

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 



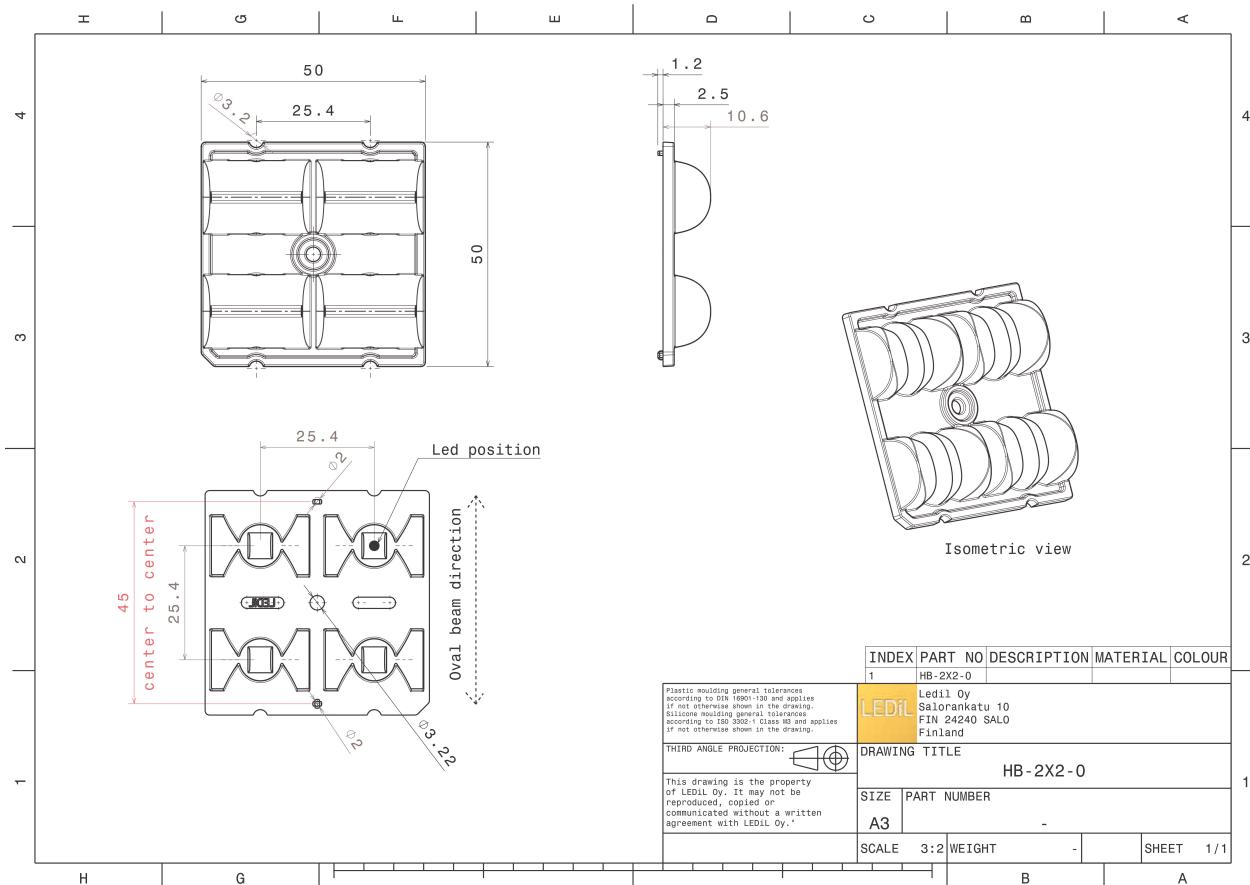
LEDiL®

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	800	160	160	10.4
» Box size: 480 x 280 x 300 mm				

