

## HB-2X2-O

~20° + 115° oval beam for aisle lighting

### SPECIFICATION:

Dimensions	50.0 x 50.0 mm
Height	10.6 mm
Fastening	glue, pin, screw
ROHS compliant	yes ⓘ

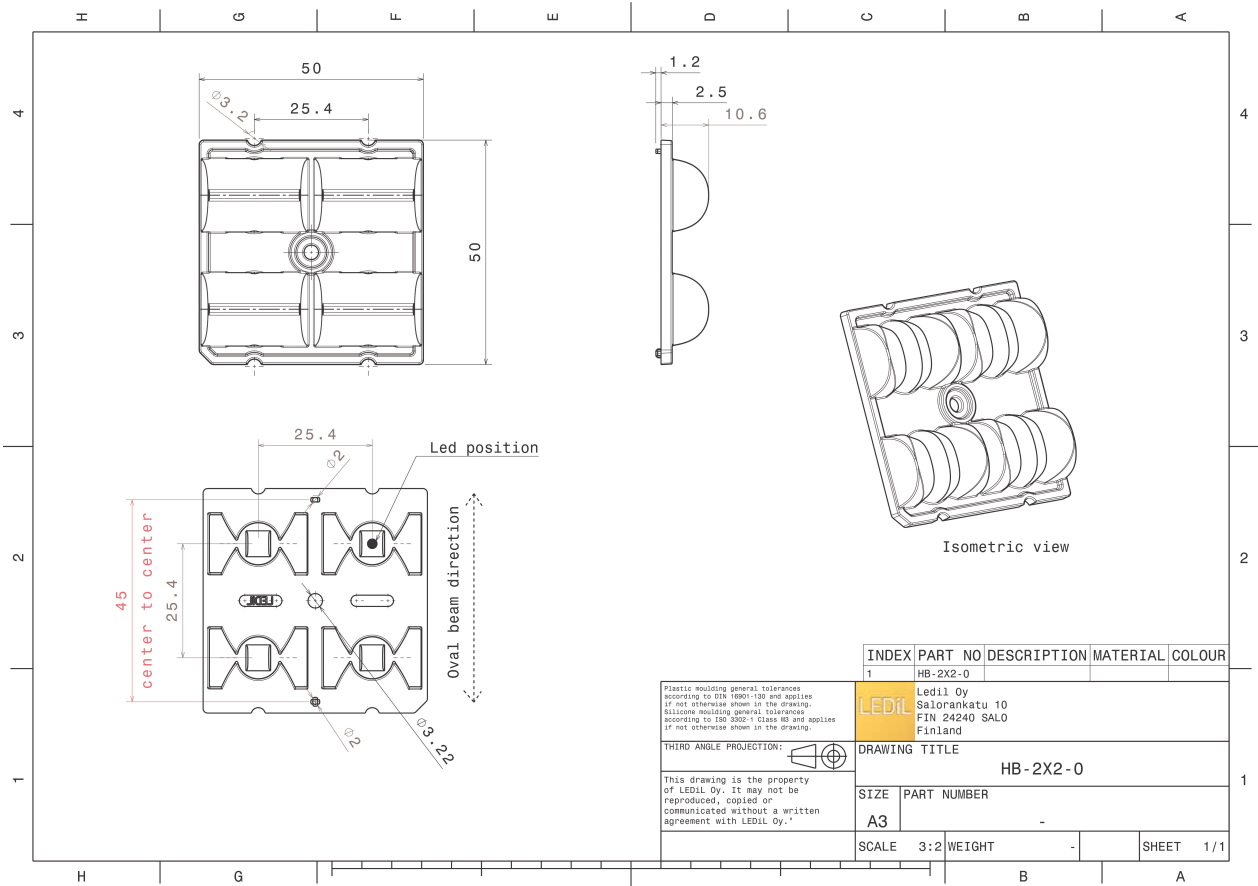
### MATERIALS:

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



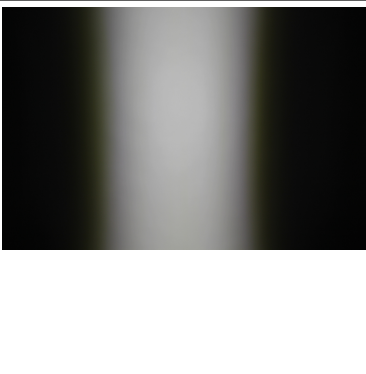
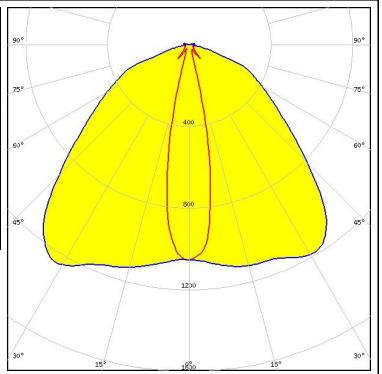
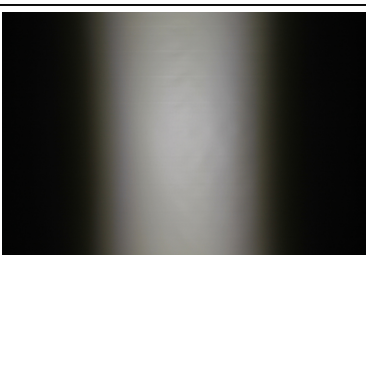
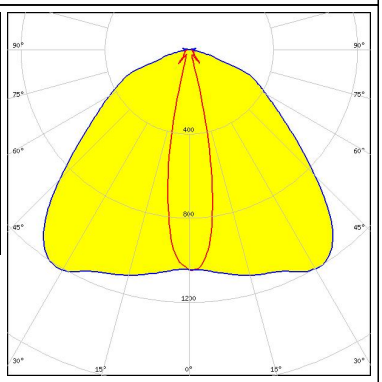
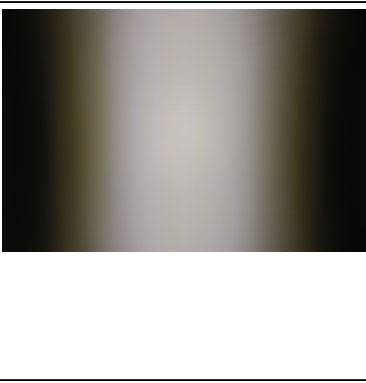
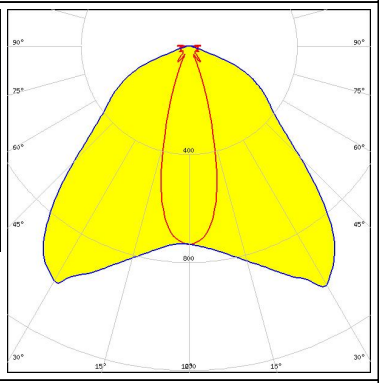
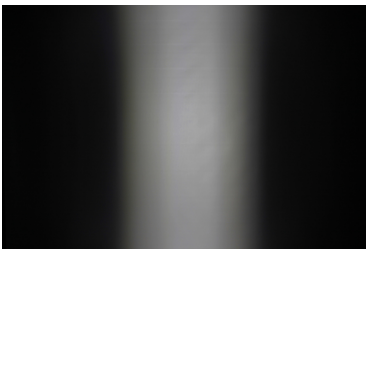
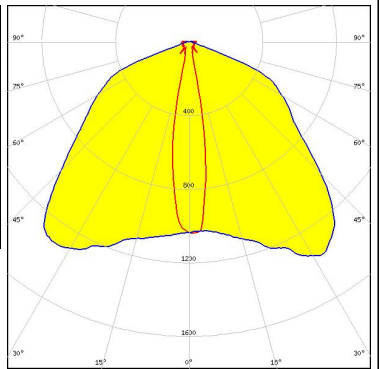
### ORDERING INFORMATION:

Component	Qty in box	MOQ	MPQ	Box weight (kg)
C13749_HB-2X2-O » Box size: 480 x 280 x 300 mm	800	160	160	10.4

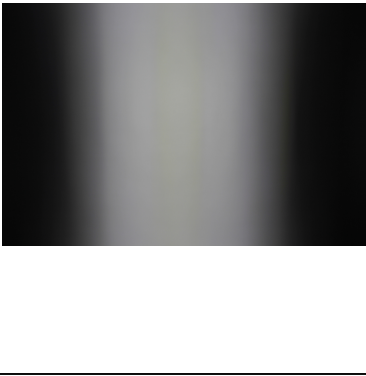
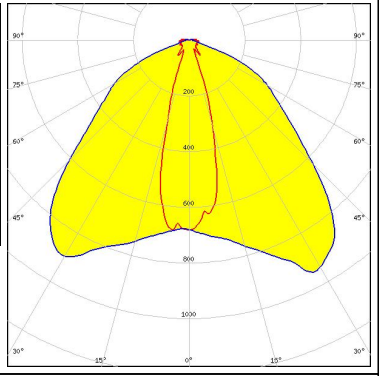

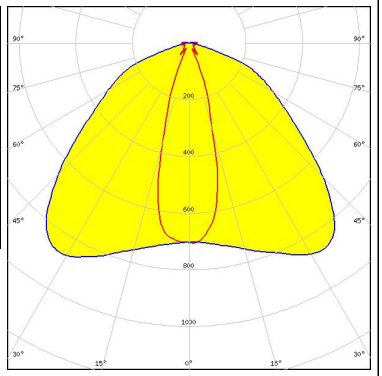

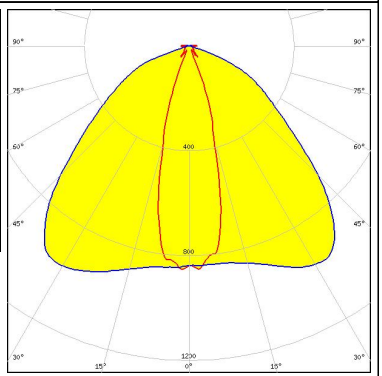
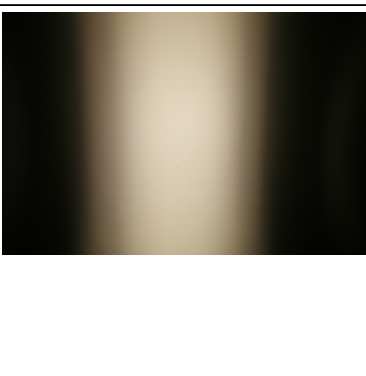
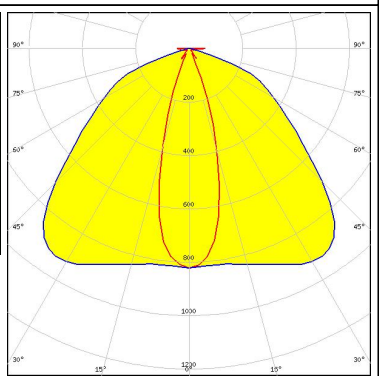


See also our general installation guide: [www.ledil.com/installation\\_guide](http://www.ledil.com/installation_guide)

