

# Flat Panel

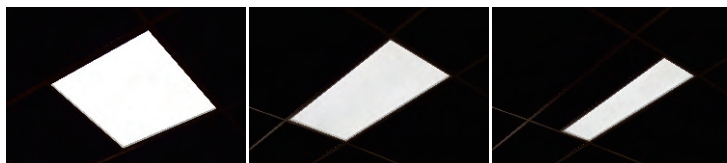
Back-lit LED | CCT & Wattage Adjustable



Designed to deliver an unprecedented uniformity and functionality, this back-lit panel features a compact yet sturdy aluminum construction designed to blend into modern architectural spaces. Featuring a low profile form factor, it is ideal for buildings with a low plenum space and is suitable for all standard 2x2, 1X4 or 2x4 grid ceilings. This creates a soft and comfortable lighting experience for commercial and institutional spaces including open offices, classrooms, retail and healthcare facilities, goes beyond what was previously possible with traditional LED luminaires.



\*DesignLights Consortium Qualified and classified for DLC standard/premium, refer to [www.designlights.org](http://www.designlights.org) for details



## Feature

- Low profile design
- Uniform and soft illumination with back-lit technology
- CCT selectable from 3500k, 4000k and 5000k
- Wattage adjustable, up to 110lm/W

## PERFORMANCE

| Model NO.    | Dimension | Wattage Adjustable | Lumen Output |        |        | Efficacy      | CCT Adjustable    |
|--------------|-----------|--------------------|--------------|--------|--------|---------------|-------------------|
|              |           |                    | High         | Medium | Low    |               |                   |
| TR22-DM-TWPS | 2'x2'     | 35W/30W/25W        | 3850lm       | 3300lm | 2750lm | Up to 110lm/w | 3500K/4000K/5000K |
| TR14-DM-TWPS | 1'x4'     | 35W/30W/25W        | 3850lm       | 3300lm | 2750lm | Up to 110lm/w | 3500K/4000K/5000K |
| TR24-DM-TWPS | 2'x4'     | 50W/40W/30W        | 5500lm       | 4400lm | 3300lm | Up to 110lm/w | 3500K/4000K/5000K |

All efficacy is ±5% base on different CCT. Check the IES file to gain the accurate data .

©OKT Lighting. All right reserved. Product design and development is an ongoing process by OKT Lighting. We reserve the right to change specifications. Contact OKT for the latest product information or visit [www.oktlighting.com](http://www.oktlighting.com) / [www.oktusa.com](http://www.oktusa.com) for more.

# Flat Panel

Back-lit LED | CCT & Wattage Adjustable



## PRODUCT PERFORMANCE

### ► Finish

Extruded aluminum housing with powder coat white finish provides long term performance and superior aesthetic.

### ► Electrical

|               |  |
|---------------|--|
| LED Driver    | It is powered by Class 2 high efficiency LED driver, with a standard 1-10V dimming which continuous dims to 10% that works with many types of controls. Tested Dimmers: Lutron ® Diva-Dvtv, Leviton ® IP-710-DL. |
| THD           | <20%   |
| Power Factor  | >0.9   |
| Input Voltage | Standard electronic driver is UL recognized and available for 110-277V or 110-347V* AC.  |

### ► LED System

|                    |  |
|--------------------|--|
| CRI                | Minimum 80 color rendering index   |
| CCT                | CCT selectable from 3500K, 4000K and 5000K with a great color consistency  |
| LED                | life Minimum 50,000h with 87.8% of lumen maintenance in 25°C ambient temperature, in compliance with IES LM-80 testing measurements. |
| Thermal Management | Aluminum housing acting as the heat sink to maximize life.   |
| Environment        | Damp rated in operating ambient temperatures of -20°C~40°C .   |

### ► Mounting

Recessed

### ► Approvals

- cULus listed for damp locations
- Tested to IESNA LM-79 and LM-80
- DesignLights Consortium Qualified and classified for DLC standard/premium, refer to [www.designlights.org](http://www.designlights.org) for details
- 5 years limited warranty

### ► Optional Function

Emergency Option

Optional high voltage 8W emergency LED driver EM-H08170-LBF can be provided. When AC power fails, it immediately switches to the emergency mode, operating for lighting up to 120 minutes. When AC power is restored, it automatically returns to the charging mode which meets critical life-safety lighting requirements. For more info or spec sheet, please visit our website or contact sales.

