



## **MSI Lighting LED T8 Retrofit Tube zT8-RK Installation Instructions.**

Please read these instructions carefully prior to starting the retrofit installation

- To reduce the risk of electric shock, personal injury or property damage from fire, falling parts, and other hazards please read these instructions, warnings and cautions carefully before starting the installation.
- Before servicing or performing routine maintenance on this equipment, follow these general precautions.
- A qualified licensed electrician should perform installation and service of luminaires.
- A person or persons familiar with the luminaires construction, operation and any hazards involved, should perform maintenance of luminaires.

**DO NOT INSTALL THIS EQUIPMENT IF IT SHOWS ANY  
SIGNS OF DAMAGE**

- This product has been carefully packaged at the factory so that no parts will be damaged during transit. Inspect to confirm that no parts of this product or parts of the retro fit kit have been damaged prior to installation.
- Any part of this equipment that is damaged or damaged during or after installation should be replaced.
- Should additional information be required or should particular issues arise which are not covered sufficiently for the purchaser or owner's purposes, this matter should be referred to MSI LIGHTING, INC.

### **WARNING - RISK OF FIRE OR ELECTRIC SHOCK**

- **LED Retrofit Kit installations requires knowledge of luminaires electrical systems. If not qualified, do not attempt installation. Contact a qualified electrician.**
- **Disconnect power before installation or servicing.**
- **Verify that supply voltage is correct by comparing it with the luminaire specifications.**
- **Make all electrical and grounded connections in accordance with the National Electrical Code (NEC) and any applicable local code requirements.**
- **All wiring connections should be made using the UL approved or UL recognized wire nuts supplied with this retro fit kit.**
- **Install this kit only in luminaires that have the construction features and dimensions shown in the photographs and/or drawings and where the voltage and temperature ratings of the retrofit kit does not exceed the ratings of the luminaire**

### **WARNING - RISK OF INJURY**

- **Wear gloves and safety glasses at all times when installing, servicing or performing maintenance on this equipment.**
- **Avoid direct eye exposure to the light source while it is on.**

### **WARNING - RISK OF BURN**

- **Allow lamp/fixture to cool before handling. Do not touch enclosure or light source.**
- **Follow all manufacturer's warnings, recommendations, restrictions and mounting locations/methods, regarding replacement and recycling.**

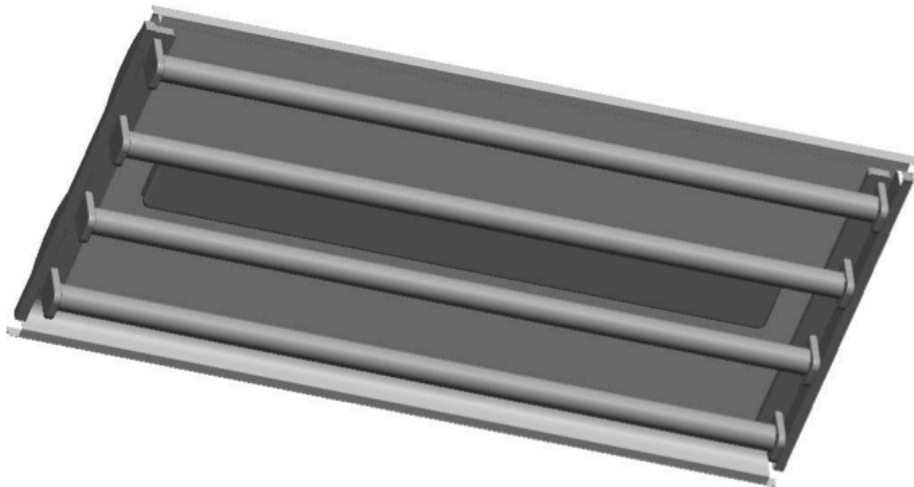
### **WARNING**

- **To prevent wiring damage or abrasion, do not expose wiring to edges of sheet metal or other sharp objects. Only those open holes indicated in the photographs and/or drawings may be made or altered as a result of kit installation.**
- **Do not leave any other open holes in an enclosure of wiring or electrical components.**
- **Do not make or alter any open holes in an enclosure of wiring or electrical components during kit installation.**

