

HB-2X2-RS

~10° spot beam

SPECIFICATION:

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

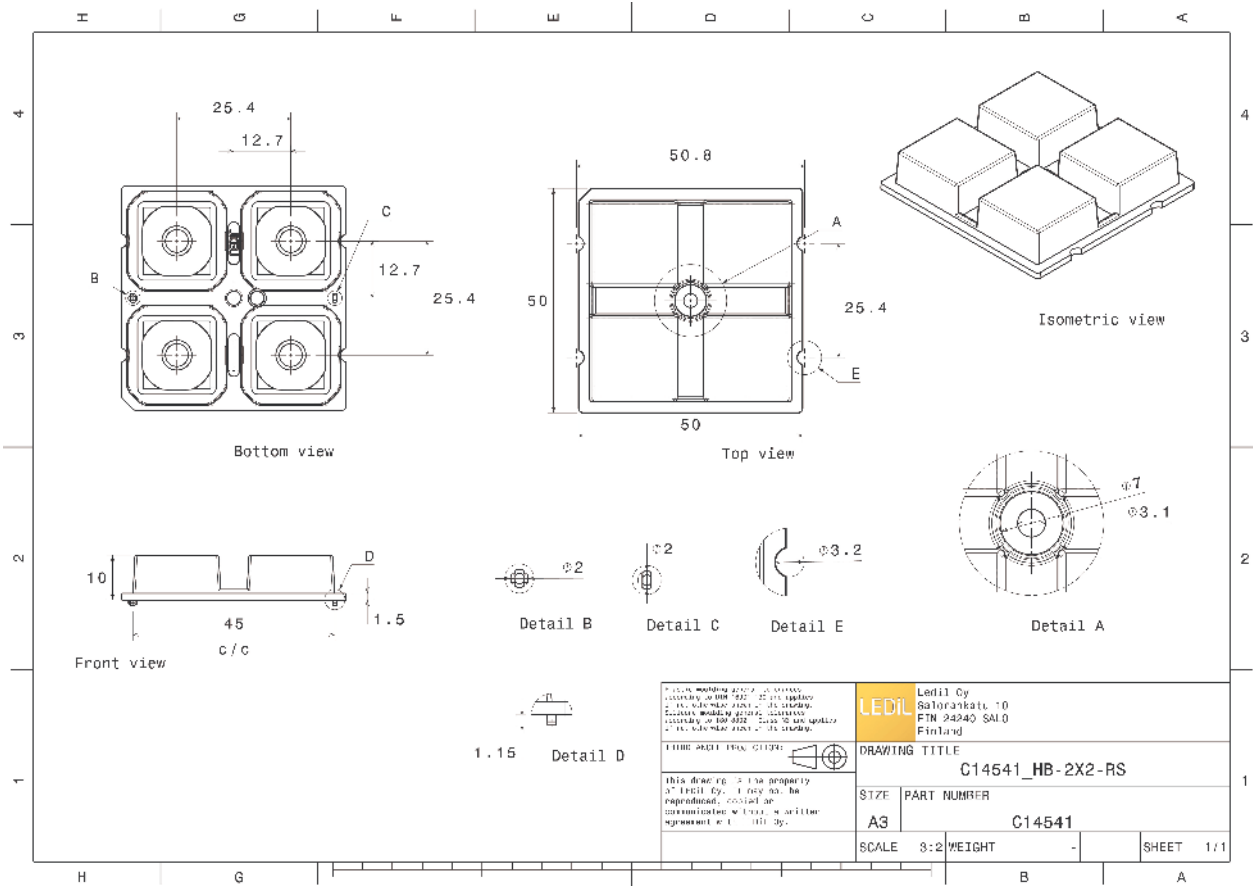
MATERIALS:

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

ORDERING INFORMATION:

Component	Qty in box	MOQ	MPQ	Box weight (kg)
C14541_HB-2X2-RS » Box size: 480 x 280 x 300 mm	800	160	160	10.2


