



Direct8  
LED

# T8 Tubes

Type A Instant / Programmed  
Start Ballasts



TCP's Direct8 tubes are the perfect replacement for old fluorescent lighting. Remove the existing T8 fluorescent and replace with Direct8 Type A plug and play tubes. These tubes feature multiple ballast compatibility including Instant Start, Programmed Start, Rapid Start, and Dimmable ballasts.

## Reasons to choose the LED T8 IS/PS Tubes from TCP

- Over 50% energy savings compared to traditional fluorescent
- 50,000 hour life minimizes the need for replacements and labor costs
- Compatible with Instant, Rapid or Programmed Start ballasts and most traditional fluorescent ballasts
- No rewiring of fixture necessary
- Dimmable (0-10V dimming ballasts recommended)
- Instant on/off
- No mercury – great for all environments
- Rated for enclosed fixtures
- 4' tubes
- No UV

## Ideal Applications

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

## Specifications:

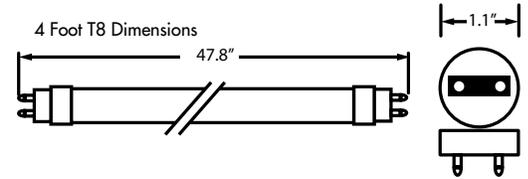
### Listing

UL/cUL Listed – damp location rated  
 DLC rated  
 Approved for open and enclosed fixtures  
 PET Coated is NSF Listed Std 2

### Warranty

Five years against defects in manufacturing

LED T8 Tube  
 4 foot  
 L15T8-SC



Item #	Min Starting Temp	Max Operating Temp	Voltage	NSF 2 Rated	Beam Angle	Field Angle*	PF	THD**
L12T8PS	-20C / -4F	45C / 113C	120-277, 347V	no	190°	310°	> .99	< 8%
L13T8U	-20C / -4F	45C / 113C	120-277, 347V	no	160°	325°	> .99	< 8%
L15T8-SC	-20C / -4F	45C / 113C	120-277, 347V	yes	160°	300°	> .99	< 8%

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

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



# DirecT8 IS/PS T8 Tubes

## DirecT8 IS/PS T8 Tubes

Item#	Description	LED Watts	Voltage	Flourescent Equivalent	Lumes	LPW	CRI	Base	Color Temp	Master Pack
<b>ALUMINUM / PLASTIC</b>										
<b>LED 14 WATT TYPE A T8 TUBE - 4 FOOT ALUMINUM/PLASTIC G13 BASE - SINGLE ENDED</b>										
L14T8D5030KSC	LED 14W 4' T8 IS RS SC 30K	14W	120-277V	32W	2200	155	80	G13	3000K	25
L14T8D5035KSC	LED 14W 4' T8 IS RS SC 35K	14W	120-277V	32W	2200	155	80	G13	3500K	25
L14T8D5041KSC	LED 14W 4' T8 IS RS SC 41K	14W	120-277V	32W	2200	155	80	G13	4100K	25
L14T8D5050KSC	LED 14W 4' T8 IS RS SC 50K	14W	120-277V	32W	2200	155	80	G13	5000K	25
L14T8D5065KSC	LED 14W 4' T8 IS RS SC 65K	14W	120-277V	32W	2200	155	80	G13	6500K	25

\* Nominal Values. Actual values vary depending on electronic ballast used.

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.



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  
\*Based on 12 hours use per day