## WARNING - RISK OF PRODUCT DAMAGE

- Never install this product with the mains power connected.
- Do not mount or support this product in a manner that can damage any of the wiring insulation.
- Never connect this product to a dimmer system. This product is not designed to operate on a dimming system.
- Unless product specifications state otherwise, the maximum ambient temperature is 45°C (113F). Do not operate this equipment at temperatures higher than this.
- Unless product specifications state otherwise, never install this product where it will be exposed to rain, high humidity, extreme temperature changes or restricted ventilation.
- There are no user serviceable parts inside this product. Do not rewire, reconfigure and/or modify it or attempt any repairs.
- In the unlikely event that it may require service, stop using the product immediately and contact MSI Lighting, INC.
- Failure to follow any of these instructions could void product warranties. For a complete listing of terms and conditions, please visit [www.msissl.com](http://www.msissl.com)

A typical LFT fixture with MSI zT8 LED tubes installed.



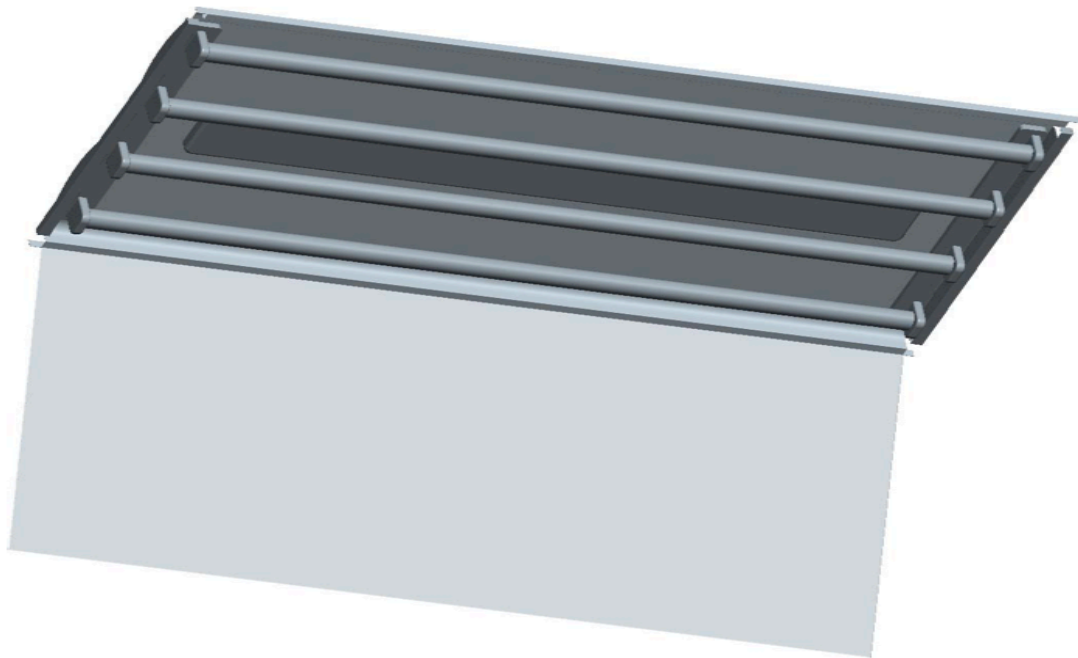
**Supplied in this retrofit kit are the following:**

- 1x Retrofit installation Instructions.**
- 2x Wire nuts.**
- 2x Non-shunted tombstones.**
- 1x "retrofitted luminaire" caution label.**

**This product is designed to be installed into an existing T8 linear fluorescent tube fixture by replacing the original fluorescent tubes, tombstones and ballast.**

