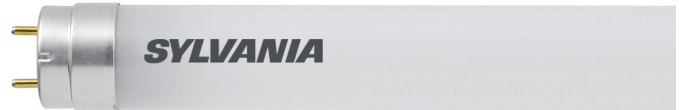


SYLVANIA Lamps

SubstiTUBE® IPS LED T8

Compatible LED T8 for use with instant start and select programmed rapid start electronic T8 ballasts

SubstiTUBE IPS LED T8 lamps are an energy saving alternative, designed to replace traditional fluorescent T8 lamps. These LED T8 lamps contain no mercury, and provide instant light and a uniform light distribution. Engineered to operate on existing instant start and select program rapid start electronic T8 ballasts, these lamps minimize labor and recycling costs.



Benefits and Features

- The SubstiTUBE IPS LED T8 is not affected by switching cycles, occupancy or vacancy sensors, and thus can be installed with the existing instant start ballasts for optimal energy savings
- NSF Listed: NSF/ANSI Standard 2 – Food Equipment
- No warm-up time, instant-on with full light output and stable lamp to lamp color
- DLC listed allows for rebates in areas where applicable saving on overall project cost
- No UV emission
- Suitable for dry and damp locations (cannot come in direct contact with water)
- Maximize energy savings with occupancy sensors
- Suitable for open and enclosed fixtures
- Glass lamps are suitable for use with tube guards
- Up to 178 LPW (Lamp efficacy)
- 3000K, 3500K, 4100K, 5000K color temperatures
- CRI: 82
- Available beam angle: 220° and Light Emitting Angle 340°

Electrical

- Compatible with instant start and select programmed rapid start electronic T8 ballasts with input voltage of 120-277V and 347V
- Dimmable down to 10% with compatible 0-10V ballast (4ft 13W, 12W and 9W; 3ft 10W (G9); and 2ft 8W (G9) only)
- Power factor >0.90
- THD <10% (or <20% for G8 & G7)

Rated Life

- 50,000 hours (L₇₀)

Ambient Operating Range

- -4°F to 113°F (-20°C to 45°C)

Wattage Comparison

| | System Power ¹ | Traditional System Power F032T8 (with QHE2x32 ISN) | Energy Savings/Year ² |
|-----------------------|---------------------------|--|----------------------------------|
| LED13T8L48FGDIM SUBG9 | 32W | 55W | 42% |
| LED12T8L48FGPDIMSUBG9 | 29W | 55W | 47% |
| LED10T8L48FG SUBG9 | 26W | 55W | 53% |
| LED9T8L48FGPDIMSUBG9 | 24W | 55W | 56% |

1. With QHE2x32 ISN
2. 24 hours a day

Warranty

- 5 year limited lamp warranty (24/7 operation)
- NLB Trusted Warranty Program

Certifications and Listings

- cULus 1993
- ETL
- RoHS
- Lead Free
- Mercury Free
- FCC*
- NSF
- DLC 5.1

*FCC Title 47 CFR, Part 18, Non-Consumer

Installation

- Please refer to the Installation manual included inside the packaging and the applications information listed below for more information. (G13 medium bi-pin base)



Specification Data

| | |
|-------------|------|
| Catalog # | Type |
| Project | |
| Comments | |
| Prepared by | |

Ordering Guide

| LED | XX | T8 | LXX | FG | DIM | 8 | XX | SUB | GX |
|-----|--|-----------------|-------------------------|-----------------------|-------------------|---------------|---|-----------------|------------------------------|
| LED | Wattage 13 = 13 Watts 12 = 12 Watts 10 = 10 Watts 9 = 9 Watts 8 = 8 Watts | Lamp Type T8 | Length 48", 36", 24" | FG = Frosted Glass | DIM = Dimmable | CRI 8 = 82 | Color Temperature 30 = 3000K 35 = 3500K 41 = 4100K 50 = 5000K | SubstiTUBE® IPS | Generation 9 Generation 7 |

