

# **NE NorthEast Electrical**

D I S T R I B U T O R S

**From the desk of Stephen Beard**

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**Project: Burlington Police Department, lighting**

**Submitted on: 06/24/2014 10:32:00 AM**

**Drawings “Approved” or “Approved with modifications” authorize NorthEast Electrical Distributors to proceed with the order. Modifications made during or after drawing approval may result in a price change and / or ship date change.**

**Holding all material on these submittal sheets for release pending approval.**

**Please provide a copy of the reviewed submittals along with the submittal review when releasing this job.**

Submitted by: Steve Beard, sales representative

## PHILIPS EVOKIT 2'x4' LED RETROFIT KIT



**Philips EvoKit LED Retrofit Kit** is an energy efficient LED alternative to traditional linear fluorescent troffers. Not only does it offer energy savings\*\*, it also helps reduce maintenance costs due to its long lifetime. Simple construction helps decrease the installation time meaning you can have an LED solution in your ceiling in just minutes.

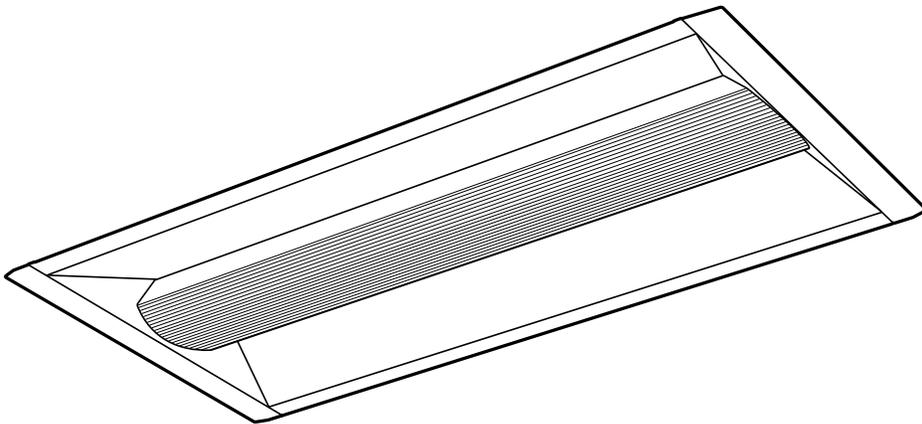
### Application

- A highly efficient, visually comfortable, architecturally styled LED retrofit kit designed to replace recessed linear fluorescent troffers.
- Unique modular design offers refreshing new look in the ceiling when compared to traditional fluorescent luminaires.
- Single light bar combined with slanted troffer helps reflect light to reduce glare and provide uniform light distribution making it ideal for applications such as offices, schools, healthcare and retail.
- Excellent color rendering with a CRI above 80.
- Extremely high efficacies up to 110 lumens per watt.
- LEDs are an excellent source for use with controls since dimming or frequent switching does not degrade the performance or life of the source.
- Designed for use with Standard Grid (NEMA "G") or Narrow Grid (NEMA "NFG") ceiling T-Grids.
- High efficiency source and luminaire design help significantly reduce energy consumption and more easily comply with known energy codes.
- Helps meet regulation requirements such as ASHRAE 90.1 and Title 24 when matched with suitable controls

\* DLC requires the product to meet specific performance requirements regarding: lumen output, spacing criteria, lumens per watt, color temperature, CRI, lifetime and warranty.

\*\* Please refer to the energy saving chart on page 3 for details.

The ideal LED  
replacement for  
**linear**  
fluorescent  
troffers.



# PHILIPS

# PHILIPS EVOKIT 2'x4' LED RETROFIT KIT

## Construction/Finish

- Simple design allows for quick installation (under 4 minutes) in existing luminaire without the need to break the ceiling plenum.
- Constructed using galvanized steel which helps fight rust and makes for more durable product
- Minimum depth of only 3" necessary to allow proper clearance and installation of the EvoKit.
- Retrofit kit is powder coated after fabrication with high quality, durable finish to ensure no unfinished edges and avoid future potential of corrosion.
- Components fit together easily without the need for tools during installation

## Electrical

- Multiple driver options available
  - 0-10V dimming satisfies universal voltage requirements
  - Mark10 leading edge dimming offers ability to dim without pulling neutral wires making it compatible with more existing systems
- 5 year limited warranty includes all components of the retrofit kit, including driver, LED board and non-electrical components<sup>\*\*\*</sup>
- Listed with UL and Design Lights Consortium to ensure quality performance and safety standards are met
- High efficiency LEDs have a minimum 50,000 hour rated life (L<sub>70</sub>)

## Enclosure

- Diffuser requires no frames or fasteners and can be easily removed from below without tools if needed

## Accessories

- Earthquake cables available for extra securement within the ceiling for areas prone to extreme conditions
- Suitable for use with Bodine emergency backup BSL310
- Suitable for use with a wide range of control systems
- Appropriate for new construction when used with standard lensed or parabolic troffers

## Ordering, Electrical and Technical Data (Subject to change without notice)

Product Number	Description	Watts	Volts	Lumen Maintenance (Hrs.) <sup>1</sup>	Approx. Lumens <sup>2</sup>	CRI	Color Temperature (K)	
<b>2'x4'</b>								
501817	EvoKit 2x4 P 42L 39W 835 2 0-10 7 G2	39	120-277	70,000	4180	80	3500	DSB only
501866	EvoKit 2x4 P 42L 39W 840 2 0-10 7 G2	39	120-277	70,000	4280	80	4000	
501874	EvoKit 2x4 P 42L 40W 835 1 Mk10 7 G2	40	120	70,000	4180	80	3500	all other areas
501882	EvoKit 2x4 P 42L 40W 840 1 Mk10 7 G2	40	120	70,000	4280	80	4000	
501924	EvoKit 2x4 P 42L 42W 835 5 Mk10 7 G2	42	277	70,000	4180	80	3500	
501940	EvoKit 2x4 P 42L 42W 840 5 Mk10 7 G2	42	277	70,000	4280	80	4000	
<b>2'x4' Additional SKU's*</b>								
502039	EvoKit 2x4 P 36L 36W 835 2 0-10 7 G2	36	120-277	70,000	3600	80	3500	
502047	EvoKit 2x4 P 36L 36W 840 2 0-10 7 G2	36	120-277	70,000	3680	80	4000	
502054	EvoKit 2x4 P 36L 34W 835 1 Mk10 7 G2	34	120	70,000	3600	80	3500	
502062	EvoKit 2x4 P 36L 34W 840 1 Mk10 7 G2	34	120	70,000	3680	80	4000	
502070	EvoKit 2x4 P 36L 33W 835 5 Mk10 7 G2	33	277	70,000	3600	80	3500	
502088	EvoKit 2x4 P 36L 33W 840 5 Mk10 7 G2	33	277	70,000	3680	80	4000	
501973	EvoKit 2x4 P 52L 51W 835 2 0-10 5 G2	51	120-277	50,000	5300	80	3500	
501981	EvoKit 2x4 P 52L 51W 840 2 0-10 5 G2	51	120-277	50,000	5400	80	4000	
501999	EvoKit 2x4 P 52L 52W 835 1 Mk10 5 G2	52	120	50,000	5300	80	3500	
502005	EvoKit 2x4 P 52L 52W 840 1 Mk10 5 G2	52	120	50,000	5400	80	4000	
502013	EvoKit 2x4 P 52L 53W 835 5 Mk10 5 G2	53	277	50,000	5300	80	3500	
502021	EvoKit 2x4 P 52L 53W 840 5 Mk10 5 G2	53	277	50,000	5400	80	4000	

1) L70 50,000 and 70,000 hours @ 25°C based on TM21 and LM80.

2) Based on photometric testing consistent with IES LM-79.

\* Special ordering requirements associated with these products. Please consult sales for more information.

\*\*\*Please visit [www.philips.com/warranties](http://www.philips.com/warranties) for full details

## Accessories

Product Number	Description
502435	EVOKIT ACCESSORY EARTHQUAKE CABLE 317MM

# PHILIPS EVOKIT 2'x4' LED RETROFIT KIT

## 2'x4' EVOKIT P 42L 39W 840 1 Mk-10 7 G2, 4200 delivered lumens

Catalog No. 501882  
 Test No. 2655949-04  
 S/MH 1.18 - 1.22  
 Lamp Type LED  
 Lumens/Lamp 4377  
 Input Watts 39.1

Comparative yearly lighting energy cost per 1000 lumens - \$2.14 based on 3000 hours and \$0.08/kWh

The photometric results were obtained in the Design Lights Consortium Test Lab which is NVLAP accredited by the National Institute of Standards and Technology

Photometric values based on tests performed in compliance with LM-79

Candlepower			
Angle	End	45	Cross
0	1571	1571	1571
5	1566	1568	1563
10	1536	1539	1537
15	1487	1492	1493
20	1420	1429	1432
25	1335	1350	1358
30	1238	1258	1269
35	1129	1156	1172
40	1015	1046	1072
45	893	934	968
50	772	824	871
55	650	717	779
60	536	619	691
65	424	526	605
70	320	435	508
75	222	338	396
80	134	233	259
85	57	112	120
90	0		

### Coefficients of Utilization

EFFECTIVE FLOOR CAVITY REFLECTANCE 20 PER (pfc=0.20)

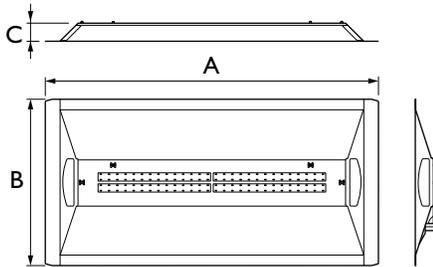
pcc	80			70			50		
	70	50	30	70	50	30	50	30	
pw									
RCR									
0	119	119	119	116	116	116	111	111	
1	108	103	99	105	101	97	97	93	
2	98	90	83	96	88	81	84	79	
3	89	79	70	87	77	69	74	67	
4	82	70	61	80	68	60	66	59	
5	75	62	53	73	61	53	59	52	
6	70	56	47	68	55	47	53	46	
7	65	51	42	63	50	42	49	41	
8	60	47	38	59	46	38	45	37	
9	56	43	35	55	42	34	41	34	
10	53	40	32	52	39	31	38	31	

### Light Distribution

Degrees	Lumens	% Luminaire	Average Luminance			
			Angle	End	45°	Cross
0-30	1189	27.8	45	2351	2267	2161
0-40	1912	44.7	55	2340	2147	1939
0-60	3280	76.8	65	2484	2158	1716
0-90	4273	100	75	2759	2321	1469
			85	2901	2607	1127

## Dimensions

A Face Plate Length	B Face Plate Width	C Height
47.83"	23.9"	2.95"



## Energy Saving Solution – 2'x4'

Present Wattage	85 W
x Annual Operating Hours	4,380 hrs
=	372,300 watt-hours
+ 1,000	= 372.3 kWh per year
x kWh rate of \$0.11	= \$40.95 per year
x 125 fixtures	= \$5,119.13 annual energy cost per space

Present Wattage	39 W
x Annual Operating Hours	4,380 hrs
=	170,820 watt-hours
+ 1,000	= 170.82 kWh per year
x kWh rate of \$0.11	= \$18.79 per year
x 125 fixtures	= \$2,348.78 annual energy cost per space

**Total Estimated Annual Savings<sup>0</sup> = \$2,770.35**

<sup>0</sup> Based on 125 fixtures per space operating 4,380 hours a year. 125 fixtures is roughly equivalent to a 10,000 square foot space. kWh rates will vary.



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01/14

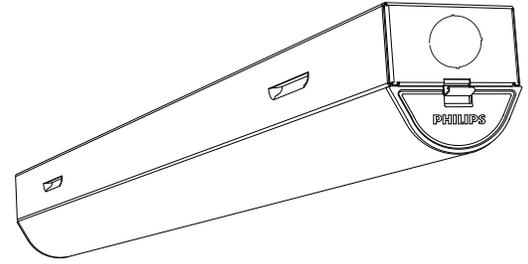
www.philips.com/evokit

Philips Lighting  
 North America Corporation  
 200 Franklin Square Drive  
 Somerset, NJ 08873  
 Phone: 855-486-2216

Philips Lighting Company  
 281 Hillmount Road  
 Markham ON, Canada L6C 2S3  
 Phone: 800-668-9008

# Revolutionize linear lighting with LED

## FLUXSTREAM LED LINEAR STRIP EZ



### PHILIPS DAY-BRITE / PHILIPS CFI FLUXSTREAM LED LINEAR STRIP EZ

The Fluxstream LED linear strip EZ provides the best value proposition of performance and economy, making it ideal for a variety of residential and commercial applications.

Project: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Catalog No: \_\_\_\_\_  
 Fixture Type: \_\_\_\_\_  
 Mfg: \_\_\_\_\_ Qty: \_\_\_\_\_  
 Notes: \_\_\_\_\_

### Ordering guide

example: LF4EZ3840ULAG

Series	Length	Series	Lumens	Color	Voltage	Driver
<input type="text" value="LF"/>	<input type="text"/>					
LF FluxStream	4 4' length	EZ	38 3800 lumens	40 4000K 30 3000K	U Universal 120/277v	LAG LED Driver (non-dim)

### Accessories (order separately)

- **FH360-120** – 120V motion sensor, field installed via 7/8" KO on end cap
- **FH360-277** – 277V motion sensor, field installed via 7/8" KO on end cap
- **FH360-347** – 347V motion sensor, field installed via 7/8" KO on end cap



**PHILIPS**  
Day-Brite

**PHILIPS**  
CFI

# FLUXSTREAM LED LINEAR STRIP EZ

## Features

- Sleek and compact design ideal for installation in tight spaces.
- Rugged 100% frost acrylic lens shields LEDs from direct view.
- Capable of providing 3800 lm per 4' (nominal) length.
- Long life LEDs provide 50,000 hours ( $L_{70}$ ) LED lumen maintenance free system life at 25°C ambient.
- Supplied with mounting hanger brackets (2) and v-hooks (2) (chain supplied by others) for ease of installation.
- Shift and lock optical tray for secure and easy access to the electrical compartment.
- Wall mountable – ADA compliant.
- Slide on LED pan and single grounding screw for easy installation.
- Ideal for installation in refrigerated areas (down to 0°C).
- Enclosed lens prevents penetration of dust, insects and other debris into the lamp compartment.
- Fully enclosed wiring and fully enclosed wiring and diodes.
- 80+ CRI and excellent color consistency.
- 1" spacing between luminaires is required for access to the electrical compartment.

## Finish

Baked white acrylic matte high reflectance paint finish.

## Shielding

Contoured frosted acrylic lens.

## Electrical

LED boards and drivers are RoHS (Restriction of Hazardous Substances) compliant. Total system life rated at 50,000 hours. Maximum ambient temperature of 25°C. Suitable for cold locations - minimum ambient temperature of 0°C. Predicted  $L_{70}$  lifetime based on LED manufacturer's supplied LM-80 data and in-situ laboratory testing.

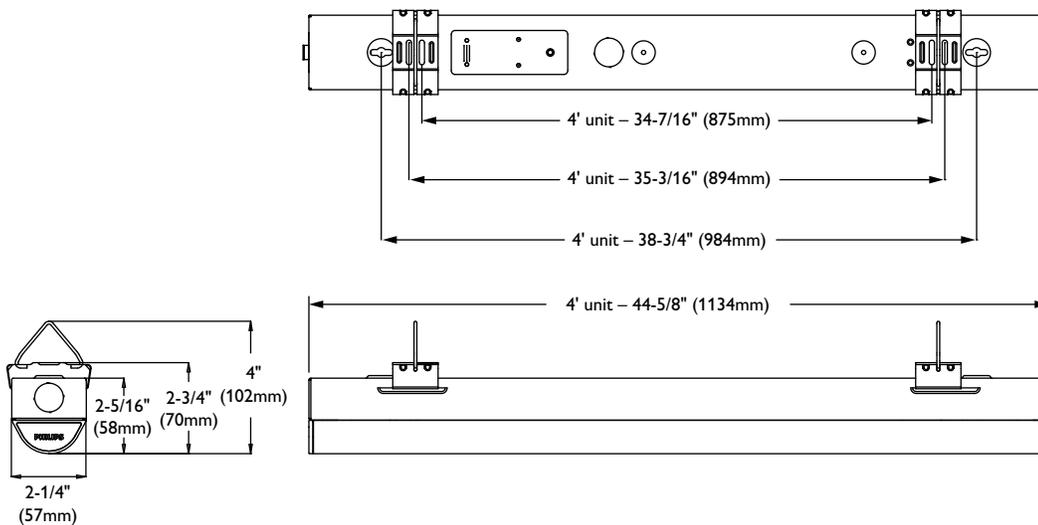
## Materials

Heavy gauge cold rolled steel housing and LED panel post-painted white.