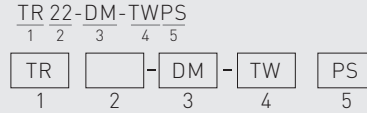


Emergency Lumen Output:

| Fixture Efficacy | Output Power 8w |
|------------------|-----------------|
| 110lm/w          | 880 Lumens      |

## PRODUCT ORDERING GUIDE

### Sample



### 1. Base Model

TR

### 2. Size

- 22 2'X2'
- 14 1'X4' \*
- 24 2'X4'

### 3. Dimming

DM 1-10V Dimming

### 4. CCT

TW CCT Selectable 3500K/4000K/5000K

### 5. Efficacy

PS 110lm/w

## OPTIONAL ORDERING GUIDE

### Optional Functions

LED Emergency Driver (Order Separated)

\*Additional cost and/or lead time on customized fixtures may apply. Some fixtures require an MOQ. Please contact your sales rep for more information.

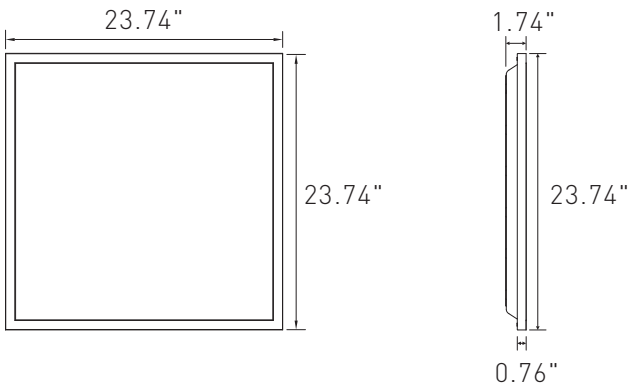
# Flat Panel

Back-lit LED | CCT & Wattage Adjustable

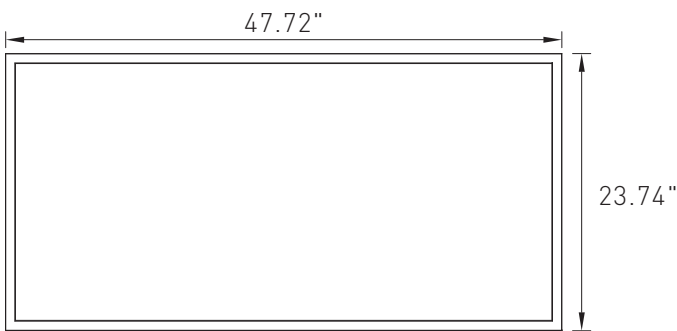


## DIMENSION

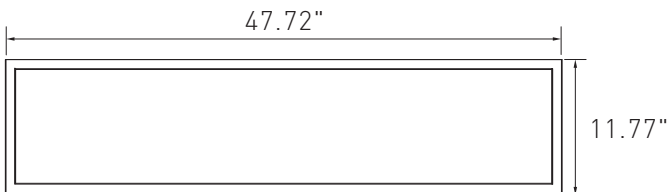
2x2ft



2x4ft



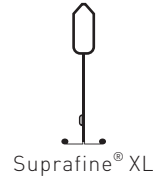
1x4ft



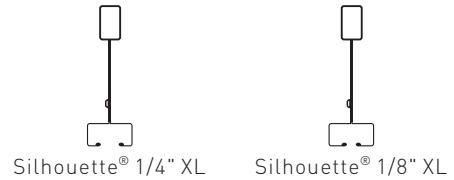
## T-GRIDS CEILING COMPATIBILITY

It is architectural recessed lighting solution that compatible with most 15/16" and 9/16" t-grid systems for commercial and institutional environment. The following are only as some common examples to show.