#### OPTICAL RESULTS (MEASURED):

<p><b>COMET ELECTRONICS</b></p> <p>LED QUICK FLUX XTP 2x4 xxx LS G5</p> <p>FWHM / FWTM 21.0 + 111.0° / 32.0 + 148.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 1.3 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p><b>COMET ELECTRONICS</b></p> <p>LED QUICK FLUX XTP 2x6 xxx LS G5</p> <p>FWHM / FWTM 22.0 + 111.0° / 33.0 + 149.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 1.2 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p><b>CREE LEDs</b></p> <p>LED J Series 5050C 6V E Class</p> <p>FWHM / FWTM 30.0 + 95.0° / 60.0 + 140.0°</p> <p>Efficiency 96 %</p> <p>Peak intensity 1 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p><b>CREE LEDs</b></p> <p>LED XD16</p> <p>FWHM / FWTM 19.0 + 127.0° / 28.0 + 141.0°</p> <p>Efficiency 93 %</p> <p>Peak intensity 1.4 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		

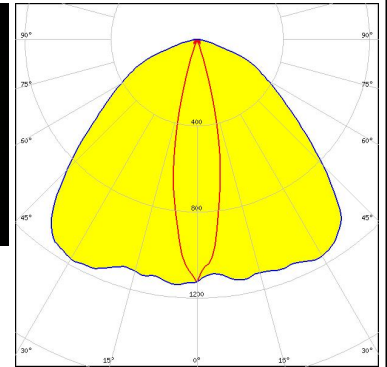
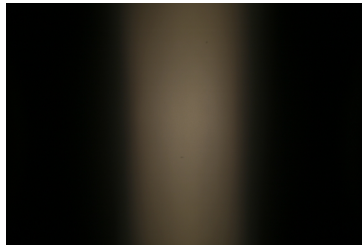
#### OPTICAL RESULTS (MEASURED):

<p><b>CREE</b> LEDs</p> <p>LED                   XD16 FWHM / FWTM       29.0 + 116.0° / 44.0 + 141.0° Efficiency            94 % Peak intensity        1 cd/lm LEDs/each optic     4 Light colour         White Required components:</p>		
<p><b>CREE</b> LEDs</p> <p>LED                   XHP35 HD FWHM / FWTM       29.0 + 117.0° / 48.0 + 148.0° Efficiency            94 % Peak intensity        0.9 cd/lm LEDs/each optic     1 Light colour         White Required components:</p>		
<p><b>CREE</b> LEDs</p> <p>LED                   XM-L FWHM / FWTM       28.0 + 108.0° / 45.0 + 142.0° Efficiency            94 % Peak intensity        1 cd/lm LEDs/each optic     1 Light colour         White Required components:</p>		
<p><b>CREE</b> LEDs</p> <p>LED                   XM-L2 FWHM / FWTM       30.0 + 106.0° / 48.0 + 143.0° Efficiency            94 % Peak intensity        1 cd/lm LEDs/each optic     1 Light colour         White Required components:</p>		

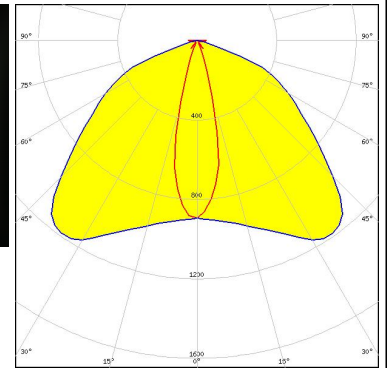
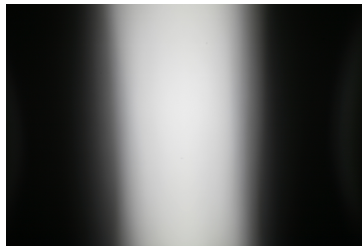
#### OPTICAL RESULTS (MEASURED):



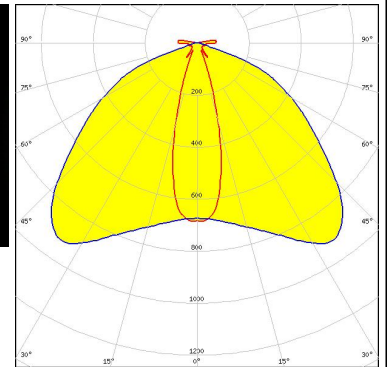
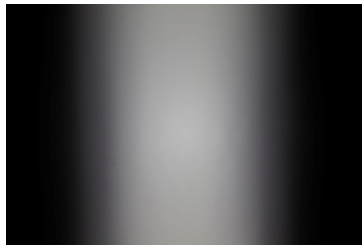
LED XP-G  
 FWHM / FWTM 26.0 + 115.0° / 44.0 + 158.0°  
 Efficiency 94 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



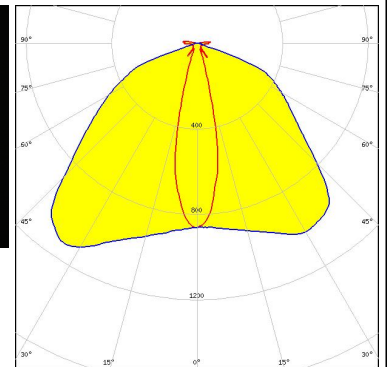
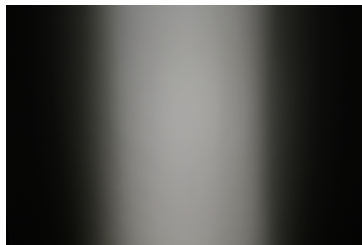
LED XP-G2  
 FWHM / FWTM 27.0 + 112.0° / 42.0 + 146.0°  
 Efficiency 94 %  
 Peak intensity 1.2 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



LED XP-L HD  
 FWHM / FWTM 29.0 + 117.0° / 48.0 + 144.0°  
 Efficiency 94 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



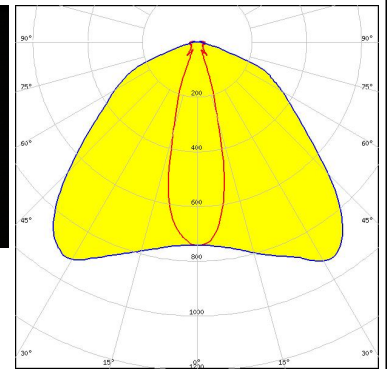
LED XP-L HI  
 FWHM / FWTM 25.0 + 123.0° / 41.0 + 143.0°  
 Efficiency 94 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



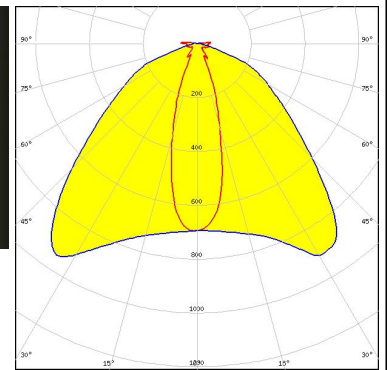
#### OPTICAL RESULTS (MEASURED):



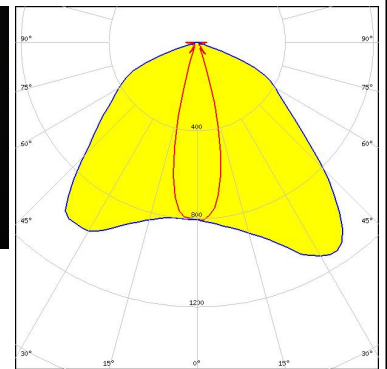
LED XP-L2  
 FWHM / FWTM 28.0 + 117.0° / 47.0 + 150.0°  
 Efficiency 94 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



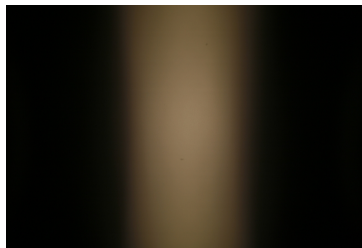
LED LUXEON 5050 Round LES  
 FWHM / FWTM 29.0 + 114.0° / 51.0 + 147.0°  
 Efficiency 94 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



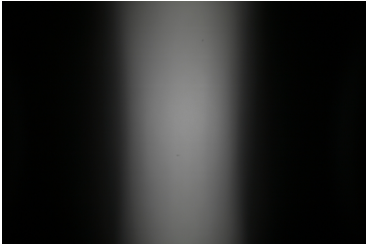
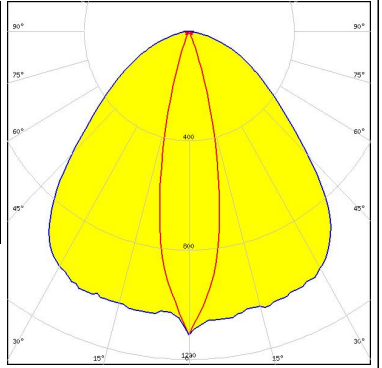
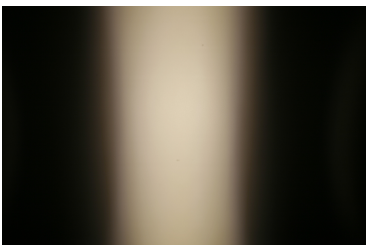
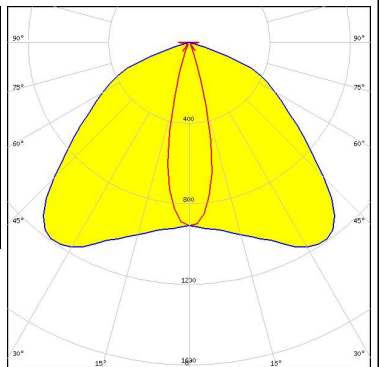
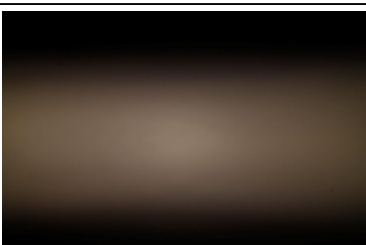
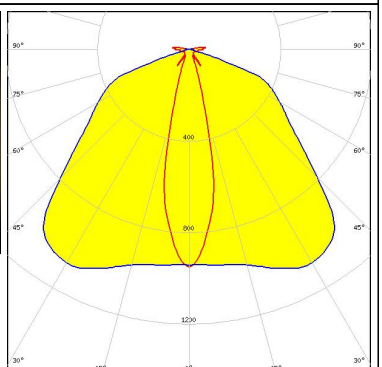
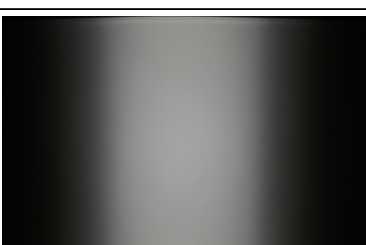
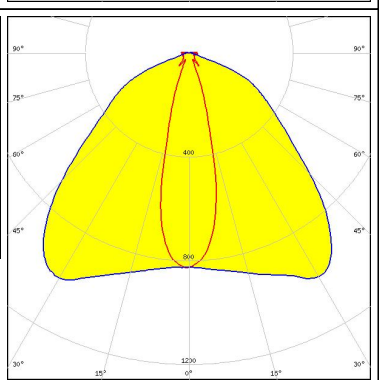
LED LUXEON MZ  
 FWHM / FWTM 28.0 + 103.0° / 43.0 + 14.0°  
 Efficiency 94 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



