HB-2X2-M

~25° medium beam optimized for CREE XP-L and XM-L



SPECIFICATION:

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

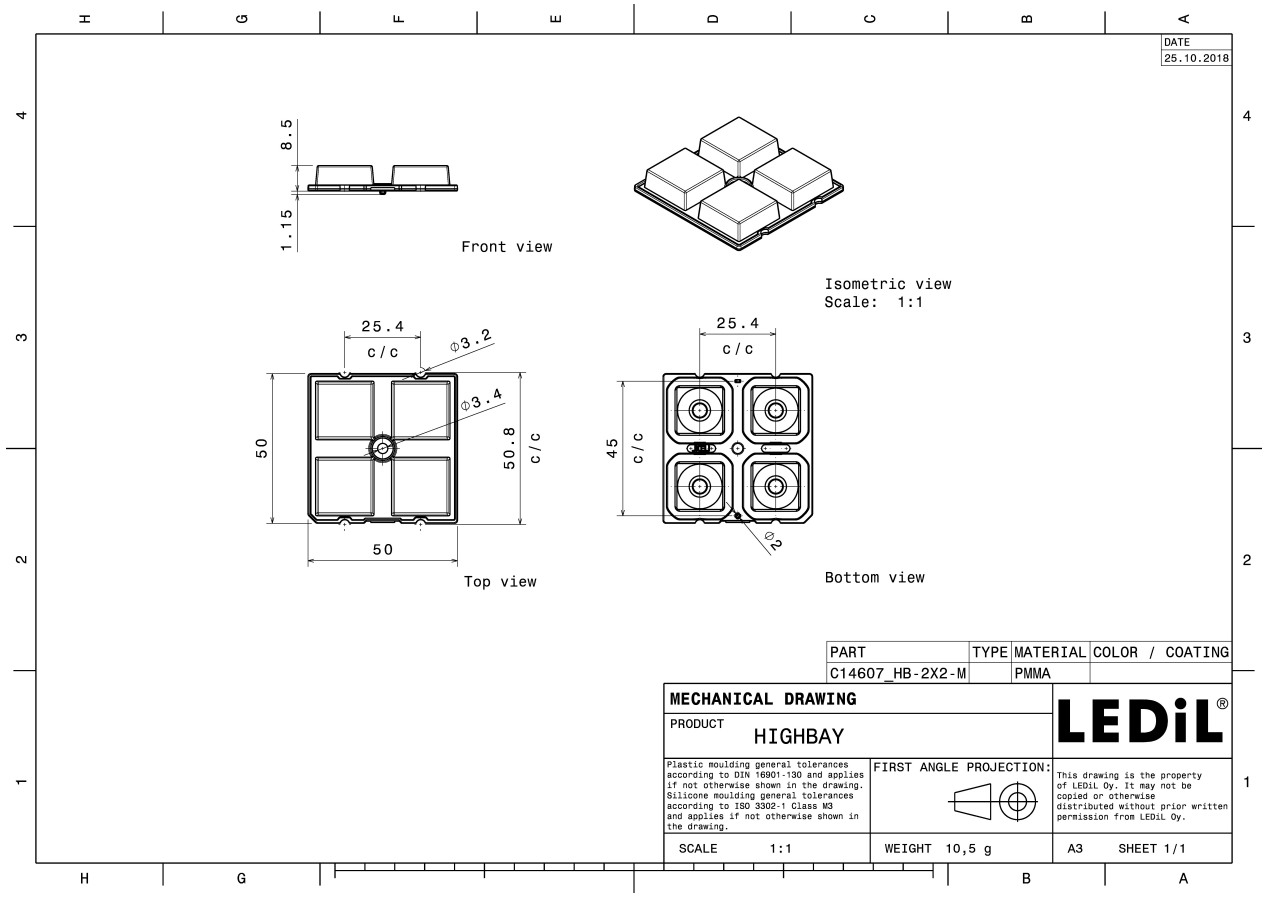
MATERIALS:

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

ORDERING INFORMATION:

Component	Qty in box	MOQ	MPQ	Box weight (kg)
C14607_HB-2X2-M » Box size: 480 x 280 x 300 mm	800	160	160	9.2

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

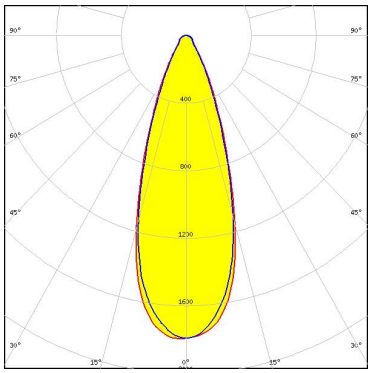
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OPTICAL RESULTS (MEASURED):

bridgelux

LED	Bridgelux SMD 5050
FWHM / FWTM	36.0° / 66.0°
Efficiency	94 %
Peak intensity	1.8 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

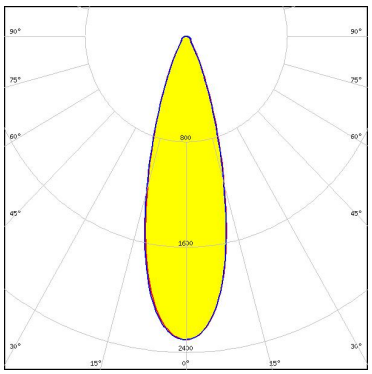




CREE LEDs

LED	J Series 5050C 6V E Class
FWHM / FWTM	31.0° / 57.0°
Efficiency	93 %
Peak intensity	2.3 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

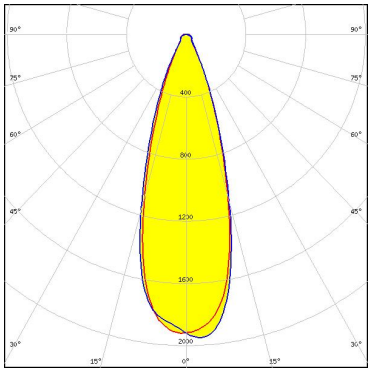




CREE LEDs

LED	XD16
FWHM / FWTM	33.0° / 59.0°
Efficiency	94 %
Peak intensity	2 cd/lm
LEDs/each optic	4
Light colour	White
Required components:	

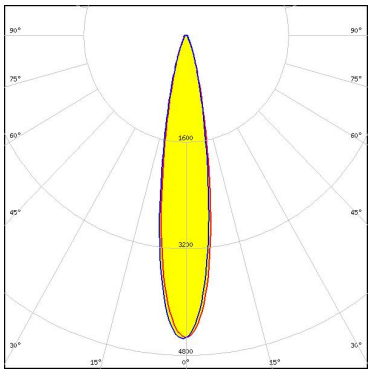




CREE LEDs

LED	XD16
FWHM / FWTM	19.0° / 39.0°
Efficiency	90 %
Peak intensity	4.6 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



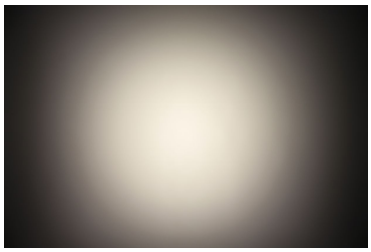


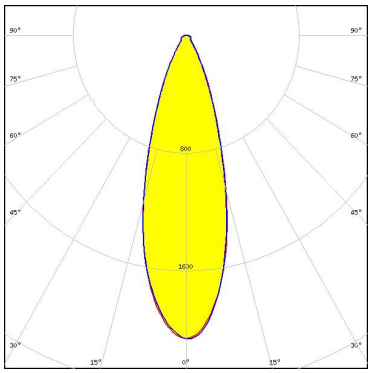
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OPTICAL RESULTS (MEASURED):

CREE LEDs

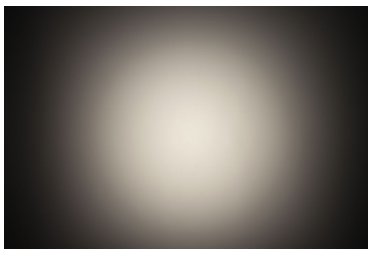
LED	XM-L
FWHM / FWTM	32.0° / 61.0°
Efficiency	93 %
Peak intensity	2 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