Ordering Information

| Item Number | Ordering Abbreviation | Length | Lens Material | Power (W) ¹ | Lamp Efficacy | Typical Lumens (lm) ¹ | CCT | CRI | Life (L ₇₀) Hours | Beam Angle (°) | Case Qty | DLC Listed |
|-------------|-------------------------|--------|---------------|------------------------|---------------|----------------------------------|-------|-----|-------------------------------|----------------|----------|------------|
| 40692* | LED13T8L48FGDIM835SUBG9 | 4ft | Frosted Glass | 13 | 154 | 2000 | 3500K | 82 | 50,000 | 220 | 25 | No |
| 40693* | LED13T8L48FGDIM841SUBG9 | 4ft | Frosted Glass | 13 | 162 | 2100 | 4100K | 82 | 50,000 | 220 | 25 | No |
| 40694* | LED13T8L48FGDIM850SUBG9 | 4ft | Frosted Glass | 13 | 162 | 2100 | 5000K | 82 | 50,000 | 220 | 25 | No |
| 41274 | LED12T8L48FGDIM830SUBG9 | 4ft | Frosted Glass | 12 | 167 | 2000 | 3000K | 82 | 50,000 | 220 | 25 | Yes |
| 41275 | LED12T8L48FGDIM835SUBG9 | 4ft | Frosted Glass | 12 | 167 | 2000 | 3500K | 82 | 50,000 | 220 | 25 | Yes |
| 41276 | LED12T8L48FGDIM841SUBG9 | 4ft | Frosted Glass | 12 | 175 | 2100 | 4100K | 82 | 50,000 | 220 | 25 | Yes |
| 41277 | LED12T8L48FGDIM850SUBG9 | 4ft | Frosted Glass | 12 | 175 | 2100 | 5000K | 82 | 50,000 | 220 | 25 | Yes |
| 40696* | LED10T8L48FG835SUBG9 | 4ft | Frosted Glass | 10 | 160 | 1600 | 3500K | 82 | 50,000 | 220 | 25 | No |
| 40995 | LED10T8L36FG830SUBG9 | 3ft | Frosted Glass | 10 | 145 | 1450 | 3000K | 82 | 50,000 | 220 | 25 | Yes |
| 40996 | LED10T8L36FG835SUBG9 | 3ft | Frosted Glass | 10 | 145 | 1450 | 3500K | 82 | 50,000 | 220 | 25 | Yes |
| 40997 | LED10T8L36FG841SUBG9 | 3ft | Frosted Glass | 10 | 145 | 1450 | 4100K | 82 | 50,000 | 220 | 25 | Yes |
| 40998 | LED10T8L36FG850SUBG9 | 3ft | Frosted Glass | 10 | 145 | 1450 | 5000K | 82 | 50,000 | 220 | 25 | Yes |
| 41270 | LED9T8L48FGDIM830SUBG9 | 4ft | Frosted Glass | 9 | 178 | 1600 | 3000K | 82 | 50,000 | 220 | 25 | Yes |
| 41271 | LED9T8L48FGDIM835SUBG9 | 4ft | Frosted Glass | 9 | 178 | 1600 | 3500K | 82 | 50,000 | 220 | 25 | Yes |
| 41272 | LED9T8L48FGDIM841SUBG9 | 4ft | Frosted Glass | 9 | 178 | 1600 | 4100K | 82 | 50,000 | 220 | 25 | Yes |
| 41273 | LED9T8L48FGDIM850SUBG9 | 4ft | Frosted Glass | 9 | 178 | 1600 | 5000K | 82 | 50,000 | 220 | 25 | Yes |
| 40991 | LED8T8L24FG830SUBG9 | 2ft | Frosted Glass | 8 | 156 | 1250 | 3000K | 82 | 50,000 | 220 | 25 | Yes |
| 40992 | LED8T8L24FG835SUBG9 | 2ft | Frosted Glass | 8 | 156 | 1250 | 3500K | 82 | 50,000 | 220 | 25 | Yes |
| 40993 | LED8T8L24FG841SUBG9 | 2ft | Frosted Glass | 8 | 156 | 1250 | 4100K | 82 | 50,000 | 220 | 25 | Yes |
| 40994 | LED8T8L24FG850SUBG9 | 2ft | Frosted Glass | 8 | 156 | 1250 | 5000K | 82 | 50,000 | 220 | 25 | Yes |
| 75516* | LED10T8L36FG830SUBG7 | 3ft | Frosted Glass | 10 | 145 | 1450 | 3000K | 82 | 50,000 | 220 | 10 | No |

1. Average Lamp Power and Average Lamp Lumens rated on QHE2X32T8/UNV ISN.

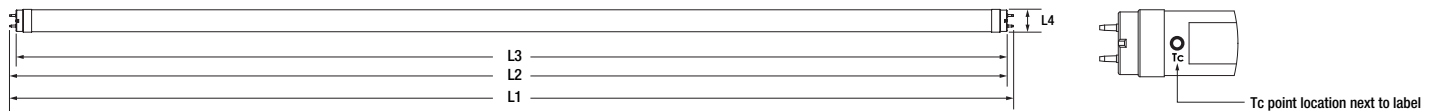
* Items will be discontinued when stock is depleted.

