LUMENFOCUS

Project: _____

Location: _____

Cat. #: _____

Type: _____

Quantity: _____

LED

PBL X G2 4 | 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
- A wide variety of lumen packages allows for flexibility in design and helps maximize energy savings
- Multiple controls options available
- 90+ CRI standard

Applications:
Suitable for most commercial, industrial and institutional applications
- Retail
- Warehouse
- Manufacturing
- Gymnasiums

Predicted Lifetime:
- L70 ≥ 129,000 hrs (calculated)
- L90 ≥ 39,000 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

c(UL)us

Warranty:
- 5 year limited system warranty - see 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.)

MADE IN USA
USING DOMESTIC AND FOREIGN COMPONENTS

10 YEAR EXTENDED WARRANTY
AVAILABLE ON CERTAIN MODELS

90+ CRI

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Ordering Guide:

example: PBL X 4 MD UV A23F 840-QC20 C6

Series	Version	Length	Output	Voltage	Shielding	CRI/CCT	Hanging	Controls	Options	Finish
PBL X	G2	4								
PBL X	**G2** Gen 2	**4** 4'	**VL** Very Low	**UV** 120-277	**A23** High Efficiency 23 Pattern Acrylic	**930** 90 CRI/3000K	**Blank** None	**Blank** No Controls	**Blank** No Options	**Blank** White
			LW Low	**34** 347V	**A23F** High Efficiency 23 Pattern Acrylic, Frosted	**935** 90 CRI/3500K	**QC** 10' Quick Hang Cable Kit	**ZOS** Occupancy Sensor (On/Off)	**EXT10** 10-Year Extended Warranty[5]	**BK** Matte Black
			MD Medium	**48** 480V	**L118** 0.118" Impact Resistant Lexan	**940** 90 CRI/4000K	**QC20** 20' Quick Hang Cable Kit	**ZOSD** Occupancy Sensor (On/Off/Dim)	**C6** 6' Single Circuit Cord	**SL** Metallic Silver
			HI High			**950** 90 CRI/5000K		**ZOFD1** Leviton Bluetooth-enabled Programmable Dimming/ Occupancy/Daylight Harvesting Sensor with Grouping (120-277V)[1]	**C65W** 6' Single Circuit Cord with Low Voltage Connections	
			VH Very High					**ZOFDU** Leviton Bluetooth-enabled Programmable Dimming/ Occupancy/Daylight Harvesting Sensor with Grouping, Scheduling (120-480V)[1]	**C10** 10' Single Circuit Cord	
								Z221BL_ Wattstopper Programmable Photo/Motion Multi-Voltage Sensor (high/low/off)[2]	**C105W** 10' Single Circuit Cord with Low Voltage Connections	
								Z321BL_ Wattstopper Bluetooth-enabled Programmable Photo/Motion Multi-Voltage Sensor (high/low/off)[2]	**D6** 6' Dual Circuit Cord	
								ZPC Photocell	**D10** 10' Dual Circuit Cord	
								ZFMS Douglas FMS Sensor with Dimming/Occupancy/ Daylight Harvesting with Network Capabilities[3]	**P(NEMA)** Plug (Specify NEMA configuration)	
								ZENLO Enlighted Ruggedized Sensor with Dimming/Occupancy/ Daylight Harvesting and Enlighted One System[4]	**WG** Wire Guard	
								ZENLC Enlighted Ruggedized Sensor with Dimming/Occupancy/ Daylight Harvesting and Enlighted Connected System[4]	**WGE** Extended Wire Guard for End-Mounted Sensor	
								ZENLI Enlighted Ruggedized Sensor with Dimming/Occupancy/ Daylight Harvesting and Enlighted IoT System[4]	**SC** Safety Cable	
									F Fuse	
									EM2 Emergency Pack[6]	
									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	

Notes

[1] For 8' to 40' mounting heights. See Page 4 for more details.
[2] "_" = lens type. See Page 4 for lens descriptions.
[3] Max ceiling height for Douglas FMS sensor: 40 feet.
See Page 5 for more details on advanced controls.
[4] Max ceiling height for Enlighted Ruggedized sensor 50 feet.
See Page 5 for more details on advanced controls.
[5] Not available on all models. Certain conditions apply.
Consult factory or sales representative for details.
[6] EM2 - Up to 16W. 120-277V / 0°C-50°C ambient.