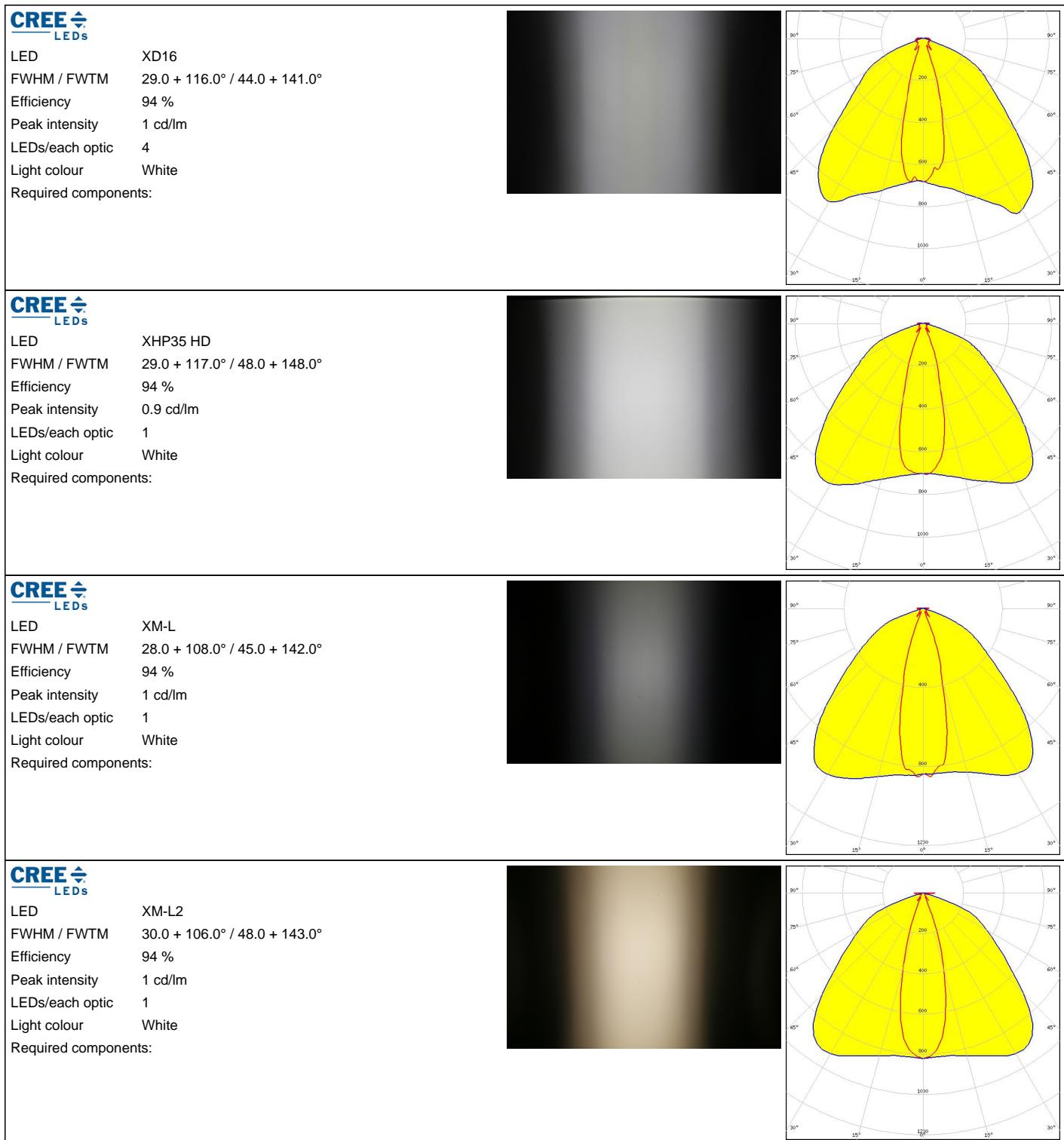


See also our general installation guide: www.ledil.com/installation_guide

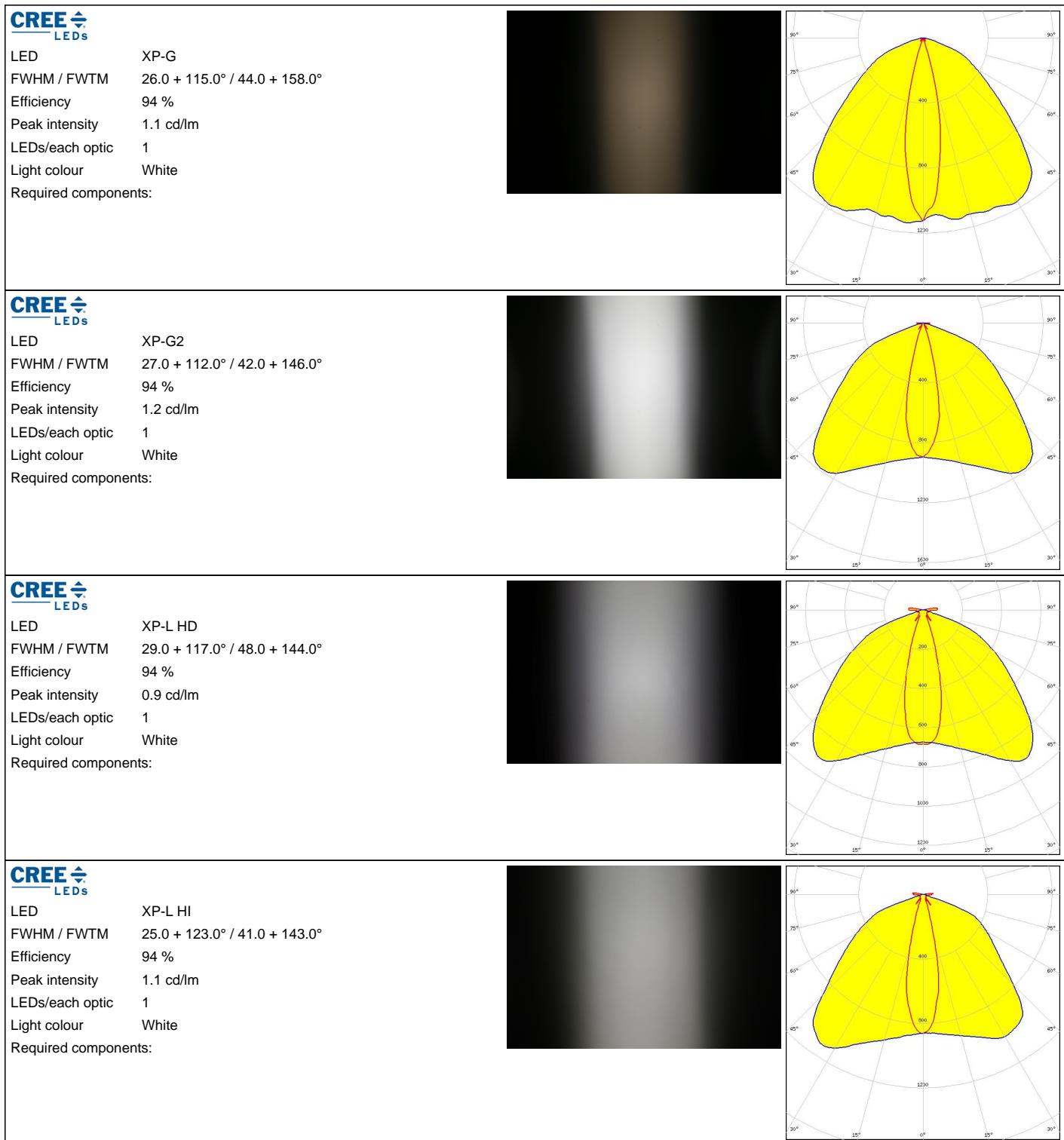
OPTICAL RESULTS (MEASURED):

	LED QUICK FLUX XTP 2x4 xxx LS G5		
FWHM / FWTM	$21.0 + 111.0^\circ / 32.0 + 148.0^\circ$		
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	$22.0 + 111.0^\circ / 33.0 + 149.0^\circ$		
Efficiency	94 %		
Peak intensity	1.2 cd/lm		
LEDs/each optic	1		
Light colour	White		
Required components:			
	LED J Series 5050C 6V E Class		
FWHM / FWTM	$30.0 + 95.0^\circ / 60.0 + 140.0^\circ$		
Efficiency	96 %		
Peak intensity	1 cd/lm		
LEDs/each optic	1		
Light colour	White		
Required components:			
	LED XD16		
FWHM / FWTM	$19.0 + 127.0^\circ / 28.0 + 141.0^\circ$		
Efficiency	93 %		
Peak intensity	1.4 cd/lm		
LEDs/each optic	1		
Light colour	White		
Required components:			

OPTICAL RESULTS (MEASURED):



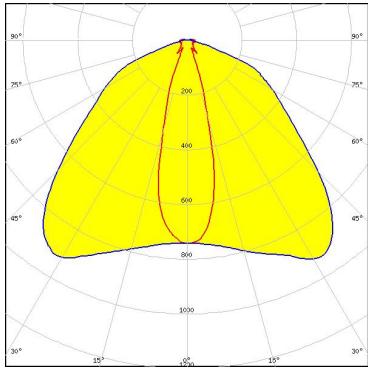
OPTICAL RESULTS (MEASURED):



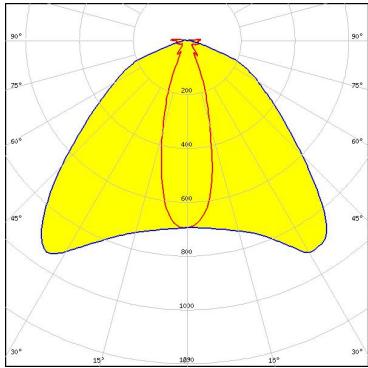
OPTICAL RESULTS (MEASURED):



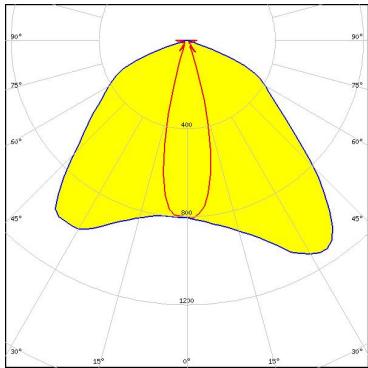
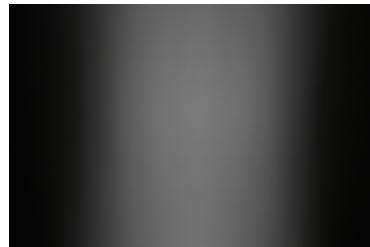
LED XP-L2
 FWHM / FWTM $28.0 + 117.0^\circ / 47.0 + 150.0^\circ$
 Efficiency 94 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



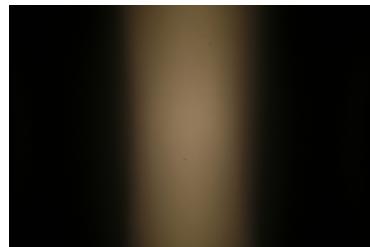
LED LUXEON 5050 Round LES
 FWHM / FWTM $29.0 + 114.0^\circ / 51.0 + 147.0^\circ$
 Efficiency 94 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



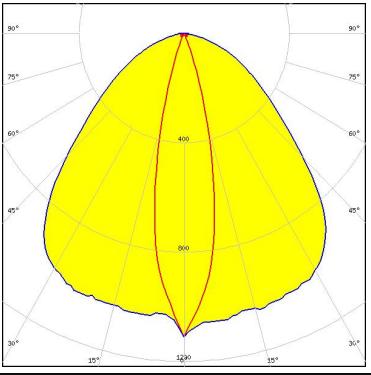
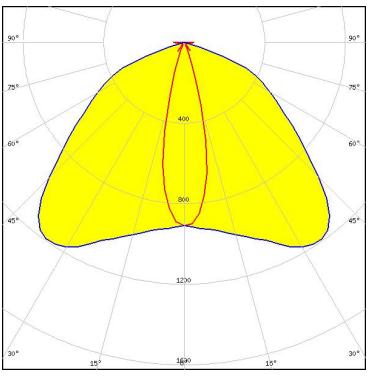
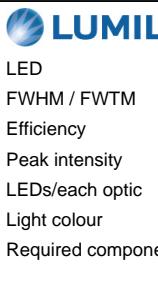
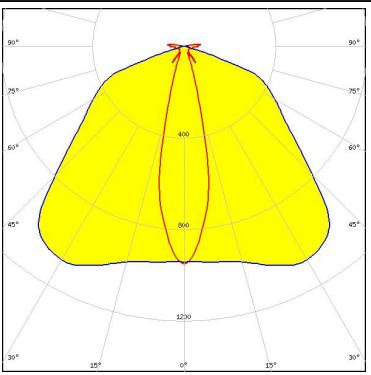
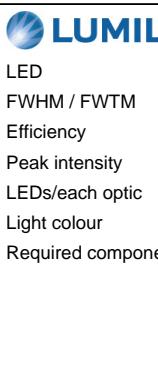
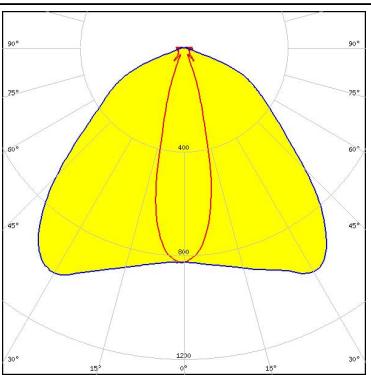
LED LUXEON MZ
 FWHM / FWTM $28.0 + 103.0^\circ / 43.0 + 14.0^\circ$
 Efficiency 94 %
 Peak intensity 1.1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



