

# Lumination® LED Luminaire



## LED Linear Recessed Luminaire (LALR Series)



### BEFORE YOU BEGIN

Read these instructions completely and carefully.



### WARNING/AVERTISSEMENT

#### RISK OF ELECTRIC SHOCK

- Turn power off before inspection, installation or removal.
- Properly ground electrical enclosure.

#### RISK OF FIRE

- Follow all NEC and local codes.
- Use only UL approved wire for input/output connections. Minimum size 18 AWG.
- Type IC, inherently protected.

#### RISQUES DE DÉCHARGES ÉLECTRIQUES

- Coupez l'alimentation avant d'inspecter, installer ou déplacer le luminaire.
- Assurez-vous de correctement mettre à la terre le boîtier d'alimentation électrique.

#### RISQUES D'INCENDIE

- Respectez tous les codes NEC et codes locaux.
- N'utilisez que des fils approuvés par UL pour les entrées/sorties de connexion. Taille minimum 18 AWG.
- Type IC, protection inhérente.

## Save These Instructions

Use only in the manner intended by the manufacturer. If you have any questions, contact the manufacturer.

## Important

- 120V 60Hz - maximum 50 feet of luminaires can be connected on a single through wiring run
- 277V/347V 60Hz - maximum 100 feet of luminaires can be connected on a single through wiring run
- Please see technical data sheet for electrical properties to ensure safe installation
- Under any circumstance, maximum current through connected fixtures shall not exceed 4.5A

## Tools and Components Required

- Hex headed screwdriver
- Rigid (RMC) or flexible (FMC) metal conduit for supply connection
- UL/cUL approved twist-on-wire connectors, min. 18 AWG
- UL/cUL approved conduit fittings for 1/2" conduit trade size (2 pieces)

## Prepare Electrical Wiring



### Electrical Requirements

The LED luminaire must be connected to the mains supply according to its ratings on the product label.



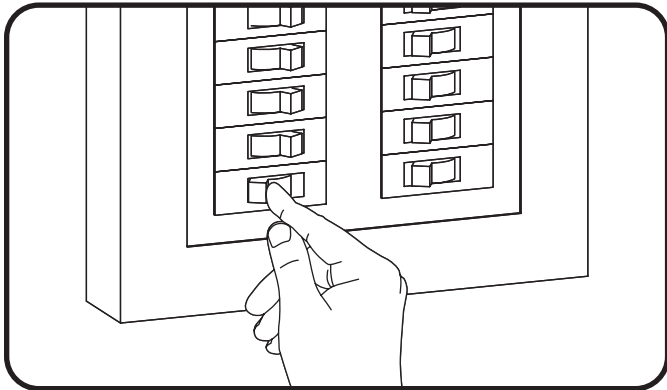
### Grounding Instructions

The grounding and bonding of the overall system shall be done in accordance with National Electric Code (NEC) Article 600 and local codes.

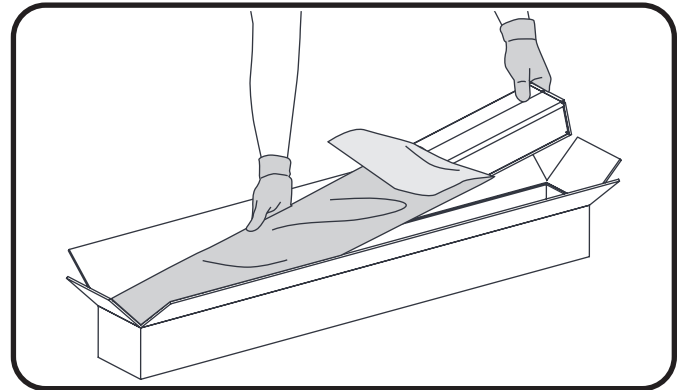
## Provided in the Package

- Luminaire
- 8-18 x 2" screws for bracket to bracket fixing
- Knockout plate for 1/2" trade size conduit knockouts
- Mounting brackets, T-Grid or drywall (4 pieces)
- 8-18 x 1/4" screws for mounting bracket installation (8 pieces)
- Ceiling grid screw for grid and bracket fixing (4 pieces)
- 8-18 x 3/8" screws for bracket to bracket fixing (2 pieces)
- Primary diffuser