**These instructions apply to retrofitting T8 linear fluorescent tube fixtures, which may have any number of tubes.**

**MSI Lighting LED T8 tubes must not be disassembled or tampered with or used for any other purpose outside of their intended use.**

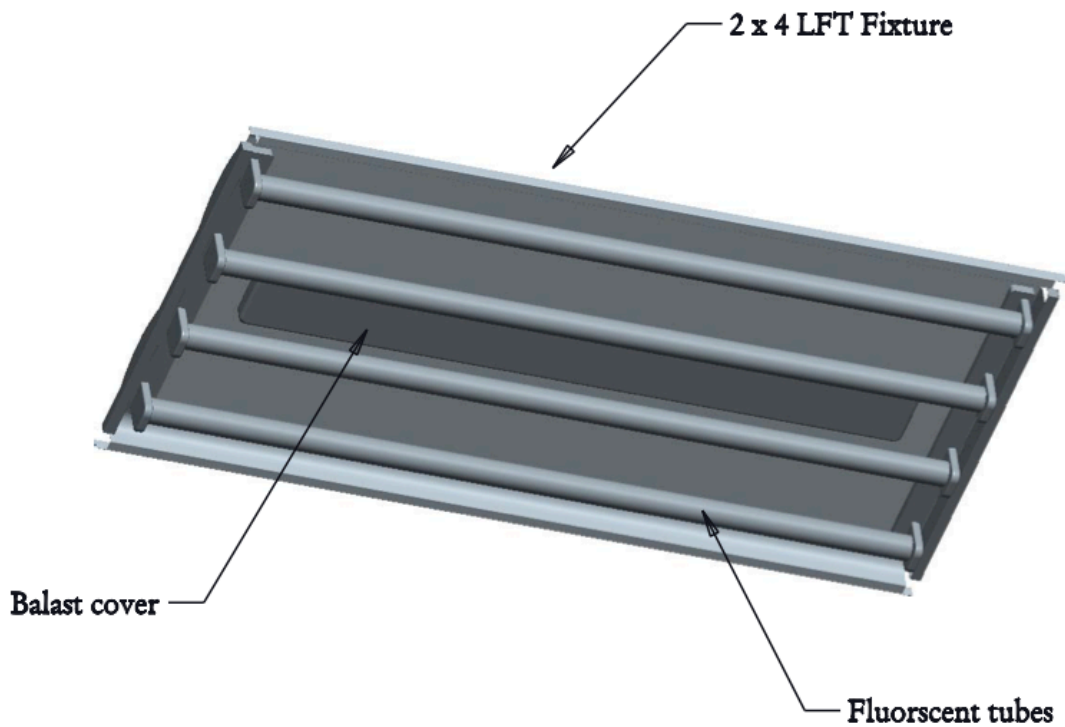


## Step 1

**\*\*\* Make sure the mains power to the fixture is disconnected\*\*\***

**Remove the diffuser panel or parabolic louver from the fixture and set it aside. If unfamiliar with this procedure please refer to the product documentation for the LFT luminaire you are going to retrofit.**

**Original T8 fluorescent tube fixture with diffuser panel or parabolic louver removed.**



## Step 2

Carefully remove the T8 fluorescent tubes from the fixture and set them aside to be properly disposed of. Remove the ballast cover to access the wiring.

