



Energy Performance Contract Project Summary

Prepared for:



Prepared by:

Ameresco, Inc.

7 West 6th Avenue
Suite 605, Power Block
Helena, Montana 59601

April 23, 2021

Mr. John Rutherford
Facilities Director – Helena College
1115 North Roberts Street
Helena, MT 59601

RE: Energy Project Summary

John,

Thank you for your support throughout our energy audit, we appreciate you and your team accommodating us and helping make the audit a smooth, efficient process. Based on our audit findings we have prepared a project focused primarily on improving the lighting at your two campuses and we have also included other conservation measures like building envelope improvements, water conservation, and a solar PV system for your consideration.

The following pages highlight the costs, savings, and financial payback for your project. Please let us know if you have any questions about your project, otherwise here are the next steps:

- Submit project to Montana University System Board of Regents for review and approval
- Submit project to Montana Department of Environmental Quality for review and approval
- Complete Montana Board of Investments INTERCAP loan application
- Execute an Energy Services Agreement to initiate construction

Ameresco is excited to move forward with Helena College on this project!

Thank you,



Matt Thompson, CEM
Account Executive
mthompson@ameresco.com
(406) 581-1595

Scope of Work

The scope of work is focuses on improving the learning environment, saving energy, and reducing maintenance expenses, specific scope items include:

LED Lighting Retrofit

- Provide and install new LED lighting fixtures and retrofits to replace existing technologies
- Existing prismatic and parabolic 2x2 and 2x4 troffers to be replaced with LED fixture “door kits” to provide updated aesthetic and improved lighting levels
- Complete redesign to address three problem areas:
 - Donaldson hallway cove lighting replaced with center hung linear LED fixtures
 - Airport machine shop (room 103) lighting demoed and replaced with new layout of high bay LED fixtures
 - Airport fire bay garage (room 116) lighting demoed and replaced with new layout of high bay LED fixtures

Notes:

1. Proposed lighting color temp = 4,000K (Natural White)
2. Existing LED lamps and lighting controls to remain as-is
3. See new layouts and spec sheets in appendix

Building Envelope Improvements

- Donaldson Campus
 - Provide and install new weather stripping for (17) exterior doors
 - Provide and install new weather stripping for (2) overhead roll-up doors
 - Caulk windows in office and library areas to seal air leakage
- Airport Campus
 - Provide and install new weather stripping for (26) exterior doors
 - Provide and install new weather stripping for (13) overhead roll-up doors
 - Provide and install new weather stripping for (1) overhead hangar door
 - Caulk windows in room 109C to seal air leakage

Notes:

1. Door sealing materials consist of aluminum carrier with Q-Ion urethane foam strips for superior air sealing and long life

Water Conservation

- Donaldson Campus
 - Provide and install (20) 1.28 gallon per flush toilets including new flush valves and seats
 - Provide and install (8) 1.00 pint per flush urinals including new flush valves
 - Provide and install (20) 0.5 gallon per minute faucet aerators
 - Provide and install (2) 1.5 gallon per minute faucet aerators (kitchen use)

- Airport Campus
 - Provide and install (14) 1.28 gallon per flush toilets including new flush valves and seats
 - Provide and install (7) 1.00 pint per flush urinals including new flush valves
 - Provide and install (16) 0.5 gallon per minute faucet aerators

Notes:

1. Broken toilet flanges will be repaired or replaced as necessary
2. Walls to be patched if new toilets or urinals do not cover the openings for existing fixtures
3. Standard building water pressure of 25-80 PSI required for proper function of new fixtures

Solar PV

- Donaldson or Airport Campus
 - Provide and install 50 kW AC, net-metered solar photovoltaic system

Notes:

1. NorthWestern Energy provides grant funding to assist solar installations on public buildings, this scope would be contingent on receiving a grant so we will submit a grant proposal by the May 1st spring application deadline
2. Roof is 14 years old, need to consult with roofer of record to ensure expected roofing life aligns with the 25-year useful life of the solar panels

Project Cost

DEQ Cost & Pricing Tool

| | Project Cost Categories | EPC Maximum % of Total Project Cost | EPC Maximum % Markup | Actual Final EPC Calculated % of Total Project Cost | Actual Final EPC Cost with Markup | Actual Final EPC Cost without Markup | Actual Final EPC Markup Cost | Actual Final EPC % Markup | Totals | Notes |
|-----------|--|-------------------------------------|----------------------|---|-----------------------------------|--------------------------------------|------------------------------|---------------------------|------------|---------------------|
| | Investment Grade Audit and Project Proposal | | | 1.86% | | | | | \$ 12,000 | Negotiated |
| | Implementation Costs | | | | | | | | | |
| | 1 Pre-Construction Fees and Costs | | | | | | | | | |
| A | Design and Other Engineering | 6-10% | 0.00% | 2.59% | \$ 16,678 | \$ 16,678 | \$ - | 0.00% | | Calculated |
| B | Pre-Construction Services | 2-5% | 0.00% | 1.99% | \$ 12,805 | \$ 12,805 | \$ - | 0.00% | | Calculated |
| C | Other Pre-Construction Costs | 1-3% | 0.00% | 0.99% | \$ 6,400 | \$ 6,400 | \$ - | 0.00% | | Calculated |
| 1T | Pre-Construction Cost Subtotal | | | 5.57% | | \$ 35,883 | \$ - | 0.00% | \$ 35,883 | Sum A, B, C |
| | 2 Construction Fees and Costs | | | | | | | | | |
| D | LED Lighting | N/A | 4.0-8.0% | 47.44% | \$ 305,459 | \$ 285,502 | \$ 19,957 | 6.99% | | Calculated |
| | Building Envelope | N/A | 4.0-8.0% | 5.22% | \$ 33,622 | \$ 31,425 | \$ 2,197 | 6.99% | | Calculated |
| | Water Conservation | N/A | 4.0-8.0% | 7.32% | \$ 47,162 | \$ 44,081 | \$ 3,081 | 6.99% | | Calculated |
| | Solar PV | N/A | 4.0-8.0% | 16.62% | \$ 106,990 | \$ 100,000 | \$ 6,990 | 6.99% | | Calculated |
| E | Design-Build Subcontractors | N/A | 4.0-8.0% | 0.00% | \$ - | \$ - | \$ - | 0.00% | | Calculated |
| F | Direct Purchase Equipment | N/A | 4.0-8.0% | 0.00% | \$ - | \$ - | \$ - | 0.00% | | Calculated |
| G | ESP Construction Labor | N/A | 4.0-8.0% | 0.00% | \$ - | \$ - | \$ - | 0.00% | | Calculated |
| H | Construction Management | 3-6% | 0.00% | 2.17% | \$ 13,980 | \$ 13,980 | \$ - | 0.00% | | Calculated |
| I | Project Engineering | 1-3% | 0.00% | 0.23% | \$ 1,456 | \$ 1,456 | \$ - | 0.00% | | Calculated |
| J | General Conditions | 1-3% | 0.00% | 1.17% | \$ 7,509 | \$ 7,509 | \$ - | 0.00% | | Calculated |
| K | Construction Completion | 1-2% | 0.00% | 0.71% | \$ 4,580 | \$ 4,580 | \$ - | 0.00% | | Calculated |
| L | Other Construction Costs | 1-2% | 0.00% | 1.73% | \$ 11,119 | \$ 11,119 | \$ - | 0.00% | | Calculated |
| 2T | Construction Cost Subtotal | | | 82.60% | | \$ 499,652 | \$ 32,224 | 6.45% | \$ 531,876 | Sum D-L |
| 3 | Implementation Costs Subtotal | | | | | | | | \$ 567,759 | Sum 1T+2T |
| 4 | Profit | 6-9% | | 7.23% | \$ 46,556 | | | | \$ 46,556 | Calculated |
| 5 | Estimated Project Cost | | | | | | | | \$ 614,316 | Sum 3 + 4 |
| 6 | Contingency | 2-5% | 0.00% | 2.24% | \$ 14,440 | \$ 14,440 | \$ - | 0.00% | \$ 14,440 | Calculated |
| 7 | Measurement and Verification | 2-5% | | 0.49% | \$ 3,146 | | | | \$ 3,146 | Calculated |
| 8 | TOTAL PROJECT COST | | | | | | | | \$ 643,902 | Sum IGA + 5 + 6 + 7 |

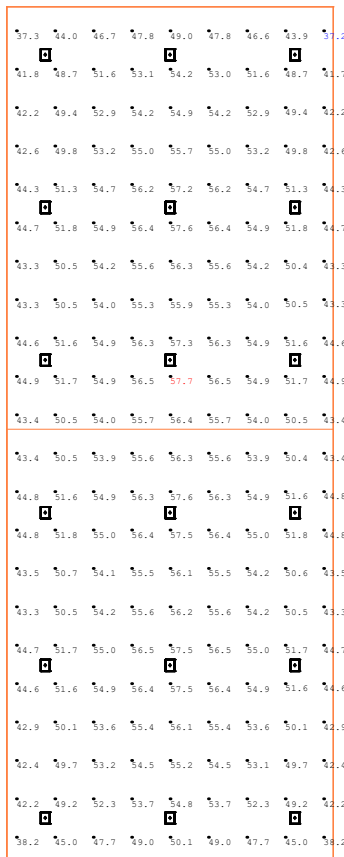
| | | |
|---------------------|----|---------|
| Utility Rebates | \$ | 82,696 |
| Net Project Cost | \$ | 561,206 |
| Energy Savings | \$ | 40,082 |
| Maintenance Savings | \$ | 2,485 |
| Simple Payback | | 13.2 |

Cashflow Summary

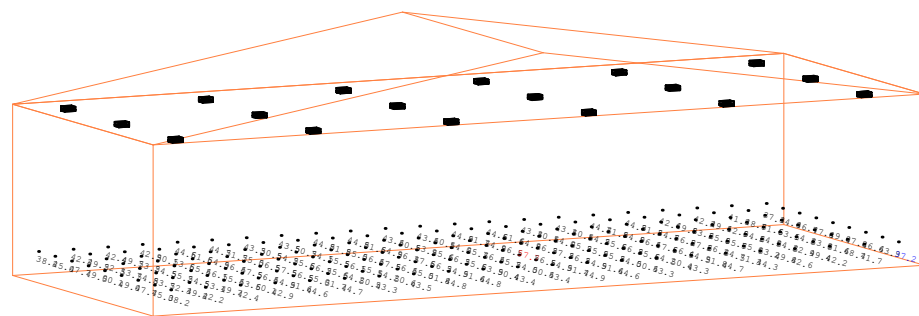
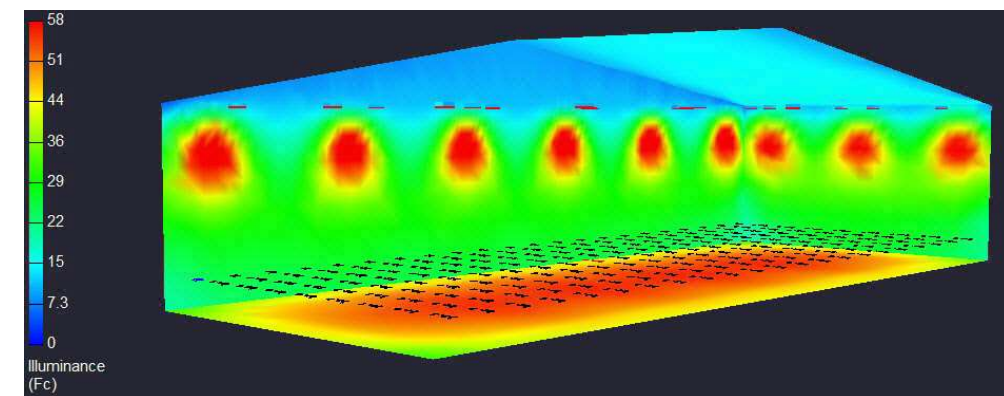
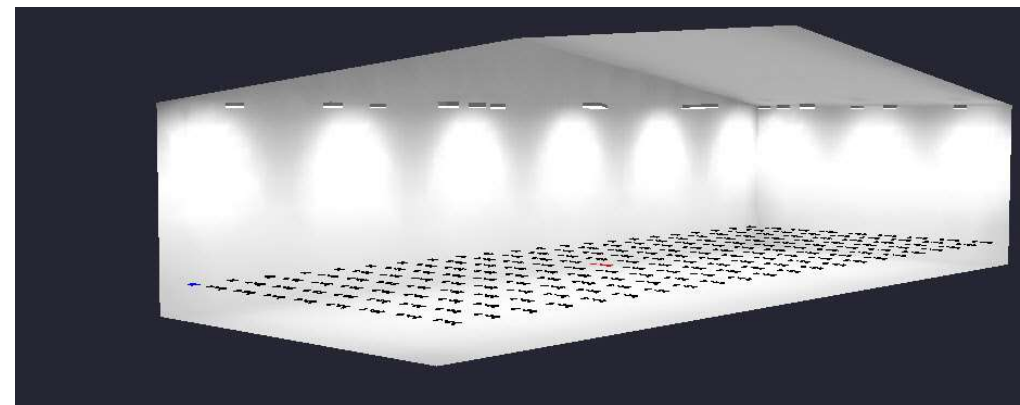
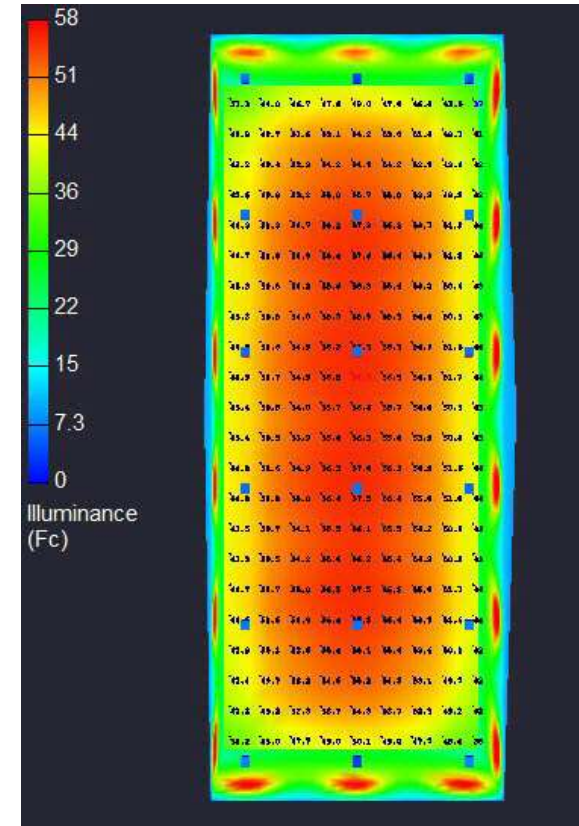
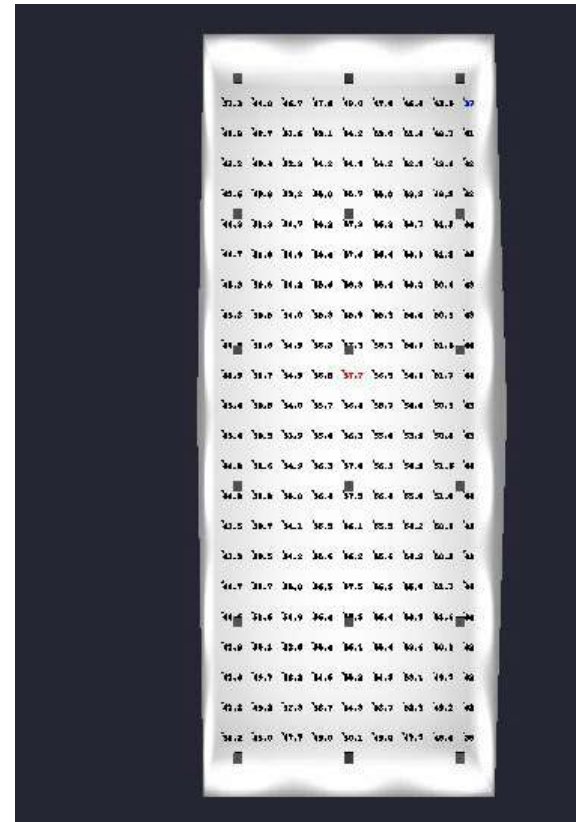
| Cash Flow Summary Section 1 | | | | | | | | | | | | | | |
|--|--|--|--|-----------------------------------|-------------------------------------|------------------------------|--|---------------------------------|---|---|----------------|--|--------------------------------------|--------------------------------------|
| Project Funding | | | | | | | | | | | | | | |
| Turnkey Project Cost (TPC): | \$643,902 | Rebate Estimate based on 2020/2021 NWE Rebate Program | | | | | | | | | | | | |
| Capital Contribution (CC): | (\$82,696) | | | | | | | | | | | | | |
| Financed Project Cost Balance (TPC-CC): | \$561,206 | | | | | | | | | | | | | |
| Financing Type: | MT BOI | | | | | | | | | | | | | |
| Financing Interest Rate [1]: | Custom | Overall MT Board of Investment Average of 3.888%. 10 Year Average of 1.9%. Current 2021 rate is 1.65%. | | | | | | | | | | | | |
| Program Term: | 15 | | | | | | | | | | | | | |
| Construction Period (CP) Interest [2]: | \$1,731 | | | | | | | | | | | | | |
| Notes: | | | | | | | | | | | | | | |
| [1] Interest rate as of 4/21/2021 | | | | | | | | | | | | | | |
| [2] Construction period interest is included at year 1 rate | | | | | | | | | | | | | | |
| [3] 3 years of measurement and verification (M&V) included in turnkey project cost | | | | | | | | | | | | | | |
| (A) Year | Annual Costs | | | | Annual Savings | | | | | | | | Positive Annual Cash Flow | |
| | (B) Annual Debt Service <i>Variable Rate</i> | Variable Interest Rate | (C) Annual M&V Cost <i>2.0% Esc.</i> | (D) Total Annual Cost (B+C) | (E) Electric <i>2.4% Esc.</i> | Fuel Oil <i>0.0% Esc.</i> | (F) Natural Gas <i>4.3% Esc.</i> | Water/Sewer <i>1.0% Esc.</i> | (M) Total Annual Utility Savings (Sum of E - L) | (N) Annual O&M Savings <i>2.3% Esc.</i> | (O) Other 5 | (P) Total Annual Savings (M+N+O) | (Q) Net Annual Cash Flow (P-D) | (R) Debt As % of Savings (B/P) |
| 1 | \$42,519 | 1.650% | \$0 | \$42,519 | \$29,732 | \$0 | \$3,573 | \$6,779 | \$40,082 | \$2,485 | \$0 | \$42,567 | \$49 | 100% |
| 2 | \$43,308 | 1.900% | \$0 | \$43,308 | \$30,457 | \$0 | \$3,727 | \$6,847 | \$41,031 | \$2,542 | \$0 | \$43,573 | \$265 | 99% |
| 3 | \$44,105 | 2.150% | \$0 | \$44,105 | \$31,200 | \$0 | \$3,888 | \$6,915 | \$42,003 | \$2,601 | \$0 | \$44,603 | \$498 | 99% |
| 4 | \$45,236 | 2.500% | \$0 | \$45,236 | \$31,961 | \$0 | \$4,055 | \$6,984 | \$43,001 | \$2,660 | \$0 | \$45,661 | \$425 | 99% |
| 5 | \$46,384 | 2.850% | \$0 | \$46,384 | \$32,741 | \$0 | \$4,230 | \$7,054 | \$44,025 | \$2,722 | \$0 | \$46,747 | \$363 | 99% |
| 6 | \$47,715 | 3.250% | \$0 | \$47,715 | \$33,540 | \$0 | \$4,412 | \$7,125 | \$45,077 | \$2,784 | \$0 | \$47,861 | \$146 | 100% |
| 7 | \$48,559 | 3.500% | \$0 | \$48,559 | \$34,359 | \$0 | \$4,602 | \$7,196 | \$46,157 | \$2,848 | \$0 | \$49,005 | \$446 | 99% |
| 8 | \$49,410 | 3.750% | \$0 | \$49,410 | \$35,197 | \$0 | \$4,801 | \$7,268 | \$47,265 | \$2,914 | \$0 | \$50,179 | \$769 | 98% |
| 9 | \$50,270 | 4.000% | \$0 | \$50,270 | \$36,056 | \$0 | \$5,008 | \$7,340 | \$48,404 | \$2,981 | \$0 | \$51,385 | \$1,114 | 98% |
| 10 | \$51,138 | 4.250% | \$0 | \$51,138 | \$36,935 | \$0 | \$5,224 | \$7,414 | \$49,573 | \$3,049 | \$0 | \$52,622 | \$1,484 | 97% |
| 11 | \$52,015 | 4.500% | \$0 | \$52,015 | \$37,837 | \$0 | \$5,449 | \$7,488 | \$50,773 | \$3,119 | \$0 | \$53,893 | \$1,878 | 97% |
| 12 | \$52,899 | 4.750% | \$0 | \$52,899 | \$38,760 | \$0 | \$5,684 | \$7,563 | \$52,006 | \$3,191 | \$0 | \$55,198 | \$2,298 | 96% |
| 13 | \$53,792 | 5.000% | \$0 | \$53,792 | \$39,706 | \$0 | \$5,928 | \$7,639 | \$53,273 | \$3,265 | \$0 | \$56,537 | \$2,746 | 95% |
| 14 | \$55,601 | 5.500% | \$0 | \$55,601 | \$40,674 | \$0 | \$6,184 | \$7,715 | \$54,573 | \$3,340 | \$0 | \$57,913 | \$2,312 | 96% |
| 15 | \$57,441 | 6.000% | \$0 | \$57,441 | \$41,667 | \$0 | \$6,451 | \$7,792 | \$55,909 | \$3,417 | \$0 | \$59,326 | \$1,885 | 97% |
| Totals: | \$740,391 | | \$0 | \$740,391 | \$530,821 | \$0 | \$73,215 | \$109,118 | \$713,153 | \$43,918 | \$0 | \$757,070 | \$16,680 | 98% |

