

## HB-2X2-WW

~65° wide beam optimized for CREE XP-L and XM-L

### SPECIFICATION:

|                |             |
|----------------|-------------|
| Dimensions     | 50.0 x 50.0 |
| Height         | 8.5 mm      |
| Fastening      | pin, screw  |
| ROHS compliant | yes ⓘ       |

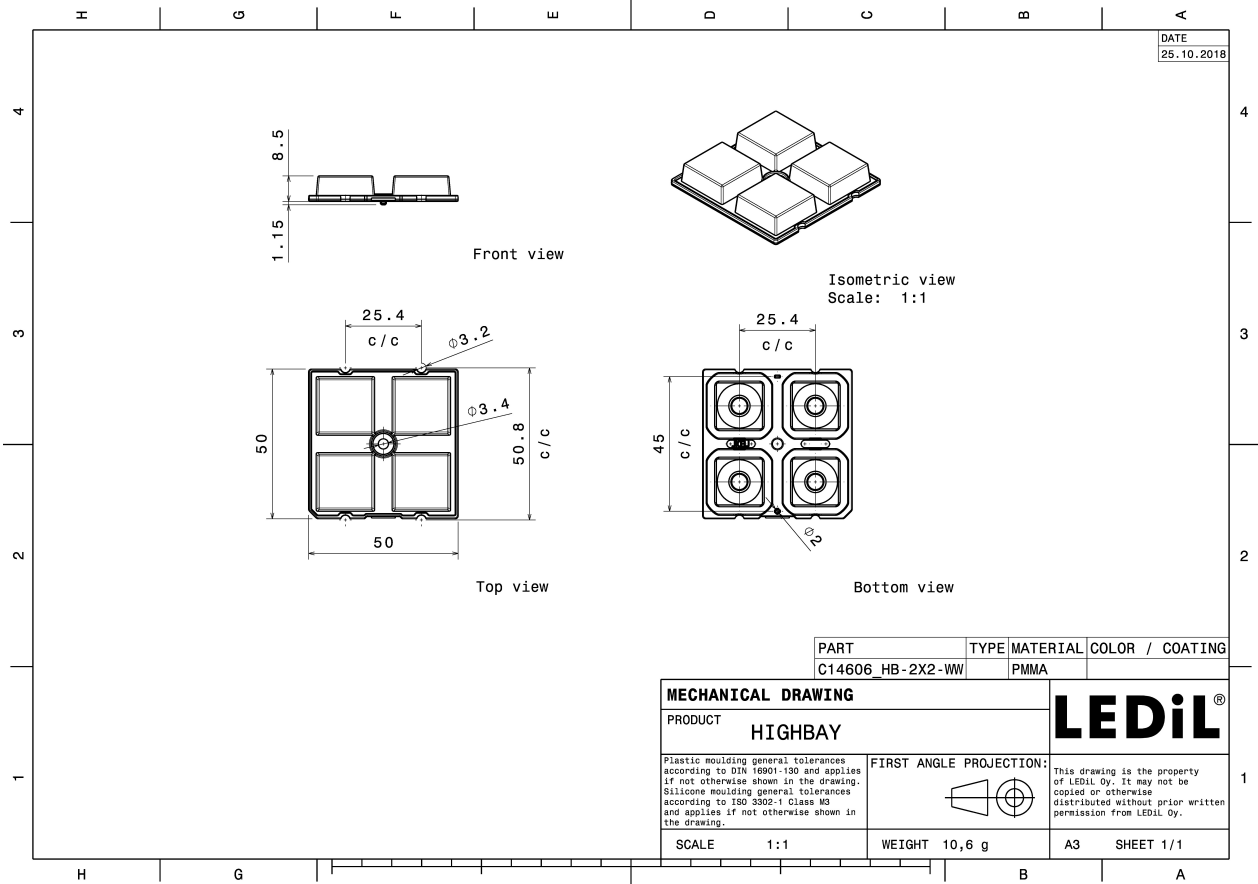


### MATERIALS:

| Component | Type       | Material | Colour | Finish | Length (mm) |
|-----------|------------|----------|--------|--------|-------------|
| HB-2X2-WW | Multi-lens | PMMA     | clear  |        |             |

### ORDERING INFORMATION:

| Component  | Qty in box | MOQ | MPQ | Box weight (kg) |
|--|------------|-----|-----|-----------------|
| C14606_HB-2X2-WW<br>» Box size: 480 x 280 x 300 mm | 800        | 160 | 160 | 9.2             |

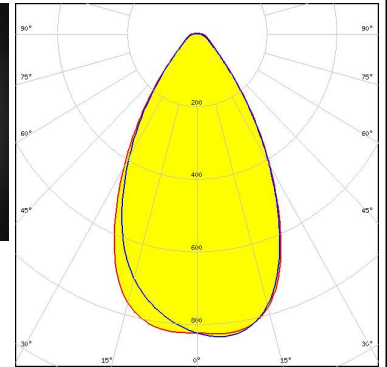
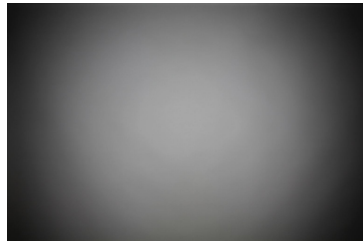


See also our general installation guide: [www.ledil.com/installation\\_guide](http://www.ledil.com/installation_guide)

#### OPTICAL RESULTS (MEASURED):



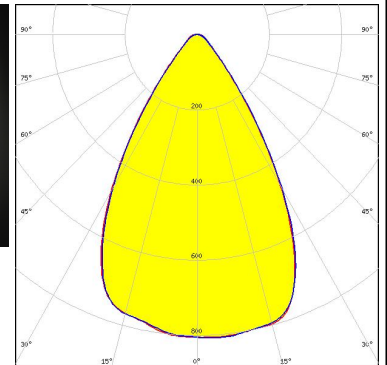
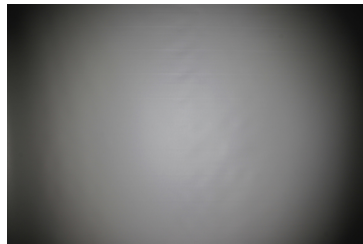
**LED** Bridgelux SMD 5050  
**FWHM / FWTM** 59.0° / 96.0°  
**Efficiency** 94 %  
**Peak intensity** 0.8 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**



Light distribution files



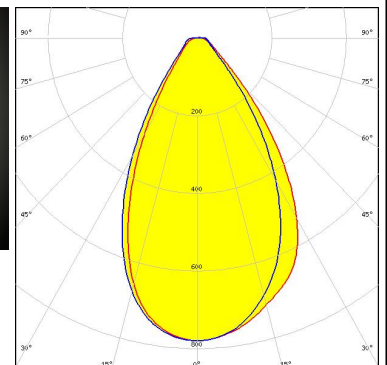
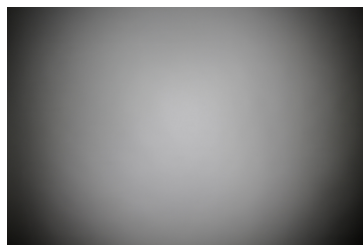
**LED** XD16  
**FWHM / FWTM** 63.0° / 92.0°  
**Efficiency** 93 %  
**Peak intensity** 0.8 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**



Light distribution files



**LED** XD16  
**FWHM / FWTM** 61.0° / 97.0°  
**Efficiency** 92 %  
**Peak intensity** 0.8 cd/lm  
**LEDs/each optic** 4  
**Light colour/type** White  
**Required components:**

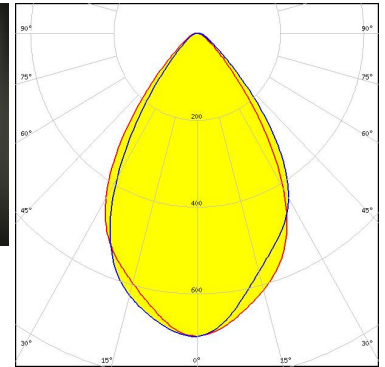


Light distribution files

#### OPTICAL RESULTS (MEASURED):



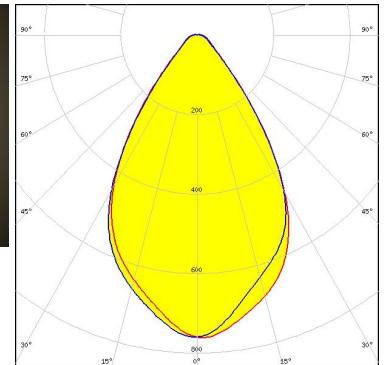
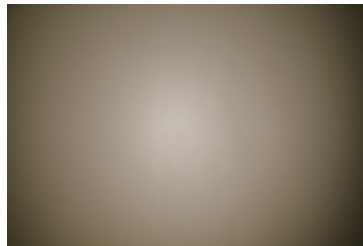
LED XHP35 HD  
 FWHM / FWTM 67.0° / 100.0°  
 Efficiency 84 %  
 Peak intensity 0.7 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files



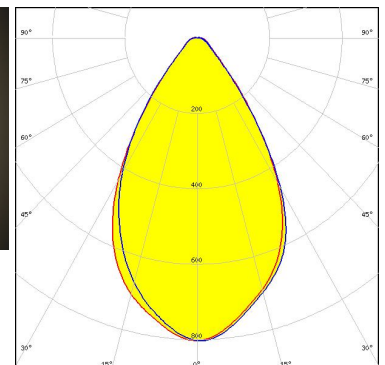
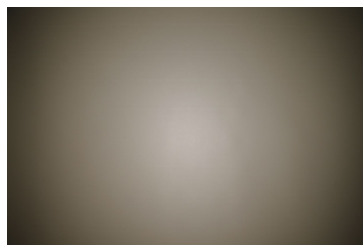
LED XM-L  
 FWHM / FWTM 66.0° / 99.0°  
 Efficiency 93 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files



LED XM-L2  
 FWHM / FWTM 62.0° / 96.0°  
 Efficiency 92 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

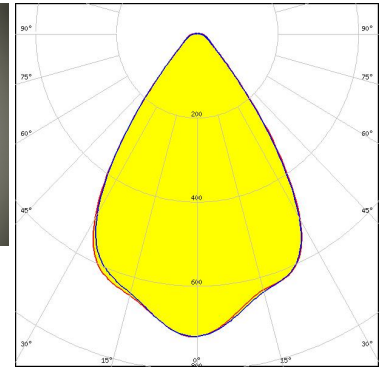


Light distribution files

#### OPTICAL RESULTS (MEASURED):



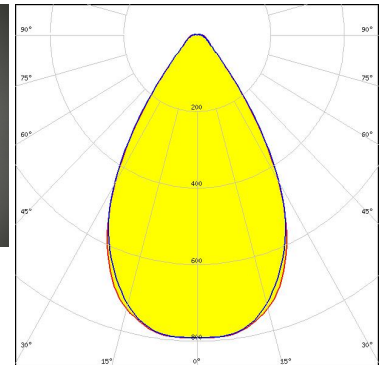
**LED** XM-L3  
**FWHM / FWTM** 70.0° / 98.0°  
**Efficiency** 94 %  
**Peak intensity** 0.7 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**