## Labels

cULus listed.  
Suitable for damp locations.  
5 year warranty based on 25°C ambient

## Dimensions



# FLUXSTREAM LED LINEAR STRIP EZ

## Fluxstream EZ, 4000K, 4042 delivered lumens

<b>Catalog No.</b> LF4EZ3840ULAG <b>Test No.</b> 32331 <b>S/MH</b> 1.3 <b>Lamp Type</b> 29WLED <b>Lumens/Lamp</b> 4042 <b>Input Watts</b> 42	<b>Candlepower</b> <table border="1"> <thead> <tr> <th>Angle</th> <th>End</th> <th>45</th> <th>Cross</th> <th>Back-45</th> </tr> </thead> <tbody> <tr><td>0</td><td>1145</td><td>1145</td><td>1145</td><td>1145</td></tr> <tr><td>5</td><td>1136</td><td>1139</td><td>1146</td><td>1139</td></tr> <tr><td>15</td><td>1091</td><td>1104</td><td>1115</td><td>1104</td></tr> <tr><td>25</td><td>1002</td><td>1030</td><td>1053</td><td>1030</td></tr> <tr><td>35</td><td>873</td><td>925</td><td>964</td><td>925</td></tr> <tr><td>45</td><td>715</td><td>797</td><td>852</td><td>797</td></tr> <tr><td>55</td><td>545</td><td>648</td><td>721</td><td>648</td></tr> <tr><td>65</td><td>362</td><td>497</td><td>577</td><td>497</td></tr> <tr><td>75</td><td>181</td><td>356</td><td>438</td><td>356</td></tr> <tr><td>85</td><td>33</td><td>237</td><td>316</td><td>237</td></tr> <tr><td>95</td><td>1</td><td>153</td><td>227</td><td>153</td></tr> <tr><td>105</td><td>1</td><td>91</td><td>155</td><td>91</td></tr> <tr><td>115</td><td>1</td><td>50</td><td>99</td><td>50</td></tr> <tr><td>125</td><td>1</td><td>21</td><td>57</td><td>21</td></tr> <tr><td>135</td><td>1</td><td>6</td><td>26</td><td>6</td></tr> <tr><td>145</td><td>1</td><td>1</td><td>7</td><td>1</td></tr> <tr><td>155</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>165</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>175</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> </tbody> </table>					Angle	End	45	Cross	Back-45	0	1145	1145	1145	1145	5	1136	1139	1146	1139	15	1091	1104	1115	1104	25	1002	1030	1053	1030	35	873	925	964	925	45	715	797	852	797	55	545	648	721	648	65	362	497	577	497	75	181	356	438	356	85	33	237	316	237	95	1	153	227	153	105	1	91	155	91	115	1	50	99	50	125	1	21	57	21	135	1	6	26	6	145	1	1	7	1	155	1	1	1	1	165	1	1	1	1	175	1	1	1	1	<b>Light Distribution</b> <table border="1"> <thead> <tr> <th>Degrees</th> <th>Lumens</th> <th>% Fixture</th> </tr> </thead> <tbody> <tr><td>0-30</td><td>895</td><td>22.1</td></tr> <tr><td>0-40</td><td>1472</td><td>36.4</td></tr> <tr><td>0-60</td><td>2654</td><td>65.6</td></tr> <tr><td>0-90</td><td>3725</td><td>92.1</td></tr> <tr><td>0-180</td><td>4046</td><td>100.0</td></tr> </tbody> </table>			Degrees	Lumens	% Fixture	0-30	895	22.1	0-40	1472	36.4	0-60	2654	65.6	0-90	3725	92.1	0-180	4046	100.0	<b>Average Luminance</b> <table border="1"> <thead> <tr> <th>Angle</th> <th>End</th> <th>45°</th> <th>Cross</th> </tr> </thead> <tbody> <tr><td>45</td><td>15159</td><td>13148</td><td>12983</td></tr> <tr><td>55</td><td>14119</td><td>11963</td><td>12011</td></tr> <tr><td>65</td><td>12527</td><td>10764</td><td>10978</td></tr> <tr><td>75</td><td>9892</td><td>9725</td><td>10073</td></tr> <tr><td>85</td><td>4657</td><td>9091</td><td>9552</td></tr> </tbody> </table>				Angle	End	45°	Cross	45	15159	13148	12983	55	14119	11963	12011	65	12527	10764	10978	75	9892	9725	10073	85	4657	9091	9552
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## Fluxstream EZ, 3000K, 3937 delivered lumens

<b>Catalog No.</b> LF4Z3830ULAG <b>Test No.</b> 32333 <b>S/MH</b> 1.3 <b>Lamp Type</b> 29WLED <b>Lumens/Lamp</b> 3937 <b>Input Watts</b> 43	<b>Candlepower</b> <table border="1"> <thead> <tr> <th>Angle</th> <th>End</th> <th>45</th> <th>Cross</th> <th>Back-45</th> </tr> </thead> <tbody> <tr><td>0</td><td>1115</td><td>1115</td><td>1115</td><td>1115</td></tr> <tr><td>5</td><td>1106</td><td>1110</td><td>1117</td><td>1110</td></tr> <tr><td>15</td><td>1063</td><td>1076</td><td>1087</td><td>1076</td></tr> <tr><td>25</td><td>979</td><td>1004</td><td>1025</td><td>1004</td></tr> <tr><td>35</td><td>852</td><td>901</td><td>939</td><td>901</td></tr> <tr><td>45</td><td>696</td><td>778</td><td>828</td><td>778</td></tr> <tr><td>55</td><td>532</td><td>633</td><td>699</td><td>633</td></tr> <tr><td>65</td><td>354</td><td>484</td><td>559</td><td>484</td></tr> <tr><td>75</td><td>177</td><td>347</td><td>424</td><td>347</td></tr> <tr><td>85</td><td>33</td><td>231</td><td>305</td><td>231</td></tr> <tr><td>95</td><td>2</td><td>150</td><td>219</td><td>150</td></tr> <tr><td>105</td><td>1</td><td>89</td><td>151</td><td>89</td></tr> <tr><td>115</td><td>1</td><td>48</td><td>97</td><td>48</td></tr> <tr><td>125</td><td>1</td><td>21</td><td>56</td><td>21</td></tr> <tr><td>135</td><td>1</td><td>6</td><td>25</td><td>6</td></tr> <tr><td>145</td><td>1</td><td>1</td><td>6</td><td>1</td></tr> <tr><td>155</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>165</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>175</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> </tbody> </table>					Angle	End	45	Cross	Back-45	0	1115	1115	1115	1115	5	1106	1110	1117	1110	15	1063	1076	1087	1076	25	979	1004	1025	1004	35	852	901	939	901	45	696	778	828	778	55	532	633	699	633	65	354	484	559	484	75	177	347	424	347	85	33	231	305	231	95	2	150	219	150	105	1	89	151	89	115	1	48	97	48	125	1	21	56	21	135	1	6	25	6	145	1	1	6	1	155	1	1	1	1	165	1	1	1	1	175	1	1	1	1	<b>Light Distribution</b> <table border="1"> <thead> <tr> <th>Degrees</th> <th>Lumens</th> <th>% Fixture</th> </tr> </thead> <tbody> <tr><td>0-30</td><td>872</td><td>22.1</td></tr> <tr><td>0-40</td><td>1434</td><td>36.4</td></tr> <tr><td>0-60</td><td>2585</td><td>65.6</td></tr> <tr><td>0-90</td><td>3628</td><td>92.1</td></tr> <tr><td>0-180</td><td>3941</td><td>100.0</td></tr> </tbody> </table>			Degrees	Lumens	% Fixture	0-30	872	22.1	0-40	1434	36.4	0-60	2585	65.6	0-90	3628	92.1	0-180	3941	100.0	<b>Average Luminance</b> <table border="1"> <thead> <tr> <th>Angle</th> <th>End</th> <th>45°</th> <th>Cross</th> </tr> </thead> <tbody> <tr><td>45</td><td>14744</td><td>12830</td><td>12619</td></tr> <tr><td>55</td><td>13768</td><td>11682</td><td>11658</td></tr> <tr><td>65</td><td>12261</td><td>10492</td><td>10644</td></tr> <tr><td>75</td><td>9712</td><td>9481</td><td>9749</td></tr> <tr><td>85</td><td>4682</td><td>8869</td><td>9227</td></tr> </tbody> </table>				Angle	End	45°	Cross	45	14744	12830	12619	55	13768	11682	11658	65	12261	10492	10644	75	9712	9481	9749	85	4682	8869	9227
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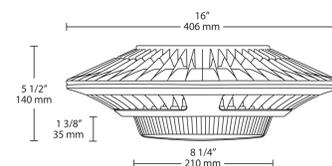


# GLEED78W

78 Watts of energy efficient LED garage lighting replaces 250 Watt Metal Halide. 100,000 hour LED lifespan. 5 year warranty. High-performance output maximizes spacing criterion.

Color: White

Weight: 18.2 lbs



## LED Info

Watts: 78W  
 Color Temp: 5100K (Cool)  
 Color Accuracy: 68  
 L70 Lifespan: 100000  
 LM79 Lumens: 7,053  
 Efficacy: 80 LPW

## Driver Info

Type: Constant Current  
 120V: 0.74A  
 208V: 0.47A  
 240V: 0.41A  
 277V: 0.35A  
 Input Watts: 88W  
 Efficiency: 88%

## Technical Specifications

### UL Listing:

Suitable for Wet Locations. Covered Ceiling Mount Only.

### Lumen Maintenance:

100,000-hour LED lifespan based on IES LM-80 results and TM-21 calculations.

### LEDs:

6x13W high-output, long-life LEDs.

### Drivers:

3x26W Driver, Constant Current, Class 2, 100V-277V, 50/60 Hz, 6kv Surge Protection, 720mA, 100-277VAC 0.4 Amps.

### Power Factor:

99.4% at 120V, 90.8% 277V

### THD:

8.0% at 120V, 10.7% at 277V

### Cold Weather Starting:

Minimum starting temperature is -40°C (-40°F).

### Ambient Temperature:

Suitable for use in 40°C (104°F) ambient temperatures.

### Thermal Management:

Superior heat sinking with integrated air-flow fins.

### Housing:

Precision die-cast aluminum housing and door frame.

### Mounting:

Easy hanging plate with hooks for ceiling mount.

### Lens:

Prismatic polycarbonate lens.

### Reflector:

Specular vacuum-metallized polycarbonate

### Gaskets:

High-temperature silicone.

### Finish:

Our environmentally friendly polyester powder coatings are formulated for high-durability and long-lasting color, and contains no VOC or toxic heavy metals.

### DLC Listed:

This product is on the Design Lights Consortium (DLC) Qualified Products List and is eligible for rebates from DLC Member Utilities.

### Color Consistency:

7-step MacAdam Ellipse binning to achieve consistent fixture-to-fixture color.

### Color Stability:

LED color temperature is warrantied to shift no more than 200K in CCT over a 5 year period.

### Color Uniformity:

RAB's range of CCT (Correlated Color Temperature) follows the guidelines of the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2011.

### Equivalency:

The GLED78 is Equivalent in delivered lumens to 250W Metal Halide.

### Green Technology:

Mercury and UV Free, and RoHS compliant.



GLED78W - continued

**IESNA LM-79 & LM-80 Testing:**

RAB LED luminaires have been tested by an independent laboratory in accordance with IESNA LM-79 and LM-80, and have received the Department of Energy "Lighting Facts" label.

**Patents:**

The design of GLED78 is protected by patents pending in US, Canada, China, Taiwan and Mexico.

# Round Flush Mount

# LED

## 22 Watt 1700lms Round Flush Mount Specifications



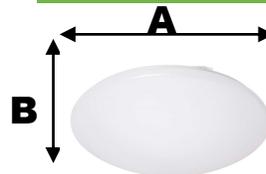
The ETi 22 watt 1700 lumen LED round flush mount fixture offers exceptional performance for precision lighting applications, while reducing energy and maintenance cost when compared with conventional light sources. Lasting over 10 times longer, these flush mount fixtures are high quality replacements for incandescent flush mount fixtures and is available in 4000°K. They are UL listed for use in damp and dry locations. ENERGY STAR rated. Suitable for installations from – 4° F to 95° F.

### KEY FEATURES & BENEFITS

- Includes high quality ETi 4000°K LEDs
- Robust acrylic (PMMA) lens
- Replaces most applications using 150w incandescent lamps
- Concealed 3 point lens mounting bracket
- Rated life 35,000 hours
- Warranty 5 years



### FIXTURE DIMENSIONS



SKU# 54075142

Dimension A = 16.0"

Dimension B = 4.6"

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. For FCC Part 15 user information, please see [www.etiled.us/fcc15b](http://www.etiled.us/fcc15b)

### APPLICATION INFORMATION

Designed to be used anywhere a standard incandescent fixture is used. Typically used in bedrooms, hallways, kitchens, living rooms and recreational rooms. The LED round flush mount fixture carries a 3 year warranty.



**ETi** SOLID STATE™  
LIGHTING  
INC.

855-384-7754 [www.etiled.us](http://www.etiled.us)

# Round Flush Mount

# LED

## SPECIFICATION DATA

Project \_\_\_\_\_

Item Number \_\_\_\_\_

Prepared by \_\_\_\_\_ Date \_\_\_\_\_

## ORDERING INFORMATION

Item Number	Description	Wattage	Input Voltage (VAC)	Average Rated Life <sup>1</sup>	Typical Lumens <sup>2</sup>	CCT <sup>3</sup>	CRI <sup>4</sup>	Power Factor	R9	Duv	CBCP	Beam	Operating Frequency
54075142	LED22w FLUSH-MOUNT 840100-277 NDIM	22	100-277	35,000	1700	4000K	82	>.95	28.6	.0011	472	120	50/60Hz

<sup>1</sup> Hours lifetime with 70% lumen maintenance

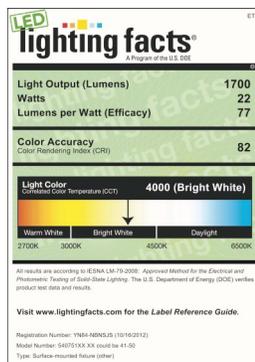
<sup>2</sup> Thermally stable typical lumens (±10%)

<sup>3</sup> Thermally stable CCT (±10%)

<sup>4</sup> Color rendering index/Ra

## SHIPPING INFORMATION

Item Number	Item UPC	Item Dimensions (H x L x W)	Item Weight (lbs)	Inner Pack Qty	Inner Carton Bar Code	Inner Carton Dimensions (H x L x W)	Inner Pack Weight (lbs)	Master Pack Qty	Master Carton Bar Code	Master Dimensions (H x L x W)	Master Pack Weight (lbs)
54075142	836607 008824	16" x 16" x 4.6"	2	N/A	N/A	N/A	N/A	4	50836607 008829	21.2" x 18.3" x 17.7"	15



**The Americas Headquarters**  
**26650 Renaissance Parkway, STE 6**  
**Cleveland, OH 44128**

855-384-7754 [www.etiled.us](http://www.etiled.us)

Catalog Number
Notes
Type

## FEATURES & SPECIFICATIONS

**INTENDED USE** — Provides general illumination in commercial and residential applications. Ideal for use in closets, foyers, hallways, corridors, bedrooms, offices, utility work areas, stairways and more.

**CONSTRUCTION** — This contemporary shaped fixture features a matte white acrylic diffuser and white aluminum housing.

**OPTICS** — Produces the following lumens at 50,000 hours life:

- 2700K 612 lumens
- 3000K 642 lumens
- 4000K 660 lumens

**ELECTRICAL** — Fixture operates at 120 volts, 60 Hz. Standard input = 9.3 watts, 70 lumens per watt.

Works with most standard incandescent dimmers (see list of approved dimmers).

**INSTALLATION** — All mounting hardware included.

**LISTINGS** — CSA certified to US and Canadian standards and listed suitable for damp locations.

U.S. Patent No. D691,763

**WARRANTY** — 5-year limited warranty. Complete warranty terms located at [www.acuitybrands.com/CustomerResources/Terms\\_and\\_conditions.aspx](http://www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx)

Note: Specifications subject to change without notice.

Decorative Indoor

# Versi Lite™ 7" LED Flush



HIGH-PERFORMANCE LED



### Specifications

Height: 1-3/4 (4.4)

Width: 7-1/4 (18.4)

All dimensions are inches (centimeters) unless otherwise indicated.

### ORDERING INFORMATION

For shortest lead times, configure product using **standard options (shown in bold)**.

**Example: FMML 7 840**

FMML	7				
Series	Size	CRI	Color temperature		
<b>FMML</b> LED Versi Lite	<b>7</b> 7" diameter	<b>8</b> >80 CRI	<b>40</b>	4000K	
			30	3000K	
			27	2700K	

LIGHTING FACTS

**LED lighting facts**  
A Program of the U.S. DOE

Light Output (Lumens) **612**  
Watts **10.35**  
Lumens per Watt (Efficacy) **59**

Color Accuracy  
Color Rendering Index (CRI) **85**

Light Color  
Correlated Color Temperature (CCT) **2700 (Warm White)**

2700K 3000K 4500K 6500K

All results are according to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

Visit [www.lightingfacts.com](http://www.lightingfacts.com) for the Label Reference Guide.

