

HB-2X2-RS

~10° spot beam

TECHNICAL SPECIFICATIONS:

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

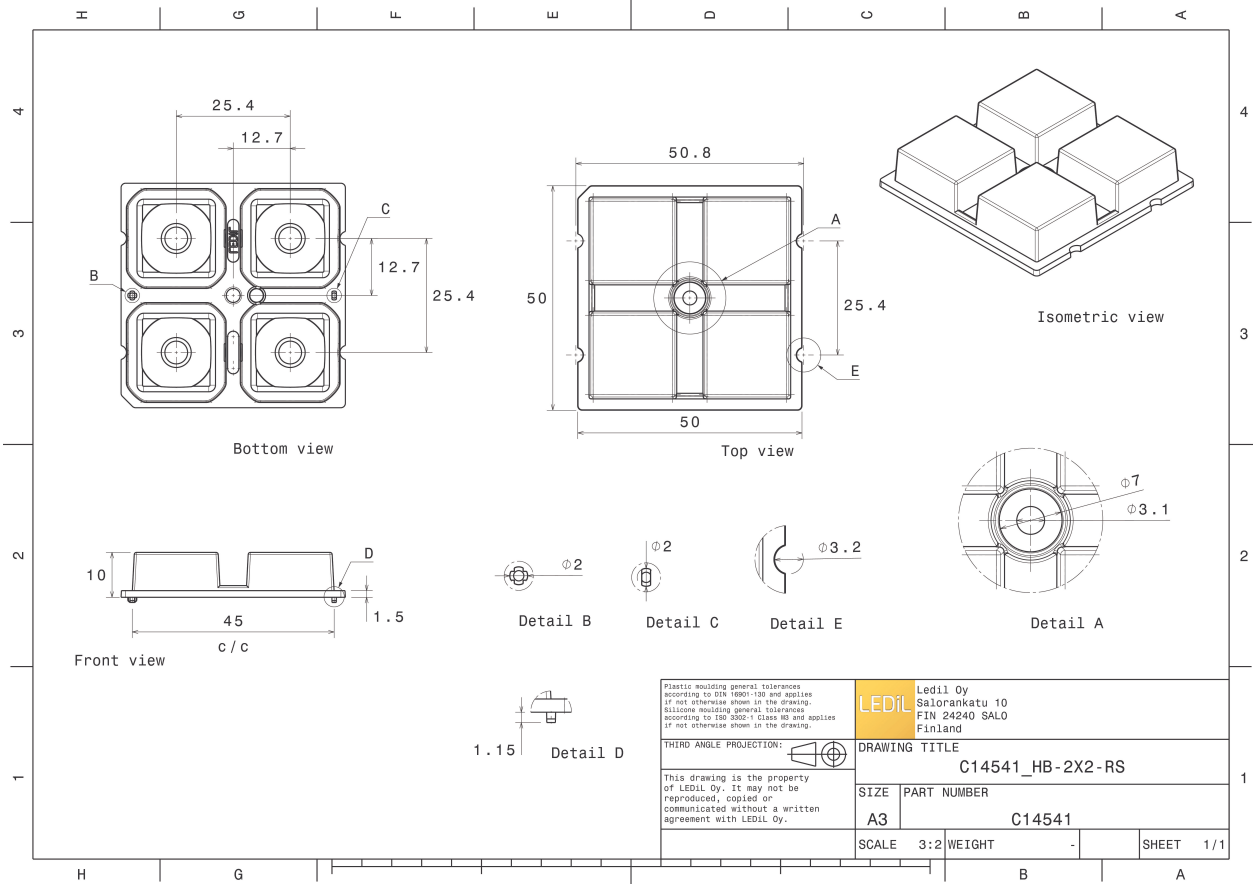
MATERIAL SPECIFICATIONS:

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


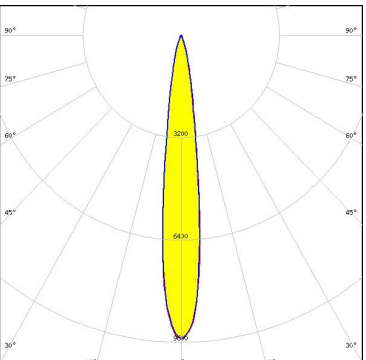

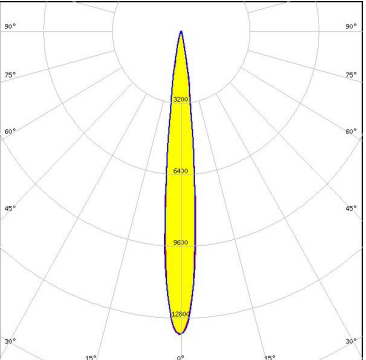
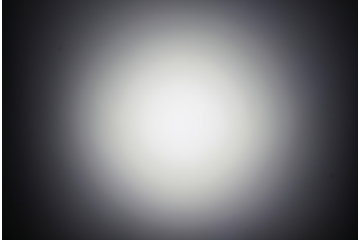
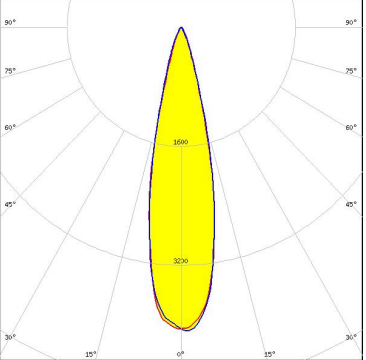

