

HB-2X2-WW

~65° wide beam optimized for CREE XP-L and XM-L

SPECIFICATION:

Dimensions	50.0 x 50.0 mm
Height	8.5 mm
Fastening	pin, screw
ROHS compliant	yes ⓘ

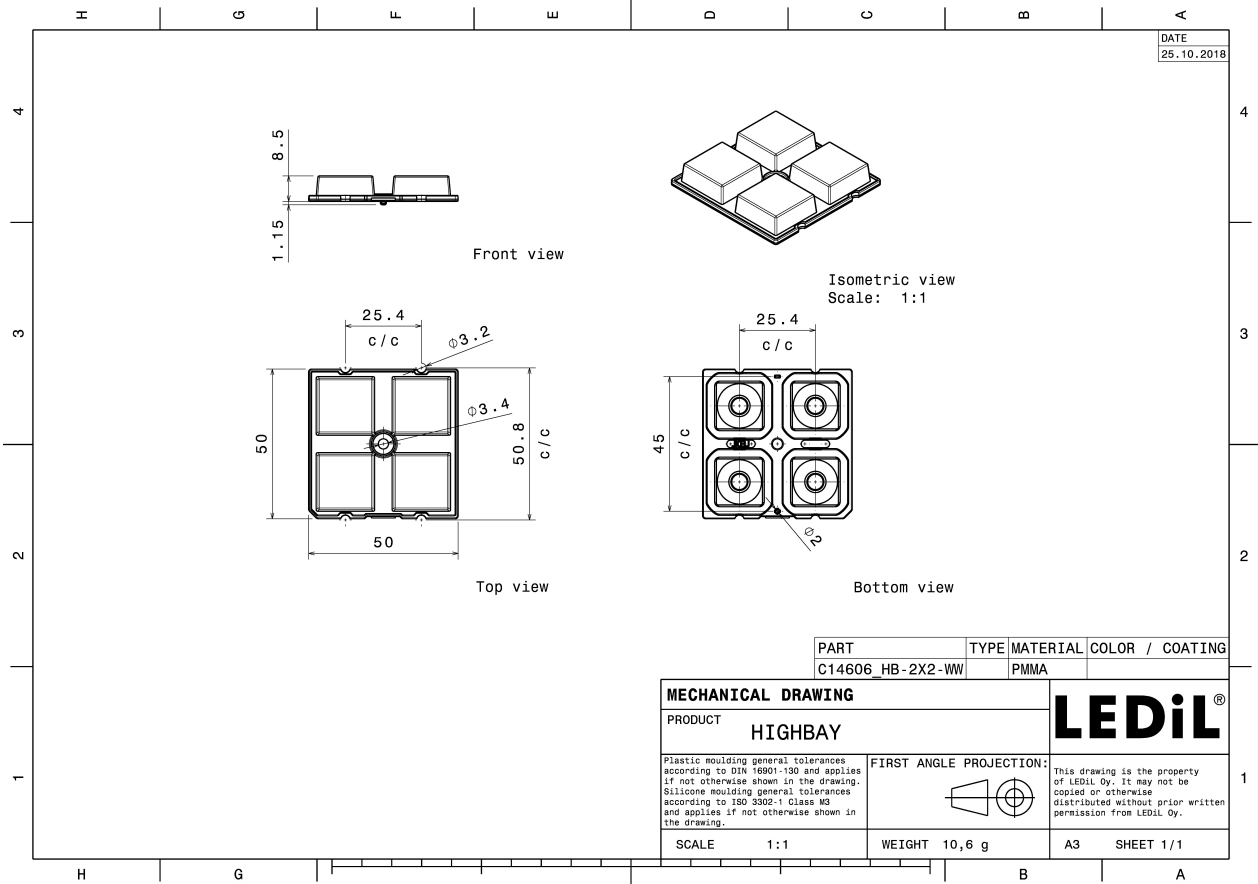
MATERIALS:

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

ORDERING INFORMATION:


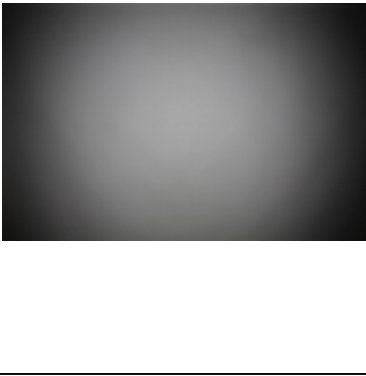
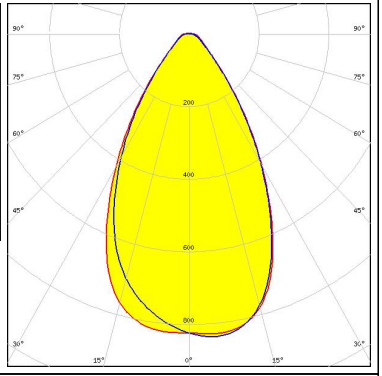


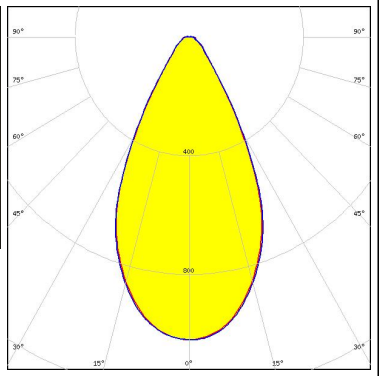


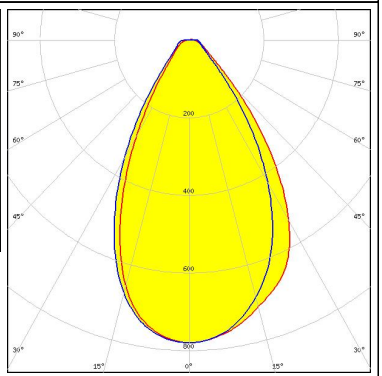

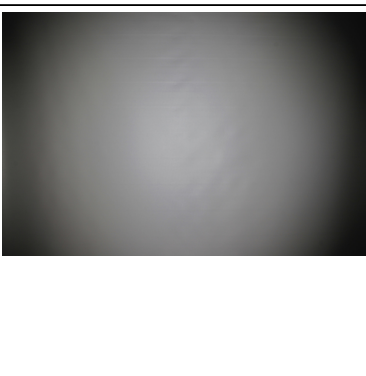
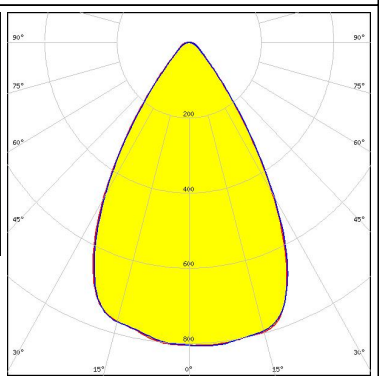
Component	Qty in box	MOQ	MPQ	Box weight (kg)
C14606_HB-2X2-WW » Box size: 480 x 280 x 300 mm	800	160	160	9.2




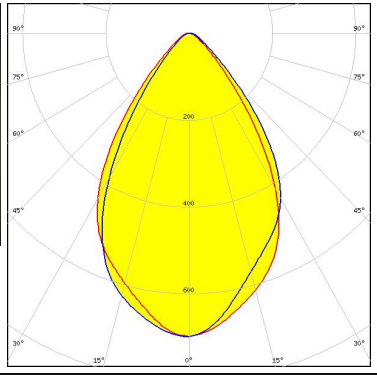

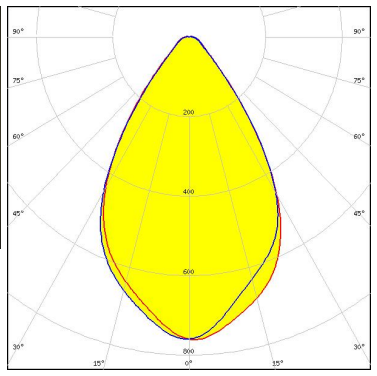
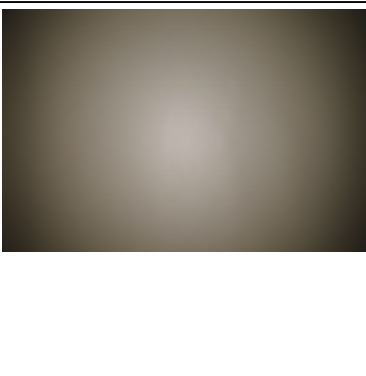
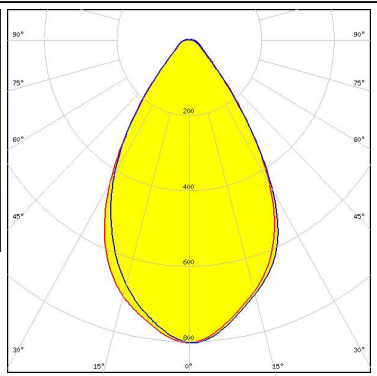

