

VERONICA-SQ-SE

~190° side emitter beam

SPECIFICATION:

Dimensions	22.5 x 22.5 mm
Height	11.4 mm
Fastening	tape
ROHS compliant	yes ⓘ

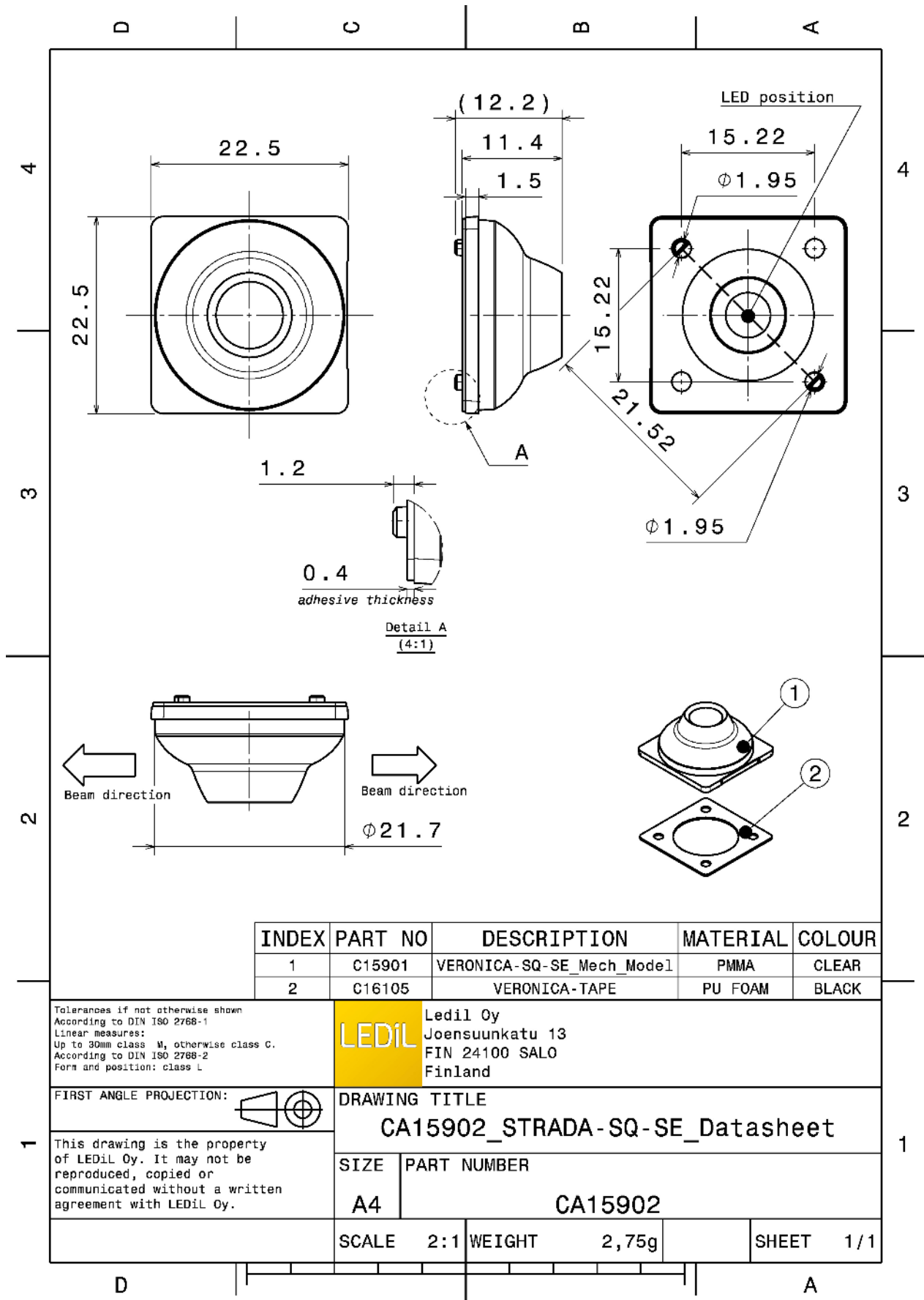
MATERIALS:

Component	Type	Material	Colour	Finish
VERONICA-SQ-SE	Single lens	PMMA	clear	
VERONICA-TAPE	Tape	Acrylic foam	clear	



ORDERING INFORMATION:

Component		Qty in box	MOQ	MPQ	Box weight (kg)
CA15902_VERONICA-SQ-SE	Single lens	3060	360	180	9.6
» Box size: 480 x 280 x 300 mm					



INDEX	PART NO	DESCRIPTION	MATERIAL	COLOUR
1	C15901	VERONICA-SQ-SE_Mech_Model	PMMA	CLEAR
2	C16105	VERONICA-TAPE	PU FOAM	BLACK

Tolerances if not otherwise shown
 According to DIN ISO 2768-1
 Linear measures:
 Up to 30mm class M, otherwise class C.
 According to DIN ISO 2768-2
 Form and position: class L

LEDiL Ledil Oy
 Joensuunkatu 13
 FIN 24100 SALO
 Finland

FIRST ANGLE PROJECTION:

DRAWING TITLE
CA15902_STRADA-SQ-SE_Datasheet

This drawing is the property of LEDiL Oy. It may not be reproduced, copied or communicated without a written agreement with LEDiL Oy.

SIZE	PART NUMBER
A4	CA15902

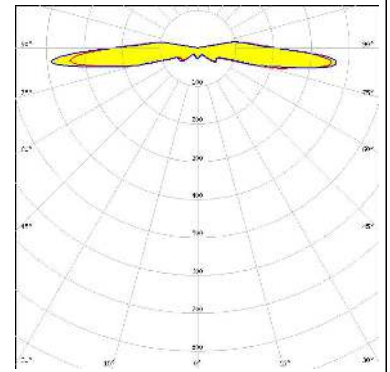
SCALE	2:1	WEIGHT	2,75g	SHEET	1/1
-------	-----	--------	-------	-------	-----

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

OPTICAL RESULTS (MEASURED):

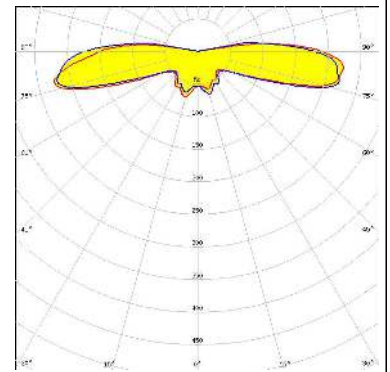
CREE LED

LED XHP35 HI
 FWHM / FWTM 183.0° / 201.0°
 Efficiency 88 %
 Peak intensity 0.4 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



