

# SYLVANIA Lamps

## DUALescent™ LED T8 UL Type A+B Lamp Family

### Application

DUALescent LED T8 Family of lamps are ideal to upgrade fluorescent fixtures whether they are T12 or T8. These lamps are an energy saving alternative, 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 or wired directly to line voltage, these lamps minimize labor and recycling costs. This family of lamps, when installed as Type B, should be wired in the double-ended wiring configuration; however, if the fixture has been reconfigured as single-ended, these lamps are a direct retrofit. DUALescent provides flexibility for the distributor or contractor with one lamp to satisfy either operation with a ballast or line voltage.

### Benefits and Features

- G13 base LED T8 for use with instant start and select programmed rapid start electronic T8 ballasts or direct wire to 120-277V
- Can be used in Single-Ended (SE) or Double-Ended (DE) wiring configurations
- Lamps operate on shunted and non-shunted lampholders thereby reducing installation costs when wired in the double-ended configuration (recommended)
- Optimized glass optics with shatter resistance PET coating
- No polarity; can be installed in either direction
- Operated as UL Type B, DUALescent can also be used to replace T12 lamps
- Suitable for use with tube guards
- Suitable for dry and damp locations – not for use where directly exposed to water
- For UL Type A: Compatible with the following emergency ballasts: IOTA: ISL-54, ISL-540, and I-160
- DLC listing allows for rebates in areas where applicable, saving on overall project cost
- Up to 150 system LPW
- CRI >80
- Offered in: 2-foot 8W, 3-foot 12W, and 4-foot 12W and 18W
- Available beam angle: 200°
- Light emitting angle: 320°
- Energy savings up to 56%

2ft



3ft



4ft



### Electrical

- Compatible with instant start and select programmed rapid start electronic T8 ballasts with input voltage of 120-277V
- Operated as UL Type A: 0-10V dimmable with compatible 0-10V dimming ballast
- Operated as UL Type B: Dimmable by pairing with LEDVANCE 0-10V dimming module (Item no. 75826 – sold separately)
- Compatible with LEDVANCE Field Installable Emergency Battery NAED 75740
- Power Factor >90%
- THD <20%

### Rated Life

- 50,000 hours (L<sub>70</sub>)

### Warranty

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

### Ambient Operating Range

- -4°F to +104°F (-20°C to +40°C)

### Certifications and Listings

- cULus 1993 & 1598C
- RoHS
- FCC and ICES\*
- Mercury-free
- DLC 5.1 Standard
- NSF Listed: NSF/ANSI Standard 2 – Food Equipment

\*As Type A: ICES & FCC: Part 18 Class A  
As Type B: ICES & FCC: Part 15 Class B



LED580R7 10-25



**Installation**

- Please refer to the installation manual included inside the packaging and the applications information listed below for more information.
- When installed as UL Type A, ballast compatible operation, for proper use and warranty coverage, installer must consult the ballast compatibility list to ensure that the lamp and ballast combination is deemed compatible and will operate as intended.

Catalog #	Type
Project	
Comments	
Prepared by	



**Ballast  
Compatibility  
Guide**

**Wattage Comparison**

NAEDs	Traditional Source	Traditional System Wattage	LED System	LED System Wattage	Energy Savings
41471, 41472, 41473, 41474	2ft 17W T8 w/QHE 2X32T8/UNV ISN-SC	29	LED8T8L24FGPAB w/QHE 2X32T8UNV ISN-SC	21	28%
41475, 41476, 41477, 41478	3ft 25W T8 w/QHE 2X32T8/UNV ISN-SC	43	LED12T8L36FGPAB w/QHE 2X32T8UNV ISN-SC	23	47%
41479, 41480, 41481, 41482	4ft 32W T8 w/QHE 2X32T8/UNV ISN-SC	55	LED12T8L48FGPAB w/QHE 2X32T8UNV ISN-SC	26	53%
41657, 41658, 41659, 41660	4ft 32W T8 w/QHE 2X32T8/UNV ISN-SC	55	LED18T8L48FGPDIMAB w/QHE 2X32T8UNV ISN-SC	31	44%
41471, 41472, 41473, 41474	2ft 17W T8 w/QHE 2X32T8/UNV ISN-SC	29	LED8T8L24FGPAB Direct Wire	16	45%
41475, 41476, 41477, 41478	3ft 25W T8 w/QHE 2X32T8/UNV ISN-SC	43	LED12T8L36FGPAB Direct Wire	24	44%
41479, 41480, 41481, 41482	4ft 32W T8 w/QHE 2X32T8/UNV ISN-SC	55	LED12T8L48FGPAB Direct Wire	24	56%
41657, 41658, 41659, 41660	4ft 32W T8 w/QHE 2X32T8/UNV ISN-SC	55	LED18T8L48FGPDIMAB Direct Wire	35	36%