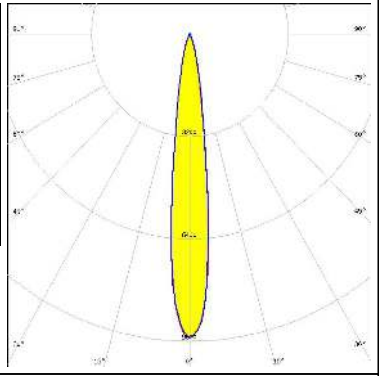

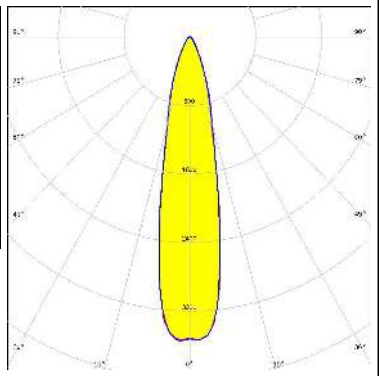

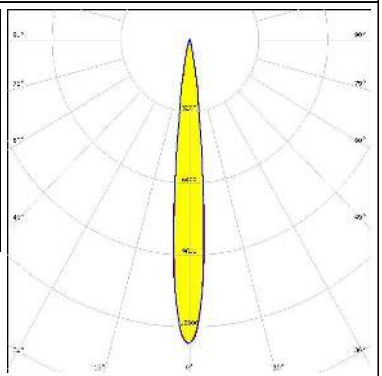

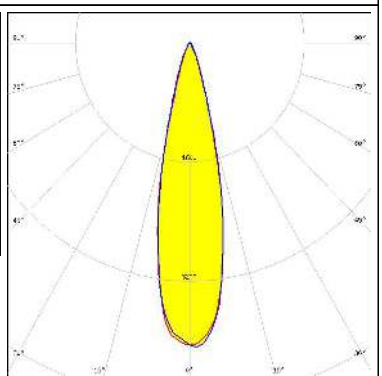





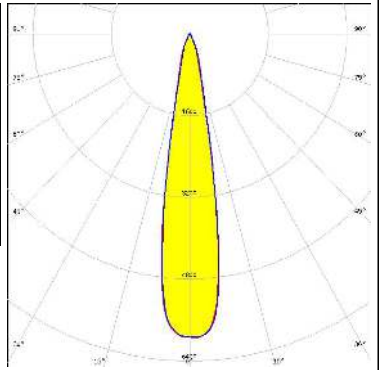

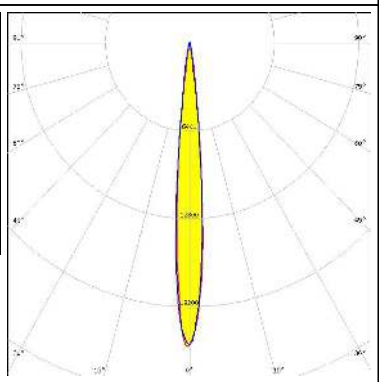

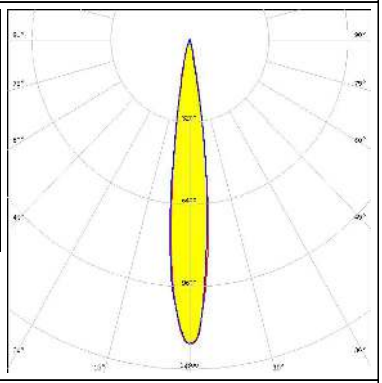

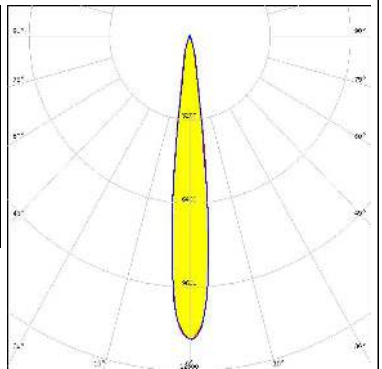
<small> LEDiL Oy Salorankatie 10 FIN-00240 SAUNO Finland Puh: +358 9 450 0222 Faksi: +358 9 450 0223 www.ledil.com </small>		LEDiL Ledil Oy Salorankatie 10 FIN-00240 SAUNO Finland	
THIS PART IS A COPY OF THE ORIGINAL DRAWING. IT IS NOT TO BE USED FOR REPRODUCTION OR DISTRIBUTION WITHOUT THE WRITTEN AGREEMENT OF LEDiL Oy.			
DRAWING TITLE C14541_HB-2X2-RS			
SIZE	PART NUMBER		
A3	C14541		
SCALE	3:2	WEIGHT	-
			SHEET 1/1

See also our general installation guide: www.ledil.com/installation_guide

OPTICAL RESULTS (MEASURED):

<p>COMET The Performance Specialist</p> <p>LED QUICK FLUX XTP 2x6 xxx LS G5 FWHM / FWTM 14.0° / 29.0° Efficiency 94 % Peak intensity 9.5 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>CREE LED</p> <p>LED J Series 5050C 6V E Class FWHM / FWTM 22.0° / 50.0° Efficiency 95 % Peak intensity 3.5 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>CREE LED</p> <p>LED XD16 FWHM / FWTM 11.0° / 23.0° Efficiency 93 % Peak intensity 13.5 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>CREE LED</p> <p>LED XHP35 HD FWHM / FWTM 24.0° / 42.0° Efficiency 89 % Peak intensity 4.1 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		

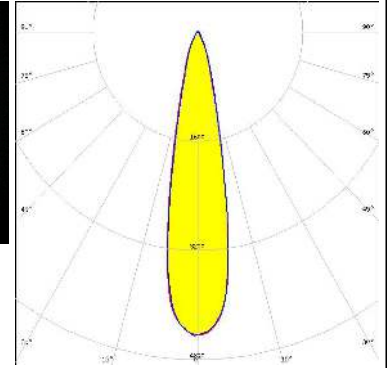
OPTICAL RESULTS (MEASURED):

<p>CREE ⇄ LED</p> <p>LED XM-L3 FWHM / FWTM 20.0° / 36.0° Efficiency 96 % Peak intensity 6 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>CREE ⇄ LED</p> <p>LED XP-E2 FWHM / FWTM 10.0° / 18.0° Efficiency 94 % Peak intensity 22.1 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>CREE ⇄ LED</p> <p>LED XP-G2 FWHM / FWTM 14.0° / 25.0° Efficiency 94 % Peak intensity 11.8 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>CREE ⇄ LED</p> <p>LED XP-L HI FWHM / FWTM 13.0° / 25.0° Efficiency 94 % Peak intensity 11.6 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		

OPTICAL RESULTS (MEASURED):

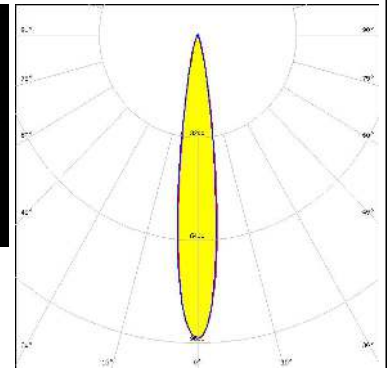
CREE LED

LED XP-L2
 FWHM / FWTM 21.0° / 43.0°
 Efficiency 94 %
 Peak intensity 4.5 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



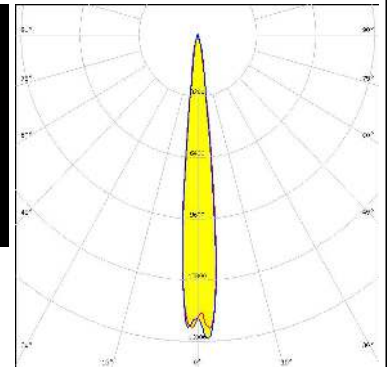
LUMILEDS

LED LUXEON V2
 FWHM / FWTM 15.0° / 28.0°
 Efficiency 94 %
 Peak intensity 9.5 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



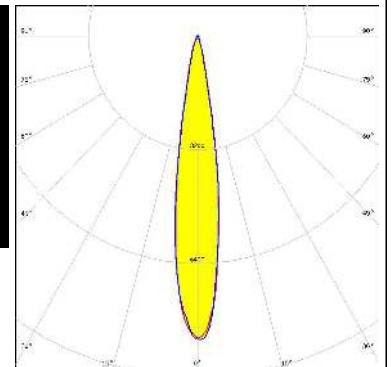
LUMINUS

LED SST-10-B130
 FWHM / FWTM 12.0° / 21.0°
 Efficiency 96 %
 Peak intensity 15.9 cd/lm
 LEDs/each optic 1
 Light colour Deep Red
 Required components:


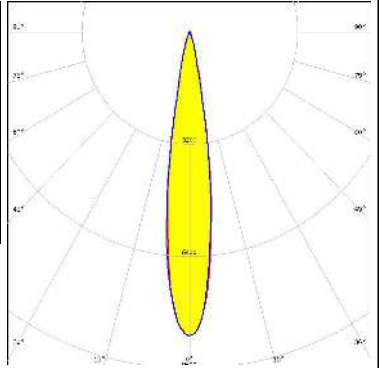

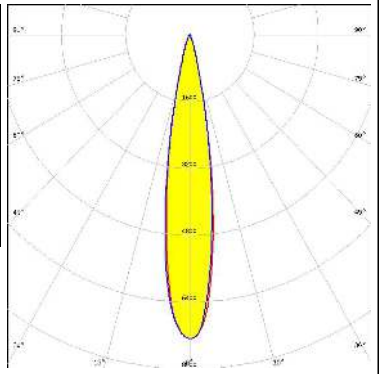

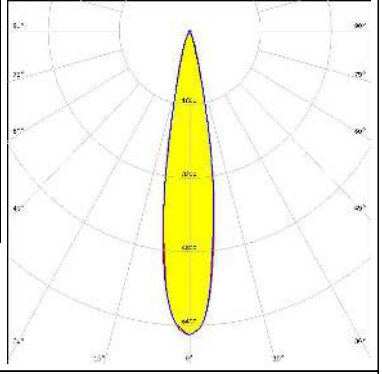

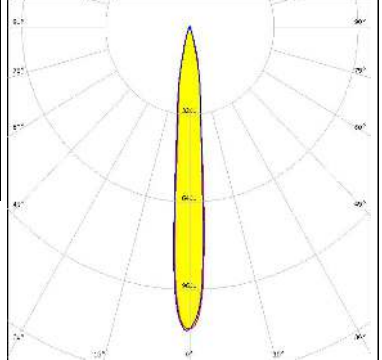


NICHIA


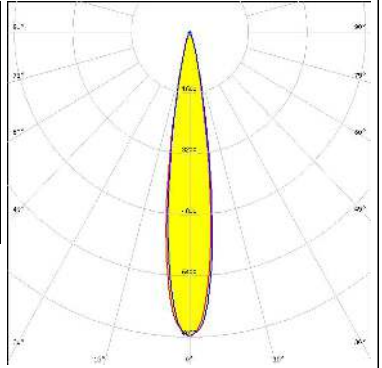

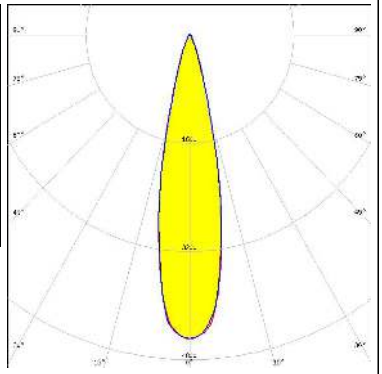

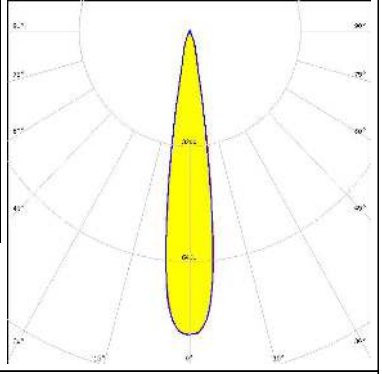

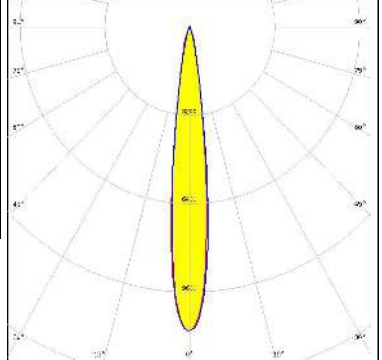
LED NVSW219D
 FWHM / FWTM 17.0° / 29.0°
 Efficiency 94 %
 Peak intensity 8.6 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:




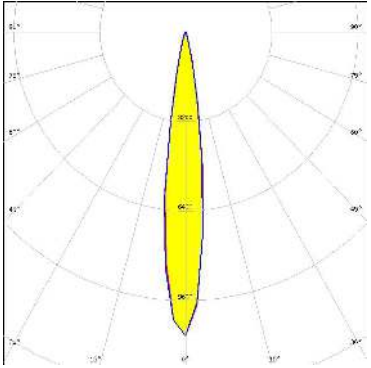
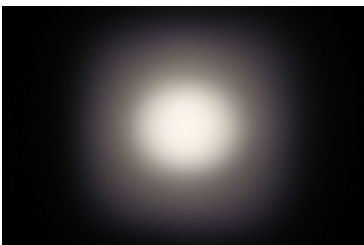
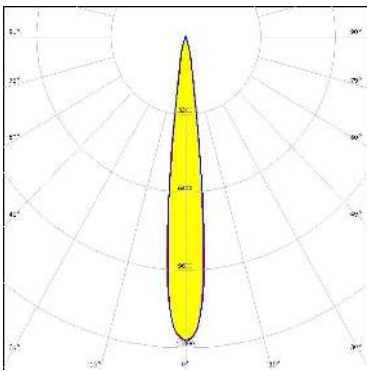
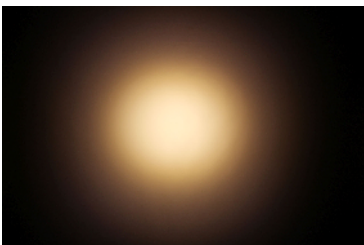
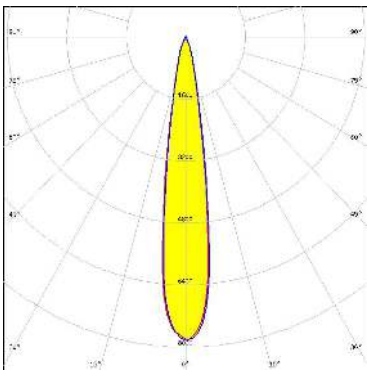

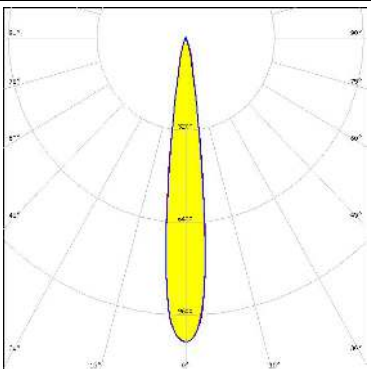
OPTICAL RESULTS (MEASURED):

<p>NICHIA</p> <p>LED NVSW219F FWHM / FWTM 17.0° / 29.0° Efficiency 94 % Peak intensity 8.7 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>NICHIA</p> <p>LED NVSW319B FWHM / FWTM 18.0° / 32.0° Efficiency 94 % Peak intensity 7.3 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>NICHIA</p> <p>LED NVSW3x9A FWHM / FWTM 19.0° / 33.0° Efficiency 94 % Peak intensity 6.6 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>NICHIA</p> <p>LED NVSxE21A FWHM / FWTM 11.0° / 28.0° Efficiency 89 % Peak intensity 11.1 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		

OPTICAL RESULTS (MEASURED):

<p>NICHIA</p> <p>LED NVSxx19B/NVSxx19C FWHM / FWTM 17.0° / 30.0° Efficiency 93 % Peak intensity 8 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>NICHIA</p> <p>LED NWSx229A FWHM / FWTM 23.0° / 41.0° Efficiency 94 % Peak intensity 4.5 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>OSRAM</p> <p>LED PL-BRICK HP 3800 2x8 SSG FWHM / FWTM 16.0° / 28.0° Efficiency 95 % Peak intensity 8.5 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>OSRAM</p> <p>LED PrevaLED Core Z3 LES9 FWHM / FWTM 13.5° / 26.0° Efficiency 95 % Peak intensity 11 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		

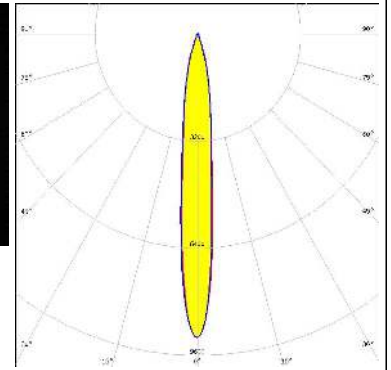
OPTICAL RESULTS (MEASURED):

