

## HB-2X2-M

~25° medium beam optimized for CREE XP-L  
and XM-L

### SPECIFICATION:

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

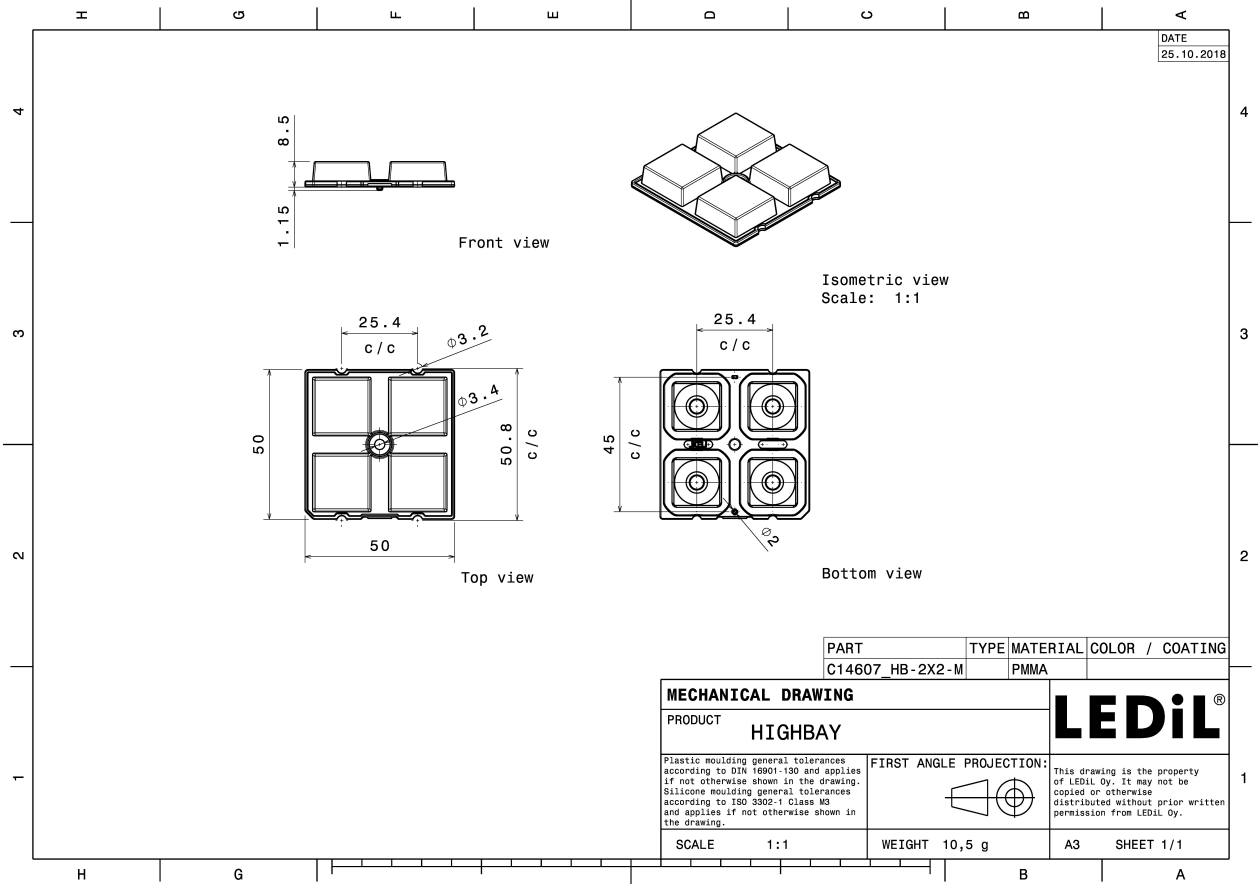


### MATERIALS:

Component	Type	Material	Colour	Finish	Length
HB-2X2-M	Multi-lens	PMMA	clear		50.0

### ORDERING INFORMATION:

Component	Qty in box	MOQ	MPQ	Box weight (kg)
C14607_HB-2X2-M » Box size: 480 x 280 x 300 mm	800	160	160	9.2

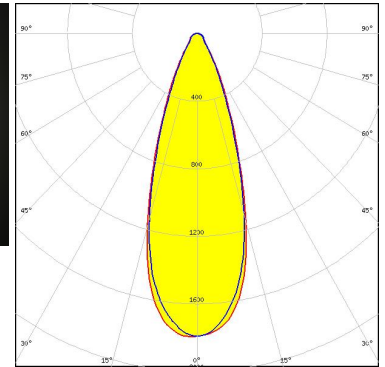
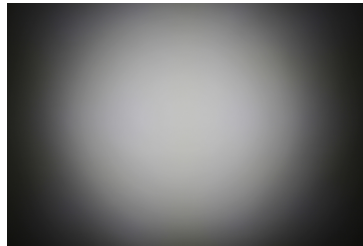


See also our general installation guide: [www.ledil.com/installation\\_guide](http://www.ledil.com/installation_guide)

### OPTICAL RESULTS (MEASURED):



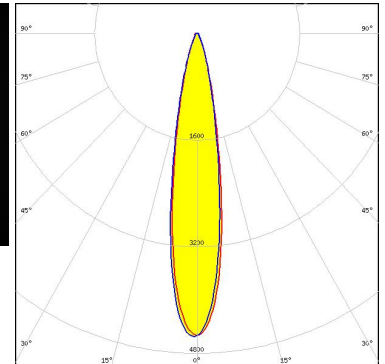
**LED** Bridgelux SMD 5050  
**FWHM / FWTM** 36.0° / 66.0°  
**Efficiency** 94 %  
**Peak intensity** 1.8 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**



Light distribution files



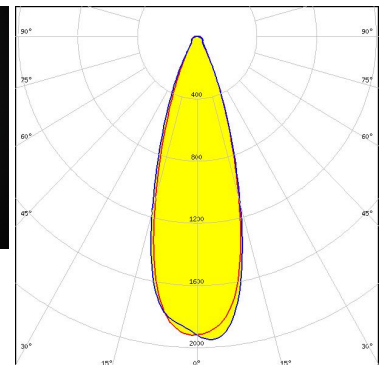
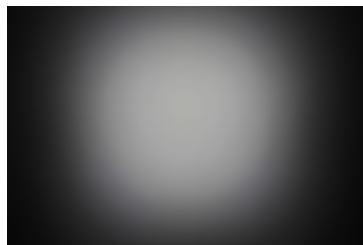
**LED** XD16  
**FWHM / FWTM** 19.0° / 39.0°  
**Efficiency** 90 %  
**Peak intensity** 4.6 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**



Light distribution files



**LED** XD16  
**FWHM / FWTM** 33.0° / 59.0°  
**Efficiency** 94 %  
**Peak intensity** 2 cd/lm  
**LEDs/each optic** 4  
**Light colour/type** White  
**Required components:**

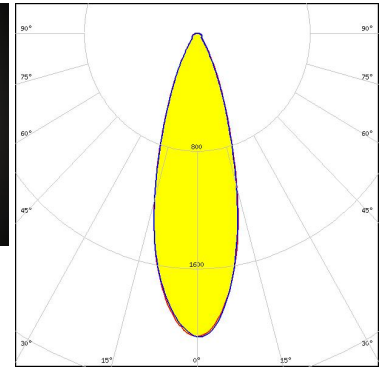
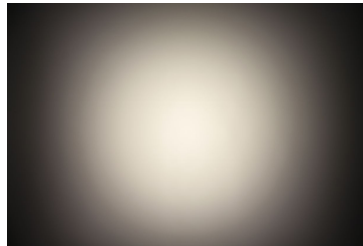


Light distribution files

### OPTICAL RESULTS (MEASURED):



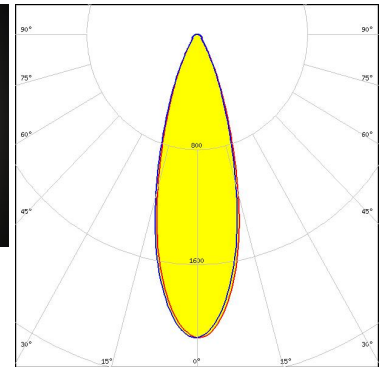
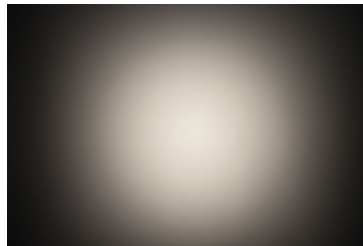
LED XM-L  
 FWHM / FWTM 32.0° / 61.0°  
 Efficiency 93 %  
 Peak intensity 2 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files



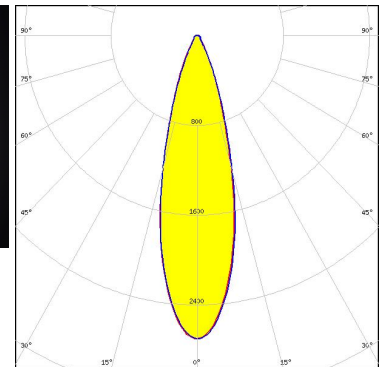
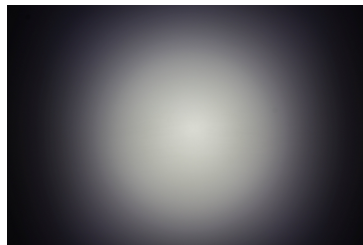
LED XM-L2  
 FWHM / FWTM 32.0° / 61.0°  
 Efficiency 92 %  
 Peak intensity 2.1 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files



LED XM-L3  
 FWHM / FWTM 28.0° / 54.0°  
 Efficiency 95 %  
 Peak intensity 2.7 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



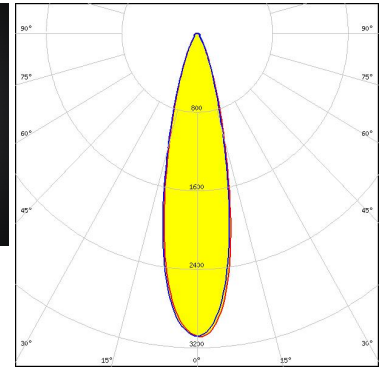
Light distribution files



#### OPTICAL RESULTS (MEASURED):



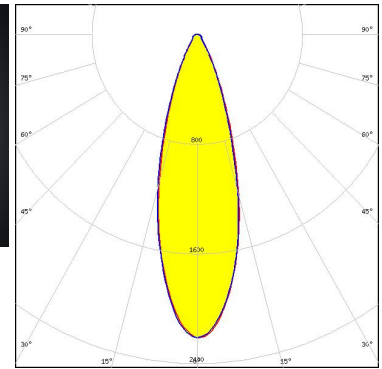
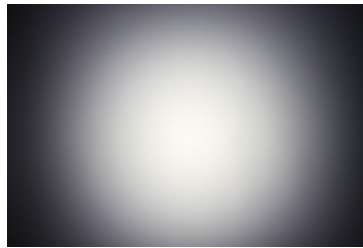
LED XP-G2  
 FWHM / FWTM 25.0° / 49.0°  
 Efficiency 0 %  
 Peak intensity 3.1 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files



