

LED Flat Panel Luminaires

TCP's LED Flat Panel Luminaires feature a slim, low-profile design with full panel diffusion and superior uniformity.

They offer a cost effective solution to maximize savings and take advantage of utility rebates without sacrificing performance.

Great Features/Benefits

- Up to 51% less energy than fluorescent alternatives
- Long 50,000 hour rated life
- Excellent color consistency & CRI
- Mercury free
- Fits standard 1" and 9/16" T-bar grid ceilings
- Utilizes edge-lit technology
- Slim, low-profile design
- Ideal for:
 - Offices
 - Retail Stores
 - Schools
 - Hospitality
 - Restaurants
 - Healthcare



Features/Benefits

Up to 51% less energy than fluorescent alternatives	Instant energy savings; potential rebate eligibility
Long 50,000 hour rated life	Significantly reduce maintenance labor & material costs
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 grid ceilings	Easy installation and retrofit application
Utilizes edge-lit technology	Full diffusion with excellent uniformity
Slim, low-profile design	Lightweight for easy handling. Fit more per pallet to reduce shipping cost and storage space

Specifications

Input Line Voltage	120-277 VAC
Input Line Frequency (Hz)	50/60HZ
Wattage (W)	2x4 = 50W (53.5W for EB option)
Lumens (L)	2x4 = 5000L
Lumens per Watt (LPW)	100 LPW
Rated Life	50,000 hours
Minimum Starting Temperature	-20°C (0°C for EB option)
Maximum Operating Temperature	40°C
CRI	>80
Power Factor	>0.9
THD	<20%
Ratings	UL/cUL damp location rated, DLC, IC rated, IP20
Controls	0-10V dimming (standard)



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

Replacement Strategy

SYSTEM	BALLAST FACTOR	LUMENS	INPUT WATTS*	LED ENERGY SAVINGS
TCP LED Flat Panel - 2x4	—	5000	50	—
3 Lamp 32W T8 HBF	1.18	6960	93	46%
3 Lamp 32W T8 NBF	0.88	6681	89	44%
2 Lamp 32W T8 HBF	1.18	4658	65	23%
2 Lamp 28W T5	1.0	4675	63	21%
2 Lamp 32W T8 NBF	0.88	4468	59	15%

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

NOTE: Charts show system lumens (delivered lumens), NOT straight lamp lumen output. This is calculated as follows:
System lumens = mean lumens x # lamps x ballast factor x luminaire efficiency factor

2x4 LED Flat Panel Luminaire

Applications

TCP LED Flat Panel luminaires are cost-effective, high-efficiency alternatives to traditional T5, T8 and T12 linear fluorescent troffers. Featuring a slim, low-profile design, our LED flat panels uses edge-lit technology to deliver full panel diffusion and superior uniformity. Applications include offices, schools, retail locations, healthcare, hospitality and other T-grid and commercial ceilings.

Construction

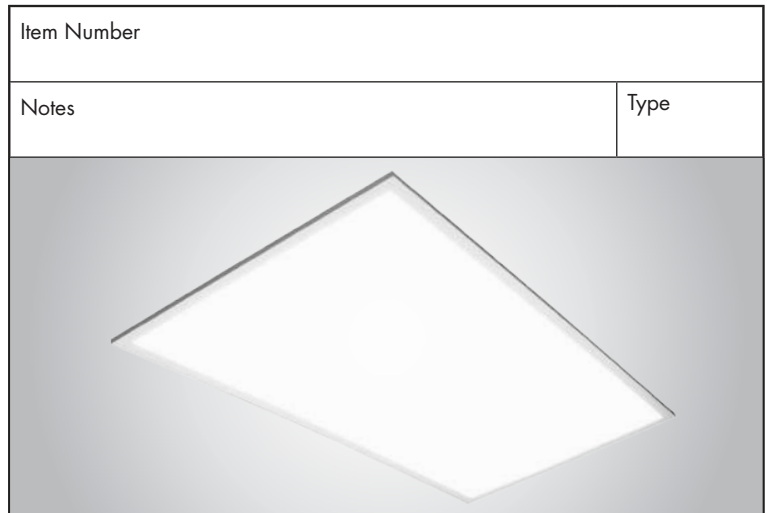
- Housing: metal back panel and wiring compartment
- Frame: aluminum, post-painted white
- IP20 rated
- IC rated for direct contact with insulation
- Designed for easy drop into T-bar grid ceilings

Electrical

- UL/cUL damp location rated
- 0-10V dimming driver (standard)
- Easy-to-access wiring compartment on back of fixture
- System rated for long 50,000 hour life

Optics

- Innovative edgelit technology paired with acrylic light guide and thin frosted white polypropylene diffuser
- 120° beam angle
- Delivers full panel diffusion and excellent uniformity



Listings
 UL/cUL Listed DLC v4.0 Standard IC Rated RoHS Compliant

Warranty
 Five year limited warranty against defects in manufacturing.

Lumen Maintenance

Lumen Maintenance Factor (LMF) ¹			
25,000 Hour Projected LMF ²	50,000 Hour Projected LMF ²	75,000 Hour Calculated LMF ³	Reported L ₇₀ ²
91.21%	81.05%	72.02%	>60,000 Hours

¹ Lumen Maintenance calculated per TM-21-11 at 25°C based on LM-80-08 data and in-situ luminaire testing.