<p>OSRAM Opto Semiconductors</p> <p>LED OSLON Square CSSRM2/CSSRM3</p> <p>FWHM / FWTM 15.0° / 27.0°</p> <p>Efficiency 90 %</p> <p>Peak intensity 11 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p>PHILIPS</p> <p>LED Fortimo FastFlex LED 2x8 DA G4</p> <p>FWHM / FWTM 13.0° / 23.0°</p> <p>Efficiency 93 %</p> <p>Peak intensity 12.5 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p>PHILIPS</p> <p>LED Fortimo FastFlex LED 2x8 DA G4+</p> <p>FWHM / FWTM 17.0° / 32.0°</p> <p>Efficiency 96 %</p> <p>Peak intensity 7.8 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p>PHILIPS</p> <p>LED Fortimo FastFlex LED 2x8 DA G5</p> <p>FWHM / FWTM 14.0° / 27.0°</p> <p>Efficiency 96 %</p> <p>Peak intensity 10.5 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		

OPTICAL RESULTS (MEASURED):

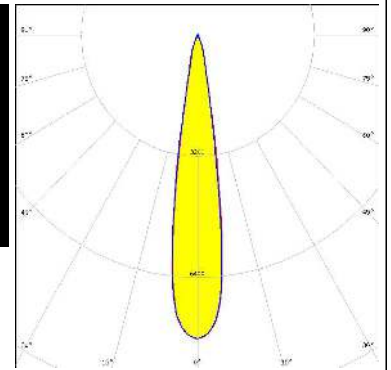
SAMSUNG

LED HiLOM RC12 Z (LH181B)
 FWHM / FWTM 12.0° / 33.0°
 Efficiency 97 %
 Peak intensity 9.1 cd/m²
 LEDs/each optic 1
 Light colour White
 Required components:



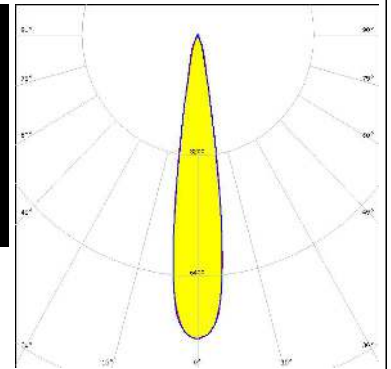
SAMSUNG

LED HiLOM RH12 Z (LH351C)
 FWHM / FWTM 17.0° / 29.0°
 Efficiency 96 %
 Peak intensity 8 cd/m²
 LEDs/each optic 1
 Light colour White
 Required components:



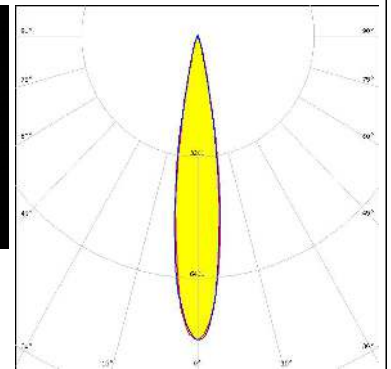
SAMSUNG

LED HiLOM RH16 (LH351C)
 FWHM / FWTM 17.0° / 30.0°
 Efficiency 94 %
 Peak intensity 8.1 cd/m²
 LEDs/each optic 1
 Light colour White
 Required components:



SAMSUNG

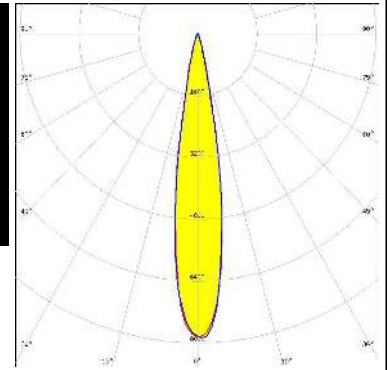
LED LH351B
 FWHM / FWTM 17.0° / 29.0°
 Efficiency 89 %
 Peak intensity 8 cd/m²
 LEDs/each optic 1
 Light colour White
 Required components:



OPTICAL RESULTS (MEASURED):

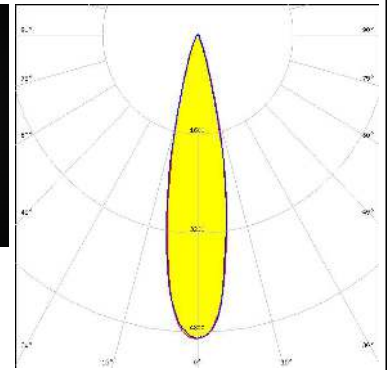
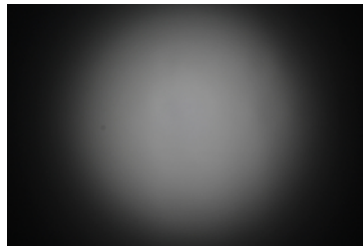
SAMSUNG

LED LH351C
 FWHM / FWTM 18.0° / 30.0°
 Efficiency 94 %
 Peak intensity 7.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

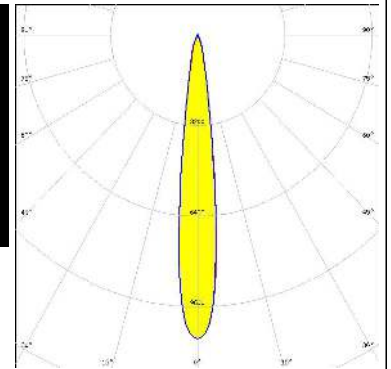


SAMSUNG

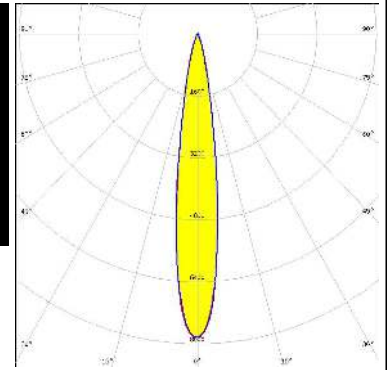
LED LH351D
 FWHM / FWTM 22.0° / 38.0°
 Efficiency 94 %
 Peak intensity 4.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:





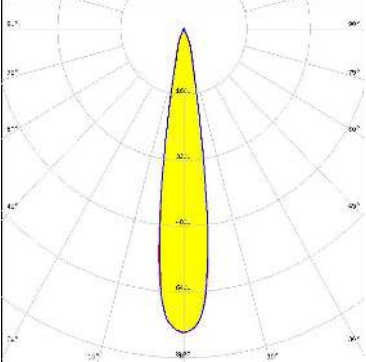

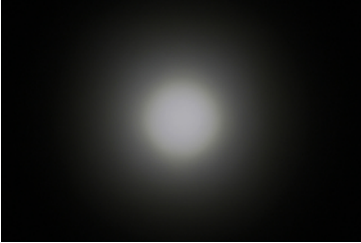
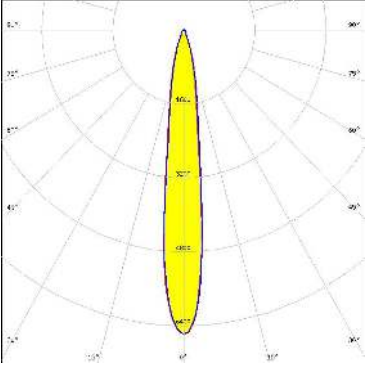