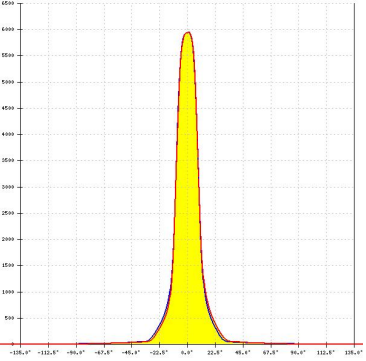





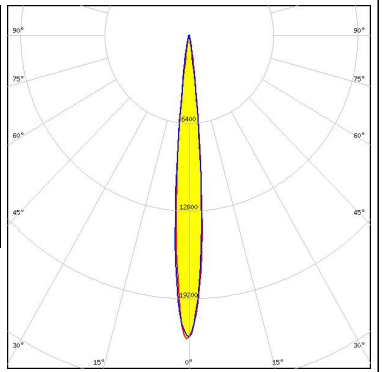

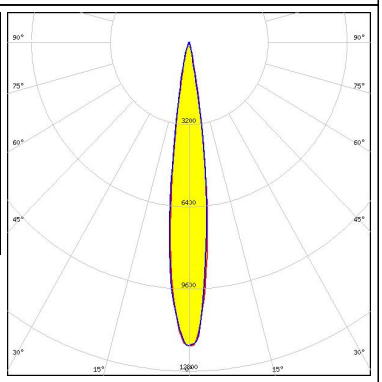

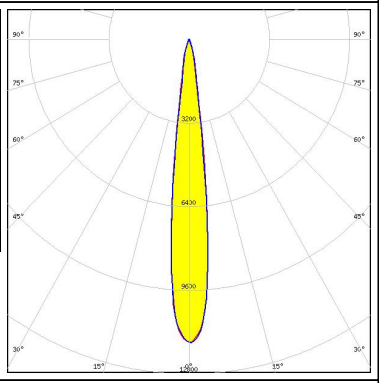

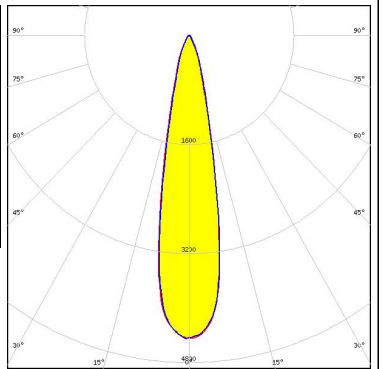
Plastic moulding general tolerances according to DIN 16901-100 and applies if not otherwise shown in the drawing. Silicone moulding general tolerances according to ISO 3302-1 class M3 and applies if not otherwise shown in the drawing.		LEDiL Ledil Oy Salorankatu 10 FIN 24240 SALO Finland	
THIRD ANGLE PROJECTION:		DRAWING TITLE C14541_HB-2X2-RS	
SIZE A3	PART NUMBER C14541		
SCALE 3:2	WEIGHT -	SHEET 1/1	

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


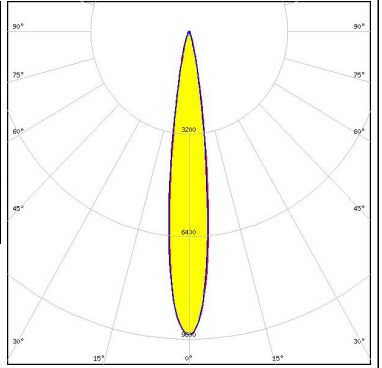

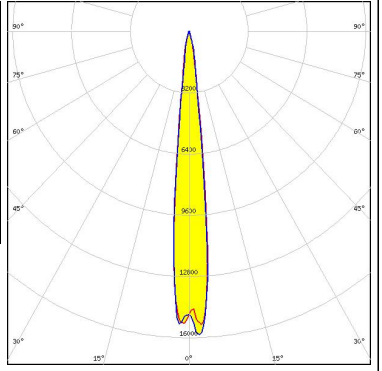

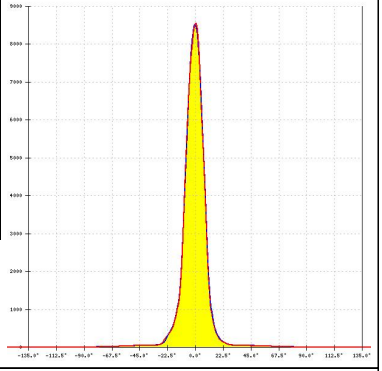

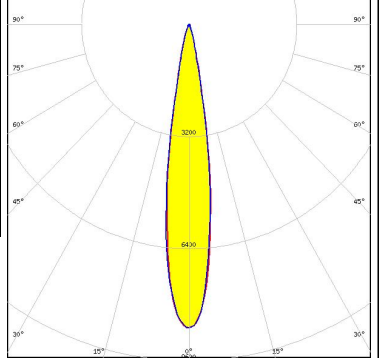
PHOTOMETRIC DATA (MEASURED):

