

Linear T8 Direct Series

DIRECT
BALLAST
COMPATIBLE



ProLED® Linear T8 Direct retrofits are the fastest and easiest way to upgrade to LED. With no rewiring of the existing fixture necessary, ProLED Linear T8 Direct lamps can be installed with no electrician involved. ProLED Linear T8 Direct lamps operate on most instant start electronic ballasts, making your LED lighting retrofit easier than ever. The frosted finish maintains the familiar look and feel of Fluorescent, but the CEE Listed lamps use 46% less energy and last up to 66% longer resulting in lower costs for the end user.¹

¹Energy savings based on \$0.11 kWh over 50,000 hour life.

Performance Specifications

CRI _____	82	Min. Start Temp. _____	-4°F(-20°C)
Rated Life _____	50,000 hour life	Max. Operating Temp. _____	122°F(50°C)
Watt² _____	13	Power Factor _____	0.99
Lumens² _____	1800	THD _____	<20%
Lumens per Watt (LPW) _____	138	Warranty _____	5-Year Limited
Input Line Voltage _____	Ballast Dependent	Control _____	Dimmable
		Weight _____	0.96 lbs.

* On standard (0.88 BF) ballast

Energy Savings

System	Ballast Factor	Replacement LED	Wattage	Energy Savings
Standard 32W T8	0.88	T8FR13/8XX/DIR3/LED	13W	56%

Construction

- Ideal for cold temperature applications
- Glass tube design provides uniform light distribution
- UL listed for damp locations
- Acceptable for use in enclosed luminaires
- Lightweight 0.96 lbs. construction
- Mercury free

Installation

- Compatible with electronic instant start ballasts, as well as many programmed start, dimming ballasts and emergency ballasts
- No re-wiring of fixture or sockets is necessary
- Compatible with either shunted or non-shunted sockets

Electrical

- Dimmable when using dimming ballasts
- THD <20%
- Power Factor 0.99
- Emergency when using emergency ballasts



Ordering Information

Watt	Base	Product #	Product Code	Color Temp.	CRI	Lumen Output	Useful Life*	Pkg. Qty.	Beam Spread	DLC® Qualified	Equivalent Wattage
13 Watt	G13	82880	T8FR13/835/DIR3/LED	3500K	82	1800	50,000	1/25	270°	Yes	32W
13 Watt	G13	82881	T8FR13/840/DIR3/LED	4000K	82	1900	50,000	1/25	270°	Yes	32W
13 Watt	G13	82882	T8FR13/850/DIR3/LED	5000K	82	2000	50,000	1/25	270°	Yes	32W

* Useful Life is defined as the point in time at which the lamp will maintain at least 70% of its initial lumens. The lamp will continue to operate past this point at decreased light levels.

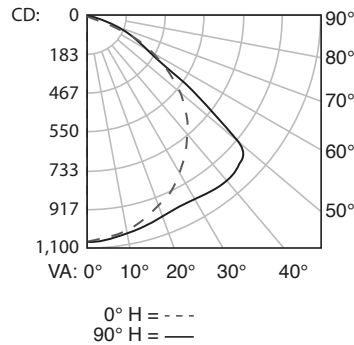
† Linear Direct T8 series lamps operate on compatible instant start electronic ballasts regardless of input voltage.

Ballast Performance

Bare Lamp Wattage	System Wattage			Lumen Output		
	.78 BF	.88 BF	1.18 BF	.78 BF	.88 BF	1.18 BF
14.0	14.8	17.0	22.4	1560	1800	2280

Photometrics

(2) T8FR13/8XX/DIR3/LED INSTALLED IN 2x4 RECESSED TROFFER



Coefficients of Utilization
Effective Floor Cavity Reflectance 0.20

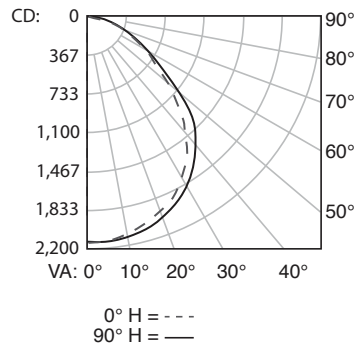
RC	80			70			50		
RW	70	50	30	70	50	30	50	30	20
0	119	119	119	116	116	116	111	111	111
1	110	106	103	108	104	101	100	97	95
2	101	94	88	108	104	101	89	84	80
3	93	83	76	99	92	86	79	73	68
4	85	74	66	90	81	75	70	63	58
5	78	66	58	83	73	65	63	56	50
6	72	59	51	76	65	57	57	50	44
7	67	54	45	70	59	50	52	44	39
8	62	49	41	65	53	45	47	40	35
9	58	45	37	57	44	37	43	36	31
10	54	41	34	53	41	33	40	33	28

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixt
0-30	777.3	29.1	29.1
0-40	1,297.5	48.6	48.6
0-60	2,364.3	88.6	88.6
60-90	304.4	11.4	11.4
70-100	73.0	2.7	2.7
90-120	0.0	0	0
0-90	2,668.7	100	100
90-180	0.0	0	0
0-180	2,668.7	100	100