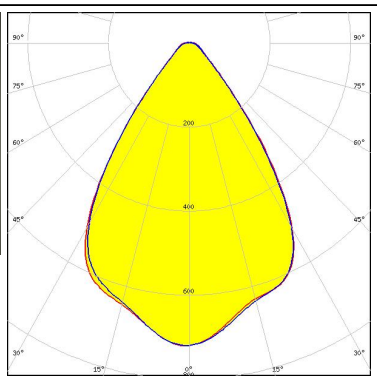


See also our general installation guide: www.ledil.com/installation_guide


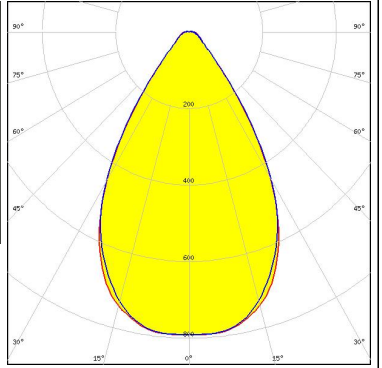
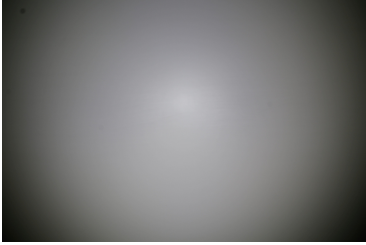
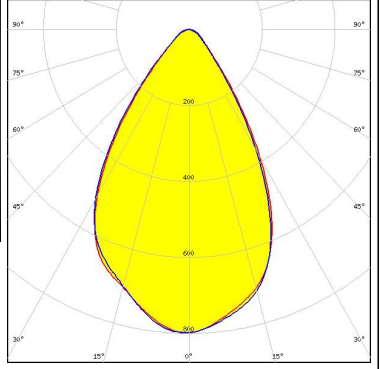
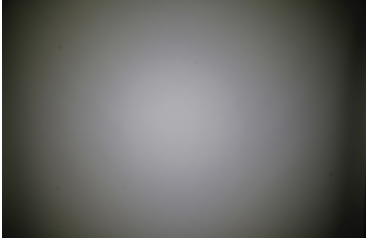
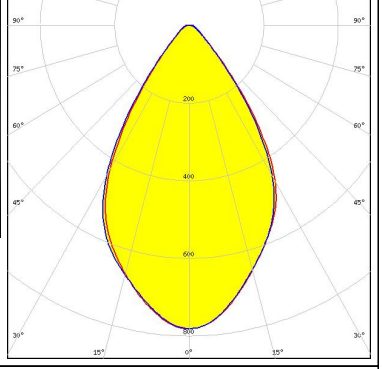
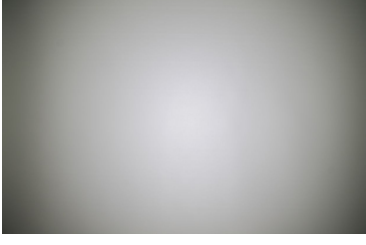
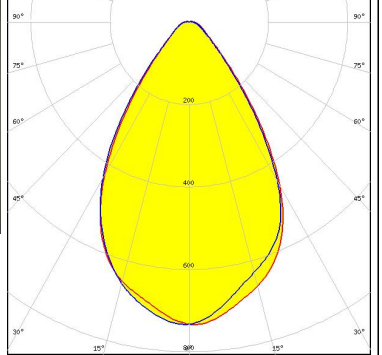
OPTICAL RESULTS (MEASURED):

<p> LED Bridgelux SMD 5050</p> <p>FWHM / FWTM 59.0° / 96.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 0.8 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p> LED J Series 5050C 6V E Class</p> <p>FWHM / FWTM 54.0° / 85.0°</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> LED XD16</p> <p>FWHM / FWTM 61.0° / 97.0°</p> <p>Efficiency 92 %</p> <p>Peak intensity 0.8 cd/lm</p> <p>LEDs/each optic 4</p> <p>Light colour White</p> <p>Required components:</p>		
<p> LED XD16</p> <p>FWHM / FWTM 63.0° / 92.0°</p> <p>Efficiency 93 %</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 (MEASURED):

<p>CREE LEDs</p> <p>LED XHP35 HD FWHM / FWTM 67.0° / 100.0° Efficiency 84 % Peak intensity 0.7 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>CREE LEDs</p> <p>LED XM-L FWHM / FWTM 66.0° / 99.0° Efficiency 93 % Peak intensity 0.8 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>CREE LEDs</p> <p>LED XM-L2 FWHM / FWTM 62.0° / 96.0° Efficiency 92 % Peak intensity 0.8 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>CREE LEDs</p> <p>LED XM-L3 FWHM / FWTM 70.0° / 98.0° Efficiency 94 % Peak intensity 0.7 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		

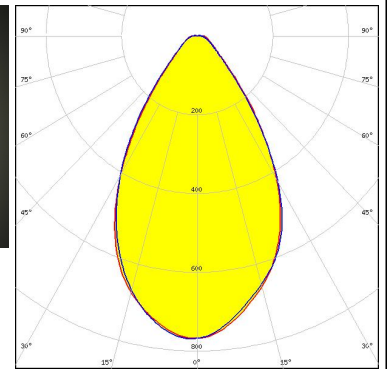
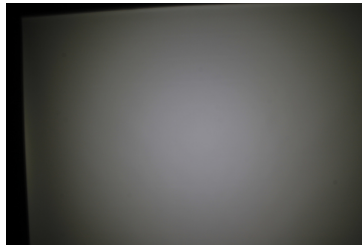
OPTICAL RESULTS (MEASURED):

<p>CREE LEDs</p> <p>LED XP-G2 FWHM / FWTM 63.0° / 93.0° Efficiency 91 % Peak intensity 0.8 cd/m LEDs/each optic 1 Light colour White Required components:</p>		
<p>CREE LEDs</p> <p>LED XP-G3 FWHM / FWTM 63.0° / 95.0° Efficiency 90 % Peak intensity 0.8 cd/m LEDs/each optic 1 Light colour White Required components:</p> <p style="background-color: #ADD8E6; padding: 2px; display: inline-block;">Protective plate, glass</p>		
<p>CREE LEDs</p> <p>LED XP-G3 FWHM / FWTM 64.0° / 94.0° Efficiency 86 % Peak intensity 0.8 cd/m LEDs/each optic 1 Light colour White Required components:</p>		
<p>CREE LEDs</p> <p>LED XP-L HD FWHM / FWTM 66.0° / 102.0° Efficiency 93 % Peak intensity 0.7 cd/m LEDs/each optic 1 Light colour White Required components:</p>		

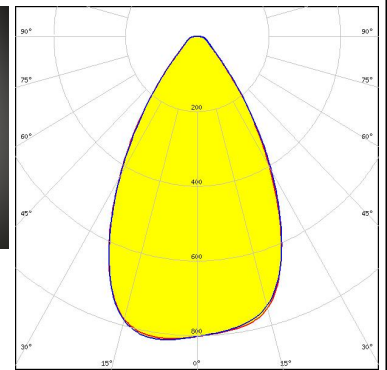
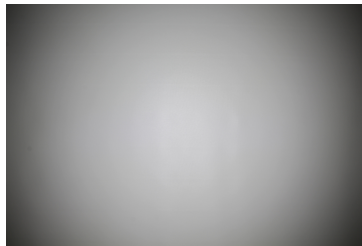
OPTICAL RESULTS (MEASURED):



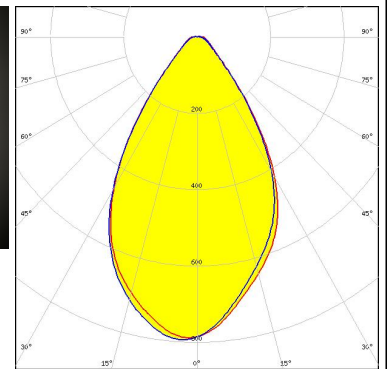
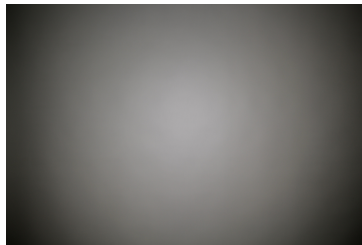
LED XP-L2
 FWHM / FWTM 62.0° / 101.0°
 Efficiency 93 %
 Peak intensity 0.8 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



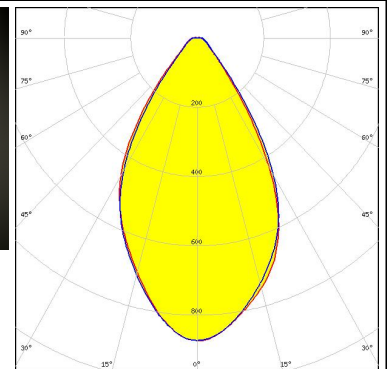
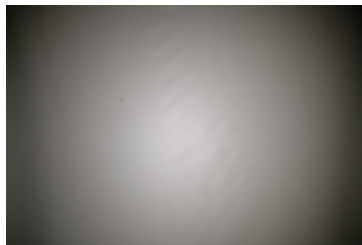
LED LUXEON 5050 Round LES
 FWHM / FWTM 61.0° / 96.0°
 Efficiency 94 %
 Peak intensity 0.8 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:




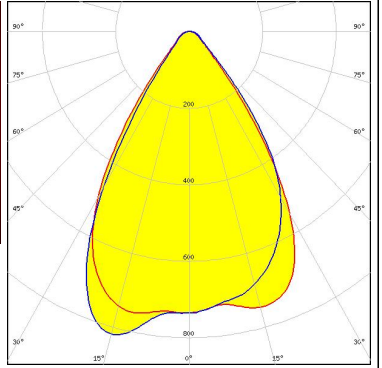

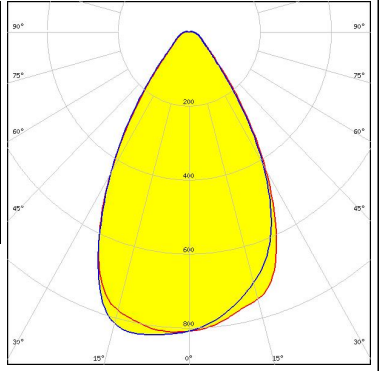
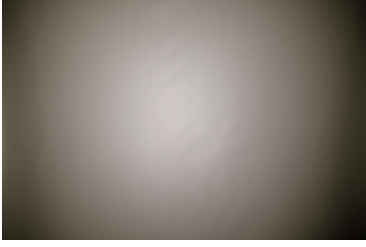
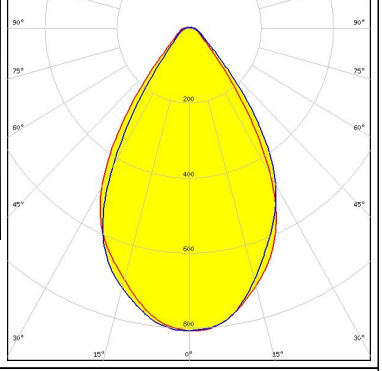
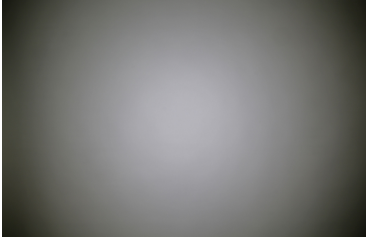
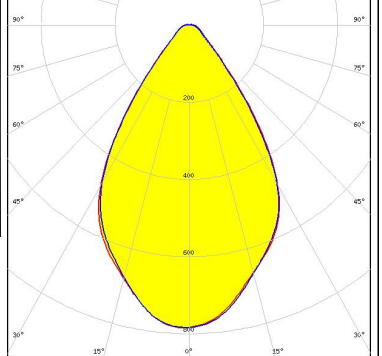
LED LUXEON V
 FWHM / FWTM 63.0° / 97.0°
 Efficiency 93 %
 Peak intensity 0.8 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:




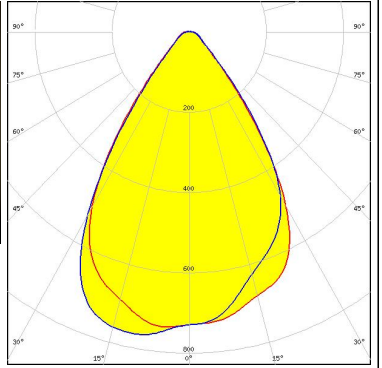
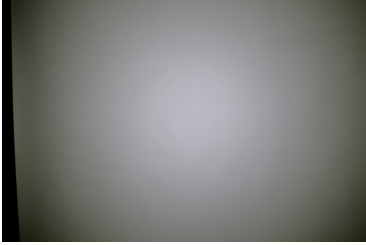
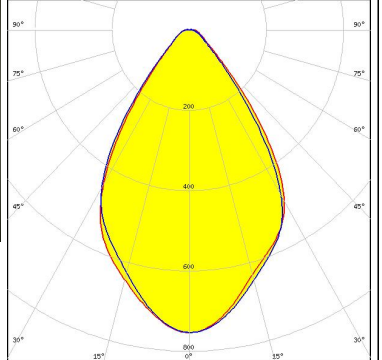
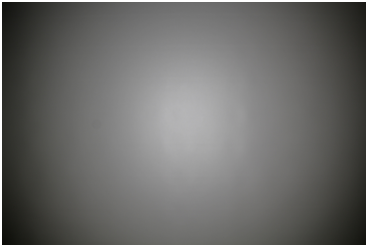
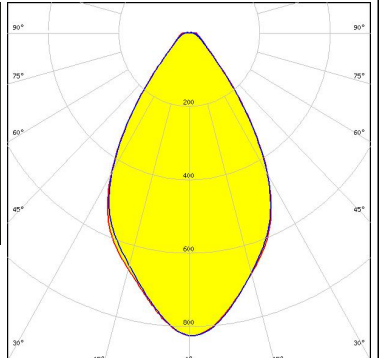
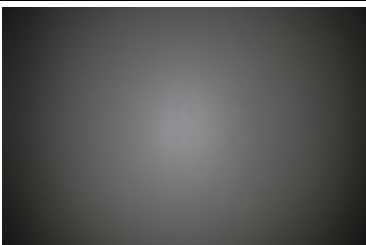
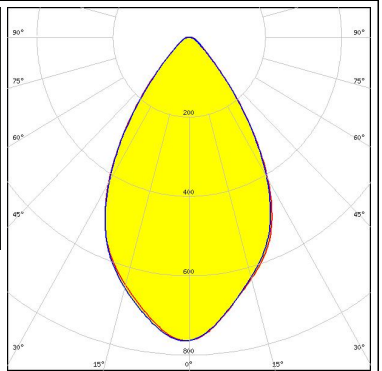
LED LUXEON V2
 FWHM / FWTM 61.0° / 93.0°
 Efficiency 94 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



OPTICAL RESULTS (MEASURED):

<p>LUMINUS</p> <p>LED SST-10-B130 FWHM / FWTM 69.0° / 94.0° Efficiency 95 % Peak intensity 0.8 cd/lm LEDs/each optic 1 Light colour Deep Red Required components:</p>		
<p>MST <i>Your solutions</i></p> <p>LED RecLED 122x50mm 1900lm 730 2x4 Opt G1 FWHM / FWTM 61.0° / 94.0° Efficiency 95 % Peak intensity 0.8 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>NICHIA</p> <p>LED NVSW219D FWHM / FWTM 64.0° / 95.0° Efficiency 94 % Peak intensity 0.8 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>NICHIA</p> <p>LED NVSW219F FWHM / FWTM 66.0° / 96.0° Efficiency 94 % Peak intensity 0.8 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		

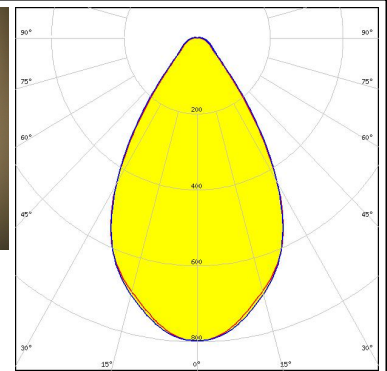
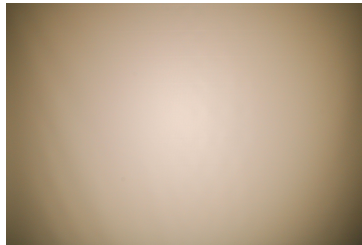
OPTICAL RESULTS (MEASURED):

<p>NICHIA</p> <p>LED NVSW219F FWHM / FWTM 69.0° / 96.0° Efficiency 95 % Peak intensity 0.8 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>NICHIA</p> <p>LED NVSW319B FWHM / FWTM 68.0° / 100.0° Efficiency 93 % Peak intensity 0.8 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>NICHIA</p> <p>LED NVSW3x9A FWHM / FWTM 62.0° / 97.0° Efficiency 93 % Peak intensity 0.8 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>NICHIA</p> <p>LED NWSx229A FWHM / FWTM 63.0° / 97.0° Efficiency 85 % Peak intensity 0.8 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		

OPTICAL RESULTS (MEASURED):

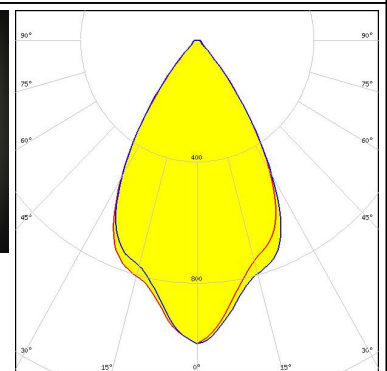
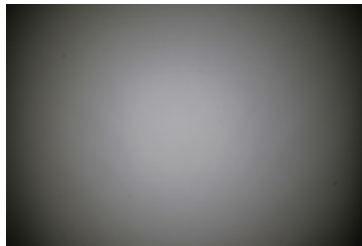
OSRAM

LED PL-BRICK HP 3800 2x8 SSG
 FWHM / FWTM 64.0° / 96.0°
 Efficiency 94 %
 Peak intensity 0.8 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



OSRAM

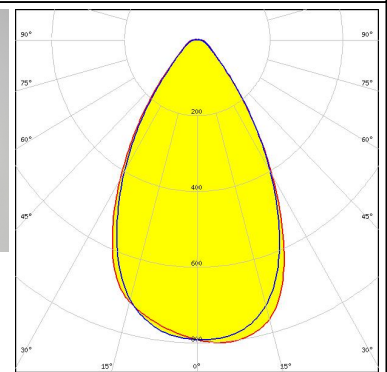
LED PrevaLED Brick HP 2x8
 FWHM / FWTM 64.0° / 93.0°
 Efficiency 92 %
 Peak intensity 0.8 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