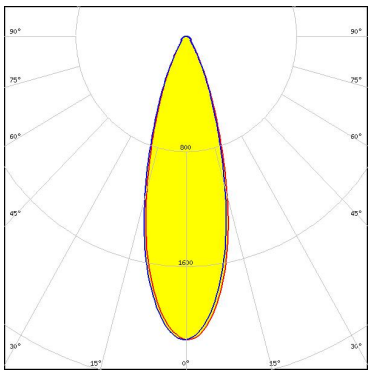




CREE LEDs

LED	XM-L2
FWHM / FWTM	32.0° / 61.0°
Efficiency	92 %
Peak intensity	2.1 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

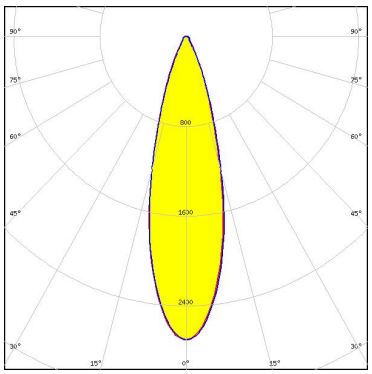




CREE LEDs

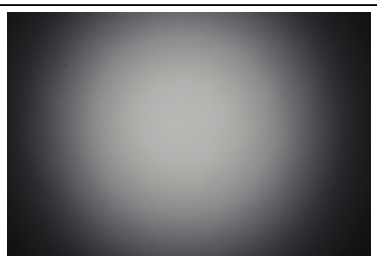
LED	XM-L3
FWHM / FWTM	28.0° / 54.0°
Efficiency	95 %
Peak intensity	2.7 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

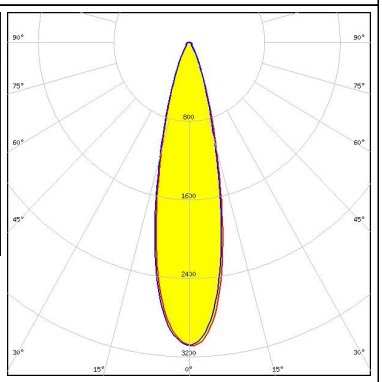




CREE LEDs

LED	XP-G2
FWHM / FWTM	25.0° / 49.0°
Efficiency	0 %
Peak intensity	3.1 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	





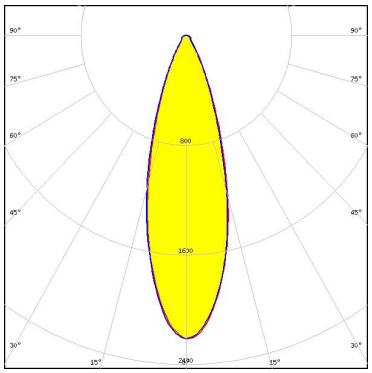
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OPTICAL RESULTS (MEASURED):

CREE LEDs

LED	XP-L HD
FWHM / FWTM	31.0° / 60.0°
Efficiency	94 %
Peak intensity	2.2 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

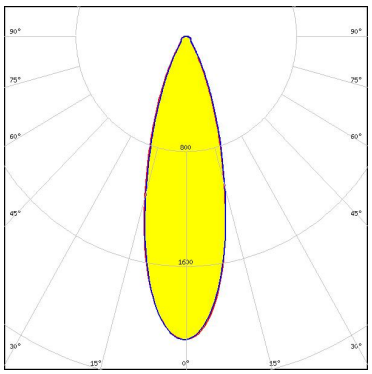




CREE LEDs

LED	XP-L2
FWHM / FWTM	31.0° / 61.0°
Efficiency	93 %
Peak intensity	2.1 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

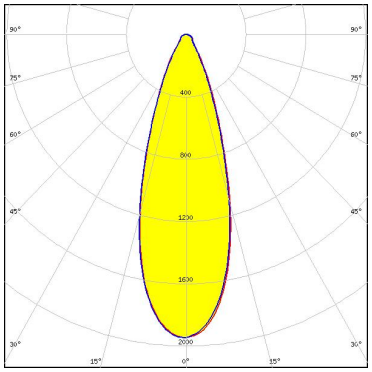




LUMILEDS

LED	LUXEON 5050 Round LES
FWHM / FWTM	34.0° / 65.0°
Efficiency	94 %
Peak intensity	2 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

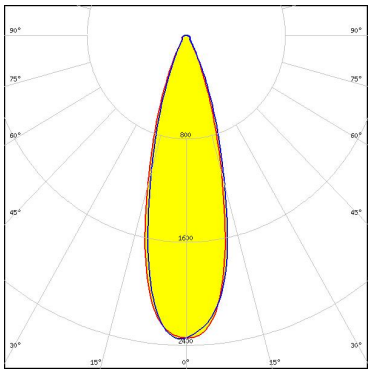




LUMILEDS

LED	LUXEON MZ
FWHM / FWTM	30.0° / 55.0°
Efficiency	91 %
Peak intensity	2.4 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	





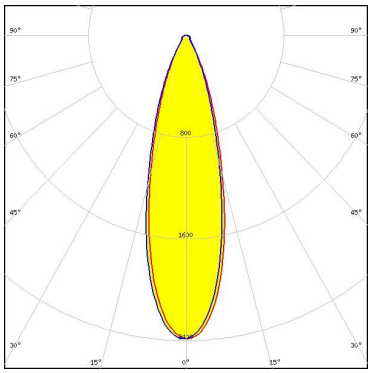
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OPTICAL RESULTS (MEASURED):

LUMILEDS

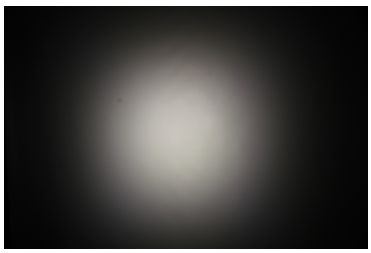
LED	LUXEON V
FWHM / FWTM	29.0° / 58.0°
Efficiency	94 %
Peak intensity	2.4 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

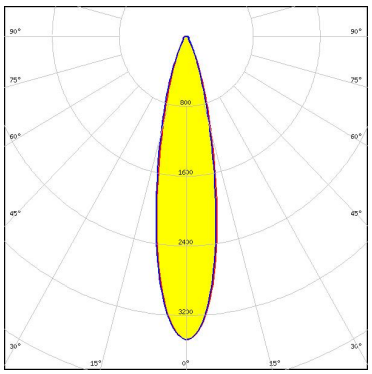




LUMILEDS

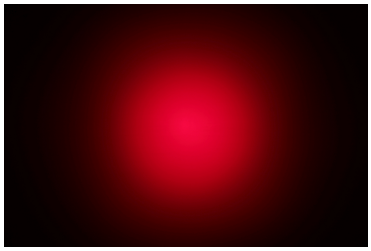
LED	LUXEON V2
FWHM / FWTM	23.0° / 47.0°
Efficiency	94 %
Peak intensity	3.5 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

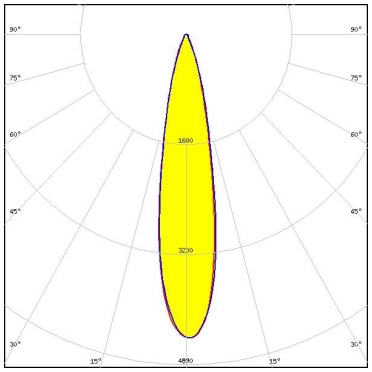




LUMINUS

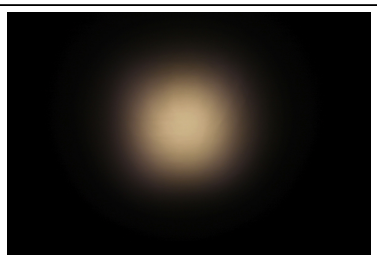
LED	SST-10-B130
FWHM / FWTM	21.0° / 42.0°
Efficiency	95 %
Peak intensity	4.4 cd/lm
LEDs/each optic	1
Light colour	Deep Red
Required components:	

