

LEDVANCE LAMPS DUALescent™

5-CCT SELECTABLE 1-5/8" U-BEND LED

UL TYPE A+B LAMPS

LEDVANCE LUMINAIRE SPECIFICATION DATA

Catalog #	Comments
Project	
Type	
Prepared by	

APPLICATION

DUALescent CURVALUME® LED lamps are an ideal upgrade for applications where 1-5/8" U-bend fluorescent lamps being used. The ballast compatible feature provides simple plug-n-play installation whereas the ballast-free feature eliminates incompatibility and ballast maintenance when lamps are directly connected to line voltage. DUALescent provides flexibility for the distributor or contractor with one lamp to satisfy either operation with a ballast or line voltage, along with a 5CCT SELECTABLE feature which further aids in inventory reduction and greater job site flexibility.

When installing these lamps in UL Type B mode, the UL rating of the existing fixture is not voided (even when it is electrically modified) since our DUALescent lamp is UL Classified (as a luminaire conversion retrofit kit) under UL standard 1598C. UL1598C is the standard covering LED retrofits intended for an existing UL rated fixture. Since the user is retrofitting with a UL1598C classified LED kit, the installer must follow the installation instructions included with the lamps and affix the included warning label where visible on the fixture for the modified fixture to retain its UL rating.



BENEFITS & FEATURES

- Replace traditional 1-5/8" U-bend fluorescent lamps of 31W, 29W, 24W, 16W
- Available Length/Wattage:
22.5"/13W, 16.5"/9.5W, 10.5"/7W
- Single-End (SE) or Double-End (DE) wiring capability
- CCT color temperatures:
3000K/3500K/4100K/5000K/6500K
- Beam angle: 145° and Field angle:
300° with frosted nano plastic optics
- CRI >80
- No warm-up time, instant-on with full light output and stable lamp-to-lamp color
- No UV emission
- Suitable for dry and damp locations
- Can be used in enclosed luminaire (with diffuser or lens only, not gasketed)



ORDERING GUIDE

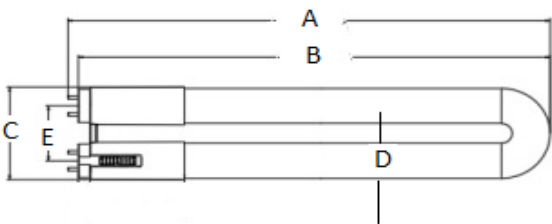
LED	XX	T8U1	FP	D	8	SC12	AB
LED	WATTAGE	LAMP TYPE	COLOR/FINISH	DIMMING	CRI	COLOR TEMP	OPERATION
LED = LED Lamp	13 = 13 Watts 9.5 = 9.5 Watts 7 = 7 Watts	T8U1 = T8 1-5/8" Ubend	FP = Frosted Nano Plastic	DIM = Dimmable	8 = 82	SC12 = CCT Selctable 3000K/3500K/4100K/ 5000K/6500K	AB = UL Type A+B

ORDERING INFORMATION

ITEM #	ORDERING ABBREVIATION	LENGTH	REPLACES	LAMP POWER (W)	INPUT VOLTAGE (V)	LIFE (L ₇₀) HOURS	CCT	TYPICAL LUMEN (LM) @4100K	CRI	DIM-MABLE	POWER FACTOR	BULB FINISH	DLC
41649	LED13T8U1FPDIM8SC12AB	22.5"	FB31/FBO31 FB29/FBO29	13	120-277V or Ballast	50,000	3000K/3500K /4100K/5000K /6500K	2000	82	Yes	>0.90	Frosted Nano Plastic	DLC 5.1
41650	LED9.5T8U1FPDIM8SC12AB	16.5"	FB24/FBO24	9.5	120-277V or Ballast	50,000	3000K/3500K /4100K/5000K /6500K	1450	82	Yes	>0.90	Frosted Nano Plastic	N/A
41651	LED7T8U1FPDIM8SC12AB	10.5"	FB16/FBO16	7	120-277V or Ballast	50,000	3000K/3500K /4100K/5000K /6500K	950	82	Yes	>0.90	Frosted Nano Plastic	N/A

