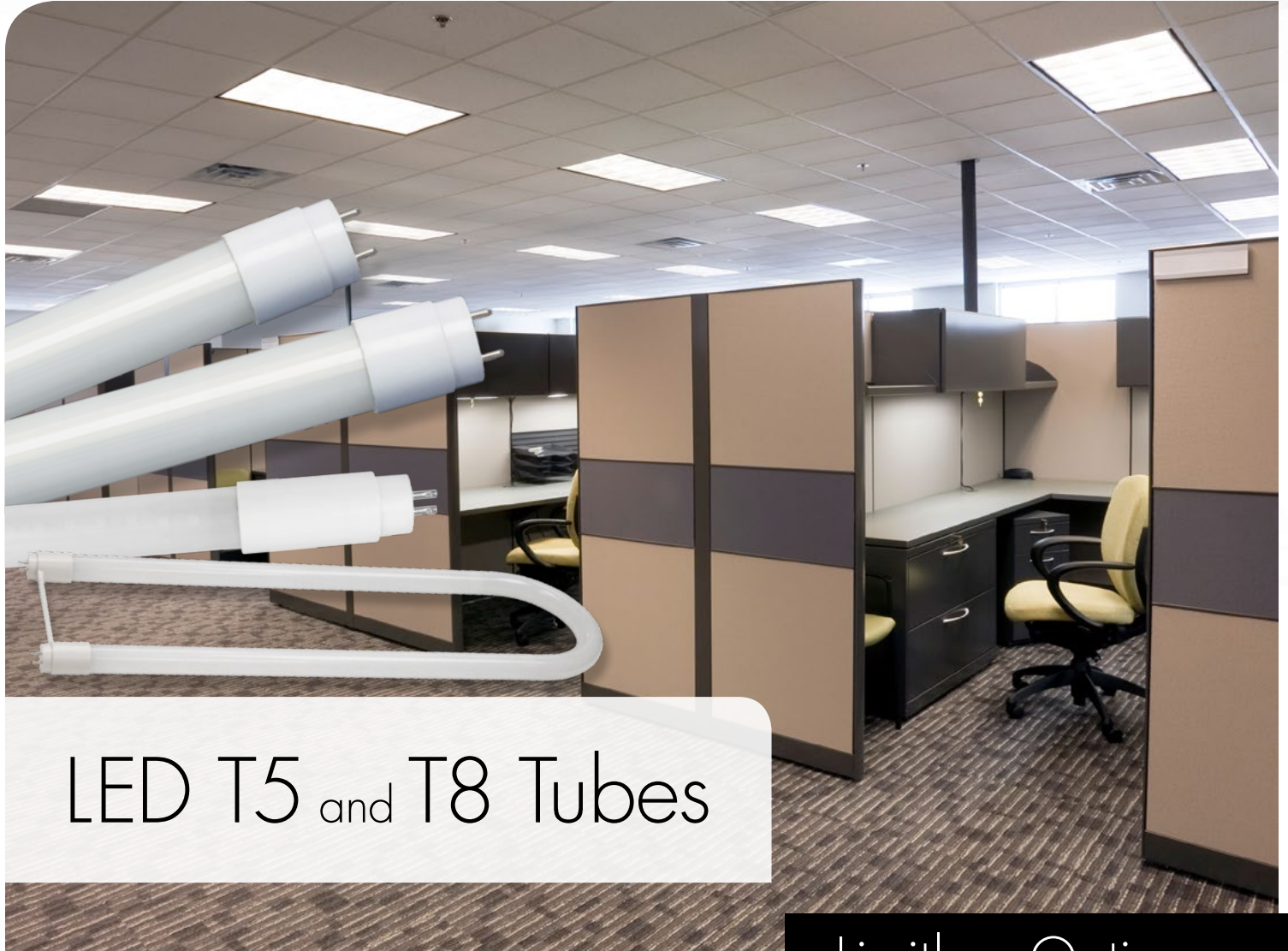




Direct5™  
LED

Direct8™  
LED



## LED T5 and T8 Tubes

Limitless Options  
for the following applications:

TCP has a new generation of LED compatible replacement T5 and T8 tubes for linear fixtures. These T5 and T8 tubes are dimmable and feature multiple ballast compatibility including Instant Start, Rapid Start, and Programmed Start.