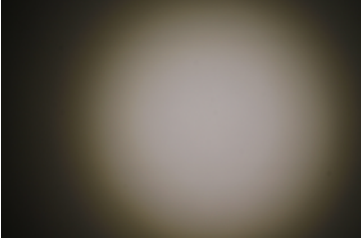
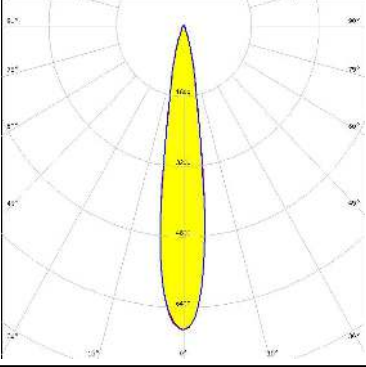
LED LED-Pa-L15c2W11c2-xxx-C050-01
 FWHM / FWTM 14.0° / 27.0°
 Efficiency 96 %
 Peak intensity 10.7 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



SEMI SEMICONDUCTOR
 LED Z5M3
 FWHM / FWTM 16.0° / 31.0°
 Efficiency 94 %
 Peak intensity 7.8 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



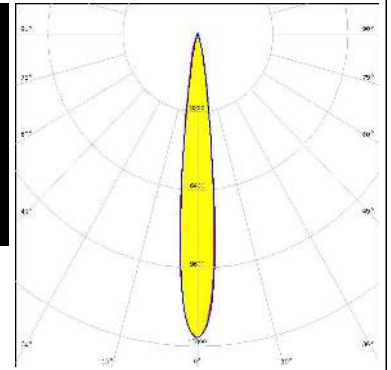
OPTICAL RESULTS (MEASURED):

<p> SEOUL SEMICONDUCTOR</p> <p>LED Z5M4</p> <p>FWHM / FWTM 17.0° / 32.0°</p> <p>Efficiency 96 %</p> <p>Peak intensity 7.4 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p> SEOUL SEMICONDUCTOR</p> <p>LED Z8Y22</p> <p>FWHM / FWTM 14.0° / 35.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 6.6 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p> SEOUL SEMICONDUCTOR</p> <p>LED Z8Y22P</p> <p>FWHM / FWTM 16.0° / 33.0°</p> <p>Efficiency 93 %</p> <p>Peak intensity 6.9 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p>TRIDONIC</p> <p>LED RLE 2x4 2000lm HP EXC2 OTD</p> <p>FWHM / FWTM 13.0° / 25.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 12.5 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		

OPTICAL RESULTS (MEASURED):

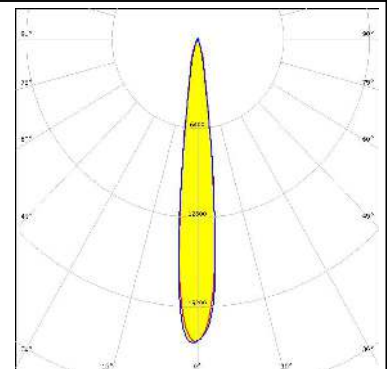
TRIDONIC

LED RLE 2x8 4000lm HP EXC2 OTD
 FWHM / FWTM 13.0° / 25.0°
 Efficiency 94 %
 Peak intensity 12.5 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



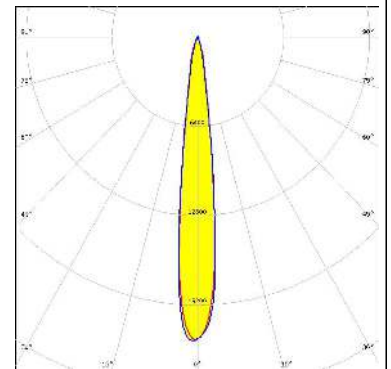
TRIDONIC

LED RLE G1 49x121mm 2000lm xxx EXC OTD
 FWHM / FWTM 13.0° / 27.0°
 Efficiency 94 %
 Peak intensity 10.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



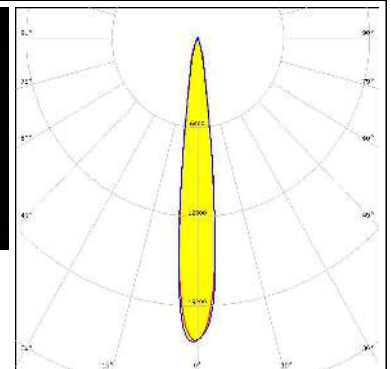
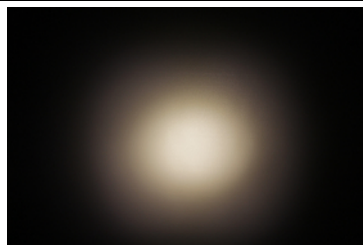
TRIDONIC

LED RLE G1 49x133mm 2000lm xxx EXC OTD
 FWHM / FWTM 13.0° / 27.0°
 Efficiency 94 %
 Peak intensity 10.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



TRIDONIC

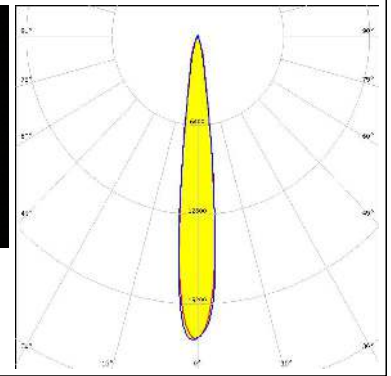
LED RLE G1 49x223mm 4000lm xxx EXC OTD
 FWHM / FWTM 13.0° / 27.0°
 Efficiency 94 %
 Peak intensity 10.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