Light distribution files



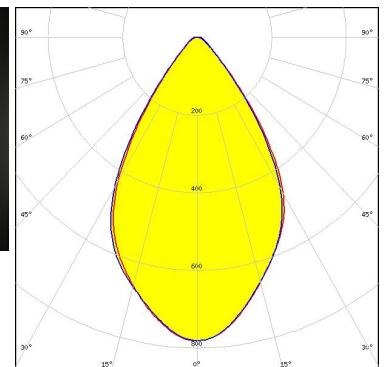
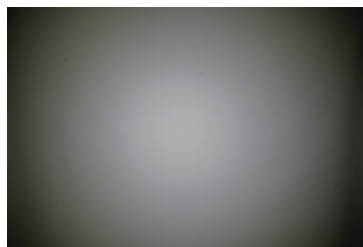
**LED** XP-G2  
**FWHM / FWTM** 63.0° / 93.0°  
**Efficiency** 91 %  
**Peak intensity** 0.8 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**



Light distribution files



**LED** XP-G3  
**FWHM / FWTM** 64.0° / 94.0°  
**Efficiency** 86 %  
**Peak intensity** 0.8 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**



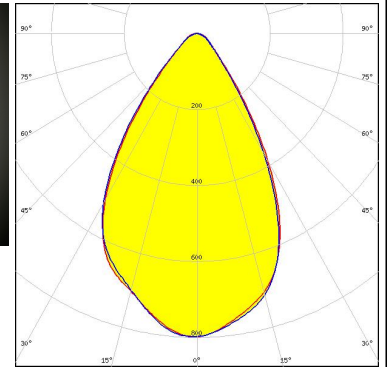
Light distribution files

#### OPTICAL RESULTS (MEASURED):



LED XP-G3  
 FWHM / FWTM 63.0° / 95.0°  
 Efficiency 90 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

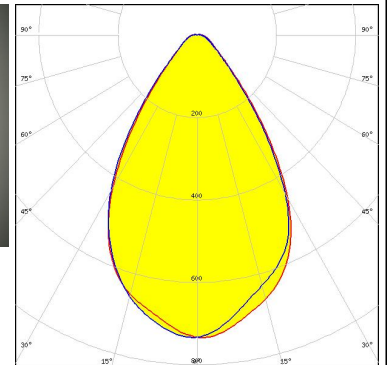
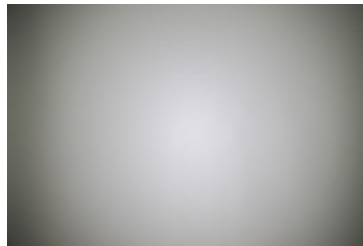
Protective plate, glass



Light distribution files



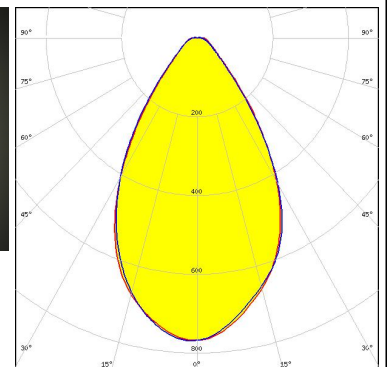
LED XP-L HD  
 FWHM / FWTM 66.0° / 102.0°  
 Efficiency 93 %  
 Peak intensity 0.7 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files



LED XP-L2  
 FWHM / FWTM 62.0° / 101.0°  
 Efficiency 93 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

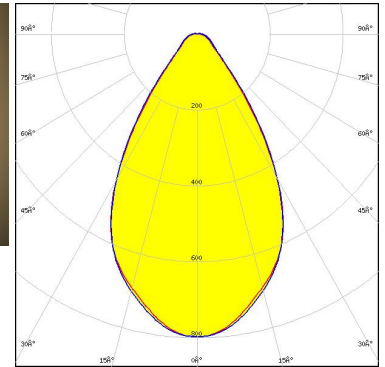
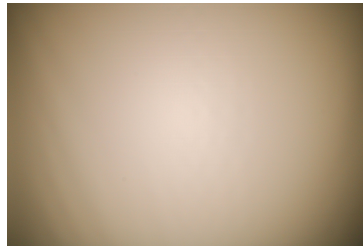


Light distribution files

#### OPTICAL RESULTS (MEASURED):

#### inventronics

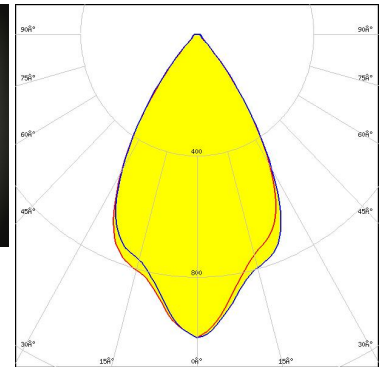
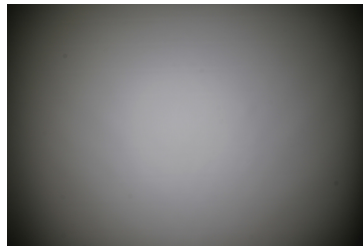
LED PL-BRICK HP 3800 2x8 SSG  
 FWHM / FWTM 64.0° / 96.0°  
 Efficiency 94 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files

#### inventronics

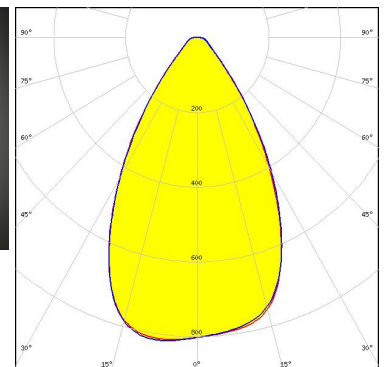
LED PrevaLED Brick HP 2x8  
 FWHM / FWTM 64.0° / 93.0°  
 Efficiency 92 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files

#### LUMILEDS

LED LUXEON 5050 Round LES  
 FWHM / FWTM 61.0° / 96.0°  
 Efficiency 94 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

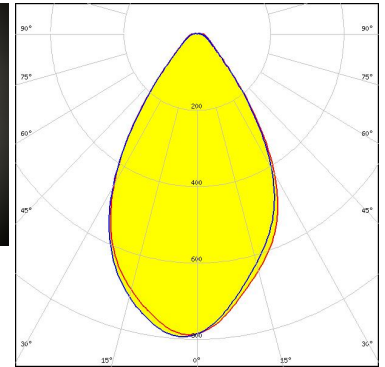
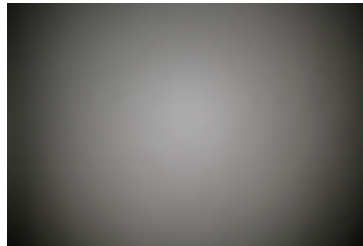


Light distribution files

#### OPTICAL RESULTS (MEASURED):



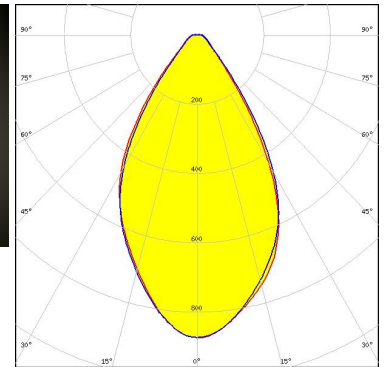
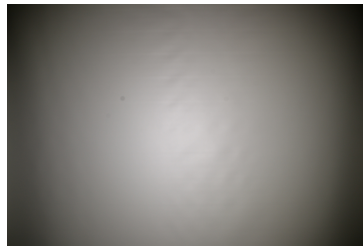
**LED** LUXEON V  
**FWHM / FWTM** 63.0° / 97.0°  
**Efficiency** 93 %  
**Peak intensity** 0.8 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**



Light distribution files



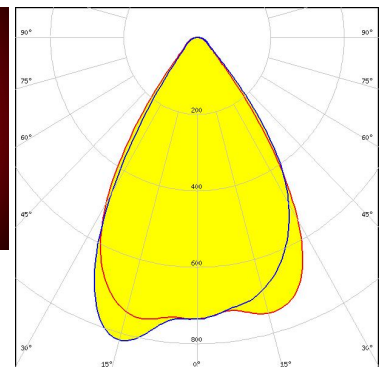
**LED** LUXEON V2  
**FWHM / FWTM** 61.0° / 93.0°  
**Efficiency** 94 %  
**Peak intensity** 0.9 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**



Light distribution files



**LED** SST-10-B130  
**FWHM / FWTM** 69.0° / 94.0°  
**Efficiency** 95 %  
**Peak intensity** 0.8 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** Deep Red  
**Required components:**



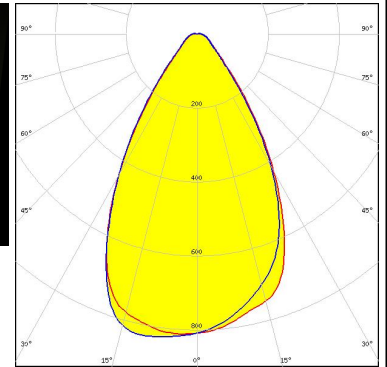
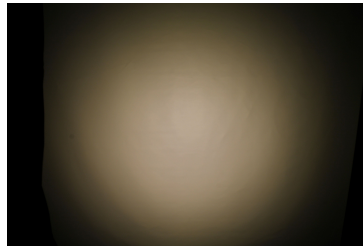
Light distribution files



#### OPTICAL RESULTS (MEASURED):



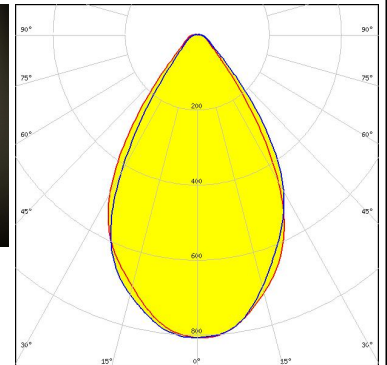
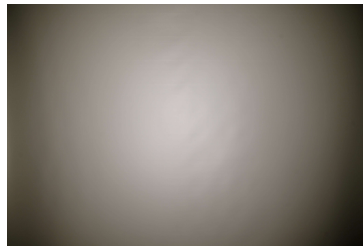
LED RecLED 122x50mm 1900lm 730 2x4 Opt G1  
 FWHM / FWTM 61.0° / 94.0°  
 Efficiency 95 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files



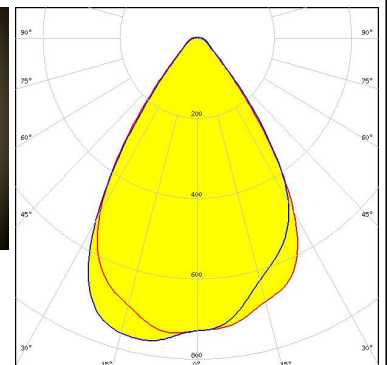
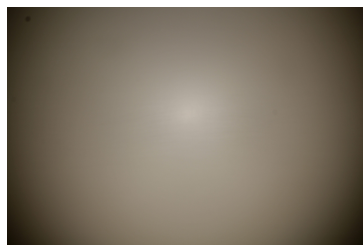
LED NVSW219D  
 FWHM / FWTM 64.0° / 95.0°  
 Efficiency 94 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files



LED NVSW219F  
 FWHM / FWTM 69.0° / 96.0°  
 Efficiency 95 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