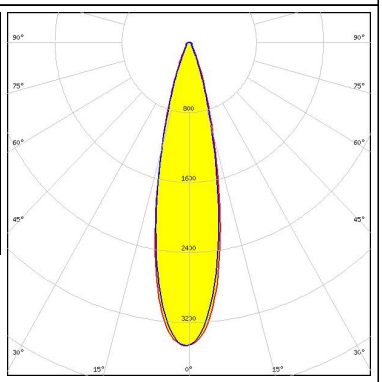




MST Your solutions

LED	RecLED 122x50mm 1900lm 730 2x4 Opt G1
FWHM / FWTM	24.0° / 46.0°
Efficiency	95 %
Peak intensity	3.5 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	





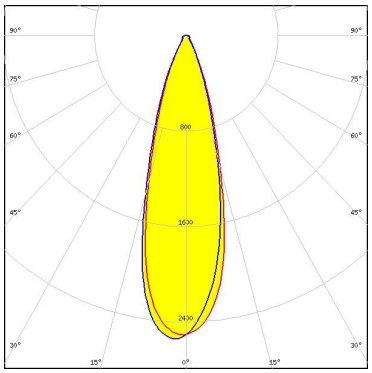
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OPTICAL RESULTS (MEASURED):

NICHIA

LED	NVSW219D
FWHM / FWTM	29.0° / 55.0°
Efficiency	94 %
Peak intensity	2.5 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

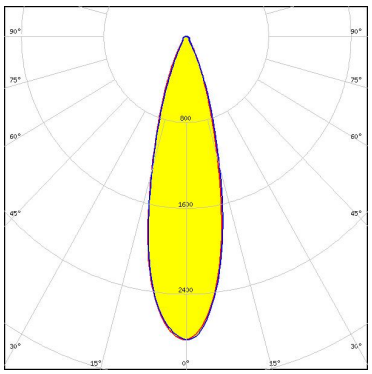




NICHIA

LED	NVSW219F
FWHM / FWTM	28.0° / 53.0°
Efficiency	95 %
Peak intensity	2.8 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

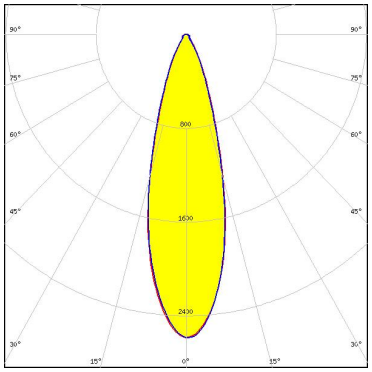




NICHIA

LED	NVSW319B
FWHM / FWTM	29.0° / 57.0°
Efficiency	94 %
Peak intensity	2.6 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

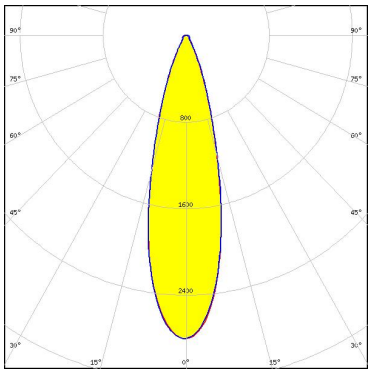




NICHIA

LED	NVSW3x9A
FWHM / FWTM	28.0° / 53.0°
Efficiency	94 %
Peak intensity	2.8 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	





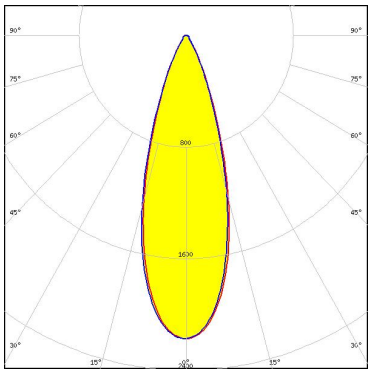
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OPTICAL RESULTS (MEASURED):

NICHIA

LED	NWSx229A
FWHM / FWTM	33.0° / 58.0°
Efficiency	87 %
Peak intensity	2.2 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

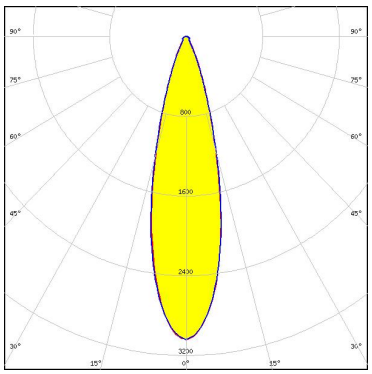




OSRAM

LED	PL-BRICK HP 3800 2x8 SSG
FWHM / FWTM	26.0° / 50.0°
Efficiency	94 %
Peak intensity	3 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

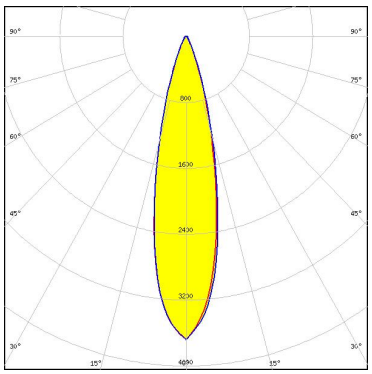




OSRAM

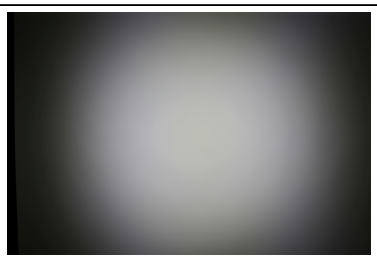
LED	PrevaLED Brick HP 2x8
FWHM / FWTM	23.0° / 44.0°
Efficiency	91 %
Peak intensity	3.8 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

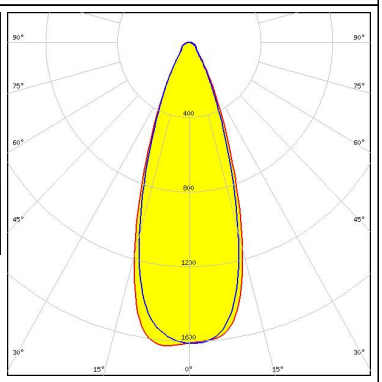




OSRAM
Opto Semiconductors

LED	Duris S8
FWHM / FWTM	38.0° / 68.0°
Efficiency	94 %
Peak intensity	1.6 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	





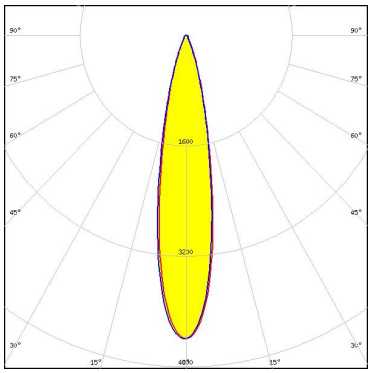
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OPTICAL RESULTS (MEASURED):

OSRAM
Opto Semiconductors

LED	OSCONIQ C 3030
FWHM / FWTM	21.0° / 42.0°
Efficiency	93 %
Peak intensity	4.4 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

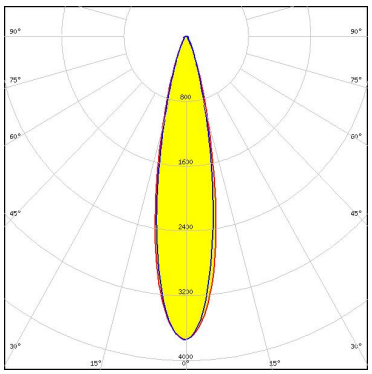




OSRAM
Opto Semiconductors

LED	OSLON Square CSSRM2/CSSRM3
FWHM / FWTM	23.0° / 44.0°
Efficiency	91 %
Peak intensity	3.8 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

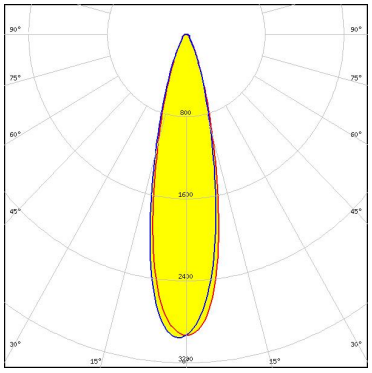




PHILIPS

LED	Fortimo FastFlex LED 2x8 DA G4
FWHM / FWTM	25.0° / 51.0°
Efficiency	92 %
Peak intensity	3 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