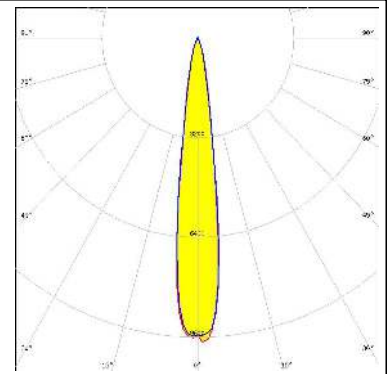
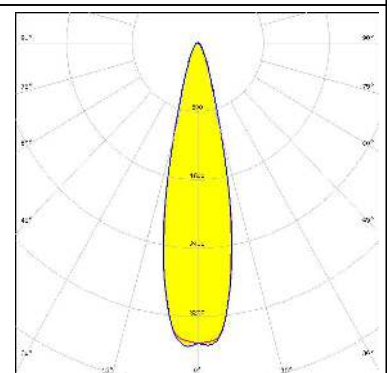
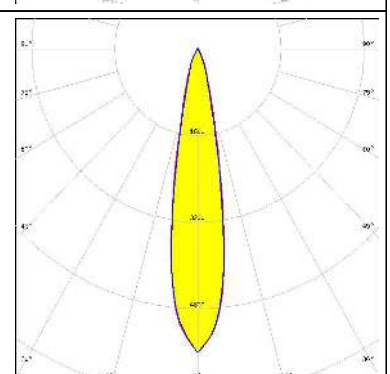
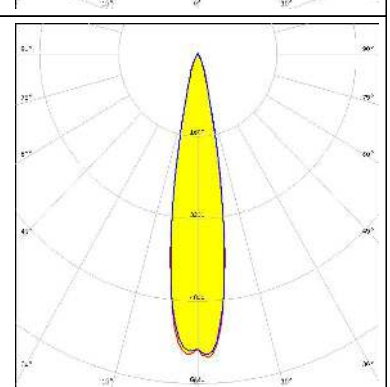
OPTICAL RESULTS (MEASURED):

TRIDONIC

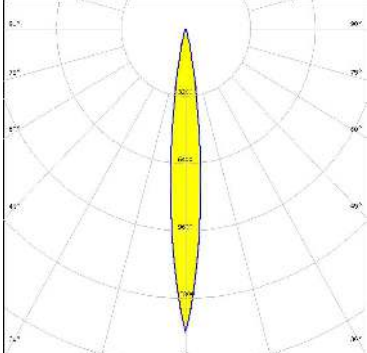
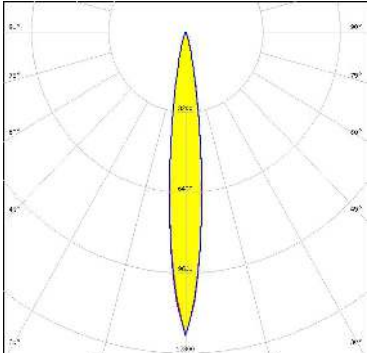
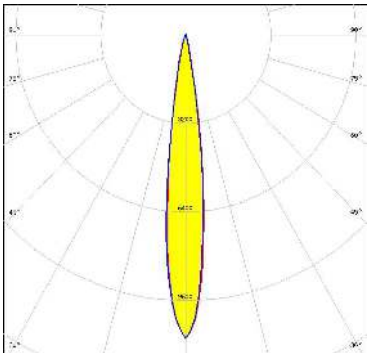
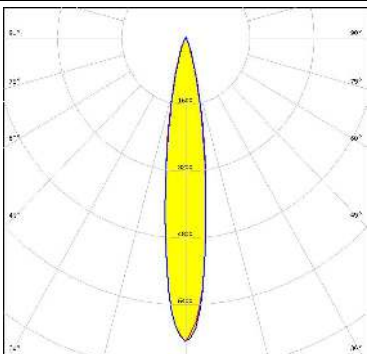
LED	RLE G1 49x245mm 4000lm xxx EXC OTD
FWHM / FWTM	13.0° / 27.0°
Efficiency	94 %
Peak intensity	10.9 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



OPTICAL RESULTS (SIMULATED):

<p>CREE ⇄ LED</p> <p>LED: XHP35 HI FWHM / FWTM: 14.0° / 29.0° Efficiency: 93 % Peak intensity: 9.9 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p>	
<p>CREE ⇄ LED</p> <p>LED: XHP35.2 HD FWHM / FWTM: 24.0° / 46.0° Efficiency: 93 % Peak intensity: 3.6 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p>	
<p>CREE ⇄ LED</p> <p>LED: XM-L FWHM / FWTM: 19.0° / 38.0° Efficiency: 92 % Peak intensity: 5.6 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p>	
<p>CREE ⇄ LED</p> <p>LED: XM-L2 FWHM / FWTM: 18.0° / 34.0° Efficiency: 94 % Peak intensity: 6.9 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p>	

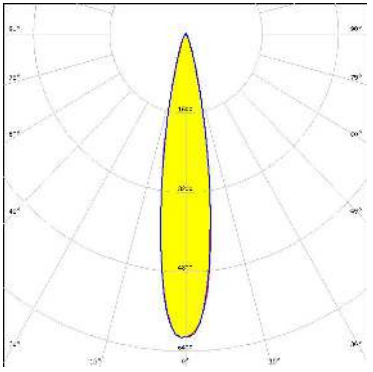
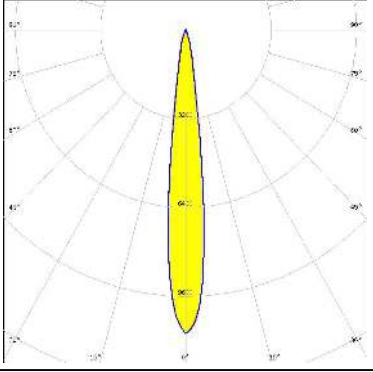
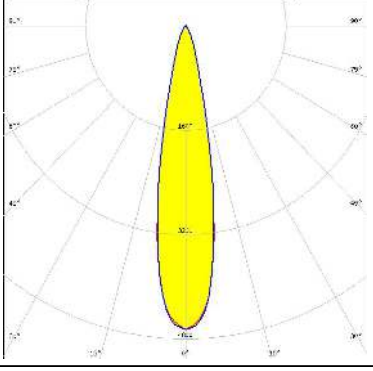
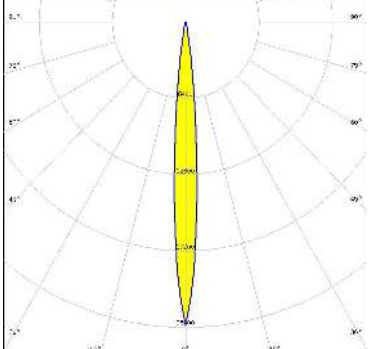
OPTICAL RESULTS (SIMULATED):

<p>CREE ⇄ LED</p> <p>LED: XP-E2 FWHM / FWTM: 12.0° / 26.0° Efficiency: 95 % Peak intensity: 14.4 cd/lm LEDs/each optic: 1 Light colour: Red Required components:</p>	
<p>CREE ⇄ LED</p> <p>LED: XP-G FWHM / FWTM: 13.0° / 27.0° Efficiency: 93 % Peak intensity: 12.1 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p>	
<p>CREE ⇄ LED</p> <p>LED: XP-G2 FWHM / FWTM: 14.0° / 26.0° Efficiency: 89 % Peak intensity: 11 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p> <p style="background-color: #e0f0ff; padding: 2px;">Protective plate, glass</p>	
<p>CREE ⇄ LED</p> <p>LED: XP-G2 HE FWHM / FWTM: 16.0° / 34.0° Efficiency: 94 % Peak intensity: 7.3 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p>	

