

**IMPORTANT SAFEGUARDS**

**Please Read All Instructions Carefully Before Attempting the Installation :**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in an installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This Class B digital apparatus complies with Canadian ICES-005.

**Parts/Components included:**

- Installation manual
- UL type B - LED T8 U-Bend lamps
- Luminaire marking labels to be affixed to each luminaire when installing these lamps and shall be visible by the end user during re-lamping.

The products covered in this report are intended to retrofit surface mount, or type IC/non-IC recessed mount listed fluorescent luminaires that use maximum 2 U-bend lamps. The minimum lamp compartment dimensions are tabulated below:

Minimum Lamp Compartment Dimensions Length x Width x Height	Maximum Lamp Quantity
23.62" x 23.62" x 3.15"	2

**Safety Precautions :**

Important: Read all safety information and instructions carefully before installation. Retain for future reference.

**⚠ Warning :**

**UL Type B Installation (Direct-Wire / Ballast-Free)**

To avoid personal injury and/or possible product damage, the following cautions must be followed:

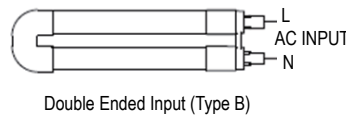
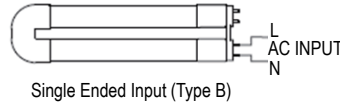
- Risk of electric shock. Disconnect power at fuse or circuit breaker before installing or servicing.
- Caution - risk of fire. Do not use with ballast.
- Suitable for damp locations.
- Risk of fire or electrical shock Installation of this retrofit kit requires person to be familiar with the construction and operation of the luminaire's electrical system and the hazards involved. If not qualified, do not attempt installation. Contact a qualified electrician.
- Risk of fire or electrical shock Install this kit only in the luminaire that has 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 the kit installation.
- To prevent wiring damage or abrasion, do not expose wiring to the edges of sheet metal or other sharp objects.
- This retrofit kit is accepted as a component of a luminaire where the suitability of the combination shall be determined by authorities having jurisdiction. Product must be installed by a qualified electrician in accordance with the applicable and appropriate electrical codes. The installation guide does not supersede local or national regulations for electrical installations.
- To avoid potential fire or shock hazard, do not use this retrofit kit in luminaires employing shunted bi-pin lampholders. Note: shunted lampholders are found only in fluorescent luminaires with instant-start ballasts. Instant start ballasts may 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 [e.g., "f40t12]1s1"]. For more information, contact the LED luminaire retrofit kit manufacturer.
- Installers should not disconnect existing wires from lamp socket terminals to make new connections at lampholder terminals. Instead, the installer should cut existing lamp socket leads away from the lamp socket and make new electrical connections to lamp socket lead wires by employing connectors suitable for the application.
- This device is not intended for use in emergency exits.

# T8 U-BEND GLASS TUBE TYPE B

- No switching of the CCT switch after the lamp has been installed.
- Installers should examine all parts that are not intended to be replaced by the retrofit kit for damage and replace any damaged parts prior to installation of the retrofit kit.
- Caution: Do not use with standard dimmers. Use with phase-cut, trailing edge dimmer models LUTRON NTELV-300 / MAELV-600 / CTELV-303P/DVELV-303P.
- This device is not intended for use with emergency exits. To prevent early lamp failure, the lamp should only be installed in operating environments ranging between -4° F and +113° F.
- The tube is installed as Type B. The luminaire, once modified as a retrofit fixture, will no longer operate fluorescent lamps.

## Installation Notes:

- Lamps can be wired in either a single-ended or double-ended configuration (all new installations should follow double-ended wiring schematic).



## Important Notes Continued

- For single-ended wiring installation of tubes, non-shunted lamp holders must be used.
- For double-ended wiring installation, changing the sockets/lamp holders is not required (if they are in good condition) regardless of the type of sockets. Doubled-ended wiring installation of tubes must use shunted lamp holders. If non-shunted lamp holders are used, they must be externally shunted to insure a safe installation.

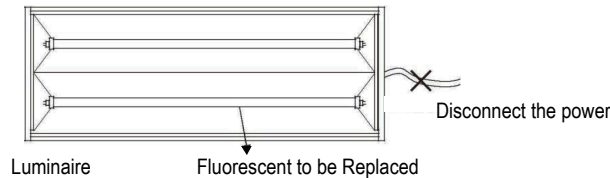


## Type B — Installation Guide (Direct Wire, Ballast Free):

Please completely comply with these instructions and notes to ensure that the product is operated safely. Read all the instructions carefully before installation.