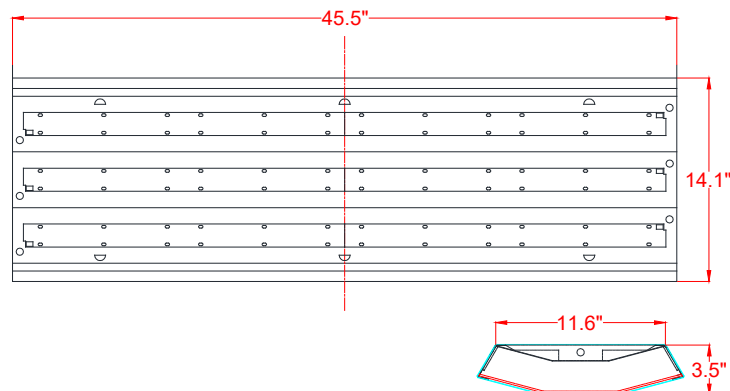## Controls Accessories *(order separately)*

For Douglas Controls
BT-DMSW-U-A   Bluetooth 1 Zone Dimmer
BT-4BTSW-U-A   Bluetooth 4-Button Wall Station
BT-8BTSW-U-A   Bluetooth 8-Button Wall Station

For Enlighted Controls
WS-2-00   Enlighted Remote Control Wall Switch (for Enlighted Connected & IoT)
WS-2-00-IL   Enlighted Remote Control Wall Switch (for Enlighted One)
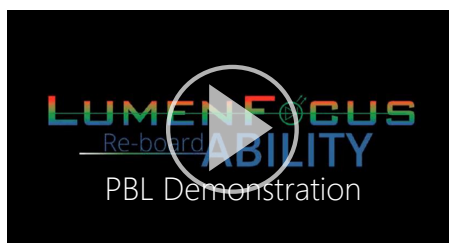
Schematic:

45.5"

14.1"

11.6"

3.5"

Performance Chart:

Catalog #	Watts	Lumens (930)	LPW (930)	Lumens (935)	LPW (935)	Lumens (940)	LPW (940)	Lumens (950)	LPW (950)
PBL X G2 4 VL UV A23F 9xx	82.7	11895.2	143.8	11945.3	144.4	12229.0	147.8	12229.0	147.8
PBL X G2 4 LW UV A23F 9xx	115.9	16069.1	138.7	16136.9	139.2	16520.1	142.5	16520.1	142.5
PBL X G2 4 MD UV A23F 9xx	148.4	19993.8	134.7	20078.1	135.3	20554.9	138.5	20554.9	138.5
PBL X G2 4 HI UV A23F 9xx	172.7	23769.1	137.6	23869.3	138.2	24436.2	141.5	24436.2	141.5
PBL X G2 4 VH UV A23F 9xx	197.8	27772.3	140.4	27889.4	141.0	28551.8	144.3	28551.8	144.3

Lumen Adjustment Factors: WG: 0.95

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.

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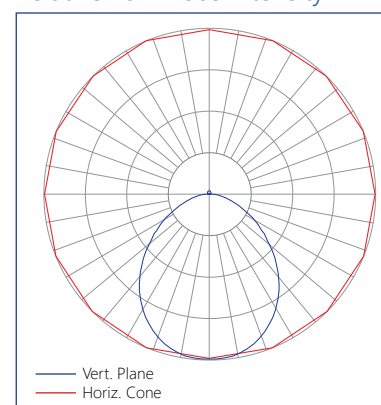
Click here for a video demonstration of the re-boarding process on a PBL.
Note: Exact time varies depending on the model.

Photometric Data:

Relative Luminous Intensity

— Vert. Plane
— Horiz. Cone

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Controls Summary:

Control Code	Type	Capabilities	Communication
ZOS	Motion (PIR)	On/Off	Wired
ZOSD	Motion (PIR), Photosensor	On/Low/Off	Wired 1-10V
ZOFD1	Motion (PIR), Daylight Harvesting	High/Low/Off, High-End Trim, Grouping	Wired 0-10V, Programmable via Bluetooth App (iOS, Android)
ZOFDU	Motion (PIR), Daylight Harvesting	High/Low/Off, High-End Trim, Grouping, Scheduling	Wired 0-10V, Programmable via Bluetooth App (iOS, Android)
Z221BLx	Motion (PIR), Photosensor	High/Low/Off, High-End Trim	Wired 0-10V, Programmable via IR remote (sold separately)
Z321BLx	Motion (PIR), Daylight Harvesting	High/Low/Off, High-End Trim	Wired 0-10V, Programmable via Bluetooth App (iOS, Android)
ZPC	Photosensor	On/Off	Wired
ZFMS	Motion (PIR), Daylight Harvesting	High/Low/Off, High-End Trim, Grouping, LLLC (Douglas Lighting Controls-Dialog)*	Wireless Bluetooth Mesh, Programmable via iOS App or Douglas Dialog Software
ZENLO	Motion (PIR), Daylight Harvesting	High/Low/Off, High-End Trim, Grouping, Upgradable to Connected (ZENLC) or IoT (ZENLI)	Wireless Bluetooth Low Energy Mesh, Programmable via Enlighted Room Controller WS-2-00-IL (sold separately)
ZENLC	Motion (PIR), Daylight Harvesting	High/Low/Off, High-End Trim, Grouping, Scheduling*, Energy Monitoring*, BMS Integration*, Upgradable to IoT (ZENLI), LLLC (Enlighted IoT)*	Wireless Bluetooth Low Energy Mesh, Programmable via Enlighted IoT Software
ZENLI	MoMotion (PIR), Daylight Harvesting	High/Low/Off, High-End Trim, Grouping, Scheduling*, Energy Monitoring*, BMS Integration*, LLLC (Enlighted IoT)*, Space - Building Utilization*, Where - Real Time Location Services*	Wireless Bluetooth Low Energy Mesh, Programmable via Enlighted IoT Software

