

## HB-2X2-WW

~65° wide 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 ⓘ

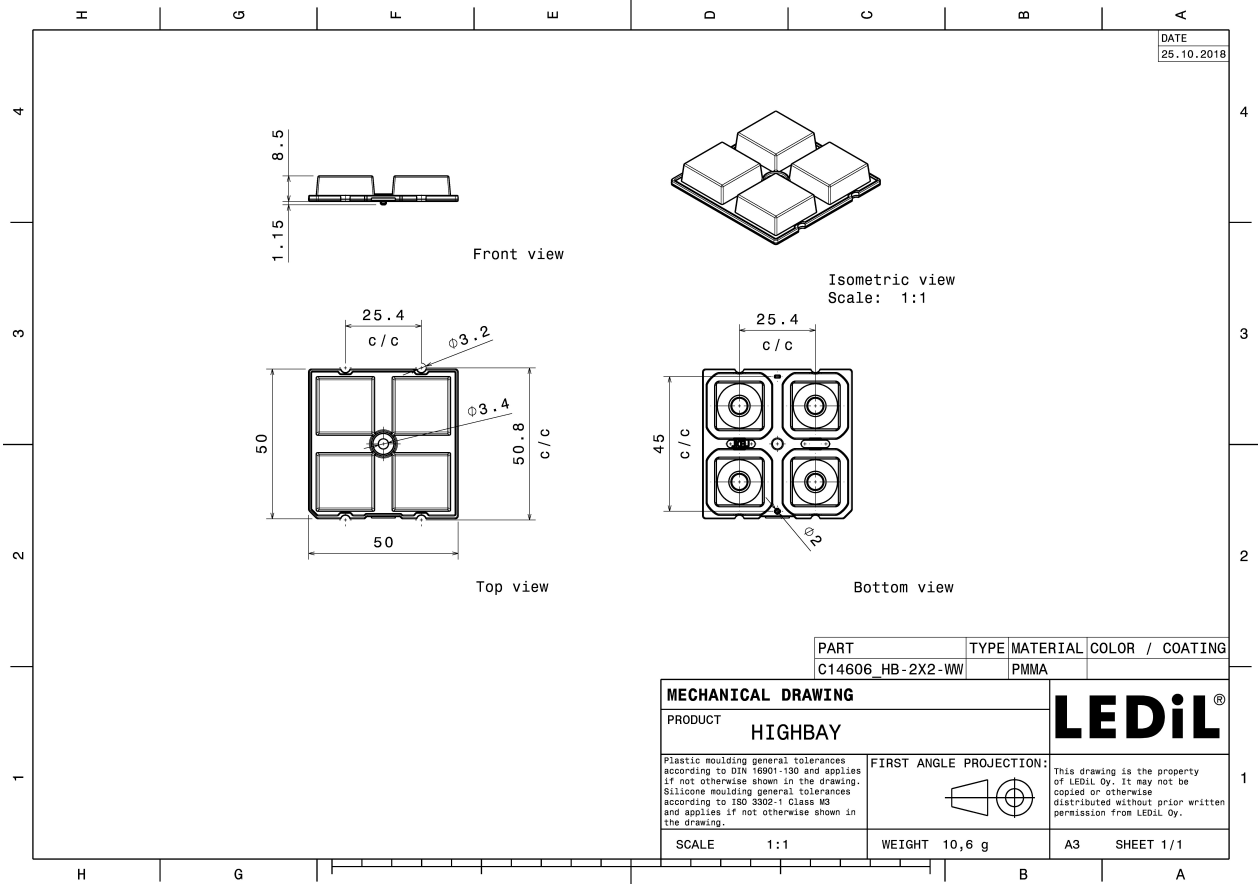
### MATERIALS:

Component	Type	Material	Colour	Finish
HB-2X2-WW	Multi-lens	PMMA	clear	

### ORDERING INFORMATION:


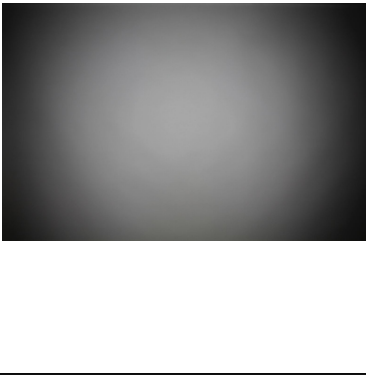
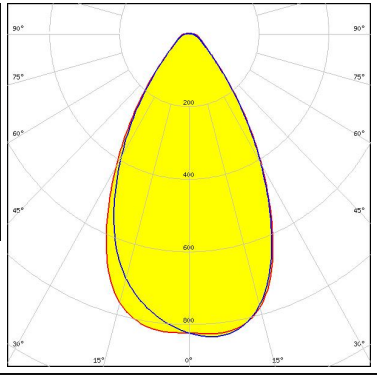


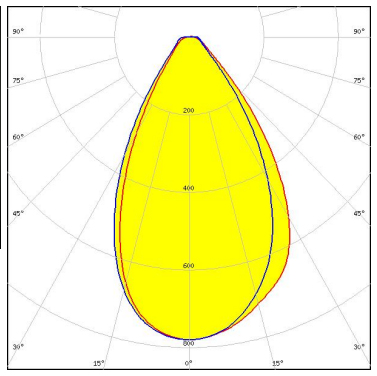


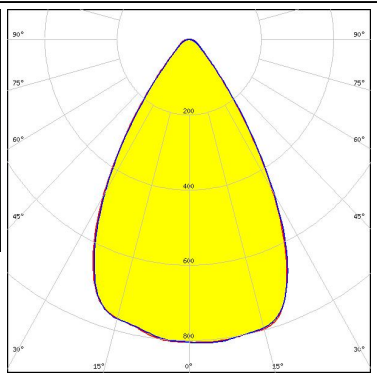


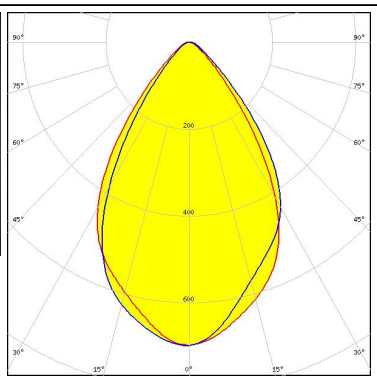
Component	Qty in box	MOQ	MPQ	Box weight (kg)
C14606_HB-2X2-WW » Box size: 480 x 280 x 300 mm	800	160	160	9.2




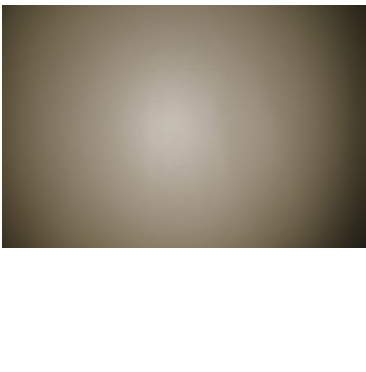
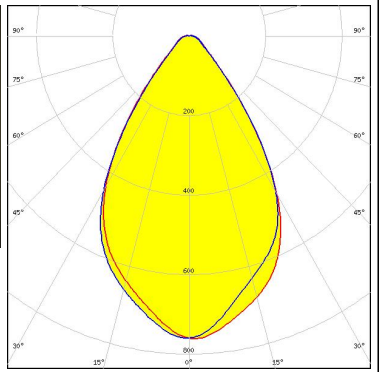


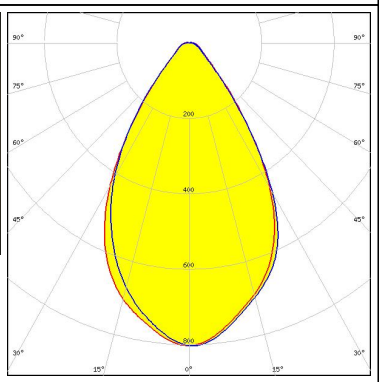


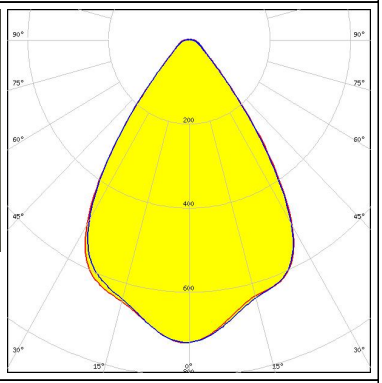


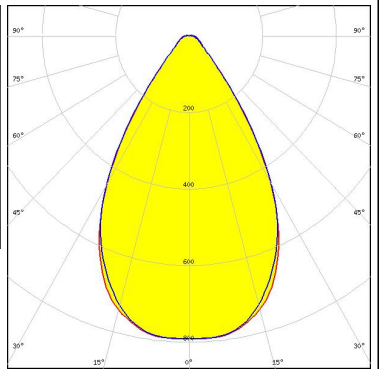


See also our general installation guide: [www.ledil.com/installation\\_guide](http://www.ledil.com/installation_guide)

