

## EMMA-360

~170° side emitter

### SPECIFICATION:

Dimensions	9.9 x 9.9 mm
Height	5.7 mm
Fastening	glue, pin
ROHS compliant	yes ⓘ

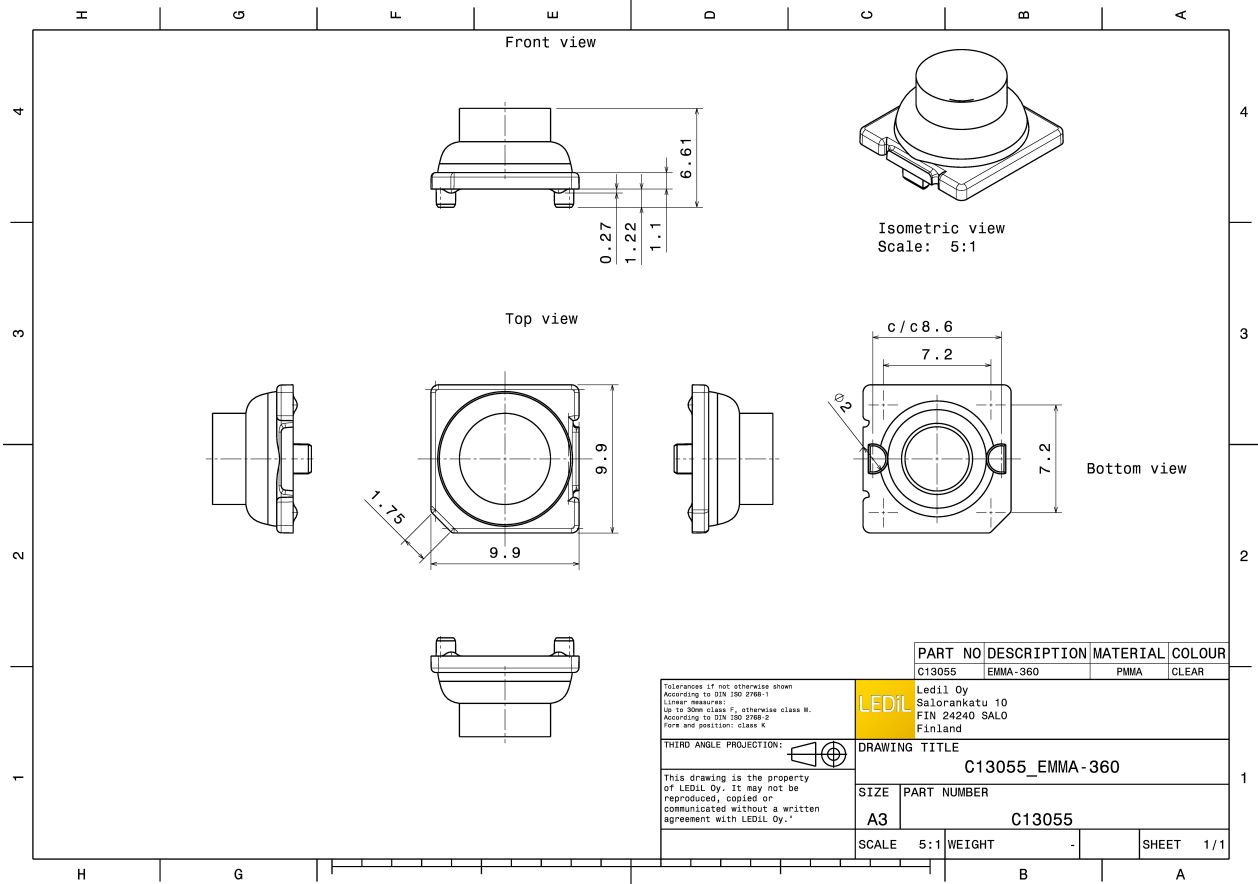
### MATERIALS:

Component	Type	Material	Colour	Finish
EMMA-360	Single lens	PMMA	clear	

### ORDERING INFORMATION:

Component	Qty in box	MOQ	MPQ	Box weight (kg)
C13055_EMMA-360	5000	300	100	1.6
» Box size:				