Registration Number: NJSM-9ECDFD (7/19/2013)  
Model Number: FMML 7 827  
Type: Surface-mounted fixture (other)

**LED lighting facts**  
A Program of the U.S. DOE

Light Output (Lumens) **642**  
Watts **10.2**  
Lumens per Watt (Efficacy) **63**

Color Accuracy  
Color Rendering Index (CRI) **85**

Light Color  
Correlated Color Temperature (CCT) **3000 (Bright White)**

2700K 3000K 4500K 6500K

All results are according to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

Visit [www.lightingfacts.com](http://www.lightingfacts.com) for the Label Reference Guide.

Registration Number: NJSM-B45YJQ (7/19/2013)  
Model Number: FMML 7 830  
Type: Surface-mounted fixture (other)

**LED lighting facts**  
A Program of the U.S. DOE

Light Output (Lumens) **659**  
Watts **9.4**  
Lumens per Watt (Efficacy) **70**

Color Accuracy  
Color Rendering Index (CRI) **85**

Light Color  
Correlated Color Temperature (CCT) **4000 (Bright White)**

2700K 3000K 4500K 6500K

All results are according to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

Visit [www.lightingfacts.com](http://www.lightingfacts.com) for the Label Reference Guide.

Registration Number: NJSM-QSEG7G (8/6/2013)  
Model Number: FMML 7 840 [UPGRADE 07/2013]  
Type: Luminaire - Other

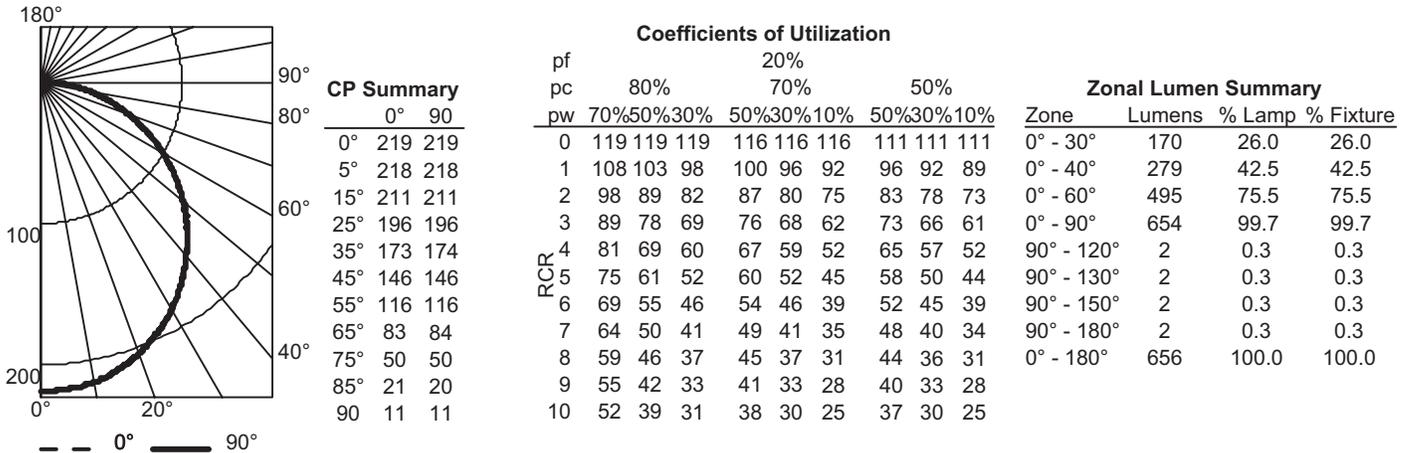
**Suggested Dimmers**

The FMML is designed to operate with most standard Triac Based (Forward Phase-Control or Leading Edge) dimmers and is not compatible with 0-10v dimming systems. The following is a list of dimmers tested and does not imply any guarantee or warranty of compatibility with a particular application. Unlisted dimmers do not imply non-compatibility.

Manufacturer	Part Number (s)	Manufacturer	Part Number (s)
Leviton	6633P	Lutron	DVELV 300P
Leviton	IPL06	Lutron	Skylark 300P
Leviton	6674P	Lutron	NTELV 300
Leviton	IPE04	Lutron	NLV 600
Leviton	Trimatron 600W	Synergy	ISD 600 I 120

PHOTOMETRICS

FMML 7 test no. LTL22758, tested in accordance to IESNA LM-79.



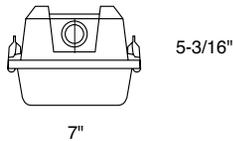
## Features

- Mounting brackets available, order separately.
- NSF Certified for non food zone installations.
- White one piece, molded fiberglass reinforced polyester body. No rusting, no oxidation and no corrosion.
- Continuous compressible closed cell gasket provides tight seal between plastic enclosure and luminaire body.
- Provided with two gasketed threaded (1/2" trade size) fittings factory installed in ends of luminaire.
- Lens formed from crepe pattern high-impact acrylic sheet of .130" nominal thickness.
- ABS cam latches are standard.
- 2300 lumen model listed for use in 40°C ambient, other models listed for 25°C ambient.
- IP65 rating standard, IP67 available.
- Lumen packages range from 2,200 to 5,100 lumens, providing flexibility to optimize light levels for a specific application.
- 87-96 delivered LPW even in low temperatures, for maximum energy savings.
- LED sources provide full illumination in low temperatures, unlike fluorescent sources that provide significantly reduced light levels.
- LED sources can be frequently switched with no negative impact on life.
- High CRI source provides excellent color rendering.
- Light output from the luminaire contains no infrared or ultraviolet energy, so the light won't heat or fade the objects being lit.
- Available motion sensor further increases energy savings in areas where occupancy is not continuous.
- ETL listed to UL standards.
- High efficiency LEDs have 50,000 hour rated life (L70, defined as 70% lumen maintenance.)
- Five year luminaire warranty including LED boards and driver.

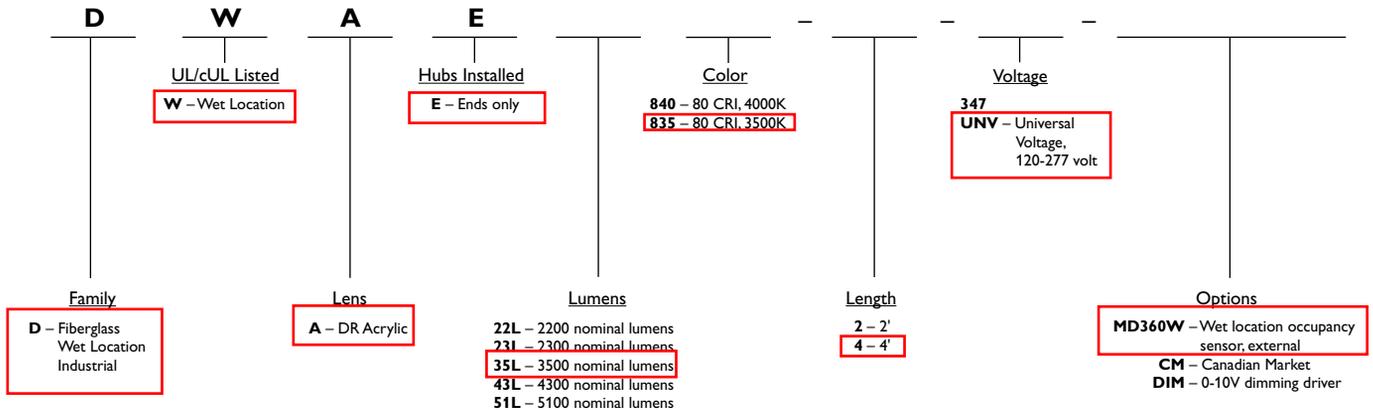
## Product Availability

Size	Family	Nominal Delivered Lumens	Length in. (mm)	Width in. (mm)	Height in. (mm)
2'	DWAE	2200	25-13/16" (656)	7" (178)	5-3/16" (132)
4'	DWAE	2300, 3500, 4300, 5100	50" (1270)	7" (178)	5-3/16" (132)

## Dimensions



## Green Product Choice: DWAE35L840-4-UNV-MD360W



## Protected & Hazardous Location



## DW LED

### LED Vaporlume Wet Location Industrial



The Vaporlume Wet Location Industrial is a highly efficient wet location listed solid state luminaire with a non-metal exterior housing and lens assembly.

## Accessories

**TBK** – Stainless Steel Top Surface Mounting Brackets (pair) – see page 169 for more info.

**EBK** – Stainless Steel End Surface Mounting Brackets (pair)

**WBK** – Wraparound stainless steel brackets (pair) for surface or chain mounting – see page 169 for more info.

**FKR-126** – Chain Hanger Set (requires TBK or TBKG)

See pages 168-169 for details.

## FEATURES & SPECIFICATIONS

**INTENDED USE** — Our recessed LED module is the most economical means to create a well lit environment with exceptional energy efficiency and near zero maintenance. Great for retrofit into existing downlight cans or new construction and remodel applications. Unique torsion spring and friction clip retention allows fitment into nearly 100% of installed cans. The LED module maintains at least 70% light output for 50,000 hours.

**CONSTRUCTION** — Aluminum die cast reflector with deep baffle configuration for reduced glare. Combined LED and driver printed circuit board attached. Inner reflector cone funnels light through the pressed-in diffused lens.

**OPTICS** — Diffused lens at end of mixing chamber to provide even light distribution for general illumination, equivalent to 65W BR30 or 100W BR30 lamp.

Wide flood beam angle at >45°. Utilizes 3000 K color temperature LEDs. CRI - 83.

**ELECTRICAL** — Center 2 Edge™ (patent pending) technology created for a single point source. Primary power disconnect provided for simple connection to a dedicated LED connector in the housing.

Dimming down to 10%. For compatible dimmers, refer to [Compatible Dimmers Chart](#).

620-lumen P series has an input wattage of 8.9 watts, 70 lumens per watt, equivalent to 65-watt incandescent.

P Series' patent pending driver has zero inrush, which allows power loads to be calculated with actual rated wattages.

Example: 67 units of 6BPMW LED fixtures can be installed in line with a 600-watt dimmer. 600W/8.9W = 67.4 fixtures.

950-lumen P series has an input wattage of 15.2 watts, 63 lumens per watt, equivalent to 100-watt incandescent.

\*Actual wattage may differ by +/-5% when operating at 120V +/-10%.

**INSTALLATION** — Suitable for installation in standard and shallow-height rough-in sections.

E26 socket adaptor and splice kit ships standard. This enables easy installation or permanent conversion to an LED source for Title 24 compliance.

Twin torsion springs ensure easy installation.

Friction clips included to allow fitment into cans without torsion brackets from an inside diameter of 6.0" to 7.0".

**LISTINGS** — CSA certified to US and Canadian safety standards. ENERGY STAR® certified; California T24 compliant. Wet location listed for indoor use only. WSEC ASTM E283 for Air-Tight (with IC housings).

**WARRANTY** — 5-year limited warranty. Complete warranty terms located at [www.acuitybrands.com/CustomerResources/Terms\\_and\\_conditions.aspx](http://www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx)

Note: Specifications subject to change without notice.

### PATENTS PENDING.

#### Specifications

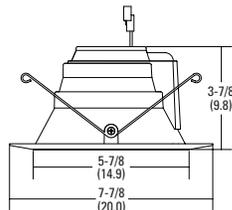
Aperture: 5-7/8 (14.91)

Ceiling opening: as rough-in

Overlap trim: 7-5/8 (19.4)

Height: 3-7/8 (9.8)

All dimensions are inches (centimeters) unless otherwise indicated.



Catalog Number
Notes
Type

## LED Recessed Downlighting

# 6BP 6" LED Module

IC/Non-IC  
Retrofit



Torsion mount shown



Friction clip shown  
(included)



E26 adaptor  
(included)



Splice kit  
(included)

### ORDERING INFORMATION

For shortest lead times, configure products using **bolded options**.

**Example: 6BPMW LED L7XLED T24**

6BPMW		Lamps/Lumens <sup>1</sup>	Color temperature	Voltage	Options			
Series/Finish								
<b>6BP</b>	<b>6"</b> Baffle LED module	<b>MW</b>	<b>Matte white</b>	<b>LED</b> 8.9W, 620 lumens	<b>(blank)</b> 3000 K	<b>(blank)</b> 120V	<b>L7XLED T24</b> IC/Non-IC rated, new construction rough-in LED base <sup>2</sup>	L7XP IC/Non-IC rated, new construction shallow rough-in <sup>3</sup>
				HL LED 15.2W, 950 lumens			<b>L7XRLED T24</b> IC/Non-IC rated, remodel rough-in LED base <sup>2</sup>	L7XPR IC/Non-IC rated, remodel shallow rough-in <sup>3</sup>
							LC6LED T24 IC/Non-IC rated, new construction rough-in LED base <sup>2</sup>	<b>LC6</b> IC/Non-IC rated, new construction rough-in <sup>3</sup>
							<b>L7X</b> IC/Non-IC rated, new construction rough-in <sup>3</sup>	LCP IC/Non-IC rated, new construction shallow rough-in <sup>3</sup>
							<b>L7XR</b> IC/Non-IC rated, remodel rough-in <sup>3</sup>	

#### Accessories: Order as separate catalog number.

TSA6	Makes non-bracket housing compatible with the LED module; ships as units, J6 or J25
FL2LED	Makes L7XF housings compatible with the LED module

#### Notes

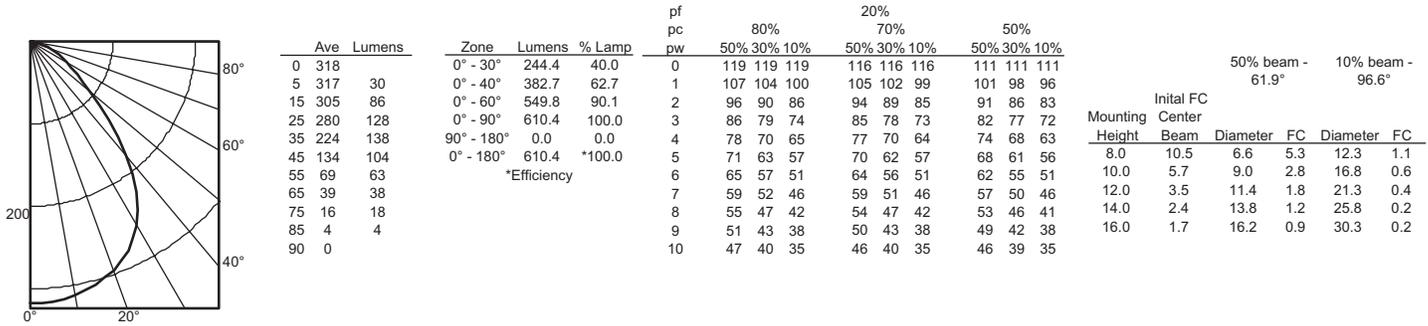
- Total system delivered lumens.
- LED module ships less E26 adaptor and hardware kit.
- Must be ordered on separate line.

# 6" LED Module

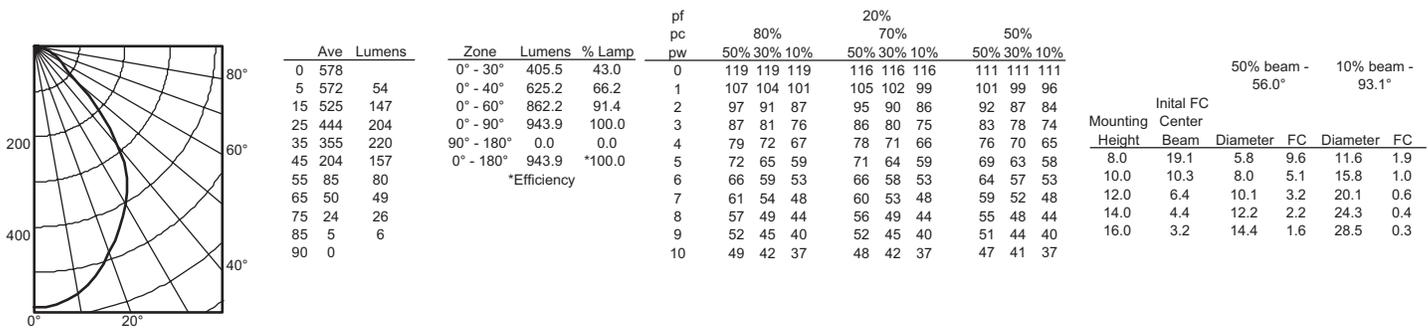
## PHOTOMETRICS

Distribution Curve	Distribution Data	Output Data	Coefficient of Utilization	Illuminance Data at 30" Above Floor for a Single Luminaire
--------------------	-------------------	-------------	----------------------------	--

**6BPMW LED, 3000 K LEDs, input watts: 8.9, delivered lumens: 620, LM/W=70 , test no. LTL21369, tested in accordance with IESNA LM 79-08**



**6BPMW HL LED, 3000 K LEDs, input watts: 15.2, delivered lumens: 950, LM/W=63 , test no. LTL23864, tested in accordance with IESNA LM 79-80**



## ADDITIONAL DATA

ENERGY DATA* - 600 LUMENS	
Lumens	620
Min. starting temp	-18°C (0°F)
EMI/RFI	FCC Title 47 CFR, Part 15, Class B
Sound rating	Class A standards
Input voltage	120V
Min. power factor	0.80
Input frequency	50/60 Hz
Rated wattage	8.9W
Input power	8.9W
Input current	.08A

ENERGY DATA* - 900 LUMENS	
Lumens	950
Min. starting temp	-18°C (0°F)
EMI/RFI	FCC Title 47 CFR, Part 15, Class B
Sound rating	Class A standards
Input voltage	120V
Min. power factor	0.80
Input frequency	50/60 Hz
Rated wattage	15.2W
Input power	15.2W
Input current	.13A

\*Values at non-dimming line voltage.

