

### CRYSTAL-RS

~5.1° spot beam. Assembly with holder.

#### SPECIFICATION:

Dimensions	Ø 49.7 mm
Height	28.7 mm
Fastening	pin, screw
ROHS compliant	yes ⓘ

#### MATERIALS:

Component	Type	Material	Colour	Finish
F12916_CRYSTAL-RS	Single lens	PMMA	clear	
C13478_CRYSTAL-HLD	Holder	PC	white	

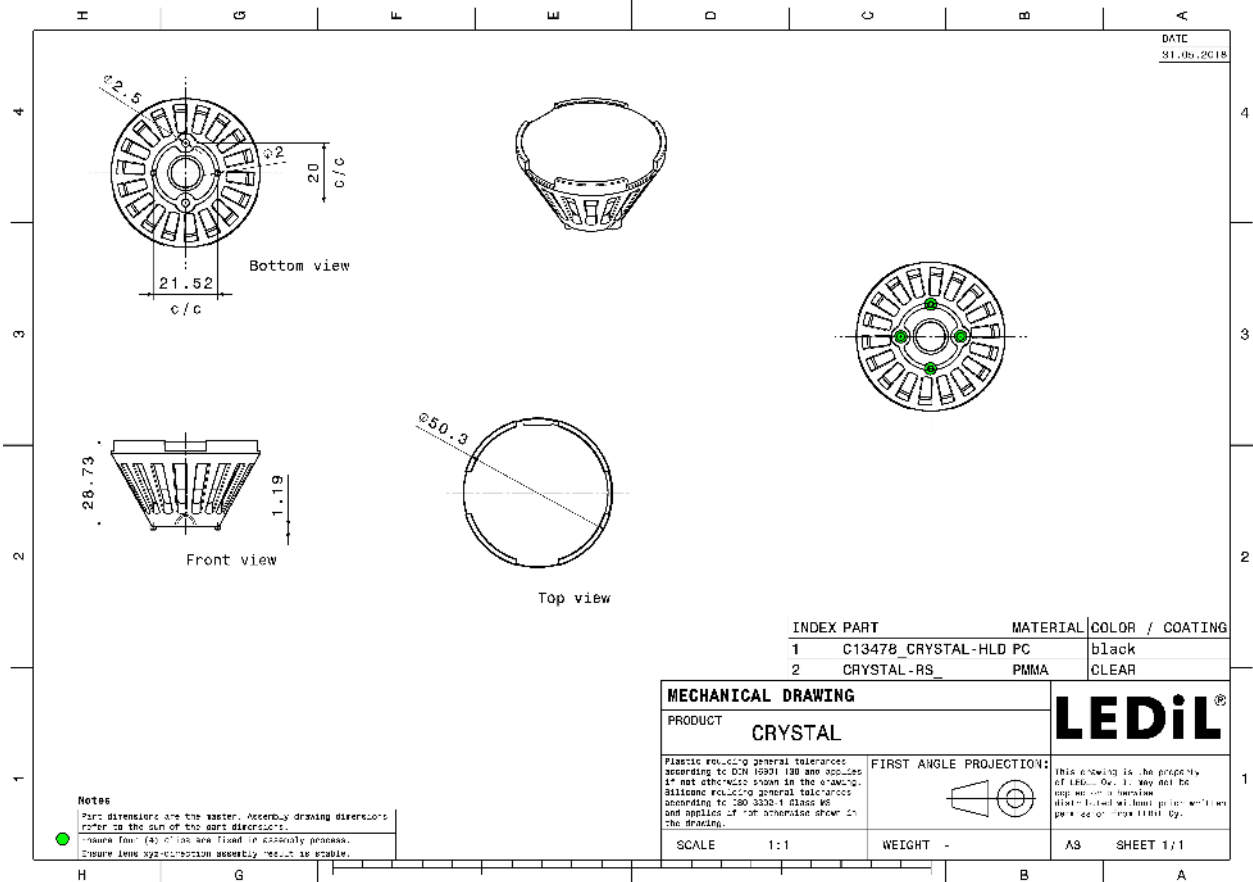
#### ORDERING INFORMATION:

##### Quantities for one set:

Single lens	1
Holder	1



Component		Qty in box	MOQ	MPQ	Box weight (kg)
F12916_CRYSTAL-RS	Single lens	288	64	32	8.6
» Box size: 480 x 280 x 300 mm					
C13478_CRYSTAL-HLD	Holder	1152	64	32	6.1
» Box size: 480 x 280 x 300 mm					

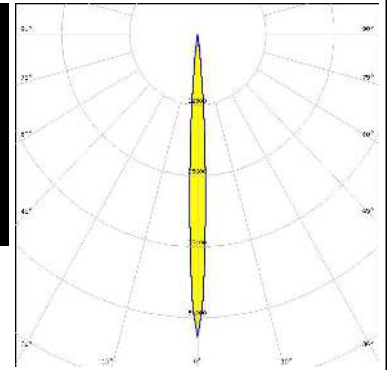
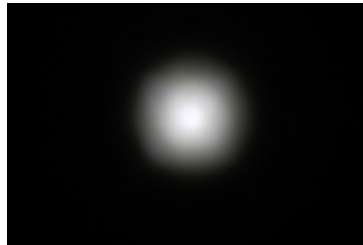


See also our general installation guide: [www.ledil.com/installation\\_guide](http://www.ledil.com/installation_guide)

### OPTICAL RESULTS (MEASURED):

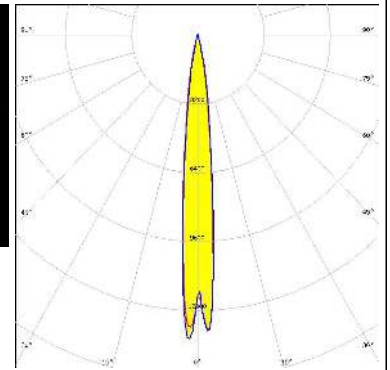
#### CREE ⇄ LED

LED XHP35 HI  
 FWHM / FWTM 5.7° / 15.0°  
 Efficiency 89 %  
 Peak intensity 48.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



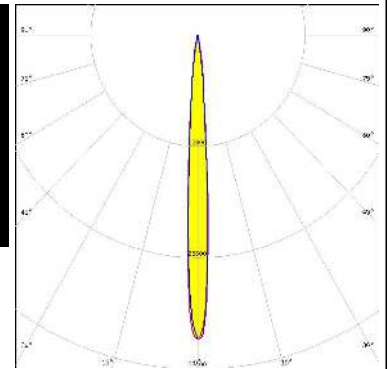
#### CREE ⇄ LED

LED XHP50  
 FWHM / FWTM 11.0° / 24.0°  
 Efficiency 93 %  
 Peak intensity 14.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### CREE ⇄ LED

LED XM-L  
 FWHM / FWTM 7.0° / 17.0°  
 Efficiency 94 %  
 Peak intensity 34.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### CREE ⇄ LED

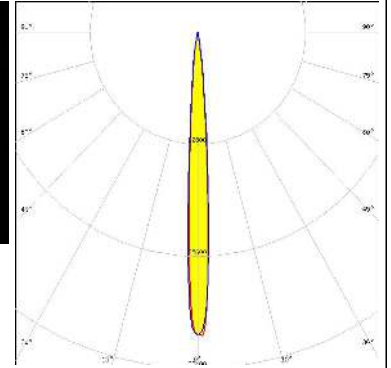
LED XP-G  
 FWHM / FWTM 4.9° / 11.4°  
 Efficiency 89 %  
 Peak intensity 68.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