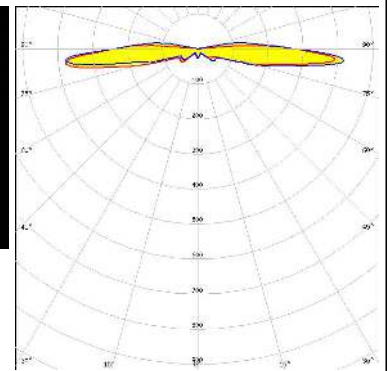
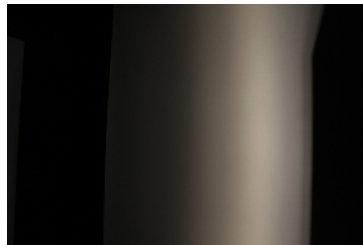
CREE LED

LED XHP70.2
 FWHM / FWTM 194.0° / 220.0°
 Efficiency 84 %
 Peak intensity 0.2 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



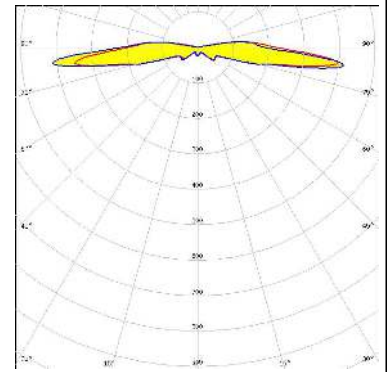
CREE LED

LED XP-G2
 FWHM / FWTM 184.0° / 196.0°
 Efficiency 87 %
 Peak intensity 0.4 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

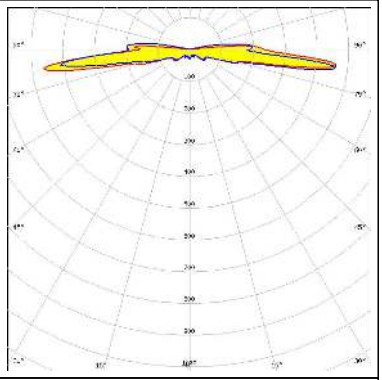
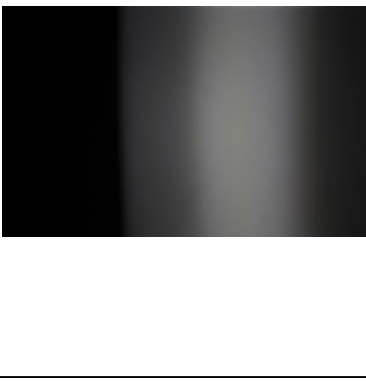
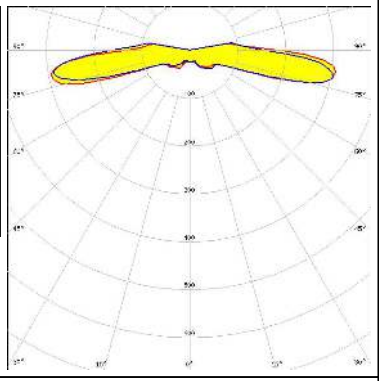
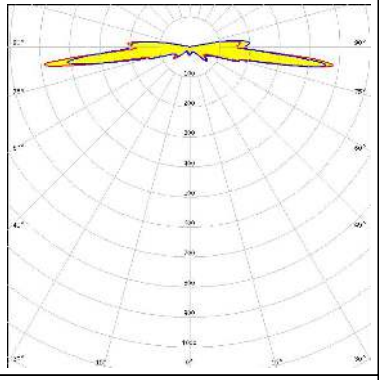

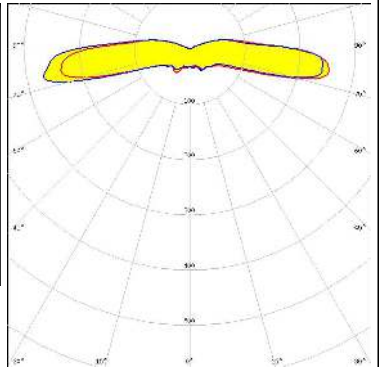


CREE LED

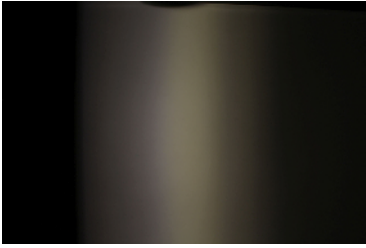
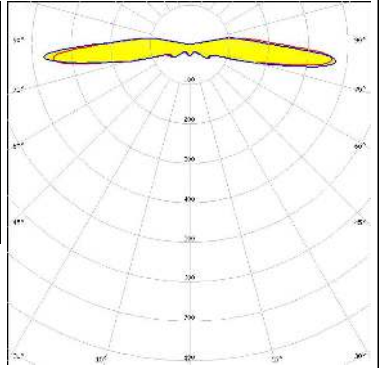

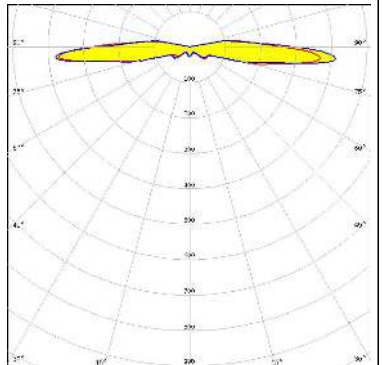
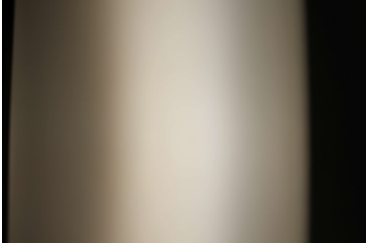
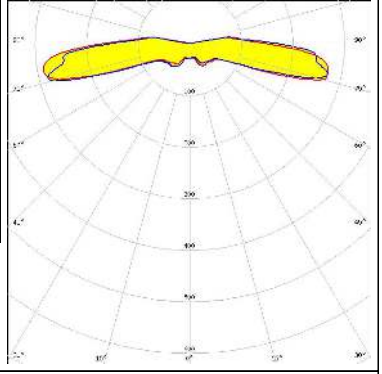

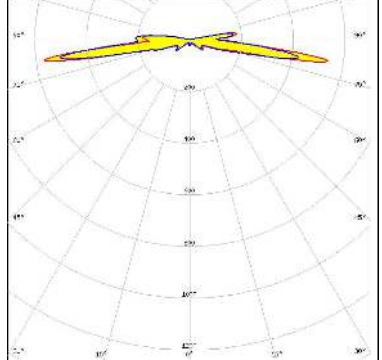
LED XP-L HI
 FWHM / FWTM 184.0° / 210.0°
 Efficiency 87 %
 Peak intensity 0.5 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