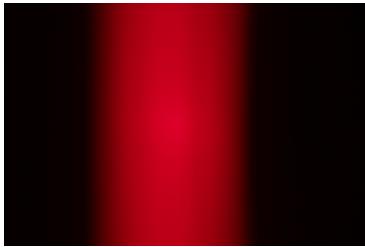
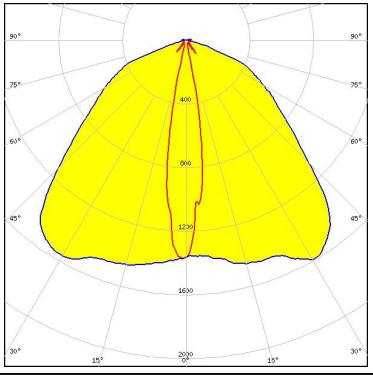
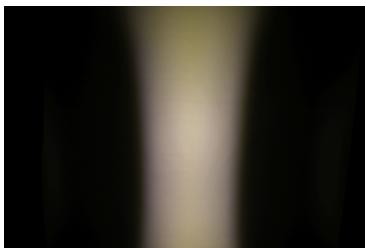
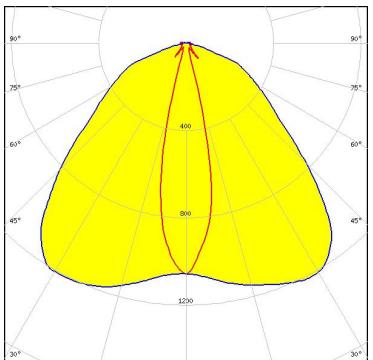
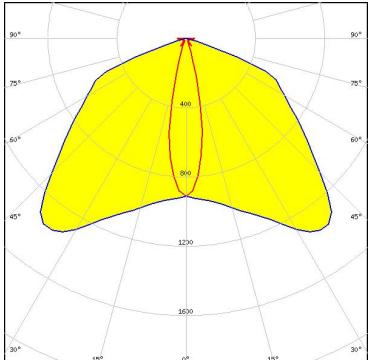
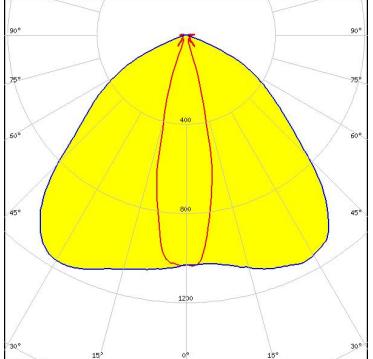
LED LUXEON R
 FWHM / FWTM $25.0 + 105.0^\circ / 44.0 + 148.0^\circ$
 Efficiency 94 %
 Peak intensity 1.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



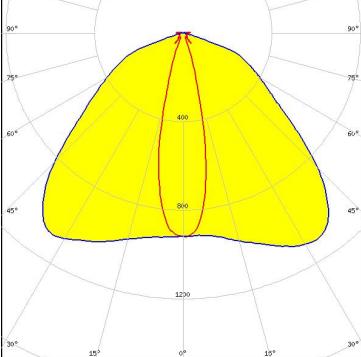
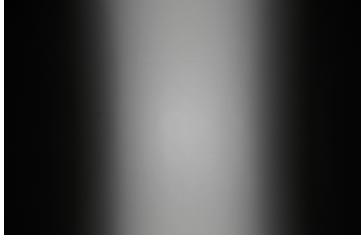
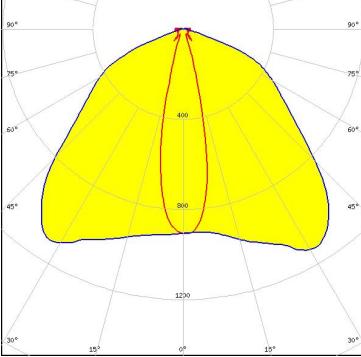
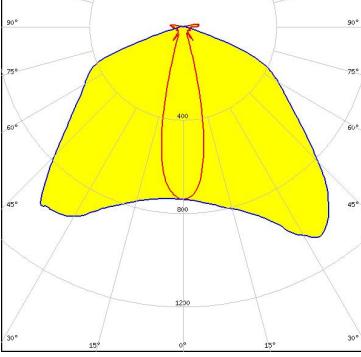
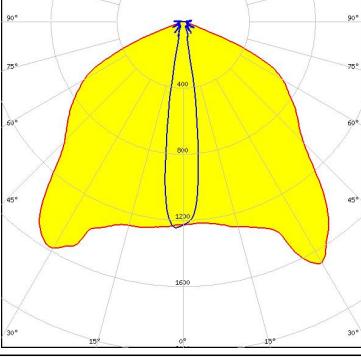
OPTICAL RESULTS (MEASURED):

	LUMILEDS			
LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON Rebel ES 25.0 + 106.0° / 42.0 + 150.0° 94 % 1.2 cd/lm 1 White			
	LUMILEDS LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON T 26.0 + 110.0° / 41.0 + 145.0° 94 % 1.2 cd/lm 1 White		
	LUMILEDS LED FWHM / FWTM Efficiency Peak intensity LEDs/each optic Light colour Required components:	LUXEON TX 24.0 + 118.0° / 42.0 + 146.0° 94 % 1.1 cd/lm 1 White		

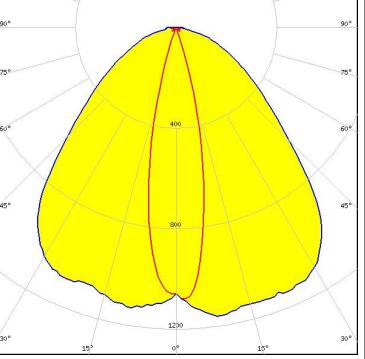
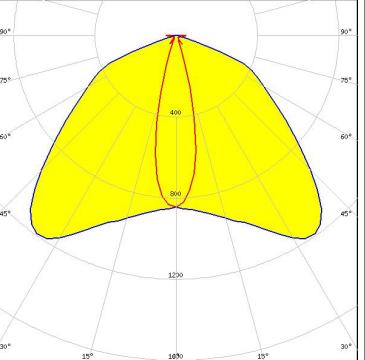
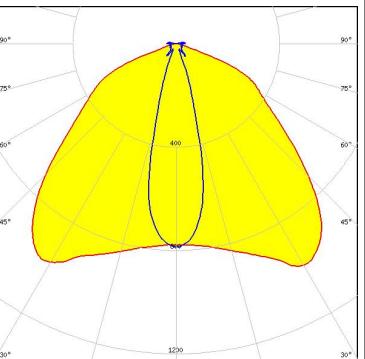
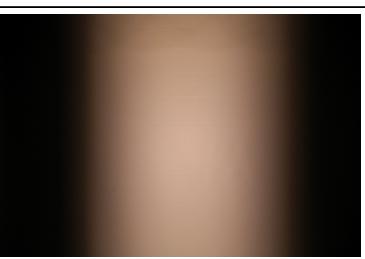
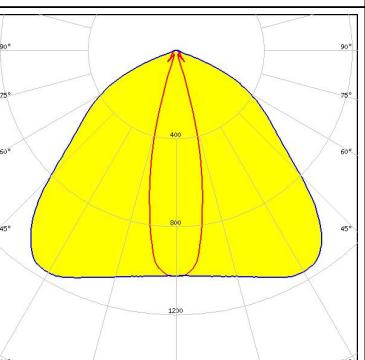
OPTICAL RESULTS (MEASURED):

	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:				
	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:				

OPTICAL RESULTS (MEASURED):

	<p>LED NVSW319B FWHM / FWTM $25.0 + 113.0^\circ / 41.0 + 144.0^\circ$ Efficiency 94 % Peak intensity 1.1 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
	<p>LED NVSW3x9A FWHM / FWTM $24.0 + 119.0^\circ / 38.0 + 144.0^\circ$ Efficiency 94 % Peak intensity 1.1 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
	<p>LED NVSW3x9A FWHM / FWTM $25.0 + 134.0^\circ / 43.0 + 147.0^\circ$ Efficiency 93 % Peak intensity 0.4 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
	<p>LED NVSxE21A FWHM / FWTM $17.0 + 125.0^\circ / 27.0 + 139.0^\circ$ Efficiency 94 % Peak intensity 1.7 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		

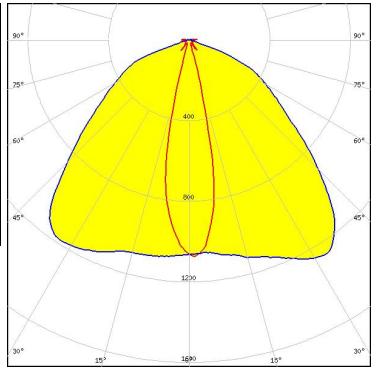
OPTICAL RESULTS (MEASURED):

 NICHIA	<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>		
 NICHIA	<p>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:</p>		
 NICHIA	<p>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:</p>		
OSRAM	<p>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:</p>		

OPTICAL RESULTS (MEASURED):

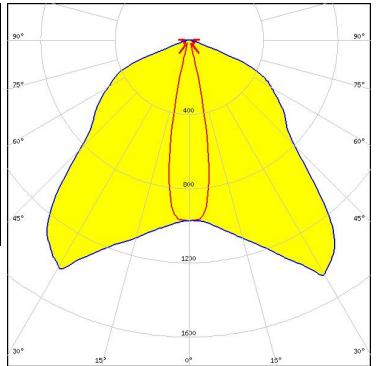
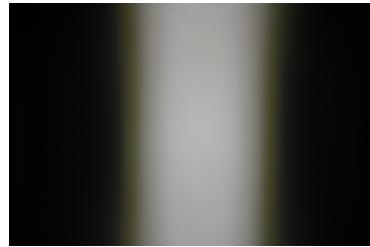
OSRAM