Appendix

- **Lighting Layouts**
- **Lighting Data Sheets**



Scale: 1 inch= 20 Ft.



Scale: 1 inch= 20 Ft.

Reflectivity = .5 .5 .3 (dark concrete)
 Light measured on the workplane at 2' 6" AFF
 Luminaires' suspension height = 18' AFF

| Luminaire Schedule | | | | | |
|--------------------|-----|------|-------------------------------|-------|-------------------------------------|
| Symbol | Qty | Type | Label | LLF | Description |
| □ | 18 | | CPHB_12000LM_GCL_MD_40K_80CRI | 0.900 | CPHB 12000LM GCL MD 40K 80CRI MVOLT |

| Calculation Summary | | | | | | | |
|---------------------|-------------|-------|-------|------|------|---------|---------|
| Label | CalcType | Units | Avg | Max | Min | Avg/Min | Max/Min |
| GARAGE_2_Workplane | Illuminance | Fc | 50.95 | 57.7 | 37.2 | 1.37 | 1.55 |

LED High Bay

COMPACT PRO™

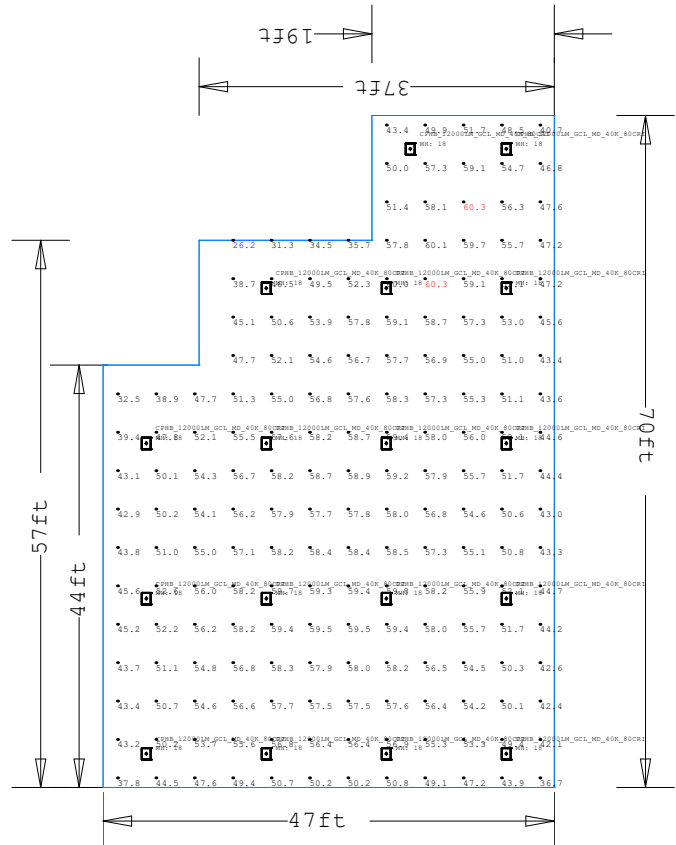
12,000 through 30,000 Lumens

LITHONIA LIGHTING

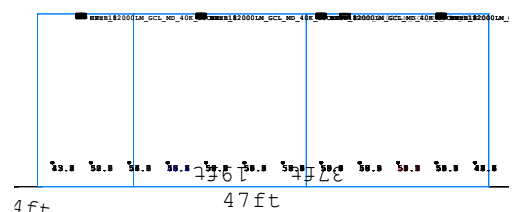
| # | Date | Comments |
|---|------|----------|
| | | |

| | | | |
|---------------|-------------|-----------------|--------|
| Drawn By: LMG | Checked By: | Date: 3/23/2021 | Scale: |
|---------------|-------------|-----------------|--------|

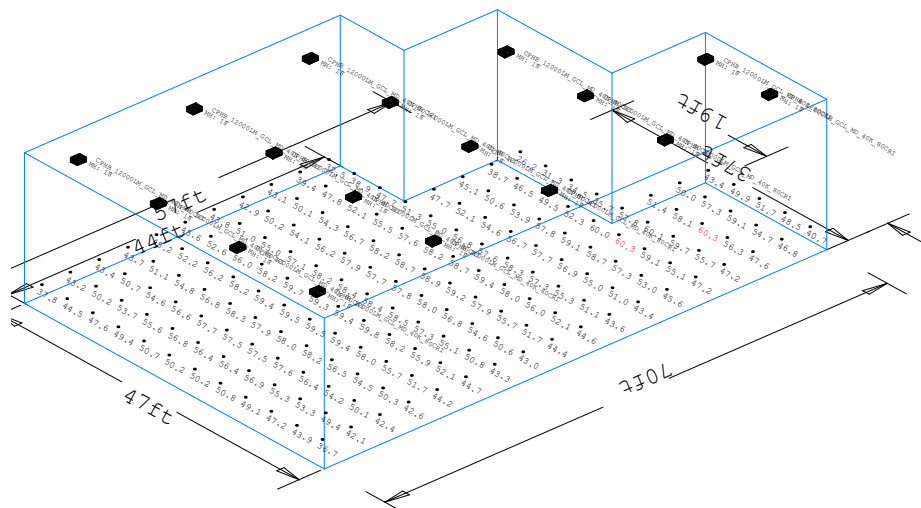
Helena College Garage / Shop
 Lighting



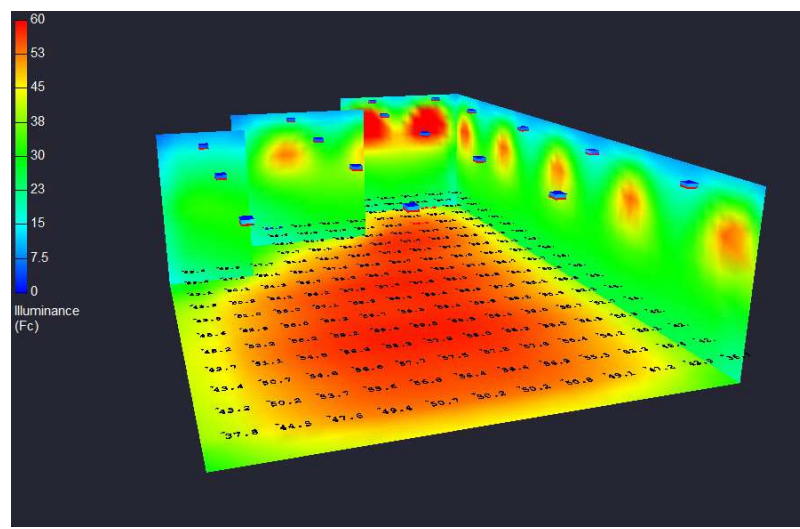
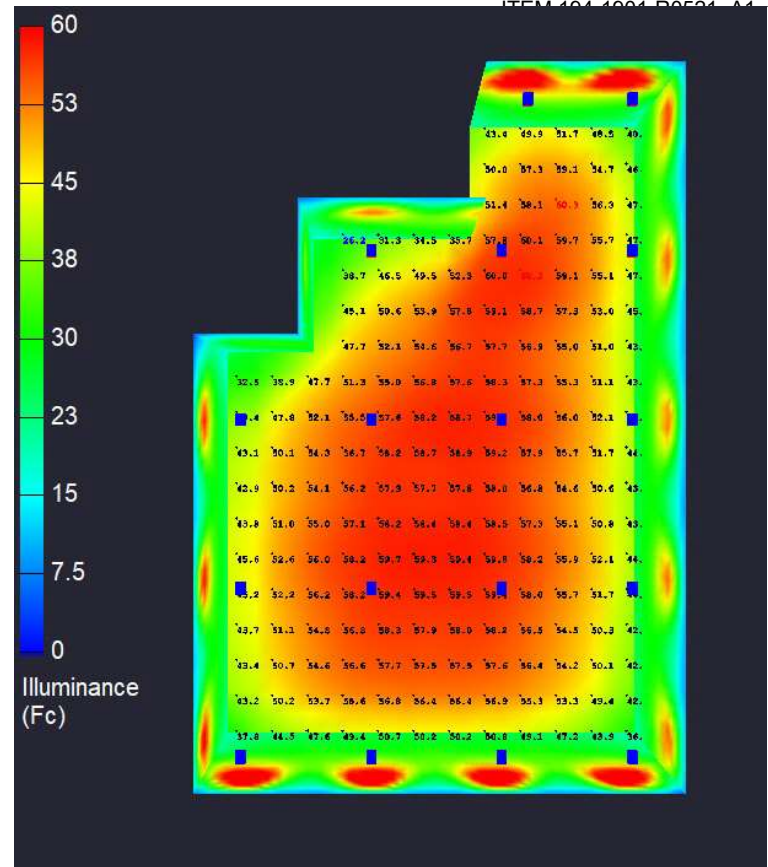
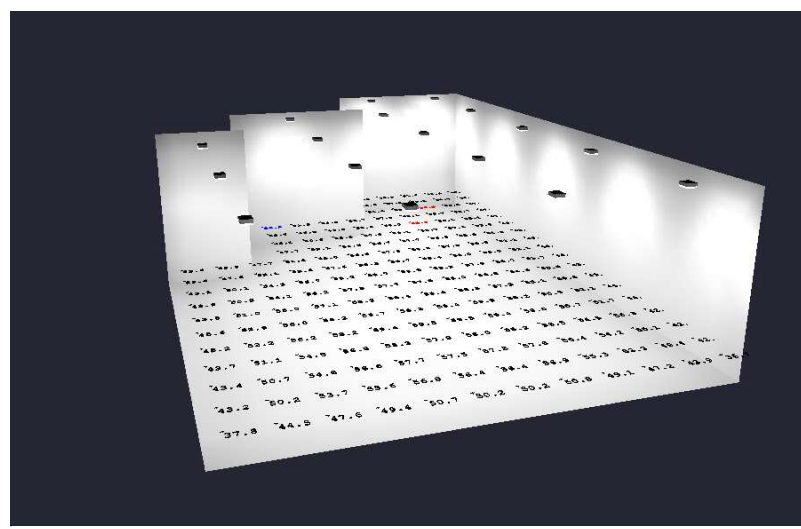
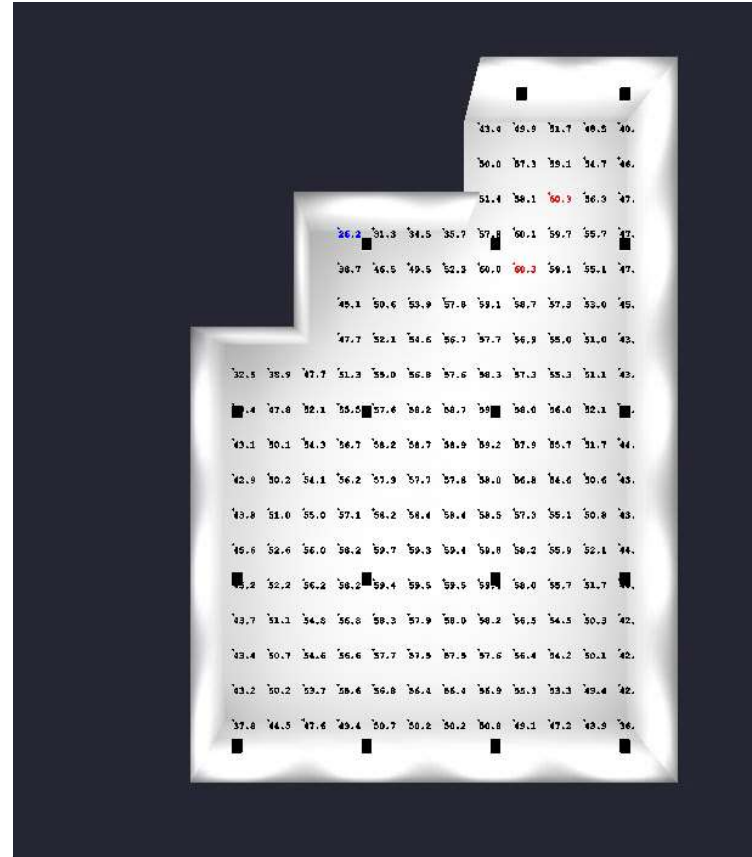
Scale: 1 inch= 20 Ft.