#### OPTICAL RESULTS (MEASURED):


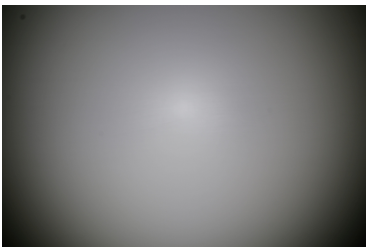
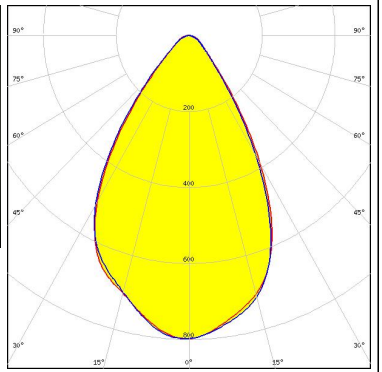

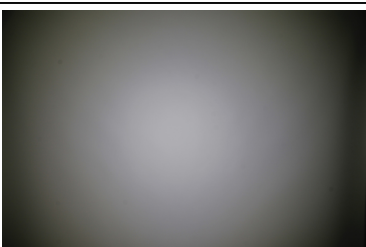
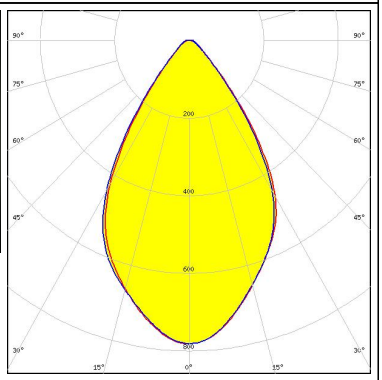

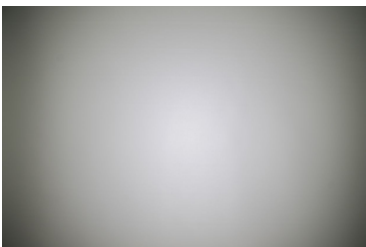
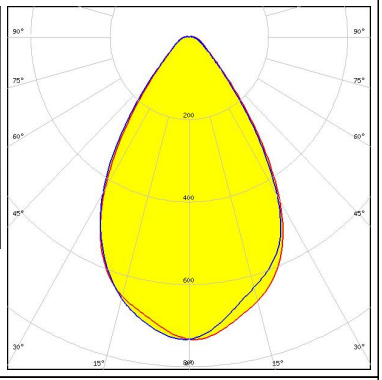


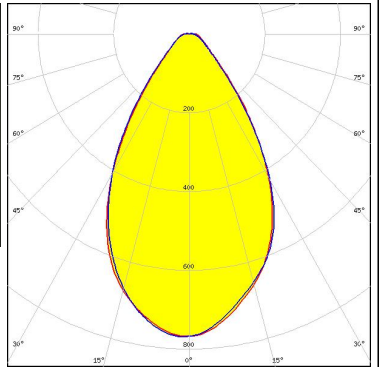
<p></p> <p>LED Bridgelux SMD 5050            FWHM / FWTM 59.0° / 96.0°            Efficiency 94 %            Peak intensity 0.8 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		
<p></p> <p>LED XD16            FWHM / FWTM 61.0° / 97.0°            Efficiency 92 %            Peak intensity 0.8 cd/lm            LEDs/each optic 4            Light colour White            Required components:</p>		
<p></p> <p>LED XD16            FWHM / FWTM 63.0° / 92.0°            Efficiency 93 %            Peak intensity 0.8 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		
<p></p> <p>LED XHP35 HD            FWHM / FWTM 67.0° / 100.0°            Efficiency 84 %            Peak intensity 0.7 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		

#### OPTICAL RESULTS (MEASURED):


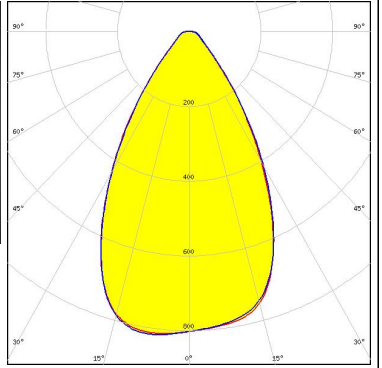

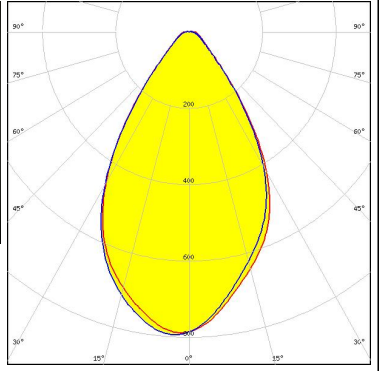
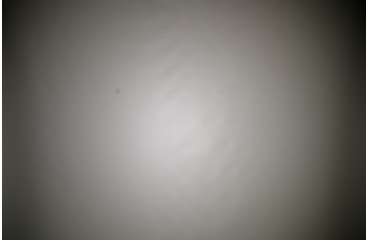
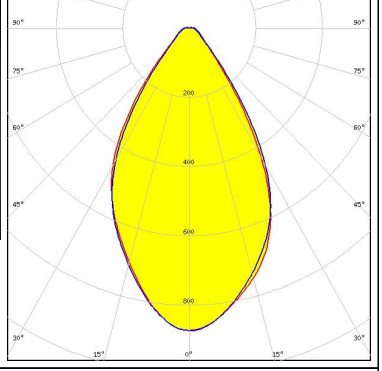

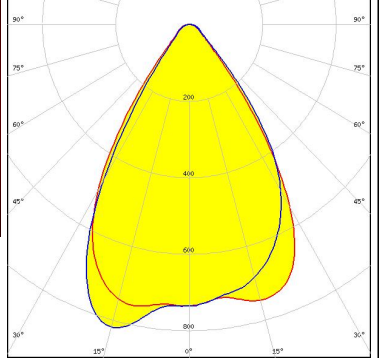
<p><b>CREE</b>  <b>LED</b></p> <p>LED XM-L            FWHM / FWTM 66.0° / 99.0°            Efficiency 93 %            Peak intensity 0.8 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		
<p><b>CREE</b>  <b>LED</b></p> <p>LED XM-L2            FWHM / FWTM 62.0° / 96.0°            Efficiency 92 %            Peak intensity 0.8 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		
<p><b>CREE</b>  <b>LED</b></p> <p>LED XM-L3            FWHM / FWTM 70.0° / 98.0°            Efficiency 94 %            Peak intensity 0.7 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		
<p><b>CREE</b>  <b>LED</b></p> <p>LED XP-G2            FWHM / FWTM 63.0° / 93.0°            Efficiency 91 %            Peak intensity 0.8 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		



#### OPTICAL RESULTS (MEASURED):

<p><b>CREE</b>  <b>LED</b></p> <p>LED                    XP-G3            FWHM / FWTM      63.0° / 95.0°            Efficiency            90 %            Peak intensity      0.8 cd/m            LEDs/each optic    1            Light colour        White            Required components:</p> <p style="background-color: #ADD8E6; padding: 2px; display: inline-block;">Protective plate, glass</p>		
<p><b>CREE</b>  <b>LED</b></p> <p>LED                    XP-G3            FWHM / FWTM      64.0° / 94.0°            Efficiency            86 %            Peak intensity      0.8 cd/m            LEDs/each optic    1            Light colour        White            Required components:</p>		
<p><b>CREE</b>  <b>LED</b></p> <p>LED                    XP-L HD            FWHM / FWTM      66.0° / 102.0°            Efficiency            93 %            Peak intensity      0.7 cd/m            LEDs/each optic    1            Light colour        White            Required components:</p>		
<p><b>CREE</b>  <b>LED</b></p> <p>LED                    XP-L2            FWHM / FWTM      62.0° / 101.0°            Efficiency            93 %            Peak intensity      0.8 cd/m            LEDs/each optic    1            Light colour        White            Required components:</p>		

