROOF DECK FOR INSTALLATION OF PARAPET RAKE FLASHING AND COUNTER FLASHING INSTALLED IN NEW SAW CUT.
D19	EXISTING STOREFRONT WINDOW SYSTEM TO BE REMOVED, PREPARE OPENING FOR INSTALLATION OF NEW STOREFRONT WINDOW SYSTEM.
D20	EXISTING SIGNAGE TO BE REMOVED AND SALVAGED FOR REUSE, REPAIR WALL AS REQUIRED.
D21	REMOVE EXISTING WALL PANELS, REPAIR WALL AS REQUIRED AND PREPARE FOR NEW PAINT FINISH.
D22	REMOVE EXISTING DISPLAY CASE AND PREPARE OPENING AS REQUIRED FOR INFILL.
D23	REMOVE EXISTING TRIM, REPAIR WALL AS REQUIRED AND PREPARE FOR NEW PAINT FINISH.
D24	REMOVE EXISTING TILE ACCENTS, REPAIR WALL AS REQUIRED AND PREPARE FOR NEW PAINT FINISH.
D25	REMOVE EXISTING WALL BASE, REPAIR WALL AS REQUIRED AND PREPARE FOR INSTALLATION OF NEW WALL BASE.
D26	EXISTING WALK OFF CARPET SYSTEM TO REMAIN.
D27	EXISTING LIGHT FIXTURES AND MILLWORK TO BE REMOVED AS A PART OF BID ALTERNATE 2, PREPARE OPENING FOR INFILL.
D28	EXISTING COLUMN FURRING TO BE REMOVED, REMOVE GYPSUM BOARD, REVEALS, AND FRAMING, PREPARE FOR INSTALLATION OF NEW COLUMN FURRING.
D29	PORTION OF EXISTING WALL TO HAVE EXISTING GYPSUM BOARD AND REVEALS REMOVED, EXISTING FRAMING AND INSULATION TO REMAIN, PREPARE FOR INSTALLATION OF NEW GYPSUM BOARD FINISH.
D30	REMOVE EXISTING EXTERIOR HOLLOW METAL DOOR AND FRAME, PREPARE OPENING FOR INSTALLATION OF NEW DOOR AND FRAME, REPAIR EXISTING DAMAGED METAL STUD FRAMING AND GYPSUM BOARD.
D31	PORTION OF EXISTING CEILING FRAMING TO BE MODIFIED AS REQUIRED FOR INSTALLATION OF NEW WALLS.
D32	EXISTING SIGNAGE AND ARTWORK TO BE REMOVED, CONTRACTOR TO STORE ON SITE FOR REINSTALLATION.
D33	EXISTING OPERABLE PARTITIONS TO BE REMOVED AS A PART OF BID ALTERATE 4, EXISTING TRACK SYSTEM TO REMAIN, REPAIR TRACKS AS REQUIRED AND PREPARE FOR INSTALLATION OF NEW PARTITIONS.
D34	REMOVE AND REPLACE GLAZING IN EXISTING STOREFRONT WINDOW SYSTEM.
D35	REMOVE EXISTING DAMAGED GYPSUM BOARD AND PREPARE FOR INSTALLATION OF NEW WALL FINISH.
D36	REMOVE EXISTING GUTTER AND WALL CAP TRIM AT HIGH ROOF, INVESTIGATE SOURCE OF ROOF LEAK AND EXTENT OF WATER DAMAGE, PREPARE FOR ROOF REPLACEMENT AND WALL DAMAGE REPAIR, PREPARE FOR INSTALLATION OF NEW GUTTER AND WALL CAP TRIM.
D37	REMOVE AND REPLACE SEALANT AND FLASHING AT ROOF TO WALL CONNECTION POINTS AND EXPANSION JOINTS.
D38	EXISTING ROOF HATCH TO REMAIN, REPLACE EXISTING WOOD NAILERS WITH NEW PT WOOD NAILERS.
D39	REMOVE EXISTING FIRE EXTINGUISHER CABINET, PREPARE WALL FOR NEW FINISH, SALVAGE FIRE EXTINGUISHER FOR OWNER'S USE
D40	REMOVE EXISTING STOREFRONT WINDOW SYSTEM, PREPARE OPENING FOR INSTALLATION OF NEW STOREFRONT AND FLASHING SYSTEM.
D41	REMOVE EXISTING BASE CABINETS AND WALL CABINETS AND SINK, PREPARE WALL FOR NEW PAINT FINISH WHERE APPLICABLE
D42	REMOVE EXISTING BASE CABINETS AND WALL CABINETS, PREPARE SOFFIT AND WALL FOR NEW PAINT FINISH
D43	REMOVE EXISTING RANGE
D44	REMOVE SOAP DISPENSER, PAPER TOWEL DISPENSER AND FIRE EXTINGUISHER, STORE FOR REINSTALLATION, PREPARE WALL FOR NEW PAINT FINISH WHERE APPLICABLE

DRAWING SYMBOLS



STATE OF OKLAHOMA
RANDALL LYMAN HULL
3036
TULSA, OK
LICENSED ARCHITECT

8/15/2025

JCJARCHITECTURE (C 2025 JCJ Architecture
8801 SOUTH YALE AVENUE
SUITE 100
TULSA, OK 74137
918.936.2320

CONSULTANT:

GREENWOOD CULTURAL CENTER
FACILITY REHABILITATION
322 N GREENWOOD AVE
TULSA, OK 74120

PROJECT NO: SP 20-6 JCJ PROJECT NO: T21018.03

CITY OF TULSA
PARKS, CULTURE & RECREATION
(ABC Utility Architectural Building Services)

10/22/25

PLAN SCALE:					
As indicated	DRAWN		PROD MGR		
	DESIGN		LEAD ENG		
	SURVEY		FIELD MGR		

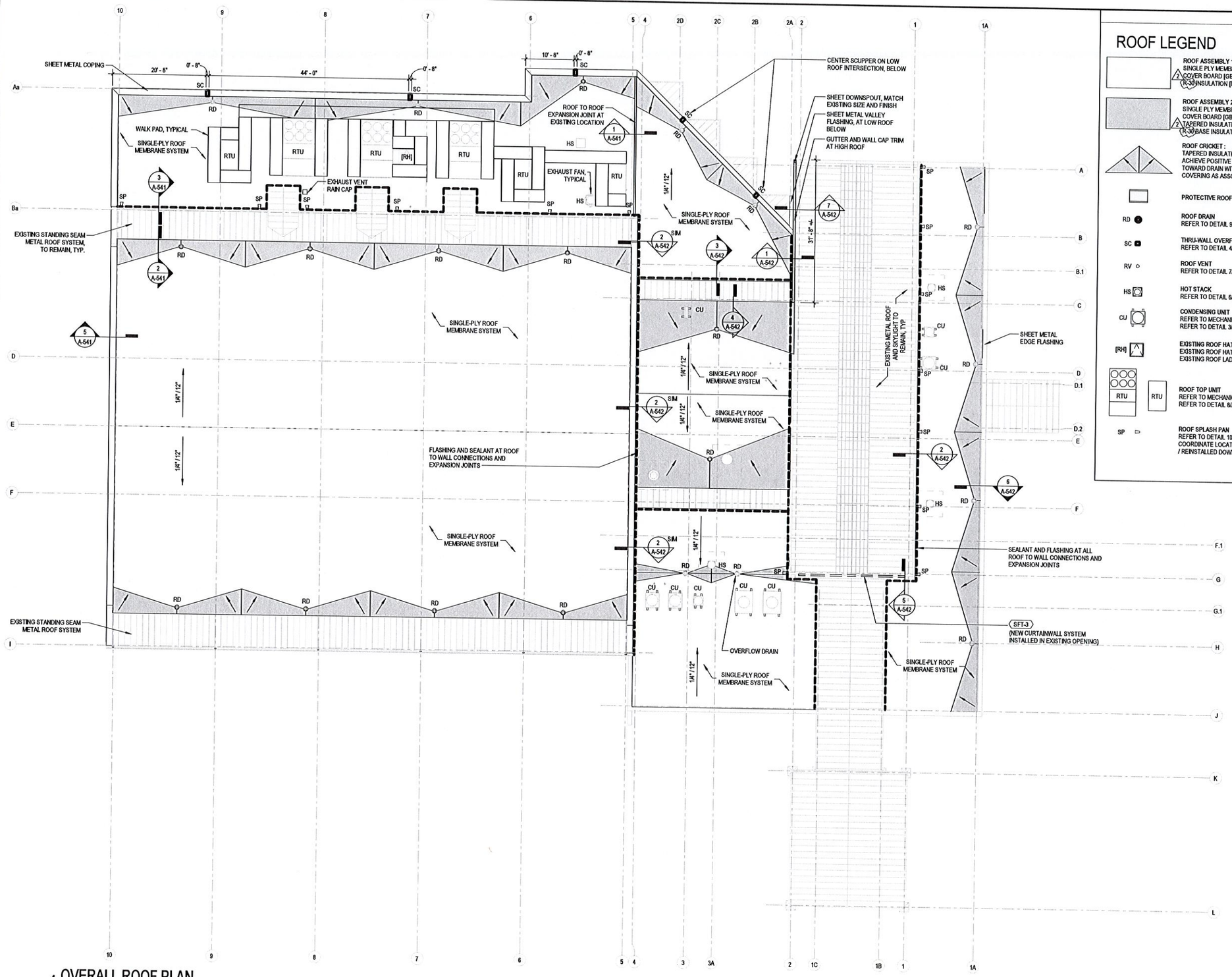
PERMIT SET DATE: 08.15.2025

MK	REVISION	DATE
2	ADDENDUM 02	10.22.2025

SHEET NAME
GENERAL ARCHITECTURAL LEGENDS

SHEET OF SHEETS

SHEET NUMBER
A-001



1 OVERALL ROOF PLAN
3/32" = 1'-0"

NORTH

ROOF LEGEND

- ROOF ASSEMBLY 1: SINGLE PLY MEMBRANE / 2 COVER BOARD [GB-14] / R-30 INSULATION [IN-3b]
- ROOF ASSEMBLY 2: SINGLE PLY MEMBRANE COVER BOARD [GB-14] / 2 TAPERED INSULATION / R-30 BASE INSULATION [IN-3b]
- ROOF CRICKET: TAPERED INSULATION TO ACHIEVE POSITIVE SLOPE TOWARD DRAIN WITH SAME ROOF COVERING AS ASSOCIATED ROOF
- PROTECTIVE ROOF WALK PAD
- RD — ROOF DRAIN — REFER TO DETAIL 9/A-540
- SC — THRU-WALL OVERFLOW SCUPPER — REFER TO DETAIL 4/A-541
- RV — ROOF VENT — REFER TO DETAIL 7/8/A-540
- HS — HOT STACK — REFER TO DETAIL 6/A-540
- CU — CONDENSING UNIT — REFER TO MECHANICAL FOR UNIT / REFER TO DETAIL 3/A-540 FOR CURBS
- [RH] — EXISTING ROOF HATCH [RH] — EXISTING ROOF HATCH / EXISTING ROOF LADDER BELOW
- RTU — ROOF TOP UNIT — REFER TO MECHANICAL FOR UNIT / REFER TO DETAIL 8/A-540 FOR CURBS
- SP — ROOF SPLASH PAN — REFER TO DETAIL 10/A-540 — COORDINATE LOCATION WITH EXISTING / REINSTALLED DOWNSPOUT

