

## HB-2X2-W

~50° wide beam

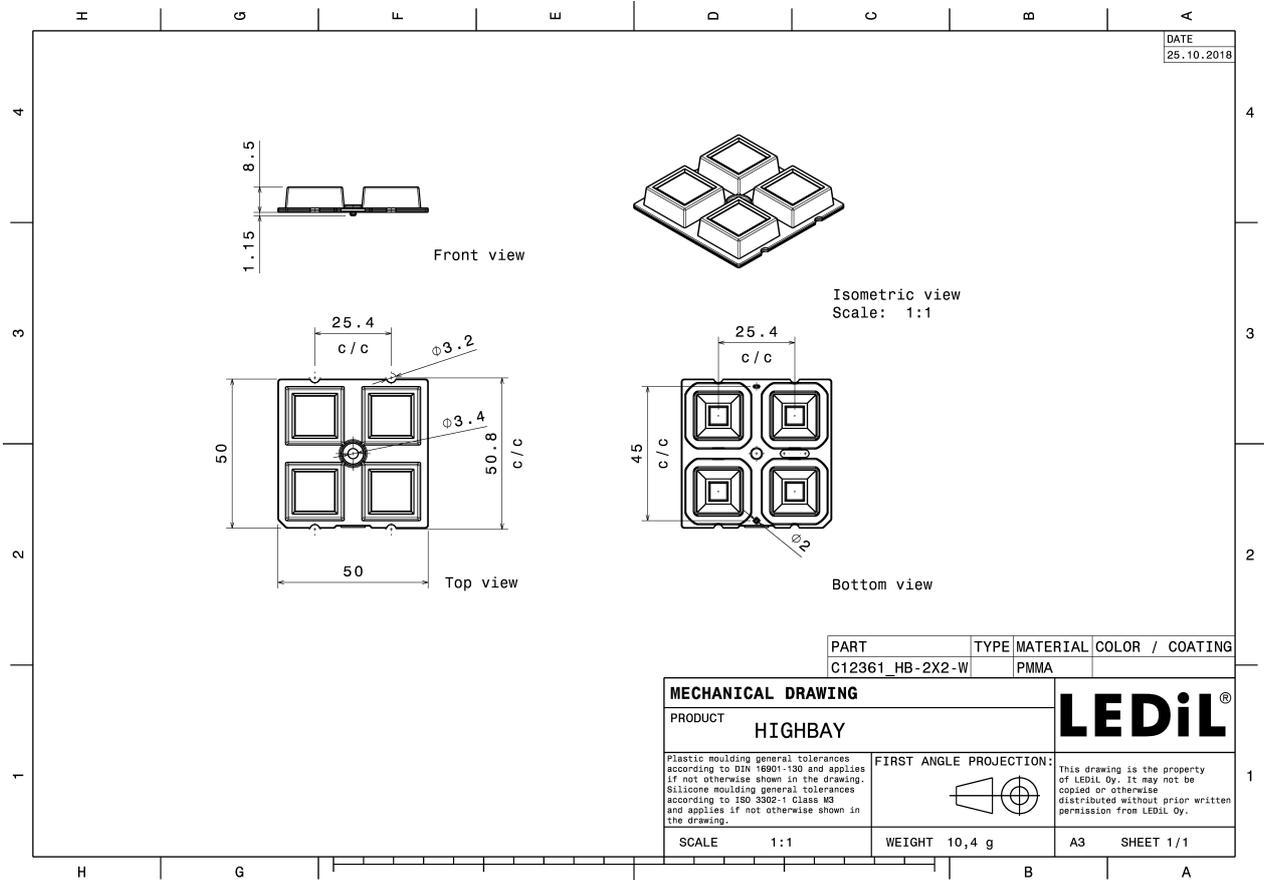
### TECHNICAL SPECIFICATIONS:

Dimensions	50.0 mm
Height	8.5 mm
Fastening	glue, pin, screw
Colour	clear
Box size	480 x 280 x 300 mm
Box weight	9.1 kg
Quantity in Box	800 pcs
ROHS compliant	yes ⓘ

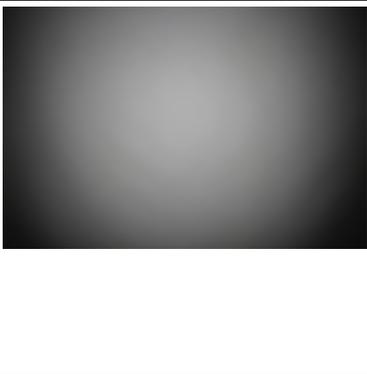
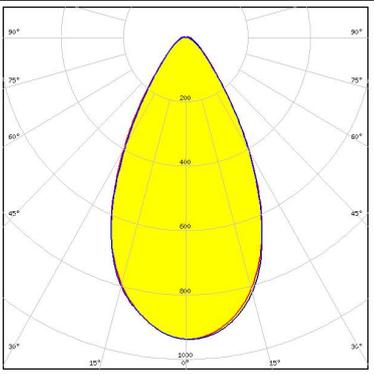
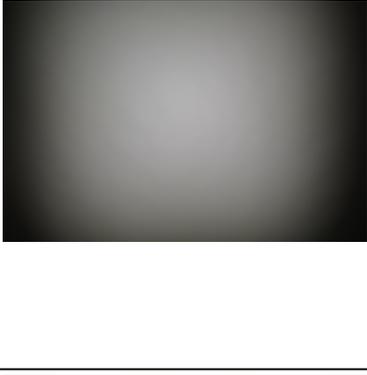
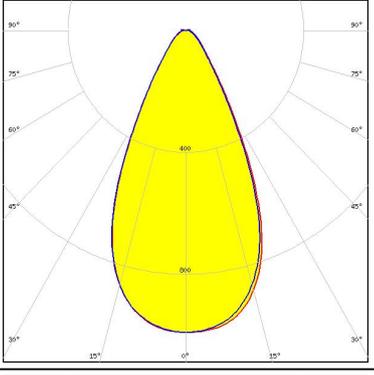
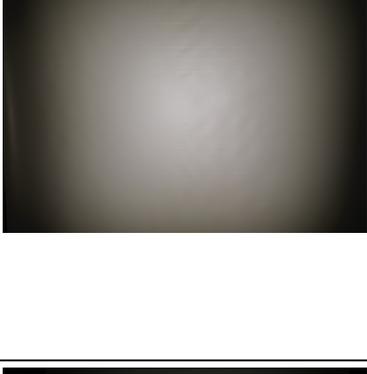
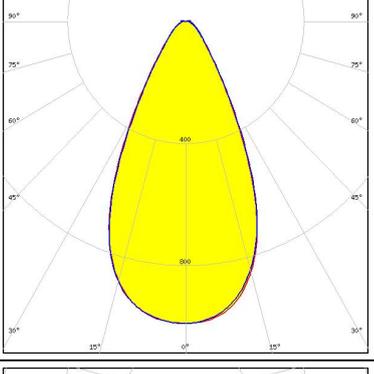
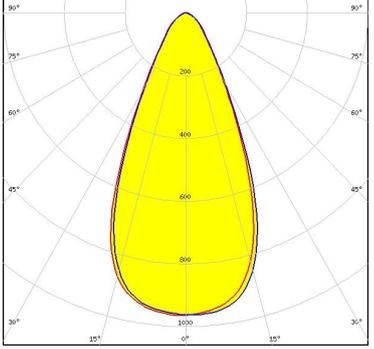


### MATERIAL SPECIFICATIONS:

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



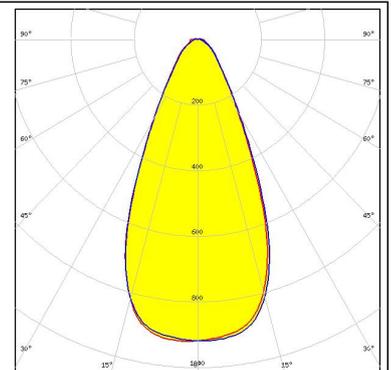
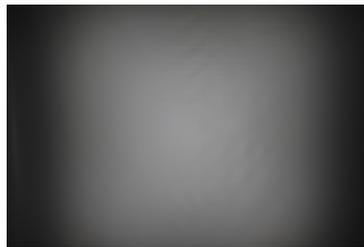
#### PHOTOMETRIC DATA (MEASURED):