- Offices
- Restaurants
- Retail Stores
- Lobbies
- Schools
- Hospitals



5 YEAR  
WARRANTY



we know light.™



Direct5™  
LED

Direct8™  
LED

## Features and Benefits

>50% energy savings (based on T8 NBF energy use)
Long 50,000 hour rated life — minimizes replacements and labor costs
Compatible with Instant, Rapid or Programmed Start ballasts and most traditional fluorescent ballasts
Dimmable (0-10v dimming ballasts recommended)
No rewiring of fixture — simply replace fluorescent lamp with LED lamp
Instant on/off
No mercury — great for all environments
Rated for enclosed fixtures
2', 3', 4' tubes and U6 tube options available
No UV

## Specifications

Item #	Min Starting Temp	Max Operating Temp	Voltage	NSF 2 Rated	Beam Angle	Field Angle*	PF	THD**
L12T8	-30c	55c	120-277, 347V	no	210°	325°	> .99	< 8%
LPT815A	-30c	55c	120-277, 347V	no	200°	305°	> .99	< 8%
LT818A	-30c	55c	120-277, 347V	no	200°	305°	> .99	< 8%
L12T8-95	-30c	55c	120-277, 347V	no	210°	325°	> .99	< 8%
T80414095P	-30c	55c	120-277V	no	200°	305°	> .99	< 8%
L11T8	-30c	55c	120-277, 347V	no	210°	325°	> .99	< 8%
T80430	-30c	55c	120-277V	no	200°	305°	> .99	< 8%
L11T83	-30c	55c	120-277, 347V	no	210°	325°	> .99	< 8%
L9T8	-30c	55c	120-277, 347V	no	210°	325°	> .99	< 8%
<b>L13T8U</b>	<b>-30c</b>	<b>55c</b>	<b>120-277, 347V</b>	<b>no</b>	<b>160°</b>	<b>325°</b>	<b>&gt; .99</b>	<b>&lt; 8%</b>
L15T8-SC	-30c	45c	120-277, 347V	yes	160°	290°	> .99	< 8%
L25T5	-20C	45c	120-277, 347V	yes	160°	270°	> .99	< 5%
L13T5	-20C	45c	120-277, 347V	yes	160°	250°	> .99	< 5%

**NOTE: Use shunted sockets for Instant Start ballasts. Use unshunted sockets for Rapid, Programmed, and Dimmable ballasts.**

\*Calculated \*\*At 120v, ballast dependent

## Listing

UL/cUL Listed – damp location rated
Approved for open and enclosed fixtures

## Warranty

Five years against defects in manufacturing
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LED T5 Tube  
4 foot



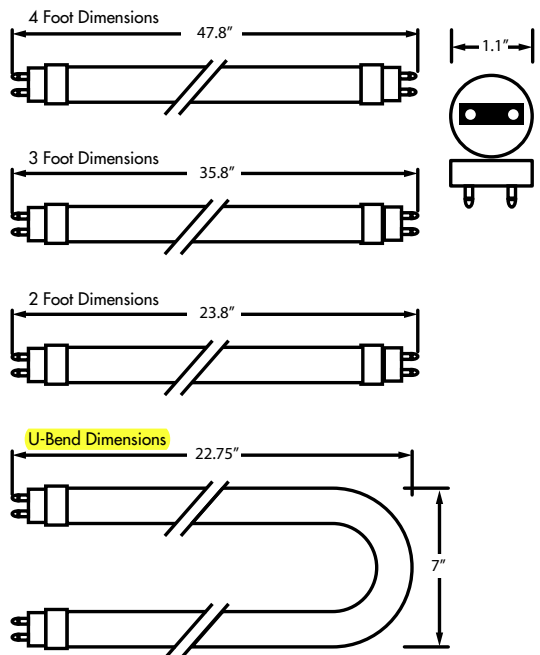
LED T8 Tube  
4 foot



LED T8 Tube  
3 foot



LED T8 Tube  
2 foot



To view our DLC qualified products, please consult the DLC Qualified Products List at [www.designlights.org/qpl](http://www.designlights.org/qpl).