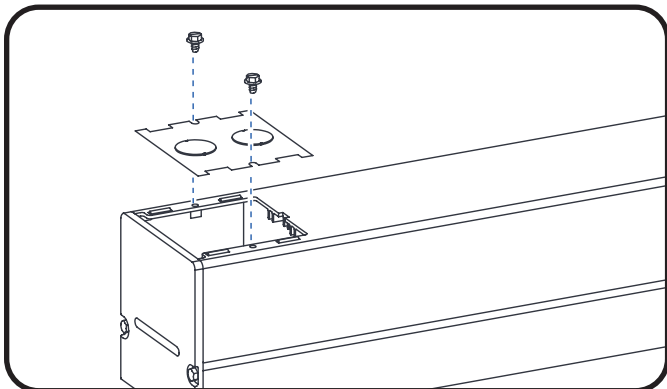
Electrical Connections



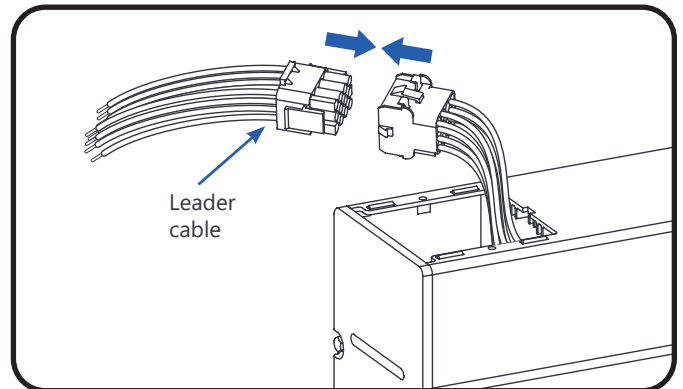
1 TURN OFF POWER at the source to the fixture.



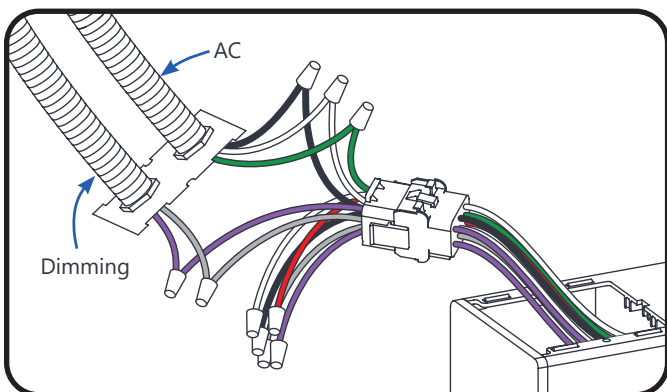
2 Carefully unpack unit from its packaging. Properly inspect for defects before installing. Wear work gloves to prevent dirt and oil from being transferred to the luminaire.



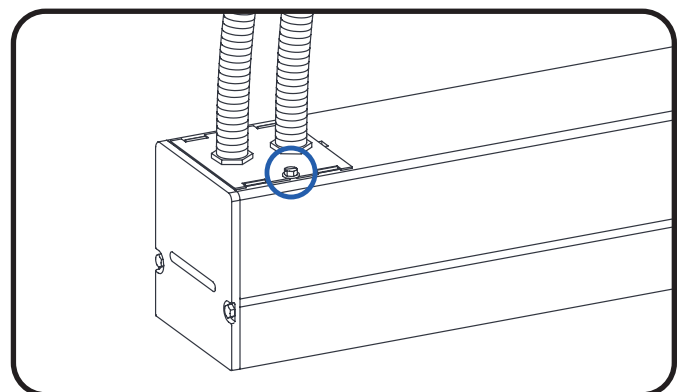
3 Remove screws and knockout plate from fixture. Remove holes from knockout plate to make AC and dimming connections.



4 Connect leader cable to the AC line by clipping harness connectors together. Repeat for dimming leader cable.



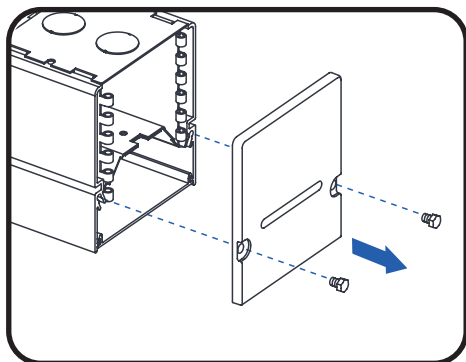
5 Connect to the AC line from fixture with twist-on wire connectors to conduit line. Repeat for dimming line. Cap unused wires. See *Wiring Section* for details.



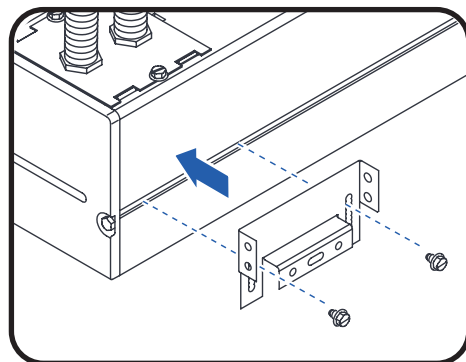
6 Reattach knockout plate with conduit attached to fixture with screws.