<p> <b>bridgelux</b></p> <p>LED                    Bridgelux SMD 5050            FWHM                55.0°            Efficiency            94 %            Peak intensity      0.940 cd/lm            LEDs/each optic   1            Light colour        White            Required components:</p>		
<p> <b>COMET ELECTRONICS</b></p> <p>LED                    QUICK FLUX XTP 2x4 xxx LS G5            FWHM                52.0°            Efficiency            94 %            Peak intensity      0.990 cd/lm            LEDs/each optic   1            Light colour        White            Required components:</p>		
<p> <b>COMET ELECTRONICS</b></p> <p>LED                    QUICK FLUX XTP 2x6 xxx LS G5            FWHM                52.0°            Efficiency            94 %            Peak intensity      0.990 cd/lm            LEDs/each optic   1            Light colour        White            Required components:</p>		
<p> <b>CREE</b></p> <p>LED                    XB-D            FWHM                48.0°            Efficiency            86 %            Peak intensity      0.960 cd/lm            LEDs/each optic   1            Light colour        White            Required components:</p>		

#### PHOTOMETRIC DATA (MEASURED):

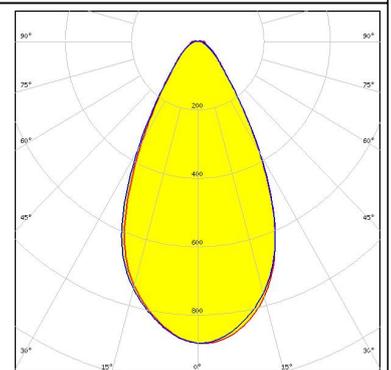
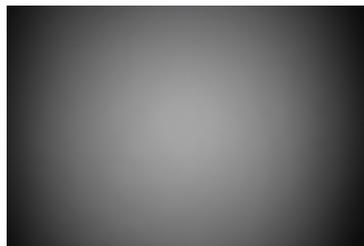
#### CREE

LED XD16  
 FWHM 48.0°  
 Efficiency 91 %  
 Peak intensity 0.900 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



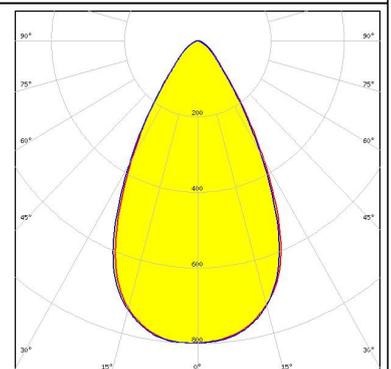
#### CREE

LED XD16  
 FWHM 54.0°  
 Efficiency 91 %  
 Peak intensity 0.880 cd/lm  
 LEDs/each optic 4  
 Light colour White  
 Required components:



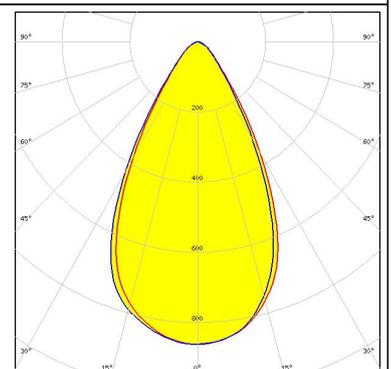
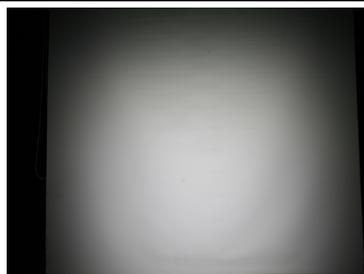
#### CREE

LED XHP35 HD  
 FWHM 57.0°  
 Efficiency 85 %  
 Peak intensity 0.800 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### CREE

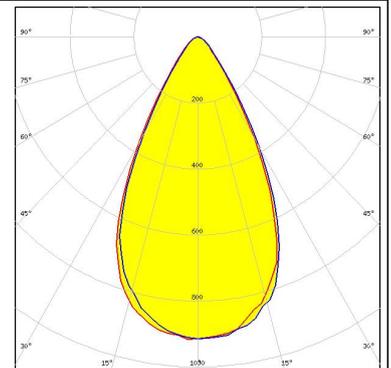
LED XM-L  
 FWHM 57.0°  
 Efficiency 89 %  
 Peak intensity 0.860 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



**PHOTOMETRIC DATA (MEASURED):**

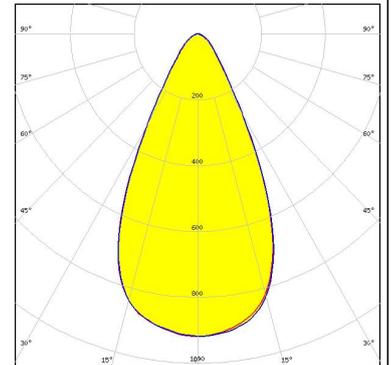
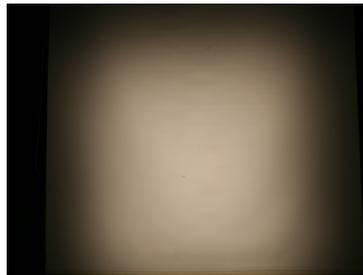
**CREE** 

LED XM-L2  
 FWHM 56.0°  
 Efficiency 87 %  
 Peak intensity 0.900 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



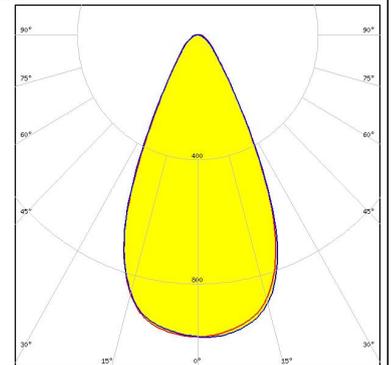
**CREE** 

LED XP-G  
 FWHM 52.0°  
 Efficiency 88 %  
 Peak intensity 0.920 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



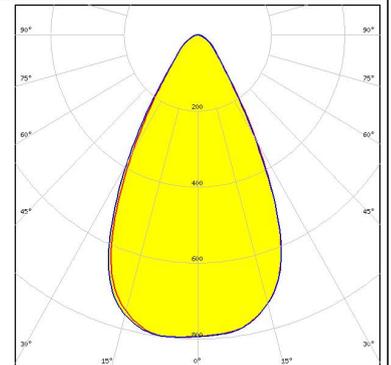
**CREE** 

LED XP-G2  
 FWHM 51.0°  
 Efficiency 94 %  
 Peak intensity 0.970 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



**CREE** 

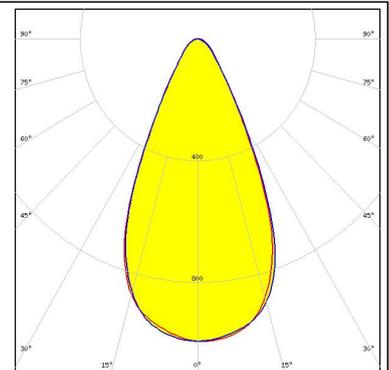
LED XP-L HD  
 FWHM 56.0°  
 Efficiency 87 %  
 Peak intensity 0.800 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



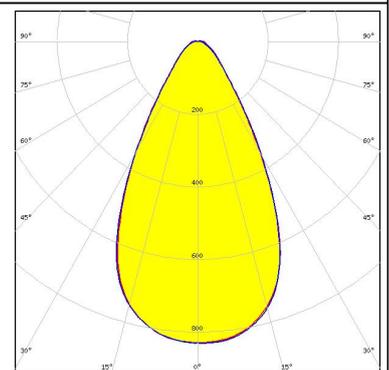
#### PHOTOMETRIC DATA (MEASURED):



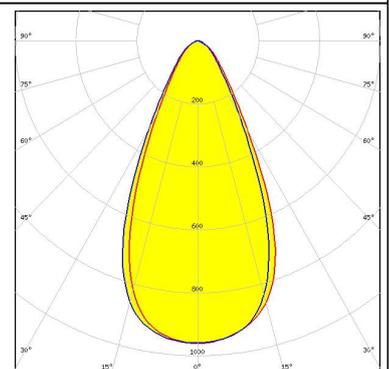
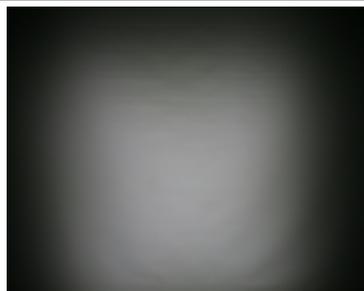
LED XP-L HI  
 FWHM 50.0°  
 Efficiency 93 %  
 Peak intensity 0.990 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