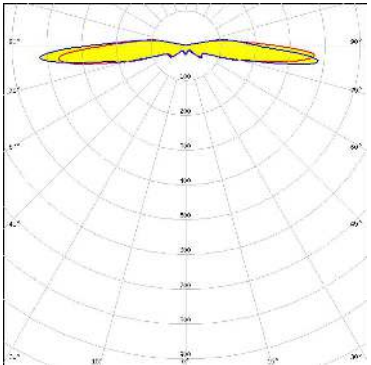
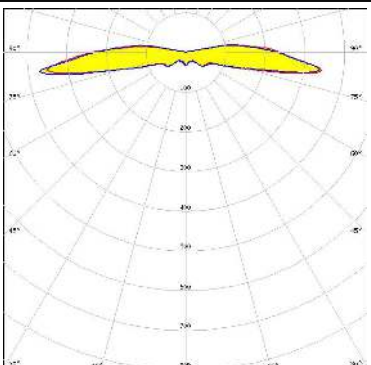
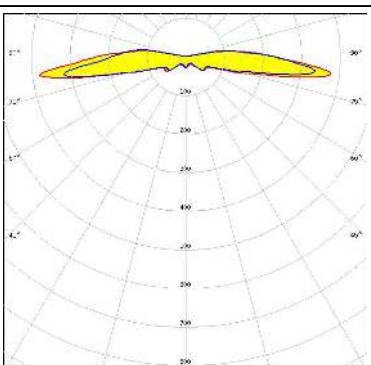
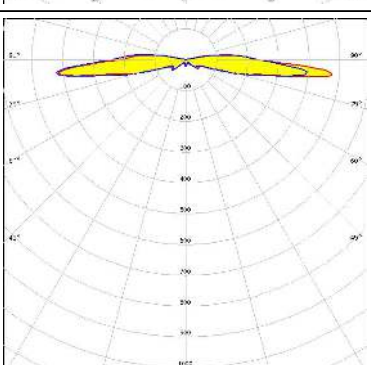
OPTICAL RESULTS (MEASURED):

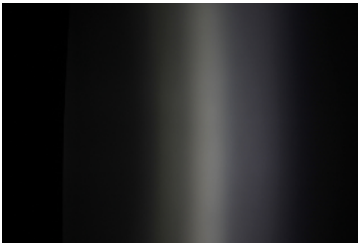
<p>CREE LED</p> <p>LED XQ-E HI FWHM / FWTM 176.0° / 195.0° Efficiency 87 % Peak intensity 0.5 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>LUMILEDS</p> <p>LED LUXEON 5050 Round LES FWHM / FWTM 180.0° / 200.0° Efficiency 87 % Peak intensity 0.3 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>LUMILEDS</p> <p>LED LUXEON CZ FWHM / FWTM 173.0° / 200.0° Efficiency 90 % Peak intensity 0.5 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		
<p>LUMILEDS</p> <p>LED LUXEON M/MX FWHM / FWTM 189.0° / 225.0° Efficiency 91 % Peak intensity 2.7 cd/lm LEDs/each optic 1 Light colour White Required components:</p>		

OPTICAL RESULTS (MEASURED):

<p>LUMILEDS</p> <p>LED LUXEON TX</p> <p>FWHM / FWTM 185.0° / 201.0°</p> <p>Efficiency 88 %</p> <p>Peak intensity 0.4 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p>NICHIA</p> <p>LED NVSW219F</p> <p>FWHM / FWTM 185.0° / 201.0°</p> <p>Efficiency 89 %</p> <p>Peak intensity 0.4 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 Duris S8</p> <p>FWHM / FWTM 182.0° / 201.0°</p> <p>Efficiency 87 %</p> <p>Peak intensity 0.3 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p>OSRAM Opto Semiconductors</p> <p>LED OSLOM Black Flat (LUW HWQP)</p> <p>FWHM / FWTM 170.0° / 210.0°</p> <p>Efficiency 89 %</p> <p>Peak intensity 0.6 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		

OPTICAL RESULTS (MEASURED):

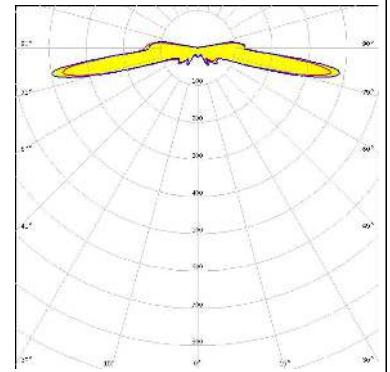
<p>OSRAM Opto Semiconductors</p> <p>LED OSLON Square CSSRM2/CSSRM3</p> <p>FWHM / FWTM 186.0° / 220.0°</p> <p>Efficiency 88 %</p> <p>Peak intensity 0.4 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<p>OSRAM Opto Semiconductors</p> <p>LED OSLON Square EC</p> <p>FWHM / FWTM 189.0° / 201.0°</p> <p>Efficiency 88 %</p> <p>Peak intensity 0.4 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 OSLON Square PC</p> <p>FWHM / FWTM 187.0° / 200.0°</p> <p>Efficiency 88 %</p> <p>Peak intensity 0.4 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 OSLON SSL 150</p> <p>FWHM / FWTM 182.0° / 200.0°</p> <p>Efficiency 89 %</p> <p>Peak intensity 0.5 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	



OPTICAL RESULTS (MEASURED):

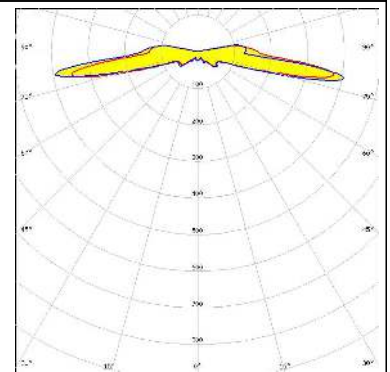
SAMSUNG

LED LH181A
 FWHM / FWTM 170.0° / 210.0°
 Efficiency 91 %
 Peak intensity 0.5 cd/m
 LEDs/each optic 1
 Light colour White
 Required components:

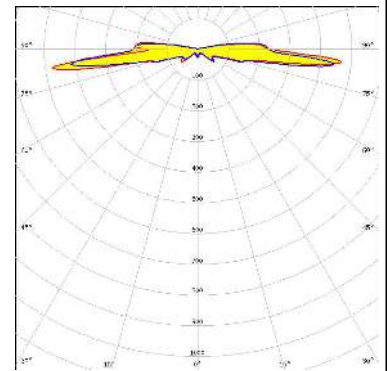


SAMSUNG

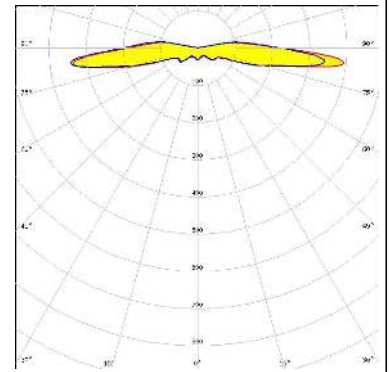
LED LH181B
 FWHM / FWTM 171.0° / 201.0°
 Efficiency 88 %
 Peak intensity 0.5 cd/m
 LEDs/each optic 1
 Light colour White
 Required components:




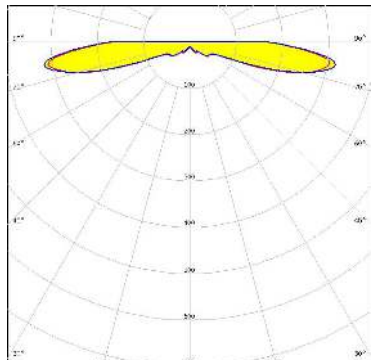

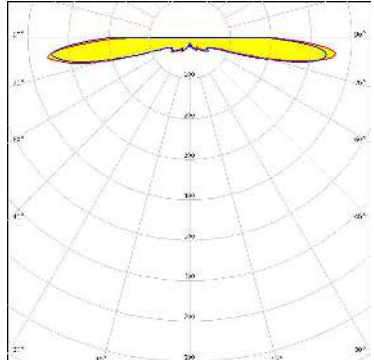

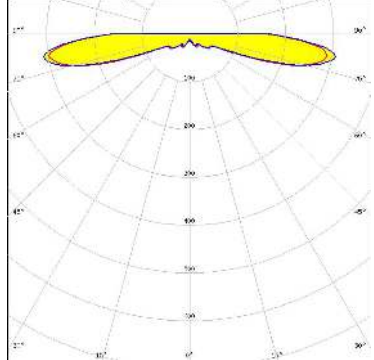

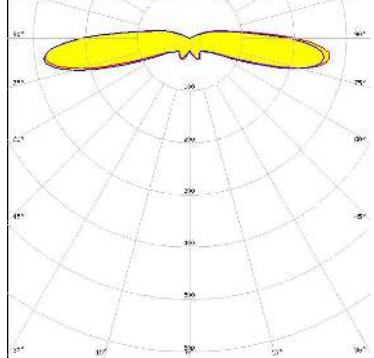
LED nPola
 FWHM / FWTM 181.0° / 200.0°
 Efficiency 89 %
 Peak intensity 0.5 cd/m
 LEDs/each optic 1
 Light colour White
 Required components:




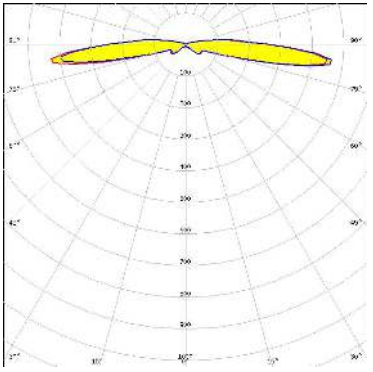

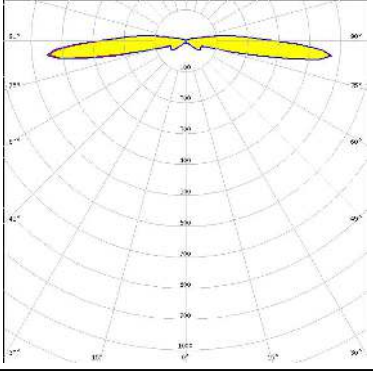

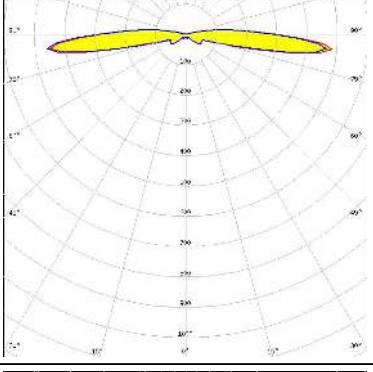

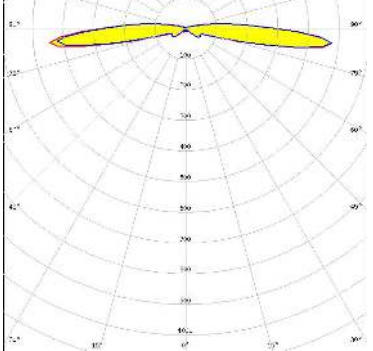
LED Z5M3
 FWHM / FWTM 184.0° / 201.0°
 Efficiency 89 %
 Peak intensity 0.4 cd/m
 LEDs/each optic 1
 Light colour White
 Required components:



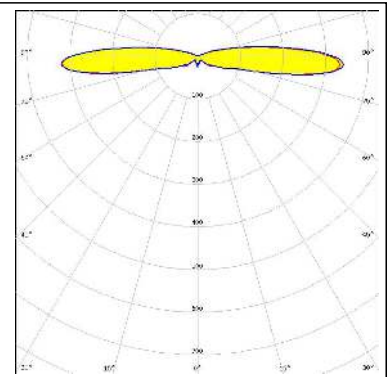
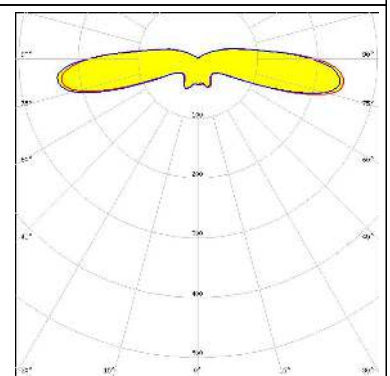
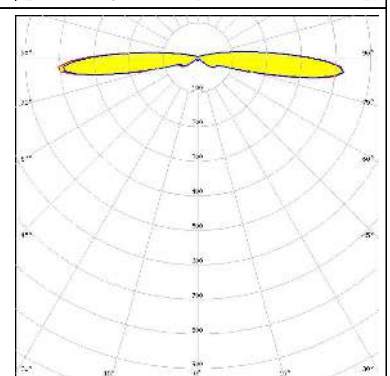
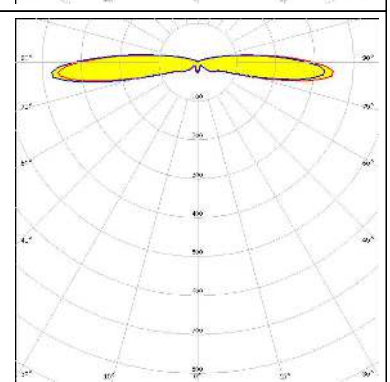
OPTICAL RESULTS (SIMULATED):