\*Values at non-dimming line voltage.



# 6" LED Module

Lithonia Lighting



<b>Light Output (Lumens)</b>	<b>620</b>
<b>Watts</b>	<b>8.9</b>
<b>Lumens per Watt (Efficacy)</b>	<b>70</b>

---

<b>Color Accuracy</b>	<b>86</b>
Color Rendering Index (CRI)	

---

<b>Light Color</b>	<b>3000 (Bright White)</b>
Correlated Color Temperature (CCT)	



2700K    3000K    4500K    6500K

---

<b>Warranty**</b>	<b>Yes</b>
-------------------	------------

All results, except LED Lumen Maintenance, are according to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

**\*\* See [www.lightingfacts.com/products](http://www.lightingfacts.com/products) for details.**

Registration Number: NJSM-4C4BRR (8/16/2012)  
Model Number: 6BP [upgrade 8/2012]  
Type: Recessed downlight

Lithonia Lighting



<b>Light Output (Lumens)</b>	<b>950</b>
<b>Watts</b>	<b>15.2</b>
<b>Lumens per Watt (Efficacy)</b>	<b>63</b>

---

<b>Color Accuracy</b>	<b>84</b>
Color Rendering Index (CRI)	

---

<b>Light Color</b>	<b>3000 (Bright White)</b>
Correlated Color Temperature (CCT)	



2700K    3000K    4500K    6500K

---

<b>Warranty**</b>	<b>Yes</b>
-------------------	------------

All results, except LED Lumen Maintenance, are according to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

**\*\* See [www.lightingfacts.com/products](http://www.lightingfacts.com/products) for details.**

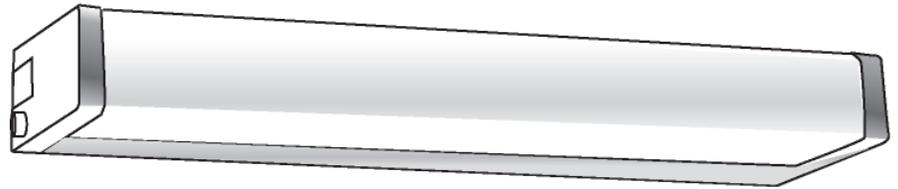
Registration Number: JB22-Q426NN (8/6/2013)  
Model Number: 6BP HL [Revised 07-25-13]  
Type: Recessed downlight

# CB SERIES

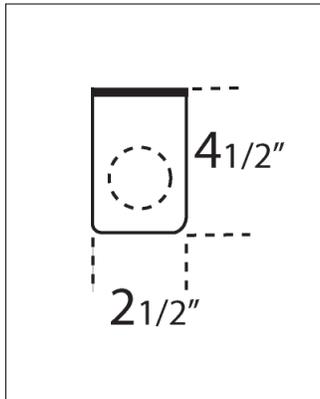
Smartly styled, one lamp wall mounted luminaire with smooth opal acrylic diffuser bracketed by two polished chrome ends.

Turn switch and grounded convenience outlet standard.

A functional addition to bath and utility areas.



## Dimensional Data



## Specifications

**Construction:** Fixture housing die-formed of heavy gauge cold rolled steel provided with adequate knockouts and mounting holes for ease of installation.

**Diffuser:** Smooth extruded opal acrylic.

**Finish:** Standard exterior finish is polished chrome. (White finish optional) Interior surfaces electro-statically sprayed with a high quality white enamel with a minimum reflectance of 87%.

**Wiring:** White turn switch and grounded convenience outlet standard. Standard ballast 120 volt.

**Approval:** All units are Underwriter's Laboratories ( UL ) approved.

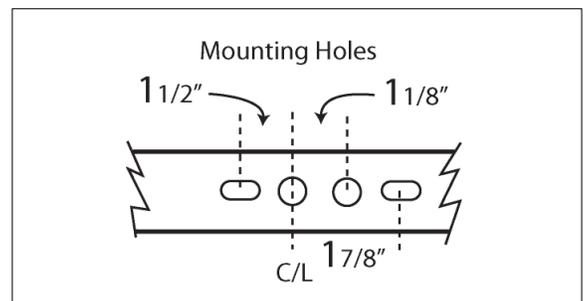
## Ordering Information

Chrome	White	Lamps	Length
<b>MAGNETIC AND ELECTRONIC T12</b>			
<b>CB115PH</b>	<b>CB115WPH</b>	<b>1-F15T8</b>	<b>18"</b>
<b>CB120PH</b>	<b>CB120WPH</b>	<b>1-F20T12</b>	<b>24"</b>
<b>CB115TS</b>	<b>CB115WTS</b>	<b>1-F15T12</b>	<b>18"</b>
<b>CB120TS</b>	<b>CB120WTS</b>	<b>1-F20T12</b>	<b>24"</b>
<b>CB130EB</b>	<b>CB130WEB</b>	<b>1-F30T12</b>	<b>36"</b>
<b>CB140EB</b>	<b>CB140WEB</b>	<b>1-F40T12</b>	<b>48"</b>
<b>ELECTRONIC OCTRON T8</b>			
<b>CB120EBO</b>	<b>CB120WEBO</b>	<b>1-F17T8</b>	<b>24"</b>
<b>CB130EBO</b>	<b>CB130WEBO</b>	<b>1-F25T8</b>	<b>36"</b>
<b>CB140EBO</b>	<b>CB140WEBO</b>	<b>1-F32T8</b>	<b>48"</b>
<b>MINIATURE TWIN TUBES</b>			
<b>CB18/2PL13</b>	<b>CB18W/2PL13</b>	<b>2-13W</b>	<b>18"</b>
<b>CB24/2PL13</b>	<b>CB24W/2PL13</b>	<b>2-13W</b>	<b>24"</b>
<b>CB24/3PL13</b>	<b>CB24W/3PL13</b>	<b>3-13W</b>	<b>24"</b>

## Options and Accessories Add Suffix

DIM	Dimming Ballast
EM	Emergency Ballast
FS	External fuse and holder
NSW	No Switch
NCO	No Outlet
<b>NSWCO</b>	<b>No Switch or Outlet</b>

## Installation Data



\*With Sylvania PSX program start low ballast factor HPT8 ballast\*

## Photometrics

Photometric Information available upon request.

NEW ENGLAND  
  
 INCORPORATED



**Product Number:** 78426

**Order Abbreviation:** LED8PAR20/  
DIM/H/827/  
FL36

**General Description:** LED 8W  
PAR20,  
Dimmable,  
2700K,  
120V, 36  
degree flood

### Product Information

Abbrev. With Packaging Info.	LED8PAR20DIMH827FL36 6/ CS 1/SKU
Average Rated Life (hr)	25000
Base	E26/24
Bulb	PAR20
Color Temperature/ CCT (K)	2700
Color Rendering Index (CRI)	82
Lumens	450
Approx. Lumens	450
Nominal Voltage (V)	120.00
Nominal Wattage (W)	8.00
Abbrev. With Packaging Info.	LED8PAR20DIMH827FL36 6/ CS 1/SKU
Language Strategy	ENGLISH/FRENCH/SPANISH
Ordering Abbreviation	LED8PAR20/DIM/H/827/FL36

UPC Code	UPC046135784262
Lamp Finish	White

**Product Number:** 49861

**Order Abbreviation:** QHE 1X32T8/UNV ISL-SC

**General Description:** 1-lamp 32wT8 High Efficiency Instant Start electronic ballast, universal voltage, low ballast factor, 10-pk

Product Information	
Abbrev. With Packaging Info.	QHE1X32T8UNVISLSC 10/CS 1/SKU
Ballast Factor	0.78
Ballast Height H (in)	1.1810
Ballast Length L (in)	9.4690
Ballast Width W (in)	1.6810
Circuit Type	PARALLEL
Family Brand Name	QUICKTRONIC High-Efficiency
Input Current (Amps)	0.00
Nominal Voltage (V)	120.00
Nominal Voltage (V)	120-277V
Number of Lamps	1
Open Circuit Voltage (V)	<600V

Power Factor	>0.98
Primary Lamp Type	FO32/XP
Sound Rating	A
Starting Method	INSTANT START
Starting Temperature - Fahrenheit	-20
Starting Temperature - Celsius	-29
Total Harmonic Distortion (THD)	< 10%
Wiring Method	Leads
Max Case Temperature	70°C
Total Maximum Wattage	26

<input type="checkbox"/>	<b>Product Number:</b>	49863
	<b>Order Abbreviation:</b>	QHE 2X32T8/UNV ISL-SC
	<b>General Description:</b>	2-lamp 32wT8 High Efficiency Instant Start electronic ballast, universal voltage, low ballast factor, 10-pk

Product Information	
Abbrev. With Packaging Info.	QHE2X32T8UNVISLSC 10/CS 1/SKU
Ballast Factor	0.78
Ballast Height H (in)	1.1810
Ballast Length L (in)	9.4690
Ballast Width W (in)	1.6810
Circuit Type	PARALLEL
Family Brand Name	QUICKTRONIC High-Efficiency
Input Current (Amps)	0.00
Nominal Voltage (V)	120.00
Nominal Voltage (V)	120-277V
Number of Lamps	2

Open Circuit Voltage (V)	<600V
Power Factor	>0.97
Primary Lamp Type	FO32/XP
Sound Rating	A
Starting Method	INSTANT START
Starting Temperature - Fahrenheit	-20
Starting Temperature - Celsius	-29
Total Harmonic Distortion (THD)	<10%
Wiring Method	Leads
Max Case Temperature	70°C
Total Maximum Wattage	49

<input type="checkbox"/>	<b>Product Number:</b>	49865
	<b>Order Abbreviation:</b>	QHE 3X32T8/UNV ISL-SC
	<b>General Description:</b>	3-lamp 32wT8 High Efficiency Instant Start electronic ballast, universal voltage, low ballast factor, 10-pk

Product Information	
Abbrev. With Packaging Info.	QHE3X32T8UNVISLSC 10/CS 1/SKU
Ballast Factor	0.78
Ballast Height H (in)	1.1810
Ballast Length L (in)	9.4690
Ballast Width W (in)	1.6810
Circuit Type	PARALLEL
Family Brand Name	QUICKTRONIC High-Efficiency
Input Current (Amps)	0.00
Nominal Voltage (V)	120.00
Nominal Voltage (V)	120-277V
Number of Lamps	3

Open Circuit Voltage (V)	<600V
Power Factor	>0.98
Primary Lamp Type	FO32/XP
Sound Rating	A
Starting Method	INSTANT START
Starting Temperature - Fahrenheit	-20
Starting Temperature - Celsius	-29
Total Harmonic Distortion (THD)	<10%
Wiring Method	Leads
Max Case Temperature	70°C
Total Maximum Wattage	73



**Product Number:** 21420

**Order Abbreviation:** FO28/835/XV/SS/ECO

**General Description:** 28W, 48IN  
MOL, T8  
OCTRON  
Extended Value  
SUPERSAVER®  
fluorescent lamp, 3500K color temperature, rare earth phosphor, 83 CRI, suitable for RS or IS operation, ECOLOGIC®.

### Product Information

Abbrev. With Packaging Info.	FO28835XVSSECO 30/CS 1/ SKU
Actual Length (in)	47.780
Actual Length (mm)	1213.61
Average Rated Life (hr)	40000
Base	Medium Bipin
Bulb	T8
Color Rendering Index (CRI)	83
Color Temperature/ CCT (K)	3500
Diameter (in)	1.098
Diameter (mm)	27.90
Family Brand Name	OCTRON® 800 XV^^ SS, ECOLOGIC®

Industry Standards	ANSI C78.81 - 2001
Initial Lumens at 25C	2600
Mean Lumens at 25C	2445
Nominal Length (in)	48.000
Nominal Length (mm)	1219.20
Nominal Voltage (V)	115.00
Nominal Wattage (W)	28.00
Outside Diameter (in)	1.098
Outside Diameter (mm)	27.9
Life at 3 hrs./start on IS ballasts	24000
Life at 12 hrs./start on IS ballasts	40000
Life at 3 hrs./start on PRS ballasts	40000
Life at 12 hrs./start on PRS ballasts	42000

# Multi-Technology Ceiling Occupancy Sensor



## BASIC OPERATION

Occupancy sensors have two tasks: 1) Keeping the lights ON while the room is occupied, and 2) Saving energy by keeping the lights OFF while the room is unoccupied.

Passive Infrared (PIR) is an excellent and precise technology for initially turning the lights ON, but lacks sensitivity for minor motion at distances. Ultrasonic (U/S) technology provides maximum sensitivity with continuous reflective high frequency waves. This is optimal for keeping the lights ON.

Leviton's multi-technology sensor combines the benefits of both PIR and U/S technologies for unrivaled performance and reliability.

## APPLICATIONS

- Cafeterias
- Computer rooms
- Day care centers
- Workspaces
- Offices with cubicles
- Restrooms
- Storage rooms
- Classrooms
- Conference rooms
- Filing rooms
- Open warehouses
- Open areas
- Stairwells
- Executive, open, and private offices

## FEATURES

- Self-Adjusting: Internal microprocessor continually analyzes, evaluates and adjusts the sensitivity and time delay. Performance is kept at a maximum and user complaints are eliminated.
- Custom off-white color matched for shaded ceilings.
- Fast, Simple Installation: Easy ceiling mount, three wire connection (low voltage) and twist-lock sensor attachment for 360° rotation and flexibility.
- Maximum Reliability, Low Cost: digital circuitry uses a minimum of components.
- Small Motion Sensitivity: The ultrasonic technology provides excellent small motion sensitivity.
- Timer Setting Feature: Automatic - 30sec - 30min. Test mode - 6sec with auto exit programming.
- Non-Volatile Memory: Learned and adjusted settings saved in protected memory are not lost during power outages.
- Walk-Through: Provides increased energy savings by decreasing the time delay to 2.5min when someone momentarily walks through the monitored space.
- Wide Coverage: Units from 500 to 2000 sq. ft. available.
- Power base (OPB 15) available for line voltage applications
- Ambient Light Recognition: A Light Sensor prevents lights from turning on when the room is adequately lit by natural light.
- Ultrasonic (U/S) Components: One or two U/S transducers and one or two narrow bandwidth receivers each 16mm in diameter. Frequency -- Crystal controlled to ±.005%.
- Device: Rugged, high-impact, injection molded plastic, off -white. Color coded leads 6" (16.24 cm).

## HOW THE OSCxx-M AUTOMATICALLY ADAPTS

Condition	Example	Self-Adaptive Reaction
Timer Left In Test Mode - The sensor remains in an 6 sec. test mode.	An installer accidentally leaves the sensor in the 6 sec. timer test mode and the lights may go off or on every 6 sec.	The sensor automatically resets the timer to 10 min after 15 min of test mode.
False-On - The sensor incorrectly turns the lights on.	The sensor detects movement in the corridor or hall way and the room lights turn on.	After an initial movement is sensed, if another movement is not sensed within the timer setting then the delayed off time setting is automatically reduced.
False-Off - The sensor incorrectly turns the lights off.	The sensor does not detect movement because an occupant sits virtually motionless at a desk and the lights turn off.	If motion is sensed within a short period after the lights go off, then the current delayed off-time setting is increased.