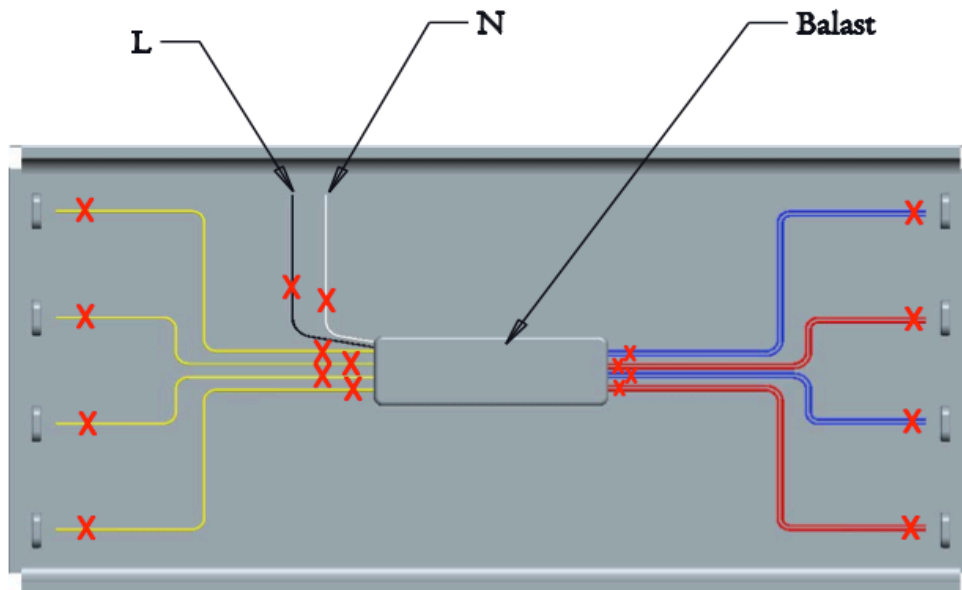
As indicated by the red X's in the illustration below: cut the red, blue, yellow, black and white wires as close to the tombstones (LFT Lamp holders) and ballast as possible.

Some of these wires will be re-used to connect power to the non-shunted replacement tombstones.

Leave the mains power wires live (black wire) and neutral (white wire) feeding into the fixture. Leave the earth wire (green or bare copper) connected to the fixture.

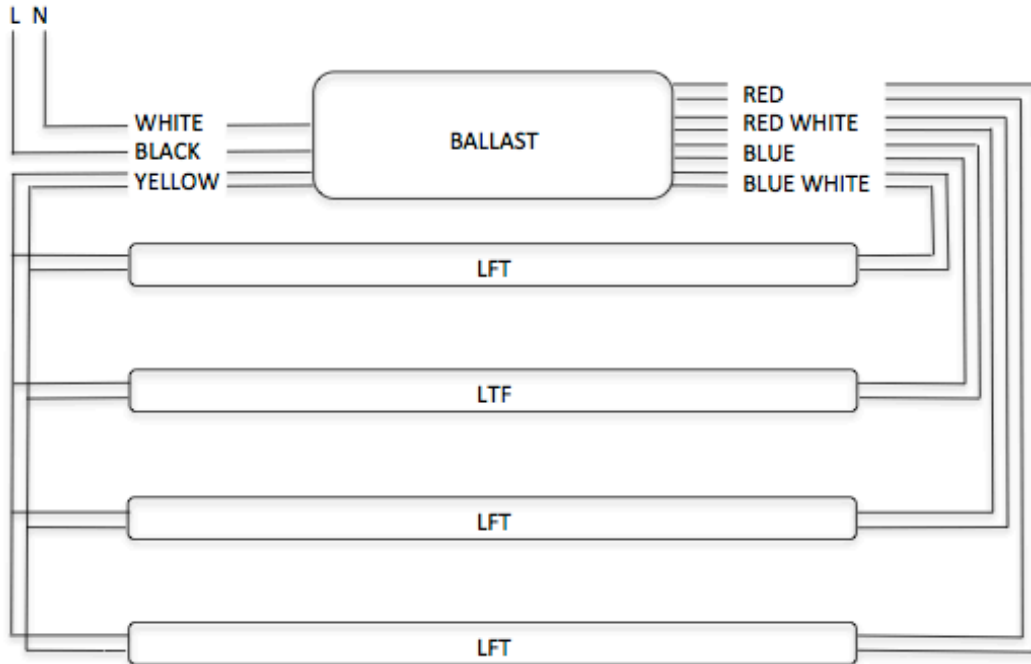
Remove and discard the ballast.

