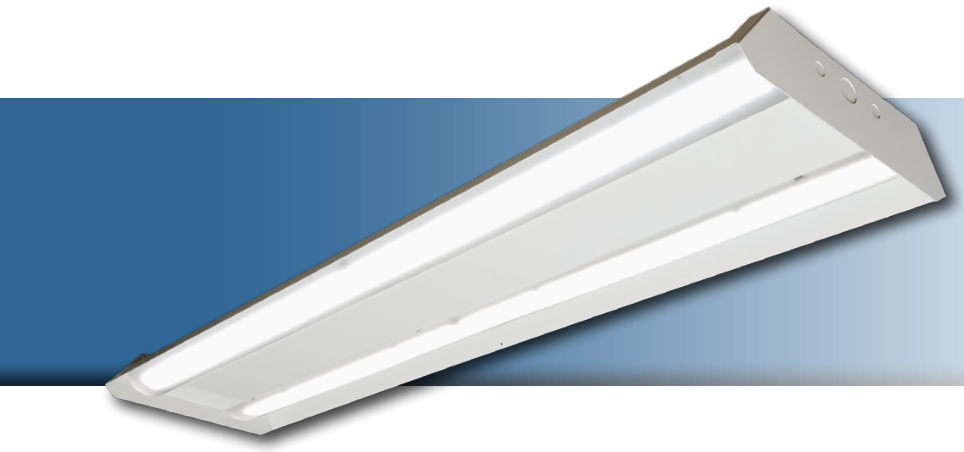


Project: _____

Location: _____

Cat. #: _____

Type: _____

Quantity: _____

LED

# PBL V2 4 | LED High Bay

## Features:

- High performance LED technology
- 0-10V dimming drivers standard on all models - dimmable to 5% on all models, with most dimmable to 1%
- DALI drivers available based on configuration
- Field replaceable LED boards and drivers through Re-boardABILITY (more info on Page 3)
- Frosted diffusers available to help minimize glare and improve aesthetics
- A wide variety of lumen packages allows for flexibility in design and helps maximize energy savings
- Multiple controls options available
- The PBL V2's unibody design is surface mountable with easy access to the driver compartment from below

## Applications:

Suitable for most commercial, industrial and institutional applications

- Retail
- Warehouse
- Manufacturing
- **Not** recommended for cold/frozen storage applications

## Ambient Operating Temp.:

- -30°C to 40°C*

** for suspended mount applications. Contact factory for ambient temperature ratings for surface mount applications.*

## Construction:

- Housing and LED tray is precision brake formed from aluminum
- Pre-painted with a highly durable, highly reflective white finish

MADE IN USA

USING DOMESTIC AND FOREIGN COMPONENTS

## Certifications:

- UL 1598 listed for US and Canada, suitable for damp locations
- DesignLights Consortium qualified on specific configurations (refer to DLC qualified products list for exact model numbers) http://designlights.org/

DLC LISTED c UL us

## Predicted Lifetime:

- L70: 129,000 hrs (calculated)
- L80: 80,000 hrs (calculated)
- L90: 38,000 hrs (reported)
- 82% lumen maintenance @ 72,000 hrs

*(based on LM80 and insitu laboratory testing)*

## Warranty:

- 5 year limited system warranty - see www.LumenFocus.com for complete warranty terms and conditions



