

#### IMPORTANT SAFEGUARDS

When using electrical equipment, basic safety precautions should always be followed including the following:

#### READ AND FOLLOW ALL SAFETY INSTRUCTIONS

1. To avoid the possibility of electrical shock, turn off power supply before installation or servicing.
2. Product must be installed in accordance with NEC or your local electrical code. If you are not familiar with these codes and requirements, consult a qualified electrician.
3. All electrical connections have been made at the factory.
4. The sensor is designed for mounting heights between 10 ft. to 40 ft., see figure 1, 2, and 3 for product specific coverage pattern.
5. When mounting heights are above 30ft., the sensor generally only detects large objects such as forklift trucks.
6. When sensor lens assembly is removed the exposed sensor body is sensitive to electrostatic discharge. Take the necessary steps to avoid possible damage to the sensor.

#### SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE

#### SENSOR DESCRIPTION

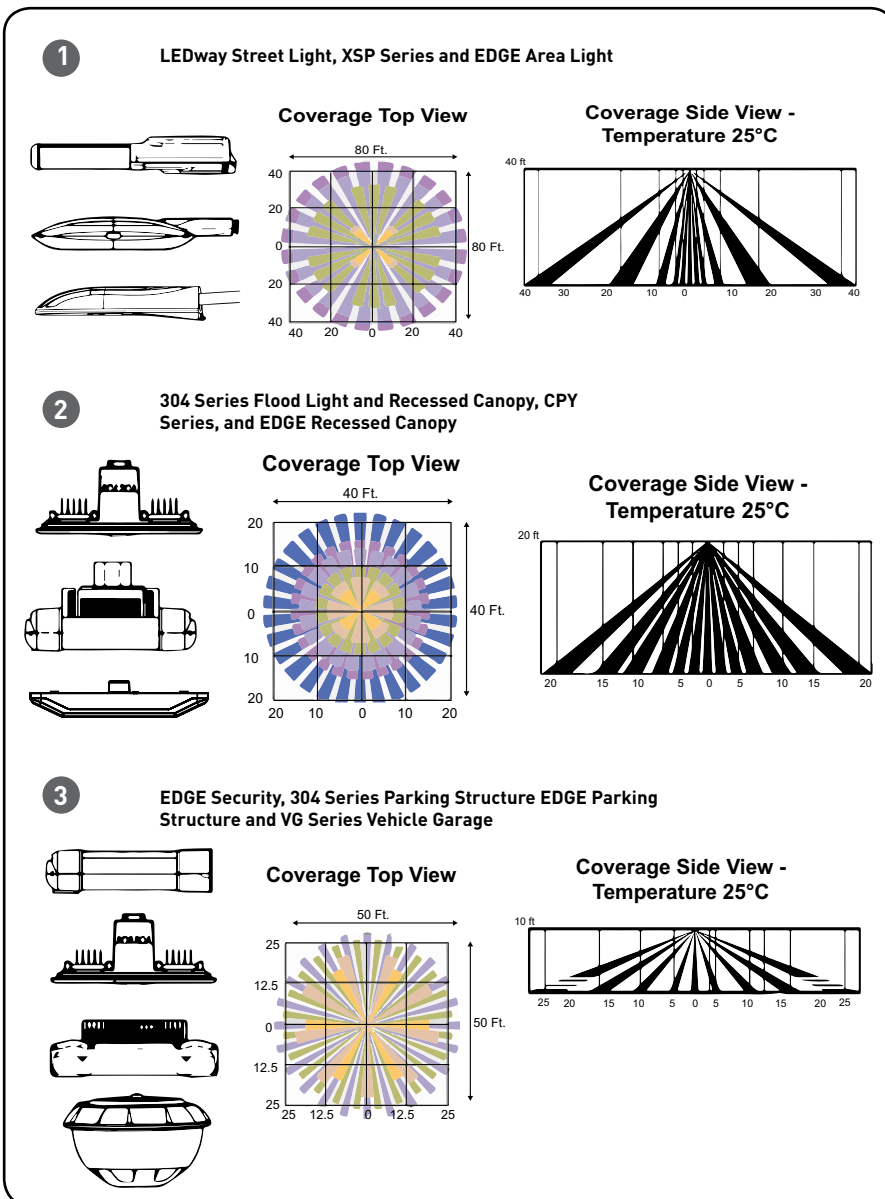
The occupancy sensor controls high and low light levels based on occupancy and the selected ambient light level setting. The Ambient Light feature can be used to keep the lights from turning to high level if the ambient light level is sufficient.

