

## HB-IP-2X6-W

~60° wide beam

### TECHNICAL SPECIFICATIONS:

Dimensions	173.0 x 71.4 mm
Height	11.4 mm
Fastening	pin, screw
Ingress protection classes	IP67
ROHS compliant	yes ⓘ

### MATERIAL SPECIFICATIONS:

Component	Type	Material	Colour	Finish
HB-IP-2X6-W	Multi-lens	PMMA	clear	
2X6-SEAL25	Seal	Silicone	white	


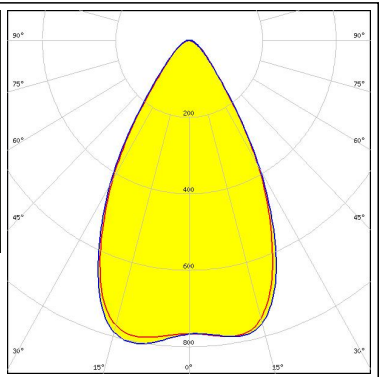

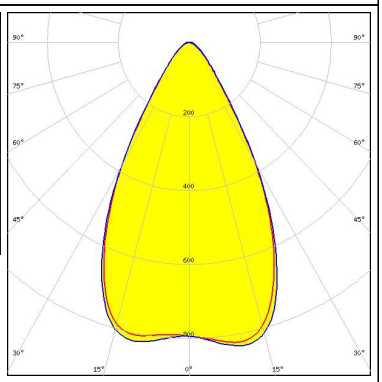

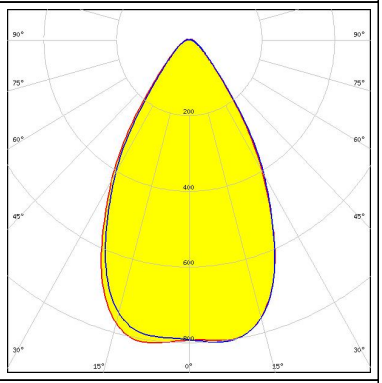

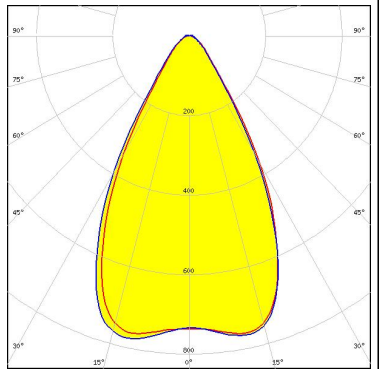
### ORDERING INFORMATION:

Component		Qty in box	MOQ	MPQ	Box weight (kg)
CS14130_HB-IP-2X6-W	Multi-lens	120	40	40	8.4
» Box size: 476 x 273 x 247 mm					





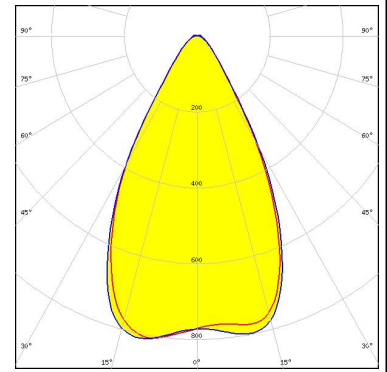
#### PHOTOMETRIC DATA (MEASURED):

<p><b>COMET ELECTRONICS</b></p> <p>LED QUICK FLUX 2x6 LED XG xxx G7+</p> <p>FWHM / FWTM 60.0° / 93.0°</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><b>COMET ELECTRONICS</b></p> <p>LED QUICK FLUX 2x6 LED XT xxx G5</p> <p>FWHM / FWTM 58.0° / 89.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 0.9 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p><b>CREE LED</b></p> <p>LED XM-L2</p> <p>FWHM / FWTM 61.0° / 93.0°</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><b>CREE LED</b></p> <p>LED XP-G</p> <p>FWHM / FWTM 60.0° / 91.0°</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>		

#### PHOTOMETRIC DATA (MEASURED):

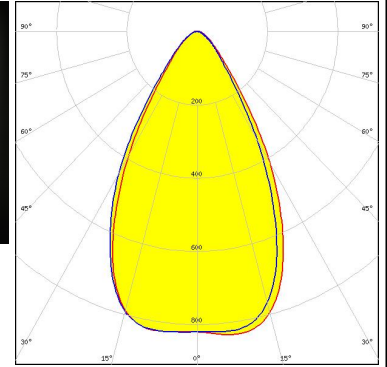
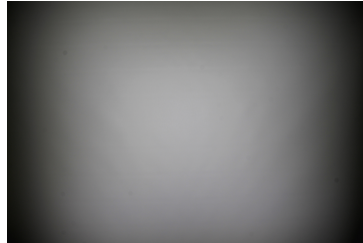
##### CREE → LED

LED XP-G2  
 FWHM / FWTM 58.0° / 87.0°  
 Efficiency 93 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



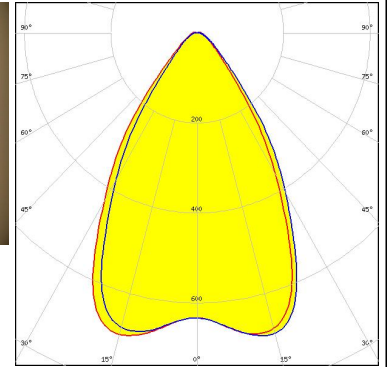
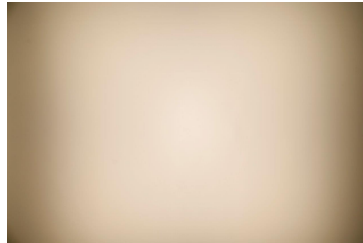
##### CREE → LED

LED XP-G3  
 FWHM / FWTM 59.0° / 94.0°  
 Efficiency 94 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



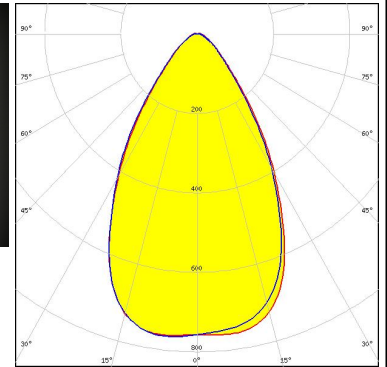
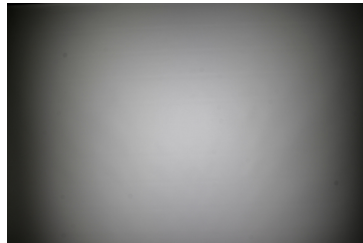
##### CREE → LED