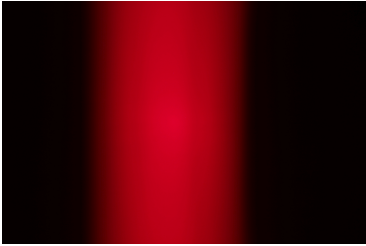
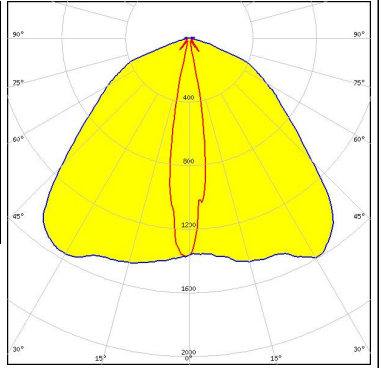
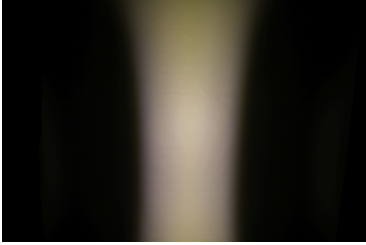
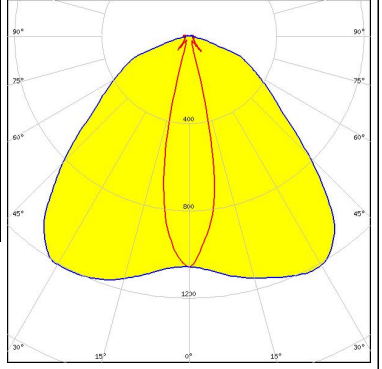
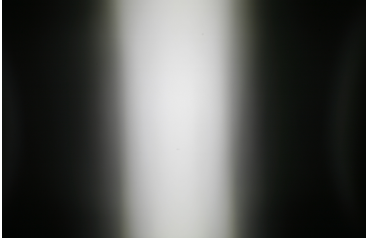
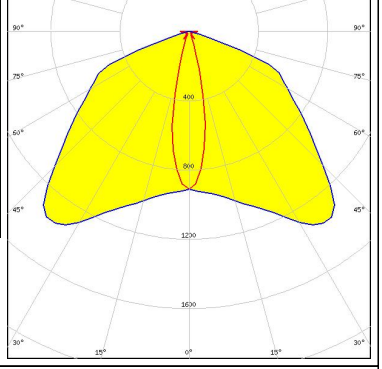
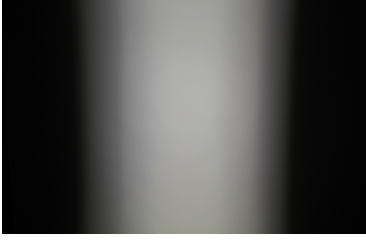
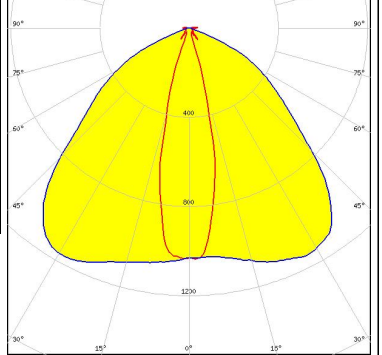
LED LUXEON R  
 FWHM / FWTM 25.0 + 105.0° / 44.0 + 148.0°  
 Efficiency 94 %  
 Peak intensity 1.2 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OPTICAL RESULTS (MEASURED):


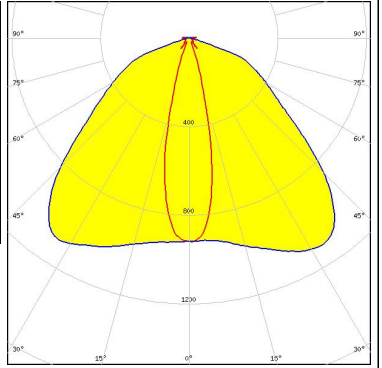
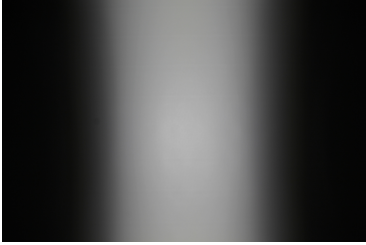
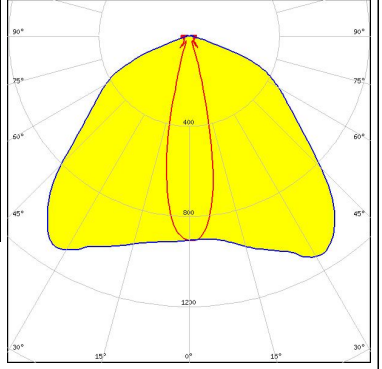
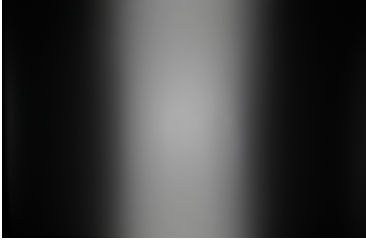
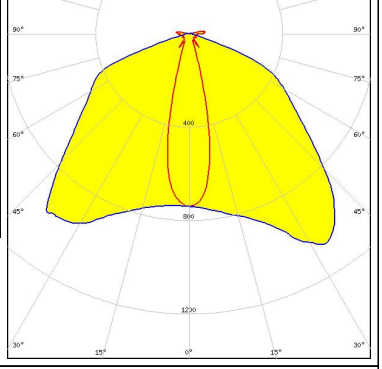
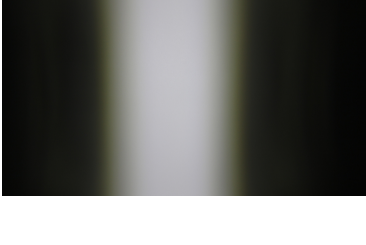
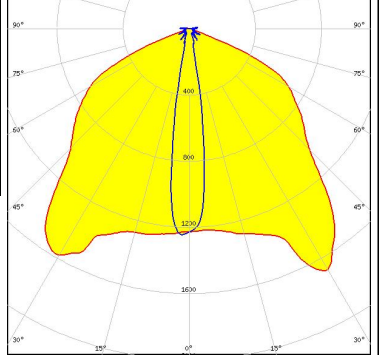
<p><b>LUMILEDS</b></p> <p>LED LUXEON Rebel ES</p> <p>FWHM / FWTM 25.0 + 106.0° / 42.0 + 150.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 1.2 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p><b>LUMILEDS</b></p> <p>LED LUXEON T</p> <p>FWHM / FWTM 26.0 + 110.0° / 41.0 + 145.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 1.2 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 TX</p> <p>FWHM / FWTM 24.0 + 118.0° / 42.0 + 146.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 1.1 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 V</p> <p>FWHM / FWTM 26.0 + 108.0° / 44.0 + 141.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 1 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		

#### OPTICAL RESULTS (MEASURED):

<p><b>LUMINUS</b></p> <p>LED SST-10-B130            FWHM / FWTM 18.0 + 104.0° / 25.0 + 144.0°            Efficiency 97 %            Peak intensity 1.6 cd/lm            LEDs/each optic 1            Light colour Deep Red            Required components:</p>		
<p><b>MST</b> <i>Your solutions</i></p> <p>LED RecLED 122x50mm 1900lm 730 2x4 Opt G1            FWHM / FWTM 23.0 + 99.5° / 32.5 + 145.0°            Efficiency 97 %            Peak intensity 1.2 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		
<p><b>NICHIA</b></p> <p>LED NCSxx19B            FWHM / FWTM 23.0 + 113.0° / 39.0 + 146.0°            Efficiency 94 %            Peak intensity 1.4 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		
<p><b>NICHIA</b></p> <p>LED NVSW219D            FWHM / FWTM 25.0 + 107.0° / 37.0 + 137.0°            Efficiency 94 %            Peak intensity 1.2 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		



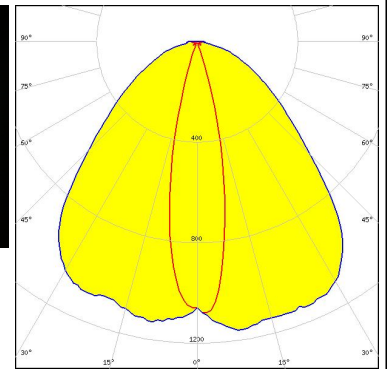
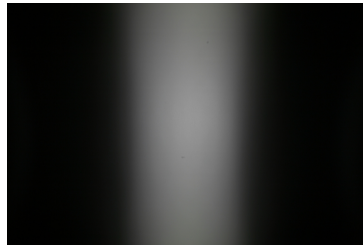
#### OPTICAL RESULTS (MEASURED):

<p><b>NICHIA</b></p> <p>LED NVSW319B</p> <p>FWHM / FWTM 25.0 + 113.0° / 41.0 + 144.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 1.1 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 NVSW3x9A</p> <p>FWHM / FWTM 24.0 + 119.0° / 38.0 + 144.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 1.1 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 NVSW3x9A</p> <p>FWHM / FWTM 25.0 + 134.0° / 43.0 + 147.0°</p> <p>Efficiency 93 %</p> <p>Peak intensity 0.4 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 NVSxE21A</p> <p>FWHM / FWTM 17.0 + 125.0° / 27.0 + 139.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 1.7 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		

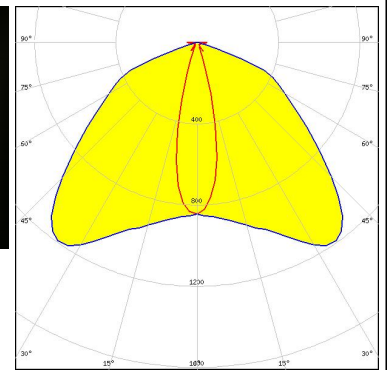
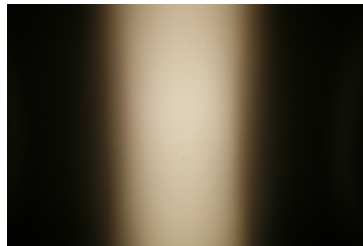
#### OPTICAL RESULTS (MEASURED):



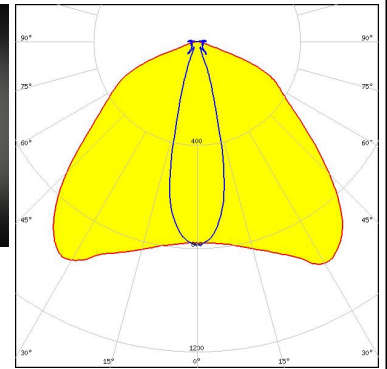
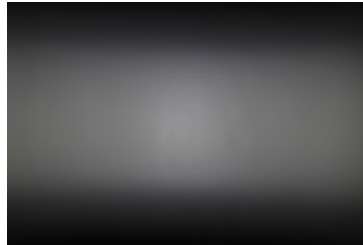
LED NVSxx19A  
 FWHM / FWTM 24.0 + 105.0° / 44.0 + 148.0°  
 Efficiency 94 %  
 Peak intensity 1.2 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



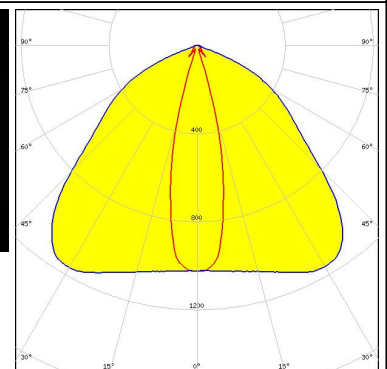
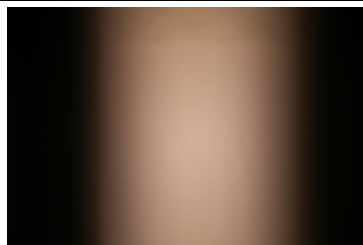
LED NVSxx19B/NVSxx19C  
 FWHM / FWTM 26.0 + 108.0° / 41.0 + 145.0°  
 Efficiency 94 %  
 Peak intensity 1.2 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