Total Luminaire Efficiency = 100.00%

(4) T8FR13/8XX/DIR3/LED INSTALLED IN 2x4 RECESSED TROFFER



Coefficients of Utilization
Effective Floor Cavity Reflectance 0.20

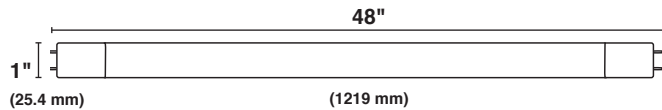
RC	80			70			50		
RW	70	50	30	70	30	10	50	30	20
0	119	119	119	116	116	116	111	111	111
1	109	105	101	107	103	99	99	96	93
2	100	93	86	98	91	85	87	82	78
3	92	82	75	90	81	74	78	72	67
4	85	73	65	83	72	64	70	63	58
5	78	66	57	76	65	57	63	56	50
6	72	60	51	71	59	51	57	50	44
7	67	54	46	66	54	46	52	45	40
8	63	50	42	61	49	41	48	41	36
9	59	46	38	57	45	38	44	37	32
10	55	42	35	54	42	34	41	34	29

Zonal Lumen Summary

Zone	Lumens	% Lamp	% Fixt
0-30	1,679.6	31.5	31.5
0-40	2,734.5	51.3	51.3
0-60	4,508.7	84.5	84.5
60-90	819.8	15.4	15.4
70-100	370.8	7	7
90-120	2.7	0.1	0.1
0-90	5,328.5	99.9	99.9
90-180	4.5	0.1	0.1
0-180	5,333.0	100	100

Total Luminaire Efficiency = 100.00%

Dimensions



Instant Start Ballast Compatibility

# of Lamps	Manufacturer	Model	Type
1	Philips-Advance	IOPA-1P32-N	Instant Start
	Philips-Advance	IOP-1P32-N	Instant Start
	Philips-Advance	ICN-1P32-N	Instant Start
	Universal Lighting Technologies	B132IUNVHP-N	Instant Start
2	Halco	EP232IS/L/MV/SL	Instant Start
	Halco	EP232IS/MV/HE	Instant Start
	Halco	EP232IS/L/MV/HE	Instant Start
	Halco	EP232IS/H/MV/HE	Instant Start
	Philips-Advance	ICN-2P32-N	Instant Start
	Philips-Advance	IOPA-2P32-N	Instant Start
	Philips-Advance	IOP-2P32-N	Instant Start
	Philips-Advance	IOP-2P32-LW-N	Instant Start
	Philips-Advance	IOPA-2P32HL-SC	Instant Start
	Philips-Advance	REB-2P32-SC	Instant Start
Philips-Advance	VEL-2P32-SC	Instant Start	
3	Universal Lighting Technologies	B232IUNVHP-N	Instant Start
	Universal Lighting Technologies	B232IUNVEL-A	Instant Start
	Universal Lighting Technologies	B233IUNVHE-A	Instant Start
	Universal Lighting Technologies	B232IUNVHEH-A	Instant Start
	Universal Lighting Technologies	B232IUNVHP-B	Instant Start
	Halco	EP332IS/MV/HE	Instant Start
	Halco	EP332IS/L/MV/HE	Instant Start
	Philips-Advance	IOPA-3P32-LW-N	Instant Start
	Universal Lighting Technologies	B332IUNVHP-A	Instant Start

# of Lamps	Manufacturer	Model	Type
4	Halco	E432IS/120/R/SL	Instant Start
	Halco	EP432IS/MV/HE	Instant Start
	Halco	EP432IS/L/MV/HE	Instant Start
	Philips-Advance	IOPA-4P32-N	Instant Start
	Philips-Advance	IOPA-4P32-HL-SC	Instant Start
	Philips-Advance	IOP-4P32-N	Instant Start
	Philips-Advance	IOP-4P32-LW-N	Instant Start
	Philips-Advance	REB-4P32-SC	Instant Start
	Philips-Advance	ICN-4P32-SC	Instant Start
	Universal Lighting Technologies	B432IUNVHE L-A	Instant Start
	Universal Lighting Technologies	B432IUNVHP-A	Instant Start
	EXITRONIX	XEB-7-B-LM	Emergency
	KEYSTONE	KT-EMRG-500	Emergency
	MORRIS	PAC0314	Emergency
	CONTRACTOR SELECT	EI500	Emergency
	POWER SENTRY	PSQ500QD MVOLT	Emergency
BODINE	B100	Emergency	
HOWARD	BAL500	Emergency	
SYLVANIA	QTEB2L650-LP-120/277	Emergency	
WestGate	BAL500	Emergency	
KEYSTONE	KT-EMRG-800-T5	Emergency	
KEYSTONE	KT-EMRG-1300-T5	Emergency	
KEYSTONE	KT-EMRG-1400	Emergency	

* For full listing of Ballast compatibility, see www.halcolighting.com

o NEW ITEM

* Useful Life is defined as the point in time at which the lamp will maintain at least 70% of its initial lumens. The lamp will continue to burn past this point, but at decreased light levels.

Warranty – Commercial / Industrial: This product is warranted for 5 years from the date of purchase.

Must be operated with an ambient fixture temperature between -4°F(-20°C) and 122°F(50°C).

§ Specifications are based on use with normal ballast factor ballasts (0.88). For LBF and HBF ballast performance, see the ProLED® Linear Direct T8 Specifications Sheet.

† Energy savings based on \$0.11 kWh over a 50,000 hour life.

** Check the latest update at www.DesignLights.org for listed product catalog numbers. Not all versions are listed.