### OPTICAL RESULTS (MEASURED):

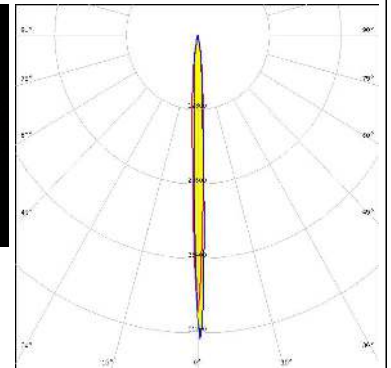
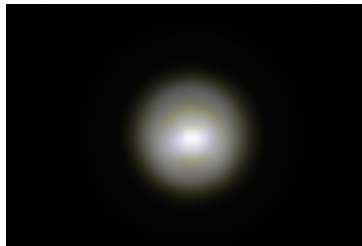
#### CREE LED

LED XP-L HD  
 FWHM / FWTM 7.0° / 15.0°  
 Efficiency 88 %  
 Peak intensity 34.7 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



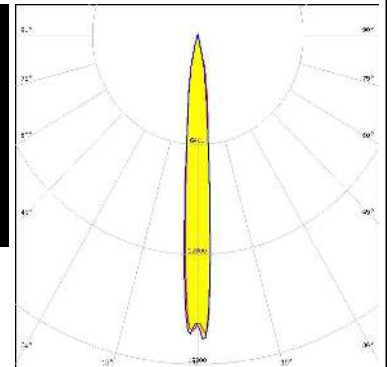
#### LUMILEDS

LED LUXEON 3030 2D (Round LES)  
 FWHM / FWTM 4.0° / 15.0°  
 Efficiency 94 %  
 Peak intensity 52.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### LUMILEDS

LED LUXEON 5050 Round LES  
 FWHM / FWTM 9.0° / 24.0°  
 Efficiency 94 %  
 Peak intensity 17.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:


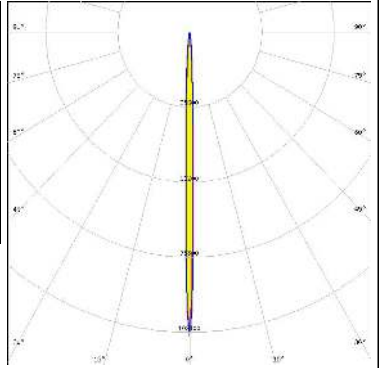

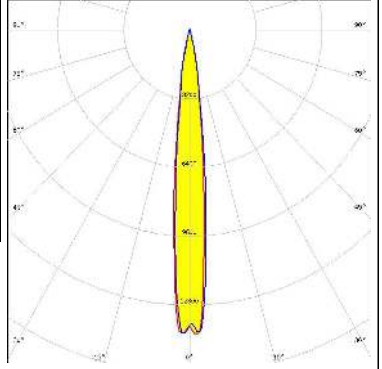

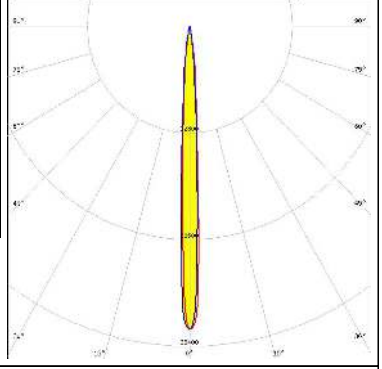

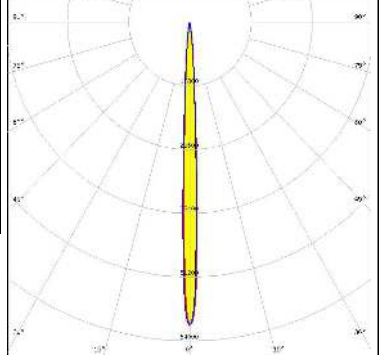


#### LUMILEDS

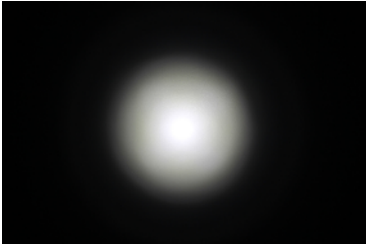
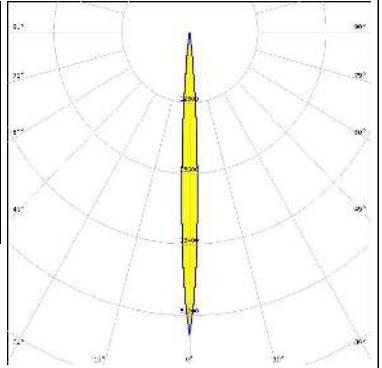