Specifications & Lighting Data

| Lamp | Ballast | Current (Amps) | System Power (W) | System Lumens (lm) | System Efficacy (lm/W) | No of Lamps |
|--------------------|--------------------|----------------|------------------|--------------------|------------------------|-------------|
| LED13T8/L48/FG/DIM | QHE 2X32T8/UNV ISN | 0.26/0.12 | 32 | 4200 | 130 | 2 |
| LED12T8L48FGPDIM | QHE 2X32T8/UNV ISN | 0.24/0.10 | 29 | 4200 | 140+ | 2 |
| LED9T8L48FGPDIM | QHE 2X32T8/UNV ISN | 0.20/0.09 | 24 | 3200 | 133+ | 2 |
| LED10T8/L36 | QHE2X32T8/UNV/ISN | 0.20/0.09 | 24 | 2900 | 120 | 2 |
| LED8T8/L24 | QHE2X32T8/UNV/ISN | 0.17/0.08 | 20 | 2400 | 120 | 2 |

Note: For complete system information refer to LED495 – SubstiTUBE System Information.

Physical Information



| Lamp Description | L1 End of Base Pin to End of Opposite Pin End | L2 Base Face to Opposite Base Pin | L3 Base Face to Base Face | L4 Bulb Outside Diameter |
|--|---|---|---------------------------------|--------------------------------|
| LED13T8/L48 LED12T8/L48 LED9T8/L48 | 47.725" ± 0.055" (1212.2mm ± 1.4mm) | 47.45" ± 0.05" (1205.25mm ± 1.25mm) | max 47.22" (1199.4mm) | 1.02" ± 0.08" (25.9mm ± 2.0mm) |
| LED10T8/L36 | 35.72" ± 0.055" (907.4mm ± 1.4mm) | 35.45" ± 0.05" (900.45mm ± 1.25mm) | max 35.22" (894.6mm) | 1.02" ± 0.08" (25.9mm ± 2.0mm) |
| LED08T8/L24 | 23.72" ± 0.055" (602.6mm ± 1.4mm) | 23.45" ± 0.05" (595.65mm ± 1.25mm) | max 23.22" (589.8mm) | 1.02" ± 0.08" (25.9mm ± 2.0mm) |

Application Information

1. Due to numerous ballast designs and topologies, this lamp should be tested on existing ballasts before mass quantities are installed.
2. Not intended for use with older dedicated voltage (120V or 277V) ballasts. These ballasts have electronic components that degrade over time and may become unsuitable for the new LED T8 lamp.
3. All installation, inspection, and maintenance of lighting fixtures should be done with the power to the fixture turned off. Lamps should be installed and operated in compliance with the National Electrical Code (NEC), Underwriters Laboratories Inc. (UL) requirements, and all applicable codes and regulations.
4. Insert and align tubes properly in lamp holders. Partial insertion results in a poor or intermittent electrical contact that can result in short lamp life and arcing. Arcing at the lamp holder can result in localized overheating.
5. For instant start ballasts, use lamp holders with an internal shunt or ensure that lamp holders are wired in a shunt configuration.
6. For Programmed Rapid Start ballasts, use rapid-start lamp holders (non-shunted lamp holders).
7. De-lamp is not allowed for ISH ballasts. For approved ISN and ISL ballasts, de-lamp is allowed for only 1 lamp so long as the ballast factor remains below 1.20 (for example, 4 lamp ballast can de-lamp to 3 lamps).
8. Suitable for use in dry and damp environments.
9. Maximum mounting distance between tube and ballast is 20 feet.
10. Not for use with other LED or fluorescent lamps on the same ballast.
11. Not for use with magnetic ballasts.
12. Max case temperature: 158°F (70°C) for LED13/L48/G9, LED12L48G9, LED10/L48/G9 or LED9L48G9; 136°F (58°C) for LED10T8/L36/G7.
13. Please read all installation instructions before attempting installation.
14. For detailed warranty information, please see www.ledvanceUS.com.

LEDVANCE LLC
 181 Ballardvale Street
 Wilmington, MA 01887 USA
 Phone 1-800-LIGHTBULB (1-800-544-4828)
www.ledvanceUS.com

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