² IESNA TM-21-11 projected value based on 6X IESNA LM-80-08 total test duration.

³ IESNA TM-21-11 calculated value exceeds 6X IESNA LM-80-08 total test duration.

Catalog Ordering Matrix Example: TCPFP4UZD5030K

TCP	FP	4	U	ZD	50		
BRAND	FAMILY	SIZE	VOLTAGE	CONTROLS/DIMMING	LUMEN PACKAGE (Power) ^{1,2}	COLOR TEMPERATURE	OPTIONS
TCP	FP - Flat Panel	4 - 2' x 4'	U - 120V-277V	ZD - 0-10V Dimming	50 - 5000 Lumens (50W) ³	30K - 3000K 35K - 3500K 41K - 4100K 50K - 5000K	EB - Emergency Back-Up

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

² Actual wattage may differ by +/- 10%.

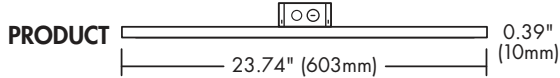
³ 53.5W when emergency back-up (EB) option is selected.

Installation Kit (ordered separately)

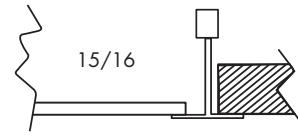
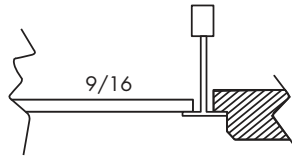
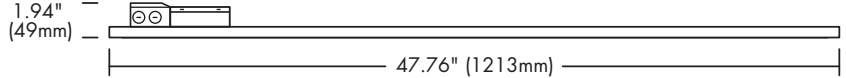
FPSK4 - 2x4 Surface Mount Kit

2x4 LED Flat Panel Luminaire

Dimensions and Mounting Data



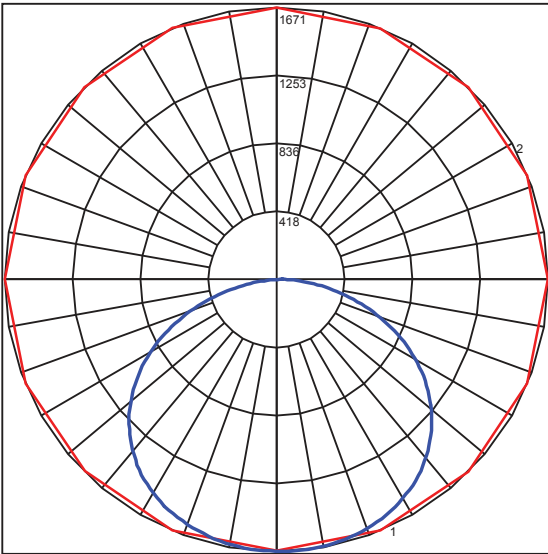
Length: 47.76" (1213mm)
 Width: 23.74" (603mm)
 Depth: 0.39" (10mm)
 Weight: 13.23 lbs (6kg)
 20.40 lbs (9.3kg) for EB option



Photometric Report

Based on photometric data for
 TCP Item # TCPFP4UZD5030K

Polar Graph



Maximum Candela = 1671.01 Located At Horizontal Angle = 10, Vertical Angle = 5
 # 1 - Vertical Plane Through Horizontal Angles [0 - 190] (Through Max. Cd.)
 # 2 - Horizontal Cone Through Vertical Angle [5] (Through Max. Cd.)

Average Luminance candelas/square meter (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	6675	6374	5773
55	6442	6200	5563
65	6001	5775	5155
75	5091	4888	4329
85	3113	3077	2764

Coefficients of Utilization – Zonal Cavity Method

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
	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	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69
3	90	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	57
4	82	69	60	54	79	68	60	53	66	58	52	63	57	52	61	56	51	49
5	75	62	53	46	73	61	52	46	59	51	45	57	50	45	55	49	44	42
6	69	56	46	40	67	55	46	40	53	45	39	51	44	39	49	43	39	36
7	64	50	41	35	62	49	41	35	48	40	35	46	40	34	45	39	34	32
8	60	46	37	31	58	45	37	31	44	36	31	42	36	31	41	35	30	28
9	56	42	34	28	54	41	33	28	40	33	28	39	32	28	38	32	27	26
10	52	39	31	25	51	38	30	25	37	30	25	36	30	25	35	29	25	23

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixt
0-20	619.00	11.90	11.90
0-30	1334.47	25.60	25.60
0-40	2224.17	42.70	42.70
0-60	4046.01	77.70	77.60
0-80	5102.2	98.00	97.90
0-90	5207.95	100.00	99.90
10-90	5049.38	97.00	96.90
20-40	1605.16	30.80	30.80
20-50	2553.85	49.10	49.00
40-70	2493.74	47.90	47.80
60-80	1056.19	20.30	20.30
70-80	384.29	7.40	7.40
80-90	105.75	2.00	2.00
90-110	2.01	0.00	0.00
90-120	2.59	0.00	0.00
90-130	3.05	0.10	0.10
90-150	3.66	0.10	0.10
90-180	4.06	0.10	0.10
110-180	2.05	0.00	0.00
0-180	5212.01	100.10	100.00

Total Luminaire Efficiency = 100.10%