Scale: 1 inch= 20 Ft.



Scale: 1 inch= 20 Ft.



Reflectivity = .5 - .5 - .3 (dark concrete)
 Light measured on the workplane 2' 6" AFF
 Luminaire mounting height 18' AFF

| Luminaire Schedule | | | | | |
|--------------------|-----|------|-------------------------------|-------|-------------------------------------|
| Symbol | Qty | Type | Label | LLF | Description |
| ☐ | 17 | | CPHB_12000LM_GCL_MD_40K_80CRI | 0.900 | CPHB 12000LM GCL MD 40K 80CRI MVOLT |

| Calculation Summary | | | | | | | |
|-------------------------------|-------------|-------|-------|------|------|---------|---------|
| Label | CalcType | Units | Avg | Max | Min | Avg/Min | Max/Min |
| HELENA COLLEGE SHOP_Workplane | Illuminance | Fc | 52.34 | 60.3 | 26.2 | 2.00 | 2.30 |

LED High Bay

COMPACT PRO™

12,000 through 30,000 Lumens

LITHONIA LIGHTING



| # | Date | Comments |
|---|------|----------|
| | | |

| Revisions |
|-----------|
| |

Drawn By: LMG
 Checked By:
 Date: 3/23/2021
 Scale:

DIGITAL NAVIGATION

[Ordering Tree](#) [nLight Platform](#) [SensorSwitch JOT](#) [Photometrics](#) [Performance Data](#)

FEATURES & SPECIFICATIONS

INTENDED USE — The BLTR Best-Value Low Profile LED Relight Assembly is a cost effective solution for renovating existing fluorescent troffer and parabolic fixtures while providing upgraded aesthetics and outstanding performance. The BLTR's popular center basket design offers a clean, versatile style, and volumetric distribution. The wide range of lumen packages and control and driver options make the BLTR a great choice for many applications including offices, schools, hospitals, retail spaces and other general lighting applications. Certain airborne contaminants can diminish integrity of acrylic. [Click here for Acrylic Environmental Compatibility table for suitable uses.](#)

CONSTRUCTION — Universal end brackets are constructed of 22-gauge powder-painted steel and are secured to the host fixture with provided TEKS™ screws. The driver and light engine assembly is integrated in the BLTR door assembly making this an extremely simple, time saving, relight solution. The door frame and reflector assembly is a made of cold-rolled steel and is painted after fabrication with a matte white powder paint for improved aesthetics and increased light diffusion. Diffuser trim rings provide an attractive mounting for integral sensors as well as adding a decorative element to the luminaire aesthetics.

LED boards and driver are accessible from below.

OPTICS — Volumetric illumination is achieved by creating an optimal mix of light to walls, partitions and vertical and horizontal work surfaces – rendering the interior space, objects and occupants in a more balanced, complimentary luminous environment. High performance extruded acrylic diffusers conceal LEDs and efficiently deliver light in a volumetric distribution. Four diffuser choices available - curved and square designs with linear prisms or a smooth frosted finish.

ELECTRICAL — Long-life LEDs, coupled with high-efficiency drivers, provide superior quantity and quality of illumination for extended service life. >80% lumen maintenance at 60,000 hours (L80/60,000). Calculated L70 is greater than 100,000 hours.

Non-Configurable BLTR Relight: Generic 0-10 volt dimming driver. Dims to 10%

Configurable BLTR Relight: available in High Efficiency (HE) versions for applications where a lower wattage (over the standard product) is required. High Efficiency versions deliver >130 LPW and can be specified via the Lumen Package designations in the Ordering Information below.

eldoLED driver options deliver choice of dimming range, and choices for control, while assuring flicker-free, low-current inrush, 89% efficiency and low EMI.

Step-level dimming option allows system to be switched to 50% power for compliance with common energy codes while maintaining fixture appearance.

Optional integrated nLight® controls make each luminaire addressable - allowing it to digitally communicate with other nLight enabled controls such as dimmers, switches, nLight AIR RIO, RES7 occupancy sensors and photo controls. Simply connect all the nLight enabled control devices and the BLTR Relight assembly using standard Cat-5 cabling. Unique plug-and-play convenience as devices and luminaires automatically discover each other and self-commission. Lumen Management: Unique lumen management system (option N80) provides on board intelligence that actively manages the LED light source so that constant lumen output is maintained over the system life, preventing the energy waste created by the traditional practice of over-lighting. Driver disconnect provided where required to comply with US and Canadian codes.

SENSOR — Integrated sensor (individual control): SensorSwitch MSD7ADCX ((Passive infrared (PIR) or MSDPDT7ADCX (PIR/Microphonics Dual Tech (PDT)) integrated occupancy sensor/automatic dimming photocell allows the luminaire to power off when the space is unoccupied or enough ambient light is entering the space. See page 4 for more details on the integrated sensor.

Integrated Sensor (nLight Wired Networking): This sensor is nLight-enabled, meaning it has the ability to communicate over an nLight network. When wired, using CAT-5 cabling, with other nLight-enabled sensors, power packs, or WallPods, an nLight control zone is created. Once linked to a Gateway, directly or via a Bridge, the zone becomes capable of remote status monitoring and control via SensorView software. See page 6 for the nLight sensor options.

Integrated Smart Sensor (nLight Air Wireless Platform): The rES7 sensor is nLight AIR enabled, meaning it has the ability to communicate over the wireless nLight control platform. It is available with an automatic dimming photocell, and either a digital PIR or microphonics (PDT) dual technology occupancy sensor. It pairs to other luminaires and wall switches through our mobile app, CLAIRITY™, which allows for simple sensor adjustment. See page 6 for more details on the Integrated Smart Sensor.

Integrated Wireless Sensor (single room control): SensorSwitch VERTEX JOT or JOTVTX15 luminaire-embedded occupancy and ambient light sensor allows the luminaire to power off when the space is unoccupied or when enough ambient light is entering the space. See page 4 for more details on the integrated wireless sensor.

INSTALLATION — After existing fluorescent components are removed from the host housing, universal end brackets are secured in place with TEKS™ screws. The BLTR's integrated driver and light engine door assembly can then be hinged to the universal end brackets and will hang in place for completion of assembly plug-in wiring. Rotate the doorframe assembly closed and pivot the cam latches to secure the doorframe in place. Suitable for damp location installations. Damp location not available with sensor versions.

LISTINGS — UL/cUL Listed for use in fluorescent light fixtures. Installing Relight assemblies per instructions will not impact existing fixture UL listing. Tested to LM80 standards.

DesignLights Consortium® (DLC) Premium qualified product. Not all versions of this product may be DLC Premium qualified. Please check the DLC Qualified Products List at www.designlights.org/OPL to confirm which versions are qualified.

WARRANTY — 5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/support/customer-support/terms-and-conditions

NOTE: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

| | |
|----------------|------------------------|
| Catalog Number | ITEM 194-1901-R0521_A1 |
| Notes | |
| Type | |

BLTR Relight Series

2BLT4R

2' x 4' Relight LED



eldoLED



JOT
JUST ONE TOUCH

Specifications

Length: 47.8 (121.4)

Width: 23.9 (60.7)

Depth: 2.75 (6.9)

Weight: 16.25 (41.2)

All dimensions are inches (centimeters) unless otherwise specified.

Embed nLight controls today. Prepare for tomorrow.

Now

- User-friendly install
- Enhanced energy savings
- Code compliance

Tomorrow

- Scalability
- Space configuration
- Future-ready

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is part of an A+ Certified solution for nLight® control networks when ordered with drivers marked by a **shaded background***
- This luminaire is part of an A+ Certified solution for nLight control networks, providing advanced control functionality at the luminaire level, when selection includes driver and control options marked by a **shaded background***

To learn more about A+, visit www.acuitybrands.com/aplus.

*See ordering tree for details.

2BLT4R Volumetric Recessed Lighting 2'x4' Relight

ITEM 194-1901-R0521_A1

A+ Capable options indicated by this color background.

ORDERING INFORMATION

Lead times will vary depending on options selected. Consult with your sales representative.

Example: 2BLT4R 40L ADP EZ1 LP840

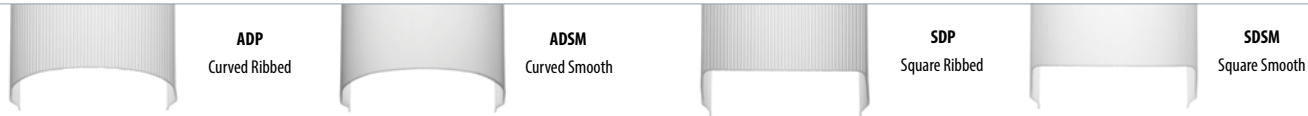
| 2BLT4R | | Trim Type/ Air Function | | Lumens ² | | Diffuser | | Voltage | | Driver | | Color temperature | |
|--------|----------|-------------------------|---|--|--|--------------------------------|-----------------------|---------|---------------------|--------|--|-------------------|---------------|
| 2BLT4R | 2X4 BLTR | (blank) | Static (white end, one piece brackets for troffers) | Standard efficiency (>125 LPW) | High efficiency³ (>130 LPW) | ADP | Curved, linear prisms | (blank) | MVOLT | EZ1 | eldoLED dims to 1% (0-10 volt dimming) | LP830 | 82CRI, 3000 K |
| | | 2PB | Static (white end, two piece brackets for troffers) | 30L 3000 | 30LHE 3000 | ADSM | Curved, smooth | 120 | 120V | | | LP835 | 82CRI, 3500 K |
| | | | | 40L 4000 | 40LHE 4000 | SDP | Square, linear prisms | 277 | 277V | GZ1 | Dims to 1% (0-10V dimming) ⁶ | LP840 | 82CRI, 4000 K |
| | | A | Air supply/return or to maintain black reveal (black end, two piece brackets for parabolics) ¹ | 48L 4800 | 48LHE 4800 | SDSM | Square, smooth | 347 | 347V ^{4,5} | | | LP850 | 82CRI, 5000 K |
| | | | | 60L 6000 | 60LHE 6000 | Diffusers w/ trim rings | | | | GZ10 | Dims to 10% (0-10V dimming) ⁶ | LP930 | 90CRI, 3000K |
| | | F | Drywall construction end, two piece brackets (T-grid flange removed) | 72L 7200 | 72LHE 7200 | ADPT | Curved, linear prisms | | | SLD | Step-level dimming ⁷ | LP935 | 90CRI, 3500K |
| | | | | | 85LHE 8500 | ADSMT | Curved, smooth | | | EOHN | On/Off (non-dim) | LP940 | 90CRI, 4000K |
| | | | | | | SDPT | Square, linear prisms | | | | | LP950 | 90CRI, 5000K |
| | | | | | | SDSMT | Square, smooth | | | | | | |

| nLight Interface | | Control ¹⁰ | | Standby Mode | | Options | | |
|------------------------|---|------------------------|--|---------------------------|--|---------|---|--|
| nLight Wired | | nLight Wired | | Individual Control | | | | |
| (blank) | no nLight [®] interface | (blank) | No sensor control | MSD7ADCX | PIR integral occupancy sensor with automatic dimming control ¹² | NOC | Occupancy sensor disabled ¹³ | |
| N80 | nLight with 80% lumen management | NES7 | nLight™ nES 7 PIR integral occupancy sensor ¹¹ | | | | EL7L | 700 lumen battery pack (Noncompliant with CA T20) ¹⁶ |
| N80EMG | nLight with 80% lumen management. For use with generator supply EM power ⁵ | NESPDT7 | nLight™ nES PDT 7 dual technology integral occupancy control ¹¹ | MSDPDT7ADCX | PDT integral occupancy sensor with automatic dimming photocell ¹² | | EL14L | 1400 lumen battery pack (Noncompliant with CA T20) ¹⁶ |
| N100 | nLight without lumen management | NES7ADCX | nLight™ nES 7 ADCX PIR integral occupancy sensor with automatic dimming photocell ¹¹ | | | | E10WLCP | EM Self-Diagnostic battery pack, 10W Constant Power, (Certified in CA Title 20 MAEDBS) ¹⁵ |
| N100EMG | nLight without lumen management. For use with generator supply EM power ⁵ | NESPDT7ADCX | nLight™ nES PDT 7 dual technology integral occupancy sensor with automatic dimming photocell ¹¹ | JOT | Wireless room control with "Just One Touch" pairing ¹⁹ | | BGTD | Bodine Generator Transfer Device ¹⁴ |
| nLight Wireless | | nLight Wireless | | JOTVTX15 | Wireless occupancy sensor with "Just One Touch" pairing ¹⁹ | | GLR | Fast-blowing fuse ¹⁵ |
| (blank) | no nLight [®] interface | RES7 | nLight AIR PIR integral occupancy sensor with automatic dimming photocell for Networking Capabilities Individual Control | | | | GMF | Slow-blowing fuse ¹⁵ |
| NLTAIR2 | nLight AIR Generation 2 enabled ⁹ | RES7PDT | nLight AIR microphonics dual technology occupancy sensor with automatic dimming photocell for Zone Control | | | | NPLT | Narrow pallet |
| | | RIO | nLight AIR radio module without sensor | | | | FAO | Field adjustable output ¹⁷ |
| | | RES7EM | nLight AIR PIR integral occupancy sensor with automatic dimming photocell and UL924 Emergency Operation, via power interrupt detection ¹⁸ | | | | USPOM | US Point of Manufacture |
| | | RES7PDTEM | nLight AIR microphonics dual technology occupancy sensor with automatic dimming photocell and UL924 Emergency Operation, via power interrupt detection ¹⁸ | | | | JP16 | Job Pack |
| | | RIOEM | nLight AIR radio module less sensor, with UL924 Emergency Operation, via power interrupt detection ¹⁸ | | | | | |

Notes

- Consult factory for airflow data.
- Approximate lumen output.
- All versions may not achieve 130+ LPW. Refer to photometry on www.acuitybrands.com.
- Not available with EL7L or EL14L battery packs.
- 347 not available with SLD.
- GZ1, GZ10 not available with any Control or Sensor options.
- Not available with N80, N80EMG, N100, N100EMG, NLTAIR2, or occupancy control.
- nLight EMG option requires a connection to existing nLight network. Power is provided from a separate N80 or N100 enabled fixture.
- Must order with RES7, RES7PDT, or RIO sensor. Only available with EZ1 driver. Not available with 72L, 72LHE, or 85LHE options.
- Must specify diffuser with trims rings. See sensor options on page 4.
- Requires N80, N80EMG, N100, or N100EMG.
- Only available with EZ1 driver option. 0-10v dimming wires not accessible via access plate. Not available with Controls options.
- Can only be ordered in conjunction with EZ1, NLTAIR2, RES7/RES7PDT. Occupancy sensor disabled at factory but can be re-enabled upon commissioning.
- Requires BSE labeling. Consult factory for options.
- Must specify voltage, 120 or 277 with GLR & GMF fusing.
- GZ1 driver not available with battery pack when specifying 72LHE or 85LHE lumen options. Must use EZ1 driver.
- Consult factory.
- See UL924 Sequence of Operation chart on page 3.
- Wired 0-10v dimming control not available. Not available with nLight Interface or Controls options. Not available with NOC, SLD, BGTD, or FAO. Must specify diffuser with trim rings.

