LUMENFOCUS

Project: _____

Location: _____

Cat. #: _____

Type: _____

Quantity: _____

LED

PBL G2 HD-2W | Premium LED Heavy Duty High Bay

Features:

- High performance LED technology
- 0-10V dimming drivers standard on all models - dimmable to <10% 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 G2'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
- Cold/Frozen Storage *(cold temperature rules apply. Refer to warranty document at www.lumenfocus.com/support for details)*

Ambient Operating Temp.:

- -30°C to 50°C

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

10 YEAR EXTENDED WARRANTY AVAILABLE ON CERTAIN MODELS

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: 172,000 hrs (calculated)
- L80: 106,000 hrs (calculated)
- L90: 48,000 hrs (reported)
- 86% lumen maintenance @ 72,000 hrs

(based on LM-80, TM-21 and in-situ laboratory testing)

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)

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

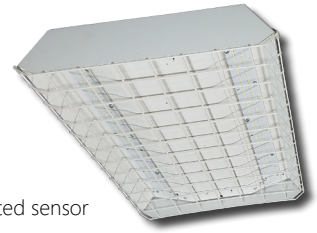
Ordering Guide:

example: PBL G2 2W HI UV 850 HDW PM ZOSD BK

Series	Length	Output	Performance	Voltage	Shielding	CRI/CCT	Gauge	Hanging	Controls	Options	Finish
PBL G2	2W	HI High	Blank Standard HE High Efficiency (Available in HI model only)	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 Dimming/Occupancy/ Daylight Harvesting Multi-Voltage Sensor [2] ZOSMHB Leviton High Bay Microwave 0-10V Multi-Level Occupancy Sensor with Photocell [3] ZPC Photocell ZFMS Douglas FMS Sensor with Dimming/Occupancy/ Daylight Harvesting with Newtork Capabilities[4] ZENLO Enlighted Ruggedized Sensor with Dimming/Occupancy/ Daylight Harvesting and Enlighted One System[5] ZENLC Enlighted Ruggedized Sensor with Dimming/Occupancy/ Daylight Harvesting and Enlighted Connected System[5] ZENLI Enlighted Ruggedized Sensor with Dimming/Occupancy/ Daylight Harvesting and Enlighted IoT System[5]	Blank No Options EXT10 10-Year Extended Warranty[6] 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 EM2 Emergency Pack[7] 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
		VH Very High SH Super High	Blank Standard								

Notes

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



Accessories *(order separately)*

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

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)

For Z221BL_ Sensor
FSIR-100 Wireless Configuration Tool

For ZOSMHB Sensor
ZLS0R Wireless Configuration Tool

Performance Chart:

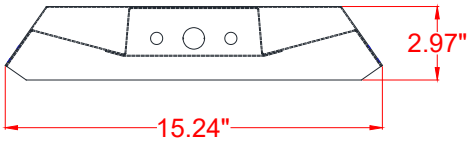
Catalog #	Lumens	Watts	LPW
PBL G2 2W HI HE UV 835	17164	99	173.3
PBL G2 2W HI UV 835	17257	104	166.4
PBL G2 2W VH UV 835	19461	117	166.0
PBL G2 2W SH UV 835	23458	142	164.6
PBL G2 2W HI HE UV FR 835	16131	99	162.9
PBL G2 2W HI UV FR 835	16224	104	156.4
PBL G2 2W VH UV FR 835	18295	117	156.0
PBL G2 2W SH UV FR 835	22042	142	155.0

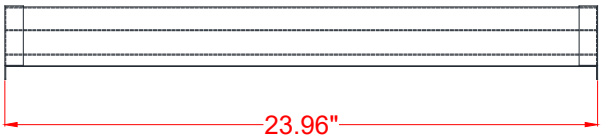
Catalog #	Lumens	Watts	LPW
PBL G2 2W HI HE UV 840	17779	99	179.5
PBL G2 2W HI UV 840	17876	104	172.4
PBL G2 2W VH UV 840	20159	117	171.9
PBL G2 2W SH UV 840	24299	142	170.5
PBL G2 2W HI HE UV FR 840	16709	99	168.7
PBL G2 2W HI UV FR 840	16805	104	162.0
PBL G2 2W VH UV FR 840	18951	117	161.6
PBL G2 2W SH UV FR 840	22832	142	160.5

Catalog #	Lumens	Watts	LPW
PBL G2 2W HI HE UV 850	17779	99	179.5
PBL G2 2W HI UV 850	17876	104	172.4
PBL G2 2W VH UV 850	20159	117	171.9
PBL G2 2W SH UV 850	24299	142	170.5
PBL G2 2W HI HE UV FR 850	16709	99	168.7
PBL G2 2W HI UV FR 850	16805	104	162.0
PBL G2 2W VH UV FR 850	18951	117	161.6
PBL G2 2W SH UV FR 850	22832	142	160.5

Lumen Adjustment Factors: WG: 0.95

Schematic:





LUMENFOCUS Re-boardABILITY

The PBL G2 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.