<p>CREE  LED</p> <p>LED J Series 5050 Round LES FWHM / FWTM 180.0° / 182.0° Efficiency 75 % Peak intensity 0.3 cd/lm LEDs/each optic 1 Light colour White Required components:</p>	
<p>CREE  LED</p> <p>LED J Series 5050B 30V K Class FWHM / FWTM 180.0° / 182.0° Efficiency 75 % Peak intensity 0.4 cd/lm LEDs/each optic 1 Light colour White Required components:</p>	
<p>CREE  LED</p> <p>LED J Series 5050B 6V K Class FWHM / FWTM 180.0° / 182.0° Efficiency 75 % Peak intensity 0.3 cd/lm LEDs/each optic 1 Light colour White Required components:</p>	
<p>CREE  LED</p> <p>LED XD16 FWHM / FWTM 188.0° / 223.0° Efficiency 94 % Peak intensity 0.3 cd/lm LEDs/each optic 7 Light colour White Required components:</p>	

OPTICAL RESULTS (SIMULATED):

	<p>LED XE-G FWHM / FWTM 180.0° / 204.0° Efficiency 96 % Peak intensity 0.5 cd/lm LEDs/each optic 1 Light colour Red Required components:</p>	
	<p>LED XE-G FWHM / FWTM 184.0° / 204.0° Efficiency 96 % Peak intensity 0.5 cd/lm LEDs/each optic 1 Light colour Blue Required components:</p>	
	<p>LED XE-G FWHM / FWTM 184.0° / 200.0° Efficiency 94 % Peak intensity 0.5 cd/lm LEDs/each optic 1 Light colour Green Required components:</p>	
	<p>LED XE-G FWHM / FWTM 182.0° / 204.0° Efficiency 96 % Peak intensity 0.5 cd/lm LEDs/each optic 1 Light colour White Required components:</p>	

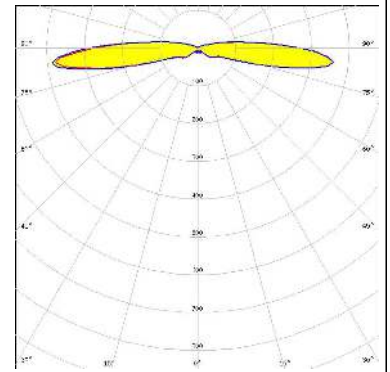
OPTICAL RESULTS (SIMULATED):

<p>CREE → LED</p> <p>LED: XHP35 HD FWHM / FWTM: 194.0° / 216.0° Efficiency: 94 % Peak intensity: 0.4 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p>	
<p>CREE → LED</p> <p>LED: XHP70 FWHM / FWTM: 190.0° / 232.0° Efficiency: 94 % Peak intensity: 0.3 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p>	
<p>CREE → LED</p> <p>LED: XP-E2 FWHM / FWTM: 188.0° / 206.0° Efficiency: 95 % Peak intensity: 0.4 cd/lm LEDs/each optic: 1 Light colour: Red Required components:</p>	
<p>CREE → LED</p> <p>LED: XP-G2 HE FWHM / FWTM: 191.0° / 212.0° Efficiency: 95 % Peak intensity: 0.4 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p>	

OPTICAL RESULTS (SIMULATED):

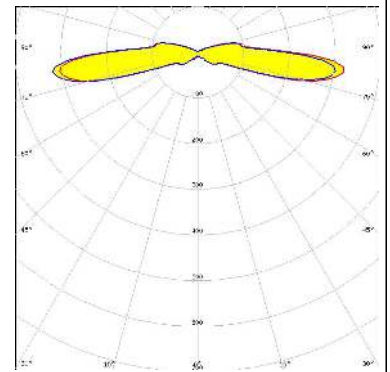
CREE LED

LED XP-G3
 FWHM / FWTM 186.0° / 211.0°
 Efficiency 94 %
 Peak intensity 0.4 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



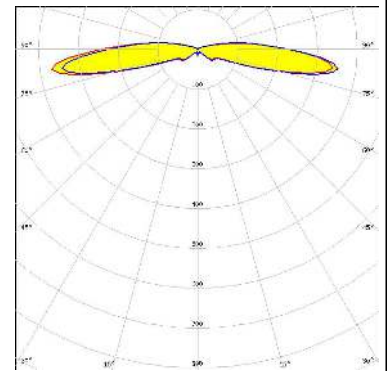
CREE LED

LED XQ-E HI
 FWHM / FWTM 183.0° / 221.0°
 Efficiency 94 %
 Peak intensity 0.3 cd/lm
 LEDs/each optic 4
 Light colour White
 Required components:



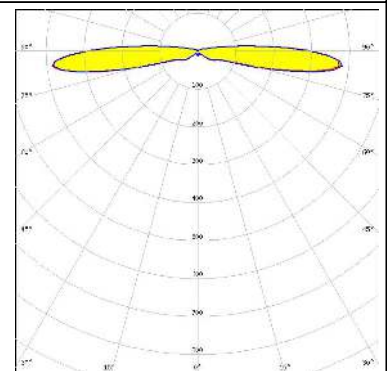
CREE LED

LED XT-E
 FWHM / FWTM 184.0° / 212.0°
 Efficiency 95 %
 Peak intensity 0.4 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

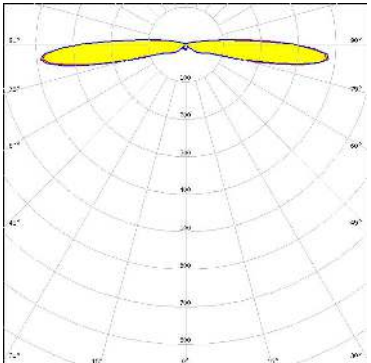
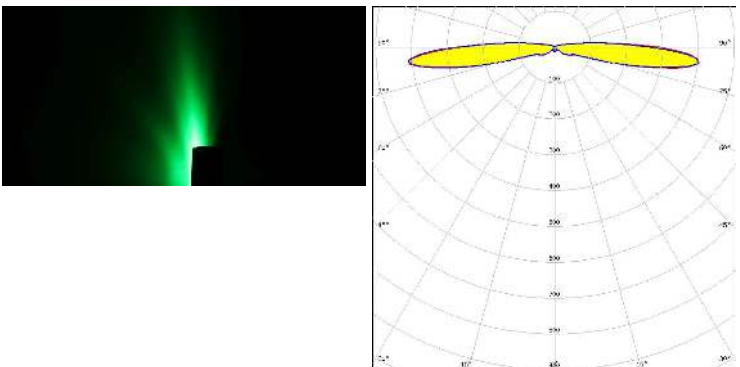
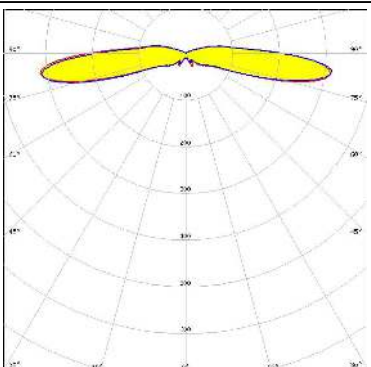
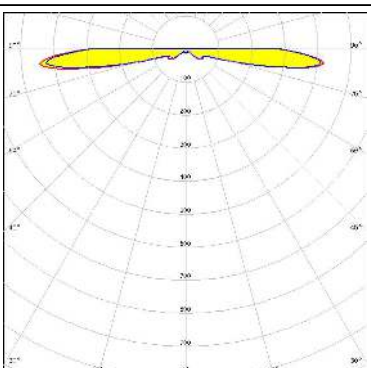