Multiple Diffuser Options



Non-Configurable BLTR

| Non-Configurable BLTR | | | | | | | | | |
|-----------------------|----------------------|--------------|--------|---------|-----|-------------------|---------|------------|--|
| Stock | Catalog Description* | UPC | Lumens | Wattage | LPW | Color Temperature | Voltage | Pallet Qty | |
| Stock | 2BLT4R 40L ADP LP835 | 190887550948 | 3960 | 32 | 124 | 3500K/80 CRI | 120-277 | 26 | |
| | 2BLT4R 40L ADP LP840 | 190887550979 | 4023 | 32 | 127 | 4000K/80 CRI | 120-277 | 26 | |
| | 2BLT4R 46L ADP LP835 | 190887550993 | 4520 | 38 | 118 | 3500K/82 CRI | 120-277 | 26 | |
| | 2BLT4R 46L ADP LP840 | 190887551006 | 4620 | 38 | 121 | 4000K/82 CRI | 120-277 | 26 | |

UL924 Sequence of Operation

For 90 minutes following any complete AC power interruption >200 ms:

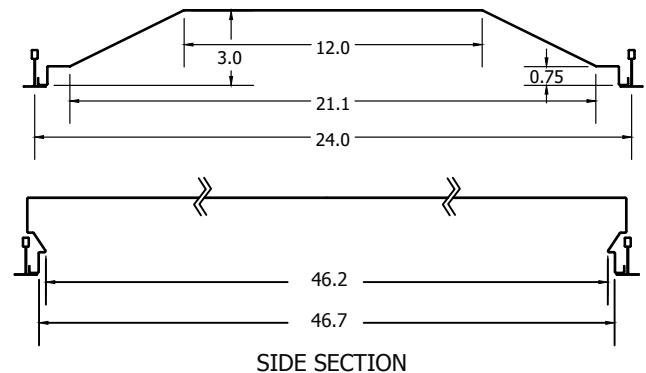
- Digital dimming is commanded to high end trim level.
- Device ignores wireless lighting control commands.

Accessories & Replacement Parts

| Replacement Parts: Order as separate catalog number. | |
|--|---|
| DBLTR48 ADP LENS ASSEMBLY | 4 ft. replacement lens (trims included) |
| DBLTR48 SDP LENS ASSEMBLY | 4 ft. replacement lens (trims included) |
| DBLTR48 ADSM LENS ASSEMBLY | 4 ft. replacement lens (trims included) |
| DBLTR48 SDSM LENS ASSEMBLY | 4 ft. replacement lens (trims included) |
| DBLTR48 ADPT LENS ASSEMBLY | 4 ft. replacement lens (trims included) |
| DBLTR48 SDPT LENS ASSEMBLY | 4 ft. replacement lens (trims included) |
| DBLTR48 ADSMT LENS ASSEMBLY | 4 ft. replacement lens (trims included) |
| DBLTR48 SDSMT LENS ASSEMBLY | 4 ft. replacement lens (trims included) |
| DBLTR48 ADPT SENSOR LENS ASSEMBLY | 4 ft. replacement lens (trims included) |
| DBLTR48 SDPT SENSOR LENS ASSEMBLY | 4 ft. replacement lens (trims included) |
| DBLTR48 ADSMT SENSOR LENS ASSEMBLY | 4 ft. replacement lens (trims included) |
| DBLTR48 SDSMT SENSOR LENS ASSEMBLY | 4 ft. replacement lens (trims included) |
| U10528A | 4 ft. replacement troffer trim strip |

Fit & Compatibility

The 2BLT4R Relight Assembly was designed to upgrade recessed 2x4 fixtures, including most parabolic and lensed troffers from all major manufacturers. Dimensional requirements are below, but Lithonia Lighting recommends a trial installation prior to purchasing project quantities.



Application Guide

2BLT4R — Typically used for lensed troffer installations. Assembly contains white end brackets and is supplied with white trim strips for use in closing gaps down fixture sides (installer's choice - not required).

*Note: This kit will fit in Lithonia's Avante non-air fixture.



2BLT4R A — Typically used for parabolic installations with black reveal. Assembly contains black end brackets to match black reveal around host housing. Does not interfere with host housing air supply/return if present (along fixture sides).



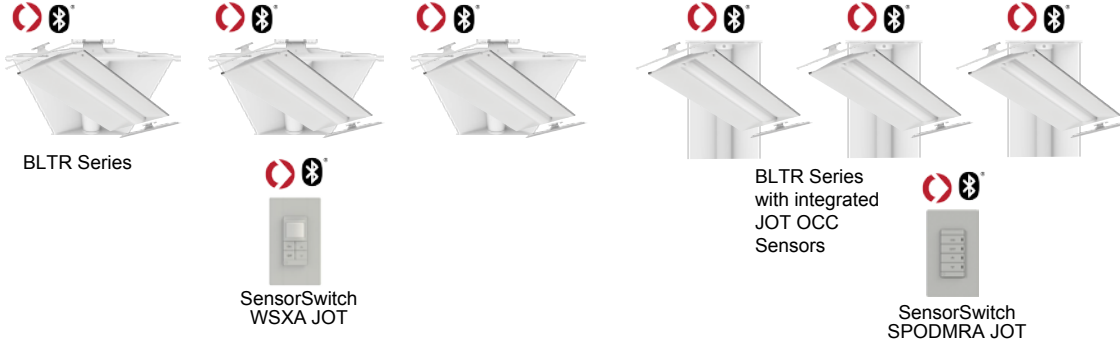
JOT Wireless



SensorSwitch JOT Enabled Wireless Solution

Designed with contractors in mind, the SensorSwitch JOT enabled wireless solution offers a straightforward approach to the installation and pairing of lighting fixtures and controls. Absolutely no 0-10V control wires and no mobile apps are needed with JOT enabled products, allowing for lightning speed installation right out of the box.

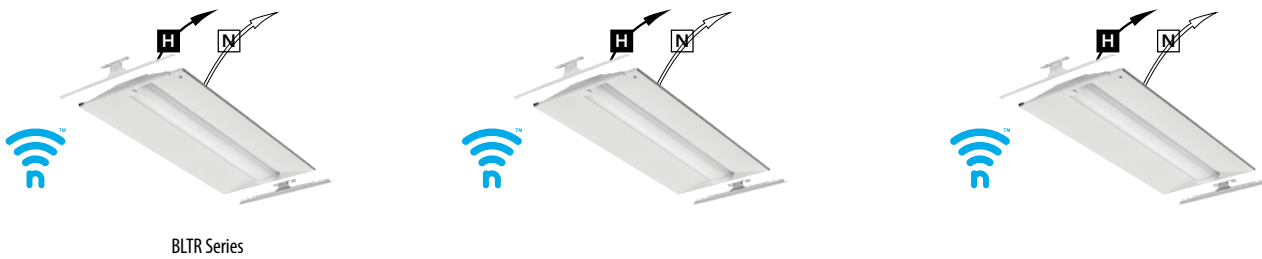
- 1. Power:** Install JOT enabled fixtures and controls as instructed.
- 2. Pair:** Insert the pairing tool into the pinhole on the wall switch; press and hold any button for 6 seconds.
- 3. Play:** Once paired, each fixture will individually dim down to 10% brightness. All products will be fully functional.



nLight Platform

| nLight embedded fixtures offer: | Customers get: |
|---|--|
| Manual Dimming | Convenience and visual comfort for occupants |
| Motion Sensing and/or Daylight Harvesting | Energy savings and code compliance |
| Fixture or Group Level Control | Ability to configure lighting to the space requirements |
| Flexibility | Ease of fixture moves, adds and changes |
| Wireless Wall Switch (nLight AIR Only) | Ease and flexibility of placement |
| Astronomical and Time of Day Scheduling | Energy savings and building security |
| Scalable Solution | nLight controls to grow with your business |
| Future-Ready | nLight platform to set foundation for future upgrades and capabilities |

nLight Air Wireless

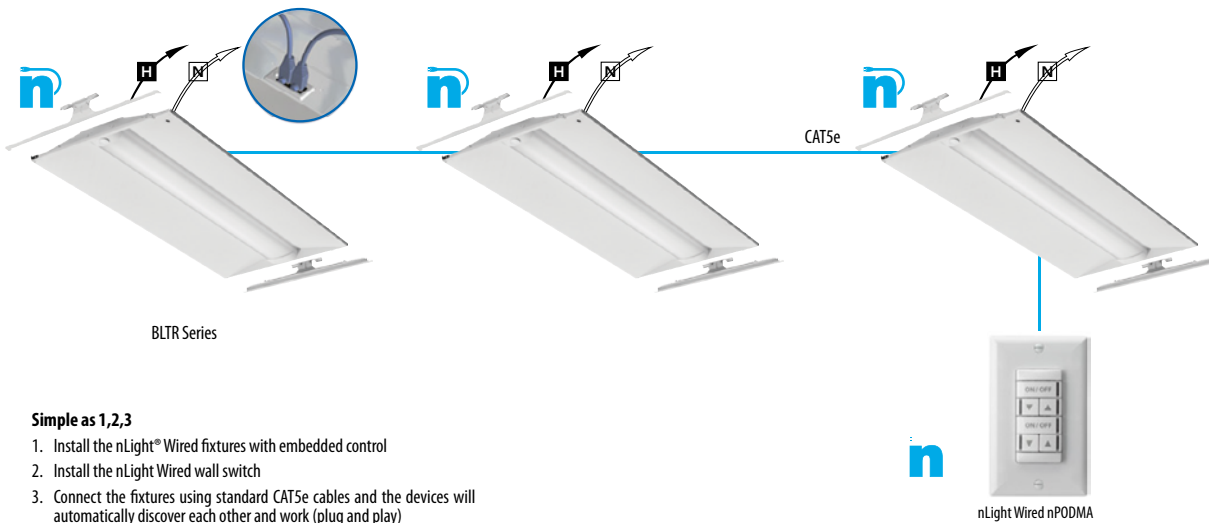


Simple as 1,2,3

1. Install the nLight® AIR fixtures with embedded smart sensor
2. Install the wireless battery-powered wall switch
3. With CLAIRITY app, pair the fixtures with the wall switch and if desired, customize the sensor settings for the desired outcome



nLight Wired Networking



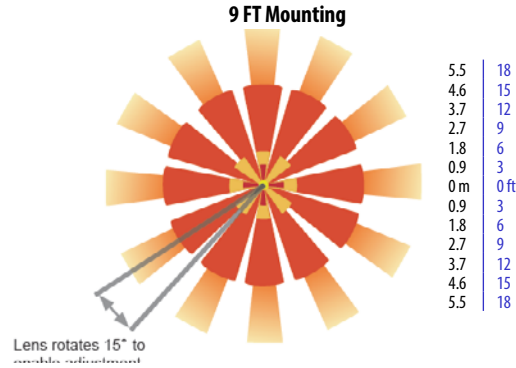
Simple as 1,2,3

1. Install the nLight® Wired fixtures with embedded control
2. Install the nLight Wired wall switch
3. Connect the fixtures using standard CAT5e cables and the devices will automatically discover each other and work (plug and play)

| Sensor Options | | | | | |
|----------------|-----------------------------|-------------------|-----|-------------------------|-----------------------|
| Option | Automatic Dimming Photocell | Occupancy Sensing | | nLight Wired Networking | nLight AIR Networking |
| | | PIR | PDT | | |
| MSD7ADCX | X | X | | | |
| MSDPDT7ADCX | X | | X | | |
| NES7 | | X | | X | |
| NES7ADCX | X | X | | X | |
| NESPDT7 | | | X | X | |
| NESPDT7ADCX | X | | X | X | |
| RES7 | X | X | | | X |
| RESPDT7 | X | X | X | | X |

Sensor Coverage Pattern Mini 360° Lens

- Recommended for walking motion detection from mounting heights between 8 ft (2.44 m) and 20 ft (6.10 m)
- Initial detection of walking motion along sensor axes at distances of 2x the mounting height up to 15 ft (4.57 m) and
- 1.75x up to 20 ft (6.10 m).
- Provides 12 ft (3.66 m) radial detection of small motion when mounted at 9 ft (2.74 m)
- Initial detection will occur earlier when walking across sensor's field of view than when walking directly at sensor



Integrated Sensor with Individual Control

The MSD7ADCX PIR occupancy sensor/automatic dimming photocell is ideal for areas without obstructions and where daylight harvesting may be desired. Suggested applications include, but not limited to, hallways, corridors, storage rooms, and breakrooms or other areas where people are typically moving.

The MSDPDT7ADCX PIR/Microphonics Dual Tech occupancy sensor/automatic dimming photocell is ideal for areas with obstructions and where daylight harvesting is desired. Suggested applications include, but not limited to, open offices, private offices, classrooms, public restrooms, and conference rooms.

nLight AIR Wireless

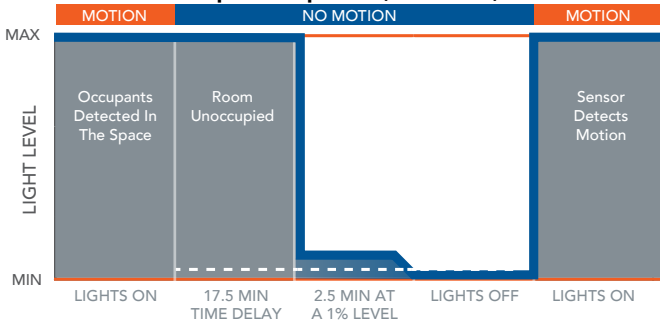
nLight AIR is the ideal solution for retrofit or new construction spaces where adding additional wiring can be labor intensive and nLight AIR is available with or without an integral sensor. The integrated rES7 or rES7PDT smart sensors are part of each luminaire in the nLight AIR network, which can be grouped to control multiple luminaires. The granularity of control with the digital PIR occupancy detection and daylight sensing makes a great solution for any application.

nLight Wired Networking

The nES7 is ideal for small rooms without obstructions or areas with primarily walking motion. Ideal areas include hallways, corridors, storage rooms, and breakrooms. Additionally, the nES7ADCX includes an integrated photocell, which enables daylight harvesting controls.

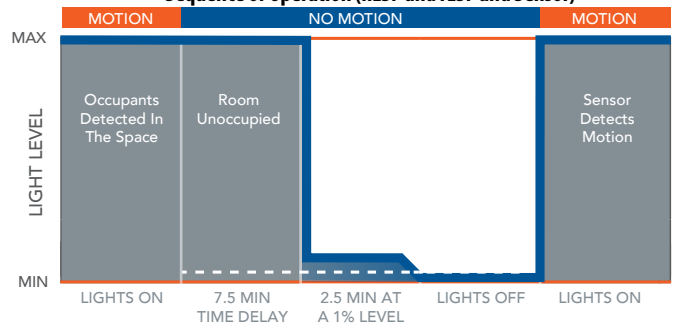
For areas like restrooms, private offices, open offices, conference rooms or any space with obstructions, the nES PDT 7 dual technology sensor is recommended. The nES PDT 7 utilizes both PIR (passive infrared) and Microphonics technologies to detect occupancy. Additionally, the nESPDT7ADCX includes an integrated photocell, which enables daylight harvesting controls which is ideal for areas where windows are present.

Sequence of Operation (MSD7 Sensor)



*The presetting on the automatic dimming photocell is 5fc.

Sequence of Operation (nES7 and rES7 and Sensor)



*The presetting on the automatic dimming photocell is 5fc (NES7) and 10fc (RES7).

Controls Accessories

nLight® Wired Control Accessories:

Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlight.