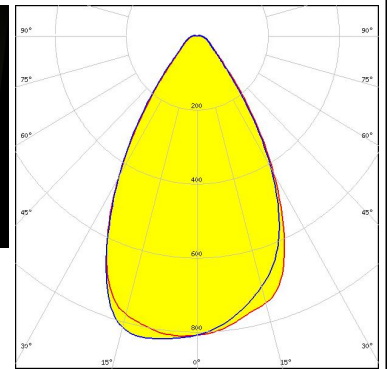
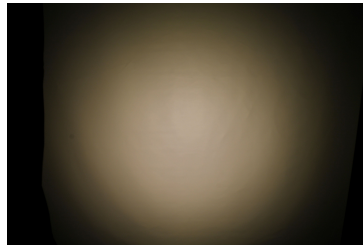
#### OPTICAL RESULTS (MEASURED):

<p><b>LUMILEDS</b></p> <p>LED LUXEON 5050 Round LES</p> <p>FWHM / FWTM 61.0° / 96.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 0.8 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p><b>LUMILEDS</b></p> <p>LED LUXEON V</p> <p>FWHM / FWTM 63.0° / 97.0°</p> <p>Efficiency 93 %</p> <p>Peak intensity 0.8 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p><b>LUMILEDS</b></p> <p>LED LUXEON V2</p> <p>FWHM / FWTM 61.0° / 93.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 0.9 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p><b>LUMINUS</b></p> <p>LED SST-10-B130</p> <p>FWHM / FWTM 69.0° / 94.0°</p> <p>Efficiency 95 %</p> <p>Peak intensity 0.8 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour Deep Red</p> <p>Required components:</p>		

#### OPTICAL RESULTS (MEASURED):

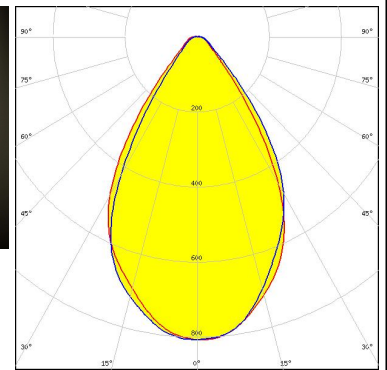
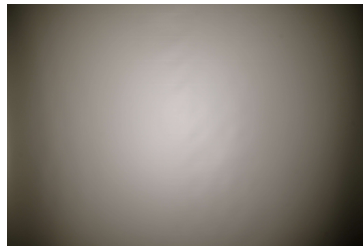
**MST** *Your solutions*

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 White  
 Required components:



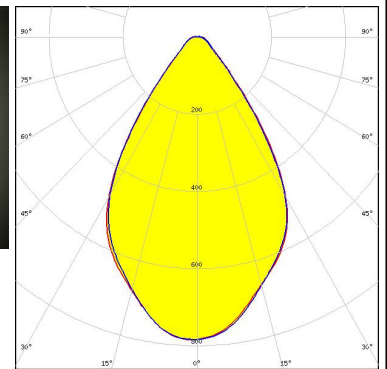
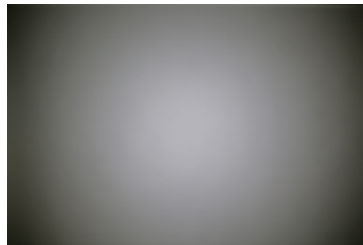
**NICHIA**

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



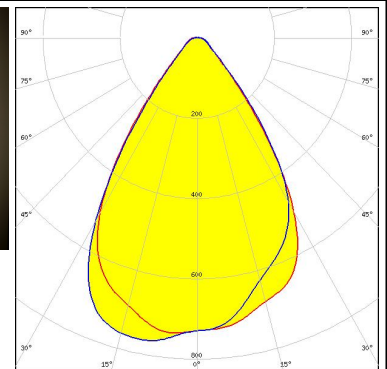
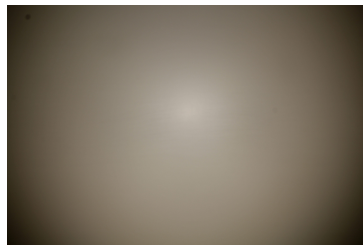
**NICHIA**

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


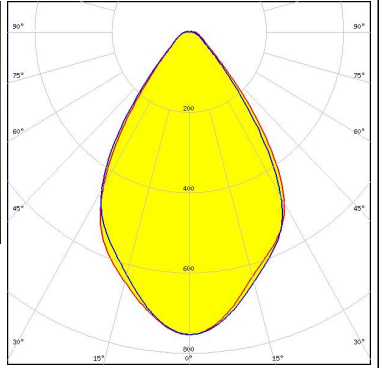

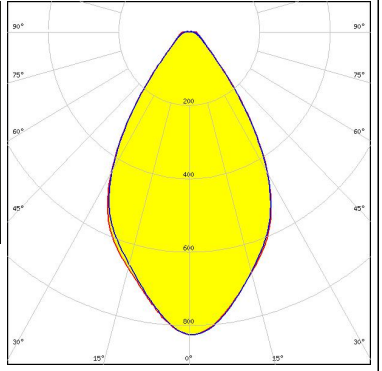
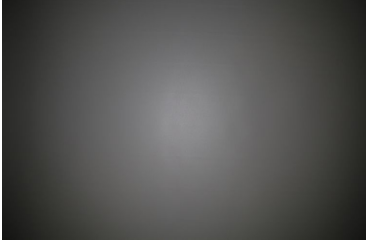
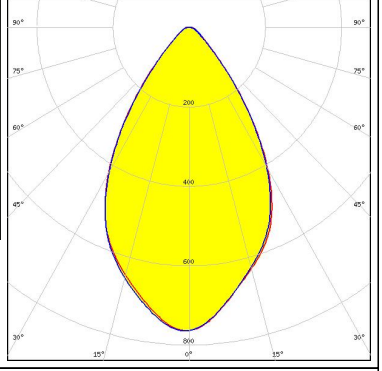
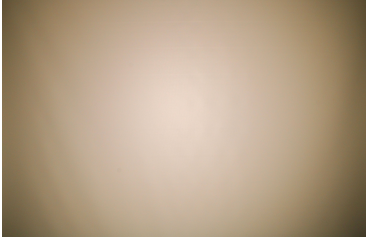
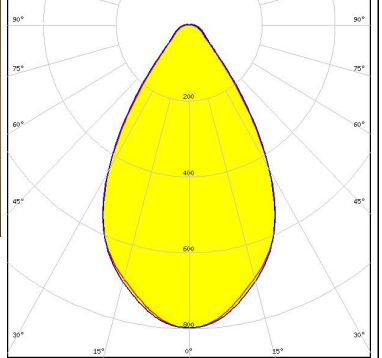


**NICHIA**

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



#### OPTICAL RESULTS (MEASURED):

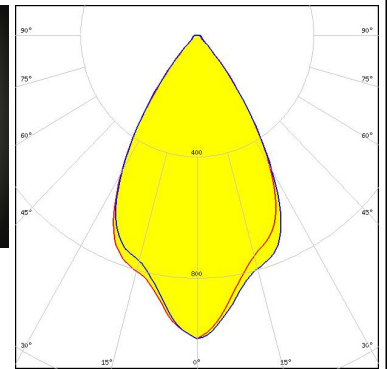
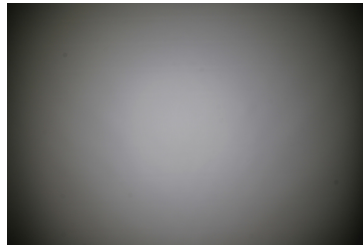
<p><b>NICHIA</b></p> <p>LED NVSW319B            FWHM / FWTM 68.0° / 100.0°            Efficiency 93 %            Peak intensity 0.8 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		
<p><b>NICHIA</b></p> <p>LED NVSW3x9A            FWHM / FWTM 62.0° / 97.0°            Efficiency 93 %            Peak intensity 0.8 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		
<p><b>NICHIA</b></p> <p>LED NWSx229A            FWHM / FWTM 63.0° / 97.0°            Efficiency 85 %            Peak intensity 0.8 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		
<p><b>OSRAM</b></p> <p>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 White            Required components:</p>		



#### OPTICAL RESULTS (MEASURED):

#### OSRAM

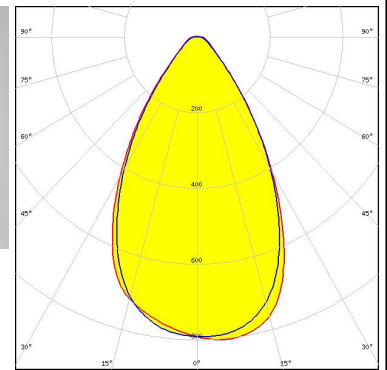
LED PrevaLED Brick HP 2x8  
 FWHM / FWTM 64.0° / 93.0°  
 Efficiency 92 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OSRAM

