

## HB-2X2-ON

~15° + 50° oval beam

### SPECIFICATION:

Dimensions	50.0 x 50.0 mm
Height	10 mm
Fastening	screw
ROHS compliant	yes ⓘ

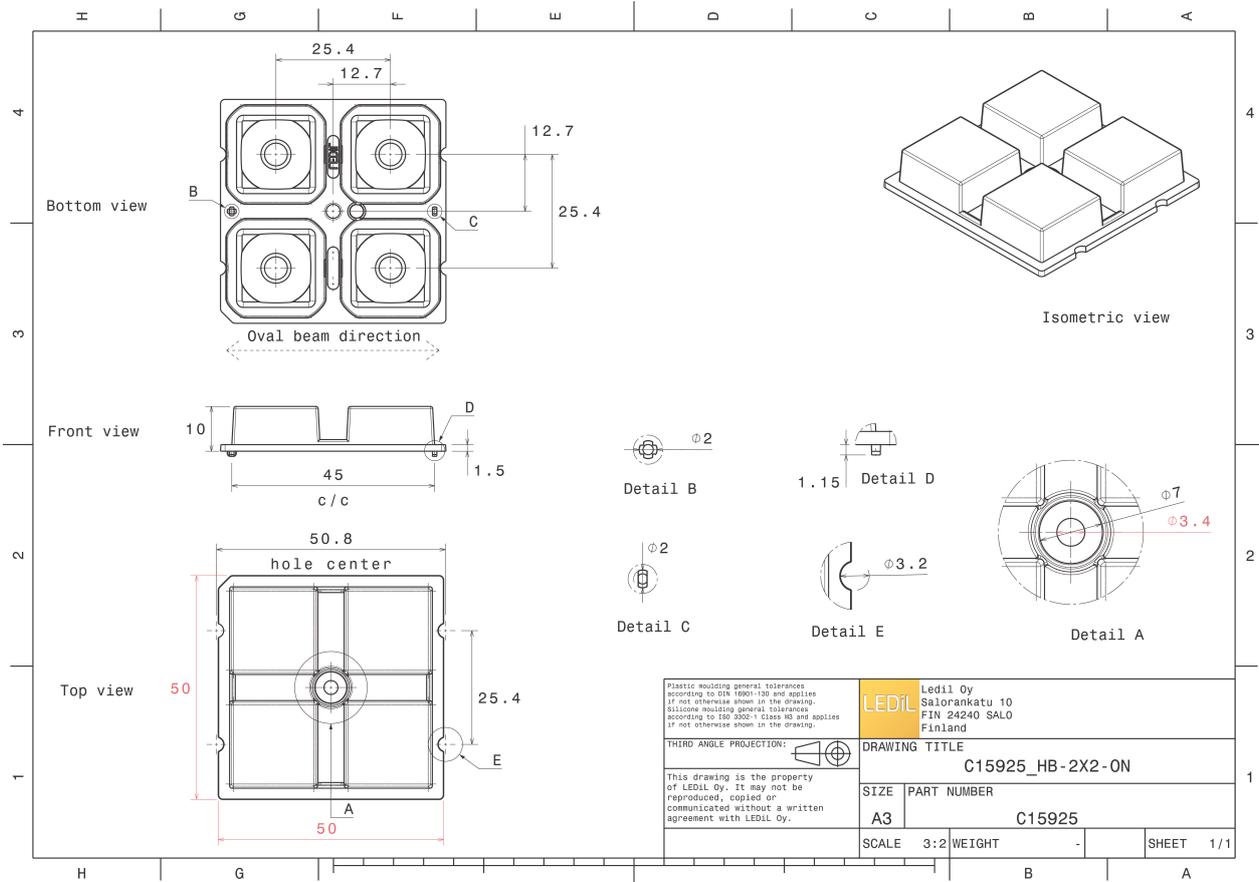
### MATERIALS:

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

### ORDERING INFORMATION:

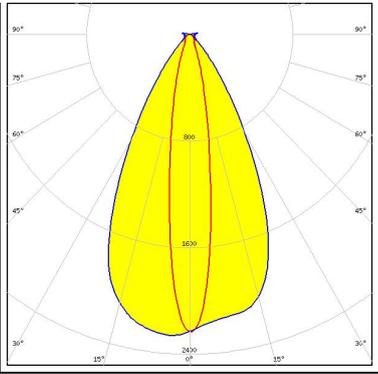
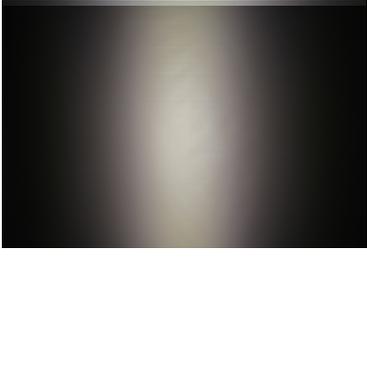
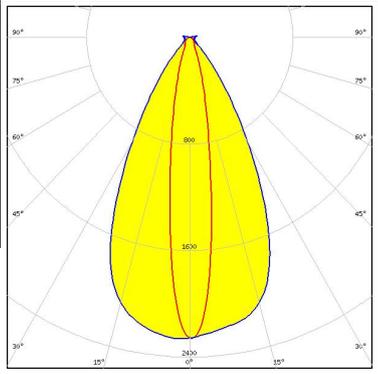
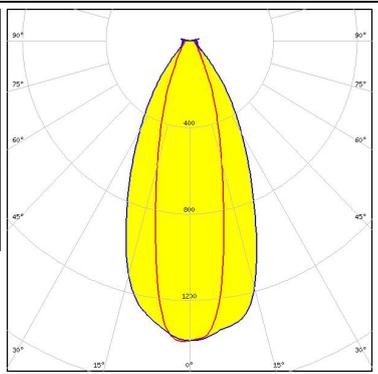
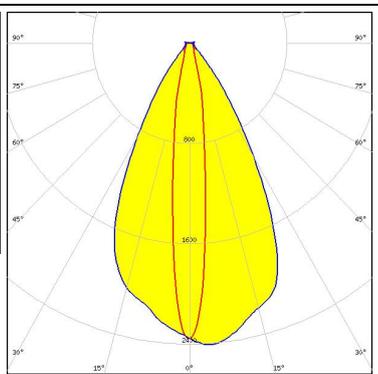
Component	Qty in box	MOQ	MPQ	Box weight (kg)
C15925_HB-2X2-ON » Box size: 480 x 280 x 300 mm	800	160	160	9.8





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

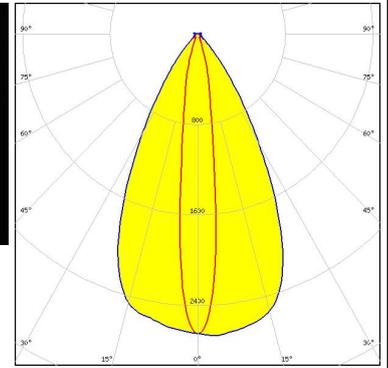
### OPTICAL RESULTS (MEASURED):

<p></p> <p>LED QUICK FLUX XTP 2x4 xxx LS G5</p> <p>FWHM / FWTM 16.0 + 55.0° / 40.0 + 83.0°</p> <p>Efficiency 93 %</p> <p>Peak intensity 2.3 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p></p> <p>LED QUICK FLUX XTP 2x6 xxx LS G5</p> <p>FWHM / FWTM 16.0 + 55.0° / 40.0 + 83.0°</p> <p>Efficiency 93 %</p> <p>Peak intensity 2.3 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p></p> <p>LED XD16</p> <p>FWHM / FWTM 27.0 + 49.0° / 62.0 + 89.0°</p> <p>Efficiency 90 %</p> <p>Peak intensity 1.4 cd/m</p> <p>LEDs/each optic 4</p> <p>Light colour White</p> <p>Required components:</p>		
<p></p> <p>LED XD16</p> <p>FWHM / FWTM 13.0 + 55.0° / 34.0 + 82.0°</p> <p>Efficiency 89 %</p> <p>Peak intensity 2.4 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		

#### OPTICAL RESULTS (MEASURED):

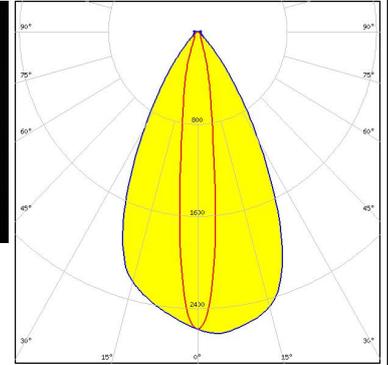
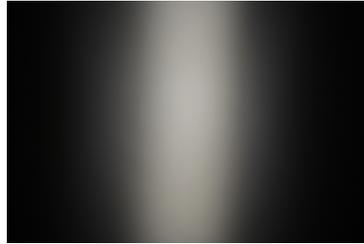
##### CREE LED

LED XP-G2  
 FWHM / FWTM 14.0 + 55.0° / 34.0 + 82.0°  
 Efficiency 89 %  
 Peak intensity 2.7 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



