

## IMPORTANT SAFEGUARDS

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

### READ AND FOLLOW ALL SAFETY INSTRUCTIONS

- DANGER**- Risk of shock- Disconnect power before installation.  
**DANGER – Risque de choc – Couper l'alimentation avant l'installation.**
- This luminaire must be installed in accordance with the NEC or your local electrical code. If you are not familiar with these codes and requirements, consult a qualified electrician.  
*Ce produit doit être installé conformément à NEC ou votre code électrique local. Si vous n'êtes pas familier avec ces codes et ces exigences, veuillez contacter un électricien qualifié.*

## SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE

### TO INSTALL:

| FACTORY SETTINGS   |                 |
|--------------------|-----------------|
| Configuration      | Value           |
| Time Delay         | 10 minutes      |
| PIR Sensitivity    | 75% of maximum  |
| Photocell Setpoint | OFF             |
| Mode               | DOFF T2 = 0     |
| Installed Lens     | White - Low-Bay |

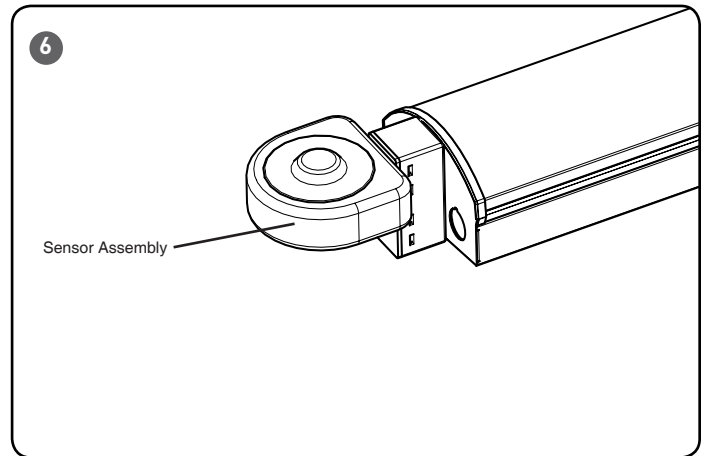
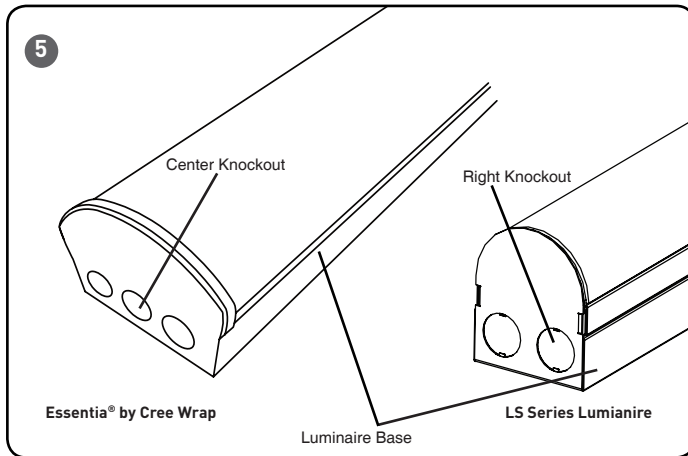
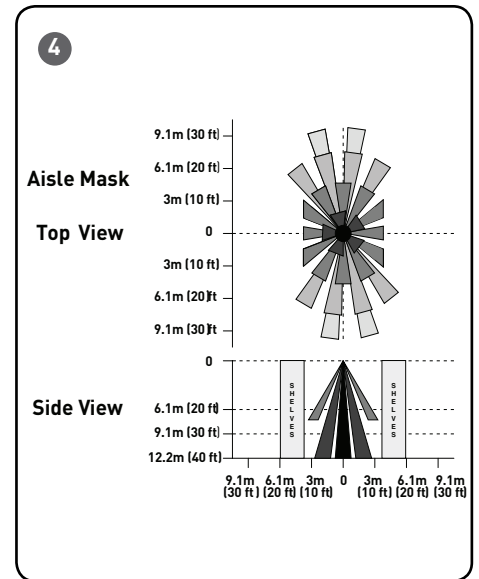
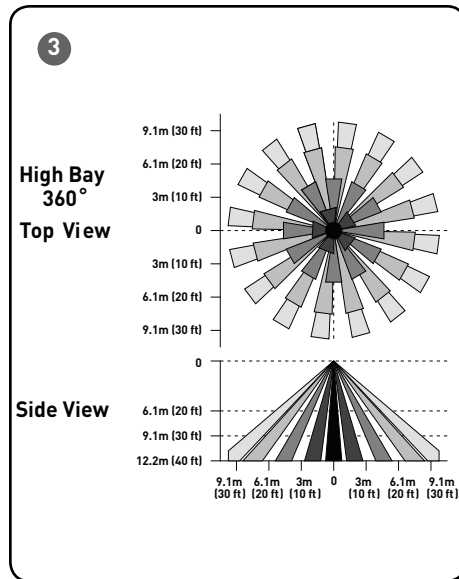
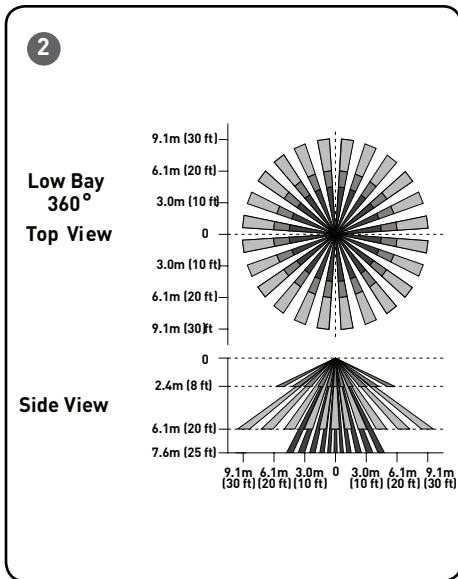
### SENSOR ELECTRICAL RATINGS