Opto Semiconductors

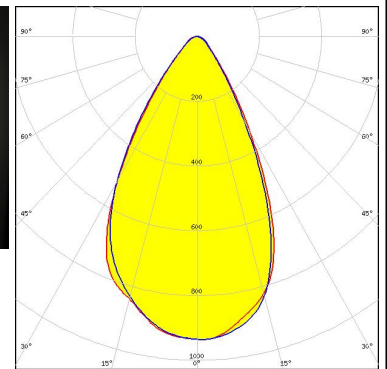
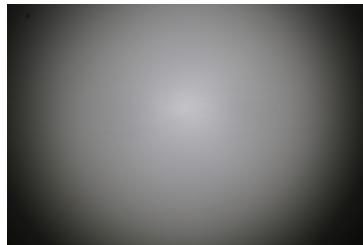
LED Duris S8  
 FWHM / FWTM 61.0° / 97.0°  
 Efficiency 93 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### 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 White  
 Required components:

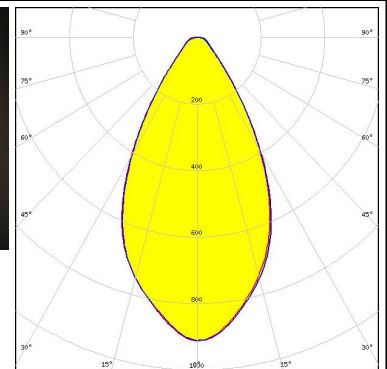
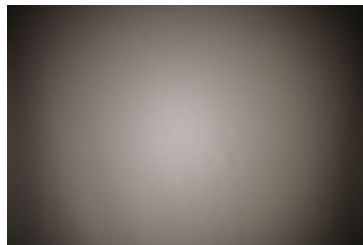


Protective plate, glass

#### 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 White  
 Required components:

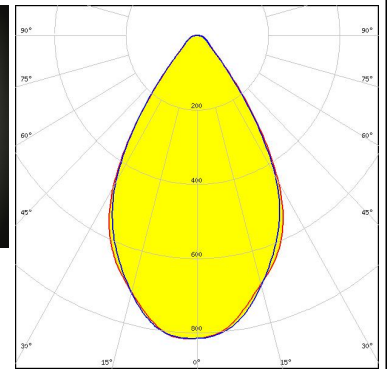


#### OPTICAL RESULTS (MEASURED):

#### OSRAM

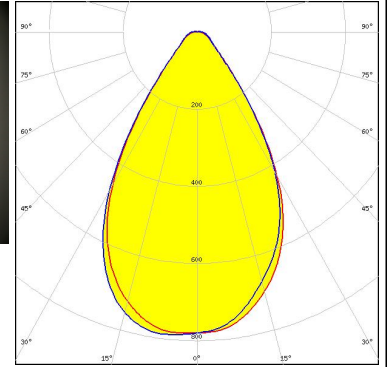
Opto Semiconductors

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



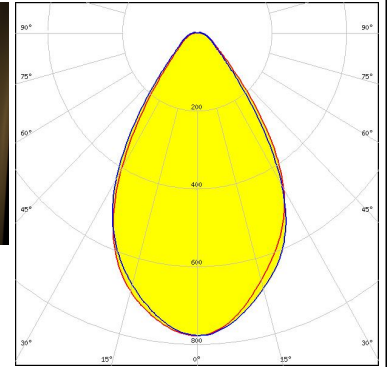
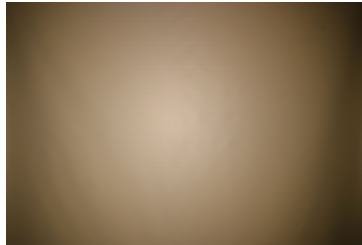
#### PHILIPS

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



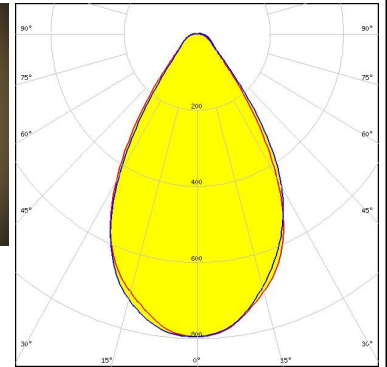
#### PHILIPS

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



#### PHILIPS

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

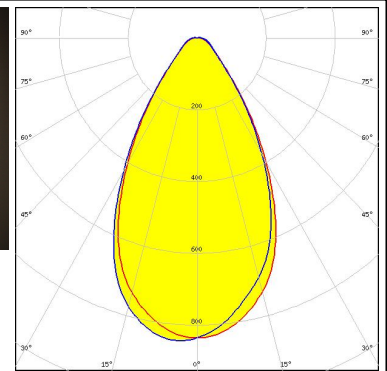
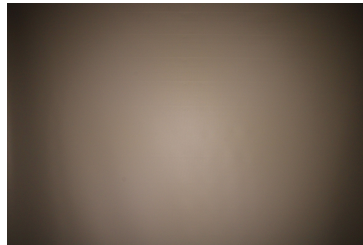




#### OPTICAL RESULTS (MEASURED):

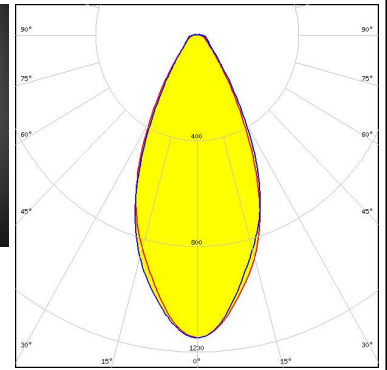
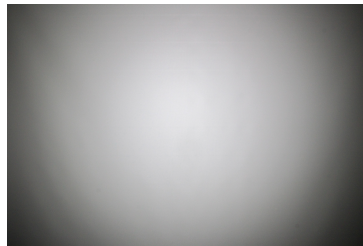
### PHILIPS

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



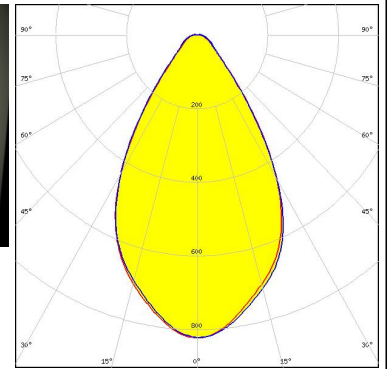
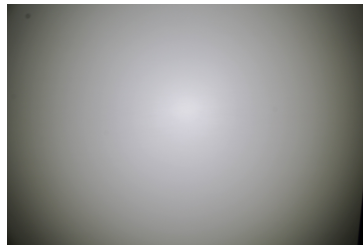
### SAMSUNG

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



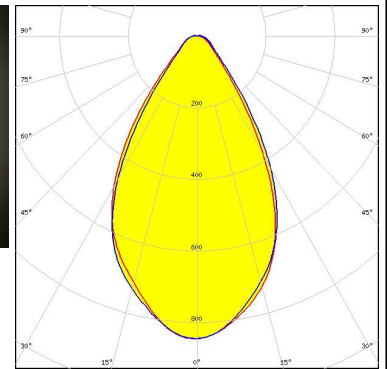
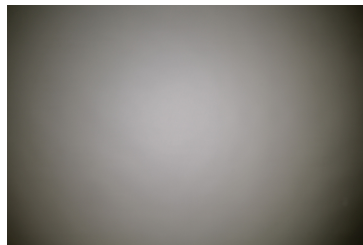
### SAMSUNG

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



### SAMSUNG

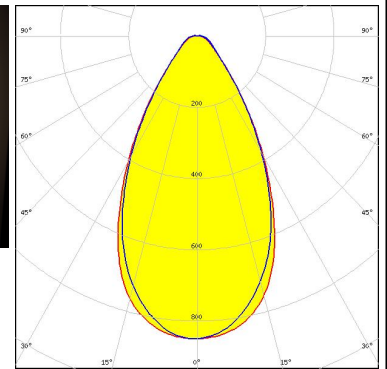
LED HiLOM RH16 (LH351C)  
 FWHM / FWTM 61.0° / 96.0°  
 Efficiency 94 %  
 Peak intensity 0.9 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OPTICAL RESULTS (MEASURED):