www.lumenfocus.com
880 Facet Rd. | Henderson, NC 27537
252-430-6970

## Ordering Guide:

example: PBL V2 4 HI UV 850 QC20 C6 OSD

| Series | Length | Output | Voltage | Shielding | CRI/CCT | Hanging | Controls [1] | Options | Finish |
|---|---|---|---|---|---|---|---|---|---|
| PBL V2 | 4 | | | | | | | | |
| **PBL V2**<br>PBL Version 2 | **4**<br>4' | **SL**<br>Super Low<br>**VL**<br>Very Low<br>**LW**<br>Low<br>**MD**<br>Medium<br>**HI**<br>High<br>**VH**<br>Very High | **UV**<br>120-277<br>**34**<br>347V<br>**48**<br>480V | **Blank**<br>No Lenses<br>**FR**<br>Frosted Acrylic Diffusers | **835**<br>80 CRI/3500K<br>**840**<br>80 CRI/4000K<br>**850**<br>80 CRI/5000K | **Blank**<br>None<br>**QC**<br>10' Quick Hang Cable Kit<br>**QC20**<br>20' Quick Hang Cable Kit<br>**SM**<br>Surface Mount | **Blank**<br>No Controls<br>**ZOS**<br>Occupancy Sensor (On/Off)<br>**ZOSMHB**<br>Leviton Microwave 0-10V Multi-Level Occupancy Sensor with Photocell<br>**ZOSD**<br>0-10V Dimming Occupancy Sensor with Daylight Harvesting<br>**Z221B*xx*** [2]<br>Wattstopper Programmable 0-10V Multi-Level Occupancy Sensor with Photocell, Task Tuning<br>**Z321B*xx*** [2]<br>Wattstopper Bluetooth-enabled Programmable 0-10V Dimming Occupancy Sensor with Daylight Harvesting, Task Tuning<br>**ZOFD1**<br>Leviton Bluetooth-enabled Programmable 0-10V Dimming Occupancy Sensor with Daylight Harvesting, Task Tuning, Grouping<br>**ZOFDU**<br>Leviton Bluetooth-enabled Programmable 0-10V Dimming Occupancy Sensor with Daylight Harvesting, Task Tuning, Grouping, Scheduling<br>**ZSLHB**<br>Keystone SmartLoop Bluetooth-enabled Programmable 0-10V Dimming Occupancy Sensor with Daylight Harvesting, Task Tuning, Grouping, Scheduling<br>**ZESMC**<br>Philips EasySense Bluetooth-enabled Programmable DALI Dimming Occupancy Sensor with Daylight Harvesting, Task Tuning, Grouping, Scheduling<br>**ZLTS*xx*** [2]<br>LiteTrace Bluetooth-enabled Programmable 0-10V Dimming Occupancy Sensor with Daylight Harvesting, Task Tuning, Grouping, Scheduling, and Advanced Networking & IoT Capabilities<br>**ZLTC**<br>LiteTrace Bluetooth-enabled Programmable 0-10V fixture controller with Task Tuning, Grouping, Scheduling, and Advanced Networking & IoT Capabilities | **Blank**<br>No Options<br>**C6**<br>6' Single Circuit Cord<br>**C65W**<br>6' Single Circuit Cord with Low Voltage Connections<br>**C10**<br>10' Single Circuit Cord<br>**C105W**<br>10' Single Circuit Cord with Low Voltage Connections<br>**D6**<br>6' Dual Circuit Cord<br>**D10**<br>10' Dual Circuit Cord<br>**P(NEMA)**<br>Plug (Specify NEMA configuration)<br>**SC**<br>Safety Cable<br>**F**<br>Fuse<br>**EM6**<br>6.5W Emergency Pack [3]<br>**EM10**<br>10W Emergency Pack [3]<br>**EM14**<br>14W Emergency Pack [3]<br>**EM20**<br>20W Emergency Pack [3]<br>**SDT(480V)**<br>480V to 277V Step Down Transformer<br>**CC**<br>Conformal Coating<br>**LVL**<br>0-10V Dimming Leads for Easy Field Access<br>**BAA**<br>Buy American Act Compliant | **Blank**<br>White<br>**BK**<br>Matte Black<br>**SL**<br>Metallic Silver |

## Notes

[1] See 'Control Summary' on Page 4 for more details.
[2] '*xx*' = select lens type based on mounting height and coverage area. See 'Control Summary' on Page 4 for more details.
[3] 120-277V / 0°C-55°C ambient. To estimate lumen output in emergency mode, multiply EM wattage by the Lumens per Watt of the luminaire it is installed in.
ex. PBL V2 4 MD UV 850 EM14 → 163.4 LPW x 14W = 2,288 lm

