

HB-2X2-O

~20° + 115° oval beam for aisle lighting

SPECIFICATION:

Dimensions	50.0 x 50.0 mm
Height	10.6 mm
Fastening	glue, pin, screw
ROHS compliant	yes ⓘ

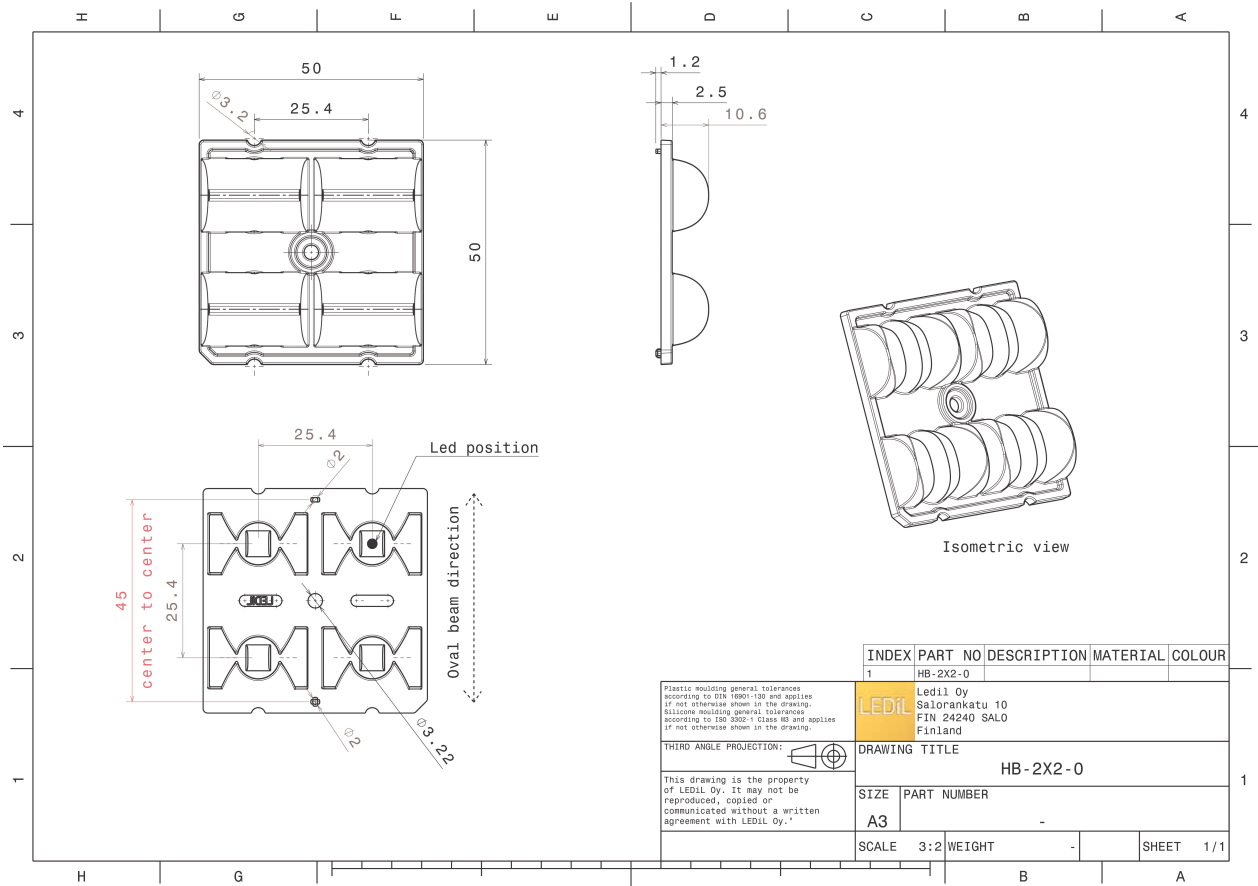
MATERIALS:

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

ORDERING INFORMATION:

Component	Qty in box	MOQ	MPQ	Box weight (kg)
C13749_HB-2X2-O » Box size: 480 x 280 x 300 mm	800	160	160	10.4



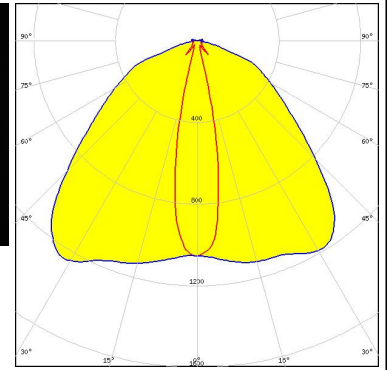
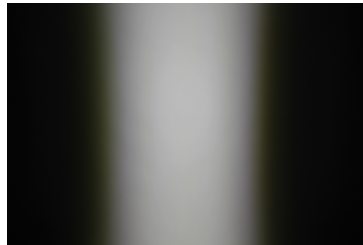


See also our general installation guide: www.ledil.com/installation_guide

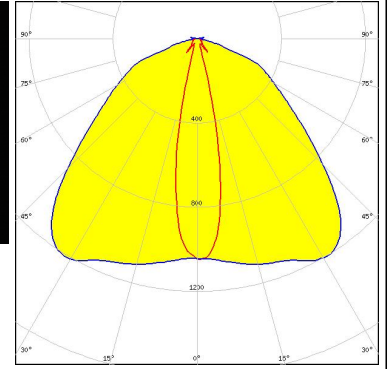
OPTICAL RESULTS (MEASURED):



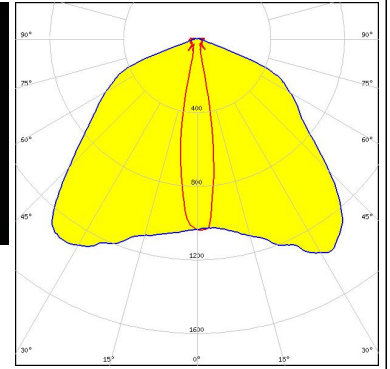
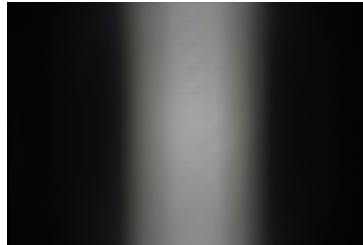
LED QUICK FLUX XTP 2x4 xxx LS G5
FWHM / FWTM 21.0 + 111.0° / 32.0 + 148.0°
Efficiency 94 %
Peak intensity 1.3 cd/lm
LEDs/each optic 1
Light colour White
Required components:



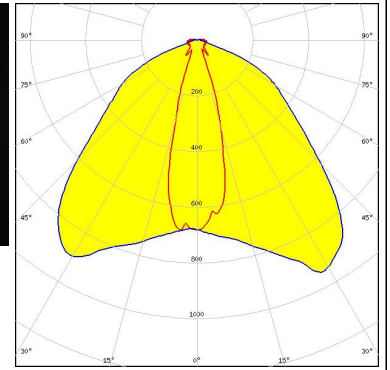
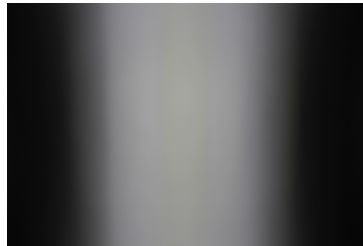
LED QUICK FLUX XTP 2x6 xxx LS G5
FWHM / FWTM 22.0 + 111.0° / 33.0 + 149.0°
Efficiency 94 %
Peak intensity 1.2 cd/lm
LEDs/each optic 1
Light colour White
Required components:



LED XD16
FWHM / FWTM 19.0 + 127.0° / 28.0 + 141.0°
Efficiency 93 %
Peak intensity 1.4 cd/lm
LEDs/each optic 1
Light colour White
Required components:



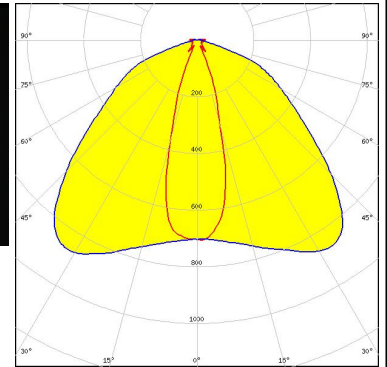
LED XD16
FWHM / FWTM 29.0 + 116.0° / 44.0 + 141.0°
Efficiency 94 %
Peak intensity 1 cd/lm
LEDs/each optic 4
Light colour White
Required components:



OPTICAL RESULTS (MEASURED):

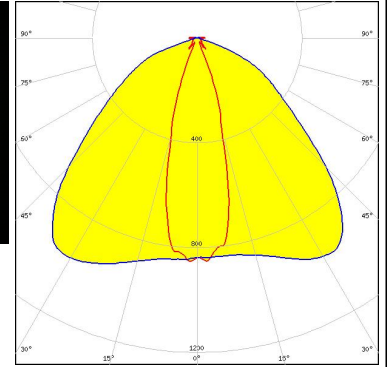
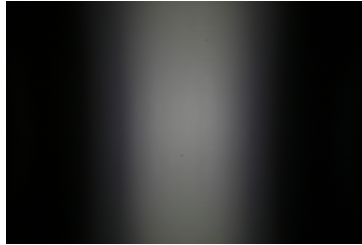
CREE LED

LED XHP35 HD
 FWHM / FWTM 29.0 + 117.0° / 48.0 + 148.0°
 Efficiency 94 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



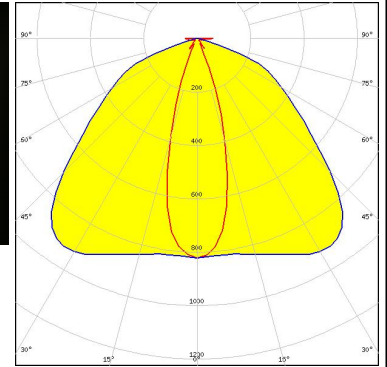
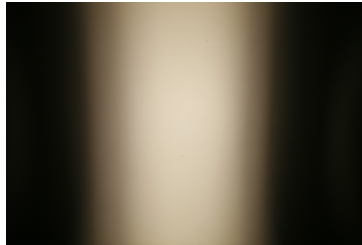
CREE LED