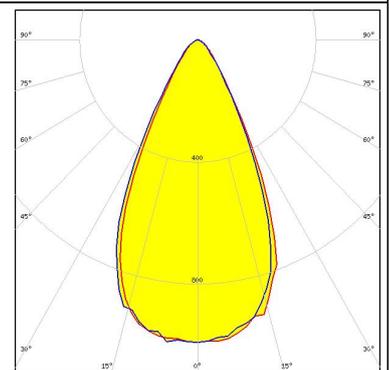
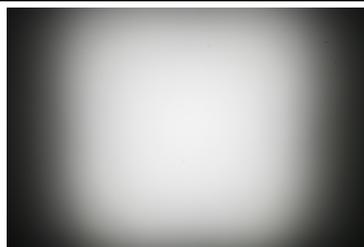
LED XP-L2  
 FWHM 56.0°  
 Efficiency 92 %  
 Peak intensity 0.830 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



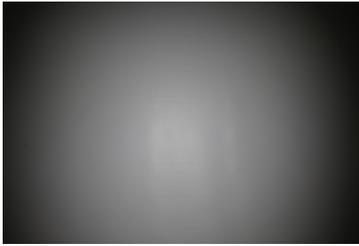
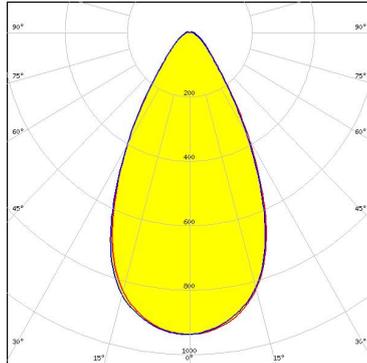
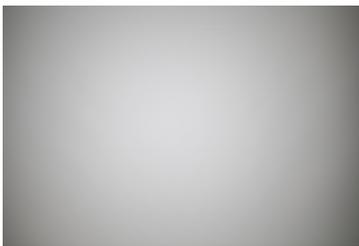
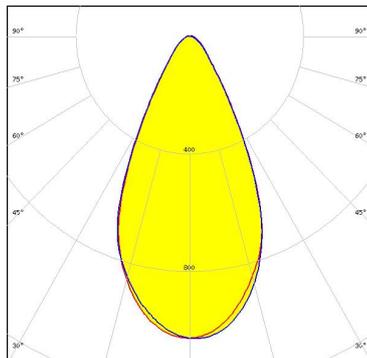
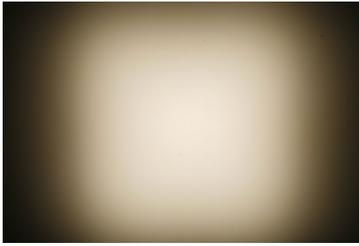
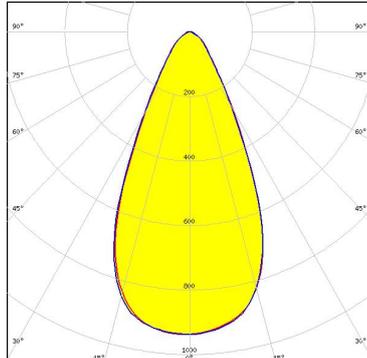
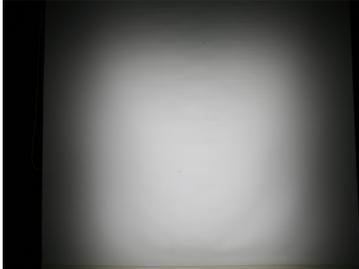
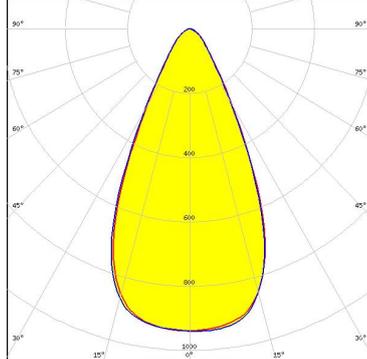
LED XT-E  
 FWHM 50.0°  
 Efficiency 87 %  
 Peak intensity 0.970 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



LED H35C1 (LEMWA33)  
 FWHM 53.0°  
 Efficiency 86 %  
 Peak intensity 1.000 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



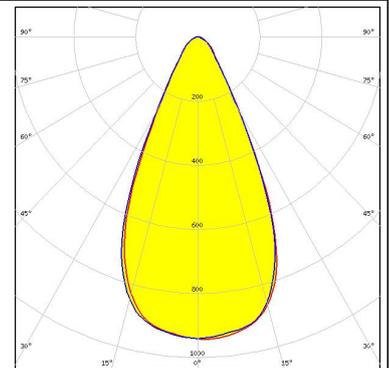
#### PHOTOMETRIC DATA (MEASURED):

<p><b>LUMILEDS</b></p> <p>LED LUXEON 5050            FWHM 55.0°            Efficiency 94 %            Peak intensity 0.940 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		
<p><b>LUMILEDS</b></p> <p>LED LUXEON MZ            FWHM 53.0°            Efficiency 92 %            Peak intensity 1.000 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		
<p><b>LUMILEDS</b></p> <p>LED LUXEON Q            FWHM 50.0°            Efficiency 86 %            Peak intensity 0.900 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		
<p><b>LUMILEDS</b></p> <p>LED LUXEON Rebel ES            FWHM 51.0°            Efficiency 87 %            Peak intensity 0.940 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		

#### PHOTOMETRIC DATA (MEASURED):

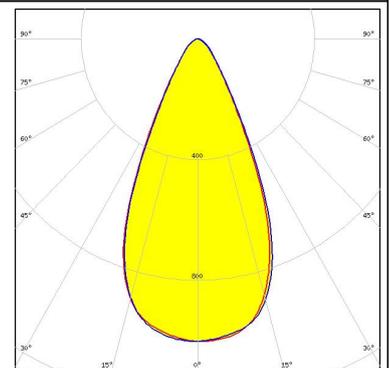
##### LUMILEDS

LED LUXEON T  
 FWHM 55.0°  
 Efficiency 87 %  
 Peak intensity 0.900 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



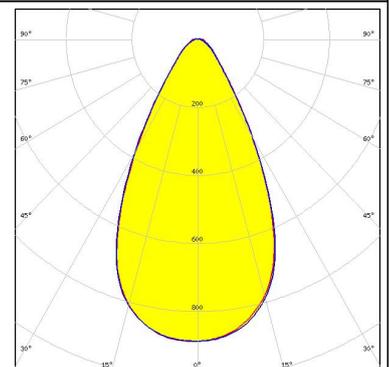
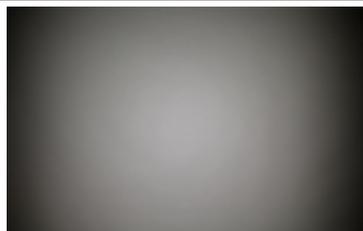
##### LUMILEDS

LED LUXEON TX  
 FWHM 50.0°  
 Efficiency 88 %  
 Peak intensity 1.000 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



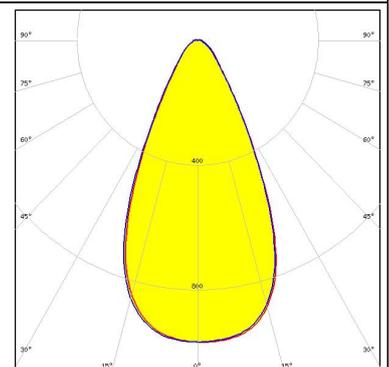
##### LUMILEDS

LED LUXEON V  
 FWHM 55.0°  
 Efficiency 93 %  
 Peak intensity 0.890 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



