



Project: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Cat. #: \_\_\_\_\_  
 Type: \_\_\_\_\_  
 Quantity: \_\_\_\_\_



## PBL X G2 2 | LED Lensed High Bay

### Features:

- High performance LED technology
- 0-10V dimming drivers standard on all models
- Field replaceable LED boards and drivers through Re-boardABILITY (more info on Page 3)
- Multiple shielding options available to help minimize glare and improve aesthetics
- Multiple controls options available
- 90+ CRI standard
- Buy American Act compliant *(All base luminaires are BAA compliant. Addition of options may change eligibility. Contact factory for details.)*

### Applications:

Suitable for most commercial, industrial and institutional applications

- Retail
- Warehouse
- Manufacturing
- Gymnasiums

### Predicted Lifetime:

- L70 ≥ 131,000 hrs (calculated)
  - L90 ≥ 40,000 hrs (reported)
- (based on LM-80, TM-21 and in-situ laboratory testing)

### Construction:

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

### Certifications:

- UL 1598 listed for US and Canada, suitable for damp locations



### Warranty:

- 5 year limited system warranty - see [www.LumenFocus.com](http://www.LumenFocus.com) for complete warranty terms and conditions
- 10 year warranty option available on specific models  
*(Not available on all models. Certain conditions apply. Consult factory or sales representative for details.)*



## Ordering Guide:

example: PBL X G2 2 MD UV A23F 940 QC20 C6

Series	Version	Length	Output	Voltage	Shielding	CRI/CCT	Hanging	Controls <sup>(1)</sup>	Options	Finish
PBL X	G2	2								
PBL X	G2 Gen 2	2 2'	LW Low  MD Medium  HI High	UV 120-277  34 347V  48 480V	A23 High Efficiency 23 Pattern Acrylic  A23F High Efficiency 23 Pattern Acrylic, Frosted  L118 0.118" Impact Resistant Lexan	930 90 CRI/3000K  935 90 CRI/3500K  940 90 CRI/4000K  950 90 CRI/5000K	Blank None  QC 10' Quick Hang Cable Kit  QC20 20' Quick Hang Cable Kit	Blank No Controls  ZOS Occupancy Sensor (On/Off)  ZOSMHB Leviton Microwave 0-10V Multi- Level Occupancy Sensor with Photocell  ZOSD 0-10V Dimming Occupancy Sensor with Daylight Harvesting  Z221Bxx <sup>(2)</sup> Wattstopper Programmable 0-10V Multi-Level Occupancy Sensor with Photocell, Task Tuning  Z321Bxx <sup>(2)</sup> Wattstopper Bluetooth-enabled Programmable 0-10V Dimming Occupancy Sensor with Daylight Harvesting, Task Tuning  ZOFD1 Leviton Bluetooth-enabled Programmable 0-10V Dimming Occupancy Sensor with Daylight Harvesting, Task Tuning, Grouping  ZOFDU Leviton Bluetooth-enabled Programmable 0-10V Dimming Occupancy Sensor with Daylight Harvesting, Task Tuning, Grouping, Scheduling  ZSLHB Keystone SmartLoop Bluetooth- enabled Programmable 0-10V Dimming Occupancy Sensor with Daylight Harvesting, Task Tuning, Grouping, Scheduling  ZESMC Philips EasySense Bluetooth- enabled Programmable DALI Dimming Occupancy Sensor with Daylight Harvesting, Task Tuning, Grouping, Scheduling  ZLTSxx <sup>(2)</sup> LiteTrace Bluetooth-enabled Programmable 0-10V Dimming Occupancy Sensor with Daylight Harvesting, Task Tuning, Grouping, Scheduling, and Advanced Networking & IoT Capabilities  ZLTC LiteTrace Bluetooth-enabled Programmable 0-10V fixture controller with Task Tuning, Grouping, Scheduling, and Advanced Networking & IoT Capabilities	Blank No Options  EXT10 10-Year Extended Warranty <sup>(3)</sup>  C6 6' Single Circuit Cord  C65W 6' Single Circuit Cord with Low Voltage Connections  C10 10' Single Circuit Cord  C105W 10' Single Circuit Cord with Low Voltage Connections  D6 6' Dual Circuit Cord  D10 10' Dual Circuit Cord  P(NEMA) Plug (Specify NEMA configuration)  WG Wire Guard  WGE Extended Wire Guard for End-Mounted Sensor  SC Safety Cable  F Fuse  EM6 6.5W Emergency Pack <sup>(4)</sup>  EM10 10W Emergency Pack <sup>(4)</sup>  EM14 14W Emergency Pack <sup>(4)</sup>  EM20 20W Emergency Pack <sup>(4)</sup>  SDT(480V) 480V to 277V Step Down Transformer  CC Conformal Coating  LVL 0-10V Dimming Leads for Easy Field Access  BAA Buy American Act Compliant	Blank White  BK Matte Black  SL Metallic Silver

## Notes

<sup>(1)</sup> See 'Control Summary' on Page 4 for more details.