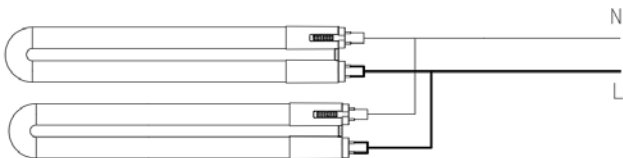
PHYSICAL INFORMATION

LAMP DESCRIPTION	A MAXIMUM OVERALL LENGTH (MOL)	B BASE FACE TO LAMP END (INCH/MM)	C OVERALL LAMP WIDTH (INCH/MM)	D BULB DIAMETER IN LEGS(INCH/MM)	E LENGTH CENTER TO CENTER (INCH/MM)	BARE LAMP WEIGHT (LB/G)
LED13T8U1FPDIM8SC12AB	22.71/577.0	22.44/570.0	2.73/69.3	1.10/27.9	1.61/41	0.370/168
LED9.5T8U1FPDIM8SC12AB	16.71/424.6	16.44/417.6	2.73/69.3	1.10/27.9	1.61/41	0.295/134
LED7T8U1FPDIM8SC12AB	10.71/272.2	10.44/265.2	2.73/69.3	1.10/27.9	1.61/41	0.242/110

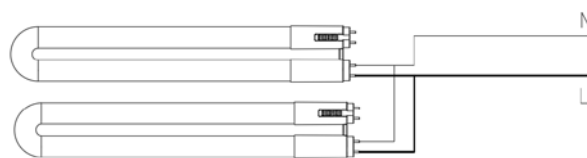


WIRING DIAGRAM

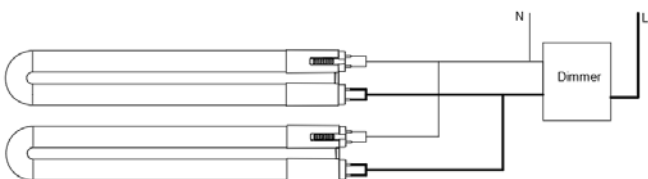
DOUBLE-END WIRING



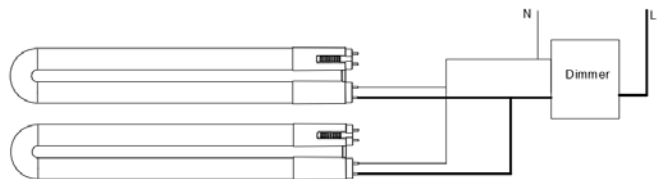
SINGLE-END WIRING



DOUBLE-END WIRING WITH A 120V INPUT PHASE-CUT DIMMER



SINGLE-END WIRING WITH A 120V INPUT PHASE-CUT DIMMER



ELECTRICAL

- Operate with compatible instant start and programmed rapid start electronic T8 ballasts and directly on 120-277V
- Power Factor >0.9
- THD <20%
- UL Type B: Lamps are dimmable down to 10% with 120V phase cut dimmers (see the dimmer list below)
- UL Type A: Dimmable with 0-10V dimmers and compatible dimming ballasts (refer to ballast compatibility guide)
- Compatible with LEDVANCE EMBB (75740) when operating at UL Type B mode

RATED LIFE

- 50,000hrs (L₇₀)

OPERATING TEMPERATURE

- -4°F to +122°F (-20°C to +50°C)

MAXIMUM CASE TEMPERATURE

- 149° F (65°C)

WARRANTY

- Lamps are covered by a 5-year limited warranty. For additional details, please visit www.ledvanceUS.com/warranty
- NLB Trusted Warranty Program

CERTIFICATIONS & LISTINGS

- cULus (UL1598C, UL1993, CSA 22.2)
- NSF (ANSI 2 — Food Equipment)
- FCC (for US) & ICES (for Canada)
- RoHS
- DLC 5.1 for 13W lamps
- Mercury Free

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.