5 YEAR WARRANTY



## LED T8 Tubes

### LED DirecT8™ Instant Start/Rapid Start/Programmed Start Compatible (Cont.)

Item#	Description	DLC QPL*	Lamp Watts	Equip Watts	LBF System Watts	NBF System Watts	HBF System Watts	LBF Lumens	NBF Lumens	HBF Lumens	CCT	CRI	Base
<b>LED 13 WATT U-BEND T8 TUBE – 6 INCH PLASTIC MODEL# T8006</b>													
L13T8UD5030K	LED 13W U6 T8 IS/RS 30K	★	13W	32W	13.0	16.0	22.0	1400	1800	2500	3000K	83	2G13
L13T8UD5035K	LED 13W U6 T8 IS/RS 35K	★	13W	32W	13.0	16.0	22.0	1400	1800	2500	3500K	83	2G13
L13T8UD5041K	LED 13W U6 T8 IS/RS 41K	★	13W	32W	13.0	16.0	22.0	1450	1850	2550	4100K	83	2G13
L13T8UD5050K	LED 13W U6 T8 IS/RS 50K	★	13W	32W	13.0	16.0	22.0	1500	1900	2600	5000K	83	2G13

### LED DirecT8™ SHATTERPROOF Instant Start Ballast Only

Item#	Description	DLC QPL*	Lamp Watts	Equip Watts	LBF System Watts	NBF System Watts	HBF System Watts	LBF Lumens	NBF Lumens	HBF Lumens	CCT	CRI	Base
<b>LED 15 WATT T8 TUBE – 4 FOOT PLASTIC (DLC SEARCH "LPT815A*")</b>													
LPT815A41KBP	LED 15W 4' T8 IS/RS SC 41K BULK PACK	★	15W	32W	15	18	21.5	1650	2100	2450	4100K	80	G13

### LED DirecT8™ SHATTERPROOF Instant Start/Rapid Start/Dimmable Electronic Compatible

Item#	Description	DLC QPL*	Lamp Watts	Equip Watts	LBF System Watts	NBF System Watts	HBF System Watts	LBF Lumens	NBF Lumens	HBF Lumens	CCT	CRI	Base
<b>LED 15 WATT T8 TUBE – 4 FOOT SHATTERPROOF GLASS MODEL# T8032 PHASED OUT</b>													
L15T8D5030KSC	LED 15W 4' T8 IS/RS SC 30K	★	15W	32W	14.5	18	21.5	1600	2000	2350	3000K	80	G13
L15T8D5035KSC	LED 15W 4' T8 IS/RS SC 35K	★	15W	32W	14.5	18	21.5	1600	2000	2350	3500K	80	G13
L15T8D5041KSC	LED 15W 4' T8 IS/RS SC 41K	★	15W	32W	14.5	18	21.5	1650	2100	2450	4100K	80	G13
L15T8D5050KSC	LED 15W 4' T8 IS/RS SC 50K	★	15W	32W	14.5	18	21.5	1700	2200	2500	5000K	80	G13

