

## LED Standard Flat Panel Luminaires with Selectable Wattage



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

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

### Reasons to choose the LED Wattage Selectable Flat Panel Luminaires from TCP

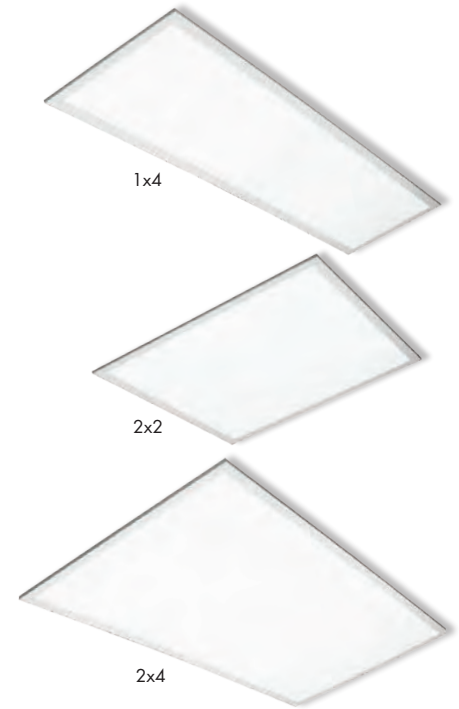
- Up to 51% less energy than fluorescent alternatives
- Long life: 50,000 hours
- Excellent color consistency & CRI enhances color of focal point while maintaining uniformity throughout lighting installations
- Mercury free, great for all environments
- Fits standard 1" and 9/16" T-bar grid ceilings for easy installation and retrofit application
- Utilizes edge-lit technology for full diffusion with excellent uniformity
- Slim, low-profile design is lightweight for easy handling allows more items per pallet to reduce shipping cost and storage space.

### Ideal Applications

- Offices
- Schools
- Restaurants
- Retail Stores
- Hospitality
- Healthcare

### Specifications

Input Line Voltage .....	120-277 VAC
Input Line Frequency (Hz) .....	50/60HZ
Wattage (W)	
1x4 .....	23W/29W/38W
2x2 .....	23W/29W/38W
2x4 .....	29W/39W/46W
Lumens (L)	
1x4 .....	2600L/3200L/4200L
2x2 .....	2700L/3200L/4100L
2x4 .....	3600L/4600L/5200L
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 .....	>90%
THD.....	<20%
Ratings .....	UL/cUL damp location rated, IC rated, IP20
Controls .....	0-10V dimming (standard)



### Replacement Strategy

SYSTEM	BALLAST FACTOR	LUMENS	INPUT WATTS*	LED ENERGY SAVINGS
<b>TCP LED Flat Panel - 1x4</b>	<b>29</b>	<b>3200</b>	<b>29</b>	
2 Lamp 28W T5	1.0	3968	64	55%
1 Lamp 54W T5HO	1.0	3395	61	52%
2 Lamp 32W T8 NBF	0.88	3827	54	46%
<b>TCP LED Flat Panel - 2x2</b>	<b>—</b>	<b>4100</b>	<b>38</b>	<b>—</b>
2 Lamp 34W T12 U-Bend	0.88	4420	74	49%
2 Lamp 32W T8 U-Bend	0.88	4275	58	35%
2 Lamp 24W T5HO	1.0	3145	54	30%
<b>TCP LED Flat Panel - 2x4</b>	<b>—</b>	<b>5200</b>	<b>46</b>	<b>—</b>
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**

