

T8 13W 4FT. DIR TITANIUM LED SERIES



PRO



DIRect

13W REPLACES



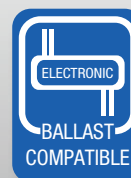
**32W
Fluo.**

60% Energy Savings

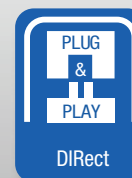
- Compatible with Instant Start & Programmed Start ballasts
- Easy to install - Plug & Play Direct
- Exceptional efficacy 158 LPW
- Suitable for use in totally enclosed fixtures
- Meets NSF requirements
- Dimmable



50,000 H



BALLAST
COMPATIBLE



DIRect



WARRANTY



CRI (Ra)



ENCLOSED*



LM 79

LM 80

TM 21

IES



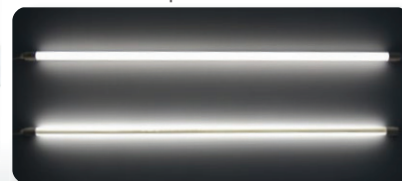
TUBE FEATURES

Extra Wide Beam Design - Frosted Glass Body

This lamp uses an innovative glass design that diffuses heat and light more evenly. As a result of its compact light engine, this lamp produces a light emitting area of 310°. This wider beam angle improves a fixture's total light distribution and creates a more complete lighting effect.



Lamp Front View



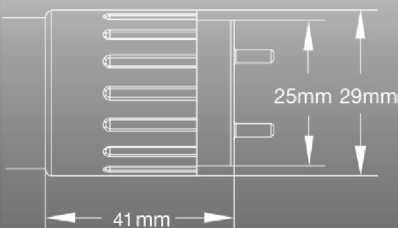
Lamp Back View

End-to-End Lighting - Micro-Designed Driver

GREEN CREATIVE



Other LED Tubes



The lamp's micro-designed driver is located within the tube end cap which allows for better thermal performance and no dark spots. The result is powerful and seamless light from end to end.

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SPECIFICATIONS

Product Model	28403 13T8/4F/840/DIR	28404 13T8/4F/850/DIR
Type	T8	T8
Base	Medium Bi-Pin G13	Medium Bi-Pin G13
Power (W)	13	13
Voltage - Frequency	120-277V 50-60Hz	120-277V 50-60Hz
Color Temp. (ANSI)	Cool White 4000K	Daylight 5000K
CRI (Ra)	82	82
Typical lumens (lm)	2050	2050
Efficacy (LPW)	158	158
Light Emitting Area	310°	310°
Beam Angle	180°	180°
Dimmable	Yes	Yes
Power Factor	0.9	0.9
THD	<20%	<20%
Rated Lifetime - L70 (hrs.)	50,000	50,000
Dia. x MOL	1.14"x47.76" (29x1213mm)	1.14"x47.76" (29x1213mm)
Weight (lb. / g)	0.67lb. / 304g	0.67lb. / 304g

BALLAST PERFORMANCE

Ballast Factor			4000K	5000K
	Bare Lamp (W)	System (W)	Lumens	Lumens
Low BF .77	13	13.8	1750	1750
Normal BF .88	13	16.5	2050	2050
High BF 1.15	13	23	2700	2700

Testing Method: Above system power is half the total system power of a 2-tube installation using an Instant Start ballast. Power and lumen output will vary based on ballast and fixture type. Above data is indicative only.

* Suitable for use in totally enclosed fixtures

** Suitable for damp locations. Not for use where directly exposed to the weather or water



Titanium Series T8 13W 4FT. DIR, 10.5W 4FT. DIR, 8W 3FT. DIR, 8W 2FT. DIR

For models: 13T8/4F/xxx/DIR, 10.5T8/4F/xxx/DIR, 8T8/3F/xxx/DIR, 8T8/2F/xxx/DIR
Where xxx means 824-965 which indicates CRI and color temperature