OSRAM

Opto Semiconductors

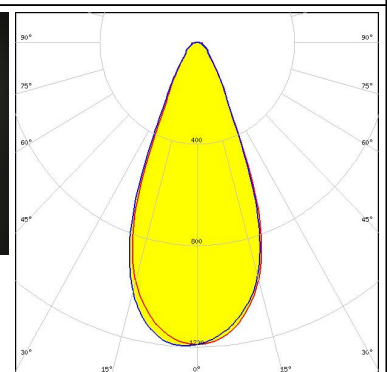
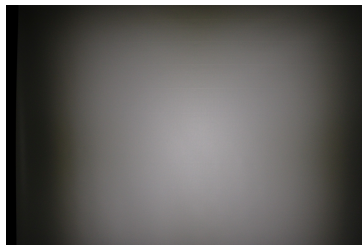
LED Duris S8
 FWHM / FWTM 61.0° / 97.0°
 Efficiency 93 %
 Peak intensity 0.8 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



OSRAM

Opto Semiconductors

LED OSCONIQ C 3030
 FWHM / FWTM 45.0° / 76.0°
 Efficiency 96 %
 Peak intensity 1.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



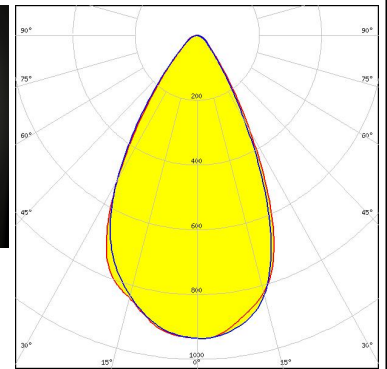
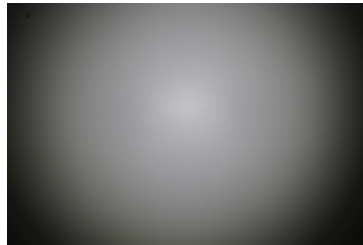
OPTICAL RESULTS (MEASURED):

OSRAM

Opto Semiconductors

LED OSCONIQ P 3737 (2W version)
 FWHM / FWTM 58.0° / 88.0°
 Efficiency 91 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

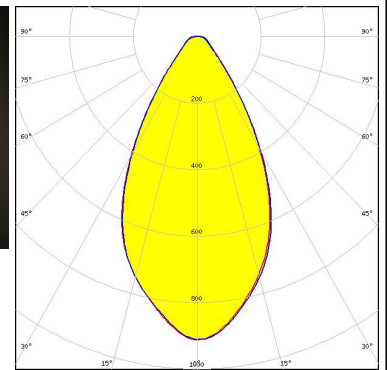
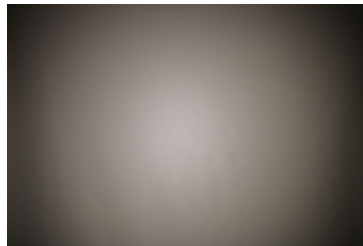
Protective plate, glass



OSRAM

Opto Semiconductors

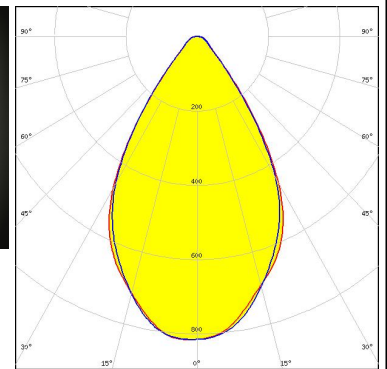
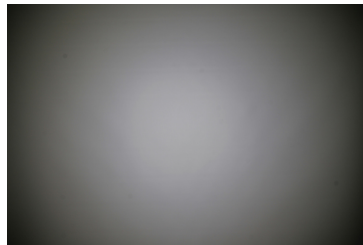
LED OSCONIQ P 3737 (3W version)
 FWHM / FWTM 56.0° / 93.0°
 Efficiency 93 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



OSRAM

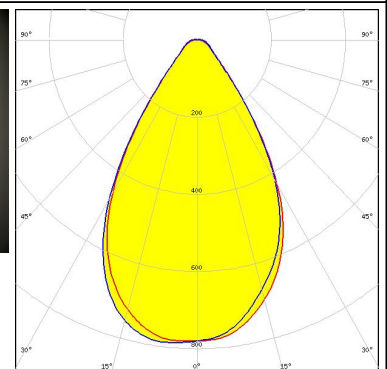
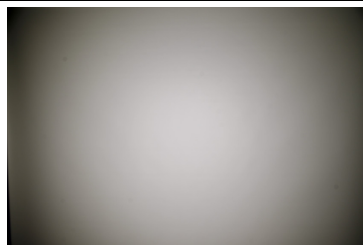
Opto Semiconductors

LED OSLOM Square CSSRM2/CSSRM3
 FWHM / FWTM 64.0° / 93.0°
 Efficiency 92 %
 Peak intensity 0.8 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



PHILIPS

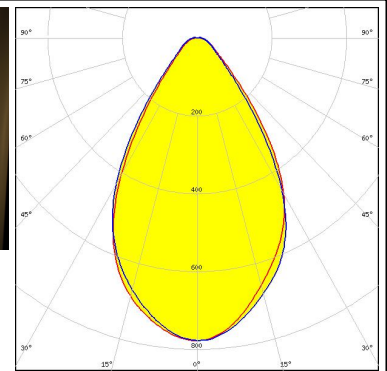
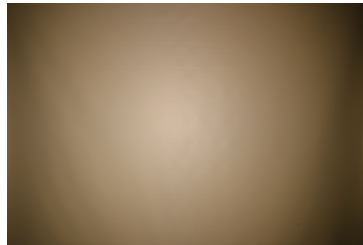
LED Fortimo FastFlex LED 2x8 DA G4
 FWHM / FWTM 64.0° / 96.0°
 Efficiency 93 %
 Peak intensity 0.8 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



OPTICAL RESULTS (MEASURED):

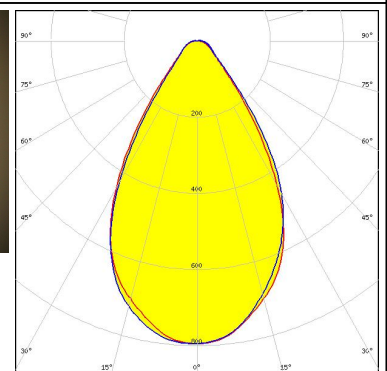
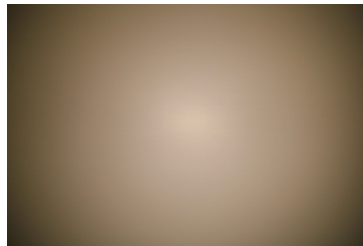
PHILIPS

LED Fortimo FastFlex LED 2x8 DA G4+
 FWHM / FWTM 64.0° / 101.0°
 Efficiency 95 %
 Peak intensity 0.8 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



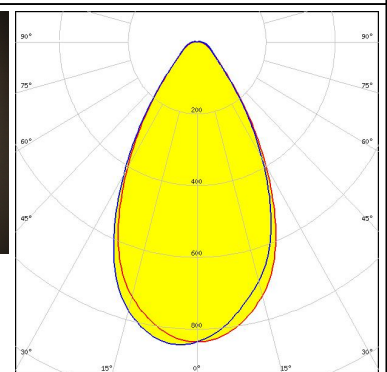
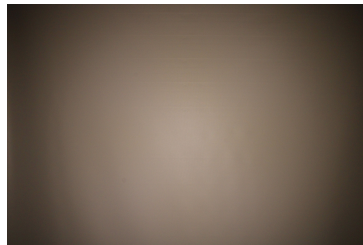
PHILIPS

LED Fortimo FastFlex LED 2x8 DA G5
 FWHM / FWTM 64.0° / 97.0°
 Efficiency 94 %
 Peak intensity 0.8 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



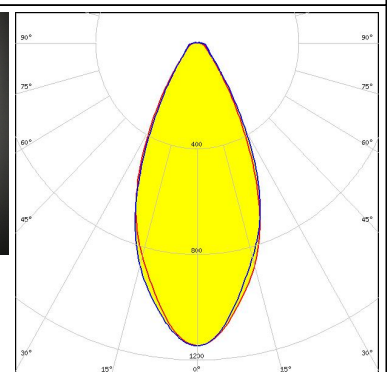
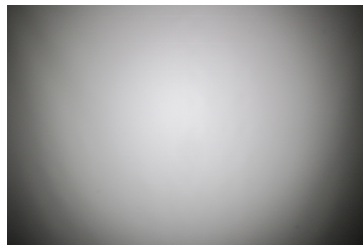
PHILIPS

LED Fortimo FastFlex LED 2x8 DA HE
 FWHM / FWTM 59.0° / 97.0°
 Efficiency 95 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



SAMSUNG

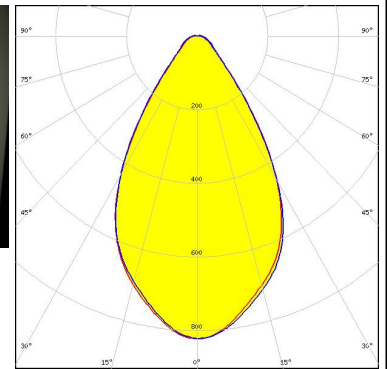
LED HiLOM RC12 Z (LH181B)
 FWHM / FWTM 48.0° / 85.0°
 Efficiency 96 %
 Peak intensity 1.1 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



