**IMPORTANT SAFETY INFORMATION**

Read all instructions before installation

**CAUTION - Risk of Electric Shock.**

**ATTENTION - RISQUE DE CHOC**

**READ AND FOLLOW ALL SAFETY INSTRUCTIONS**

1. **DANGER - Risk of shock - Disconnect power before installation.**

2. 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.

3. Do not install insulation within 3” (76mm) of any part of the luminaire.

4. Access above ceiling required.

5. Do not handle energized module with wet hands or when standing on wet or damp surfaces, or in water.

6. Suitable for suspended ceilings.

7. Maximum mounting height of 10 feet.

8. Do not use this equipment for other than its intended use.

9. Do not use outdoors.

**SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE**

**TO INSTALL**

**STEP 1:**
Unpack the CR troffer from its shipping container. See Figure 1.

**STEP 2:**
Install the (4) T-Bar clips included with the luminaire (located in pre-pack fastened to luminaire J-Box).

**STEP 3:**
Place the CR troffer into the T-Bar Ceiling panel. Ensure T-Bar clips are attached to the T-Bar. See Figure 2.

**STEP 4:**
Remove junction box lid by removing screws to access wiring connections. Remove all packaging from the battery compartment prior to installation. Remove appropriate knockout from junction box to route input conduit. See Figure 3.

**STEP 5:**
Connect input conduit to junctions box. See Figure 4. Make wiring connections per the Electrical Connection Section on the next page.

**STEP 6:**
Remove the ‘Notice’ label covering the socket located in the battery compartment and insert plug from the battery pack into the socket. Push all wires back into the junctions box and reinstall junction box lid.

**INSTALLATION INSTRUCTIONS**

**INSTRUCTIONS D’INSTALLATION**

- The CR Series is for non-insulated ceiling applications using T-Bar ceiling grid only.
- Designed for use in 120-277V 50/60 Hz protected circuits (fuse box, circuit breaker). Supply wire sized in accordance with national and local electrical wiring codes rated 90C or higher.
ELECTRICAL CONNECTIONS -

NOTE: The emergency driver must be fed from the same branch as the AC Driver.

STEP 1:
Using customer supplied 90°C minimum rated wire connectors, make the following electrical connections:

LUTRON ECOSYSTEM® DIMMING:
  a. Connect the black lead to Switched Hot.
  b. Connect the red lead to Un-switched Hot
  c. Connect white lead to the Neutral.
  d. Connect green lead to the Ground.
  e. Connect the violet lead to the Lutron EcoSystem® Dimming Control.
  f. Connect the violet/white lead to the Lutron EcoSystem® Dimming Control.

STEP DIMMING:
  a. Connect the black lead to Switched Hot #1 (S1).
  b. Connect the black lead to Switched Hot #2 (S2).
  c. Connect the red lead to Un-switched Hot
  d. Connect white lead to the Neutral.
  e. Connect green lead to the Ground.

0-10V DIMMING:
  a. Connect the black lead to Switched Hot.
  b. Connect the red lead to Un-switched Hot
  c. Connect white lead to the Neutral.
  d. Connect green lead to the Ground.
  e. Connect violet lead to the supply Positive dimming.
  f. Connect grey lead to the supply Negative dimming.

USER MANUAL:

INITIATING A BATTERY TEST
Depending on configuration, the EB14 may only enable battery testing when the battery is fully charged. If the Indicator-LED is showing a “green on solid”, then the battery is fully charged. The user may initiate a battery test by either: 1) Pressing and releasing the push-button switch, or 2) Shining a bright light on the test button optical sensor. Note: The optical sensor is co-located with the push-button switch and the Indicator-LED’s.

When the user presses and holds the push-button switch for less than 5 seconds, the EB14 initiates a “monthly” test of 30 seconds duration. When the user presses and holds the push-button switch for more than 5 seconds, the EB14 initiates a “yearly” test of 90 minutes duration. Similarly the user may shine a bright light onto the EB14’s optical sensor to initiate the equivalent tests. For a monthly test, the user shines the light for a minimum of 5 seconds. To provide feedback to the user, the EB14 momentarily flashes the Green Indicator-LED to signal initial activation (and subsequent 5-second activation) of the Button or Optical Sensor.

OBSERVING THE BATTERY TEST
To verify the proper performance of the EB14, the user observes the light and LED indicators during the battery test. After initiating the battery test, the user should observe that the light: 1) Transitions rapidly from full brightness to nearly off 2) Increases illumination gradually (over a few seconds) until it reaches the initial emergency lighting level. The initial lighting level is product-dependent, but is typically 1400 lumens. It is not necessary for the user to observe the entire test (especially the annual test) for the entire time period; however, it is necessary for the user to observe at least part of the testing – see “Observations of Light Output during Battery Test”, below. Once the test is initiated, the EB14 performs the test automatically until it either successfully completes the test or it detects an error condition.