LED XP-L HD  
 FWHM / FWTM 67.0° / 99.0°  
 Efficiency 94 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



##### CREE → LED

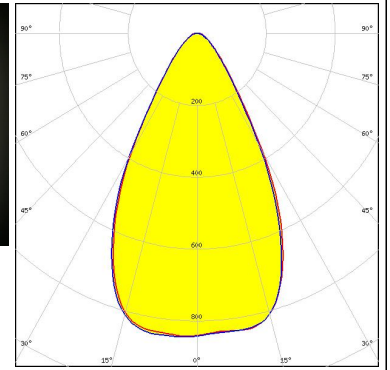
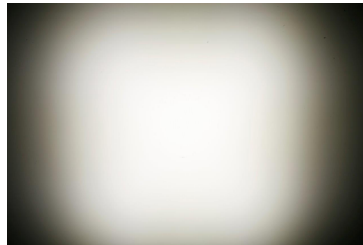
LED XP-L2  
 FWHM / FWTM 62.0° / 101.0°  
 Efficiency 94 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### PHOTOMETRIC DATA (MEASURED):

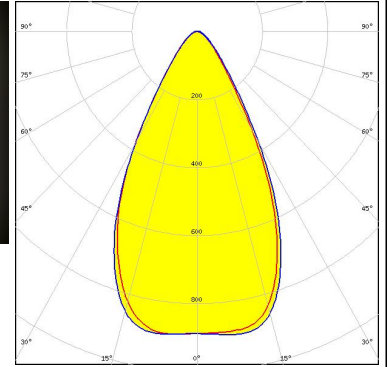
##### CREE LED

LED XT-E  
 FWHM / FWTM 58.0° / 93.0°  
 Efficiency 94 %  
 Peak intensity 0.9 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:



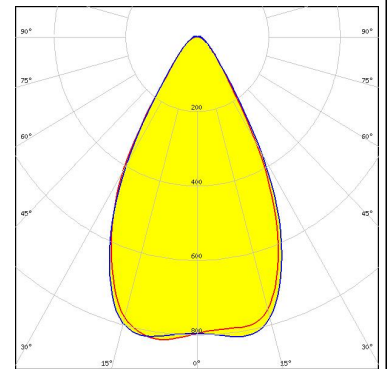
##### CREE LED

LED XT-E HE  
 FWHM / FWTM 56.0° / 89.0°  
 Efficiency 94 %  
 Peak intensity 0.9 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:



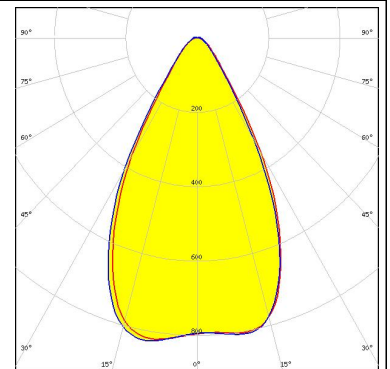
##### LUMILEDS

LED LUXEON R  
 FWHM / FWTM 58.0° / 89.0°  
 Efficiency 94 %  
 Peak intensity 0.9 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:



##### LUMILEDS

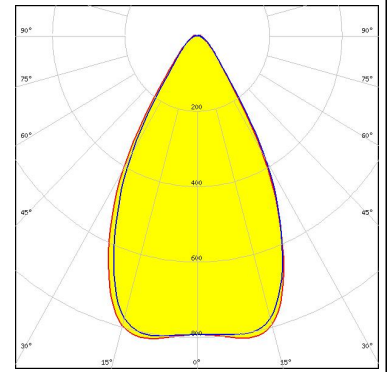
LED LUXEON Rebel ES  
 FWHM / FWTM 57.0° / 88.0°  
 Efficiency 94 %  
 Peak intensity 0.9 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### PHOTOMETRIC DATA (MEASURED):

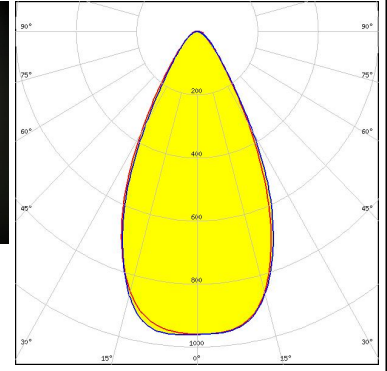
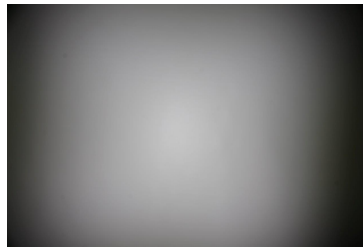
#### LUMILEDS

LED LUXEON T  
 FWHM / FWTM 60.0° / 89.0°  
 Efficiency 94 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



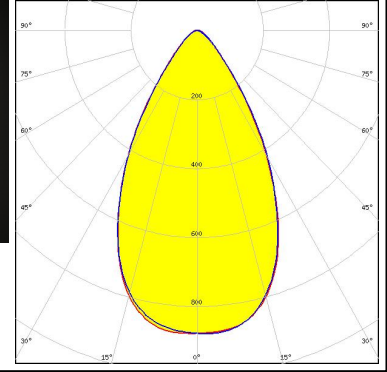
#### LUMILEDS

LED LUXEON TX  
 FWHM / FWTM 54.0° / 87.0°  
 Efficiency 94 %  
 Peak intensity 1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



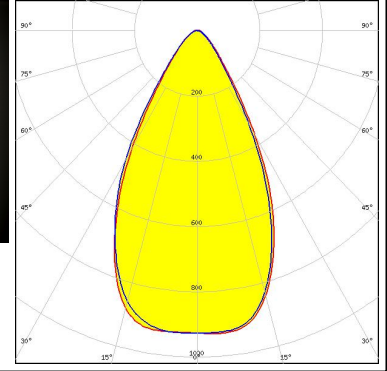
#### LUMILEDS

LED LUXEON V  
 FWHM / FWTM 59.0° / 93.0°  
 Efficiency 93 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### LUMILEDS