### T-Grid Luminaire Installation

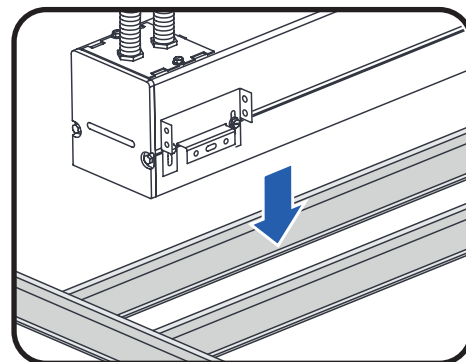
- T-Grid should be 3" on center for LALR2
- T-Grid should be 4" on center for LALR4
- Starter: Fixtures with pre-installed endcaps (TS)
- Continuous: Fixtures without installed endcaps or knockout plates (TC)



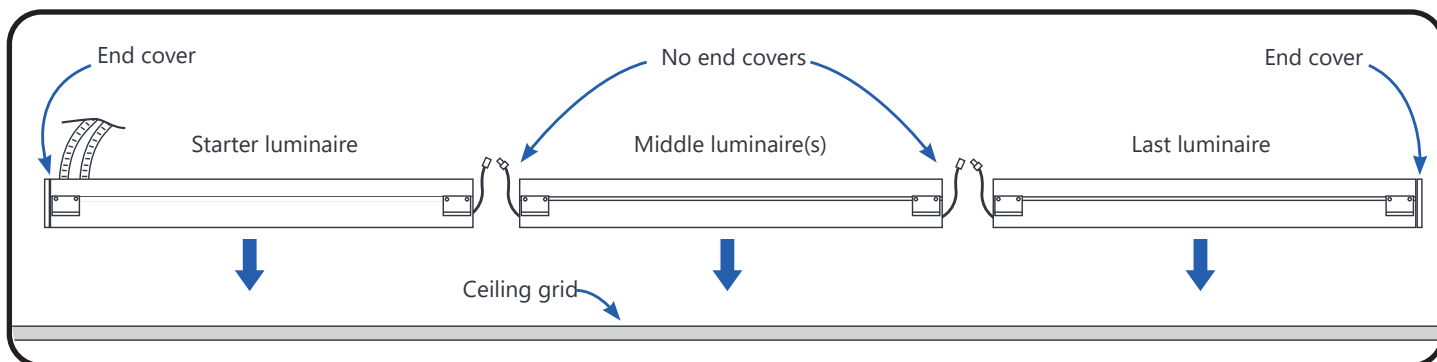
**1** For continuous rows of fixtures: Remove endcap from starter luminaire and save to complete installation.



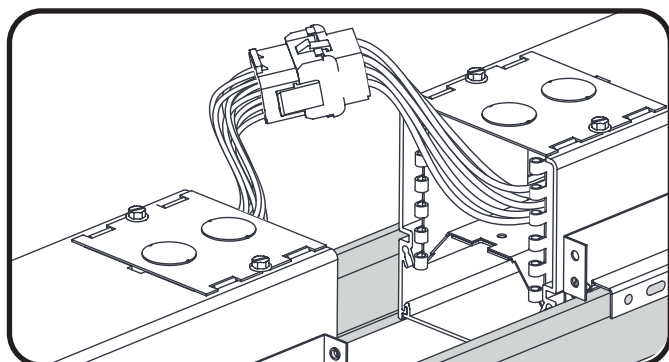
**2** Check bracket height and install the screws in the same hole location. Insert four mounting brackets (two per side) into grooves on both sides of luminaire. Position bracket within 1/8-inch from ends.



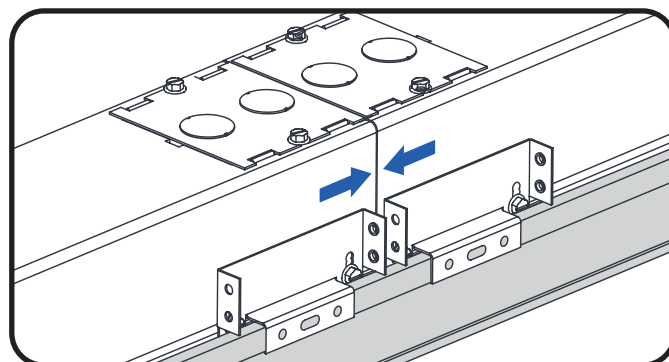
**3** Place starter luminaire into grid system.