If the EB14 successfully completes the battery test, it simply returns to normal operation. However if the EB14 uncovers a fault condition, it reports the error via its Indicator-LED’s. The indicator-LED table shows the possible fault indicator sequences. The EB14 continues to display the fault indicator sequence (via the indicator-LED’s) until the user clears the fault display.
<table>
<thead>
<tr>
<th>EB14 State</th>
<th>LED State</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC present, Battery fully charged (includes trickle charge)</td>
<td>GREEN ON; RED OFF</td>
</tr>
<tr>
<td>AC present, Battery charge in progress</td>
<td>GREEN FAST BLINK; RED OFF</td>
</tr>
<tr>
<td>AC present, Test in progress</td>
<td>Alternate blinking RED/ GREEN</td>
</tr>
<tr>
<td>AC present, Test complete:</td>
<td>Battery Test Passed = back to battery charge in progress state (GREEN FAST BLINK, RED OFF) Battery Test Failure = GREEN OFF, RED FAST BLINK</td>
</tr>
<tr>
<td>AC not present, running on battery</td>
<td>GREEN OFF; RED SLOW BLINK</td>
</tr>
<tr>
<td>Critical Error Battery Low</td>
<td>GREEN OFF; RED Double BLINK</td>
</tr>
<tr>
<td>Critical Error (Other)</td>
<td>GREEN OFF; RED Triple BLINK</td>
</tr>
<tr>
<td>Pushbutton or Optical Sensor Stuck Low</td>
<td>GREEN Double BLINK; RED OFF</td>
</tr>
<tr>
<td>Minor Error (Other)</td>
<td>GREEN Triple BLINK; RED OFF</td>
</tr>
</tbody>
</table>

**OBSERVATION OF LIGHT OUTPUT DURING BATTERY TEST**

Maintenance staff must observe the light output during Battery Test operation, to determine if any fault symptoms are exhibited. Examples of fault conditions include:

1. Light level is incorrect (too bright or too dim) relative to desired output.
2. Lighting level increases or decreases dramatically and/or rapidly over time.
3. Light color is “off” – inconsistent with “normal” color for that light.

Maintenance staff is responsible for reporting these types of errors, and replacing the faulty equipment as necessary, since these types of faults may impact building-occupant safety during an actual emergency condition.

**CANCELLING A BATTERY TEST IN PROGRESS**

After initiating a battery test, the user may cancel the test in process. Once the test is underway, and after a 5-second lock-out interval, the user may cancel the test by either pressing and releasing the push-button, or shining a bright light on the optical sensor for between 1 and 5 seconds.

**CLEARING THE BATTERY TEST RESULTS (IF FAILED)**

To clear the display of a failed-battery-test, the user presses and releases the push-button, or shines a bright light on the optical sensor for between 1 and 5 seconds.

**LED INDICATORS**

For normal powered operation – i.e., when both “switched” and “un-switched” AC power sources are applied, the LED Indicators show that the system is charging or charged, and the output will be either: 1) Green Fast Blink (charging), or 2) Green On Solid (charged). During a battery test operation, the LED-Indicators will alternate between Red On and Green On, for the length of the test. At the conclusion of a successful battery test, the LED-Indicators will return to that of ‘normal’ operation – i.e., they’ll indicate that the system is charging or charged. Subsequent a failed battery test, the LED-indicator output will be Red Fast Blink. The EB14 maintains this output pattern until the user cancels the fault display. Note: Fault indications require immediate attention to assure that the EB14 system is ready when needed.

**HANDLING FAULT CONDITIONS**

The table below lists the fault conditions that the LED-Indicators may display, and what steps the user must take to assure that the EB14 is ready when needed.

**PRODUCT SERVICING**

For fault conditions described in this User Manual that persist and do not auto-clear, the user should contact a Cree Authorized representative for information regarding product services and/or returns.

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<table>
<thead>
<tr>
<th>LED Indicator Pattern</th>
<th>User Action Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>GREEN ON; RED OFF</td>
<td>None</td>
</tr>
<tr>
<td>GREEN FAST BLINK; RED OFF</td>
<td>Monitor for 24 hours while un-switched AC powered to verify that system achieves fully charged state (solid Green indicator). If system doesn’t achieve full-charge in 24 hour period (during which no battery discharge condition occurred, and during which the un-switched AC power was continuously applied) then proceed to Product Servicing.</td>
</tr>
<tr>
<td>Alternate blinking RED/ GREEN</td>
<td>Confirm that a battery test had been initiated; confirm that the battery test concludes in 30 seconds (for monthly test) or 90 minutes (for annual test.)</td>
</tr>
<tr>
<td>GREEN OFF; RED FAST BLINK</td>
<td>Confirm that a battery test had been performed, and this is the failure indication. Proceed to Product Servicing.</td>
</tr>
<tr>
<td>GREEN OFF; RED SLOW BLINK</td>
<td>Confirm that the unit is running on battery – i.e., that the un-switched AC power is off. If un-switched AC power is present, proceed to Product Servicing.</td>
</tr>
<tr>
<td>RED Double BLINK</td>
<td>This display sequence generally indicates a problem with the EB14 battery. If the condition persists, proceed to Product Servicing.</td>
</tr>
<tr>
<td>RED Triple BLINK</td>
<td>This display sequence generally indicates an unspecified problem with the ELM that may prevent it from performing its emergency lighting function. If the condition persists, proceed to Product Servicing.</td>
</tr>
<tr>
<td>GREEN Double BLINK; RED OFF</td>
<td>Pushbutton or Optical Sensor Stuck Low</td>
</tr>
<tr>
<td>GREEN Triple BLINK; RED OFF</td>
<td>Minor Error (Other)</td>
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