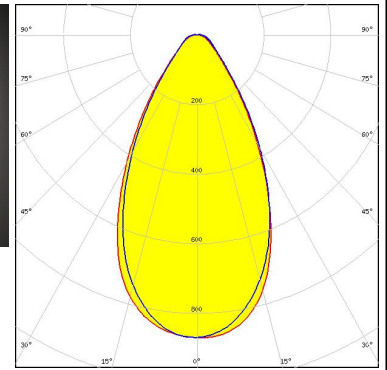
### SAMSUNG

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



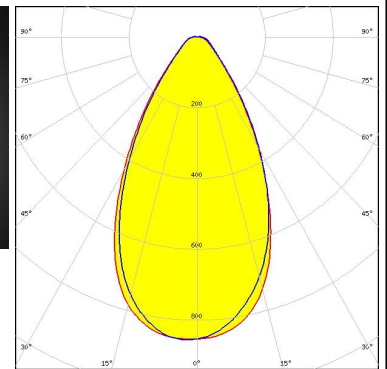
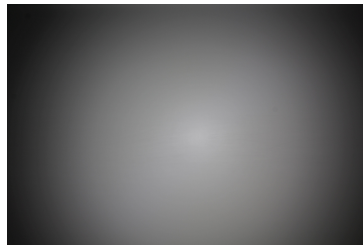
### SAMSUNG

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



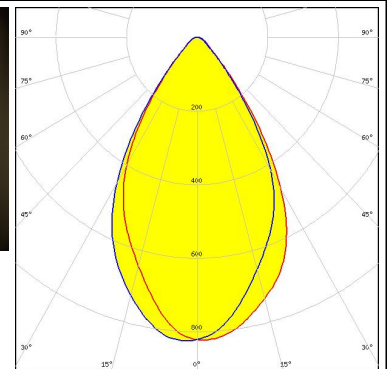
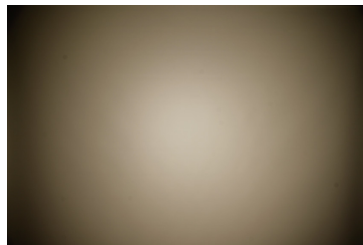
### SAMSUNG

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



### SAMSUNG

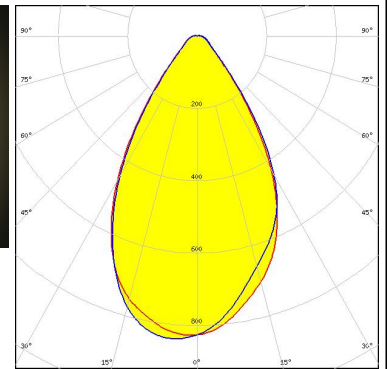
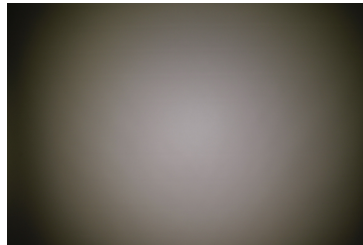
LED LH351B  
 FWHM / FWTM 62.0° / 92.0°  
 Efficiency 86 %  
 Peak intensity 0.8 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OPTICAL RESULTS (MEASURED):

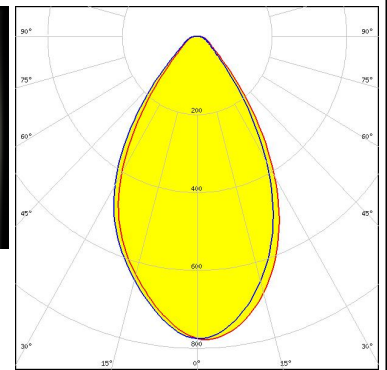
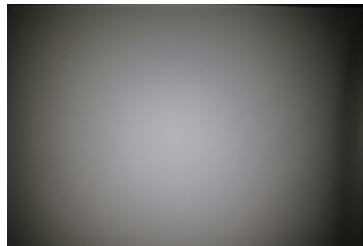
### SAMSUNG

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



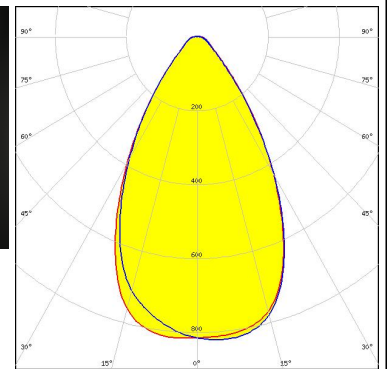
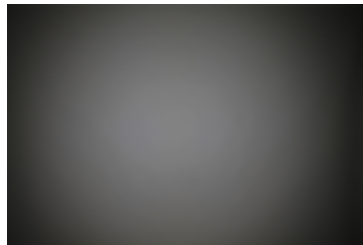
### SAMSUNG

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

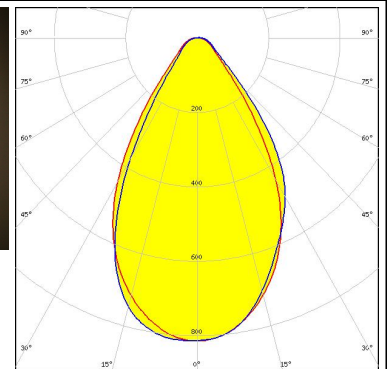
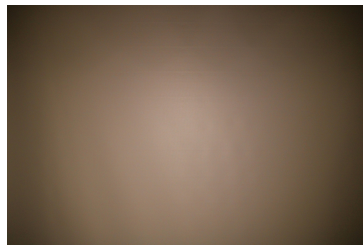


### SAMSUNG

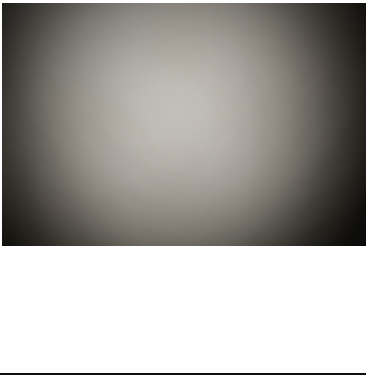
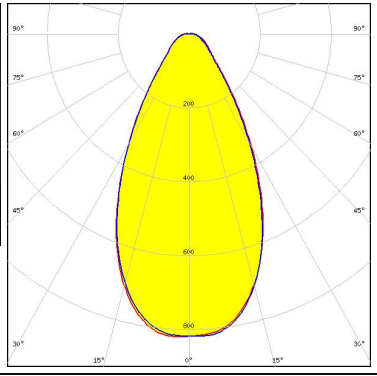

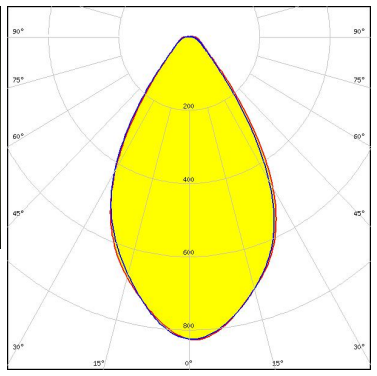

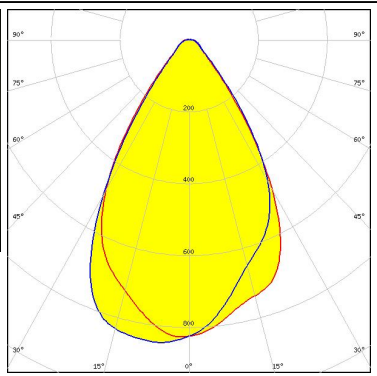

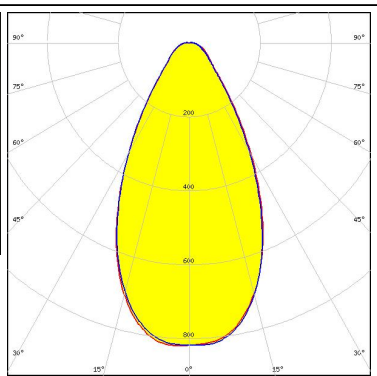
LED LH508A  
 FWHM / FWTM 60.0° / 97.0°  
 Efficiency 93 %  
 Peak intensity 0.8 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:



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

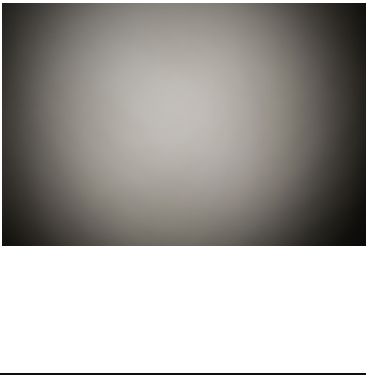
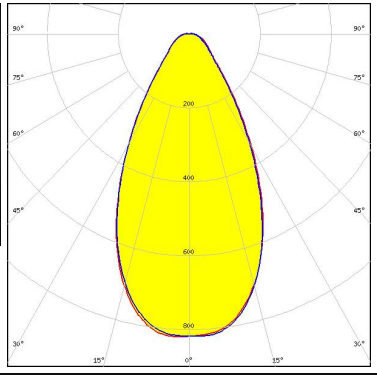