**4** Continue installing luminaires into the grid after the starter luminaire.

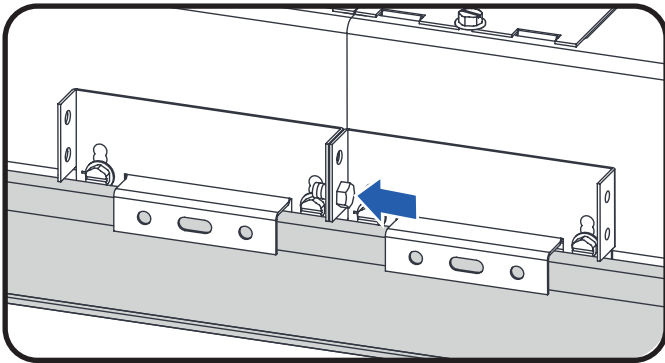


**5** Plug together wires between luminaires.

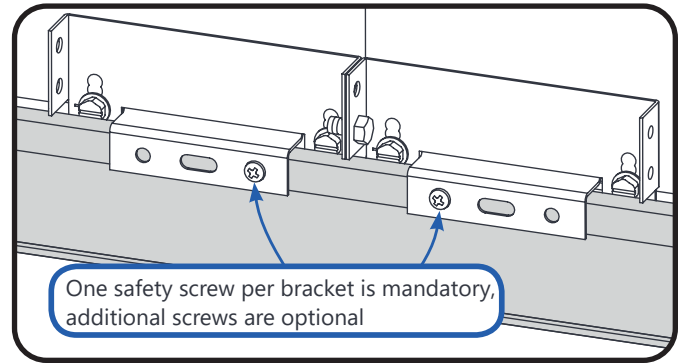


**6** Carefully align one luminaire with grooves of next luminaire, then push them completely together, taking care not to pinch wires.

**NOTE:** A rubber mallet may be required to complete this step. Hammer the luminaires only on the top edge, not the bottom.



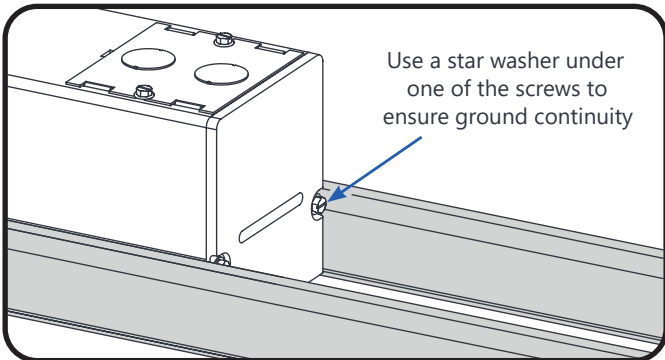
7 Join mounting brackets together with screw. Make sure that there is no visible gap between fixtures. Slightly reposition brackets and join them again to have proper fit. Use screw to pull brackets together.



One safety screw per bracket is mandatory, additional screws are optional

8 For added safety, use additional ceiling grid screws to permanently fix brackets to grid.

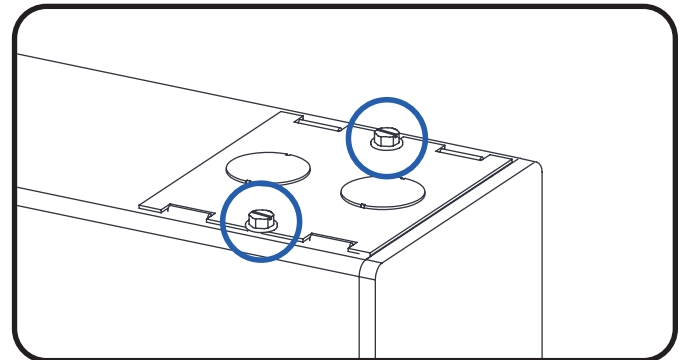
**⚠ WARNING**  
 Risk of Injury. Improper mounting bracket installation may cause injury or property damage.



Use a star washer under one of the screws to ensure ground continuity

9 Fasten one end cover on the first and last luminaires only with four 8-18 3/8 screws. Always use a star washer under one of the top screws to ensure ground continuity. Use retained end covers, star washers and screws.