## Leviton Mfg. Co., Inc. Lighting & Energy Solutions

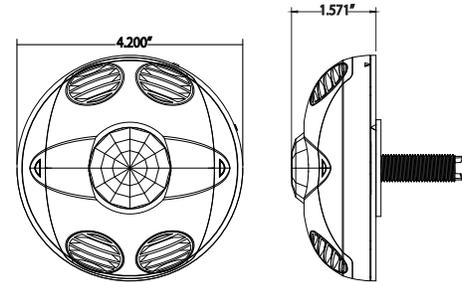
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# PRODUCT DATA

DIP SWITCH SETTINGS			
SWITCH	BANK A	SWITCH FUNCTIONS	SWITCH SETTINGS
		<b>OFF</b>	<b>ON</b>
A1	N/A	<b>Multi-Tech</b>	Single Tech
A2	N/A	<b>PIR</b>	Ultrasonic
A3	Manual Mode	<b>Auto Adapting Enabled</b>	Auto Adapting Disabled
A4	Walk-Thru Disable	<b>Walk-Thru Enabled</b>	Walk-Thru Disabled
		<b>BANK B</b>	
B1	Override to On	<b>Auto Mode</b>	Lights forced On
B2	Override to Off	<b>Auto Mode</b>	Lights forced Off
B3	Test Mode	<b>OFF'ON'OFF</b>	Enter/Exit Test Mode
B4	LED Disable	<b>LEDs Enabled</b>	LEDs Disabled

\*Bold items are factory defaults

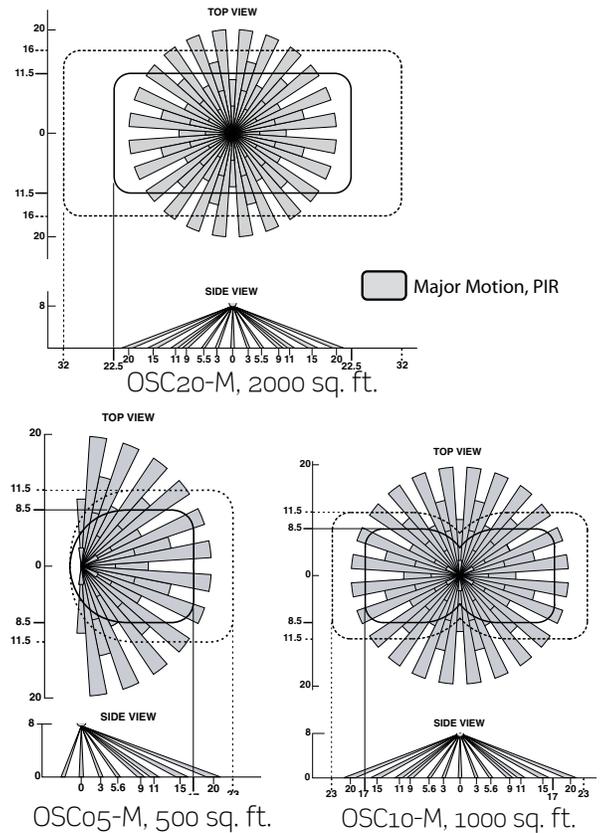
## DIMENSIONS



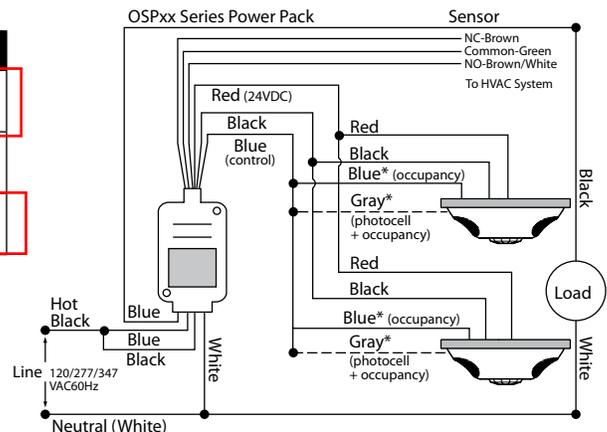
## SPECIFICATIONS

ELECTRICAL	
<b>Power Requirements</b>	24 VDC, from OSPxx Power Pack or OPB15 Power Base
<b>Power Consumption</b>	OSC05: 25mA, OSC10: 35mA, OSC20: 30mA
<b>Output</b>	24 VDC active high logic control signal with short circuit protection
CONTROLS	
<b>Ultrasonic Sensitivity</b>	0-100%; green knob (factory setting: 50%)
<b>Infrared Sensitivity</b>	0-100%; red knob; (factory setting: 75%)
<b>Light Sensor</b>	20 to 3,000 Lux; blue knob; factory set at 100% (*grey wire required)
<b>Time Delay</b>	30sec-30min; black knob (factory setting: 10min)
INDICATORS	
<b>Green LED</b>	U/S motion technology
<b>Red LED</b>	Infrared motion technology
ENVIRONMENTAL	
<b>Operating Temperature Range</b>	32°F to 104°F (0°C to 40°C)
<b>Relative Humidity</b>	0% to 95% non-condensing, for indoor use only
OTHER	
<b>Mouting Height</b>	8-12 feet
<b>Listings</b>	CUL/US Certified, meets ASHRAE Standard 90.1 and CEC Title 24 requirements
<b>Warranty</b>	Limited Five-Year Warranty

## FIELD-OF-VIEW



## PHYSICAL WIRING



## ORDERING INFORMATION

CAT NO.	DESCRIPTION
<b>OSC05-MoW</b>	Multi-Technology Ceiling Sensor, 500 sq. feet of coverage
<b>OSC10-MoW</b>	Multi-Technology Ceiling Sensor, 1000 sq. feet of coverage
<b>OSC20-MoW</b>	Multi-Technology Ceiling Sensor, 2000 sq. feet of coverage

NAFTA compliant and Made in USA models available

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G-8357/G10-cb

# Super Duty Power Pack Line

## High performance power packs for manual switching applications



### DEFINITION

The latest addition to the Leviton Power Pack family, OPP20 delivers an easy solution for manual switching. Submitted for stringent testing, this robust Power Pack line is designed to deliver unmatched performance. The OPP20 line features robust and reliable mechanical latching relays and exclusive fail-safe circuitry. Exclusive Leviton High Inrush Stability (H.I.S.™) circuitry is specifically designed to handle high inrush electronic ballast loads and offer unmatched durability and service.

### OPP20 SOFTWARE FEATURES

- Fail-safe/Return-to-Closed capability
- Power interruption feature guarantees to close the relay; 5 seconds after power restoration, lights will return to current state

### OPP20 SOFTWARE FEATURES BY MODEL

#### OPP20-0D2

- Exclusive self-detect configurable local switch input - momentary or maintained
- Configurable for Auto-ON and Manual-ON occupancy sensor inputs
- Complies with CA Title 24

#### OPP20-RD4

- Exclusive self-detect configurable local switch input - momentary or maintained
- Configurable for Auto-ON and Manual-ON occupancy sensor inputs
- Photocell (switching only) ready
- Complies with CA Title 24

### OPP20 HARDWARE FEATURES

- Robust and reliable mechanically held 20A latching relay provides dependability and robust performance for all load types and provides power savings over electrically held relay power packs
- Industry exclusive fail-safe circuitry - in the event of product failure, Return-to-Closed capability causes relay to default to a closed position (ON) for safe operation and alleviates life safety concerns
- Industry exclusive H.I.S. (High Inrush Stability) circuit designed to handle high inrush electronic ballast loads
  - Factory calibrated zero crossing for extended life of the relay
- Submitted and passed for stringent testing:
  - Tested over 1,500,000 loaded cycles
  - Passed NEMA 410 testing for electronic ballast current overload at 16A
  - UL/cUL g16 Listed for Energy Management Equipment
  - Multiple compliance and regulatory UL and CSA testing - consult factory for details
- Output short circuit protection
- Internal voltage regulated at 24VDC, 225mA
- Optimal installation flexibility
  - Class 2 wires are Teflon coated for UL2043 Plenum Rated applications
  - Mounts inside or outside fluorescent ballast cavity
  - Mounts inside or outside junction box
- RoHS Compliant



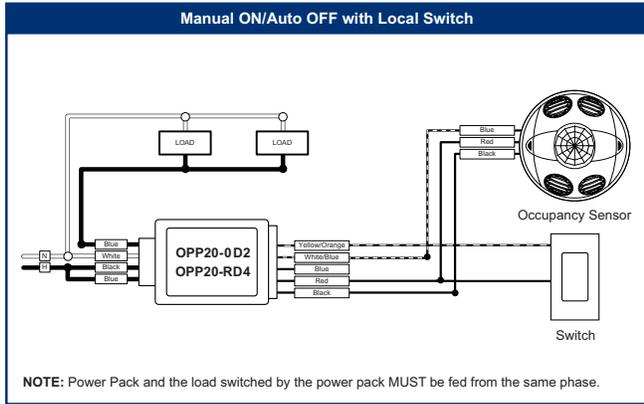
### OPTIMAL LED DESIGN

Exclusive LED High Inrush Stability (H.I.S.) circuitry designed to handle the high inrush electronic ballast loads of today's LED lighting and offer unmatched durability and service. Our true Zero-Cross Relay switches are at the zero crossing point of the AC power curve, ensuring maximum contactor life and compatibility with LED ballasts. Leviton Occupancy and Vacancy Sensors are the premiere choice for LED compatibility.

Leviton Mfg. Co., Inc. Lighting & Energy Solutions

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WIRING DIAGRAM



ORDERING INFORMATION

DESCRIPTION	CAT. NO.	POWER INPUT	RELAY RATING	CONTROL INPUTS	POWER SUPPLY OUTPUT
Power Pack with Auto-ON, Manual-ON, and Local Switch Inputs, Title 24	OPP20-0D2	120-230-277VAC, 50/60 Hz	20A, 2400W @ 120V – Incandescent 20A, 2400VA @ 120V – Fluorescent 20A, 5540VA @ 277V – Fluorescent 16A, 4430VA @ 277V – Electronic Ballasts 1/2 HP @ 120V – Motor Load 2 HP @ 240/277V – Motor Load	2mA, 24VDC	225mA, 24VDC, 5.4W
Power Pack with Auto-ON, Manual-ON, Local Switch, and Photocell Input, Title 24	OPP20-RD4				

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# Decora® Wall Switch Multi-Technology Occupancy Sensor



OSSMT-MD/GD

## BASIC OPERATION

Occupancy sensors have two tasks: keeping the lights ON while the space is occupied and turning the lights OFF when unoccupied.

The PIR sensors provide immunity to false ON through a specialized Fresnel lens which divides the field-of-view into sensor zones. When a person passes into or out of a sensor zone, the sensor detects motion and switches the lights ON.

The Ultrasonic (U/S) sensors provide maximum sensitivity and range in difficult spaces with irregular shaped rooms and partitions that can block the PIR field-of-view. A pair of U/S sensors will detect Doppler shifts caused by motion in a space preventing false OFF. These sensors are more sensitive to small movements since they do not rely on zones.

## APPLICATIONS

Leviton's OSSMT Multi-Technology Decora Wall Switch Occupancy Sensor is used to provide automatic lighting control for energy savings and convenience in a variety of commercial applications:

- Retrofit
- Private and executive offices
- Conference rooms
- Storage areas
- Restrooms
- Classrooms
- Lounges
- Training areas
- Multi-location switching (similar to 3-way)

## SELF-ADAPTIVE TECHNOLOGY

Designed for "install and forget" use, the OSSMT automatically analyzes room conditions and adapts to errors or changing environment.

## HOW THE OSSMT-MD AUTOMATICALLY ADAPTS

CONDITION	EXAMPLE	ADAPTIVE REACTION
<b>False-ON:</b> Sensor incorrectly turns the lights ON.	The sensor detects movement in the corridor or hallway and the room light turns ON.	After an initial movement is sensed, if another movement is not sensed within the timer setting the delayed off-time setting is automatically reduced.
<b>False-OFF:</b> Sensor incorrectly turns the lights OFF.	The sensor does not detect movement because an occupant is virtually motionless and the lights turn OFF.	If motion is detected shortly after the lights go OFF, the current delayed off-time setting is increased.

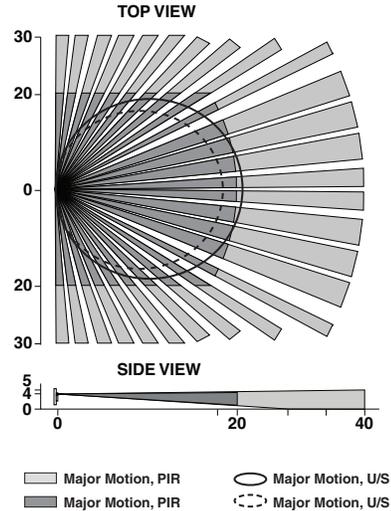
## PRODUCT DATA

### FEATURES

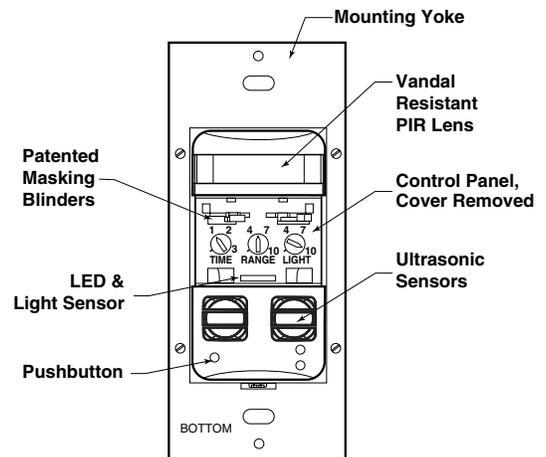
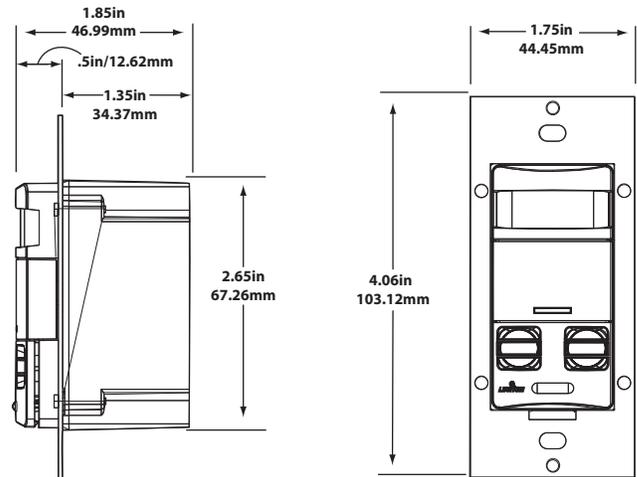
- Fast, simple Installation: Fits in a standard wall box and replaces a single-pole wall-switch; neutral and no neutral options available. Sensor can be ganged together with other units in a multiple-switch wall plate.
- Low-profile design eliminates obtrusive “scanning-device” look. Elegant Decora wallplates complement any interior for sleek aesthetics; uses Decora wallplates and coordinates with Leviton’s popular line of Decora wiring devices.
- Convenient Pushbutton provides manual-ON/OFF light switching at any time.
- Segmented Fresnel lens provides optimum sensitivity and performance. Designed with an extensive “minor motion” area where even slight body movements will be detected.
- Vandal resistant PIR lens.
- Patented Blinders: Adjustable horizontal field-of-view (PIR may be adjusted between 180° and 60° of arc by using integral blinders located on either side of the lens). No masking required.
- Manual-ON/auto-OFF mode for installations where manual-ON switching is required but auto-OFF switching is still desired for CEC Title 24 energy savings.
- To comply with CED Title 24, LED indicator light flashes when sensor detects motion to verify detection is active. Green flashes for ultrasonic, red flashes for PIR.
- Time: The delayed OFF time is preset at 30 minutes in the Auto Adapting mode. A choice of four delayed-OFF time settings are available: 30-seconds (for walking test purposes only), 10, 20, and 30 minutes for fixed time and auto adapting. The LED will flash when the adjusting knob is set to the indicated time value.
- Ambient Light Recognition: Integrated light sensor prevents lights from turning on when the room is adequately illuminated by natural light.
- Self-Adaptive Technology: Callbacks for adjustment are eliminated. Time delay and sensitivity settings are continually adjusted to occupant patterns of use in auto adapt mode.
- Exclusive Walk-through Feature provides increased energy savings by not leaving the lights ON for an extended period after only momentary occupancy.
- Vacancy Confirmation: When the time out expires and the relays turn OFF, a 30 second (OSSMT-G) or 40 second (OSSMT-M) vacancy confirmation exists to turn the relays back on.
- False detection circuitry.
- Small Motion Sensitivity (U/S): Ultrasonic technology provides excellent minor motion sensitivity.
- Ability to disable U/S (OSSMT-M). For added flexibility, OSSMT-G has the ability to disable both PIR and U/S.
- Presentation Mode feature: For slide or film presentations, allows pushbuttons to turn lights OFF and keep them OFF while the room is occupied.
- Exclusive Leviton H.I.S. Circuitry. Specifically designed to handle today’s high inrush electronic ballast loads and offer unmatched durability and service.
- True Zero-Cross Relay switches at the zero crossing point of the AC power curve to ensure maximum contactor life and compatibility with electronic ballasts.

### FIELD-OF-VIEW

The OSSMT provides a 180° field-of-view with a maximum coverage area of approximately 2400 square feet. The maximum sensing distance in front of the sensor is 40 feet, and side to side is 30 feet. The “minor motion” zone detects relatively small body movements and allows the lights to stay ON even though a person may not be moving or walking around the room. The remainder of the field-of-view, the “major motion” zone, exhibits a lesser degree of sensitivity and requires larger movements.



### DIMENSIONAL DIAGRAMS



## INSTALLATION

The OSSMT is preset to deliver optimum performance in a wide variety of applications without requiring any adjustments during installation. Exclusive self-adjusting operating features will automatically compensate for real-time occupancy patterns to provide maximum convenience and energy savings. The unit may replace a single-pole wall switch mounted in a standard wall box. The OSSMT-MD must have a neutral and be properly grounded in order to operate. The OSSMT-GD does not require a neutral for installation. The unit's integral blinders may be used to restrict the field of view to prevent unwanted detection of traffic. It should be positioned at least 6 feet away from HVAC registers. Note that whenever the unit is powered up, it will take approximately 1 minute to begin normal operation.

