Project: _____

Location: _____

Cat. #: _____

Type: _____

Quantity: _____

LED

PBL V2 HD-2 | LED Heavy Duty 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 HD's unibody design is surface mountable with easy access to the driver compartment from below

Applications:

Suitable for most commercial, industrial and institutional applications

- Gymnasiums
- Recreation Centers
- Manufacturing
- Warehouse
- **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 is precision brake formed from heavy duty 0.063" 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/

Predicted Lifetime:

- L70: 172,000 hrs (calculated)
- L80: 108,000 hrs (calculated)
- L90: 52,000 hrs (reported)
- 88% lumen maintenance @ 60,000 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 2 MD UV 850 HDW PM ZOSD C6

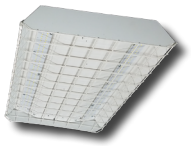
Series	Length	Output	Voltage	Shielding	CRI/CCT	Gauge	Hanging	Controls	Options	Finish
PBL V2	2					HDW				
PBL V2 PBL Version 2	**2** 2'	**LW** Low **MD** Medium **HI** High **VH** Very High	**UV** 120-277 **34** 347V **48** 480V	**Blank** No Lenses **FR** Frosted Acrylic Diffusers	**835** 80 CRI/3500K **840** 80 CRI/4000K **850** 80 CRI/5000K	**HDW** Heavy Duty 0.063" Aluminum Wide-Body Housing	**Blank** None **QC** 10' Quick Hang Cable Kit **QC20** 20' Quick Hang Cable Kit **PM** Pendant Mount **ST(x)** 3/4" Stem (Specify Length)	**Blank** No Controls **ZOS** Occupancy Sensor (On/Off) **ZOSD** Occupancy Sensor (On/Off/Dim) **ZOFD1** Leviton Bluetooth-enabled Programmable Dimming/ Occupancy/Daylight Harvesting Sensor with Grouping (120-277V)[1] **ZOFDU** Leviton Bluetooth-enabled Programmable Dimming/ Occupancy/Daylight Harvesting Sensor with Grouping, Scheduling (120-480V)[1] **Z221BL_** Wattstopper Programmable Photo/Motion Multi-Voltage Sensor (high/low/off)[2] **Z321BL_** Wattstopper Bluetooth-enabled Programmable Photo/Motion Multi-Voltage Sensor (high/low/off)[2] **ZOSMHB** Leviton High Bay Microwave 0-10V Multi-Level Occupancy Sensor with Photocell [3] **ZPC** Photocell **ZENLC** Enlighted Ruggedized Sensor with Dimming/Occupancy/ Daylight Harvesting and Enlighted Connected System[4] **ZENLI** Enlighted Ruggedized Sensor with Dimming/Occupancy/ Daylight Harvesting and Enlighted IoT System[4]	**Blank** No Options **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) **SC** Safety Cable **F** Fuse **EM6** 6.5W Emergency Pack[5] **EM10** 10W Emergency Pack[5] **EM14** 14W Emergency Pack[5] **EM20** 20W Emergency Pack[5] **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

[1] For 8' to 40' mounting heights. See Page 5 for more details.
[2] "_" = lens type. See Page 5 for lens descriptions.
[3] 120-277V only. Max ceiling height is 50 feet. See page 5 for more details.
[4] Max ceiling height for Enlighted Ruggedized sensor 50 feet. See Page 6 for more details on advanced controls.
[5] 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 2 MD UV 850 HDW EM14 → 158.8 LPW x 14W = 2,223 lm

Accessories *(order separately)*

WG(PBL2W) Wire Guard
WGE(PBL2W) Extended Wire Guard for use with end-mounted sensor



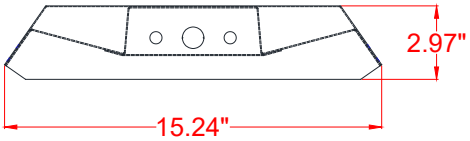
Controls Accessories *(order separately)*

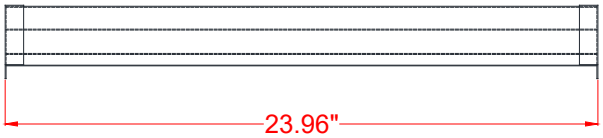
For Enlighted Controls
WS-2-00 Enlighted Remote Control Wall Switch (for Enlighted Connected & IoT)

For Z221BL_ Sensor
FSIR-100 Wireless Configuration Tool

For ZOSMHB Sensor
ZLS0R Wireless Configuration Tool

Schematic:





Performance Chart:

Catalog #	Lumens	Watts	LPW
PBL V2 2 LW UV 835	8586.3	54.7	156.9
PBL V2 2 MD UV 835	11440.2	74.0	154.5
PBL V2 2 HI UV 835	13330.6	88.0	151.5
PBL V2 2 VH UV 835	16264.3	104.0	156.4
PBL V2 2 LW UV FR 835	8088.2	54.7	147.8
PBL V2 2 MD UV FR 835	10776.6	74.0	145.0
PBL V2 2 HI UV FR 835	12449.1	88.0	141.5
PBL V2 2 VH UV FR 835	15288.4	104.0	147.0

Catalog #	Lumens	Watts	LPW
PBL V2 2 LW UV 840	8824.5	54.7	161.3
PBL V2 2 MD UV 840	11757.6	74.0	158.8
PBL V2 2 HI UV 840	13700.5	88.0	155.7
PBL V2 2 VH UV 840	16715.6	104.0	160.7
PBL V2 2 LW UV FR 840	8312.7	54.7	151.9
PBL V2 2 MD UV FR 840	11075.7	74.0	149.0
PBL V2 2 HI UV FR 840	12794.5	88.0	145.4
PBL V2 2 VH UV FR 840	15712.7	104.0	151.1

Catalog #	Lumens	Watts	LPW
PBL V2 2 LW UV 850	8824.5	54.7	161.3
PBL V2 2 MD UV 850	11757.6	74.0	158.8
PBL V2 2 HI UV 850	13700.5	88.0	155.7
PBL V2 2 VH UV 850	16715.6	104.0	160.7
PBL V2 2 LW UV FR 850	8312.7	54.7	151.9
PBL V2 2 MD UV FR 850	11075.7	74.0	149.0
PBL V2 2 HI UV FR 850	12794.5	88.0	145.4
PBL V2 2 VH UV FR 850	15712.7	104.0	151.1

Lumen Adjustment Factors: WG: 0.947

LUMENFOCUS Re-boardABILITY

The PBL V2 HD 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.

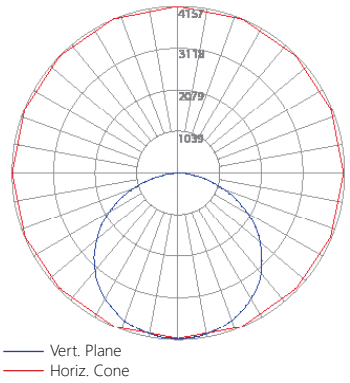
Photometric Data:

PBL V2 2 MD UV 850

Test No.: LLIA001687-005A
Luminaire Lumens: 11,758 lm
Luminaire Watts: 74.0W
Efficacy: 158.8 LPW
Spacing Criterion (0-180): 1.32
Spacing Criterion (90-270): 1.26

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	24587	23467	23385
55	24034	22879	23277
65	22310	21908	23281
75	17920	20503	3172
85	6526	4709	5382



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	101	97	107	102	99	95	98	95	92	94	92	90
2	99	91	85	79	97	90	83	78	86	81	76	83	78	75
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63
4	83	71	62	56	81	70	61	55	67	60	54	65	59	54
5	76	63	54	48	74	62	54	47	60	53	47	58	52	46
6	70	57	48	42	68	56	47	41	54	47	41	52	46	41
7	65	51	43	37	63	51	42	36	49	42	36	48	41	36
8	60	47	38	33	59	46	38	32	45	38	32	44	37	32
9	56	43	35	29	55	42	35	29	41	34	29	40	34	29
10	53	40	32	26	52	39	32	26	38	31	26	37	31	26

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

Zonal Lumen Summary

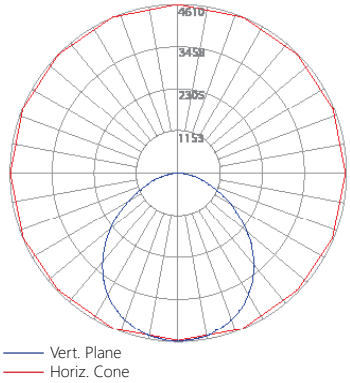
Zone	Lumens	%Fixt
0-20	1499.6	12.8
0-30	3198.6	27.2
0-40	5277.2	44.9
0-60	9484.5	80.7
0-80	11652.4	99.1
0-90	11756.2	100.0
90-120	1.5	0.0
90-130	1.5	0.0
90-150	1.5	0.0
90-180	1.5	0.0
0-180	11757.7	100.0

PBL V2 2 HI UV FR 850

Test No.: LLIA001687-002
Luminaire Lumens: 12,795 lm
Luminaire Watts: 88.0W
Efficacy: 145.4 LPW
Spacing Criterion (0-180): 1.24
Spacing Criterion (90-270): 1.26

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	23567	25184	26204
55	20538	24310	26058
65	16788	23309	25335
75	12710	20435	13956
85	7871	13523	11774