**Ordering Guide**

LED	XX	T8	LXX	FGP	DIM	8	XX	AB
Product Name	Wattage	Lamp Type	Length	Bulb Finish	DIM = Dimmable*	CRI	Color Temperature	Operation
LED = LED Lamp	8 = 8 watts 12 = 12 watts 18 = 18 watts	T8	L48 = 48" L36 = 36" L24 = 24"	FGP = Frosted Glass, PET coating		8 = >80	30 = 3000K 35 = 3500K 41 = 4100K 50 = 5000K	AB = UL Type A or B

\*All lamps on this spec sheet are dimmable regardless of having DIM in the Ordering Abbreviation.

**Ordering Information**

Item Number	Ordering Abbreviation	Length	Replaces	Lamp Power (W)	Input Voltage (V)	Life (L <sub>70</sub> ) (hrs)	CCT	Typical Lumens (lm)	CRI	Dimmable	Power Factor	Bulb Finish	DLC
41471	LED8T8L24FGP830AB	2ft	F017830ECO	8	120-277V or Ballast	50,000	3000K	1120	83	Y	>0.90	Frosted Glass with PET Coating	5.1
41472	LED8T8L24FGP835AB	2ft	F017835ECO	8	120-277V or Ballast	50,000	3500K	1140	83	Y	>0.90	Frosted Glass with PET Coating	5.1
41473	LED8T8L24FGP841AB	2ft	F017841ECO	8	120-277V or Ballast	50,000	4100K	1140	83	Y	>0.90	Frosted Glass with PET Coating	5.1
41474	LED8T8L24FGP850AB	2ft	F017850ECO	8	120-277V or Ballast	50,000	5000K	1140	83	Y	>0.90	Frosted Glass with PET Coating	5.1
41475	LED12T8L36FGP830AB	3ft	F025830ECO	12	120-277V or Ballast	50,000	3000K	1440	83	Y	>0.90	Frosted Glass with PET Coating	5.1
41476	LED12T8L36FGP835AB	3ft	F025835ECO	12	120-277V or Ballast	50,000	3500K	1450	83	Y	>0.90	Frosted Glass with PET Coating	5.1
41477	LED12T8L36FGP841AB	3ft	F025841ECO	12	120-277V or Ballast	50,000	4100K	1500	83	Y	>0.90	Frosted Glass with PET Coating	5.1
41478	LED12T8L36FGP850AB	3ft	F025850ECO	12	120-277V or Ballast	50,000	5000K	1500	83	Y	>0.90	Frosted Glass with PET Coating	5.1
41479	LED12T8L48FGP830AB	4ft	F032830ECO	12	120-277V or Ballast	50,000	3000K	1700	83	Y	>0.90	Frosted Glass with PET Coating	5.1
41480	LED12T8L48FGP835AB	4ft	F032835ECO	12	120-277V or Ballast	50,000	3500K	1750	83	Y	>0.90	Frosted Glass with PET Coating	5.1
41481	LED12T8L48FGP841AB	4ft	F032841ECO	12	120-277V or Ballast	50,000	4100K	1800	83	Y	>0.90	Frosted Glass with PET Coating	5.1
41482	LED12T8L48FGP850AB	4ft	F032850ECO	12	120-277V or Ballast	50,000	5000K	1800	83	Y	>0.90	Frosted Glass with PET Coating	5.1
41657	LED18T8L48FGPDIM830AB	4ft	F032830ECO	18	120-277V or Ballast	50,000	3000	2200	83	Y	>0.90	Frosted Glass with PET Coating	5.1
41658	LED18T8L48FGPDIM835AB	4ft	F032835ECO	18	120-277V or Ballast	50,000	3500	2200	83	Y	>0.90	Frosted Glass with PET Coating	5.1
41659	LED18T8L48FGPDIM841AB	4ft	F032841ECO	18	120-277V or Ballast	50,000	4100	2250	83	Y	>0.90	Frosted Glass with PET Coating	5.1
41660	LED18T8L48FGPDIM850AB	4ft	F032850ECO	18	120-277V or Ballast	50,000	5000	2300	83	Y	>0.90	Frosted Glass with PET Coating	5.1