LED XM-L
 FWHM / FWTM 28.0 + 108.0° / 45.0 + 142.0°
 Efficiency 94 %
 Peak intensity 1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



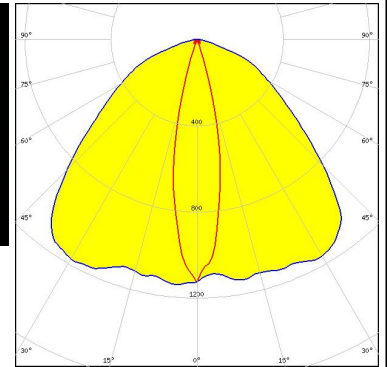
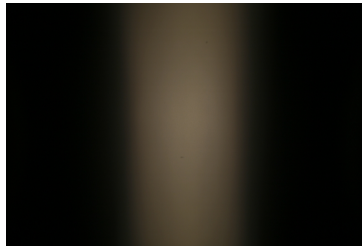
CREE LED

LED XM-L2
 FWHM / FWTM 30.0 + 106.0° / 48.0 + 143.0°
 Efficiency 94 %
 Peak intensity 1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



CREE LED

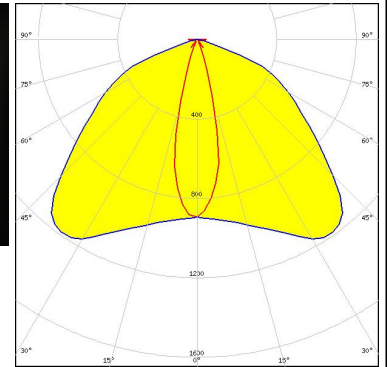
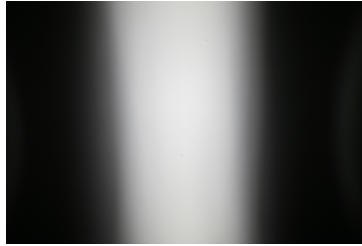
LED XP-G
 FWHM / FWTM 26.0 + 115.0° / 44.0 + 158.0°
 Efficiency 94 %
 Peak intensity 1.1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



OPTICAL RESULTS (MEASURED):

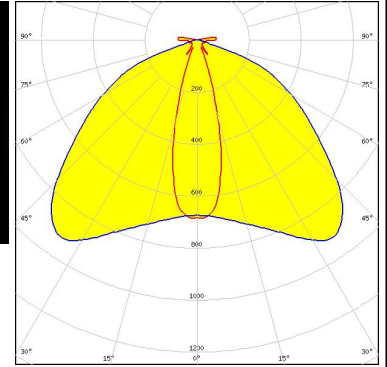
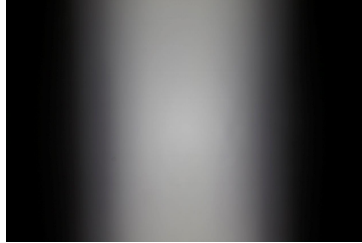
CREE LED

LED XP-G2
 FWHM / FWTM 27.0 + 112.0° / 42.0 + 146.0°
 Efficiency 94 %
 Peak intensity 1.2 cd/m
 LEDs/each optic 1
 Light colour White
 Required components:



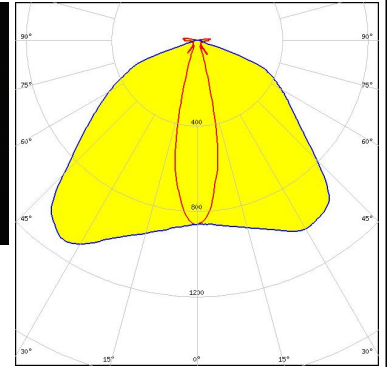
CREE LED

LED XP-L HD
 FWHM / FWTM 29.0 + 117.0° / 48.0 + 144.0°
 Efficiency 94 %
 Peak intensity 0.9 cd/m
 LEDs/each optic 1
 Light colour White
 Required components:



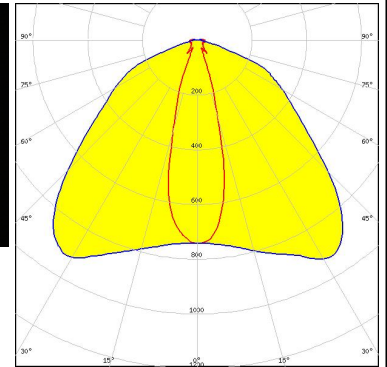
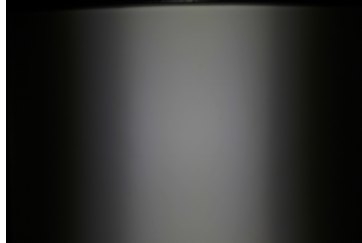
CREE LED

LED XP-L HI
 FWHM / FWTM 25.0 + 123.0° / 41.0 + 143.0°
 Efficiency 94 %
 Peak intensity 1.1 cd/m
 LEDs/each optic 1
 Light colour White
 Required components:


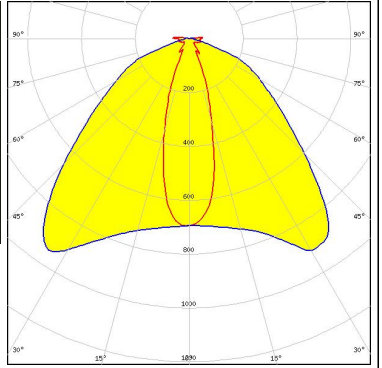
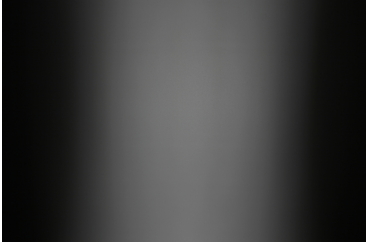
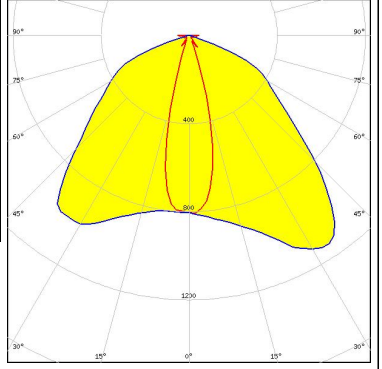
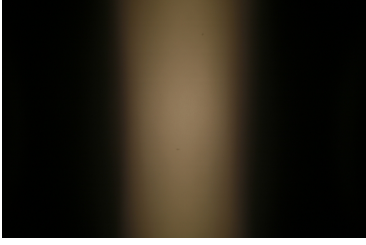
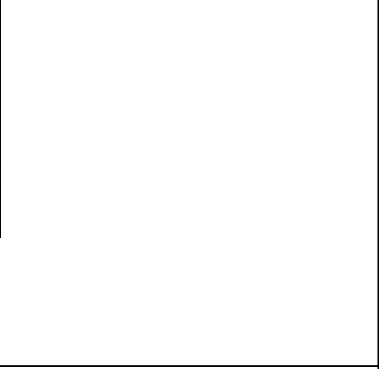
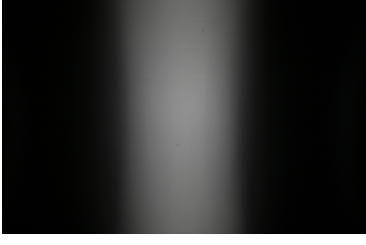
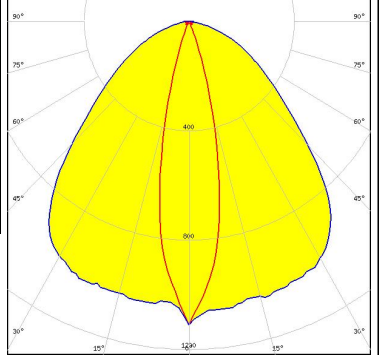


CREE LED

LED XP-L2
 FWHM / FWTM 28.0 + 117.0° / 47.0 + 150.0°
 Efficiency 94 %
 Peak intensity 0.9 cd/m
 LEDs/each optic 1
 Light colour White
 Required components:



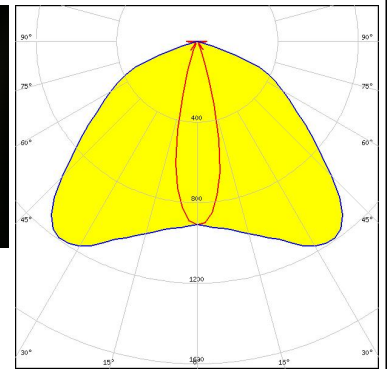
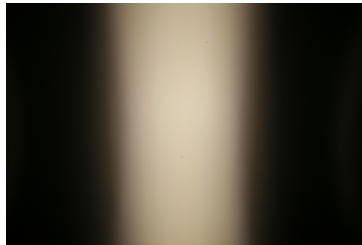
OPTICAL RESULTS (MEASURED):

<p>LUMILEDS</p> <p>LED LUXEON 5050 Round LES</p> <p>FWHM / FWTM 29.0 + 114.0° / 51.0 + 147.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 0.9 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p>LUMILEDS</p> <p>LED LUXEON MZ</p> <p>FWHM / FWTM 28.0 + 103.0° / 43.0 + 14.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 1.1 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p>LUMILEDS</p> <p>LED LUXEON R</p> <p>FWHM / FWTM 25.0 + 105.0° / 44.0 + 148.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 1.2 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p>LUMILEDS</p> <p>LED LUXEON Rebel ES</p> <p>FWHM / FWTM 25.0 + 106.0° / 42.0 + 150.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 1.2 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		

OPTICAL RESULTS (MEASURED):

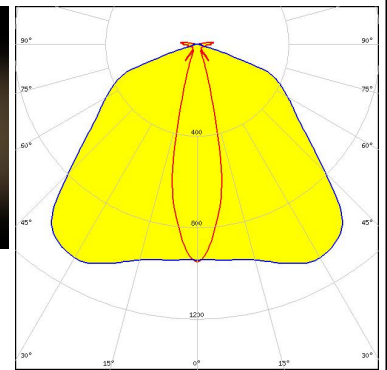
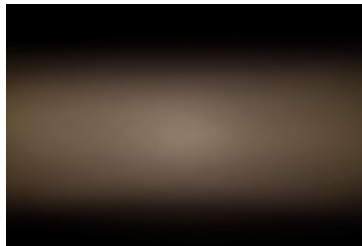
LUMILEDS