##### LUMILEDS

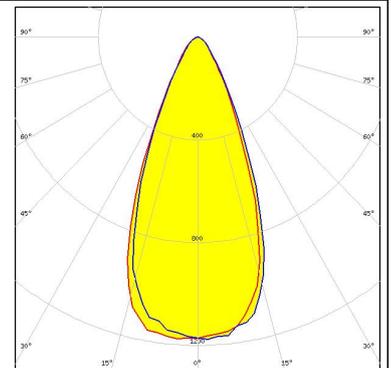
LED LUXEON V2  
 FWHM 51.0°  
 Efficiency 94 %  
 Peak intensity 0.970 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



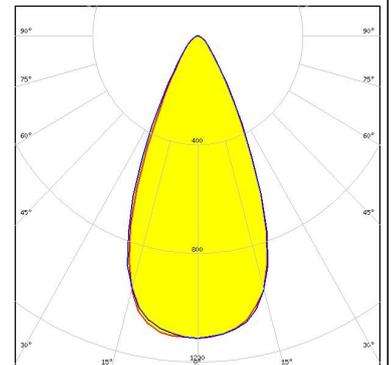
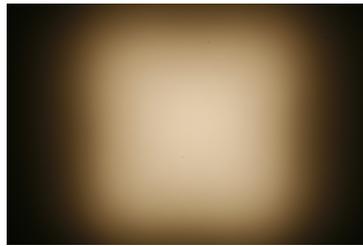
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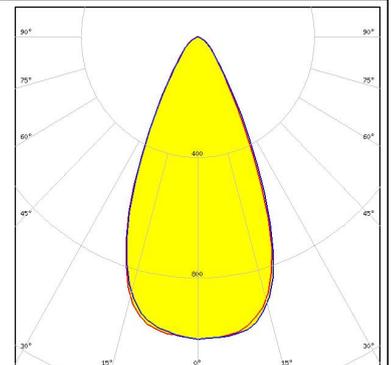
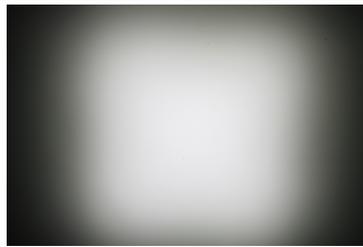
LED LUXEON Z ES  
 FWHM 46.0°  
 Efficiency 87 %  
 Peak intensity 1.180 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



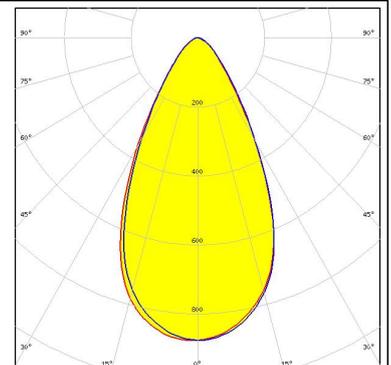
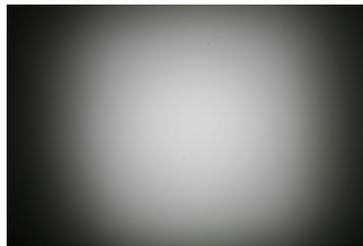
LED NCSxx19A  
 FWHM 48.0°  
 Efficiency 85 %  
 Peak intensity 1.100 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



LED NCSxx19B  
 FWHM 50.0°  
 Efficiency 85 %  
 Peak intensity 1.000 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



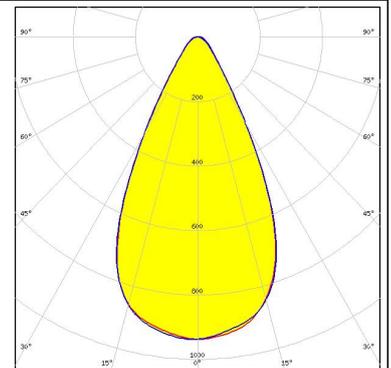
LED NS9x383  
 FWHM 54.0°  
 Efficiency 86 %  
 Peak intensity 0.880 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



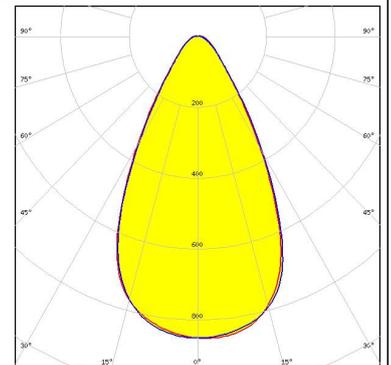
#### PHOTOMETRIC DATA (MEASURED):



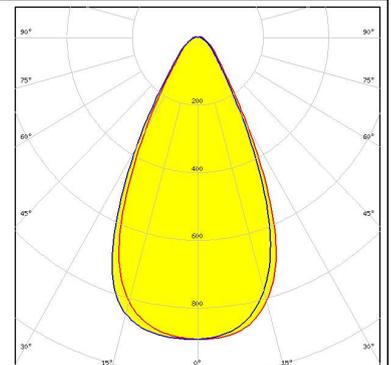
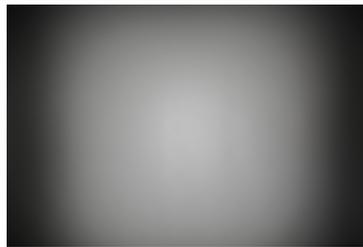
LED NVSW219D  
 FWHM 53.0°  
 Efficiency 94 %  
 Peak intensity 0.940 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



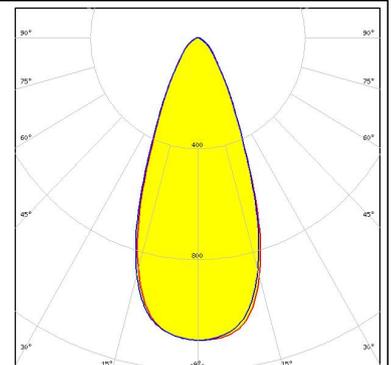
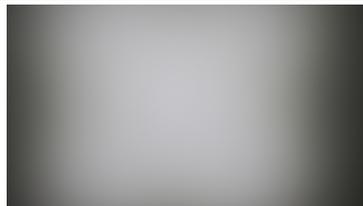
LED NVSW319B  
 FWHM 56.0°  
 Efficiency 93 %  
 Peak intensity 0.900 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



LED NVSW3x9A  
 FWHM 53.0°  
 Efficiency 92 %  
 Peak intensity 0.900 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



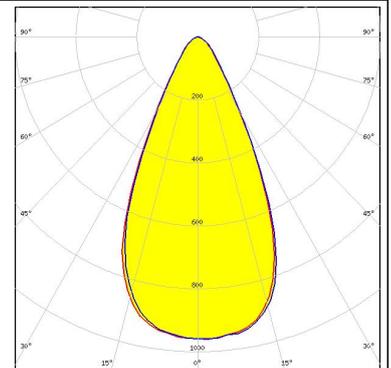
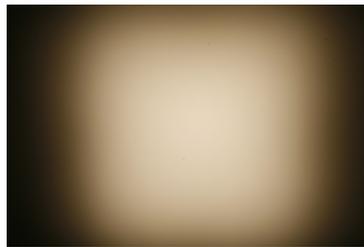
LED NVSxE21A  
 FWHM 43.0°  
 Efficiency 86 %  
 Peak intensity 1.100 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



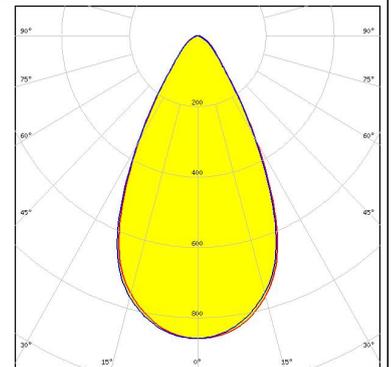
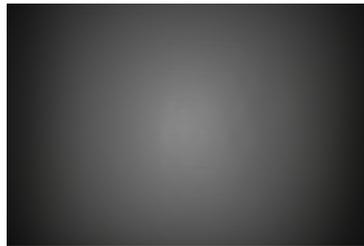
#### PHOTOMETRIC DATA (MEASURED):



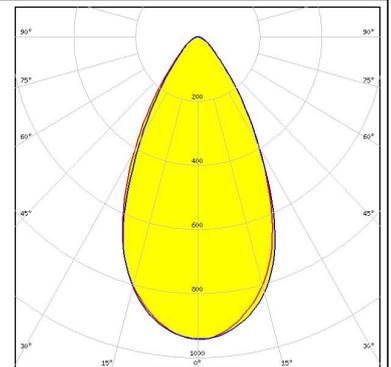
LED NVSxx19B/NVSxx19C  
 FWHM 51.0°  
 Efficiency 85 %  
 Peak intensity 0.960 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