T8 fluorescent tube fixture with ballast

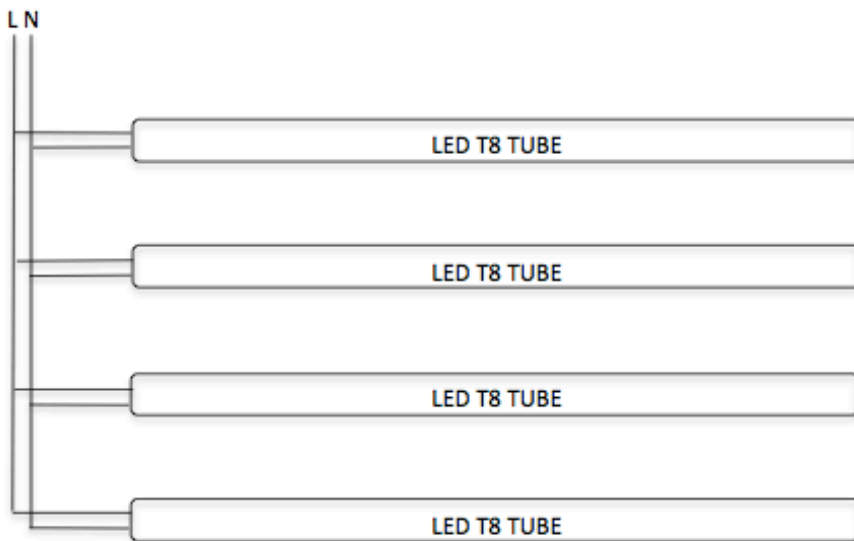


Wiring diagrams showing the difference between the conventional LFT wiring and the LED T8 tube wiring

T8 LFT FIXTURE WIRING DIAGRAM



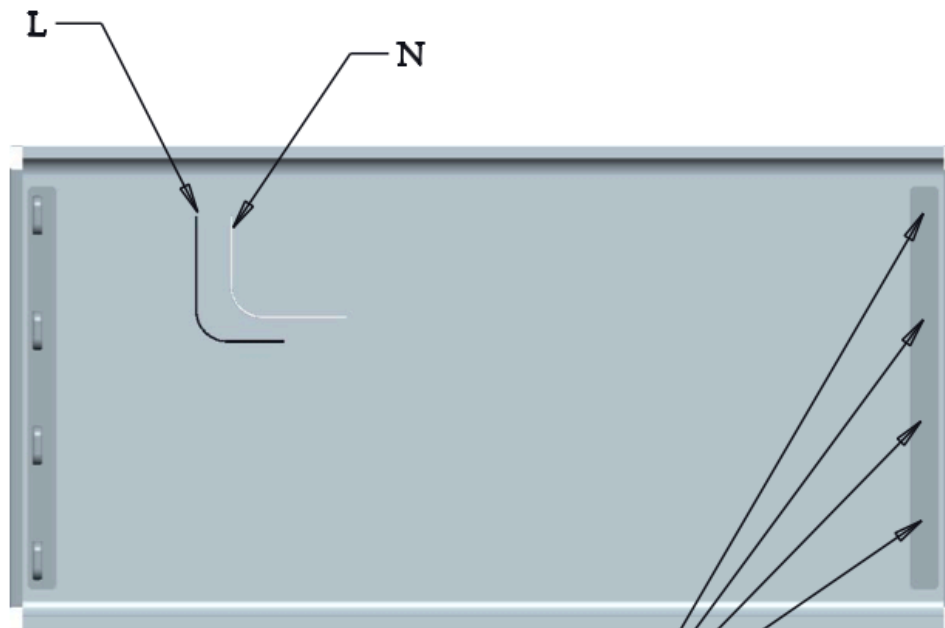
LED T8 TUBE WIRING DIAGRAM



### Step 3

Remove the tombstones. They must be replaced with the tombstones supplied in the retrofit kit. Only the labeled side of the tube requires power to be connected to it. The other side has no electrical connection to it.