Sensor is intended to be installed 1 per fixture. In this case load ratings are under max operating limits. S

- Load Rating (one hot leg, same phase only):
  - 800 W tungsten load @ 120 VAC
  - 1200 W tungsten load @ 277 VAC
  - 120V, 8A Electronic Ballast
  - 277V, 5A Electronic Ballast
  - Motor Load: 1/4 HP
- Dimming Loads:
  - 1-10 VDC dimmable ballast or LED driver only
  - Sinks 20 mA maximum (~ 40 LED drivers/ballasts @ 0.5 per)
  - Minimum Load: .1mA

### FACTORY DEFAULT SENSOR OPERATION

- Sensor is shipped with the daylight dimming mode off. The sensor has PIR sensitivity set at 75% of maximum and time delay set at 10minutes. While in default factory settings and installed on a Wrap luminaire, the sensor will control the fixture to off unless an occupancy event occurs. In this case the luminaire will switch to full on until 10minutes after the occupancy event ends. See below Occupancy Operation to adjust the sensitivity, time delay, or enable photocell, daylight dimming, or alternative modes that use the min dim level of the sensor. See **Figure 1**.



## 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.
- The sensor is supplied with two interchangeable lens rings that allow the

user to select between a 360 degree high-bay or low-bay pattern. An aisle pattern can be added to either lens with the included aisle mask. The Sensor's high-bay lens is designed for 20 ft. to 40 ft. mounting heights for a symmetrical pattern which will provide coverage of 50' to 60' diameter (refer to **Figure 3 and 4**). The low-bay lens is designed for 8 ft. to 20 ft. mounting heights for a symmetrical pattern which will provide coverage of 30' to 50' diameter (refer to **Figure 2**). The sensor is shipped with the low bay lens installed and the high-bay lens in a hardware bag.

- Note that occupancy sensors respond to rapid changes in temperature, so care should be taken not to mount the device near a climate control source (i.e. radiators, air exchanges, and air conditioners). Hot or cold drafts will look like body motion to the device and will trigger it if the unit is mounted too close. Mount the Occupancy Sensor 6 ft. away from the heating or cooling ventilation source.