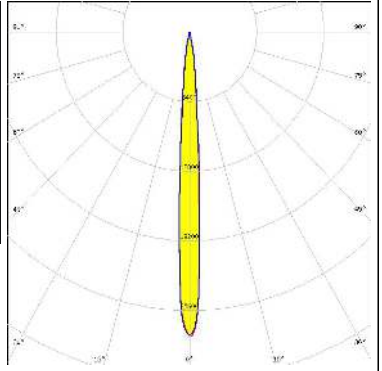

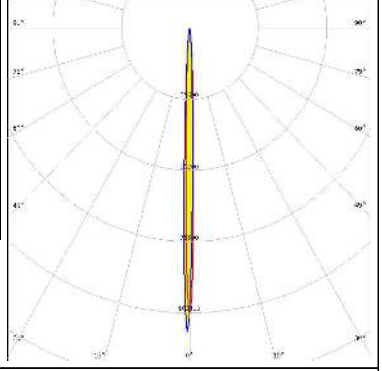


LED LUXEON A  
 FWHM / FWTM 5.1° / 14.0°  
 Efficiency 89 %  
 Peak intensity 58.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:





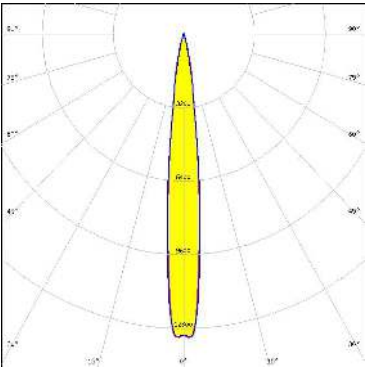

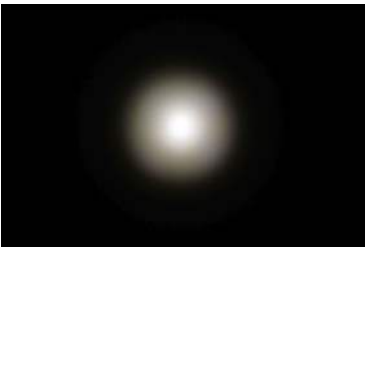
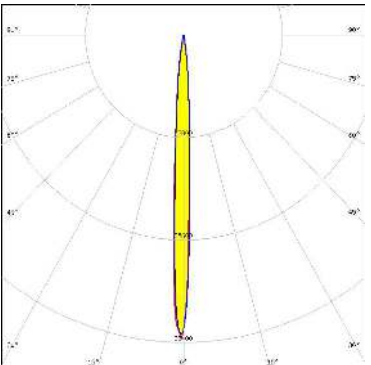
### OPTICAL RESULTS (MEASURED):

<p><b>LUMILEDS</b></p> <p>LED LUXEON Z ES</p> <p>FWHM / FWTM 3.0° / 9.0°</p> <p>Efficiency 93 %</p> <p>Peak intensity 103.8 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p><b>NICHIA</b></p> <p>LED NV4x144A</p> <p>FWHM / FWTM 12.0° / 25.0°</p> <p>Efficiency 92 %</p> <p>Peak intensity 14.2 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 6.0° / 16.0°</p> <p>Efficiency 89 %</p> <p>Peak intensity 36.5 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 NVSW719AC</p> <p>FWHM / FWTM 5.0° / 12.0°</p> <p>Efficiency 93 %</p> <p>Peak intensity 61 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		