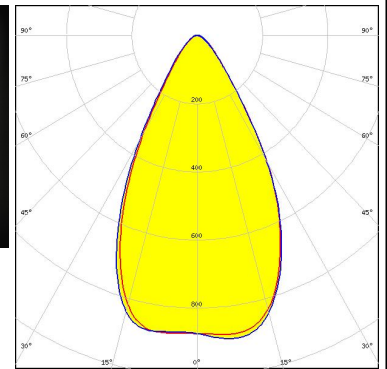
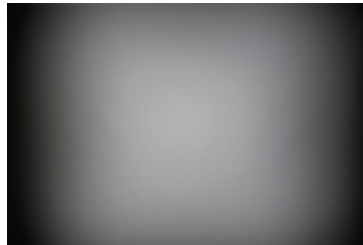
LED LUXEON V2  
 FWHM / FWTM 56.0° / 89.0°  
 Efficiency 94 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### PHOTOMETRIC DATA (MEASURED):

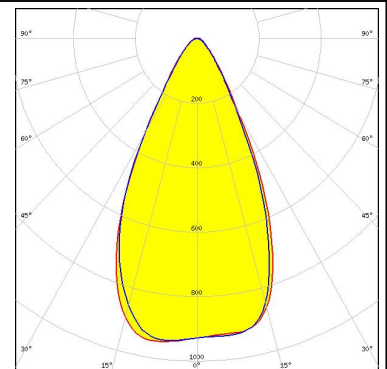
##### LUMILEDS

LED LUXEON XR-TX (L2T0-xyyy012M)  
 FWHM / FWTM 60.0° / 89.0°  
 Efficiency 94 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



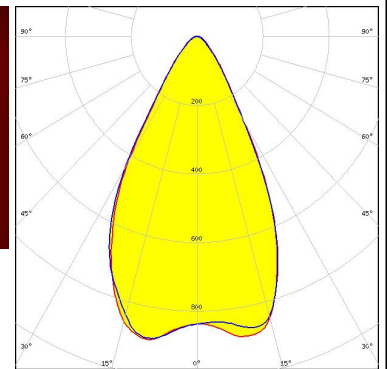
##### LUMILEDS

LED LUXEON Z ES  
 FWHM / FWTM 52.0° / 83.0°  
 Efficiency 94 %  
 Peak intensity 1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



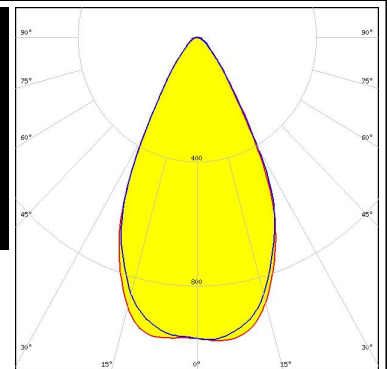
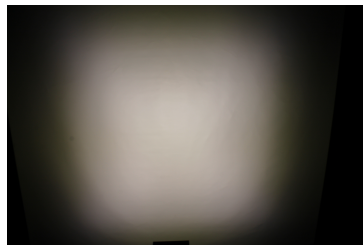
##### LUMINUS

LED SST-10-B130  
 FWHM / FWTM 56.0° / 87.0°  
 Efficiency 96 %  
 Peak intensity 1 cd/lm  
 LEDs/each optic 1  
 Light colour Deep Red  
 Required components:



##### *Your solutions*

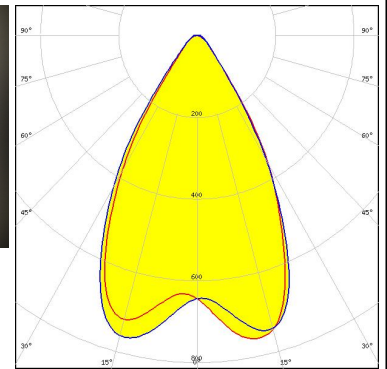
LED RecLED 146x45mm 2900lm 730 STRADA-IP-2x6 G1  
 FWHM / FWTM 55.0° / 85.0°  
 Efficiency 98 %  
 Peak intensity 1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



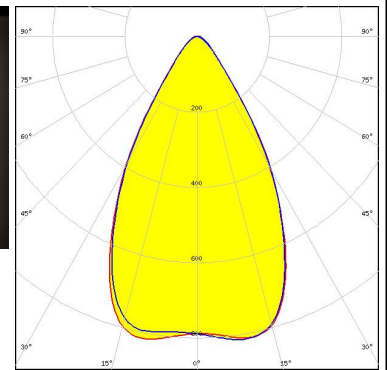
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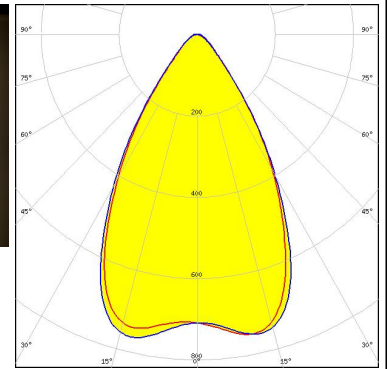
LED NVSW219D  
 FWHM / FWTM 64.0° / 89.0°  
 Efficiency 94 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



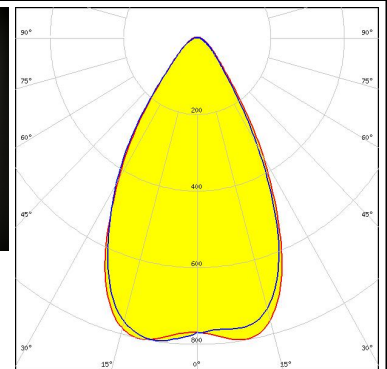
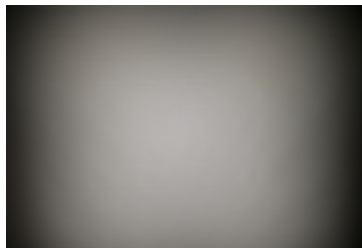
LED NVSW219F  
 FWHM / FWTM 60.0° / 90.0°  
 Efficiency 94 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



LED NVSW319B  
 FWHM / FWTM 64.0° / 94.0°  
 Efficiency 94 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



LED NVSW3x9A  
 FWHM / FWTM 60.0° / 93.0°  
 Efficiency 94 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