LLLC = Luminaire Level Lighting Control
* Additional equipment required. Contact LumenFocus representative for details

On/Off Occupancy Sensors (ZOS)

An optional occupancy sensor controls individual fixtures on or off based on occupancy in detection zone. Sensor used: Leviton OSFHU-ITW (pictured), or an equivalent.

Programmable Dimming Sensors:

FSP with L7 lens

FSIR-100

Above: Phone app interface for Z321B

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.

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

Z221B and 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

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Universal Douglas: Cloud-based controls

FMS High bay sensor

The PBL X G2 can be equipped with the Douglas FMS sensor, which is designed for high bay applications.

With a max sensor height up to 40 feet, the FMS is ideal for applications like warehouses and manufacturing facilities. It can be installed for on/off control or bi-level light functionality. The daylight sensor provides additional savings by dimming the lights to work with the amount of natural available daylight.

FMS

- Configuration from the floor via smartphone app
- Bluetooth mesh network is created between devices for control over a group of Douglas sensors
- Occupancy and daylight sensing
- IP65-rated
- 0-10V dimming
- 150 feet clear line of site, 50 feet through standard walls (distances may vary based on location and environment)

CheckLight® Energy Management System

Douglas controls can be integrated with the CheckLight® Energy Management system. This system can help you uncover energy conversion opportunities, create conservation strategies, analyze lighting load inefficiencies, and make configuration changes from anywhere with Douglas' user-friendly interface. You can get measurements, reports, and control your system from a web-based application.

CheckLight® has the capability to look at different facilities within a portfolio and use data benchmarks to compare building performances.
- Find energy conservation opportunities
- Create energy saving strategies
- Analyze load inefficiencies
- Optimize energy management

Enlighted: All-in-one sensors, upgradeable systems

Enlighted's IP65-rated Ruggedized Sensor is an all-in-one unit: task tuning, high-end trimming, daylight harvesting, and occupancy/vacancy detection. Max installation height is 50 feet.

Enlighted sensors come standard with the Enlighted One system (the "ZENLO" option). Enlighted Connected ("ZENLC") offers even more options. The Enlighted IoT ("ZENLI") option allows the full implementation of Enlighted's services. Each system can be fully upgraded to the next tier in the future. So if you start with Enlighted One but want to add energy reporting or building management systems integration in the future, you can.
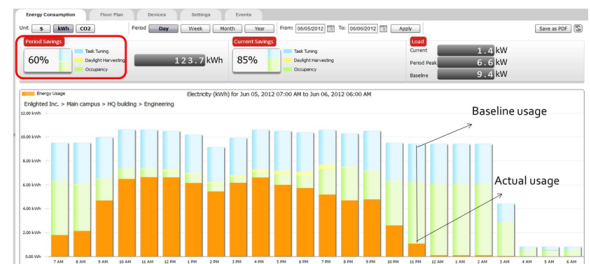
Enlighted Capabilities*	Enlighted One (ZENLO)	Enlighted Connected (ZENLC)	Enlighted IoT (ZENLI)
Motion and Switch Groups	✓	✓	✓
Daylight Harvesting	✓	✓	✓
Schedule Lighting		✓	✓
Energy Reporting & Optimization		✓	✓
Environment Data & Lighting Controls API		✓	✓
Building Management System Integration		✓	✓
Where & Space Applications			✓
Location & Occupancy APIs & Beaconing			✓
Future App & API Ready			✓

Note: Additional equipment required for ZENLC and ZENLI

Real-time data analytics

Enlighted's control units compile data in real-time, which can be viewed via the Energy Manager. The Energy Manager is part of the Enlighted Connected and Enlighted IoT configurations.
- Real-time measurements and verification of energy savings
- Space analytics - data can be compiled into motion trails and heat maps
- Analyze traffic density and congestion in a space

Learn more about our available advanced controls options here:
www.lumenfocus.com/controls-overview

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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.