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



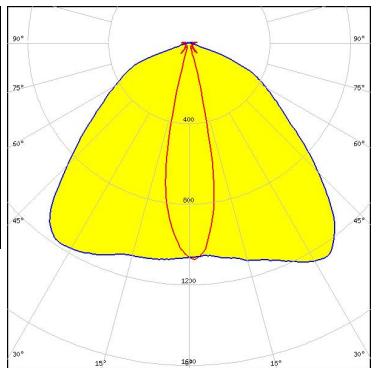
OSRAM

Opto Semiconductors
LED OSCONIQ C 3030
FWHM / FWTM $22.0 + 95.0^\circ / 32.0 + 140.0^\circ$
Efficiency 96 %
Peak intensity 1.5 cd/lm
LEDs/each optic 1
Light colour White
Required components:



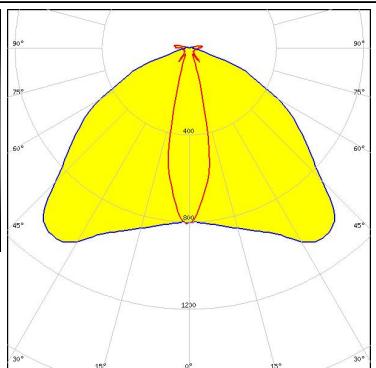
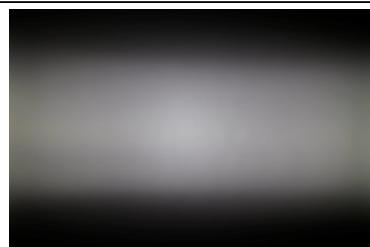
OSRAM

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



OSRAM

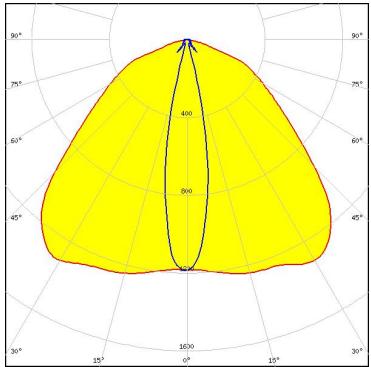
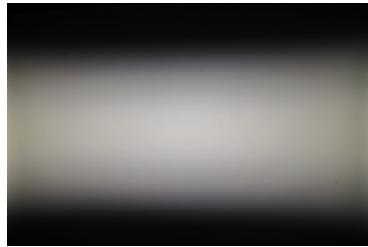
Opto Semiconductors
LED OSLON Square PC
FWHM / FWTM $25.0 + 124.0^\circ / 42.0 + 145.0^\circ$
Efficiency 91 %
Peak intensity 1.1 cd/lm
LEDs/each optic 1
Light colour White
Required components:



OPTICAL RESULTS (MEASURED):

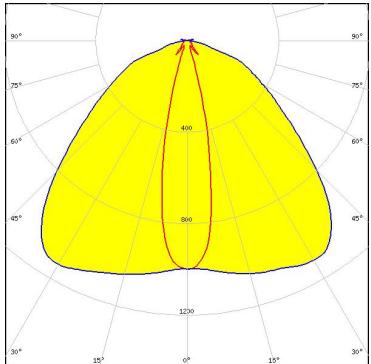
PHILIPS

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



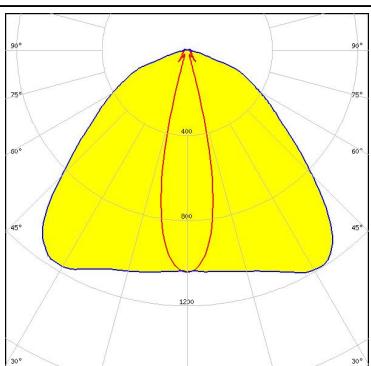
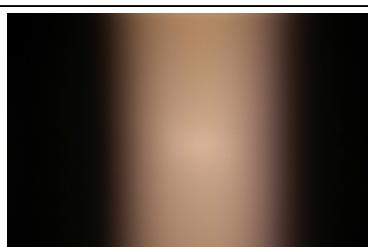
PHILIPS

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



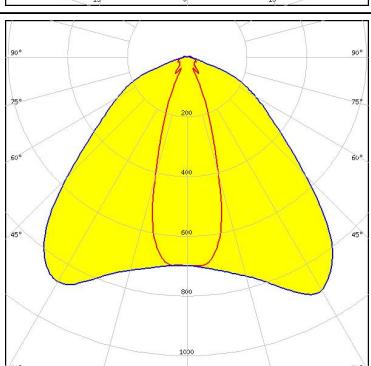
PHILIPS

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



PHILIPS

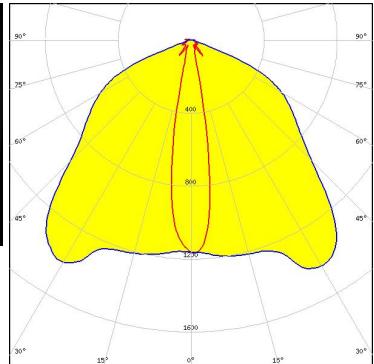
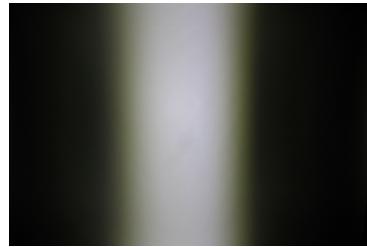
LED Fortimo FastFlex LED 2x8 DA HE
 FWHM / FWTM $32.0 + 98.0^\circ / 51.0 + 142.0^\circ$
 Efficiency 98 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



OPTICAL RESULTS (MEASURED):

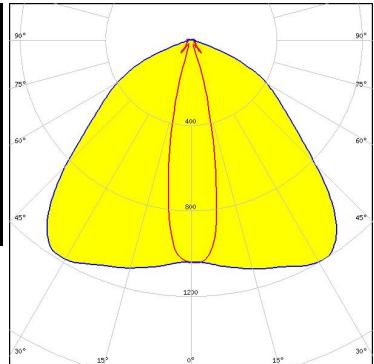
SAMSUNG

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



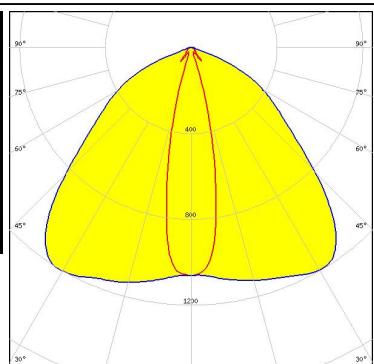
SAMSUNG

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



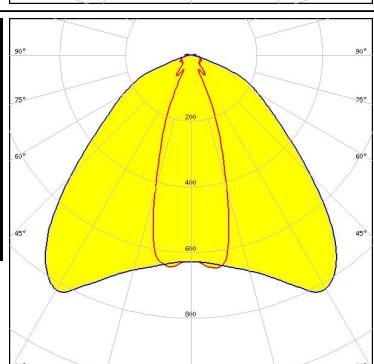
SAMSUNG

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



SAMSUNG

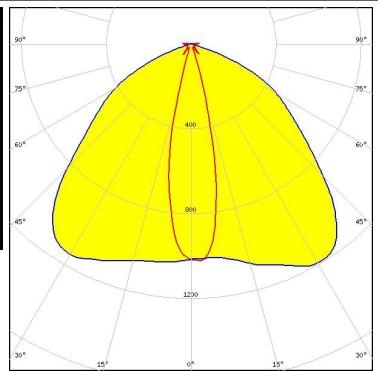
LED HiLOM RM12 Z (LH502C)
 FWHM / FWTM $35.0 + 98.0^\circ / 76.0 + 141.0^\circ$
 Efficiency 96 %
 Peak intensity 0.8 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



OPTICAL RESULTS (MEASURED):

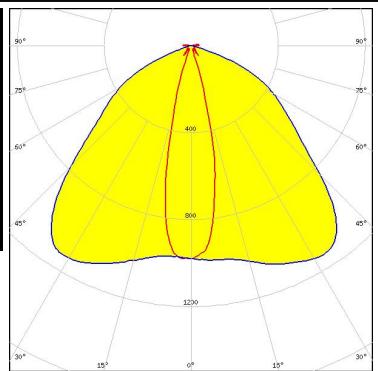
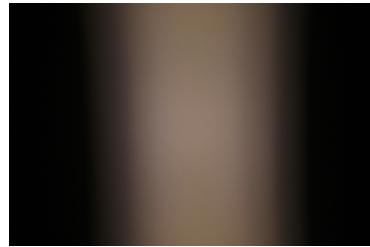
SAMSUNG

LED LH351B
 FWHM / FWTM $23.0 + 113.0^\circ / 35.0 + 141.0^\circ$
 Efficiency 94 %
 Peak intensity 1.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



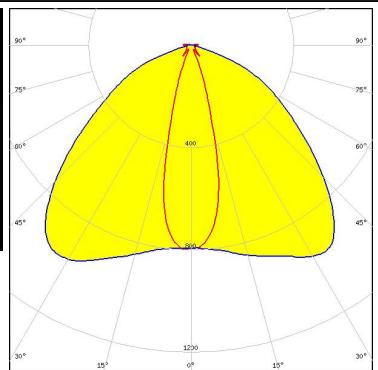
SAMSUNG

LED LH351C
 FWHM / FWTM $24.0 + 111.0^\circ / 37.0 + 141.0^\circ$
 Efficiency 94 %
 Peak intensity 1.1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