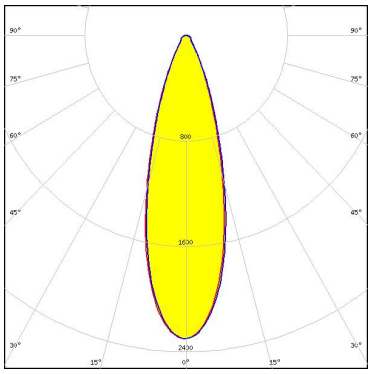




PHILIPS

LED	Fortimo FastFlex LED 2x8 DA G4+
FWHM / FWTM	30.0° / 59.0°
Efficiency	96 %
Peak intensity	2.3 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	





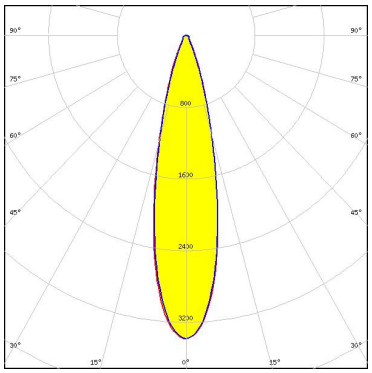
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OPTICAL RESULTS (MEASURED):

PHILIPS

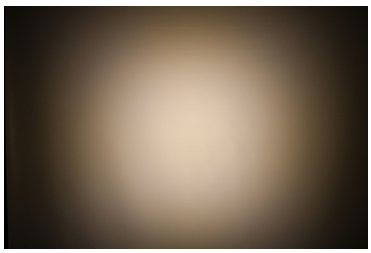
LED	Fortimo FastFlex LED 2x8 DA G5
FWHM / FWTM	24.0° / 47.0°
Efficiency	94 %
Peak intensity	3.4 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

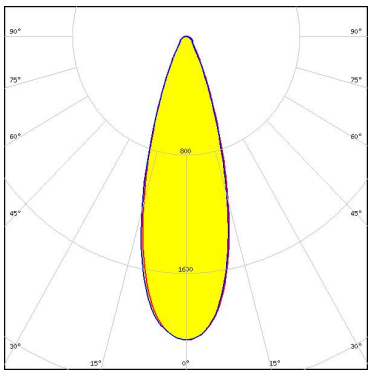




PHILIPS

LED	Fortimo FastFlex LED 2x8 DA HE
FWHM / FWTM	32.0° / 61.0°
Efficiency	96 %
Peak intensity	2.1 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

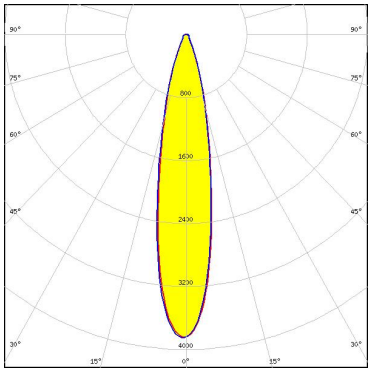




SAMSUNG

LED	HiLOM RC12 Z (LH181B)
FWHM / FWTM	21.0° / 45.0°
Efficiency	96 %
Peak intensity	3.9 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

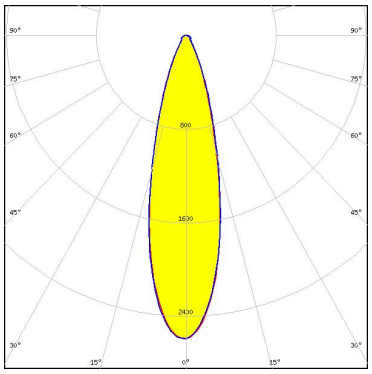




SAMSUNG

LED	HiLOM RH12 Z (LH351C)
FWHM / FWTM	27.0° / 55.0°
Efficiency	95 %
Peak intensity	2.6 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	





LEDiL is a registered trademark of LEDiL Oy in the European Union, USA, and certain other countries.

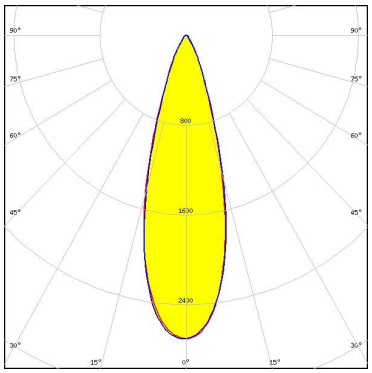
OPTICAL RESULTS (MEASURED):

SAMSUNG

LED	HiLOM RH16 (LH351C)
FWHM / FWTM	30.0° / 55.0°
Efficiency	94 %
Peak intensity	2.7 cd/lm
LEDs/each optic	1
Light colour	White

Required components:



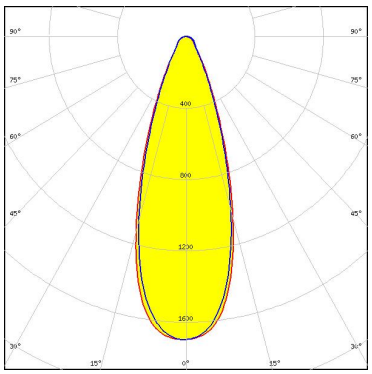


SAMSUNG

LED	HiLOM RM12 Z (LH502C)
FWHM / FWTM	35.0° / 67.0°
Efficiency	95 %
Peak intensity	1.7 cd/lm
LEDs/each optic	1
Light colour	White

Required components:



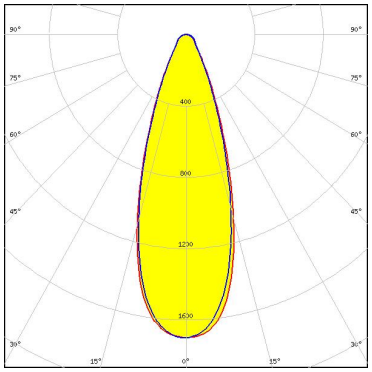


SAMSUNG

LED	HiLOM RM16 Z (LH502C)
FWHM / FWTM	36.0° / 68.0°
Efficiency	96 %
Peak intensity	1.7 cd/lm
LEDs/each optic	1
Light colour	White

Required components:



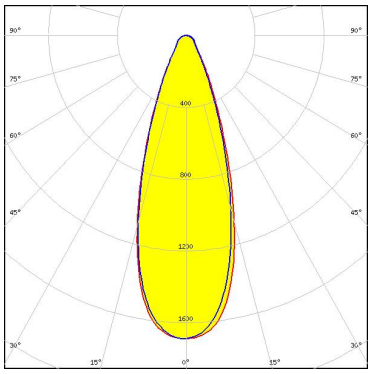


SAMSUNG

LED	HiLOM RM8 Z (LH502C)
FWHM / FWTM	36.0° / 68.0°
Efficiency	96 %
Peak intensity	1.7 cd/lm
LEDs/each optic	1
Light colour	White

Required components:





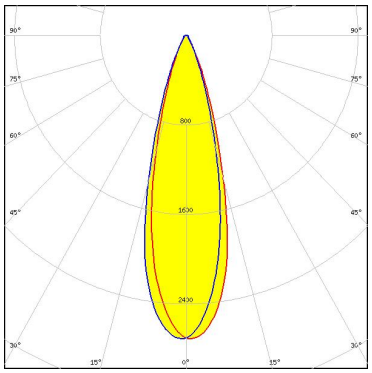
LEDiL is a registered trademark of LEDiL Oy in the European Union, USA, and certain other countries.