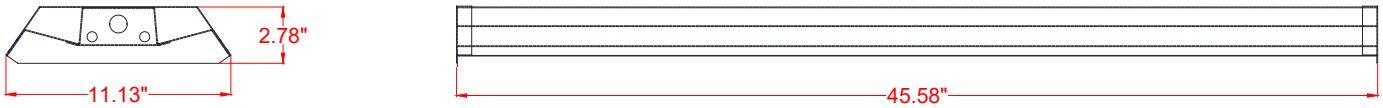
## Accessories *(order separately)*

**WG(PBL4)** Wire Guard
**WGE(PBL4)** Extended Wire Guard for use with end-mounted sensor

## Controls Accessories *(order separately)*

| Accessory Code | Description | Control Compatibility | Additional Info |
|---|---|---|---|
| **ZLSOR** | Wireless IR Configuration Tool | ZOSMHB | pg. 4 |
| **FSIR-100** | Wireless IR Configuration Tool | Z221B*xx* | pg. 4 |
| **KTSL-WS1-B-SG/G2** | 5-Button Bluetooth Wireless Wall Switch (battery powered) | ZSLHB | pg. 5 |
| **KTSL-TK1-USB** | USB Time Keeper | ZSLHB | pg. 5 |
| **ZBT-S1AWH** | Single Rocker ZigBee Wireless Wall Switch (self powered) | ZESMC | pg. 5 |
| **ZBT-S2AWH** | Dual Rocker ZigBee Wireless Wall Switch (self powered) | ZESMC | pg. 5 |
| **WP1013** | 3-Button Bluetooth Wireless Wall Switch (battery powered) | ZLTS*xx*, ZLTC | pg. 6 |
| **WP1025** | 5-Button Bluetooth Wireless Wall Switch (battery powered) | ZLTS*xx*, ZLTC | pg. 6 |
| **WP1018** | 8-Button Bluetooth Wireless Wall Switch (battery powered) | ZLTS*xx*, ZLTC | pg. 6 |
| **WP1018A** | 8-Button Bluetooth Wireless Wall Switch (battery powered) | ZLTS*xx*, ZLTC | pg. 6 |
| **WP10135S** | 3-Button Bluetooth Wireless Wall Switch (line voltage) | ZLTS*xx*, ZLTC | pg. 6 |
| **WP1017S** | 7-Button Bluetooth Wireless Wall Switch (line voltage) | ZLTS*xx*, ZLTC | pg. 6 |
| **IWS102** | Bluetooth Wireless Wall Switch w/ PIR Sensor (line voltage) | ZLTC | pg. 6 |

## Schematic:




## Performance Chart:

| Catalog # | Lumens | Watts | LPW |
|---|---|---|---|
| PBL V2 4 SL UV 835 | 11704.0 | 69.5 | 168.5 |
| PBL V2 4 VL UV 835 | 13762.6 | 83.1 | 165.7 |
| PBL V2 4 LW UV 835 | 17009.0 | 104.1 | 163.3 |
| PBL V2 4 MD UV 835 | 19273.2 | 121.2 | 159.0 |
| PBL V2 4 HI UV 835 | 23197.7 | 149.1 | 155.6 |
| PBL V2 4 VH UV 835 | 27031.0 | 177.1 | 152.6 |
| PBL V2 4 SL UV FR 835 | 10874.2 | 69.5 | 156.5 |
| PBL V2 4 VL UV FR 835 | 12786.8 | 83.1 | 154.0 |
| PBL V2 4 LW UV FR 835 | 15803.1 | 104.1 | 151.7 |
| PBL V2 4 MD UV FR 835 | 17906.8 | 121.2 | 147.7 |
| PBL V2 4 HI UV FR 835 | 21553.0 | 149.1 | 145.3 |
| PBL V2 4 VH UV FR 835 | 25114.6 | 177.1 | 141.8 |

| Catalog # | Lumens | Watts | LPW |
|---|---|---|---|
| PBL V2 4 SL UV 840 | 12028.7 | 69.5 | 173.2 |
| PBL V2 4 VL UV 840 | 14144.5 | 83.1 | 170.3 |
| PBL V2 4 LW UV 840 | 17481.0 | 104.1 | 167.9 |
| PBL V2 4 MD UV 840 | 19808.1 | 121.2 | 163.4 |
| PBL V2 4 HI UV 840 | 23841.4 | 149.1 | 159.9 |
| PBL V2 4 VH UV 840 | 27781.1 | 177.1 | 156.8 |
| PBL V2 4 SL UV FR 840 | 11175.9 | 69.5 | 160.9 |
| PBL V2 4 VL UV FR 840 | 13141.7 | 83.1 | 158.2 |
| PBL V2 4 LW UV FR 840 | 16241.6 | 104.1 | 156.0 |
| PBL V2 4 MD UV FR 840 | 18403.7 | 121.2 | 151.8 |
| PBL V2 4 HI UV FR 840 | 22151.1 | 149.1 | 149.3 |
| PBL V2 4 VH UV FR 840 | 25811.5 | 177.1 | 145.7 |