LED NWSx229A  
 FWHM / FWTM 27.0 + 118.0° / 43.0 + 143.0°  
 Efficiency 94 %  
 Peak intensity 1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



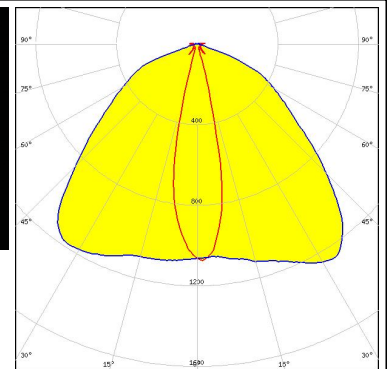
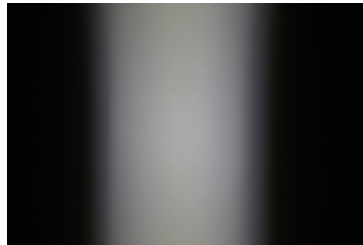
LED PL-BRICK HP 3800 2x8 SSG  
 FWHM / FWTM 26.0 + 102.0° / 37.0 + 139.0°  
 Efficiency 97 %  
 Peak intensity 1.2 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OPTICAL RESULTS (MEASURED):

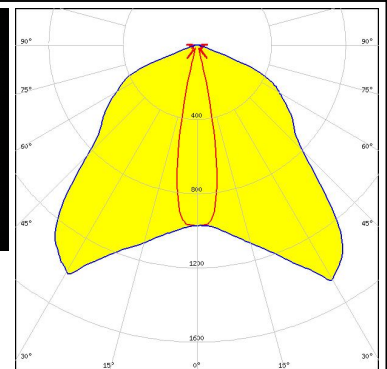
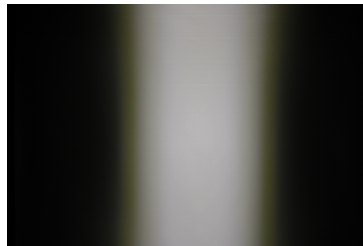
#### OSRAM

LED PrevaLED Brick HP 2x8  
 FWHM / FWTM 23.0 + 111.0° / 32.0 + 141.0°  
 Efficiency 94 %  
 Peak intensity 1.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



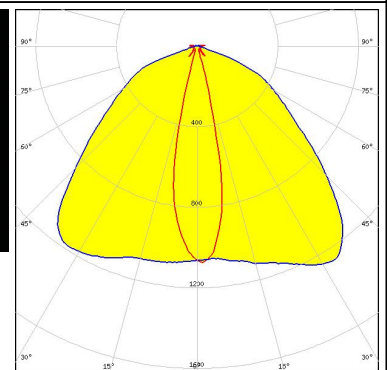
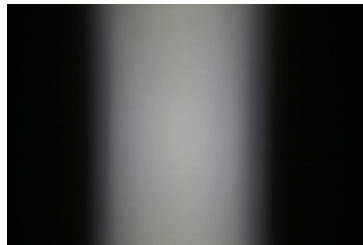
#### OSRAM

Opto Semiconductors  
 LED OSCONIQ C 3030  
 FWHM / FWTM 22.0 + 95.0° / 32.0 + 140.0°  
 Efficiency 96 %  
 Peak intensity 1.5 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



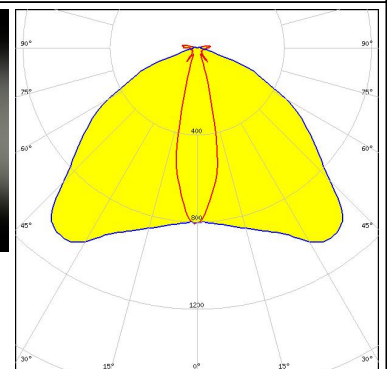
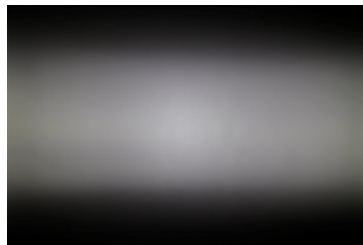
#### OSRAM

Opto Semiconductors  
 LED OSLOM Square CSSRM2/CSSRM3  
 FWHM / FWTM 23.0 + 111.0° / 32.0 + 141.0°  
 Efficiency 94 %  
 Peak intensity 1.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OSRAM

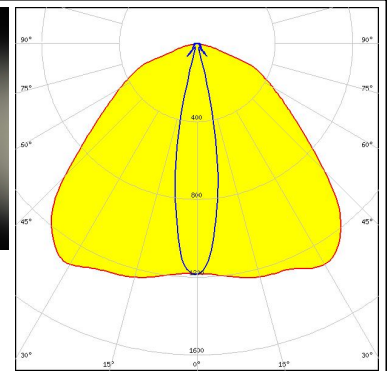
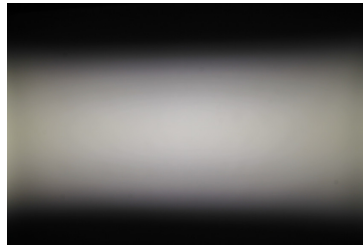
Opto Semiconductors  
 LED OSLOM Square PC  
 FWHM / FWTM 25.0 + 124.0° / 42.0 + 145.0°  
 Efficiency 91 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OPTICAL RESULTS (MEASURED):

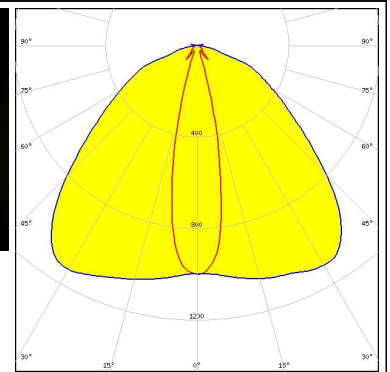
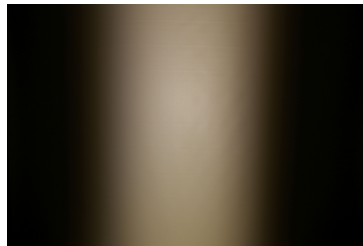
### PHILIPS

LED Fortimo FastFlex LED 2x8 DA G4  
 FWHM / FWTM 21.0 + 108.0° / 31.0 + 147.0°  
 Efficiency 94 %  
 Peak intensity 1.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



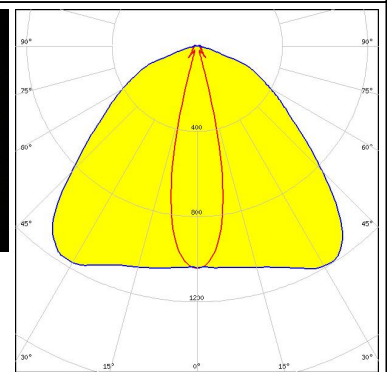
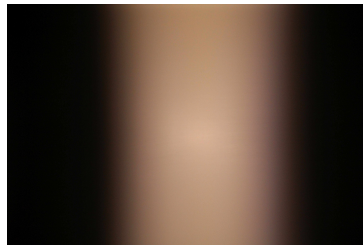
### PHILIPS

LED Fortimo FastFlex LED 2x8 DA G4+  
 FWHM / FWTM 24.0 + 104.0° / 37.0 + 145.0°  
 Efficiency 97 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



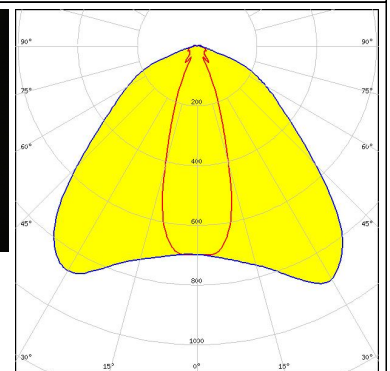
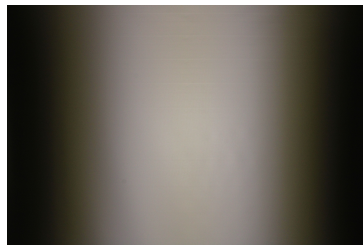
### PHILIPS

LED Fortimo FastFlex LED 2x8 DA G5  
 FWHM / FWTM 24.0 + 103.0° / 34.0 + 144.0°  
 Efficiency 97 %  
 Peak intensity 1.2 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



### PHILIPS

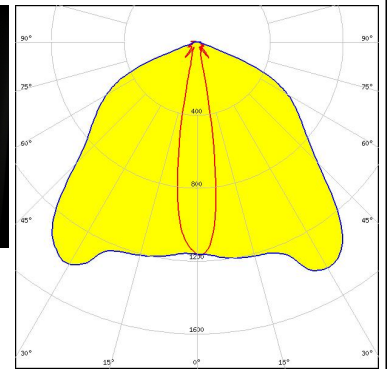
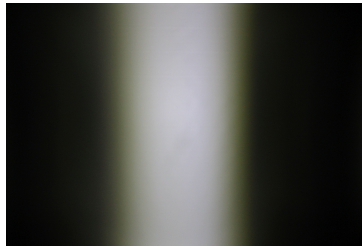
LED Fortimo FastFlex LED 2x8 DA HE  
 FWHM / FWTM 32.0 + 98.0° / 51.0 + 142.0°  
 Efficiency 98 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OPTICAL RESULTS (MEASURED):

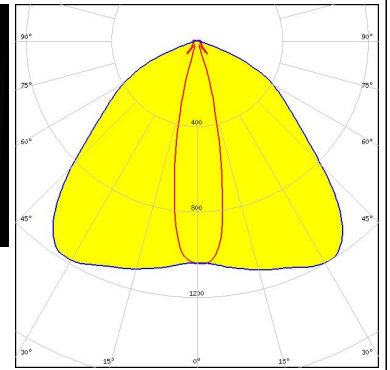
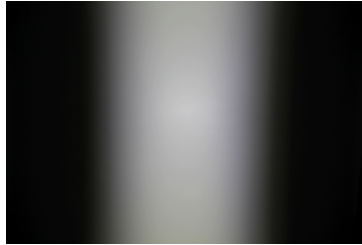
### SAMSUNG

LED HiLOM RC12 Z (LH181B)  
 FWHM / FWTM 19.0 + 106.0° / 31.0 + 140.0°  
 Efficiency 98 %  
 Peak intensity 1.4 cd/m<sup>2</sup>  
 LEDs/each optic 1  
 Light colour White  
 Required components:



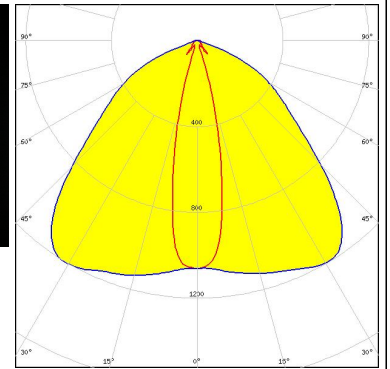
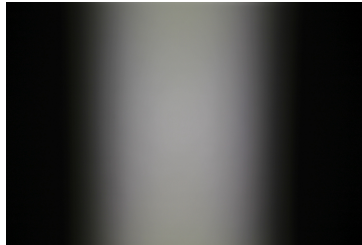
### SAMSUNG