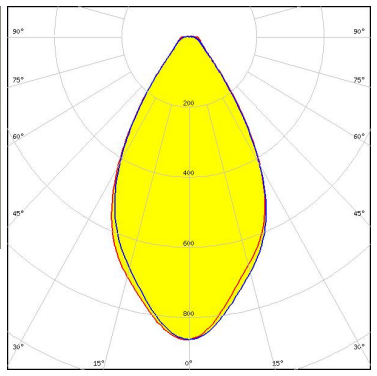

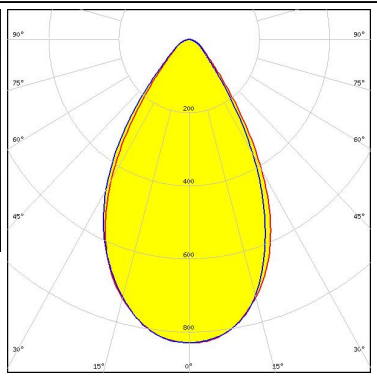




#### OPTICAL RESULTS (MEASURED):

<p><b>SEOUL SEMICONDUCTOR</b></p> <p>LED                    2x2 Y22 module - SMJQ-D48W16AA-XX</p> <p>FWHM / FWTM        55.0° / 98.0°</p> <p>Efficiency            92 %</p> <p>Peak intensity        0.8 cd/m</p> <p>LEDs/each optic     1</p> <p>Light colour         White</p> <p>Required components:</p>		
<p><b>SEOUL SEMICONDUCTOR</b></p> <p>LED                    Z5M3</p> <p>FWHM / FWTM        62.0° / 96.0°</p> <p>Efficiency            94 %</p> <p>Peak intensity        0.8 cd/m</p> <p>LEDs/each optic     1</p> <p>Light colour         White</p> <p>Required components:</p>		
<p><b>SEOUL SEMICONDUCTOR</b></p> <p>LED                    Z5M4</p> <p>FWHM / FWTM        64.0° / 92.0°</p> <p>Efficiency            95 %</p> <p>Peak intensity        0.8 cd/m</p> <p>LEDs/each optic     1</p> <p>Light colour         White</p> <p>Required components:</p>		
<p><b>SEOUL SEMICONDUCTOR</b></p> <p>LED                    Z8Y19</p> <p>FWHM / FWTM        55.0° / 98.0°</p> <p>Efficiency            92 %</p> <p>Peak intensity        0.8 cd/m</p> <p>LEDs/each optic     4</p> <p>Light colour         White</p> <p>Required components:</p>		



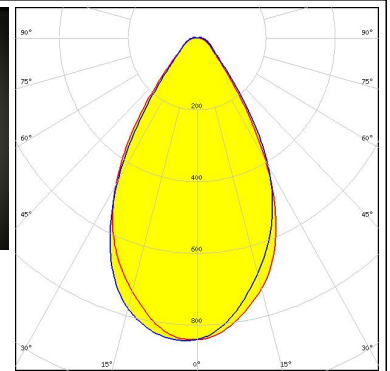
#### OPTICAL RESULTS (MEASURED):

<p><b>SEOUL SEMICONDUCTOR</b></p> <p>LED Z8Y19</p> <p>FWHM / FWTM 55.0° / 98.0°</p> <p>Efficiency 92 %</p> <p>Peak intensity 0.8 cd/m</p> <p>LEDs/each optic 4</p> <p>Light colour White</p> <p>Required components:</p>		
<p><b>SEOUL SEMICONDUCTOR</b></p> <p>LED Z8Y22P</p> <p>FWHM / FWTM 59.0° / 94.0°</p> <p>Efficiency 92 %</p> <p>Peak intensity 0.9 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p><b>TRIDONIC</b></p> <p>LED RLE 2x4 2000lm HP EXC2 OTD</p> <p>FWHM / FWTM 61.0° / 95.0°</p> <p>Efficiency 89 %</p> <p>Peak intensity 0.8 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p> <p>Protective plate, glass</p>		
<p><b>TRIDONIC</b></p> <p>LED RLE 2x4 2000lm HP EXC2 OTD</p> <p>FWHM / FWTM 61.0° / 96.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 0.9 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		

#### OPTICAL RESULTS (MEASURED):

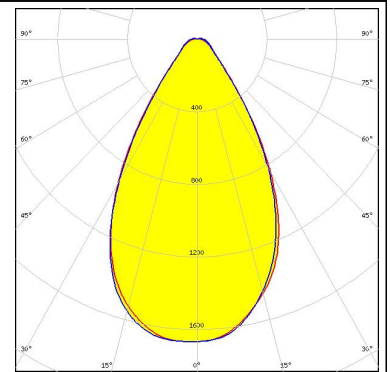
#### TRIDONIC

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 White  
 Required components:



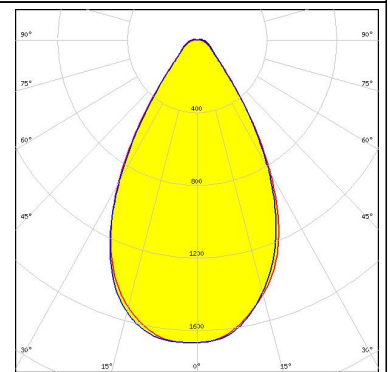
#### TRIDONIC

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 White  
 Required components:



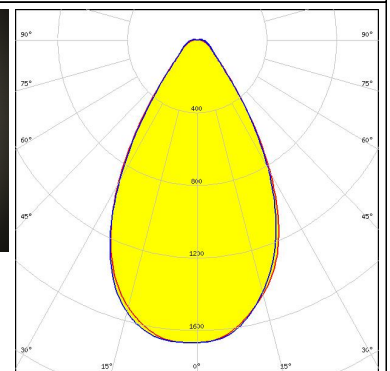
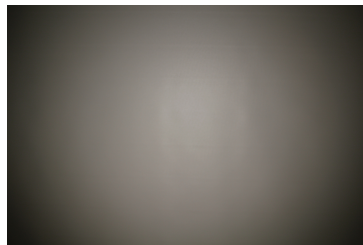
#### TRIDONIC

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 White  
 Required components:



#### 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 White  
 Required components:

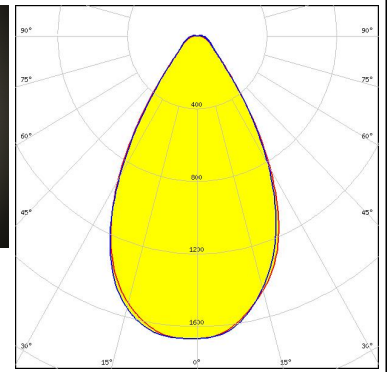




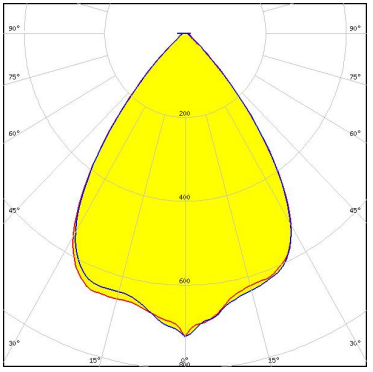
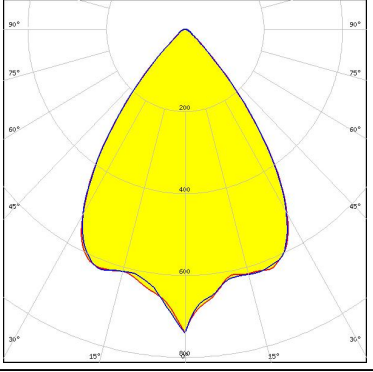
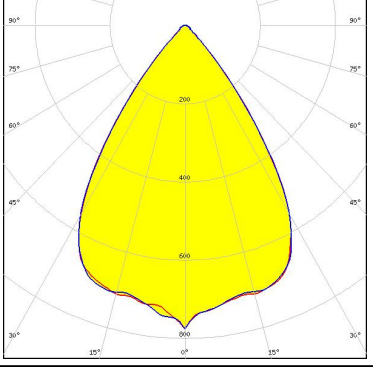
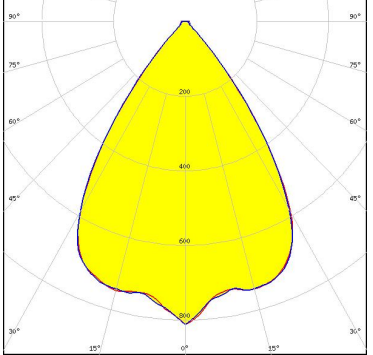
### OPTICAL RESULTS (MEASURED):