SEE A-000 FOR GENERAL LEGENDS, ABBREVIATIONS AND SYMBOLS

ROOF GENERAL NOTES

1. THESE GENERAL NOTES APPLY TO ALL ROOF PLAN DRAWINGS AND OTHER DRAWINGS THAT INCLUDE ROOFING WHERE ROOF INFORMATION IS INDICATED.
2. MINIMUM ROOF SLOPE SHALL BE NO LESS THAN 1/4 VERTICAL INCH PER 1 HORIZONTAL FOOT.
3. ROOF DETAILS SHOULD BE CONSIDERED GENERIC AND SIMILAR. IT IS THE CONTRACTORS RESPONSIBILITY TO REVIEW ALL DRAWINGS IN THE CONTRACT DOCUMENT SET INCLUDING WALL SECTIONS, BUILDING SECTIONS, STRUCTURAL DRAWINGS, ETC... TO FULLY UNDERSTAND THE ADJACENT CONSTRUCTION AT EACH DETAIL LOCATION. DIMENSIONS, DECK CONSTRUCTION (TAPERED INSULATION VS SLOPED STEEL...), WALL CONSTRUCTION, ETC. ARE ALL SUBJECT TO VARIATIONS AS INDICATED ELSEWHERE.
4. NEW SEALANT AND BACKER ROD AT MASONRY CONTROL JOINTS.
5. NEW SEALANT AT EXISTING STOREFRONT WINDOWS.
6. NEW WINDOW GASKETS AT EXISTING STOREFRONT WINDOW FRAMES.

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SUITE 100
TULSA, OK 74137
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CONSULTANT:

GREENWOOD CULTURAL CENTER FACILITY REHABILITATION

322 N GREENWOOD AVE
TULSA, OK 74120

PROJECT NO: SP 20-6
JCJ PROJECT NO: T21018.03

CITY OF TULSA
PARKS, CULTURE & RECREATION
(A&E/City Architectural Building Services)

10/22/25

PLAN SCALE:						
As indicated	DRAWN			PROJ MGR		
	DESIGN			LEAD ENG		
	SURVEY			FIELD MGR		

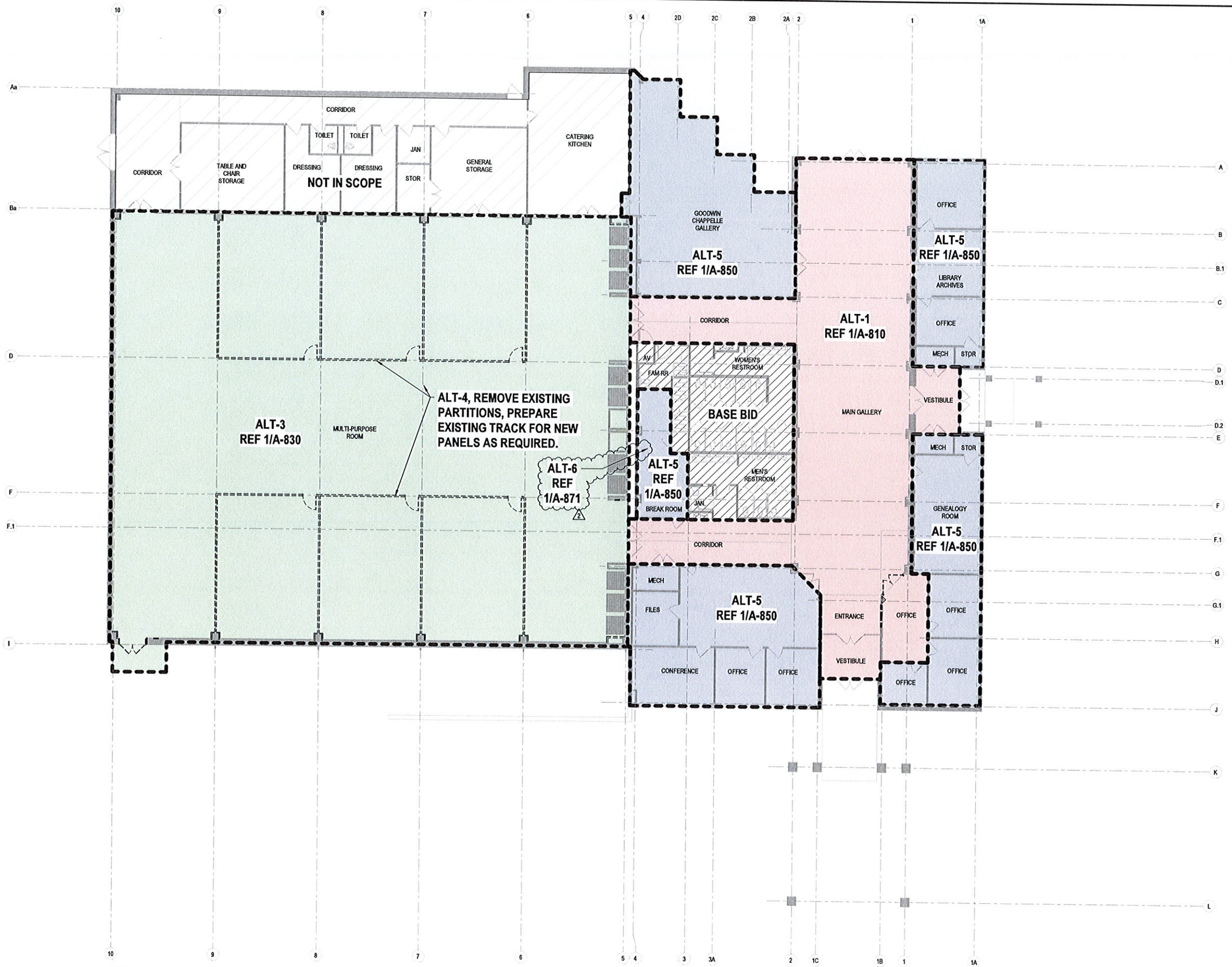
PERMIT SET DATE: 08.15.2025

MK	REVISION	DATE
2	ADDENDUM 02	10.22.2025

SHEET NAME
OVERALL ROOF PLAN

SHEET OF SHEETS

SHEET NUMBER
A-119



1 ADD ALTERNATE OVERALL DEMOLITION FLOOR PLAN
3/32" = 1'-0"

NORTH

SEE A-001 FOR DEMOLITION GENERAL NOTES AND KEY NOTES MASTER LIST

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3036
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8/15/2025

JCJARCHITECTURE

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SUITE 100
TULSA, OK 74137
918.936.2320

CONSULTANT:

GREENWOOD CULTURAL CENTER
FACILITY REHABILITATION
322 N GREENWOOD AVE
TULSA, OK 74120

PROJECT NO: SP 20-6 JCJ PROJECT NO: T21018.03

CITY OF TULSA
PARKS, CULTURE & RECREATION
Class Kirby Architectural Building Services

10/29/25

PLAN SCALE:						
As indicated	DRAWN			PROJ MGR		
	DESIGN			LEAD ENG		
	SURVEY			FIELD MGR		

PERMIT SET DATE: 08.15.2025

MK	REVISION	DATE
2	ADDENDUM 02	10.22.2025

SHEET NAME
ADD ALTERNATES DEMO OVERALL FLOOR PLAN

SHEET OF SHEETS

SHEET NUMBER
A-800

NOT IN SCOPE

ALT-4, NEW OPERABLE PARTITION PANELS INSTALLED ON EXISTING TRACK SYSTEM. DESIGN PANEL LAYOUT TO WORK WITH 5-ROOM AND CENTER DIVISION LAYOUT, REFER TO SPECIFICATIONS. PROVIDE EXIT SIGN RECESSED IN PANEL AT EACH DOOR.

ALT-3
REF 1/A-833

ALT-6
REF
2/A-871

ALT-5
REF 1/A-850

ALT-1
REF 1/A-810

BASE BID

ALT-5
REF
1/A-852

ALT-5
REF
1/A-850

ALT-5
REF 1/A-850

ALT-5
REF 1/A-850

190' - 11"

122' - 8"

120' - 0"

1 ADD ALTERNATES OVERALL FLOOR PLAN
3/32" = 1'-0"

NORTH

STATE OF OKLAHOMA
RANDALL LYMAN HULL
3036
TULSA, OK
LICENSED ARCHITECT

8/15/2025

JCJARCHITECTURE (C) 2025 JCJ Architecture
8801 SOUTH YALE AVENUE
SUITE 100
TULSA, OK 74137
918.936.2320

CONSULTANT:

GREENWOOD CULTURAL CENTER
FACILITY REHABILITATION
322 N GREENWOOD AVE
TULSA, OK 74120

PROJECT NO: SP 20-6 JCJ PROJECT NO: T21018.03

CITY OF TULSA
PARKS, CULTURE & RECREATION
CABS (City Architectural Building Services)

10/28/25

PLAN SCALE:						
3/32" = 1'-0"	DRAWN			PROJ MGR		
	DESIGN			LEAD ENG		
	SURVEY			FIELD MGR		

PERMIT SET DATE: 08.15.2025

MK	REVISION	DATE
2	ADDENDUM 02	10.22.2025

SHEET NAME
ADD ALTERNATES OVERALL FLOOR PLAN

SHEET OF SHEETS

SHEET NUMBER
A-802

NOT IN ALT-3

FIRE EXTINGUISHER CABINET WITH FIRE EXTINGUISHER

151 VESTIBULE

COUNTERTOP

FACE OF WALL TO ALIGN WITH EDGE OF CEILING, ABOVE

RELOCATED ELECTRICAL PANEL, COORDINATE FINAL LOCATION WITH ARCHITECT

REPAIR DAMAGE TO EXISTING GYPSUM BOARD, CORNER BEADS, AND REVEALS. PREPARE WALLS FOR NEW PAINT FINISH.

149 MULTI-PURPOSE ROOM

REINSTALL OWNER'S ARTWORK AND RAISED LETTER SIGNAGE

OPERABLE PARTITION STORAGE POCKET, TYP.