| Catalog # | Lumens | Watts | LPW |
|---|---|---|---|
| PBL V2 4 SL UV 850 | 12028.7 | 69.5 | 173.2 |
| PBL V2 4 VL UV 850 | 14144.5 | 83.1 | 170.3 |
| PBL V2 4 LW UV 850 | 17481.0 | 104.1 | 167.9 |
| PBL V2 4 MD UV 850 | 19808.1 | 121.2 | 163.4 |
| PBL V2 4 HI UV 850 | 23841.4 | 149.1 | 159.9 |
| PBL V2 4 VH UV 850 | 27781.1 | 177.1 | 156.8 |
| PBL V2 4 SL UV FR 850 | 11175.9 | 69.5 | 160.9 |
| PBL V2 4 VL UV FR 850 | 13141.7 | 83.1 | 158.2 |
| PBL V2 4 LW UV FR 850 | 16241.6 | 104.1 | 156.0 |
| PBL V2 4 MD UV FR 850 | 18403.7 | 121.2 | 151.8 |
| PBL V2 4 HI UV FR 850 | 22151.1 | 149.1 | 149.3 |
| PBL V2 4 VH UV FR 850 | 25811.5 | 177.1 | 145.7 |

Lumen Adjustment Factors: WG: 0.947

LUMENFOCUS Re-boardABILITY

The PBL V2 features field replaceable boards and drivers. This allows you to upgrade to more efficient technology in the future. Or, in the rare event of a failure, you can rapidly replace defective components. Re-boardABILITY helps to ensure you won't get stuck with an obsolete light fixture. Learn more about Re-boardABILITY here.


Click here for a video demonstration of the re-boarding process on a PBL.
Note: Exact time varies depending on the model.

## Controls Summary:

| Control Code | Occupancy | Daylight | Tech | Voltage | Dim | Max Mounting Ht. | Networking | Scheduling | BMS Integration | User Interface | Add. Info |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ZOS | On/Off | N/A | PIR | 120-347V, 480V | N/A | 20', 40', Aisle Mask (all included) | N/A | X | X | On Device | - |
| ZOSMHB | On/Low/Off | Hold Off | Microwave | 120/277V | 0-10V | 50' | N/A | X | X | On Device, IR Remote* | pg. 4 |
| ZOSD | On/Low/Off | Daylight Harvesting | PIR | 120-277V, 347V | 0-10V | 20', 40', Aisle Mask (all included) | N/A | X | X | On Device | - |
| Z221B*xx* | High/Low/Off | High/Low/ Off | PIR | 120-347V, 480V | 0-10V | L2 \| L3 \| L7 8' \| 20' \| 40' (select one) | N/A | X | X | IR Remote* | pg. 4 |
| Z321B*xx* | High/Low/Off | Daylight Harvesting | PIR | 120-347V, 480V | 0-10V | L2 \| L3 \| L7 8' \| 20' \| 40' (select one) | N/A | X | X | iOS / Android App | pg. 4 |
| ZOFD1 | High/Low/Off | Daylight Harvesting | PIR | 120-277V | 0-10V | 20', 40', Aisle Mask (all included) | Bluetooth Mesh | X | X | iOS / Android App | pg. 4 |
| ZOFDU | High/Low/Off | Daylight Harvesting | PIR | 120-277V, 347V, 480V | 0-10V | 20', 40', Aisle Mask (all included) | Bluetooth Mesh | ✓ | X | iOS / Android App | pg. 4 |
| ZSLHB | High/Low/Off | Daylight Harvesting | PIR | 120-277V | 0-10V | 40' | Bluetooth Mesh | ✓ | X | iOS / Android App, Wireless Wall Switch* | pg. 5 |
| ZESMC | High/Low/Off | Daylight Harvesting | PIR | DALI-2 (120-277V) | DALI | 52' | ZigBee 2.4GHz Mesh | ✓ | X | iOS / Android App, Wireless Wall Switch* | pg. 5 |
| ZLTS*xx* | High/Low/Off | Daylight Harvesting | PIR | 120-277V | 0-10V | MBL1 \| HBL1 \| HBL2 20' \| 40' \| 50' (select one) | Bluetooth LE Mesh | ✓ | ✓ | iOS / Android App, Wireless Wall Switch*, Autani Web Interface* | pg. 6 |
| ZLTC | N/A | N/A | N/A | 12VDC | 0-10V | N/A | Bluetooth LE Mesh | ✓ | ✓ | iOS / Android App, Wireless Wall Switch*, Autani Web Interface* | pg. 6 |