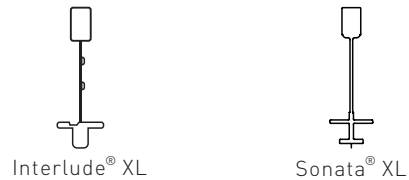
9/16" Flat



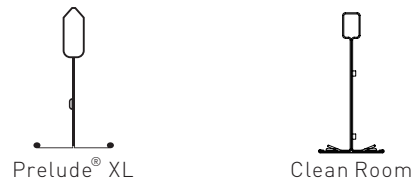
9/16" Slot



9/16" Interlude



15/16" Flat



\*Please verify compatibility with factory.

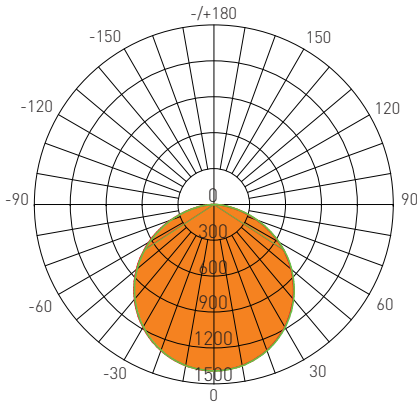
# Flat Panel

Back-lit LED | CCT & Wattage Adjustable



## DISTRIBUTION DIAGRAM

2'X2' / 3500K



Test Number: TR22-DM-TWPS UNIT: cd  
 Lumens: 4013.3 Lm — C0/180, 113.8°  
 Watts: 33.94 W — C30/270, 113.7°  
 LPW: 118.24 Lm/W  
 CCT: 3500K

Zonal Flux Diagram

| τ   | C0                    | C45    | C90    | C135   | C180   |
|-----|-----------------------|--------|--------|--------|--------|
| 10  | 1366                  | 1367   | 1368   | 1368   | 1368   |
| 20  | 1297                  | 1298   | 1300   | 1299   | 1299   |
| 30  | 1183                  | 1186   | 1188   | 1187   | 1186   |
| 40  | 1030                  | 1034   | 1036   | 1036   | 1033   |
| 50  | 841.1                 | 847.6  | 848.8  | 850.5  | 846.0  |
| 60  | 621.6                 | 629.5  | 628.2  | 633.3  | 627.7  |
| 70  | 379.4                 | 387.7  | 388.3  | 391.6  | 387.0  |
| 80  | 142.9                 | 150.2  | 156.7  | 154.6  | 149.9  |
| 90  | 0.0014                | 0.0844 | 0.0842 | 0.2041 | 0      |
| 100 | 0.1674                | 0.0878 | 0      | 0      | 0      |
| 110 | 0.5039                | 0.3689 | 0.0844 | 0.3705 | 0.1662 |
| 120 | 1.347                 | 0.9283 | 0.4783 | 0.7703 | 0.6749 |
| 130 | 1.335                 | 0.9984 | 1.255  | 0.7183 | 1.264  |
| 140 | 1.302                 | 0.2535 | 1.201  | 0.4218 | 1.433  |
| 150 | 1.269                 | 0      | 1.114  | 0      | 1.433  |
| 160 | 1.134                 | 0      | 1.043  | 0      | 1.433  |
| 170 | 1.369                 | 0      | 1.093  | 0      | 1.433  |
| 180 | 1.433                 | 0.2531 | 1.266  | 0      | 1.433  |
| DEG | LUMINOUS INTENSITY:cd |        |        |        |        |

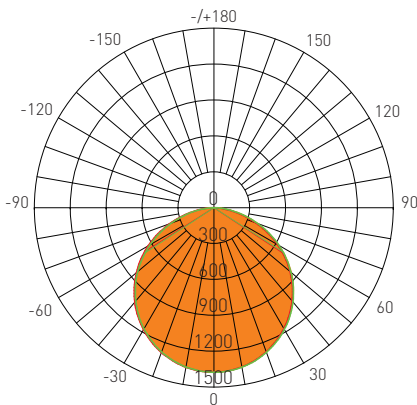
Zonal Lumens

| τ        | φ total |
|----------|---------|
| 0-10     | 131.6   |
| 10-20    | 509.1   |
| 20-30    | 1083    |
| 30-40    | 1779    |
| 40-50    | 2506    |
| 50-60    | 3165    |
| 60-70    | 3666    |
| 70-80    | 3945    |
| 80-90    | 4010    |
| 90-100   | 4010    |
| 100-110  | 4010    |
| 110-120  | 4010    |
| 120-130  | 4011    |
| 130-140  | 4012    |
| 140-150  | 4013    |
| 150-160  | 4013    |
| 160-170  | 4013    |
| 170-180  | 4013    |
| UNIT: lm |         |