[GB-11] W/ LEVEL 5 GYPSUM FINISH, OVER EXISTING METAL STUDS, THIS WALL ONLY

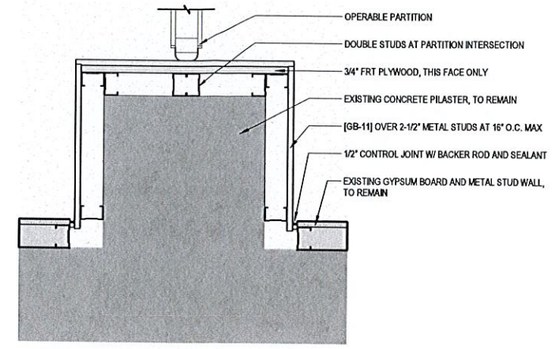
150 VESTIBULE

HERMAN MILLER PASSPORT TABLE, WITH SCREEN AND GLIDES, CFCI
ITEM NUMBER: HJALNNS.2027GM8Q988Q
SIZE: LARGE
COLOR: TBD BY ARCHITECT

PRE-ENGINEERED METAL CANOPY SYSTEM

1 ALT-3 ENLARGED FLOOR PLAN
1/8" = 1'-0"

NORTH



2 PILASTER FURRING
1 1/2" = 1'-0"

STATE OF OKLAHOMA
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3036
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8/15/2025

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8801 SOUTH YALE AVENUE
SUITE 100
TULSA, OK 74137
918.936.2320

CONSULTANT:

GREENWOOD CULTURAL CENTER FACILITY REHABILITATION
322 N GREENWOOD AVE
TULSA, OK 74120

PROJECT NO: SP 20-6 JCJ PROJECT NO: T21018.03

CITY OF TULSA
PARKS, CULTURE & RECREATION
(As Noted Architectural Building Services)

10/28/25

PLAN SCALE:					
As indicated	DRAWN			PROJ MGR	
	DESIGN			LEAD ENG	
	SURVEY			FIELD MGR	

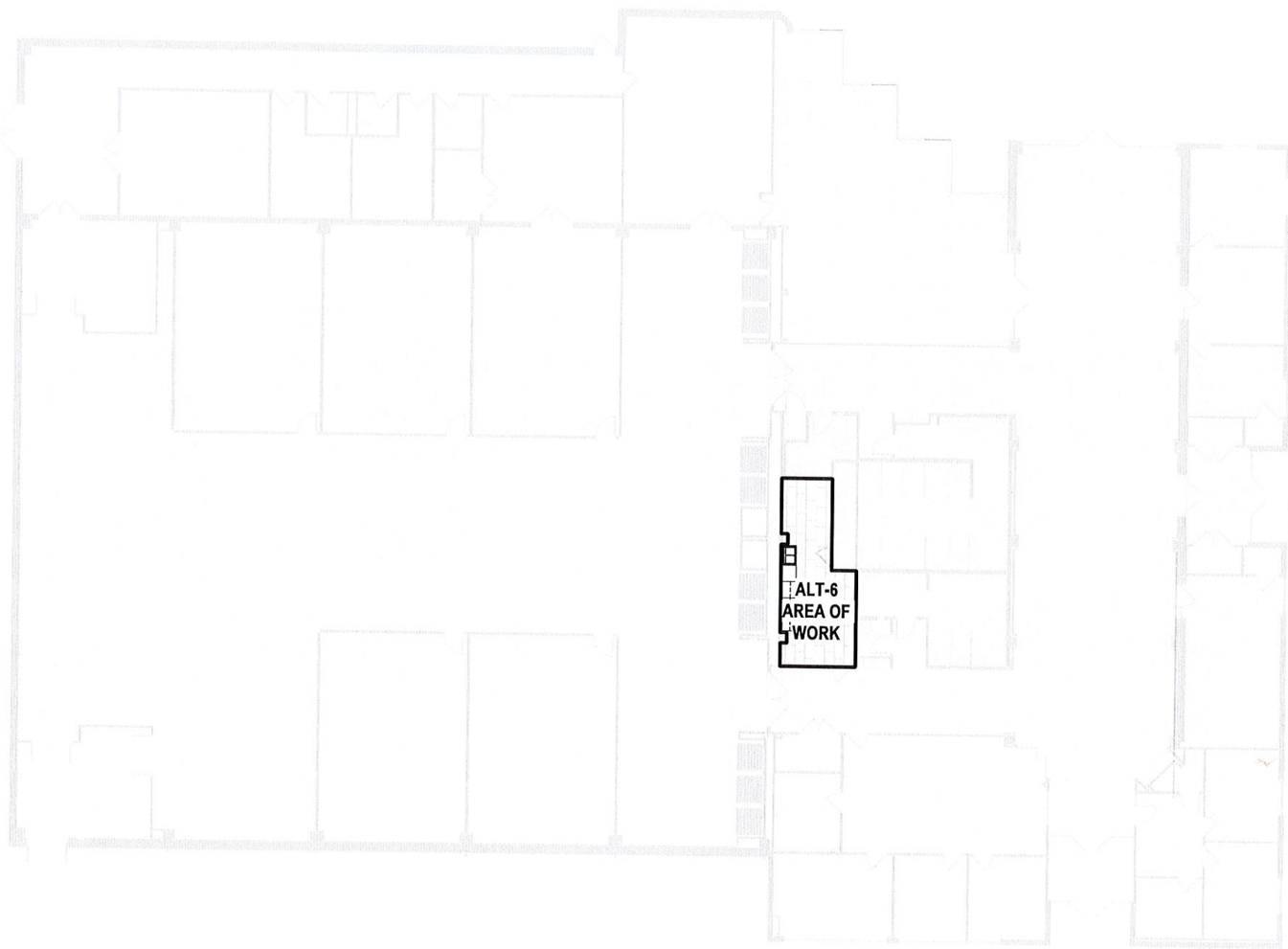
PERMIT SET DATE: 08.15.2025

MK	REVISION	DATE
2	ADDENDUM 02	10.22.2025

SHEET NAME
ALT-3 - ENLARGED FLOOR PLAN

SHEET OF SHEETS

SHEET NUMBER
A-833



1 OVERALL FLOOR PLAN - ADD ALT-6
3/32" = 1'-0"

NORTH

STATE OF OKLAHOMA
RANDALL
LYMAN
HULL
3036
TULSA, OK
LICENSED ARCHITECT

8/15/2025

JCJARCHITECTURE (C) 2025 JCJ Architecture
8801 SOUTH YALE AVENUE
SUITE 100
TULSA, OK 74137
918.936.2320

CONSULTANT:

GREENWOOD CULTURAL CENTER
FACILITY REHABILITATION
322 N GREENWOOD AVE
TULSA, OK 74120

PROJECT NO: SP 20-6 JCJ PROJECT NO: T21018.03

CITY OF TULSA
PARKS, CULTURE & RECREATION
(CBS, Kelly Architectural Building Services)

10/28/25

PLAN SCALE:						
3/32" = 1'-0"	DRAWN			PROJ MGR		
	DESIGN			LEAD ENG		
	SURVEY			FIELD MGR		

PERMIT SET DATE: 08.15.2025

MK	REVISION	DATE
2	ADDENDUM 02	10.22.2025

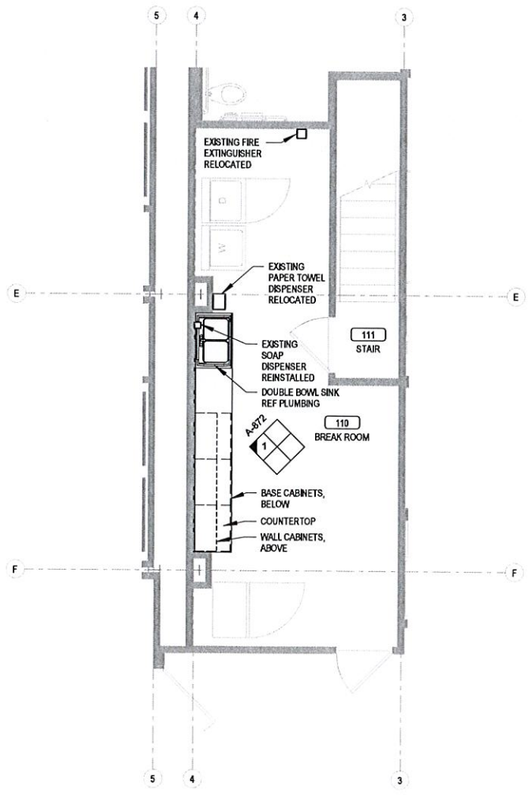
SHEET NAME
ALT-6 - OVERALL FLOOR PLAN

SHEET OF SHEETS

SHEET NUMBER
A-870

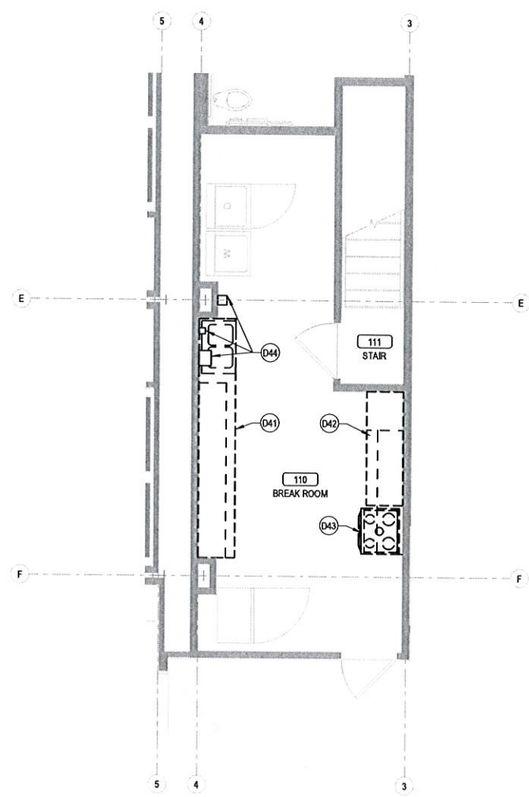
SEE A-001 FOR DEMOLITION GENERAL NOTES AND KEY NOTES MASTER LIST

DEMOLITION KEY NOTES	
#	KEY NOTE
D41	REMOVE EXISTING BASE CABINETS AND WALL CABINETS AND SINK, PREPARE WALL FOR NEW PAINT FINISH WHERE APPLICABLE
D42	REMOVE EXISTING BASE CABINETS AND WALL CABINETS, PREPARE SOFFIT AND WALL FOR NEW PAINT FINISH
D43	REMOVE EXISTING RANGE
D44	REMOVE SOAP DISPENSER, PAPER TOWEL DISPENSER AND FIRE EXTINGUISHER, STORE FOR REINSTALLATION, PREPARE WALL FOR NEW PAINT FINISH WHERE APPLICABLE



2 ALT-6 ENLARGED FLOOR PLAN
1/4" = 1'-0"

NORTH



1 ALT-6 ENLARGED DEMO PLAN
1/4" = 1'-0"

NORTH

STATE OF OKLAHOMA
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3036
TULSA, OK
LICENSED ARCHITECT

8/15/2025

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8801 SOUTH YALE AVENUE
SUITE 100
TULSA, OK 74137
918.936.2320

CONSULTANT:

GREENWOOD CULTURAL CENTER
FACILITY REHABILITATION
322 N GREENWOOD AVE
TULSA, OK 74120

PROJECT NO: SP 26-8 JCJ PROJECT NO: T21018.03

CITY OF TULSA
PARKS, CULTURE & RECREATION
CAMS (City Architectural Building Services)