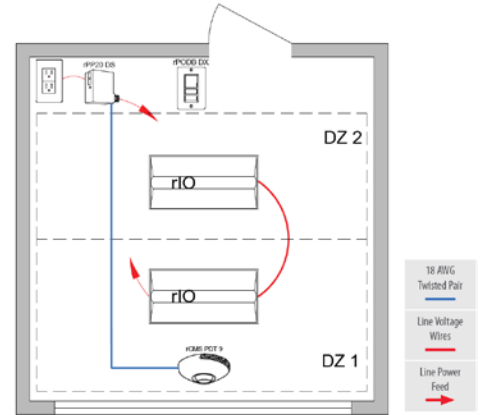
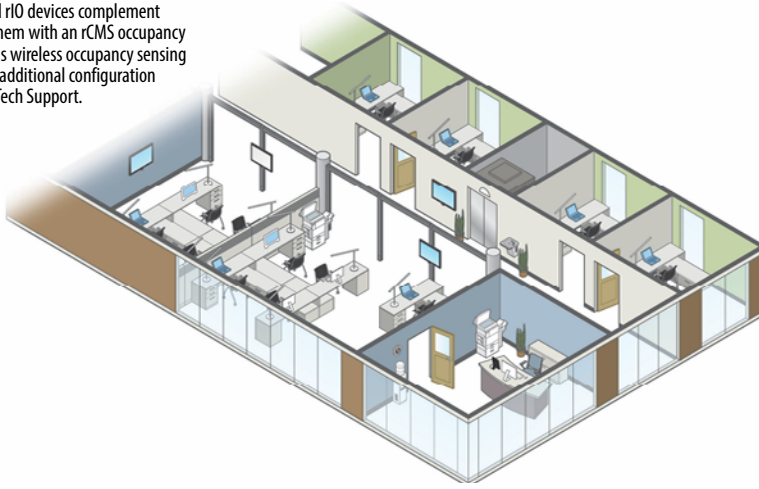
| WallPod stations | Model number | Occupancy sensors | Model number |
|----------------------|--------------------|--|----------------------------|
| On/Off | nPODMA [Color] | Small motion 360°, ceiling (PIR / dual tech) | nCM 9 RJB / nCM PDT 9 RJB |
| On/Off & raise/lower | nPODMA DX [Color] | Large motion 360°, ceiling (PIR / dual tech) | nCM10 RJB / nCM PDT 10 RJB |
| Graphic touchscreen | nPOD TOUCH [Color] | Wall switch with raise/lower | nWSX PDT LV DX [color] |
| Photocell controls | Model number | Cat-5 cable (plenum rated) | Model number |
| Full range dimming | nCM ADCX RJB | 10' cable | CATS 10FT J1 |
| | | 30' cable | CATS 30FT J1 |

nLight® AIR Control Accessories:

Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlightair.

| Wall switches | Model number |
|----------------------------------|-------------------------|
| On/Off single pole | rPODBA [color] G2 |
| On/Off two pole | rPODB A2P [color] G2 |
| On/Off & raise/lower single pole | rPODBA DX [color] G2 |
| On/Off & raise/lower two pole | rPODBA 2P DX [color] G2 |

BLTR fixtures with integrated rIO devices complement any small office space. Pair them with an rCMS occupancy sensor and the space now has wireless occupancy sensing and dimming capability. For additional configuration options please consult with Tech Support.



rCMS¹ Example: RCMS PDT 10 AR G2

| Series / Detection | Power Supply ¹ | Occupancy Detection | Lens (Required) | Operating Mode | Generation |
|---|--|--|---|------------------------------------|-------------------------------|
| RCMS nLight AIR occupancy and daylight sensor | [blank] Power Supply ordered separately PS 150 Standard 150 mA Power Supply | [blank] PIR Detection PDT Dual Tech PIR/ Microphonics | 10 Large Motion/ Extended Range 360° 9 Small Motion/ Extended Range 360° 6 High Bay 360° Lens | [BLANK] None AR Auxiliary Relay | G2 Generation 2 compatibility |

Notes

1 RCMS requires low voltage power from either RPP20 DS 24V G2 or PS150.



SensorSwitch
WSX



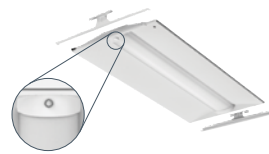
nLight WIRED
NPOD UNITOUCH



nLight WIRED
nPODMA DX



nLight AIR
rPODBA



BLTR with rIO



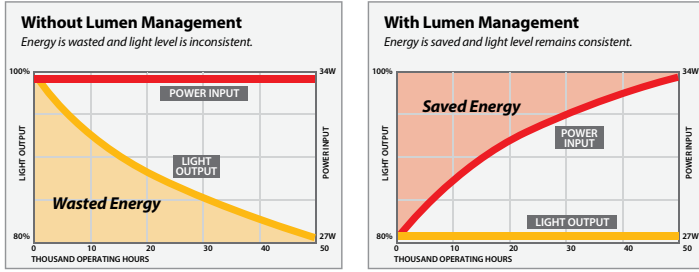
rPODBA



RCMS

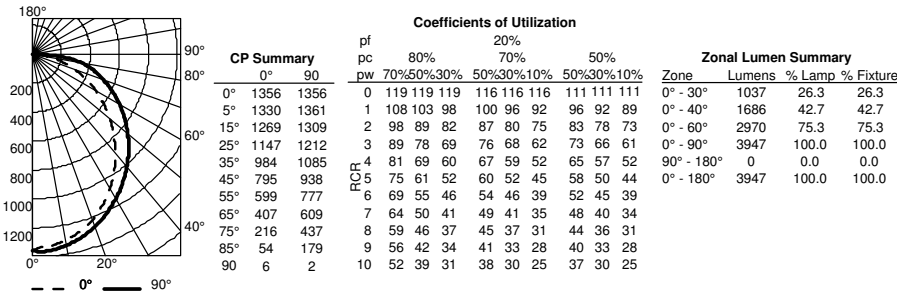
Constant Lumen Management

Enabled by the embedded nLight control, the BLT actively tracks its run-time and manages its light source such that constant lumen output is maintained over the system life. Referred to as lumen management, this feature eliminates the energy waste created by the traditional practice of over-lighting.

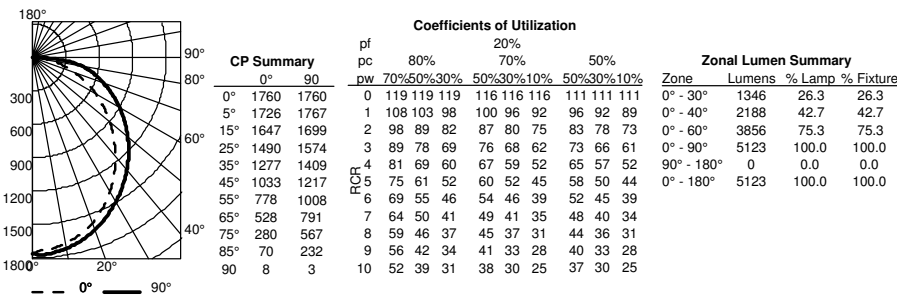


PHOTOMETRICS

2BLT4R 40L ADP LP835, 3945 delivered lumens

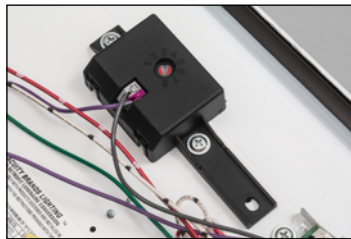


2BLT4R 48L ADP LP835, 5121 delivered lumens



FAO SETTINGS (Field Adjustable Output)

| | 0-10 Voltage Dimmer | % Lumen Output (approximate) | % Wattage (approximate) |
|--------|---------------------|------------------------------|-------------------------|
| Step 8 | Full Output | 100% | 100% |
| Step 7 | 9.0 VDC | 98% | 100% |
| Step 6 | 8.0 VDC | 88% | 86% |
| Step 5 | 7.0 VDC | 86% | 82% |
| Step 4 | 6.0 VDC | 82% | 80% |
| Step 3 | 5.0 VDC | 76% | 75% |
| Step 2 | 4.0 VDC | 71% | 72% |
| Step 1 | 3.0 VDC | 67% | 71% |



Simple adjustment of output through the use of a flat head screwdriver.

| Performance Data | | | |
|------------------|--------|-------------|-----|
| Lumen Package | Lumens | Input Watts | LPW |
| 30L ADP LP830 | 2832 | 23 | 125 |
| 30L ADP LP835 | 2932 | 23 | 129 |
| 30L ADP LP840 | 2979 | 23 | 131 |
| 30L ADP LP850 | 3064 | 23 | 135 |
| 40L ADP LP830 | 3825 | 31 | 123 |
| 40L ADP LP835 | 3960 | 31 | 128 |
| 40L ADP LP840 | 4023 | 31 | 130 |
| 40L ADP LP850 | 4138 | 31 | 134 |
| 48L ADP LP830 | 4743 | 38 | 126 |
| 48L ADP LP835 | 4910 | 38 | 130 |
| 48L ADP LP840 | 4989 | 38 | 133 |
| 48L ADP LP850 | 5131 | 38 | 136 |
| 60L ADP LP830 | 5753 | 46 | 124 |
| 60L ADP LP835 | 5956 | 46 | 128 |
| 60L ADP LP840 | 6051 | 46 | 130 |
| 60L ADP LP850 | 6224 | 46 | 134 |
| 72L ADP LP830 | 6928 | 59 | 118 |
| 72L ADP LP835 | 7173 | 59 | 122 |
| 72L ADP LP840 | 7287 | 59 | 124 |
| 72L ADP LP850 | 7495 | 59 | 128 |

| HE Performance Data | | | |
|---------------------|--------|-------------|-----|
| Lumen Package | Lumens | Input Watts | LPW |
| 30LHE ADP LP830 | 2971 | 22 | 133 |
| 30LHE ADP LP835 | 3076 | 22 | 138 |
| 30LHE ADP LP840 | 3125 | 22 | 140 |
| 30LHE ADP LP850 | 3214 | 22 | 144 |
| 40LHE ADP LP830 | 3906 | 29 | 134 |
| 40LHE ADP LP835 | 4044 | 29 | 138 |
| 40LHE ADP LP840 | 4109 | 29 | 141 |
| 40LHE ADP LP850 | 4226 | 29 | 145 |
| 48LHE ADP LP830 | 4561 | 34 | 135 |
| 48LHE ADP LP835 | 4722 | 34 | 139 |
| 48LHE ADP LP840 | 4798 | 34 | 142 |
| 48LHE ADP LP850 | 4935 | 34 | 146 |
| 60LHE ADP LP830 | 5636 | 43 | 132 |
| 60LHE ADP LP835 | 5835 | 43 | 137 |
| 60LHE ADP LP840 | 5928 | 43 | 139 |
| 60LHE ADP LP850 | 6098 | 43 | 143 |
| 72LHE ADP LP830 | 6836 | 52 | 132 |
| 72LHE ADP LP835 | 7078 | 52 | 137 |
| 72LHE ADP LP840 | 7191 | 52 | 139 |
| 72LHE ADP LP850 | 7396 | 52 | 143 |
| 85LHE ADP LP830 | 7801 | 61 | 127 |
| 85LHE ADP LP835 | 8076 | 61 | 131 |
| 85LHE ADP LP840 | 8205 | 61 | 133 |
| 85LHE ADP LP850 | 8440 | 61 | 137 |



Features

- Advanced dimming with Pro-DIM technology: 0-10V and/or AB dimming
- No Polarity: lamp ends can be reversed
- Same wiring as fluorescent lamp/ballast system
- UL 1598C for safety
- Full glass as fluorescent T5
- No Mercury, No UV
- Suitable for Dry and Damp Locations
- Low Temperature Operation
- Instant On
- 50,000 hours with no limitation on On/Off Cycles
- 5-year Warranty
- Evaluated for use in totally enclosed, recessed luminaires, surface mount wall and ceiling luminaires, outdoor luminaires (open surface mount luminaires with compartment protection from weather)
- For use with Class 2 driver only

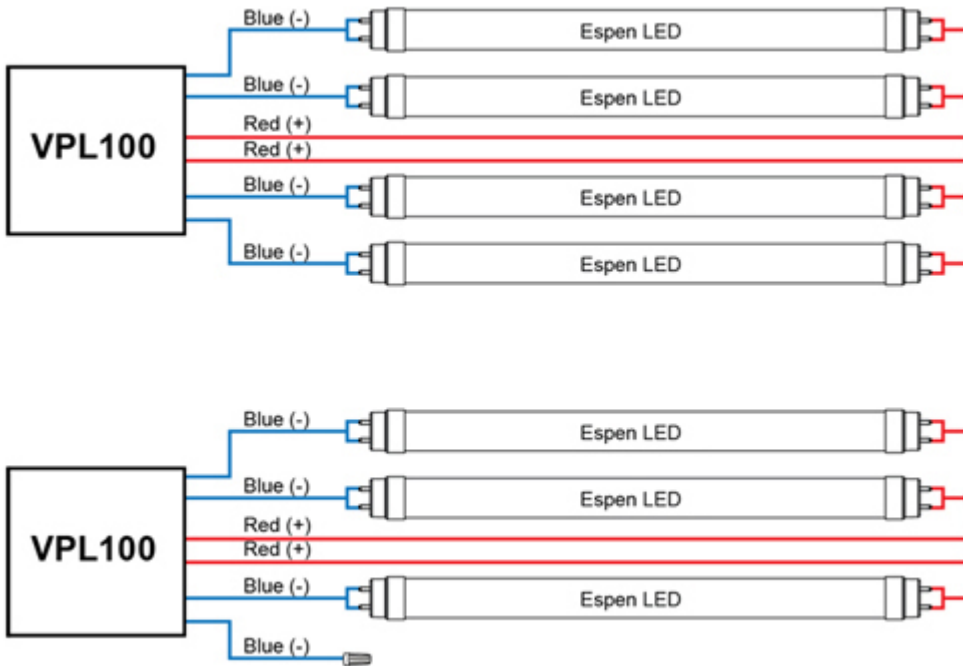
CoreTech LED Series
PRODUCT SPECIFICATIONS



| Model | Lamp Input Current | System Wattage | Lamp Wattage | Length | CRI | Initial Lumens | Lamp Efficacy (lm/W) | System Efficacy (lm/W) | Beam Angle | CCT | DLC |
|------------------|--------------------|----------------|--------------|--------|-----|----------------|----------------------|------------------------|------------|-------|-----|
| L48T5/830/24G-XT | 360mA | 18 | 15 | 48" | 82 | 2200 | 146 | 122 | 240 | 3000K | Yes |
| L48T5/835/24G-XT | 360mA | 18 | 15 | 48" | 82 | 2200 | 146 | 122 | 240 | 3500K | Yes |
| L48T5/840/24G-XT | 360mA | 18 | 15 | 48" | 82 | 2200 | 146 | 122 | 240 | 4000K | Yes |
| L48T5/850/24G-XT | 360mA | 18 | 15 | 48" | 82 | 2200 | 146 | 122 | 240 | 5000K | Yes |
| L48T5/830/24G-XT | 500mA | 27 | 24 | 48" | 82 | 3300 | 138 | 122 | 240 | 3000K | Yes |
| L48T5/835/24G-XT | 500mA | 27 | 24 | 48" | 82 | 3300 | 138 | 122 | 240 | 3500K | Yes |
| L48T5/840/24G-XT | 500mA | 27 | 24 | 48" | 82 | 3300 | 138 | 122 | 240 | 4000K | Yes |
| L48T5/850/24G-XT | 500mA | 27 | 24 | 48" | 82 | 3300 | 138 | 122 | 240 | 5000K | Yes |

Wiring diagram





Specification data is based on tests performed in a controlled environment and represents relative performance. Actual performance can vary depending on operating conditions. Application and performance data subject to change without notice. All specifications are nominal unless noted otherwise.