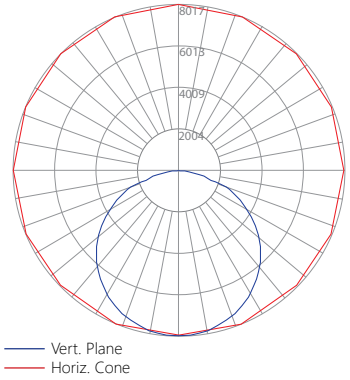
Photometric Data:

PBL G2 2W SH UV 835

Test No.: LLIA001249-003
Luminaire Lumens: 23,458 lm
Luminaire Watts: 142.5W
Efficacy: 164.6 LPW
Spacing Criterion (0-180): 1.30
Spacing Criterion (90-270): 1.28

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	34164	33914	33908
55	33163	33148	33328
65	30168	31125	32021
75	24381	27439	23235
85	9822	9476	10858



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	78	96	89	83	77	85	80	75	82	78	74
3	90	79	71	65	88	78	70	64	75	68	63	72	67	62
4	82	70	61	55	80	69	61	54	66	59	54	64	58	53
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35
8	60	46	38	32	59	46	38	32	44	37	32	43	36	31
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26

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

Zonal Lumen Summary

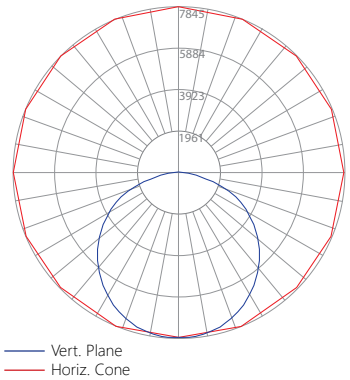
Zone	Lumens	%Fixt
0-20	2930.9	12.5
0-30	6261.2	26.7
0-40	10338.0	44.1
0-60	18583.9	79.2
0-80	23174.8	98.8
0-90	23454.0	100.0
90-120	3.9	0.0
90-130	3.9	0.0
90-150	3.9	0.0
90-180	3.9	0.0
0-180	23457.9	100.0

PBL G2 2W SH UV FR 835

Test No.: LLIA001249-002A
Luminaire Lumens: 22,042 lm
Luminaire Watts: 142.3W
Efficacy: 155.0 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	29407	31438	32685
55	25611	30095	32308
65	20794	28540	32133
75	15573	27340	25578
85	9624	19841	19446



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	94	97	94	91	93	91	88
2	99	91	84	78	96	89	82	77	85	80	75	82	77	73
3	90	79	71	65	88	78	70	64	75	68	63	72	67	62
4	82	70	62	55	80	69	61	54	67	59	54	64	58	53
5	76	63	54	47	74	62	53	47	60	52	46	58	51	46
6	70	57	48	41	68	56	47	41	54	46	41	52	45	40
7	65	51	43	36	63	51	42	36	49	41	36	48	41	36
8	60	47	38	32	59	46	38	32	45	37	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	2861.1	13.0
0-30	6072.5	27.5
0-40	9929.1	45.0
0-60	17404.4	79.0
0-80	21600.3	98.0
0-90	22027.0	99.9
90-120	15.4	0.1
90-130	15.4	0.1
90-150	15.4	0.1
90-180	15.4	0.1
0-180	22042.3	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
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

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:** 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

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

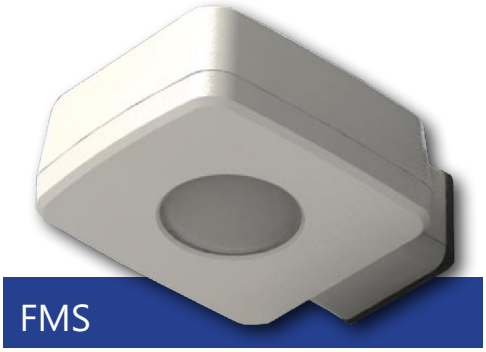
ZLS0R

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

Universal Douglas: Cloud-based controls

The PBL G2 HD 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.