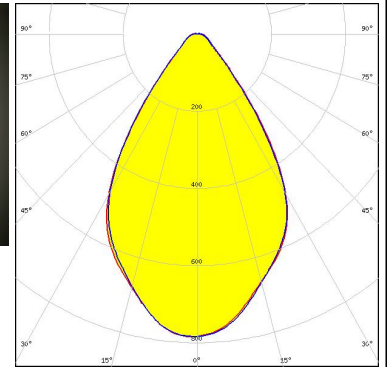


Light distribution files

#### OPTICAL RESULTS (MEASURED):



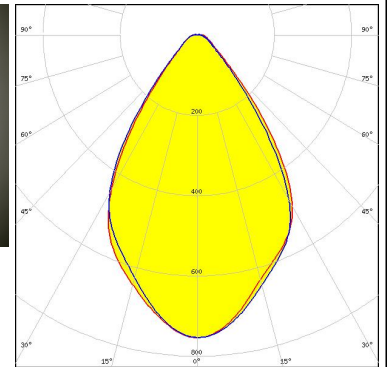
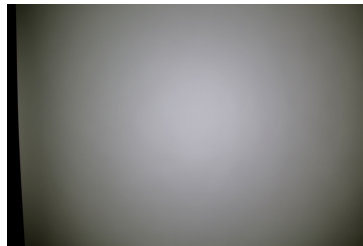
LED NVSW219F  
 FWHM / FWTM 66.0° / 96.0°  
 Efficiency 94 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files



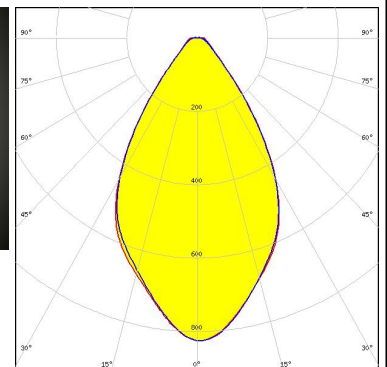
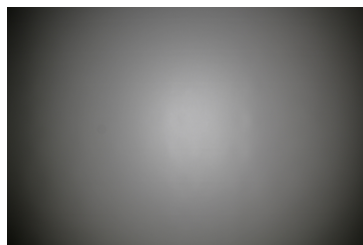
LED NVSW319B  
 FWHM / FWTM 68.0° / 100.0°  
 Efficiency 93 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files



LED NVSW3x9A  
 FWHM / FWTM 62.0° / 97.0°  
 Efficiency 93 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

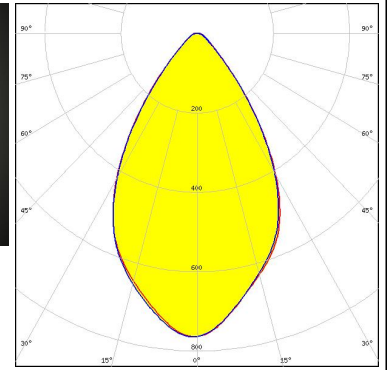
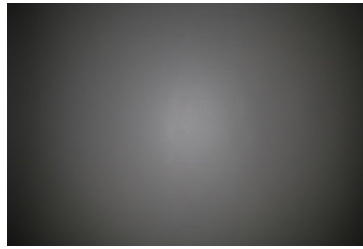


Light distribution files

#### OPTICAL RESULTS (MEASURED):



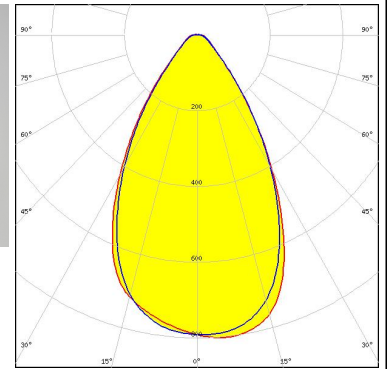
**LED** NWSx229A  
**FWHM / FWTM** 63.0° / 97.0°  
**Efficiency** 85 %  
**Peak intensity** 0.8 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**



Light distribution files



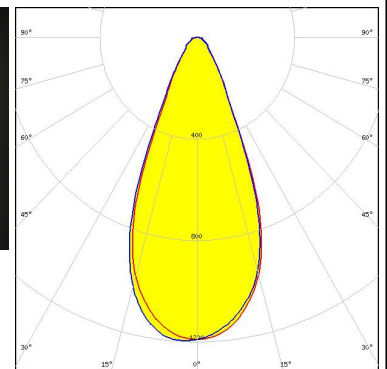
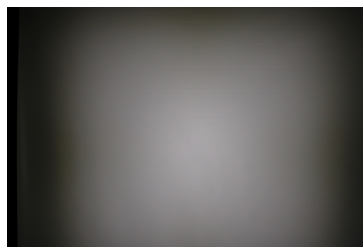
**LED** Duris S8  
**FWHM / FWTM** 61.0° / 97.0°  
**Efficiency** 93 %  
**Peak intensity** 0.8 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**



Light distribution files



**LED** OSCONIQ C 3030  
**FWHM / FWTM** 45.0° / 76.0°  
**Efficiency** 96 %  
**Peak intensity** 1.2 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**



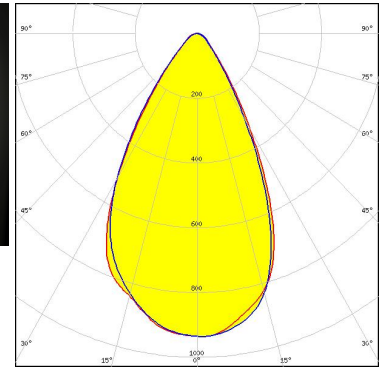
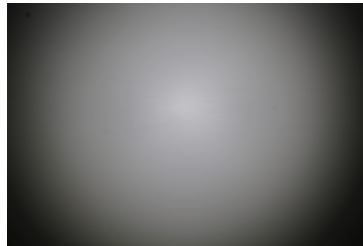
Light distribution files

#### OPTICAL RESULTS (MEASURED):

**OSRAM**  
Opto Semiconductors

LED OSCONIQ P 3737 (2W version)  
 FWHM / FWTM 58.0° / 88.0°  
 Efficiency 91 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

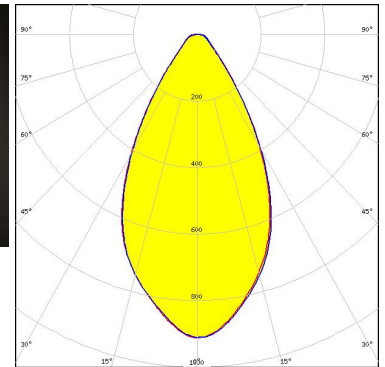
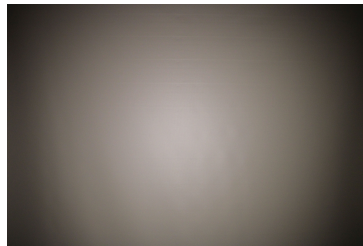
Protective plate, glass



Light distribution files

**OSRAM**  
Opto Semiconductors

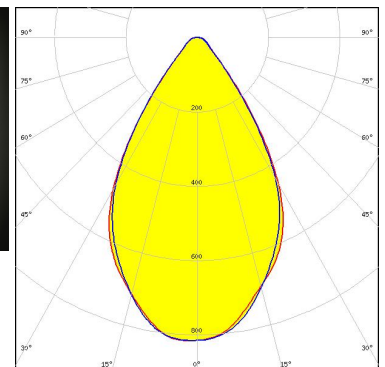
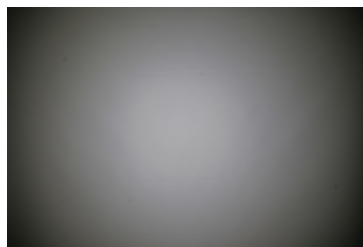
LED OSCONIQ P 3737 (3W version)  
 FWHM / FWTM 56.0° / 93.0°  
 Efficiency 93 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files

**OSRAM**  
Opto Semiconductors

LED OSLON Square CSSRM2/CSSRM3  
 FWHM / FWTM 64.0° / 93.0°  
 Efficiency 92 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

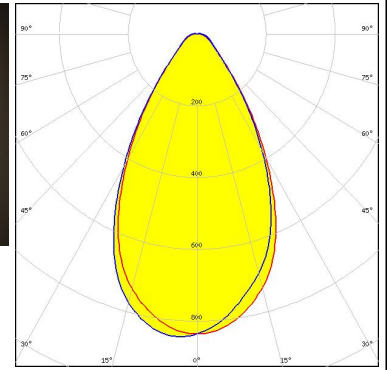


Light distribution files

#### OPTICAL RESULTS (MEASURED):

### PHILIPS

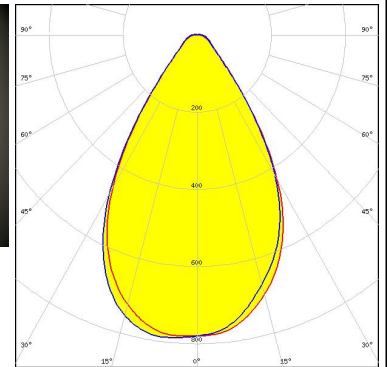
LED Fortimo FastFlex LED 2x8 DA (U)HE  
 FWHM / FWTM 59.0° / 97.0°  
 Efficiency 95 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files

### PHILIPS

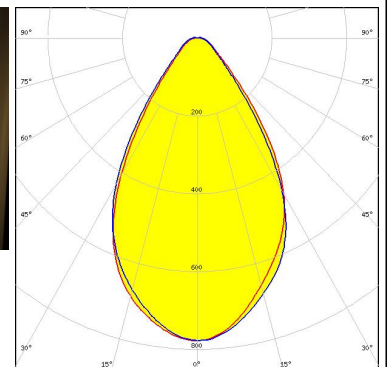
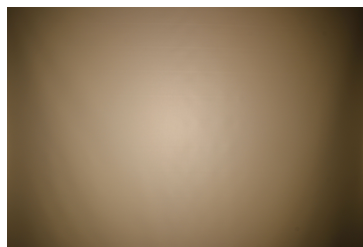
LED Fortimo FastFlex LED 2x8 DA G4  
 FWHM / FWTM 64.0° / 96.0°  
 Efficiency 93 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files

### PHILIPS

LED Fortimo FastFlex LED 2x8 DA G4+  
 FWHM / FWTM 64.0° / 101.0°  
 Efficiency 95 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

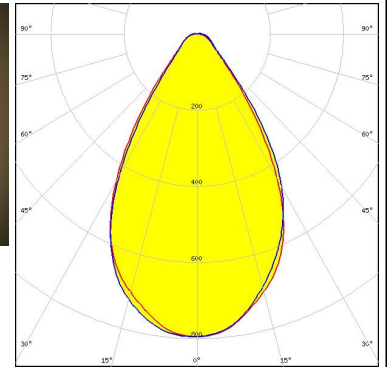


Light distribution files

#### OPTICAL RESULTS (MEASURED):

### PHILIPS

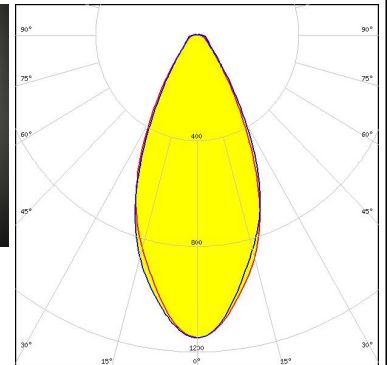
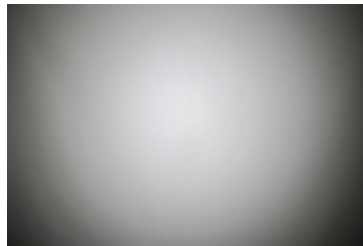
LED Fortimo FastFlex LED 2x8 DA G5  
 FWHM / FWTM 64.0° / 97.0°  
 Efficiency 94 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files