## SPECIFICATIONS

ELECTRICAL			
Line Voltage	120-230-277/347 VAC		
Power Consumption		U/S & PIR	PIR only
OSSMT-MD	120V 277V 347V	390mW 480mW 500mW	190mW 270mW 350mW
OSSMT-GD	120V 277V	110mW 340mW	70mW 310mW
Operational Frequency	50/60Hz		
Ultrasonic Operating Frequency	40kHz		
Wire Designation	Line-Black Neutral-White Load-Blue Ground-Green		
Load Rating	Incandescent/Tungsten: 800W @ 120V Fluorescent: 1200VA @ 120V 2700VA @ 277V , 1500VA @ 347V Motor: 1/4 HP @ 120V,		
ENVIRONMENTAL			
Operating Temperature Range	32°F to 104°F (0°C to 40°C)		
Storage Temperature Range	14°F to 185°F (-10°C to 85°C)		
Relative Humidity	20% to 90% non-condensing		
OTHER			
Listings	OSSMT-MD = UL/cUL OSSMT-GD = ETL/cETL Listed, CSA OSSMT-M3 = cETL Listed, CSA CEC Title 24 Compliant, FCC Compliant		
Warranty	Limited Five-Year Warranty		

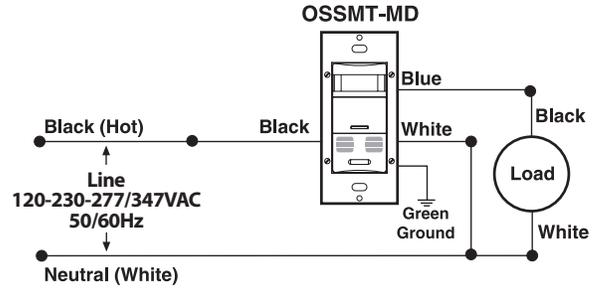
## ORDERING INFORMATION

CAT. NO. *	DESCRIPTION
OSSMT-MDx	Multi-Technology Wall Switch Occupancy Sensor
OSSMT-GDx	No Neutral, Multi-Technology Wall Switch Occupancy Sensor
OSSMT-M3x	Multi-Technology Wall Switch Occupancy Sensor 347V

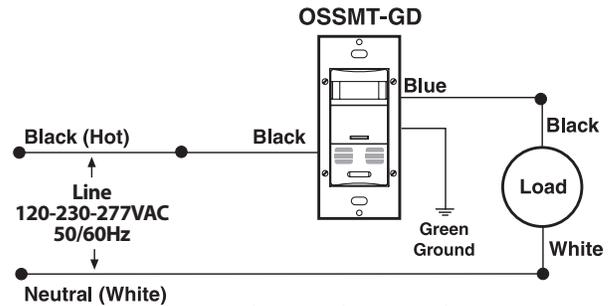
\* Replace x with (W) White, (I) Ivory, (T) Light Almond, (G) Gray, Ebony (-E), or Red (-R)  
**NOTE:** OSSMT-M3x model available in (W) White and (I) Ivory only.

\* NAFTA compliant and Made in USA models available.

## WIRING DIAGRAM

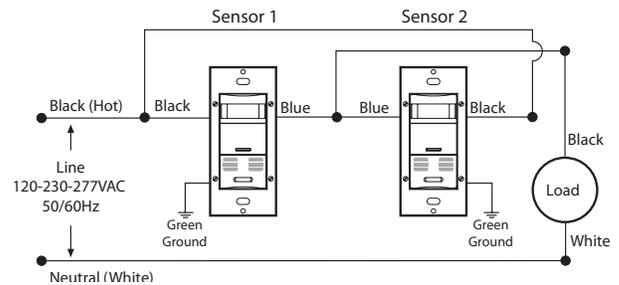


OSSMT-MD Wall Switch Occupancy Sensor Wiring Diagram, Single Location Control



Note: Ground wire must be connected.

OSSMT-GD Wall Switch Occupancy Sensor Wiring Diagram, Single Location Control



Note: Ground wire must be connected.

OSSMT-GD Wall Switch Occupancy Sensor Wiring Diagram, Two Location Control

**LEVITON SPECIFICATION SUBMITTAL**

JOB NAME:	CATALOG NUMBERS:
JOB NUMBER:	

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# Multi-Technology Wall/Corner Occupancy Sensor



## BASIC OPERATION

Occupancy sensors have two tasks: 1) Keeping the lights ON while the room is occupied, and 2) Saving energy by keeping the lights OFF while the room is unoccupied.

Passive Infrared (PIR) is an excellent and precise technology for initially turning the lights ON, but lacks sensitivity for minor motion at distances. Ultrasonic (U/S) technology provides maximum sensitivity with continuous reflective high frequency waves. This is optimal for keeping the lights ON.

Leviton's OSW12 sensor combines the benefits of both PIR and U/S technologies for unrivaled performance and reliability.

## APPLICATIONS

- Cafeterias
- Conference rooms
- Day care centers
- Offices with cubicles
- Partitioned restrooms
- Open warehouses
- Executive, private and open offices
- Classrooms
- Computer rooms
- Filing rooms
- Open areas
- Storage rooms
- Workspaces

## FEATURES

- Multi-Technology: By using both PIR and U/S signals, the sensor minimizes false triggering for high reliability.

- Flexible Base Mounting: Supplied twist-and-lock base mount permits fast alignment. Supplied cover hides mounting hardware and wires. Can be used with raceways for hard surface installations. Adjustable canopy for wall or ceiling mount.
- Wide Coverage: Over 1200 sq. ft of coverage.
- Fast, Simple Installation: A single mounting post and three color coded wires make installation easy.
- Self-Adjusting: Internal microprocessor continually analyzes, evaluates and adjusts sensitivity and time delay settings. Performance is kept at a maximum and user complaints are eliminated.
- Non-Volatile Memory: Learned and adjusted settings saved in protected memory are not lost during power outages.
- Timer Setting Feature: Automatic - 30sec - 30min. Test mode - 6sec with auto exit programming.
- Ambient Light Recognition: A Light Sensor prevents lights from turning on when the room is adequately lit by natural light.
- Walk-Through: Provides increased energy savings by decreasing the time delay to 2.5min when someone momentarily walks through the monitored space.
- Custom off-white color matched for shaded ceiling/corner spaces and most common ceiling tiles.
- Uses OSPxx Series Power Pack: Uses Class 2, 24 volt wiring, three wire connection (low voltage). Multiple sensors can control single or multiple power packs.
- Power base (OPB 15) available for line voltage applications
- High Motion Sensitivity: The large lens area and multi-element lens design give excellent range and sensitivity.
- Infrared Sensing: High sensitivity 9.8 micron detector dual element.
- Device: High-impact housing and injection molded plastic. Color coded wire leads are 6" long (16.24 cm).
- Lens: 110° aperture, lens opening 2.2" x 1.47", 36 elements (72 zones) small motion range 31 ft, large motion 68 ft

## HOW THE OSW12-M AUTOMATICALLY ADAPTS

Condition	Example	Self-Adaptive Reaction
Timer Left In Test Mode - The sensor remains in an 6 sec. test mode.	An installer accidentally leaves the sensor in the 6 sec. timer test mode and the lights may go off or on every 6 sec.	The sensor automatically resets the timer to 10 min after 15 min of test mode.
False-On - The sensor incorrectly turns the lights on.	The sensor detects movement in the corridor or hall way and the room lights turn on.	After an initial movement is sensed, if another movement is not sensed within the timer setting, then the delayed off time setting is automatically reduced.
False-Off - The sensor incorrectly turns the lights off.	The sensor does not detect movement because an occupant sits virtually motionless at a desk and the lights turn off.	If motion is sensed within a short period after the lights go off, then the current delayed off-time setting is increased.

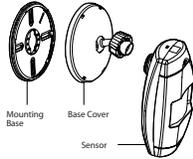
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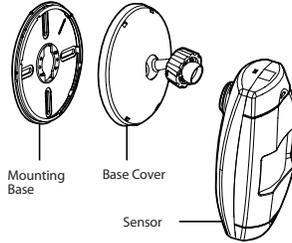
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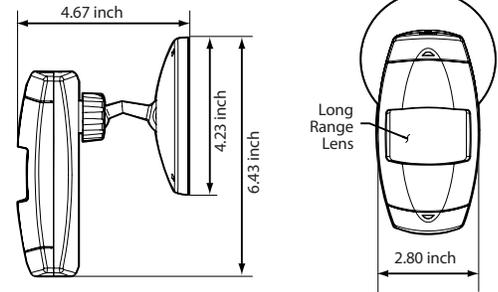
## ADJUSTMENT RANGE



## MOUNTING BRACKET



## DIMENSIONS



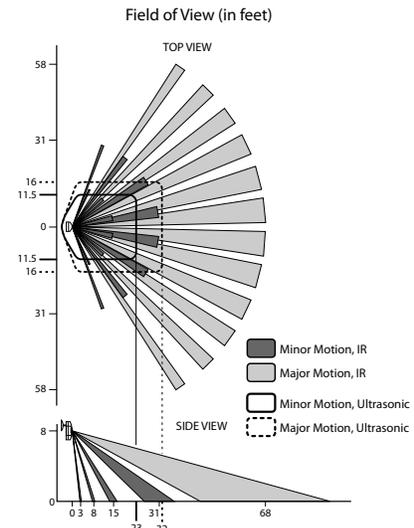
DIP SWITCH SETTINGS			
SWITCH	BANK A	SWITCH FUNCTIONS	SWITCH SETTINGS
		<b>OFF</b>	<b>ON</b>
A1	N/A	<b>Multi-Tech</b>	Single Tech
A2	N/A	PIR	Ultrasonic
A3	Manual Mode	<b>Auto Adapting Enabled</b>	Auto Adapting Disabled
A4	Walk-Thru Disable	<b>Walk-Thru Enabled</b>	Walk-Thru Disabled
	<b>BANK B</b>		
B1	Override to On	<b>Auto Mode</b>	Lights forced On
B2	Override to Off	<b>Auto Mode</b>	Lights forced Off
B3	Test Mode	<b>OFF'ON'OFF</b>	Enter/Exit Test Mode
B4	LED Disable	<b>LEDs Enabled</b>	LEDs Disabled

\*Bold items are factory defaults

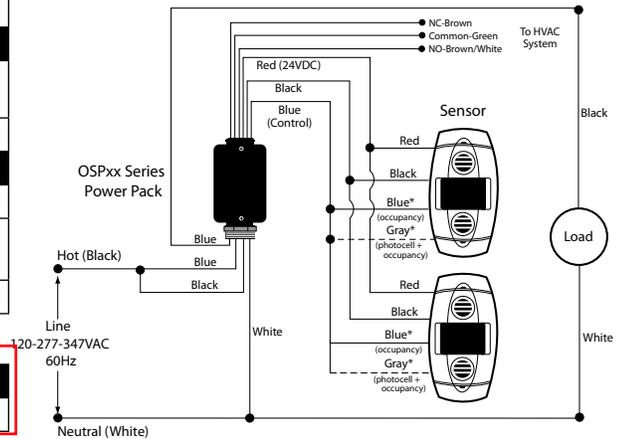
## SPECIFICATIONS

ELECTRICAL	
Power Requirements	24 VDC, 25 mA (.6W) from OSPxx Power Pack or OPB15 Power Base
Power Consumption	25mA Stand-by
Output	24 VDC active high logic control signal with short circuit protection
CONTROLS	
Ultrasonic (U/S) Sensitivity	0 to 100%: red knob (factory setting: 75%)
Infrared Sensitivity	0 to 100%: green knob (factory setting: 50%)
Light Sensor	Blue knob 20 to 3,000 Lux. Factory set at 100% (Grey wire required)
Time Delay	30sec-30min; black knob (Factory setting: 10min)
INDICATORS	
Red LED	Infrared motion technology
Green LED	Ultrasonic (U/S) motion technology
ENVIRONMENTAL	
Operating Temperature Range	32°F to 104°F (0°C to 40°C)
Relative Humidity	0% to 95% non-condensing, for indoor use only
OTHER	
Mounting Height	8-10 feet
Listings	CUL/US Certified, meets ASHRAE Standard 90.1 and CEC Title 24 requirements
Warranty	Limited Five-Year Warranty

## FIELD-OF-VIEW



## PHYSICAL WIRING



## ORDERING INFORMATION

CAT NO.	DESCRIPTION
OSW12-MoW	Multi-Technology Wall/Corner Occupancy Sensor

NAFTA compliant and Made in USA models available

## Leviton Manufacturing Co., Inc. Lighting & Energy Solutions

201 N. Service Rd. Melville, NY 11747-3138 Tech Line: 1-800-824-3005 Fax: 1-800-832-9538 www.leviton.com/les

## Leviton Manufacturing of Canada, Ltd.

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Visit our Website at: [www.leviton.com/les](http://www.leviton.com/les)

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G-7732A/G10-cb

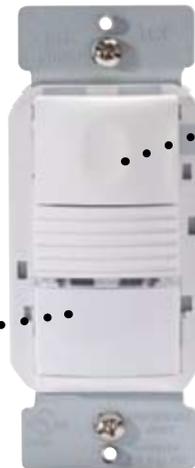
OSW12-MoW

# PW-100D Passive Infrared Dimmable Wall Switch Occupancy Sensor

High sensitivity and dense coverage for exceptional performance

Defaults to Manual-ON operation for maximum energy savings

Color-matched lens and low profile for appealing design



Pushbutton dimming control and optional locked preset level for many lighting types

Selectable operation, walk-through, test and presentation modes for increased energy savings and convenience

Part of a comprehensive line of PIR, Ultrasonic and Dual Technology wall switch sensors

PROJECT

LOCATION/TYPE

## Product Overview

### Description

The PW-100D passive infrared (PIR) dimmable wall switch sensor can turn light OFF and ON based on occupancy. It is characterized by high sensitivity to small and large movements, appealing aesthetics, and a variety of features.

### Operation

The PW-100D replaces existing wall switches and fits in a single gang junction box. Factory default operation is for Manual-ON. It uses advanced PIR technology to detect occupancy and keep lighting on when it is needed. Once the space is vacated and the time delay elapses, lights automatically fade OFF. The ramp and fade times can be fast or slow. DIP switch settings allow for control options including Auto-ON to the last used level or a locked preset level, walk-through and test modes.

### Dimming Control

The PW-100D can dim lighting from a minimum level of 10% to full output. When the pushbutton is pressed and held, lighting will ramp up or dim down. The dimming direction is reversed when the pushbutton is momentarily released and then pressed and held again. To save energy and increase lamp life, the PW-100D is shipped with a factory preset of 85%. This preset level may be changed to any lighting level.

### Applications

The PW-100D sensor is well suited for small, enclosed spaces with clear line of sight of the occupant. Common applications include small offices and small conference rooms.