10/28/25

PLAN SCALE:						
As indicated	DRAWN			PROJ MGR		
	DESIGN			LEAD ENG		
	SURVEY			FIELD MGR		

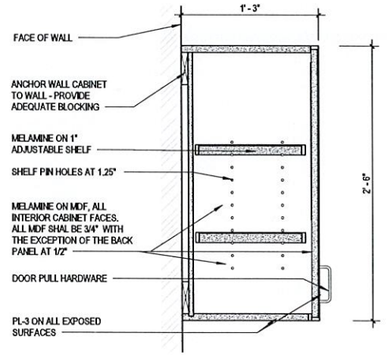
PERMIT SET DATE: 08.15.2025

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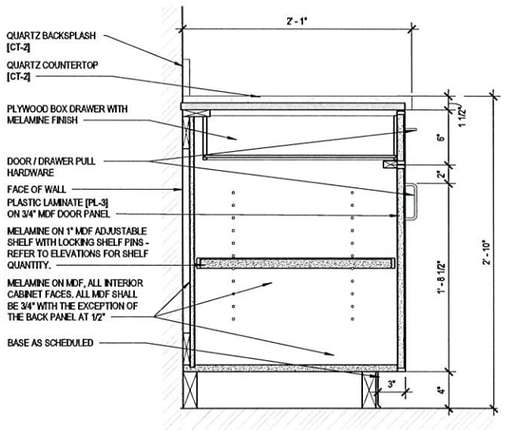
SHEET NAME
ALT-6 - ENLARGED DEMO AND FLOOR PLAN

SHEET OF SHEETS

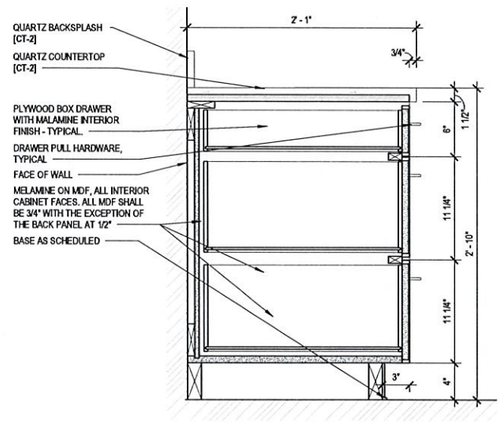
SHEET NUMBER
A-871



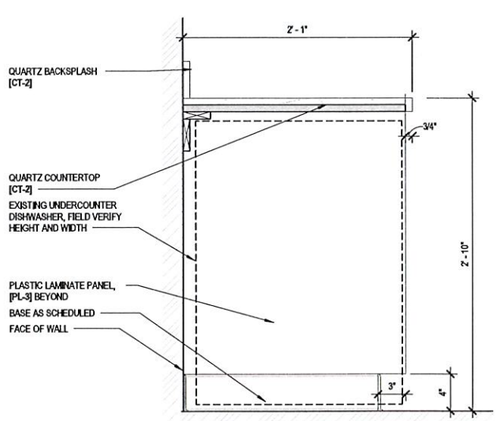
6 MILLWORK SECTION - WALL CABINET
1 1/2" = 1'-0"



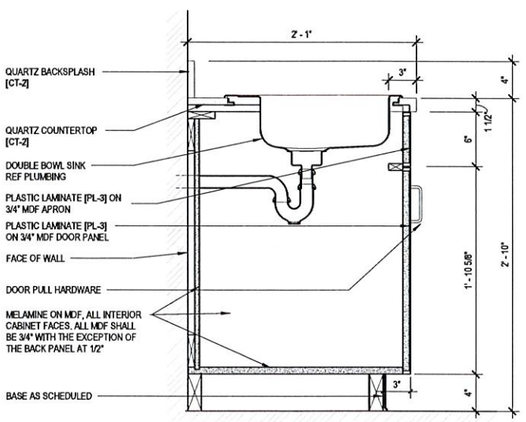
5 MILLWORK SECTION - CABINET WITH SHELF
1 1/2" = 1'-0"



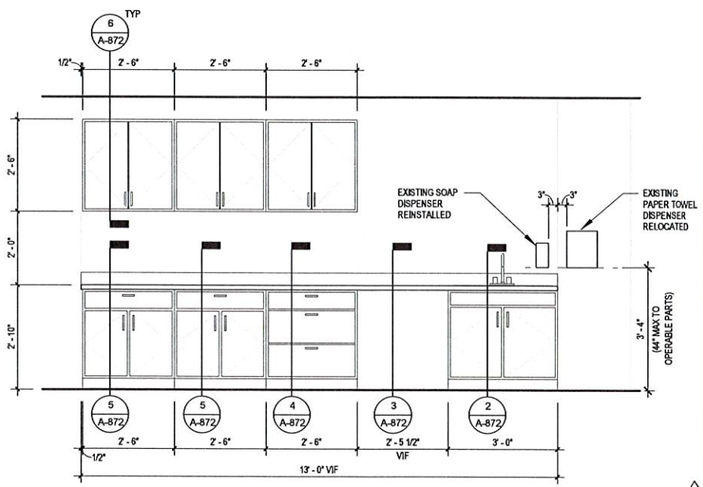
4 MILLWORK SECTION - CABINET WITH DRAWERS
1 1/2" = 1'-0"



3 MILLWORK SECTION - COUNTER WITH BELOW OPEN
1 1/2" = 1'-0"



2 MILLWORK SECTION - CABINET WITH SINK
1 1/2" = 1'-0"



1 INTERIOR ELEVATION - BREAKROOM CABINETS
1/2" = 1'-0"

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SUITE 100
TULSA, OK 74137
918.936.2320

CONSULTANT:

GREENWOOD CULTURAL CENTER
FACILITY REHABILITATION
322 N GREENWOOD AVE
TULSA, OK 74120

PROJECT NO: SP 20-6 JCJ PROJECT NO: T21018.03

CITY OF TULSA
PARKS, CULTURE & RECREATION
CABS (City Architectural Building Services)
10/28/25

PLAN SCALE:						
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	DESIGN			LEAD ENG		
	SURVEY			FIELD MGR		

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2	ADDENDUM 02	10.22.2025

SHEET NAME
ALT-6 - INTERIOR ELEVATIONS AND DETAILS

SHEET OF SHEETS

SHEET NUMBER
A-872

GENERAL SYMBOLS LEGEND

- REVISION NUMBER - SHOWN ON PLANS
- POINT WHERE NEW CONNECTS TO EXISTING
- NUMBER OF DETAIL ON SHEET / NUMBER OF SHEET WHERE DETAIL APPEARS
- KEYNOTE
- CONTINUATION SYMBOL
- Room # — ROOM NAME AND NUMBER
- ITEM TO BE DEMOLISHED
- AREA NOT IN CONTRACT
- 2" — PIPE SIZE TAG (DIAMETER)
- ABOVE GROUND PIPING
- 1/8" / 12" SLOPE — PIPE SLOPE TAG
- BELOW GROUND PIPING
- INVERT: -105' - 1" — PIPE INVERT ELEVATION TAG
- (E) — EXISTING PIPE TAG
- PIPING BEING DEMOLISHED

ABBREVIATIONS

Ø	ROUND	LVR	LOUVER
ABV	ABOVE	LWT	LEAVING WATER TEMPERATURE
AC	AIR CONDITIONING	M/A	MIXED AIR
AD	AREA DRAIN	MAX	MAXIMUM
ADD	ADDENDUM	MBH	ONE THOUSAND BTU PER HOUR
AFF	ABOVE FINISHED FLOOR	MCF	ONE THOUSAND CUBIC FEET
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY	MD	MOTORIZED DAMPER
ALT	ALTERNATE	MECH	MECHANICAL
AP	ACCESS PANEL	MFR	MANUFACTURER
ARCH	ARCHITECT/ARCHITECTURAL	MIN	MINIMUM
BFF	BELOW FINISHED FLOOR	MISC	MISCELLANEOUS
BLW	BELOW	MTR	MOTOR
BTU	BRITISH THERMAL UNITS	MU/A	MAKE-UP/AIR
BTUH	BRITISH THERMAL UNITS PER HOUR	NC	NOISE CRITERIA
CAP	CAPACITY	NC	NORMALLY CLOSED
CB	CATCH BASIN	NIC	NOT IN CONTRACT
CFM	CUBIC FEET PER MINUTE	NO	NUMBER
CLG	CEILING	NO	NORMALLY OPEN
CO	CLEAN OUT	NTS	NOT TO SCALE
CW	COLD WATER	O	OXYGEN
D	DEGREE	O/A	OUTSIDE AIR
DB	DRY BULB	ORD	OVERFLOW ROOF DRAIN
DIA	DIAMETER	PD	PRESSURE DROP
DN	DOWN	PIV	POST INDICATOR VALVE
DW	DISTILLED WATER	PLBG	PLUMBING
EA	EACH	PRESS	PRESSURE
EAT	ENTERING AIR TEMPERATURE	PRV	PRESSURE REDUCING VALVE
ELEC	ELECTRICAL	PSI	POUNDS PER SQUARE INCH
EQUIP	EQUIPMENT	PSIG	POUNDS PER SQUARE INCH GAUGE
EWC	ELECTRIC WATER COOLER	PWR	POWER
EWT	ENTERING WATER TEMPERATURE	R	DUCT RISER
E/A	EXHAUST AIR	R/A	RETURN AIR
EXIST	EXISTING	RCP	RADIANT CEILING PANEL
F	DEGREES FAHRENHEIT	RD	ROOF DRAIN
FCO	FLOOR CLEAN OUT	REC	RECESSED
FD	FLOOR DRAIN	RED	REDUCER
FDC	FIRE DEPARTMENT CONNECTION	RH	RELATIVE HUMIDITY
FL	FLOOR	RL/A	RELIEF AIR
FO	FUEL OIL	RM	ROOM
FOV	FUEL OIL VENT	RPM	REVOLUTIONS PER MINUTE
FOR	FUEL OIL RETURN	RW	RAIN WATER
FOS	FUEL OIL SUPPLY	SF	SQUARE FOOT
FPM	FEET PER MINUTE	S/A	SUPPLY AIR
FS	FLOOR SINK	SAN	SANITARY
FT	FOOT/FEET	SF	SQUARE FOOT
FTR	FIN TUBE RADIATION	SD	SMOKE DAMPER
GAL	GALLON	SM	SURFACE MOUNT
GF	GAS-FIRED	SP	STANDPIPE
GC	GENERAL CONTRACTOR	SP	STATIC PRESSURE
GPM	GALLONS PER MINUTE	STM	STEAM
GW	GREASE WASTE	T	THERMOSTAT
HB	HOSE BIB	TD	TEMPERATURE DROP
HP	HORSE POWER	TDR	TRENCH DRAIN
HTG	HEATING	TEMP	TEMPERATURE
HTR	HEATER	TYP	TYPICAL
HW	HOT WATER	UG	UNDERGROUND
HYD	HYDRANT	VAC	VACUUM
ID	INDIRECT	V	VENT
IN	INCH	VAV	VARIABLE AIR VOLUME
INV	INVERT	VENT	VENTILATION
LB	POUND	VTR	VENT THROUGH ROOF
LB/HR	POUNDS PER HOUR	W	WASTE
LAT	LEAVING AIR TEMPERATURE	WB	WET BULB
LP	LOW PRESSURE	WCO	WALL CLEAN OUT
LPG	LIQUEFIED PETROLEUM GAS	WH	WALL HYDRANT