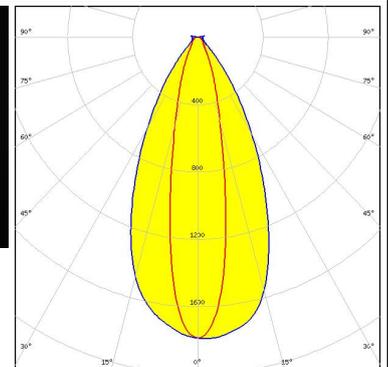
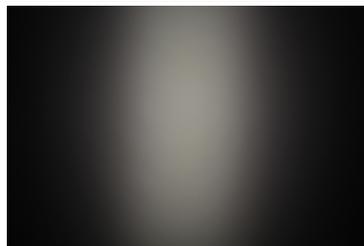
##### CREE LED

LED XP-L HI  
 FWHM / FWTM 14.0 + 55.0° / 36.0 + 82.0°  
 Efficiency 91 %  
 Peak intensity 2.6 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



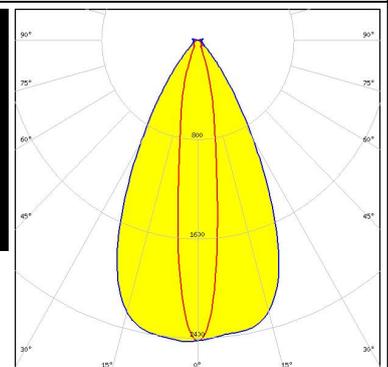
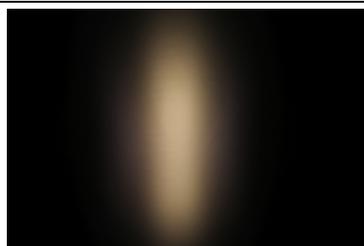
##### LUMILEDS

LED LUXEON V  
 FWHM / FWTM 22.0 + 51.0° / 52.0 + 86.0°  
 Efficiency 92 %  
 Peak intensity 1.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

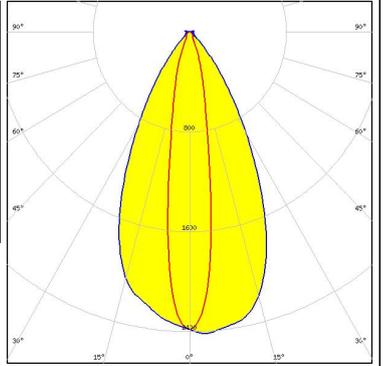
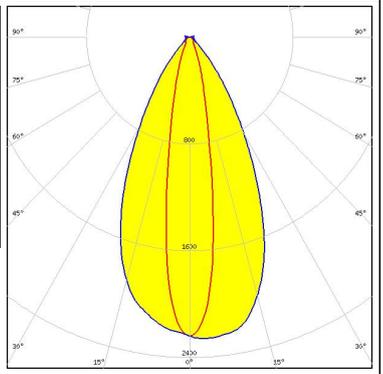
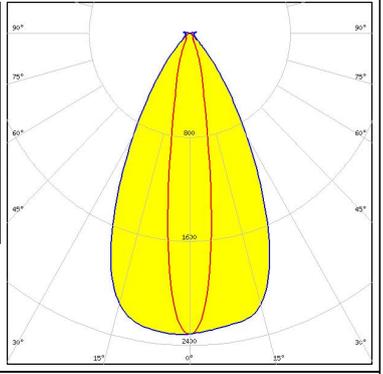
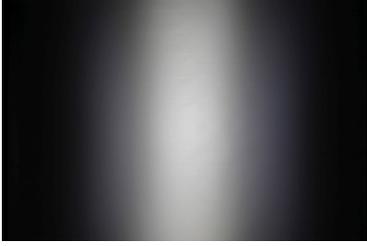
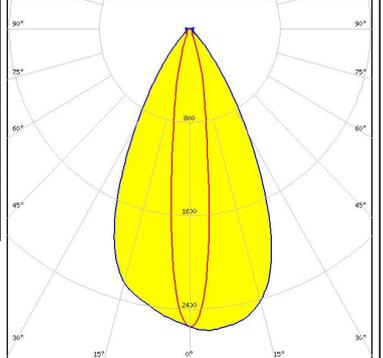


##### MST Your solutions

LED RecLED 122x50mm 1900lm 730 2x4 Opt G1  
 FWHM / FWTM 15.0 + 54.0° / 38.5 + 82.5°  
 Efficiency 94 %  
 Peak intensity 2.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OPTICAL RESULTS (MEASURED):