### OPTICAL RESULTS (MEASURED):


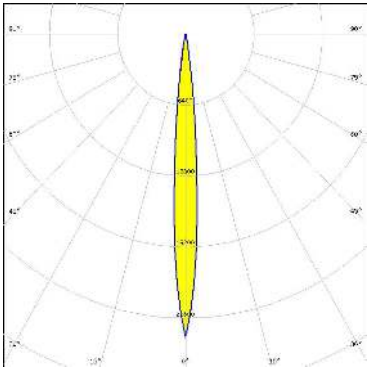

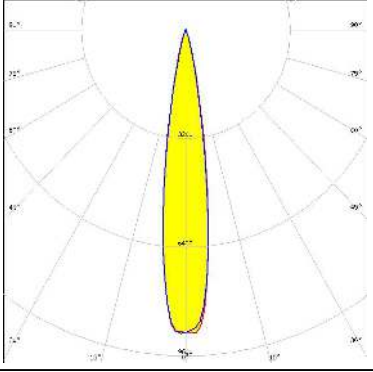

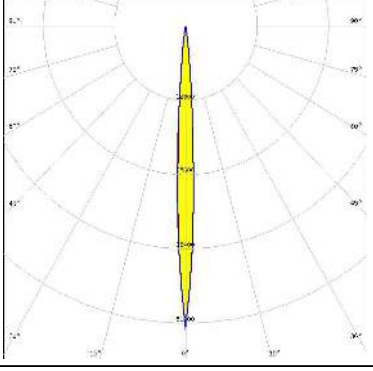

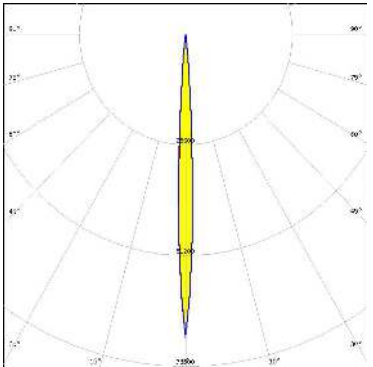

<p><b>NICHIA</b></p> <p>LED                    NVSxx19B/NVSxx19C</p> <p>FWHM / FWTM      5.3° / 17.0°</p> <p>Efficiency            89 %</p> <p>Peak intensity      42.5 cd/lm</p> <p>LEDs/each optic    1</p> <p>Light colour        White</p> <p>Required components:</p>		
<p><b>NICHIA</b></p> <p>LED                    NWSx229A</p> <p>FWHM / FWTM      8.0° / 18.0°</p> <p>Efficiency            92 %</p> <p>Peak intensity      27.9 cd/lm</p> <p>LEDs/each optic    1</p> <p>Light colour        White</p> <p>Required components:</p>		
<p><b>OSRAM</b> <small>Opto Semiconductors</small></p> <p>LED                    OSLOM SSL 150</p> <p>FWHM / FWTM      3.0° / 9.0°</p> <p>Efficiency            94 %</p> <p>Peak intensity      108.9 cd/lm</p> <p>LEDs/each optic    1</p> <p>Light colour        White</p> <p>Required components:</p>		
<p><b>SAMSUNG</b></p> <p>LED                    LH351Z</p> <p>FWHM / FWTM      4.4° / 12.0°</p> <p>Efficiency            90 %</p> <p>Peak intensity      77 cd/lm</p> <p>LEDs/each optic    1</p> <p>Light colour        White</p> <p>Required components:</p>		

### OPTICAL RESULTS (MEASURED):

<p> SEOUL SEMICONDUCTOR</p> <p>LED WICOP 5050</p> <p>FWHM / FWTM 12.0° / 25.0°</p> <p>Efficiency 92 %</p> <p>Peak intensity 13.3 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p> SEOUL SEMICONDUCTOR</p> <p>LED Z5M3</p> <p>FWHM / FWTM 6.0° / 16.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 3.8 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		



### OPTICAL RESULTS (SIMULATED):

	<p>LED XHP50.3 HI            FWHM / FWTM 10.0 + 8.0° / 18.0°            Efficiency 97 %            Peak intensity 27.4 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>	
	<p>LED XHP70.2            FWHM / FWTM 16.0° / 30.0°            Efficiency 95 %            Peak intensity 9 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>	
	<p>LED XP-G3            FWHM / FWTM 6.0° / 14.0°            Efficiency 95 %            Peak intensity 52.3 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>	
	<p>LED XP-L HI            FWHM / FWTM 5.6° / 12.0°            Efficiency 94 %            Peak intensity 70.2 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>	 