## INSTALLATION

**NOTE:** Ensure to remove dimming wires from the splice box inside the luminaire before installing the sensor. Dimming connections can be made once sensor is installed.

### STEP 1

For the Essentia® by Cree Wrap remove center knockout on end of luminaire base. For LS Series luminaires remove the right knockout as shown in See **Figure 5**.

**NOTE:** For LS series ensure that the knockout being used is not the dimming knockout.

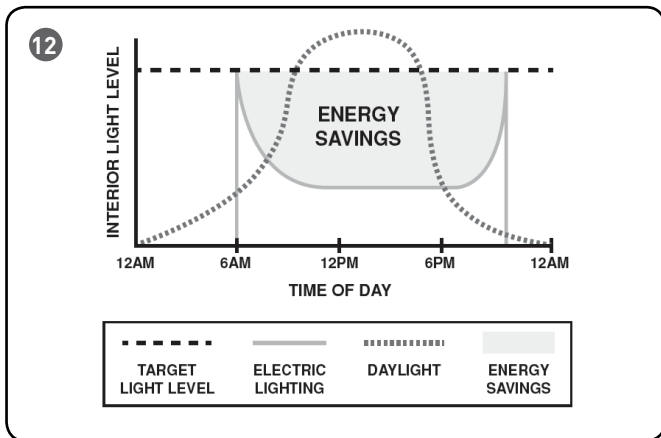
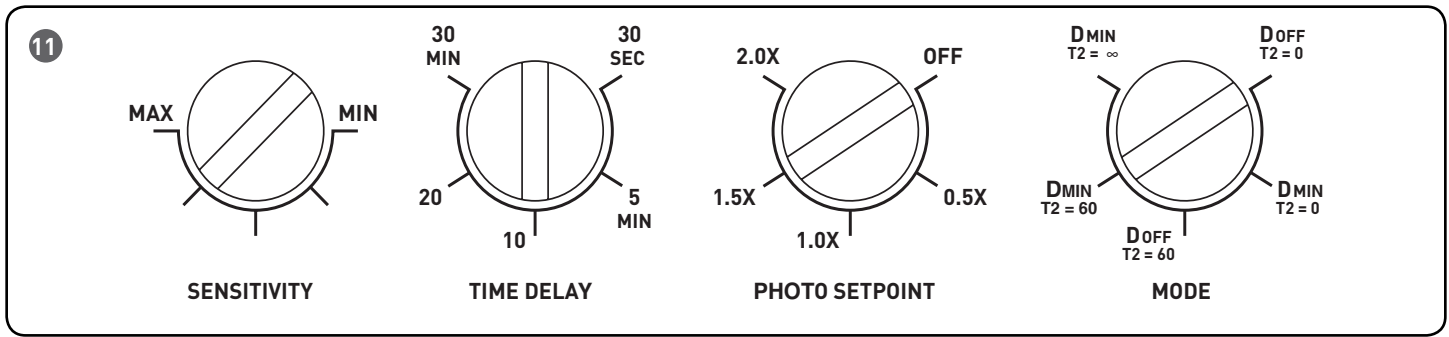
### STEP 2

Remove locknut on sensor assembly nipple. Insert sensor assembly nipple into knockout and tighten locknut on inside of base. See **Figure 6**.

### STEP 3

Complete wiring per **Electrical Connections** section.





## OCCUPANCY OPERATIONS

- Motion detection by the infrared sensor will turn the lights ON as well as keep them ON.
- Time Delay OFF time (T1): The sensor is designed to dim or turn the lights OFF if no motion is detected after a specified time. This length of time is called the Time Delay OFF time and is set using the TIME DELAY knob.
- Partial OFF Time (T2): When motion is not detected and T1 time has expired, the sensor can be configured to maintain light at minimum dim level for a period of time known as Partial OFF Time (T2). When T2 expires, lights will turn OFF.