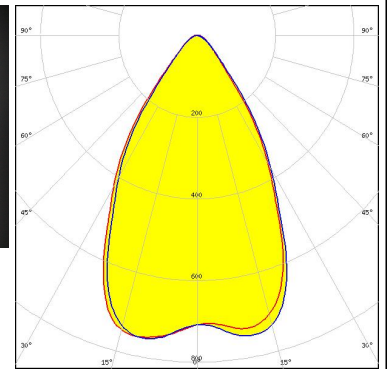
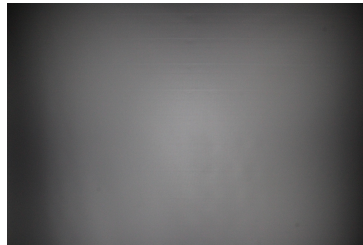




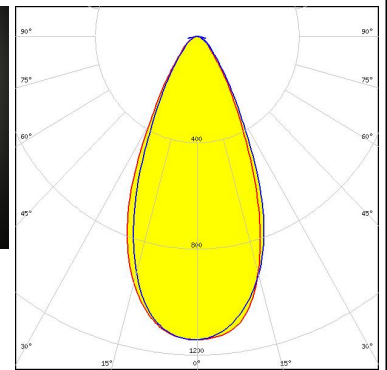
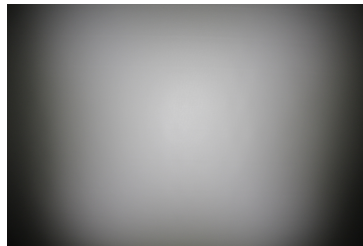
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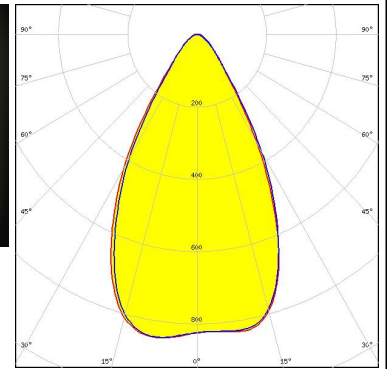
LED NVSW519A  
 FWHM / FWTM 61.0° / 92.0°  
 Efficiency 95 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



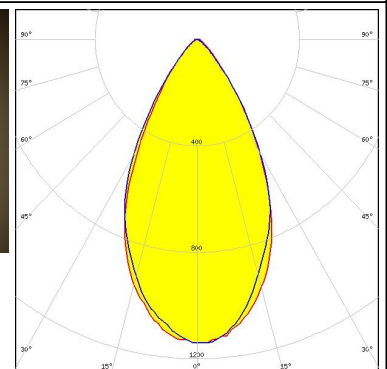
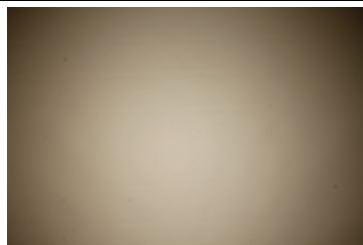
LED NVSxE21A  
 FWHM / FWTM 51.0° / 83.0°  
 Efficiency 94 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



LED NVSxx19B/NVSxx19C  
 FWHM / FWTM 58.0° / 89.0°  
 Efficiency 94 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



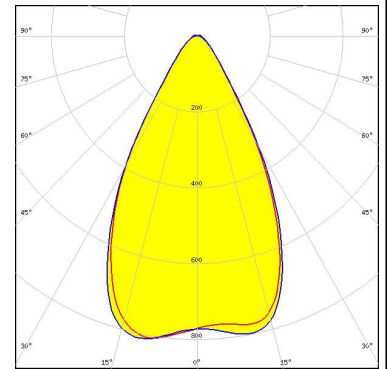
LED Duris S8  
 FWHM / FWTM 54.0° / 92.0°  
 Efficiency 94 %  
 Peak intensity 1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### PHOTOMETRIC DATA (MEASURED):

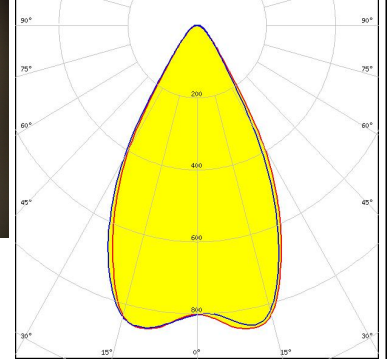
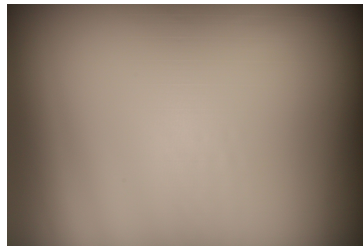
#### PHILIPS

LED Fortimo FastFlex LED 2x6 DP G4  
 FWHM / FWTM 58.0° / 87.0°  
 Efficiency 93 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



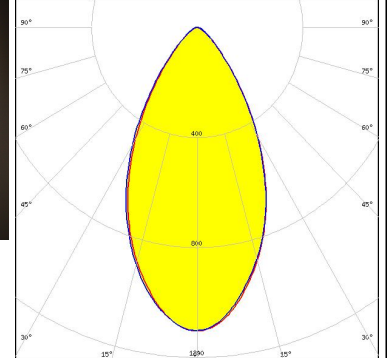
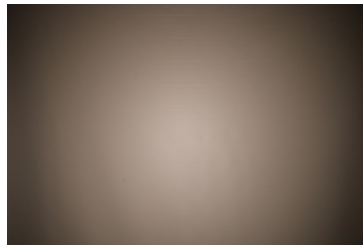
#### PHILIPS

LED Fortimo FastFlex LED 2x6 DP G5  
 FWHM / FWTM 58.0° / 85.0°  
 Efficiency 97 %  
 Peak intensity 1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



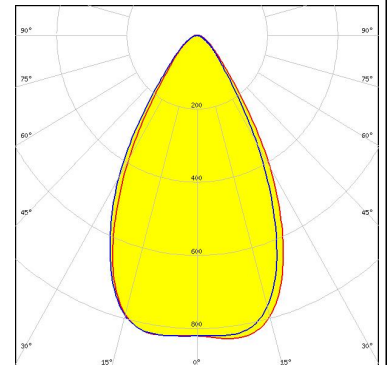
#### PHILIPS

LED Fortimo FastFlex LED 2x6 DP HE  
 FWHM / FWTM 55.0° / 93.0°  
 Efficiency 98 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### PHILIPS