Luminance cd/(m2)

| G(DEG) | C0/180 | C90/270 |
|--------|--------|---------|
| 85     | 5710   | 6959    |
| 80     | 8237   | 9024    |
| 75     | 9886   | 10364   |
| 70     | 11104  | 11353   |
| 65     | 11904  | 12049   |
| 60     | 12443  | 12564   |
| 55     | 12825  | 12951   |
| 50     | 13097  | 13207   |
| 45     | 13302  | 13388   |

1'X4' / 3500K



Test Number: TR14-DM-TWPS UNIT: cd  
 Lumens: 3990.5 Lm — C0/180, 114.3°  
 Watts: 34.55 W — C30/270, 114.0°  
 LPW: 115.49 Lm/W  
 CCT: 3500K

Zonal Flux Diagram

| τ   | C0                    | C45    | C90    | C135   | C180   |
|-----|-----------------------|--------|--------|--------|--------|
| 10  | 1351                  | 1358   | 1354   | 1354   | 1354   |
| 20  | 1281                  | 1292   | 1286   | 1286   | 1287   |
| 30  | 1169                  | 1181   | 1177   | 1176   | 1178   |
| 40  | 1017                  | 1028   | 1028   | 1026   | 1030   |
| 50  | 830.9                 | 840.8  | 841.5  | 842.5  | 847.1  |
| 60  | 612.8                 | 623.2  | 626.8  | 630.5  | 633.6  |
| 70  | 372.2                 | 383.8  | 392.4  | 394.6  | 395.0  |
| 80  | 138.2                 | 149.9  | 161.7  | 161.5  | 162.0  |
| 90  | 0                     | 0.0331 | 0.6591 | 0.0620 | 0      |
| 100 | 0                     | 0      | 0.5908 | 0      | 0      |
| 110 | 0                     | 0      | 0.5158 | 0      | 0      |
| 120 | 0                     | 0.2073 | 0      | 0.0848 | 0.0059 |
| 130 | 0                     | 0.4226 | 0      | 0.3418 | 0.2402 |
| 140 | 0                     | 0.5277 | 0      | 0.5738 | 0.5204 |
| 150 | 0                     | 0.7773 | 0      | 0.5253 | 0.6219 |
| 160 | 0                     | 1.271  | 0      | 1.286  | 0.7974 |
| 170 | 1.299                 | 2.162  | 0      | 1.954  | 1.301  |
| 180 | 1.386                 | 2.508  | 0      | 2.232  | 1.473  |
| DEG | LUMINOUS INTENSITY:cd |        |        |        |        |

Zonal Lumens

| τ        | φ total |
|----------|---------|
| 0-10     | 130.2   |
| 10-20    | 504.1   |
| 20-30    | 1073    |
| 30-40    | 1763    |
| 40-50    | 2484    |
| 50-60    | 3138    |
| 60-70    | 3638    |
| 70-80    | 3919    |
| 80-90    | 3988    |
| 90-100   | 3988    |
| 100-110  | 3988    |
| 110-120  | 3988    |
| 120-130  | 3989    |
| 130-140  | 3989    |
| 140-150  | 3990    |
| 150-160  | 3990    |
| 160-170  | 3990    |
| 170-180  | 3990    |
| UNIT: lm |         |

Luminance cd/(m2)

