



# LUNERA T-LED LAMPS

## Creating a Better T-LED Lamp

Lunera T-LED lamps unite innovations in design, materials and electronics to establish the benchmark for quality linear lamps. Our engineering breakthroughs make our lamps indistinguishable from the fluorescents they replace and are simple to install, valuable to own, and certified safe.

**LUNERA®**

# Designed for Performance

## Flexible PCB

We mount our LEDs on a Flexible PCB for greater reliability/safety and better thermal conduction.



## Superior Ballast Compatibility

Lunera pioneered ballast driven LED lamps in the commercial space. Our linear lamps are tested for compatibility with over 200 ballasts, including Instant-Start, Rapid-Start and Programmed-Start types.

## High Performance

We select high performance LEDs and power them at less than 40% of their rated drive to improve efficacy and extend lamp life.



## Broader Beam Spread

If it wasn't for the superior near full-spectrum light from the LEDs, the 330° beam spread of our lamps would make them imperceptible in the fixture compared to the fluorescent tubes we replace.

## Maximum Illumination and Functionality

We've miniaturized the electronics package to minimize the size of the end cap, allowing the maximum length of the tube to be illuminated, while leaving room for integrated sensors, controllers, and communications electronics.

## Better Glass

Our tubes are made of superior-grade toughened glass for better optical efficiency and have end-necking for added strength.

Unlike plastic LED tubes which commonly yellow or sag over time, our glass remains unchanged for the life of the lamp.

P.E.T. Shatter Guard is also available.

# Engineered for Reliability & Quality

New

## Universal Tombstone Technology (UTT)

Ballast bypassed (Type B) T-LEDs are now the most common linear fluorescent upgrade, eclipsing ballast driven (Type A).

Our **Ballast Bypassed T-LEDs with Universal Tombstone Technology**, are the first double-ended LED linear lamps to receive UL Certification, making them safe to install in both Shunted and Non-shunted sockets.

UTT simplifies the installation of our Ballast Bypassed T8 LEDs by eliminating the need to replace or rewire the tombstones sockets while eliminating a potential shock hazard during installation.



**Non-Shunted**  
(used in 85% of fixtures with Instant-Start ballasts)



**Shunted**  
(used in 15% of fixtures with Rapid- or Programmed-Start ballasts)



New

## Thermal Fuse Protection

Our **Ballast Driven T-LED** linear lamps now come with up to five integrated **Thermal Fuses**, a reliability and safety feature that disables the lamp in the event of arcing or improperly wired ballasts, preventing it from overheating.

## Retrofit Kits

For the lowest power or to meet the most stringent utility rebate, building code requirements, or safety requirements, our T8 and T5HO LEDs are now available kitted with a custom LED driver.

New

## DLC Listed

Lunera's T-LEDs are DLC listed (where categories are available), qualifying them for **local utility rebates** which makes payback quick. Check the cut sheets to confirm if a specific model is listed.



<b>T8 LINEAR</b>
<b>DLC Listed</b>
Socket Wiring
Thermal Fuse Protection
Universal Tombstone Technology
Dimmable
P.E.T. Shatterguard
Integrated Sensors
External Driver Kit

<b>BALLAST DRIVEN</b>			
<b>2FT</b>	<b>3FT</b>	<b>4FT</b>	<b>8FT</b>
<b>Yes</b>	n/a	<b>Yes</b>	<b>Pending</b>
Shunted or Non-Shunted			
<b>Yes</b>			
No			
Yes, ballast dependent			
Yes	Yes	Yes	
No			
		Yes	

<b>BALLAST BYPASSED</b>			
<b>2FT</b>	<b>3FT</b>	<b>4FT</b>	<b>8FT</b>
<b>Yes</b>	n/a	<b>Yes</b>	<b>Pending</b>
Shunted or Non-Shunted			
No			
<b>Yes</b>			
No			
Yes	Yes	Yes	
Yes (2017)			
		Yes	

<b>T8 U-BEND</b>
<b>DLC Listed</b>
Socket Wiring
Thermal Fuse Protection
Universal Tombstone Technology
Dimmable
P.E.T. Shatterguard
Integrated Sensors
External Driver Kit

<b>22in (1-5/8" Gap)</b>	<b>22in (6" Gap)</b>
Shunted or Un-Shunted	
<b>Yes</b>	
No	
Yes, ballast dependent	
No	
No	
No	

<b>22in (1-5/8" Gap)</b>	<b>22in (6" Gap)</b>
	<b>Yes</b>
Shunted or Un-Shunted	
No	
No	
No	
No	
No	
No	

<b>T5/T5HO LINEAR</b>
<b>DLC Listed</b>
Socket Wiring
Thermal Fuse Protection
Universal Tombstone Technology
Dimmable
P.E.T. Shatterguard
Integrated Sensors
External Driver Kit

<b>2FT</b>	<b>4FT</b>
<b>Yes</b>	<b>Yes</b>
Shunted or Un-Shunted	
No	
No	
No	
No	
No	
	Yes

<b>T12 LINEAR (USING T8)</b>
<b>DLC Listed</b>
Socket Wiring
Thermal Fuse Protection
Universal Tombstone Technology
Dimmable
P.E.T. Shatterguard
Integrated Sensors
External Driver Kit

<b>8FT</b>
<b>Pending</b>
Shunted or Un-Shunted
Yes
No
No
No
No
No

<b>8FT</b>
<b>Pending</b>
Shunted or Un-Shunted
No
Yes
No
No
No
No