LED HiLOM RH12 Z (LH351C)  
 FWHM / FWTM 23.0 + 102.0° / 36.0 + 139.0°  
 Efficiency 97 %  
 Peak intensity 1.2 cd/m<sup>2</sup>  
 LEDs/each optic 1  
 Light colour White  
 Required components:



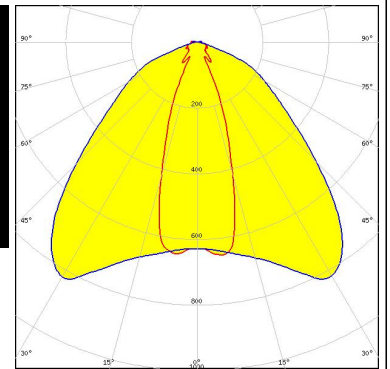
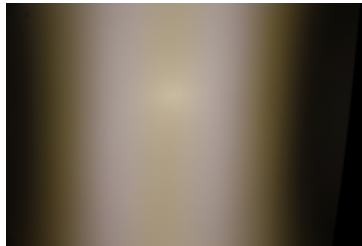
### SAMSUNG

LED HiLOM RH16 (LH351C)  
 FWHM / FWTM 23.0 + 106.0° / 36.0 + 140.0°  
 Efficiency 94 %  
 Peak intensity 1.2 cd/m<sup>2</sup>  
 LEDs/each optic 1  
 Light colour White  
 Required components:



### SAMSUNG

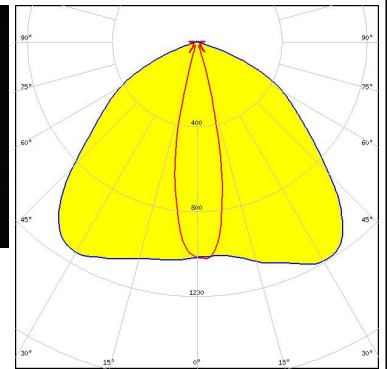
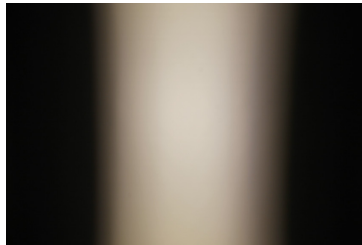
LED HiLOM RM12 Z (LH502C)  
 FWHM / FWTM 35.0 + 98.0° / 76.0 + 141.0°  
 Efficiency 96 %  
 Peak intensity 0.8 cd/m<sup>2</sup>  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OPTICAL RESULTS (MEASURED):

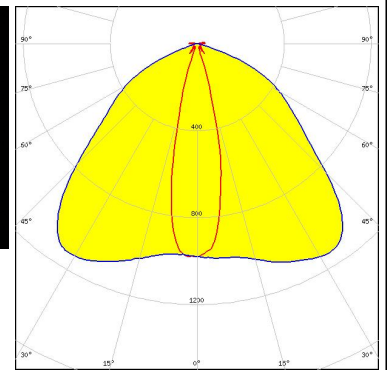
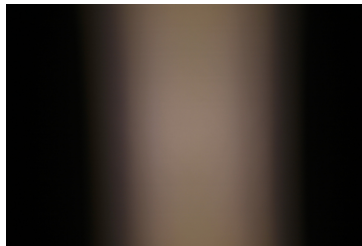
### SAMSUNG

LED LH351B  
 FWHM / FWTM 23.0 + 113.0° / 35.0 + 141.0°  
 Efficiency 94 %  
 Peak intensity 1.2 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



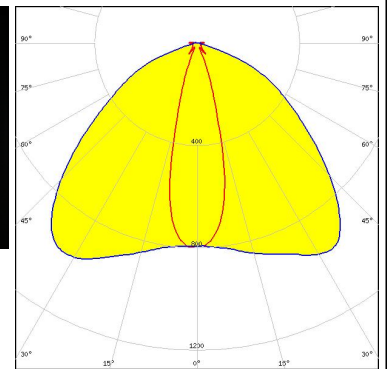
### SAMSUNG

LED LH351C  
 FWHM / FWTM 24.0 + 111.0° / 37.0 + 141.0°  
 Efficiency 94 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



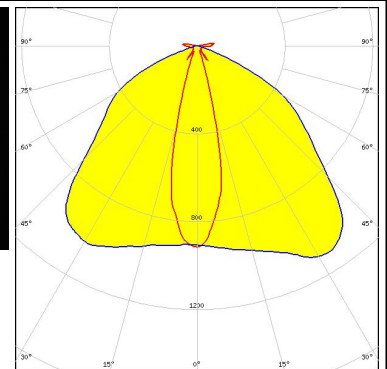
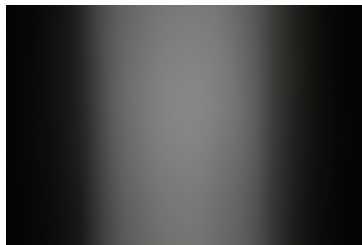
### SAMSUNG

LED LH351D  
 FWHM / FWTM 27.0 + 116.0° / 44.0 + 144.0°  
 Efficiency 94 %  
 Peak intensity 1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

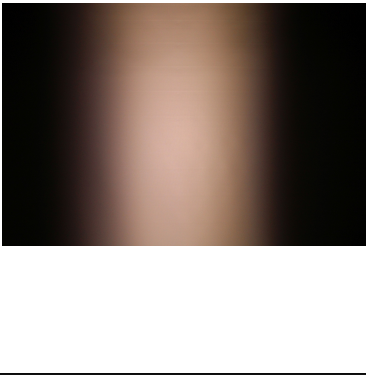
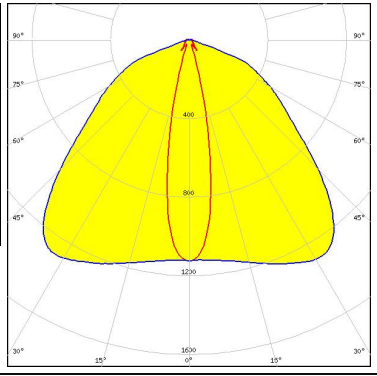
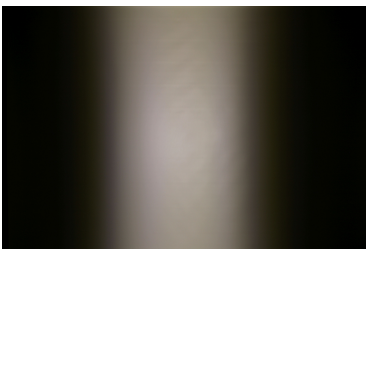
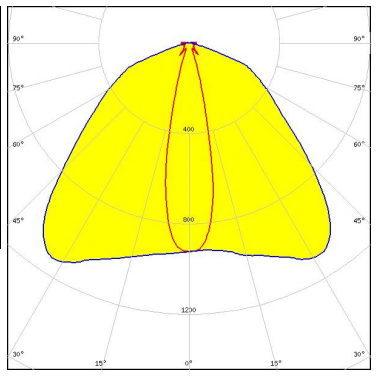
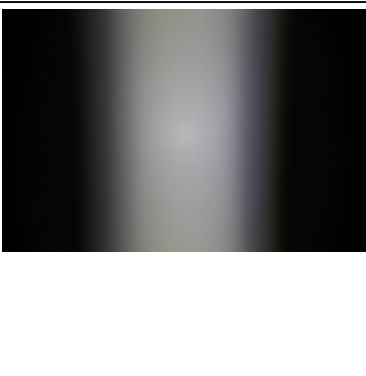
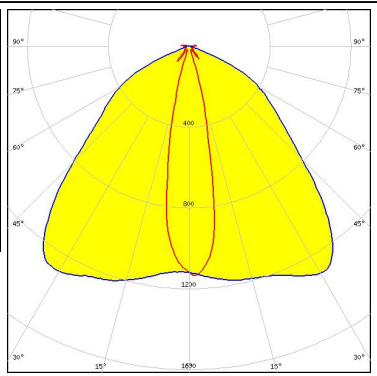
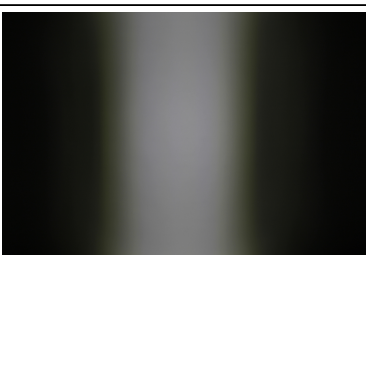
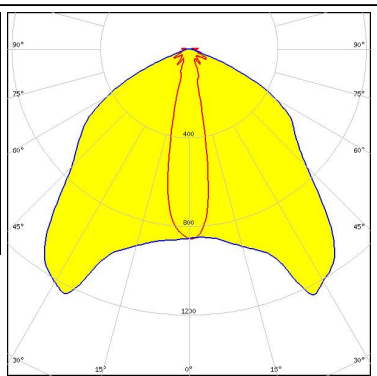


### SAMSUNG

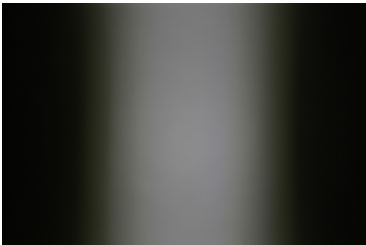
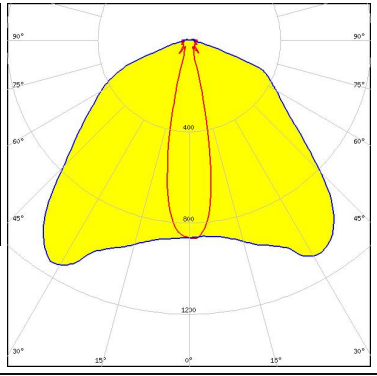
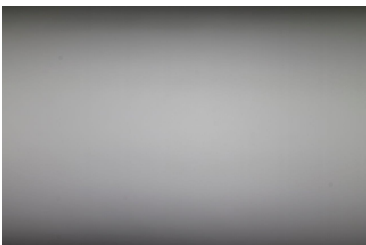
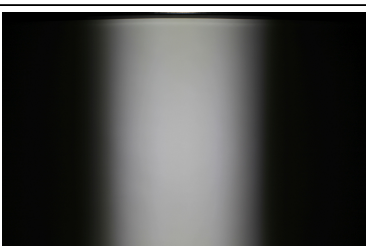
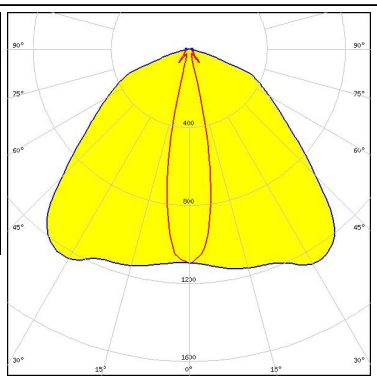
LED LH351Z  
 FWHM / FWTM 26.0 + 117.0° / 42.0 + 141.0°  
 Efficiency 94 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OPTICAL RESULTS (MEASURED):

<p><b>SEITEC</b> Elektronik GmbH</p> <p>LED LED-Pa-L15c2W11c2-xxx-C050-01</p> <p>FWHM / FWTM 22.0 + 105.0° / 36.0 + 142.0°</p> <p>Efficiency 98 %</p> <p>Peak intensity 1.3 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 23.0 + 113.0° / 39.0 + 146.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 1.1 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 22.0 + 97.0° / 35.0 + 135.0°</p> <p>Efficiency 98 %</p> <p>Peak intensity 1.3 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 Z8Y22</p> <p>FWHM / FWTM 21.0 + 121.0° / 99.0 + 140.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 1.2 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		