### SAMSUNG

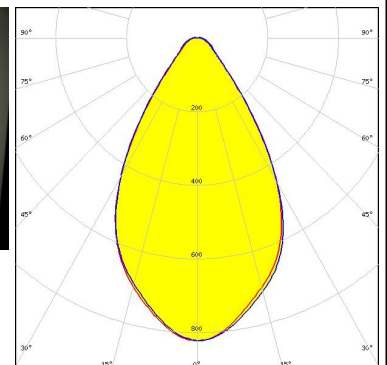
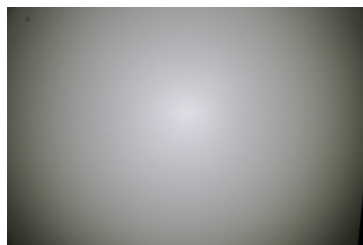
LED HiLOM RC12 Z (LH181B)  
 FWHM / FWTM 48.0° / 85.0°  
 Efficiency 96 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files

### SAMSUNG

LED HiLOM RH12 Z (LH351C)  
 FWHM / FWTM 62.0° / 97.0°  
 Efficiency 95 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

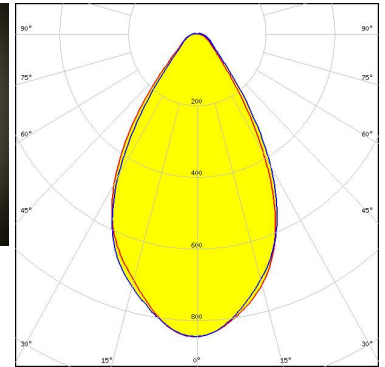
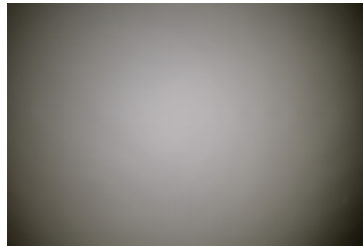


Light distribution files

#### OPTICAL RESULTS (MEASURED):

### SAMSUNG

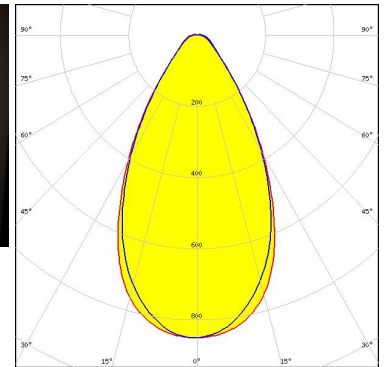
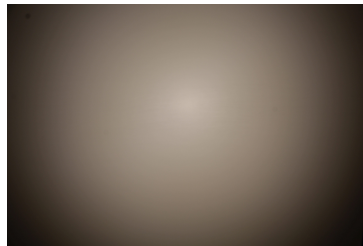
LED HiLOM RH16 (LH351C)  
 FWHM / FWTM 61.0° / 96.0°  
 Efficiency 94 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files

### SAMSUNG

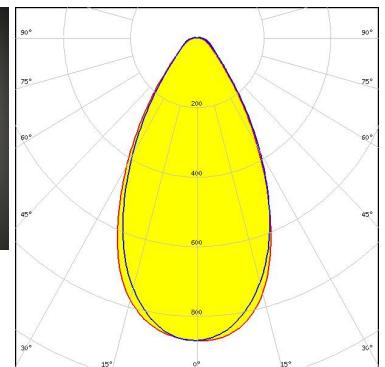
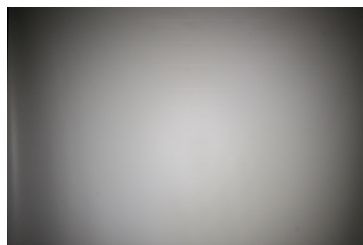
LED HiLOM RM12 Z (LH502C)  
 FWHM / FWTM 57.0° / 98.0°  
 Efficiency 94 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files

### SAMSUNG

LED HiLOM RM16 Z (LH502C)  
 FWHM / FWTM 57.0° / 97.0°  
 Efficiency 95 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

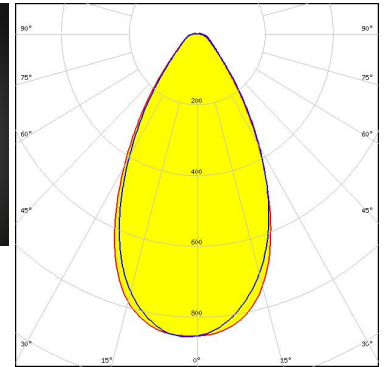
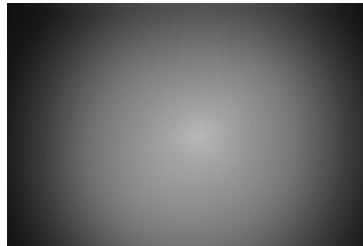


Light distribution files

#### OPTICAL RESULTS (MEASURED):

### SAMSUNG

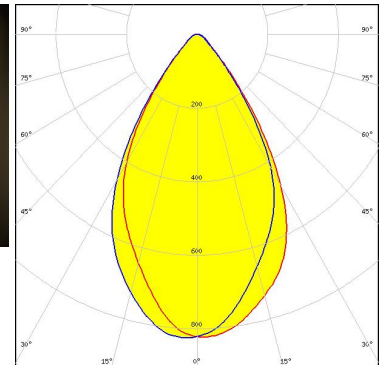
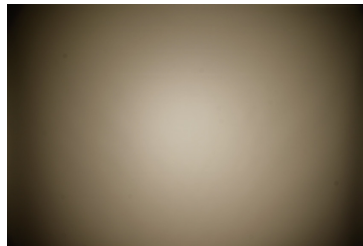
LED HiLOM RM8 Z (LH502C)  
FWHM / FWTM 57.0° / 98.0°  
Efficiency 95 %  
Peak intensity 0.9 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:



Light distribution files

### SAMSUNG

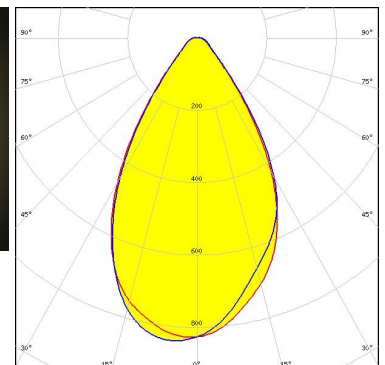
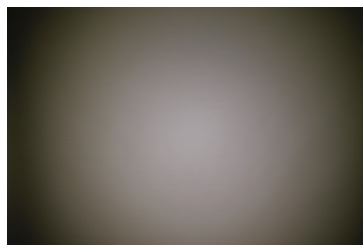
LED LH351B  
FWHM / FWTM 62.0° / 92.0°  
Efficiency 86 %  
Peak intensity 0.8 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:



Light distribution files

### SAMSUNG

LED LH351C  
FWHM / FWTM 62.0° / 94.0°  
Efficiency 93 %  
Peak intensity 0.8 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:



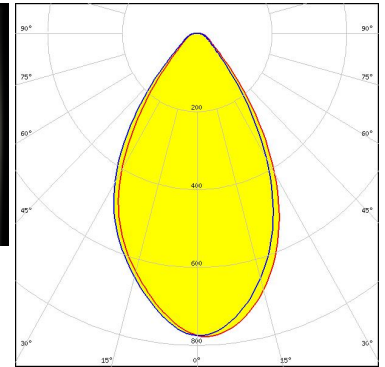
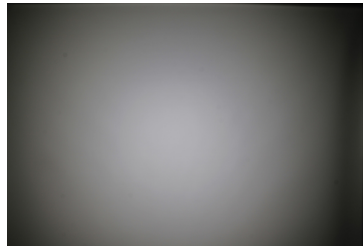
Light distribution files



#### OPTICAL RESULTS (MEASURED):

### SAMSUNG

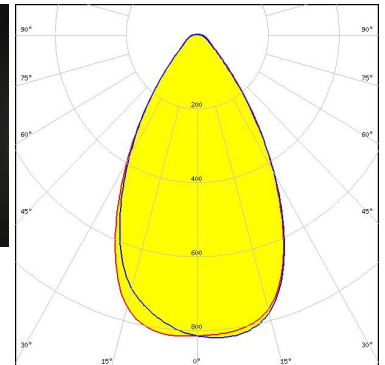
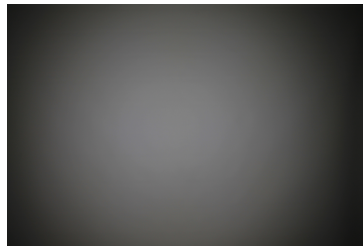
LED LH351D  
 FWHM / FWTM 62.0° / 99.0°  
 Efficiency 91 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files

### SAMSUNG

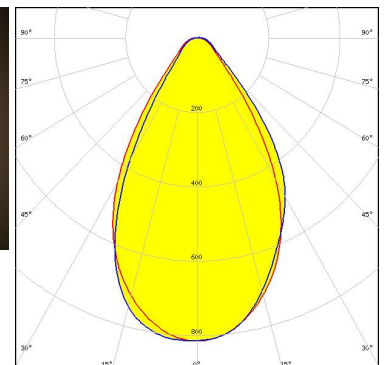
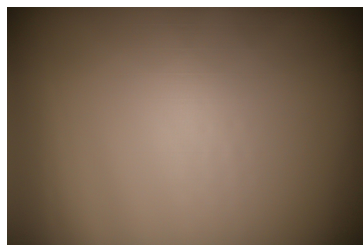
LED LH508A  
 FWHM / FWTM 60.0° / 97.0°  
 Efficiency 93 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files




LED LED-Pa-L15c2W11c2-xxx-C050-01  
 FWHM / FWTM 64.0° / 98.0°  
 Efficiency 95 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:


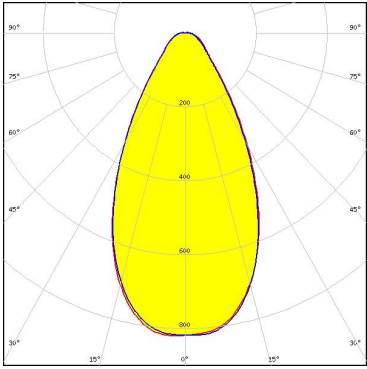


Light distribution files

#### OPTICAL RESULTS (MEASURED):

 **SEOUL SEMICONDUCTOR**

LED                    2x2 Y22 module - SMJQ-D48W16AA-XX  
 FWHM / FWTM        55.0° / 98.0°  
 Efficiency            92 %  
 Peak intensity        0.8 cd/lm  
 LEDs/each optic     1  
 Light colour/type    White  
 Required components:


Light distribution files

 **SEOUL SEMICONDUCTOR**

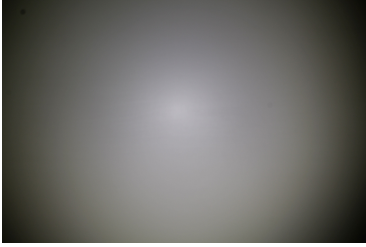
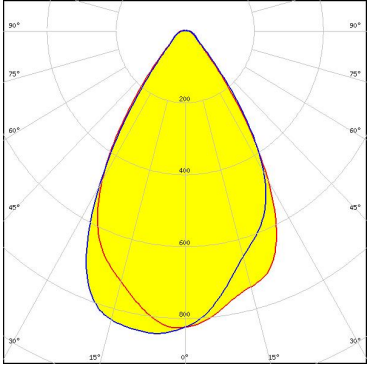
LED                    Z5M3  
 FWHM / FWTM        62.0° / 96.0°  
 Efficiency            94 %  
 Peak intensity        0.8 cd/lm  
 LEDs/each optic     1  
 Light colour/type    White  
 Required components:




Light distribution files


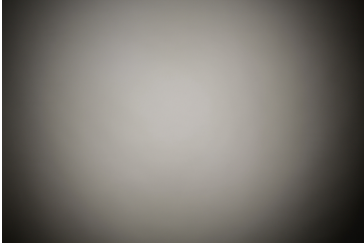
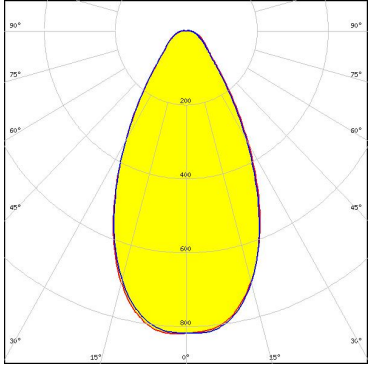
 **SEOUL SEMICONDUCTOR**


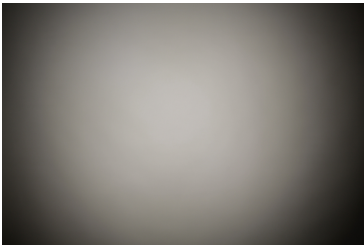
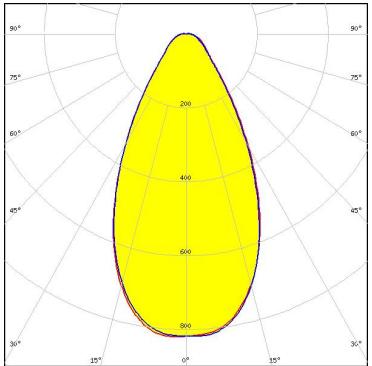
LED                    Z5M4  
 FWHM / FWTM        64.0° / 92.0°  
 Efficiency            95 %  
 Peak intensity        0.8 cd/lm  
 LEDs/each optic     1  
 Light colour/type    White  
 Required components:

Light distribution files

#### OPTICAL RESULTS (MEASURED):

|   |               |  |   |
|---|---------------|--|---|
| <br><small>SEOUL SEMICONDUCTOR</small> |               |  |  |
| LED   | Z8Y19         |  |   |
| FWHM / FWTM   | 55.0° / 98.0° |  |   |
| Efficiency  | 92 %          |  |   |
| Peak intensity  | 0.8 cd/m      |  |   |
| LEDs/each optic   | 4             |  |   |
| Light colour/type   | White         |  |   |
| Required components:  |               | <p>Light distribution files</p>  |   |

|   |               |  |   |
|---|---------------|--|---|
| <br><small>SEOUL SEMICONDUCTOR</small> |               |  |  |
| LED   | Z8Y19         |  |   |
| FWHM / FWTM   | 55.0° / 98.0° |  |   |
| Efficiency  | 92 %          |  |   |
| Peak intensity  | 0.8 cd/m      |  |   |
| LEDs/each optic   | 4             |  |   |
| Light colour/type   | White         |  |   |
| Required components:  |               | <p>Light distribution files</p>  |   |

|   |               |  |   |
|---|---------------|--|---|
| <br><small>SEOUL SEMICONDUCTOR</small> |               |  |  |
| LED   | Z8Y22P        |  |   |
| FWHM / FWTM   | 59.0° / 94.0° |  |   |
| Efficiency  | 92 %          |  |   |
| Peak intensity  | 0.9 cd/m      |  |   |
| LEDs/each optic   | 1             |  |   |
| Light colour/type   | White         |  |   |
| Required components:  |               | <p>Light distribution files</p>  |   |

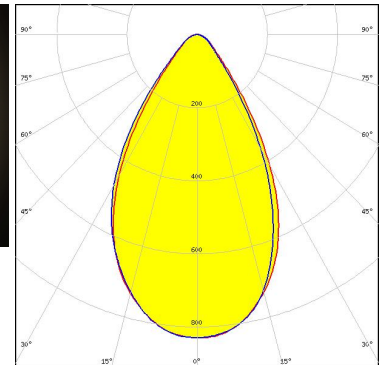
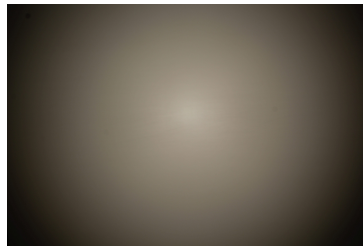
## OPTICAL RESULTS (MEASURED):

### TRIDONIC

LED RLE 2x4 2000lm HP EXC2 OTD  
 FWHM / FWTM 61.0° / 96.0°  
 Efficiency 94 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

### TRIDONIC

LED RLE 2x4 2000lm HP EXC2 OTD  
 FWHM / FWTM 61.0° / 95.0°  
 Efficiency 89 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

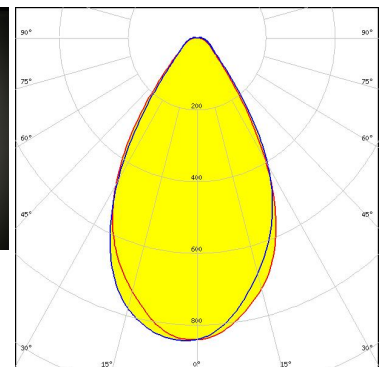


Protective plate, glass

Light distribution files

### TRIDONIC

LED RLE 2x8 4000lm HP EXC2 OTD  
 FWHM / FWTM 61.0° / 96.0°  
 Efficiency 94 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

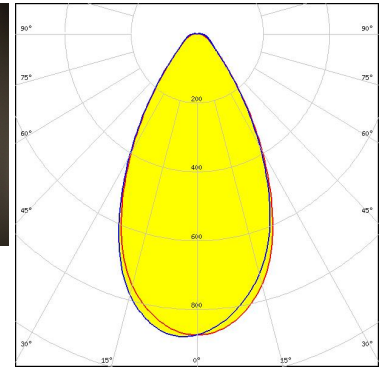
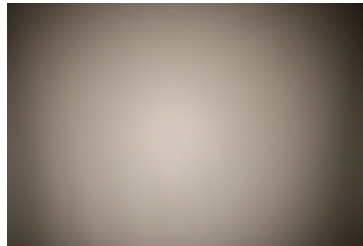


Light distribution files

#### OPTICAL RESULTS (MEASURED):

### TRIDONIC

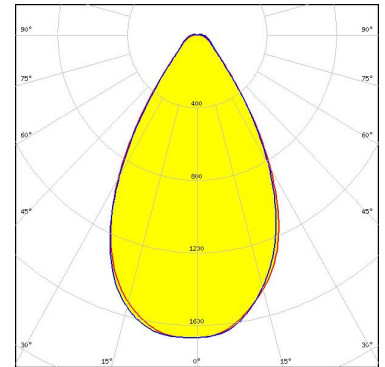
LED RLE 2x8 6000lm HP HE EXC3 OTD  
FWHM / FWTM 57.0° / 96.0°  
Efficiency 95 %  
Peak intensity 0.9 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:



Light distribution files

### TRIDONIC

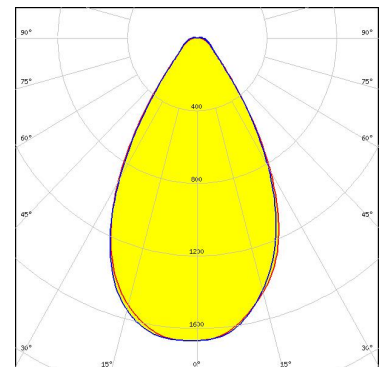
LED RLE G1 49x121mm 2000lm xxx EXC OTD  
FWHM / FWTM 61.0° / 96.0°  
Efficiency 94 %  
Peak intensity 0.8 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:



Light distribution files

### TRIDONIC

LED RLE G1 49x133mm 2000lm xxx EXC OTD  
FWHM / FWTM 61.0° / 96.0°  
Efficiency 94 %  
Peak intensity 0.8 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:

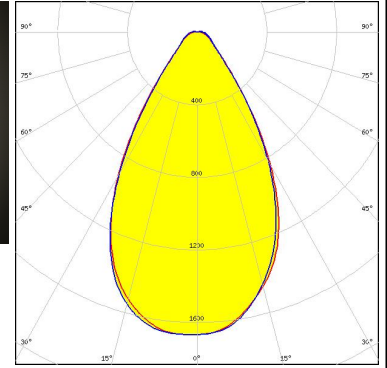
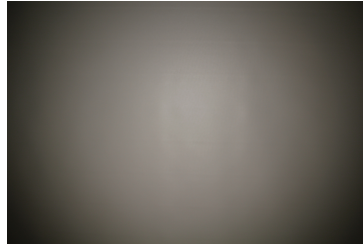


Light distribution files

### OPTICAL RESULTS (MEASURED):

#### TRIDONIC

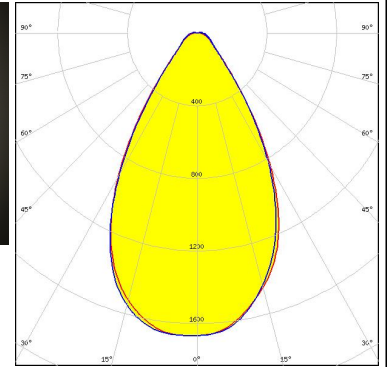
LED RLE G1 49x223mm 4000lm xxx EXC OTD  
FWHM / FWTM 61.0° / 96.0°  
Efficiency 94 %  
Peak intensity 0.8 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:



Light distribution files

#### TRIDONIC

LED RLE G1 49x245mm 4000lm xxx EXC OTD  
FWHM / FWTM 61.0° / 96.0°  
Efficiency 94 %  
Peak intensity 0.8 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:

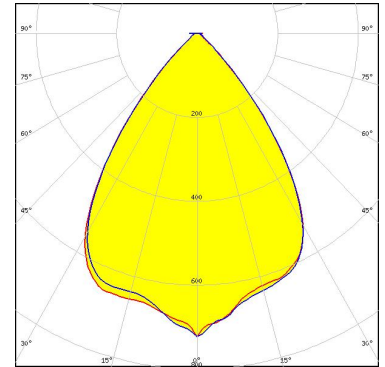


Light distribution files

### OPTICAL RESULTS (SIMULATED):



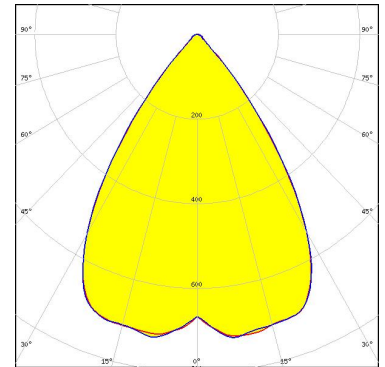
LED XP-G2 HE  
FWHM / FWTM 73.0° / 97.0°  
Efficiency 95 %  
Peak intensity 0.7 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:



Light distribution files



LED XP-G4  
FWHM / FWTM 70.0° / 90.0°  
Efficiency 90 %  
Peak intensity 0.7 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:

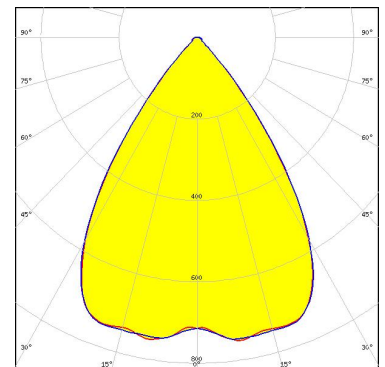


Protective plate, glass

Light distribution files



LED XP-G4  
FWHM / FWTM 70.0° / 90.0°  
Efficiency 95 %  
Peak intensity 0.8 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:



Light distribution files

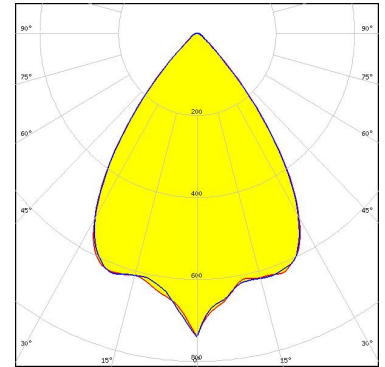
#### OPTICAL RESULTS (SIMULATED):



LED XP-L HD  
FWHM / FWTM 72.0° / 94.0°  
Efficiency 90 %  
Peak intensity 0.7 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:

Protective plate, glass

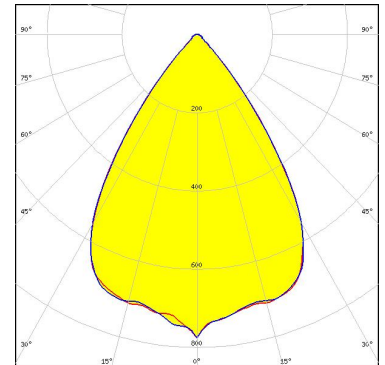
Light distribution files



LED XP-L HI  
FWHM / FWTM 70.0° / 90.0°  
Efficiency 91 %  
Peak intensity 0.8 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:

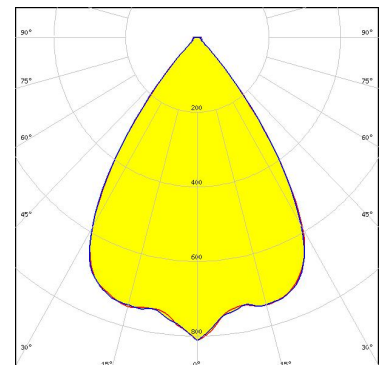
Protective plate, glass

Light distribution files



LED XP-L HI  
FWHM / FWTM 70.0° / 90.0°  
Efficiency 96 %  
Peak intensity 0.8 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:

Light distribution files





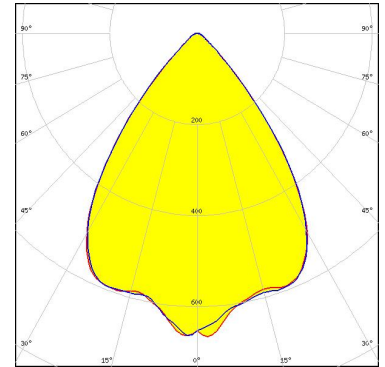
#### OPTICAL RESULTS (SIMULATED):



LED XP-L2  
 FWHM / FWTM 74.0° / 98.0°  
 Efficiency 89 %  
 Peak intensity 0.7 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

Protective plate, glass

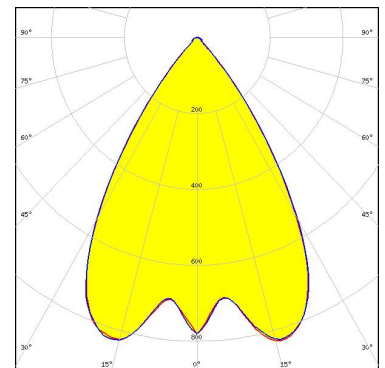
Light distribution files



LED XP-P  
 FWHM / FWTM 66.0° / 86.0°  
 Efficiency 91 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

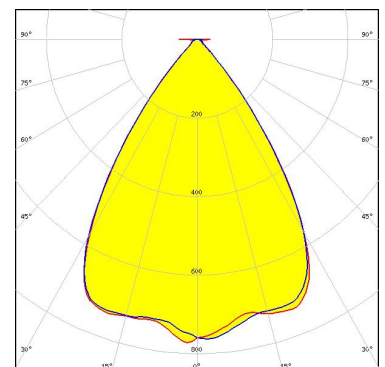
Protective plate, glass

Light distribution files



LED XT-E  
 FWHM / FWTM 69.0° / 90.0°  
 Efficiency 94 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

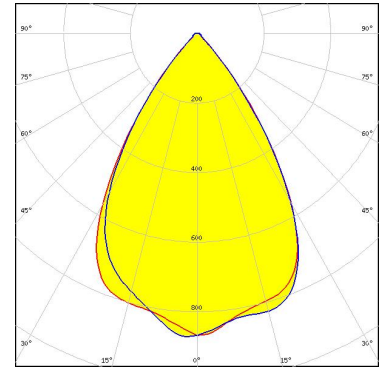
Light distribution files



### OPTICAL RESULTS (SIMULATED):



LED LUXEON 3535L  
FWHM / FWTM 66.0° / 89.0°  
Efficiency 94 %  
Peak intensity 0.9 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:

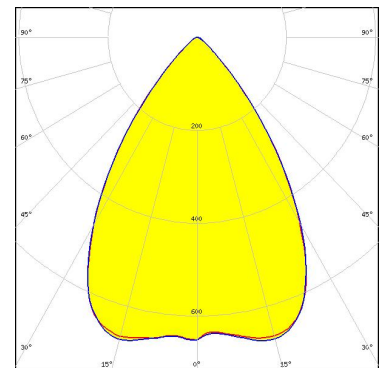


Light distribution files



LED LUXEON 5050 Square LES  
FWHM / FWTM 70.0° / 96.0°  
Efficiency 86 %  
Peak intensity 0.7 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:

Protective plate, glass

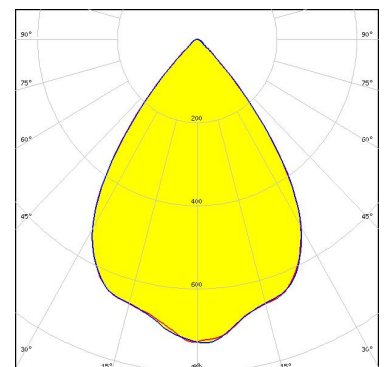


Light distribution files



LED LUXEON HL2X  
FWHM / FWTM 72.0° / 94.0°  
Efficiency 90 %  
Peak intensity 0.7 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:

Protective plate, glass



Light distribution files

#### OPTICAL RESULTS (SIMULATED):

**LUMILEDS**

LED: LUXEON MZ  
 FWHM / FWTM: 66.0° / 90.0°  
 Efficiency: 94 %  
 Peak intensity: 0.9 cd/lm  
 LEDs/each optic: 1  
 Light colour/type: White  
 Required components:

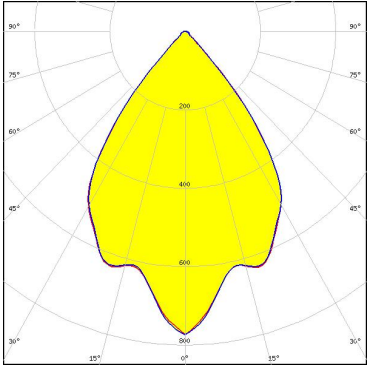



Light distribution files

**LUMILEDS**

LED: LUXEON XR-HL2X (L2H2-xxxxxxxMLU010)  
 FWHM / FWTM: 72.0° / 90.0°  
 Efficiency: 87 %  
 Peak intensity: 0.8 cd/lm  
 LEDs/each optic: 1  
 Light colour/type: White  
 Required components:

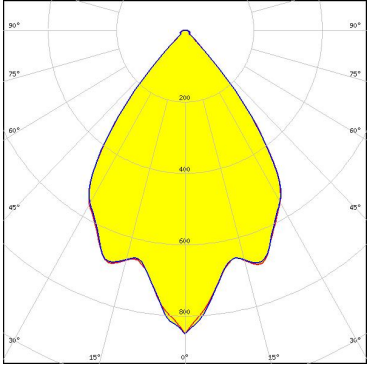
Protective plate, glass



Light distribution files

**LUMILEDS**

LED: LUXEON XR-HL2X (L2H2-xxxxxxxMLU010)  
 FWHM / FWTM: 72.0° / 90.0°  
 Efficiency: 96 %  
 Peak intensity: 0.9 cd/lm  
 LEDs/each optic: 1  
 Light colour/type: White  
 Required components:

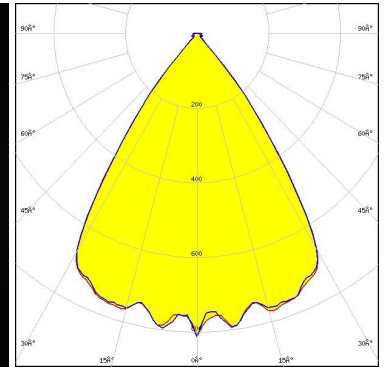
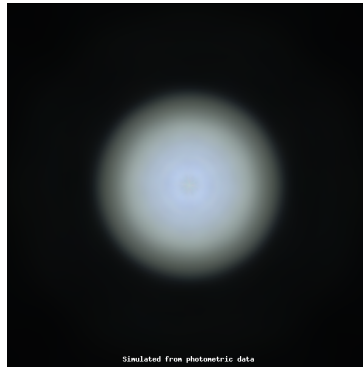


Light distribution files

#### OPTICAL RESULTS (SIMULATED):



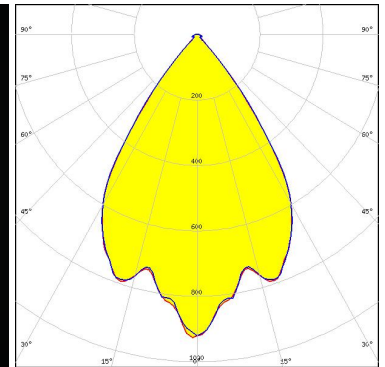
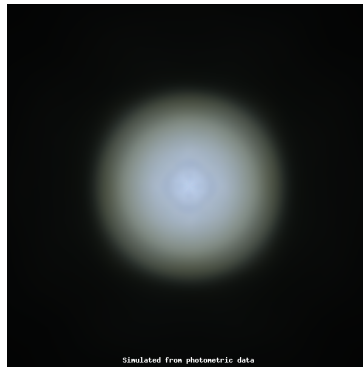
LED SST-20 Gen2  
 FWHM / FWTM 70.0° / 84.0°  
 Efficiency 96 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files