<p>COMET ELECTRONICS</p> <p>LED QUICK FLUX XTP 2x6 xxx LS G5</p> <p>FWHM / FWTM 14.0° / 29.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 9.5 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p>CREE LED</p> <p>LED XD16</p> <p>FWHM / FWTM 11.0° / 23.0°</p> <p>Efficiency 93 %</p> <p>Peak intensity 13.5 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p>CREE LED</p> <p>LED XHP35 HD</p> <p>FWHM / FWTM 24.0° / 42.0°</p> <p>Efficiency 89 %</p> <p>Peak intensity 4.1 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p>CREE LED</p> <p>LED XM-L3</p> <p>FWHM / FWTM 20.0° / 36.0°</p> <p>Efficiency 96 %</p> <p>Peak intensity 6 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		

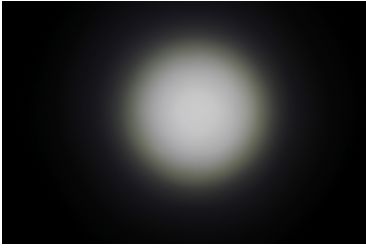
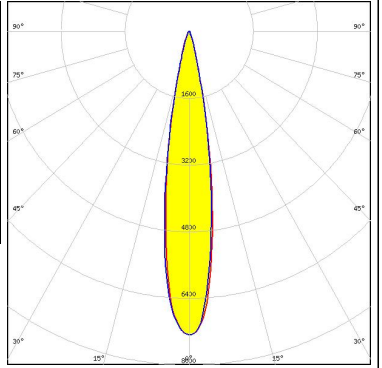
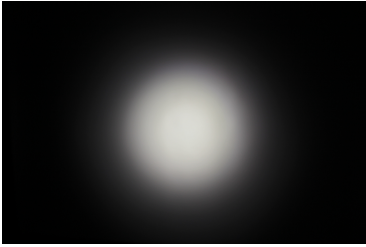
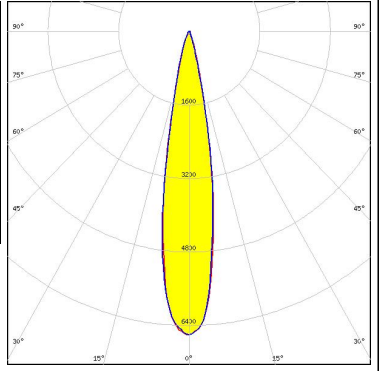
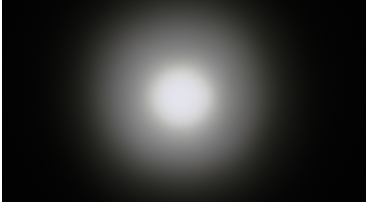
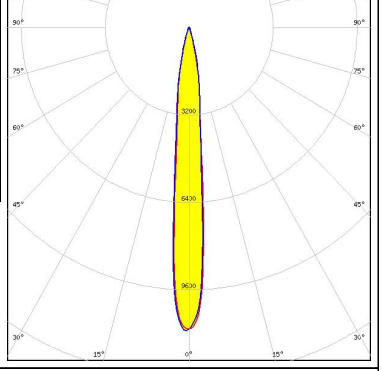

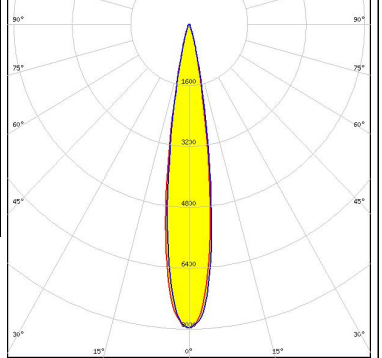
PHOTOMETRIC DATA (MEASURED):

<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>		
<p>CREE → LED</p> <p>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:</p>		

PHOTOMETRIC DATA (MEASURED):

<p>LUMILEDS</p> <p>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:</p>		
<p>LUMINUS</p> <p>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:</p>		
<p>NICHIA</p> <p>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:</p>		
<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>		

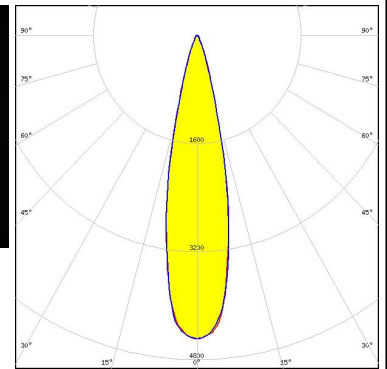
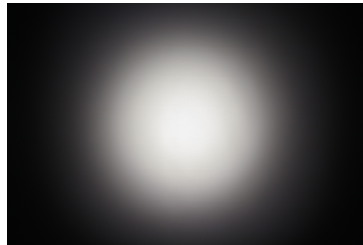
PHOTOMETRIC DATA (MEASURED):

<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>		
<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>		

PHOTOMETRIC DATA (MEASURED):

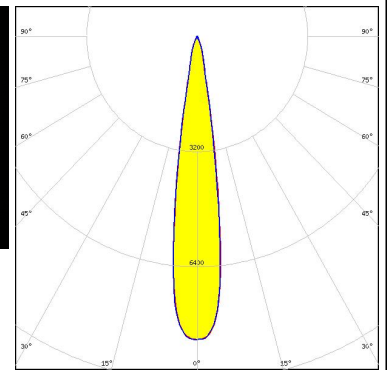


LED NWSx229A
 FWHM / FWTM 23.0° / 41.0°
 Efficiency 94 %
 Peak intensity 4.5 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