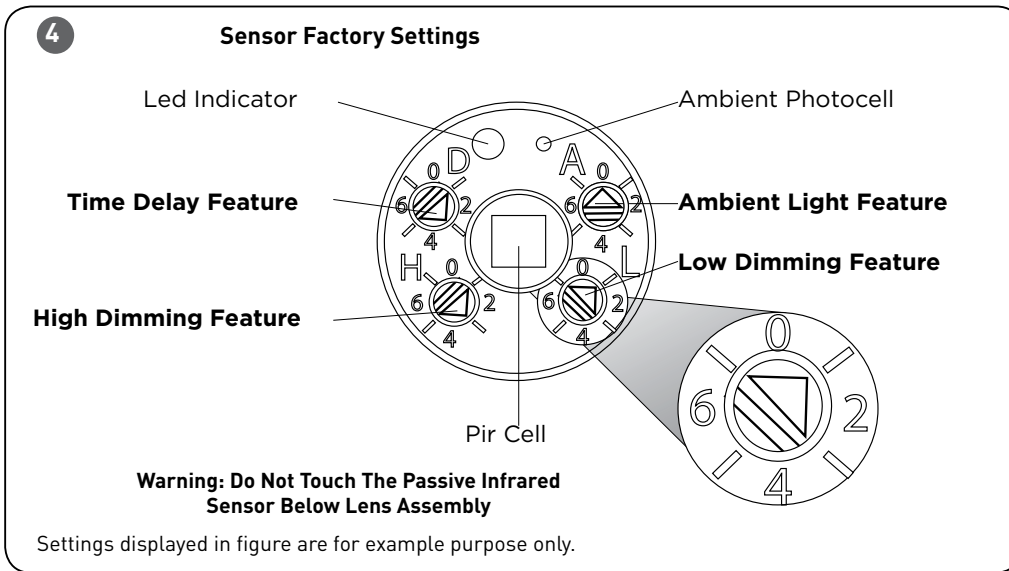
The sensor uses passive infrared sensing (PIR) technology that reacts to changes in infrared energy (moving heat) within the coverage area. Once the space is vacant and the time delay elapses (adjustable from 30 seconds to 30 minutes), the luminaire will turn off or dim. Sensors must directly "see" motion of an occupant to detect them, so careful consideration must be given to sensor placement. Avoid placement where sensor's line of sight may be obstructed

**IMPORTANT:** There is an initial warm-up period. It may take up to a minute before the lights turn on due to a sensor warm-up period required during initial power-up. This occurs during installation or after a lengthy power failure only.

#### COVERAGE PATTERN

The density and the range of the coverage pattern is determined by the supplied lens and mounting height. For standard lenses and patterns for EDGE Area and LEDway Streetlight (and SLM and XSP) See **Figure 1**. For EDGE Canopy, CPY Series, and 304 Series Floodlight/ Recessed Canopy see **Figure 2**. For EDGE Security, EDGE Parking Structure, VG Series Vehicle Garage and 304 Series Parking Structure see **Figure 3**.





## SENSOR OPERATION

### HIGH DIMMING FEATURE (H):

The High Dimming feature (Rotary switch H) has eight possible settings. See **Figure 5** for the complete range available.

**NOTE:** The sensor will not allow the maximum rated drive current of the luminaire to be exceeded.

### LOW DIMMING FEATURE (L):

The Low Dimming feature (Rotary switch L) has eight possible settings and can be adjusted from an off position (position 0) to a maximum drive current (position 7). See **Figure 5** for the complete range available.