#### OPTICAL RESULTS (MEASURED):

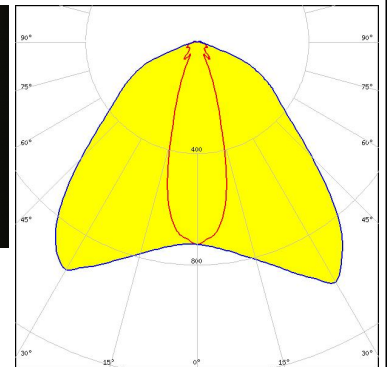
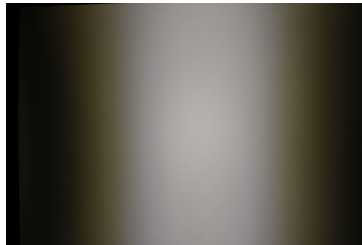
<p><b>SEUL</b> SEOUL SEMICONDUCTOR</p> <p>LED Z8Y22P FWHM / FWTM 23.0 + 121.0° / 34.0 + 150.0° Efficiency 94 % Peak intensity 1.1 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p><b>TOSHIBA</b> Leading Innovation &gt;&gt;&gt;</p> <p>LED TL1L4 FWHM / FWTM 24.0 + 119.0° / 39.0 + 140.0° Efficiency 89 % Peak intensity 1.1 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p><b>TRIDONIC</b></p> <p>LED RLE 2x4 2000lm HP EXC2 OTD FWHM / FWTM 22.0 + 113.0° / 30.0 + 149.0° Efficiency 94 % Peak intensity 1.3 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p><b>TRIDONIC</b></p> <p>LED RLE 2x8 4000lm HP EXC2 OTD FWHM / FWTM 22.0 + 113.0° / 30.0 + 149.0° Efficiency 94 % Peak intensity 1.3 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		



#### OPTICAL RESULTS (MEASURED):

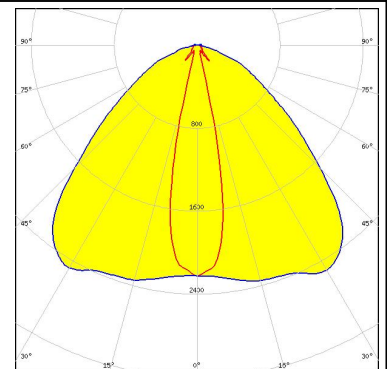
#### TRIDONIC

LED RLE 2x8 6000lm HP HE EXC3 OTD  
 FWHM / FWTM 30.0 + 96.0° / 76.0 + 141.0°  
 Efficiency 97 %  
 Peak intensity 1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



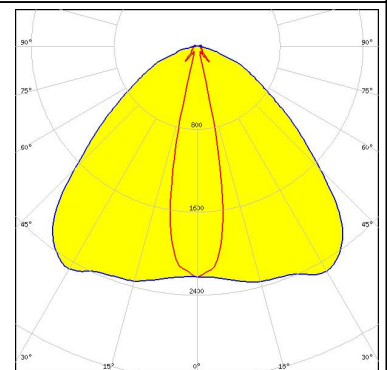
#### TRIDONIC

LED RLE G1 49x121mm 2000lm xxx EXC OTD  
 FWHM / FWTM 23.0 + 104.0° / 31.0 + 144.0°  
 Efficiency 94 %  
 Peak intensity 1.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



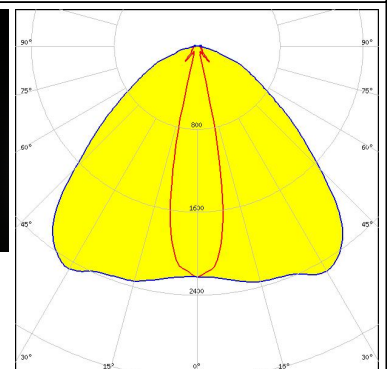
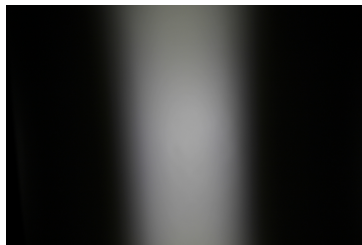
#### TRIDONIC

LED RLE G1 49x133mm 2000lm xxx EXC OTD  
 FWHM / FWTM 23.0 + 104.0° / 31.0 + 144.0°  
 Efficiency 94 %  
 Peak intensity 1.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### TRIDONIC

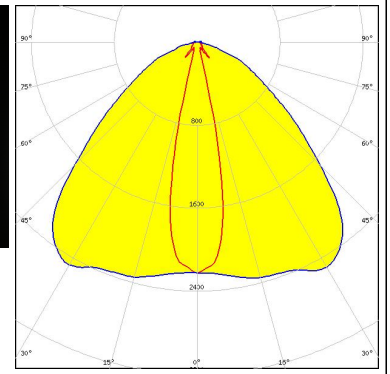
LED RLE G1 49x223mm 4000lm xxx EXC OTD  
 FWHM / FWTM 23.0 + 104.0° / 31.0 + 144.0°  
 Efficiency 94 %  
 Peak intensity 1.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



### OPTICAL RESULTS (MEASURED):

#### TRIDONIC

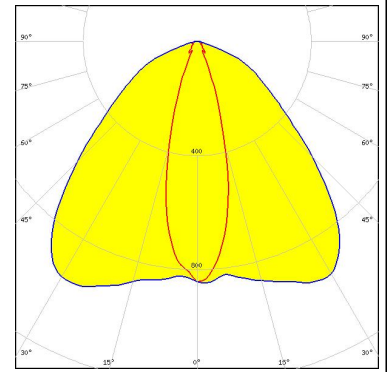
LED RLE G1 49x245mm 4000lm xxx EXC OTD  
FWHM / FWTM 23.0 + 104.0° / 31.0 + 144.0°  
Efficiency 94 %  
Peak intensity 1.3 cd/lm  
LEDs/each optic 1  
Light colour White  
Required components:



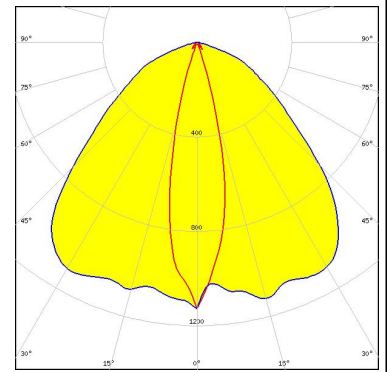
#### OPTICAL RESULTS (SIMULATED):



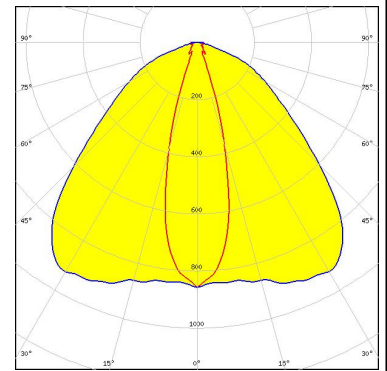
LED J Series 5050 Round LES  
 FWHM / FWTM 30.0 + 97.0° / 51.0 + 141.0°  
 Efficiency 94 %  
 Peak intensity 1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



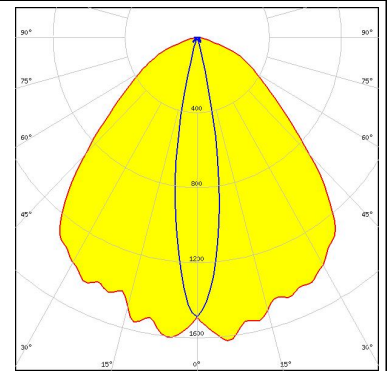
LED XHP35 HI  
 FWHM / FWTM 101.0 + 27.0° / 145.0 + 44.0°  
 Efficiency 94 %  
 Peak intensity 1.2 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



LED XHP50.3 HI  
 FWHM / FWTM 28.0 + 100.0° / 44.0 + 144.0°  
 Efficiency 95 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



LED XP-E2  
 FWHM / FWTM 93.0 + 18.0° / 141.0 + 30.0°  
 Efficiency 94 %  
 Peak intensity 1.6 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

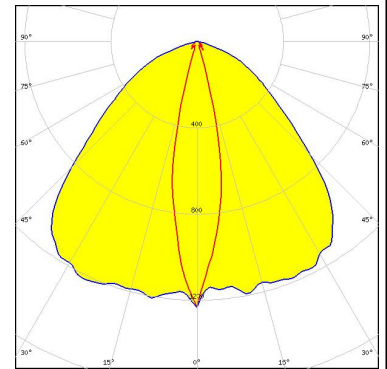


#### OPTICAL RESULTS (SIMULATED):

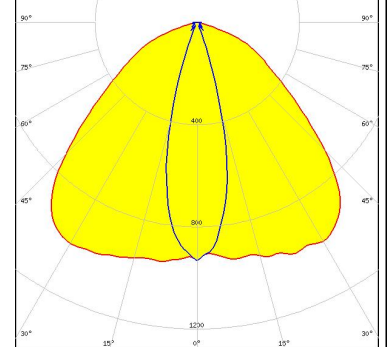


LED XP-G2  
 FWHM / FWTM 21.0 + 98.0° / 33.0 + 141.0°  
 Efficiency 91 %  
 Peak intensity 1.2 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

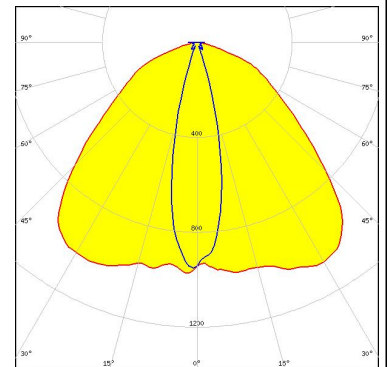
Protective plate, glass



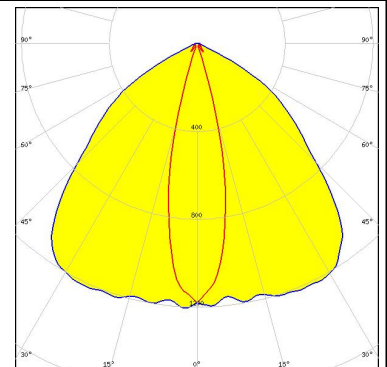
LED XP-G2 HE  
 FWHM / FWTM 28.0 + 103.0° / 41.0 + 144.0°  
 Efficiency 94 %  
 Peak intensity 1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



LED XP-G3  
 FWHM / FWTM 103.0 + 29.0° / 146.0 + 49.0°  
 Efficiency 94 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



LED XP-G4  
 FWHM / FWTM 24.0 + 100.0° / 36.0 + 128.0°  
 Efficiency 97 %  
 Peak intensity 1.2 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