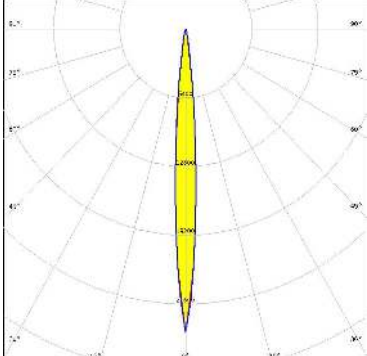
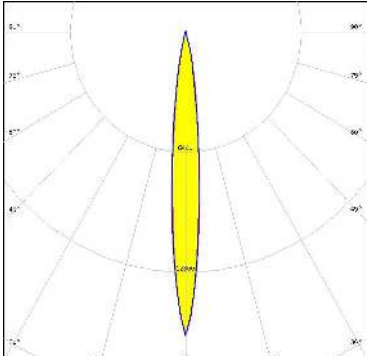
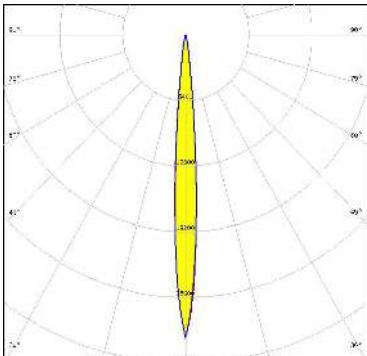
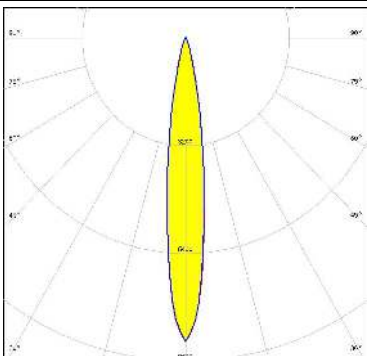
OPTICAL RESULTS (SIMULATED):

<p>CREE ⇄ LED</p> <p>LED: XP-G3 FWHM / FWTM: 16.0° / 33.0° Efficiency: 94 % Peak intensity: 7.9 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p>	
<p>CREE ⇄ LED</p> <p>LED: XP-G4 FWHM / FWTM: 14.0° / 26.0° Efficiency: 95 % Peak intensity: 11 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p>	
<p>CREE ⇄ LED</p> <p>LED: XP-G4 FWHM / FWTM: 14.0° / 28.0° Efficiency: 88 % Peak intensity: 9.8 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p> <p>Protective plate, glass</p>	
<p>CREE ⇄ LED</p> <p>LED: XP-L HD FWHM / FWTM: 18.0° / 34.0° Efficiency: 90 % Peak intensity: 6.1 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p> <p>Protective plate, glass</p>	

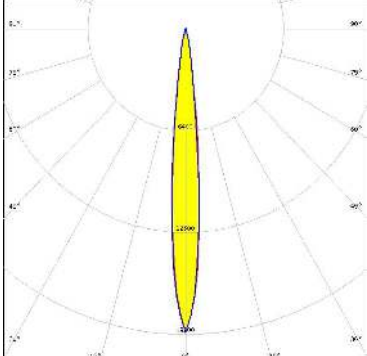
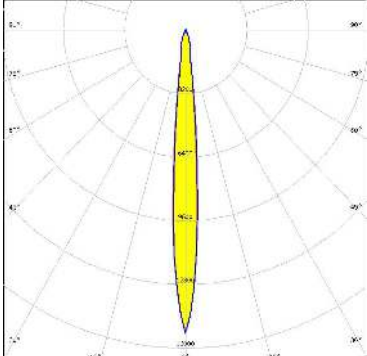
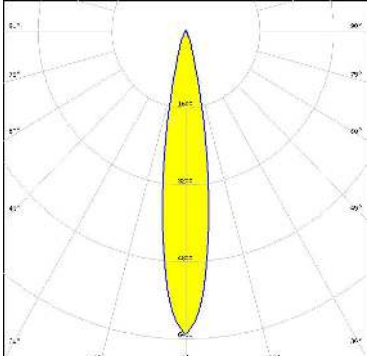
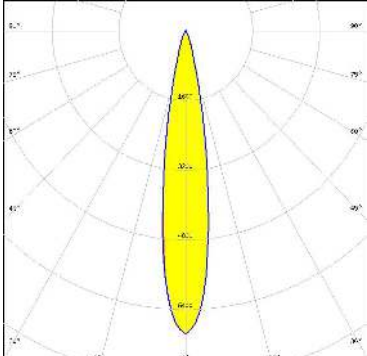
OPTICAL RESULTS (SIMULATED):

<p>CREE → LED</p> <p>LED: XP-L HD FWHM / FWTM: 19.0° / 35.0° Efficiency: 94 % Peak intensity: 6.1 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p>	
<p>CREE → LED</p> <p>LED: XP-L HI FWHM / FWTM: 13.0° / 25.0° Efficiency: 89 % Peak intensity: 10.9 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p> <p>Protective plate, glass</p>	
<p>CREE → LED</p> <p>LED: XP-L2 FWHM / FWTM: 20.0° / 40.0° Efficiency: 89 % Peak intensity: 4.7 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p> <p>Protective plate, glass</p>	
<p>CREE → LED</p> <p>LED: XP-P FWHM / FWTM: 8.0° / 18.0° Efficiency: 95 % Peak intensity: 25.5 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p>	

OPTICAL RESULTS (SIMULATED):

<p>CREE LED</p> <p>LED: XQ-E HI FWHM / FWTM: 8.0° / 18.0° Efficiency: 94 % Peak intensity: 28.3 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p>	
<p>LUMILEDS</p> <p>LED: LUXEON C FWHM / FWTM: 11.0° / 24.0° Efficiency: 94 % Peak intensity: 16.2 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p>	
<p>LUMILEDS</p> <p>LED: LUXEON CZ FWHM / FWTM: 8.0° / 16.0° Efficiency: 93 % Peak intensity: 29.6 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p>	
<p>LUMILEDS</p> <p>LED: LUXEON HL2X FWHM / FWTM: 14.0° / 30.0° Efficiency: 95 % Peak intensity: 9 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p>	

OPTICAL RESULTS (SIMULATED):

<p>LUMILEDS</p> <p>LED LUXEON IR Domed 150 (L110-0xxx150000000)</p> <p>FWHM / FWTM 11.0° / 21.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 19.1 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<p>LUMILEDS</p> <p>LED LUXEON IR Domed 60 (L110-0xxx060000000)</p> <p>FWHM / FWTM 10.0° / 20.0°</p> <p>Efficiency 93 %</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<p>LUMILEDS</p> <p>LED LUXEON XR-HL2X (L2H2-xxxxxxxMLU010)</p> <p>FWHM / FWTM 18.0° / 34.0°</p> <p>Efficiency 88 %</p> <p>Peak intensity 6.3 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p> <p>Protective plate, glass</p>	
<p>LUMILEDS</p> <p>LED LUXEON XR-HL2X (L2H2-xxxxxxxMLU010)</p> <p>FWHM / FWTM 18.0° / 34.0°</p> <p>Efficiency 95 %</p> <p>Peak intensity 7 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	