LED LUXEON T
 FWHM / FWTM 26.0 + 110.0° / 41.0 + 145.0°
 Efficiency 94 %
 Peak intensity 1.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



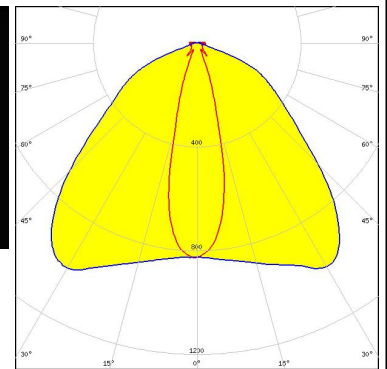
LUMILEDS

LED LUXEON TX
 FWHM / FWTM 24.0 + 118.0° / 42.0 + 146.0°
 Efficiency 94 %
 Peak intensity 1.1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



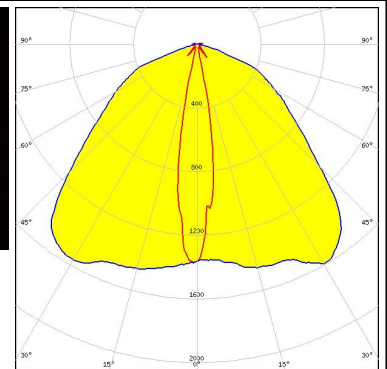
LUMILEDS

LED LUXEON V
 FWHM / FWTM 26.0 + 108.0° / 44.0 + 141.0°
 Efficiency 94 %
 Peak intensity 1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



LUMINUS

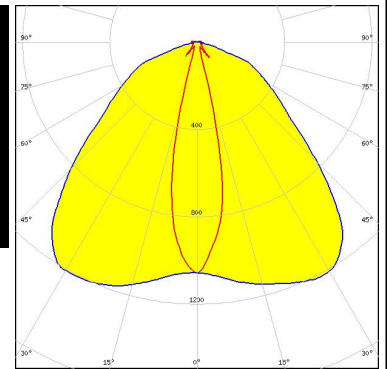
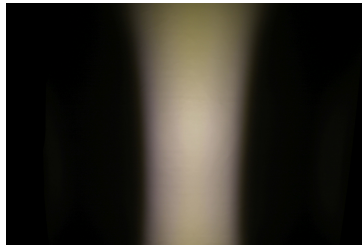
LED SST-10-B130
 FWHM / FWTM 18.0 + 104.0° / 25.0 + 144.0°
 Efficiency 97 %
 Peak intensity 1.6 cd/lm
 LEDs/each optic 1
 Light colour Deep Red
 Required components:



OPTICAL RESULTS (MEASURED):

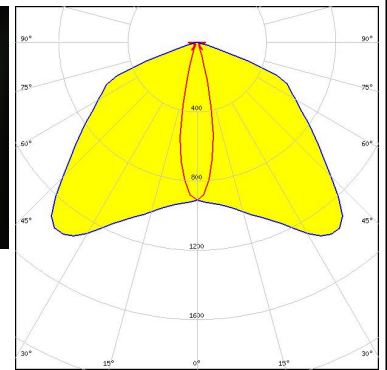
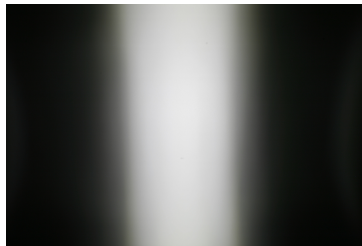
MST *Your solutions*

LED RecLED 122x50mm 1900lm 730 2x4 Opt G1
 FWHM / FWTM 23.0 + 99.5° / 32.5 + 145.0°
 Efficiency 97 %
 Peak intensity 1.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



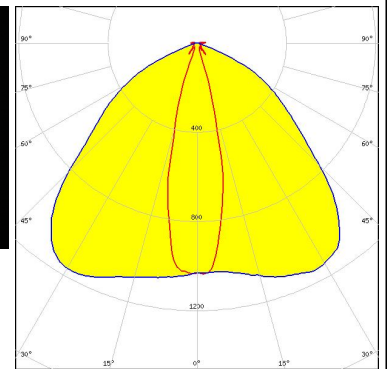
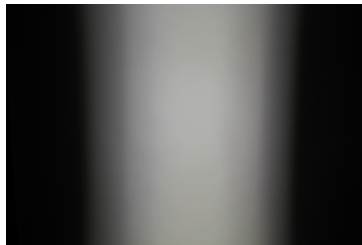
NICHIA

LED NCSxx19B
 FWHM / FWTM 23.0 + 113.0° / 39.0 + 146.0°
 Efficiency 94 %
 Peak intensity 1.4 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



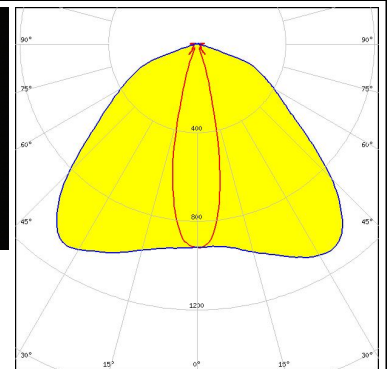
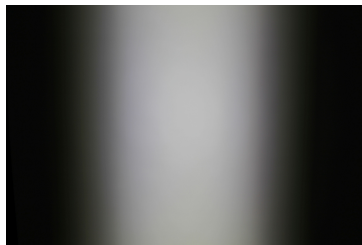
NICHIA

LED NVSW219D
 FWHM / FWTM 25.0 + 107.0° / 37.0 + 137.0°
 Efficiency 94 %
 Peak intensity 1.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

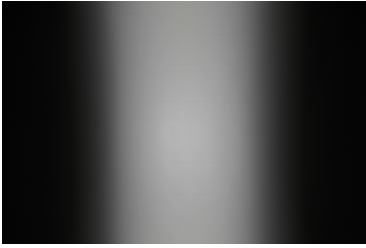
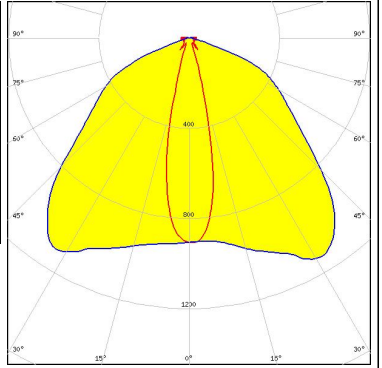
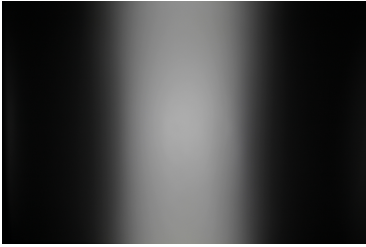
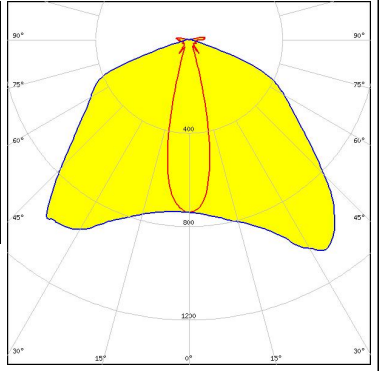

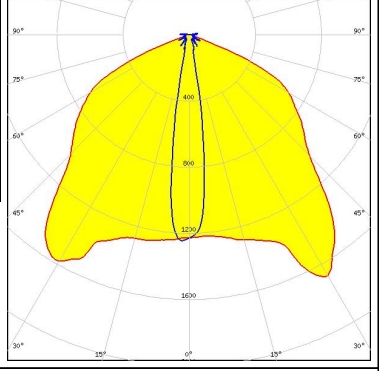
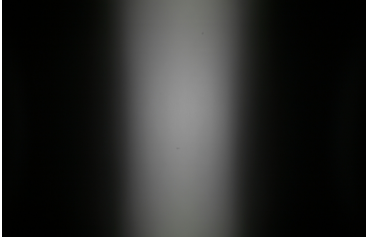
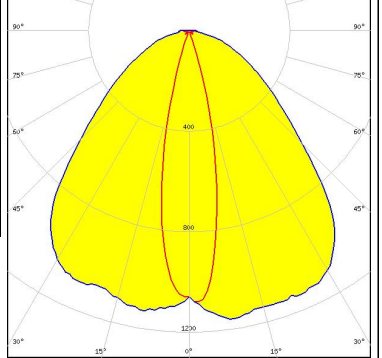


NICHIA

LED NVSW319B
 FWHM / FWTM 25.0 + 113.0° / 41.0 + 144.0°
 Efficiency 94 %
 Peak intensity 1.1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



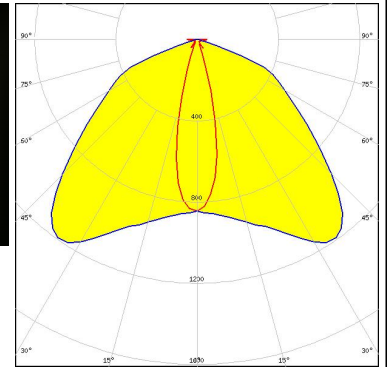
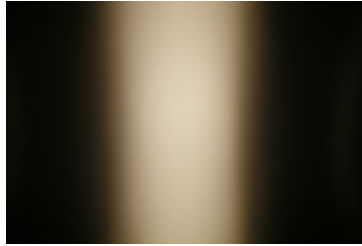
OPTICAL RESULTS (MEASURED):

<p>NICHIA</p> <p>LED NVSW3x9A FWHM / FWTM 24.0 + 119.0° / 38.0 + 144.0° Efficiency 94 % Peak intensity 1.1 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>NICHIA</p> <p>LED NVSW3x9A FWHM / FWTM 25.0 + 134.0° / 43.0 + 147.0° Efficiency 93 % Peak intensity 0.4 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>NICHIA</p> <p>LED NVSxE21A FWHM / FWTM 17.0 + 125.0° / 27.0 + 139.0° Efficiency 94 % Peak intensity 1.7 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>NICHIA</p> <p>LED NVSxx19A FWHM / FWTM 24.0 + 105.0° / 44.0 + 148.0° Efficiency 94 % Peak intensity 1.2 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		