### 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 use 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

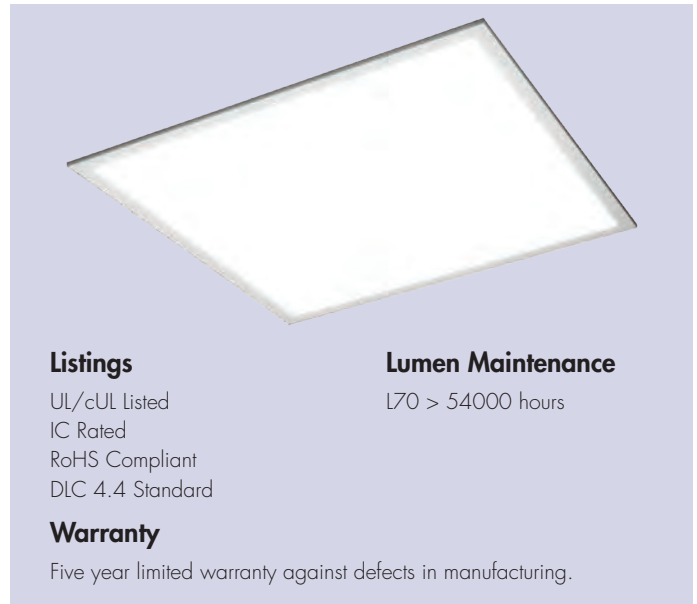
- Remote-mount LED driver with integrated junction box
- Rectangular white frame
- Lens: frosted white diffuser
- IP20 rated
- IC rated for direct contact with insulation
- Designed for easy drop into T-bar grid ceilings
- PMMA Light guide

### Electrical

- UL/cUL damp location rated
- 0-10V dimming driver (standard)
- Selectable wattage driver with quick connect to panel
- System rated for long 50,000 hour life
- Optional emergency back-up

### Optics

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



#### 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: FP2UZDB141K

Item Number	Lumens/ Selectable Wattages		
	2700L	3200L	4100L
FP2UZDB130K	23W	29W	38W
	2700L	3200L	4100L
FP2UZDB135K	23W	29W	38W
	2700L	3200L	4100L
FP2UZDB141K	23W	29W	38W
	2700L	3200L	4100L
FP2UZDB150K	23W	29W	38W

#### Options:

Item Number	Description
EB	Emergency Battery Backup - add "EB" to the end of the part number (Boxed Individually)

#### Accessories:

Item Number	Description
FPSK2	2X2 FLAT PANEL SURFACE MOUNT KIT (WHITE)
DNFLK2	RECESS MOUNT FLANGE KIT FOR 2X2 TROFFERS AND PANELS
YHANGER6PK	Y FIT CABLE HANGER 6 PACK
DRVEXTCABLE	3FT DRIVER EXTENSION CABLE

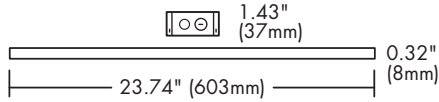
**These items ship in contractor friendly bulk quantities (LED panel and drivers ship separately.)**

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

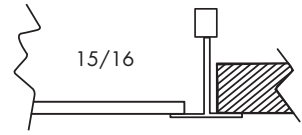
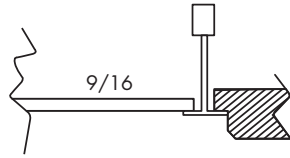
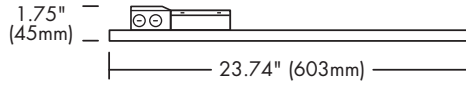
<sup>2</sup> Actual wattage may differ by +/- 5%; when operating between 120-277V +/- 10%.

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

### Dimensions and Mounting Data



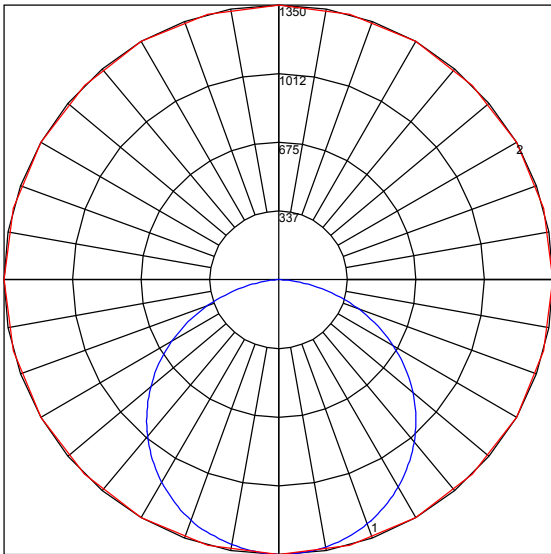
Length: 23.74" (603mm)  
 Width: 23.74" (603mm)  
 Depth: 0.32" (8mm)  
 Weight: 6.61 lbs (3kg)



### Photometric Report

Based on photometric data for  
 TCP Item #FFP2UZDB130K (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	3630	3637	3593
55	3572	3573	3514
65	3438	3421	3335
75	3038	2983	2839
85	2017	1849	1583

Specifications and dimensions subject to change without notice.