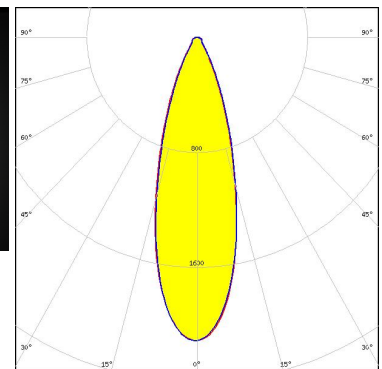
LED XP-L HD  
 FWHM / FWTM 31.0° / 60.0°  
 Efficiency 94 %  
 Peak intensity 2.2 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files



LED XP-L2  
 FWHM / FWTM 31.0° / 61.0°  
 Efficiency 93 %  
 Peak intensity 2.1 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

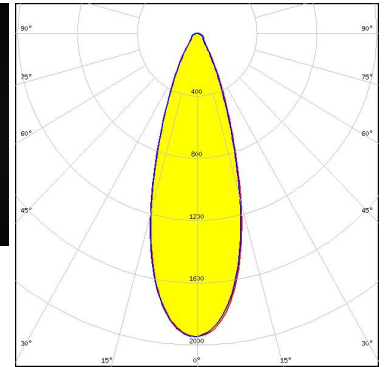
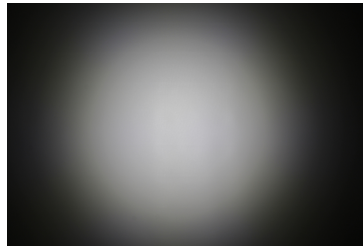


Light distribution files

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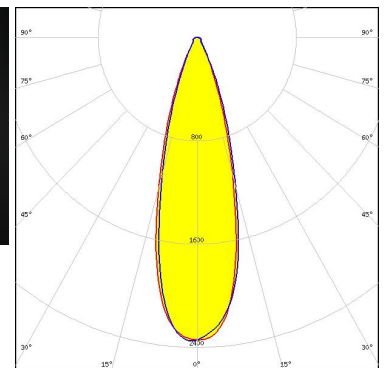
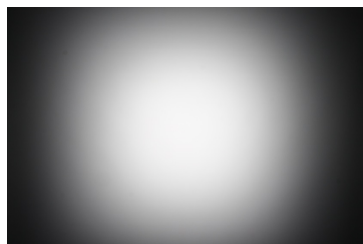
LED LUXEON 5050 Round LES  
 FWHM / FWTM 34.0° / 65.0°  
 Efficiency 94 %  
 Peak intensity 2 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files



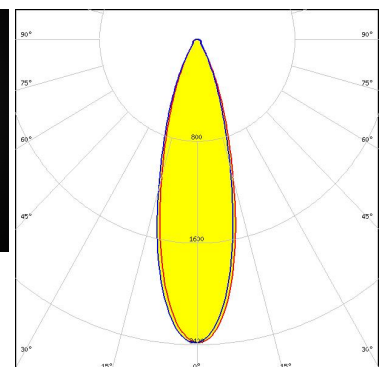
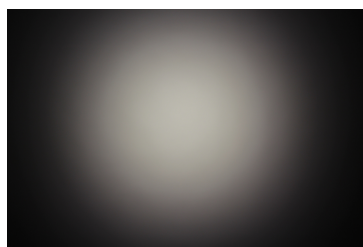
LED LUXEON MZ  
 FWHM / FWTM 30.0° / 55.0°  
 Efficiency 91 %  
 Peak intensity 2.4 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files



LED LUXEON V  
 FWHM / FWTM 29.0° / 58.0°  
 Efficiency 94 %  
 Peak intensity 2.4 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

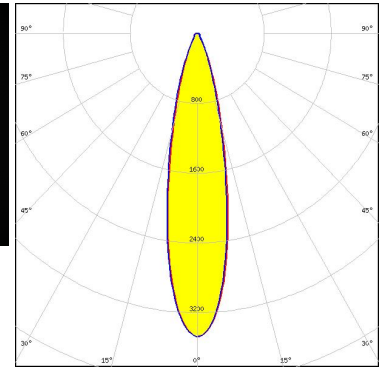
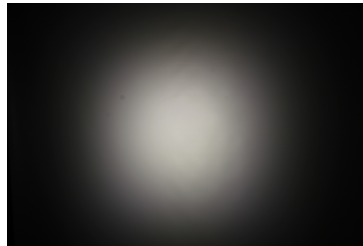


Light distribution files

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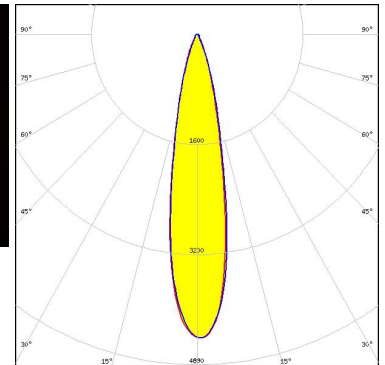
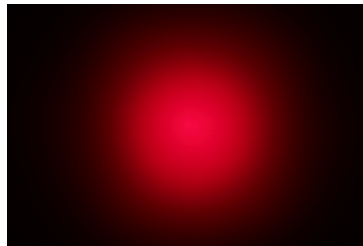
LED LUXEON V2  
 FWHM / FWTM 23.0° / 47.0°  
 Efficiency 94 %  
 Peak intensity 3.5 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files



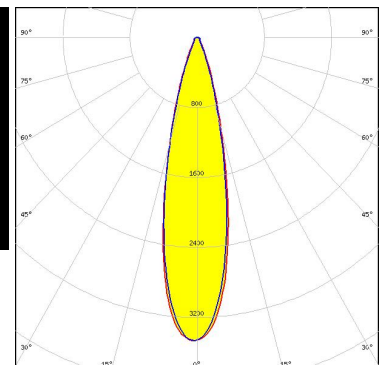
LED SST-10-B130  
 FWHM / FWTM 21.0° / 42.0°  
 Efficiency 95 %  
 Peak intensity 4.4 cd/lm  
 LEDs/each optic 1  
 Light colour/type Deep Red  
 Required components:



Light distribution files



LED RecLED 122x50mm 1900lm 730 2x4 Opt G1  
 FWHM / FWTM 24.0° / 46.0°  
 Efficiency 95 %  
 Peak intensity 3.5 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

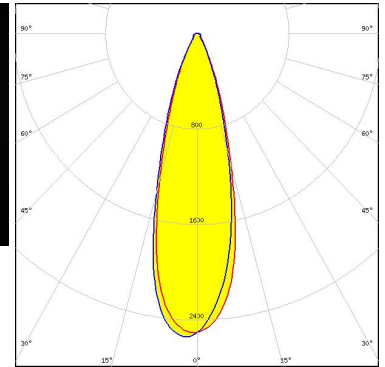


Light distribution files

#### OPTICAL RESULTS (MEASURED):



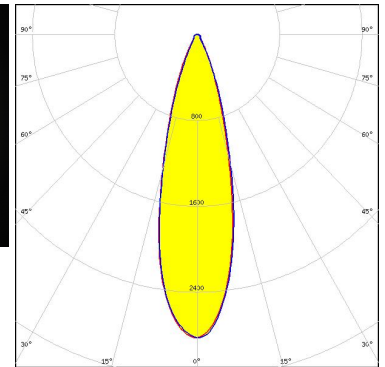
LED NVSW219D  
 FWHM / FWTM 29.0° / 55.0°  
 Efficiency 94 %  
 Peak intensity 2.5 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files



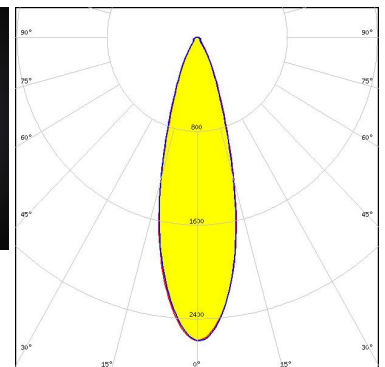
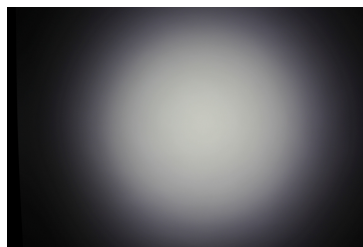
LED NVSW219F  
 FWHM / FWTM 28.0° / 53.0°  
 Efficiency 95 %  
 Peak intensity 2.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files



LED NVSW319B  
 FWHM / FWTM 29.0° / 57.0°  
 Efficiency 94 %  
 Peak intensity 2.6 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

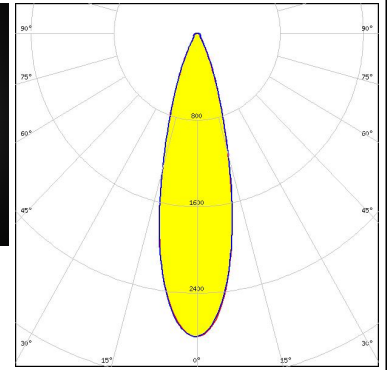


Light distribution files

#### OPTICAL RESULTS (MEASURED):



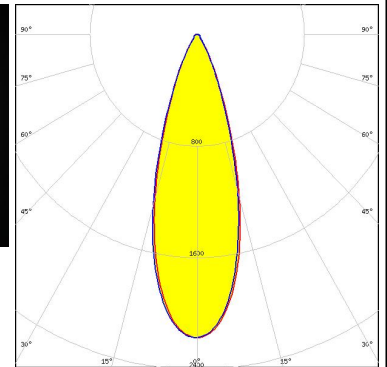
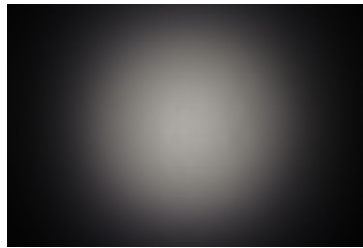
**LED** NVSW3x9A  
**FWHM / FWTM** 28.0° / 53.0°  
**Efficiency** 94 %  
**Peak intensity** 2.8 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**