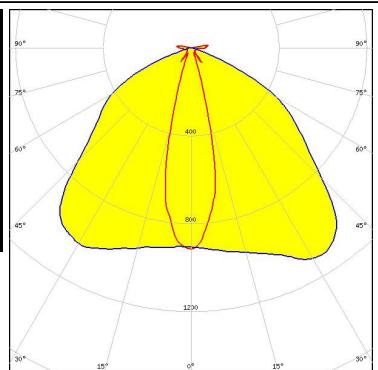
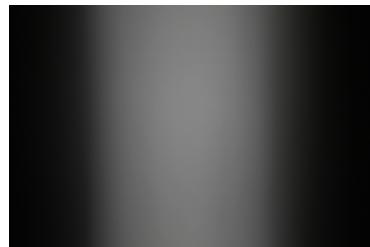
SAMSUNG

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

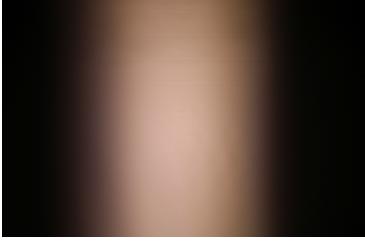
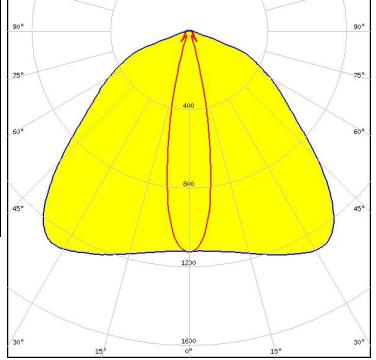
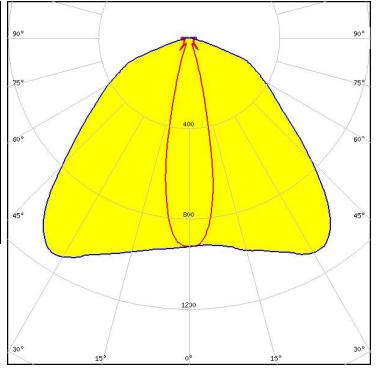
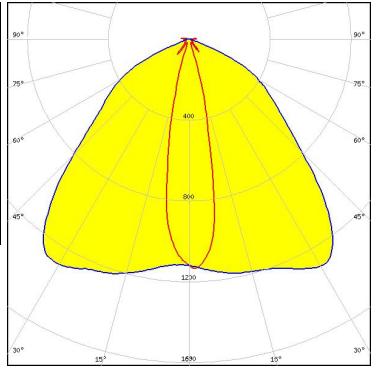
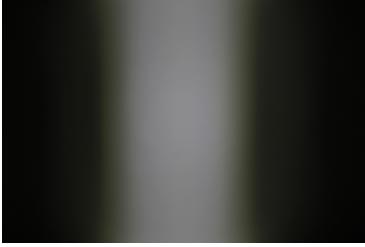
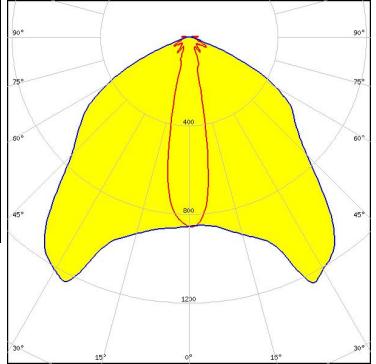


SAMSUNG

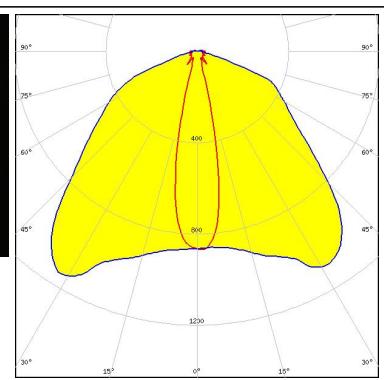
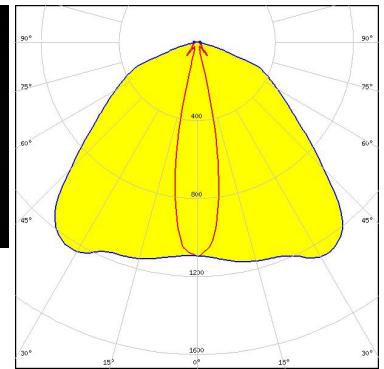
LED LH351Z
 FWHM / FWTM $26.0 + 117.0^\circ / 42.0 + 141.0^\circ$
 Efficiency 94 %
 Peak intensity 1.1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



OPTICAL RESULTS (MEASURED):

 SEITEC Elektronik GmbH	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:		
 SEoul SEMICONDUCTOR	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:		
 SEoul SEMICONDUCTOR	LED: Z5M4 FWHM / FWTM: 22.0 + 97.0° / 35.0 + 135.0° Efficiency: 98 % Peak intensity: 1.3 cd/lm LEDs/each optic: 1 Light colour: White Required components:		
 SEoul SEMICONDUCTOR	LED: Z8Y22 FWHM / FWTM: 21.0 + 121.0° / 99.0 + 140.0° Efficiency: 94 % Peak intensity: 1.2 cd/lm LEDs/each optic: 1 Light colour: White Required components:		

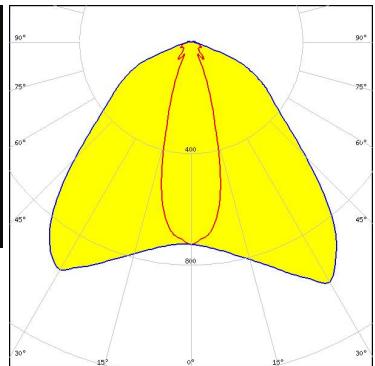
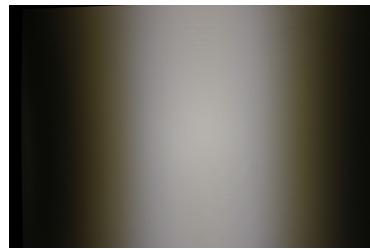
OPTICAL RESULTS (MEASURED):

<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/lm</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/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 22.0 + 113.0° / 30.0 + 149.0°</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>TRIDONIC</p> <p>LED RLE 2x8 4000lm HP EXC2 OTD</p> <p>FWHM / FWTM 22.0 + 113.0° / 30.0 + 149.0°</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>		

OPTICAL RESULTS (MEASURED):

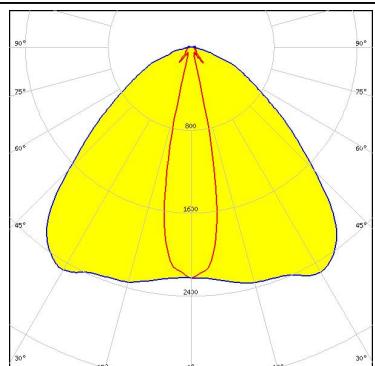
TRIDONIC

LED RLE 2x8 6000lm HP HE EXC3 OTD
 FWHM / FWTM 30.0 + 96.0° / 76.0 + 141.0°
 Efficiency 97 %
 Peak intensity 1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



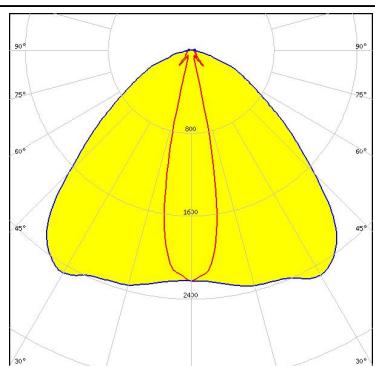
TRIDONIC

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:



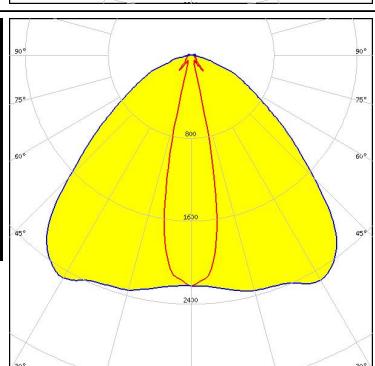
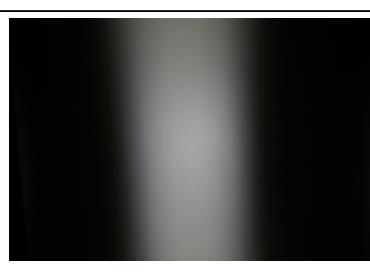
TRIDONIC

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:



TRIDONIC

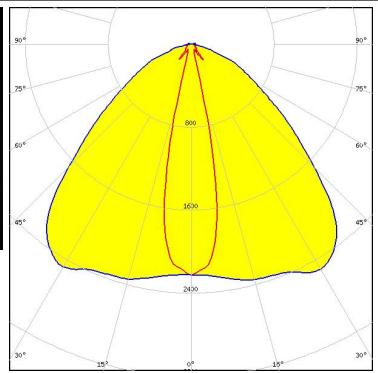
LED RLE G1 49x223mm 4000lm xxx EXC OTD
 FWHM / FWTM 23.0 + 104.0° / 31.0 + 144.0°
 Efficiency 94 %
 Peak intensity 1.3 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