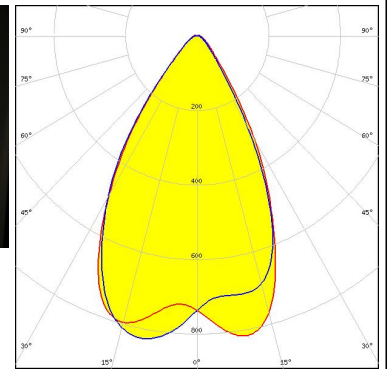
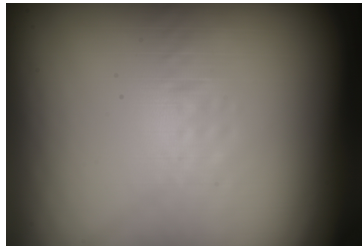
LED Fortimo FastFlex LED 2x6 DPX G4  
 FWHM / FWTM 59.0° / 94.0°  
 Efficiency 94 %  
 Peak intensity 0.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### PHOTOMETRIC DATA (MEASURED):

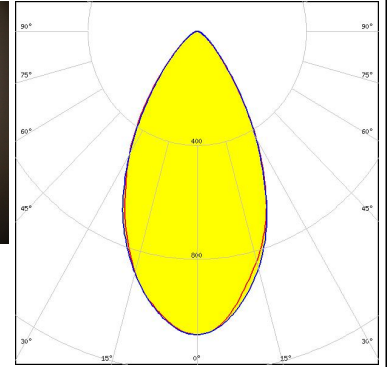
### SAMSUNG

LED HiLOM RH12 (LH351C)  
 FWHM / FWTM 61.0° / 89.0°  
 Efficiency 94 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



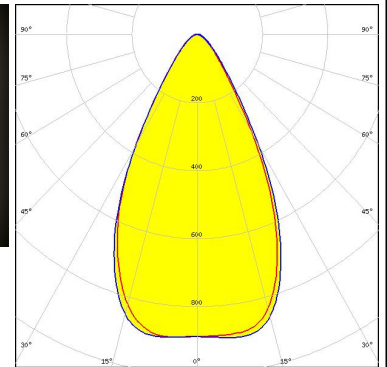
### SAMSUNG

LED HiLOM RM12 ZP (LH502C)  
 FWHM / FWTM 55.0° / 93.0°  
 Efficiency 97 %  
 Peak intensity 1.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



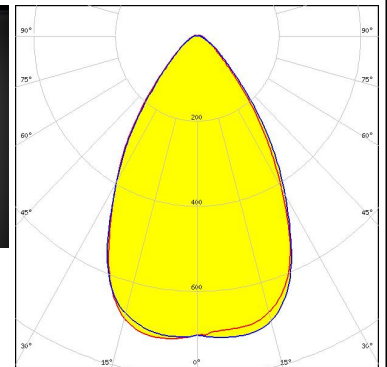
### SCIOLUX

LED XLE-S22C4XTEHE (XT-E HE)  
 FWHM / FWTM 56.0° / 89.0°  
 Efficiency 94 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

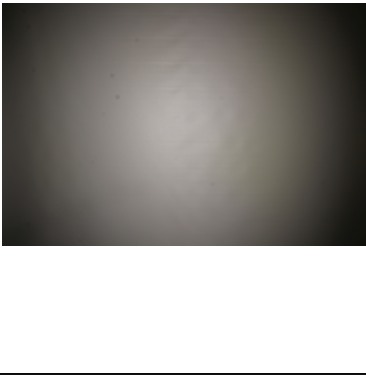
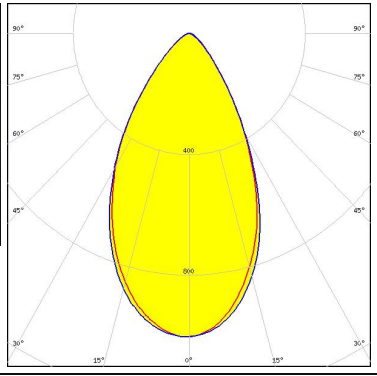