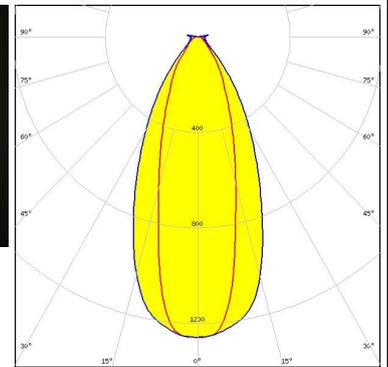
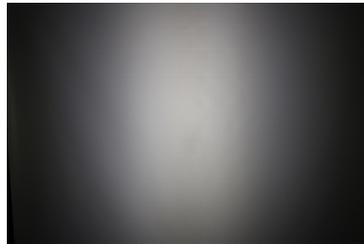
<p><b>NICHIA</b></p> <p>LED NVSW219F            FWHM / FWTM 17.0 + 53.0° / 40.0 + 83.0°            Efficiency 93 %            Peak intensity 2.4 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		
<p><b>NICHIA</b></p> <p>LED NVSW319B            FWHM / FWTM 18.0 + 52.0° / 41.0 + 84.0°            Efficiency 93 %            Peak intensity 2.3 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 17.0 + 54.0° / 41.0 + 84.0°            Efficiency 92 %            Peak intensity 2.3 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		
<p><b>OSRAM</b></p> <p>LED PrevaLED Brick HP 2x8            FWHM / FWTM 15.0 + 54.0° / 36.0 + 82.0°            Efficiency 91 %            Peak intensity 2.6 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		

#### OPTICAL RESULTS (MEASURED):

#### OSRAM

Opto Semiconductors

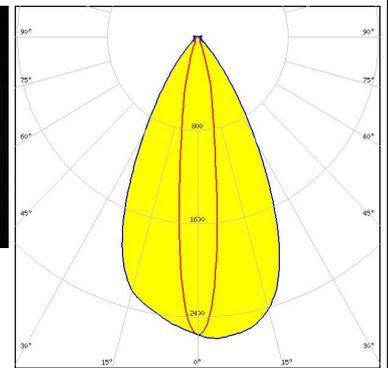
LED Duris S8  
 FWHM / FWTM 31.0 + 49.0° / 78.0 + 91.0°  
 Efficiency 92 %  
 Peak intensity 1.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OSRAM

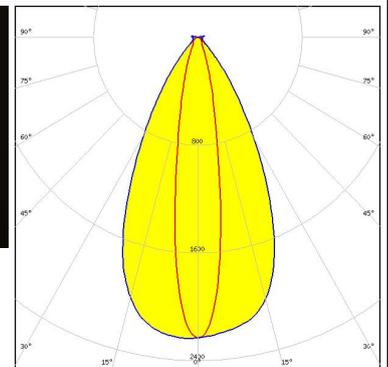
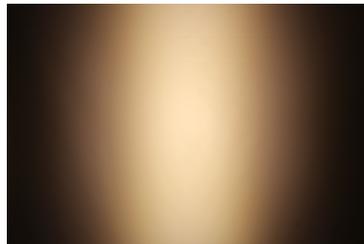
Opto Semiconductors

LED OSLOM Square CSSRM2/CSSRM3  
 FWHM / FWTM 15.0 + 54.0° / 36.0 + 82.0°  
 Efficiency 91 %  
 Peak intensity 2.6 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



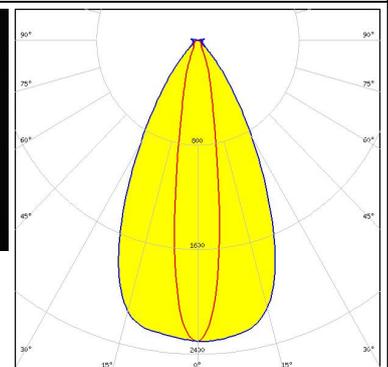
#### PHILIPS

LED Fortimo FastFlex LED 2x8 DA G4+  
 FWHM / FWTM 18.0 + 53.0° / 41.0 + 84.0°  
 Efficiency 94 %  
 Peak intensity 2.2 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

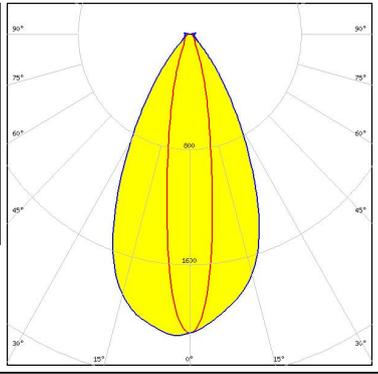
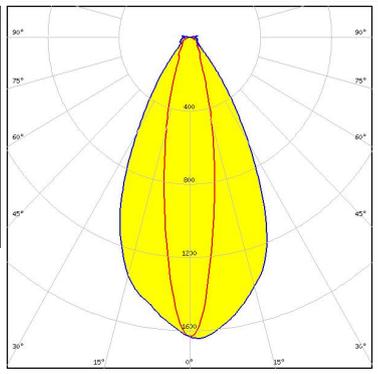
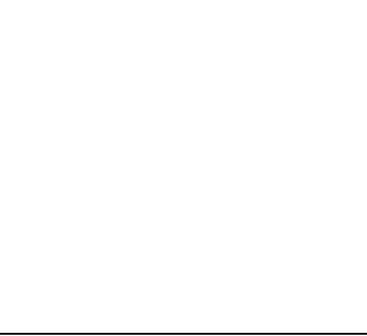
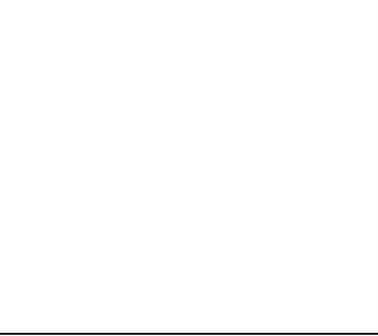
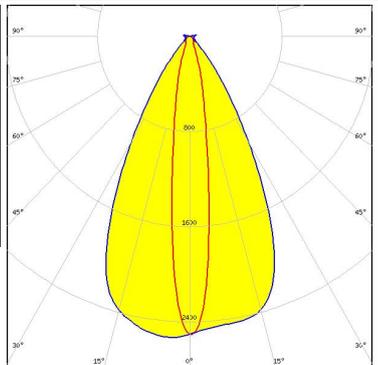