Electronic Ballast Compatibility

Series	Model	Type	Compatibility (Ballasts are compatible with 120V & 277V unless otherwise noted)			
			1 lamp	2 lamps	3 lamps	4 lamps
Philips - Advance	ICN-1P32-N	IS	OK	-	-	-
Philips - Advance	ICN-2P32-N	IS	OK	-	-	-
Philips - Advance	ICN-3P32-N	IS	OK	-	-	-
Philips - Advance	ICN-4P32-N	IS	OK	-	-	-
Philips - Advance	IOPA-1P32-N	IS	OK	-	-	-
Philips - Advance	IOP-2P32-LW-N	IS	OK	-	-	-
Philips - Advance	IOP-3P32-N	IS	OK	-	-	-
Philips - Advance	IOPA-4P32-N	IS	OK	-	-	-
Philips - Advance	IOPA-1P32-LW-N	IS	OK	-	-	-
Philips - Advance	IOPA-2P32-LW-N	IS	OK	-	-	-
Philips - Advance	IOP-4P32-LW-N	IS	OK	-	-	-
Philips - Advance	IOPA-4P32-SC	IS	277V only	-	-	-
Philips - Advance	IOP-3P32-HL-N	IS	OK	-	-	-
Philips - Advance	ICN-4P32-SC	IS	OK	-	-	-
Philips - Advance	ICN-132-MC	IS	OK	-	-	-
Philips - Advance	VEZ-132-SC	PS	OK	-	-	-
Philips - Advance	IZT-132-SC	PS	OK	-	-	-
Philips - Advance	IZT-2PSP32-SC	PS	OK	-	-	-
Philips - Advance	REZ-132-SC	PS	OK	-	-	-
Philips - Advance	VEZ-2S32-SC	PS	-	OK	-	-
Philips - Advance	REZ-2P32-SC	PS	-	OK	-	-
Philips - Advance	REL-2P32-SC	IS	-	-	X	-
Philips - Advance	REL-2P32-RH-TP	IS	-	-	X	-
GE - Ultramax	GE132MAXP-N/ULTRA	IS	OK	-	-	-
GE - Ultramax	GE232MAX-L/ULTRA	IS	OK	-	-	-
GE - Ultramax	GE232MAX-N/ULTRA	IS	OK	-	-	-
GE - Ultramax	GE232MAX-H/ULTRA	IS	OK	-	-	-
GE - Ultramax	GE232MAXP-H/ULTRA	IS	OK	-	-	-
GE - Ultramax	GE232MAXP-N/ULTRA	IS	OK	-	-	-
GE - Ultramax	GE332MAX-N/ULTRA	IS	OK	-	-	-
GE - Ultramax	GE332MAX-H/ULTRA	IS	-	OK	-	-
GE - Ultramax	GE332MAXP-L/ULTRA	IS	OK	-	-	-
GE - Ultramax	GE332MAXP-N/ULTRA	IS	OK	-	-	-
GE - Ultramax	GE332MAXP-H/ULTRA	IS	-	-	X	-
GE - Ultramax	GE432MAX-L/ULTRA	IS	OK	-	-	-
GE - Ultramax	GE432MAX-N/ULTRA	IS	OK	-	-	-
GE - Ultramax	GE432MAXP-L/ULTRA	IS	OK	-	-	-
GE - Ultramax	GE432MAXP-H/ULTRA	IS	-	-	X	-
GE - Ultramax	GE432MAX-G-N	IS	OK	-	-	-
GE - Proline	GE-232-MV-N	IS	OK	-	-	-
GE - Proline	GE-332-MV-N	IS	OK	-	-	-
GE - Ultrastart	GE-232-MV-PS-N	PS	OK	-	-	-
GE - Ultrastart	GE-232-MV-PS-H	PS	OK	-	-	-
Sylvania	QHE 2X32T8/UNV DIM-TC	PS	-	OK	-	-
Sylvania	QHE4X32T8/UNV PSN-SC	PS	-	OK	-	-
Sylvania	QHE 2X32T8/UNV ISL-SC	IS	OK	-	-	-
Sylvania	QHE 4X32T8/UNV ISL-SC	IS	OK	-	-	-
Sylvania	QTP3X32T8/UNV ISN-SC	IS	OK	-	-	-
Sylvania	QTP 4X32T8/UNV ISN-SC	IS	OK	-	-	-
Espen	VE2P32MVHPIE	IS	OK	-	-	-
Espen	VE2P32MVHPIE	IS	OK	-	-	-
Espen	VE3P32MVHPIE	IS	OK	-	-	-
Espen	VE4P32MVHPIE	IS	OK	-	-	-
Espen	VE232MVHPIE	IS	OK	-	-	-
Universal	B132IUNVHP-N	IS	OK	-	-	-
Universal	B232IUNVHP-N	IS	OK	-	-	-
Universal	B232PUNVHE-B	PS	OK	-	-	-
Universal	B232PUS50-A	PS	-	-	X	-
Universal	B332IUNVHP-A	IS	OK	-	-	-
Universal	B432IUNVHP-A	IS	OK	-	-	-
Powermaster	PM-2X32T8-UNV-IS-L	IS	OK	-	-	-
Powermaster	PM-3X32T8-UNV-IS-H	IS	277V only	-	-	-
Powermaster	PM-4X32T8-UNV-IS-L	IS	277V only	-	-	-
Plusrite	BAF332IS/MV	IS	OK	-	-	-
Plusrite	BAF232IS/MV/H	IS	OK	-	-	-
Plusrite	BAF232IS/MV	IS	OK	-	-	-
Premium	BB-T8/UNH-2X32	IS	-	OK	-	-
Premium	BB-T8/UVH-4X32	IS	277V only	-	-	-
Howard	EPL3/32IS/MV/SC/HE	IS	OK	-	-	-
Howard	EP3/32IS/MV/MC/HE	IS	OK	-	-	-
Fulham	WHS G3-UNV-T8-IS	IS	OK	-	-	-
Robertson	ISU232T8120	IS	120V only	-	-	-
Sola	E-758-F-232-SC	IS	X	-	-	-
Sunpark	U-2/32ISE	IS	OK	-	-	-
Tcp	E4P32PSUNVE	PS	OK	-	-	-

*GREEN CREATIVE has provided this ballast compatibility chart for guidance when selecting a ballast and lamp combination. Lamps were tested for compatibility with the above listed Instant Start (IS) and Programmed Start (PS) ballasts. Ballasts that do not appear on the chart might still be compatible but have not been tested. All testing has been performed with a stable main supply. The quality of the local main, existing installation and wiring, as well as different manufacturer versions of the above ballasts may affect lamp performance. Since no assurance can be provided regarding these factors, it is a general recommendation to perform a test on-site prior to installing the LED lamps.