



LED E-Series

TCP's LED E-Series recessed troffers gives you the appearance of fluorescent technology with a tube-like glow.

LIMITLESS OPTIONS for the following applications:

Offices	Schools
Restaurants	Hospitals
Retail Stores	Grid Ceilings
Lobbies	



Great Features/Benefits

- Energy efficient – Up to 39% energy savings compared to fluorescent alternatives
- Long life: 50,000 hours
- Smooth, uniform dimming
- High efficiency alternative to T5, T8 and T12 linear fluorescent troffers
- Excellent color consistency and superior lumen maintenance

LED E-Series Recessed Troffers

Features/Benefits

Up to 39% less energy than fluorescent alternatives.	Instant energy savings.
Long 50,000 hour rated life.	Minimizes replacements & maintenance costs.
Very low heat generation.	Less energy wasted as heat.
Excellent color consistency & CRI.	Enhances color of focal point while maintaining uniformity throughout lighting installation.
Mercury free	Great for all environments.
Fits standard 1" and 9/16" T-bar grids.	Easy installation and retrofit application.
TCP LED drivers are specifically designed for high efficient LED combination.	Optimal performance and efficiency.



2 x 2 LED
E-Series Recessed Troffer



2 x 4 LED
E-Series Recessed Troffer

Specifications

Input Line Voltage	120-277 VAC
Input Power	2x2: 25-45W 2x4: 45-80W
Input Line Frequency	50/60HZ
Luminaire Life (Rated)	50,000 hours
Minimum Starting Temperature	-30°C
Maximum Operating Temperature	40°C
CRI	82
Power Factor	>90%
THD	<20%

Warranty

Five year limited warranty against defects in manufacturing.



5 YEAR WARRANTY

Not all versions of this product are qualified on the DLC GPL. To view our DLC qualified products, please consult the DLC Qualified Products List at www.designlights.org/gpl.

Replacement Comparison

SYSTEM	BALLAST FACTOR	LUMENS	INPUT WATTS	ENERGY SAVINGS
TCP 2000 Lumen 2X2 LED		2000	25	-
2 Lamp 14W T5	1.0	2113	34	26%
2 Lamp 17W T8	1.0	1905	33	24%
TCP 4000 Lumen 2X2 LED		4000	45	-
2 Lamp 34W T12 U-Bend	0.88	4420	74	39%
2 Lamp 32W T8 U-Bend	0.88	4275	58	22%
2 Lamp 24W T5 HO	1.0	3145	54	17%

SYSTEM	BALLAST FACTOR	LUMENS	INPUT WATTS	ENERGY SAVINGS
TCP 4000 Lumen 2X4 LED		4000	45	-
2 Lamp 32W T8 HBF	1.18	4658	65	31%
2 Lamp 28W T5	1.0	4675	63	29%
2 Lamp 32W T8 NBF	0.88	4468	59	24%
TCP 6800 Lumen 2X4 LED		6800	80	-
3 Lamp 32W T8 HBF	1.18	6960	93	14%
3 Lamp 32W T8 NBF	0.88	6681	89	10%

2x2 LED E-Series Recessed Troffers

Applications

The TCP LED E-Series Recessed Troffers are high efficiency alternatives to T5, T8 and T12 linear fluorescent troffers. Our intelligent high performance LED light engines and drivers deliver long life, consistent color, and superior lumen maintenance. Applications include offices, schools, retail locations, hospitals, and other grid ceilings.

Construction

The TCP LED troffer is constructed of rugged cold-rolled steel, post painted with a highly diffuse white finish, and an impact resistant acrylic diffuser. The housing is designed to mount in a variety of grid ceiling types.

Electrical

All electrical components are UL/cUL listed. TCP high efficiency drivers provide consistent power to ensure even lighting from the long life LEDs. Each driver is matched to a light engine to deliver 50,000 hours life. Full range dimming is optional.

Optics

The impact resistant acrylic diffuser provides a wide distribution of light and comes in two styles, frosted white or A12 clear prismatic. The frosted white diffuser provides an even glow while the clear prismatic diffuser mimics the look of traditional prismatic troffers.



Listings

UL/cUL Listed – damp location rated
 Design Lights Consortium Qualified Products List (DLC QPL)
 RoHS Compliant
 Chicago Plenum Compliant (when option selected)

Warranty

Five year limited warranty against defects in manufacturing.

Lumen Maintenance

Lumen Maintenance Factor (LMF)			
36,000 hours ¹	50,000 hours ²	100,000 hours ²	L ₇₀ (hours) ²
92.54%	90.1%	81.91%	182,000

¹ IESNA TM-21-11 projected value based on 6X IESNA LM-80-08 total test duration of 6,000 hours.

² IESNA TM-21-11 calculated value exceeds 6X IESNA LM-80-08 total test duration of 6,000 hours.

