



## LED Direct Back-Lit Flat Panel Luminaires

### Great Features/Benefits

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

These DLC Listed flat panels offer a cost effective solution to maximize savings and take advantage of utility rebates without sacrificing performance.

- Up to 58% 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 back-lit technology
- Slim, low-profile design
- Ideal for:
  - Offices
  - Retail Stores
  - Schools
  - Hospitality
  - Restaurants
  - Healthcare



5 YEAR WARRANTY

# LED Direct Back-Lit Flat Panel Luminaires

## 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 back-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)	2x2 = 36W 2x4 = 50W
Lumens (L)	2x2 = 3600L 2x4 = 5000L
Lumens per Watt (LPW)	100 LPW
Rated Life	50,000 hours
Minimum Starting Temperature	-20°C
Maximum Operating Temperature	40°C
CRI	>80
Power Factor	>0.9
THD	<20%
Ratings	UL/cUL damp location rated, DLC, IC rated
Controls	Non dimming



2x2



2x4



5 YEAR WARRANTY

To view our DLC qualified products, please consult the DLC Qualified Products List at [www.designlights.org/qpl](http://www.designlights.org/qpl).

## Replacement Strategy

SYSTEM	BALLAST FACTOR	LUMENS	INPUT WATTS*	LED ENERGY SAVINGS
<b>TCP LED Flat Panel - 2x2</b>	—	<b>3600</b>	<b>36</b>	—
2 Lamp 34W T12 U-Bend	0.88	4420	74	51%
2 Lamp 32W T8 U-Bend	0.88	4275	58	38%
2 Lamp 24W T5HO	1.0	3145	54	33%
<b>TCP LED Flat Panel - 2x4</b>	—	<b>5000</b>	<b>50</b>	—
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:

$$\text{System lumens} = \text{mean lumens} \times \# \text{ lamps} \times \text{ballast factor} \times \text{luminaire efficiency factor}$$

### Applications

TCP LED Direct 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 use back-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

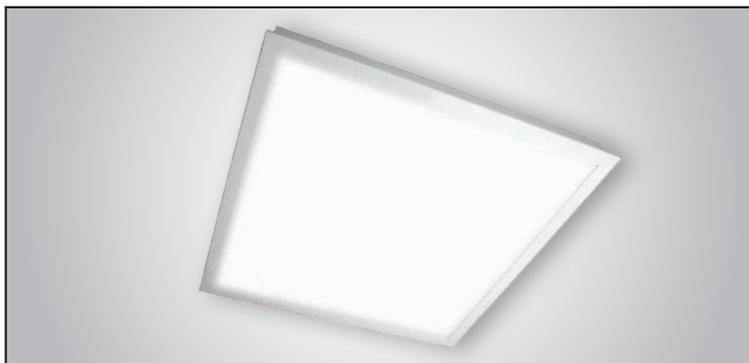
- Housing: low profile design
- Frame: white
- IC rated for direct contact with insulation
- Designed for easy drop into T-bar grid ceilings

### Electrical

- UL/cUL damp location rated
- Access plate for easy wiring connections
- System rated for long 50,000 hour life

### Optics

- Back-lit design provides excellent light distribution
- 120° beam angle
- Delivers full panel diffusion and excellent uniformity



### Listings

UL/cUL Listed    DLC v4.4 Standard    IC Rated    RoHS Compliant

### Warranty

Five year limited warranty against defects in manufacturing.

### Lumen Maintenance

Reported L <sub>90</sub> <sup>2</sup>	Reported L <sub>70</sub> <sup>2</sup>
>22,000 hours	>54,000 hours

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

<sup>2</sup> IESNA TM-21-11 projected value within 6X IESNA LM-80-08 total test duration.