#### SAMSUNG

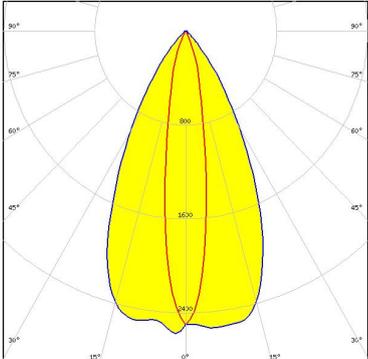
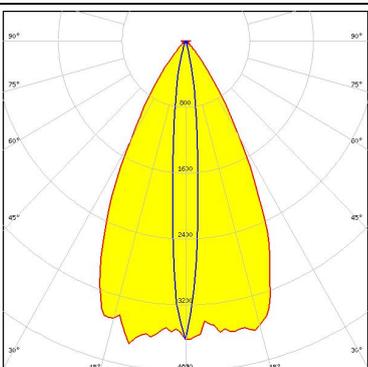
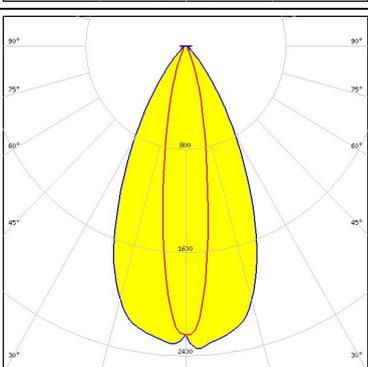
LED HiLOM RH16 (LH351C)  
 FWHM / FWTM 17.0 + 54.0° / 42.0 + 84.0°  
 Efficiency 94 %  
 Peak intensity 2.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OPTICAL RESULTS (MEASURED):

<p><b>SEOL</b> SEOUL SEMICONDUCTOR</p> <p>LED Z5M3 FWHM / FWTM 18.0 + 53.0° / 44.0 + 84.0° Efficiency 93 % Peak intensity 2.1 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p><b>SEOL</b> SEOUL SEMICONDUCTOR</p> <p>LED Z8Y22 FWHM / FWTM 20.0 + 53.0° / 50.0 + 85.0° Efficiency 91 % Peak intensity 1.6 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<h3>TRIDONIC</h3>		
<p>LED RLE 2x4 2000lm HP EXC2 OTD FWHM / FWTM 15.0 + 55.0° / 37.0 + 82.0° Efficiency 94 % Peak intensity 2.5 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 15.0 + 55.0° / 37.0 + 82.0° Efficiency 94 % Peak intensity 2.5 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		

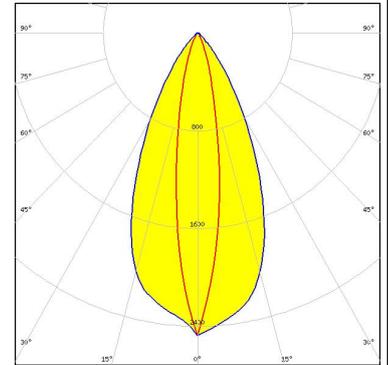
#### OPTICAL RESULTS (SIMULATED):

<p><b>CREE</b> ⇄ <b>LED</b></p> <p>LED: XHP35 HI            FWHM / FWTM: 16.0 + 50.0°            Efficiency: 90 %            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>CREE</b> ⇄ <b>LED</b></p> <p>LED: XP-E2            FWHM / FWTM: 10.0 + 50.0°            Efficiency: 90 %            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>CREE</b> ⇄ <b>LED</b></p> <p>LED: XP-E2            FWHM / FWTM: 54.0 + 10.0° / 78.0 + 27.0°            Efficiency: 93 %            Peak intensity: 3.8 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>CREE</b> ⇄ <b>LED</b></p> <p>LED: XP-G2 HE            FWHM / FWTM: 18.0 + 51.0° / 42.0 + 82.0°            Efficiency: 90 %            Peak intensity: 2.4 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	