## LED T8 Ballast Compatibility Guides for L14T8D50XXKSC

Brand	Model #	Start Method	Four Lamp		Three Lamp		Two Lamp		One Lamp	
			347V	480V	347V	480V	347V	480V	347V	480V
Arcata	ACT2P32IS347	IS	-	-	-	-	Y	Y	Y	Y
	ACT4P32IS347	IS	Y	Y	Y	Y	-	-	-	-
Advance	GOPA2P32LW-N	IS	-	-	-	-	N	-	Y	-
	GOPA2P32LW-SC	IS	-	-	-	-	Y	-	Y	-
	GOPA4P32LW-SC	IS	Y	-	Y	-	-	-	-	-
	GOPA2P32-SC	IS	-	-	-	-	Y	-	Y	-
	GOPA4P32-SC	IS	Y	-	Y	-	-	-	-	-
Fusion	FB232347E-HE	IS	-	-	-	-	Y	-	Y	-
	FB232347E-L	IS	-	-	-	-	Y	-	Y	-
	FB232347E-PPS-HE	PS	-	-	-	-	Y	-	Y	-
	FB432347E-HE	IS	Y	-	Y	-	-	-	-	-
	FB432347E-L	IS	Y	-	Y	-	-	-	-	-
	FB432347E-PPS-HE	PS	Y	-	Y	-	-	-	-	-
GE	GE232MAX347H	IS	-	-	-	-	Y	-	N	-
	GE332MAX347H	IS	-	-	Y	-	N	-	-	-
	GE432MAX347H	IS	N	-	N	-	-	-	-	-
Magnetek	B232I347HP	IS	-	-	-	-	N	-	N	-
Osram	GHE 2x32 T8/347 ISL-SC	IS	-	-	-	-	Y	-	Y	-
	GHE 2x32 T8/347 ISN-SC	IS	-	-	-	-	Y	-	Y	-
	GHE 4x32 T8/347 ISL-SC	IS	Y	-	Y	-	-	-	-	-
Standard	E232T8IS347/H/90C	IS	-	-	-	-	N	-	N	-
	E232T8IS347/L/BULK	IS	-	-	-	-	Y	-	Y	-
	E232T8IS347/N/BULK	IS	-	-	-	-	Y	-	Y	-
	E432P347G01	IS	Y	-	N	-	-	-	-	-
	E432T8IS347/L/BULK	IS	Y	-	Y	-	-	-	-	-
	E432T8IS347/N	IS	Y	-	Y	-	-	-	-	-
	E432T8IS347/N/BULK	IS	N	-	N	-	-	-	-	-
E432T8IS347/H/90C	IS	N	-	N	-	-	-	-	-	
Universal	B232I347HEA	IS	-	-	-	-	Y	-	Y	-
	B432I347HEA	IS	Y	-	Y	-	-	-	-	-
	B432I347RH	IS	Y	-	Y	-	-	-	-	-

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.



