



LED Direct Troffer Luminaires with Fixed Wattage

Product Specifications



TCP's LED Direct Troffer Luminaires feature back-lit technology with a robust construction that still offers a slim, low-profile with beautiful full panel diffusion and superior uniformity.

These energy efficient troffers offer a cost-effective solution to maximize energy savings and take advantage of utility rebates while using the best LED technology.

Applications: T-bar Grid Ceilings

Reasons to choose the LED Direct Troffer Luminaires from TCP

- Provides energy savings over fluorescent alternatives, providing instant energy savings and potential rebate eligibility
- Long 50,000 hour rated life significantly reduces maintenance labor & material costs
- Excellent color consistency & CRI Enhances color of focal point while maintaining uniformity throughout lighting installation
- Mercury free construction is great for all environments
- Fits standard 1" and 9/16" T-bar grid ceilings
- Utilizes back-lit technology for full diffusion with excellent uniformity
- Slim, low-profile design and lightweight for easy handling

Ideal Applications

- Office
- Retail Stores
- Schools
- Hospitality
- Restaurants
- Healthcare





LED Direct Troffer Luminaires with Fixed Wattage

Specifications

Input Line Voltage	120-277 VAC
Input Line Frequency (Hz)	50/60HZ
Wattage (W)	
2x2	23W/29W/38W
2x4	29W/39W/46W
Lumens (L)	
2x2	2600L/3200L/4200L
2x4	3300L/4400L/5100L
Lumens per Watt (LPW)	>110 LPW
Rated Life	50,000 hours
Minimum Starting Temperature	-20°C
Maximum Operating Temperature	40°C
CRI	>80
Power Factor	>90%
THD	<20%
Ratings	UL/cUL damp location rated, IC rated, IP20, DLC Standard 4.4
Controls	0-10V dimming (standard)



Replacement Strategy

SYSTEM	BALLAST FACTOR	LUMENS	INPUT WATTS*	LED ENERGY SAVINGS
TCP LED Direct Troffer - 2x2	—	3200	29	—
2 Lamp 34W T12 U-Bend	0.88	4420	74	61%
2 Lamp 32W T8 U-Bend	0.88	4275	58	50%
2 Lamp 24W T5HO	1.0	3145	54	46%
TCP LED Direct Troffer - 2x4	—	5100	46	—
3 Lamp 32W T8 HBF	1.18	6960	93	51%
3 Lamp 32W T8 NBF	0.88	6681	89	48%
2 Lamp 32W T8 HBF	1.18	4658	65	29%
2 Lamp 28W T5	1.0	4675	63	27%
2 Lamp 32W T8 NBF	0.88	4468	59	22%

*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





2x2 LED Direct Troffer Luminaires with Fixed Wattage

Applications

TCP LED Direct Troffer luminaires are cost-effective, high-efficiency alternatives to traditional T5, T8 and T12 linear fluorescent troffers. Featuring a slim, low-profile design, our LED Direct Troffers use back-lit technology to deliver full panel diffusion and superior uniformity that meets or exceeds the output from edge-lit panels. Applications include offices, schools, retail locations, healthcare, hospitality and other T-grid and commercial ceilings.

Construction

- Rectangular white frame
- Lens: frosted white diffuser
- 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)
- LED driver with integrated junction box
- System rated for long 50,000 hour life

Optics

- Back-lit technology provides even uniform lighting
- 120° beam angle
- Frosted diffuser for reduced glare and aesthetic appeal
- Meets or exceeds the look and performance of edge-lit panels



Listings

UL/cUL Listed
IC Rated
RoHS Compliant
DLC 4.4 Standard

Lumen Maintenance

L70 > 54000 hours

Warranty

Five year limited warranty against defects in manufacturing.

Catalog Ordering Matrix Example: DTF2UZD2341K

V	F	4	U	ZD			
FAMILY	LENS TYPE	SIZE	VOLTAGE	DIMMING	WATTAGE ^{1,2,3}	COLOR TEMPERATURE	OPTIONS
DT = Direct Back Lit Troffer	F = Frosted	2 = 2' x 2'	U = 120V-277V	ZD = 0-10V Dimming	23 = 2600 Lumens 29 = 3200 Lumens 38 = 4200 Lumens	30K = 3000K 35K = 3500K 41K = 4100K 50K = 5000K	EB = Battery 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 +/- 5%; when operating between 120-277V +/- 10%.