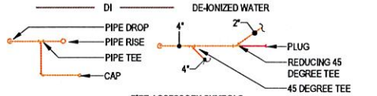
EQUIPMENT ABBREVIATIONS

AC	AIR CONDITIONING UNIT	FCU	FAN COIL UNIT
ACCU	AIR COOLING CONDENSING UNIT	FP	FIRE PUMP
AHU	AIR HANDLING UNIT	GI	GREASE INTERCEPTOR
AS	AIR SEPARATOR	GWH	GAS WATER HEATER
B	BOILER	HWP	HEATING WATER PUMP
CH	CHILLER	HRU	HEAT RECOVERY UNIT
CT	COOLING TOWER	JS	JANITOR SINK
CUH	CABINET UNIT HEATER	OB	OUTLET BOX
CHWP	CHILLED WATER PUMP	PRV	POWER ROOF VENTILATOR
CP	CIRCULATION PUMP	RE	RETURN/EXHAUST FAN
DBP	DOMESTIC WATER BOOSTER PUMP	RTU	ROOFTOP UNIT
DC	DUCT MOUNTED COIL	SP	SUMP PUMP
DCP	DOMESTIC WATER CIRCULATING PUMP	UH	UNIT HEATER
ET	EXPANSION TANK	WH	WATER HEATER
EWH	ELECTRIC WATER HEATER		

* NOTE *
ALL OF GENERAL NOTES ON THIS SHEET ARE TO BE APPLIED TO ALL OTHER DRAWINGS IN THIS SET.THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THIS SET OF DRAWINGS.

PLUMBING AND PIPING SYMBOLS LEGEND

- CHWR — CHILLED WATER RETURN
- CHWS — CHILLED WATER SUPPLY
- CD — CONDENSATE DRAINAGE
- CWR — CONDENSER WATER RETURN
- CWS — CONDENSER WATER SUPPLY
- GWR — GEOTHERMAL WATER RETURN
- GWS — GEOTHERMAL WATER SUPPLY
- HWR — HEATING WATER RETURN
- HWS — HEATING WATER SUPPLY
- G — NATURAL GAS
- PG — PROPANE GAS
- REF-L — REFRIGERANT-LIQUID
- REF-S — REFRIGERANT-SUCTION
- REF-HG — REFRIGERANT-HOT GAS
- STM — STEAM
- CDR — CONDENSATE RETURN
- CWV — COMBINATION WASTE & VENT
- CA — COMPRESSED AIR
- CW — DOMESTIC COLD WATER
- H-CW — HARD COLD WATER
- S-CW — SOFT COLD WATER
- F-CW — FILTERED COLD WATER
- RO — REVERSE OSMOSIS WATER
- HW — HOT WATER
- HW-140* — HOT WATER 140*
- HW-R — HOT WATER RECIRCULATION
- HW-R-140* — HOT WATER RECIRCULATION 140*
- GV — GREASE VENT
- GW — GREASE WASTE
- IW — INDIRECT WASTE
- OV — OIL VENT
- OW — OIL WASTE
- PD — PUMP DISCHARGE
- V — SANITARY VENT
- SS — SANITARY SEWER
- SHWR — SOLAR HOT WATER RETURN
- SHWS — SOLAR HOT WATER SUPPLY
- SD — STORM DRAINAGE
- OSD — OVERFLOW STORM DRAINAGE
- LAB-G — LABORATORY GAS
- MED — MED GAS
- NIT — NITROGEN
- VAC — VACUUM
- WAGD — WASTE ANESTHETIC GAS DISPOSAL
- N2O — NITROUS OXIDE
- H2O2 — HYDROGEN PEROXIDE
- O2 — OXYGEN
- DI — DE-IONIZED WATER



PIPE ACCESSORY SYMBOLS

- WM — DOM. WM — DOMESTIC WATER METER
- BALANCING — BALANCING VALVE
- SHUTOFF — 1/4 TURN BALL VALVE
- CHECK — CHECK VALVE
- TMV — 3-WAY MIXING VALVE
- GATE VALVE
- P — 3-WAY AIRMOTOR CONTROLLER
- ANGLE GLOBE VALVE
- GATE VALVE
- DIAPHRAGM VALVE
- GLOBE VALVE
- HOSE GLOBE VALVE
- M — M-CNTRL — MOTORIZED CONTROL VALVE
- M — 3-WAY CNTRL — 3 WAY MOTORIZED CONTROL VALVE
- PRV — PRESSURE REDUCING VALVE
- S — SOLENOID — REFRIGERANT SOLENOID VALVE
- BUTTERFLY — BUTTERFLY VALVE
- LOCK SHIELD VALVE
- NEEDLE VALVE
- GATE VALVE
- QUICK OPENING VALVE
- SPRING CHECK VALVE
- SWING GATE CHECK VALVE
- TEMP PRESSURE RELIEF VALVE

GENERAL PLUMBING NOTES

1 THE ENTIRE PLUMBING SYSTEM SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE INTERNATIONAL PLUMBING CODE REGULATIONS AND LOCAL PLUMBING INSPECTOR.

2 IT IS THE PLUMBING CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE SITE CONTRACTOR TO CONFIRM THAT THE INVERT AND LOCATION OF THE SANITARY SERVICE IS COMPATIBLE WITH THE SITE UTILITIES PRIOR TO BEGINNING WORK.

3 THE PIPING INDICATED ON THESE PLANS ARE DIAGRAMMATICAL. ALL WORK SHALL BE COORDINATED WITH ALL OTHER TRADES PRIOR TO INSTALLATION. CONTRACTOR SHALL COORDINATE ROUTING OF ALL PIPING WITH EXISTING CONDITIONS AND SHALL PROVIDE ANY NECESSARY OFFSETS, REROUTING, TEES, ELBOWS, ETC. REQUIRED FOR A COMPLETE AND COORDINATED INSTALLATION.

4 THE CONTRACTOR SHALL OBTAIN AND PAY ALL FEES RELATED TO PERMITTING, INSPECTIONS, TAP-ON FEES, ETC.

5 WATER HAMMER ARRESTORS SHALL BE INSTALLED AT DISHWASHERS, WASHING MACHINES, SUPPLY BOXES, AND QUICK CLOSING VALVES NOT LISTED. INSTALL WHA-1 AS CLOSE TO QUICK CLOSING VALVE AS POSSIBLE PER MANUFACTURER'S RECOMMENDATIONS. ISOLATION VALVES SHALL BE INSTALLED ON ALL SUPPLY FIXTURE GROUPS AND HOT WATER BALANCING VALVES. CONTRACTOR SHALL COORDINATE AND PROVIDE ALL NECESSARY PIPING & PLUMBING FITTINGS, PIPING, MISCELLANEOUS ITEMS REQUIRED FOR A COMPLETE INSTALLATION OF ALL PLUMBING RELATED ITEMS.

6 DOMESTIC WATER AND SEWER LOCATED OUTSIDE OF FOOTING SHALL MAINTAIN A MINIMUM OF 10' SEPARATION UNLESS WRITTEN PERMISSION IS OBTAINED FROM LOCAL AUTHORITIES AND/OR PROPER CONTAMINATION PROVISIONS PER LOCAL CODE HAVE BEEN MET.

7 ALL DOMESTIC WATER, NATURAL GAS, DEIONIZED WATER, CARBON DIOXIDE, COMPRESSED AIR, AND NITROGEN PIPING SHOWN IS ABOVE CEILING, EXPOSED OVERHEAD, AND WITHIN WALLS UNLESS OTHERWISE NOTED.

8 ALL SANITARY, GREASE, LAB, AND ACID WASTE PIPING SHOWN IS BELOW SLAB, BELOW FLOOR, OR WITHIN WALLS UNLESS OTHERWISE NOTED. ALL SANITARY VENT PIPING SHOWN IS ABOVE CEILING, EXPOSED OVERHEAD, OR WITHIN WALLS UNLESS OTHERWISE NOTED.

9 FROST PROOF HOSE BIBBS AND SUPPLY PIPING SHALL BE INSTALLED ON THE INSIDE OF THE INSULATION. SEAL SHEATHING PENETRATION TO PREVENT AIR FROM REACHING THE VALVE.

10 FLOOR DRAIN CONNECTION SIZE TO BE THE SAME SIZE AS THE DRAIN LINE IT CONNECTS UNLESS NOTED OTHERWISE. IF SIZE IS NOT INDICATED ON DRAWINGS REFER TO PLUMBING ROUGH-IN SCHEDULE FOR PROPER SIZE.

11 FLUSH CONTROLS FOR ACCESSIBLE WATER CLOSETS ARE TO BE MOUNTED TO THE OPEN SIDE OF THE TOILET AREAS.

12 ALL PIPING PENETRATIONS THROUGH NEW, EXISTING WALL, OR FLOOR SHALL BE SEALED TO EQUAL THE RATING OF THE NEW, EXISTING WALL OR FLOOR.

13 THE PLUMBING SYSTEM SHALL BE TESTED AS REQUIRED BY LOCAL CODE OR BY THE REQUIREMENTS OF THE LOCAL PLUMBING INSPECTOR.

14 FINISHED FLOOR ELEVATION (F.F.E.) SHALL BE 0.00' FOR CALCULATION PURPOSES ONLY, UNLESS NOTED OTHERWISE.

15 THE BACKFLOW PREVENTION DEVICE SHALL BE INSTALLED PER LOCAL CODE & PER AUTHORITY HAVING JURISDICTION REQUIREMENTS. NON-LEAD TYPE ONLY.

16 ALL PIPING ON ROOF SHALL BE ANCHORED TO STEEL RIB FASTENERS APPROVED BY THE ROOF MANUFACTURER. INSTALL ANCHORS PER MANUFACTURERS RECOMMENDATION.

17 ALL PLUMBING & PIPING SYSTEMS SHALL BE SUPPORTED AS REQUIRED BY THE LOCAL CODE REQUIREMENTS AND PER MANUFACTURER'S RECOMMENDATIONS.

18 ALL VENT THRU ROOF (VTR'S) PENETRATIONS INDICATED ON PLANS ARE PRELIMINARY. FINAL LOCATIONS SHALL BE COORDINATED WITH ALL TRADES. ALL VTR'S SHALL BE A MINIMUM OF 10'-0" FROM ALL FRESH AIR INTAKE OPENINGS.