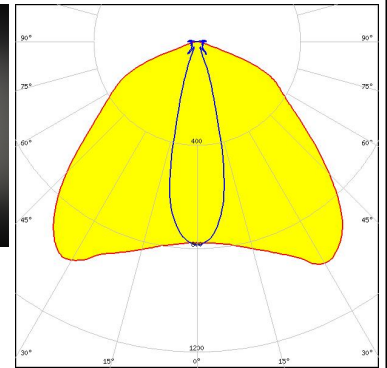
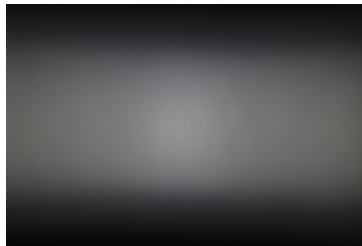
OPTICAL RESULTS (MEASURED):



LED NVSxx19B/NVSxx19C
 FWHM / FWTM 26.0 + 108.0° / 41.0 + 145.0°
 Efficiency 94 %
 Peak intensity 1.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

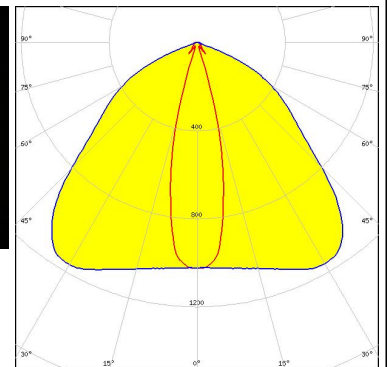
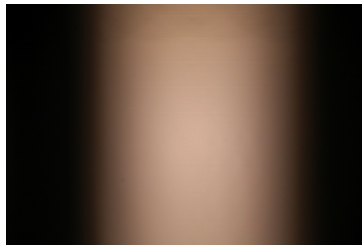


LED NWSx229A
 FWHM / FWTM 27.0 + 118.0° / 43.0 + 143.0°
 Efficiency 94 %
 Peak intensity 1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



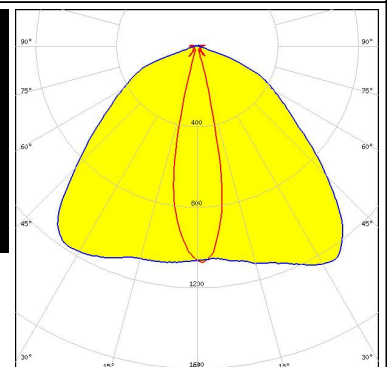
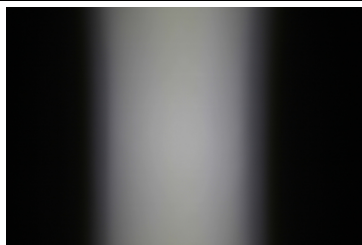
OSRAM

LED PL-BRICK HP 3800 2x8 SSG
 FWHM / FWTM 26.0 + 102.0° / 37.0 + 139.0°
 Efficiency 97 %
 Peak intensity 1.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



OSRAM

LED PrevaLED Brick HP 2x8
 FWHM / FWTM 23.0 + 111.0° / 32.0 + 141.0°
 Efficiency 94 %
 Peak intensity 1.3 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

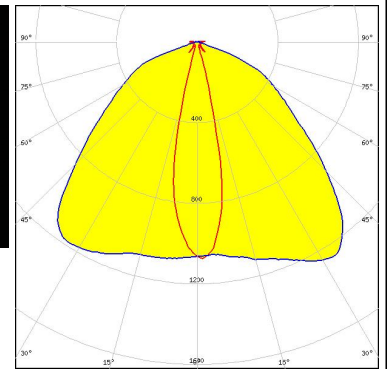
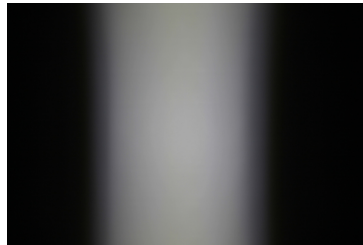


OPTICAL RESULTS (MEASURED):

OSRAM

Opto Semiconductors

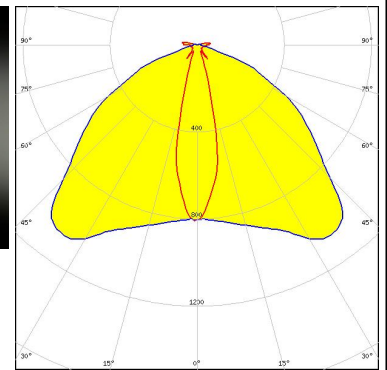
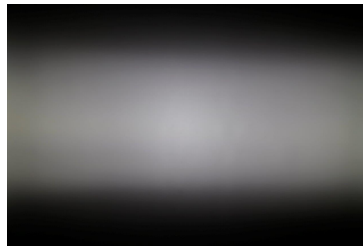
LED OSLON Square CSSRM2/CSSRM3
 FWHM / FWTM 23.0 + 111.0° / 32.0 + 141.0°
 Efficiency 94 %
 Peak intensity 1.3 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



OSRAM

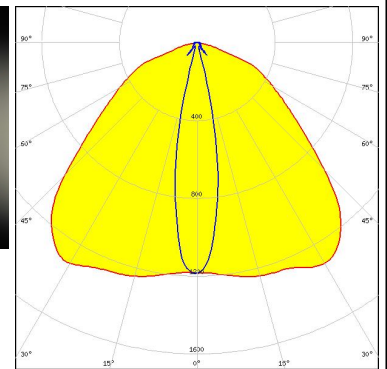
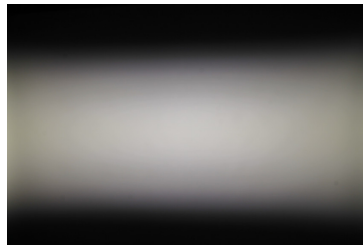
Opto Semiconductors

LED OSLON Square PC
 FWHM / FWTM 25.0 + 124.0° / 42.0 + 145.0°
 Efficiency 91 %
 Peak intensity 1.1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



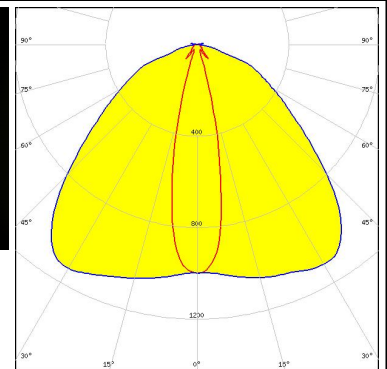
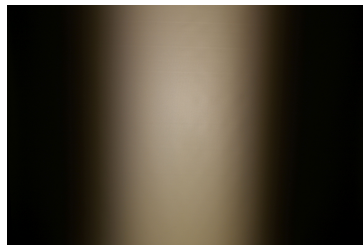
PHILIPS

LED Fortimo FastFlex LED 2x8 DA G4
 FWHM / FWTM 21.0 + 108.0° / 31.0 + 147.0°
 Efficiency 94 %
 Peak intensity 1.3 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



PHILIPS

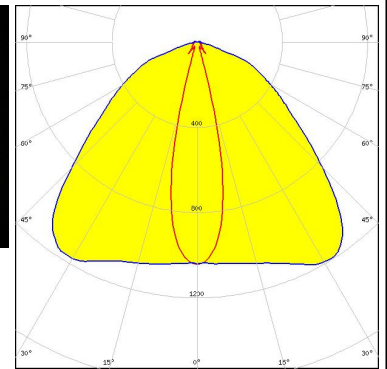
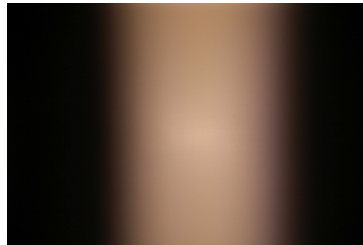
LED Fortimo FastFlex LED 2x8 DA G4+
 FWHM / FWTM 24.0 + 104.0° / 37.0 + 145.0°
 Efficiency 97 %
 Peak intensity 1.1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



OPTICAL RESULTS (MEASURED):

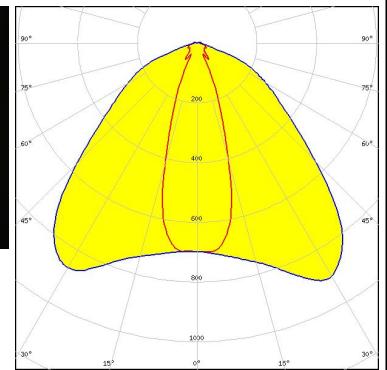
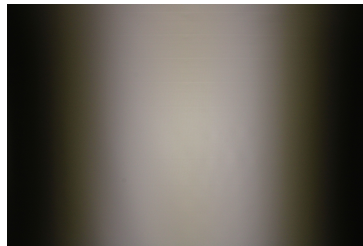
PHILIPS

LED Fortimo FastFlex LED 2x8 DA G5
 FWHM / FWTM 24.0 + 103.0° / 34.0 + 144.0°
 Efficiency 97 %
 Peak intensity 1.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



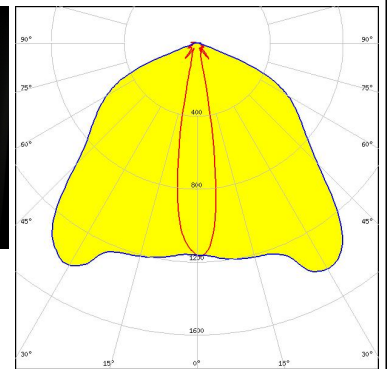
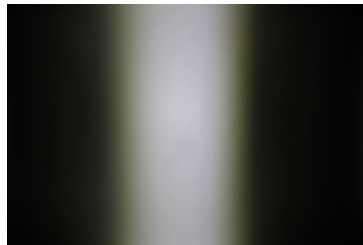
PHILIPS

LED Fortimo FastFlex LED 2x8 DA HE
 FWHM / FWTM 32.0 + 98.0° / 51.0 + 142.0°
 Efficiency 98 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