Espen Technology, Inc. | 12257 Florence Avenue | Santa Fe Springs, CA 90670 | Phone: (562) 529-2938 | Fax: (562) 529-2978
Toll Free: (866) 933-7736 | Email: info@espentech.com | www.espentech.com



| VPL50-2C-030/036 | |
|------------------|--|
| Driver Type | Constant Current Field Adjustable LED Driver |
| No. of Channels | 2 |
| Input Voltage | 120-277 V |
| Input Frequency | 50-60 Hz |
| Dimming | 0-10V |

- Features**
- Universal Voltage (120-277V)
 - Multiple Output Channels
 - Constant Current
 - Per channel 300mA / 360mA
 - 0-10V
 - Integrates with Adaptive Lighting Control Systems
 - Compatible with LED modules and Coretech LED tubes
 - UL, cUL, UL8750 Class 2
 - FCC Part 15 Class A

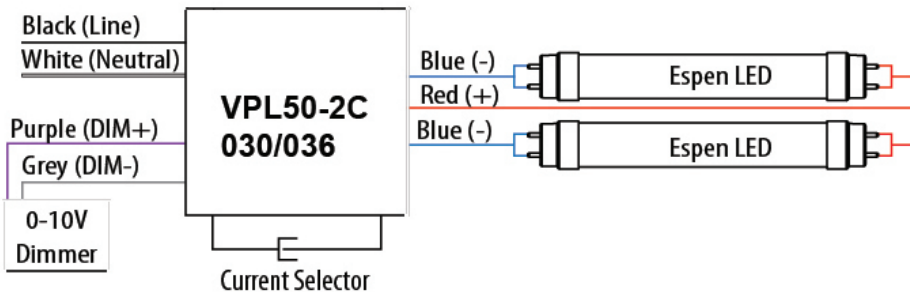


CoreTech VPL
PRODUCT SPECIFICATIONS

| OUTPUT | |
|---|---------------|
| No. of Channels | 1 2 |
| No. of Coretech LED Lamps | 1 2 |
| Output Voltage (Range) | 20-46VDC |
| Output Current Range (Programmable @ full load) | 300mA / 360mA |
| Total Rated Power | 33W |

| INPUT | |
|-----------------------|------------------------|
| Frequency | 50-60Hz |
| Input Voltage (range) | 120-277 VAC |
| Power Factor (min.) | 0.9 @ full load 277VAC |
| THD (max.) | 20% @ full load 110AC |
| Efficiency (typical) | 0.85 |

Wiring diagram

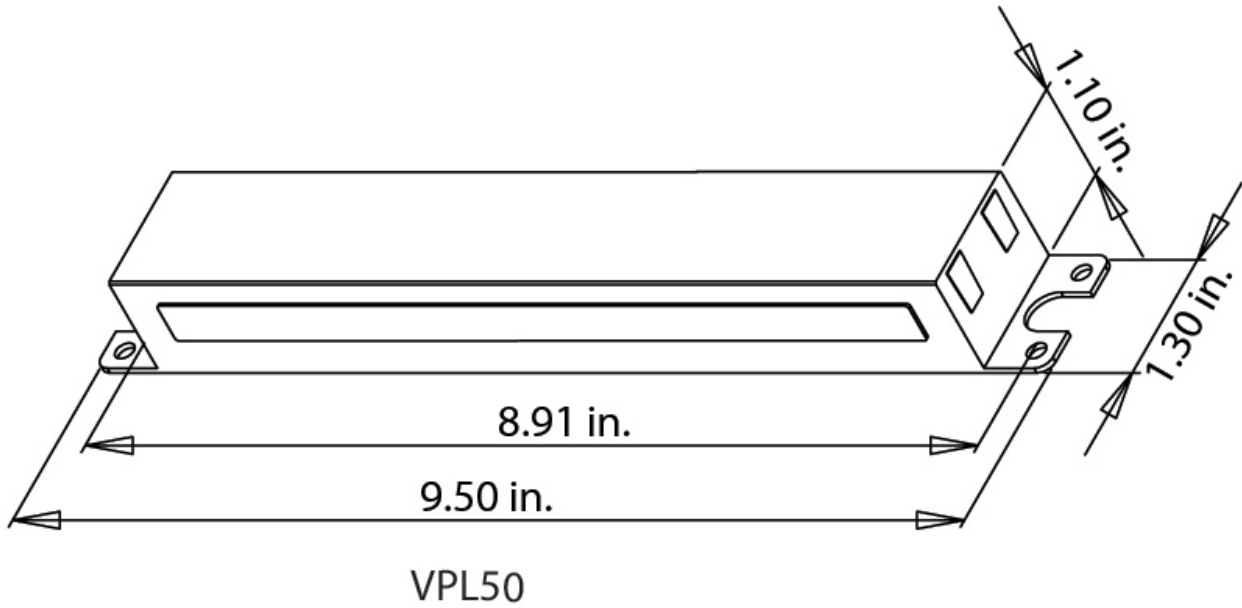


Current Selector Close = (300mA)



Current Selector Open = (360mA)

Dimension



Specification data is based on tests performed in a controlled environment and represents relative performance. Actual performance can vary depending on operating conditions. Application and performance data subject to change without notice. All specifications are nominal unless noted otherwise.

Espen Technology, Inc. | 12257 Florence Avenue | Santa Fe Springs, CA 90670 | Phone: (562) 529-2938 | Fax: (562) 529-2978
Toll Free: (866) 933-7736 | Email: info@espentech.com | www.espentech.com

| | |
|----------------|------------------------|
| Catalog Number | ITEM 194-1901-R0521_A1 |
| Notes | |
| Type | |

FEATURES & SPECIFICATIONS

INTENDED USE — Lithonia Linear is a suspended linear fixture designed for open, mixed, grid, or hard surface applications. The perfect blend of configurability and simplicity - Lithonia Linear is perfect for contractors, design builders, architects and specifiers for use in almost any application including open ceilings, retail, office, hospitality, education, healthcare, and transportation.

CONSTRUCTION — Lithonia Linear is built on an extruded aluminum chassis for the perfect blend of strength, weight, and thermal performance. Lithonia Linear utilizes power modules and light bars, which eliminate the need and ability for wire-ways and through wires.

OPTICS — Lithonia Linear utilizes a frosted polycarbonate diffuser which provides an optimal 13% uplight to prevent a dark ceiling effect without reducing overall fixture efficiency.

CONTROLS — Optional integrated Vertex motion sensor comes pre-programmed and can also be customized in the field utilizing the VLP app.

INSTALLATION — Lithonia Linear is designed to be extremely easy to install in multiple applications. Optional attached cords and integrated sensors reduce wiring time in the field. Adjustable mounting points and aircraft cable make it easy to order without knowing exact layouts and mounting points ahead of time. Not suitable for through wiring. LL requires ordering mounting hardware separately. See Accessories section on page 2.

LISTINGS — UL certified to US and Canadian safety standards. DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

WARRANTY — 5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/support/customer-support/terms-and-conditions

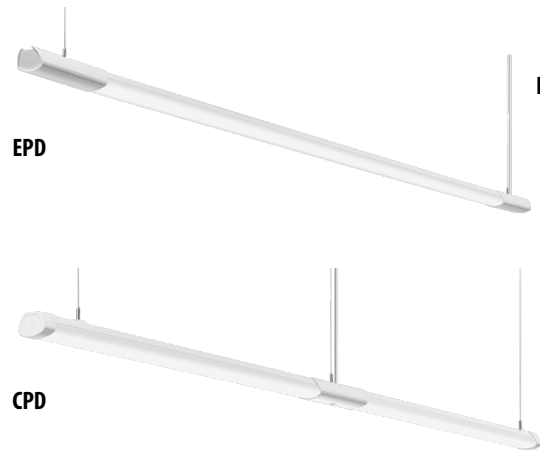
Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

MOUNTING HARDWARE — Mounting hardware is ordered separately as an accessory and can be found on Page 2 of the spec sheet.

Open Ceiling LED Suspended

LL

Lithonia® Linear



eldoLED



ORDERING INFORMATION

Lead times will vary depending on options selected. Consult with your sales representative.

Example: LL8 6000LM 80CRI 30K CPD MIN1 MVOLT CNP5CD20FT WH VTX

| Series | Lumens ‡ | CRI | CCT | Power Drops Location | Minimum Dimming Level | Control Input |
|------------------------|----------------------|--------------|-----------|-------------------------|-----------------------|-----------------------------|
| LL8 8' LED Suspended | 6000LM 6000 lumens | 80CRI 80 CRI | 30K 3000K | CPD Center power drop ‡ | MIN1 Dims to 1% | EZT eldoLED 0-10V dimming ‡ |
| | 8000LM 8000 lumens | | 35K 3500K | EPD End power drop | MIN10 Dims to 10% | ZT Generic 0-10V dimming ‡ |
| | 10000LM 10000 lumens | | 40K 4000K | | | |
| LL16 16' LED Suspended | 12000LM 12000 lumens | | 50K 5000K | | | |
| | 16000LM 16000 lumens | | | | | |
| | 20000LM 20000 lumens | | | | | |

| Voltage | Emergency Option | Cordset | Finish ‡ | Controls |
|--------------------------------------|--|--|--|---|
| MVOLT MVOLT (120-277V) 347 347V ‡ | (Blank) no emergency option IE10WCP 10W Emergency backup ‡ IE10WCPHE 10W Emergency backup w/standby mode (T20) ‡ | (Blank) no cordset installed CNP5CD10FT Cord, No plug, 5 Wire, 18ga, Black, 10ft CNP5CDW10FT Cord, No plug, 5 Wire, 18ga, White, 10ft CNP5CD20FT Cord, No plug, 5 Wire, 18ga, Black, 20ft CNP5CDW20FT Cord, No plug, 5 Wire, 18ga, White, 20ft | WH Matte white DNA Natural aluminum MB Matte black | (Blank) no controls VTX Integrated Vertex VLP sensor ‡ |

NOTE: ‡ indicates option chosen has ordering restrictions or note. Please reference ordering notes chart. Options are sorted alphanumerically.

| ‡ Ordering Notes/ Restrictions | |
|--------------------------------|---|
| Option value | Restriction |
| 347 | Must be remote mounted - remote mount driver box included with this option. |
| CPD | Preferred configuration when continuous row mounting. |
| EZT | Not available with MIN10. Remote mount driver box included with this option. |
| Finish | All finishes are painted after fabrication. |
| IE10WCP | Not available with 347. Must be remote mounted - remote mount driver box included with this option. |
| IE10WCPHE | Not available with 347. Must be remote mounted - remote mount driver box included with this option. |
| Lumens | Nominal lumen output. |
| VTX | Requires MIN1, leave control input section blank. Not available with LL16. If ordering with cordset choose 5 conductor cord. Remote mount driver box included with this option. |
| ZACFPD | Required if utilizing 0-10V dimming or VTX integrated sensor option. See accessories section below. |
| ZT | Not available with MIN1. |

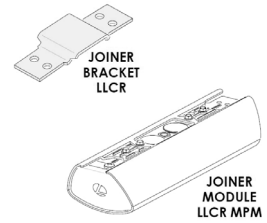
| Required Mounting Hardware Quantity Key | | |
|---|----------------|----------------|
| | SUSPENSION KIT | POWER FEED KIT |
| LL8 CPD | 2 | 1 |
| LL8 EPD | 1 | 1 |
| LL16 CPD | 2 | 1 |
| LL16 EPD | 2 | 2 |

LL8 LED Suspended

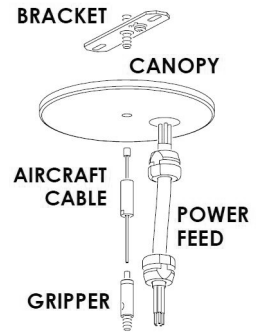
ITEM 194-1901-R0521_A1

| ACCESSORIES (ordered separately) | | | |
|----------------------------------|--------------|--|--|
| | CI Code | MODEL | DESCRIPTION |
| SUSPENSION KIT | *265WLF | LLAC120 | 120" cable gripper w/nut - NO Canopy |
| | *265WLG | LLAC240 | 240" cable gripper w/nut - NO Canopy |
| | *267MEP | LLCNPY WHT CANOPY KIT WHITE | White, 5" Canopy with 15/32" and 1/2" diameter holes |
| | *267MF2 | LLCNPY BLK CANOPY KIT BLACK | Black, 5" Canopy with 15/32" and 1/2" diameter holes |
| | *211C82 | ZAC120 | 120" cable gripper w/nut - INCL 5" MATTE WHITE CANOPY & BRACKET |
| | *250E2S | ZAC120 MB | 120" cable gripper w/nut - INCL 5" MATTE BLACK CANOPY & BRACKET |
| | *217YRX | ZAC240 | 240" cable gripper w/nut - INCL 5" MATTE WHITE CANOPY & BRACKET |
| | *2512MC | ZAC240 MB | 240" cable gripper w/nut - INCL 5" MATTE BLACK CANOPY & BRACKET |
| POWER FEED KIT | *217CH8 | ZACFP120 | 3-conductor power feed & 120" cable gripper w/nut - INCL 5" MATTE WHITE CANOPY & BRACKET |
| | *2604Y2 | ZACFP120 MB | 3-conductor power feed & 120" cable gripper w/nut - INCL 5" MATTE BLACK CANOPY & BRACKET |
| | *219E93 | ZACFP240 | 3-conductor power feed & 240" cable gripper w/nut - INCL 5" MATTE WHITE CANOPY & BRACKET |
| | *265WXL | ZACFP240 MB | 3-conductor power feed & 240" cable gripper w/nut - INCL 5" MATTE BLACK CANOPY & BRACKET |
| | *233RV9 | ZACFPD120 | 5-conductor power feed & 120" cable gripper w/nut - INCL 5" MATTE WHITE CANOPY & BRACKET ‡ |
| | *250E75 | ZACFPD120 MB | 5-conductor power feed & 120" cable gripper w/nut - INCL 5" MATTE BLACK CANOPY & BRACKET ‡ |
| | *233RVA | ZACFPD240 | 5-conductor power feed & 240" cable gripper w/nut - INCL 5" WHITE CANOPY & BRACKET ‡ |
| *2512MJ | ZACFPD240 MB | 5-conductor power feed & 240" cable gripper w/nut - INCL 5" MATTE BLACK CANOPY & BRACKET ‡ | |
| T-GRID CONVERSION KIT | *212NF3 | U0776 | Clip used to convert aircraft mounting from JBOX to T-Grid |
| OPTIONAL MOCK JOINERS | *266EU4 | LLCR MPM | Mock Power Module Joiner, Matte White |
| | *266EUK | LLCR MPM MB | Mock Power Module Joiner, Matte Black |
| | *266EUG | LLCR MPM DNA | Mock Power Module Joiner, Natural Aluminum |

JOINERS

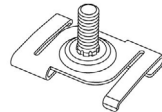


SUSPENSION KIT

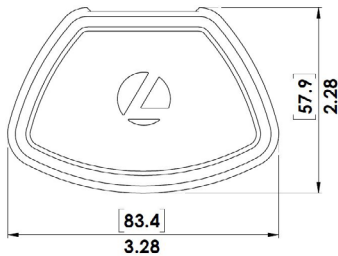


| REPLACEMENT PARTS | |
|-------------------|--|
| RK3LLCR | Joiner, Galvanized Steel (comes std w/fixture) |

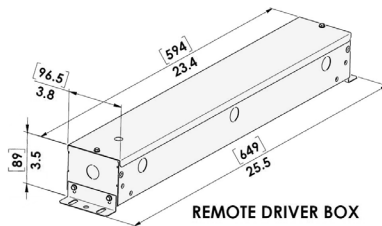
U0776 CLIP



DIMENSIONS:



REMOTE DRIVER BOX



PERFORMANCE DATA

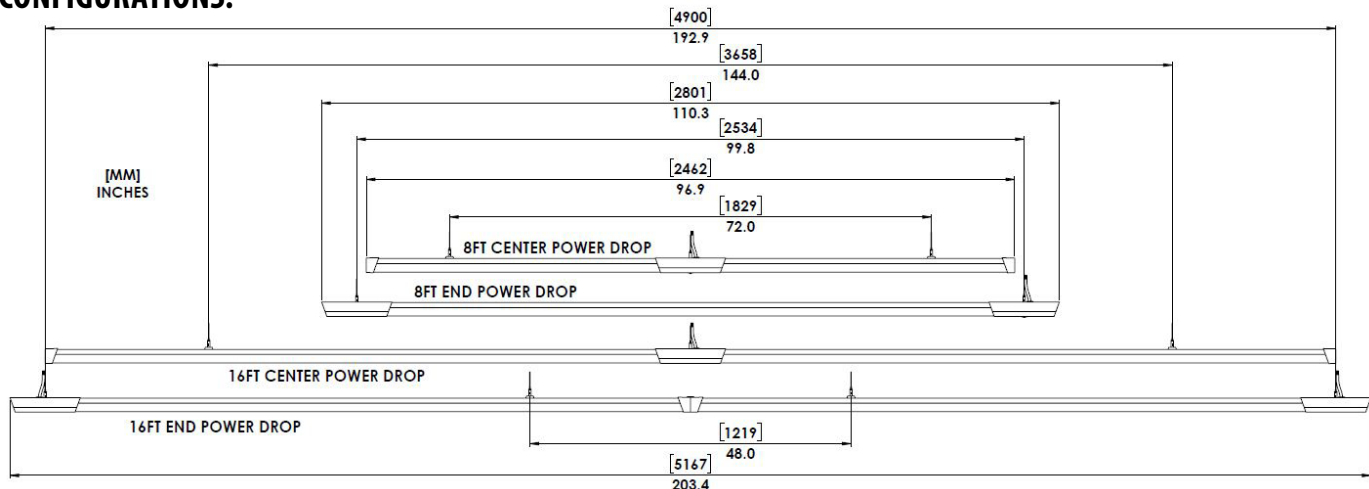
| Nomenclature | Lumens | Wattage | LPW |
|------------------------------|--------|---------|-----|
| LL8 6000LM 80CRI 40K MVOLT | 6111 | 50 | 121 |
| LL8 8000LM 80CRI 40K MVOLT | 8327 | 66 | 127 |
| LL8 10000LM 80CRI 40K MVOLT | 9786 | 79 | 124 |
| LL16 12000LM 80CRI 40K MVOLT | 12223 | 101 | 121 |
| LL16 16000LM 80CRI 40K MVOLT | 16655 | 131 | 127 |
| LL16 20000LM 80CRI 40K MVOLT | 19572 | 158 | 124 |

For 30K - Factor in 5% lumen reduction
 For 35K - Factor in 3% lumen reduction
 For 50K - Factor in 2% lumen increase
 For 347V - Factor in 12% wattage increase

| Projected LED Life | L90 | L80 | L70 |
|--------------------|-----|-----|------|
| Hours | 44K | 92K | 150K |

Values are projections based on TM-21 and at 25C Ambient.