### TIME DELAY FEATURE (D):

The Time Delay feature (Rotary switch D) has eight possible settings and can be adjusted from 0.5 min (position 0) to 30 min (position 7) - factory set at 4 min (position 3). See **Figure 5** for the complete range available. Once motion is detected, the lighting level will remain in high mode until no activity is detected for the duration of the time delay cycle that has been selected.

### AMBIENT LIGHT FEATURE (A):

The Ambient Light feature (Rotary switch A) has eight possible settings and provides the ability to employ daylight harvesting. It also includes a test mode, as well as lock low and lock high settings. See **Figure 5** for complete range available – a more detail description of each setting is below.

**Occupancy Sensing Only (OSO):** Occupancy detection (PIR) enabled only- factory default setting. Ambient Light sensing (ambient photocell) is disabled. The sensor will switch the luminaire to High mode during occupancy detection regardless of environment light levels and will remain so per selected setting in Time Delay feature. After no occupancy is detected during Time Delay cycle, luminaire will switch to Low mode (factory default).

### Occupancy Sensing and Time Off (OSTO):

Occupancy detection (PIR) enabled only with Time Off operation. Ambient light sensing (ambient photocell) is disabled. The sensor will switch the luminaire to High mode during occupancy detection regardless of environment light levels and will remain so per selected setting in Time Delay feature. After no occupancy is detected during Time Delay cycle, luminaire will switch to Low mode. Sensor will switch the luminaire to Off after 30 minutes of no occupancy detection (Low mode). The luminaire will move immediately back into high mode from off once motion is detected.

### Occupancy Sensing and Low Ambient (OSLA):

Occupancy detection (PIR) and Ambient Light sensing (ambient photocell) enabled. During transitional periods from night to day once environment light levels exceed 130 Lux (12 FC) and no occupancy is detected for the time delay duration, luminaire will be turned Off. During transitional periods from day to night when environment light levels fall below 80 Lux (7 FC), luminaire will switch from OFF to Low mode during no occupancy and switch to High mode after occupancy is detected.

### Occupancy Sensing and High Ambient (OSHA):

Occupancy detection (PIR) and Ambient Light sensing (ambient photocell) enabled. During transitional periods from night to day once environment light levels exceed 600 Lux (55 FC) and no occupancy is detected for the time delay duration, luminaire will be turned Off. During transitional periods from day to night when environment light levels fall below 500 Lux (46 FC), luminaire will switch from OFF to Low mode during no occupancy and switch to High mode after occupancy is detected.

### Occupancy Sensing, Low Ambient and Time Off (OSLATO):

Occupancy detection (PIR), Ambient Light sensing (ambient photocell) and Time Off enabled. During transitional periods from night to day once environment light levels exceed 130 Lux (12 FC) and no occupancy is detected for the

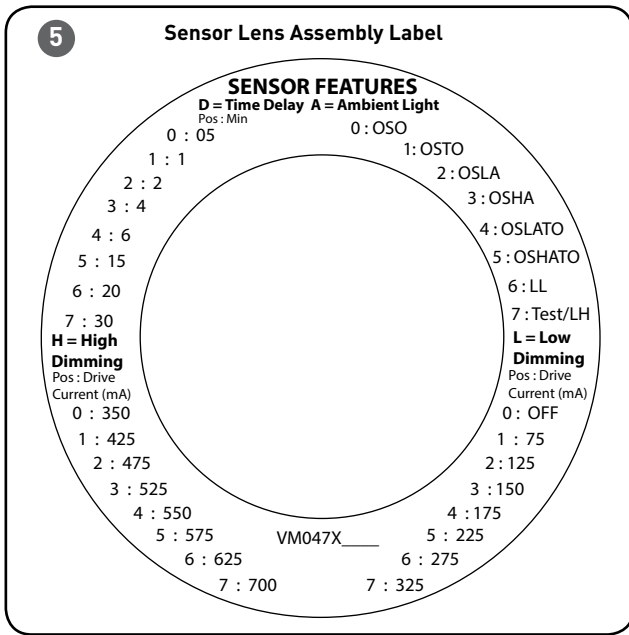
time delay duration, luminaire will be turned Off. During transitional periods from day to night when environment light levels fall below 80 Lux (7 FC), luminaire will switch from OFF to Low mode during no occupancy and switch to High mode after occupancy is detected. Sensor will switch the luminaire Off after 30 minutes of no occupancy detection (Low mode). The luminaire will move immediately back into high mode from off once motion is detected and ambient light is less than approximately 130 Lux (12 FC).