OPTICAL RESULTS (MEASURED):

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:

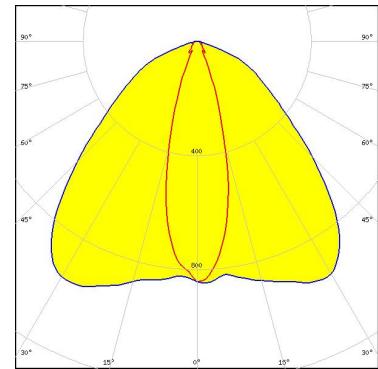


OPTICAL RESULTS (SIMULATED):



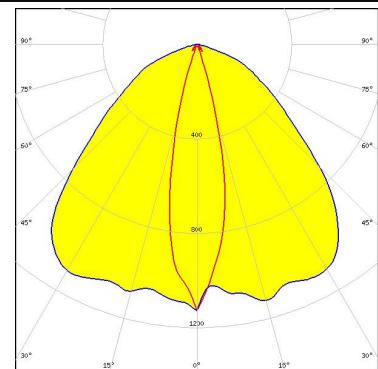
LED	J Series 5050 Round LES
FWHM / FWTM	30.0 + 97.0° / 51.0 + 141.0°
Efficiency	94 %
Peak intensity	1 cd/lm
LEDs/each optic	1
Light colour	White

Required components:



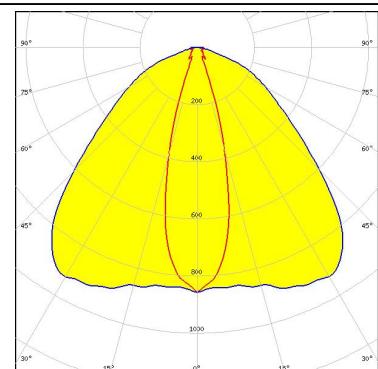
LED	XHP35 HI
FWHM / FWTM	101.0 + 27.0° / 145.0 + 44.0°
Efficiency	94 %
Peak intensity	1.2 cd/lm
LEDs/each optic	1
Light colour	White

Required components:



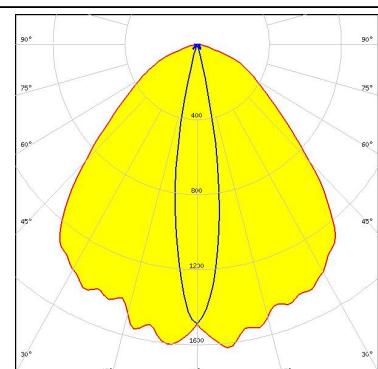
LED	XHP50.3 HI
FWHM / FWTM	28.0 + 100.0° / 44.0 + 144.0°
Efficiency	95 %
Peak intensity	0.9 cd/lm
LEDs/each optic	1
Light colour	White

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:



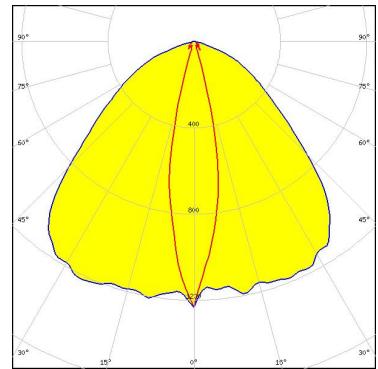
OPTICAL RESULTS (SIMULATED):



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

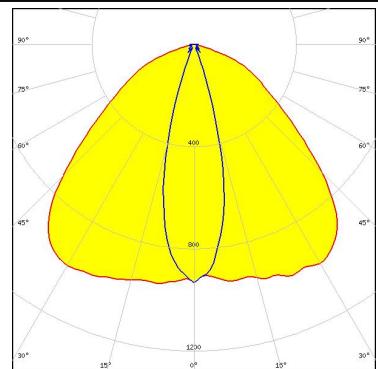
Required components:

Protective plate, glass



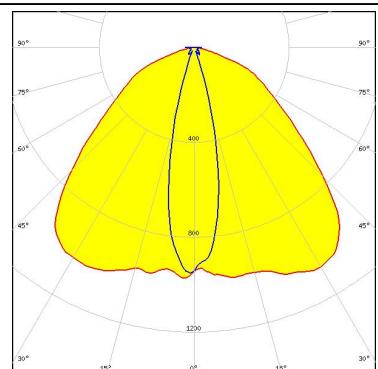
LED	XP-G2 HE
FWHM / FWTM	28.0 + 103.0° / 41.0 + 144.0°
Efficiency	94 %
Peak intensity	1 cd/lm
LEDs/each optic	1
Light colour	White

Required components:



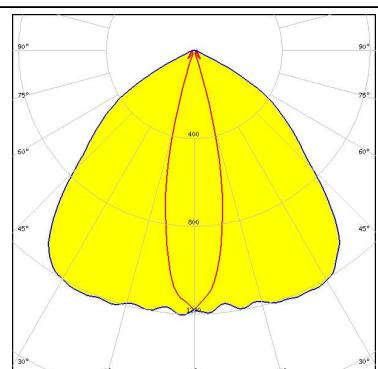
LED	XP-G3
FWHM / FWTM	103.0 + 29.0° / 146.0 + 49.0°
Efficiency	94 %
Peak intensity	1.1 cd/lm
LEDs/each optic	1
Light colour	White

Required components:



LED	XP-G4
FWHM / FWTM	24.0 + 100.0° / 36.0 + 128.0°
Efficiency	97 %
Peak intensity	1.2 cd/lm
LEDs/each optic	1
Light colour	White

Required components:



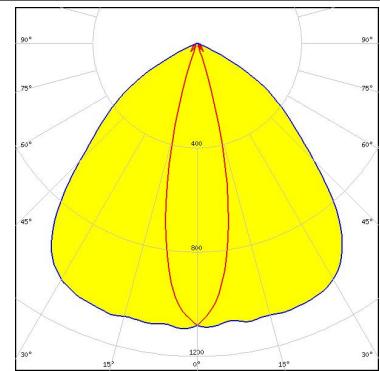
OPTICAL RESULTS (SIMULATED):



LED	XP-G4
FWHM / FWTM	24.0 + 95.0° / 36.0 + 127.0°
Efficiency	87 %
Peak intensity	1.1 cd/lm
LEDs/each optic	1
Light colour	White

Required components:

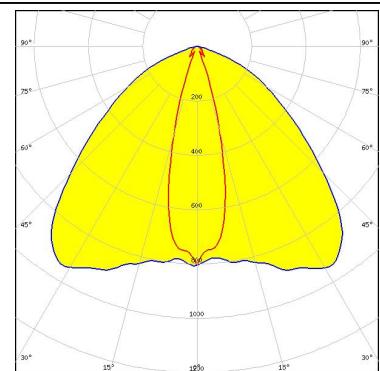
Protective plate, glass



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:

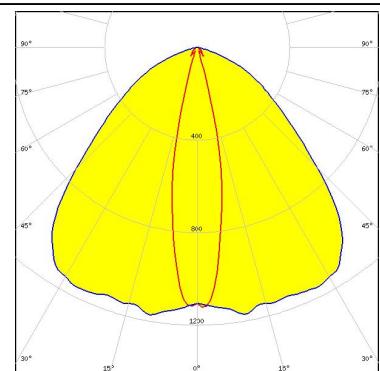
Protective plate, glass



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:

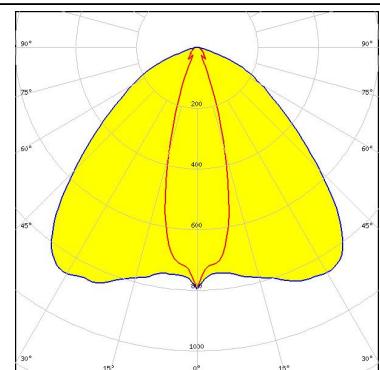
Protective plate, glass



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

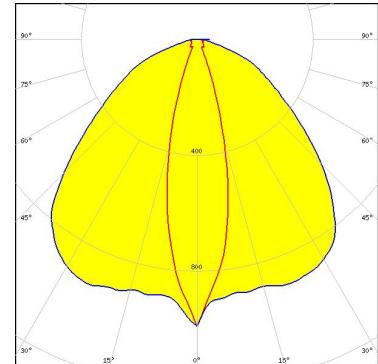


OPTICAL RESULTS (SIMULATED):



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

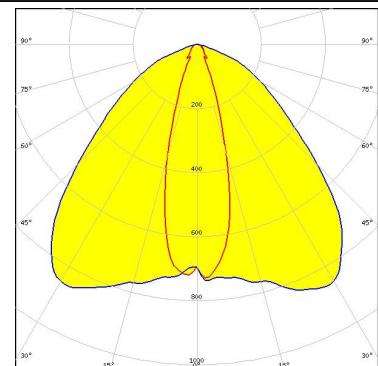
Required components:



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:

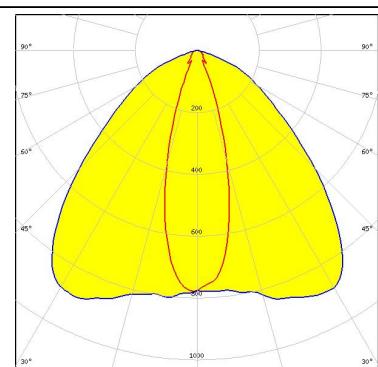
Protective plate, glass



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:

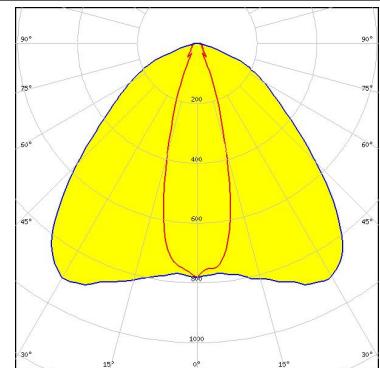
Protective plate, glass



OPTICAL RESULTS (SIMULATED):

LUMILEDS

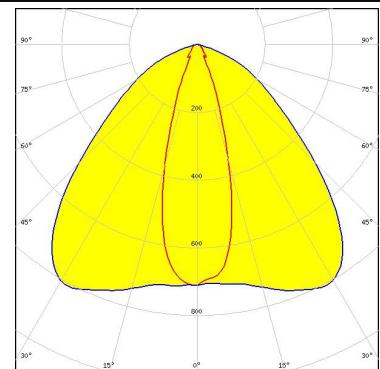
LED LUXEON 5050 Square LES
 FWHM / FWTM $30.0 + 98.0^\circ / 50.0 + 142.0^\circ$
 Efficiency 95 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



LUMILEDS

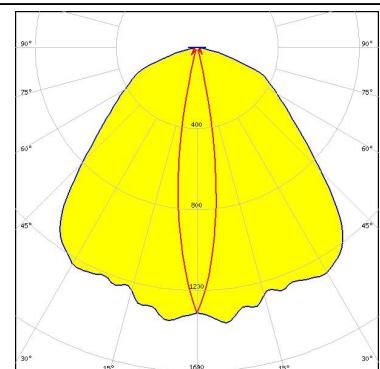
LED LUXEON 5050 Square LES
 FWHM / FWTM $30.0 + 96.0^\circ / 52.0 + 140.0^\circ$
 Efficiency 84 %
 Peak intensity 0.8 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

Protective plate, glass



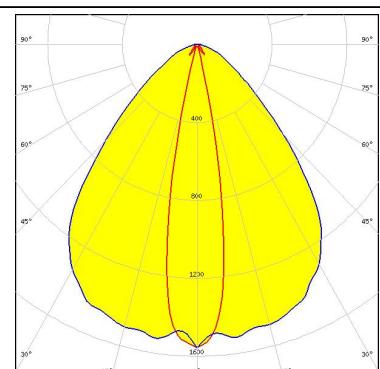
LUMILEDS

LED LUXEON IR Domed 150 (L1I0-0xxx150000000)
 FWHM / FWTM $16.0 + 98.0^\circ / 28.0 + 149.0^\circ$
 Efficiency 94 %
 Peak intensity 1.4 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



LUMILEDS

LED LUXEON IR Domed 90 (L1I0-0xxx090000000)
 FWHM / FWTM $20.0 + 86.0^\circ / 29.0 + 128.0^\circ$
 Efficiency 95 %
 Peak intensity 1.6 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

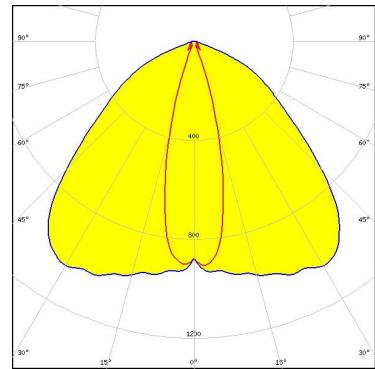


OPTICAL RESULTS (SIMULATED):

LUMILEDS

LED	LUXEON XR-HL2X (L2H2-xxxxxxMLU010)
FWHM / FWTM	28.0 + 102.0° / 42.0 + 140.0°
Efficiency	96 %
Peak intensity	1 cd/lm
LEDs/each optic	1
Light colour	White

Required components:

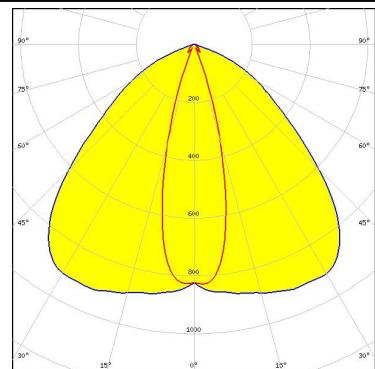


LUMILEDS

LED	LUXEON XR-HL2X (L2H2-xxxxxxMLU010)
FWHM / FWTM	28.0 + 100.0° / 42.0 + 138.0°
Efficiency	86 %
Peak intensity	0.9 cd/lm
LEDs/each optic	1
Light colour	White

Required components:

Protective plate, glass

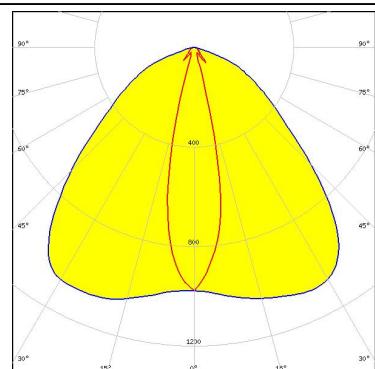


MST | Your solutions

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:

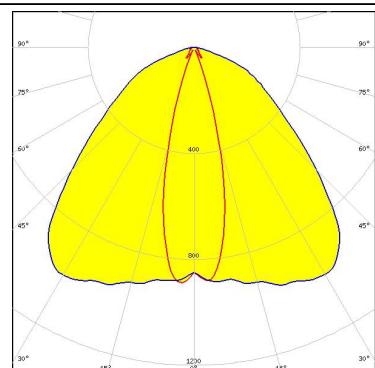
Protective plate, glass



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:



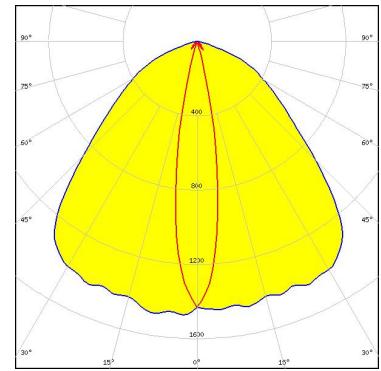
OPTICAL RESULTS (SIMULATED):

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:



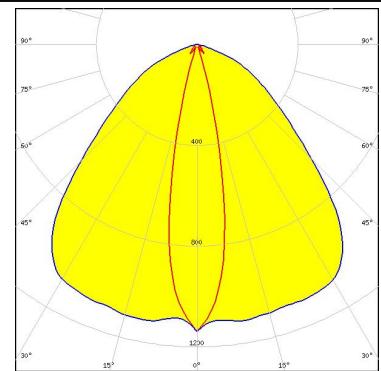
OSRAM

Opto Semiconductors

LED	OSCONIQ C 3030
FWHM / FWTM	21.0 + 94.0° / 34.0 + 138.0°
Efficiency	86 %
Peak intensity	1.1 cd/lm
LEDs/each optic	1
Light colour	White

Required components:

Protective plate, glass

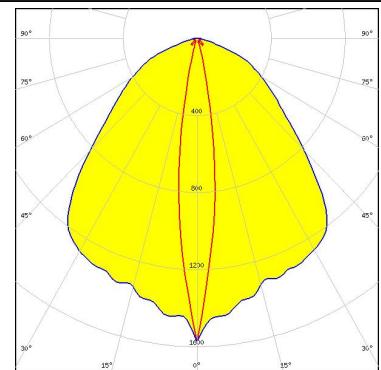


OSRAM

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:

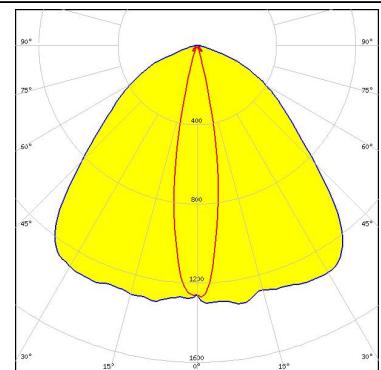


OSRAM

Opto Semiconductors

LED	OSCONIQ P 3737 (2W version)
FWHM / FWTM	99.0 + 19.0° / 142.0 + 31.0°
Efficiency	94 %
Peak intensity	1.3 cd/lm
LEDs/each optic	1
Light colour	White

Required components:



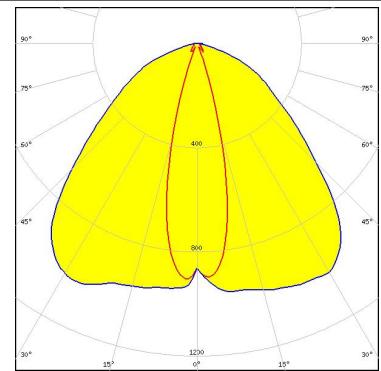
OPTICAL RESULTS (SIMULATED):

