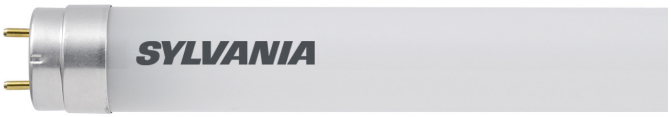
SYLVANIA Lamps

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 162 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 versions only)
- Power factor >0.90
- THD <10% (or <20% for G8 & G7)

Rated Life

- 50,000 hours (L_{70})

Wattage Comparison

	System Power[1]	Traditional System Power F032T8 (with QHE2x32 ISN)	Energy Savings/ Year[2]
LED13T8L48FGDIM SUBG9	32W	55W	42%
LED10T8L48FG SUBG9	26W	55W	53%

1. With QHE2x32 ISN
2. 24 hours a day

Warranty

- 5 year limited lamp warranty (24/7 operation)
- Install a new QHE instant start ballast with the SubstiTUBE IPS LED T8 lamp for optimal performance and to take advantage of the QUICK 72SUB+ system warranty. (See website for details.)

Ambient Operating Range

- -4°F to 113°F (-20°C to 45°C)

Certifications and Listings

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

*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 10 = 10 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 8 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
40691	LED13T8L48FGDIM830SUBG9	4ft	Glass	13	154	2000	3000K	82	50,000	220	25	Yes
40692	LED13T8L48FGDIM835SUBG9	4ft	Glass	13	154	2000	3500K	82	50,000	220	25	Yes
40693	LED13T8L48FGDIM841SUBG9	4ft	Glass	13	162	2100	4100K	82	50,000	220	25	Yes
40694	LED13T8L48FGDIM850SUBG9	4ft	Glass	13	162	2100	5000K	82	50,000	220	25	Yes
40695	LED10T8L48FG830SUBG9	4ft	Glass	10	160	1600	3000K	82	50,000	220	25	Yes
40696	LED10T8L48FG835SUBG9	4ft	Glass	10	160	1600	3500K	82	50,000	220	25	Yes
40697	LED10T8L48FG841SUBG9	4ft	Glass	10	160	1600	4100K	82	50,000	220	25	Yes
40698	LED10T8L48FG850SUBG9	4ft	Glass	10	160	1600	5000K	82	50,000	220	25	Yes
40995	LED10T8L36FG830SUBG9	3ft	Glass	10	145	1450	3000K	82	50,000	220	25	Yes
40996	LED10T8L36FG835SUBG9	3ft	Glass	10	145	1450	3500K	82	50,000	220	25	Yes
40997	LED10T8L36FG841SUBG9	3ft	Glass	10	145	1450	4100K	82	50,000	220	25	Yes
40998	LED10T8L36FG850SUBG9	3ft	Glass	10	145	1450	5000K	82	50,000	220	25	Yes
40991	LED8T8L24FG830SUBG9	2ft	Glass	8	156	1250	3000K	82	50,000	220	25	Yes
40992	LED8T8L24FG835SUBG9	2ft	Glass	8	156	1250	3500K	82	50,000	220	25	Yes
40993	LED8T8L24FG841SUBG9	2ft	Glass	8	156	1250	4100K	82	50,000	220	25	Yes
40994	LED8T8L24FG850SUBG9	2ft	Glass	8	156	1250	5000K	82	50,000	220	25	Yes
75508*	LED13T8L48DIM830SUBG8	4ft	Glass	13	154	2000	3000K	82	50,000	220	25	Yes
75509*	LED13T8L48DIM835SUBG8	4ft	Glass	13	154	2000	3500K	82	50,000	220	25	Yes
75510*	LED13T8L48DIM841SUBG8	4ft	Glass	13	162	2100	4100K	82	50,000	220	25	Yes
75511*	LED13T8L48DIM850SUBG8	4ft	Glass	13	162	2100	5000K	82	50,000	220	25	Yes
79545*	LED10T8L48FG835SUBG7	4ft	Glass	10	160	1600	3500K	82	50,000	220	10	Yes
79546*	LED10T8L48FG841SUBG7	4ft	Glass	10	160	1600	4100K	82	50,000	220	10	Yes
79547*	LED10T8L48FG850SUBG7	4ft	Glass	10	160	1600	5000K	82	50,000	220	10	Yes
75516	LED10T8L36FG830SUBG7	3ft	Glass	10	145	1450	3000K	82	50,000	220	10	Yes
75517	LED10T8L36FG835SUBG7	3ft	Glass	10	145	1450	3500K	82	50,000	220	10	Yes
75518	LED10T8L36FG841SUBG7	3ft	Glass	10	145	1450	4100K	82	50,000	220	10	Yes
75519	LED10T8L36FG850SUBG7	3ft	Glass	10	145	1450	5000K	82	50,000	220	10	Yes
75520	LED8T8L24FG830SUBG7	2ft	Glass	8	150	1200	3000K	82	50,000	220	10	Yes
75521	LED8T8L24FG835SUBG7	2ft	Glass	8	150	1200	3500K	82	50,000	220	10	Yes
75522	LED8T8L24FG841SUBG7	2ft	Glass	8	156	1250	4100K	82	50,000	220	10	Yes
75523	LED8T8L24FG850SUBG7	2ft	Glass	8	156	1250	5000K	82	50,000	220	10	Yes

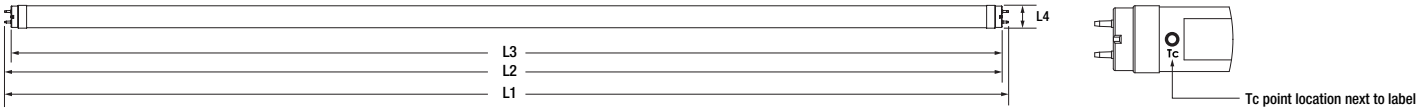
1. Average Lamp Power and Average Lamp Lumens rated on QHE2x32T8/UNV ISN.
* Items will be discontinued when stock is depleted.

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
LED10T8/L48/FG	QHE 2X32T8/UNV ISN	0.22/0.10	26	3200	123	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	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 or LED10/L48/G9; 167°F (75°C) for LED13T8/L48/G8; 149°F (65°C) for LED10T8/L48/G7; 136°F (58°C) for LED10T8/L36/G7 or LED8/L24/G7
13. Please read all installation instructions before attempting installation.
14. For detailed warranty information, please see www.sylvania.com.

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