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	95	92	94	91	89
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62
4	83	71	62	55	80	69	61	55	67	60	54	65	58	53
5	76	63	54	48	74	62	54	47	60	53	47	58	52	46
6	70	57	48	42	68	56	48	41	54	47	41	53	46	41
7	65	52	43	37	63	51	43	37	49	42	36	48	41	36
8	61	47	39	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	27	37	31	26

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

Zonal Lumen Summary

Zone	Lumens	%Fixt
0-20	1679.2	13.1
0-30	3560.1	27.8
0-40	5819.4	45.5
0-60	10221.8	79.9
0-80	12588.1	98.4
0-90	12792.8	100.0
90-120	1.8	0.0
90-130	1.8	0.0
90-150	1.8	0.0
90-180	1.8	0.0
0-180	12794.6	100.0

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)
ZOSMHB	Motion (Microwave), Photosensor	On/Low/Off	Wired 0-10V, Programmable via ZLS0R IR remote (sold separately)
ZPC	Photosensor	On/Off	Wired
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

Programmable Dimming Sensors:

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.

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

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

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.

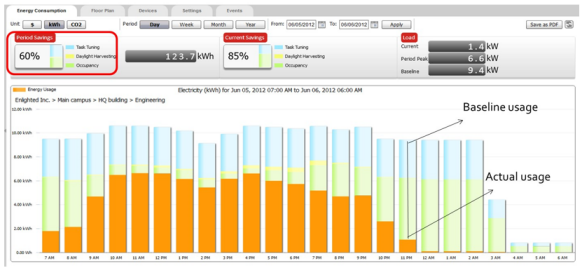
Enlighted Connected ("ZENLC") offers many features, including motion and switch groups, daylight harvesting, energy reporting, and more. The Enlighted IoT ("ZENLI") option allows the full implementation of Enlighted's services. Enlighted Connected can be fully upgraded to the next tier in the future. So if you start with ZENLC but want to add the functionality of the ZENLI option, you can.

Enlighted Capabilities*	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		✓

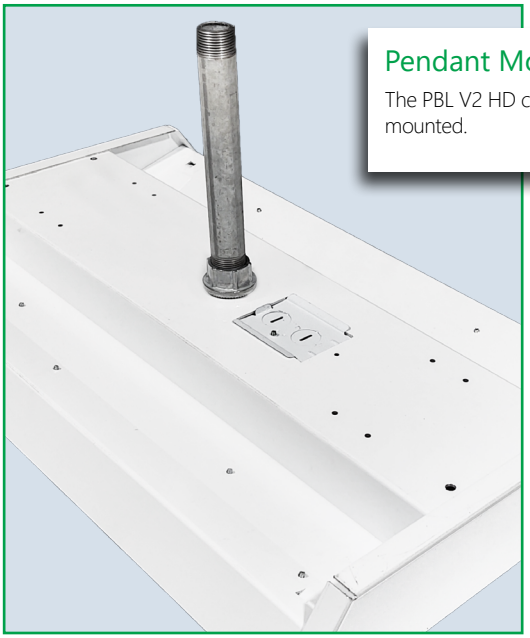
Real-time data analytics

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



Hanging Options Available:

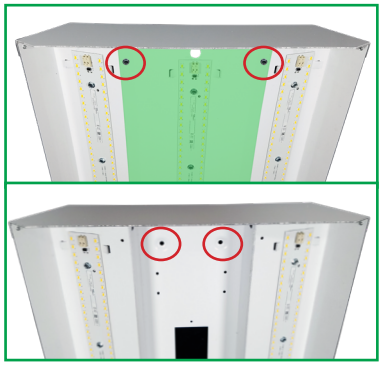


Pendant Mount (PM)

The PBL V2 HD can be pendant mounted.

Surface Mount

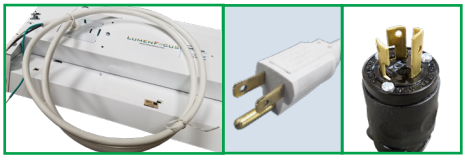
The PBL V2 HD is designed to be easily mounted to any sturdy surface. Simply remove the hex head screws holdingf the driver cover (top picture, in green) to access the bottom of the housing below. The housing can be mounted to the surface from the four holes in each corner of the channel (bottom picture,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



Cable Mount (QC, QC20)

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. A mechanically fastened safety cable (SC) is also optional.

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.

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 HD is also available in matte black (BK) and metallic silver (SL).

Wireguard and shielding

Add an optional wireguard for added stability and protection - ideal for gymnasiums or other areas where the luminaire may be struck. Optional frosted acrylic diffuser lenses minimize glare and improve aesthetics.