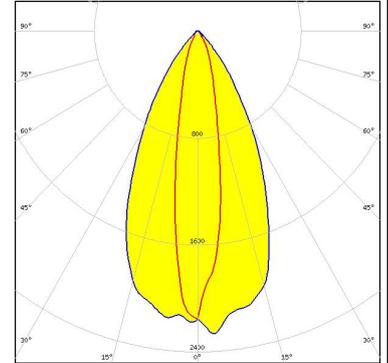
### OPTICAL RESULTS (SIMULATED):



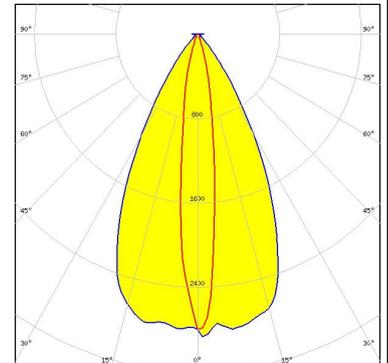
LED XP-G3  
 FWHM / FWTM 17.0 + 48.0°  
 Efficiency 89 %  
 LEDs/each optic 1  
 Light colour White  
 Required components:



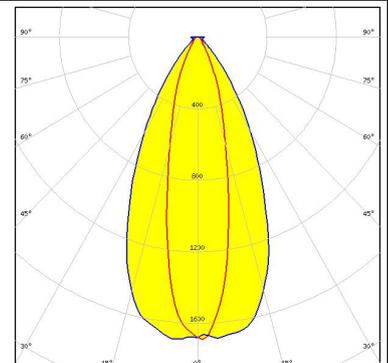
LED XP-L HD  
 FWHM / FWTM 18.0 + 50.0°  
 Efficiency 88 %  
 LEDs/each optic 1  
 Light colour White  
 Required components:



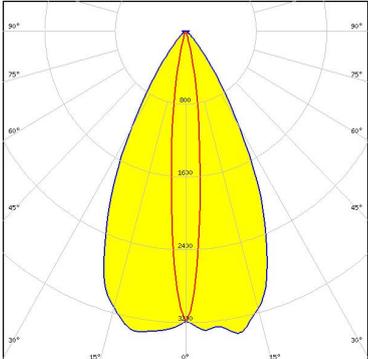
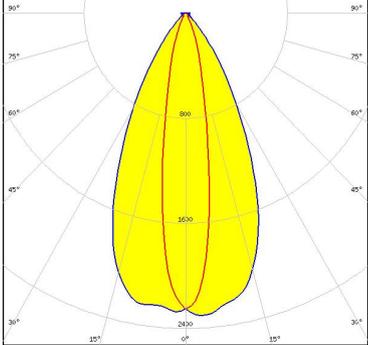
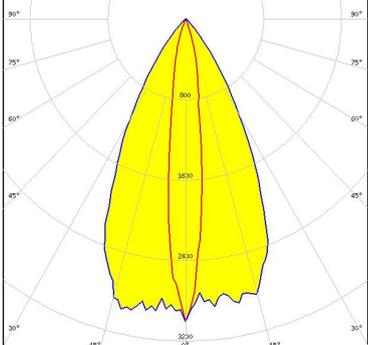
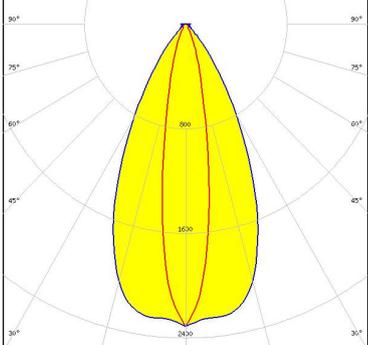
LED XT-E  
 FWHM / FWTM 14.0 + 55.0° / 34.0 + 80.0°  
 Efficiency 91 %  
 Peak intensity 2.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