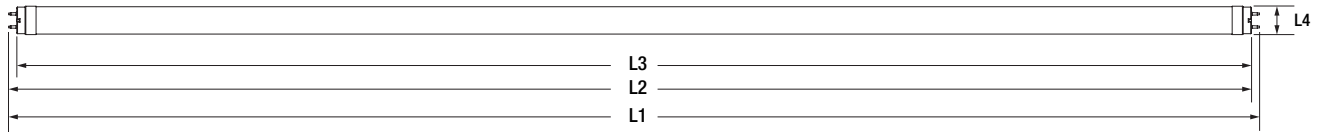
## Dimming Module Ordering Information

Item Number	Ordering Abbreviation	Dimming	Input Voltage	Input Current	Input Wattage	Output Wattage	Efficiency	Lifetime	Warranty
75826	LVDC100WTLEDUNVDIM	0-10V	120-277V <sub>AC</sub>	Max. 1000mA	Max. 100W	Max. 95W	Max. 95%	50,000 hrs	5 yrs

## Specifications & Lighting Data

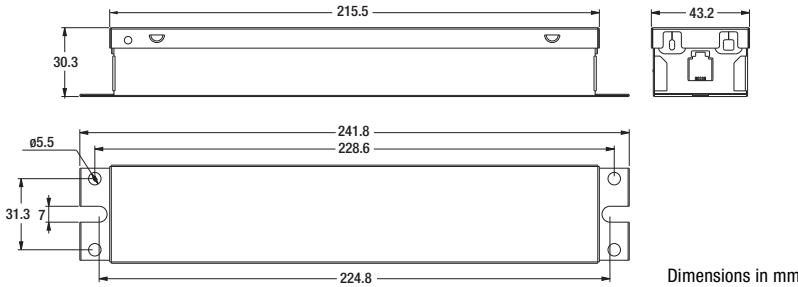
Lamp	Ballast	Current (AMPS)	System Power (W)	System Lumens (lm)	System Efficacy (lm/W)	No. of Lamps
LED8T8L24FGP8XXAB as Type A	QHE 2X32T8/UNV ISN	0.175/0.076	21	2240-2280	>117-120	2
LED12T8L36FGP8XXAB as Type A	QHE 2X32T8/UNV ISN	0.183/0.079	22	2900-3000	>120-125	2
LED12T8L48FGP8XXAB as Type A	QHE 2X32T8/UNV ISN	0.217/0.094	26	3400-3600	>125-133	2
LED18T8L48FGPDIM8XXAB as Type A	QHE 2X32T8/UNV ISN	0.294/0.129	31	4320-4600	>123-129	2
LED8T8L24FGP8XXAB as Type B	N/A	0.133/0.058	16	2240-2280	>140-142	2
LED12T8L36FGP8XXAB as Type B	N/A	0.20/0.087	24	2900-3000	>120-125	2
LED12T8L48FGP8XXAB as Type B	N/A	0.20/0.087	24	3400-3600	>141-150	2
LED18T8L48FGPDIM8XXAB as Type B	N/A	0.165/0.070	35	4320-4600	>123-129	2

## Lamp 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
LED8T8L24FGP8XXAB (2ft)	23.72"±0.055" (602.6mm ±1.4mm)	23.45"±0.05" (595.655mm±1.25mm)	Max 23.22" (1199.4mm)	1.02"±0.08" (25.9mm±2.0mm)
LED12T8L36FGP8XXAB (3ft)	35.72"±0.055" (907.4mm ±1.4mm)	35.45"±0.05" (900.45mm±1.25mm)	Max 35.22" (1199.4mm)	1.02"±0.08" (25.9mm±2.0mm)
LED12T8L48FGP8XXAB (4ft)	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)
LED18T8L48FGPDIM8XXAB (4ft)	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)