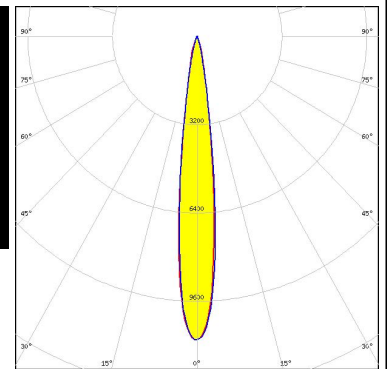
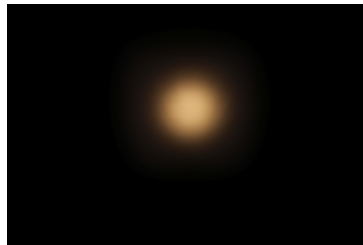
OSRAM

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:



OSRAM

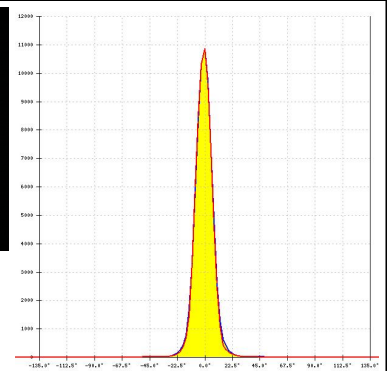
LED PrevaLED Core Z3 LES9
 FWHM / FWTM 13.5° / 26.0°
 Efficiency 95 %
 Peak intensity 11 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



OSRAM

Opto Semiconductors

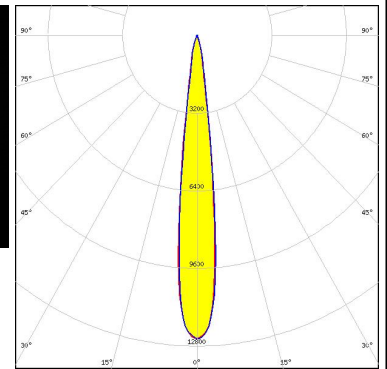
LED OSLON Square CSSRM2/CSSRM3
 FWHM / FWTM 15.0° / 27.0°
 Efficiency 90 %
 Peak intensity 11 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



PHOTOMETRIC DATA (MEASURED):

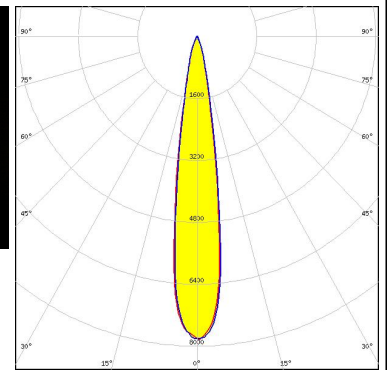
PHILIPS

LED Fortimo FastFlex LED 2x8 DA G4
 FWHM / FWTM 13.0° / 23.0°
 Efficiency 93 %
 Peak intensity 12.5 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



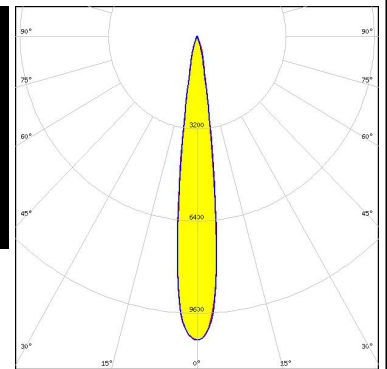
PHILIPS

LED Fortimo FastFlex LED 2x8 DA G4+
 FWHM / FWTM 17.0° / 32.0°
 Efficiency 96 %
 Peak intensity 7.8 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



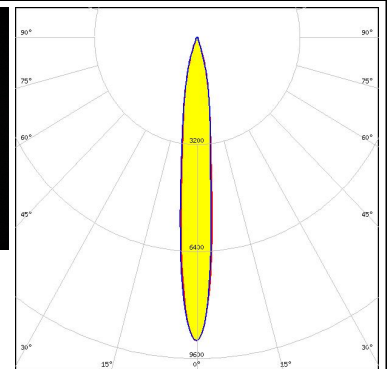
PHILIPS

LED Fortimo FastFlex LED 2x8 DA G5
 FWHM / FWTM 14.0° / 27.0°
 Efficiency 96 %
 Peak intensity 10.5 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



SAMSUNG

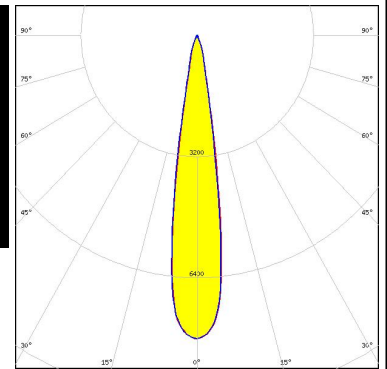
LED HiLOM RC12 Z (LH181B)
 FWHM / FWTM 12.0° / 33.0°
 Efficiency 97 %
 Peak intensity 9.1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



PHOTOMETRIC DATA (MEASURED):

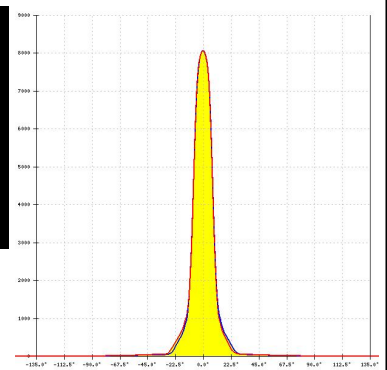
SAMSUNG

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:



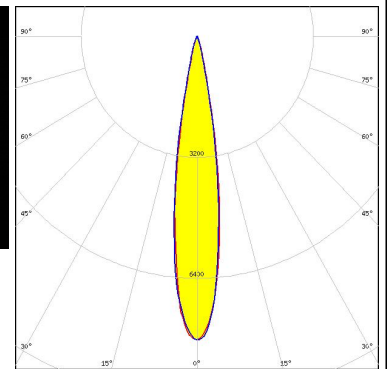
SAMSUNG

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:



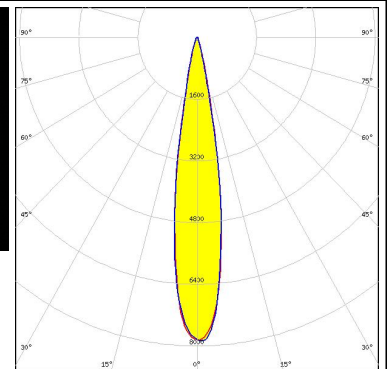
SAMSUNG

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



SAMSUNG

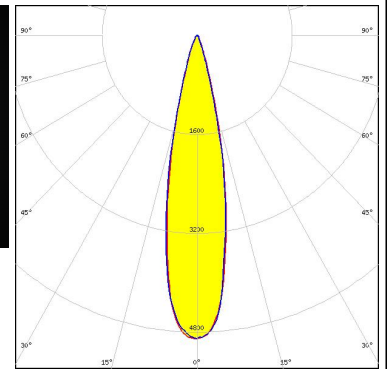
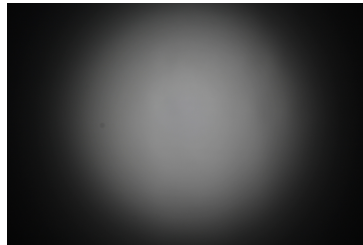
LED LH351C
 FWHM / FWTM 18.0° / 30.0°
 Efficiency 94 %
 Peak intensity 7.9 cd/m²
 LEDs/each optic 1
 Light colour White
 Required components:



PHOTOMETRIC DATA (MEASURED):

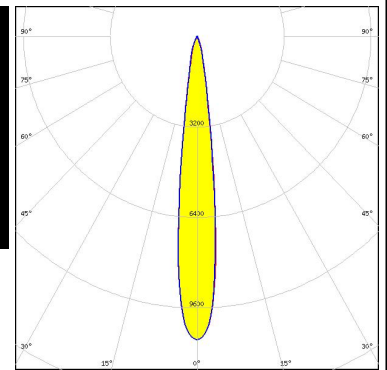
SAMSUNG

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:



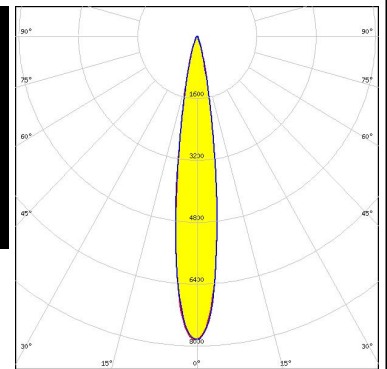
SKITEC

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:



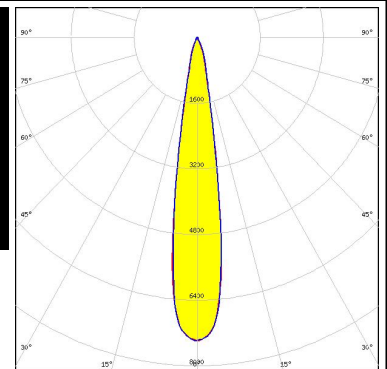
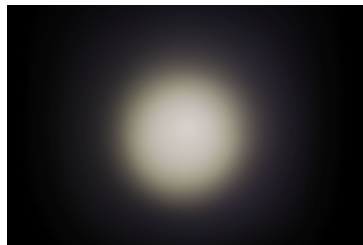
SEOL

SEOL 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:


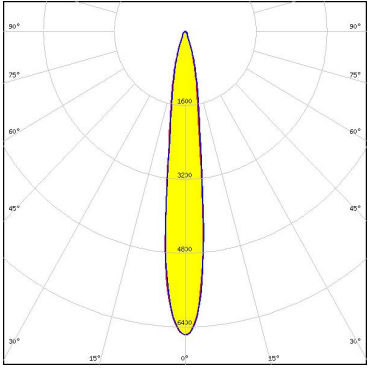


SEOL

SEOL SEMICONDUCTOR
 LED Z5M4
 FWHM / FWTM 17.0° / 32.0°
 Efficiency 96 %
 Peak intensity 7.4 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



PHOTOMETRIC DATA (MEASURED):

			
SEoul SEMICONDUCTOR			
LED	Z8Y22		
FWHM / FWTM	14.0° / 35.0°		
Efficiency	94 %		
Peak intensity	6.6 cd/lm		
LEDs/each optic	1		
Light colour	White		
Required components:			