Light distribution files



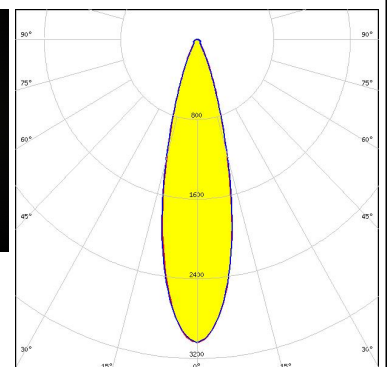
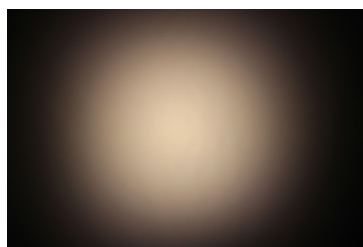
**LED** NWSx229A  
**FWHM / FWTM** 33.0° / 58.0°  
**Efficiency** 87 %  
**Peak intensity** 2.2 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**



Light distribution files



**LED** PL-BRICK HP 3800 2x8 SSG  
**FWHM / FWTM** 26.0° / 50.0°  
**Efficiency** 94 %  
**Peak intensity** 3 cd/lm  
**LEDs/each optic** 1  
**Light colour/type** White  
**Required components:**

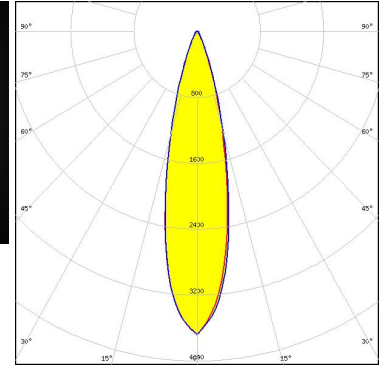
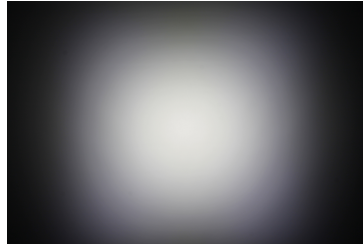


Light distribution files

#### OPTICAL RESULTS (MEASURED):

### OSRAM

LED PrevaLED Brick HP 2x8  
 FWHM / FWTM 23.0° / 44.0°  
 Efficiency 91 %  
 Peak intensity 3.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

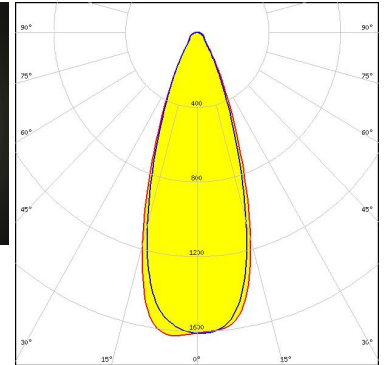


Light distribution files

### OSRAM

Opto Semiconductors

LED Duris S8  
 FWHM / FWTM 38.0° / 68.0°  
 Efficiency 94 %  
 Peak intensity 1.6 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

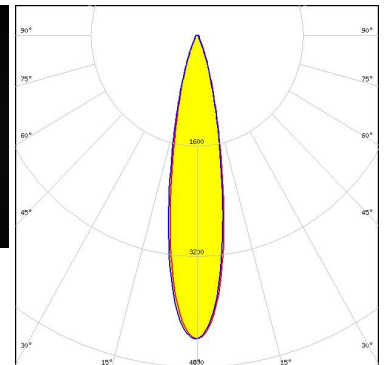
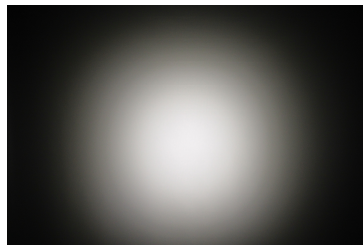


Light distribution files

### OSRAM

Opto Semiconductors

LED OSCONIQ C 3030  
 FWHM / FWTM 21.0° / 42.0°  
 Efficiency 93 %  
 Peak intensity 4.4 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



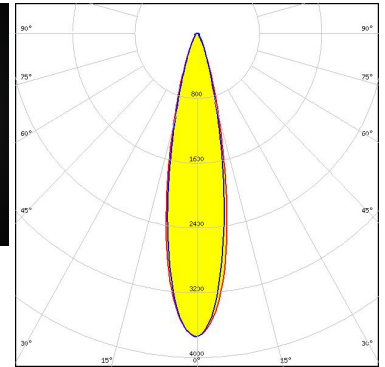
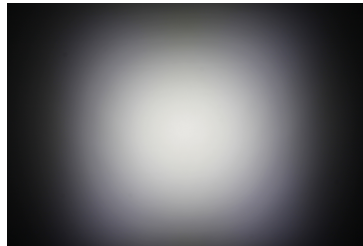
Light distribution files



#### OPTICAL RESULTS (MEASURED):

**OSRAM**  
Opto Semiconductors

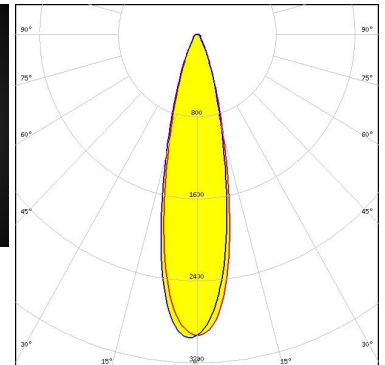
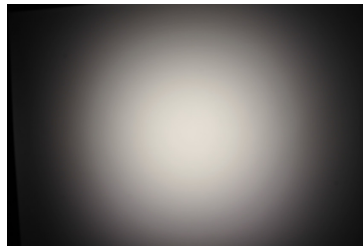
LED OSLON Square CSSRM2/CSSRM3  
 FWHM / FWTM 23.0° / 44.0°  
 Efficiency 91 %  
 Peak intensity 3.8 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files

**PHILIPS**

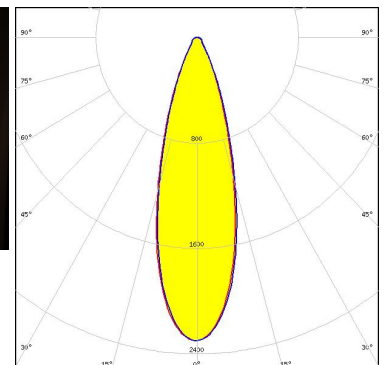
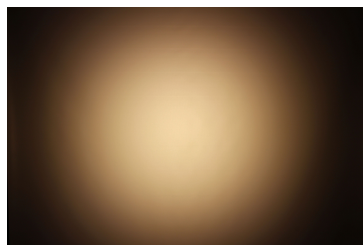
LED Fortimo FastFlex LED 2x8 DA G4  
 FWHM / FWTM 25.0° / 51.0°  
 Efficiency 92 %  
 Peak intensity 3 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files

**PHILIPS**

LED Fortimo FastFlex LED 2x8 DA G4+  
 FWHM / FWTM 30.0° / 59.0°  
 Efficiency 96 %  
 Peak intensity 2.3 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



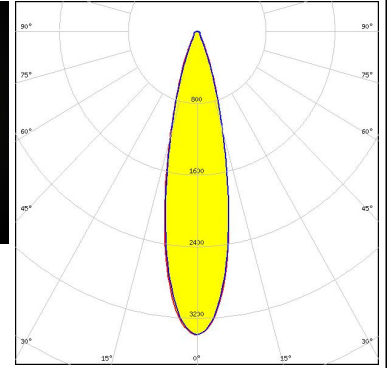
Light distribution files



### OPTICAL RESULTS (MEASURED):

#### PHILIPS

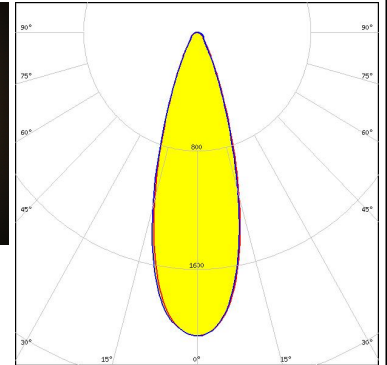
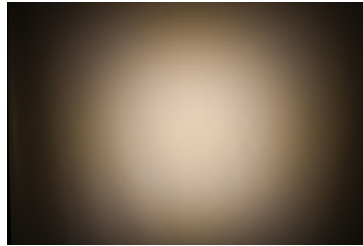
LED Fortimo FastFlex LED 2x8 DA G5  
 FWHM / FWTM 24.0° / 47.0°  
 Efficiency 94 %  
 Peak intensity 3.4 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files

#### PHILIPS

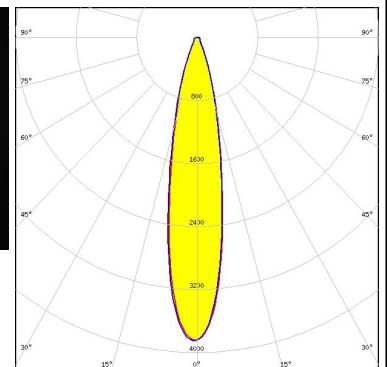
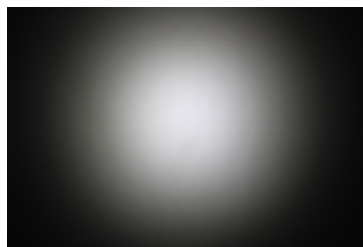
LED Fortimo FastFlex LED 2x8 DA HE  
 FWHM / FWTM 32.0° / 61.0°  
 Efficiency 96 %  
 Peak intensity 2.1 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files

#### SAMSUNG

LED HiLOM RC12 Z (LH181B)  
 FWHM / FWTM 21.0° / 45.0°  
 Efficiency 96 %  
 Peak intensity 3.9 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

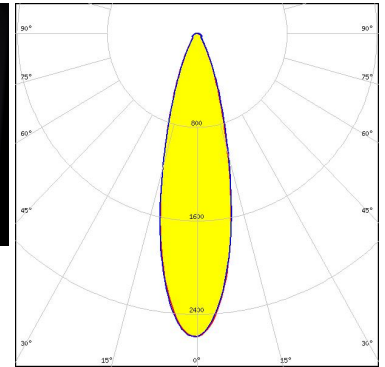


Light distribution files

#### OPTICAL RESULTS (MEASURED):

### SAMSUNG

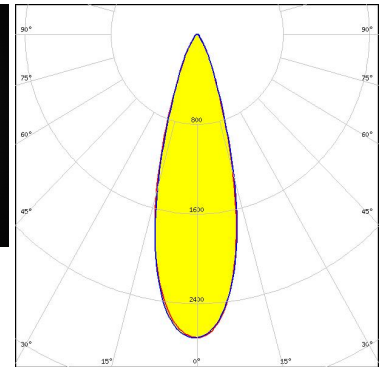
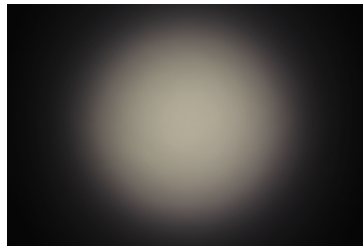
LED HiLOM RH12 Z (LH351C)  
 FWHM / FWTM 27.0° / 55.0°  
 Efficiency 95 %  
 Peak intensity 2.6 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files