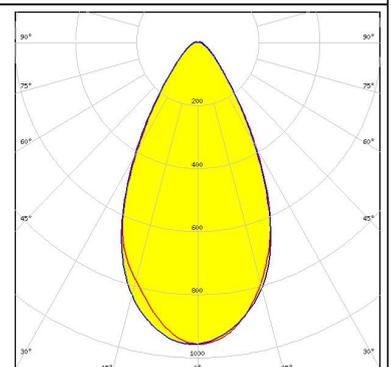
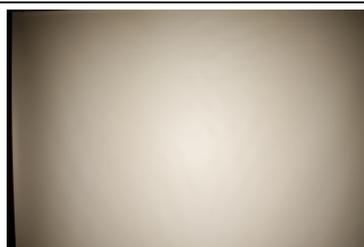
LED NWSx229A  
 FWHM 57.0°  
 Efficiency 86 %  
 Peak intensity 0.860 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



LED OLP-5065F6L-06A  
 FWHM 56.0°  
 Efficiency 88 %  
 Peak intensity 0.940 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



LED Duris S8  
 FWHM 55.0°  
 Efficiency 93 %  
 Peak intensity 0.960 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

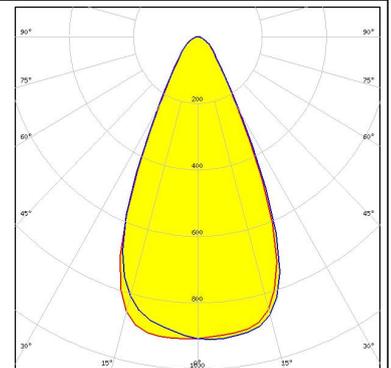


#### PHOTOMETRIC DATA (MEASURED):

#### OSRAM

Opto Semiconductors

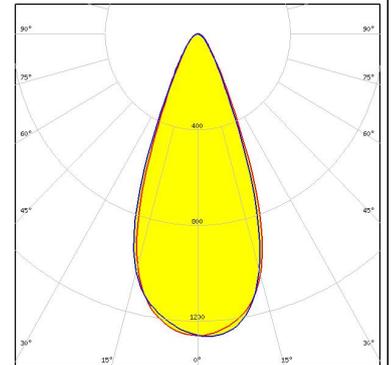
LED Oslon Square PC  
 FWHM 54.0°  
 Efficiency 87 %  
 Peak intensity 0.900 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OSRAM

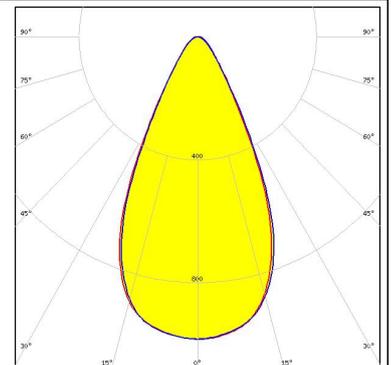
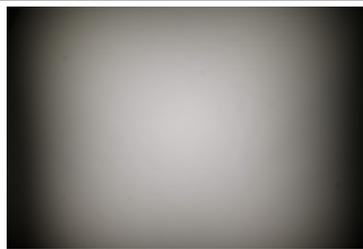
Opto Semiconductors

LED Oslon SSL 80  
 FWHM 43.0°  
 Efficiency 89 %  
 Peak intensity 1.260 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



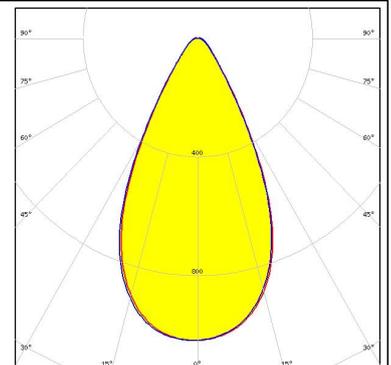
#### PHILIPS

LED Fortimo FastFlex LED 2x8 DA G4  
 FWHM 52.0°  
 Efficiency 94 %  
 Peak intensity 0.990 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### SAMSUNG

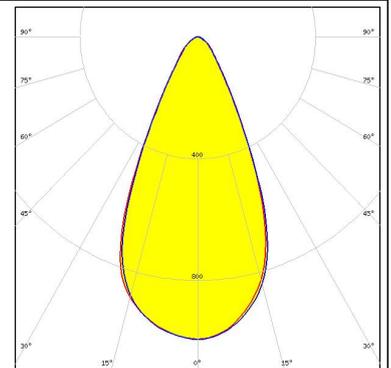
LED HiLOM RH16 (LH351C)  
 FWHM 53.0°  
 Efficiency 94 %  
 Peak intensity 1.000 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



**PHOTOMETRIC DATA (MEASURED):**

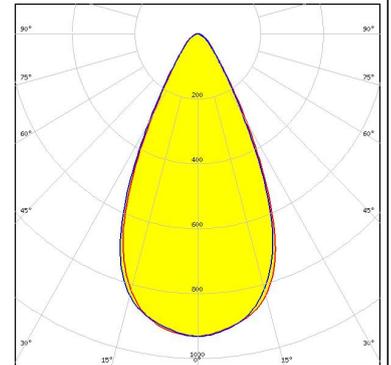
**SAMSUNG**

LED LH351A  
FWHM 49.0°  
Efficiency 89 %  
Peak intensity 1.000 cd/lm  
LEDs/each optic 1  
Light colour White  
Required components:



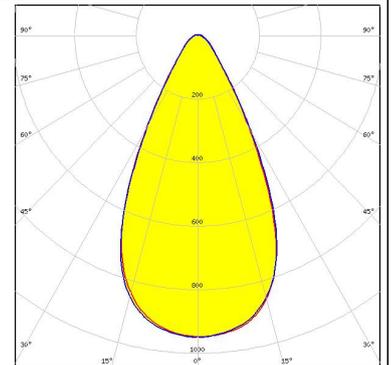
**SAMSUNG**

LED LH351B  
FWHM 55.0°  
Efficiency 86 %  
Peak intensity 0.930 cd/lm  
LEDs/each optic 1  
Light colour White  
Required components:



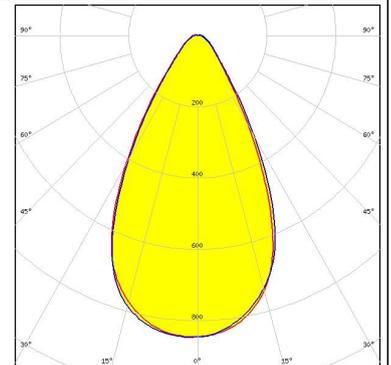
**SAMSUNG**

LED LH351C  
FWHM 53.0°  
Efficiency 93 %  
Peak intensity 1.000 cd/lm  
LEDs/each optic 1  
Light colour White  
Required components:



**SAMSUNG**

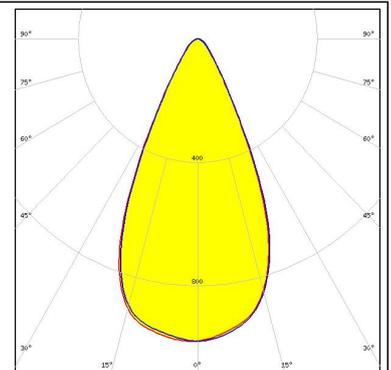
LED LH351D  
FWHM 56.0°  
Efficiency 91 %  
Peak intensity 0.850 cd/lm  
LEDs/each optic 1  
Light colour White  
Required components:



#### PHOTOMETRIC DATA (MEASURED):

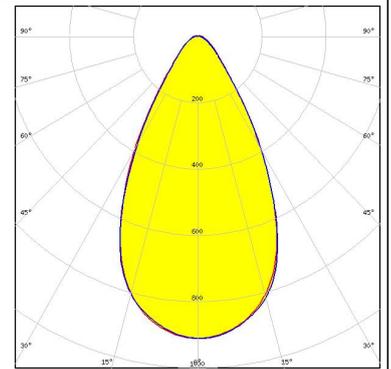
#### SAMSUNG

LED LH351Z  
 FWHM 50.0°  
 Efficiency 87 %  
 Peak intensity 1.000 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