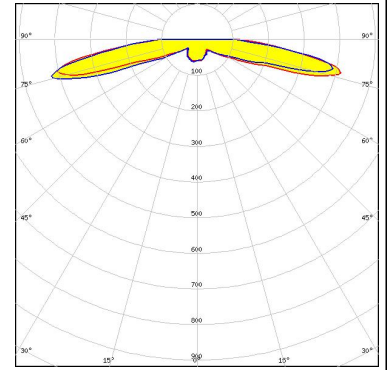


See also our general installation guide: [www.ledil.com/installation\\_guide](http://www.ledil.com/installation_guide)

#### OPTICAL RESULTS (MEASURED):

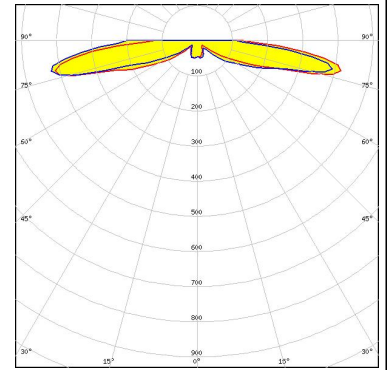
##### CREE LED

LED XB-D  
 FWHM / FWTM 170.0°  
 Efficiency 93 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



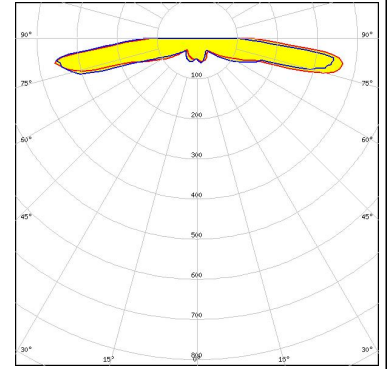
##### CREE LED

LED XP-E2  
 FWHM / FWTM 172.0°  
 Efficiency 94 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



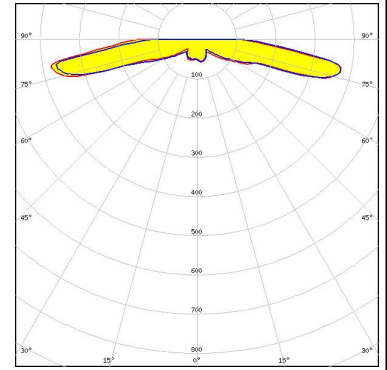
##### CREE LED

LED XP-G  
 FWHM / FWTM 173.0°  
 Efficiency 88 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

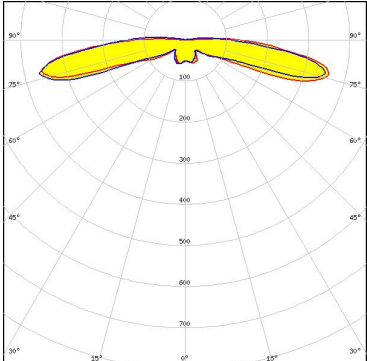
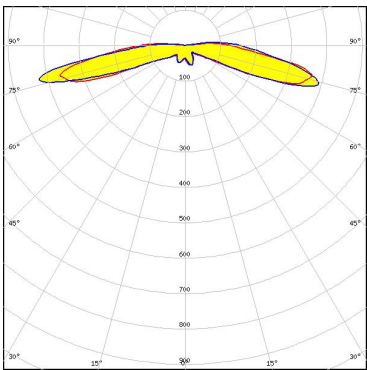
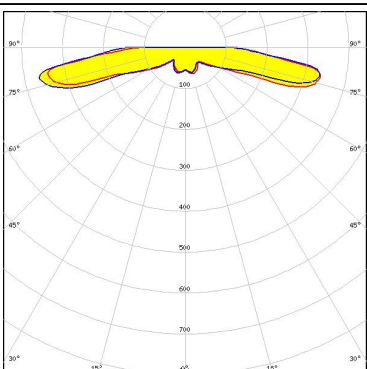
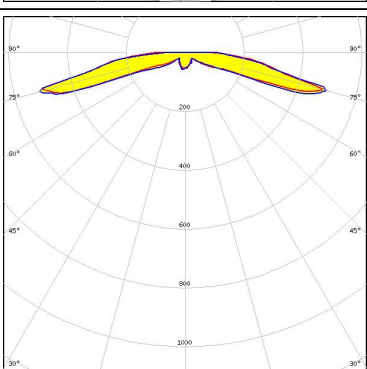


##### CREE LED

LED XP-G2  
 FWHM / FWTM 172.0°  
 Efficiency 90 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