### SAMSUNG

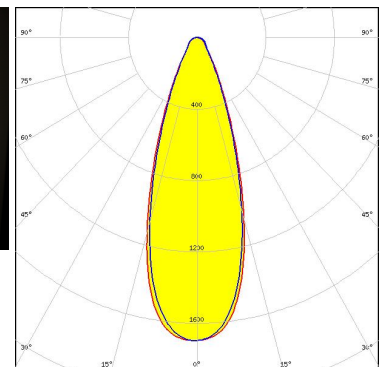
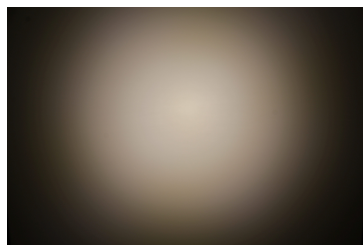
LED HiLOM RH16 (LH351C)  
 FWHM / FWTM 30.0° / 55.0°  
 Efficiency 94 %  
 Peak intensity 2.7 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files

### SAMSUNG

LED HiLOM RM12 Z (LH502C)  
 FWHM / FWTM 35.0° / 67.0°  
 Efficiency 95 %  
 Peak intensity 1.7 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

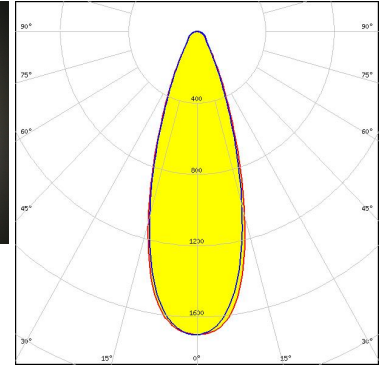
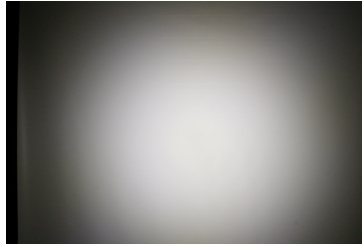


Light distribution files

#### OPTICAL RESULTS (MEASURED):

### SAMSUNG

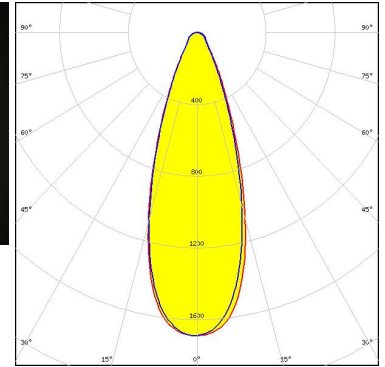
LED HiLOM RM16 Z (LH502C)  
 FWHM / FWTM 36.0° / 68.0°  
 Efficiency 96 %  
 Peak intensity 1.7 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files

### SAMSUNG

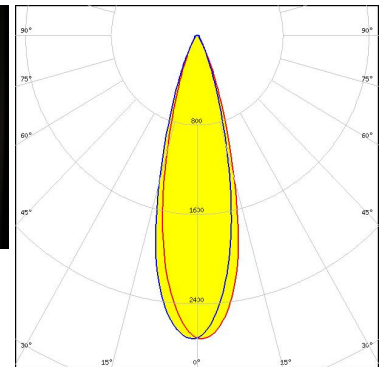
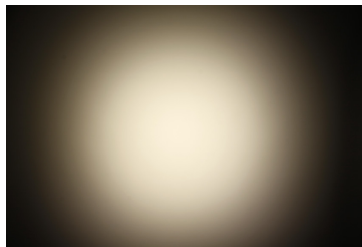
LED HiLOM RM8 Z (LH502C)  
 FWHM / FWTM 36.0° / 68.0°  
 Efficiency 96 %  
 Peak intensity 1.7 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files

### SAMSUNG

LED LH351B  
 FWHM / FWTM 28.0° / 52.0°  
 Efficiency 85 %  
 Peak intensity 2.7 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

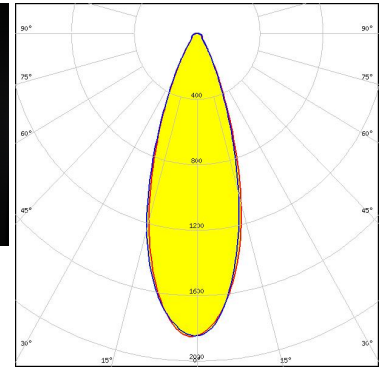
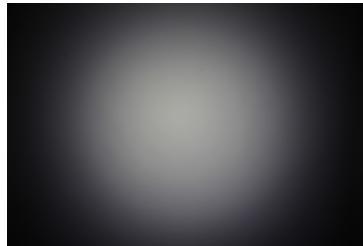


Light distribution files

### OPTICAL RESULTS (MEASURED):

#### SAMSUNG

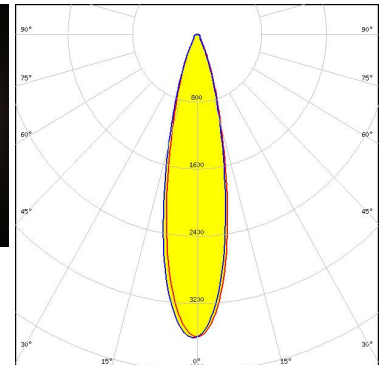
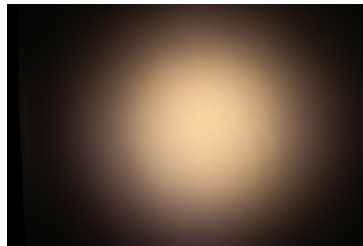
LED LH351D  
 FWHM / FWTM 35.0° / 64.0°  
 Efficiency 91 %  
 Peak intensity 1.9 cd/m  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files

#### SEITEC Elektronik GmbH

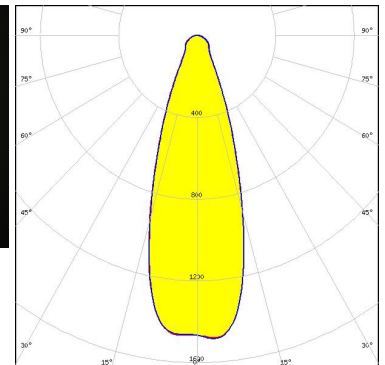
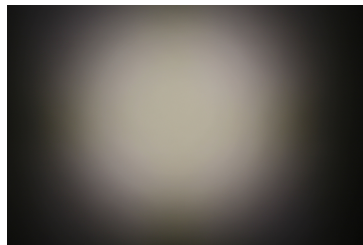
LED LED-Pa-L15c2W11c2-xxx-C050-01  
 FWHM / FWTM 24.0° / 48.0 + 47.0°  
 Efficiency 95 %  
 Peak intensity 3.6 cd/m  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files