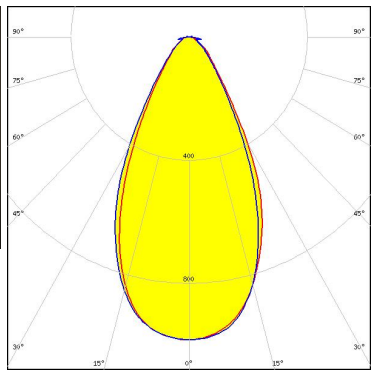

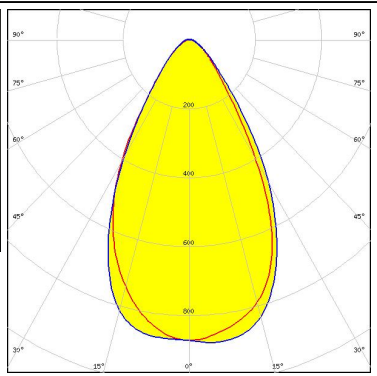

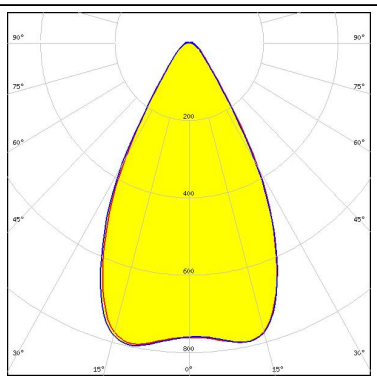


### SCIOLUX


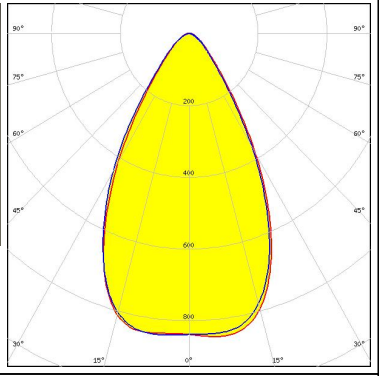

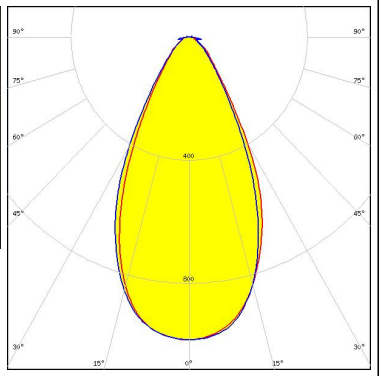

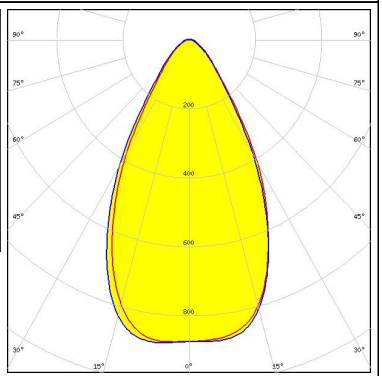
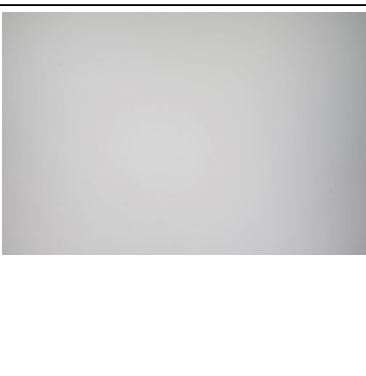
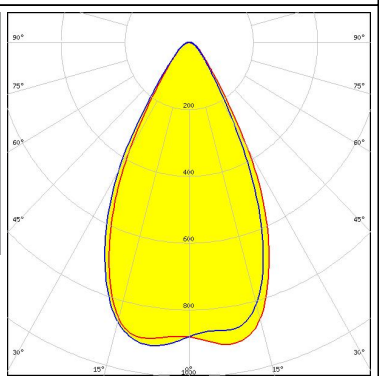
LED XLE-S26XHP35 (XHP35 HD)  
 FWHM / FWTM 65.0° / 102.0°  
 Efficiency 94 %  
 Peak intensity 0.7 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### PHOTOMETRIC DATA (MEASURED):

<p><b>SEOUL SEMICONDUCTOR</b></p> <p>LED 2x6 5050 module - SMJD-3625012F-XX</p> <p>FWHM / FWTM 57.0° / 95.0°</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><b>SEOUL SEMICONDUCTOR</b></p> <p>LED SMJQ-D36W12Mx</p> <p>FWHM / FWTM 53.0° / 91.0°</p> <p>Efficiency 93 %</p> <p>Peak intensity 1 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p><b>SEOUL SEMICONDUCTOR</b></p> <p>LED SMJQ-D36W12Px</p> <p>FWHM / FWTM 58.0° / 95.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 0.9 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p><b>SEOUL SEMICONDUCTOR</b></p> <p>LED Z5M1/Z5M2</p> <p>FWHM / FWTM 59.0° / 87.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 0.9 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		

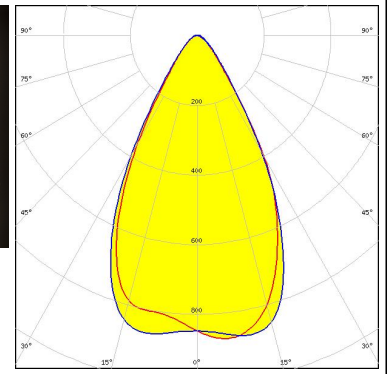
#### PHOTOMETRIC DATA (MEASURED):

<p><b>SEOUL SEMICONDUCTOR</b></p> <p>LED Z5M3</p> <p>FWHM / FWTM 59.0° / 93.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 0.9 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p><b>SEOUL SEMICONDUCTOR</b></p> <p>LED Z8Y22</p> <p>FWHM / FWTM 53.0° / 91.0°</p> <p>Efficiency 93 %</p> <p>Peak intensity 1 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p><b>SEOUL SEMICONDUCTOR</b></p> <p>LED Z8Y22P</p> <p>FWHM / FWTM 57.0° / 95.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 0.9 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p><b>TOSHIBA</b> Leading Innovation &gt;&gt;&gt;</p> <p>LED TL1L4</p> <p>FWHM / FWTM 56.0° / 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>		

#### PHOTOMETRIC DATA (MEASURED):

#### TRIDONIC

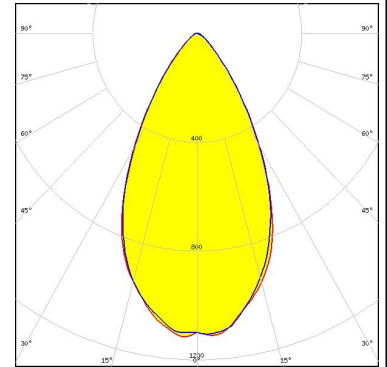
LED RLE 2x6 3000lm HP EXC2 OTD  
FWHM / FWTM 57.0° / 87.0°  
Efficiency 94 %  
Peak intensity 0.9 cd/lm  
LEDs/each optic 1  
Light colour White  
Required components:



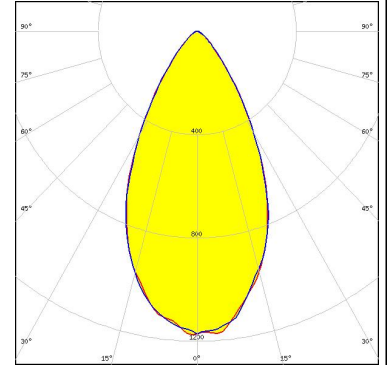
#### PHOTOMETRIC DATA (SIMULATED):



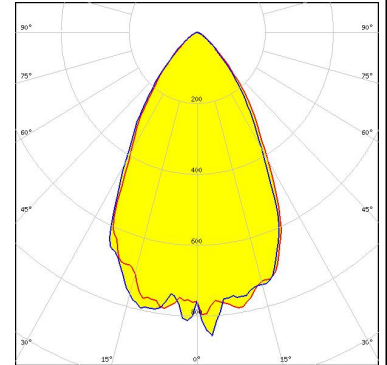
LED J Series 5050 Round LES  
 FWHM / FWTM 55.0° / 86.0°  
 Efficiency 94 %  
 Peak intensity 1.2 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



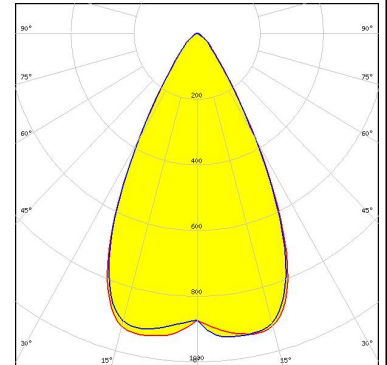
LED J Series 5050 Square LES  
 FWHM / FWTM 54.0° / 88.0°  
 Efficiency 97 %  
 Peak intensity 1.2 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:




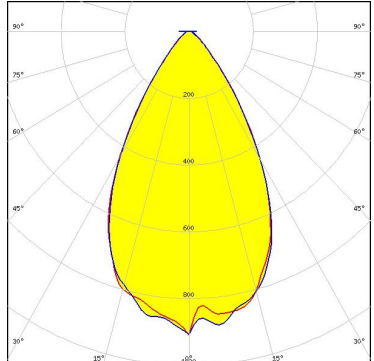

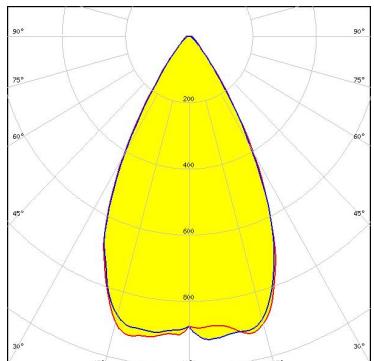

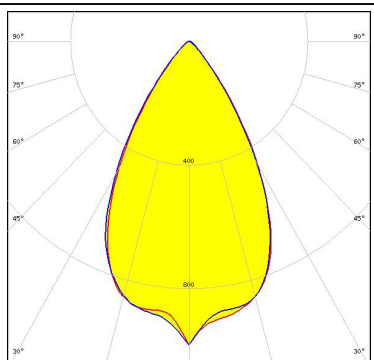

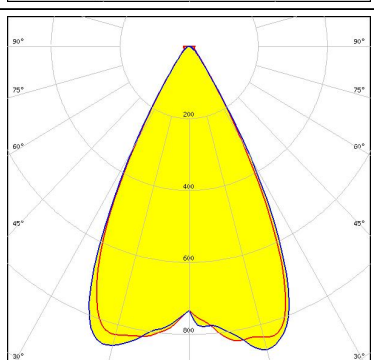
LED MHB-A/B  
 FWHM / FWTM 60.0° / 96.0°  
 Efficiency 91 %  
 Peak intensity 0.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



LED XB-D White  
 FWHM / FWTM 52.0° / 80.0°  
 Efficiency 90 %  
 Peak intensity 1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### PHOTOMETRIC DATA (SIMULATED):

	<p>LED XHP35 HD            FWHM / FWTM 60.0° / 92.0°            Efficiency 94 %            Peak intensity 0.9 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>	
	<p>LED XHP35 HI            FWHM / FWTM 57.0° / 82.0°            Efficiency 94 %            Peak intensity 1 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>	
	<p>LED XM-L            FWHM / FWTM 57.0° / 85.0°            Efficiency 93 %            Peak intensity 1 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>	
	<p>LED XP-E2            FWHM / FWTM 56.0° / 76.0°            Efficiency 94 %            LEDs/each optic 1            Light colour White            Required components:</p>	



#### PHOTOMETRIC DATA (SIMULATED):

<p><b>LUMILEDS</b></p> <p>LED LUXEON 5050 Round LES</p> <p>FWHM / FWTM 54.0° / 88.0°</p> <p>Efficiency 95 %</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><b>LUMILEDS</b></p> <p>LED LUXEON 5050 Square LES</p> <p>FWHM / FWTM 52.0° / 89.0°</p> <p>Efficiency 97 %</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><b>LUMILEDS</b></p> <p>LED LUXEON Rebel</p> <p>FWHM / FWTM 50.0° / 70.0°</p> <p>Efficiency 93 %</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><b>NICHIA</b></p> <p>LED NF2x757A</p> <p>FWHM / FWTM 50.0° / 76.0°</p> <p>Efficiency 93 %</p> <p>Peak intensity 1.1 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	

#### PHOTOMETRIC DATA (SIMULATED):

<p><b>NICHIA</b></p> <p>LED: NFMW48xA            FWHM / FWTM: 55.0° / 91.0°            Efficiency: 97 %            Peak intensity: 1.1 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>NICHIA</b></p> <p>LED: NV4WB35AM            FWHM / FWTM: 54.0° / 84.0°            Efficiency: 97 %            Peak intensity: 1.2 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>NICHIA</b></p> <p>LED: NVSxE21A            FWHM / FWTM: 52.0° / 90.0°            Efficiency: 95 %            Peak intensity: 1.2 cd/lm            LEDs/each optic: 4            Light colour: White            Required components:</p>	
<p><b>OSRAM</b></p> <p>LED: PrevaLED Brick HP IP 2x6            FWHM / FWTM: 56.0° / 80.0°            Efficiency: 96 %            Peak intensity: 1 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	

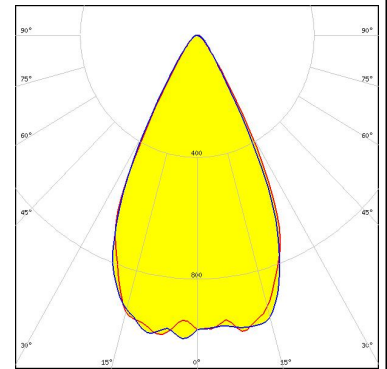
#### PHOTOMETRIC DATA (SIMULATED):

<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED                      OSCONIQ P 3030</p> <p>FWHM / FWTM        50.0° / 80.0°</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><b>OSRAM</b> Opto Semiconductors</p> <p>LED                      OSCONIQ P 3737 (2W version)</p> <p>FWHM / FWTM        57.0° / 79.0°</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><b>OSRAM</b> Opto Semiconductors</p> <p>LED                      OSCONIQ P 3737 (3W version)</p> <p>FWHM / FWTM        56.0° / 84.0°</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><b>OSRAM</b> Opto Semiconductors</p> <p>LED                      OSCONIQ P 3737 Flat</p> <p>FWHM / FWTM        52.0° / 80.0°</p> <p>Efficiency             97 %</p> <p>Peak intensity        1.2 cd/lm</p> <p>LEDs/each optic     1</p> <p>Light colour         White</p> <p>Required components:</p>	