* Sold Separately

# Programmable Dimming Sensors:

## ZOSMHB Sensor Option

- Provides occupancy detection and multi-level control with adjustable time-outs
- Tri-level dimming control
- Comes pre-installed on the end cap
- Suitable for cold storage locations
- Built-in photocell reads brightness values. Sensor does not switch luminaire on if there is suffcient ambient light
- Control parameters selected manually via DIP switches, or using the optional ZLS0R remote (sold separately) - adjustable parameters include sensitivity, hold time, lux level, stand-by light level, stand-by hold time
- **Maximum mounting height of 50 feet**, with adjustable coverage radius up to 30 feet

**ZLS0R**

**FSP with L7 lens**



**FSIR-100**

## Z221B, Z321B Sensor Options

- The Wattstopper FSP sensor provides multi-level control based on motion and/or daylight contribution
- Comes pre-installed on the end cap
- Rated for cold locations
- Parameters for Bluetooth-enabled Z321B adjustable via phone app - iOS or Android
- Parameters for Z221B adjustable via wireless configuration tool (FSIR-100 - sold separately)
- Three lenses available, tailored for the ideal detection area and mounting height:
  - **L2:** 360º lens, maximum coverage 48' diameter from **8' height**
  - **L3:** 360º lens, maximum coverage 40' diameter from **20' height**
  - **L7:** 360º lens, maximum coverage 100' diameter from **40' height**

## ZOFDx Sensor Option

- Leviton Smart IP66 passive infrared (PIR) sensors
- Features mesh grouping (16 devices per group), occupancy sensing, daylight harvesting, scheduling (for ZOSFDU only), single-level switching
- Comes pre-installed on the end cap
- Rated for cold locations
- Configurable through the Leviton Smart Sensor App using a smartphone or other Bluetooth-enabled iOS or Android device

The ZOFD option includes four sensor lenses that can easily be installed or swapped out in the field. From left: the **high bay lens (20'-40' mounting)**, the high bay lens with aisleway mask, the **low bay lens (8'-20' mounting)**, and the low bay lens with aisleway mask.

## **Keystone SmartLoop** Wireless Control System

The SmartLoop wireless lighting control system by Keystone is a Bluetooth mesh lighting control system that allows you to set up and manage your lighting ecosystem quickly and easily. It's powerful enough to run a space with multiple lighting zones, but simple enough to program in minutes with your smartphone – perfect for warehouses, offices, schools, and auditoriums, whether new construction or retrofit.

- Wireless Bluetooth 2.4 GHz mesh network
- Supports up to 100 devices on a single region, with unlimited regions
- Independent per-fixture control: Occupancy, Daylight Harvesting, Task Tuning, Grouping, Scene Setting, Scheduling
- Commissioned via SmartLoop mobile app for iPhone and Android

### ZSLFC2

- External Line Voltage High Bay Sensor, Side-Mount
- 120-277VAC Input
- PIR + Daylight Harvesting
- IP40 Rated
- 0-10V DC dimmable
- **Up to 40' mounting height.** 40' radius at 40' height.

### SmartLoop Accessories

- Bluetooth Wireless Wall Switch: **KTSL-WS1-B-SG/G2**
  - Battery Powered: 2x CR2032
  - 5 Button: Power Toggle, Dimming, Automatic Sensor/Preset Level Operation, Scene Activation

- USB Time Keeper: **KTSL-TK1-USB**
  - Relays time to system components after a power loss
  - Powered by standard USB charging port
  - Internal CR1220 battery backup

## **Philips EasySense** Wireless Control System

EasySense MC Sensors are the ideal solution for per-luminaire control of new LED luminaires. It combines occupancy and daylight sensing in one package. The result is a cost-effective and easy-to-install solution ideal for energy savings. Commissioning and configuration during and after installation is quick and easy using the Philips MasterConnect app. This app works via Bluetooth Low Energy (BLE) technology and is available for free in the App Store and the Google Play Store.

### ZESMC

- Occupancy sensing, daylight harvesting, and task tuning in one device
- **up to 52' mounting height.** 26' radius at 52' height.
- Groups/networks up to 120 lights
- Enables auto-off/manual-on and auto-off/partial-on application
- Independent per-fixture control: Occupancy, Daylight Harvesting, Task Tuning
- Occupancy Sharing
- Scene Setting
- Advanced grouping to select Zigbee wireless wall switches
- Simple room level energy reporting with CSV file saved on the phone
- ZigBee 2.4 GHz Wireless Mesh Network
- Works with Advance Xitanium SR 120-277V drivers or other D4i certified LED drivers