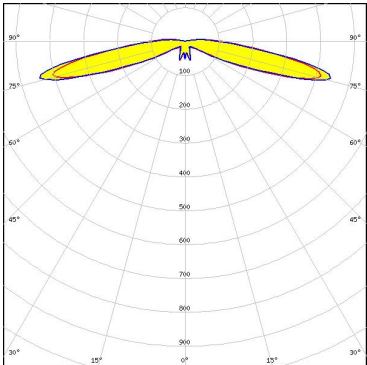
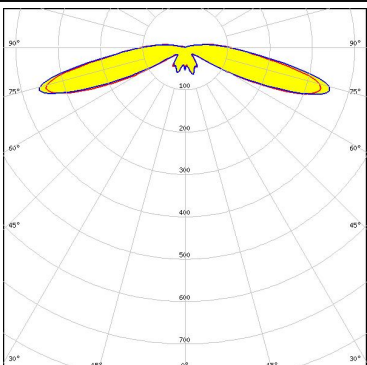
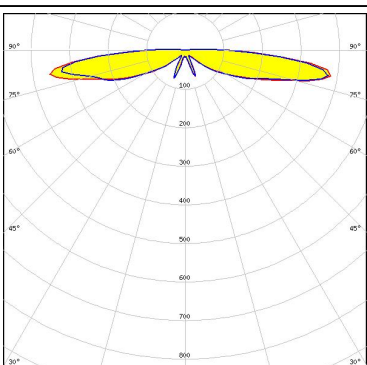
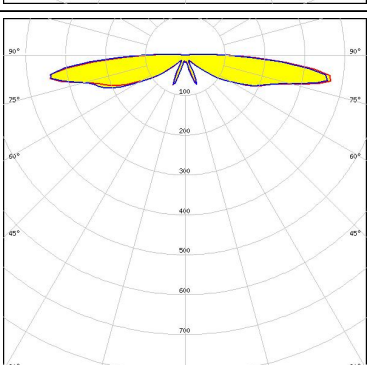
#### OPTICAL RESULTS (MEASURED):

<p><b>CREE</b> LED</p> <p>LED XT-E            FWHM / FWTM 174.0° / 188.0°            Efficiency 94 %            Peak intensity 0.4 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>	
<p><b>LUMILEDS</b></p> <p>LED LUXEON 3535 2D            FWHM / FWTM 170.0°            Efficiency 94 %            Peak intensity 0.4 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>	
<p><b>LUMILEDS</b></p> <p>LED LUXEON A            FWHM / FWTM 173.0°            Efficiency 92 %            Peak intensity 0.4 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>	
<p><b>LUMILEDS</b></p> <p>LED LUXEON Rebel            FWHM / FWTM 165.0°            Efficiency 93 %            Peak intensity 0.5 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>	

### OPTICAL RESULTS (MEASURED):

<p><b>NICHIA</b></p> <p>LED NCSxx19A FWHM / FWTM 165.0° Efficiency 90 % Peak intensity 0.4 cd/lm LEDs/each optic 1 Light colour White Required components:</p>	 <p>A beam spread diagram for the NICHIA LED. It features a circular grid with radial lines representing light intensity and concentric circles representing distance. The radial lines are labeled with angles: 15°, 30°, 45°, 60°, 75°, and 90°. The concentric circles are labeled with distances: 100, 200, 300, 400, 500, 600, 700, and 800. A yellow shaded area represents the beam's spread, which is wider at the 100 distance and narrows as it extends to the 800 distance. The beam is centered at 0° and reaches approximately 75° at the 100 distance mark.</p>
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED OSLO<sup>®</sup> Square EC FWHM / FWTM 170.0° Efficiency 92 % Peak intensity 0.4 cd/lm LEDs/each optic 1 Light colour White Required components:</p>	 <p>A beam spread diagram for the OSRAM LED. It features a circular grid with radial lines representing light intensity and concentric circles representing distance. The radial lines are labeled with angles: 15°, 30°, 45°, 60°, 75°, and 90°. The concentric circles are labeled with distances: 100, 200, 300, 400, 500, 600, 700, and 800. A yellow shaded area represents the beam's spread, which is wider at the 100 distance and narrows as it extends to the 800 distance. The beam is centered at 0° and reaches approximately 75° at the 100 distance mark.</p>