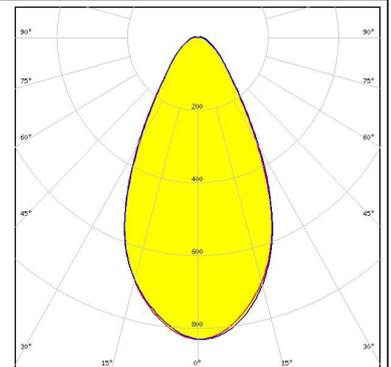
#### SAMSUNG

LED LH508A  
 FWHM 56.0°  
 Efficiency 93 %  
 Peak intensity 0.900 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



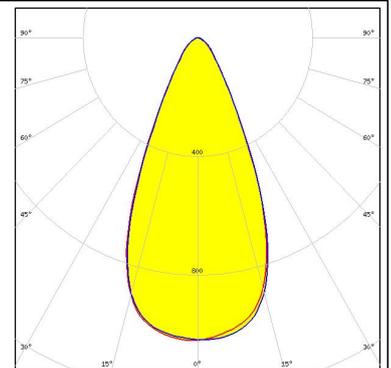
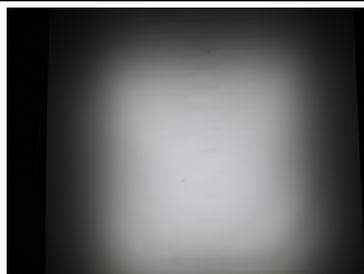
SEOUL SEMICONDUCTOR

LED 2x2 Y22 module - SMJQ-D48W16AA-XX  
 FWHM 54.0°  
 Efficiency 92 %  
 Peak intensity 0.830 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

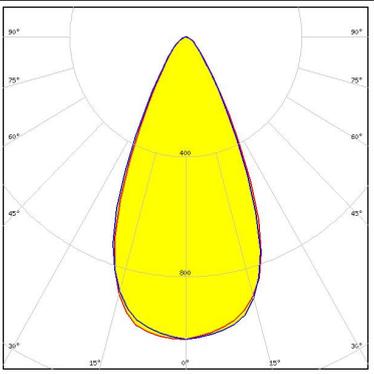
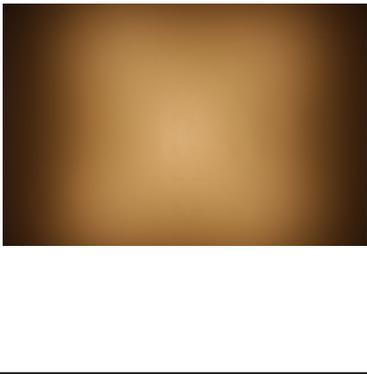
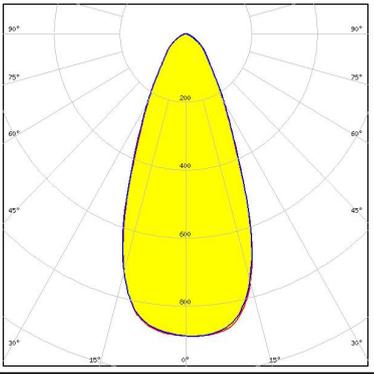
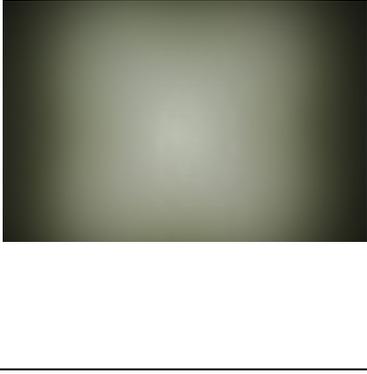
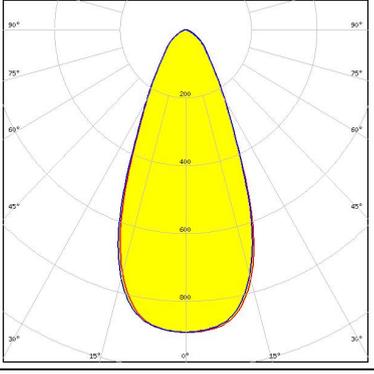
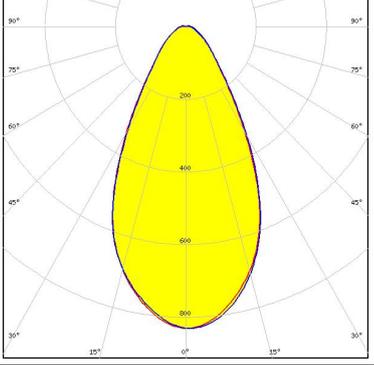


SEOUL SEMICONDUCTOR

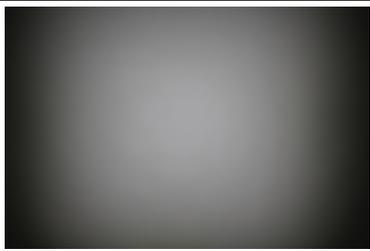
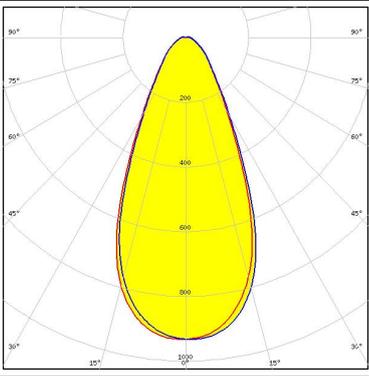
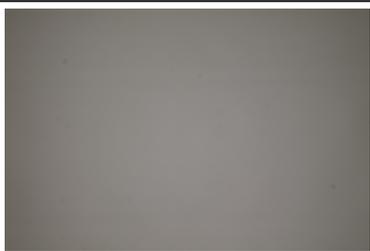
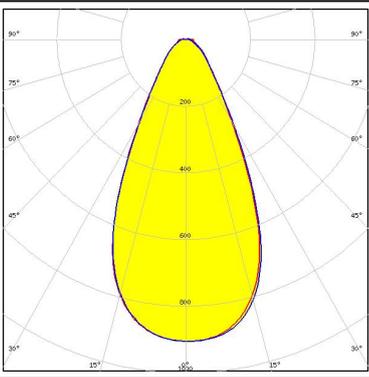
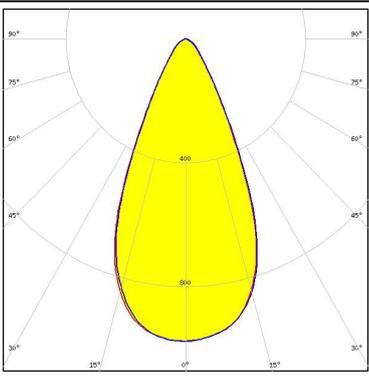
LED Z5  
 FWHM 48.0°  
 Efficiency 88 %  
 Peak intensity 1.000 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### PHOTOMETRIC DATA (MEASURED):

<p> SEUL SEUL SEMICONDUCTOR</p> <p>LED Z5M1/Z5M2 FWHM 51.0° Efficiency 85 % Peak intensity 1.000 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p> SEUL SEUL SEMICONDUCTOR</p> <p>LED Z8Y15 FWHM 45.0° Efficiency 79 % Peak intensity 0.900 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p> SEUL SEUL SEMICONDUCTOR</p> <p>LED Z8Y19 FWHM 46.0° Efficiency 79 % Peak intensity 0.900 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p> SEUL SEUL SEMICONDUCTOR</p> <p>LED Z8Y19 FWHM 54.0° Efficiency 92 % Peak intensity 0.830 cd/lm LEDs/each optic 4 Light colour White Required components:</p>		

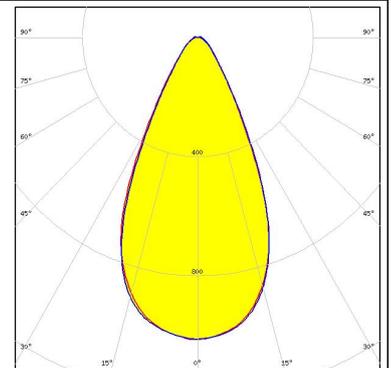
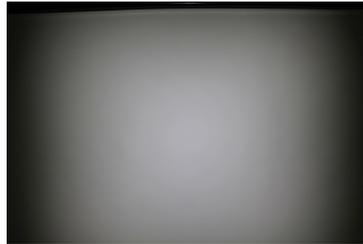
## PHOTOMETRIC DATA (MEASURED):