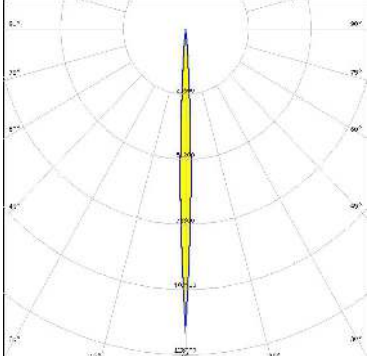
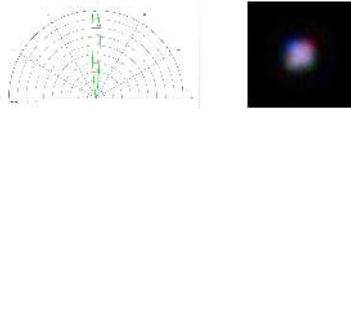
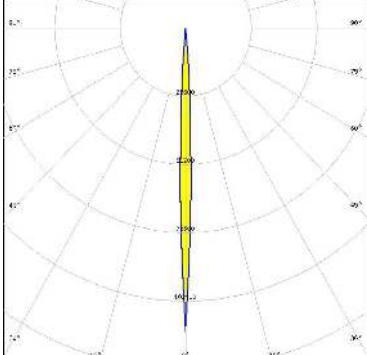
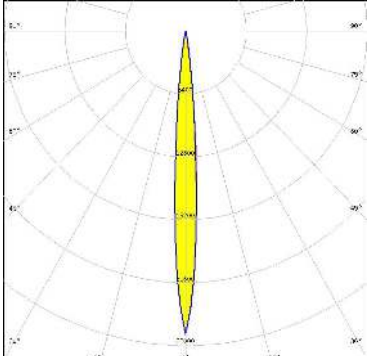
### OPTICAL RESULTS (SIMULATED):

<p><b>CREE</b> → <b>LED</b></p> <p>LED: XP-P            FWHM / FWTM: 4.0° / 10.0°            Efficiency: 95 %            Peak intensity: 115.4 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>CREE</b> → <b>LED</b></p> <p>LED: XQ-E HI            FWHM / FWTM: 4.5° / 10.0°            Efficiency: 95 %            Peak intensity: 106.7 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>LUMILEDS</b></p> <p>LED: LUXEON C            FWHM / FWTM: 4.0° / 10.0°            Efficiency: 91 %            Peak intensity: 109.6 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>LUMILEDS</b></p> <p>LED: LUXEON CZ            FWHM / FWTM: 4.0° / 8.0°            Efficiency: 93 %            Peak intensity: 181 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	

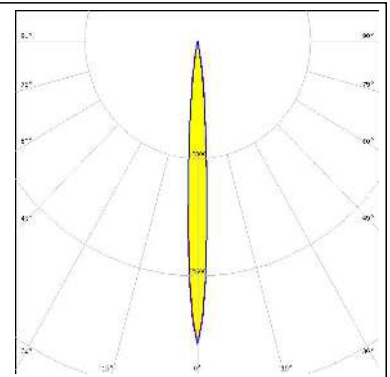
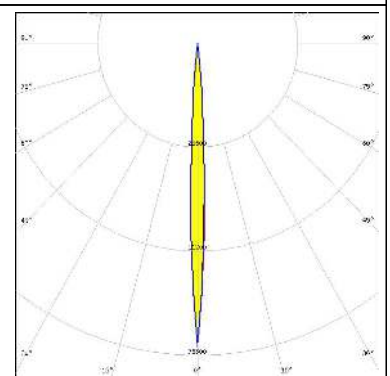
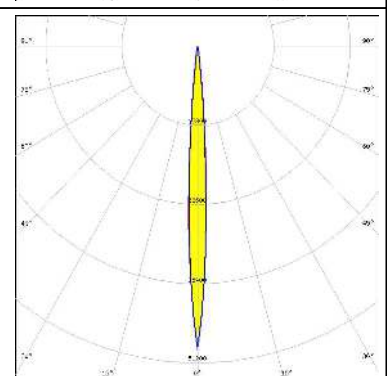
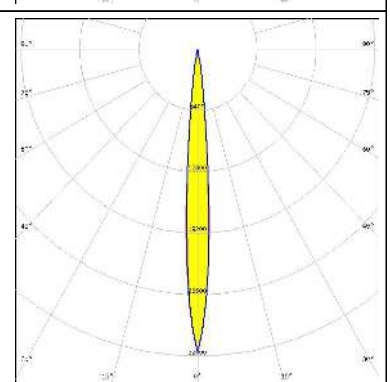
### OPTICAL RESULTS (SIMULATED):