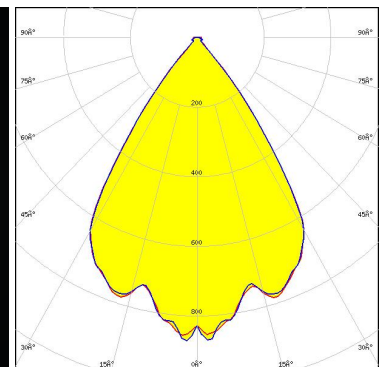
LED SST-20F-W  
 FWHM / FWTM 68.0° / 84.0°  
 Efficiency 96 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files



LED SST-25-W  
 FWHM / FWTM 68.0° / 84.0°  
 Efficiency 96 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

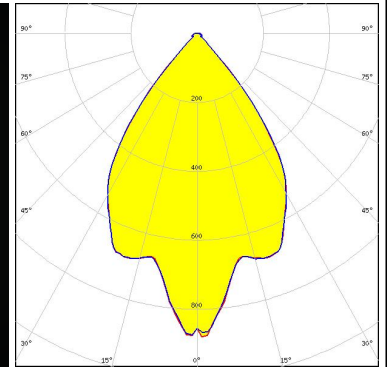
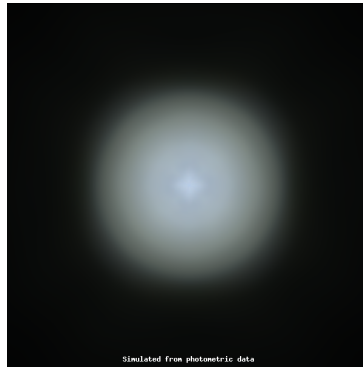


Light distribution files

#### OPTICAL RESULTS (SIMULATED):



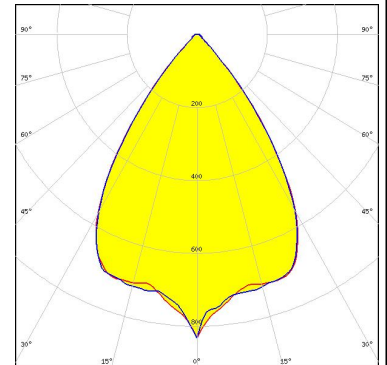
LED SST-36F-W  
 FWHM / FWTM 70.0° / 88.0°  
 Efficiency 96 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files



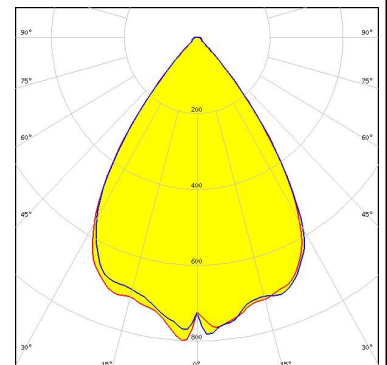
LED NV4WB35AM  
 FWHM / FWTM 69.0° / 90.0°  
 Efficiency 95 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files



LED NVSxx19B/NVSxx19C  
 FWHM / FWTM 70.0° / 90.0°  
 Efficiency 95 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

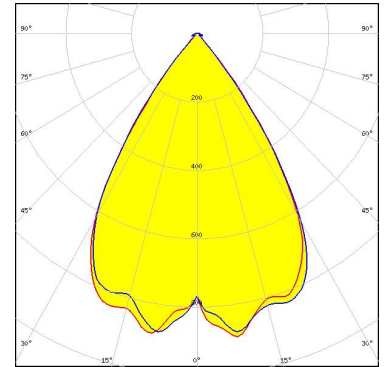


Light distribution files

#### OPTICAL RESULTS (SIMULATED):

**OSRAM**  
Opto Semiconductors

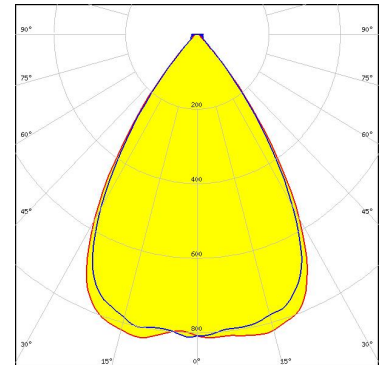
LED OSCONIQ C 2424  
FWHM / FWTM 66.0 + 68.0° / 82.0°  
Efficiency 96 %  
Peak intensity 0.9 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:



Light distribution files

**OSRAM**  
Opto Semiconductors

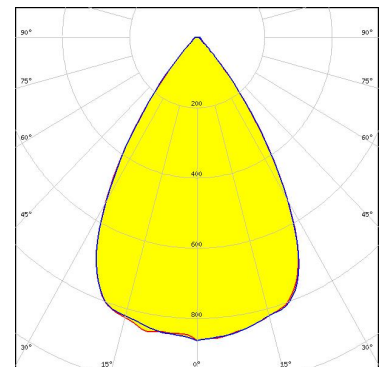
LED OSCONIQ P 3030  
FWHM / FWTM 66.0° / 88.0°  
Efficiency 96 %  
Peak intensity 0.8 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:



Light distribution files

**OSRAM**  
Opto Semiconductors

LED OSCONIQ P 3737 (2W version)  
FWHM / FWTM 66.0° / 88.0°  
Efficiency 96 %  
Peak intensity 0.9 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:



Light distribution files

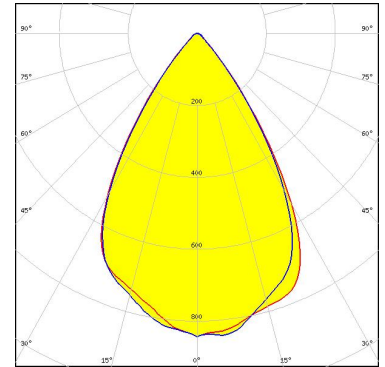
#### OPTICAL RESULTS (SIMULATED):

**OSRAM**  
Opto Semiconductors

LED OSCONIQ P 3737 (2W version)  
 FWHM / FWTM 65.0° / 88.0°  
 Efficiency 90 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

Protective plate, glass

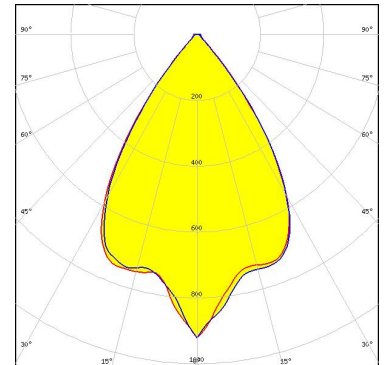
Light distribution files



**OSRAM**  
Opto Semiconductors

LED OSCONIQ P 3737 (3W version)  
 FWHM / FWTM 66.0° / 88.0°  
 Efficiency 94 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

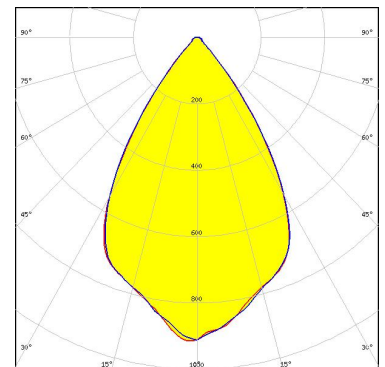
Light distribution files



**OSRAM**  
Opto Semiconductors

LED OSCONIQ P 3737 Flat  
 FWHM / FWTM 64.0° / 88.0°  
 Efficiency 95 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

Light distribution files



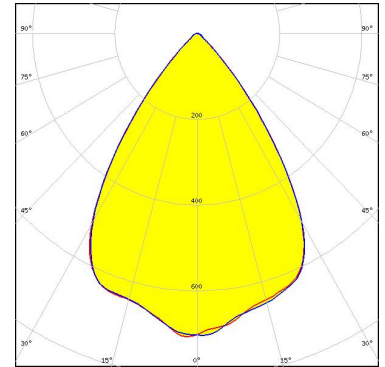
#### OPTICAL RESULTS (SIMULATED):

**OSRAM**  
Opto Semiconductors

LED OSLON Square CSSRM2/CSSRM3  
 FWHM / FWTM 70.0° / 92.0°  
 Efficiency 86 %  
 Peak intensity 0.7 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

Protective plate, glass

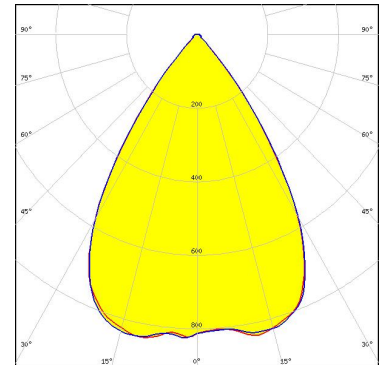
Light distribution files



**OSRAM**  
Opto Semiconductors

LED OSLON Square Flat  
 FWHM / FWTM 68.0° / 86.0°  
 Efficiency 95 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

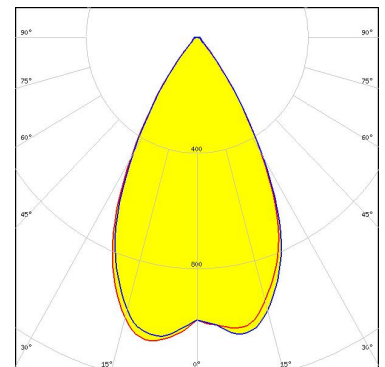
Light distribution files



**OSRAM**  
Opto Semiconductors

LED OSLON SSL 80  
 FWHM / FWTM 55.6° / 81.2°  
 Efficiency 94 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

Light distribution files

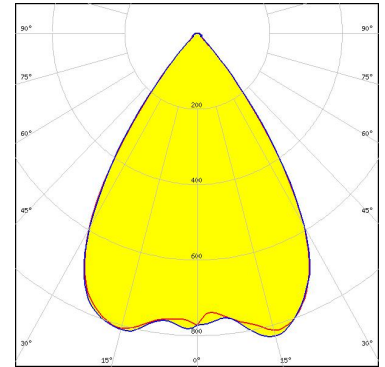




#### OPTICAL RESULTS (SIMULATED):

**OSRAM**  
Opto Semiconductors

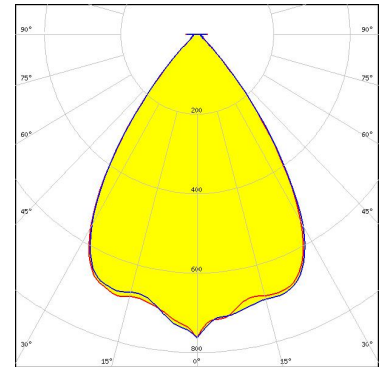
LED: OSTAR Projection Compact (KW.CSLNM1.TG)  
FWHM / FWTM: 68.0° / 88.0°  
Efficiency: 96 %  
Peak intensity: 0.8 cd/lm  
LEDs/each optic: 1  
Light colour/type: White  
Required components:



Light distribution files

**PHILIPS**

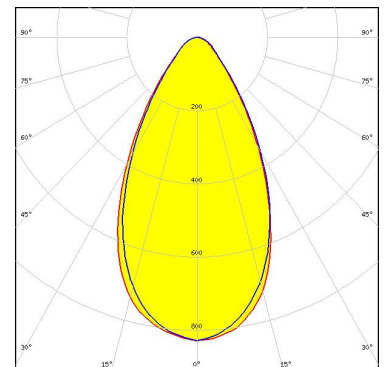
LED: Fortimo FastFlex LED 2x8 DAX G4  
FWHM / FWTM: 71.0° / 94.0°  
Efficiency: 94 %  
Peak intensity: 0.8 cd/lm  
LEDs/each optic: 1  
Light colour/type: White  
Required components:



Light distribution files

**SAMSUNG**

LED: HiLOM RM16 Z (LH502C)  
FWHM / FWTM: 56.0° / 98.0°  
Efficiency: 88 %  
Peak intensity: 0.8 cd/lm  
LEDs/each optic: 1  
Light colour/type: White  
Required components:



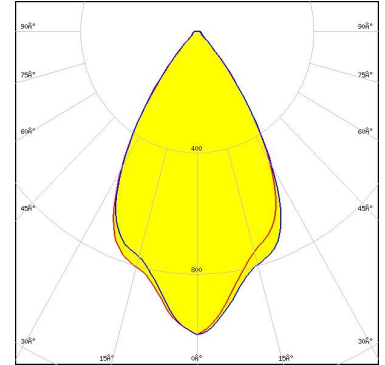
Protective plate, glass

Light distribution files

#### OPTICAL RESULTS (SIMULATED):

### SAMSUNG

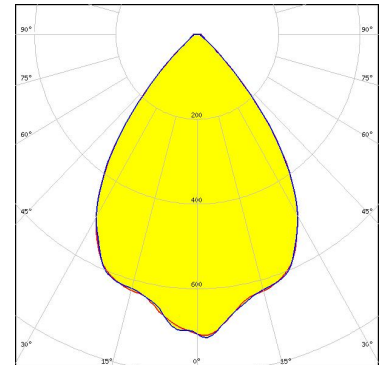
LED LH231B  
FWHM / FWTM 60.0° / 87.0°  
Efficiency 94 %  
Peak intensity 1 cd/lm  
LEDs/each optic 4  
Light colour/type White  
Required components:



Light distribution files

### SAMSUNG

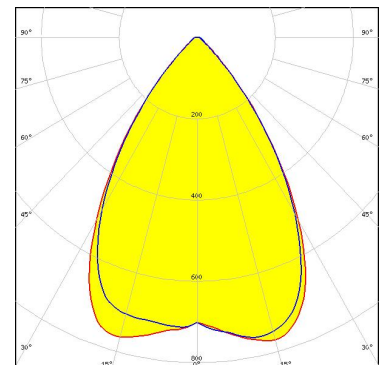
LED LH351D  
FWHM / FWTM 74.0° / 100.0°  
Efficiency 95 %  
Peak intensity 0.7 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:



Light distribution files

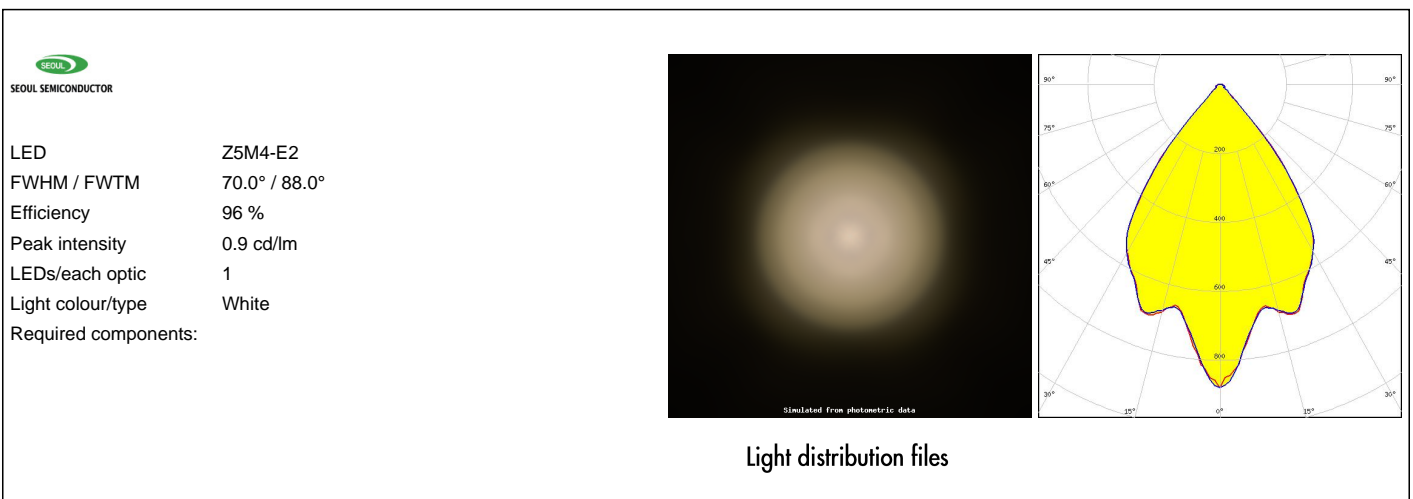
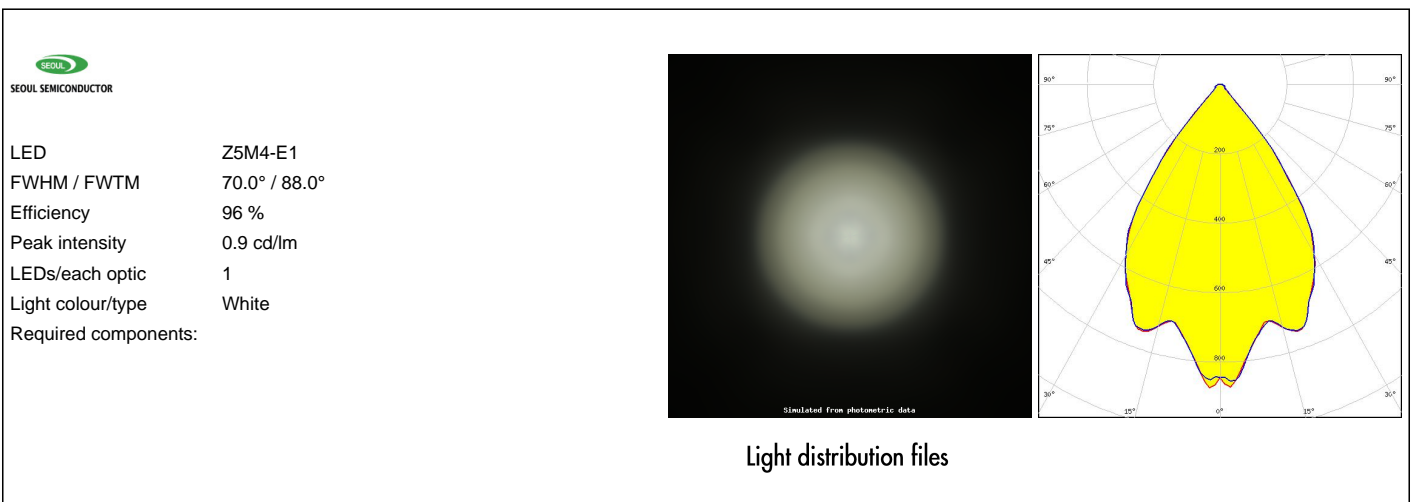
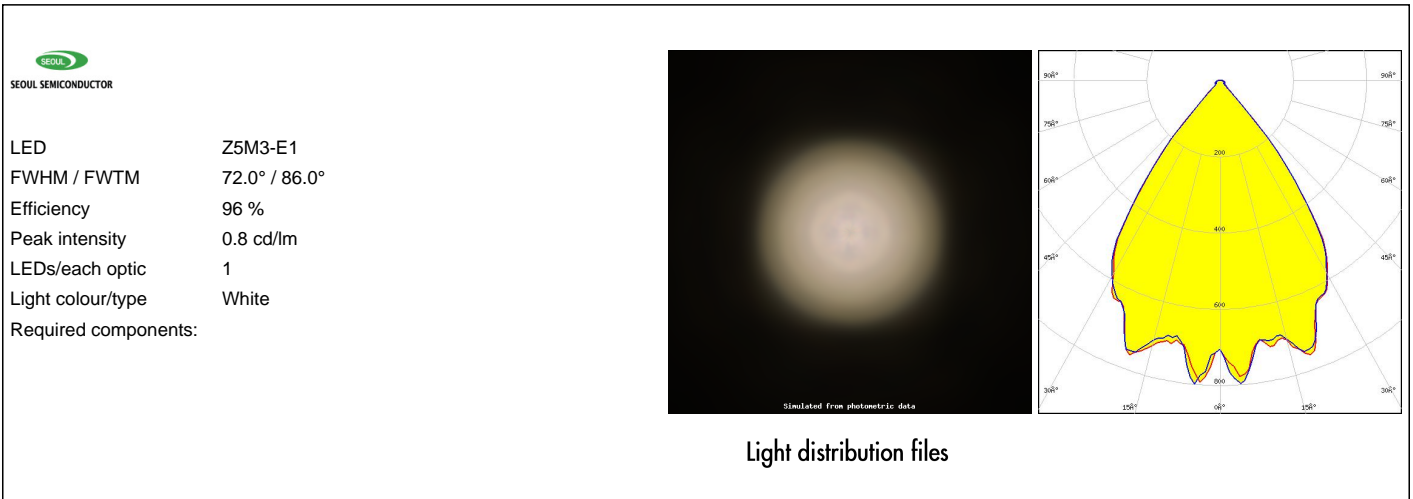


LED SEOUL DC 5050 6V  
FWHM / FWTM 64.0° / 93.0°  
Efficiency 94 %  
Peak intensity 0.8 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:




Light distribution files

#### OPTICAL RESULTS (SIMULATED):



#### OPTICAL RESULTS (SIMULATED):

|  |               |
|--|---------------|
| <br>SEOUL SEMICONDUCTOR |               |
| LED  | Z8Y22T        |
| FWHM / FWTM  | 55.0° / 83.0° |
| Efficiency   | 94 %          |
| Peak intensity   | 1.1 cd/lm     |
| LEDs/each optic  | 1             |
| Light colour/type  | White         |
| Required components:   |               |

Light distribution files

### GENERAL INFORMATION:

NOTE: The typical beam angle will be changed by different color, chip size and chip position tolerance. The typical total beam angle is the full angle measured where the luminous intensity is half of the peak value.

### MATERIALS:

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The measured data in the provided downloadable LEDiL Product Datasheets and Mechanical 2D-Drawings is rounded and provided as reference for planning. LEDiL Oy's optical specifications have been verified by conducting performance testing of the products in accordance with the company's quality system. The reported data are averaged results of multiple measurements with typical variation. LEDiL Oy reserves the right to without prior notification make changes and improvements to its products.

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#### LEDiL Oy

Joensuunkatu 7  
FI-24100 SALO  
Finland

#### LEDiL Inc.

228 West Page Street  
Suite D  
Sycamore IL 60178  
USA

#### Ledil Optics Technology (Shenzhen) Co., Ltd.

# 405 , Block B  
Casic Motor Building  
Shenzhen 518057  
P.R.CHINA

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