## Features

- Detection Signature Processing eliminates false triggers and provides immunity to RFI and EMI
- Zero-crossing for long relay life
- Vandal resistant lens combines precise coverage with durability
- Choice of Manual-ON or Auto-ON operation
- Selectable walk-through mode turns lights off three minutes after the room is initially occupied if no motion is detected after the first 30 seconds
- Test mode allows quick and easy adjustments
- Selectable audible and/or visual alerts for impending shutoff
- Can dim lights to any level without affecting the preset level
- Preset ramp and fade times
- In automatic mode, sensor returns automatically to Auto-ON after lights are turned off manually; ideal for presentations
- LED indicates occupancy detection
- Optional light level sensing with simple setup
- Service mode allows sensor to operate as a service switch in the unlikely event of a failure
- 2-wire and 3-wire models available for applications with or without neutral wire
- Sensor coverage tested to NEMA Guide Publication WD 7-2000
- Compatible with decorator wall plates

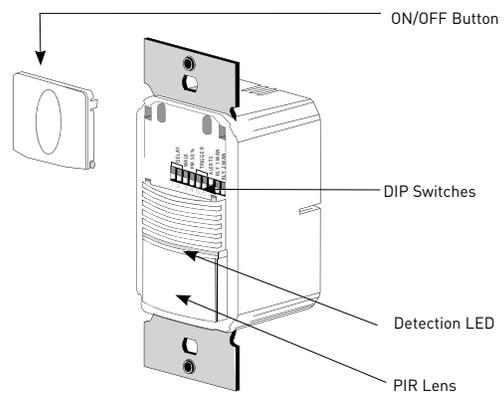


## Specifications

- 120/277 VAC; 50/60 Hz
  - @ 120 VAC, 0-600 W
  - @ 277 VAC, 0-1200 W
- PW-100D: Incandescent or two-wire fluorescent ballast
- PW-101D: Incandescent, MLV, ELV, cold cathode or two-wire fluorescent ballast
- Time delays: 5, 10, 15, 20, 25 or 30 minutes, walk-through, test-mode
- Fade rates: Ramp on, 1.5 seconds; fade off, 5 seconds
- Coverage: Major motion 35' x 30'  
Minor motion 20' x 15'
- Sensitivity adjustment: PIR (high/low)
- Dimensions: 2.73" x 1.76" x 1.83"  
(69.3mm x 44.7mm x 46.5mm) L x W x D
- UL and cUL listed
- Five year warranty

## Controls & Settings

### Product Controls



### DIP Switch Settings

Time Delay	1	2	3
Test/20 min	↓	↓	↓
5 minutes	↓	↓	↑
10 minutes	↓	↓	↑
15 minutes	↑	↑	↑
20 minutes	↑	↑	↑
25 minutes	↑	↑	↑
30 minutes	↑	↑	↑
Service	↑	↑	↑

Walk-Through	4
Enabled	↑
Disabled	↓

Time Delay	1	2	3	4	5	6	7	8	9
ON	ON	ON	ON	ON	ON	ON	ON	ON	ON
Walk-Through	1	2	3	4	5	6	7	8	9
PIR Sensitivity	1	2	3	4	5	6	7	8	9
Audible Alerts	1	2	3	4	5	6	7	8	9
ON Mode	1	2	3	4	5	6	7	8	9
Load Type	1	2	3	4	5	6	7	8	9

Audible Alert	7
Enabled	↑
Disabled	↓

PIR Sensitivity	5
Low, 50%	↑
High	↓

ON Mode	8
Manual On	↑
Auto On	↓

Preset Light Level	6
Locked level*	↑
Last level set	↓

Load Type	9
Fluorescent	↑
Incandescent	↓

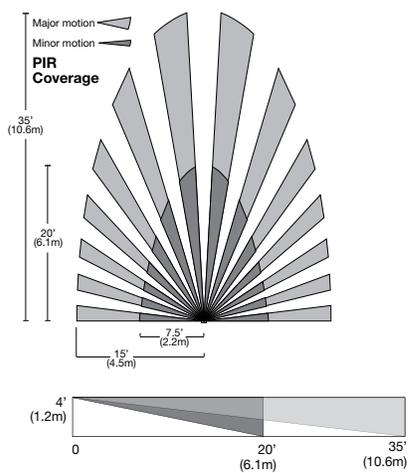
  

Service bypasses occupancy & light level functions. Control the load manually using the ON/OFF button.

↑=ON ↓=OFF ◀=Factory Setting

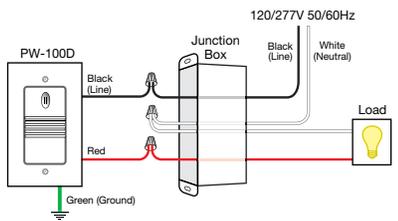
## Coverage & Wiring

### Coverage Pattern

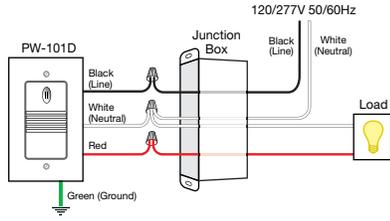


\* For best performance, WattStopper recommends using this sensor in spaces no larger than 15' x 12'.

### Wiring Diagrams



Wiring for PW-100D with no neutral wire run to the dimmer.



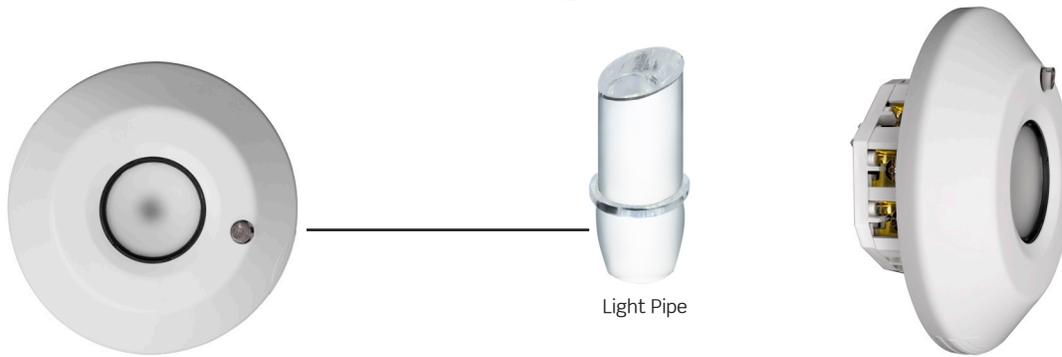
Wiring for PW-101D with a neutral connection.

## Ordering Information

Catalog No.	Color	Voltage	Load Rating
<input type="checkbox"/> PW-100D-W	White	120/277 VAC; 50/60 Hz	@ 120 VAC, 0-600 W Incandescent or 2-wire fluorescent dimming ballast (Advance Mark 10 or equivalent) @ 277 VAC, 0-1200 W 2-wire fluorescent dimming ballast (Advance Mark 10 or equivalent)
<input type="checkbox"/> PW-100D-LA	Lt. Almond	2-wire sensor; no neutral connection	
<input type="checkbox"/> PW-100D-I	Ivory		
<input type="checkbox"/> PW-100D-G	Grey		
<input type="checkbox"/> PW-100D-B	Black		
<input type="checkbox"/> PW-101D-W	White	120/277 VAC; 50/60 Hz	@ 120 VAC, 0-600 W Incandescent, MLV, ELV, cold cathode or 2-wire fluorescent dimming ballast (Advance Mark 10 or equivalent) @ 277 VAC, 0-1200 W 2-wire fluorescent dimming ballast (Advance Mark 10 or equivalent)
<input type="checkbox"/> PW-101D-LA	Lt. Almond	3-wire sensor; requires neutral connection	
<input type="checkbox"/> PW-101D-I	Ivory		
<input type="checkbox"/> PW-101D-G	Grey		
<input type="checkbox"/> PW-101D-B	Black		

Order wall plate separately.  
 \*\*Contractor to confirm presence of neutral prior to ordering\*\*

# Provolt™ Line Voltage Photocell



Light Pipe

## DESCRIPTION

The Leviton Provolt™ Line Voltage Photocell is a first-of-its-kind, self-contained mini Daylight Harvesting System offering the functionality of a low voltage switching or dimming photocell with the robustness of a Leviton power pack. Ideal for Daylight Harvesting applications and lighting control in airports lobbies, commercial lobbies, conference rooms and classrooms. The integrated design alleviates the need for additional components such as a separate power pack and low voltage photocell making it a low-cost, efficient energy solution for new construction and retrofits.

The Provolt Line Voltage Photocell uses patented Daylighting Design Level technology for precise load switching and continual dimming for optimal light maintain levels based on available natural and electric light.

The Provolt Line Voltage Photocell offers installers flexibility when retrofitting areas with existing momentary or maintained switches. To comply with growing energy regulations, the demand response input meets CA Title 24 and ASHRAE 90.1 requirements.

## MODELS

- Five models for zone control switching and dimming capabilities
  - Single Relay ON/OFF
  - Dual Relay ON/OFF
  - Single Relay ON/OFF, Single 1-10V Dimming
  - Dual Relay ON/OFF, Dual 1-10V Dimming
  - Single/Dual Relay ON/OFF, Single 1-10V Dimming

## FEATURES

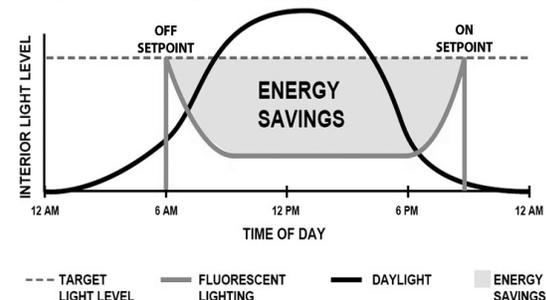
- Self-contained, open and closed loop Daylight Harvesting system
- Leviton-exclusive patented Auto-Calibration eliminates the need for on sight configuring and less labor costs during Daylight Harvesting configuration
- Includes two removable light pipes (flat or angled) for Open and Closed Loop Daylight Harvesting Applications
- Controls:
  - Manual Switch for Daylight Harvesting
  - BMS integration
  - Demand Response
- Dim to Minimum or Dim to OFF capabilities
- 1-10V sinking ballast or LED ready

## DAYLIGHT HARVESTING APPLICATIONS

Daylight Harvesting is an automated lighting control strategy that maximizes the use of natural daylight and minimizes the use of electrical light in response to the availability of natural light in a space. The Line Voltage Photocell uses three types of Daylight Harvesting applications:

- Closed loop: Photocell detects total photometric light from daylight or electric sources in the space
- Open Loop: Photocell detects daylight or electric light only; requires manual calibration
- Adjustable Daylight Design Levels: Normal (OFF) and Auto Calibration

## DAYLIGHTING DESIGN LEVELS



## PRODUCT DATA

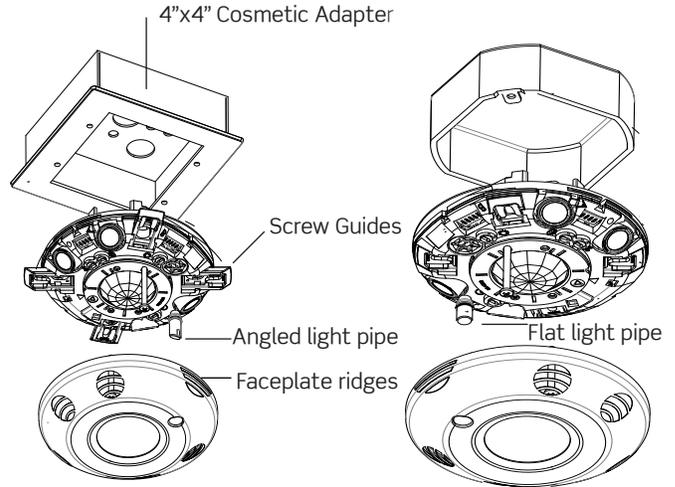
### VISUAL INDICATORS

- Visual LED status indicators for all states:
  - Green - Blinks during auto calibration; solid during device malfunction
  - Red - Blinks during photocell manual calibration; solid during device malfunction
  - Yellow - Blinks during test mode; solid with emergency/BMS input
  - Blue - Blinking light indicates photocell override

### INSTALLATION

- Easy installation into junction boxes with Leviton-exclusive screw guides, coasters and terminal blocks
- Faceplate ridges make it easy to identify pressure points for simple press and release installation
- Includes a 4x4" cosmetic adapter to enhance final installation and alleviate potential contrast between the sensor and back box

### INSTALLATION



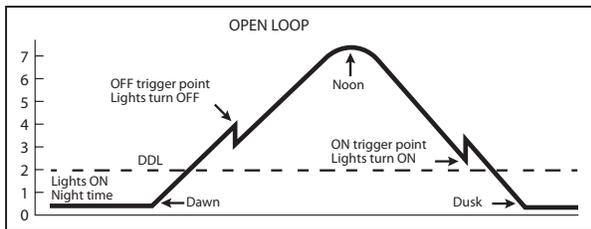
Photocell conveniently mounts to a standard 4" x 4" square or octagon electrical box per NEC standards

### PHOTOCELL OPERATION

#### Open Loop - Angled Light Pipe

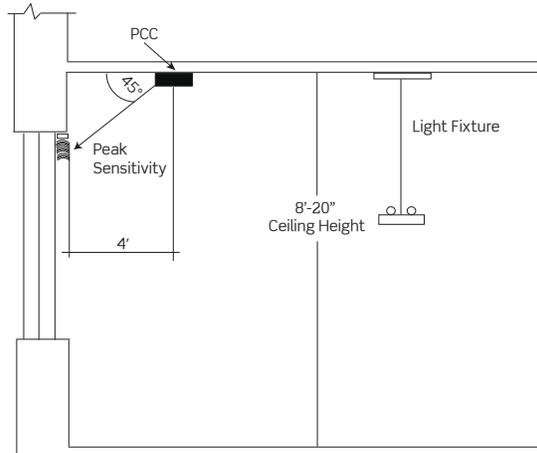


Note: Long side of angled light pipe must face toward natural light source (window)

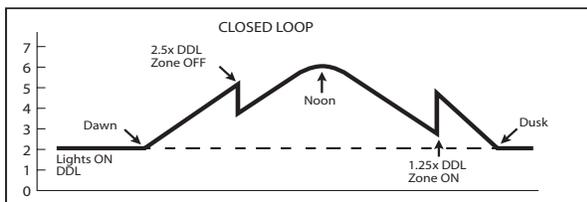


### PHOTOCELL PLACEMENT

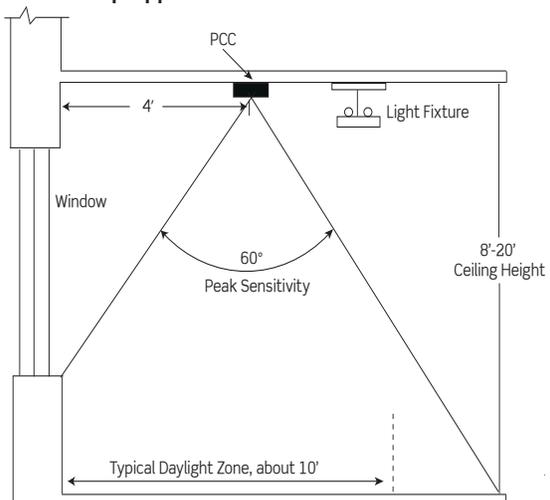
#### Open Loop Application - Angled Light Pipe



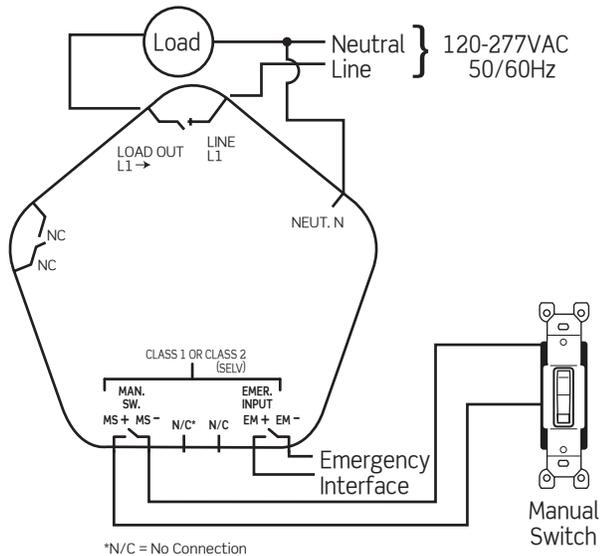
#### Closed Loop - Diffused Lens



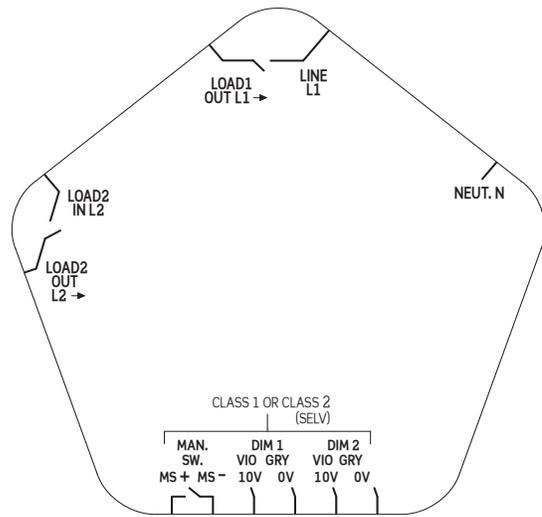
#### Closed Loop Application - Diffused Lens



WIRING DIAGRAMS

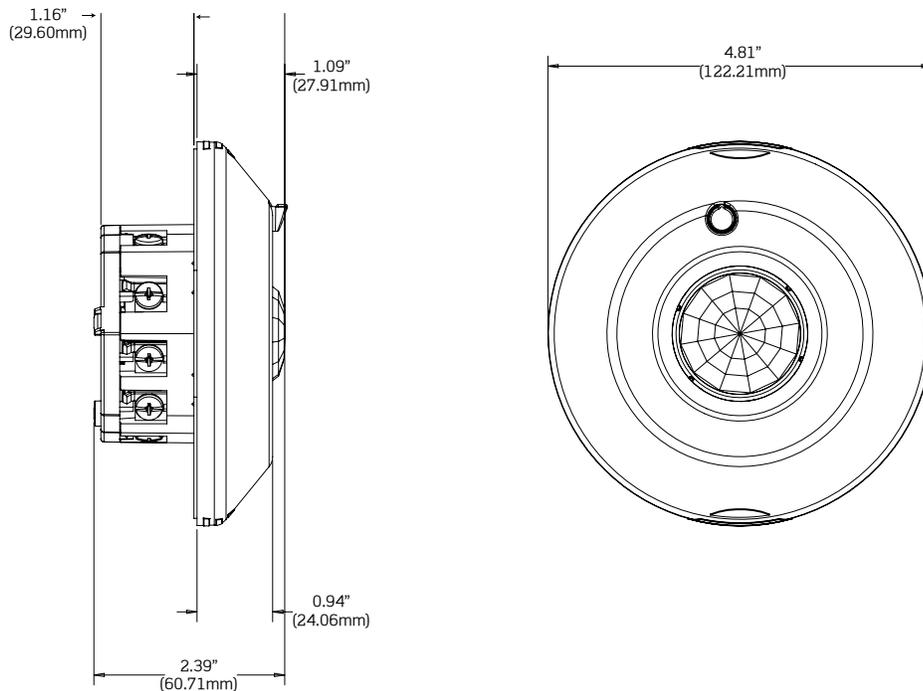


Switching Photocells



Dimming Photocells

DIMENSIONS



## PRODUCT DATA

### SPECIFICATIONS

ELECTRICAL			
Input Voltage	120V, 50/60Hz	240V, 50Hz	277V, 50/60Hz
Load Rating	8A, Electronic Ballast, 800W/VA, Tungsten, Ballast, 1/4 HP Motor	6A/6AX Electronic Fluorescent or Magnetic Ballast, 1200W/VA, 1/3 HP Motor	5A, Electronic Ballast, 1200VA, 1/3 HP Motor
Current Consumption	60-30mA		
ENVIRONMENTAL			
Operating Temperature	32° to 104° F (0° to 40° C)		
Storage Temperature	-14° to 160° F (-26° to 71° C)		
Relative Humidity	10% to 90% non-condensing		
OTHER			
Listings	CA Title 20/24 Compliant, ASHRAE 90.1 Compliant, UL 773A (Occupancy Standard), UL 924 (Emergency Equipment), cUL Listed, NOM Certified, RoHS Compliant, NY LLC48 Compliant		
Warranty	5-Year Limited Warranty		