### 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	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	109	104	99	96	106	102	98	94	97	94	91	93	91	88	90	88	86	86	84	84	84
2	99	90	83	78	96	88	82	77	85	79	75	81	77	73	78	75	71	71	69	69	69
3	90	79	71	64	87	77	70	64	74	68	62	72	66	61	69	64	60	60	58	58	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	52	49	49	49
5	75	62	53	40	73	61	53	46	59	51	46	57	50	45	55	49	45	45	42	42	42
6	69	56	47	40	68	55	46	40	53	46	40	52	45	39	50	44	39	39	37	37	37
7	64	51	42	36	63	50	41	35	48	41	35	47	40	35	45	39	35	35	33	33	33
8	60	46	38	32	58	46	37	32	44	37	31	43	36	31	42	36	31	31	29	29	29
9	56	42	34	28	54	42	34	28	41	33	28	40	33	28	38	32	28	28	26	26	26
10	52	39	31	26	51	39	31	26	38	30	26	37	30	25	36	30	25	25	24	24	24

#### Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixt
0-20	495.50	N.A.	12.40
0-30	1058.64	N.A.	26.40
0-40	1745.99	N.A.	43.60
0-60	3133.88	N.A.	78.30
0-80	3935.6	N.A.	98.30
0-90	4002.83	N.A.	100.00
10-90	3875.11	N.A.	96.80
20-40	1250.5	N.A.	31.20
20-50	1974.25	N.A.	49.30
40-70	1900.73	N.A.	47.50
60-80	801.72	N.A.	20.00
70-80	288.87	N.A.	7.20
80-90	67.23	N.A.	1.70
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	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	4002.83	N.A.	100.00

Total Luminaire Efficiency = N.A.%

### 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 use 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

- Remote-mount LED driver with integrated junction box
- 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
- PMMA Light guide

### Electrical

- UL/cUL damp location rated
- 0-10V dimming driver (standard)
- Selectable wattage driver with quick connect to panel
- System rated for long 50,000 hour life
- Optional emergency back-up

### Optics

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



#### Listings

- UL/cUL Listed
- IC Rated
- RoHS Compliant
- DLC 4.4 Standard

#### Warranty

Five year limited warranty against defects in manufacturing.

#### Lumen Maintenance

L70 > 54000 hours

## Catalog Ordering Matrix

Example: FP4UZDB141K

Item Number	Lumens / Selectable Wattages		
FP4UZDB130K	3600L	4600L	5200L
	29W	39W	46W
FP4UZDB135K	3600L	4600L	5200L
	29W	39W	46W
FP4UZDB141K	3600L	4600L	5200L
	29W	39W	46W
FP4UZDB150K	3600L	4600L	5200L
	29W	39W	46W

**These items ship in contractor friendly bulk quantities (LED panel and drivers ship separately.)**

#### Options:

Item Number	Description
<b>EB</b>	Emergency Battery Backup - add "EB" to the end of the part number (Boxed Individually)

#### Accessories:

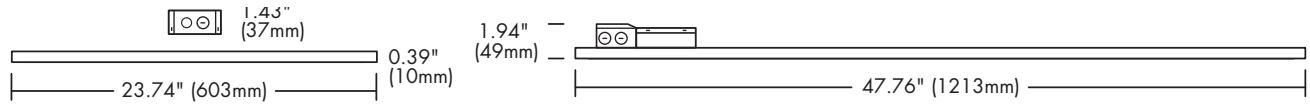
Item Number	Description
<b>FPSK4</b>	2X2 FLAT PANEL SURFACE MOUNT KIT (WHITE)
<b>DTLK4</b>	RECESS MOUNT FLANGE KIT FOR 2X4 TROFFERS AND PANELS
<b>YHANGER6PK</b>	Y FIT CABLE HANGER 6 PACK
<b>DRVEXTCABLE</b>	3FT DRIVER EXTENSION CABLE

<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 +/- 5%; when operating between 120-277V +/- 10%.