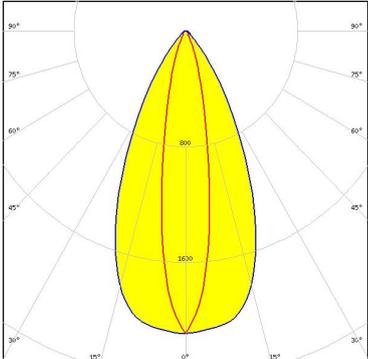
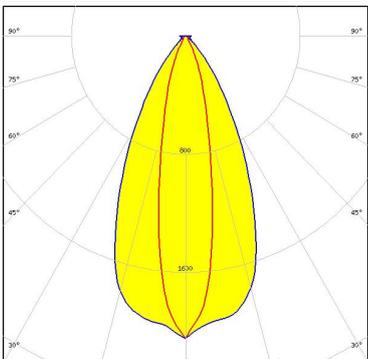
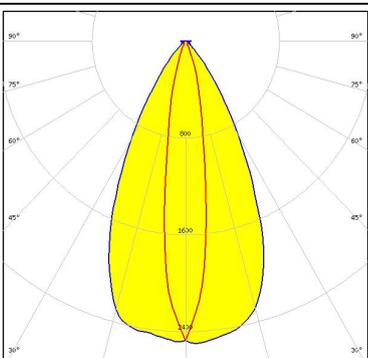
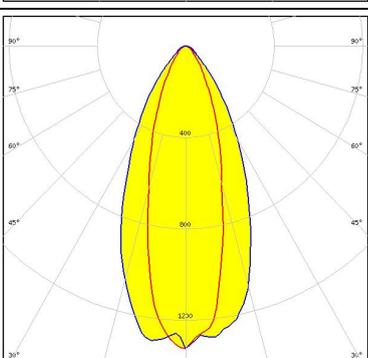
LED LUXEON 5050 Round LES  
 FWHM / FWTM 23.0 + 51.0° / 56.0 + 86.0°  
 Efficiency 89 %  
 Peak intensity 1.7 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OPTICAL RESULTS (SIMULATED):

<p><b>LUMILEDS</b></p> <p>LED: LUXEON C</p> <p>FWHM / FWTM: 12.0 + 54.0° / 27.0 + 79.0°</p> <p>Efficiency: 91 %</p> <p>Peak intensity: 3.4 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 HL2X</p> <p>FWHM / FWTM: 18.0 + 52.0° / 42.0 + 82.0°</p> <p>Efficiency: 90 %</p> <p>Peak intensity: 2.3 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: 14.0 + 50.0°</p> <p>Efficiency: 90 %</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: 18.0 + 52.0° / 42.0 + 82.0°</p> <p>Efficiency: 91 %</p> <p>Peak intensity: 2.3 cd/lm</p> <p>LEDs/each optic: 1</p> <p>Light colour: White</p> <p>Required components:</p>	

### OPTICAL RESULTS (SIMULATED):

<p><b>LUMILEDS</b></p> <p>LED LUXEON XR-HL2X (L2H2-xxxxxxxMLU010)</p> <p>FWHM / FWTM 18.0 + 50.0° / 42.0 + 80.0°</p> <p>Efficiency 82 %</p> <p>Peak intensity 2.1 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 20.0 + 50.0° / 48.0 + 84.0°</p> <p>Efficiency 90 %</p> <p>Peak intensity 2.1 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 NVSxx19B/NVSxx19C</p> <p>FWHM / FWTM 16.0 + 53.0° / 38.0 + 81.0°</p> <p>Efficiency 90 %</p> <p>Peak intensity 2.5 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 Duris S8</p> <p>FWHM / FWTM 29.0 + 49.0° / 69.0 + 89.0°</p> <p>Efficiency 84 %</p> <p>Peak intensity 1.4 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):

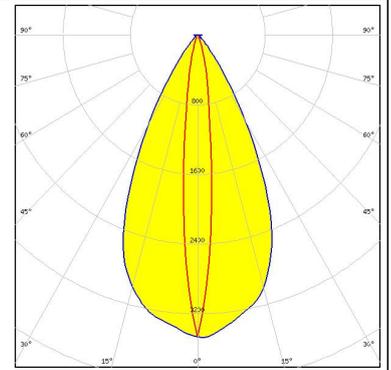
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED: OSCONIQ C 2424</p> <p>FWHM / FWTM: 12.0 + 54.0° / 30.0 + 78.0°</p> <p>Efficiency: 92 %</p> <p>Peak intensity: 3.3 cd/lm</p> <p>LEDs/each optic: 1</p> <p>Light colour: White</p> <p>Required components:</p>	
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED: OSCONIQ P 3030</p> <p>FWHM / FWTM: 10.0 + 56.0° / 28.0 + 78.0°</p> <p>Efficiency: 94 %</p> <p>Peak intensity: 3.5 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 P 3737 (2W version)</p> <p>FWHM / FWTM: 13.0 + 56.0° / 34.0 + 81.0°</p> <p>Efficiency: 93 %</p> <p>Peak intensity: 2.9 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 P 3737 Flat</p> <p>FWHM / FWTM: 16.0 + 54.0° / 38.0 + 80.0°</p> <p>Efficiency: 92 %</p> <p>Peak intensity: 2.6 cd/lm</p> <p>LEDs/each optic: 1</p> <p>Light colour: White</p> <p>Required components:</p>	