### Instructions:

#### 1. Disconnect the Power Of Luminaire



Disconnect power to luminaire or circuit (if possible). Ensure all power is off by using a voltmeter or other method to confirm.

#### 2. Remove Existing Tube Lamp(S)

- Remove troffer lens, if present.
- Lift up and remove the existing fluorescent lamp.
- Remove the ballast cover (cover may be secured with screws or tabs).



#### 3. Retrofit Luminaire

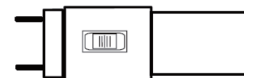
Modify the circuit according to the wiring diagram on the next page to disconnect and by pass the fluorescent ballast and wire lamp socket directly to incoming voltage (incoming voltage must be 120-277 V with + 10% tolerance).

Note: It is not necessary to change sockets (do it only if they are not in good condition) to operate these double ended lamps. Regardless of the socket type, make sure one side of this fixture is suitable for supply (A) and the neutral (N).

#### 4. Select the CCT

Select the color temperature to switch on the LED lamp's base.

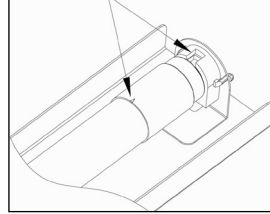
- Using the color (CCT) selector switch on the base, select the desired color temperature (3000K, 3500K, 4000K, 5000K or 6500K).
- To prevent damage to lamp, the lamp must not be energized when color (CCT) selector switch is changed.



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## 5. Insert LED Tubes

- Read the label on the LED tube to ensure the power end of LED is aligned with powered tube socket. Then insert LED lamp in the normal way by sliding pins down into sockets until the LED tube locks in place. Please notice that the tube must be well installed. Mark on end caps shows proper alignment with the sockets, and so make sure that the mark is matched with the socket as below:



- LED lamp is now fully installed.
- After the modification is completed, attach the Replacement Marking and Caution Label to a visible place on the luminaire and keep it visible after installation. Be sure to mark the type of wiring on the luminaire label (single or double-ended).
- Replace troffer lens, if present.

## 6 Restore the Power of Luminaire

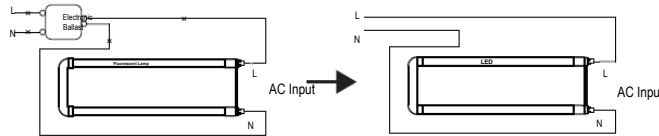
Restore the power to circuit/luminaire and test the light. If necessary, adjust the position of the LED tube, and enjoy your new LED lighting installation!

## UL Type B — Wiring Diagram (Direct Wire, Ballast Free)

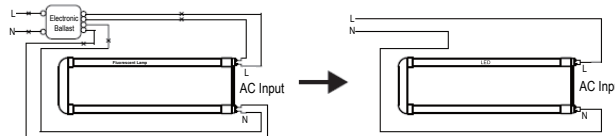
Modify the circuit according to the following wiring diagram to disconnect and by-pass the ballast and wire lamp socket directly to 120-277 V.

### Retrofit Luminaire with 1 Lamps:

Instant Start:

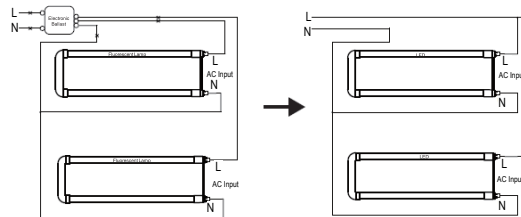


### Program Start or Rapid Start:

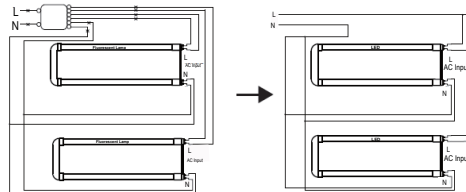


### Retrofit Luminaire with 2 Lamps:

Instant Start:



### Program Start or Rapid Start:



## UL Type B — Wiring Diagram (Direct Wire, Ballast Free) with Dimmer:

Phase cut continuous dimming operation:

NOTE: Only **LUTRON Models: NTELV-300 / MAELV-600 / CTELV-303P/DVELV-303P**

Reverse phase control dimmer can be compatible.