<p><b>SEOL</b> SEOUL SEMICONDUCTOR</p> <p>LED Z8Y22 FWHM 48.0° Efficiency 92 % Peak intensity 0.930 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p><b>SEOL</b> SEOUL SEMICONDUCTOR</p> <p>LED Z8Y22P FWHM 51.0° Efficiency 92 % Peak intensity 0.910 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p><b>TOSHIBA</b> Leading Innovation &gt;&gt;&gt;</p> <p>LED TL1L4 FWHM 48.0° Efficiency 81 % Peak intensity 0.980 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p><b>TRIDONIC</b></p> <p>LED RLE 2x4 2000lm HP EXC2 OTD FWHM 51.0° Efficiency 94 % Peak intensity 1.000 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		

**PHOTOMETRIC DATA (MEASURED):**

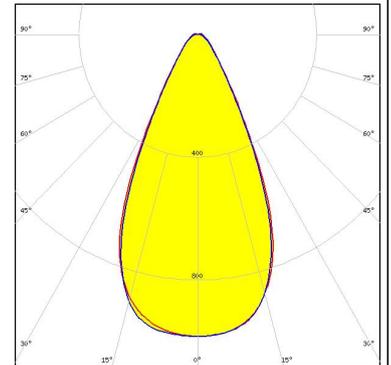
**TRIDONIC**

LED RLE 2x8 4000lm HP EXC2 OTD  
 FWHM 51.0°  
 Efficiency 94 %  
 Peak intensity 1.000 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



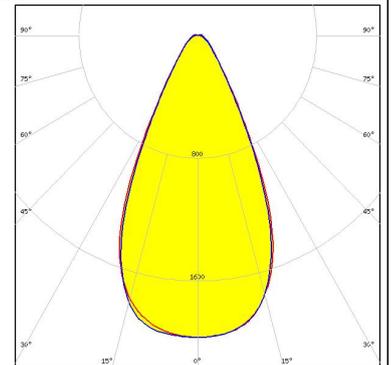
**TRIDONIC**

LED RLE G1 49x121mm 2000lm xxx EXC OTD  
 FWHM 52.0°  
 Efficiency 94 %  
 Peak intensity 0.980 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



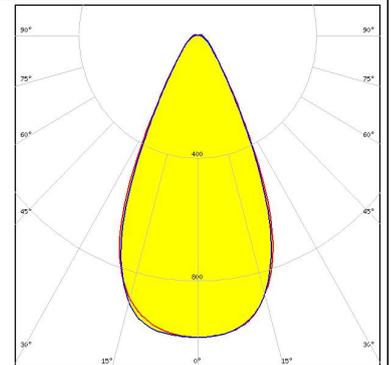
**TRIDONIC**

LED RLE G1 49x133mm 2000lm xxx EXC OTD  
 FWHM 52.0°  
 Efficiency 94 %  
 Peak intensity 0.980 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



**TRIDONIC**

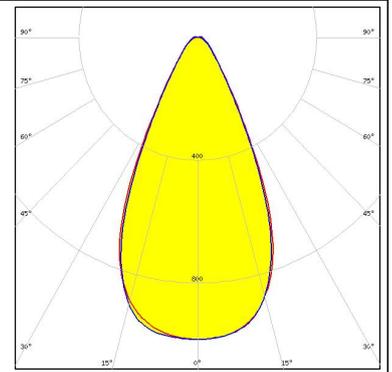
LED RLE G1 49x223mm 4000lm xxx EXC OTD  
 FWHM 52.0°  
 Efficiency 94 %  
 Peak intensity 0.980 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



## PHOTOMETRIC DATA (MEASURED):

### TRIDONIC

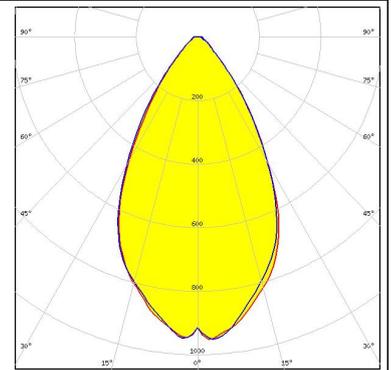
LED RLE G1 49x245mm 4000lm xxx EXC OTD  
FWHM 52.0°  
Efficiency 94 %  
Peak intensity 0.980 cd/lm  
LEDs/each optic 1  
Light colour White  
Required components:



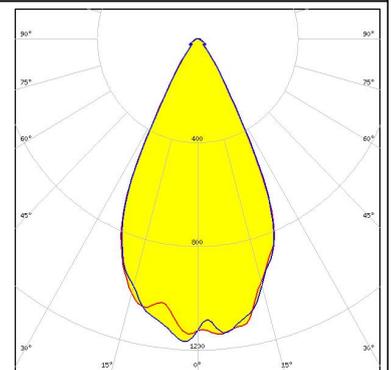
#### PHOTOMETRIC DATA (SIMULATED):



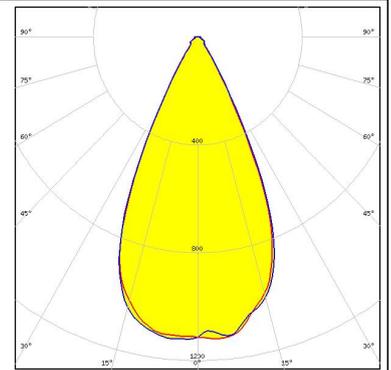
LED MHB-A/B  
 FWHM 58.0°  
 Efficiency 94 %  
 Peak intensity 0.960 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



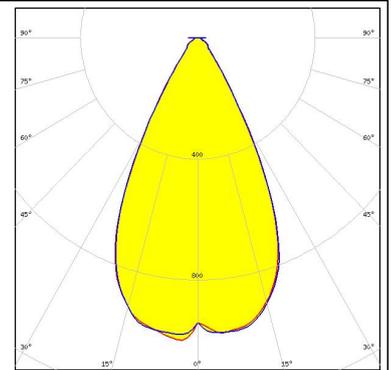
LED XHP35 HI  
 FWHM 52.0°  
 Efficiency 93 %  
 Peak intensity 1.200 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



LED XP-E  
 FWHM 50.0°  
 Efficiency 94 %  
 Peak intensity 1.200 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



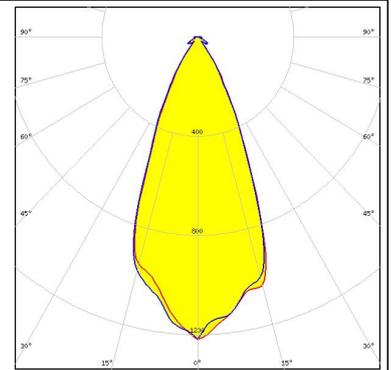
LED XP-G3  
 FWHM 54.0°  
 Efficiency 94 %  
 Peak intensity 1.000 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



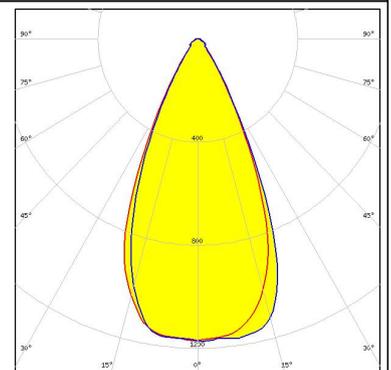
#### PHOTOMETRIC DATA (SIMULATED):



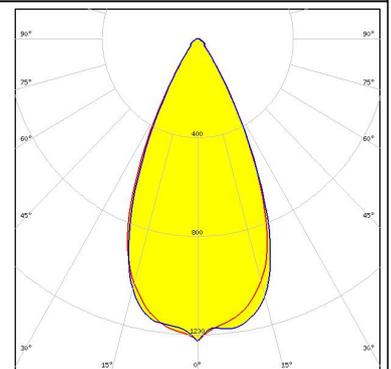
**LED** XQ-E HI  
**FWHM** 42.0°  
**Efficiency** 93 %  
**Peak intensity** 1.370 cd/lm  
**LEDs/each optic** 1  
**Light colour** White  
**Required components:**