**NOTE:** The luminaires between the first and last luminaire do not require end covers.

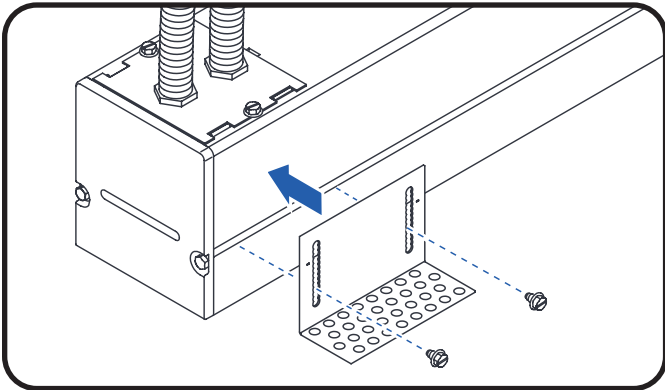


10 Secure knockout plates to fixture with supplied hardware.

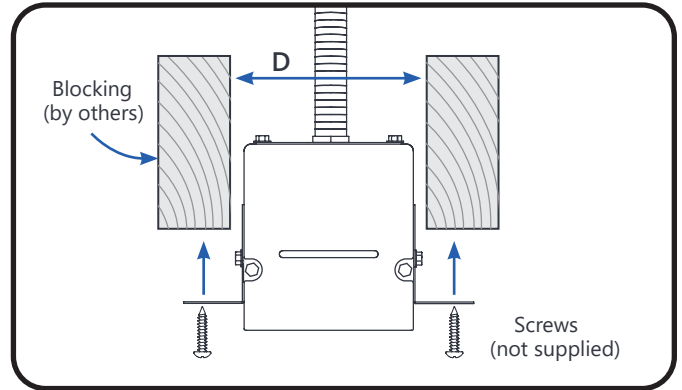
**Note for City of Chicago:** Luminaires are designed to meet City of Chicago Environmental Air (CCEA) requirements. During installation, in any case where the opening between the fixtures exceeds the 0.05" CCEA requirement, a sealant tape can be applied over the opening. Tape has to meet the requirements of UL181A-P and UL181B-FX standards and meet requirements for UL-723.

Electrical Connections

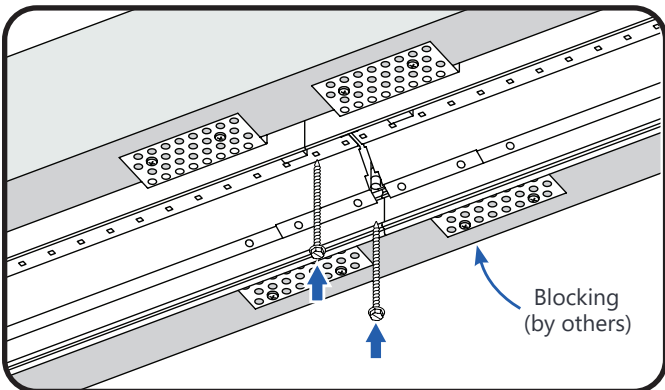
- 1 Review T-Grid installation for power connections and continuous run instructions.



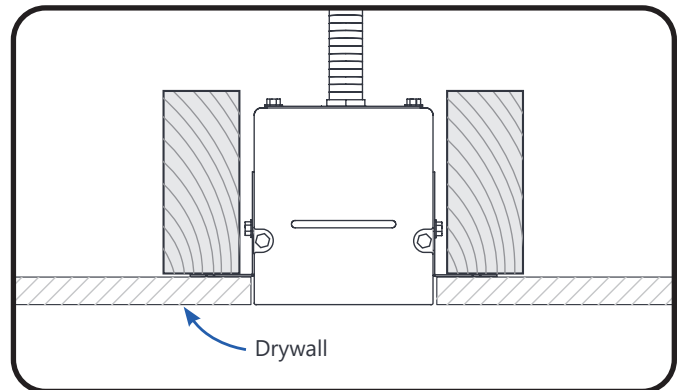
- 2 Attach drywall bracket to luminaire (4 per fixture) with provided screws. Bracket installation height is flexible to accommodate various drywall thicknesses and fixture installation depths.



- 3 Screw luminaire to existing blocking.  
D = 3" min. for LALR2 or 4" min. for LALR4.



- 4 Use 2" screws and internal connection brackets to secure adjacent luminaires (diffuser removed).



- 5 Install drywall over brackets.  
**NOTE:** Corner bead to finish drywall not supplied.

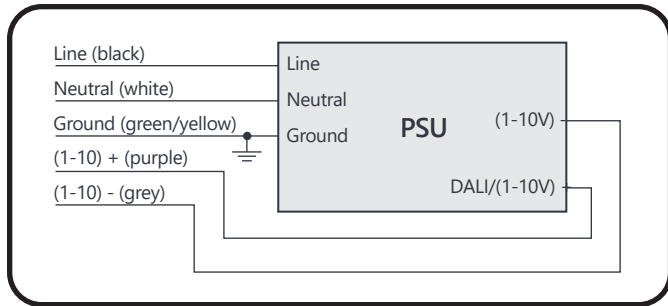
## Wiring Diagrams

### Optional Installation: 1-10 Volt Dimming or DALI Lighting Controller

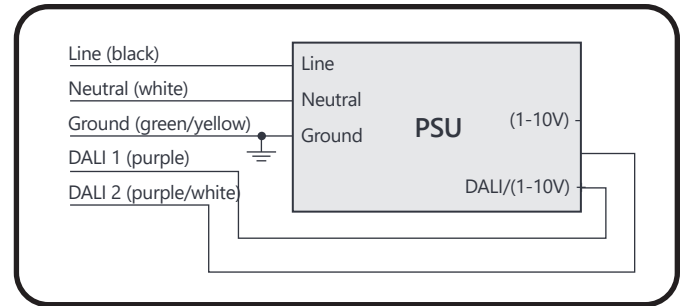
Follow diagram A for 1-10V, diagram B for DALI or diagram C for 347VAC.