## LED T5 Tubes

### LED DirecT5™ SHATTERPROOF Electronic Ballast Compatible

Item#	Description	DLC QPL*	Lamp Watts	Equip Watts	System Watts	System Lumens	CCT	CRI	Base
<b>LED 25.5 WATT T5 TUBE – 4 FOOT SHATTERPROOF GLASS MODEL# T8033</b>									
L25T5D5030K	LED 25W 4' T5 IS/RS SC 30K	★	25.5W	54W	28	3150	3000K	80	G5
L25T5D5035K	LED 25W 4' T5 IS/RS SC 35K	★	25.5W	54W	28	3150	3500K	80	G5
L25T5D5041K	LED 25W 4' T5 IS/RS SC 41K	★	25.5W	54W	28	3190	4100K	80	G5
L25T5D5050K	LED 25W 4' T5 IS/RS SC 50K	★	25.5W	54W	28	3280	5000K	80	G5
<b>LED 13 WATT T5 TUBE – 4 FOOT SHATTERPROOF GLASS MODEL# T8034</b>									
L13T5D5030K	LED 13W 4' T5 IS/RS SC 30K	★	13W	28W	16	1800	3000K	80	G5
L13T5D5035K	LED 13W 4' T5 IS/RS SC 35K	★	13W	28W	16	1800	3500K	80	G5
L13T5D5041K	LED 13W 4' T5 IS/RS SC 41K	★	13W	28W	16	1850	4100K	80	G5
L13T5D5050K	LED 13W 4' T5 IS/RS SC 50K	★	13W	28W	16	1900	5000K	80	G5

\* DLC qualified product at time of printing, consult designlights.org for the most up-to-date listing.



# LED T8 Ballast Compatibility Guides

## Instant Start Ballasts Compatible with LED DirecT8™

Manufacturer	Model #	Voltage
ESPEN	VE2P32MVHIPE	UNV
	VE4P32MVHIPE	UNV
GE	GE132MAX-L/ULTRA	UNV
	GE132MAX-P-N/ULTRA	UNV
	GE232MAX347-N	347
	GE232MAX-N/ULTRA	UNV
	GE232MAX-G-N	UNV
	GE232MAX-P-N/ULTRA	UNV
	GE232MAX-H/ULTRA	UNV
	GE232MAX-P-H/ULTRA	UNV
	GE232MAX-P-L/ULTRA	UNV
	GE332MAX-L/ULTRA	UNV
	GE332MAX-N/ULTRA	UNV
	GE332MAX-P-N/ULTRA	UNV
	GE332MAX-G-N	UNV
	GE332MAX-H/ULTRA	UNV
	GE432MAX-P-L/ULTRA	UNV
	GE432MAX-G-N	UNV
	GE432MAX-N/ULTRA	UNV
	GE432MAX-H/ULTRA	UNV
	GE432MAX-P-H/ULTRA	UNV
	Osram/Sylvania	QHE2X32T8/UNV ISN-SC
QHE2X32T8/UNV ISL-SC		UNV
QHE2X32T8/UNV ISH-SC		UNV
QHE2X32T8/347 ISN-SC		347
QHE4X32T8/UNV ISN-SC		UNV
QHE4X32T8/UNV ISL-SC		UNV
QHE4X32T8/UNV ISH-SC		UNV
QHE4X32T8/UNV ISH		UNV
QTP2X32T8/UNV ISN-SC		UNV
QTP3X32T8/UNV ISN-SC		UNV
QTP2X32T8/UNV ISL-SC		UNV
QTP3X32T8/UNV ISL-SC		UNV
QTP2X32T8/UNV ISH-SC		UNV
QTP3X32T8/UNV ISH-SC		UNV
QTP4X32T8/UNV ISN-SC		UNV
Philips/Advance		IOPA-2P32-LW-N
	IOPA-3P32-LW-N	UNV
	IOPA-4P32-LW-N	UNV
	IOPA-4P32-N	UNV
	IOPA-2P32-HL-N	UNV
	IOPA-3P32-HL-N	UNV