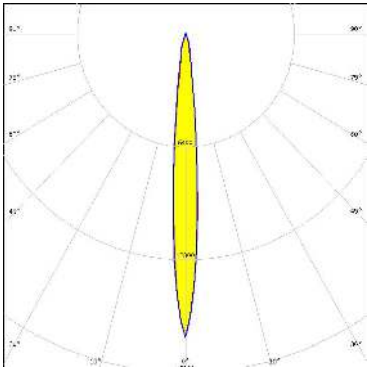
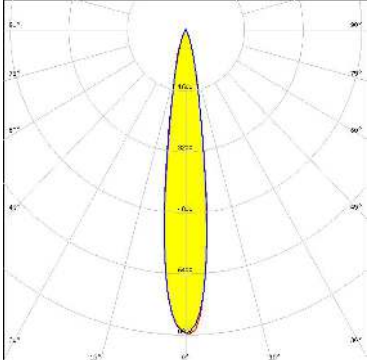
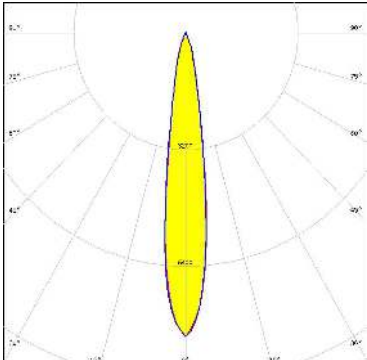
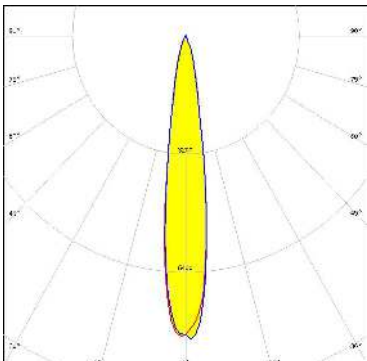
OPTICAL RESULTS (SIMULATED):

<p>OSRAM Opto Semiconductors</p> <p>LED OSCONIQ C 2424</p> <p>FWHM / FWTM 10.0° / 20.0 + 21.0°</p> <p>Efficiency 96 %</p> <p>Peak intensity 18 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<p>OSRAM Opto Semiconductors</p> <p>LED OSCONIQ P 3030</p> <p>FWHM / FWTM 8.0° / 20.0°</p> <p>Efficiency 95 %</p> <p>Peak intensity 22.7 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<p>OSRAM Opto Semiconductors</p> <p>LED OSCONIQ P 3737 (2W version)</p> <p>FWHM / FWTM 12.0° / 24.0°</p> <p>Efficiency 90 %</p> <p>Peak intensity 12.5 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p> <p style="background-color: #ADD8E6; padding: 2px; display: inline-block;">Protective plate, glass</p>	
<p>OSRAM Opto Semiconductors</p> <p>LED OSCONIQ P 3737 (2W version)</p> <p>FWHM / FWTM 12.0° / 24.0°</p> <p>Efficiency 95 %</p> <p>Peak intensity 13.5 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	

OPTICAL RESULTS (SIMULATED):

<p>OSRAM Opto Semiconductors</p> <p>LED OSLON Square CSSRM2/CSSRM3</p> <p>FWHM / FWTM 15.0° / 27.0°</p> <p>Efficiency 81 %</p> <p>Peak intensity 9.7 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p> <p>Protective plate, glass</p>	
<p>OSRAM Opto Semiconductors</p> <p>LED OSLON Square Flat</p> <p>FWHM / FWTM 10.0° / 20.0°</p> <p>Efficiency 96 %</p> <p>Peak intensity 19.7 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<p>OSRAM Opto Semiconductors</p> <p>LED OSLON SSL 80</p> <p>FWHM / FWTM 8.2° / 18.8°</p> <p>Efficiency 94 %</p> <p>Peak intensity 21 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<p>OSRAM Opto Semiconductors</p> <p>LED OSTAR Projection Compact (KW.CSLNM1.TG)</p> <p>FWHM / FWTM 10.0° / 20.0°</p> <p>Efficiency 96 %</p> <p>Peak intensity 19.8 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	

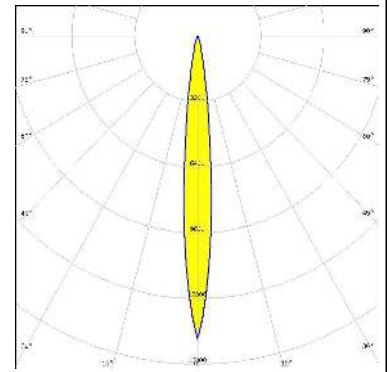
OPTICAL RESULTS (SIMULATED):


<p>OSRAM Opto Semiconductors</p> <p>LED SFH 4715AS FWHM / FWTM 9.2° / 21.0° Efficiency % LEDs/each optic 1 Light colour IR Required components:</p>	
<p>SAMSUNG</p> <p>LED LH231B FWHM / FWTM 16.0° / 34.0° Efficiency 94 % Peak intensity 8 cd/lm LEDs/each optic 4 Light colour White Required components:</p>	
<p>SAMSUNG</p> <p>LED LH231B FWHM / FWTM 16.0° / 32.0° Efficiency 95 % Peak intensity 8.4 cd/lm LEDs/each optic 1 Light colour White Required components:</p>	
<p>SAMSUNG</p> <p>LED LH231B FWHM / FWTM 16.0° / 32.0° Efficiency 95 % Peak intensity 8.3 cd/lm LEDs/each optic 1 Light colour White Required components:</p>	

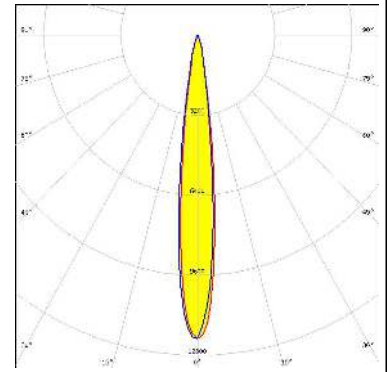
OPTICAL RESULTS (SIMULATED):


SAMSUNG

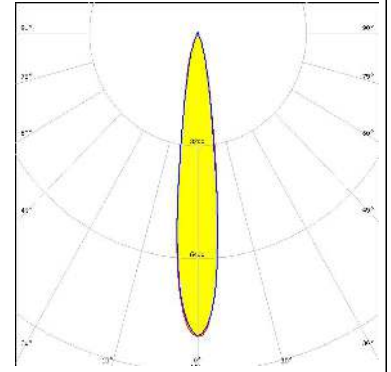
LED LM301B
 FWHM / FWTM 10.0° / 24.0°
 Efficiency 94 %
 Peak intensity 14.8 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



 SEOUL SEMICONDUCTOR
 LED Z5M1/Z5M2
 FWHM / FWTM 13.0° / 26.0°
 Efficiency 92 %
 Peak intensity 12.1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



 SEOUL SEMICONDUCTOR
 LED Z8Y22T
 FWHM / FWTM 15.0° / 32.0°
 Efficiency 94 %
 Peak intensity 8.6 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:

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