At output side of LED driver, make appropriate connections using twist-on wire connectors.

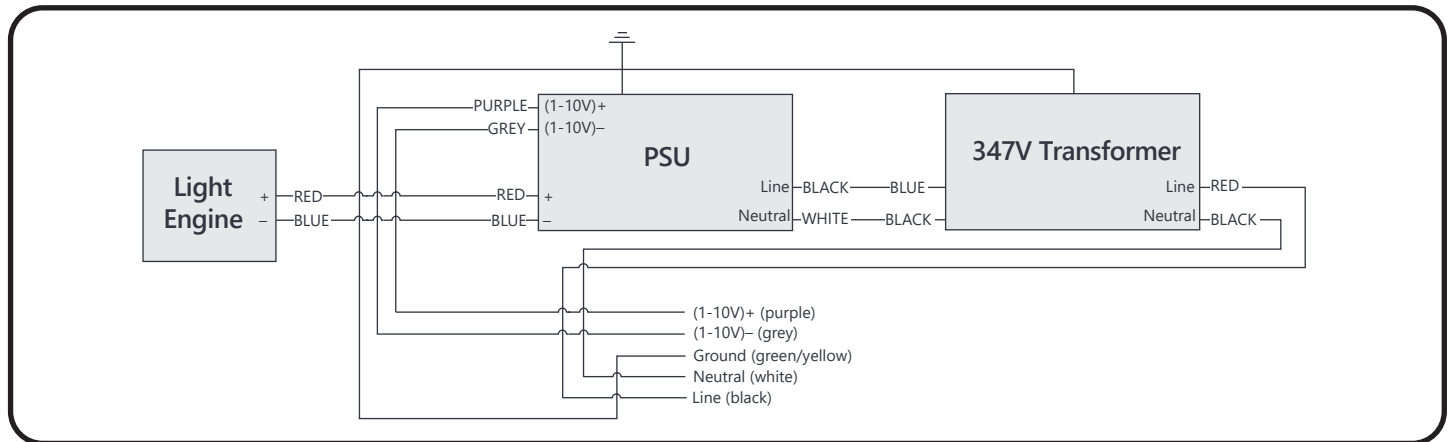
Follow lighting controller installation instructions.