### Room Controllers

- Illumra ZBT-S1AWH (Single Rocker) or ZBT-S2AWH (Dual Rocker) wireless Zigbee wall switch
  - Self-Powered
  - Up to 120 sensors can be grouped to a single switch
  - Functions: On/Off, Dim-Up/Dim-Down, Scene 1, Scene 2 (Scenes: Dual Rocker Only)
  - Range: 30-100' (typical)

ZBT-S1AWH

ZBT-S2AWH

# LiteTrace | Keilton+autani: Wireless networked controls, upgradeable systems

LiteTrace makes your existing building smarter by integrating the Keilton lighting controls platform with Autani's proven energy management, reporting, and control platform. Keilton+autani systems are flexible, adaptable, and resilient, providing solutions designed to scale up without having to change hardware.

Scalable product tiers allow implementing a solution aligned to your current needs, with robust upgrade pathways to expand capabilities as requirements evolve.

| Capabilities | Keilton +autani (ZLTSx) | Energy Center by Autani * | Autani Insights * |
|---|---|---|---|
| Motion and Switch Groups | ✓ | ✓ | ✓ |
| Daylight Harvesting | ✓ | ✓ | ✓ |
| Schedule Lighting | ✓ | ✓ | ✓ |
| Energy Reporting & Optimization | ✓ | ✓ | ✓ |
| Overrides & Automated Demand Response | ✓ | ✓ | ✓ |
| Environment Data & Lighting Controls API | | ✓ | ✓ |
| Building Management & System Integration | | ✓ | ✓ |
| Building Optimization Application | | | ✓ |
| Location & Occupancy APIs & Beaconing | | | ✓ |
| Future App & API Ready | | | ✓ |

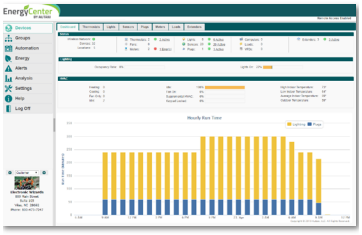
** additional hardware and software required.*

Keilton +autani

An easy and affordable stand-alone (gateway-free) room-based Bluetooth lighting control solution controllable via mobile app (iOS & Android).

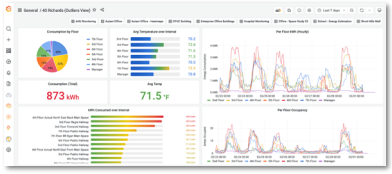
EnergyCenter BY AUTANI

A networked control solution which offers additional functionality such as advanced scheduling, reporting, metering, and building management integration.



INSIGHTS Autani

The most advanced offering, providing valuable data insights into a single building or a portfolio of buildings. This allows for asset tracking, campus-wide wayfinding, 3D facility monitoring and more.



## ZLTSxx

- External Line Voltage High Bay Sensor, Side-Mount
- 120-277VAC Input
- PIR + Daylight Harvesting
- 50-ft max mounting height (with HBL3 lens)
- IP40 Rated
- 0-10V DC dimmable
- Bluetooth-enabled
- Replaceable lens options
  - **MBL1**: Mid Bay Lens
    - 360° coverage
    - **8' - 20' mounting height**
    - up to 50' diameter @ 20' height
  - **HBL1**: High Bay Lens
    - 360° coverage
    - **20' - 40' mounting height**
    - up to 64' diameter @ 40' height
  - **HBL3**: High Bay Lens
    - 360° coverage
    - **20' - 50' mounting height**
    - up to 100' diameter @ 50' height

## ZLTC

- Wireless 0-10V fixture controller
- Integral Bluetooth module
- 12VDC Input

## Room Controllers

WP1013 WP1025 WP1018 WP1018A

**Battery Powered**

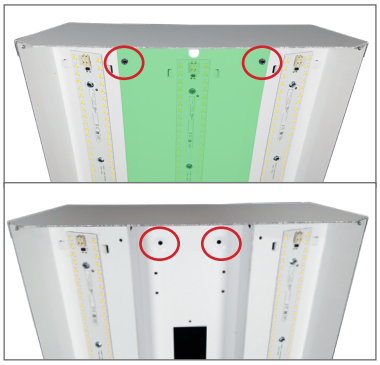
- 3-, 5-, and 8-button configurations
- Bluetooth Enabled
- 1 x CR2032 battery (WP1013, WP1025, WP1018)
- 2 x AAA batteries (WP1018A)
- Approx. 3 year battery life (batteries not included)