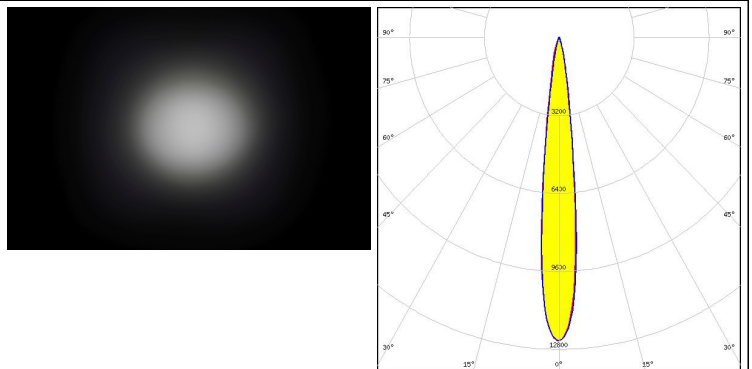
			
SEoul SEMICONDUCTOR			
LED	Z8Y22P		
FWHM / FWTM	16.0° / 33.0°		
Efficiency	93 %		
Peak intensity	6.9 cd/lm		
LEDs/each optic	1		
Light colour	White		
Required components:			

TRIDONIC

LED RLE 2x4 2000lm 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

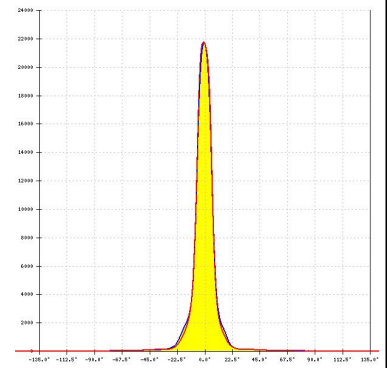
LED RLE 2x8 4000lm HP EXC2 OTD
 FWHM / FWTM 13.0° / 25.0°
 Efficiency 94 %
 Peak intensity 12.5 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



PHOTOMETRIC DATA (MEASURED):

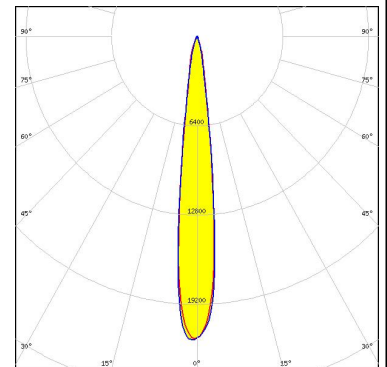
TRIDONIC

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:



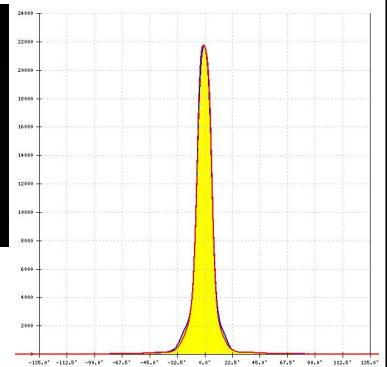
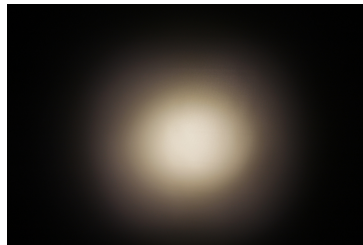
TRIDONIC

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:



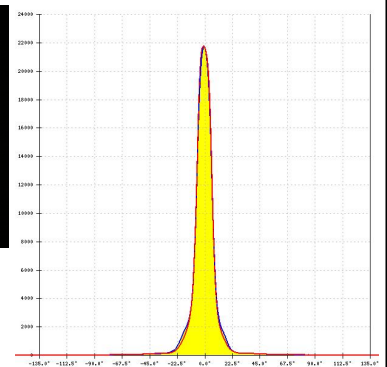
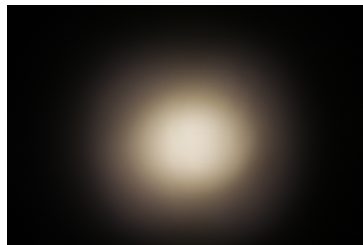
TRIDONIC

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:



TRIDONIC

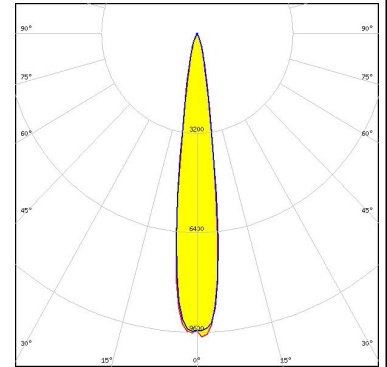
LED RLE G1 49x245mm 4000lm xxx EXC OTD
 FWHM / FWTM 13.0° / 27.0°
 Efficiency 94 %
 Peak intensity 10.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



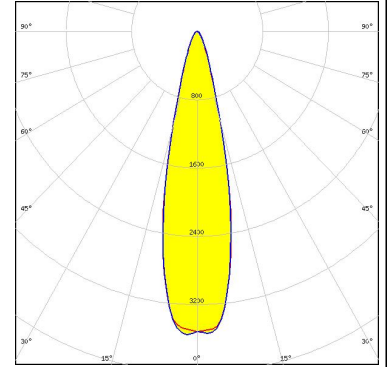
PHOTOMETRIC DATA (SIMULATED):