³ 23W and 29W are permanently fixed; 38W is adjustable

Accessories:

Item Number	Description
YHANGER6PK	Y FIT CABLE HANGER 6 PACK
DTSK2	SURFACE MOUNT KIT FOR DIRECT TROFFER 2X2
DTFLK2	RECESS MOUNT FLANGE KIT FOR 2X2 TROFFERS AND PANELS
DRVEXTCABLE	3FT DRIVER EXTENSION CABLE

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

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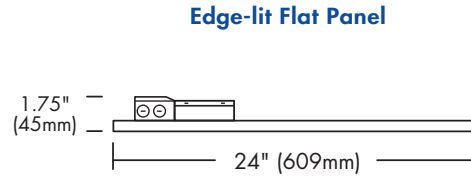
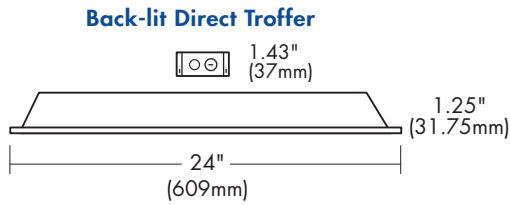
5 YEAR WARRANTY

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.



2x2 LED Direct Troffer Luminaires with Fixed Wattage

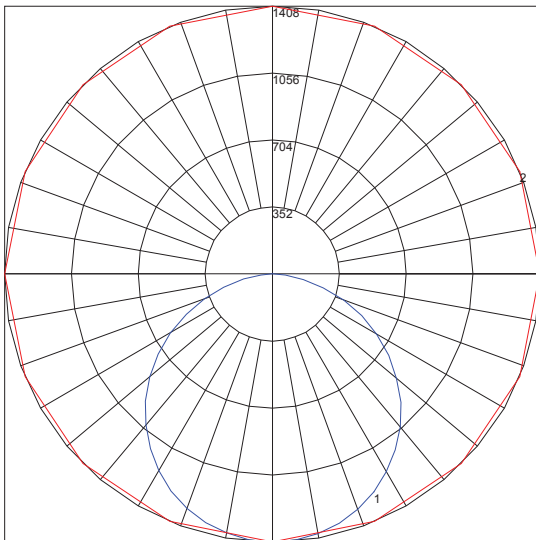
Dimensions and Mounting Data



Photometric Report

Based on photometric data for
TCP Item # DTF2UZD3841K (38W)

Polar Graph



Maximum Candela = 1293.063 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles [0 - 180] (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle [0] (Through Max. Cd.)

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	3631	3602	3585
55	3506	3474	3437
65	3292	3239	3179
75	2892	2795	2680
85	2165	1983	1746

Coefficients of Utilization – Zonal Cavity Method

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	94	97	94	91	93	91	88	90	88	86	84
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	62	69	65	61	58
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	50
5	76	63	54	47	73	62	53	47	59	52	46	57	51	46	56	50	45	43
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	38
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixt
0-20	515.20	N.A.	12.70
0-30	1095.31	N.A.	27.10
0-40	1796.69	N.A.	44.40
0-60	3184.62	N.A.	78.70
0-80	3967.55	N.A.	98.10
0-90	4044.17	N.A.	100.00
10-90	3910.96	N.A.	96.70
20-40	1281.49	N.A.	31.70
20-50	2010.58	N.A.	49.70
40-70	1887.56	N.A.	46.70
60-80	782.93	N.A.	19.40
70-80	283.30	N.A.	7.00
80-90	76.63	N.A.	1.90
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.01	N.A.	0.00
90-180	0.76	N.A.	0.00
110-180	0.76	N.A.	0.00
0-180	4044.93	N.A.	100.00

Total Luminaire Efficiency = N.A.%

Specifications and dimensions subject to change without notice.

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5 YEAR WARRANTY

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2x4 LED Direct Troffer Luminaires with Fixed Wattage

Applications

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Construction

- Rectangular white frame
- Lens: frosted white diffuser
- 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)
- LED driver with integrated junction box
- System rated for long 50,000 hour life

Optics

- Back-lit technology provides even uniform lighting
- 120° beam angle
- Frosted diffuser for reduced glare and aesthetic appeal
- Meets or exceeds the look and performance of edge-lit panels



Listings

UL/cUL Listed
IC Rated
RoHS Compliant
DLC 4.4 Standard

Lumen Maintenance

L70 > 54000 hours

Warranty

Five year limited warranty against defects in manufacturing.