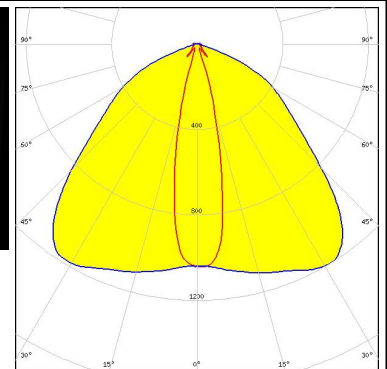
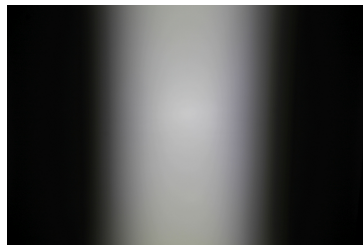
SAMSUNG

LED HiLOM RC12 Z (LH181B)
 FWHM / FWTM 19.0 + 106.0° / 31.0 + 140.0°
 Efficiency 98 %
 Peak intensity 1.4 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



SAMSUNG

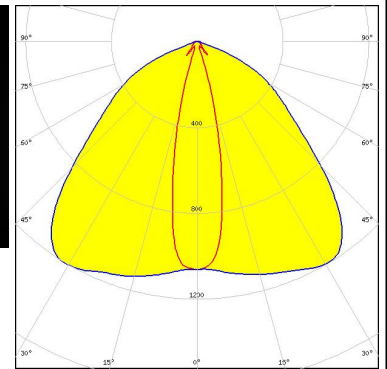
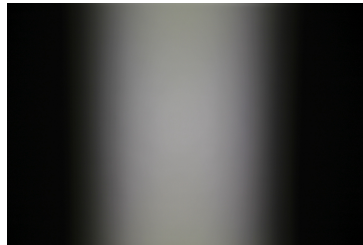
LED HiLOM RH12 Z (LH351C)
 FWHM / FWTM 23.0 + 102.0° / 36.0 + 139.0°
 Efficiency 97 %
 Peak intensity 1.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



OPTICAL RESULTS (MEASURED):

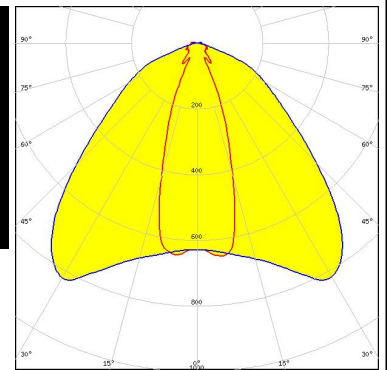
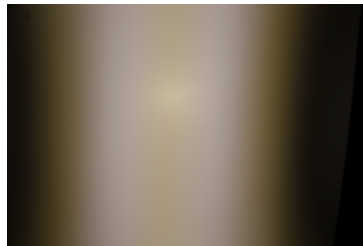
SAMSUNG

LED HiLOM RH16 (LH351C)
 FWHM / FWTM 23.0 + 106.0° / 36.0 + 140.0°
 Efficiency 94 %
 Peak intensity 1.2 cd/m
 LEDs/each optic 1
 Light colour White
 Required components:



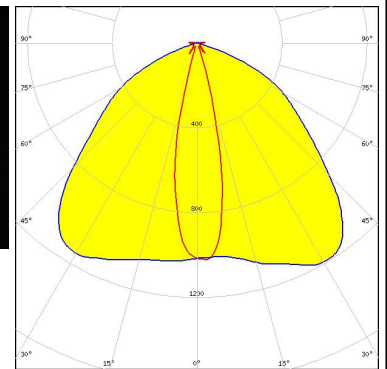
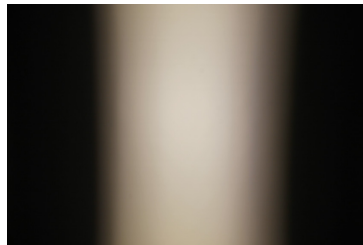
SAMSUNG

LED HiLOM RM12 Z (LH502C)
 FWHM / FWTM 35.0 + 98.0° / 76.0 + 141.0°
 Efficiency 96 %
 Peak intensity 0.8 cd/m
 LEDs/each optic 1
 Light colour White
 Required components:



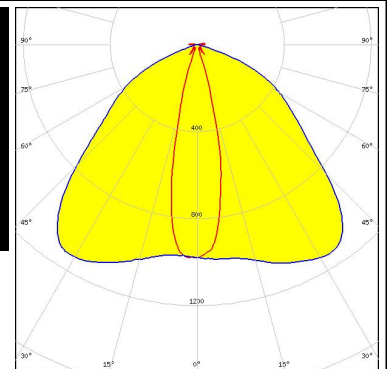
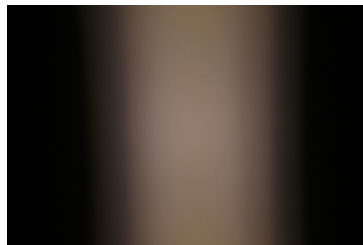
SAMSUNG

LED LH351B
 FWHM / FWTM 23.0 + 113.0° / 35.0 + 141.0°
 Efficiency 94 %
 Peak intensity 1.2 cd/m
 LEDs/each optic 1
 Light colour White
 Required components:



SAMSUNG

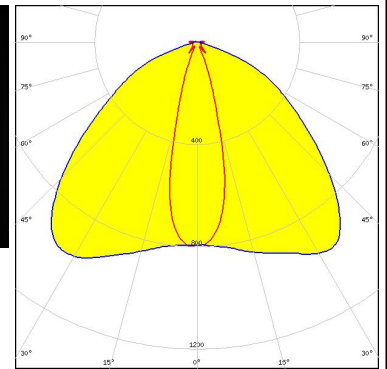
LED LH351C
 FWHM / FWTM 24.0 + 111.0° / 37.0 + 141.0°
 Efficiency 94 %
 Peak intensity 1.1 cd/m
 LEDs/each optic 1
 Light colour White
 Required components:



OPTICAL RESULTS (MEASURED):

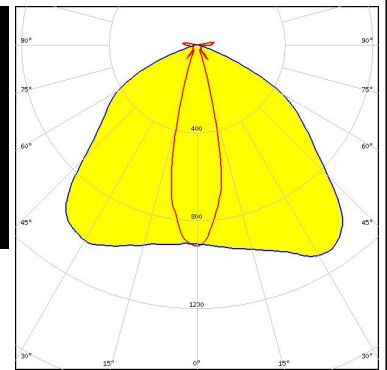
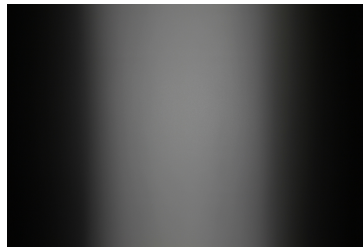
SAMSUNG

LED LH351D
 FWHM / FWTM 27.0 + 116.0° / 44.0 + 144.0°
 Efficiency 94 %
 Peak intensity 1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

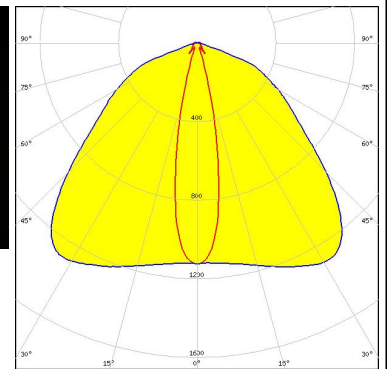
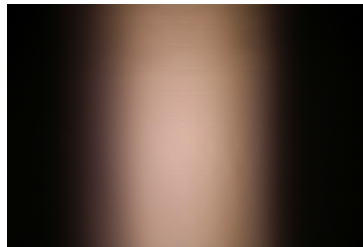


SAMSUNG

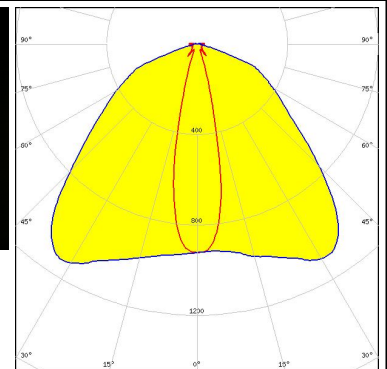
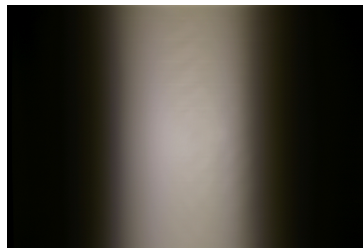
LED LH351Z
 FWHM / FWTM 26.0 + 117.0° / 42.0 + 141.0°
 Efficiency 94 %
 Peak intensity 1.1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:




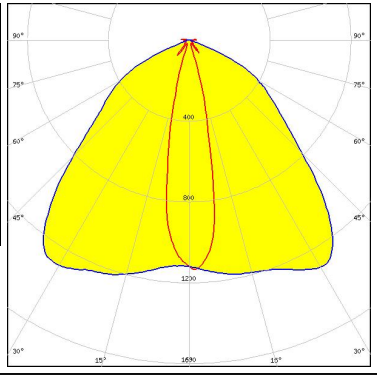
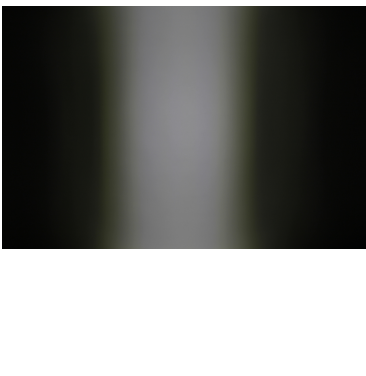
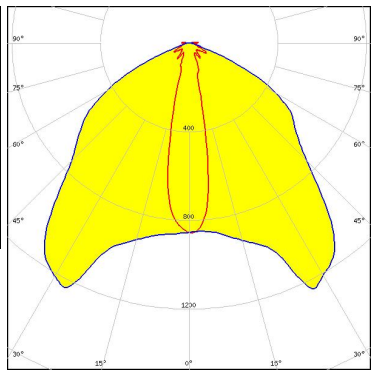
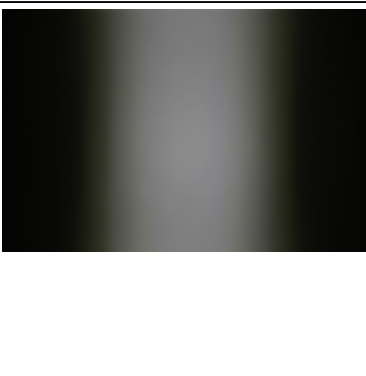
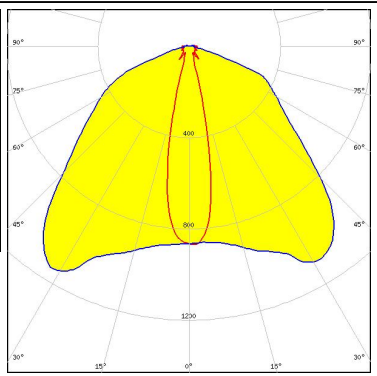
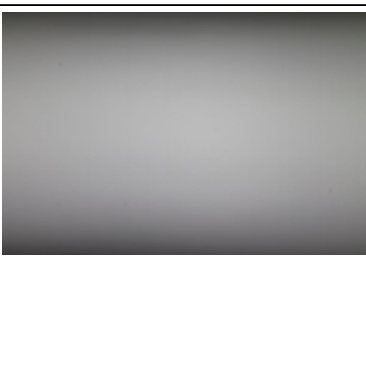

LED LED-Pa-L15c2W11c2-xxx-C050-01
 FWHM / FWTM 22.0 + 105.0° / 36.0 + 142.0°
 Efficiency 98 %
 Peak intensity 1.3 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



LED Z5M3
 FWHM / FWTM 23.0 + 113.0° / 39.0 + 146.0°
 Efficiency 94 %
 Peak intensity 1.1 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 22.0 + 97.0° / 35.0 + 135.0°</p> <p>Efficiency 98 %</p> <p>Peak intensity 1.3 cd/m</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 21.0 + 121.0° / 99.0 + 140.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 1.2 cd/m</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 23.0 + 121.0° / 34.0 + 150.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 1.1 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p>TOSHIBA Leading Innovation >>></p> <p>LED TL1L4</p> <p>FWHM / FWTM 24.0 + 119.0° / 39.0 + 140.0°</p> <p>Efficiency 89 %</p> <p>Peak intensity 1.1 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		

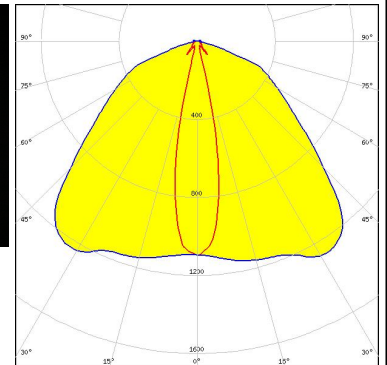
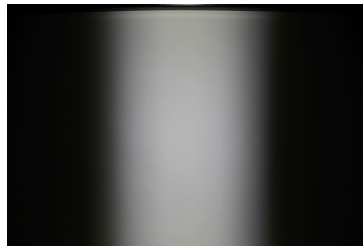
OPTICAL RESULTS (MEASURED):

TRIDONIC

LED RLE 2x4 2000lm HP EXC2 OTD
 FWHM / FWTM 22.0 + 113.0° / 30.0 + 149.0°
 Efficiency 94 %
 Peak intensity 1.3 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

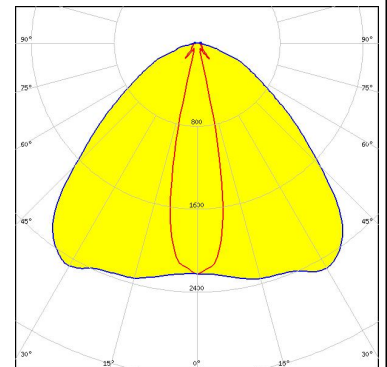
TRIDONIC

LED RLE 2x8 4000lm HP EXC2 OTD
 FWHM / FWTM 22.0 + 113.0° / 30.0 + 149.0°
 Efficiency 94 %
 Peak intensity 1.3 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



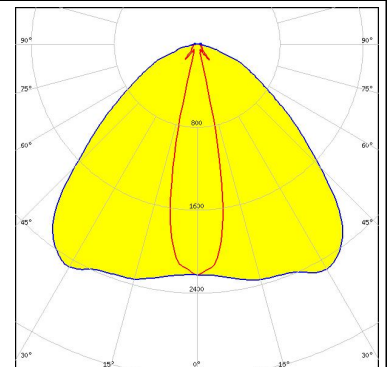
TRIDONIC

LED RLE G1 49x121mm 2000lm xxx EXC OTD
 FWHM / FWTM 23.0 + 104.0° / 31.0 + 144.0°
 Efficiency 94 %
 Peak intensity 1.3 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



TRIDONIC

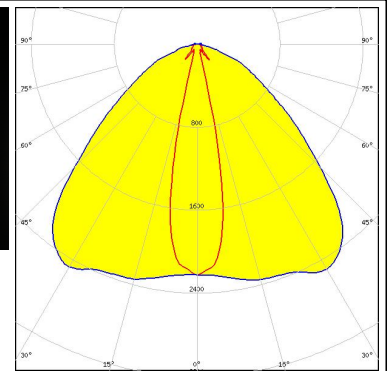
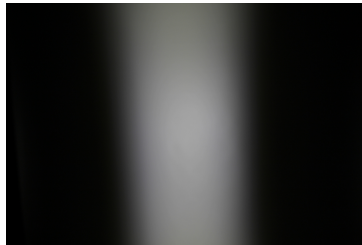
LED RLE G1 49x133mm 2000lm xxx EXC OTD
 FWHM / FWTM 23.0 + 104.0° / 31.0 + 144.0°
 Efficiency 94 %
 Peak intensity 1.3 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



OPTICAL RESULTS (MEASURED):

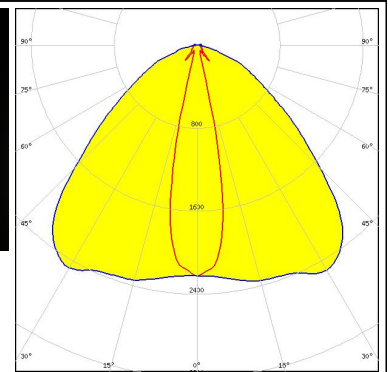
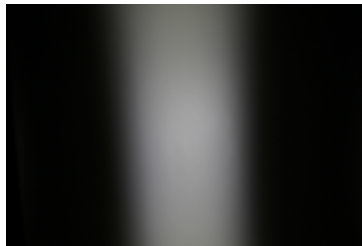
TRIDONIC

LED RLE G1 49x223mm 4000lm xxx EXC OTD
FWHM / FWTM 23.0 + 104.0° / 31.0 + 144.0°
Efficiency 94 %
Peak intensity 1.3 cd/lm
LEDs/each optic 1
Light colour White
Required components:



TRIDONIC

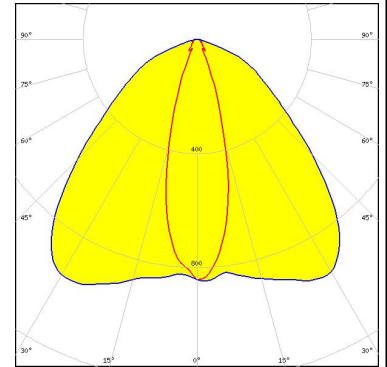
LED RLE G1 49x245mm 4000lm xxx EXC OTD
FWHM / FWTM 23.0 + 104.0° / 31.0 + 144.0°
Efficiency 94 %
Peak intensity 1.3 cd/lm
LEDs/each optic 1
Light colour White
Required components:



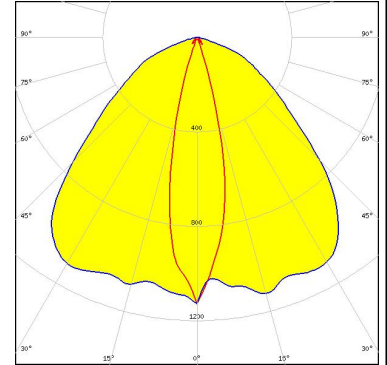
OPTICAL RESULTS (SIMULATED):



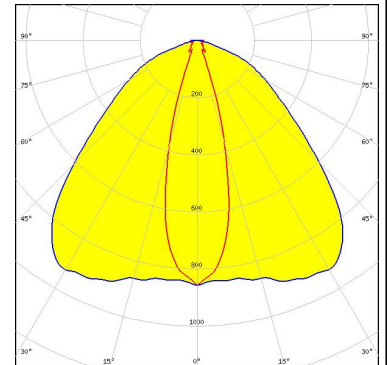
LED J Series 5050 Round LES
 FWHM / FWTM 30.0 + 97.0° / 51.0 + 141.0°
 Efficiency 94 %
 Peak intensity 1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



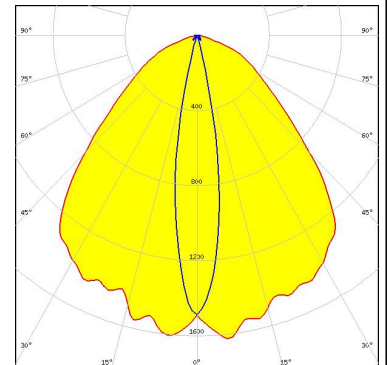
LED XHP35 HI
 FWHM / FWTM 101.0 + 27.0° / 145.0 + 44.0°
 Efficiency 94 %
 Peak intensity 1.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



LED XHP50.3 HI
 FWHM / FWTM 28.0 + 100.0° / 44.0 + 144.0°
 Efficiency 95 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



LED XP-E2
 FWHM / FWTM 93.0 + 18.0° / 141.0 + 30.0°
 Efficiency 94 %
 Peak intensity 1.6 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