### Occupancy Sensing, High Ambient and Time Off (OSHATO):

Occupancy detection (PIR), Ambient Light sensing (ambient photocell) and Time Off enabled. During transitional periods from night to day once environment light levels exceed 600 Lux (55 FC) and no occupancy is detected for the time delay duration, luminaire will be turned Off. During transitional periods from day to night when environment light levels fall below 500 Lux (46 FC), luminaire will switch from OFF to Low mode during no occupancy and switch to High mode after occupancy is detected. Sensor will switch the luminaire Off after 30 minutes of no occupancy detection (Low mode). The luminaire will move immediately back into high mode from off once motion is detected and ambient light is less than approximately 600 Lux (55 FC).

**Lock Low Mode (LL):** Sensor locks in Low Dimming level indefinitely per dimming switch (L) setting. The occupancy detection (PIR) and Ambient Light (ambient photocell) operation are disabled during the Lock Low mode.

**Test/Lock High Mode (Test/LH):** The sensor turns the fixture on at the low level set by dimming switches. Sensor will cycle every 5 seconds between the specified Low and High dimming settings for 4 complete cycles (Low, High, Low, High) and then locks in High indefinitely. The occupancy detection (PIR) and Ambient Light (ambient photocell) operation are disabled during the Test/Lock High mode

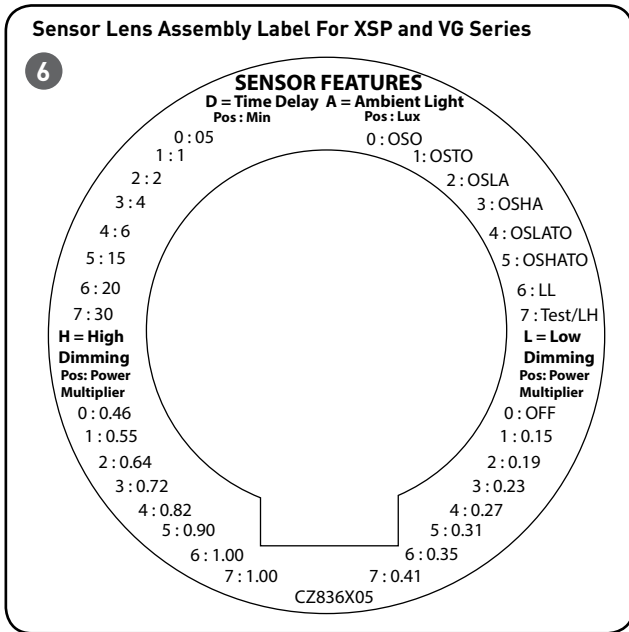


**SENSOR ADJUSTMENTS**

**NOTE:** Adjustments to these settings require the user to remove the sensor lens assembly to access the features listed on page 2; features are located under the lens assembly. Grasp the lens assembly and turn it counterclockwise a quarter turn. Do not remove the plastic nut; it holds the sensor in place and ensures water seal to the lighting fixture. Adjust the Ambient Level switch settings during daylight hours when ambient light is at desired level. See **Figure 5** for the full details of the sensor features and see **Figure 6** for XSP and VG Series.

**SENSOR LENS ASSEMBLY LABEL**

Shown for 700 mA maximum drive current. Other drive current labels not shown.