OSRAM

Opto Semiconductors

LED	OSCONIQ P 3737 (3W version)
FWHM / FWTM	100.0 + 30.0° / 144.0 + 51.0°
Efficiency	94 %
Peak intensity	1 cd/lm
LEDs/each optic	1
Light colour	White

Required components:

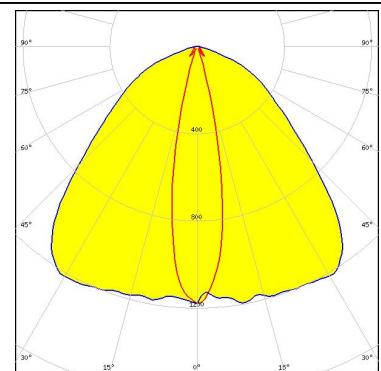


OSRAM

Opto Semiconductors

LED	OSCONIQ P 3737 Flat
FWHM / FWTM	22.0 + 98.0° / 35.0 + 142.0°
Efficiency	96 %
Peak intensity	1.2 cd/lm
LEDs/each optic	1
Light colour	White

Required components:

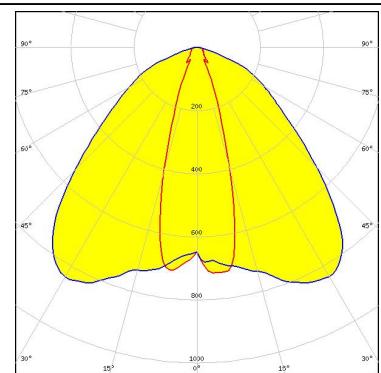


OSRAM

Opto Semiconductors

LED	OSCONIQ S 5050
FWHM / FWTM	32.0 + 99.0° / 52.0 + 143.0°
Efficiency	96 %
Peak intensity	0.8 cd/lm
LEDs/each optic	1
Light colour	White

Required components:



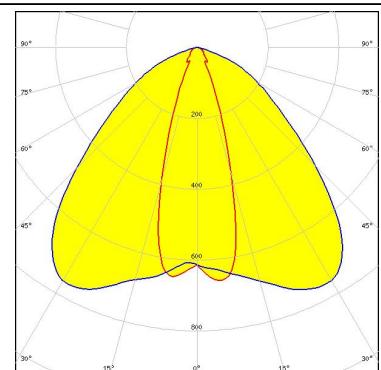
OSRAM

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



OPTICAL RESULTS (SIMULATED):

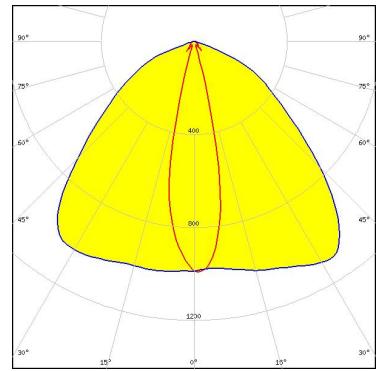
OSRAM

Opto Semiconductors

LED	OSLON 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

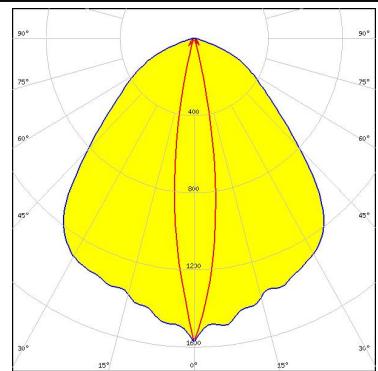


OSRAM

Opto Semiconductors

LED	OSLON 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:

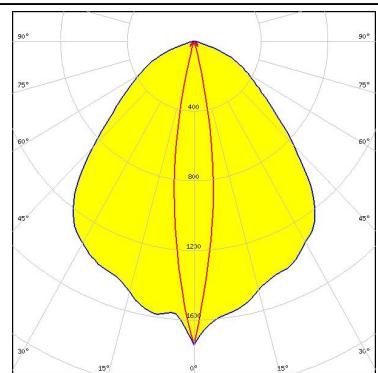


OSRAM

Opto Semiconductors

LED	OSTAR Projection Compact (KW.CSLNM1.TG)
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

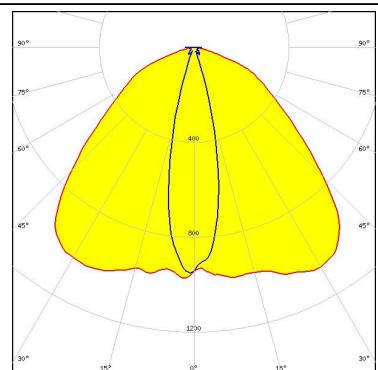
Required components:



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:

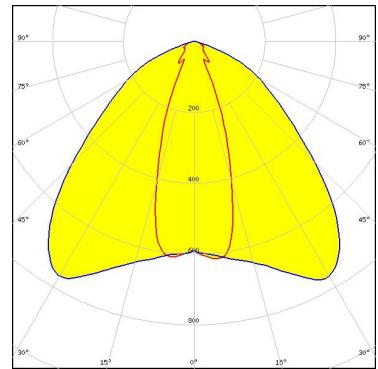


OPTICAL RESULTS (SIMULATED):

SAMSUNG

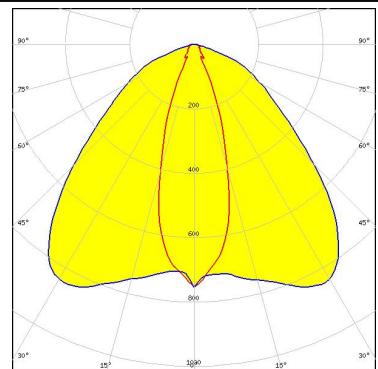
LED HiLOM RM12 Z (LH502C)
 FWHM / FWTM $36.0 + 98.0^\circ / 78.0 + 140.0^\circ$
 Efficiency 89 %
 Peak intensity 0.8 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

Protective plate, glass



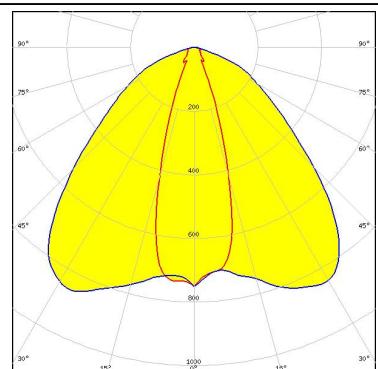
SEOUL SEMICONDUCTOR

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



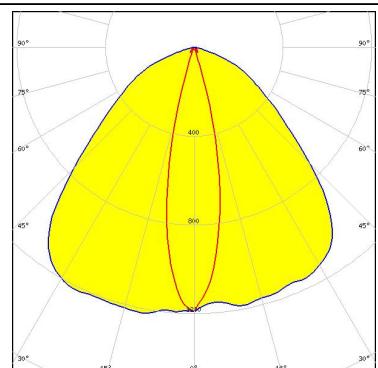
SEOUL SEMICONDUCTOR

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

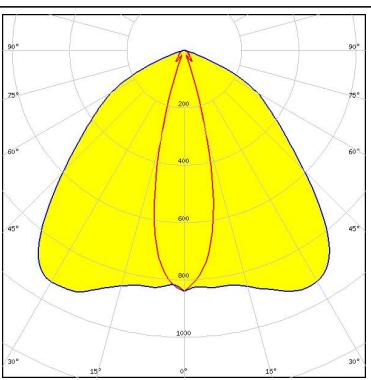
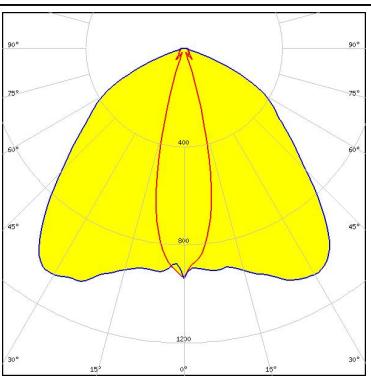
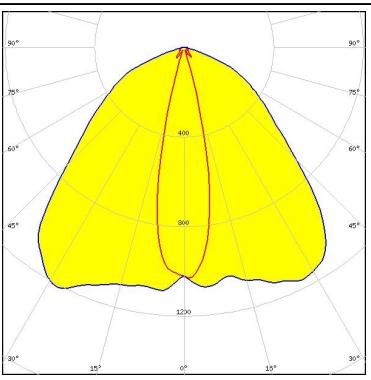


SEOUL SEMICONDUCTOR

LED Z5M1/Z5M2
 FWHM / FWTM $22.0 + 97.0^\circ / 34.0 + 142.0^\circ$
 Efficiency 94 %
 Peak intensity 1.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



OPTICAL RESULTS (SIMULATED):

<p>SEoul SEMICONDUCTOR</p> <p>LED Z5M5</p> <p>FWHM / FWTM 26.0 + 100.0° / 40.0 + 138.0°</p> <p>Efficiency 85 %</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>Protective plate, glass</p>	
<p>SEoul SEMICONDUCTOR</p> <p>LED Z5M5</p> <p>FWHM / FWTM 26.0 + 103.0° / 38.0 + 140.0°</p> <p>Efficiency 96 %</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>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> <p>Protective plate, glass</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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