



Project: _____
 Location: _____
 Cat. #: _____
 Type: _____
 Quantity: _____

LED

PBL A G2 4 | LED Aisle High Bay

Features:

- High performance LED technology
- 0-10V dimming drivers standard
- DALI drivers available
- Field replaceable LED boards and drivers
- A wide variety of lumen packages allows for flexibility in design and helps maximize energy savings
- Enhanced specular reflector designed to provide even vertical illumination on shelving and maximize lighting in the aiseways
- Opening in driver compartment grants easy access, allowing for simple installation and maintenance in the field
- 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

- Warehouse aisles
- Corridors
- Cold/Frozen Storage (cold temperature rules apply. Refer to warranty document at www.lumenfocus.com/support for details)

Ambient Operating Temp.:

- -30°C to 35°C for VH output
- -30°C to 40°C for all other outputs

Construction:

- Housing is precision brake formed from heavy gauge cold rolled steel with highly durable white finish
- LED tray is precision brake formed from highly reflective aluminum

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 L70 Lifetime:

- L70: 169,000 hrs (calculated)
- L80: 104,000 hrs (calculated)
- L90: 47,000 hrs (reported)
- 86% 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
- 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 A G2 4 MD UV 850 QC C6 OS

Series	Version	Length	Output	Voltage	CRI/CCT	Hanging	Controls ⁽¹⁾	Options
PBL A	G2	4						
PBL A	G2 Gen 2	4 4'	VL Very Low	UV 120-277	835 80 CRI/3500K	Blank None	Blank No Controls	Blank No Options
			LW Low	34 347V	840 80 CRI/4000K	QC 10' Quick Hang Cable Kit	ZOS Occupancy Sensor (On/Off)	EXT10 10-Year Extended Warranty ⁽³⁾
			MD Medium	48 480V	850 80 CRI/5000K	QC20 20' Quick Hang Cable Kit	ZOSMHB Leviton Microwave 0-10V Multi-Level Occupancy Sensor with Photocell	C6 6' Single Circuit Cord
			HI High				ZOSD 0-10V Dimming Occupancy Sensor with Daylight Harvesting	C65W 6' Single Circuit Cord with Low Voltage Connections
			VH Very High				Z221Bxx ⁽²⁾ Wattstopper Programmable 0-10V Multi- Level Occupancy Sensor with Photocell, Task Tuning	C10 10' Single Circuit Cord

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⁾ Not available on all models. Certain conditions apply. Consult factory or sales representative for details.

⁽⁴⁾ 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 A G2 4 MD UV 850 EM14 → 168.3 LPW x 14W = 2,356 lm

Accessories (order separately)

WG(PBLA4) Wire Guard
WGE(PBLA4) Extended Wire Guard for use with end-mounted sensor

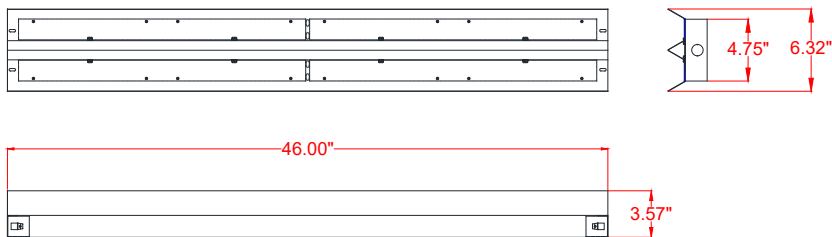
Controls Accessories (order separately)

Accessory Code	Description	Control Compatibility	Additional Info
ZLSOR	Wireless IR Configuration Tool	ZOSMHB	pg. 4
FSIR-100	Wireless IR Configuration Tool	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

Z221Bxx ⁽²⁾ Wattstopper Programmable 0-10V Multi- Level Occupancy Sensor with Photocell, Task Tuning	C105W 10' Single Circuit Cord with Low Voltage Connections
Z321Bxx ⁽²⁾ Wattstopper Bluetooth-enabled Programmable 0-10V Dimming Occupancy Sensor with Daylight Harvesting, Task Tuning	D6 6' Dual Circuit Cord
ZOFD1 Leviton Bluetooth-enabled Programmable 0-10V Dimming Occupancy Sensor with Daylight Harvesting, Task Tuning, Grouping	D10 10' Dual Circuit Cord
ZOFDU Leviton Bluetooth-enabled Programmable 0-10V Dimming Occupancy Sensor with Daylight Harvesting, Task Tuning, Grouping, Scheduling	P(NEMA) Plug (Specify NEMA configuration)
ZSLHB Keystone SmartLoop Bluetooth- enabled Programmable 0-10V Dimming Occupancy Sensor with Daylight Harvesting, Task Tuning, Grouping, Scheduling	SC Safety Cable
ZESMC Philips EasySense Bluetooth-enabled Programmable DALI Dimming Occupancy Sensor with Daylight Harvesting, Task Tuning, Grouping, Scheduling	F Fuse
ZLTSxx ⁽²⁾ LiteTrace Bluetooth-enabled Programmable 0-10V Dimming Occupancy Sensor with Daylight Harvesting, Task Tuning, Grouping, Scheduling, and Advanced Networking & IoT Capabilities	EM6 6.5W Emergency Pack ⁽⁴⁾
ZLTC LiteTrace Bluetooth-enabled Programmable 0-10V fixture controller with Task Tuning, Grouping, Scheduling, and Advanced Networking & IoT Capabilities	EM10 10W Emergency Pack ⁽⁴⁾
	EM14 14W Emergency Pack ⁽⁴⁾
	EM20 20W Emergency Pack ⁽⁴⁾
	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