**Ambient Light Features (ML Options)**

Label	Ambient Setting Description	Position Setting	Occupancy Sensing (High/Low)	Low Ambient (OFF at ~ 10 fc)	High Ambient (OFF at ~ 50 fc)	Timed to Off	Test/Survey Mode
OSO	Occupancy Only (standard factory setting)	0	X				
OSTO	Occupancy & Timed to Off	1	X			X	
OSLA	Occupancy & Low Ambient (~10 fc)	2	X	X			
OSHA	Occupancy & High Ambient (~50 fc)	3	X		X		
OSLATO	Occupancy, Low Ambient (~10 fc) & Timed to Off	4	X	X		X	
OSHATO	Occupancy, High Ambient (~50 fc) & Timed to Off	5	X		X	X	
LL	Lock Low	6					X
Test/LH	Lock High	7					X

Multi-Level Option Output Multipliers				
LEDway				
Generation D / Series E				
Drive Current mA	Power Multiplier	Lumen Multiplier	L70 life (Hours) Hrs @ 25°C	50K hours Lumen Maintenance Level m@ 15° C
75	0.12	0.30	> 150K	102%
125	0.22	0.37	> 150K	101%
150	0.27	0.41	> 150K	101%
175	0.32	0.45	> 150K	100%
225	0.41	0.52	> 150K	99%
275	0.51	0.60	> 150K	98%
325	0.60	0.67	> 150K	97%
350	0.66	0.71	> 150K	96%
425	0.80	0.82	> 150K	95%
475	0.89	0.90	> 150K	94%
525	1.00	1.00	> 150K	93%
550	1.04	1.01	> 150K	93%
575	1.08	1.05	> 150K	92%
625	1.18	1.12	> 150K	91%
700	1.34	1.25	145K	89%

Multi-Level Option Output Multipliers				
304 SERIES				
Generation D / Series E				
Drive Current mA	Power Multiplier	Lumen Multiplier	L70 life (Hours) Hrs @ 25°C	50K hours Lumen Maintenance Level m@ 15° C
75	0.19	0.42	> 150K	102%
125	0.33	0.52	> 150K	101%
150	0.40	0.57	> 150K	101%
175	0.48	0.63	> 150K	100%
225	0.62	0.73	> 150K	99%
275	0.77	0.84	> 150K	98%
325	0.91	0.94	> 150K	97%
350	1.00	1.00	> 150K	96%
425	1.20	1.15	> 150K	95%
475	1.35	1.26	> 150K	94%
525	1.51	1.40	> 150K	93%
550	1.56	1.41	> 150K	93%
575	1.64	1.47	> 150K	92%
625	1.78	1.57	> 150K	91%
700	2.03	1.75	145K	89%

Multi-Level Option Output Multipliers				
THE EDGE				
Generation D / Series E				
Drive Current mA	Power Multiplier	Lumen Multiplier	L70 life (Hours) Hrs @ 25°C	50K hours Lumen Maintenance Level m@ 15° C
75	0.19	0.46	> 150K	103%
125	0.33	.56	> 150K	101%
150	0.40	0.61	> 150K	101%
175	0.48	0.66	> 150K	100%
225	0.62	0.76	> 150K	98%
275	0.77	0.86	> 150K	97%
325	0.91	0.96	> 150K	95%
350	1.00	1.00	> 150K	94%
425	1.20	1.16	> 150K	92%
475	1.35	1.26	> 150K	91%
525	1.51	1.40	140K	88%
550	1.56	1.41	110K	89%
575	1.64	1.46	100K	88%
625	1.78	1.56	95K	86%
700	2.03	1.71	90K	84%

Multi-Level Option Output Multipliers				
V6 SERIES				
Low Dim Setting	Power Multiplier	Lumen Multiplier	L70 life (Hours) Hrs @ 25°C	50K hours Lumen Maintenance Level m@ 15° C
0	OFF	OFF		
1	0.15	0.12		
2	0.19	0.17		
3	0.23	0.23		
4	0.27	0.27		
5	0.31	0.33		
6	0.35	0.39		
7	0.41	0.45		
High Dim Setting	Power Multiplier	Lumen Multiplier		
0	0.46	0.52		
1	0.55	0.60		
2	0.64	0.68		
3	0.72	0.76		
4	0.82	0.86		
5	0.90	0.91		
6	1.00	1.00		
7	1.00	1.00		

## POWER DATA

**Note: Multipliers are for estimating purposes only; check the actual Spec Sheet data when adjusting drive current.**

When the sensor settings are changed, it will impact both the power consumption and the fixture light output. In order to achieve the ideal settings for the intended application, consult the following data sheet and the appropriate product specification sheet.