<p><b>LUMILEDS</b></p> <p>LED LUXEON HL2X</p> <p>FWHM / FWTM 6.0° / 14.0°</p> <p>Efficiency 95 %</p> <p>Peak intensity 52.6 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 Rebel Plus</p> <p>FWHM / FWTM 6.0° / 10.0°</p> <p>Efficiency 95 %</p> <p>Peak intensity 84.3 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 Rubix</p> <p>FWHM / FWTM 4.0° / 10.0°</p> <p>Efficiency 95 %</p> <p>Peak intensity 114.3 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour Green</p> <p>Required components:</p>	
<p><b>LUMILEDS</b></p> <p>LED LUXEON Rubix</p> <p>FWHM / FWTM 4.0° / 10.0°</p> <p>Efficiency 95 %</p> <p>Peak intensity 106.8 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 Rubix</p> <p>FWHM / FWTM 4.0° / 10.0°</p> <p>Efficiency 95 %</p> <p>Peak intensity 119.4 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour Red</p> <p>Required components:</p>	
<p><b>LUMILEDS</b></p> <p>LED LUXEON Rubix</p> <p>FWHM / FWTM 10.0° / 17.0°</p> <p>Efficiency 97 %</p> <p>Peak intensity 26.8 cd/lm</p> <p>LEDs/each optic 4</p> <p>Light colour RGBW</p> <p>Required components:</p>	
<p><b>LUMILEDS</b></p> <p>LED LUXEON Rubix</p> <p>FWHM / FWTM 4.0° / 10.0°</p> <p>Efficiency 95 %</p> <p>Peak intensity 114 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour Blue</p> <p>Required components:</p>	
<p><b>LUMILEDS</b></p> <p>LED LUXEON V</p> <p>FWHM / FWTM 8.0° / 17.0°</p> <p>Efficiency 95 %</p> <p>Peak intensity 30.9 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	

### OPTICAL RESULTS (SIMULATED):

<p><b>LUMINUS</b></p> <p>LED SBT-90            FWHM / FWTM 8.0° / 18.0°            Efficiency 97 %            Peak intensity 33.1 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>	
<p><b>LUMINUS</b></p> <p>LED SFT-40-WCS            FWHM / FWTM 6.0° / 12.0°            Efficiency 96 %            Peak intensity 74.7 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>	
<p><b>LUMINUS</b></p> <p>LED SFT-70X-WCS            FWHM / FWTM 6.0° / 14.0°            Efficiency 97 %            Peak intensity 49.1 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>	
<p><b>LUMINUS</b></p> <p>LED SST-40            FWHM / FWTM 8.0° / 16.0°            Efficiency 97 %            Peak intensity 31.7 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>	