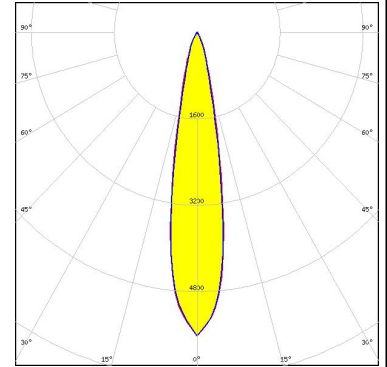
LED XHP35 HI
 FWHM / FWTM 14.0° / 29.0°
 Efficiency 93 %
 Peak intensity 9.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



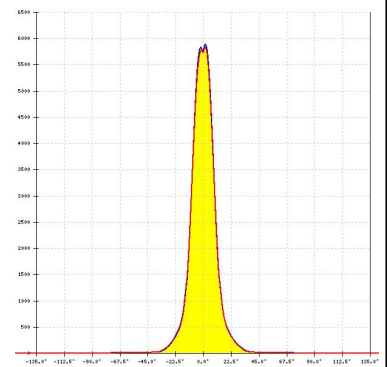
LED XHP35.2
 FWHM / FWTM 24.0° / 46.0°
 Efficiency 93 %
 Peak intensity 3.6 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



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:



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:



PHOTOMETRIC DATA (SIMULATED):

<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: #ADD8E6; padding: 2px; display: inline-block;">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>	
<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>	

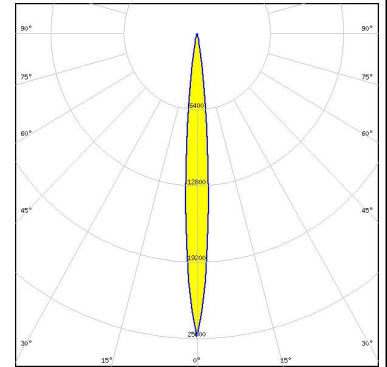
PHOTOMETRIC DATA (SIMULATED):

<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>	
<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>	

PHOTOMETRIC DATA (SIMULATED):

CREE LED

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:

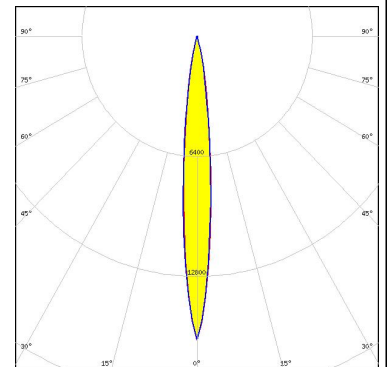


CREE LED

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:

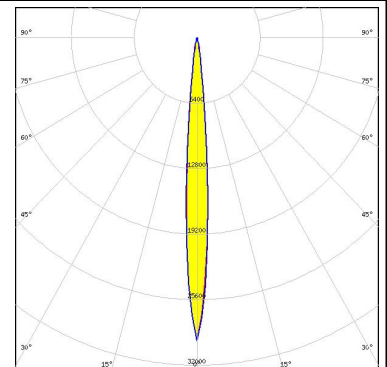
LUMILEDS

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:

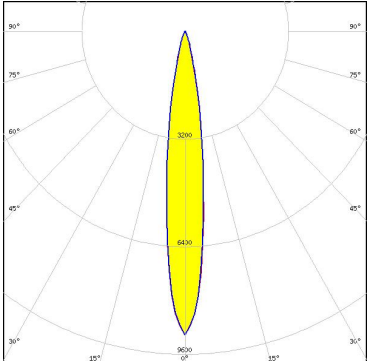
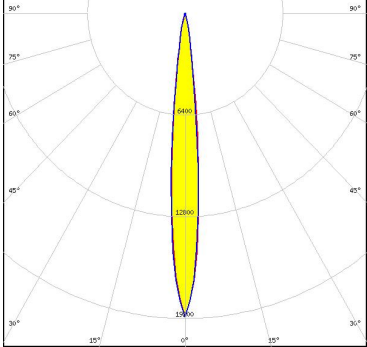
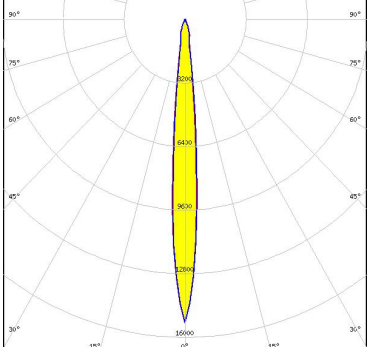
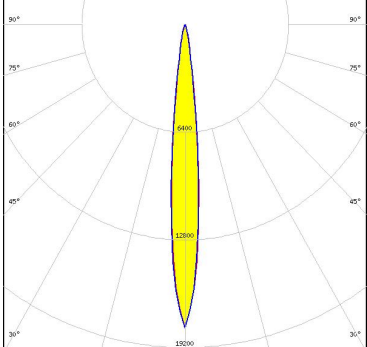