**A** 1-10V Standard wiring diagram

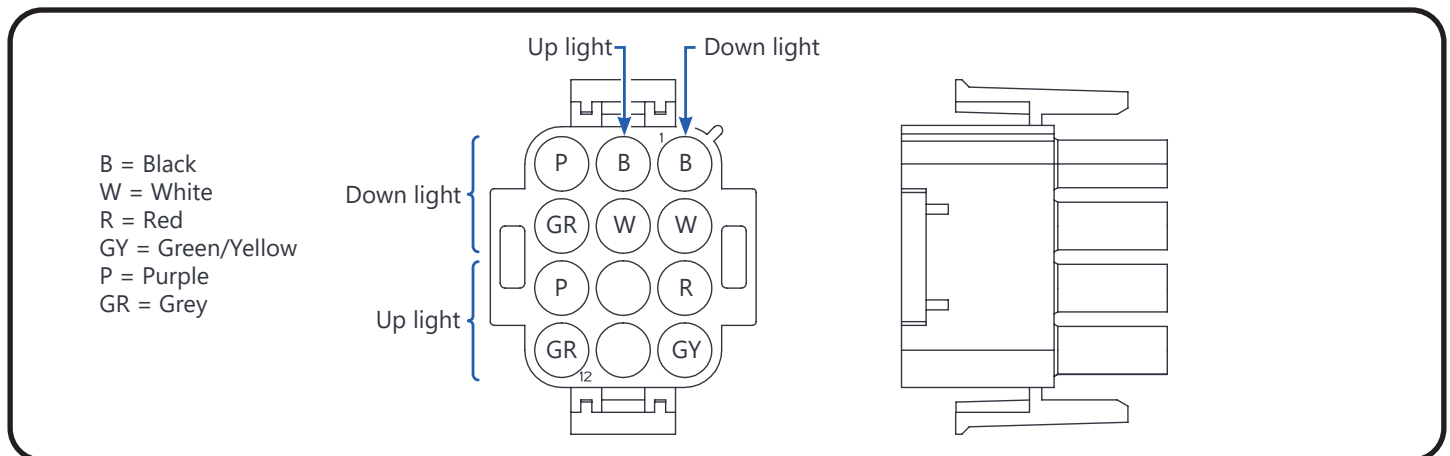


**B** DALI Standard wiring diagram

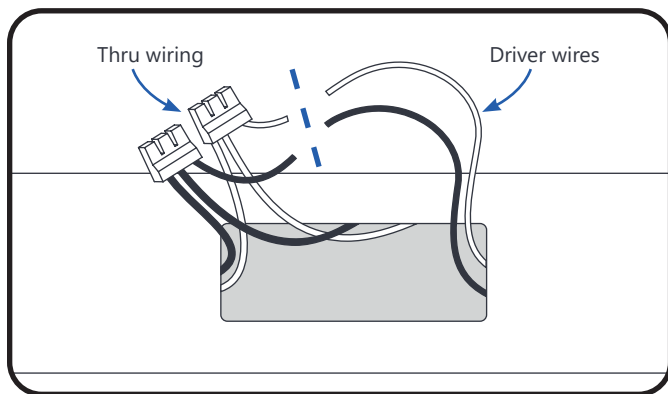
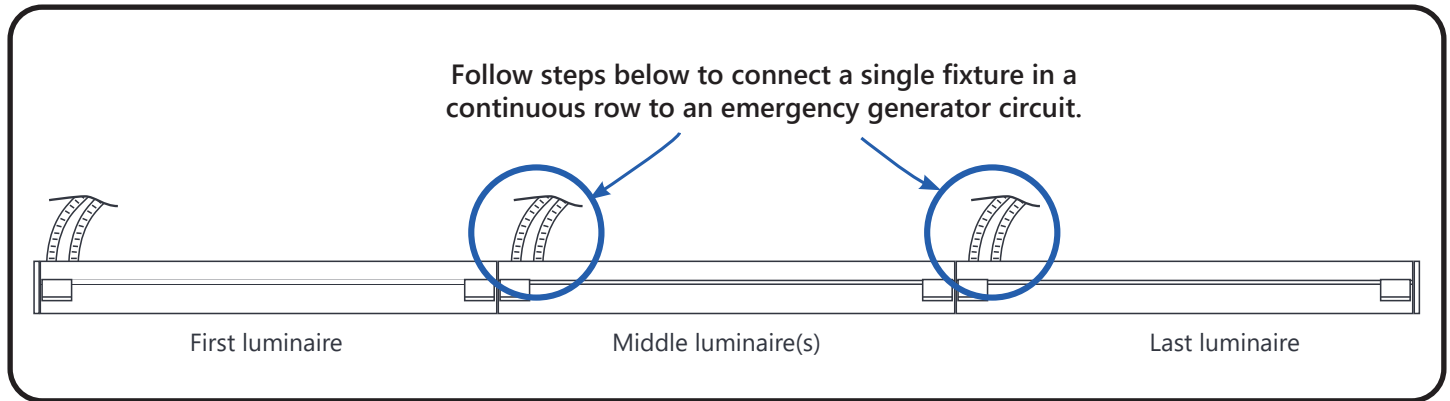