19 ANY PVC PIPE PENETRATING A FIRE RATED ASSEMBLY SHALL BE EXTERNALLY SLEEVED WITH STEEL, FERROUS, OR COPPER MATERIALS, SECURELY FASTENED TO THE FIRE RATED ASSEMBLY. ANY SPACE BETWEEN THE SLEEVE AND THE FIRE RATED ASSEMBLY PENETRATED SHALL BE PROTECTED USING MATERIAL THAT CONFORMS TO ASTM E 814 OR UL 1479, SUCH AS FIRE STOP FS-1900 OR FLAME STOPPER 5000.

20 CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS FOR DISHWASHER, WASHING MACHINE, REFRIGERATOR, ETC.

21 PROVIDE SHUT-OFF VALVES FOR PROPER OPERATION AND SERVICING OF DOMESTIC WATER DISTRIBUTION SYSTEM. LOCATION SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING: AT EACH FIXTURE GROUP, AT EACH BRANCH TAKE-OFF FROM MAINS AND AT THE BASE OF EACH RISER. COORDINATE WITH ARCHITECTURAL PLAN FOR ACCESS DOOR LOCATIONS.

22 TEMPERED WATER, NOT EXCEEDING A MAXIMUM OF 110° F, SHALL BE DELIVERED FROM PUBLIC HANDWASHING FACILITIES THROUGH AN APPROVED WATER TEMPERATURE LIMITING DEVICE THAT CONFORMS TO ASSE 1070.

23 VALVES SHALL BE LOCATED 6" ABOVE ACCESSIBLE CEILING WHEN AT ALL POSSIBLE AND SHALL BE CLEAR OF ANY OBSTRUCTIONS FROM OTHER TRADES. MAINTENANCE SHALL BE ABLE TO ACCESS VALVES WITH STANDARD LADDER. SHOULD LOCATION NOT BE APPLICABLE CONTRACTOR SHALL PROVIDE A CONTROL CHAIN AND/OR ARM.

24 REGULATORS INSTALLED ON THE INTERIOR OF THE BUILDING SHALL BE VENTED TO THE EXTERIOR PER LOCAL AND STATE CODES.

25 IT IS THE PLUMBING CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE SITE CONTRACTOR TO CONFIRM THAT THE INVERTS AND LOCATIONS OF THE BUILDING UTILITIES ARE COMPATABLE WITH THE SITE UTILITIES PRIOR TO BEGINNING WORK.

26 CONTRACTOR SHALL PROVIDE A PRESSURE REDUCING VALVE (PRV-1) SHOULD THE WATER PRESSURE EXCEED 75 PSI. CONTRACTOR SHALL CONFIRM WITH ON SITE CONDITIONS AND LOCAL UTILITY.

27 PROVIDE BALANCING VALVES FOR PROPER OPERATION AND PRESSURE OF DOMESTIC WATER DISTRIBUTION SYSTEM. LOCATION SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING: AT EACH FIXTURE GROUP, AT EACH BRANCH TAKE-OFF FROM MAINS AND AT THE EACH RISER. INSTALL PER MANUFACTURE'S REQUIREMENTS.

28 PROVIDE AUTOMATIC SHUT-OFF VALVE ON GAS LINE FEEDING KITCHEN EQUIPMENT BELOW TYPE-1 HOOD PRIOR TO ANY TAKE OFF. VALVE SHALL BE CONNECTED TO FIRE ALARM SYSTEM.

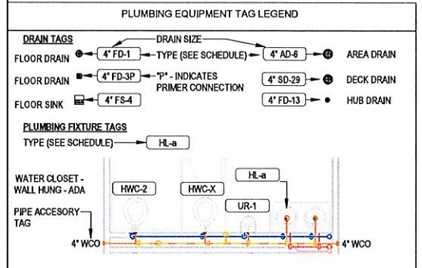
29 PROVIDE DRAIN PANS FOR ALL WATER LINES CROSSING OVER "IT" CLOSET/ROOM. ROUTE DRAIN PAN(S) TO NEAREST APPROVED WASTE RECEPTICAL.

30 PROVIDE DRAIN PANS FOR ALL OVER HEAD DRAIN PIPING CROSSING OVER KITCHEN. ROUTE DRAIN PAN(S) TO NEAREST APPROVED WASTE RECEPTICAL.

31 ANY LINE VOLTAGE WIRING THAT IS RUN BY THE PLUMBING CONTRACTOR SHALL BE COORDINATE WITH ELECTRICAL CONTRACTOR ON SITE, AND INSTALLED IN ACCORDANCE WITH THE ELECTRICAL PLANS, NOTES, AND SPECIFICATIONS.

32 INSULATION JACKET SHALL BE PROVIDED WHEN PIPING INSULATION IS EXPOSED.

PLUMBING EQUIPMENT TAG LEGEND



GENERAL FIRE SPRINKLER NOTES

1 RUN ALL PIPING PARALLEL OR PERPENDICULAR TO STRUCTURE IN ALL AREAS. SPRINKLER CONTRACTOR SHALL COORDINATE LOCATION OF HORIZONTAL SPRINKLER PIPING WITH OTHER TRADES TO MISS ALL LIGHT FIXTURES, DUCTS, VAV BOXES, AIR DIFFUSERS AND ALL OTHER ITEMS WHERE CEILING CLEARANCES ARE CLOSE.

2 DESIGN, FABRICATE, INSTALL THE FIRE PROTECTION AUTOMATIC SPRINKLER SYSTEM IN AN ACCEPTABLE MANNER TO THE STATE HEALTH DEPARTMENT, LOCAL FIRE MARSHALL AND THE ARCHITECT/ENGINEER.

3 PAY ALL PERMITS, LICENSES, FEES, DEPOSITS AND CHARGES IN CONNECTION WITH THE WORK, EXCEPT AS NOTED HEREIN. SECURE ALL NECESSARY APPROVALS.

4 DESIGN AND INSTALL THE SYSTEM PER THE REQUIREMENTS OF NFPA NO. 13. ALL DEFICIENCIES SHALL BE THE RESPONSIBILITY OF THE SPRINKLER CONTRACTOR AND ANY DEVIATIONS FROM THE REQUIREMENTS IN NFPA NO. 13 AND/OR THE APPROVED PLANS SHALL REQUIRE SPECIAL PERMISSION FROM THE ARCHITECT.

5 COMPLY WITH ALL RULES, REGULATIONS, LAWS AND ORDINANCES OF THE STATE, LOCAL, CITY OR COUNTY AUTHORITIES AND UTILITY COMPANIES.

6 THE AUTOMATIC SPRINKLER SYSTEM SHALL BE DESIGNED, FABRICATED, INSTALLED AND TESTED BY AN EXPERIENCED CONTRACTOR APPROVED BY THE ARCHITECT AND LICENSED BY THE STATE TO PERFORM SUCH WORK.

7 SUBMIT SHOP DRAWINGS TO THE ARCHITECT AND THE OWNER'S INSURANCE COMPANY FOR APPROVAL. BEFORE BEING SENT TO THE ARCHITECT, ALL SHOP DRAWINGS MUST BEAR THE INSURANCE SERVICE OFFICES (ISO) STAMP OF ACCEPTANCE AND THE LOCAL FIRE MARSHALL'S STAMP OF APPROVAL.

8 SUBMIT COMPLETE LAYOUT DRAWING OF OVERHEAD SPRINKLER SYSTEM AND RELATED EQUIPMENT INDICATING RELATIONSHIP OF ALL THE OVERHEAD ITEMS INCLUDING CEILING AIR DIFFUSERS, LIGHTING FIXTURES, BEAMS AND ALL OTHER ITEMS. ALL SPRINKLER HEADS SHALL BE SPACED PER NFPA.

9 SUBMIT COMPLETE DETAILS AND SECTIONS TO CLEARLY DEFINE AND CLARIFY THE DESIGN, INCLUDING A LIST OF MATERIALS DESCRIBING ALL PROPOSED MATERIALS WITH MANUFACTURER'S NAME AND CATALOG NUMBER.

10 PROVIDE SPRINKLER HEAD(S) FOR EACH ROOM/SPACE FOR COMPLETE PROTECTION.

11 UPON COMPLETION OF THE SPRINKLER SYSTEM INSTALLATION, TEST AND RE-TEST THE COMPLETE INSTALLATION AND MAKE ALL CORRECTIONS AS NECESSARY TO SECURE ACCEPTANCE BY FIRE MARSHALL. FURNISH ALL TEST EQUIPMENT AND PERSONNEL REQUIRED.

12 AFTER THE FIRE SPRINKLER SYSTEM HAS BEEN COMPLETELY TESTED, INSPECTED AND APPROVED, SECURE A LETTER OF FINAL ACCEPTANCE FROM THE ADMINISTRATIVE AUTHORITY ADDRESSED TO THE SPRINKLER COMPANY RESPONSIBLE FOR THE INSTALLATION, PREPARED IN TRIPLICATE. DELIVER ALL THREE COPIES TO THE ARCHITECT.

13 UNDERWRITERS LABORATORIES (UL) AND/OR FACTORY MUTUAL RESEARCH CORPORATION (FMRC) APPROVED EQUIPMENT SHOULD BE UTILIZED WHERE APPLICABLE, AND THE DETAILS OF THE INSTALLATION SHOULD CONFORM TO FACTORY MUTUAL ENGINEERING ASSOCIATION (FMEA) GOOD PRACTICES.

14 A CORROSIVE-RESISTANT PLACARD SHALL BE PLACED ON THE BASE OF THE RISER STATING THE DESIGN CRITERIA AND RESULTING DEMAND AT THE BASE OF THE RISER, INCLUDING HOSE STREAM ALLOWANCES. ALL PIPING, FITTINGS, HANGERS, VALVES, AND DEVICES ARE TO COMPLY WITH NFPA NO. 13.

15 ALL PIPES SHALL MEET OR EXCEED CORROSION RESISTANCE RATIO OF SCHEDULE 40 STEEL PIPE. FIELD COORDINATION IS REQUIRED ESPECIALLY WHEN CUTTING OR ADJUSTING PIPES FOR SPRINKLER INSTALLATION. AS PER THE REQUIREMENTS OF THE DEPARTMENT OF HEALTH, ALL UNDERGROUND PIPING IS TO BE CHLORINATED.

16 FLOW AND TAMPER SWITCHES SHALL BE PROVIDED BY FIRE ALARM CONTRACTOR AND INSTALLED BY SPRINKLER CONTRACTOR. WIRING SHALL BE PROVIDED BY FIRE ALARM CONTRACTOR. EXPOSED SPRINKLER PIPING SHALL BE PAINTED, COLOR SHALL BE SPECIFIED BY ARCHITECT.

17 PROVIDE COMPONENTS FOR FULL FLOW TESTING OF BACKFLOW DEVICE.

18 IN AREAS SUBJECT TO FREEZING, PROVIDE DRY SPRINKLER SYSTEM OR COORDINATE WITH MECHANICAL SUBCONTRACTOR TO PROVIDE HEATING EQUIPMENT TO MAINTAIN ANY SPACES AT 40°F OR ABOVE.