# Direct8 IS/PS T8 Tubes

## Electronic Ballasts Compatible with LED Direct8™ for L15T8D50XXKSC and L13T8UD50XXK Series

### Instant Start Ballasts

Brand	Model #	Four Lamp		Three Lamp		Two Lamp		One Lamp	
		120V	277V	120V	277V	120V	277V	120V	277V
Advance	ICN-1P32-N	-	-	-	-	-	-	Y	Y
	ICN-2P32-N	-	-	-	-	Y	Y	N	N
	ICN-3P32-N	-	-	Y	Y	Y	Y	-	-
	ICN-4P32-N	Y	Y	Y	Y	-	-	-	-
	ICN-2P32-SC	-	-	-	-	Y	Y	Y	Y
	ICN-4P32-SC	N	Y	N	Y	-	-	-	-
	IOPA-1P32-N	-	-	-	-	Y	Y	N	N
	IOPA-4P32-N	Y	Y	Y	Y	-	-	-	-
	IOPA-1P32-LW-N	-	-	-	-	-	-	N	N
	IOPA-2P32-LW-N	-	-	-	-	Y	Y	N	N
	IOPA-4P32-LW-N	Y	Y	Y	Y	-	-	-	-
	REL-2P32-SC	-	-	-	-	Y	-	Y	-
REL-4P32-RH-TP	N	-	N	-	-	-	-	-	
Espen	VE232MVHHP	-	-	-	-	Y	Y	Y	Y
	VE232MVHIPE	-	-	-	-	Y	Y	Y	Y
	VE232MVHHPHE	-	-	-	-	Y	Y	N	N
	VE432MVHHP	Y	Y	Y	Y	-	-	-	-
	VE432MVHIPE	Y	Y	Y	Y	-	-	-	-
Fulham	NPY-120-432-T8B	Y	-	Y	-	-	-	-	-
	NPY-120-432-T8IS	Y	-	Y	-	-	-	-	-
	WHCG3-120-T8IS	-	-	Y	-	Y	-	-	-
	WH2-120L	-	-	-	-	-	-	Y	-
Fusion	WH5-120L	Y	-	N	-	-	-	-	-
	FB232MVE	-	-	-	-	Y	Y	Y	Y
	FB232MVEHE	-	-	-	-	Y	Y	Y	Y
	FB232MVELHE	-	-	-	-	Y	-	Y	-
	FB332MVE	-	-	Y	Y	Y	Y	-	-
	FB432MVE	N	N	N	N	-	-	-	-
GE	FB432MVEHE	N	N	N	N	-	-	-	-
	GE132MAXP-N/ULTRA	-	-	-	-	-	-	Y	Y
	GE232-120RES-DIYB	-	-	-	-	Y	-	Y	-
	GE232MAX-G-N	-	-	-	-	Y	Y	Y	Y
	GE232MAXPL/ULTRA	-	-	-	-	Y	Y	Y	Y
	GE232MAXP-N/ULTRA	-	-	-	-	Y	Y	Y	Y
	GE232MAXPH/ULTRA	-	-	-	-	Y	Y	N	N
	GE232-MV-N	-	-	-	-	Y	Y	Y	Y
	GE332MAXL/ULTRA	-	-	Y	Y	Y	Y	-	-
	GE332MAX90V60	-	-	Y	Y	N	N	-	-
	GE332MVN-DIY	-	-	Y	Y	Y	Y	-	-
	GE432MAX-G-N	Y	Y	Y	Y	-	-	-	-
Howard	GE432MAXH/ULTRA	Y	Y	Y	Y	-	-	-	-
	GE432MAXH-42T	Y	Y	Y	Y	-	-	-	-
	EP3/32IS/MV/SC/HE	-	-	Y	Y	Y	Y	-	-
Keystone	EP4/32IS/MV/MC/HE	Y	Y	Y	Y	-	-	-	-
	KTEB-232-UVIS-N-P	-	-	-	-	Y	Y	Y	Y
	KTEB-332-UVIS-N-P	-	-	Y	Y	Y	Y	-	-
KTEB-432-UVIS-N-P	Y	Y	Y	Y	-	-	-	-	

### Instant Start Ballasts

Brand	Model #	Four Lamp		Three Lamp		Two Lamp		One Lamp	
		120V	277V	120V	277V	120V	277V	120V	277V
Osram	QHE 2x32T8/UNV ISL SC	-	-	-	-	Y	Y	Y	Y
	QTP 2x32T8/UNV ISN-SC	-	-	-	-	Y	Y	Y	Y
	QHE 4x32T8/UNV ISL SC	Y	Y	Y	Y	-	-	-	-
	QTP 4x32T8/UNV ISN-SC	Y	Y	Y	Y	-	-	-	-
Standard	E232P1120L	-	-	-	-	Y	-	Y	-
	E232T8IS120/L/AS	-	-	-	-	Y	-	Y	-
	E232T8IS120/N/AS	-	-	-	-	Y	-	Y	-
	E432T8IS120/H	Y	-	N	-	-	-	-	-
Universal	E432T8IS120/L/AS/BULK	Y	-	Y	-	-	-	-	-
	E432T8IS120/N/AS/BULK	Y	-	Y	-	-	-	-	-
	B232IUNVHP-N	-	-	-	-	Y	Y	-	-
	B332IUNVHP-A	-	-	Y	Y	Y	Y	-	-
B432IUNVHP-A	Y	Y	Y	Y	-	-	-	-	

### Rapid Start Ballasts

Brand	Model #	Four Lamp		Three Lamp		Two Lamp		One Lamp	
		120V	277V	120V	277V	120V	277V	120V	277V
Advance	ICN-2S40-N	-	-	-	-	Y	Y	Y	Y
	RELB-2S40-N	-	-	-	-	Y	-	N	-
Fulham	WHCG5-120-T12-RS	-	-	-	-	Y	-	Y	-