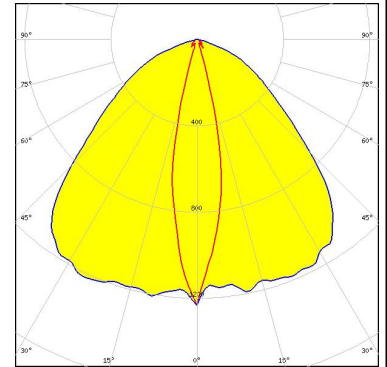


OPTICAL RESULTS (SIMULATED):

CREE LED

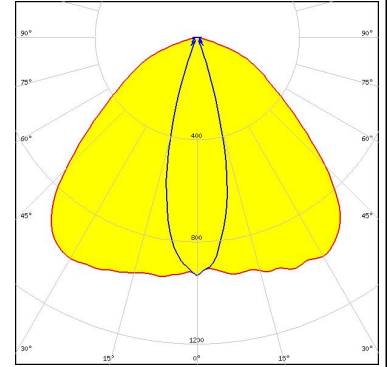
LED XP-G2
 FWHM / FWTM 21.0 + 98.0° / 33.0 + 141.0°
 Efficiency 91 %
 Peak intensity 1.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

Protective plate, glass



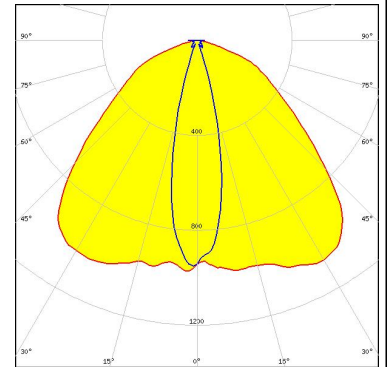
CREE LED

LED XP-G2 HE
 FWHM / FWTM 28.0 + 103.0° / 41.0 + 144.0°
 Efficiency 94 %
 Peak intensity 1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



CREE LED

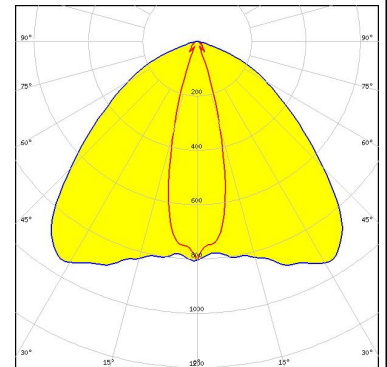
LED XP-G3
 FWHM / FWTM 103.0 + 29.0° / 146.0 + 49.0°
 Efficiency 94 %
 Peak intensity 1.1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



CREE LED

LED XP-L HD
 FWHM / FWTM 26.0 + 103.0° / 42.0 + 140.0°
 Efficiency 88 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

Protective plate, glass

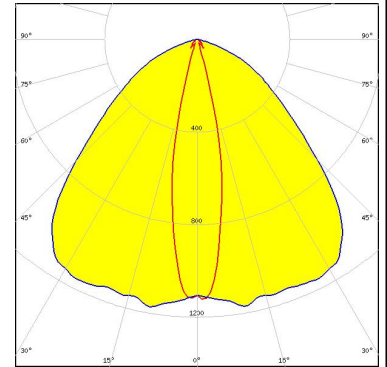


OPTICAL RESULTS (SIMULATED):

CREE LED

LED XP-L HI
 FWHM / FWTM 22.0 + 98.0° / 34.0 + 140.0°
 Efficiency 88 %
 Peak intensity 1.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

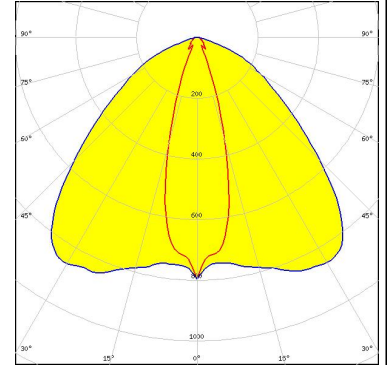
Protective plate, glass



CREE LED

LED XP-L2
 FWHM / FWTM 28.0 + 100.0° / 46.0 + 140.0°
 Efficiency 87 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

Protective plate, glass

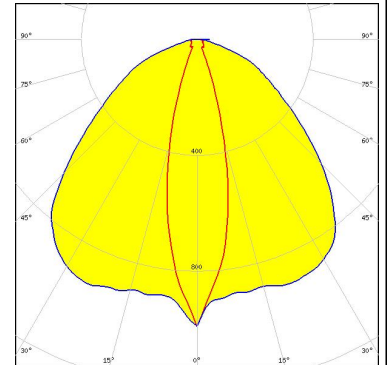


CREE LED

LED XQ-E HI
 FWHM / FWTM 96.0 + 14.0° / 144.0 + 25.0°
 Efficiency %
 LEDs/each optic 1
 Light colour White
 Required components:

CREE LED

LED XT-E HE
 FWHM / FWTM 100.0 + 24.0°
 Efficiency 94 %
 LEDs/each optic 1
 Light colour White
 Required components:

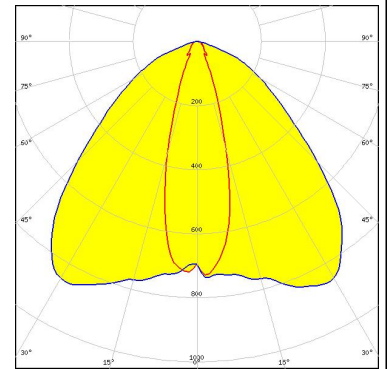


OPTICAL RESULTS (SIMULATED):

LUMILEDS

LED LUXEON 5050 HE
 FWHM / FWTM 30.0 + 98.0° / 52.0 + 140.0°
 Efficiency 87 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

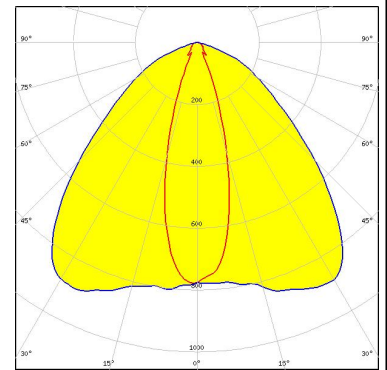
Protective plate, glass



LUMILEDS

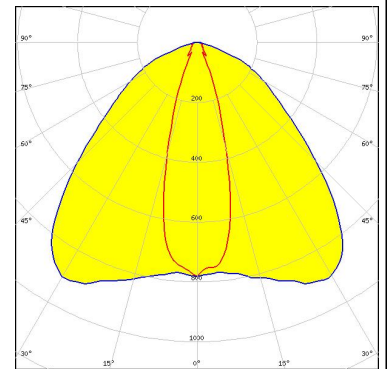
LED LUXEON 5050 Round LES
 FWHM / FWTM 30.0 + 96.0° / 48.0 + 140.0°
 Efficiency 88 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

Protective plate, glass



LUMILEDS

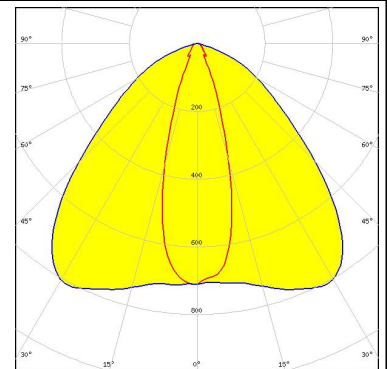
LED LUXEON 5050 Square LES
 FWHM / FWTM 30.0 + 98.0° / 50.0 + 142.0°
 Efficiency 95 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



LUMILEDS

LED LUXEON 5050 Square LES
 FWHM / FWTM 30.0 + 96.0° / 52.0 + 140.0°
 Efficiency 84 %
 Peak intensity 0.8 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

Protective plate, glass



OPTICAL RESULTS (SIMULATED):

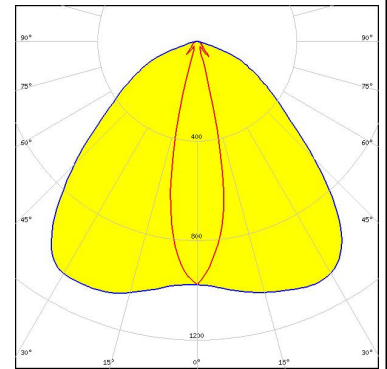
<p>LUMILEDS</p> <p>LED LUXEON IR Domed 150</p> <p>FWHM / FWTM 16.0 + 98.0° / 28.0 + 149.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 1.4 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<p>LUMILEDS</p> <p>LED LUXEON IR Domed 90</p> <p>FWHM / FWTM 20.0 + 86.0° / 29.0 + 128.0°</p> <p>Efficiency 95 %</p> <p>Peak intensity 1.6 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<p>LUMILEDS</p> <p>LED LUXEON XR-HL2X (L2H2-xxxxxxxMLU010)</p> <p>FWHM / FWTM 28.0 + 102.0° / 42.0 + 140.0°</p> <p>Efficiency 96 %</p> <p>Peak intensity 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 XR-HL2X (L2H2-xxxxxxxMLU010)</p> <p>FWHM / FWTM 28.0 + 100.0° / 42.0 + 138.0°</p> <p>Efficiency 86 %</p> <p>Peak intensity 0.9 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;">Protective plate, glass</p>	

OPTICAL RESULTS (SIMULATED):

MST *Your solutions*

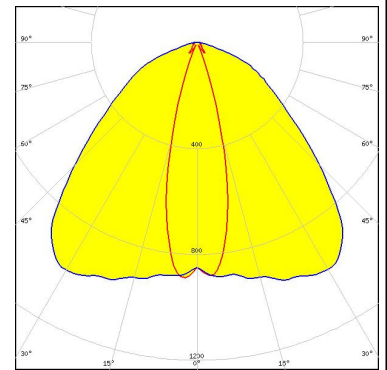
LED RecLED 122x50mm 1900lm 730 2x4 Opt G1
 FWHM / FWTM 24.0 + 97.0° / 34.0 + 141.0°
 Efficiency 86 %
 Peak intensity 1.1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