19 CONTRACTOR SHALL COORDINATE COLOR OF SPRINKLER HEADS WITH OWNER/ARCHITECT.

20 CONTRACTOR SHALL MATCH TYPE AND COLOR OF EXISTING SPRINKLER HEADS.

21 FIRE CONTRACTOR SHALL PROVIDE AS AN ADD ALTERNATE BID: HAVE A FLOW TEST DONE FOR THE FIRE SUPPRESSION TO DETERMINE IF A BOOSTER PUMP WILL BE REQUIRED. IF ONE IS REQUIRED, CONTRACTOR SHALL PROVIDE IT. COORDINATE ELECTRICAL REQUIREMENTS WITH THE ELECTRICAL CONTRACTOR.

PLUMBING SHEET INDEX

P-000	PLUMBING LEGEND
P-001	LEVEL 1 PLUMBING DEMO PLAN - BASE BID
P-010	ROOF PLUMBING DEMO PLAN - BASE BID
P-100	LEVEL 1 SANITARY PLAN - BASE BID
P-101	LEVEL 1 SUPPLY PLAN - BASE BID
P-110	ROOF PLUMBING PLAN - BASE BID
P-400	PLUMBING ENLARGED PLANS - BASE BID
P-401	PLUMBING ENLARGED PLANS - BASE BID
P-500	PLUMBING DETAILS
P-501	PLUMBING DETAILS
P-502	PLUMBING DETAILS
P-600	PLUMBING SCHEDULES - BASE BID
P-800	LEVEL 1 SUPPLY PLAN - ADD ALTERNATE 2
P-801	PLUMBING ENLARGED PLANS - ALT 6
P-900	SANITARY/WASTE RISER
P-901	SUPPLY RISER

LICENSED PROFESSIONAL ENGINEER — RAYMOND COLLINS — 35566 — OKLAHOMA
10/27/2025

JCJARCHITECTURE (C 2025 JCJ Architecture
8801 SOUTH YALE AVENUE
SUITE 100
TULSA, OK 74137
918.936.2320

CONSULTANT:
6666 S Sheridan Road
Suite 230
Tulsa, OK 74133
918.324.2172

CERTIFICATE OF AUTHORIZATION 5338
RENEWAL DATE: 6/30/2026
HP ENGINEERING

GREENWOOD CULTURAL CENTER FACILITY REHABILITATION

322 N GREENWOOD AVE
TULSA, OK 74120

PROJECT NO: SP 20-6 JCJ PROJECT NO: T2108.03

CITY OF TULSA
PARKS, CULTURE & RECREATION
CAB (Capital Architectural Building Services)

PLAN SCALE:						
1/8" = 1'-0"	DRAWN			PROJ MGR		
	DESIGN			LEAD ENG		
	SURVEY			FIELD MGR		

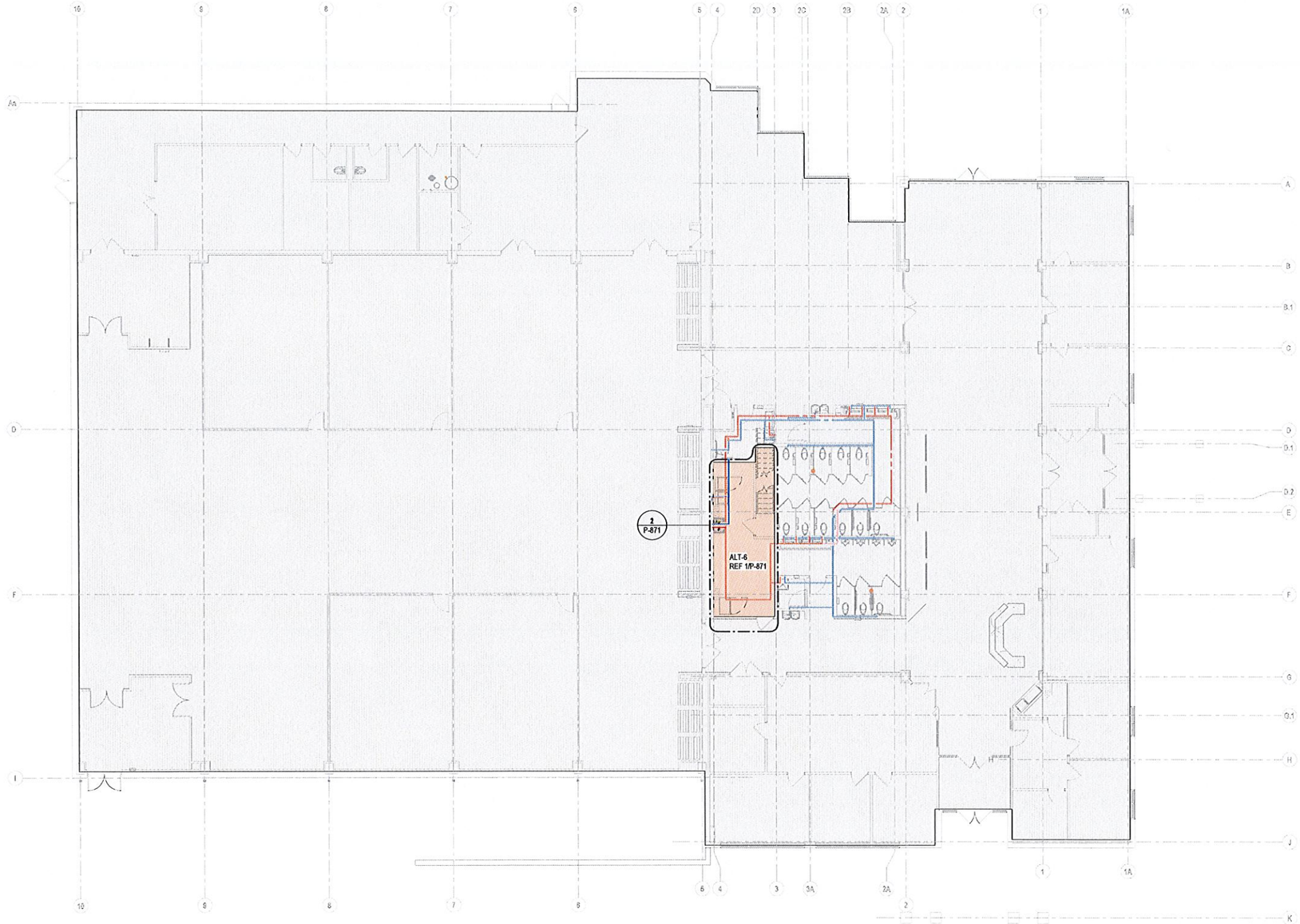
BID SET DATE: 08.15.2025

MK	REVISION	DATE
2	ADDENDUM 02	10.22.25

SHEET NAME
PLUMBING LEGEND

SHEET OF SHEETS

SHEET NUMBER
P-000



1 LEVEL 1 SUPPLY PLAN - ADD ALTERNATES
3/32" = 1'-0"

NORTH

LICENSED PROFESSIONAL ENGINEER
RAYMOND COLLINS
33566
OKLAHOMA
10/27/2025

JCJARCHITECTURE (C 2025 JCJ Architecture
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TULSA, OK 74137
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OABS (City Architectural Building Services)

10/28/25

PLAN SCALE:					
3/32" = 1'-0"	DRAWN		PROJ MGR		
	DESIGN		LEAD ENG		
	SURVEY		FIELD MGR		

BID SET DATE: 08.15.2025

MK	REVISION	DATE
2	ADDENDUM 02	10.22.25

SHEET NAME
2 LEVEL 1 SUPPLY PLAN - ADD ALTERNATE

SHEET OF SHEETS

SHEET NUMBER
P-800

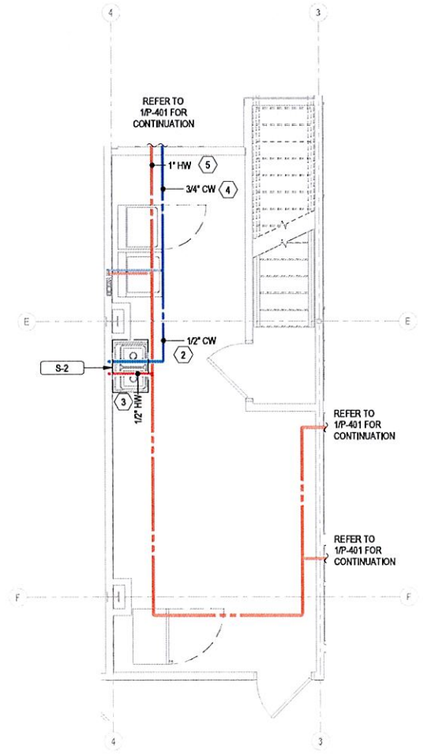
FIXTURE SCHEDULE - ADD ALTERNATE

NOTES:
1.INSTALL PER MANUFACTURER GUIDELINES.
2.CONTRACTOR SHALL COORDINATE WITH ARCHITECT FOR APPROVALS ON ALL FIXTURE MODELS, COLORS, AND FINISHES PRIOR TO ORDERING.

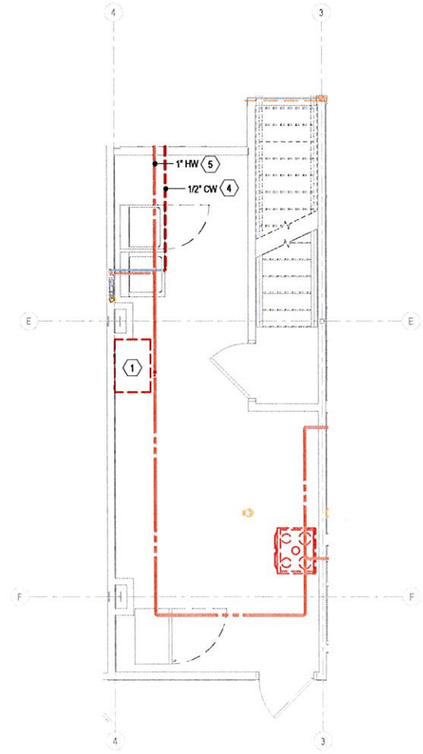
FIXTURE TAG	FIXTURE				FAUCET/VALVE			DESCRIPTION	NOTES
	TYPE	MANUFACTURER	MODEL	MATERIAL DESCRIPTION	MANUFACTURER	MODEL	TYPE		
S-2	DUAL BOWL SINK - COUNTER DROP-IN	ELKAY	DLR332210	STAINLESS STEEL	KOHLER	K-7505-CP	MANUAL	PROVIDE TMV-1. SINGLE LEVER FAUCET WITH SPRAY, 0.5GPM AERATOR, 3-1/2" OPENING DRAIN. KOHLER 151M HEAVY DUTY BRASS BASKET & STRAINER, 1 1/2", CHROME PLATED TAILPIECE. KOHLER 8812 1 1/2" x 1 1/2" HEAVY DUTY CHROME PLATED CAST BRASS P-TRAP W/ CLEANOUT PLUG, KOHLER CHROME PLATED SOLID BRASS ANGLE STOPS W/ 5" CHROME PLATED COPPER EXTENSION TUBE & LOOSE KEYS, FLEXIBLE CHROME PLATED COPPER RISERS, KOHLER 1 1/2" END OUTLET CONTINUOUS WASTE.	ALL

KEYNOTES

1	REMOVE EXISTING DOUBLE BOWL SINK, DOMESTIC WATER SHUTOFF VALVES AND EXPOSES SANITARY PIPING. CONTRACTOR TO KEEP EXISTING DOMESTIC AND SANITARY ROUGH-INS.
2	CONTRACTOR TO CONNECT DOMESTIC COLD WATER AND HOT WATER FROM S-2 TO NEW MAIN DOMESTIC LINES FROM BASE BID.
3	CONTRACTOR TO CONNECT SINK TO EXISTING SANITARY SEWER AND VENT PIPING FROM EXISTING SINK. CONTRACTOR TO VERIFY IN FIELD.
4	UPSIZE DCW LINE ENTERING BREAKROOM SHOWN IN BASE BID FROM 1/2" TO 3/4" IF ALTERNATE IS ACCEPTED.
5	1" HW LINE INSTALLED IN BASE BID.