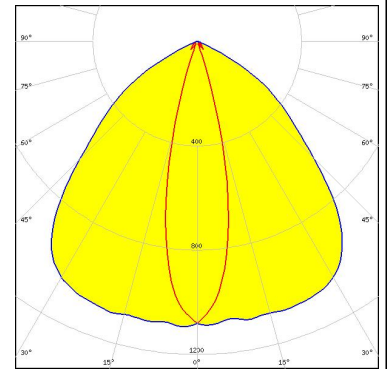


#### OPTICAL RESULTS (SIMULATED):



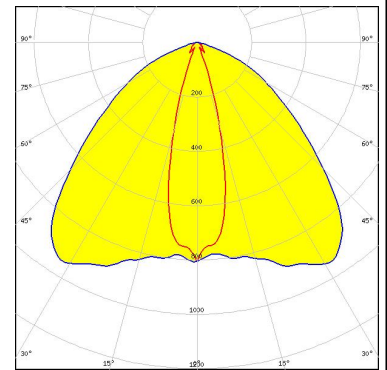
LED XP-G4  
 FWHM / FWTM 24.0 + 95.0° / 36.0 + 127.0°  
 Efficiency 87 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

Protective plate, glass



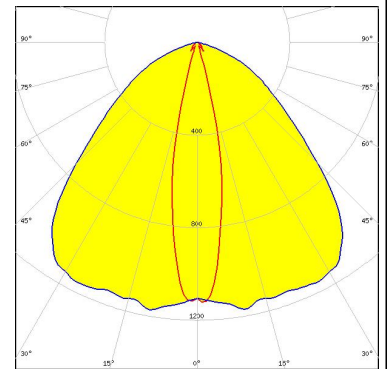
LED XP-L HD  
 FWHM / FWTM 26.0 + 103.0° / 42.0 + 140.0°  
 Efficiency 88 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

Protective plate, glass



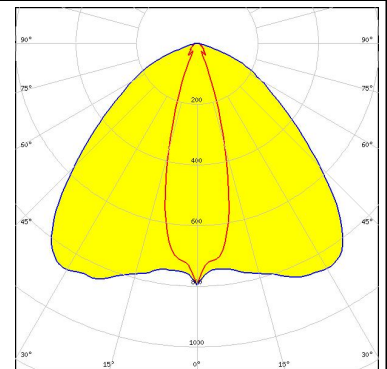
LED XP-L HI  
 FWHM / FWTM 22.0 + 98.0° / 34.0 + 140.0°  
 Efficiency 88 %  
 Peak intensity 1.2 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

Protective plate, glass



LED XP-L2  
 FWHM / FWTM 28.0 + 100.0° / 46.0 + 140.0°  
 Efficiency 87 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

Protective plate, glass



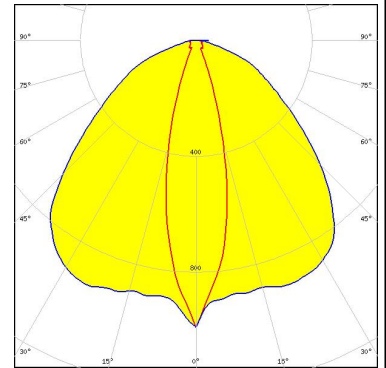
#### OPTICAL RESULTS (SIMULATED):



LED XQ-E HI  
 FWHM / FWTM 96.0 + 14.0° / 144.0 + 25.0°  
 Efficiency %  
 LEDs/each optic 1  
 Light colour White  
 Required components:

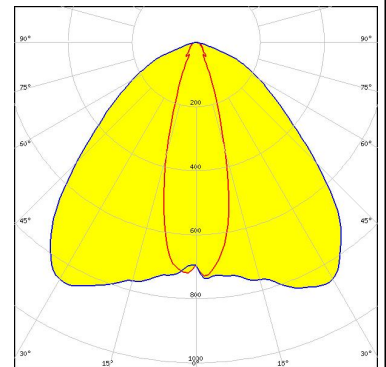


LED XT-E HE  
 FWHM / FWTM 100.0 + 24.0°  
 Efficiency 94 %  
 LEDs/each optic 1  
 Light colour White  
 Required components:



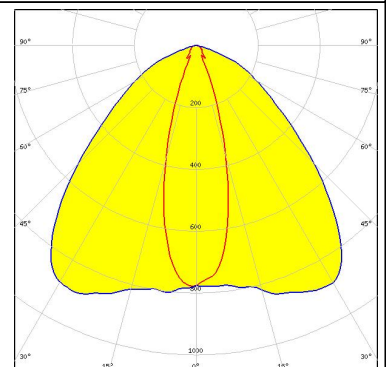
LED LUXEON 5050 HE  
 FWHM / FWTM 30.0 + 98.0° / 52.0 + 140.0°  
 Efficiency 87 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

Protective plate, glass



LED LUXEON 5050 Round LES  
 FWHM / FWTM 30.0 + 96.0° / 48.0 + 140.0°  
 Efficiency 88 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

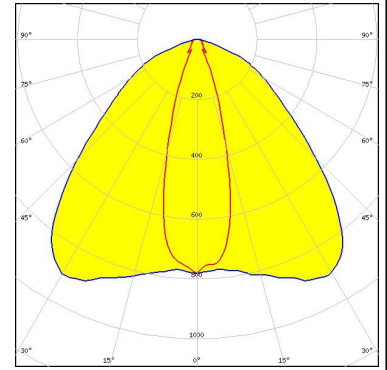
Protective plate, glass



#### OPTICAL RESULTS (SIMULATED):

##### LUMILEDS

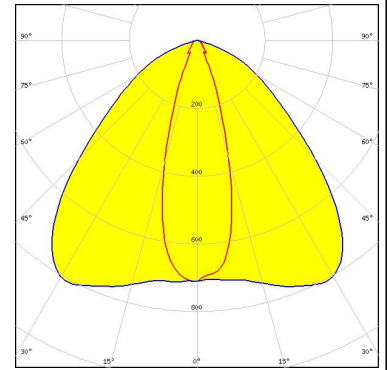
LED LUXEON 5050 Square LES  
 FWHM / FWTM 30.0 + 98.0° / 50.0 + 142.0°  
 Efficiency 95 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



##### LUMILEDS

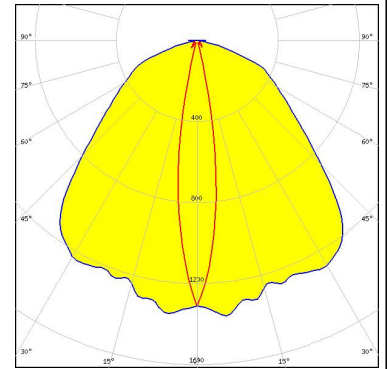
LED LUXEON 5050 Square LES  
 FWHM / FWTM 30.0 + 96.0° / 52.0 + 140.0°  
 Efficiency 84 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

Protective plate, glass



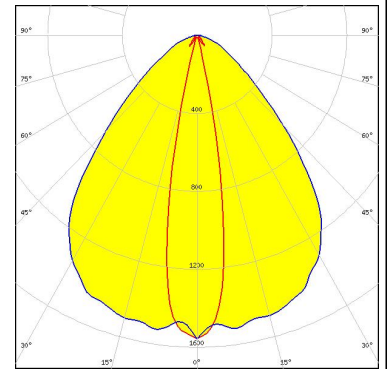
##### LUMILEDS

LED LUXEON IR Domed 150 (L110-0xxx150000000)  
 FWHM / FWTM 16.0 + 98.0° / 28.0 + 149.0°  
 Efficiency 94 %  
 Peak intensity 1.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

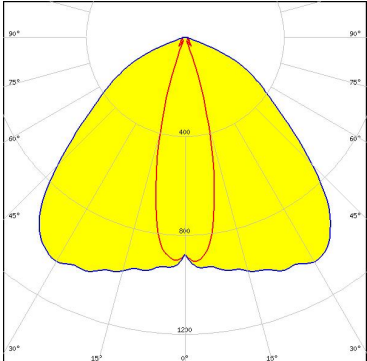
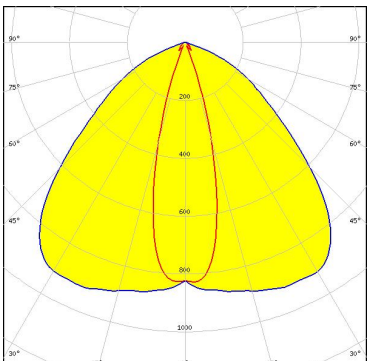
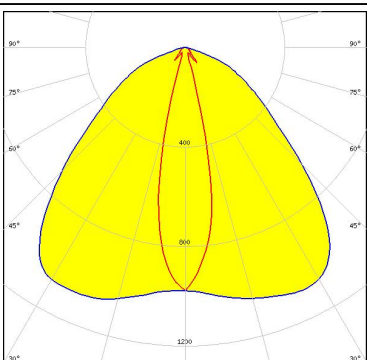
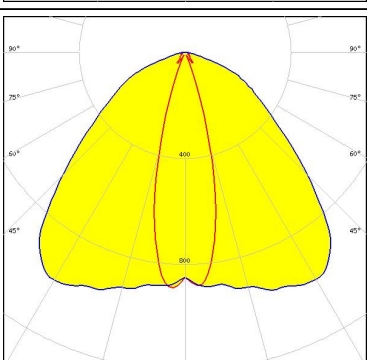


##### LUMILEDS

LED LUXEON IR Domed 90 (L110-0xxx090000000)  
 FWHM / FWTM 20.0 + 86.0° / 29.0 + 128.0°  
 Efficiency 95 %  
 Peak intensity 1.6 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OPTICAL RESULTS (SIMULATED):

<p><b>LUMILEDS</b></p> <p>LED LUXEON XR-HL2X (L2H2-xxxxxxxMLU010)</p> <p>FWHM / FWTM 28.0 + 102.0° / 42.0 + 140.0°</p> <p>Efficiency 96 %</p> <p>Peak intensity 1 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 28.0 + 100.0° / 42.0 + 138.0°</p> <p>Efficiency 86 %</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>Protective plate, glass</p>	
<p><b>MST</b> <i>Your solutions</i></p> <p>LED RecLED 122x50mm 1900lm 730 2x4 Opt G1</p> <p>FWHM / FWTM 24.0 + 97.0° / 34.0 + 141.0°</p> <p>Efficiency 86 %</p> <p>Peak intensity 1.1 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>NICHIA</b></p> <p>LED NV4WB35AM</p> <p>FWHM / FWTM 28.0 + 100.0° / 42.0 + 144.0°</p> <p>Efficiency 95 %</p> <p>Peak intensity 1 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	

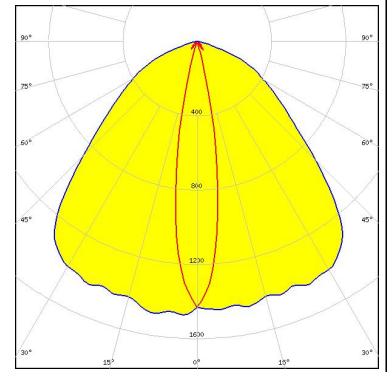


#### OPTICAL RESULTS (SIMULATED):

##### OSRAM

Opto Semiconductors

LED OSCONIQ C 2424  
 FWHM / FWTM 18.0 + 96.0° / 30.0 + 141.0°  
 Efficiency 96 %  
 Peak intensity 1.5 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

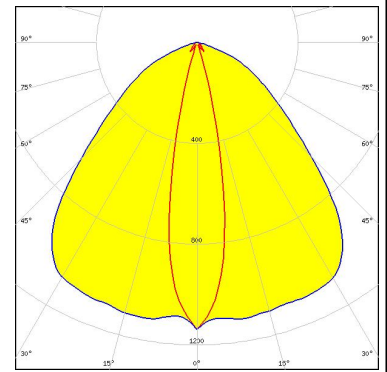


##### OSRAM

Opto Semiconductors

LED OSCONIQ C 3030  
 FWHM / FWTM 21.0 + 94.0° / 34.0 + 138.0°  
 Efficiency 86 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