OPTICAL RESULTS (MEASURED):

SAMSUNG

LED	LH351B
FWHM / FWTM	28.0° / 52.0°
Efficiency	85 %
Peak intensity	2.7 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

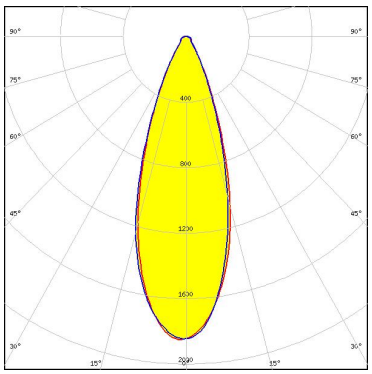




SAMSUNG

LED	LH351D
FWHM / FWTM	35.0° / 64.0°
Efficiency	91 %
Peak intensity	1.9 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

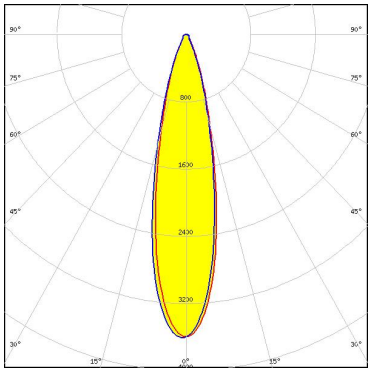




SEITEC Elektronik GmbH

LED	LED-Pa-L15c2W11c2-xxx-C050-01
FWHM / FWTM	24.0° / 48.0 + 47.0°
Efficiency	95 %
Peak intensity	3.6 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

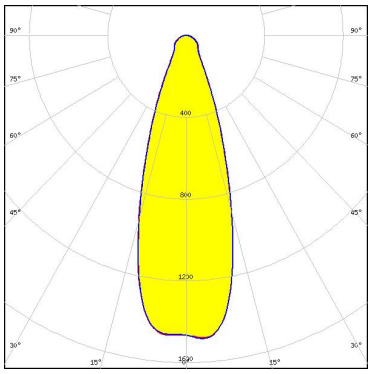




SEOUL SEMICONDUCTOR

LED	2x2 Y22 module - SMJQ-D48W16AA-XX
FWHM / FWTM	34.0° / 64.0°
Efficiency	93 %
Peak intensity	1.5 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	





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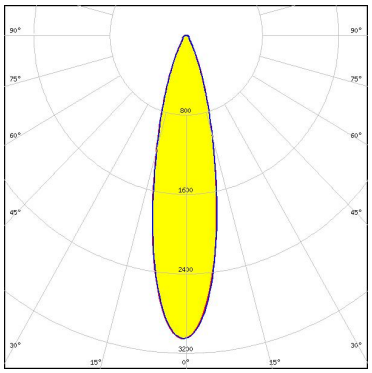
OPTICAL RESULTS (MEASURED):

SEOUL SEMICONDUCTOR

LED	Z5M3
FWHM / FWTM	25.0° / 51.0°
Efficiency	94 %
Peak intensity	3.1 cd/lm
LEDs/each optic	1
Light colour	White

Required components:



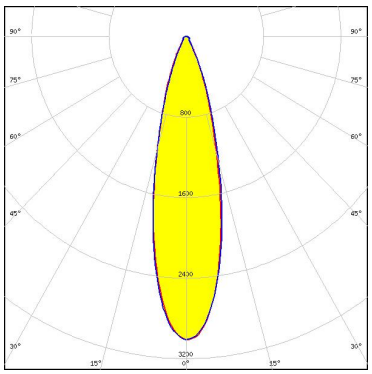


SEOUL SEMICONDUCTOR

LED	Z5M4
FWHM / FWTM	26.0° / 52.0°
Efficiency	95 %
Peak intensity	3 cd/lm
LEDs/each optic	1
Light colour	White

Required components:



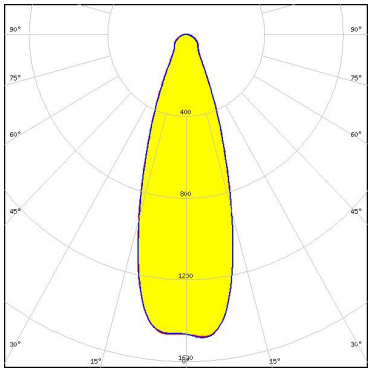


SEOUL SEMICONDUCTOR

LED	Z8Y19
FWHM / FWTM	34.0° / 64.0°
Efficiency	93 %
Peak intensity	1.5 cd/lm
LEDs/each optic	4
Light colour	White

Required components:

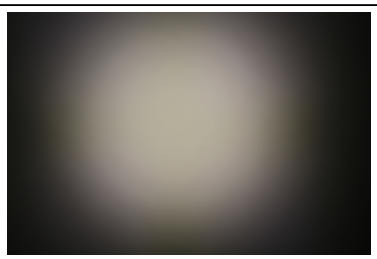


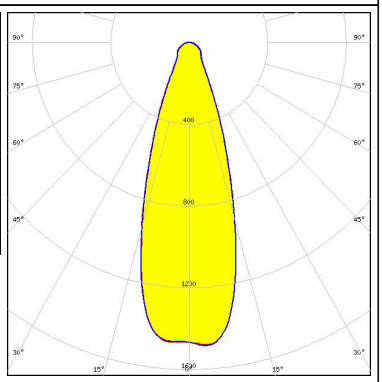


SEOUL SEMICONDUCTOR

LED	Z8Y19
FWHM / FWTM	34.0° / 64.0°
Efficiency	93 %
Peak intensity	1.5 cd/lm
LEDs/each optic	4
Light colour	White

Required components:





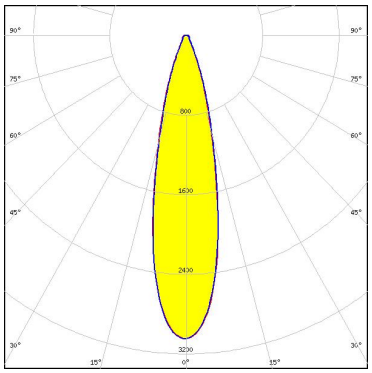
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OPTICAL RESULTS (MEASURED):

SEOUL SEMICONDUCTOR

LED	Z8Y22P
FWHM / FWTM	25.0° / 48.0°
Efficiency	92 %
Peak intensity	3.1 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	





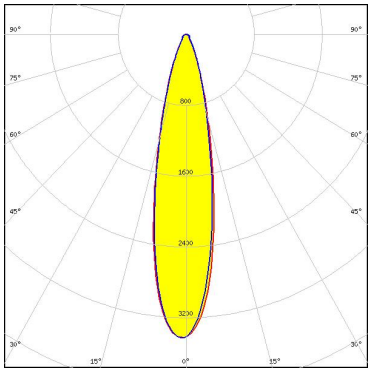
TRIDONIC

LED	RLE 2x4 2000lm HP EXC2 OTD
FWHM / FWTM	23.0° / 48.0°
Efficiency	94 %
Peak intensity	3.4 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

TRIDONIC

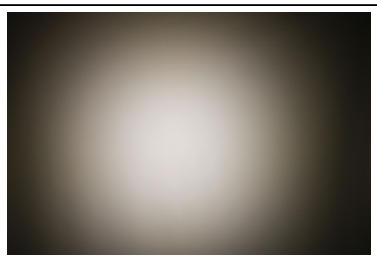
LED	RLE 2x8 4000lm HP EXC2 OTD
FWHM / FWTM	23.0° / 48.0°
Efficiency	94 %
Peak intensity	3.4 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

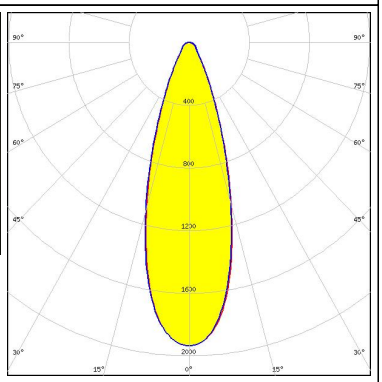




TRIDONIC

LED	RLE 2x8 6000lm HP HE EXC3 OTD
FWHM / FWTM	33.0° / 64.0°
Efficiency	95 %
Peak intensity	1.9 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	





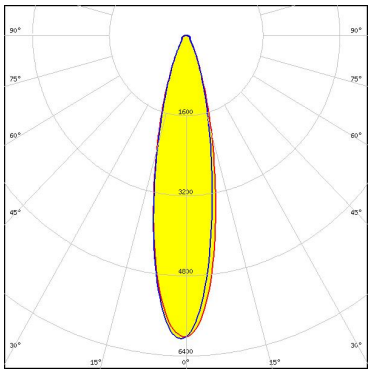
LEDiL is a registered trademark of LEDiL Oy in the European Union, USA, and certain other countries.