<sup>(2)</sup> 'xx' = select lens type based on mounting height and coverage area. See 'Control Summary' on Page 4 for more details.

<sup>(3)</sup> Not available on all models. Certain conditions apply. Consult factory or sales representative for details.

<sup>(4)</sup> 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 X G2 2 MD UV A23F 940 EM14 → 141.6 LPW x 14W = 1,982 lm

## 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	Z221Bxx	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)	ZLTSxx, ZLTC	pg. 6
WP1025	5-Button Bluetooth Wireless Wall Switch (battery powered)	ZLTSxx, ZLTC	pg. 6
WP1018	8-Button Bluetooth Wireless Wall Switch (battery powered)	ZLTSxx, ZLTC	pg. 6
WP1018A	8-Button Bluetooth Wireless Wall Switch (battery powered)	ZLTSxx, ZLTC	pg. 6
WP10135S	3-Button Bluetooth Wireless Wall Switch (line voltage)	ZLTSxx, ZLTC	pg. 6
WP1017S	7-Button Bluetooth Wireless Wall Switch (line voltage)	ZLTSxx, ZLTC	pg. 6
IWS102	Bluetooth Wireless Wall Switch w/ PIR Sensor (line voltage)	ZLTC	pg. 6

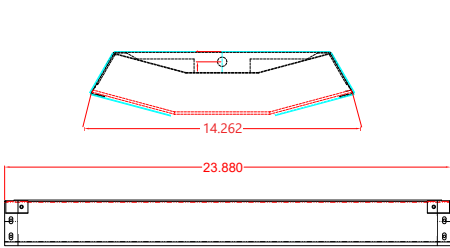
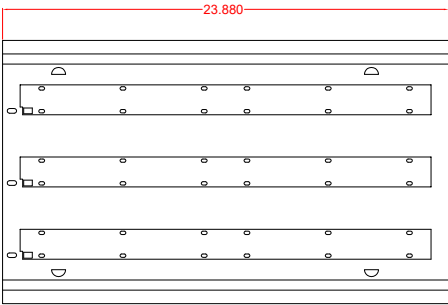


Performance Chart:

Catalog #	Watts	Lumens (930)	LPW (930)	Lumens (935)	LPW (935)	Lumens (940)	LPW (940)	Lumens (950)	LPW (950)
PBL X G2 2 LW UV A23F 9xx	57.4	7968.2	138.8	8001.8	139.4	8191.9	142.7	8191.9	142.7
PBL X G2 2 MD UV A23F 9xx	85.8	11820.7	137.7	11870.5	138.3	12152.5	141.6	12152.5	141.6
PBL X G2 2 HI UV A23F 9xx	111.7	15666.7	140.3	15732.7	140.9	16106.4	144.2	16106.4	144.2

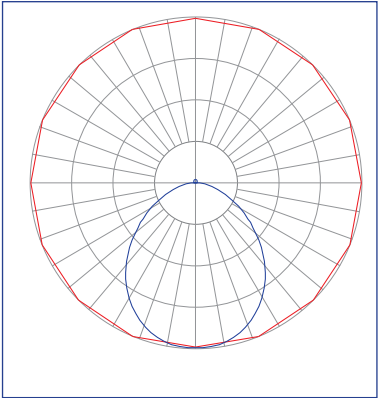
Lumen Adjustment Factors: WG: 0.95

Schematic:



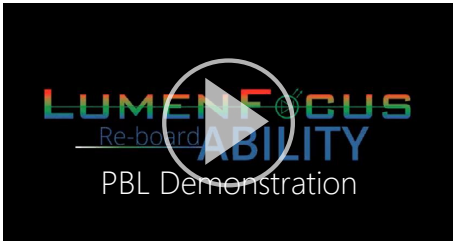
Photometric Data:

Relative Luminous Intensity



LUMENFOCUS  
Re-boardABILITY

The PBL X G2 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	-
Z221Bxx	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
Z321Bxx	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
ZLTSxx	High/Low/Off	Daylight Harvesting	PIR	120-277V	0-10V	MBL1   HBL1   HBL3 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 sufficient 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:** 360° lens, maximum coverage 48' diameter from **8' height**
  - **L3:** 360° lens, maximum coverage 40' diameter from **20' height**
  - **L7:** 360° 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/Presets 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 & Beacons			✓
Future App & API Ready			✓

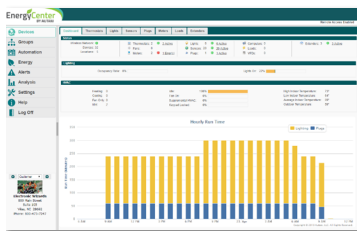
\* additional hardware and software required.

**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 80' 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



#### 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)



#### Line Voltage

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





## Other Options:



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



**Shielding** Available in a high efficiency 23 pattern acrylic lens (frosted or clear), and an impact resistant clear lexan lens



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



**Hanging** The QC hanging kit from ALP 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.