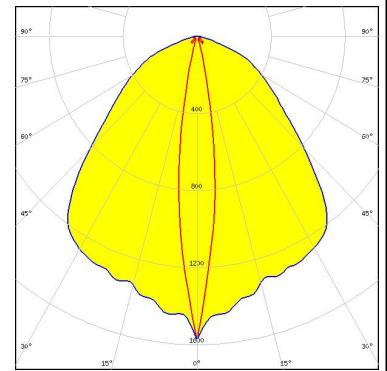
Protective plate, glass



##### OSRAM

Opto Semiconductors

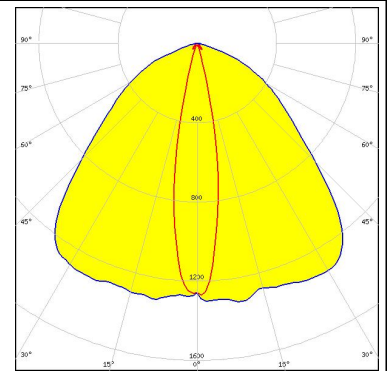
LED OSCONIQ P 3030  
 FWHM / FWTM 14.0 + 92.0° / 28.0 + 142.0°  
 Efficiency 95 %  
 Peak intensity 1.6 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



##### OSRAM

Opto Semiconductors

LED OSCONIQ P 3737 (2W version)  
 FWHM / FWTM 99.0 + 19.0° / 142.0 + 31.0°  
 Efficiency 94 %  
 Peak intensity 1.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

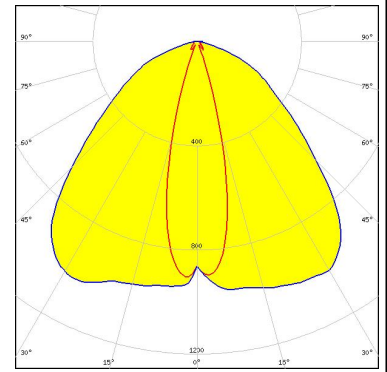


#### OPTICAL RESULTS (SIMULATED):

##### OSRAM

Opto Semiconductors

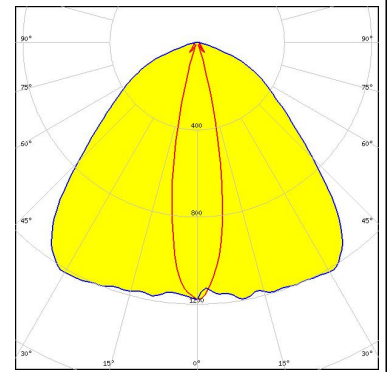
LED OSCONIQ P 3737 (3W version)  
 FWHM / FWTM 100.0 + 30.0° / 144.0 + 51.0°  
 Efficiency 94 %  
 Peak intensity 1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



##### OSRAM

Opto Semiconductors

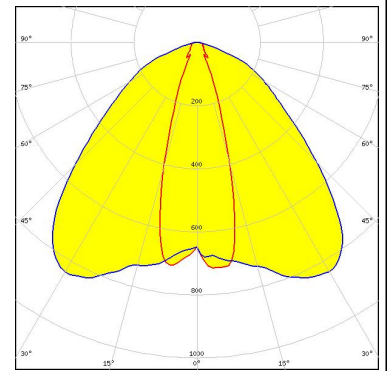
LED OSCONIQ P 3737 Flat  
 FWHM / FWTM 22.0 + 98.0° / 35.0 + 142.0°  
 Efficiency 96 %  
 Peak intensity 1.2 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



##### OSRAM

Opto Semiconductors

LED OSCONIQ S 5050  
 FWHM / FWTM 32.0 + 99.0° / 52.0 + 143.0°  
 Efficiency 96 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

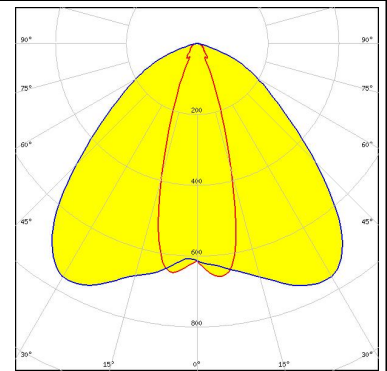


##### OSRAM

Opto Semiconductors

LED OSCONIQ S 5050  
 FWHM / FWTM 32.0 + 98.0° / 53.0 + 140.0°  
 Efficiency 85 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

Protective plate, glass



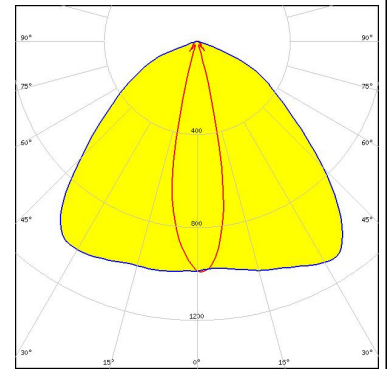
### OPTICAL RESULTS (SIMULATED):

#### OSRAM

Opto Semiconductors

LED OSLOM Square CSSRM2/CSSRM3  
 FWHM / FWTM 23.0 + 101.0° / 33.0 + 140.0°  
 Efficiency 85 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

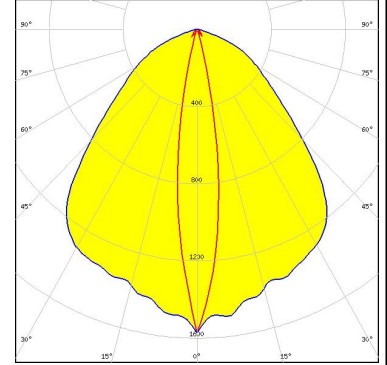
Protective plate, glass



#### OSRAM

Opto Semiconductors

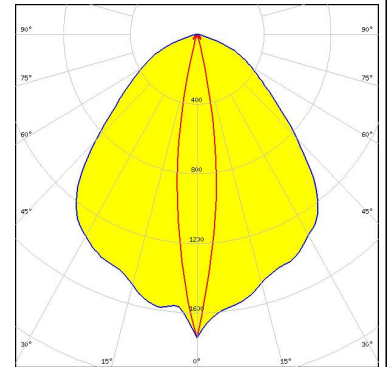
LED OSLOM Square Flat  
 FWHM / FWTM 16.0 + 90.0° / 30.0 + 140.0°  
 Efficiency 96 %  
 Peak intensity 1.6 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OSRAM

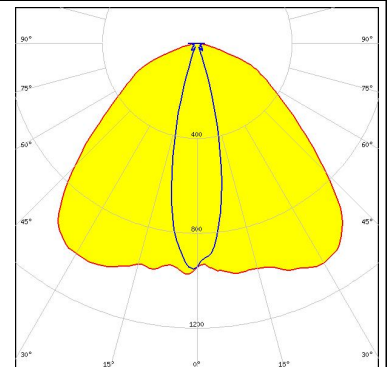
Opto Semiconductors

LED OSTAR Projection Compact (KW.CSLNM1.TG)  
 FWHM / FWTM 16.0 + 89.0° / 28.0 + 140.0°  
 Efficiency 96 %  
 Peak intensity 1.7 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### PHILIPS

LED Fortimo FastFlex LED 2x8 DAX G4  
 FWHM / FWTM 103.0 + 29.0° / 146.0 + 49.0°  
 Efficiency 94 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

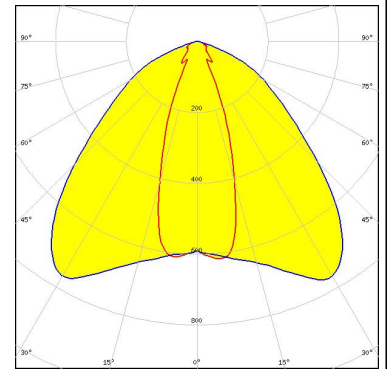


#### OPTICAL RESULTS (SIMULATED):

### SAMSUNG

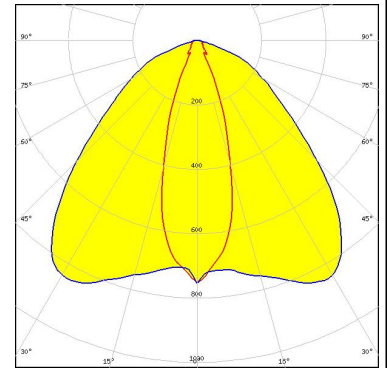
LED HiLOM RM12 Z (LH502C)  
 FWHM / FWTM 36.0 + 98.0° / 78.0 + 140.0°  
 Efficiency 89 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

Protective plate, glass



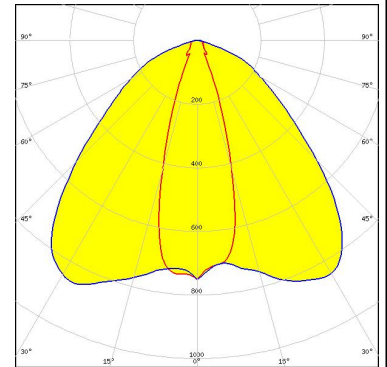
SEOUL SEMICONDUCTOR

LED MJT 5050  
 FWHM / FWTM 32.0 + 98.0° / 52.0 + 142.0°  
 Efficiency 94 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



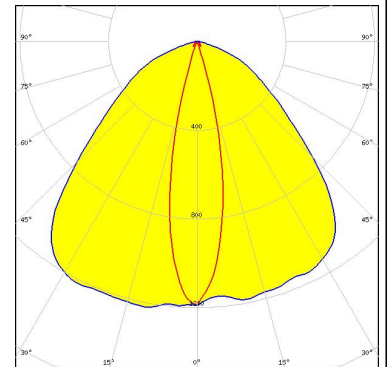
SEOUL SEMICONDUCTOR

LED SEOUL DC 5050 6V  
 FWHM / FWTM 33.0 + 98.0° / 58.0 + 143.0°  
 Efficiency 94 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



SEOUL SEMICONDUCTOR

LED Z5M1/Z5M2  
 FWHM / FWTM 22.0 + 97.0° / 34.0 + 142.0°  
 Efficiency 94 %  
 Peak intensity 1.2 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OPTICAL RESULTS (SIMULATED):

<p><b>SEOL</b> SEOL SEMICONDUCTOR</p> <p>LED: Z5M5 FWHM / FWTM: 26.0 + 100.0° / 40.0 + 138.0° Efficiency: 85 % Peak intensity: 0.9 cd/lm 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>SEOL</b> SEOL SEMICONDUCTOR</p> <p>LED: Z5M5 FWHM / FWTM: 26.0 + 103.0° / 38.0 + 140.0° Efficiency: 96 % Peak intensity: 1.1 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p>	
<p><b>SEOL</b> SEOL SEMICONDUCTOR</p> <p>LED: Z8Y22T FWHM / FWTM: 21.0 + 96.0° / 33.0 + 141.0° Efficiency: 94 % Peak intensity: 1.2 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p>	
<p><b>TRIDONIC</b></p> <p>LED: RLE 2x8 4000lm HP EXC2 OTD FWHM / FWTM: 22.0 + 100.0° / 32.0 + 142.0° Efficiency: 84 % Peak intensity: 1 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p> <p style="background-color: #ADD8E6; padding: 2px; display: inline-block;">Protective plate, glass</p>	