OPTICAL RESULTS (MEASURED):

TRIDONIC

LED	RLE G1 49x121mm 2000lm xxx EXC OTD
FWHM / FWTM	24.0° / 51.0°
Efficiency	94 %
Peak intensity	3 cd/lm
LEDs/each optic	1
Light colour	White

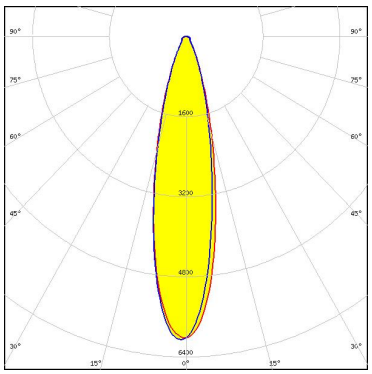
Required components:



TRIDONIC

LED	RLE G1 49x133mm 2000lm xxx EXC OTD
FWHM / FWTM	24.0° / 51.0°
Efficiency	94 %
Peak intensity	3 cd/lm
LEDs/each optic	1
Light colour	White

Required components:

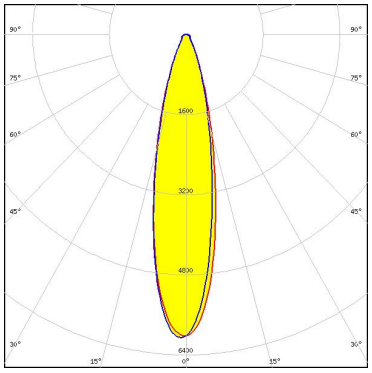


TRIDONIC

LED	RLE G1 49x223mm 4000lm xxx EXC OTD
FWHM / FWTM	24.0° / 51.0°
Efficiency	94 %
Peak intensity	3 cd/lm
LEDs/each optic	1
Light colour	White

Required components:



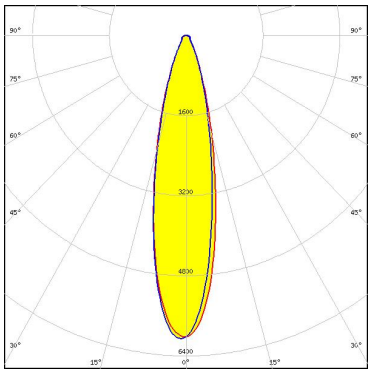


TRIDONIC

LED	RLE G1 49x245mm 4000lm xxx EXC OTD
FWHM / FWTM	24.0° / 51.0°
Efficiency	94 %
Peak intensity	3 cd/lm
LEDs/each optic	1
Light colour	White

Required components:



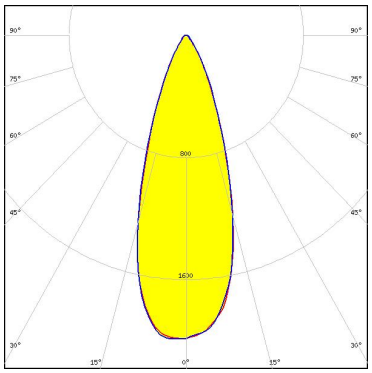


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OPTICAL RESULTS (SIMULATED):

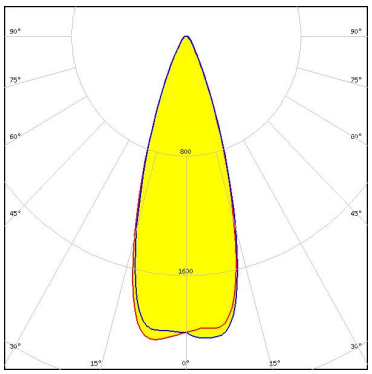
CREE LEDs

LED	J Series 5050 Round LES
FWHM / FWTM	35.0° / 64.0°
Efficiency	92 %
Peak intensity	2 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



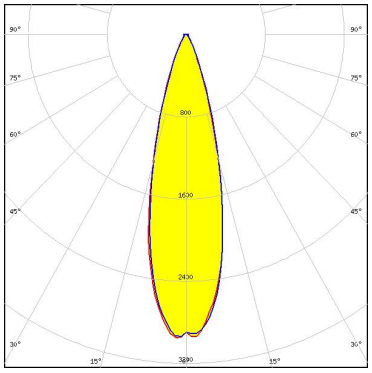
CREE LEDs

LED	XP-G2 HE
FWHM / FWTM	35.0° / 58.0°
Efficiency	92 %
Peak intensity	2.1 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



CREE LEDs

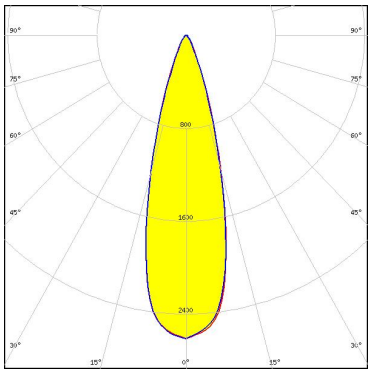
LED	XP-G3
FWHM / FWTM	28.0° / 50.0°
Efficiency	92 %
Peak intensity	3 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



CREE LEDs

LED	XP-G4
FWHM / FWTM	28.0° / 50.0°
Efficiency	85 %
Peak intensity	2.6 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

Protective plate, glass

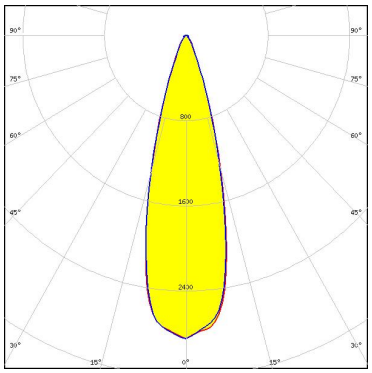


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OPTICAL RESULTS (SIMULATED):

CREE LEDs

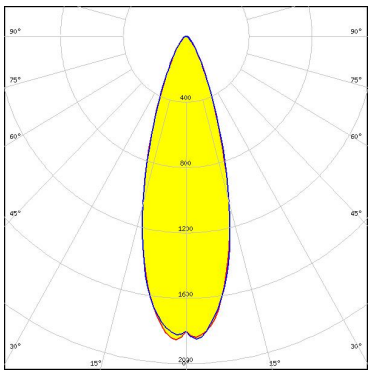
LED	XP-G4
FWHM / FWTM	28.0° / 50.0 + 49.0°
Efficiency	93 %
Peak intensity	2.9 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



CREE LEDs

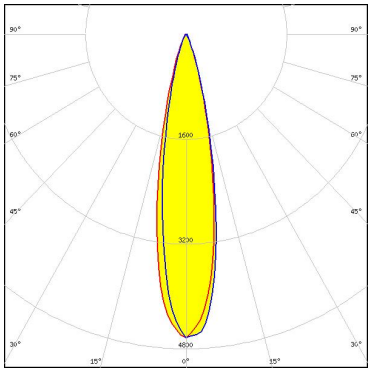
LED	XP-L2
FWHM / FWTM	32.0° / 62.0°
Efficiency	82 %
Peak intensity	1.9 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

Protective plate, glass



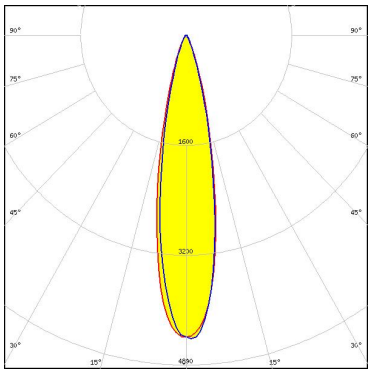
LUMILEDS

LED	LUXEON 3030 2D (Round LES)
FWHM / FWTM	21.0° / 41.0°
Efficiency	91 %
Peak intensity	4.7 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



LUMILEDS

LED	LUXEON 3535 2D
FWHM / FWTM	22.0° / 42.0°
Efficiency	92 %
Peak intensity	4.5 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



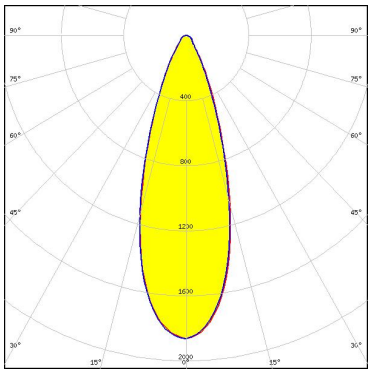
LEDiL is a registered trademark of LEDiL Oy in the European Union, USA, and certain other countries.