Ballast
Compatibility
Guide



SPECIFICATIONS AND LIGHTING DATA

LAMP	BALLAST	CURRENT (AMPS) 120/277V	SYSTEM POWER (W)	SYSTEM LUMEN (LM) @4100K	SYSTEM EFFICACY (LM/W)	NO. OF LAMPS
LED13T8U1FPDIM8SC12AB as Type A	QHE 2x32T8 UNV ISN-SC	0.240/0.110	28	4000	143	2
LED9.5T8U1FPDIM8SC12AB as Type A	QHE 2x32T8 UNV ISN-SC	0.190/0.090	22	3000	136	2
LED7T8U1FPDIM8SC12AB as Type A	QHE 2x32T8 UNV ISN-SC	0.140/0.070	15.5	1950	126	2
LED13T8U1FPDIM8SC12AB as Type B	N/A	0.133/0.580	13	2000	154	1
LED9.5T8U1FPDIM8SC12ABas Type B	N/A	0.096/0.042	9.5	1450	153	1
LED7T8U1FPDIM8SC12ABas Type B	N/A	0.071/0.031	7	950	136	1

WATTAGE COMPARISON*

ITEM #	TRADITIONAL SOURCE	TRADITIONAL SYSTEM WATTAGE	LED SYSTEM	LED SYSTEM WATTAGE (TYPE B)	ENERGY SAVINGS
41649	FB31/FBO31, FB29/FBO29	26.5	LED13T8U1FPDIM8SC12AB	13.5	49%
41650	FB24/FBO24	20.5	LED9.5T8U1FPDIM8SC12AB	10	51%
41651	FB16/FBO16	14	LED7T8U1FPDIM8SC12AB	8	43%

*System data on QHE2X32UNV ISN-SC stated per lamp

DIMMER COMPATIBILITY

UL Type A

0-10V Compatible dimmers with compatible ballasts

DIMMER	MODEL
Lutron	NTSTV-DV
Lutron	NSTV
Lutron	DVTV
Lutron	DVSTV
Leviton	DS710
Leviton	IP710
Legrand	H4FBL3PW

UL Type B

Dimming is only wired to 120V input voltage

DIMMER	MODEL
Lutron	DVLEV – 303P
Lutron	SLEV – 303P
Lutron	CTLEV – 303P
Lutron	NTLEV – 300
Lutron	NTLEV – 600

APPLICATION NOTES

- Please read and comply with all instructions, including the installation manual included inside the packaging before attempting installation
- 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
- **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
- Ensure lamp holders/sockets are in good operating condition before installation and if any defects are detected, change the lamp holders/sockets. 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
- For instant start ballasts, use lamp holders with an internal shunt or ensure that lamp holders are wired in a shunt configuration
- For Programmed Rapid Start ballast, use rapid-start lamp holders (non-shunted lamp holders)
- De-lamp is not allowed for ISH ballasts
- 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, 2 lamp ballast can de-lamp to 1 lamps)
- Maximum mounting distance between lamp and ballast is 20 feet
- Not for use with other LED or fluorescent lamps on the same ballast
- Not for use with magnetic ballasts
- 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
- Not for use with ballasts that are more than ten years old
- 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
- Best practice when using at UL Type B: cap off the remaining ballast wires should the ballast be left in the fixture after disconnecting
- Do not make or alter any open holes in an enclosure of wiring or electrical components during installation
- Do not expose wiring to edges of sheet metal or other sharp objects
- Make sure the lamps have the proper connections before restoring power
- 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 invertertype emergency driver or LEDVANCE EMBB 75740
- EM ballast that operates with fluorescent ballast must be disconnected from the lamp while DUALescent operates in type B mode
- For detailed warranty information, please visit www.ledvanceUS.com

LEDVANCE LLC
181 Ballardvale Street, Suite 203
Wilmington, MA 01887 USA
Phone 1-800-LIGHTBULB (1-800-544-4828)
www.ledvanceUS.com

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