### ORDERING INFORMATION

CAT. NO.	DESCRIPTION
PCC1D-00W	Line Voltage Ceiling Mount Photocell, Low profile 1 Zone, (1) 1-10VDC sinking control signal and (1) relay rated 120-277VAC 50/60Hz. Includes (1) configurable manual switch or BMS/Load Shed input and emergency.
PCC2D-00W	Line Voltage Ceiling Mount Photocell, Low profile 2 Zone, (2) 1-10VDC sinking control signal and (2) relay rated 120-277VAC 50/60Hz. Includes (1) configurable manual switch or BMS/Load Shed input and emergency.
PCC1S-00W	Line Voltage Ceiling Mount Photocell, Low profile 1 Zone, (1) relay rated 120-277VAC 50/60Hz. Includes (1) manual switch and emergency input
PCC2S-00W	Line Voltage Ceiling Mount Photocell, Low profile 2 Zone, (2) relays rated 120-277VAC 50/60Hz. Includes (1) manual switch and emergency input.
PCCSD-00W	Line Voltage Ceiling Mount Photocell, Low profile 1 Zone, (1) 1-10VDC sinking control signal and (2) relays rated 120-277VAC 50/60Hz. Includes (1) configurable manual switch or BMS/Load Shed input and emergency input.

#### Leviton Manufacturing Co., Inc. Lighting & Energy Solutions

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Tech Line (6:00AM-4:00PM P.S.T. Mon-Fri): 1-800-959-6004

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#### Leviton Manufacturing of Canada, Ltd.

165 Hymus Boulevard, Pointe Claire, Quebec H9R 1E9 • Telephone: 1-800-469-7890 • FAX: 1-800-563-1853

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# ODC Series Multi-Technology (M/T) Occupancy Sensors



Light Pipe



## DESCRIPTION

The Leviton ODC Series combines line voltage occupancy sensors and photocells into a self-contained unit. The integrated design alleviates the need for separate power pack and occupancy sensor wiring making it a low-cost, efficient energy solution for new construction and retrofits. For true Daylight Harvesting applications, integrated photocells provide consistent Daylight Design Levels by actively switching the connected load(s) ON and OFF in response to available natural light to maximize energy savings. Vacancy timers continually analyze and adjust to changing conditions using the latest microprocessor-based technology to optimize performance. Auto ON/ Auto OFF automatically turns lights ON and keeps them ON when occupancy is detected and automatically turns lights OFF when the space is vacant or unoccupied. Wire terminals allow for simple connection to a line-voltage circuit and are ideal for existing buildings with limited access to wiring and new construction.

## APPLICATIONS

- Daylight Harvesting
- CA Title 20 Compliant Occupancy Sensor
- Auto-ON/Auto-OFF
- Manual-ON/Auto-OFF

## FEATURES

- Sensors combine both PIR and U/S technology for unrivaled performance and reliability. Sensors use PIR technology to initially turn lights ON, and use U/S technology to keep the lights ON. Exclusive false-detection software assures lights are ON only when needed.
- Auto-Adapting: Time delay and sensitivity are continually adjusted to occupancy pattern of use

- Configurable for Manual ON/Auto OFF or Auto ON/Auto OFF
- Vacancy Sensing Time Outs:
  - Delayed OFF Timer: The sensor will turn lights OFF if no motion is detected after a specified time
  - Exclusive Walk-through Feature: Provides increased energy savings by not leaving the lights ON for an extended period after only momentary occupancy
- False Detection Timer: (M/T) The PIR scans for movement and shuts lights off after 31 minutes preventing false triggers from HVAC systems
  - Time delay and saved settings are protected during power outages and will return to the last known state
- Output short circuit protection
- Industry-exclusive self-configuring local manual switch input: Momentary or maintained switches are supported
- Presentation Mode feature for slide or film presentations allows push buttons to turn lights OFF and keep them OFF while the room is occupied
- Adjustable Time Delay: 30s, 5min, 10min, 20min, 30min
- Test Mode for simplified commissioning
- Manual Switch and Emergency Override are Class 1 and Class 2 circuits. Class 2 circuits provided for flexibility
- Industry-exclusive “fail-safe” circuitry: In the event of product failure, Return-to-Closed feature causes the relay to default ON which eliminates life safety concerns

## PRODUCT DATA

### FEATURES

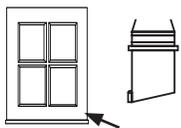
- Industry-exclusive H.I.S. (High Inrush Stability) technology designed to handle today's high inrush electronic ballast loads and offer unmatched durability and service
- Robust and reliable mechanically held 10A latching relay provides dependability and robust performance for all load types and provides energy savings over electronically held relays
- Field of View: Units from 500 to 2000 square feet available
- Lenses are easily replaceable and color-coded red (mid-range) and black (extended range) for contractors and end-users to easily identify lenses from the ground
- Visual LED indicators for all states:
  - Red - Blinks when infrared is detecting motion and during photocell manual calibration; solid during device malfunction
  - Green - Blinks when U/S is detected; solid during auto calibration
  - Yellow - Blinks during test mode; solid with emergency/BMS input

### RATINGS AND TESTING

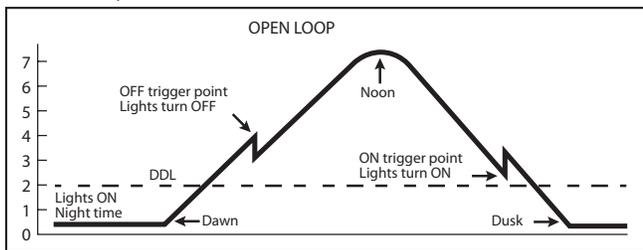
- Zero-crossing circuitry for extended life of the relay
- Tested to exceed 1 million switching cycles under standard loads
- Multiple compliance and regulatory UL testing - consult factory for details
- Passed rigorous NEMA 410 testing for electronic ballast rating
- BMS Input/Emergency Override: UL 924 listed for Emergency and Egress lighting control
- Meets Energy Star® Requirements for multi-techs and ultrasonics

### PHOTOCELL OPERATION

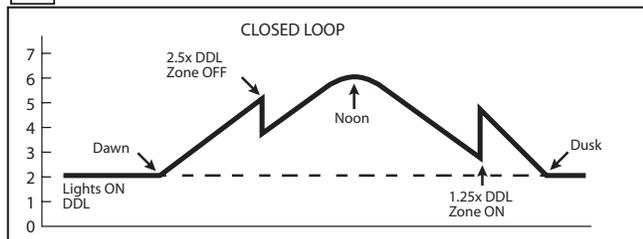
#### Open Loop - Angled Light Pipe



Note: Long side of angled light pipe must face toward natural light source (window)



#### Closed Loop - Flat Light Pipe



### Photocell Features

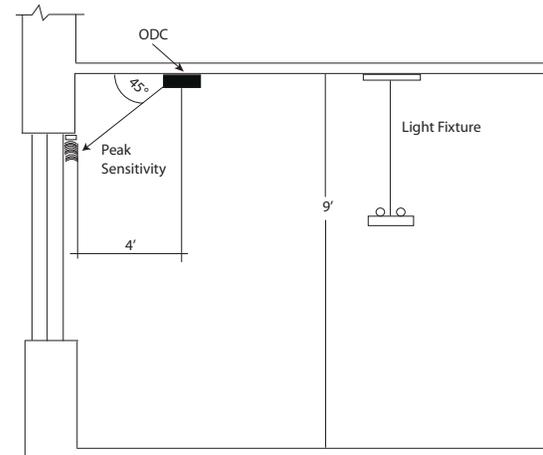
- Daylight Harvesting Applications:
  - Auto-Calibration (Automatic Daylight Calibration): Photocell intelligently measures light levels to determine optimal daylight design levels for closed loop applications
  - Closed loop: Photocell detects total photometric light from daylight or electric sources in the space
  - Open loop: Photocell detects daylight or electric light only; requires manual calibration
- Adjustable daylight design levels: Normal (OFF), Manual (ON/OFF) and Auto Calibration
  - Blue - Blinking light indicates photocell override
- Integrated photocell tested to less than 1 Fc accuracy
- Open and closed loop photocell included

### INSTALLATION

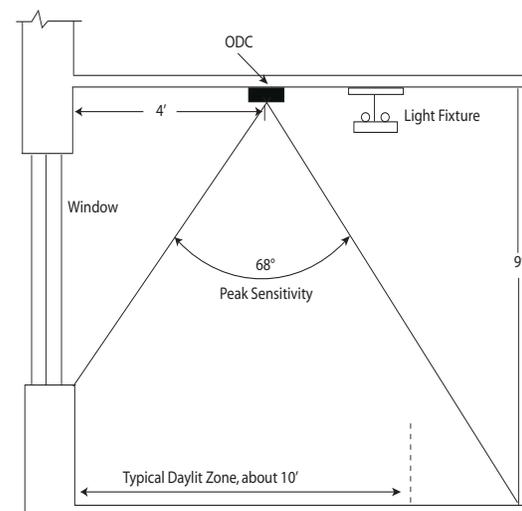
- Easy installation into junction boxes with Leviton-exclusive screw guides, coasters and terminal blocks
- Front cover snaps on and off for ease of installation

### PHOTOCELL PLACEMENT\*

#### Open Loop Application - Angled Light Pipe

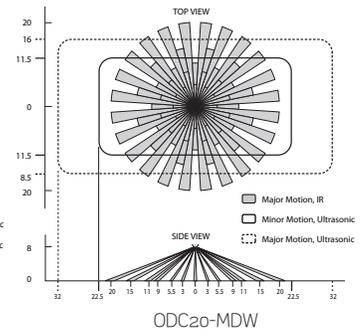
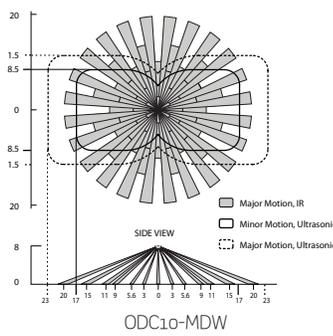
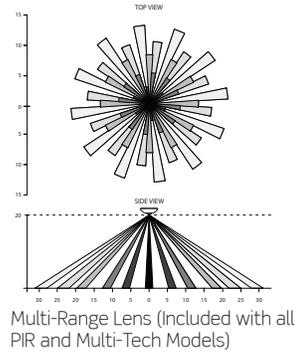
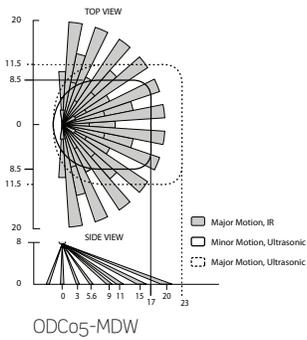


#### Closed Loop Application - Flat Light Pipe

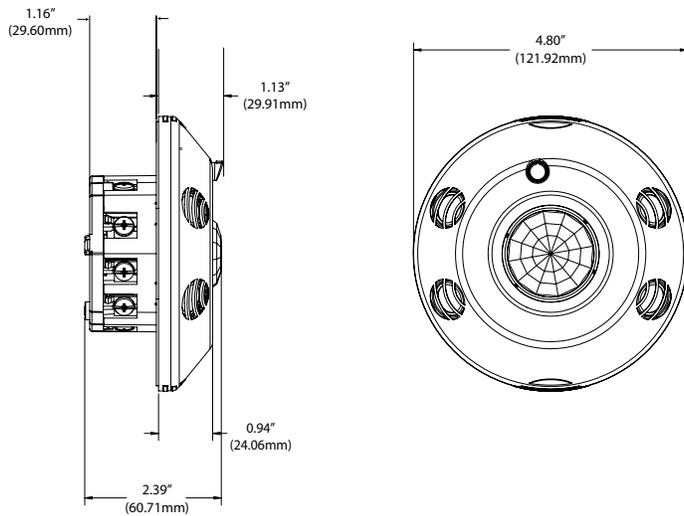


\*May require more than one occupancy sensor for total room coverage

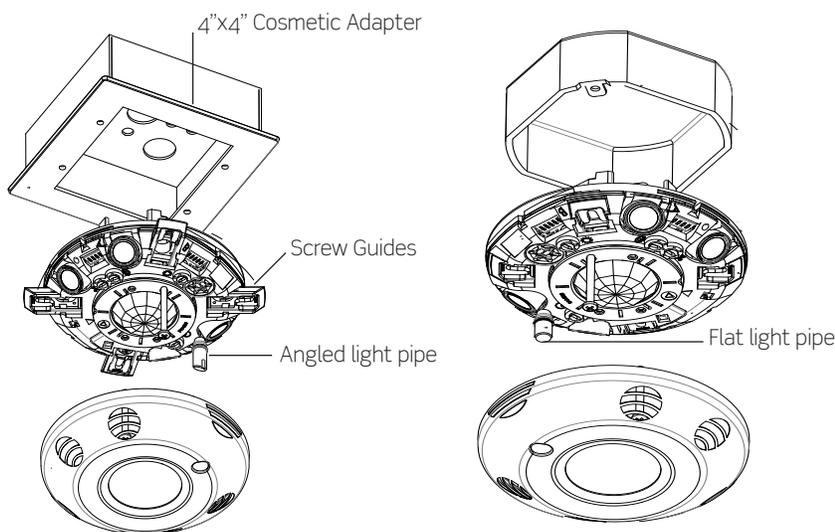
**FIELD OF VIEWS**



**DIMENSIONS**



**INSTALLATION**



Sensors conveniently mount to a standard 4" x 4" square or octagon electrical box per NEC standards.

**Leviton Mfg. Co., Inc. Lighting & Energy Solutions**

20497 SW Teton Avenue, Tualatin, OR 97062 1-800-736-6682 Tech Line: 1-800-959-6004 Fax: 503-404-5594 www.leviton.com/les © 2013 Leviton Manufacturing Co., Inc. All rights reserved. Subject to change without notice.

## PRODUCT DATA

### SPECIFICATIONS

ELECTRICAL			
Input Voltage	120V, 50/60Hz	230V, 50Hz	277V, 50/60Hz
Load Rating	8A, Electronic Ballast, 800W/VA, Tungsten, Ballast, 1/4 HP Motor	6A/6AX, Electronic Ballast, Magnetic Ballast, 1200W/VA, 1/3 HP Motor	5A, Electronic Ballast, 1200VA, 1/3 HP Motor
Current Consumption	60-30ma		
ENVIRONMENTAL			
Operating Temperature	32° to 104° F (0° to 40° C)		
Storage Temperature	15° to 160° F (-26° to 71° C)		
Relative Humidity	0% to 90% non-condensing		
OTHER			
Listings	CA Title 20 Compliant, UL 773A (Occupancy Standard), UL 924 (Emergency Equipment), cUL Listed, CE Compliant, NOM Certified, RoHS Compliant, NY LLC48 Compliant		
Warranty	5-Year Limited Warranty		

### ORDERING INFORMATION

CAT. NO.	DESCRIPTION
ODC05-MDW	Line Voltage, Ceiling, M/T Sensor 500sqft, 120-277V, Extended Range Lens installed, Open and Closed Loop Photo Cell included, CA Title 20 Compliant
ODC10-MDW	Line Voltage, Ceiling, M/T Sensor 1000sqft, 120-277V, Extended Range Lens installed, Mid-Range included, Open and Closed Loop Photo Cell included, CA Title 20 Compliant
ODC20-MDW	Line Voltage, Ceiling, M/T Sensor, 2000sqft, 120-277V, Extended Range Lens installed, Mid-Range included, Open and Closed Loop Photo Cell included, CA Title 20 Compliant

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