Catalog Ordering Matrix Example: DTF4UZD2941K

V	F	4	U	ZD			
FAMILY	LENS TYPE	SIZE	VOLTAGE	DIMMING	WATTAGE ^{1,2,3}	COLOR TEMPERATURE	OPTIONS
DT = Direct Back Lit Troffer	F = Frosted	4 = 2' x 4'	U = 120V-277V	ZD = 0-10V Dimming	29 = 3300 Lumens 39 = 4400 Lumens 46 = 5100 Lumens	30K = 3000K 35K = 3500K 41K = 4100K 50K = 5000K	EB = Battery Back-up

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

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

³23W and 29W are permanently fixed; 38W is adjustable

Accessories:

Item Number	Description
YHANGER6PK	Y FIT CABLE HANGER 6 PACK
DTSK4	SURFACE MOUNT KIT FOR DIRECT TROFFER 2X4
DTFLK4	RECESS MOUNT FLANGE KIT FOR 2X4 TROFFERS AND PANELS
DRVEXTCABLE	3FT DRIVER EXTENSION CABLE

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

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5 YEAR WARRANTY

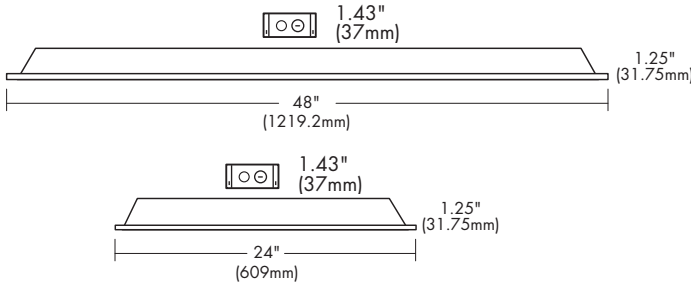
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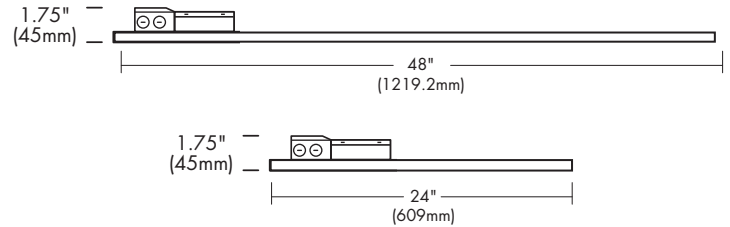
2x4 LED Direct Troffer Luminaires with Fixed Wattage

Dimensions and Mounting Data

Back-lit Direct Troffer



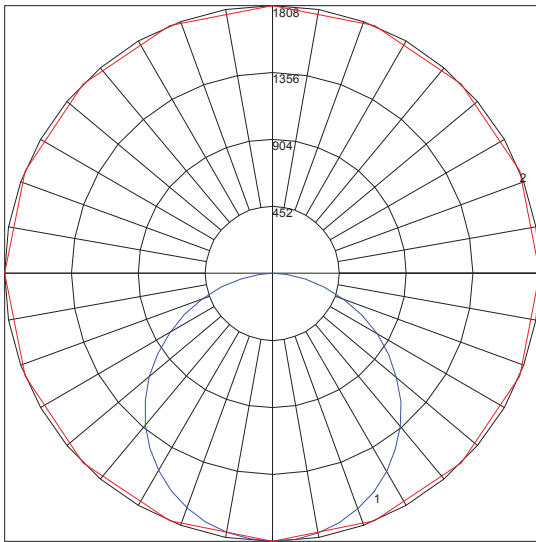
Edge-lit Flat Panel



Photometric Report

Based on photometric data for
TCP Item # DTF4UZD4641K (46W)

Polar Graph



Maximum Candela = 1293.063 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)

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

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	2333	2317	2318
55	2254	2237	2229
65	2125	2092	2083
75	1904	1866	1822
85	1499	1470	1394

Coefficients of Utilization – Zonal Cavity Method

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	99	95	106	101	97	94	97	94	91	93	91	88	90	87	85	83
2	99	90	83	78	96	88	82	77	85	79	75	81	77	73	78	75	71	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	58	52	62	56	52	50
5	76	63	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	46	38	32	59	46	38	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixt
0-20	661.93	N.A.	12.70
0-30	1407.56	N.A.	26.90
0-40	2309.2	N.A.	44.20
0-60	4094.49	N.A.	78.40
0-80	5115.44	N.A.	97.90
0-90	5222.48	N.A.	100.00
10-90	5051.35	N.A.	96.70
20-40	1647.27	N.A.	31.50
20-50	2584.72	N.A.	49.50
40-70	2431.84	N.A.	46.60
60-80	1020.95	N.A.	19.50
70-80	374.40	N.A.	7.20
80-90	107.04	N.A.	2.00
90-110	0.62	N.A.	0.00
90-120	0.62	N.A.	0.00
90-130	0.62	N.A.	0.00
90-150	0.67	N.A.	0.00
90-180	1.55	N.A.	0.00
110-180	0.94	N.A.	0.00
0-180	5224.04	N.A.	100.00

Total Luminaire Efficiency = N.A.%

Specifications and dimensions subject to change without notice.

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5 YEAR WARRANTY

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