#### TRIDONIC

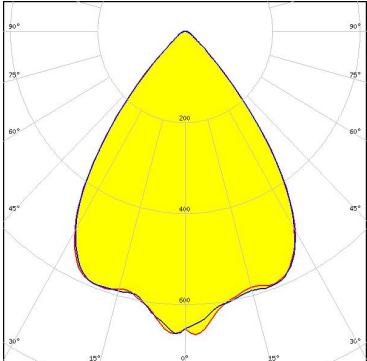
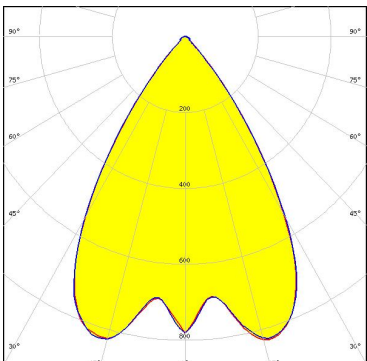
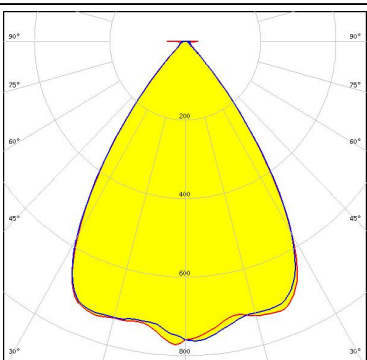
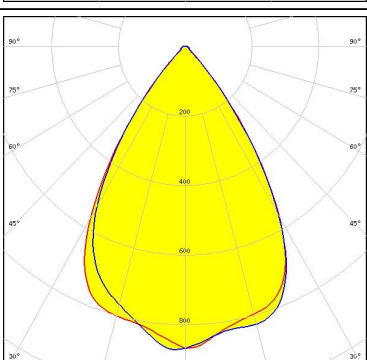
LED RLE G1 49x245mm 4000lm xxx EXC OTD  
FWHM / FWTM 61.0° / 96.0°  
Efficiency 94 %  
Peak intensity 0.8 cd/lm  
LEDs/each optic 1  
Light colour White  
Required components:



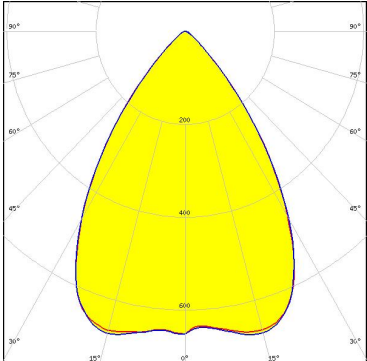
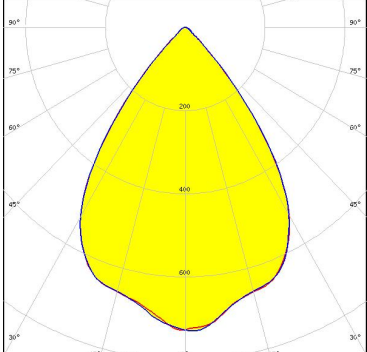

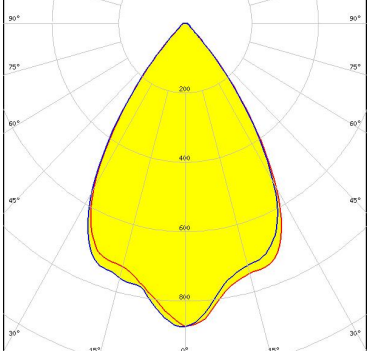
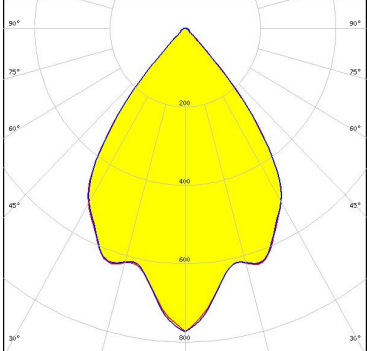
#### OPTICAL RESULTS (SIMULATED):

<p><b>CREE</b> → <b>LED</b></p> <p>LED: XP-G2 HE            FWHM / FWTM: 73.0° / 97.0°            Efficiency: 95 %            Peak intensity: 0.7 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>CREE</b> → <b>LED</b></p> <p>LED: XP-L HD            FWHM / FWTM: 72.0° / 94.0°            Efficiency: 90 %            Peak intensity: 0.7 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p> <p style="background-color: #e0f0ff; padding: 2px; display: inline-block;">Protective plate, glass</p>	
<p><b>CREE</b> → <b>LED</b></p> <p>LED: XP-L HI            FWHM / FWTM: 70.0° / 90.0°            Efficiency: 91 %            Peak intensity: 0.8 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p> <p style="background-color: #e0f0ff; padding: 2px; display: inline-block;">Protective plate, glass</p>	
<p><b>CREE</b> → <b>LED</b></p> <p>LED: XP-L HI            FWHM / FWTM: 70.0° / 90.0°            Efficiency: 96 %            Peak intensity: 0.8 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	

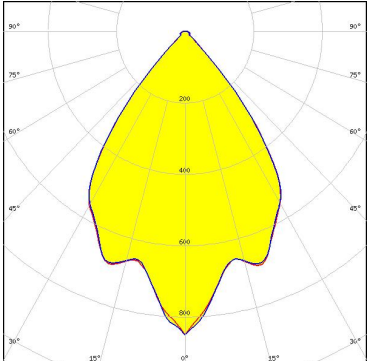
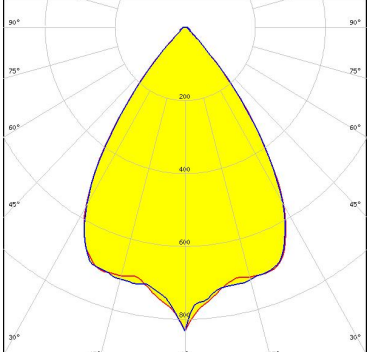
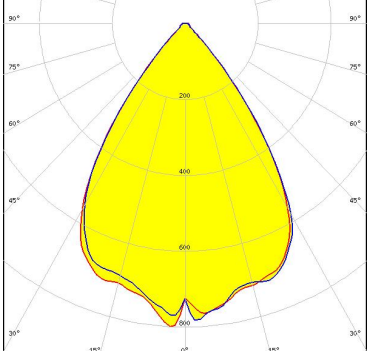
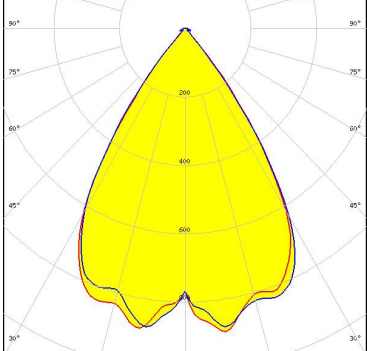
#### OPTICAL RESULTS (SIMULATED):

<p><b>CREE</b> LED</p> <p>LED: XP-L2            FWHM / FWTM: 74.0° / 98.0°            Efficiency: 89 %            Peak intensity: 0.7 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p> <p>Protective plate, glass</p>	
<p><b>CREE</b> LED</p> <p>LED: XP-P            FWHM / FWTM: 66.0° / 86.0°            Efficiency: 91 %            Peak intensity: 0.8 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p> <p>Protective plate, glass</p>	
<p><b>CREE</b> LED</p> <p>LED: XT-E            FWHM / FWTM: 69.0° / 90.0°            Efficiency: 94 %            Peak intensity: 0.8 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>LUMILEDS</b></p> <p>LED: LUXEON 3535L            FWHM / FWTM: 66.0° / 89.0°            Efficiency: 94 %            Peak intensity: 0.9 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	