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### Dimensions and Mounting Data



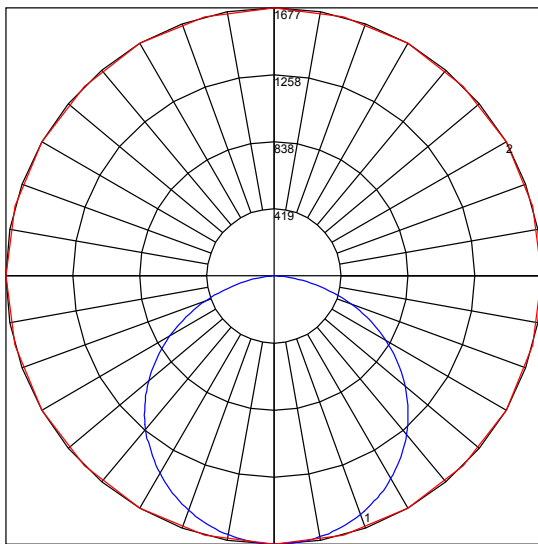
Length: 47.76" (1213mm)  
 Width: 23.74" (603mm)  
 Depth: 0.39" (10mm)  
 Weight: 13.23 lbs (6kg)



### Photometric Report

Based on photometric data for  
 TCP Item #FP4UZDB130K (46W)

#### 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	2257	2357	2430
55	2220	2365	2475
65	2117	2309	2451
75	1876	2101	2265
85	1254	1505	1610

### 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	50	30	10	50	30	10	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	100	100	
1	108	103	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83	83	83	83	83	83	
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69	69	69	69	69	69	
3	89	78	70	63	87	77	69	63	74	67	62	71	65	60	69	64	60	57	57	57	57	57	57	
4	82	69	60	53	79	68	59	53	65	58	52	63	57	52	61	56	51	49	49	49	49	49	49	
5	75	62	52	46	73	60	52	45	58	51	45	57	50	45	55	49	44	42	42	42	42	42	42	
6	69	55	46	40	67	54	46	39	52	45	39	51	44	39	49	43	39	36	36	36	36	36	36	
7	64	50	41	35	62	49	41	35	48	40	34	46	40	34	45	39	34	32	32	32	32	32	32	
8	59	46	37	31	58	45	37	31	43	36	31	42	36	31	41	35	30	28	28	28	28	28	28	
9	55	42	33	28	54	41	33	28	40	33	27	39	32	28	38	32	27	26	26	26	26	26	26	
10	52	38	30	25	51	38	30	25	37	30	25	36	30	25	35	29	25	23	23	23	23	23	23	

### Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixt
0-20	618.21	N.A.	11.80
0-30	1326.99	N.A.	25.40
0-40	2204.13	N.A.	42.20
0-60	4025.9	N.A.	77.10
0-80	5119.54	N.A.	98.10
0-90	5219.87	N.A.	100.00
10-90	5060.99	N.A.	97.00
20-40	1585.93	N.A.	30.40
20-50	2527.21	N.A.	48.40
40-70	2514.33	N.A.	48.20
60-80	1093.64	N.A.	21.00
70-80	401.08	N.A.	7.70
80-90	100.33	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	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	5219.87	N.A.	100.00

Total Luminaire Efficiency = N.A.%

### 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 use 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

- Remote-mount LED driver with integrated junction box
- 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)
- Selectable wattage driver with quick connect to panel
- System rated for long 50,000 hour life
- Optional emergency back-up

### Optics

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



**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: FP1UZDB130K

Item Number	Lumens/ Selectable Wattages		
FP1UZDB130K	2600L	3200L	4200L
	23W	29W	38W
FP1UZDB135K	2600L	3200L	4200L
	23W	29W	38W
FP1UZDB141K	2600L	3200L	4200L
	23W	29W	38W
FP1UZDB150K	2600L	3200L	4200L
	23W	29W	38W

#### Options:

Item Number	Description
EB	Emergency Battery Backup - add "EB" to the end of the part number (Boxed Individually)

#### Accessories:

Item Number	Description
FPSK1	1X4 FLAT PANEL SURFACE MOUNT KIT (WHITE)
DNFLK1	RECESS MOUNT FLANGE KIT FOR 1X4 TROFFERS AND PANELS
YHANGER6PK	Y FIT CABLE HANGER 6 PACK
DRVEXTCABLE	3FT DRIVER EXTENSION CABLE

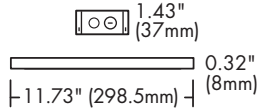
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<sup>1</sup> Approximate lumen output. Actual performance may vary based on CCT, options selected and end user application.