## Dimming Module



Overall Length	Width	Height
9.52" ± 0.08" (241.8mm ± 2mm)	1.70" ± 0.08" (43.2mm ± 2mm)	1.19" ± 0.04" (30.3mm ± 1mm)

## Dimmer Compatibility

Lamp Operation	Ballast or Module	Dimming Operation	Lamps per Dimmer
UL Type A	Compatible Dimming Ballast*	0-10V	Dimmer dependent
UL Type B	LVDC100WTLEDUNVDIM**	0-10V	Dimmer dependent

\*Consult the ballast compatibility list for available compatible ballasts.

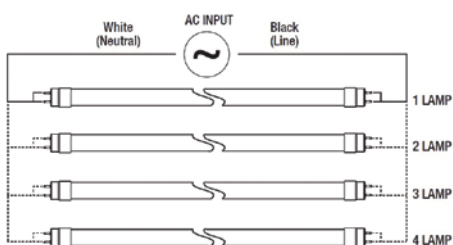
\*\* When pairing 18W DUALescent with dimming module, the maximum system is 3 lamps per each dimming module.

## Wiring Diagrams for UL Type B Installations

Please consult the installation manual provided in the shipping carton for more wiring details.

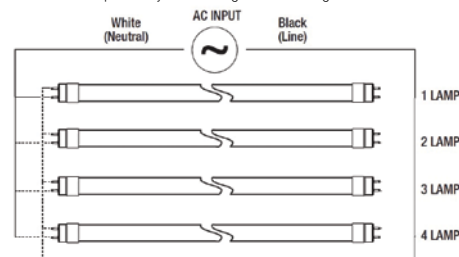
### Double-Ended Wiring

Recommended wiring configuration for all new applications.



### Single-Ended Wiring

For installations previously wired in single-ended configuration.



## Installation Information

1. Please read and comply with all instructions, including the installation manual included inside the packaging before attempting installation.
2. 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 Electric Code (NEC), Underwriters Laboratories, Inc. (UL) requirements, and all applicable codes and regulations
3. **IMPORTANT:** For all new installations operating as UL Type B, follow the wiring instructions for double-ended wiring (recommended). Approved for Single-ended configuration for existing UL Type B applications previously wired as such. See installation manual for wiring options.
4. Ensure lampholders/sockets are in good operating condition before installation and if any defects are detected, change the lampholders/sockets.
5. 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.
6. For instant start ballasts, use lamp holders with an internal shunt or ensure that lamp holders are wired in a shunt configuration.
7. For Programmed Rapid Start ballast, use rapid-start lamp holders (non-shunted lamp holders).
8. De-lamp is not allowed for ISH ballasts.
9. For approved ISN and ISL ballast, 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).
10. Maximum mounting distance between lamp and ballast is 20 feet.
11. Not for use with other LED or fluorescent lamps on the same ballast.
12. Not for use with magnetic ballasts.
13. Not for use with ballasts more than ten years old.
14. 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.
15. When using DUALescent™ as UL Type B wired directly to line voltage, to conform to UL, you **MUST** affix the luminaire warning sticker, included inside the packaging, to the fixture during installation. Should you install as UL Type A, please retain the luminaire warning stickers in a safe place for future use, should the ballast fail, and luminaire is converted to UL Type B.
16. Best practice when using at UL Type B: cap off the remaining ballast wires should the ballast be left in the fixture after disconnecting.
17. Do not make or alter any open holes in an enclosure of wiring or electrical components during installation.
18. Do not expose wiring to edges of sheet metal or other sharp objects.
19. Make sure the lamps have the proper connections before restoring power.
20. When converting a fixture from Type A to Type B and emergency back-up is desired, the installer would also have to change the existing emergency back-up to an inverter-type emergency driver.
21. EM ballast that operates with fluorescent ballast must be disconnected from the lamp while DUALescent operates in type B mode.
22. Compatible with Field-installable emergency battery back-up (NAED 75740).
23. For detailed warranty information, please visit [www.ledvanceUS.com](http://www.ledvanceUS.com).

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