Sensor Setting Options					
XSP SERIES					
HIGH SENSOR SETTING			LOW SENSOR SETTING		
FACTORY SETTING	HIGH SENSOR SETTING	POWER MULTIPLIER	FACTORY SETTING	LOW SENSOR SETTING	POWER MULTIPLIER
A	7 or 6	1.0		7	0.45
B	5	0.9		6	0.4
C	4	0.82		5	0.35
D	3	0.72	K	4	0.3
E	2	0.64		3	0.25
F	1	0.55		2	0.2
G	0	0.46	L	1	0.15
H	N/A	-		0	OFF
I	N/A	-			
L	7 or 6 or 5 or 4	1.0		7	0.55
M	3	0.88		6	0.49
N	2	0.78		5	0.43
O	1	0.67	K	4	0.37
P	0	0.56		3	0.3
				2	0.24
			L	1	0.18
				0	OFF

Multi-Level Option Output Multipliers				
CPY SERIES				
Drive Current mA	Power Multiplier	Lumen Multiplier	L70 life (Hours) Hrs @ 25°C	50K hours Lumen Maintenance Level mA @ 15° C
75				
125				
150				
175				
225				
275				
325				
350				
425				
475				
525				
550				
575				
625				
700				

## TESTING OCCUPANCY SENSOR – HIGH AND LOW DIMMING FEATURES

### STEP 1:

Turn fixture off.

### STEP 2:

Remove lens assembly. Grasp the lens assembly and turn it counterclockwise a quarter turn.

### STEP 3:

Turn Ambient Light switch to test mode, position 7.

### STEP 4:

Turn fixture on.

### STEP 5:

The fixture should turn on and cycle every 5 seconds between the high and low dimming settings for 4 complete cycles.

### STEP 6:

Return Ambient Light switch to desired position.

## TESTING SENSOR DETECTION OPERATION

### STEP 1:

Remove lens assembly. Grasp the lens assembly and turn it counterclockwise a quarter turn.

### STEP 2:

Turn Time Delay switch to position 0 (0.5 min).

### STEP 3:

Turn Ambient Light switch to position 0 (OSO).

### STEP 4:

Leave controlled area and let the fixture turn off or go to low mode.

### STEP 5:

Enter the controlled area, fixture should turn on or go to high mode.

### STEP 6:

Adjust sensor to desired settings and replace sensor lens assembly.

## TROUBLESHOOTING

### LIGHTS WILL NOT TURN ON OR GO TO HIGH DIMMING MODE

#### LED on sensor does not flash

- Check all wire connections and verify the ground wire is tightly secured.

#### LED on sensor does flash

- Check all wire connections and verify the ground wire is tightly secured.
- Check Ambient Light settings. Cover the sensor lens to simulate darkness in the room. If the lights come on, the Ambient Level needs to be adjusted. For instance, if Ambient Level switch is set in position 2 or 4, ambient light levels higher than this setting will keep lights off. See Testing and Adjusting Ambient Level section for instructions.

### LIGHTS WILL NOT TURN OFF OR STAY IN LOW MODE

#### STEP 1:

Remove lens. Grasp the lens and turn it counterclockwise a quarter turn.

#### STEP 2:

Check Time Delay switch settings and turn it to position 0 (0.5 min).

#### STEP 3:

Check Ambient Light setting and turn it to position 0 (OSO) and leave controlled area. The fixture should turn off or stay in low mode.

#### STEP 4:

If fixture does not turn off or stay in low mode, call 1-800-236-6800 for technical support.