**LED** LUXEON 3030 2D (Round LES)  
**FWHM** 49.0°  
**Efficiency** 94 %  
**Peak intensity** 1.200 cd/lm  
**LEDs/each optic** 1  
**Light colour** White  
**Required components:**



**LED** LUXEON 3535L  
**FWHM** 49.0°  
**Efficiency** 94 %  
**Peak intensity** 1.200 cd/lm  
**LEDs/each optic** 1  
**Light colour** White  
**Required components:**

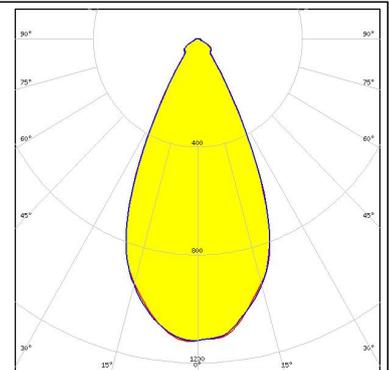


**LED** LUXEON A  
**FWHM** 52.0°  
**Efficiency** %  
**Peak intensity** cd/lm  
**LEDs/each optic** 1  
**Light colour** White  
**Required components:**

#### PHOTOMETRIC DATA (SIMULATED):

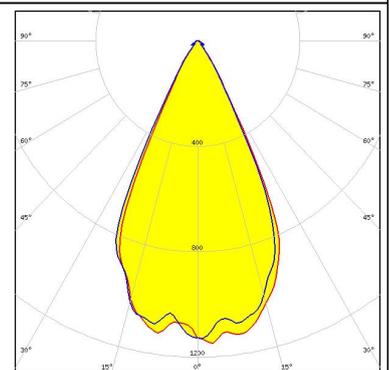
##### LUMILEDS

LED LUXEON C  
FWHM 50.0°  
Efficiency 94 %  
Peak intensity 1.100 cd/lm  
LEDs/each optic 1  
Light colour White  
Required components:



##### LUMILEDS

LED LUXEON H50-2  
FWHM 52.0°  
Efficiency 91 %  
Peak intensity 4.700 cd/lm  
LEDs/each optic 1  
Light colour White  
Required components:



##### LUMILEDS

LED LUXEON Rebel  
FWHM 52.0°  
Efficiency %  
Peak intensity cd/lm  
LEDs/each optic 1  
Light colour White  
Required components:

##### NICHIA

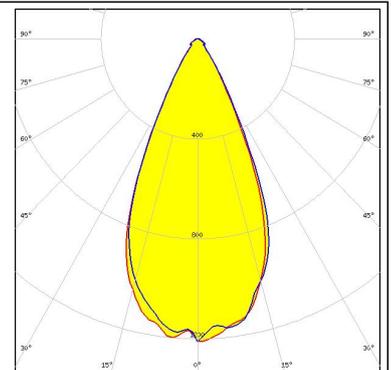
LED NVSxx19A  
FWHM 50.0°  
Efficiency %  
Peak intensity cd/lm  
LEDs/each optic 1  
Light colour White  
Required components:

#### PHOTOMETRIC DATA (SIMULATED):

#### OSRAM

Opto Semiconductors

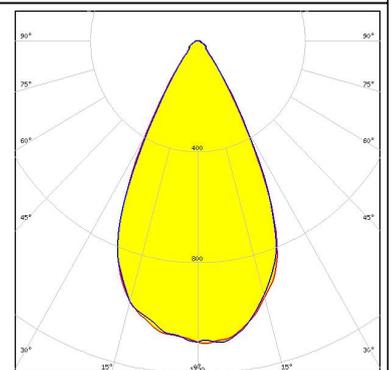
LED OSCONIQ P 3737 (2W version)  
 FWHM 48.0°  
 Efficiency 93 %  
 Peak intensity 1.200 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OSRAM

Opto Semiconductors

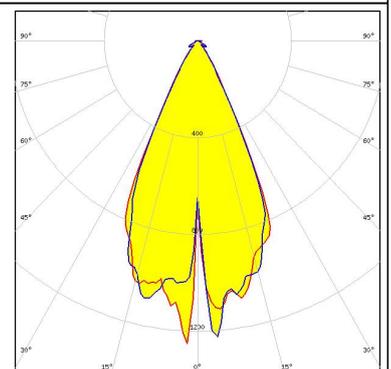
LED OSCONIQ P 3737 (3W version)  
 FWHM 54.0°  
 Efficiency 94 %  
 Peak intensity 1.100 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### OSRAM

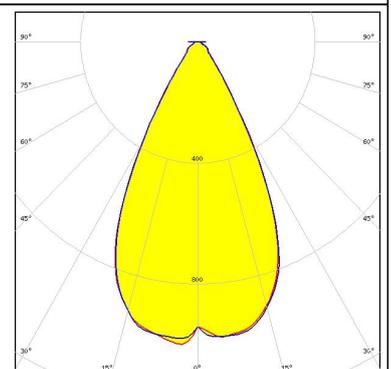
Opto Semiconductors

LED Oslon Square Gen3  
 FWHM 50.0°  
 Efficiency 93 %  
 Peak intensity 1.300 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

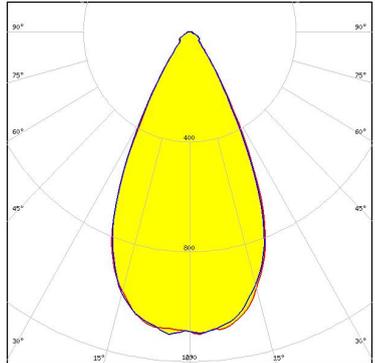
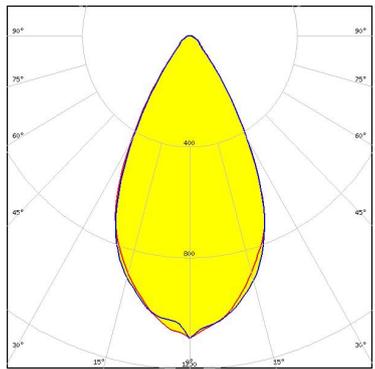
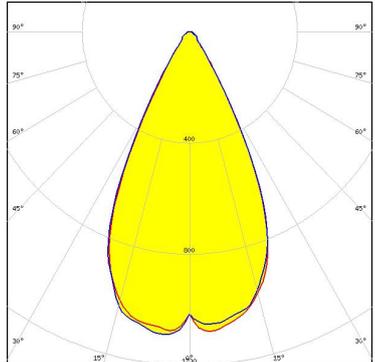


#### PHILIPS

LED Fortimo FastFlex LED 2x8 DAX G4  
 FWHM 54.0°  
 Efficiency 94 %  
 Peak intensity 1.000 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



**PHOTOMETRIC DATA (SIMULATED):**

<p> <b>SEOUL SEMICONDUCTOR</b></p> <p>LED                      Acrich MJT 4040  FWHM                    52.0°  Efficiency                94 %  Peak intensity          1.100 cd/lm  LEDs/each optic      1  Light colour            White  Required components:</p>	
<p> <b>SEOUL SEMICONDUCTOR</b></p> <p>LED                      SEOUL DC 5050 6V  FWHM                    54.0°  Efficiency                94 %  Peak intensity          1.100 cd/lm  LEDs/each optic      1  Light colour            White  Required components:</p>	
<p> <b>SEOUL SEMICONDUCTOR</b></p> <p>LED                      Z5M1/Z5M2  FWHM                    52.0°  Efficiency                94 %  Peak intensity          1.100 cd/lm  LEDs/each optic      1  Light colour            White  Required components:</p>	

### GENERAL INFORMATION:

NOTE: The typical beam angle will be changed by different color, chip size and chip position tolerance. The typical total beam angle is the full angle measured where the luminous intensity is half of the peak value.

### MATERIALS:

As part of our continuous research and improvement processes, and to ensure the best possible quality and availability of our products, LEDiL reserves the right to change material grades without notice.

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The measured data in the provided downloadable LEDiL Product Datasheets and Mechanical 2D-Drawings is rounded and provided as reference for planning. LEDiL Oy's optical specifications have been verified by conducting performance testing of the products in accordance with the company's quality system. The reported data are averaged results of multiple measurements with typical variation. LEDiL Oy reserves the right to without prior notification make changes and improvements to its products.

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