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

## Catalog Ordering Matrix

Example: DFF2UZD3635K

DF	F	2	UZD	36	
FAMILY	LENS TYPE	SIZE	VOLTAGE	LUMEN PACKAGE (Power) <sup>12</sup>	COLOR TEMPERATURE
DF – Direct Flat Panel	F – Frosted Lens	2 – 2' x 2'	UZD – 120V-277V (Non Dimming)	36 – 3600 Lumens	30K – 3000K 35K – 3500K 41K – 4100K 50K – 5000K

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

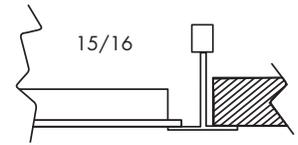
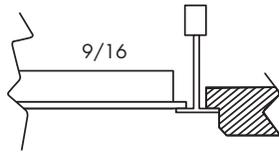
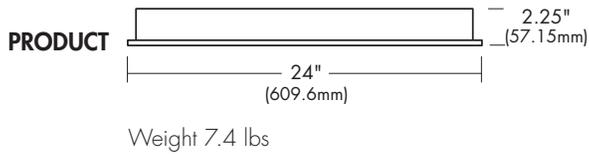
<sup>2</sup> Actual wattage may differ by +/- 10%.

For the most up-to-date specs and warranty information, please visit [www.tcpi.com](http://www.tcpi.com)

# 2x2 LED Direct Back-Lit Flat Panel Luminaire

## LED TECHNICAL DATA

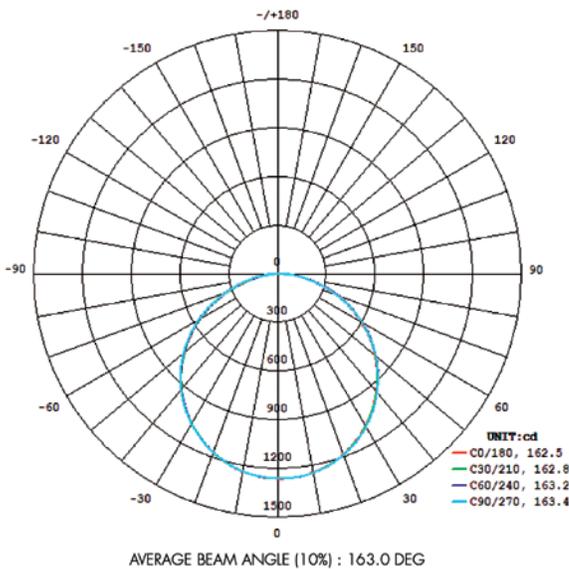
### Dimensions and Mounting Data



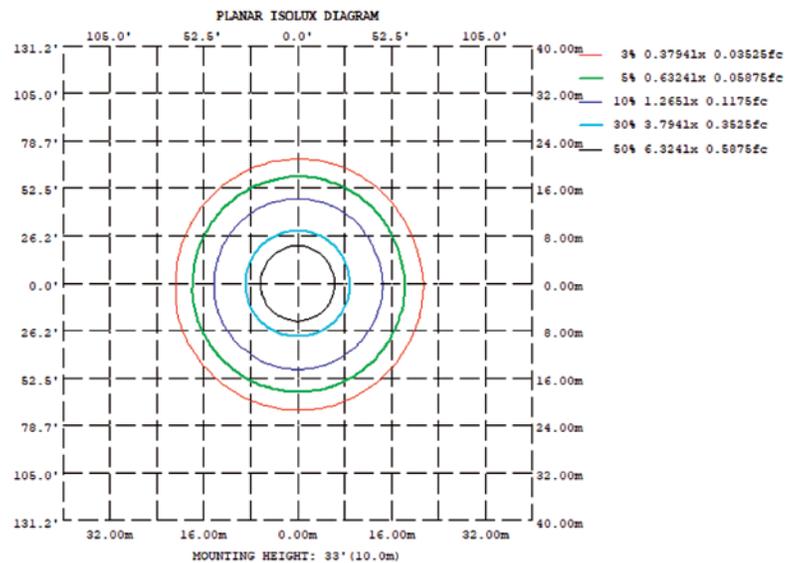
### Photometric Report

Based on photometric data for  
TCP Item #DFF2UZD3635K

#### Light Distribution Curve



#### Isolux Plot



## 2x4 LED Direct Back-Lit Flat Panel Luminaire

### LED TECHNICAL DATA

#### Applications

TCP LED Direct 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 use back-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: low profile design
- Frame: white
- IC rated for direct contact with insulation
- Designed for easy drop into T-bar grid ceilings

#### Electrical

- UL/cUL damp location rated
- Access plate for easy wiring connections
- System rated for long 50,000 hour life

#### Optics

- Back-lit design provides excellent light distribution
- 120° beam angle
- Delivers full panel diffusion and excellent uniformity



#### Listings

UL/cUL Listed    DLC v4.4 Standard    IC Rated    RoHS Compliant

#### Warranty

Five year limited warranty against defects in manufacturing.