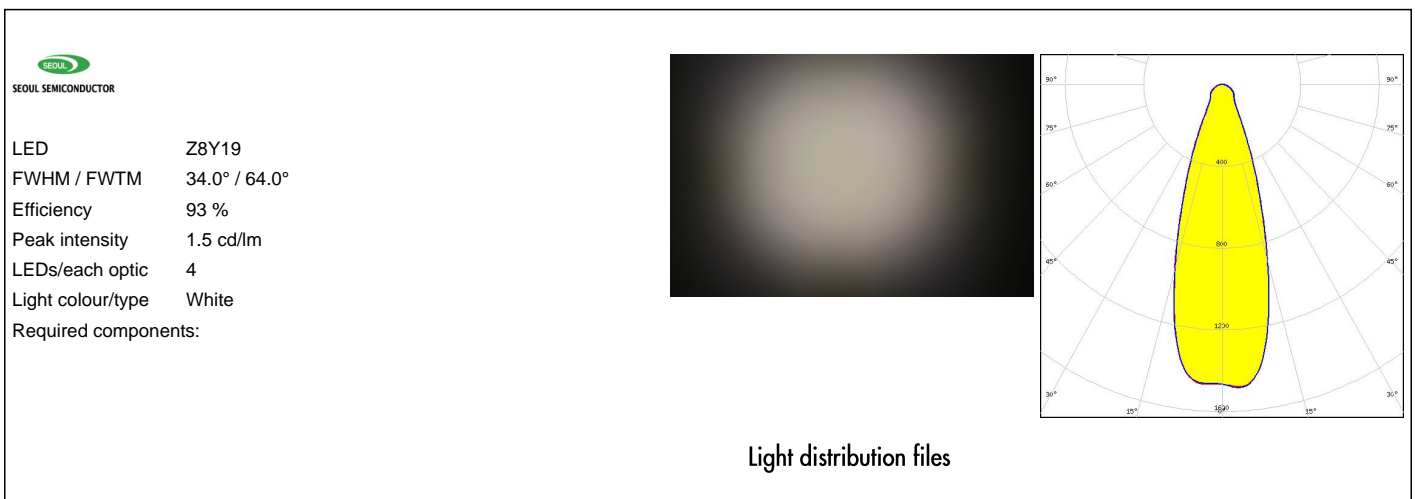
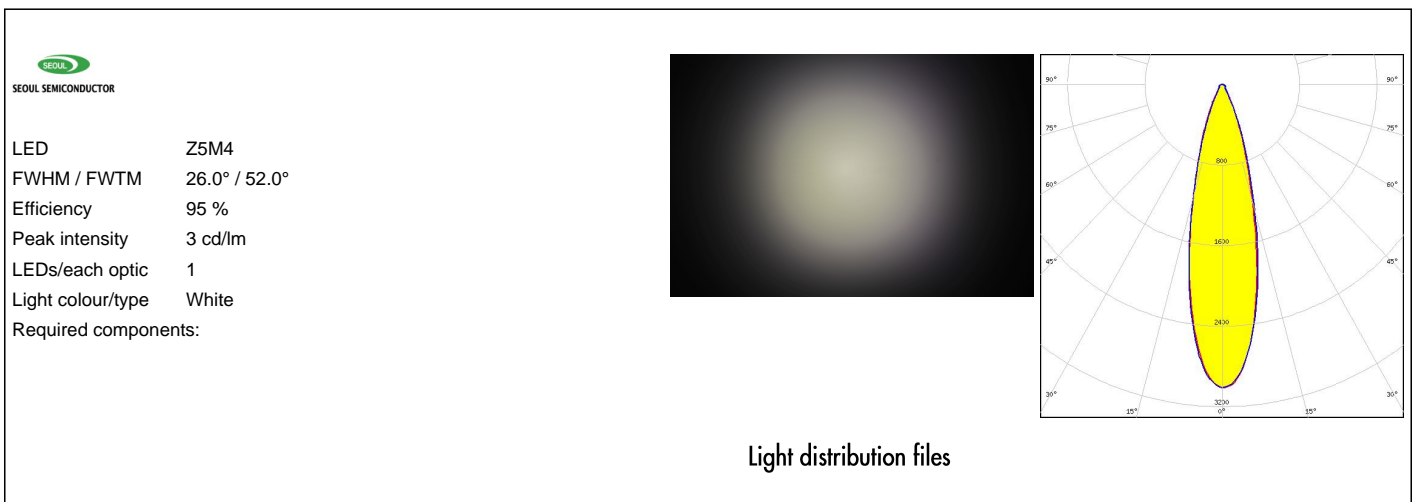
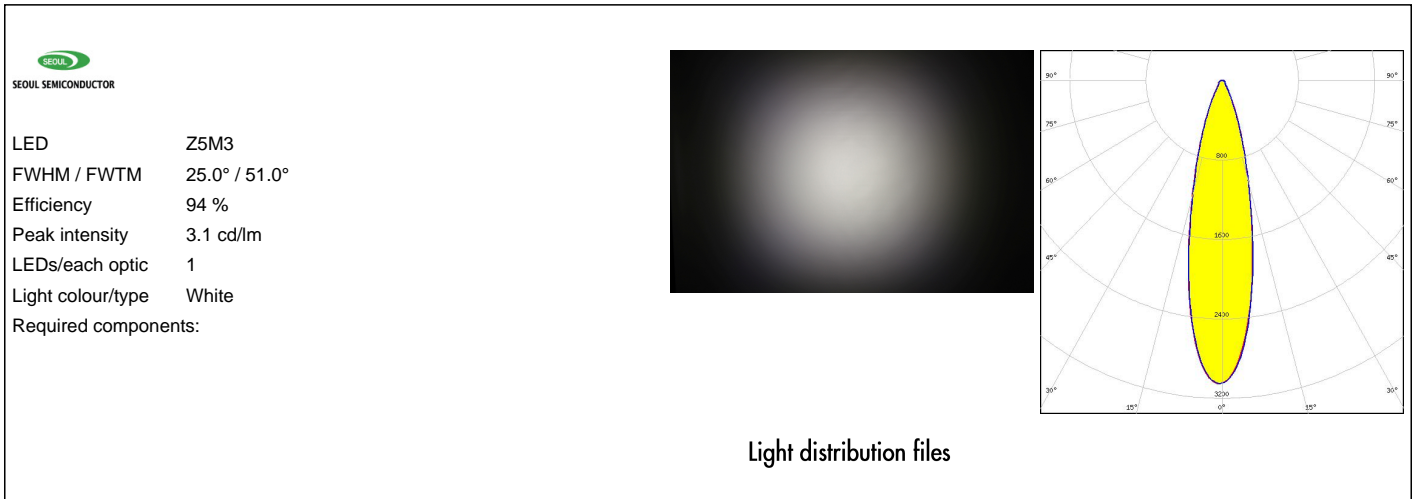
#### SEMI SEOUL SEMICONDUCTOR

LED 2x2 Y22 module - SMJQ-D48W16AA-XX  
 FWHM / FWTM 34.0° / 64.0°  
 Efficiency 93 %  
 Peak intensity 1.5 cd/m  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

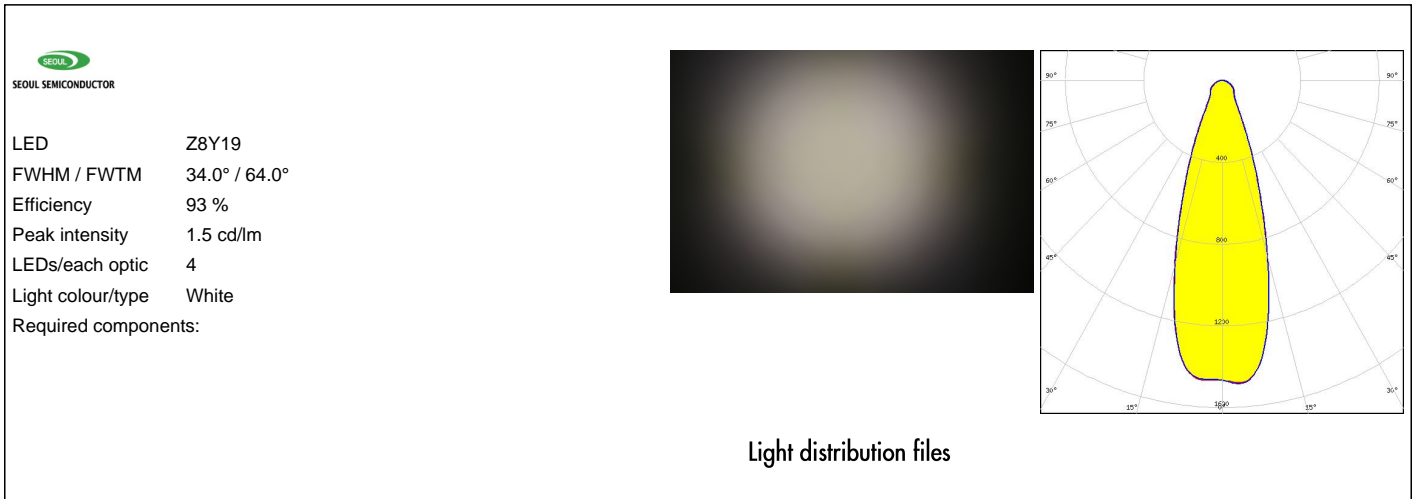


Light distribution files

### OPTICAL RESULTS (MEASURED):



#### OPTICAL RESULTS (MEASURED):

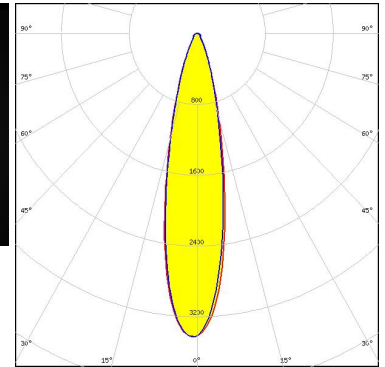
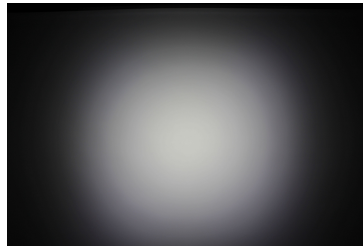




#### OPTICAL RESULTS (MEASURED):

### TRIDONIC

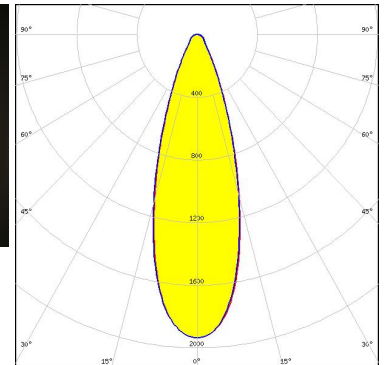
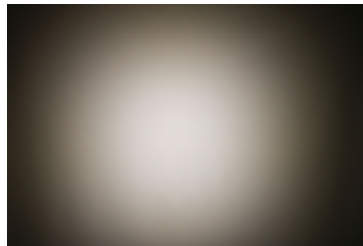
LED RLE 2x8 4000lm HP EXC2 OTD  
 FWHM / FWTM 23.0° / 48.0°  
 Efficiency 94 %  
 Peak intensity 3.4 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files

### TRIDONIC

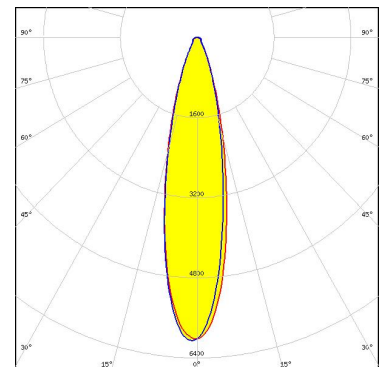
LED RLE 2x8 6000lm HP HE EXC3 OTD  
 FWHM / FWTM 33.0° / 64.0°  
 Efficiency 95 %  
 Peak intensity 1.9 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files

### TRIDONIC

LED RLE G1 49x121mm 2000lm xxx EXC OTD  
 FWHM / FWTM 24.0° / 51.0°  
 Efficiency 94 %  
 Peak intensity 3 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



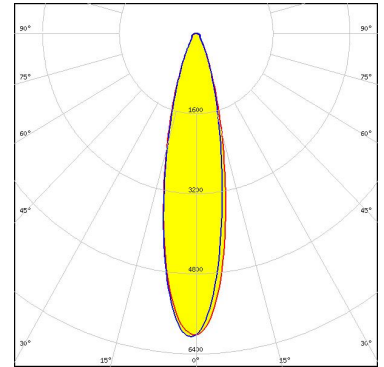
Light distribution files



#### OPTICAL RESULTS (MEASURED):

### TRIDONIC

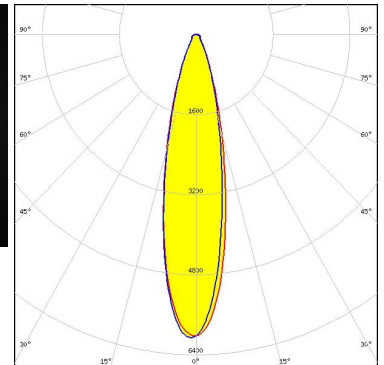
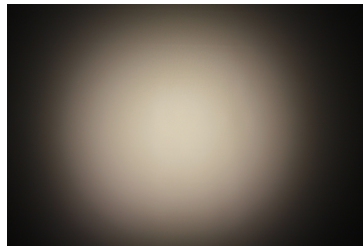
LED RLE G1 49x133mm 2000lm xxx EXC OTD  
 FWHM / FWTM 24.0° / 51.0°  
 Efficiency 94 %  
 Peak intensity 3 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files