### Programmed Start Ballasts

Brand	Model #	Four Lamp		Three Lamp		Two Lamp		One Lamp	
		120V	277V	120V	277V	120V	277V	120V	277V
Advance	IOP-4PSP32-SC	Y	Y	Y	Y	-	-	-	-
	RCN-2S32-SC	-	-	-	-	Y	-	-	-
Fulham	NPY-120-232-T8	-	-	-	-	Y	-	Y	-
Fusion	FB232MVE-PPS-HE	-	-	-	-	Y	Y	Y	Y
	FB432MVE-PPS-HE	Y	Y	Y	Y	-	-	-	-
GE	GE232-120-PS-N	-	-	-	-	Y	-	Y	-
	GE232-MVPS-L	-	-	-	-	Y	Y	Y	Y
	GE232-MVPS-N	-	-	-	-	Y	Y	Y	Y
Osram	GE232-MVPS-H	-	-	-	-	Y	Y	N	N
	QTP 3x32T8/UNV PSX-SC	-	-	N	N	-	-	-	-
Robertson	QHE 4x32T8/UNV PSN-SC	Y	Y	Y	Y	-	-	-	-
	RSW240T12120	-	-	-	-	N	-	N	-
Standard	E232T8PS120-277/N/AS/BULK	-	-	-	-	Y	Y	-	-
TCP	E4P32PSUNVE	Y	Y	Y	Y	-	-	-	-
Universal	B232PUNVHEB	-	-	-	-	Y	Y	N	N

### Dimming Ballasts

Brand	Model #	Four Lamp		Three Lamp		Two Lamp		One Lamp	
		120V	277V	120V	277V	120V	277V	120V	277V
Advance	REZ-2S32-SC	-	-	-	-	Y	-	-	-
GE	GE332MAX90V60	-	-	Y	Y	N	N	-	-
Keystone	KTEB-232-UV-PS-VDIM	-	-	-	-	Y	Y	-	-
Osram	QHE 2x32T8/UNV DIM-TC	-	-	-	-	Y	Y	-	-
Universal	B232PUSV3PLA	-	-	-	-	Y	Y	Y	Y
	B232SR120S30	-	-	-	-	N	-	-	-





# Direct8 IS/PS T8 Tubes

## Instant Start Electronic Ballasts Compatible with LED Direct8™ for L12T8PS50XXK Series

Manufacturer	Model #	Voltage
GE	GE132MAXL/ULTRA	UNV
	GE132MAXPN/ULTRA	UNV
	GE232MAX347-N	347
	GE232MAXN/ULTRA	UNV
	GE232MAX-G-N	UNV
	GE232MAX-G-N/ULTRA	UNV
	GE232MAXPN/ULTRA	UNV
	GE232MAXH/ULTRA	UNV
	GE232MAXPH/ULTRA	UNV
	GE232MAXPL/ULTRA	UNV
	GE332MAXL/ULTRA	UNV
	GE332MAXN/ULTRA	UNV
	GE332MAXPN/ULTRA	UNV
	GE332MAX-G-N	UNV
	GE332MAXH/ULTRA	UNV
	GE432MAXPL/ULTRA	UNV
	GE432MAXPL/ULTRA	UNV
	GE432MAXN/ULTRA	UNV
	GE432MAX-G-N	UNV
	GE432MAXN/ULTRA	UNV
GE432MAXH/ULTRA	UNV	
GE432MAXPH/ULTRA	UNV	
Osram/Sylvania	QHE2X32T8/UNV ISN-SC	UNV
	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-2P32LW-N
IOPA-3P32LW-N		UNV
IOPA-4P32LW-N		UNV
IOPA-2P32-N		UNV
IOPA-3P32-N		UNV
IOPA-4P32-N		UNV
IOPA-2P32-HL-N		UNV
IOPA-3P32-HL-N		UNV
IOPA-2P32LW-SC		UNV
IOPA-4P32LW-SC		UNV
IOP-2P32LW-N		UNV
IOP-3P32LW-N		UNV
IOP-4P32LW-N		UNV
IOP-2P32-N		UNV
IOP-3P32-N		UNV
ICN-1P32-N		UNV
ICN-2P32-N		UNV
ICN-3P32-N		UNV