Manufacturer	Model #	Voltage
Philips/Advance (cont.)	IOPA-2P32-LW-SC	UNV
	IOPA-4P32-LW-SC	UNV
	IOP-2P32-LW-N	UNV
	IOP-3P32-LW-N	UNV
	IOP-4P32-LW-N	UNV
	IOP-3P32-N	UNV
	ICN-2P32-N	UNV
	ICN-3P32-N	UNV
	ICN-2P32-SC	UNV
	ICN-4P32-N	UNV
	GOPA-2P32-SC	347
	GOPA-4P32-SC	347
	REL-2P32-SC	UNV
	REL-2P32-RH-TP	UNV
	VEL-2P32-SC	UNV
	VEL-4P32-SC	UNV
	IOP-3P32-HL-90L-SC	UNV
	VOP-2P32-LW	277
	GEL-2P32-SC	347
	GEL-3P32-SC	347
Standard	E432T8IS120/N/AS	UNV
	E232T8IS120/N/AS	UNV
	E432PI347G0/347	347
	E232T8IS347/H/90C	347
	E432T8IS347/H/90C	347
TCP	E2P32ISUNVE	UNV
	E2P32ISUNVHE	UNV
	E2P32ISUNVLE	UNV
	E3P32ISUNVE	UNV
	E3P32ISUNVHE	UNV
	E3P32ISUNVLE	UNV
	E4P32ISUNVE	UNV
	E4P32ISUNVHE	UNV
	E4P32ISUNVLE	UNV
	E2P32IS120RES	UNV
	Universal	B132IUNVHP-N
B232IUNVHP-N		UNV
B232IUNVEL-A rev D		UNV
B232I277RH-A		277
B332IUNVHP-A		UNV
B432I277RH-A		277
B432I120RH-A		UNV
B232I120RH-A*		UNV
B432IUNVHP-A		UNV

\*Requires 5 minutes of warm up time

Ballast compatibility tests are performed under a controlled lab environment. Field conditions may vary from this type of environment. Ballasts may differ by age and could have undergone revisions under the same item number affecting compatibility. Compatibility may also extend beyond this list. TCP recommends trying a few ballast-lamp combinations in an on-site test to ensure compatibility and performance before a major installation.

Instant Start Ballasts Not Recommended for use with LED DirecT8 include:  
Philips/Advance: IOP-3P32-LW-SC, IOP-2P32-LW-SC



## LED T8 Ballast Compatibility Guides

### Program Start Ballasts Compatible with LED DirecT8™

Manufacturer	Model #	Voltage
GE	GE-232-MVPS-N	UNV
	GE-232-MVPS-L	UNV
	GE-232MAXP-N/ULTRA	UNV
	GE232MAXH/ULTRA	UNV
	GE332-MVPS-N	UNV
	GE332-MVPS-H	UNV
	GE432-MVPS-N	UNV
	GE432-MVPS-H	UNV
	GE432-MVPS-L	UNV
	GE-432-MAX-N/ULTRA	UNV
Osram/Sylvania	QHE-2x32T8/UNV PSN-MC	UNV
	QHE-2x32T8/UNV PSH-HT	UNV
	QHE 3x32T8/UNV PSN-SC	UNV
	QHE 4x32T8/UNV PSN-SC	UNV
	QHE 4x32T8/UNV PSH-HT	UNV
	QTP2X32T8/UNV PSN-TC	UNV
Philips/Advance	IOP-2PSP32-N	UNV
	IOP-3PSP32-SC	UNV
	IOP-4PSP32-SC	UNV
	GOP-2PSP32-SC	UNV
	GOP-4PSP32-SC	UNV
	IOP-3S32-SC	UNV
TCP	E2P32PSUNVE	UNV
	E3P32PSUNVE	UNV
	E4P32PSUNVE	UNV
	E2P32PSUNVHE	UNV
	E3P32PSUNVHE	UNV
	E4P32PSUNVHE	UNV
	E2P32PSUNVLE	UNV
	E3P32PSUNVLE	UNV
	E4P32PSUNVLE	UNV
	2S32PSUNVHE	UNV
Universal	B232PUNVHE-B	UNV

### Program Start Dimmable Ballasts Compatible with LED DirecT8™

Manufacturer	Model #	Voltage
<b>BALLAST for 1 LAMP</b>		
Philips/Advance	IZT-132-SC	UNV
<b>BALLAST for 2 LAMPS</b>		
Philips/Advance	IZT-2S32-SC	UNV
	IZT-2PSP32-SC	UNV

### Emergency Ballasts Compatible with LED DirecT8™

Manufacturer	Model #	Voltage
IOTA	I-320	I-320
Bodine	B30	B30
	B50	B50