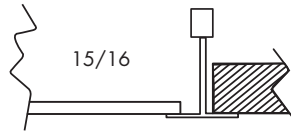
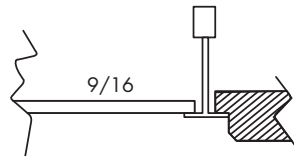
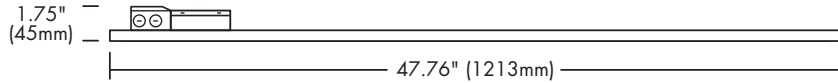
<sup>2</sup> Actual wattage may differ by +/- 5%; when operating between 120-277V +/- 10%.

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## Dimensions and Mounting Data



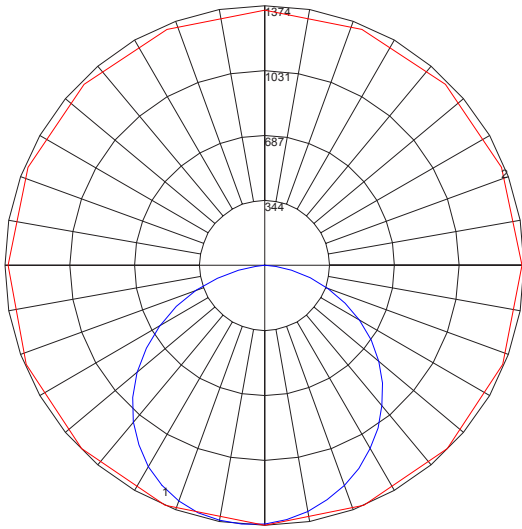
Length: 47.76" (1213mm)  
 Width: 11.73" (298.5mm)  
 Depth: 0.32" (8mm)  
 Weight: 6.61 lbs (3kg)



## Photometric Report

Based on photometric data for  
 TCP Item #FP1UZD3830K

### Polar Graph



Maximum Candela = 1374 Located At Horizontal Angle = 270, Vertical Angle = 5  
 # 1 - Vertical Plane Through Horizontal Angles (270 - 90) (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	3469	3356	3350
55	3340	3218	3224
65	3092	2996	2999
75	2609	2550	2591
85	1428	1724	1857

## 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	100	96	106	102	98	94	97	94	91	94	91	89	90	88	86	84
2	99	91	84	78	96	89	82	77	85	80	75	82	77	74	79	75	72	70
3	90	80	71	65	88	78	70	64	75	68	63	72	67	62	70	65	61	59
4	82	70	62	55	80	69	61	54	67	59	54	64	58	53	62	57	52	50
5	76	63	54	47	74	62	53	47	60	52	46	58	51	46	56	50	45	43
6	70	57	48	41	68	56	47	41	54	46	41	52	45	40	50	45	40	38
7	65	51	42	36	63	50	42	36	49	41	36	47	41	36	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	32	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	29	27
10	53	40	32	26	52	39	31	26	38	31	26	37	31	26	36	30	26	24

## Zonal Lumen Summary

Zone	Lumens	%Lamp	%Fixt
0-20	500.56	N.A.	12.80
0-3	1064.6	N.A.	27.30
0-40	1746.17	N.A.	44.70
0-60	3091.16	N.A.	79.20
0-80	3836.19	N.A.	98.30
0-90	3901.75	N.A.	100.00
10-90	3772.39	N.A.	96.70
20-40	1245.61	N.A.	31.90
20-50	1953.61	N.A.	50.00
40-70	1825.49	N.A.	46.80
60-80	745.03	N.A.	19.10
70-80	264.53	N.A.	6.80
80-90	65.57	N.A.	1.70
90-110	0.05	N.A.	0.00
90-120	0.05	N.A.	0.00
90-130	0.05	N.A.	0.00
90-150	0.19	N.A.	0.00
90-180	1.31	N.A.	0.00
110-180	1.26	N.A.	0.00
0-180	3903.06	N.A.	100.00

Total Luminaire Efficiency = N.A.%