**C** 1-10V 347V wiring diagram

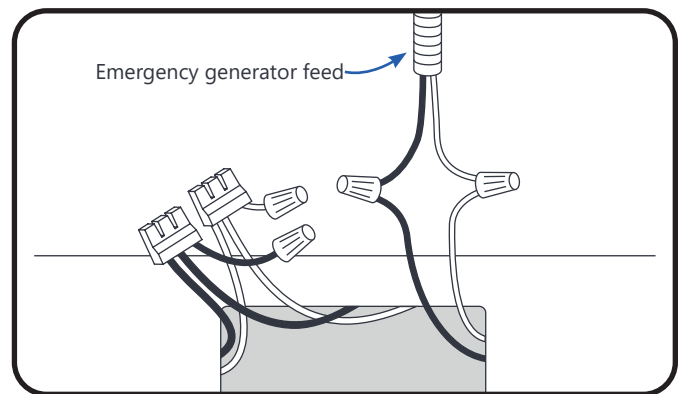
## Wiring Harness



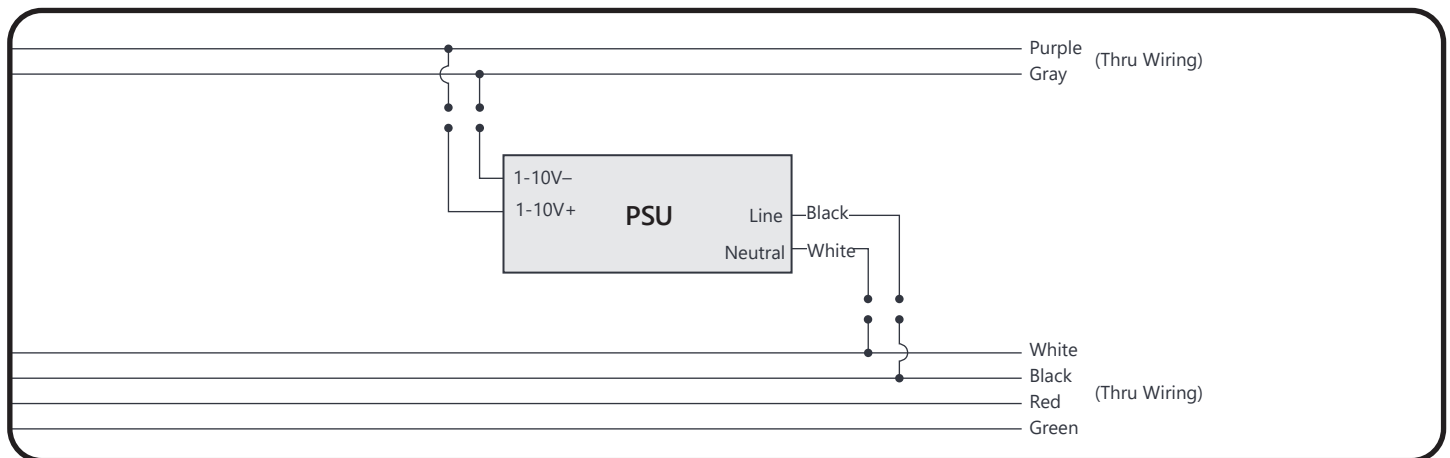
### Connecting a Single Fixture in a Continuous Row to an Emergency Generator Circuit



**1** Ensure power to luminaire is disconnected. Cut the 2 18AWG black and white wires from the driver.



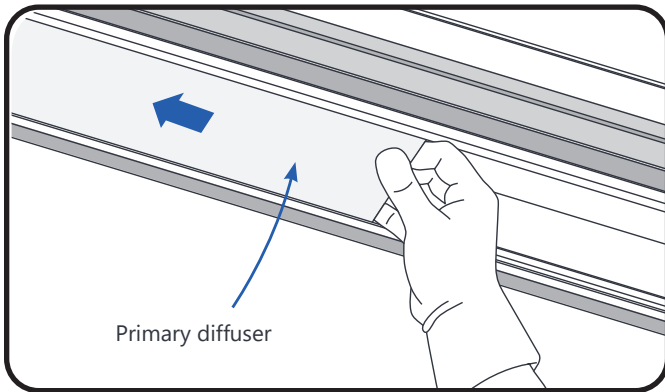
**2** Connect the emergency generator feed to the driver (black to black and white to white). Cap any unused wires. Ensure ground connection.



**NOTES:**

1. Follow all applicable codes and requirements.
2. For rows with multiple feed locations, ensure that luminaire sections connected to separate power sources are not connected to the internal wiring.
3. For rows with external 0-10V dimming connections, separate dimming for separately powered luminaire segments if required by code to ensure proper operation in every intended mode of operation.
4. For rows requiring multiple feed locations that have internal controls, contact manufacturer.

### Diffuser Installation



**Option - one diffuser (primary):** If diffusers were removed prior to installation then re-install diffusers into base of luminaires. Line up diffuser with fixture and snap in lens.

### Troubleshooting

Symptom	Solution
Luminaire does not light	<ul style="list-style-type: none"> <li>• Check input voltage and check power supply input/output connections.</li> <li>• Check circuit breaker.</li> </ul>
Luminaire is dim	<ul style="list-style-type: none"> <li>• Dimming wire connection shall be checked and if connection is not proper, reconnect it. If wire is harmed, replace it with an intact one. Also check that dimming wires are not in short circuit.</li> </ul>
Luminaire is blinking	<ul style="list-style-type: none"> <li>• Ensure power supply temperature does not exceed its maximum rating.</li> <li>• Refer to the tc point located on power supply.</li> </ul>
Luminaire does not dim	<ul style="list-style-type: none"> <li>• Check dimming wire connection.</li> </ul>
Luminaires will not turn on	<ul style="list-style-type: none"> <li>• Check that the color of the supply side wires match the color of the wires they are connected to.</li> <li>• Check that the LED driver connector is fully engaged to the LED light engine connector.</li> <li>• Check that the LED light engines are connected at the junction between the two luminaires.</li> </ul>
Luminaire on through wiring will not turn on	<ul style="list-style-type: none"> <li>• Check that the through wiring connector from the previous fixture in the linear row is fully engaged to the malfunctioning luminaire.</li> </ul>

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. CAN ICES-005 (A) / NMB-005 (A).

**Note:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.