Catalog Ordering Matrix Example: TCPETRF2UNI4030K

TCPE		2					
BRAND	FAMILY	SIZE	VOLTAGE	CONTROLS/DIMMING	LUMEN PACKAGE (Power) ¹²	COLOR TEMPERATURE	OPTIONS
TCPE – TCP E-Series	TRF – Frosted White TRP – Prismatic	2 – 2' x 2'	UNI – 120V-277V 120 – 120V* * Specify 120V voltage only if DIM option is also selected.	(blank) – Non Dimming ZD – 0-10V Dimming DIM – Line Dimming* * Specify DIM line dimming only if 120V voltage option is also selected.	20 – 2000 Lumens (25W) 40 – 4000 Lumens (45W)	30K – 3000K 35K – 3500K 41K – 4100K 50K – 5000K	CP07 – Emergency Backup CP – Chicago Plenum

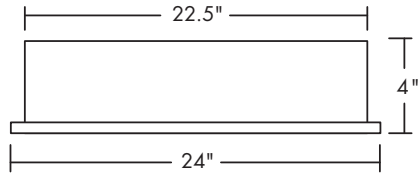
¹ Approximate lumen output. Actual performance may vary based on CCT, options selected and end user application.

² Actual wattage may differ by +/- 5%; when operating between 120-277V +/- 10%.

For the most up-to-date specs and warranty information, please visit www.tcp.com

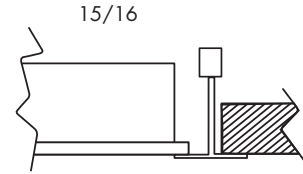
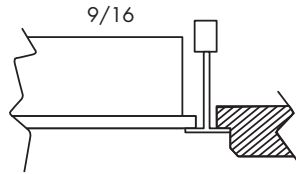
2x2 LED E-Series Recessed Troffers

Dimensions and Mounting Data



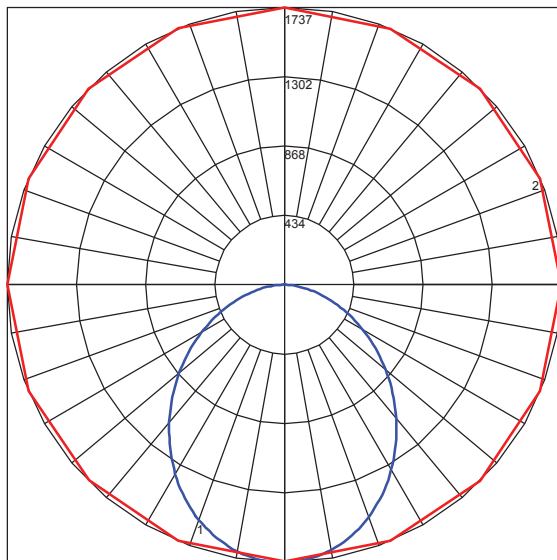
Length: 24"
Width: 24"
Depth: 4"

All dimensions are in inches unless otherwise specified.



Photometric Report

Luminous Intensity Distribution Diagram
TCPETRF2UNI4030K



Maximum Candela = 1736.51 Located At Horizontal Angle = 180, Vertical Angle = 1
1 - Vertical Plane Through Horizontal Angles (180 - 0) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (1) (Through Max. Cd.)

Coefficients of Utilization

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	101	97	107	102	99	95	98	95	92	94	92	89	91	89	87	85
2	100	92	85	80	97	90	84	79	86	81	77	83	79	75	80	77	73	71
3	91	81	73	67	89	79	72	66	77	70	65	74	68	64	71	67	63	61
4	84	72	64	57	82	71	63	57	68	61	56	66	60	55	64	59	54	52
5	77	65	56	50	75	64	55	49	62	54	49	60	53	48	58	52	48	46
6	72	59	50	44	70	58	49	43	56	48	43	54	48	43	53	47	42	40
7	66	53	45	39	65	52	44	39	51	44	38	49	43	38	48	42	38	36
8	62	49	40	35	60	48	40	35	47	39	34	45	39	34	44	38	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixt
0-20	622.73	N.A.	14.70
0-30	1294.01	N.A.	30.60
0-40	2062.28	N.A.	48.70
0-60	3447.47	N.A.	81.50
0-80	4157.31	N.A.	98.30
0-90	4224.08	N.A.	99.80
10-90	4060.69	N.A.	96.00
20-40	1439.55	N.A.	34.00
20-50	2189.02	N.A.	51.70
40-70	1843.19	N.A.	43.60
60-80	709.85	N.A.	16.80
70-80	251.84	N.A.	6.00
80-90	66.76	N.A.	1.60
90-110	0.50	N.A.	0.00
90-120	1.35	N.A.	0.00
90-130	2.67	N.A.	0.10
90-150	5.15	N.A.	0.10
90-180	6.41	N.A.	0.20
110-180	5.91	N.A.	0.10
0-180	4230.49	N.A.	100.00
Total Luminaire Efficiency = N.A.%			

2x4 LED E-Series Recessed Troffers

Applications

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² IESNA TM-21-11 calculated value exceeds 6X IESNA LM-80-08 total test duration of 6,000 hours.