LUMILEDS

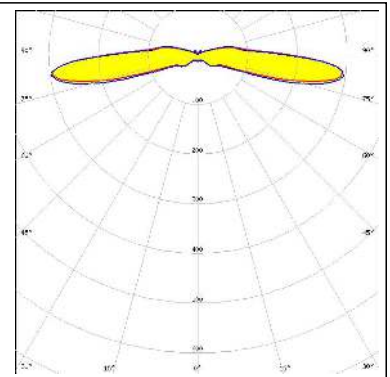
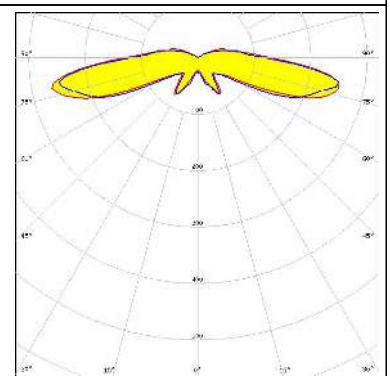
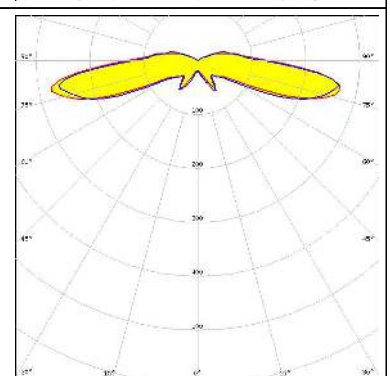
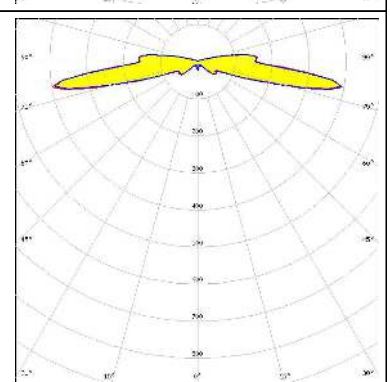
LED LUXEON C
 FWHM / FWTM 188.0° / 204.0°
 Efficiency 93 %
 Peak intensity 0.4 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



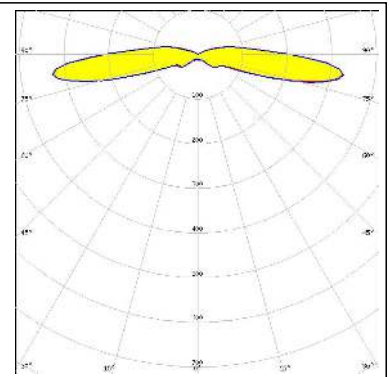
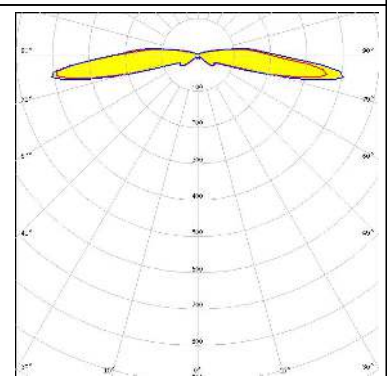
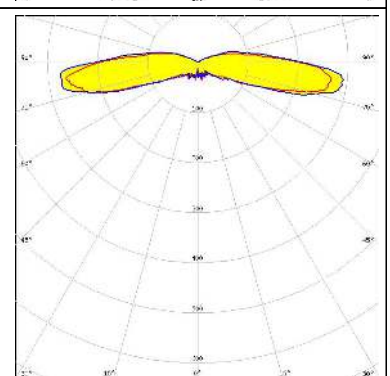
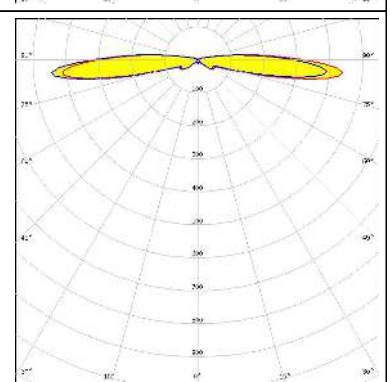
OPTICAL RESULTS (SIMULATED):

<p>LUMILEDS</p> <p>LED: LUXEON C FWHM / FWTM: 184.0° / 204.0° Efficiency: 91 % Peak intensity: 0.4 cd/lm LEDs/each optic: 1 Light colour: Red Required components:</p>	
<p>LUMILEDS</p> <p>LED: LUXEON C FWHM / FWTM: 183.0° / 201.0° Efficiency: 92 % Peak intensity: 0.5 cd/lm LEDs/each optic: 1 Light colour: Green Required components:</p>	
<p>LUMILEDS</p> <p>LED: LUXEON IR Compact FWHM / FWTM: 183.4° / 217.0° Efficiency: 94 % Peak intensity: 0.3 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p>	
<p>LUMILEDS</p> <p>LED: LUXEON Rebel FWHM / FWTM: 180.0° / 182.0° Efficiency: 75 % Peak intensity: 0.4 cd/lm LEDs/each optic: 1 Light colour: Red Required components:</p>	

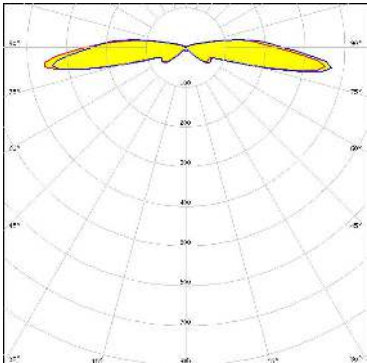
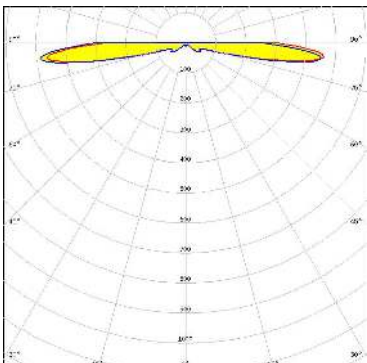
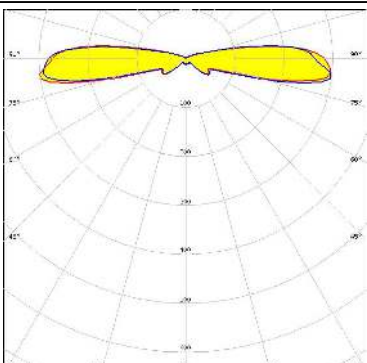
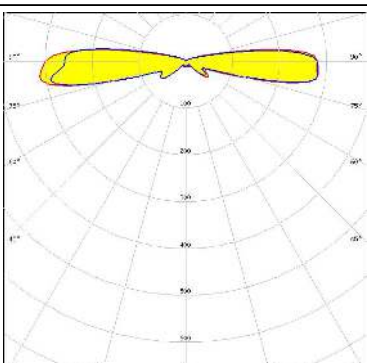
OPTICAL RESULTS (SIMULATED):