OPTICAL RESULTS (MEASURED):

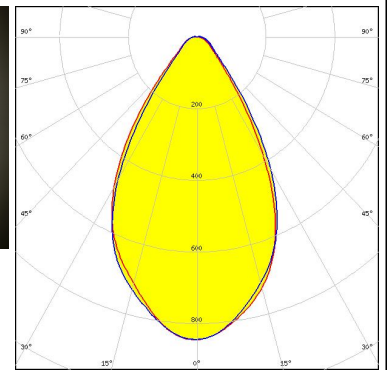
SAMSUNG

LED HiLOM RH12 Z (LH351C)
 FWHM / FWTM 62.0° / 97.0°
 Efficiency 95 %
 Peak intensity 0.8 cd/m
 LEDs/each optic 1
 Light colour White
 Required components:



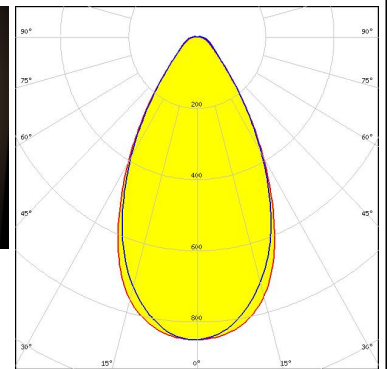
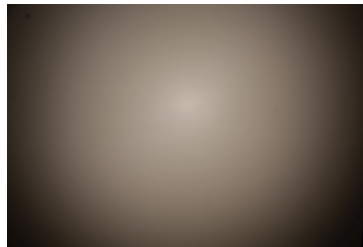
SAMSUNG

LED HiLOM RH16 (LH351C)
 FWHM / FWTM 61.0° / 96.0°
 Efficiency 94 %
 Peak intensity 0.9 cd/m
 LEDs/each optic 1
 Light colour White
 Required components:



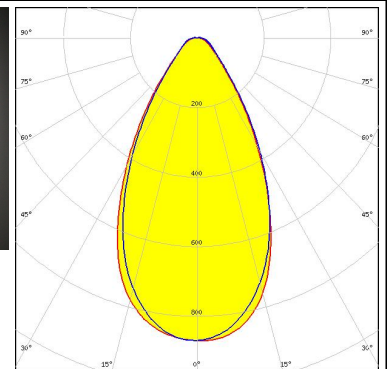
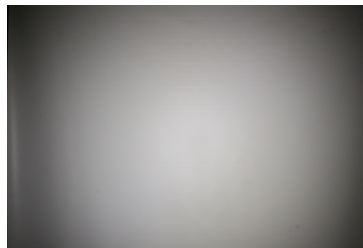
SAMSUNG

LED HiLOM RM12 Z (LH502C)
 FWHM / FWTM 57.0° / 98.0°
 Efficiency 94 %
 Peak intensity 0.9 cd/m
 LEDs/each optic 1
 Light colour White
 Required components:



SAMSUNG

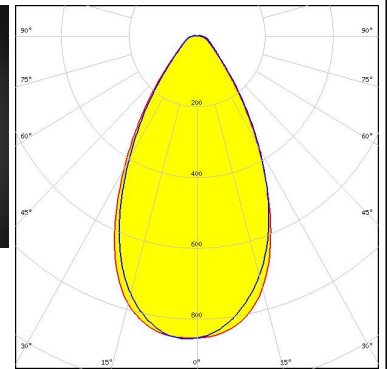
LED HiLOM RM16 Z (LH502C)
 FWHM / FWTM 57.0° / 97.0°
 Efficiency 95 %
 Peak intensity 0.9 cd/m
 LEDs/each optic 1
 Light colour White
 Required components:



OPTICAL RESULTS (MEASURED):

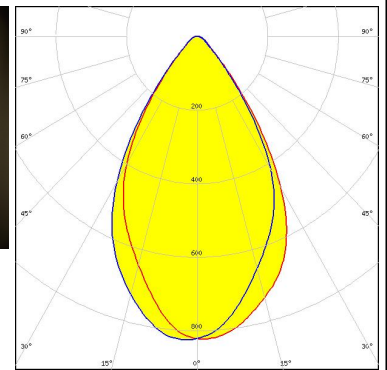
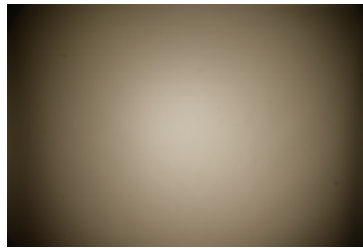
SAMSUNG

LED HiLOM RM8 Z (LH502C)
 FWHM / FWTM 57.0° / 98.0°
 Efficiency 95 %
 Peak intensity 0.9 cd/m
 LEDs/each optic 1
 Light colour White
 Required components:



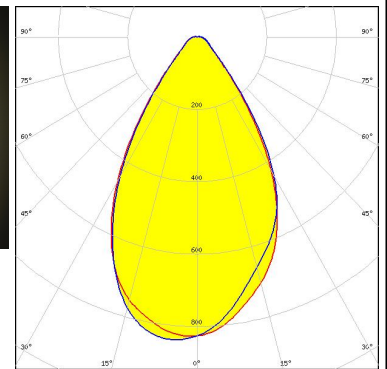
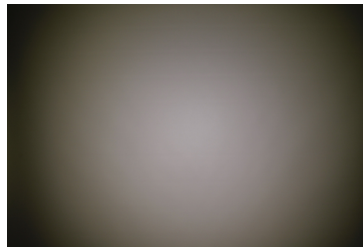
SAMSUNG

LED LH351B
 FWHM / FWTM 62.0° / 92.0°
 Efficiency 86 %
 Peak intensity 0.8 cd/m
 LEDs/each optic 1
 Light colour White
 Required components:



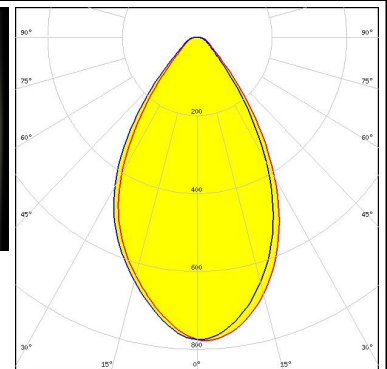
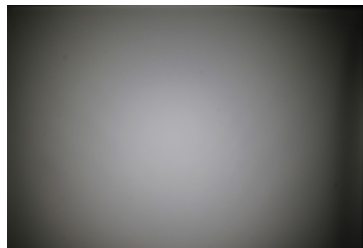
SAMSUNG

LED LH351C
 FWHM / FWTM 62.0° / 94.0°
 Efficiency 93 %
 Peak intensity 0.8 cd/m
 LEDs/each optic 1
 Light colour White
 Required components:



SAMSUNG

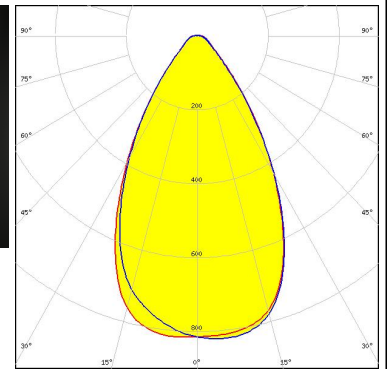
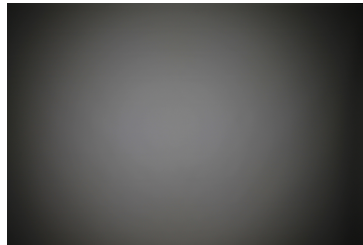
LED LH351D
 FWHM / FWTM 62.0° / 99.0°
 Efficiency 91 %
 Peak intensity 0.8 cd/m
 LEDs/each optic 1
 Light colour White
 Required components:



OPTICAL RESULTS (MEASURED):

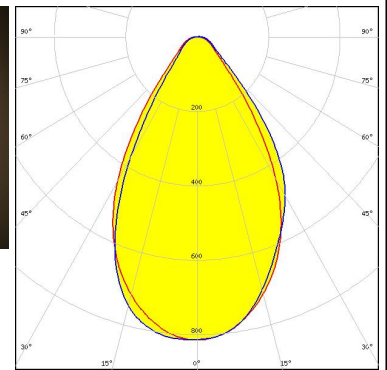
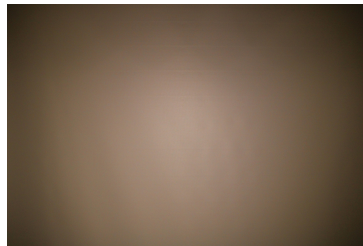
SAMSUNG

LED LH508A
 FWHM / FWTM 60.0° / 97.0°
 Efficiency 93 %
 Peak intensity 0.8 cd/m
 LEDs/each optic 1
 Light colour White
 Required components:



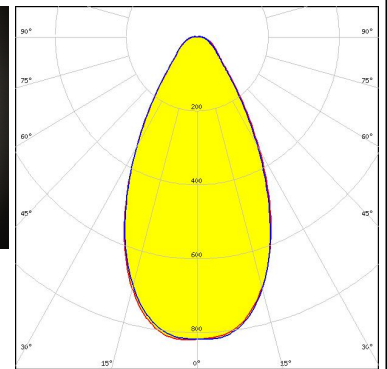
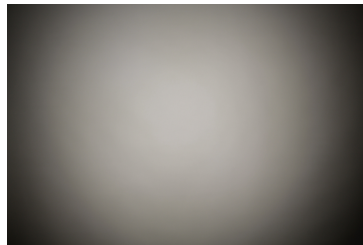
SKITEC

LED LED-Pa-L15c2W11c2-xxx-C050-01
 FWHM / FWTM 64.0° / 98.0°
 Efficiency 95 %
 Peak intensity 0.8 cd/m
 LEDs/each optic 1
 Light colour White
 Required components:



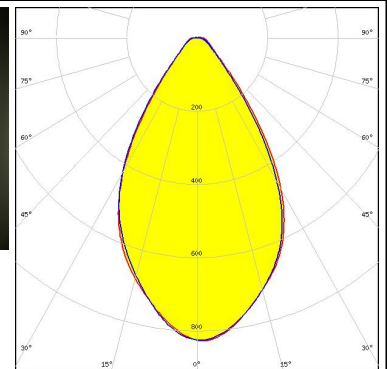
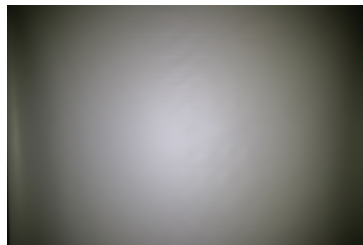
SEOL

SEOL SEMICONDUCTOR
 LED 2x2 Y22 module - SMJQ-D48W16AA-XX
 FWHM / FWTM 55.0° / 98.0°
 Efficiency 92 %
 Peak intensity 0.8 cd/m
 LEDs/each optic 1
 Light colour White
 Required components:


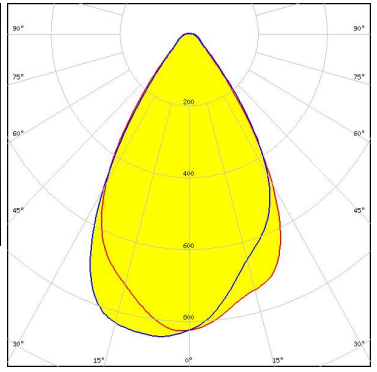

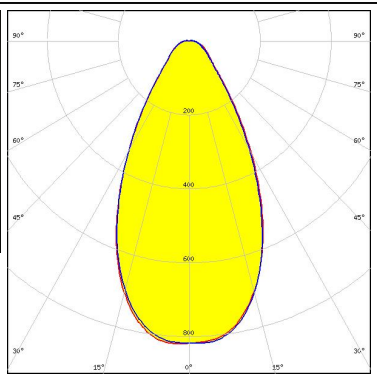

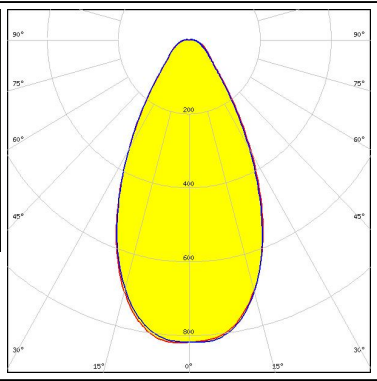

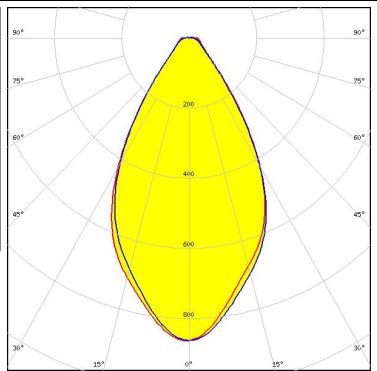


SEOL

SEOL SEMICONDUCTOR
 LED Z5M3
 FWHM / FWTM 62.0° / 96.0°
 Efficiency 94 %
 Peak intensity 0.8 cd/m
 LEDs/each optic 1
 Light colour White
 Required components:



OPTICAL RESULTS (MEASURED):

<p>SEOUL SEMICONDUCTOR</p> <p>LED Z5M4</p> <p>FWHM / FWTM 64.0° / 92.0°</p> <p>Efficiency 95 %</p> <p>Peak intensity 0.8 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p>SEOUL SEMICONDUCTOR</p> <p>LED Z8Y19</p> <p>FWHM / FWTM 55.0° / 98.0°</p> <p>Efficiency 92 %</p> <p>Peak intensity 0.8 cd/m</p> <p>LEDs/each optic 4</p> <p>Light colour White</p> <p>Required components:</p>		
<p>SEOUL SEMICONDUCTOR</p> <p>LED Z8Y19</p> <p>FWHM / FWTM 55.0° / 98.0°</p> <p>Efficiency 92 %</p> <p>Peak intensity 0.8 cd/m</p> <p>LEDs/each optic 4</p> <p>Light colour White</p> <p>Required components:</p>		
<p>SEOUL SEMICONDUCTOR</p> <p>LED Z8Y22P</p> <p>FWHM / FWTM 59.0° / 94.0°</p> <p>Efficiency 92 %</p> <p>Peak intensity 0.9 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		

OPTICAL RESULTS (MEASURED):

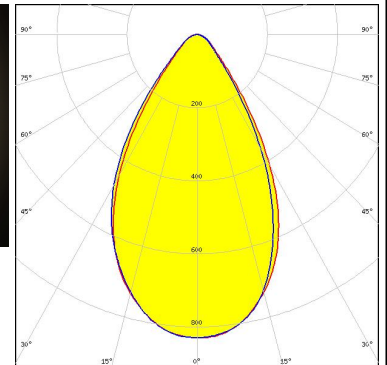
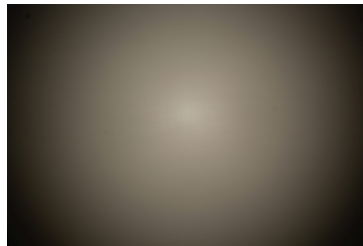
TRIDONIC

LED RLE 2x4 2000lm HP EXC2 OTD
 FWHM / FWTM 61.0° / 96.0°
 Efficiency 94 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

TRIDONIC

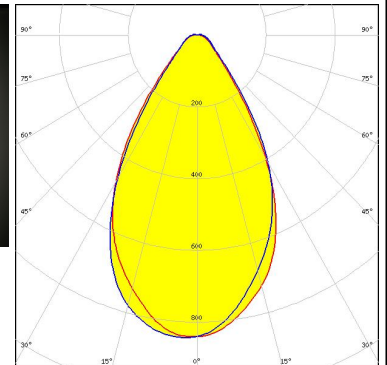
LED RLE 2x4 2000lm HP EXC2 OTD
 FWHM / FWTM 61.0° / 95.0°
 Efficiency 89 %
 Peak intensity 0.8 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

Protective plate, glass



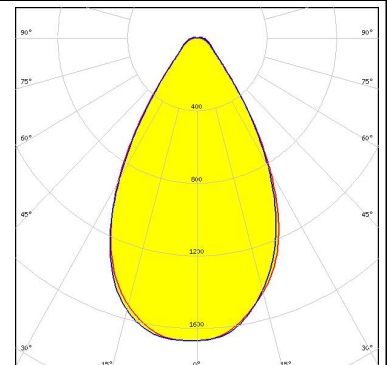
TRIDONIC

LED RLE 2x8 4000lm HP EXC2 OTD
 FWHM / FWTM 61.0° / 96.0°
 Efficiency 94 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



TRIDONIC

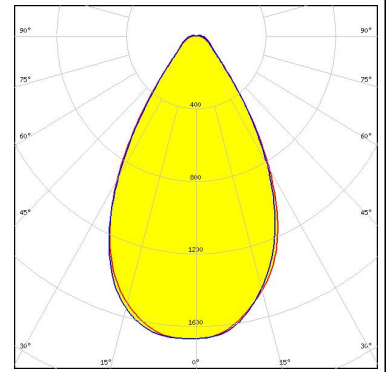
LED RLE G1 49x121mm 2000lm xxx EXC OTD
 FWHM / FWTM 61.0° / 96.0°
 Efficiency 94 %
 Peak intensity 0.8 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



OPTICAL RESULTS (MEASURED):

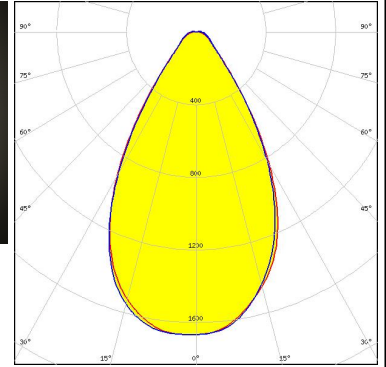
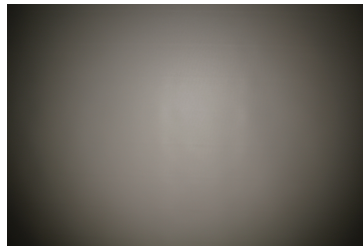
TRIDONIC

LED RLE G1 49x133mm 2000lm xxx EXC OTD
FWHM / FWTM 61.0° / 96.0°
Efficiency 94 %
Peak intensity 0.8 cd/lm
LEDs/each optic 1
Light colour White
Required components:



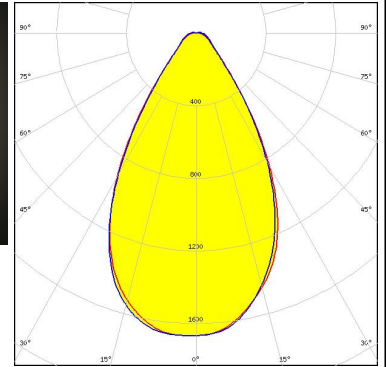
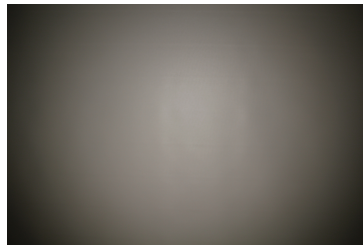
TRIDONIC

LED RLE G1 49x223mm 4000lm xxx EXC OTD
FWHM / FWTM 61.0° / 96.0°
Efficiency 94 %
Peak intensity 0.8 cd/lm
LEDs/each optic 1
Light colour White
Required components:

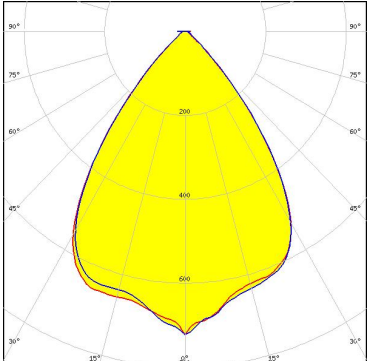
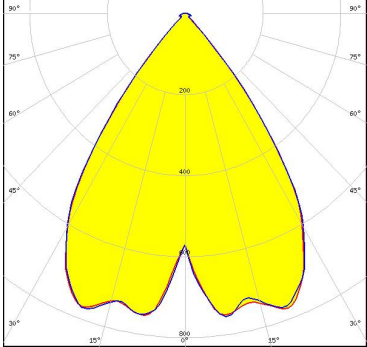
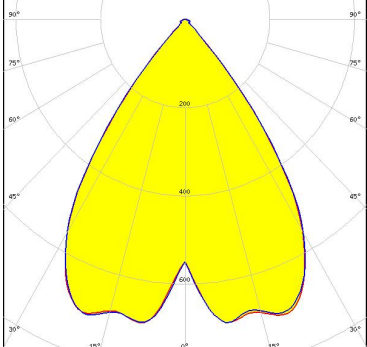
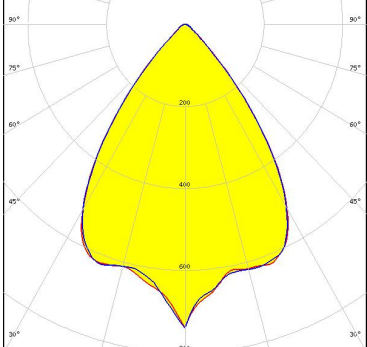


TRIDONIC

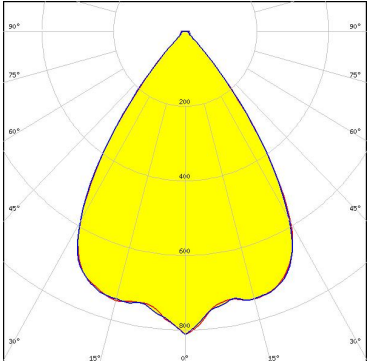
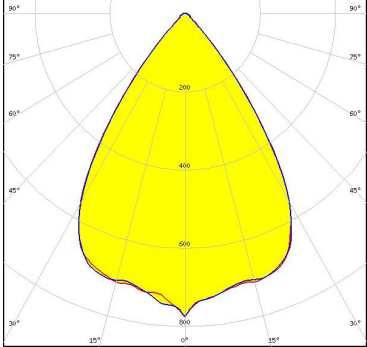
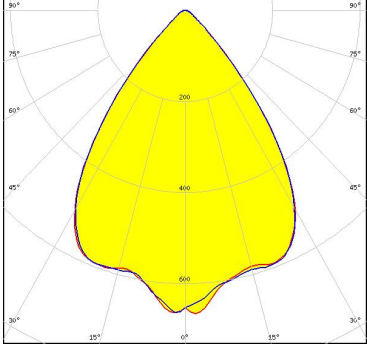
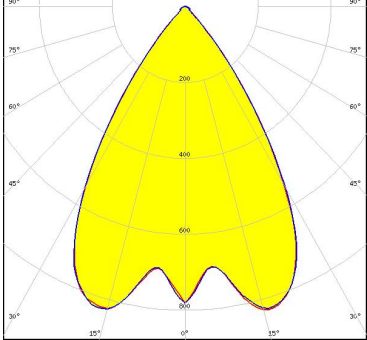
LED RLE G1 49x245mm 4000lm xxx EXC OTD
FWHM / FWTM 61.0° / 96.0°
Efficiency 94 %
Peak intensity 0.8 cd/lm
LEDs/each optic 1
Light colour White
Required components:



OPTICAL RESULTS (SIMULATED):

<p>CREE LEDs</p> <p>LED: XP-G2 HE FWHM / FWTM: 73.0° / 97.0° Efficiency: 95 % Peak intensity: 0.7 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p>	
<p>CREE LEDs</p> <p>LED: XP-G4 FWHM / FWTM: 72.0° / 86.0° Efficiency: 96 % Peak intensity: 0.8 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p>	
<p>CREE LEDs</p> <p>LED: XP-G4 FWHM / FWTM: 72.0° / 86.0° Efficiency: 88 % Peak intensity: 0.7 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p> <p>Protective plate, glass</p>	
<p>CREE LEDs</p> <p>LED: XP-L HD FWHM / FWTM: 72.0° / 94.0° Efficiency: 90 % Peak intensity: 0.7 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p> <p>Protective plate, glass</p>	

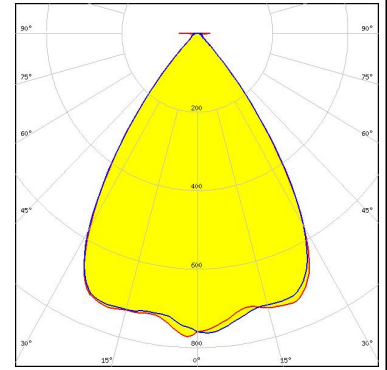
OPTICAL RESULTS (SIMULATED):

<p>CREE LEDs</p> <p>LED: XP-L HI FWHM / FWTM: 70.0° / 90.0° Efficiency: 96 % Peak intensity: 0.8 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p>	
<p>CREE LEDs</p> <p>LED: XP-L HI FWHM / FWTM: 70.0° / 90.0° Efficiency: 91 % Peak intensity: 0.8 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p> <p>Protective plate, glass</p>	
<p>CREE LEDs</p> <p>LED: XP-L2 FWHM / FWTM: 74.0° / 98.0° Efficiency: 89 % Peak intensity: 0.7 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p> <p>Protective plate, glass</p>	
<p>CREE LEDs</p> <p>LED: XP-P FWHM / FWTM: 66.0° / 86.0° Efficiency: 91 % Peak intensity: 0.8 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p> <p>Protective plate, glass</p>	

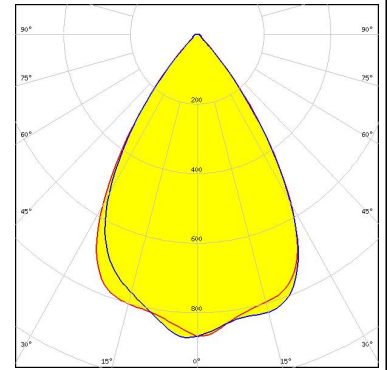
OPTICAL RESULTS (SIMULATED):



LED XT-E
 FWHM / FWTM 69.0° / 90.0°
 Efficiency 94 %
 Peak intensity 0.8 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

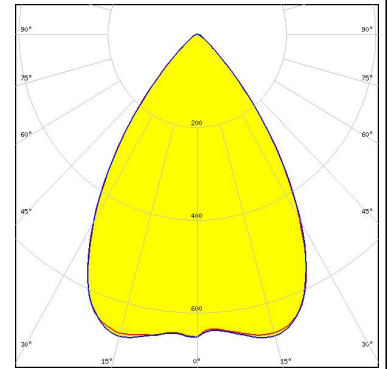


LED LUXEON 3535L
 FWHM / FWTM 66.0° / 89.0°
 Efficiency 94 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



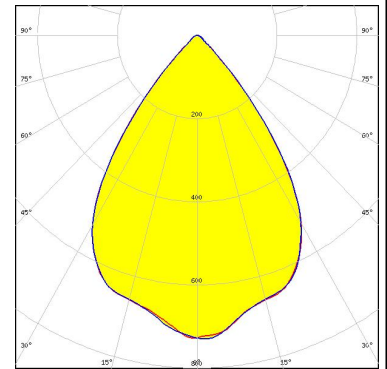
LED LUXEON 5050 Square LES
 FWHM / FWTM 70.0° / 96.0°
 Efficiency 86 %
 Peak intensity 0.7 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

Protective plate, glass



LED LUXEON HL2X
 FWHM / FWTM 72.0° / 94.0°
 Efficiency 90 %
 Peak intensity 0.7 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