Original T8 fluorescent tube fixture with Ballast, ballast wiring and tombstones removed.



Remove the tombstones and wiring

**Note 1.**

*The tombstones used in conventional linear T8 fluorescent tube fixtures using "instant start" ballasts will be of the "shunted" type.*

*This type of tombstone has electrical terminals that are internally linked together. They must be removed and replaced with the non-shunted type supplied in this retrofit installation kit.*



## Step 4

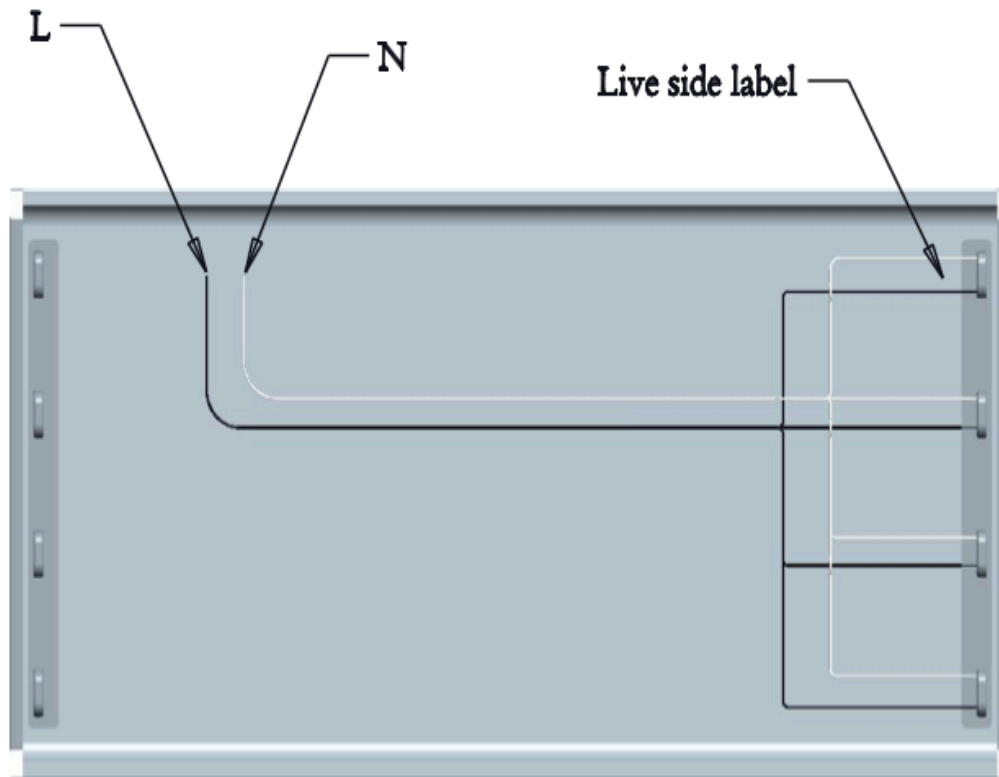
Using the existing wires previously removed from the tombstones and ballast, strip the wire insulation at 3/8" and insert two different color wires into each of the new "live side tombstones" supplied. The tombstones supplied with this retrofit kit can be daisy chained together to simplify the wiring.

Connect the chain of tombstones to the mains power wires: live (black wire) and neutral (white wire) with the wire nuts supplied in the retrofit kit.

Re-install the ballast cover making sure that it does not interfere with the wiring.

Place the caution label on the ballast cover on the same side as the electrically connected tombstones.

T8 fluorescent tube fixture with new tombstones  
wired directly to the AC supply



## Step 5

**Install the new LED T8 Tubes into the fixture with the labeled side towards the caution label. Ensure that the tubes are correctly locked into the tombstones**

**Re-connect the electrical power and turn it on. Make sure that all the of the tubes light up.**

**Replace the diffuser panel.**

**M S I Lighting**

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