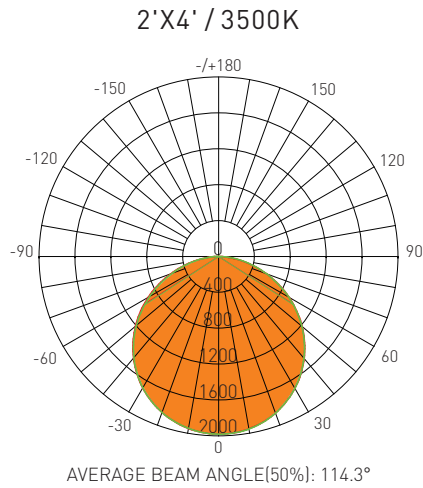
| G(DEG) | C0/180 | C90/270 |
|--------|--------|---------|
| 85     | 5493   | 7431    |
| 80     | 7963   | 9312    |
| 75     | 9731   | 10582   |
| 70     | 10893  | 11473   |
| 65     | 11695  | 12099   |
| 60     | 12268  | 12534   |
| 55     | 12661  | 12846   |
| 50     | 12939  | 13091   |
| 45     | 13141  | 13271   |

# Flat Panel

Back-lit LED | CCT & Wattage Adjustable



## DISTRIBUTION DIAGRAM



Test Number: TR24-DM-TWPS      UNIT: cd  
 Lumens: 5801.4 Lm                      — CD/180, 114.7°  
 Watts: 49.23 W                            — C30/270, 114.0°  
 LPW: 117.85 Lm/W  
 CCT: 3500K

Zonal Flux Diagram

| τ   | C0                    | C45    | C90    | C135   | C180   |
|-----|-----------------------|--------|--------|--------|--------|
| 10  | 1949                  | 1959   | 1952   | 1946   | 1946   |
| 20  | 1856                  | 1870   | 1857   | 1848   | 1849   |
| 30  | 1699                  | 1713   | 1698   | 1688   | 1692   |
| 40  | 1483                  | 1496   | 1481   | 1470   | 1477   |
| 50  | 1215                  | 1226   | 1211   | 1204   | 1211   |
| 60  | 904.3                 | 913.2  | 900.7  | 897.6  | 903.8  |
| 70  | 570.0                 | 577.5  | 570.1  | 568.0  | 572.8  |
| 80  | 235.3                 | 248.8  | 251.8  | 247.7  | 247.6  |
| 90  | 0.2569                | 0.6989 | 1.349  | 6.798  | 0      |
| 100 | 0                     | 0.4724 | 1.151  | 2.045  | 0      |
| 110 | 0                     | 0.4982 | 1.137  | 0.7072 | 0.2640 |
| 120 | 0.6089                | 0.6486 | 0      | 0.5700 | 0.6816 |
| 130 | 0.8588                | 0.6124 | 0      | 0.6712 | 0.8550 |
| 140 | 0.8223                | 0      | 0      | 0      | 0.9294 |
| 150 | 0.7007                | 0      | 0      | 0      | 1.004  |
| 160 | 0.4954                | 0      | 0.0904 | 0      | 1.162  |
| 170 | 0.6586                | 0.0877 | 0.1390 | 0      | 1.237  |
| 180 | 0.6998                | 0.0877 | 0.1730 | 0      | 1.225  |
| DEG | LUMINOUS INTENSITY:cd |        |        |        |        |

Zonal Lumens

| τ       | φ total  |
|---------|----------|
| 0-10    | 187.5    |
| 10-20   | 726.2    |
| 20-30   | 1547     |
| 30-40   | 2544     |
| 40-50   | 3585     |
| 50-60   | 4530     |
| 60-70   | 5257     |
| 70-80   | 5683     |
| 80-90   | 5798     |
| 90-100  | 5799     |
| 100-110 | 5800     |
| 110-120 | 5800     |
| 120-130 | 5801     |
| 130-140 | 5801     |
| 140-150 | 5801     |
| 150-160 | 5801     |
| 160-170 | 5801     |
| 170-180 | 5801     |
|         | UNIT: lm |

Luminance cd/(m2)

| G(DEG) | C0/180 | C90/270 |
|--------|--------|---------|
| 85     | 10468  | 12586   |
| 80     | 13573  | 14498   |
| 75     | 15495  | 15700   |
| 70     | 16691  | 16666   |
| 65     | 17496  | 17408   |
| 60     | 18115  | 18012   |
| 55     | 18587  | 18470   |
| 50     | 18938  | 18834   |
| 45     | 19204  | 19112   |