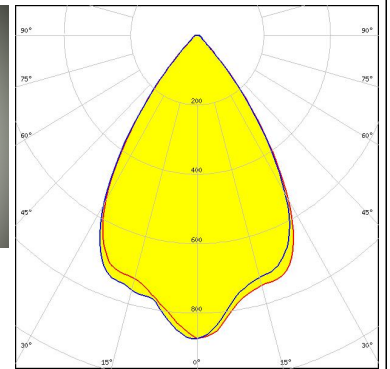
Protective plate, glass



OPTICAL RESULTS (SIMULATED):

LUMILEDS

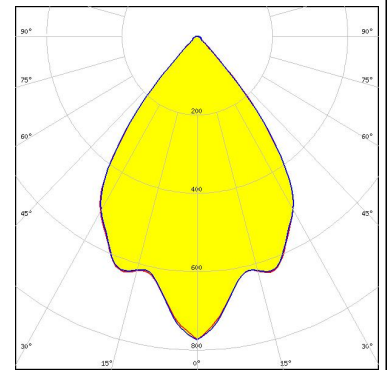
LED LUXEON MZ
 FWHM / FWTM 66.0° / 90.0°
 Efficiency 94 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



LUMILEDS

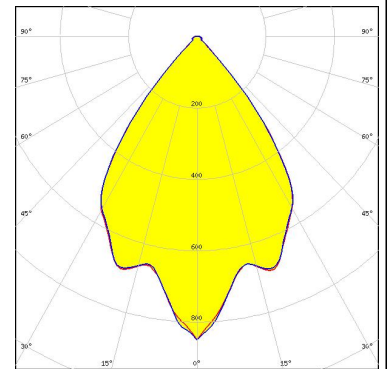
LED LUXEON XR-HL2X (L2H2-xxxxxxxMLU010)
 FWHM / FWTM 72.0° / 90.0°
 Efficiency 87 %
 Peak intensity 0.8 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

Protective plate, glass



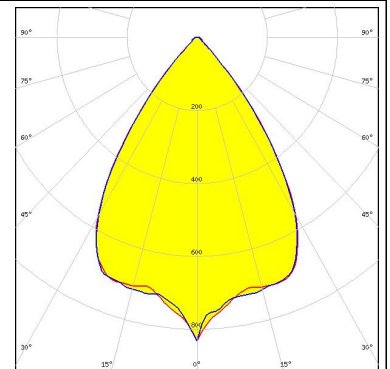
LUMILEDS

LED LUXEON XR-HL2X (L2H2-xxxxxxxMLU010)
 FWHM / FWTM 72.0° / 90.0°
 Efficiency 96 %
 Peak intensity 0.9 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

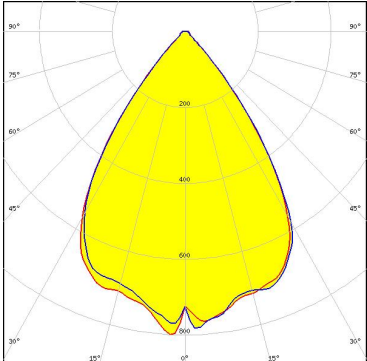
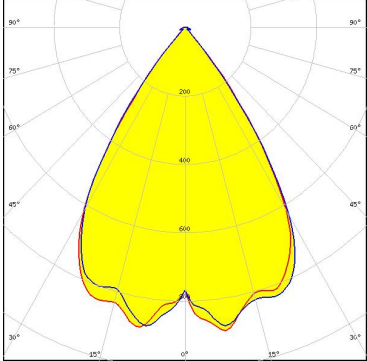
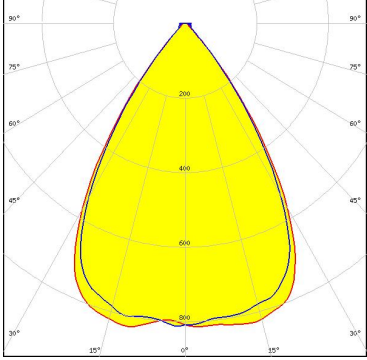
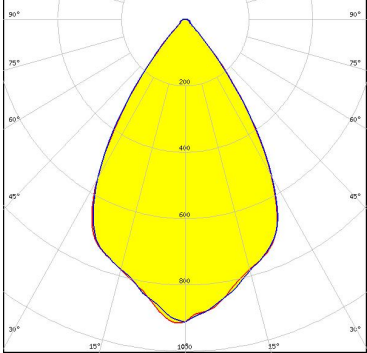


NICHIA

LED NV4WB35AM
 FWHM / FWTM 69.0° / 90.0°
 Efficiency 95 %
 Peak intensity 0.8 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



OPTICAL RESULTS (SIMULATED):

<p>NICHIA</p> <p>LED NVSxx19B/NVSxx19C</p> <p>FWHM / FWTM 70.0° / 90.0°</p> <p>Efficiency 95 %</p> <p>Peak intensity 0.8 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<p>OSRAM Opto Semiconductors</p> <p>LED OSCONIQ C 2424</p> <p>FWHM / FWTM 66.0 + 68.0° / 82.0°</p> <p>Efficiency 96 %</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>OSRAM Opto Semiconductors</p> <p>LED OSCONIQ P 3030</p> <p>FWHM / FWTM 66.0° / 88.0°</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>	
<p>OSRAM Opto Semiconductors</p> <p>LED OSCONIQ P 3737 Flat</p> <p>FWHM / FWTM 64.0° / 88.0°</p> <p>Efficiency 95 %</p> <p>Peak intensity 0.9 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	

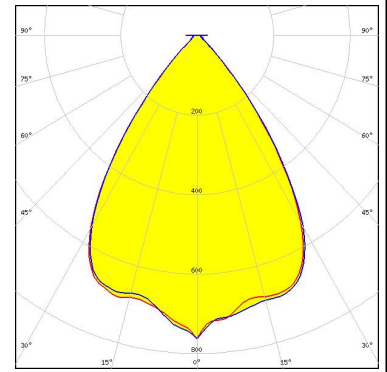
OPTICAL RESULTS (SIMULATED):

<p>OSRAM Opto Semiconductors</p> <p>LED OSLOM Square CSSRM2/CSSRM3</p> <p>FWHM / FWTM 70.0° / 92.0°</p> <p>Efficiency 86 %</p> <p>Peak intensity 0.7 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p> <p style="background-color: #ADD8E6; padding: 2px;">Protective plate, glass</p>	
<p>OSRAM Opto Semiconductors</p> <p>LED OSLOM Square Flat</p> <p>FWHM / FWTM 68.0° / 86.0°</p> <p>Efficiency 95 %</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>OSRAM Opto Semiconductors</p> <p>LED OSLOM SSL 80</p> <p>FWHM / FWTM 55.6° / 81.2°</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>OSRAM Opto Semiconductors</p> <p>LED OSTAR Projection Compact (KW.CSLNM1.TG)</p> <p>FWHM / FWTM 68.0° / 88.0°</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):

PHILIPS

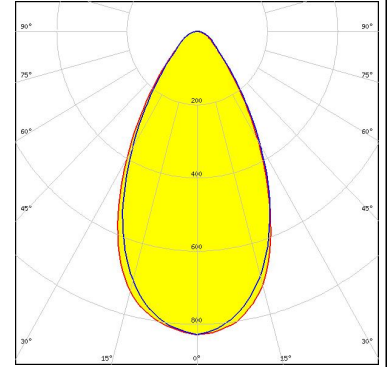
LED Fortimo FastFlex LED 2x8 DAX G4
 FWHM / FWTM 71.0° / 94.0°
 Efficiency 94 %
 Peak intensity 0.8 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



SAMSUNG

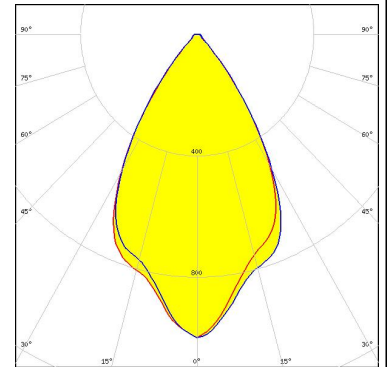
LED HiLOM RM16 Z (LH502C)
 FWHM / FWTM 56.0° / 98.0°
 Efficiency 88 %
 Peak intensity 0.8 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

Protective plate, glass



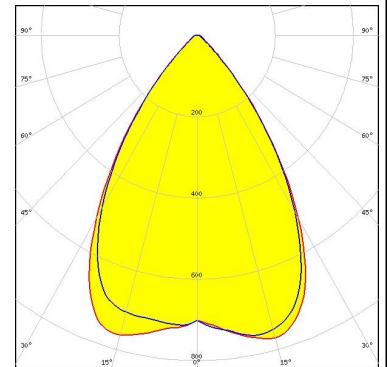
SAMSUNG

LED LH231B
 FWHM / FWTM 60.0° / 87.0°
 Efficiency 94 %
 Peak intensity 1 cd/lm
 LEDs/each optic 4
 Light colour White
 Required components:



SEOUL SEMICONDUCTOR

LED SEOUL DC 5050 6V
 FWHM / FWTM 64.0° / 93.0°
 Efficiency 94 %
 Peak intensity 0.8 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



OPTICAL RESULTS (SIMULATED):



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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