Schematic:



Performance Chart:

Catalog #	Watts	Lumens (835)	LPW (835)	Lumens (840)	LPW (840)	Lumens (850)	LPW (850)
PBL A G2 4 VL UV 8xx	66.8	11189.9	167.6	11791.2	176.6	11791.2	176.6
PBL A G2 4 LW UV 8xx	89.6	14879.5	166.1	15679.2	175.0	15679.2	175.0
PBL A G2 4 MD UV 8xx	119.2	19035.5	159.7	20058.5	168.3	20058.5	168.3
PBL A G2 4 HI UV 8xx	144.5	22894.4	158.4	24124.7	166.9	24124.7	166.9
PBL A G2 4 VH UV 8xx	171.2	26829.2	156.7	28271.0	165.1	28271.0	165.1

Lumen Adjustment Factors: WG: 0.95



LUMENFOCUS Re-boardABILITY

The PBL A 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 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

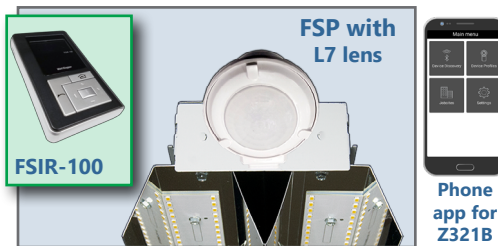
Programmable Dimming Sensors:

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 sufficient ambient light
- Control parameters selected manually via DIP switches, or using the optional ZLSOR 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



ZLSOR



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/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 & Beacons			✓
Future App & API Ready			✓

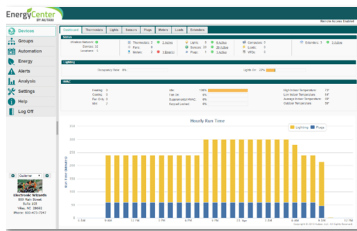
* additional hardware and software required.

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



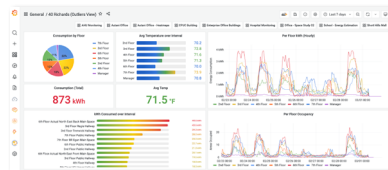
EnergyCenter
BY AUTANI

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 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



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



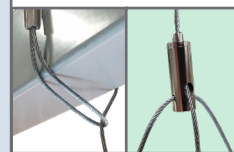
Other Options:



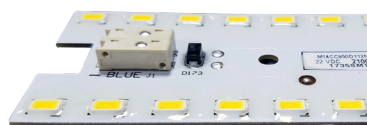
Cords are available in single circuit or dual circuit, 6' or 10'. Standard plug is optional, as are other NEMA configurations if specified.



Safety cables affix directly to the luminaire and provide a sturdy cable hanging alternative.



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.



Conformal coating

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

Photometric Data:

PBL A G2 4 VH UV 850

Test No.: LLIA001853-007A

Luminaire Lumens: 28,272 lm

Luminaire Watts: 171.2W

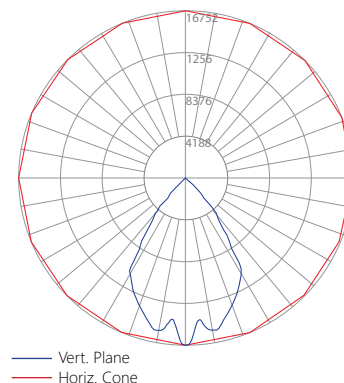
Efficacy: 165.1 LPW

Spacing Criterion (0-180): 1.30

Spacing Criterion (90-270): 1.04

Luminance Data (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	88380	45034	12988
55	85490	11803	112
65	79019	324	45
75	65255	212	17
85	33086	40	0



— Vert. Plane
— Horiz. Cone

Zonal Lumen Summary

Zone	Lumens	%Fixt
0-20	5629.5	19.9
0-30	11816.2	41.8
0-40	18447.8	65.3
0-60	26302.6	93.0
0-80	28171.6	99.6
0-90	28271.4	100.0
90-120	0.2	0.0
90-130	0.2	0.0
90-150	0.2	0.0
90-180	0.2	0.0
0-180	28271.6	100.0

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	50	30	10
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106			
1	111	108	105	102	109	106	103		101	99	97	98	96	94			
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82			
3	96	88	81	76	94	86	80	75	83	78	74	81	76	73			
4	89	79	72	67	87	78	71	66	76	70	65	74	69	64			
5	83	72	65	59	81	71	64	59	69	63	58	67	62	58			
6	78	66	58	53	76	65	58	53	64	57	52	62	56	52			
7	72	61	53	48	71	60	53	48	58	52	47	57	51	47			
8	68	56	48	43	66	55	48	43	54	48	43	53	47	43			
9	64	52	44	39	62	51	44	39	50	44	39	49	43	39			
10	60	48	41	36	59	48	41	36	47	40	36	46	40	36			

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