WP1013S WP1017S IWS102

**Line Voltage**

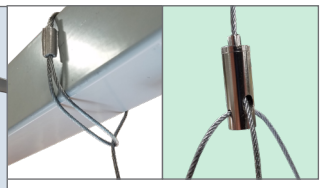
- 3-, 7-button configurations, and Occ/Vac Sensor Switch
- Line voltage powered: 120-277V
- Bluetooth Enabled

# Mounting:



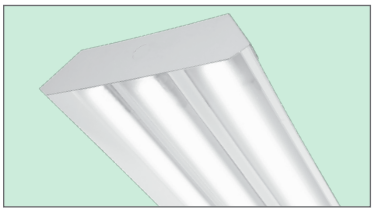
## Surface Mount

The PBL V2 is designed to be easily mounted to any sturdy surface. Simply remove the hex head screws holding the driver cover (top picture, in green) to access the bottom of the housing below. The housing can be mounted to the surface from the four holes in each corner of the channel (bottom picture, circled).



**Cable Mount** The optional QC hanging kit comes in 10' or 20'. Cables are pre-looped for easy installation and designed for easy fixture height adjustment. QCs come boxed with each fixture when ordered.

# Other Options:



**Shielding** Frosted acrylic diffuser lenses minimize glare and improve aesthetics.

**Cords** are available in single circuit or dual circuit, 6' or 10'. Standard plug is optional, as are other NEMA configurations if specified.

## Conformal coating

Grants LED boards added protection from moisture and corrosion in more hazardous environments.

## Finish

In addition to the standard white finish, the PBL V2 is also available in matte black (BK) and metallic silver (SL).

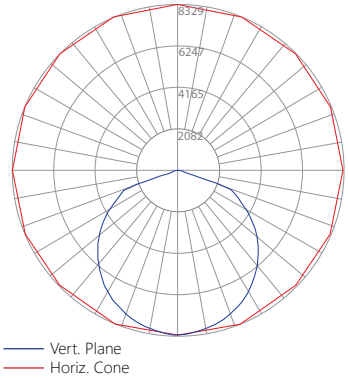
# Photometric Data:

## PBL V2 4 HI UV 850

**Test No.:** LLIA001687-017
**Luminaire Lumens:** 23,842 lm
**Luminaire Watts:** 149.1W
**Efficacy:** 159.9 LPW
**Spacing Criterion (0-180):** 1.30
**Spacing Criterion (90-270):** 1.26

**Luminance Data (cd/sq.m)**

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---|---|---|---|
| 45 | 25741 | 24720 | 24855 |
| 55 | 25339 | 24156 | 24694 |
| 65 | 24027 | 23311 | 24559 |
| 75 | 20200 | 23561 | 3277 |
| 85 | 10228 | 4884 | 5486 |




**Coefficients Of Utilization - Zonal Cavity Method**
**Effective Floor Cavity Reflectance 0.20**

| RC | | 80 | | | | 70 | | | | 50 | | | | 30 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 |
| 1 | 109 | 105 | 100 | 97 | 106 | 102 | 99 | 95 | 98 | 95 | 92 | 94 | 92 | 89 |
| 2 | 99 | 91 | 84 | 79 | 97 | 89 | 83 | 78 | 86 | 81 | 76 | 82 | 78 | 74 |
| 3 | 90 | 80 | 72 | 65 | 88 | 78 | 71 | 65 | 75 | 69 | 64 | 73 | 67 | 63 |
| 4 | 83 | 71 | 62 | 55 | 80 | 69 | 61 | 55 | 67 | 60 | 54 | 65 | 58 | 53 |
| 5 | 76 | 63 | 54 | 47 | 74 | 62 | 53 | 47 | 60 | 52 | 47 | 58 | 51 | 46 |
| 6 | 70 | 57 | 48 | 41 | 68 | 56 | 47 | 41 | 54 | 46 | 41 | 52 | 45 | 40 |
| 7 | 65 | 51 | 42 | 36 | 63 | 50 | 42 | 36 | 49 | 41 | 36 | 47 | 41 | 36 |
| 8 | 60 | 47 | 38 | 32 | 59 | 46 | 38 | 32 | 45 | 37 | 32 | 43 | 37 | 32 |
| 9 | 56 | 43 | 35 | 29 | 55 | 42 | 34 | 29 | 41 | 34 | 29 | 40 | 33 | 29 |
| 10 | 53 | 39 | 32 | 26 | 51 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 31 | 26 |