LUMILEDS

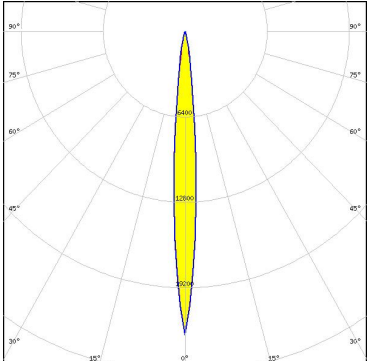
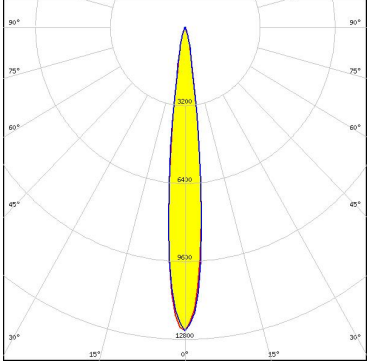
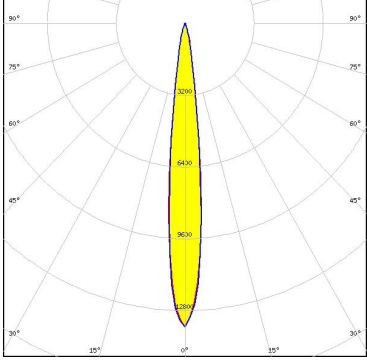
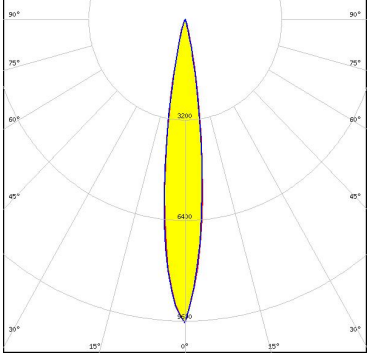
LED LUXEON CZ
 FWHM / FWTM 8.0° / 16.0°
 Efficiency 93 %
 Peak intensity 29.6 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



PHOTOMETRIC DATA (SIMULATED):

<p>LUMILEDS</p> <p>LED: LUXEON HL2X</p> <p>FWHM / FWTM: 14.0° / 30.0°</p> <p>Efficiency: 95 %</p> <p>Peak intensity: 9 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 150</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</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>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>	

PHOTOMETRIC DATA (SIMULATED):

<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>	
<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 style="background-color: #ADD8E6; padding: 2px; display: inline-block;">Protective plate, glass</p>	

PHOTOMETRIC DATA (SIMULATED):

<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 (Kx.CSLNM1.xx)</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>	
<p>OSRAM Opto Semiconductors</p> <p>LED SFH 4715AS</p> <p>FWHM / FWTM 9.2° / 21.0°</p> <p>Efficiency %</p> <p>LEDs/each optic 1</p> <p>Light colour IR</p> <p>Required components:</p>	

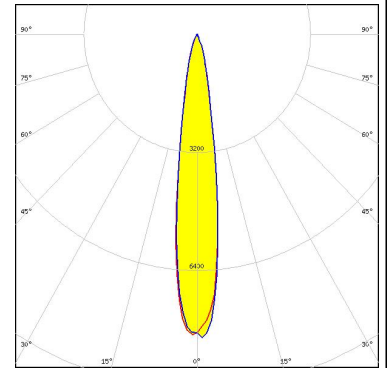
PHOTOMETRIC DATA (SIMULATED):

SAMSUNG

LED LH231B
 FWHM / FWTM 16.0° / 34.0°
 Efficiency 94 %
 Peak intensity 8 cd/lm
 LEDs/each optic 4
 Light colour White
 Required components:

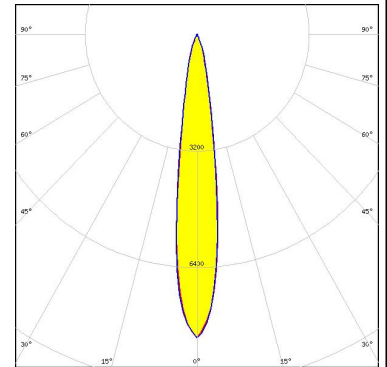
SAMSUNG

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:



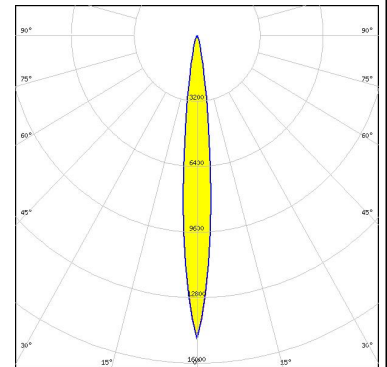
SAMSUNG

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:

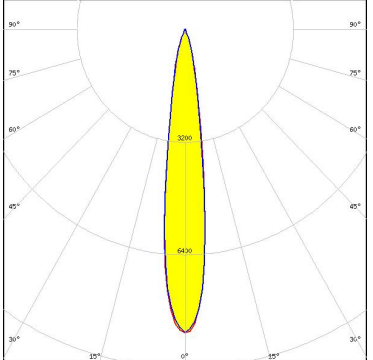


SAMSUNG

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:



PHOTOMETRIC DATA (SIMULATED):

<p> SEUL SEMICONDUCTOR</p> <p>LED Z5M1/Z5M2</p> <p>FWHM / FWTM 13.0° / 26.0°</p> <p>Efficiency 92 %</p> <p>Peak intensity 12.1 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<p> SEUL SEMICONDUCTOR</p> <p>LED Z8Y22T</p> <p>FWHM / FWTM 15.0° / 32.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 8.6 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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