### TRIDONIC

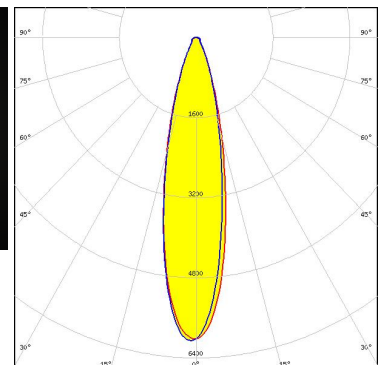
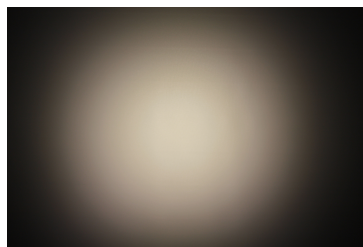
LED RLE G1 49x223mm 4000lm xxx EXC OTD  
 FWHM / FWTM 24.0° / 51.0°  
 Efficiency 94 %  
 Peak intensity 3 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files

### TRIDONIC

LED RLE G1 49x245mm 4000lm xxx EXC OTD  
 FWHM / FWTM 24.0° / 51.0°  
 Efficiency 94 %  
 Peak intensity 3 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

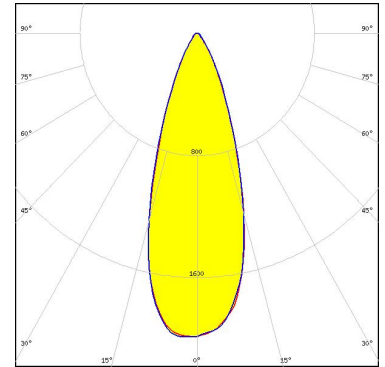


Light distribution files

### OPTICAL RESULTS (SIMULATED):



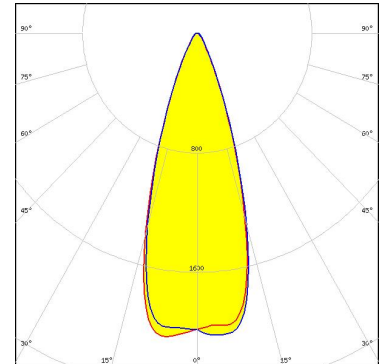
LED J Series 5050 Round LES  
 FWHM / FWTM 35.0° / 64.0°  
 Efficiency 92 %  
 Peak intensity 2 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files



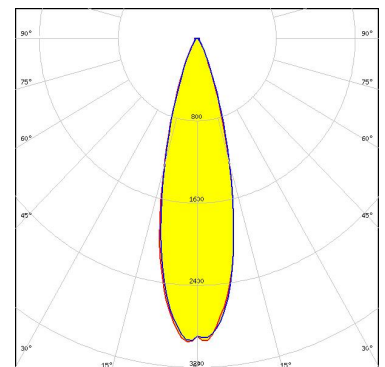
LED XP-G2 HE  
 FWHM / FWTM 35.0° / 58.0°  
 Efficiency 92 %  
 Peak intensity 2.1 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files



LED XP-G3  
 FWHM / FWTM 28.0° / 50.0°  
 Efficiency 92 %  
 Peak intensity 3 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



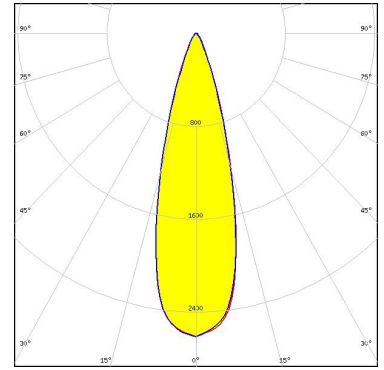
Light distribution files

### OPTICAL RESULTS (SIMULATED):

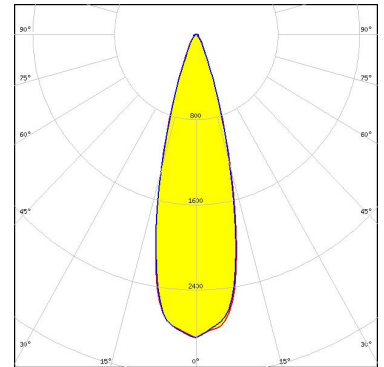


LED XP-G4  
 FWHM / FWTM 28.0° / 50.0°  
 Efficiency 85 %  
 Peak intensity 2.6 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

Protective plate, glass

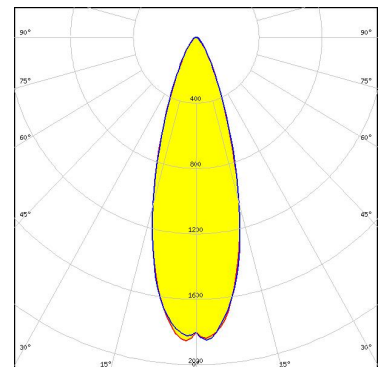


LED XP-G4  
 FWHM / FWTM 28.0° / 50.0° + 49.0°  
 Efficiency 93 %  
 Peak intensity 2.9 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



LED XP-L2  
 FWHM / FWTM 32.0° / 62.0°  
 Efficiency 82 %  
 Peak intensity 1.9 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

Protective plate, glass

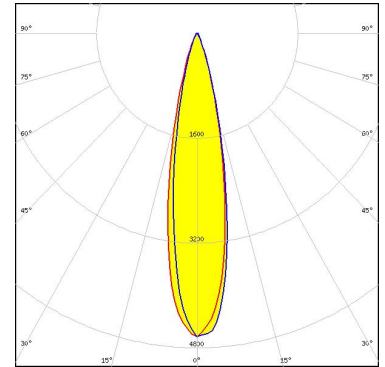


Light distribution files

### OPTICAL RESULTS (SIMULATED):



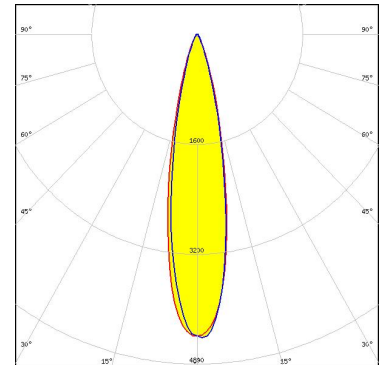
LED LUXEON 3030 2D (Round LES)  
 FWHM / FWTM 21.0° / 41.0°  
 Efficiency 91 %  
 Peak intensity 4.7 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files



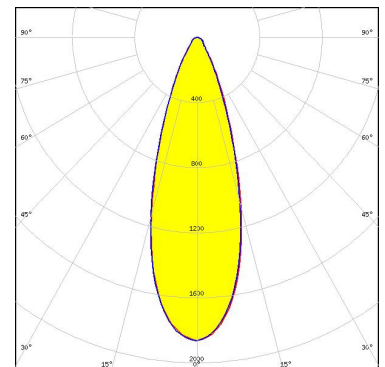
LED LUXEON 3535 2D  
 FWHM / FWTM 22.0° / 42.0°  
 Efficiency 92 %  
 Peak intensity 4.5 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Light distribution files



LED LUXEON 5050 Round LES  
 FWHM / FWTM 34.0° / 64.0°  
 Efficiency 87 %  
 Peak intensity 1.9 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:



Protective plate, glass

Light distribution files

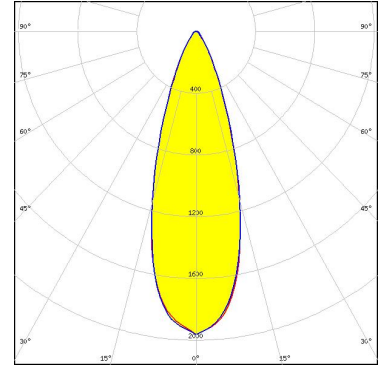
#### OPTICAL RESULTS (SIMULATED):



LED LUXEON 5050 Square LES  
 FWHM / FWTM 34.0° / 62.0°  
 Efficiency 88 %  
 Peak intensity 2 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

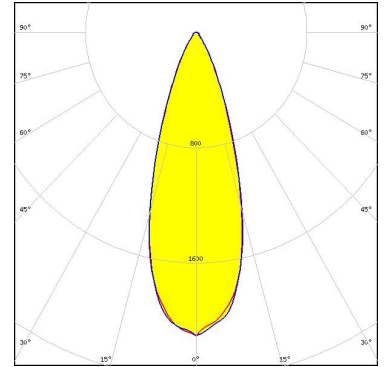
Protective plate, glass

Light distribution files



LED LUXEON 5050 Square LES  
 FWHM / FWTM 34.0° / 62.0°  
 Efficiency 93 %  
 Peak intensity 2.1 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

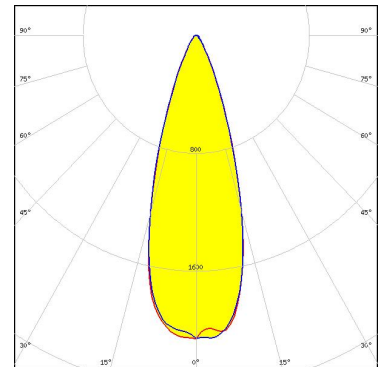
Light distribution files



LED LUXEON HL2X  
 FWHM / FWTM 34.0° / 58.0°  
 Efficiency 87 %  
 Peak intensity 2.1 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

Protective plate, glass

Light distribution files



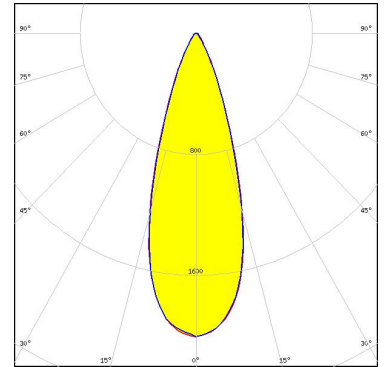
### OPTICAL RESULTS (SIMULATED):



LED LUXEON HL2X-D  
 FWHM / FWTM 34.0° / 58.0°  
 Efficiency 85 %  
 Peak intensity 2 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

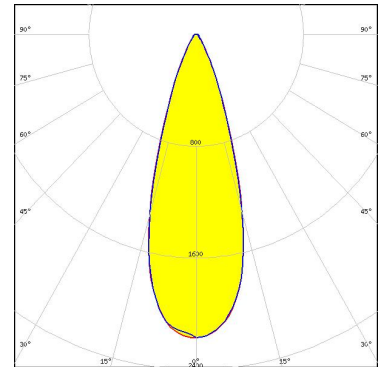
Protective plate, glass

Light distribution files



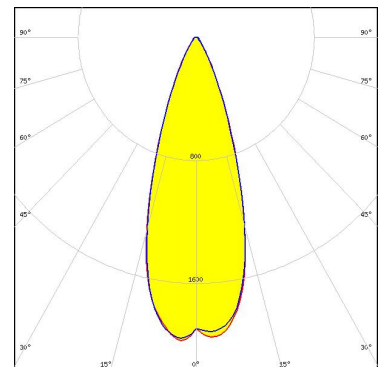
LED LUXEON HL2X-D  
 FWHM / FWTM 34.0° / 58.0°  
 Efficiency 94 %  
 Peak intensity 2.2 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