## PHOTOCELL OPERATION

- During occupancy the photocell controls a 1-10 VDC dimmable ballast or LED Driver to achieve maximum Energy savings while maintaining a minimum light level referred to as the Desired Daylight Level (DDL). The DDL is shown in the Daylight Dimming Graph (Figure 12) as the target light level. It is recommended to start the Photo Setpoint at 1.0X and then adjust higher if more light is desired, or lower if less light is desired. When no daylight is available, the photocell allows the load to operate at its full bright level. As daylight increases in the room, the photocell dims the load. When the minimum dim level is reached (and one of the Dim to Off modes is selected), the device will switch off the lights when the light level is above the DDL for 30 seconds. The lights will remain off until the light level drops below the DDL for 30 seconds. The lights will then be turned on, with the light source set at its minimum dim level. The photocell will increase the light output until the DDL is reached. As the light levels change, the photocell will reduce or increase the dim level in order to maintain the DDL. The light levels changes occurs at 5 minutes fade rate dial to make the light level transitions unnoticeable to room.
- The photocell holds the lights OFF when sufficient ambient light is present if motion is detected in vacancy state.

## MODES OF OPERATION

Selectable using the MODE knob.

- **MODE 1 - Doff, T2 = 0:**
  - Daylighting Dim to OFF - Partial OFF Disabled (T2 = 0)
  - During daylighting, lights will Dim to OFF. On vacancy, lights will turn OFF after T1 expires.
- **MODE 2 - Dmin, T2 = 0:**
  - Daylighting Dim to Min - Partial OFF Disabled (T2 = 0)
  - During daylighting, lights will dim to Min. Upon vacancy, lights will turn OFF after T1 expires.
- **MODE 3 - Doff, T2 = 60:**
  - Daylighting Dim to OFF - Partial OFF Enabled (T2 = 60 min)
  - During daylighting, lights will dim to OFF. Upon vacancy, lights will dim to min after T1 expires.
  - Lights will turn OFF after 60 minutes.
- **MODE 4 - Dmin, T2 = 60:**
  - Daylighting Dim to Min - Partial OFF Enabled, (T2 = 60 min)
  - During daylighting, lights will dim to min. Upon vacancy, lights will dim to min after T1 expires.
  - Lights will turn OFF after 60 minutes.
- **MODE 5 - Dmin, T2 = infinity:**
  - Daylighting Dim to Min - Partial OFF Enabled (T2 = infinity sign)
  - During daylighting, lights will dim to min. Upon vacancy, lights will dim to min after T1 expires.
  - In this mode, lights will not turn OFF.

## TROUBLESHOOTING

### LIGHTS DO NOT TURN ON

- Circuit breaker or fuse has tripped. Turn the breaker ON. Ensure the lights being controlled are in working order (i.e., working bulbs, ballasts, etc.)
- Photocell is in override mode (light not needed). see LED Indicators Table.
- Lens is dirty or obstructed: Inspect the lens visually and clean if necessary, or remove the obstruction.
- Sensor is wired incorrectly or may be defective: Confirm that the sensor's wiring is done correctly and inspect visually for problems

### LIGHTS STAY ON

- The line voltage has dropped: Perform the necessary tests to ensure the line voltage has not dropped 10% beneath the specified voltage.
- Sensor may be mounted too closely to an air conditioning or heating vent: Move the sensor or close the vent.
- Sensor is wired incorrectly or may be defective: Confirm that the sensor's wiring is done correctly and inspect visually for problems.

### IF THE LIGHTS STAY ON WHEN ENOUGH LIGHT IS PRESENT CHECK THE FOLLOWING:

- Wiring and settings.
- Poor sensor location (Ensure proper installation and re-calibrate).
- Photocell is in failed calibration mode (Blue LED is solid ON).
- Photocell is not calibrated.
- DDL multiplier is set too high. Adjust DDL knob to a lower setpoint.

### LED ILLUMINATES SOLID RED FOR LONGER THAN 5 MINUTES

- Device malfunction, Contact Technical Assistance

## ELECTRICAL CONNECTIONS

### 120-277V - Wiring Diagram