Protective plate, glass



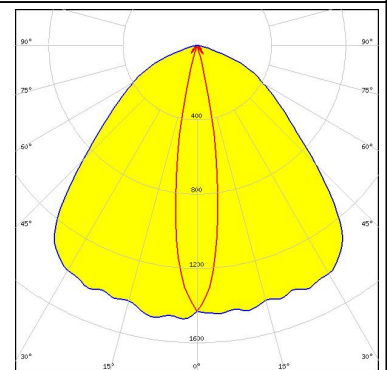
NICHIA

LED NV4WB35AM
 FWHM / FWTM 28.0 + 100.0° / 42.0 + 144.0°
 Efficiency 95 %
 Peak intensity 1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



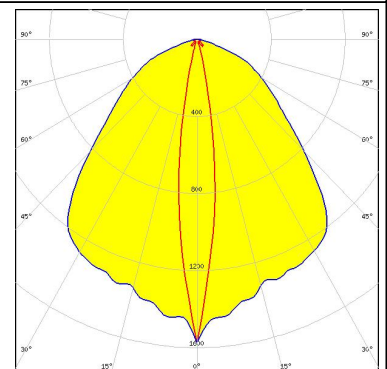
OSRAM
 Opto Semiconductors

LED OSCONIQ C 2424
 FWHM / FWTM 18.0 + 96.0° / 30.0 + 141.0°
 Efficiency 96 %
 Peak intensity 1.5 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



OSRAM
 Opto Semiconductors

LED OSCONIQ P 3030
 FWHM / FWTM 14.0 + 92.0° / 28.0 + 142.0°
 Efficiency 95 %
 Peak intensity 1.6 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



OPTICAL RESULTS (SIMULATED):

<p>OSRAM Opto Semiconductors</p> <p>LED OSCONIQ P 3737 (2W version)</p> <p>FWHM / FWTM 99.0 + 19.0° / 142.0 + 31.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 1.3 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 (3W version)</p> <p>FWHM / FWTM 100.0 + 30.0° / 144.0 + 51.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 1 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 Flat</p> <p>FWHM / FWTM 22.0 + 98.0° / 35.0 + 142.0°</p> <p>Efficiency 96 %</p> <p>Peak intensity 1.2 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 S 5050</p> <p>FWHM / FWTM 32.0 + 99.0° / 52.0 + 143.0°</p> <p>Efficiency 96 %</p> <p>Peak intensity 0.8 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		

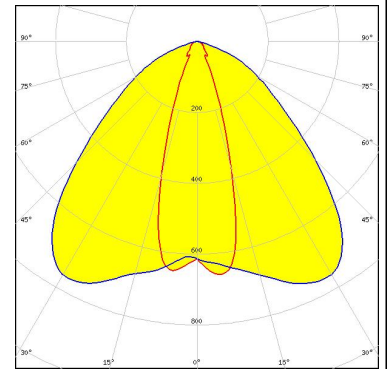
OPTICAL RESULTS (SIMULATED):

OSRAM

Opto Semiconductors

LED OSCONIQ S 5050
 FWHM / FWTM 32.0 + 98.0° / 53.0 + 140.0°
 Efficiency 85 %
 Peak intensity 0.8 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

Protective plate, glass

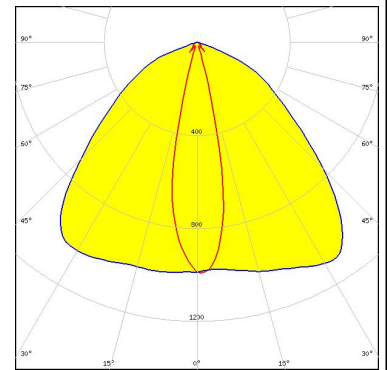


OSRAM

Opto Semiconductors

LED OSLOM Square CSSRM2/CSSRM3
 FWHM / FWTM 23.0 + 101.0° / 33.0 + 140.0°
 Efficiency 85 %
 Peak intensity 1.1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

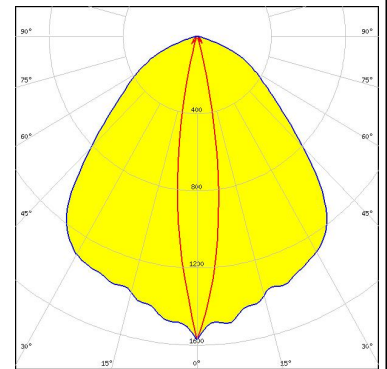
Protective plate, glass



OSRAM

Opto Semiconductors

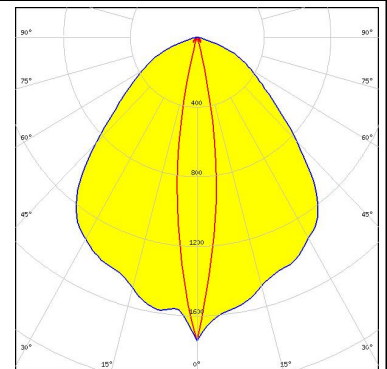
LED OSLOM Square Flat
 FWHM / FWTM 16.0 + 90.0° / 30.0 + 140.0°
 Efficiency 96 %
 Peak intensity 1.6 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



OSRAM

Opto Semiconductors

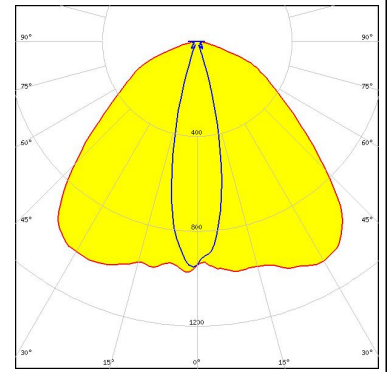
LED OSTAR Projection Compact (Kx.CSLNM1.xx)
 FWHM / FWTM 16.0 + 89.0° / 28.0 + 140.0°
 Efficiency 96 %
 Peak intensity 1.7 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



OPTICAL RESULTS (SIMULATED):

PHILIPS

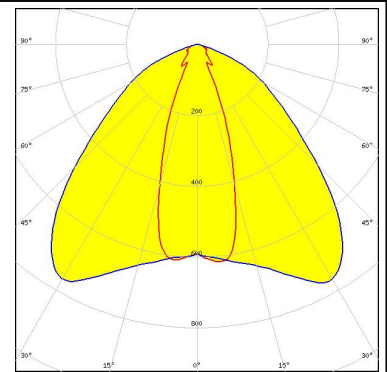
LED Fortimo FastFlex LED 2x8 DAX G4
 FWHM / FWTM 103.0 + 29.0° / 146.0 + 49.0°
 Efficiency 94 %
 Peak intensity 1.1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



SAMSUNG

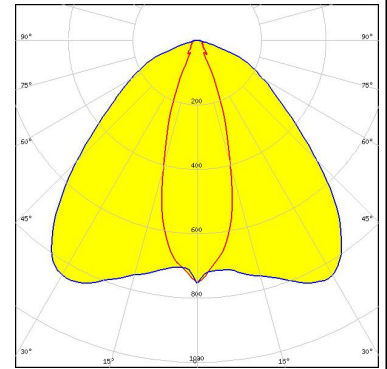
LED HiLOM RM12 Z (LH502C)
 FWHM / FWTM 36.0 + 98.0° / 78.0 + 140.0°
 Efficiency 89 %
 Peak intensity 0.8 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

Protective plate, glass



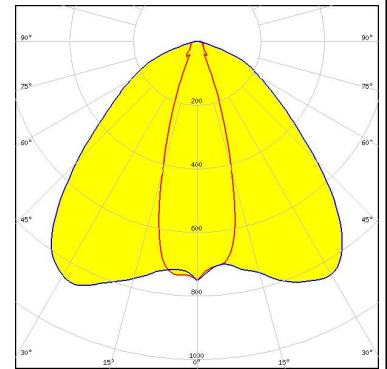
SEOUL SEMICONDUCTOR

LED MJT 5050
 FWHM / FWTM 32.0 + 98.0° / 52.0 + 142.0°
 Efficiency 94 %
 Peak intensity 0.8 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

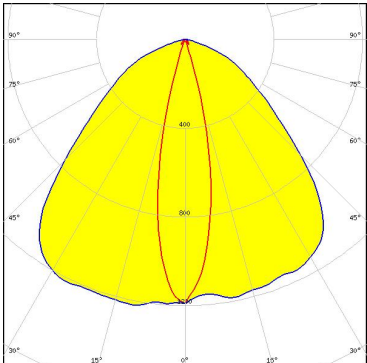
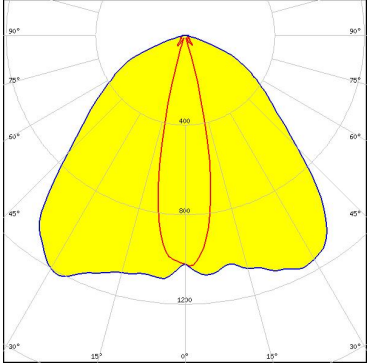


SEOUL SEMICONDUCTOR

LED SEOUL DC 5050 6V
 FWHM / FWTM 33.0 + 98.0° / 58.0 + 143.0°
 Efficiency 94 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



OPTICAL RESULTS (SIMULATED):

<p>SEOUL SEMICONDUCTOR</p> <p>LED: Z5M1/Z5M2</p> <p>FWHM / FWTM: 22.0 + 97.0° / 34.0 + 142.0°</p> <p>Efficiency: 94 %</p> <p>Peak intensity: 1.2 cd/lm</p> <p>LEDs/each optic: 1</p> <p>Light colour: White</p> <p>Required components:</p>	
<p>SEOUL SEMICONDUCTOR</p> <p>LED: Z8Y22T</p> <p>FWHM / FWTM: 21.0 + 96.0° / 33.0 + 141.0°</p> <p>Efficiency: 94 %</p> <p>Peak intensity: 1.2 cd/lm</p> <p>LEDs/each optic: 1</p> <p>Light colour: White</p> <p>Required components:</p>	
<p>TRIDONIC</p> <p>LED: RLE 2x8 4000lm HP EXC2 OTD</p> <p>FWHM / FWTM: 22.0 + 100.0° / 32.0 + 142.0°</p> <p>Efficiency: 84 %</p> <p>Peak intensity: 1 cd/lm</p> <p>LEDs/each optic: 1</p> <p>Light colour: White</p> <p>Required components:</p> <div style="background-color: #ADD8E6; padding: 5px; display: inline-block;">Protective plate, glass</div>	

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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