<p>LUMILEDS</p> <p>LED: LUXEON Z FWHM / FWTM: 183.4° / 218.0° Efficiency: 89 % Peak intensity: 0.3 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p>	
<p>NICHIA</p> <p>LED: NCSxE17A FWHM / FWTM: 180.0° / 226.0° Efficiency: 96 % Peak intensity: 0.3 cd/lm LEDs/each optic: 7 Light colour: White Required components:</p>	
<p>NICHIA</p> <p>LED: NCSxE17A FWHM / FWTM: 179.0° / 228.0° Efficiency: 96 % Peak intensity: 0.3 cd/lm LEDs/each optic: 7 Light colour: White Required components:</p>	
<p>NICHIA</p> <p>LED: NCSxE17A FWHM / FWTM: 173.0° / 208.0° Efficiency: 96 % Peak intensity: 0.4 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p>	

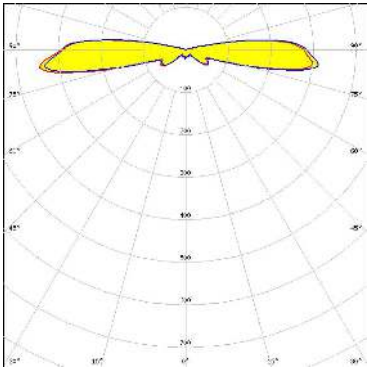
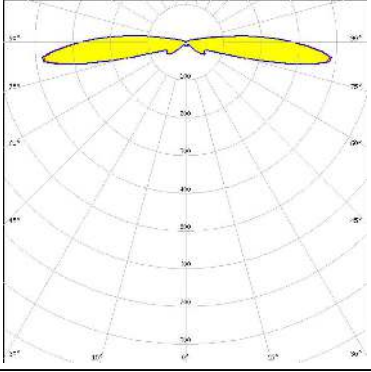
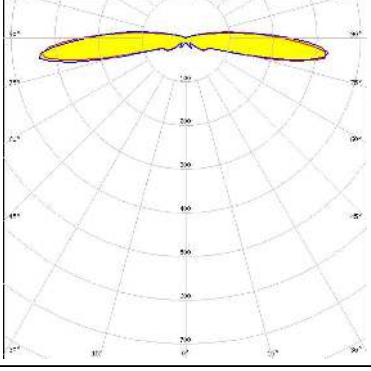
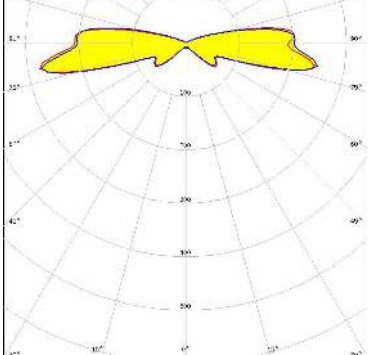
OPTICAL RESULTS (SIMULATED):

<p>NICHIA</p> <p>LED: NV4WB35AM FWHM / FWTM: 184.0° / 220.0° Efficiency: 95 % Peak intensity: 0.3 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p>	
<p>OSRAM Opto Semiconductors</p> <p>LED: OSCONIQ P 3030 FWHM / FWTM: 181.0° / 208.0° Efficiency: 95 % Peak intensity: 0.4 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p>	
<p>OSRAM Opto Semiconductors</p> <p>LED: OSCONIQ P 7070 FWHM / FWTM: 192.0° / 226.0° Efficiency: 95 % LEDs/each optic: 1 Light colour: White Required components:</p>	
<p>OSRAM Opto Semiconductors</p> <p>LED: OSLOM Signal FWHM / FWTM: 186.0° / 203.0° Efficiency: 95 % Peak intensity: 0.5 cd/lm LEDs/each optic: 1 Light colour: Red Required components:</p>	

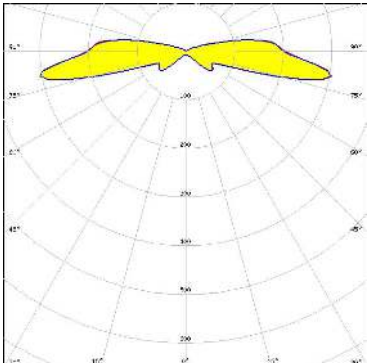
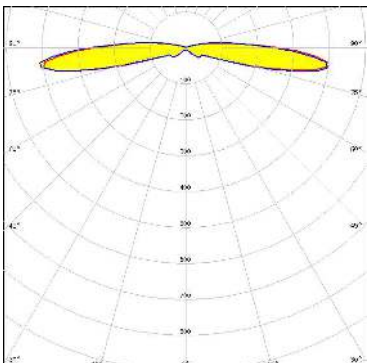
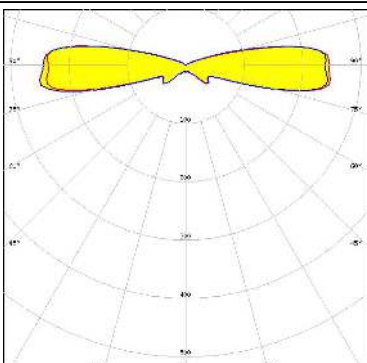
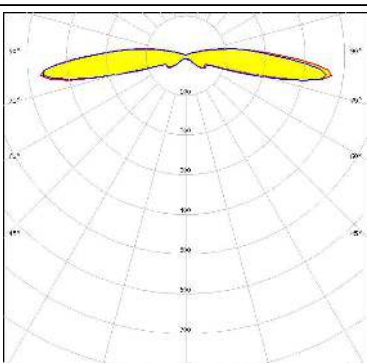
OPTICAL RESULTS (SIMULATED):

<p>OSRAM Opto Semiconductors</p> <p>LED: OSLOM SSL 120 FWHM / FWTM: 188.0° / 212.0° Efficiency: 95 % Peak intensity: 0.4 cd/lm LEDs/each optic: 1 Light colour: White Required components:</p>	
<p>OSRAM Opto Semiconductors</p> <p>LED: OSLOM SSL 150 FWHM / FWTM: 180.0° / 182.0° Efficiency: 78 % Peak intensity: 0.5 cd/lm LEDs/each optic: 1 Light colour: Red Required components:</p>	
<p>OSRAM Opto Semiconductors</p> <p>LED: OSLOM SSL 80 FWHM / FWTM: 198.0° / 216.0° Efficiency: 94 % Peak intensity: 0.3 cd/lm LEDs/each optic: 1 Light colour: Blue Required components:</p>	
<p>OSRAM Opto Semiconductors</p> <p>LED: OSLOM SSL 80 FWHM / FWTM: 197.0° / 215.0° Efficiency: 96 % Peak intensity: 0.3 cd/lm LEDs/each optic: 1 Light colour: Red Required components:</p>	