### OPTICAL RESULTS (SIMULATED):

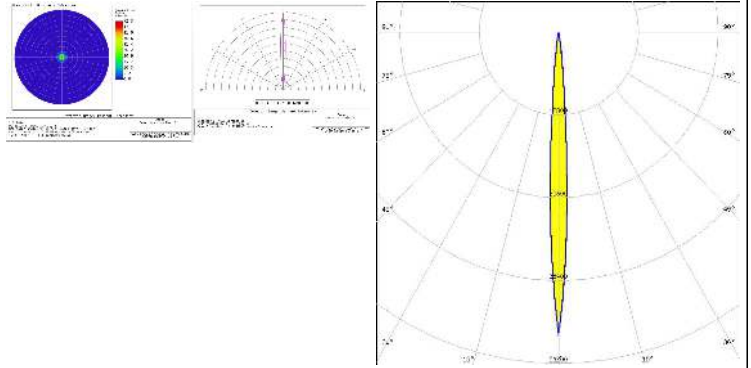
<b>OSRAM</b> <small>Opto Semiconductors</small>	<p>LED Duris S5 (Single chip)</p> <p>FWHM / FWTM 4.0° / 10.0°</p> <p>Efficiency 95 %</p> <p>Peak intensity 106 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour Red</p> <p>Required components:</p>	
<b>OSRAM</b> <small>Opto Semiconductors</small>	<p>LED Duris S5 (Single chip)</p> <p>FWHM / FWTM 4.0° / 10.0°</p> <p>Efficiency 95 %</p> <p>Peak intensity 101.9 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour Green</p> <p>Required components:</p>	
<b>OSRAM</b> <small>Opto Semiconductors</small>	<p>LED OSTAR Projection Compact (KW.CSLNM1.TG)</p> <p>FWHM / FWTM 4.0° / 8.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 139.7 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<b>OSRAM</b> <small>Opto Semiconductors</small>	<p>LED SFH 4717AS</p> <p>FWHM / FWTM 6.7° / 14.5°</p> <p>Efficiency 94 %</p> <p>Peak intensity 46.5 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	

## OPTICAL RESULTS (SIMULATED):

### OSRAM

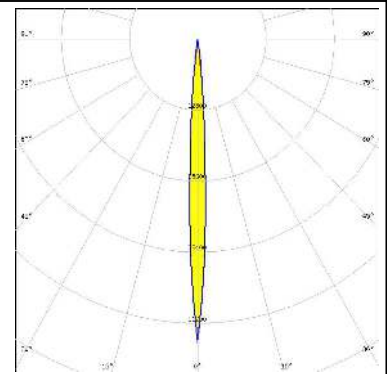
Opto Semiconductors

LED SFH 4727AS  
 FWHM / FWTM 6.7° / 14.5°  
 Efficiency 94 %  
 Peak intensity 47 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



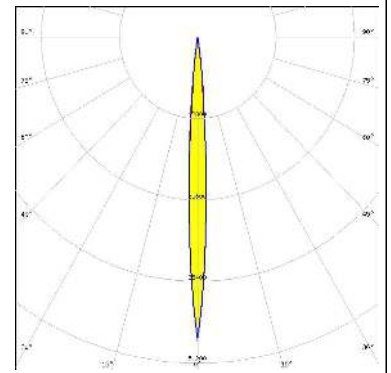
### SAMSUNG

LED LH351B  
 FWHM / FWTM 6.0° / 14.0°  
 Efficiency 96 %  
 Peak intensity 54.7 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



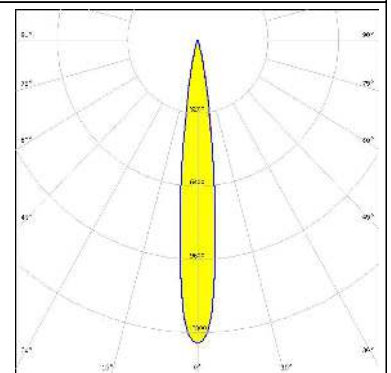
### SAMSUNG

LED LH351C  
 FWHM / FWTM 6.0° / 14.0°  
 Efficiency 96 %  
 Peak intensity 47.7 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



SEOUL SEMICONDUCTOR

LED Z8Y50P  
 FWHM / FWTM 14.0° / 26.0°  
 Efficiency 97 %  
 Peak intensity 13.3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



### GENERAL INFORMATION:

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

### MATERIALS:

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

### 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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#### LEDiL Oy

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