#### OPTICAL RESULTS (SIMULATED):

<p><b>LUMILEDS</b></p> <p>LED: LUXEON 5050 Square LES</p> <p>FWHM / FWTM: 70.0° / 96.0°</p> <p>Efficiency: 86 %</p> <p>Peak intensity: 0.7 cd/lm</p> <p>LEDs/each optic: 1</p> <p>Light colour: White</p> <p>Required components:</p> <p>Protective plate, glass</p>	
<p><b>LUMILEDS</b></p> <p>LED: LUXEON HL2X</p> <p>FWHM / FWTM: 72.0° / 94.0°</p> <p>Efficiency: 90 %</p> <p>Peak intensity: 0.7 cd/lm</p> <p>LEDs/each optic: 1</p> <p>Light colour: White</p> <p>Required components:</p> <p>Protective plate, glass</p>	
<p><b>LUMILEDS</b></p> <p>LED: LUXEON MZ</p> <p>FWHM / FWTM: 66.0° / 90.0°</p> <p>Efficiency: 94 %</p> <p>Peak intensity: 0.9 cd/lm</p> <p>LEDs/each optic: 1</p> <p>Light colour: White</p> <p>Required components:</p>	 
<p><b>LUMILEDS</b></p> <p>LED: LUXEON XR-HL2X (L2H2-xxxxxxxMLU010)</p> <p>FWHM / FWTM: 72.0° / 90.0°</p> <p>Efficiency: 87 %</p> <p>Peak intensity: 0.8 cd/lm</p> <p>LEDs/each optic: 1</p> <p>Light colour: White</p> <p>Required components:</p> <p>Protective plate, glass</p>	

#### OPTICAL RESULTS (SIMULATED):

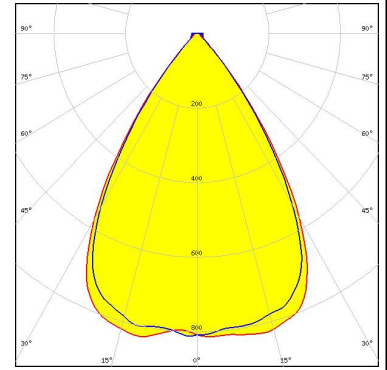
<p><b>LUMILEDS</b></p> <p>LED LUXEON XR-HL2X (L2H2-xxxxxxxMLU010)</p> <p>FWHM / FWTM 72.0° / 90.0°</p> <p>Efficiency 96 %</p> <p>Peak intensity 0.9 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<p><b>NICHIA</b></p> <p>LED NV4WB35AM</p> <p>FWHM / FWTM 69.0° / 90.0°</p> <p>Efficiency 95 %</p> <p>Peak intensity 0.8 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<p><b>NICHIA</b></p> <p>LED NVSxx19B/NVSxx19C</p> <p>FWHM / FWTM 70.0° / 90.0°</p> <p>Efficiency 95 %</p> <p>Peak intensity 0.8 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED OSCONIQ C 2424</p> <p>FWHM / FWTM 66.0 + 68.0° / 82.0°</p> <p>Efficiency 96 %</p> <p>Peak intensity 0.9 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	

#### OPTICAL RESULTS (SIMULATED):

##### OSRAM

Opto Semiconductors

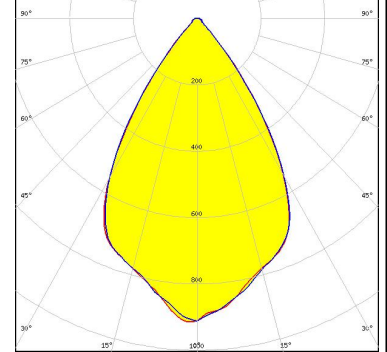
LED OSCONIQ P 3030  
 FWHM / FWTM 66.0° / 88.0°  
 Efficiency 96 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



##### 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 White  
 Required components:

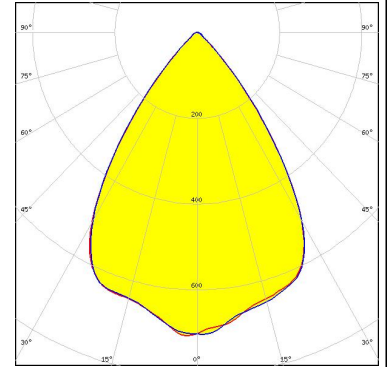


##### OSRAM

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 White  
 Required components:

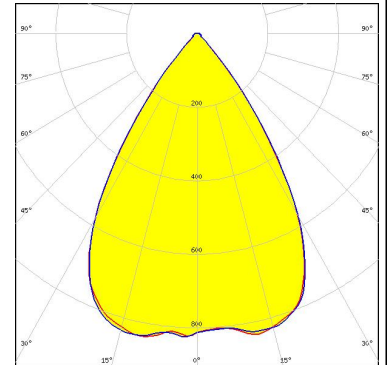
Protective plate, glass



##### 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 White  
 Required components:



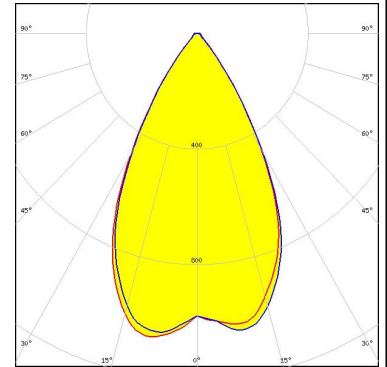


#### OPTICAL RESULTS (SIMULATED):

#### OSRAM

Opto Semiconductors

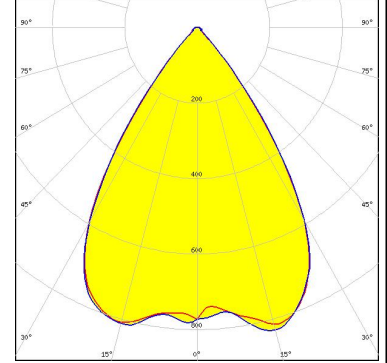
LED OSLOM SSL 80  
 FWHM / FWTM 55.6° / 81.2°  
 Efficiency 94 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OSRAM

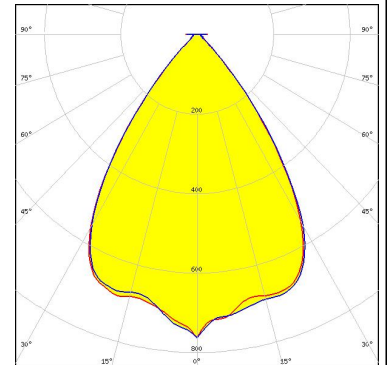
Opto Semiconductors

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



#### PHILIPS

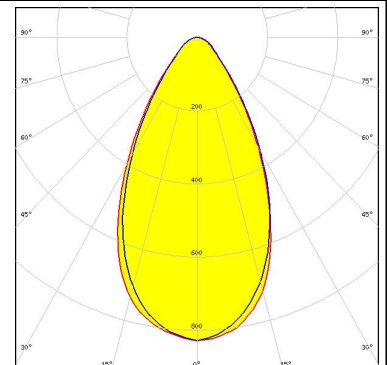
LED Fortimo FastFlex LED 2x8 DAX G4  
 FWHM / FWTM 71.0° / 94.0°  
 Efficiency 94 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### 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 White  
 Required components:

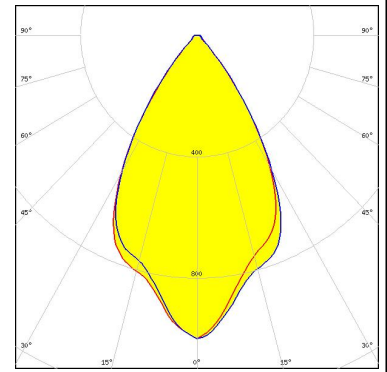
Protective plate, glass



#### OPTICAL RESULTS (SIMULATED):

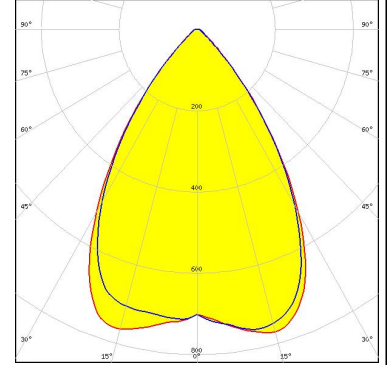
### SAMSUNG

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



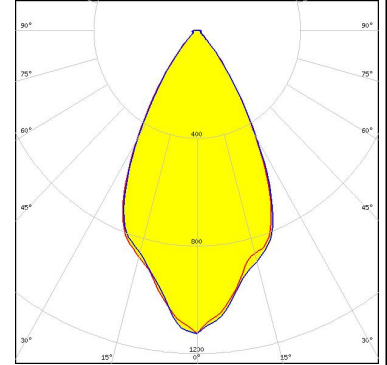
SEOUL SEMICONDUCTOR

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 White  
 Required components:



SEOUL SEMICONDUCTOR

LED Z8Y22T  
 FWHM / FWTM 55.0° / 83.0°  
 Efficiency 94 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



### 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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