OPTICAL RESULTS (SIMULATED):

OSRAM <small>Opto Semiconductors</small>	<p>LED OSLON SSL 80</p> <p>FWHM / FWTM 195.0° / 206.0°</p> <p>Efficiency 93 %</p> <p>Peak intensity 0.4 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
OSRAM <small>Opto Semiconductors</small>	<p>LED OSTAR Projection Compact (KW.CSLNM1.TG)</p> <p>FWHM / FWTM 188.0° / 208.0°</p> <p>Efficiency 96 %</p> <p>Peak intensity 0.4 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour Red</p> <p>Required components:</p>	
OSRAM <small>Opto Semiconductors</small>	<p>LED SFH 4170S</p> <p>FWHM / FWTM 188.0° / 208.0°</p> <p>Efficiency 87 %</p> <p>Peak intensity 0.4 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour IR</p> <p>Required components:</p>	
OSRAM <small>Opto Semiconductors</small>	<p>LED SFH 4715AS</p> <p>FWHM / FWTM 202.0° / 221.0°</p> <p>Efficiency 95 %</p> <p>Peak intensity 0.3 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour IR</p> <p>Required components:</p>	

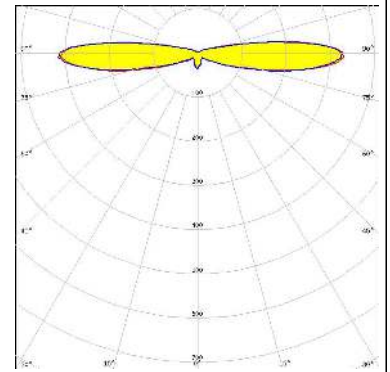
OPTICAL RESULTS (SIMULATED):

<p>OSRAM Opto Semiconductors</p> <p>LED SFH 4715S</p> <p>FWHM / FWTM 196.0° / 216.0°</p> <p>Efficiency 95 %</p> <p>Peak intensity 0.3 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour IR</p> <p>Required components:</p>	
<p>OSRAM Opto Semiconductors</p> <p>LED SFH 4716AS</p> <p>FWHM / FWTM 184.0° / 207.0°</p> <p>Efficiency 95 %</p> <p>Peak intensity 0.4 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour IR</p> <p>Required components:</p>	
<p>OSRAM Opto Semiconductors</p> <p>LED SFH 4717AS</p> <p>FWHM / FWTM 207.0° / 224.0°</p> <p>Efficiency 95 %</p> <p>Peak intensity 0.3 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour IR</p> <p>Required components:</p>	
<p>OSRAM Opto Semiconductors</p> <p>LED SFH 4770S</p> <p>FWHM / FWTM 185.0° / 212.0°</p> <p>Efficiency 95 %</p> <p>Peak intensity 0.4 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour IR</p> <p>Required components:</p>	

OPTICAL RESULTS (SIMULATED):

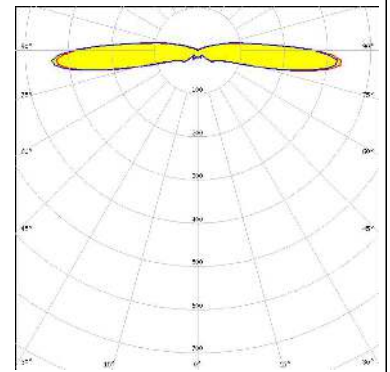
SAMSUNG


LED LH351C
 FWHM / FWTM 196.0° / 215.0°
 Efficiency 96 %
 Peak intensity 0.3 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:

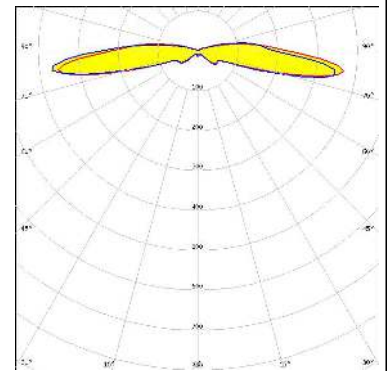



SAMSUNG

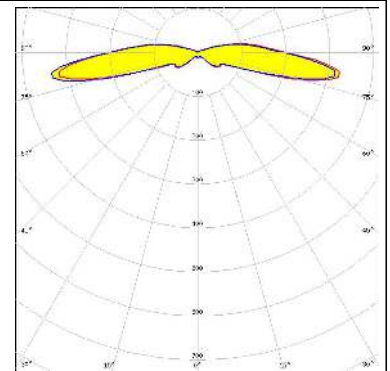
LED LH351D
 FWHM / FWTM 190.0° / 216.0°
 Efficiency 94 %
 Peak intensity 0.3 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



 SEOUL SEMICONDUCTOR
 LED MJT 3030
 FWHM / FWTM 184.0° / 212.0°
 Efficiency 95 %
 Peak intensity 0.4 cd/lm
 LEDs/each optic 1
 Light colour White
 Required components:



 SEOUL SEMICONDUCTOR
 LED Z5M4
 FWHM / FWTM 184.0° / 216.0°
 Efficiency 95 %
 Peak intensity 0.3 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:

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.

PRODUCT DATA USER AGREEMENT AND DISCLAIMER:

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.

LEDiL Oy assumes neither warranty, nor guarantee nor any other liability of any kind for the contents and correctness of the provided data. The provided data has been generated with highest diligence but the provided data may in reality not represent the complete possible variation range of all intrinsic parameters. Therefore, in certain cases a deviation from the provided data could occur.

LEDiL Oy reserves the right to undertake technical changes of its products without further notification which could lead to changes in the provided data. LEDiL Oy assumes no liability of any kind for the possible deviation from any provided data or any other damage resulting from the usage of the provided data.

The user agrees to this disclaimer and user agreement with the download or usage of the provided files.

LEDiL Oy

Joensuunkatu 13
FI-24240 SALO
Finland

LEDiL Inc.

228 West Page Street
Suite D
Sycamore IL 60178
USA

Ledil Optics Technology (Shenzhen) Co., Ltd.

405 , Block B
Casic Motor Building
Shenzhen 518057
P.R.CHINA

Local sales and technical support

[www.ledil.com/
where_to_buy](http://www.ledil.com/where_to_buy)

Shipping locations

Salo, Finland
Hong Kong, China

Distribution Partners

[www.ledil.com/
where_to_buy](http://www.ledil.com/where_to_buy)