Manufacturer	Model #	Voltage	
Philips/Advance (cont)	ICN-2P32-SC	UNV	
	ICN-3P32-N	UNV	
	ICN-4P32-N	UNV	
	GOPA-2P32-N	347	
	GOPA-2P32-SC	347	
	GOPA-4P32-SC	347	
	IOP-3P32HL-90L-SC	UNV	
	VEL-4P32-SC	UNV	
	GEL-2P32-SC	347	
	GOPA-2P32-N	347	
	GEL-3P32-SC	347	
	GEL-3P32-RH-TP	UNV	
	GEL-4P32-RH-TP	UNV	
	REL-2P32-SC	UNV	
	REL-2P32-RH-TP	UNV	
	VEL-2P32-SC	UNV	
	REL-2P32-SC	UNV	
	VOP-2P32-LW	UNV	
	TCP	E2P32ISUNVE	UNV
		E2P32ISUNVHE	UNV
E2P32ISUNVLE		UNV	
E3P32ISUNVE		UNV	
E3P32ISUNVHE		UNV	
E3P32ISUNVLE		UNV	
E4P32ISUNVE		UNV	
E4P32ISUNVHE		UNV	
E4P32ISUNVLE		UNV	
E2P32IS120RES		120	
Universal/Triad	B132IUNVHP-N	UNV	
	B232I120RHA	UNV	
	B232IUNVHP-N	UNV	
	B232IUNVEL-A	UNV	
	B332IUNVHP-A	UNV	
	B232I277RHA	277	
	B232IUNVEL-A rev D	UNV	
	B432IUNVHP-A	UNV	
	B432I277RHA	277	
	B432I120RHA	120	
B23IUNVHP-N010C	UNV		
ESPEN	VE2P32MWHIPE	UNV	
	VE4P32MWHIPE	UNV	
Standard	E432T8IS120/N/AS	UNV	
	E232T8IS120/N/AS	UNV	
	E432PI347GO/347	347	
	E232T8IS347/H/90C	347	
E432T8IS347/H/90C	347		
Keystone	KTEB-232-UVHS-NP	UNV	

### Emergency Ballasts Compatible with LED Direct8™

Manufacturer	Model #	Voltage
IOTA	I320	I320
Bodine	B30	B30
	B50	B50
TCP	20B50	

\*Requires 5 minutes of warm up time

Instant Start Ballasts Not Recommended for use with LED Direct8 include:

Philips/Advance: IOP-3P32-LW-SC, IOP-2P32-LW-SC

## Program Start Electronic Ballasts Compatible with LED Direct8™ for L12T8PS50XXK Series

Manufacturer	Model #	Voltage
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
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	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
TCP	E2P32PSUNVE	UNV
	E3P32PSUNVE	UNV
	E4P32PSUNVE	UNV
	E2P32PSUNVHE	UNV
	E3P32PSUNVHE	UNV
	E4P32PSUNVHE	UNV
	E2P32PSUNVLE	UNV
	E3P32PSUNVLE	UNV
	E4P32PSUNVLE	UNV
	2S32PSUNVHE	UNV
Triad	B232PUNVHE-B	UNV

### Dimmer Ballasts

Manufacturer	Model #	Voltage
<b>1 Lamp Program Start Dim</b>		UNV
Philips/Advance	IZT-132-SC	UNV
<b>2 Lamp Program Start Dim</b>		UNV
Philips/Advance	IZT-2S32-SC	UNV
	IZT-2PSP32-SC	UNV

### Philips/Advance Type C Drivers Compatible with LED Direct8

Manufacturer	Model #	Voltage
Philips/Advance	ICN-2P16-TLED-N	UNV
	ICN-3P16-TLED-N	UNV
	ICN-4P16-TLED-N	UNV
	ICN-4P16-TLED-HL-N	UNV
	ICN-2P16-TLED-HL-N	UNV
	IZT-2P16-TLED-SC	UNV
	IZT-4P16-TLED-SC	UNV

# TECHNOLOGY CAST IN A BEAUTIFUL LIGHT

For over 20 years, TCP has been designing, developing and delivering energy-efficient lighting into the market. Thanks to our cutting-edge technology and manufacturing expertise, we have shipped billions of high quality lighting products. With TCP, you can count on a lighting product that is designed to meet the needs of the market - that transforms your surroundings and envelopes you in warmth - lighting that generates beauty with every flip of the switch.

Sales:

Date:

Model:

Project:

Rep:

Catalog Number:

Type:

Notes:



For more information on the quality and care TCP can deliver, call us at **800.324.1496** or visit [tcp.com](http://tcp.com)

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