#### Lumen Maintenance

Reported L <sub>90</sub> <sup>2</sup>	Reported L <sub>70</sub> <sup>2</sup>
>22,000 hours	>54,000 hours

<sup>1</sup> IESNA TM-21-11 projected value within 6X IESNA LM-80-08 total test duration of 10,000 hours.

<sup>2</sup> IESNA TM-21-11 calculated value exceeds 6X IESNA LM-80-08 total test duration of 10,000 hours.

## Catalog Ordering Matrix

Example: DFF4UZD5035K

DF	F	4	UZD	50	
FAMILY	LENS TYPE	SIZE	VOLTAGE	LUMEN PACKAGE (Power) <sup>12</sup>	COLOR TEMPERATURE
DF – Direct Flat Panel	F – Frosted Lens	4 – 2' x 4'	UZD – 120V-277V (Non Dimming)	50 – 5000 Lumens	30K – 3000K 35K – 3500K 41K – 4100K 50K – 5000K

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

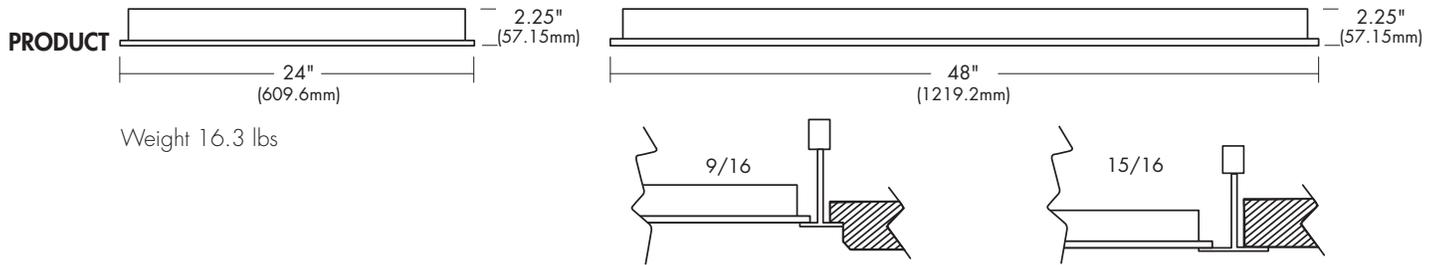
<sup>2</sup> Actual wattage may differ by +/- 10%.

For the most up-to-date specs and warranty information, please visit [www.tcpi.com](http://www.tcpi.com)

# 2x4 LED Direct Back-Lit Flat Panel Luminaire

## LED TECHNICAL DATA

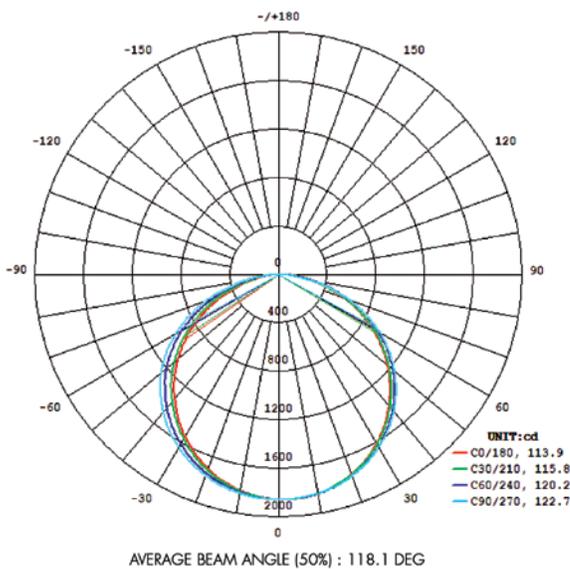
### Dimensions and Mounting Data



### Photometric Report

Based on photometric data for  
TCP Item #DFF4UZD5035K

#### Light Distribution Curve



#### Isolux Plot