Tested in accordance with IES standards utilizing absolute photometry per LM-79-08

**Zonal Lumen Summary**

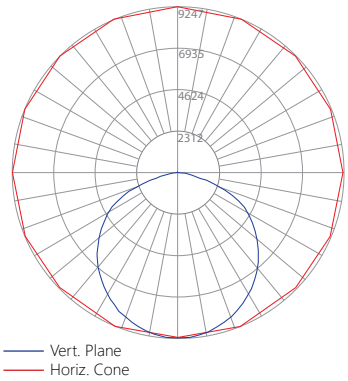
| Zone | Lumens | %Fixt |
|---|---|---|
| 0-20 | 3016.8 | 12.7 |
| 0-30 | 6437.4 | 27.0 |
| 0-40 | 10617.6 | 44.5 |
| 0-60 | 19078.3 | 80.0 |
| 0-80 | 23613.9 | 99.0 |
| 0-90 | 23838.5 | 100.0 |
| 90-120 | 3.4 | 0.0 |
| 90-130 | 3.4 | 0.0 |
| 90-150 | 3.4 | 0.0 |
| 90-180 | 3.4 | 0.0 |
| 0-180 | 23841.8 | 100.0 |

## PBL V2 4 VH UV FR 850

**Test No.:** LLIA001687-020
**Luminaire Lumens:** 25,812 lm
**Luminaire Watts:** 177.1W
**Efficacy:** 145.7 LPW
**Spacing Criterion (0-180):** 1.24
**Spacing Criterion (90-270):** 1.28

**Luminance Data (cd/sq.m)**

| Angle In Degrees | Average 0-Deg | Average 45-Deg | Average 90-Deg |
|---|---|---|---|
| 45 | 25030 | 26557 | 27726 |
| 55 | 22091 | 25667 | 27517 |
| 65 | 18334 | 24786 | 27063 |
| 75 | 14134 | 22322 | 15028 |
| 85 | 9449 | 15006 | 11431 |




**Coefficients Of Utilization - Zonal Cavity Method**
**Effective Floor Cavity Reflectance 0.20**

| RC | | 80 | | | | 70 | | | | 50 | | | | 30 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 |
| 1 | 109 | 104 | 100 | 96 | 106 | 102 | 98 | 95 | 98 | 94 | 92 | 94 | 91 | 89 |
| 2 | 99 | 91 | 84 | 78 | 96 | 89 | 83 | 77 | 85 | 80 | 76 | 82 | 78 | 74 |
| 3 | 90 | 80 | 72 | 65 | 88 | 78 | 71 | 65 | 75 | 69 | 63 | 72 | 67 | 62 |
| 4 | 83 | 71 | 62 | 55 | 80 | 69 | 61 | 55 | 67 | 60 | 54 | 64 | 58 | 53 |
| 5 | 76 | 63 | 54 | 47 | 74 | 62 | 54 | 47 | 60 | 52 | 47 | 58 | 51 | 46 |
| 6 | 70 | 57 | 48 | 41 | 68 | 56 | 47 | 41 | 54 | 46 | 41 | 52 | 46 | 40 |
| 7 | 65 | 51 | 43 | 37 | 63 | 51 | 42 | 36 | 49 | 42 | 36 | 48 | 41 | 36 |
| 8 | 61 | 47 | 38 | 33 | 59 | 46 | 38 | 33 | 45 | 38 | 32 | 44 | 37 | 32 |
| 9 | 57 | 43 | 35 | 29 | 55 | 43 | 35 | 29 | 41 | 34 | 29 | 40 | 34 | 29 |
| 10 | 53 | 40 | 32 | 27 | 52 | 39 | 32 | 27 | 38 | 31 | 26 | 37 | 31 | 26 |

Tested in accordance with IES standards utilizing absolute photometry per LM-79-08

**Zonal Lumen Summary**

| Zone | Lumens | %Fixt |
|---|---|---|
| 0-20 | 3364.5 | 13.0 |
| 0-30 | 7135.2 | 27.6 |
| 0-40 | 11670.5 | 45.2 |
| 0-60 | 20532.9 | 79.5 |
| 0-80 | 25382.7 | 98.3 |
| 0-90 | 25807.3 | 100.0 |
| 90-120 | 4.4 | 0.0 |
| 90-130 | 4.4 | 0.0 |
| 90-150 | 4.4 | 0.0 |
| 90-180 | 4.4 | 0.0 |
| 0-180 | 25811.7 | 100.0 |