### OPTICAL RESULTS (SIMULATED):

#### OSRAM

Opto Semiconductors

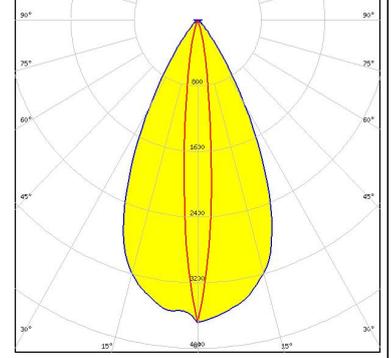
LED OSLOM Square Flat  
 FWHM / FWTM 12.0 + 52.0° / 29.0 + 76.0°  
 Efficiency 93 %  
 Peak intensity 3.5 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OSRAM

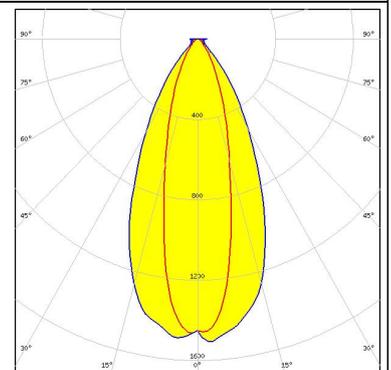
Opto Semiconductors

LED OSTAR Projection Compact (Kx.CSLNM1.xx)  
 FWHM / FWTM 10.0 + 52.0° / 26.0 + 76.0°  
 Efficiency 93 %  
 Peak intensity 3.7 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### SAMSUNG

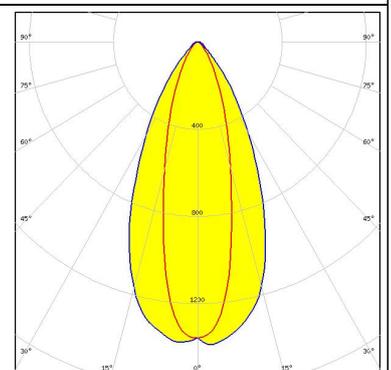
LED LH502C  
 FWHM / FWTM 26.0 + 50.0° / 64.0 + 86.0°  
 Efficiency 87 %  
 Peak intensity 1.5 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



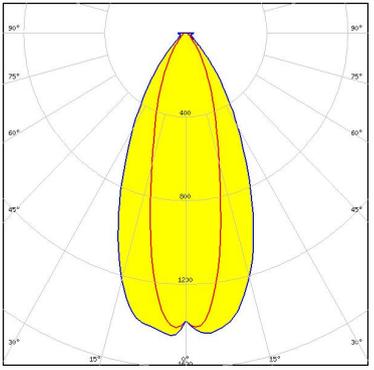
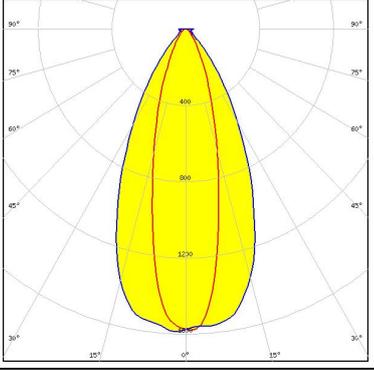
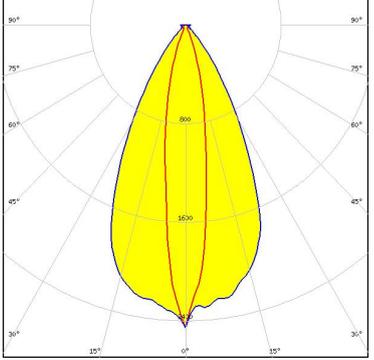
#### SAMSUNG

LED LH502C  
 FWHM / FWTM 28.0 + 50.0° / 64.0 + 86.0°  
 Efficiency 79 %  
 Peak intensity 1.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

Protective plate, glass



#### OPTICAL RESULTS (SIMULATED):

<p> SEOUL SEMICONDUCTOR</p> <p>LED MJT 5050</p> <p>FWHM / FWTM 28.0 + 50.0° / 67.0 + 88.0°</p> <p>Efficiency 87 %</p> <p>Peak intensity 1.5 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<p> SEOUL SEMICONDUCTOR</p> <p>LED SEOUL DC 5050 6V</p> <p>FWHM / FWTM 26.0 + 50.0° / 60.0 + 86.0°</p> <p>Efficiency 90 %</p> <p>Peak intensity 1.6 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<p> SEOUL SEMICONDUCTOR</p> <p>LED Z8Y22T</p> <p>FWHM / FWTM 16.0 + 52.0° / 39.0 + 81.0°</p> <p>Efficiency 90 %</p> <p>Peak intensity 2.5 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	

### GENERAL INFORMATION:

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

### MATERIALS:

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