

## 4' T8 DIRECT WIRE

### Installation Manual - TYPE "B" INSTALLATION

Read the instruction sheet and all product labels prior to installing lamp(s). This product must be installed in full accordance with applicable electrical and building codes by a person familiar with the construction, operation and all involved hazards. Installation should be performed by a qualified electrician in accordance with the National Electrical Code and relevant local codes.

#### **TO PREVENT ELECTRICAL SHOCK, POWER SHOULD BE TURNED OFF AT THE FUSE BOX BEFORE INSTALLATION.**

#### **Limited Warranty/Limits of Liability:**

For more information on our limited warranty please visit our website at [www.lsgc.com/warranties](http://www.lsgc.com/warranties)

## **! SAFETY WARNINGS**

### **Read All Product Labels and Directions Completely**

- **RISK OF FIRE OR ELECTRICAL SHOCK.** Installation should only begin AFTER power has been turned off at the fuse box/disconnected.
- **WARNING:** Risk of fire or electric shock. LED Retrofit Kit installation requires knowledge of luminaires electrical systems. If not qualified, do not attempt installation. Contact a qualified electrician.
- **WARNING:** Risk of fire or electric shock. Install this kit only in luminaires that have the construction features and dimensions shown in the photographs and/or drawings and where the input rating of the retrofit kit does not exceed the input rating of the luminaire.
- **Do not** make or alter any open holes in an enclosure of wiring or electrical components during kit installation.
- **WARNING:** To prevent wiring damage or abrasion, do not expose wiring to edges of sheet metal or other sharp objects.
- **WARNING:** To avoid potential fire or shock hazard, do not use this retrofit kit in luminaires employing shunted bi-pin lampholders. Note: Shunted lamp holders are found only in fluorescent luminaires with Instant-Start ballasts. Instant-start ballasts can be identified by the words "Instant Start" or "I.S." marked on the ballast. This designation may be in the form of a statement pertaining to the ballast itself, or may be combined with the marking for the lamps with which the ballast is intended to be used, for example F40T12/IS. For more information, contact the LED luminaire retrofit kit manufacturer.
- Installers should not disconnect existing wires from lampholder terminals to make new connections at lampholder terminals. Instead installers should cut existing lampholder leads away from the lampholder and make new electrical connections to lampholder lead wires by employing applicable connectors.
- **RISK OF FIRE OR ELECTRICAL SHOCK.** Usage of the lamp without a ballast in direct AC wire mode must only be done with non-shunted lamp holders. Lampholders must be replaced if they are the shunted type. Shunted lamp holders are found only in fluorescent luminaires identified as "instant start".
- **RISK OF FIRE.** Do not install in a preheat luminaire.
- **Suitable for use in damp or dry locations.**
- The retrofit assembly is accepted as a component of a luminaire where the suitability of the combination shall be determined by UL or authorities having jurisdiction.

## **! CAUTIONS**

- If the lamp exhibits undesirable operations like buzzing, flickering, etc., **TURN OFF THE POWER IMMEDIATELY**, remove LED tube from luminaire and contact the manufacturer.
- This product may cause interference with radio equipment and should not be installed near maritime safety communications equipment or other critical navigation or communication equipment (operating between 0.45-30MHz)
- This product is not intended for use with EMERGENCY EXIT FIXTURES or EMERGENCY EXIT LIGHTS.

**TO PREVENT ELECTRICAL SHOCK, POWER SHOULD BE TURNED OFF AT THE FUSE BOX BEFORE INSTALLATION.**

For a more information on compatible ballasts, please visit our website at: [www.lsgc.com/ballast-compatibility](http://www.lsgc.com/ballast-compatibility)

## **TYPE "B" INSTALLATION: Direct Connect to Line Voltage**

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### **Direct AC Input: Retrofit Kit - Ballast Removed**

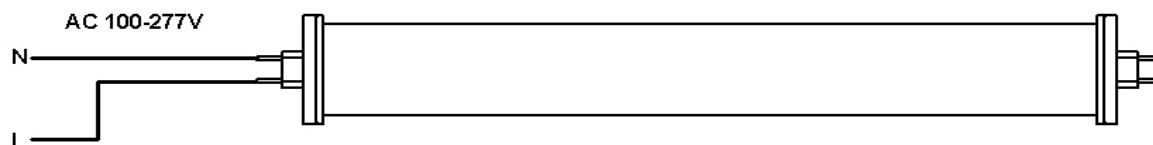
**Note:** *The Lighting Science T8 Type B Retrofit Kit contains the following: One T8 LED Tube and Customer applied re-lamping label.*

1. Ensure power to the luminaire is **OFF** before installation.
2. Remove diffuser screen (if your fixture has one).
3. Carefully remove existing fluorescent T8 bi-pin tube from the fixture.
4. Open the compartment containing the ballast and wiring.
5. Cut off all wires that connect the ballast to the bi-pin holders and remove the ballast.
6. Ensure that the fixture contains non-shunted G13 bi-pin lamp holders (Figure 1). Also ensure the sockets are in good working order. If there is any doubt, replace the sockets with new ones.
7. If it does not, replace the lamp holders at the power end with non-shunted type lamp holders.
8. Connect the branch circuit "L" (Live=Black) wire to each non-shunted G13 bi-pin lamp holder **ONLY** on one side of the fixture (Please see wiring diagrams below). Connect the branch circuit "N" (Neutral=White) wire to each non-shunted, second pin, G13 bi-pin lamp holder (see diagram below). The opposite side bi-pin connector will not be used for power. Lighting Science T8 tubes are designed for a single-sided connection only.  
Use appropriate wires for connections.
9. Make sure all sockets are replaced and wired accordingly to the appropriate wiring diagram (Figure 2).
10. Close the wiring compartment.
11. Install the Lighting Science LED T8 tube into the sockets.  
\*(Please note the power side of the lamp denoted by the markings.)
12. Apply re-lamping label (provided with Guide) on to visible location inside the fixture. Label indicated the following: *"This luminaire has been modified to operate LED lamps. Do not attempt to install or operate fluorescent lamps in this luminaire"*
13. Replace diffuser screen (if your fixture has one).
14. Turn **ON** the power and you are ready to enjoy your new Lighting Science T8 tube.

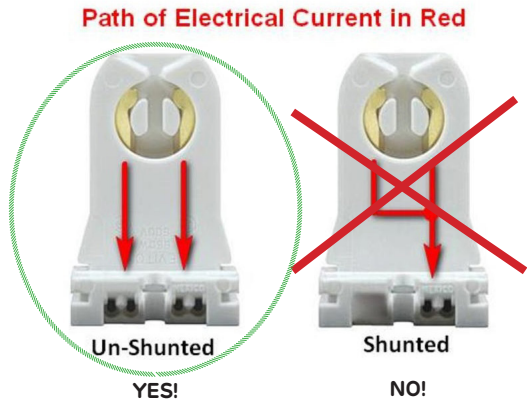
**Note:** *Lighting Science tubes are suitable for use with maximum three lamps in a 2 x 4 open or enclosed, recessed or surface mounted luminaire*

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Diagram #1



**Figure 1: Non Shunted Lamp Holders** (CAUTION: For Direct AC Connection, Use NON-SHUNTED Lampholders Only)



**Figure 2: AC Connections** - Below Diagrams Show 1, 2, and 3 Lamp Wiring Schemes