CONFIGURATIONS:



For more information on typical Lithonia Linear Layouts click [here](#)

FEATURES & SPECIFICATIONS

INTENDED USE — Ideal one-for-one replacement of conventional lighting systems such as HID and fluorescent. For use in light Industrial applications such as, warehousing and other large indoor spaces with mounting heights ranging from 10' – permitted. **Certain airborne contaminants can diminish integrity of acrylic and LED's.** [Click here for Acrylic Environmental Compatibility table for suitable uses.](#)

Certain airborne contaminants may adversely affect the functioning of LEDs and other electronic components, depending on various factors such as concentrations of the contaminants, ventilation, and temperature at the end-user location. [Click here for a list of substances that may not be suitable for interaction with LEDs and other electronic components.](#)

CONSTRUCTION — Extruded aluminum channels enable superior thermal performance. Glare Control acrylic lens diffuses light source and reduces glare while protecting LEDs. Lens meets DLC 5.1 standards for UGR (Unified Glare Rating).

ELECTRICAL — 70% lumen maintenance at > 100,000 hours. Thermally protected driver standard with 0-10V dimming. Luminaire surge protection level: designed to withstand up to 6kV/3kA per ANSI C82.77-5-2015 Multi-volt driver, 120-277V standard.

INSTALLATION — Compact Pro™ package includes V-hanger hardware kit with 2- V-hanger brackets and 2- 36" chain lengths. Fixture is suitable for mounting by chain, cable, surface-mount bracket, or hook monopoint. Designed for use in ambient temperatures ranging from -40°C to 55°C when suspended 18" off ceiling. Surface mount to 45°C ambient operation.

LISTINGS — CSA listed. Damp location listed.

DesignLights Consortium™ (DLC) Premium qualified product. Not all versions of this product may be DLC Premium qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

WARRANTY — 5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

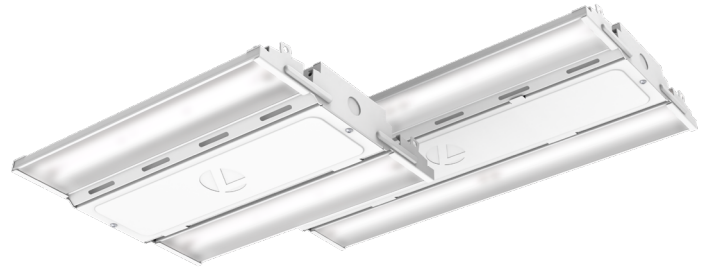
Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

| | |
|----------------|------------------------|
| Catalog Number | ITEM 194-1901-R0521_A1 |
| Notes | |
| Type | |

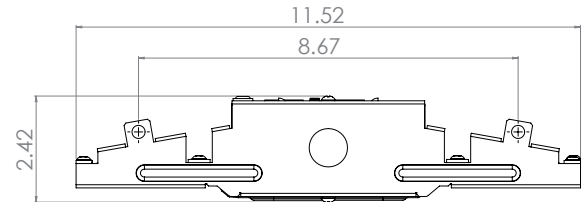
LED High Bay

COMPACT PRO™

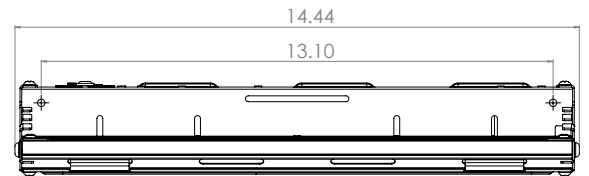
12,000 through 30,000 Lumens



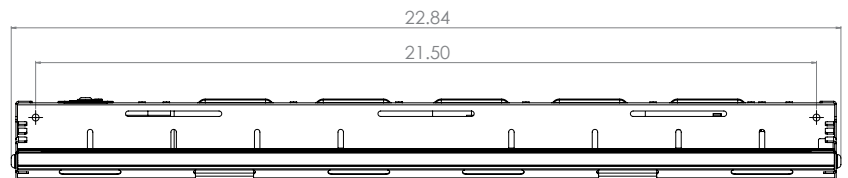
| Standard Part Number | Stock Part Number | Stock Part Number CI Code | DLC Product ID | DLC Premium? |
|--|---------------------|---------------------------|----------------|--------------|
| CPHB 12000LM SEF GCL MD MVOLT GZ10 40K 80CRI DWH | CPHB 12LM MVOLT 40K | *268SAH | PAMXQBT8 | Yes |
| CPHB 12000LM SEF GCL MD MVOLT GZ10 50K 80CRI DWH | CPHB 12LM MVOLT 50K | *2681J0 | POQ23DMQ | Yes |
| CPHB 15000LM SEF GCL MD MVOLT GZ10 40K 80CRI DWH | CPHB 15LM MVOLT 40K | *2681J2 | PLPPHUG | Yes |
| CPHB 15000LM SEF GCL MD MVOLT GZ10 50K 80CRI DWH | CPHB 15LM MVOLT 50K | *2681J5 | PJ97Z0F9 | Yes |
| CPHB 18000LM SEF GCL MD MVOLT GZ10 40K 80CRI DWH | CPHB 18LM MVOLT 40K | *268SAJ | PWHG1E01 | Yes |
| CPHB 18000LM SEF GCL MD MVOLT GZ10 50K 80CRI DWH | CPHB 18LM MVOLT 50K | *2681J9 | PSRNYSS1 | Yes |
| CPHB 24000LM SEF GCL MD MVOLT GZ10 40K 80CRI DWH | CPHB 24LM MVOLT 40K | *2681JE | PC2IBASD | Yes |
| CPHB 24000LM SEF GCL MD MVOLT GZ10 50K 80CRI DWH | CPHB 24LM MVOLT 50K | *2681JL | P7DUT85I | Yes |
| CPHB 30000LM SEF GCL MD MVOLT GZ10 40K 80CRI DWH | CPHB 30LM MVOLT 40K | *2681JM | PRXQVN2Q | Yes |
| CPHB 30000LM SEF GCL MD MVOLT GZ10 50K 80CRI DWH | CPHB 30LM MVOLT 50K | *2681JP | PDAUA08P | Yes |



End View: CPHB 12LM, 15LM, 18LM, 24LM, 30LM



Side View: 12000LM, 15000LM, 18000LM



Side View: 24000LM, 30000LM



ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative. **Example:** CPHB 24000LM SEF GCL MD 120 GZ10 40K 80CRI CPSBW LSXR6 HL DWH

| CPHB | | SEF | GCL | | | GZ10 | |
|---------------------------|---------|---------------------|-------------------------|------------------------|---|---------------------------|--------------------------|
| Series | Lumens | Performance Package | Lens | Distribution | Voltage | Driver | Color Temperature |
| CPHB Compact Pro High Bay | 12000LM | 12,000 lumens | SEF Standard Efficiency | GCL Glare Control Lens | MD Medium Distribution ND Narrow Distribution WD Wide Distribution | GZ10 0-10V dimming driver | 40K 4000 K 50K 5000 K |
| | 15000LM | 15,000 lumens | | | | | |
| | 18000LM | 18,000 lumens | | | | | |
| | 24000LM | 24,000 lumens | | | | | |
| | 30000LM | 30,000 lumens | | | | | |
| | | | | | MVOLT 120-277V 120 120V 208 208V 240 240V 277 277V 347‡ 347V 480‡ 480V HVOLT‡ 347-480V | | |

| 80CRI | | | DWH |
|-----------------------|--|---|-----------------|
| Color Rendering Index | Options | | Finish |
| 80CRI 80 CRI | <p>Emergency Options‡</p> <p>E10WCP 10W emergency battery pack, Certified in CA Title 20 MAEDBS‡</p> <p>E15WMCP 15W emergency battery pack, Certified in CA Title 20 MAEDBS‡</p> <p>IE20WCPHE Iota 20W emergency battery pack, Certified in CA Title 20 MAEDBS‡</p> <p>WGX Wireguard installed</p> <p>IMP Integrated modular plug</p> <p>OCS RELOC® OnePass selectable cable 6' installed‡</p> <p>Cord Sets‡</p> <p>CPSBW 6' white damp location cord with straight blade plug (voltage will match fixture, 120V or 277V only)</p> <p>CPTLW 6' white damp location cord with twist-lock plug (voltage will match fixture; Not avail with 208V or 240V)</p> <p>CNPW 6' white cord, no plug</p> <p>CNP4CW 6' white cord, 4 conductors (for use with battery)</p> <p>CNP5CDW 6' white cord, 5 conductors (includes dimming leads)</p> <p>For additional cord set offerings, see table on next page.</p> | <p>Individual Controls (LSXR):‡</p> <p>LSXR6 360° integral high mount motion sensor with standard on/off operation</p> <p>LSXR6 HL 360° integral high mount motion sensor with high/low/(off) occupancy operation. For High/Low/(never off), bypass relay</p> <p>LSXR6 P 360° integral high mount motion sensor with on/off switching photocell</p> <p>LSXR6 ADC 360° integral high mount motion sensor with dimming & switching photocell</p> <p>LSXR6 ANL 360° integral high mount motion sensor with High/Low (Off) occupancy dimming & auto-dimming photocell</p> <p>*For 360° integral LOW MOUNT sensors, replace "6" in nomenclature with "10". For High Mount AISLEWAY sensors, replace "6" in nomenclature with "50". Ex: LSXR50 HL</p> <p>nLight AIR Wireless Controls:</p> <p>NLTAIR2 nLight AIR (wireless) gen 2 control device with high mount occupancy and daylight sensor</p> <p>RLSXR6 nLight AIR (wireless) gen 2 control device (dimming & switching power pack)</p> <p>RPP20</p> <p>*For 360° integral LOW MOUNT sensors, replace "6" in nomenclature with "10". For High Mount AISLEWAY sensors, replace "6" in nomenclature with "50". Ex: RLSXR50</p> | DWH Gloss White |

| Accessories: Order as separate catalog number. | | |
|---|--|--|
| <p>Mounting:</p> <p>IBAC120 M100 Aircraft cable 10' with hook (one pair)</p> <p>IBAC240 M75 Aircraft cable 20' with hook (one pair)</p> <p>IBHMP Hook monopoint</p> <p>ZACVH Aircraft 10' V hanger (one pair)</p> <p>HC36 Hanger chain, 36" (one pair)</p> <p>THUN Tong hanger surface mount bracket (order 2 per fixture)</p> | <p>Wire guards:</p> <p>WGCPHBSM Wire guard for CPHB (12000LM - 18000LM)</p> <p>WGCPHBMD Wire guard for CPHB (24000LM - 30000LM)</p> | <p>Cord sets for IMP option: ‡</p> <p>CS1WIMP Straight plug, 120V</p> <p>CS3WIMP Twist-lock, 120V</p> <p>CS7WIMP Straight plug, 277V</p> <p>CS11WIMP Twist-lock, 277V</p> <p>CS93WIMP 600V SO white cord, no plug (no voltage required)</p> |

PHOTOMETRICS

See www.lithonia.com.

| ‡ Option Value Ordering Restrictions | |
|--------------------------------------|---|
| Option Value | Ordering Restrictions |
| 347 | Fixture includes an additional 10kV surge protector. When ordered with 18000LM, includes step down transformer. |
| 480 | Fixture includes an additional 10kV surge protector. When ordered with 18000LM, includes step down transformer. |
| Cord Sets | Must specify voltage on cord sets with plugs. |
| Cord Sets for IMP | Fixture must be ordered with IMP option. All cord sets are 18/3, 6' white. |
| Emergency Options | MVOLT only. May alter fixture construction. Consult line art for dimensions. Batteries not for use with surface mount option. If cord set is needed, use CNP4C which will have normal hot and unswitched hot exiting cord set. Not available with IMP option. |
| E10WCP | Max ambient operating temperature of 35°C. |
| E15WMCP | Factory installation only. Not approved for field installation. Max ambient operating temperature of 35°C. |
| HVOLT | Fixture includes an additional 10kV surge protector. Not valid with 18000LM - must specify 347 or 480. |
| IE20WCPHE | Battery backpack is >17" long. Compatible only with 24000LM & 30000LM (22") fixture. Max ambient operating temperature of 40°C. |
| Individual Controls (LSXR) | Comes standard with SPD. This sensor configuration is suitable for minimum ambient temperature of 14°F (-10°C). Not available with other controls. |
| OCS | Dry Location listed only. Not available with Battery Options. |

ADDITIONAL CORD SET OPTIONS

| | Cord Set Nomenclature | Fixture Voltage | Description |
|--------------|-----------------------|-----------------|--|
| 12FT Options | CPSBW12FT | 277 | 12', White cord, with NEMA 7-15 plug (277v, 15A, straight blade) |
| | CPTLW12FT | 277 | 12', White cord, with NEMA L7-15 plug (277v, 15A, twist lock) |
| | CPTLW12FT | 480 | 12', White cord, with NEMA L8-20 plug (480v, 20A, twist lock) |
| | CNPW12FT | Any | 12', White cord, no plug, 3 conductors (BLK/WHT/GRN) |
| | CNP5CDW12FT | Any | 12', White cord, no plug, 5 conductors for dimming - (BLK/WHT/GRN/PUR/GRY) |

| | | | |
|--------------|-----------|-----|--|
| 15FT Options | CPSBW15FT | 277 | 15', White cord, with NEMA 7-15 plug (277v, 15A, straight blade) |
| | CPTLW15FT | 277 | 15', White cord, with NEMA L7-15 plug (277v, 15A, twist lock) |
| | CNPW15FT | Any | 15', White cord, no plug, 3 conductors (BLK/WHT/GRN) |

*CPHB will have additional cord set options available in April 2021. No additional lengths or configurations available at this time.