Catalog Ordering Matrix Example: TCPETRF4UNI6830K

TCPE		4					
BRAND	FAMILY	SIZE	VOLTAGE	CONTROLS/DIMMING	LUMEN PACKAGE (Power) ¹²	COLOR TEMPERATURE	OPTIONS
TCPE – TCP E-Series	TRF – Frosted White TRP – Prismatic	4 – 2' x 4'	UNI – 120V-277V 120 – 120V*	(blank) – Non Dimming ZD – 0-10V Dimming DIM – Line Dimming*	40 – 4000 Lumens (45W) 68 – 6800 Lumens (80W)	30K – 3000K 35K – 3500K 41K – 4100K 50K – 5000K	CP07 – Emergency Backup CP – Chicago Plenum

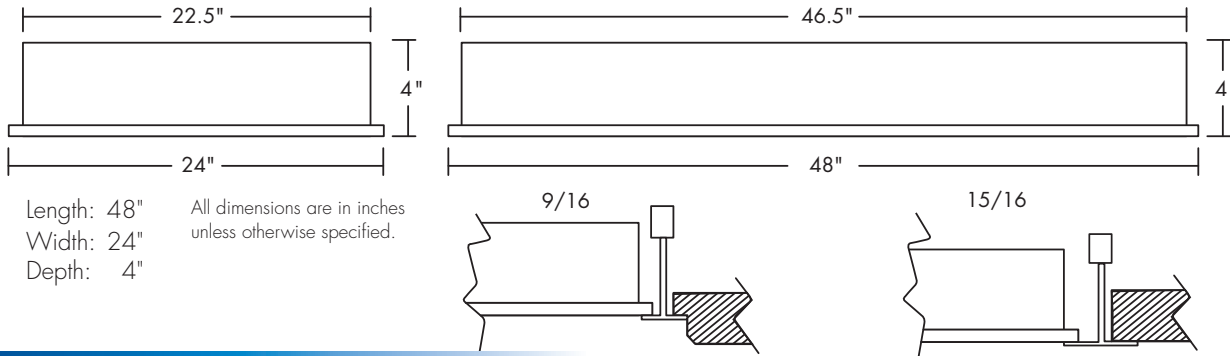
¹ Approximate lumen output. Actual performance may vary based on CCT, options selected and end user application.

² Actual wattage may differ by +/- 5%; when operating between 120-277V +/- 10%.

For the most up-to-date specs and warranty information, please visit www.tcpi.com

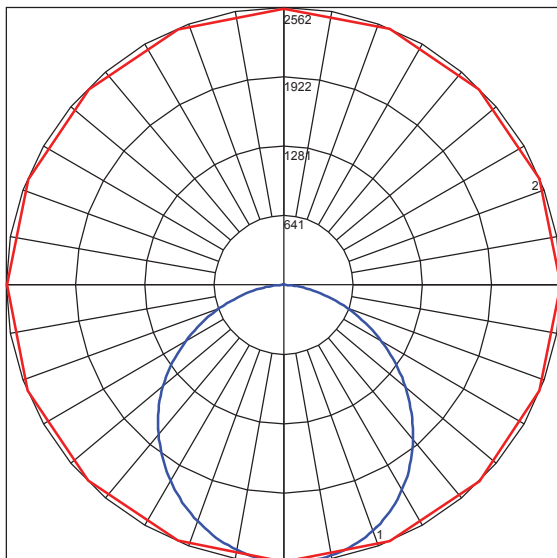
LED E-Series Recessed Troffers

Dimensions and Mounting Data



Photometric Report

Luminous Intensity Distribution Diagram
TCPETRF4UNI6830K



Maximum Candela = 2562.35 Located At Horizontal Angle = 292.5, Vertical Angle = 2
1 - Vertical Plane Through Horizontal Angles (292.5 - 112.5) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (2) (Through Max. Cd.)

Coefficients of Utilization

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84
2	99	91	85	79	97	89	83	78	86	81	76	82	78	74	79	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	70	66	62	60
4	83	71	63	56	81	70	62	56	67	60	55	65	59	54	63	58	53	51
5	77	64	55	48	74	63	54	48	61	53	48	59	52	47	57	51	47	44
6	71	58	49	42	69	57	48	42	55	47	42	53	46	41	51	46	41	39
7	66	52	44	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34
8	61	48	39	33	60	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28
10	54	40	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	25

Zonal lumen Summary

Zone	Lumens	%Lamp	%Fixt
0-20	930.40	N.A.	13.70
0-30	1962.2	N.A.	28.80
0-40	3181.76	N.A.	46.70
0-60	5479.61	N.A.	80.50
0-80	6692.33	N.A.	98.30
0-90	6803.55	N.A.	99.90
10-90	6561.88	N.A.	96.40
20-40	2251.35	N.A.	33.10
20-50	3479.69	N.A.	51.10
40-70	3081.14	N.A.	45.20
60-80	1212.72	N.A.	17.80
70-80	429.43	N.A.	6.30
80-90	111.23	N.A.	1.60
90-110	1.86	N.A.	0.00
90-120	3.24	N.A.	0.00
90-130	4.40	N.A.	0.10
90-150	6.09	N.A.	0.10
90-180	6.91	N.A.	0.10
110-180	5.04	N.A.	0.10
0-180	6810.46	N.A.	100.00

Total Luminaire Efficiency = N.A.%