- 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.

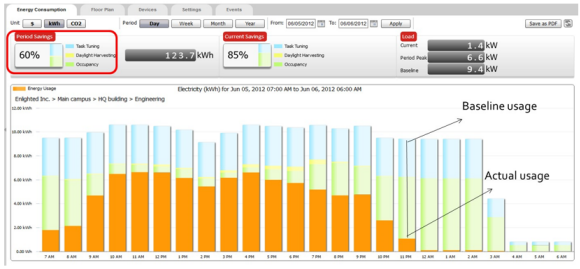
Enlighted Capabilities*	Enlighted One (ZENLO)	Enlighted Connected (ZENLC)	Enlighted IoT (ZENLI)
Motion and Switch Groups	✓	✓	✓
Daylight Harvesting	✓	✓	✓
Schedule Lighting		✓	✓
Energy Reporting & Optimization		✓	✓
Environment Data & Lighting Controls API		✓	✓
Building Management System Integration		✓	✓
Where & Space Applications			✓
Location & Occupancy APIs & Beaconing			✓
Future App & API Ready			✓

Note: Additional equipment required for ZENLC and ZENLI

Real-time data analytics

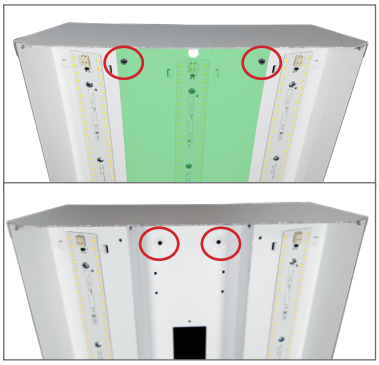
Enlighted's control units compile data in real-time, which can be viewed via the Energy Manager. The Energy Manager is part of the Enlighted Connected and Enlighted IoT configurations.

- 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



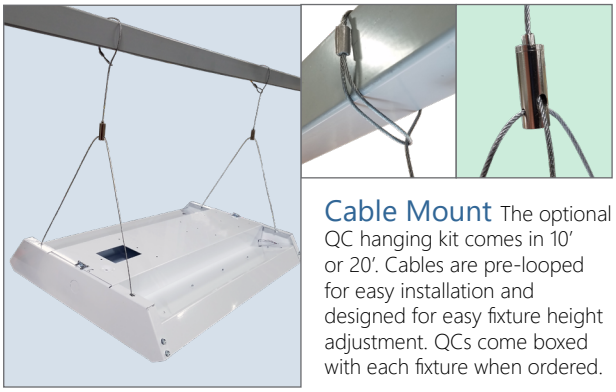
Learn more about our available advanced controls options here:
www.lumenfocus.com/controls-overview

Mounting:

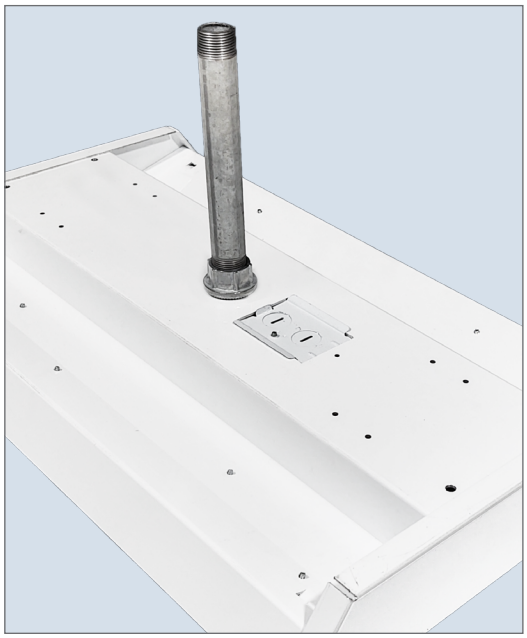


Surface Mount

The PBL G2 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).

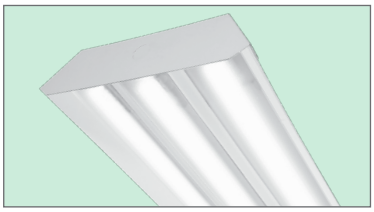


Cable Mount The optional QC hanging kit comes in 10' or 20'. Cables are pre-looped for easy installation and designed for easy fixture height adjustment. QCs come boxed with each fixture when ordered.



Pendant Mount The PBL G2 HD can be pendant mounted with optional 3/4" hub. Stem also available as an option.

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 G2 is also available in matte black (BK) and metallic silver (SL).