2 PLUMBING SUPPLY ENLARGED PLAN - ALT 6
1/4" = 1'-0"



1 PLUMBING DEMO ENLARGED PLAN - ALT 6
1/4" = 1'-0"

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RAYMOND COLLINS
33566
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10/28/25

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2	ADDENDUM 02	10.22.25

SHEET NAME
2 PLUMBING ENLARGED PLANS - ALT 6

SHEET OF SHEETS

SHEET NUMBER
P-871

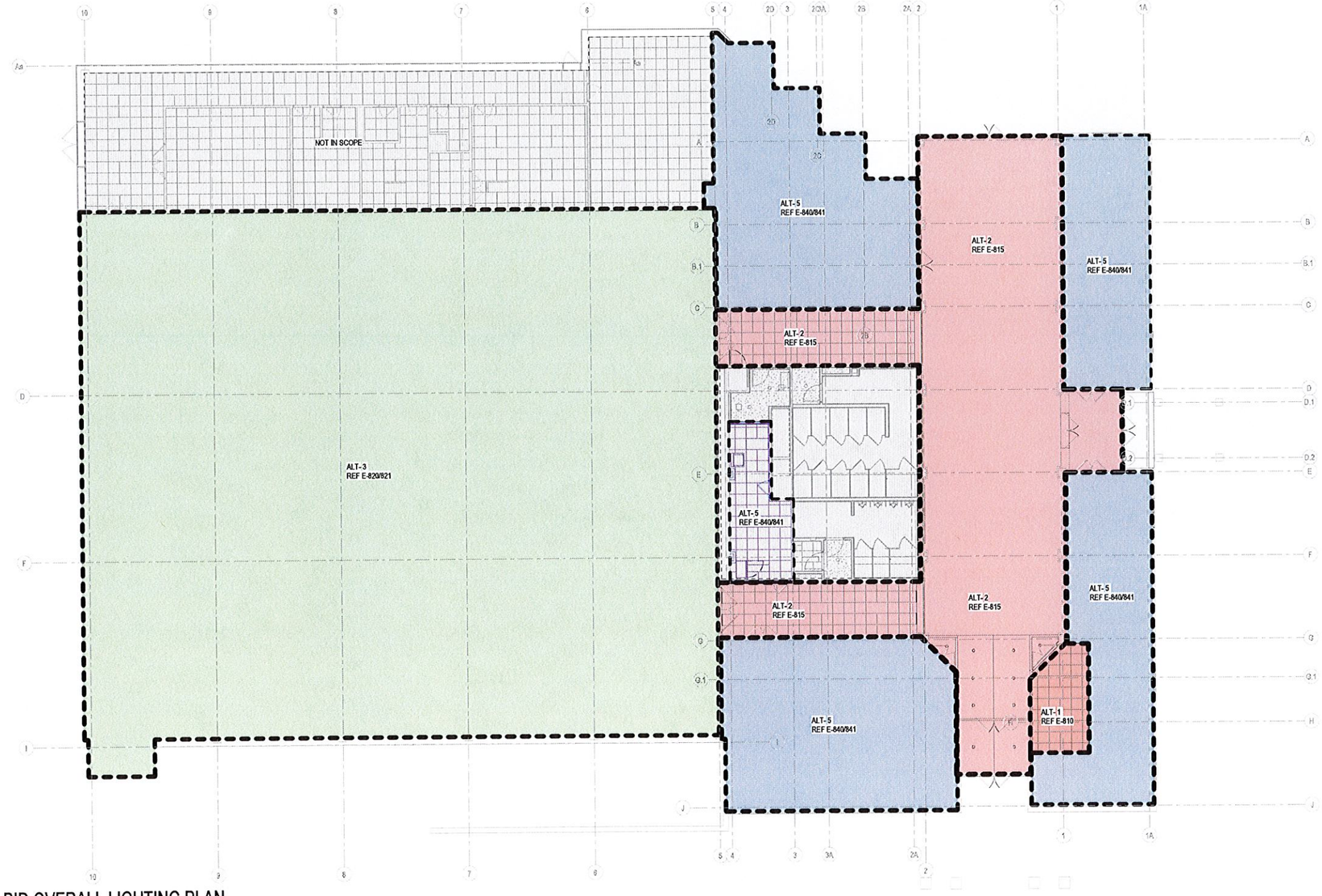
NORTH

LIGHTING FIXTURE SCHEDULE ALT BID

GENERAL NOTES:
1. EC SHALL PROVIDE A SUBMITTAL PACKAGE INCLUDING CUTSHEETS FOR EACH FIXTURE.
2. EC SHALL PROVIDE ALL ACCESSORIES FOR A COMPLETE ASSEMBLY INCLUDING MOUNTING HARDWARE.
3. THE MOUNTING TYPE OF EACH FIXTURE SHALL BE COMPATIBLE WITH INSTALLATION SURFACE OF EACH FIXTURE.
4. ALL FINISHES SHALL BE COORDINATED WITH ARCHITECT AND DOCUMENTED ON SUBMITTALS.

TYPE	DESCRIPTION	MOUNTING	LAMP	DIMMING	VOLTAGE	WATTS	MFR	CATALOG NUMBER	NOTE
A1	1X4 RECESSED	LAY-IN	LED	0-10V	120V	32 W	HE WILLIAMS	BP-14-LS-3600/8CS-3500K-DIM-UNV	–
A2	2X4 RECESSED	LAY-IN	LED	0-10V	120V	39 W	HE WILLIAMS	BP-24-LS-4700/8CS 3500K-DIM-UNV	–
A2E	2X4 RECESSED	LAY-IN	LED	0-10V	120V	39 W	HE WILLIAMS	BP-24-LS-4700/8CS 3500K-DIM-UNV EM/10W	BATTERY BACK UP
B	RECESSED LINEAR	SUSPENDED	LED	0-10V	120V	34 W	LSI	ALN-4-10L-835-UNV	
BE	RECESSED LINEAR	SUSPENDED	LED	0-10V	120V	34 W	LSI	ALN-4-10L-835-UNV-EM	BATTERY BACK UP
C	4AR DOWNLIGHT	RECESSED	LED	0-10V	120V	37 W	WILLIAMS INDOOR	4AR-L30/835-DIM-UNV-AW-OF-XX-N-F1	–
C1	RECESSED LIGHT	RECESSED	LED	0-10V	120V	12 W	WILLIAMS INDOOR	4DR-TL-L10-835-DIM-UNV-LW-OF-CS-WET-CC-EM/10W	–
D2	RECESSED LIGHT	RECESSED	LED	0-10V	120V	24 W	HE WILLIAMS	4DR-TL-L30-835-DIM-UNV-RW-OF-XX-N-F1	–
D2E	RECESSED LIGHT	RECESSED	LED	0-10V	120V	24 W	HE WILLIAMS	4DR-TL-L30-835-DIM-UNV-RW-OF-XX-N-F1-EM/10W	BATTERY BACK UP
DR	6DR DOWNLIGHTS	RECESSED	LED	0-10V	120V	14 W	HE WILLIAMS	6DR-TL-L15-835-DIM-UNV-RW-OF-XX-R/6DR-GR	–
DRE	6DR DOWNLIGHTS	RECESSED	LED	0-10V	120V	14 W	HE WILLIAMS	6DR-TL-L15-835-DIM-UNV-RW-OF-XX-R/6DR-GR-EM-10W	BATTERY BACK UP
F	4DR WALLWASH	RECESSED	LED	0-10V	120V	26 W	HE WILLIAMS	4DR-TL-L30/835-DIM-UNV-WW-OF-XX-N-F1	–
G	8' DIRECT/INDIRECT	SURFACE WALL	LED	0-10V	120V	26 W	LUX ILLUMINARIE	EOS 4.0-W-DI-GRZ-1250-ASY-1250-8-35K-8-1-UNV-S1-W	–
GE	8' DIRECT/INDIRECT	SURFACE WALL	LED	0-10V	120V	26 W	LUX ILLUMINARIE	EOS 4.0-W-DI-GRZ-1250-ASY-1250-8-35K-8-1-UNV-S1-W-EB	BATTERY BACK UP

2



1 ALT BID OVERALL LIGHTING PLAN
3/32" = 1'-0"

NORTH

LIGHTING PLAN NOTES

VERIFY MOUNTING HEIGHT OF ALL PENDANT FIXTURES PRIOR TO ROUGH-IN.
CIRCUIT WIRING IS NOT SHOWN. PROVIDE PROPER NUMBER OF CONDUCTORS TO ACHIEVE CIRCUITING AND SWITCHING SHOWN.

LICENSED PROFESSIONAL ENGINEER Daniel Rizzi 33589 OKLAHOMA 10/23/2025

LICENSED PROFESSIONAL ENGINEER GREGORY ADAMS 33624 OKLAHOMA 08/25/2025

JCJARCHITECTURE (C 2025 JCJ Architecture
8801 SOUTH YALE AVENUE
SUITE 100
TULSA, OK 74137
918.936.2320

CONSULTANT:
6666 S Sheridan Road
Suite 230
Tulsa, OK 74133
918.324.2172

CERTIFICATE OF AUTHORIZATION 5338
RENEWAL DATE: 6/30/2026
HP ENGINEERING

GREENWOOD CULTURAL CENTER
FACILITY REHABILITATION
322 N GREENWOOD AVE
TULSA, OK 74120

PROJECT NO: SP 20-6 JCJ PROJECT NO: T2108.03

CITY OF TULSA
PARKS CULTURE & RECREATION
CAOS Form Architectural Building Services

PLAN SCALE:					
3/32" = 1'-0"	DRAWN			PROJ MGR	
	DESIGN			LEAD ENG	
	SURVEY			FIELD MGR	

BID SET DATE: 08.15.2025

MK	REVISION	DATE
2	ADDENDUM 02	10.22.25

SHEET NAME
OVERALL LIGHTING PLAN - ALT BID

SHEET OF SHEETS

SHEET NUMBER
E-801