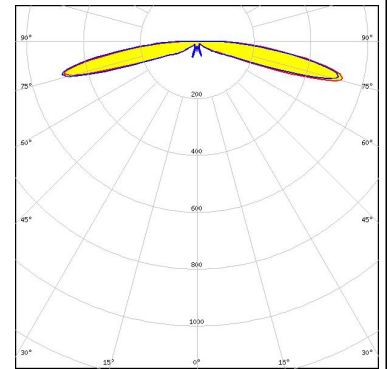
#### OPTICAL RESULTS (SIMULATED):

<p><b>CREE</b> → <b>LED</b></p> <p>LED J Series 2835            FWHM / FWTM 167.0° / 194.0°            Efficiency 96 %            Peak intensity 0.4 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>	
<p><b>CREE</b> → <b>LED</b></p> <p>LED J Series 3030            FWHM / FWTM 167.0° / 198.0°            Efficiency 96 %            Peak intensity 0.4 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>	
<p><b>CREE</b> → <b>LED</b></p> <p>LED XE-G            FWHM / FWTM 175.0° / 188.0°            Efficiency 96 %            Peak intensity 0.4 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>	
<p><b>CREE</b> → <b>LED</b></p> <p>LED XE-G            FWHM / FWTM 176.0° / 188.0°            Efficiency 96 %            Peak intensity 0.4 cd/lm            LEDs/each optic 1            Light colour Green            Required components:</p>	

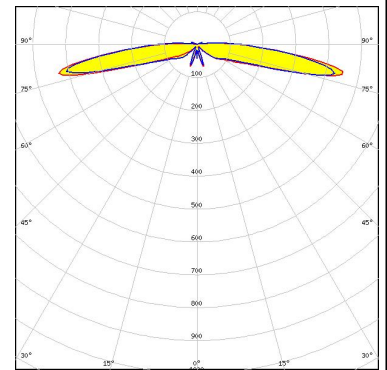
#### OPTICAL RESULTS (SIMULATED):



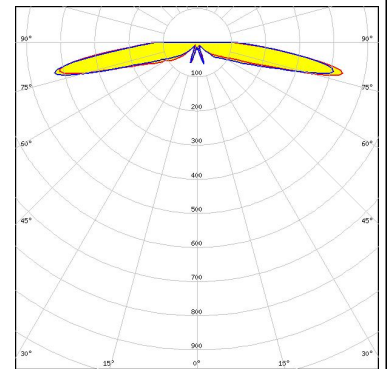
LED XQ-E HD  
 FWHM / FWTM 164.0° / 174.0°  
 Efficiency 92 %  
 Peak intensity 0.5 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



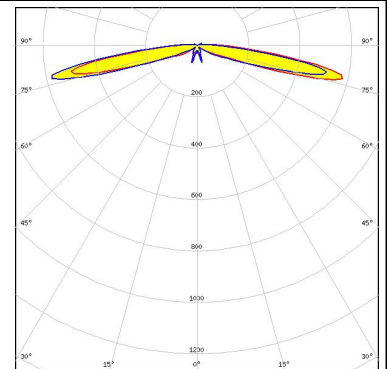
LED XQ-E HD  
 FWHM / FWTM 172.0° / 189.0°  
 Efficiency 97 %  
 Peak intensity 0.5 cd/lm  
 LEDs/each optic 1  
 Light colour Red  
 Required components:



LED XQ-E HD  
 FWHM / FWTM 170.0° / 182.0°  
 Efficiency 89 %  
 Peak intensity 0.4 cd/lm  
 LEDs/each optic 1  
 Light colour PC Amber  
 Required components:



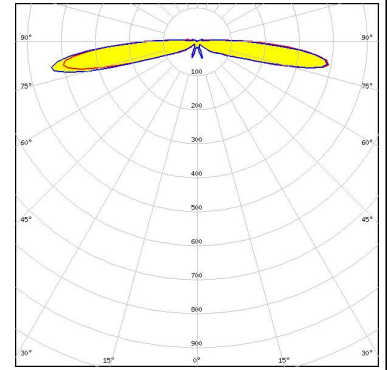
LED XQ-E HI  
 FWHM / FWTM 166.0° / 181.0°  
 Efficiency 97 %  
 Peak intensity 0.6 cd/lm  
 LEDs/each optic 1  
 Light colour Red  
 Required components:



#### OPTICAL RESULTS (SIMULATED):

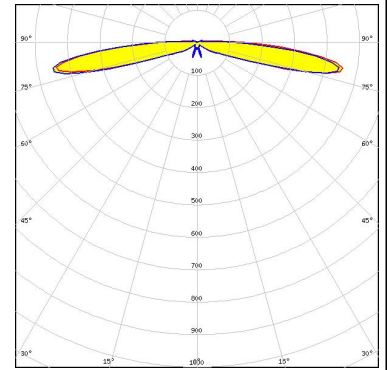
##### LUMILEDS

LED LUXEON C  
 FWHM / FWTM 177.0° / 192.0°  
 Efficiency 95 %  
 Peak intensity 0.5 cd/lm  
 LEDs/each optic 1  
 Light colour Red  
 Required components:



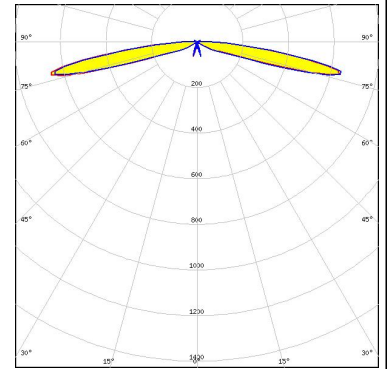
##### LUMILEDS

LED LUXEON C  
 FWHM / FWTM 175.0° / 188.0°  
 Efficiency 95 %  
 Peak intensity 0.5 cd/lm  
 LEDs/each optic 1  
 Light colour Green  
 Required components:



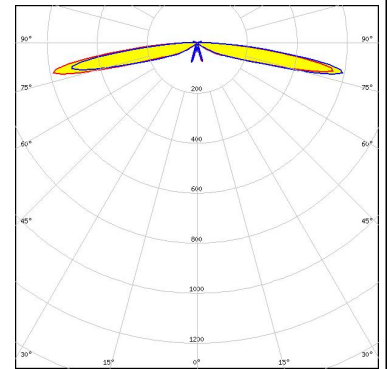
##### LUMILEDS

LED LUXEON CZ  
 FWHM / FWTM 166.0° / 178.0°  
 Efficiency 97 %  
 Peak intensity 0.7 cd/lm  
 LEDs/each optic 1  
 Light colour Blue  
 Required components:



##### LUMILEDS

LED LUXEON CZ  
 FWHM / FWTM 168.0° / 179.0°  
 Efficiency 97 %  
 Peak intensity 0.6 cd/lm  
 LEDs/each optic 1  
 Light colour Amber  
 Required components:

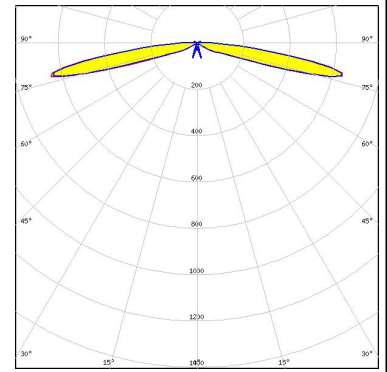




#### OPTICAL RESULTS (SIMULATED):

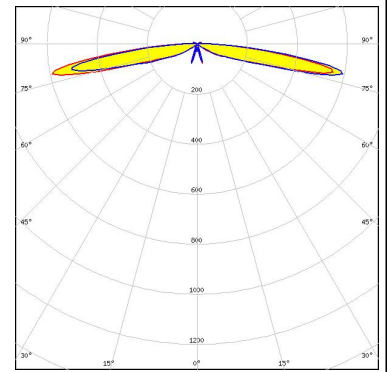
##### LUMILEDS

LED LUXEON CZ  
 FWHM / FWTM 166.0° / 178.0°  
 Efficiency 97 %  
 Peak intensity 0.7 cd/lm  
 LEDs/each optic 1  
 Light colour Green  
 Required components:



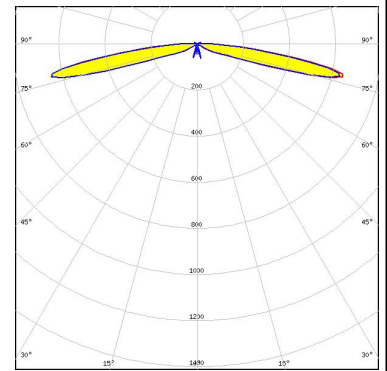
##### LUMILEDS

LED LUXEON CZ  
 FWHM / FWTM 168.0° / 179.0°  
 Efficiency 97 %  
 Peak intensity 0.6 cd/lm  
 LEDs/each optic 1  
 Light colour Red  
 Required components:



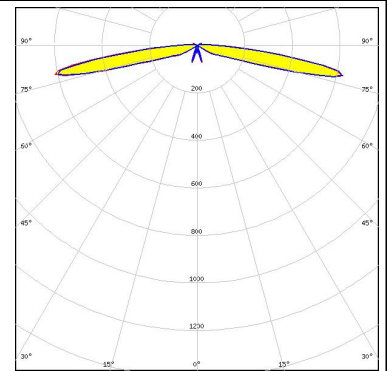
##### LUMILEDS

LED LUXEON CZ  
 FWHM / FWTM 166.0° / 178.0°  
 Efficiency 97 %  
 Peak intensity 0.7 cd/lm  
 LEDs/each optic 1  
 Light colour Royal Blue  
 Required components:

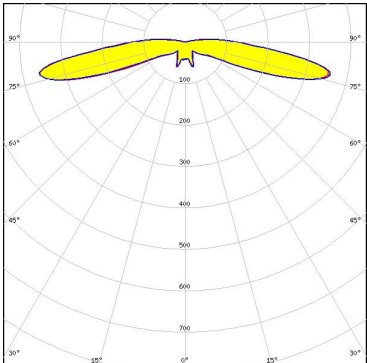
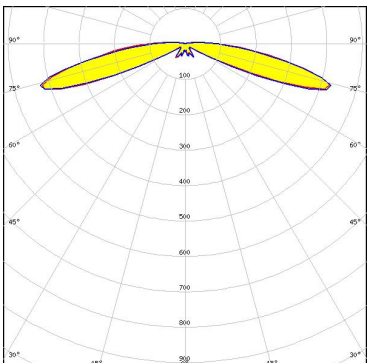
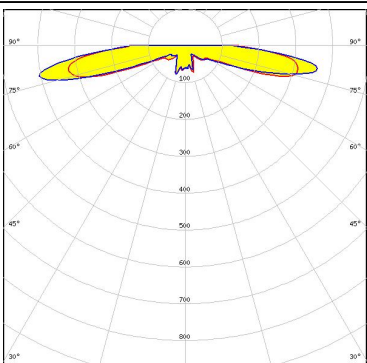
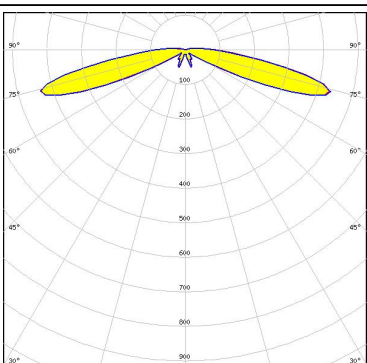


##### LUMILEDS

LED LUXEON Rubix  
 FWHM / FWTM 168.0° / 178.0°  
 Efficiency 97 %  
 Peak intensity 0.7 cd/lm  
 LEDs/each optic 1  
 Light colour Green  
 Required components:



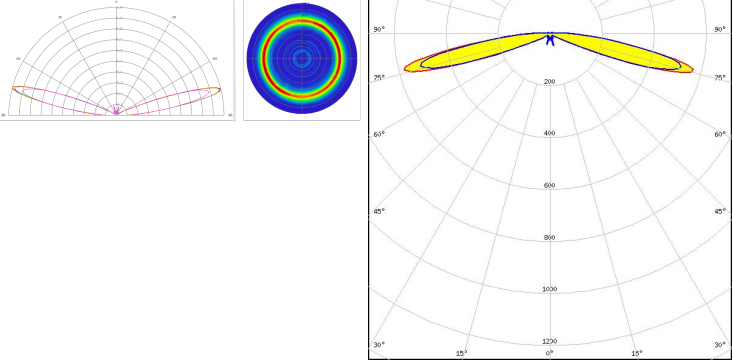
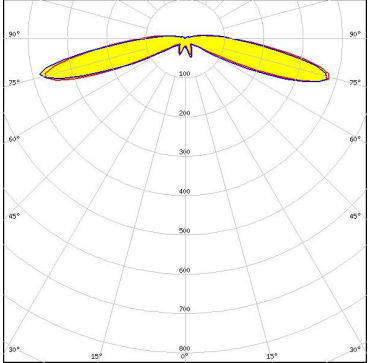
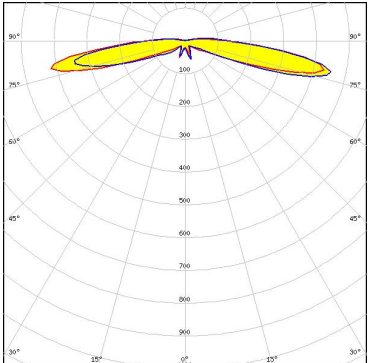
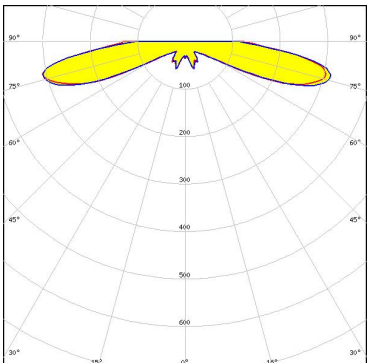
#### OPTICAL RESULTS (SIMULATED):

<p><b>LUMILEDS</b></p> <p>LED: LUXEON V2            FWHM / FWTM: 172.0° / 196.0°            Efficiency: 94 %            Peak intensity: 0.4 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>NICHIA</b></p> <p>LED: NCSxE17A            FWHM / FWTM: 166.0° / 189.0°            Efficiency: 94 %            Peak intensity: 0.4 cd/lm            LEDs/each optic: 1            Light colour: Green            Required components:</p>	
<p><b>NICHIA</b></p> <p>LED: NF2W757G-MT (Tunable White)            FWHM / FWTM: 174.0 + 178.0° / 182.0°            Efficiency: 90 %            Peak intensity: 0.4 cd/lm            LEDs/each optic: 1            Light colour: Tunable White            Required components:</p>	
<p><b>NICHIA</b></p> <p>LED: NVSxE21A            FWHM / FWTM: 164.0° / 188.0°            Efficiency: 96 %            Peak intensity: 0.4 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	

#### OPTICAL RESULTS (SIMULATED):

<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED: OSLON Signal</p> <p>FWHM / FWTM: 172.0° / 188.0°</p> <p>Efficiency: 97 %</p> <p>Peak intensity: 0.5 cd/lm</p> <p>LEDs/each optic: 1</p> <p>Light colour: Red</p> <p>Required components:</p>	
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED: OSLON SSL 150</p> <p>FWHM / FWTM: 172.0° / 186.0°</p> <p>Efficiency: 95 %</p> <p>Peak intensity: 0.5 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: OSLON SSL 150</p> <p>FWHM / FWTM: 171.0° / 187.0°</p> <p>Efficiency: 97 %</p> <p>Peak intensity: 0.5 cd/lm</p> <p>LEDs/each optic: 1</p> <p>Light colour: Red</p> <p>Required components:</p>	
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED: OSLON SSL 80</p> <p>FWHM / FWTM: 168.0° / 188.0°</p> <p>Efficiency: 93 %</p> <p>Peak intensity: 0.5 cd/lm</p> <p>LEDs/each optic: 1</p> <p>Light colour: White</p> <p>Required components:</p>	

#### OPTICAL RESULTS (SIMULATED):

<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED SFH 4716AS            FWHM / FWTM 164.0° / 180.0°            Efficiency 96 %            LEDs/each optic 1            Light colour IR            Required components:</p>	
<p><b>SAMSUNG</b></p> <p>LED LM28xB Series            FWHM / FWTM 169.0° / 199.0°            Efficiency 97 %            Peak intensity 0.4 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>	
<p><b>SEOUL SEMICONDUCTOR</b></p> <p>LED MJT 3030            FWHM / FWTM 172.0° / 194.0°            Efficiency 95 %            Peak intensity 0.5 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>	
<p><b>SEOUL SEMICONDUCTOR</b></p> <p>LED Z8Y22P            FWHM / FWTM 152.0°            Efficiency 87 %            Peak intensity 0.4 cd/lm            LEDs/each optic 1            Light colour White            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:

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.

### PRODUCT DATA USER AGREEMENT AND DISCLAIMER:

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

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Hong Kong, China

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