PERFORMANCE TABLE

| | | Glare Control Lens, Medium Distribution | | | |
|----------------------------------|--|---|---------|--------------|-----|
| | | Lumen Package | Wattage | Lumen Output | LPW |
| Delivered Lumens 4000K, 80CRI | | 12000LM | 88 | 12,261 | 140 |
| | | 15000LM | 104 | 14,857 | 143 |
| | | 18000LM | 134 | 18,364 | 137 |
| | | 24000LM | 174 | 24,890 | 143 |
| | | 30000LM | 214 | 30,298 | 141 |
| Delivered Lumens 5000K, 80CRI | | 12000LM | 88 | 12,342 | 141 |
| | | 15000LM | 104 | 14,955 | 144 |
| | | 18000LM | 134 | 18,485 | 138 |
| | | 24000LM | 174 | 25,054 | 144 |
| | | 30000LM | 214 | 30,498 | 142 |

SCALING FACTOR TABLES

| Multipliers | |
|-------------|------|
| ND | 1.00 |
| WD | 1.04 |
| WGX | 0.95 |

CPHB CHARACTERISTICS

| Lumen package | Wattage | | | | Length | Width | Depth | Weight | Comparable light source |
|---------------|---------|------|------|------|-------------|-------------|-----------|-----------|-------------------------------------|
| | 120V | 277V | 347V | 480V | | | | | |
| 12000LM | 88 | 87 | 87 | 87 | 14.4 (36.6) | 11.5 (29.2) | 2.3 (5.8) | 5 (2.2) | 175W MH, 4-lamp T8 HBF, 2-lamp T5HO |
| 15000LM | 104 | 104 | 103 | 104 | 14.4 (36.6) | 11.5 (29.2) | 2.3 (5.8) | 5 (2.2) | 200W MH, 6-lamp T8 NBF |
| 18000LM | 134 | 133 | 128 | 128 | 14.4 (36.6) | 11.5 (29.2) | 2.3 (5.8) | 6.5 (2.9) | 250W MH, 6-lamp T8 HBF, 4-lamp T5HO |
| 24000LM | 174 | 170 | 174 | 174 | 22.8 (57.9) | 11.5 (29.2) | 2.3 (5.8) | 8 (3.6) | 400W MH, 6-lamp T5HO |
| 30000LM | 214 | 210 | 219 | 217 | 22.8 (57.9) | 11.5 (29.2) | 2.3 (5.8) | 8 (3.6) | 575W MH, 10-lamp T8 HBF |

PROJECTED LUMEN MAINTENANCE

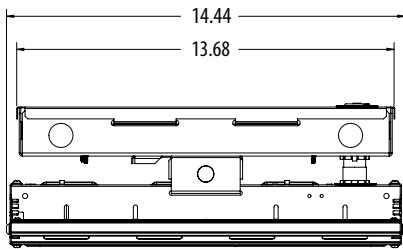
| Operating hours | 10,000 | 20,000 | 30,000 | 40,000 | 50,000 | 60,000 | 70,000 | 80,000 | 90,000 | 100,000 |
|--------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| Lumen maintenance factor | 0.98 | 0.96 | 0.93 | 0.91 | 0.89 | 0.87 | 0.85 | 0.83 | 0.81 | 0.79 |

BATTERY INFORMATION

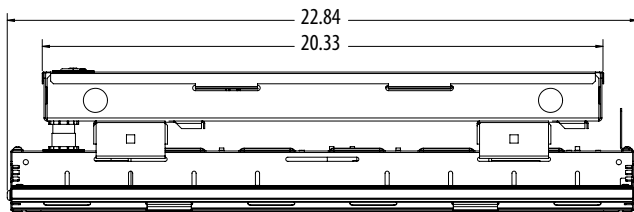
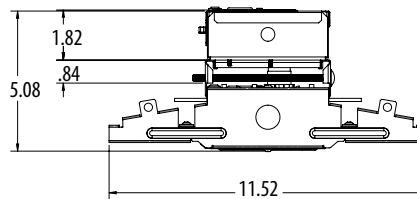
EMERGENCY BATTERY PACK OPTIONS

| Nomenclature | Part Number |
|--------------|---------------------------------|
| E10WCP | PS1055CP |
| E15WMCP | PS1555MCP |
| IE20WCPHE | ILB CP20 HE SDR |

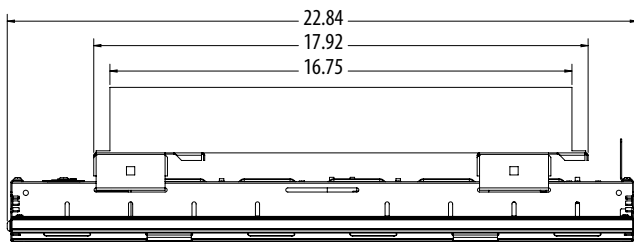
| EMERGENCY LUMENS GCL, MD (5000K, 80CRI) | | | |
|---|--------|---------|-----------|
| Lumen Package | E10WCP | E15WMCP | IE20WCPHE |
| 12000 | 1406 | 2109 | 2812 |
| 15000 | 1435 | 2153 | 2870 |
| 18000 | 1383 | 2074 | 2766 |
| 24000 | 1438 | 2156 | 2875 |
| 30000 | 1422 | 2134 | 2845 |



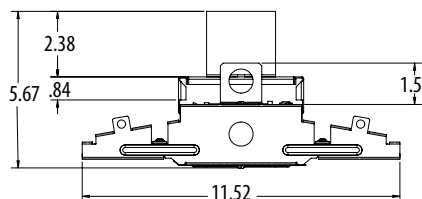
CPHB 12L-18L WITH E10WCP/E15WMCP



CPHB 24L-30L WITH E10WCP/E15WMCP



CPHB 24L-30L WITH IE20WCPHE



STANDARD SENSOR

| | | Standard Sensor or Control Device |
|-------------------------------|--|--|
| Emergency Operation Scenarios | Emergency Lighting Strategy | *Luminaire-integral battery pack and emergency driver *Generator transfer device |
| | Recommended Control Device Option | *Not specifically listed for emergency use. *Wired such that a separately listed emergency device provides emergency lighting power and/or control during loss of normal power scenarios. |

| Function | Standard Sensor or Control Device | Standard Sensor or Control Device | Standard Sensor Settings | | | | |
|---|---|-----------------------------------|--------------------------|-----------------------|-----------|------------------------------|---------------------|
| | | | Vacancy Time Out | Dim to Off Time Delay | High Trim | Vacancy Dim Level (Low Trim) | Photocell Set Point |
| On/Off | *Lights turn on when motion detected; Upon vacancy, Lights turn off after timeout. | LSXR6 | 10 min | - | - | - | - |
| High/Low (Off) | Lights turn on to high trim when presence is detected; Upon vacancy, the lights dim to low trim after timeout and turn off after "Dim To Off" Time Delay. For High/Low (Never Off) function, bypass the relay by bringing power directly into driver rather than wiring hot through LSXR device. | LSXR6 HL | 10 min | 2.5 min | 100% | 10% (Driver Low) | - |
| Photocell | Lights turn on unless ambient light level is above set point; If ambient light levels in the space exceed the photocell set point, lights will turn off even during occupancy. | LSXR6 P | - | - | - | - | 4 fc |
| Dimming + Photocell | Lights turn on when presence is detected unless ambient light level is above set point; Upon vacancy, the lights dim to low trim, then turn off after timeout; During occupancy, automatically raise and lower electric light level to maintain set point and turn off, depending on ambient light. | LSXR6 ADC | 10 min | 2.5 | - | - | 4 fc |
| Dimming + Photocell + High/Low | Lights turn on when presence is detected unless ambient light level is above set point; Upon vacancy, lights dim to low trim after timeout and remain at low trim until presence is detected; Automatically raise and lower electric light level to maintain set point during occupancy and during vacancy keeps lights at low trim if ambient light is not sufficient. | LSXR6 ANL | 10 min | - | 100% | 10% | 4 fc |
| Note: For 360° integral Low Mount sensors, replace "6" in nomenclature with "10". Ex. LSXR10 P. For High Aisle Mount sensors, replace "6" with "50". | | | | | | | |

| | | | | | | | | |
|--|---------------------------------|---|------------------------|---------|---------|------|------------------|-------|
| nLight AIR Wireless Sensors | Dimming + Photocell + Occupancy | Wirelessly programmable network sensor - On/Off control with dimming, occupancy detection, and daylight harvesting (Sensor embedded in fixture) | NLTAIR2 RLSXR6 | 7.5 min | 2.5 min | 100% | 10% | 50 fc |
| | Dimming | Wirelessly programmable On/Off control with dimming - no sensor (Device embedded in fixture) | NLTAIR2 RPP20 D | - | - | 100% | 10% (driver low) | - |
| Note: For 360° integral Low Mount sensors, replace "6" in nomenclature with "10". For high Aisle Mount sensors, replace "6" with "50". Ex: NLTAIR2 LSXR50 Controls are KO-mounted. | | | | | | | | |

IMP – Integrated Modular Plug

- The integrated modular plug (IMP) option allows the installer to plug and play.
- Cord sets connect quickly to any fixture with IMP option.

| IMP compatible cord sets ¹ | | | |
|---------------------------------------|---------------------|-----------------|--------------------------------|
| CS1WIMP | Straight plug, 120V | CS25WIMP | Twist-lock, 347V |
| CS3WIMP | Twist-lock, 120V | CS93WIMP | 600V SE00W white cord, no plug |
| CS7WIMP | Straight plug, 277V | CS97WIMP | Twist-lock, 480V |
| CS11WIMP | Twist-lock, 277V | | |

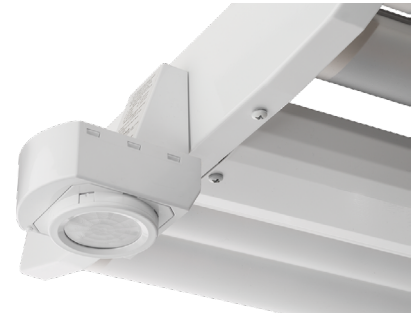
Notes

¹ Cord set required for fixture operation. All cord sets are 18/3, 6' white.

LSXR — Fixture Mount Occupancy Sensor (see www.AcuityControls.com for additional information)

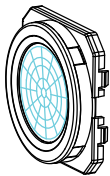
- Three interchangeable lens options to satisfy multiple mounting heights and coverage pattern requirements.
- Integrated mounting bracket drops lens down 3" from chase nipple.
- Single or dual relay versions — designed with robust protection from the harsh switching requirements of T5 and LED loads.
- Photocell and 0-10VDC dimming options.
- No PIR field calibration or sensitivity adjustments required.
- Sensor ambient temperature rating of 14°F (-10°C) to 131°F (55°C).

| LSXR configuration | Comparable CMRB sensor | Old style sensor nomenclature |
|---|------------------------|-------------------------------|
| For shortest lead times use one of the following LSXR configurations | | |
| LSXR50 / LC0ZU | CMRB 50 | MSI |
| LSXR50 HL / LCH0SZU | CMRB 50 D | MSID |
| LSXR50 P / LCPZU | CMRB 50 P | MSIPED |
| LSXR6 / LA0ZU | CMRB 6 | MSI360 |
| LSXR6 HL / LAH0SZU | CMRB 6 D | MSI360D |
| LSXR6 P / LAPZU | CMRB 6 P | MSI360PED |



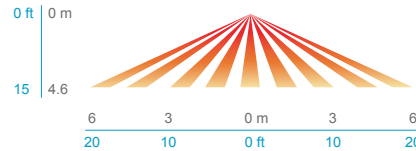
LSXR COVERAGE PATTERNS

HIGH MOUNT 360° LENS (#6)

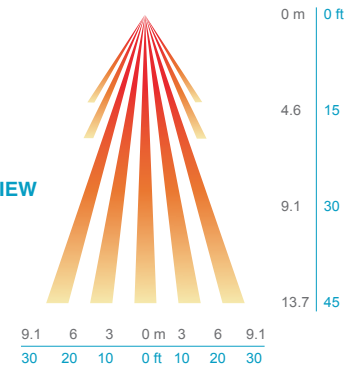


- Best choice for 15 to 45 ft (4.57 to 13.72 m) mounting heights
- 15 to 20 ft (4.57 to 6.10 m) radial coverage overlaps area lit by a typical high bay fixture
- Excellent detection of large motion (e.g. walking) up to a 35 ft (10.76 m) mounting height
- Excellent detection of extra large motion (e.g. forklifts) up to a 45 ft (13.72 m) mounting height

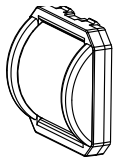
LOW VIEW



HIGH VIEW

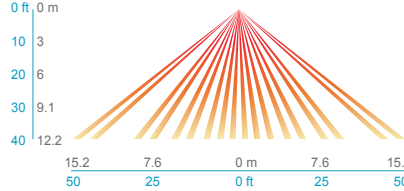


HIGH MOUNT AISLEWAY LENS (#50)

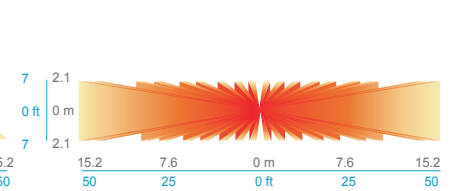


- Provides a bi-directional coverage pattern ideal for warehouse racking
- 1.2x mounting height equals approximated detection range in either direction
- Typical 40 ft (12.19 m) mounting detects 50 ft (15.24 m) in either direction
- Superior aisleway coverage compared to a masked 360° lens

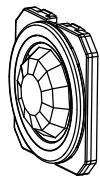
SIDE VIEW



TOP VIEW

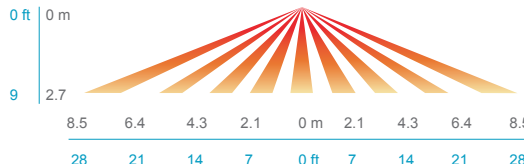


LOW MOUNT 360° LENS (#10)

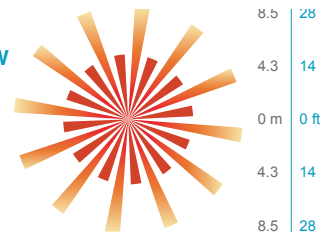


- Best choice for large motion detection (e.g. walking)
- 360° conical shaped pattern
- Provides ~24 ft (7.32 m) radial coverage (~2000 ft²) when mounted at 9 ft (2.74 m)
- 7 to 15 ft (2.13 to 4.57 m) mounting heights provide 16 to 36 ft (4.88 to 10.97 m) radial coverage
- Detection range improves when walking across beams compared to into beams

SIDE VIEW



TOP VIEW

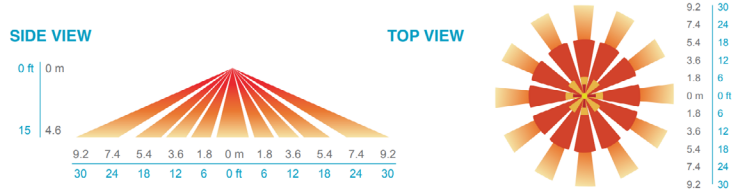


nLIGHT AIR CONTROLS - rLSXR

rLSXR COVERAGE PATTERNS

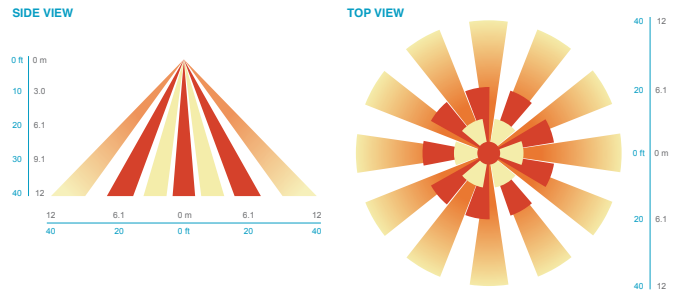
7 - MINI-LOW BAY 360° LENS

- Recommended for walking motion detection from mounting heights between 8 ft (2.44m) and 20 ft (6.10 m)
- Initial detection of walking motion along sensor axes at distances of 2x the mounting height up to 15 ft (4.57 m) and 1.75x up to 20 ft (6.10 m)
- Provides 12 ft (3.66 m) radial detection of small motion when mounted at 9 ft (2.74)
- Initial detection will occur earlier when walking across sensor's field of view than walking directly at sensor



45- HIGH MOUNT 360°

- Optimized full coverage pattern for 10 – 40 ft. (3.1 – 12 m)
- Reliable detection of large motion (e.g. pedestrian walking traffic) up to 30 ft. (9.1 m) mounting height
- Reliable detection of extra-large motion (e.g. forklift traffic) up to 40 ft. (12 m) mounting height



45A HIGH MOUNT AISLEWAY

- Optimized bi directional coverage pattern for aiseways with 10 – 40 ft. (3.1 – 12 m) mounting heights
- 1.2X's mounting height equals approximate detection range
- Reliable detection of large motion (e.g. pedestrian walking traffic) up to 30 ft. (9.1 m) mounting height
- Reliable detection of extra-large motion (e.g. forklift traffic) up to 40 ft. (12 m) mounting height
- Stow-able rotating lens shield can be utilized to mask areas in which detection is not desired