OPTICAL RESULTS (SIMULATED):

LUMILEDS

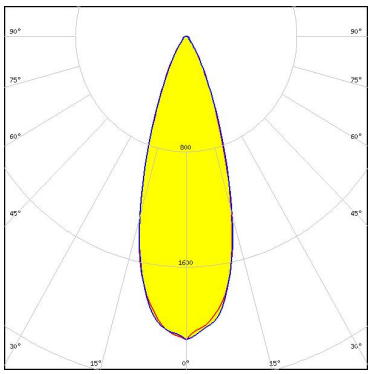
LED	LUXEON 5050 Round LES
FWHM / FWTM	34.0° / 64.0°
Efficiency	87 %
Peak intensity	1.9 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

Protective plate, glass



LUMILEDS

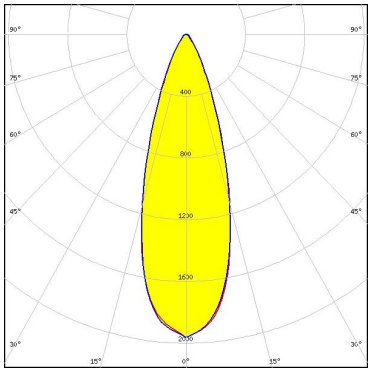
LED	LUXEON 5050 Square LES
FWHM / FWTM	34.0° / 62.0°
Efficiency	93 %
Peak intensity	2.1 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



LUMILEDS

LED	LUXEON 5050 Square LES
FWHM / FWTM	34.0° / 62.0°
Efficiency	88 %
Peak intensity	2 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

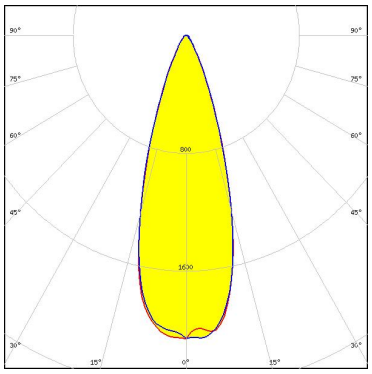
Protective plate, glass



LUMILEDS

LED	LUXEON HL2X
FWHM / FWTM	34.0° / 58.0°
Efficiency	87 %
Peak intensity	2.1 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

Protective plate, glass

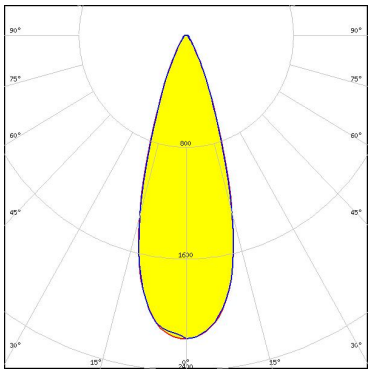


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OPTICAL RESULTS (SIMULATED):

LUMILEDS

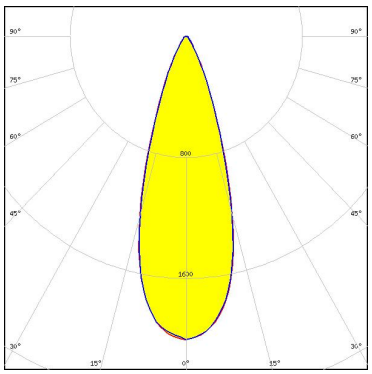
LED	LUXEON HL2X-D
FWHM / FWTM	34.0° / 58.0°
Efficiency	94 %
Peak intensity	2.2 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



LUMILEDS

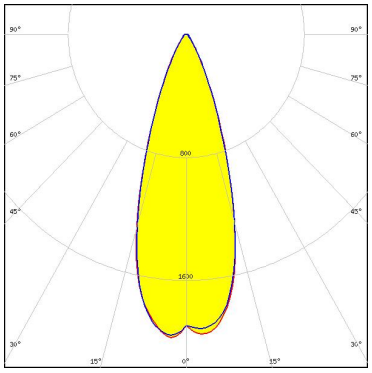
LED	LUXEON HL2X-D
FWHM / FWTM	34.0° / 58.0°
Efficiency	85 %
Peak intensity	2 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

Protective plate, glass



LUMILEDS

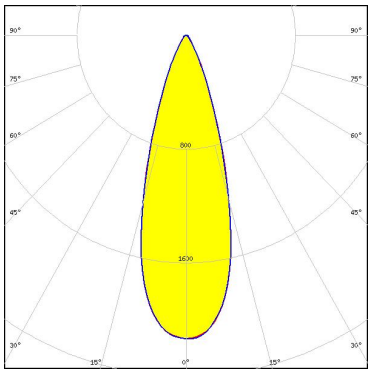
LED	LUXEON HL2X-P
FWHM / FWTM	36.0° / 62.0°
Efficiency	91 %
Peak intensity	2 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



LUMILEDS

LED	LUXEON XR-HL2X (L2H2-xxxxxxxMLU010)
FWHM / FWTM	32.0° / 58.0°
Efficiency	85 %
Peak intensity	2.1 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

Protective plate, glass

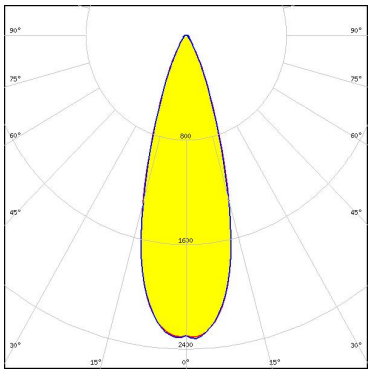


LEDiL is a registered trademark of LEDiL Oy in the European Union, USA, and certain other countries.

OPTICAL RESULTS (SIMULATED):

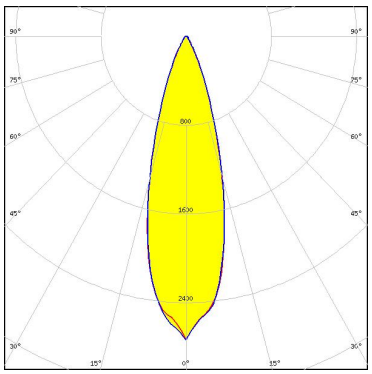
LUMILEDS

LED	LUXEON XR-HL2X (L2H2-xxxxxxxMLU010)
FWHM / FWTM	32.0° / 56.0°
Efficiency	94 %
Peak intensity	2.3 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



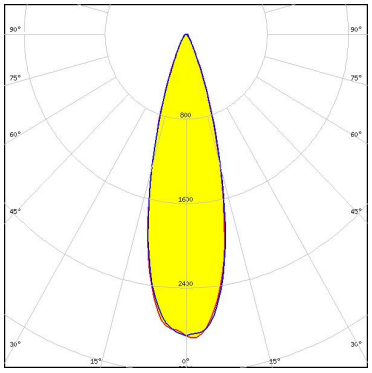
NICHIA

LED	NV4WB35AM
FWHM / FWTM	30.0° / 54.0°
Efficiency	93 %
Peak intensity	2.7 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



NICHIA

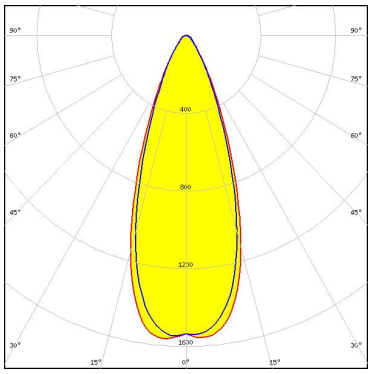
LED	NVSxx19B/NVSxx19C
FWHM / FWTM	28.0° / 50.0°
Efficiency	92 %
Peak intensity	2.9 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