Light distribution files



LED LUXEON HL2X-P  
 FWHM / FWTM 36.0° / 62.0°  
 Efficiency 91 %  
 Peak intensity 2 cd/lm  
 LEDs/each optic 1  
 Light colour/type White  
 Required components:

Light distribution files



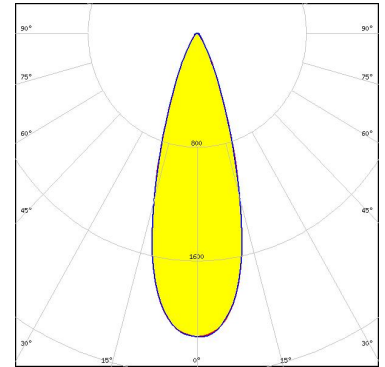
### OPTICAL RESULTS (SIMULATED):



LED LUXEON XR-HL2X (L2H2-xxxxxxxMLU010)  
FWHM / FWTM 32.0° / 58.0°  
Efficiency 85 %  
Peak intensity 2.1 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:

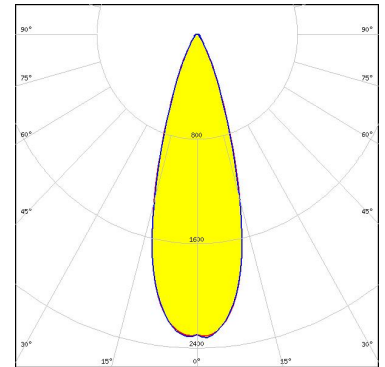
Protective plate, glass

Light distribution files



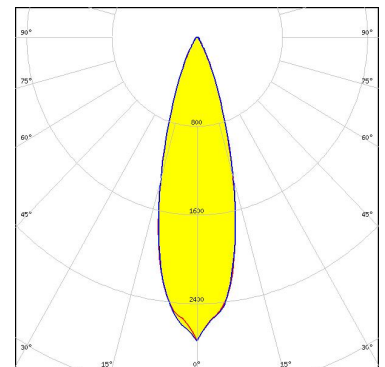
LED LUXEON XR-HL2X (L2H2-xxxxxxxMLU010)  
FWHM / FWTM 32.0° / 56.0°  
Efficiency 94 %  
Peak intensity 2.3 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:

Light distribution files



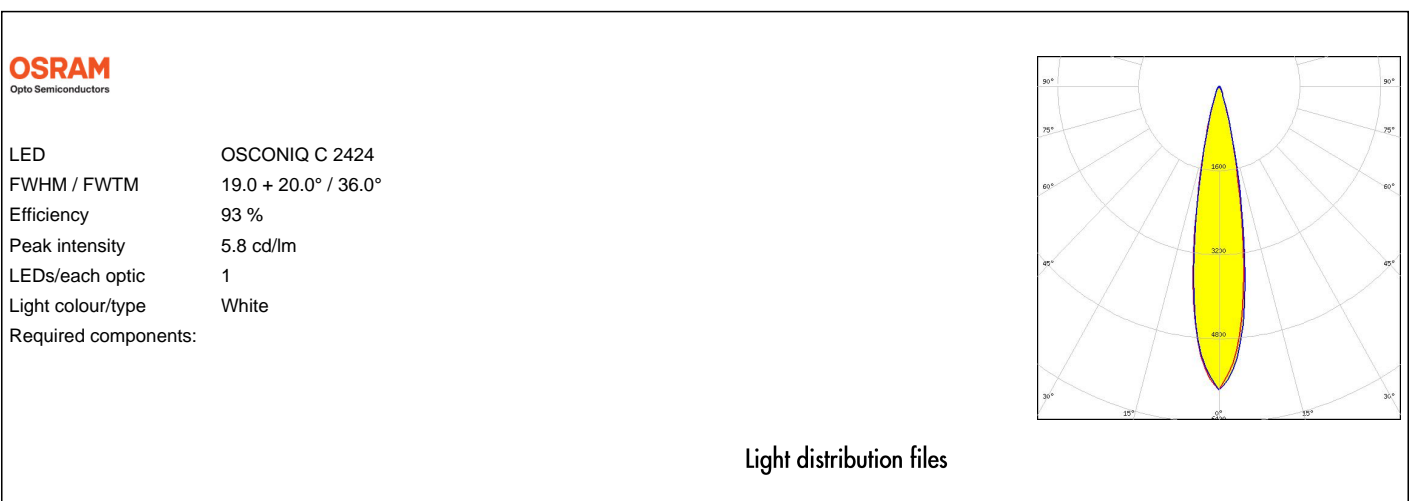
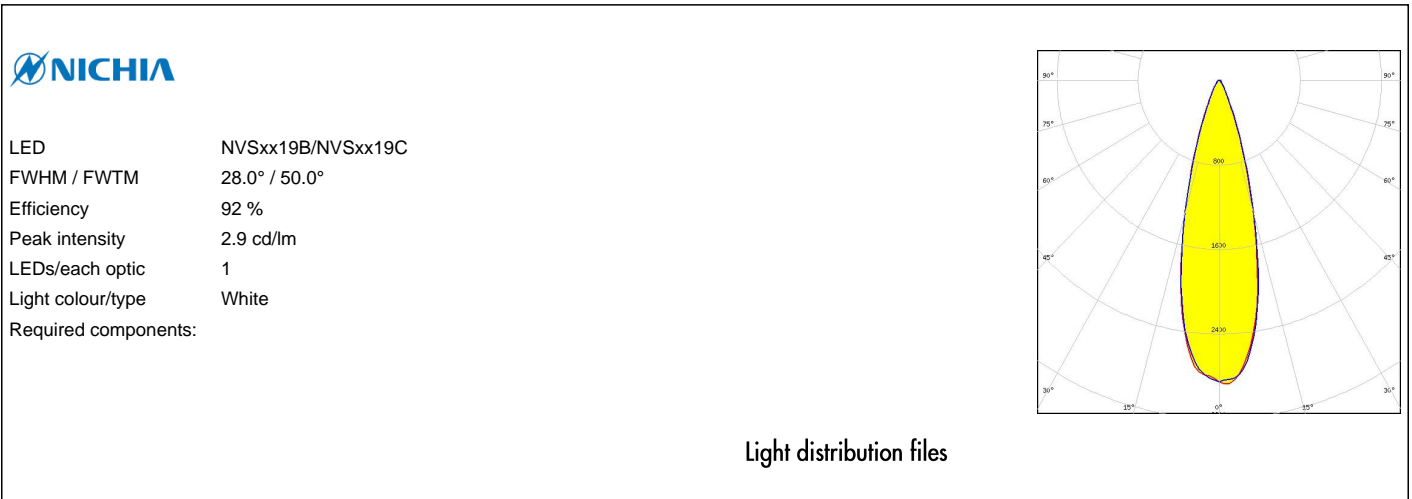
LED NV4WB35AM  
FWHM / FWTM 30.0° / 54.0°  
Efficiency 93 %  
Peak intensity 2.7 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:

Light distribution files





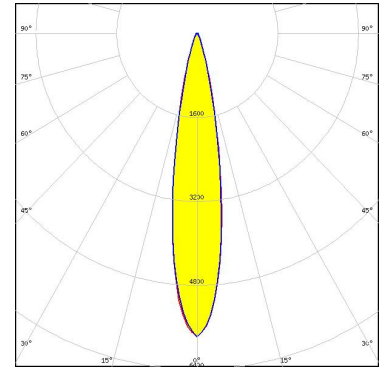
### OPTICAL RESULTS (SIMULATED):



### OPTICAL RESULTS (SIMULATED):

**OSRAM**  
Opto Semiconductors

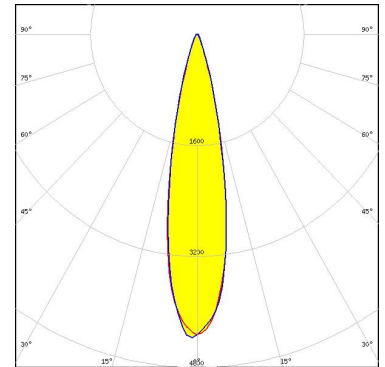
LED OSCONIQ P 3030  
FWHM / FWTM 18.0° / 36.0°  
Efficiency 94 %  
Peak intensity 5.8 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:



Light distribution files

**OSRAM**  
Opto Semiconductors

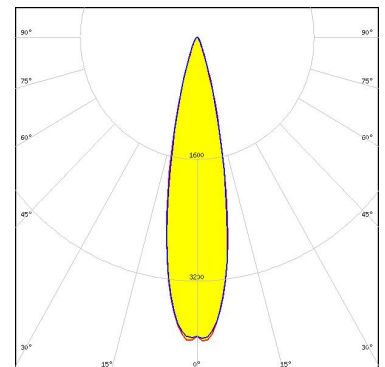
LED OSCONIQ P 3737 (2W version)  
FWHM / FWTM 22.0° / 40.0°  
Efficiency 92 %  
Peak intensity 4.4 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:



Light distribution files

**OSRAM**  
Opto Semiconductors

LED OSCONIQ P 3737 (2W version)  
FWHM / FWTM 22.0° / 40.0°  
Efficiency 87 %  
Peak intensity 4 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:



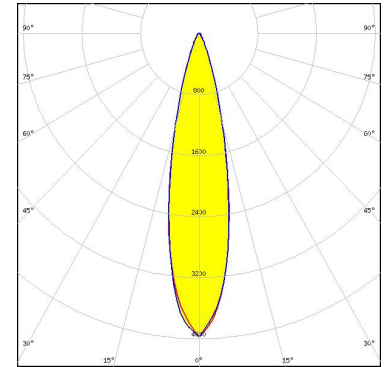
Protective plate, glass

Light distribution files

### OPTICAL RESULTS (SIMULATED):

**OSRAM**  
Opto Semiconductors

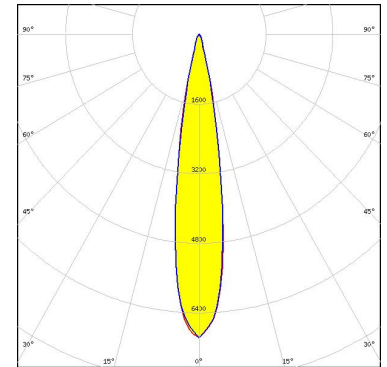
LED OSCONIQ P 3737 Flat  
FWHM / FWTM 24.0° / 44.0°  
Efficiency 93 %  
Peak intensity 4 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:



Light distribution files

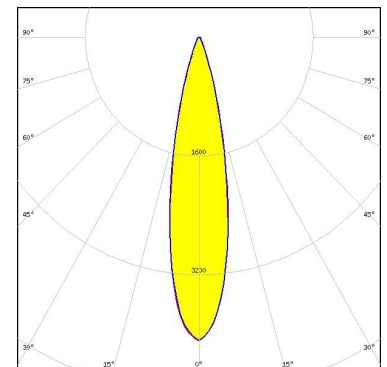
**OSRAM**  
Opto Semiconductors

LED OSLO Pure 1414  
FWHM / FWTM 18.0° / 30.0°  
Efficiency 93 %  
Peak intensity 7 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:



**OSRAM**  
Opto Semiconductors

LED OSLO Square CSSRM2/CSSRM3  
FWHM / FWTM 22.0° / 42.0°  
Efficiency 89 %  
Peak intensity 4.1 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:



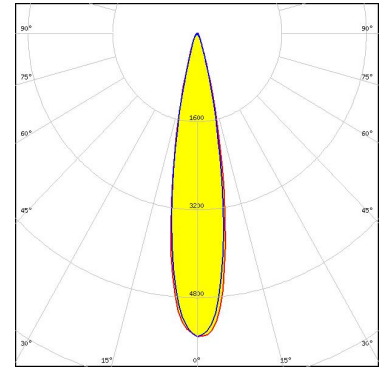
Protective plate, glass

Light distribution files

### OPTICAL RESULTS (SIMULATED):

**OSRAM**  
Opto Semiconductors

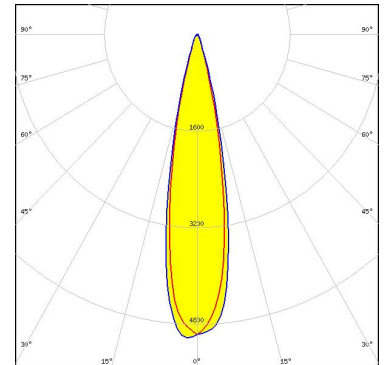
LED OSLON Square Flat  
FWHM / FWTM 20.0° / 35.0°  
Efficiency 94 %  
Peak intensity 5.5 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:



Light distribution files

**OSRAM**  
Opto Semiconductors

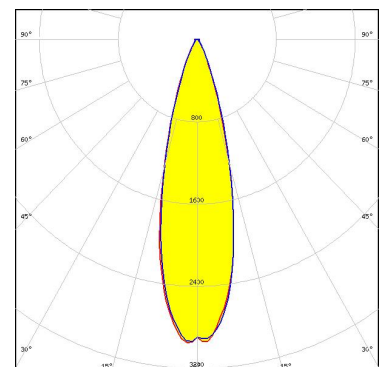
LED OSTAR Projection Compact (KW.CSLNM1.TG)  
FWHM / FWTM 21.0° / 38.0°  
Efficiency 94 %  
Peak intensity 5 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:



Light distribution files

**PHILIPS**

LED Fortimo FastFlex LED 2x8 DAX G4  
FWHM / FWTM 28.0° / 50.0°  
Efficiency 92 %  
Peak intensity 3 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:

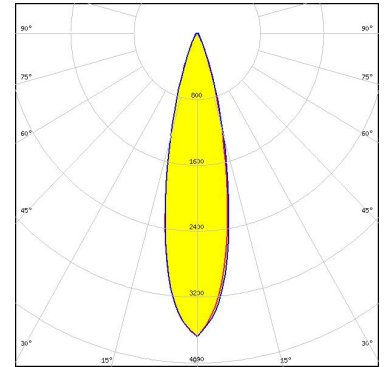


Light distribution files

### OPTICAL RESULTS (SIMULATED):

#### SAMSUNG

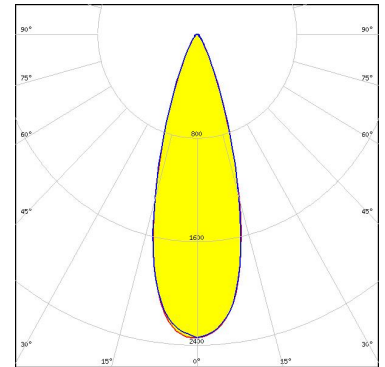
LED LH231B  
FWHM / FWTM 24.0° / 46.0°  
Efficiency 92 %  
Peak intensity 3.7 cd/lm  
LEDs/each optic 4  
Light colour/type White  
Required components:



Light distribution files

#### SAMSUNG

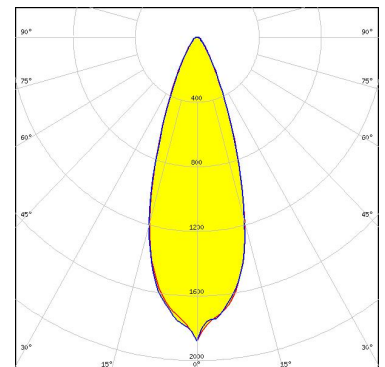
LED LH351C  
FWHM / FWTM 32.0° / 56.0°  
Efficiency 91 %  
Peak intensity 2.3 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:



Light distribution files

#### SAMSUNG

LED LH351D  
FWHM / FWTM 36.0° / 64.0°  
Efficiency 92 %  
Peak intensity 1.9 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:



Light distribution files

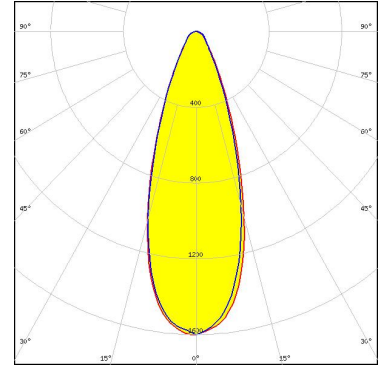
### OPTICAL RESULTS (SIMULATED):

#### SAMSUNG

LED LH502C  
FWHM / FWTM 36.0° / 70.0°  
Efficiency 89 %  
Peak intensity 1.6 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:

Protective plate, glass

Light distribution files



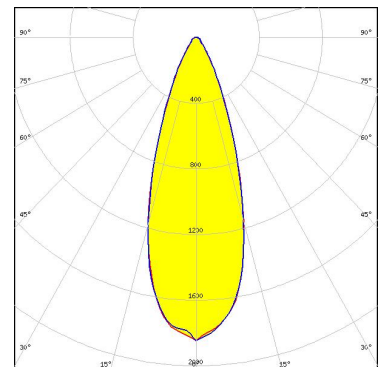
#### SAMSUNG

LED LH508A Plus  
FWHM / FWTM 32.0° / 62.0°  
Efficiency 93 %  
Peak intensity 2.1 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:


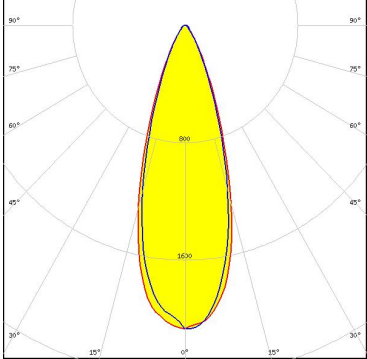



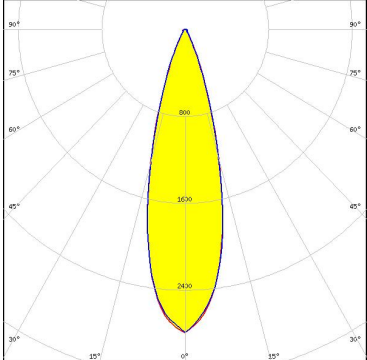
LED MJT 5050  
FWHM / FWTM 36.0° / 66.0°  
Efficiency 92 %  
Peak intensity 1.8 cd/lm  
LEDs/each optic 1  
Light colour/type White  
Required components:

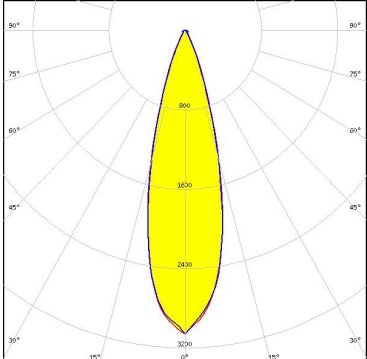
Light distribution files



### OPTICAL RESULTS (SIMULATED):


 <small>SEOUL SEMICONDUCTOR</small>		
LED	SEOUL DC 5050 6V	
FWHM / FWTM	34.0° / 62.0°	
Efficiency	94 %	
Peak intensity	2.1 cd/lm	
LEDs/each optic	1	
Light colour/type	White	
Required components:		
		<a href="#">Light distribution files</a>

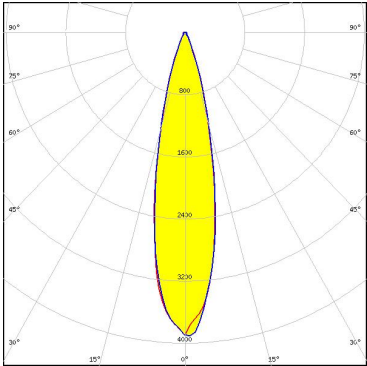
 <small>SEOUL SEMICONDUCTOR</small>		
LED	Z5M5	
FWHM / FWTM	28.0° / 50.0°	
Efficiency	85 %	
Peak intensity	2.8 cd/lm	
LEDs/each optic	1	
Light colour/type	White	
Required components:		
		<div style="background-color: #ADD8E6; padding: 5px; display: inline-block;">Protective plate, glass</div>

 <small>SEOUL SEMICONDUCTOR</small>		
LED	Z5M5	
FWHM / FWTM	28.0° / 50.0°	
Efficiency	94 %	
Peak intensity	3.1 cd/lm	
LEDs/each optic	1	
Light colour/type	White	
Required components:		



### OPTICAL RESULTS (SIMULATED):

 SEOUL SEMICONDUCTOR	
LED	Z8Y22T
FWHM / FWTM	23.0° / 44.0°
Efficiency	91 %
Peak intensity	3.9 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:

As part of our continuous research and improvement processes, and to ensure the best possible quality and availability of our products, LEDiL reserves the right to change material grades without notice.

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