#### PHOTOMETRIC DATA (SIMULATED):

**OSRAM**  
Opto Semiconductors

LED OSLON Square CSSRM2/CSSRM3  
 FWHM / FWTM 56.0° / 78.0°  
 Efficiency 94 %  
 LEDs/each optic 1  
 Light colour White  
 Required components:

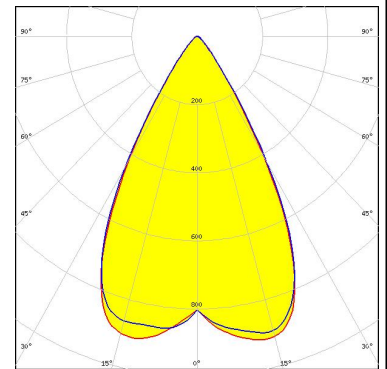


**OSRAM**  
Opto Semiconductors

LED OSLON Square EC  
 FWHM / FWTM 56.0° / 70.0°  
 Efficiency 93 %  
 LEDs/each optic 1  
 Light colour White  
 Required components:

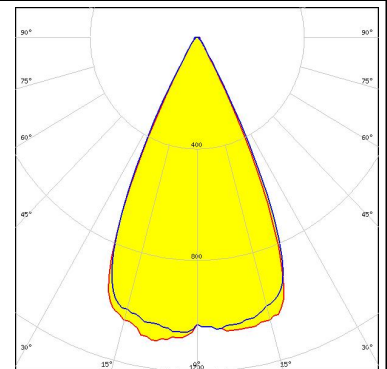
**OSRAM**  
Opto Semiconductors

LED OSLON Square PC  
 FWHM / FWTM 56.0° / 70.0°  
 Efficiency 93 %  
 Peak intensity 1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



**OSRAM**  
Opto Semiconductors

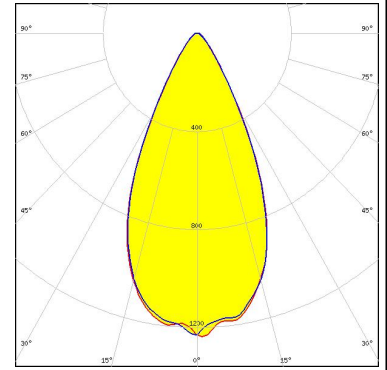
LED OSLON SSL 80  
 FWHM / FWTM 52.0° / 69.0°  
 Efficiency 94 %  
 Peak intensity 1.2 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



#### PHOTOMETRIC DATA (SIMULATED):

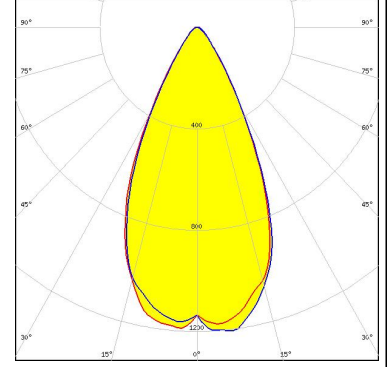
### SAMSUNG

LED LH181B  
FWHM / FWTM 50.0° / 78.0°  
Efficiency 96 %  
Peak intensity 1.2 cd/lm  
LEDs/each optic 1  
Light colour White  
Required components:



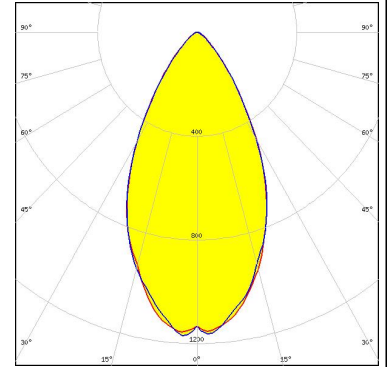
### SAMSUNG

LED LH181B  
FWHM / FWTM 54.0° / 80.0°  
Efficiency 94 %  
Peak intensity 1.2 cd/lm  
LEDs/each optic 1  
Light colour White  
Required components:



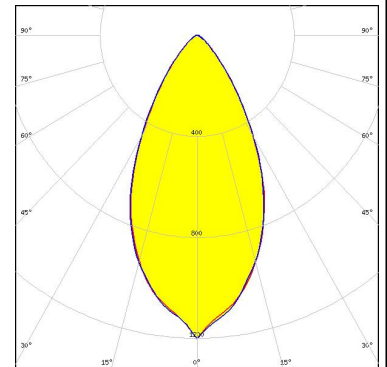
### SAMSUNG

LED LH502C  
FWHM / FWTM 54.0° / 90.0°  
Efficiency 97 %  
Peak intensity 1.2 cd/lm  
LEDs/each optic 1  
Light colour White  
Required components:



### SAMSUNG

LED LH508B  
FWHM / FWTM 52.0° / 89.0°  
Efficiency 94 %  
Peak intensity 1.2 cd/lm  
LEDs/each optic 1  
Light colour White  
Required components:



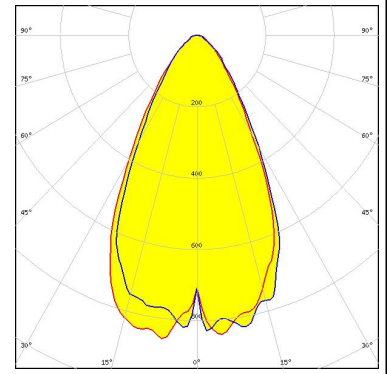
#### PHOTOMETRIC DATA (SIMULATED):

<p><b>SEOL</b> SEOUL SEMICONDUCTOR</p> <p>LED                      Acrich MJT 4040</p> <p>FWHM / FWTM        52.0° / 82.0°</p> <p>Efficiency             93 %</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><b>SEOL</b> SEOUL SEMICONDUCTOR</p> <p>LED                      Z5M</p> <p>FWHM / FWTM        50.0°</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><b>SEOL</b> SEOUL SEMICONDUCTOR</p> <p>LED                      Z8Y22T</p> <p>FWHM / FWTM        53.0° / 79.0°</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><b>TOSHIBA</b> Leading Innovation &gt;&gt;&gt;</p> <p>LED                      TL1L2</p> <p>FWHM / FWTM        55.0° / 79.0°</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>	

## PHOTOMETRIC DATA (SIMULATED):

**TOSHIBA**  
Leading Innovation >>>

LED	TL1L3
FWHM / FWTM	54.0°
Efficiency	89 %
LEDs/each optic	1
Light colour	White
Required components:	



#### 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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