OSRAM
Opto Semiconductors

LED	Duris S8
FWHM / FWTM	38.0° / 69.0°
Efficiency	89 %
Peak intensity	1.6 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

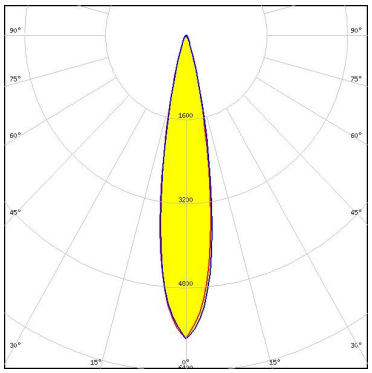
Protective plate, glass



OPTICAL RESULTS (SIMULATED):

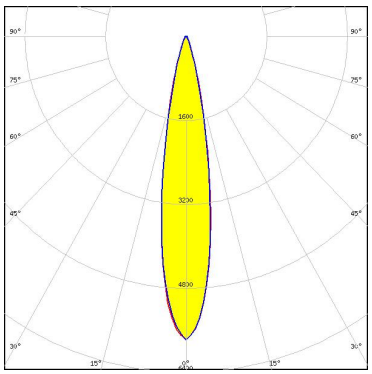
OSRAM
Opto Semiconductors

LED	OSCONIQ C 2424
FWHM / FWTM	19.0 + 20.0° / 36.0°
Efficiency	93 %
Peak intensity	5.8 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



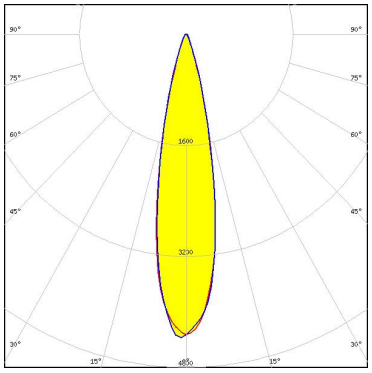
OSRAM
Opto Semiconductors

LED	OSCONIQ P 3030
FWHM / FWTM	18.0° / 36.0°
Efficiency	94 %
Peak intensity	5.8 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



OSRAM
Opto Semiconductors

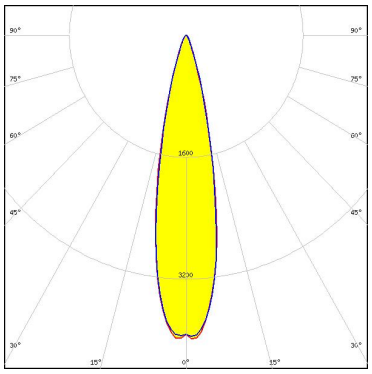
LED	OSCONIQ P 3737 (2W version)
FWHM / FWTM	22.0° / 40.0°
Efficiency	92 %
Peak intensity	4.4 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



OSRAM
Opto Semiconductors

LED	OSCONIQ P 3737 (2W version)
FWHM / FWTM	22.0° / 40.0°
Efficiency	87 %
Peak intensity	4 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

Protective plate, glass

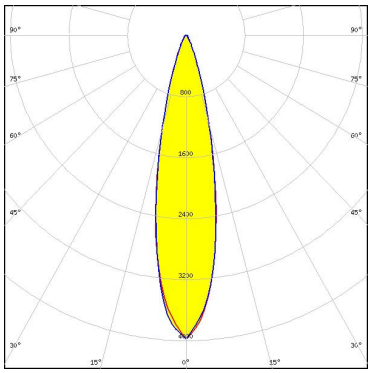


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OPTICAL RESULTS (SIMULATED):

OSRAM
Opto Semiconductors

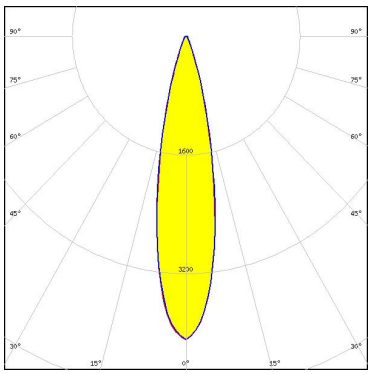
LED	OSCONIQ P 3737 Flat
FWHM / FWTM	24.0° / 44.0°
Efficiency	93 %
Peak intensity	4 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



OSRAM
Opto Semiconductors

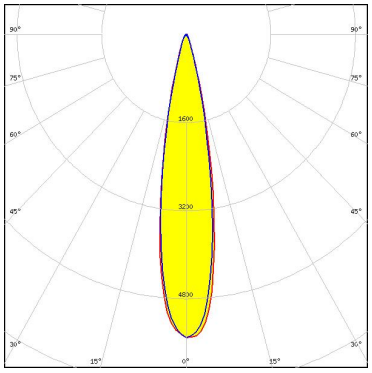
LED	OSLON Square CSSRM2/CSSRM3
FWHM / FWTM	22.0° / 42.0°
Efficiency	89 %
Peak intensity	4.1 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

Protective plate, glass



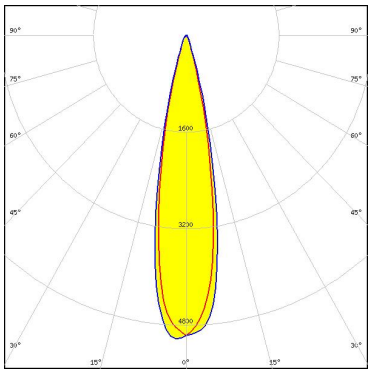
OSRAM
Opto Semiconductors

LED	OSLON Square Flat
FWHM / FWTM	20.0° / 35.0°
Efficiency	94 %
Peak intensity	5.5 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



OSRAM
Opto Semiconductors

LED	OSTAR Projection Compact (KW.CSLNM1.TG)
FWHM / FWTM	21.0° / 38.0°
Efficiency	94 %
Peak intensity	5 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

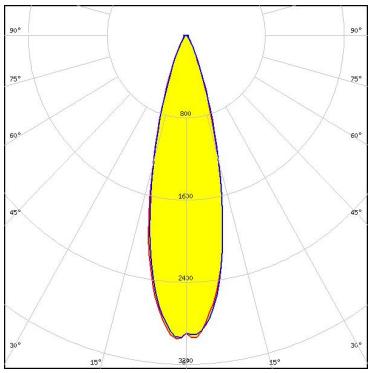


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OPTICAL RESULTS (SIMULATED):

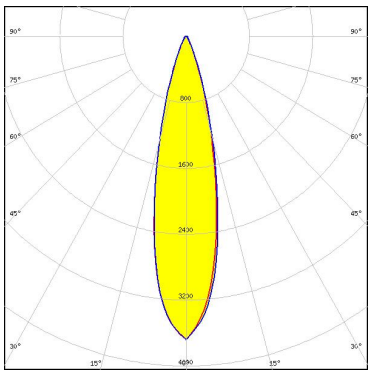
PHILIPS

LED	Fortimo FastFlex LED 2x8 DAX G4
FWHM / FWTM	28.0° / 50.0°
Efficiency	92 %
Peak intensity	3 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



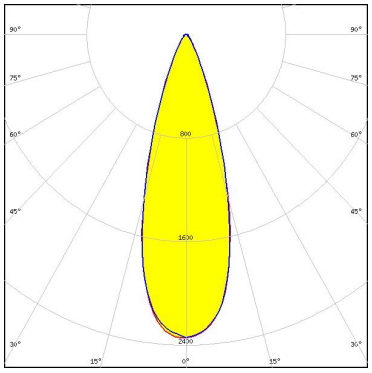
SAMSUNG

LED	LH231B
FWHM / FWTM	24.0° / 46.0°
Efficiency	92 %
Peak intensity	3.7 cd/lm
LEDs/each optic	4
Light colour	White
Required components:	



SAMSUNG

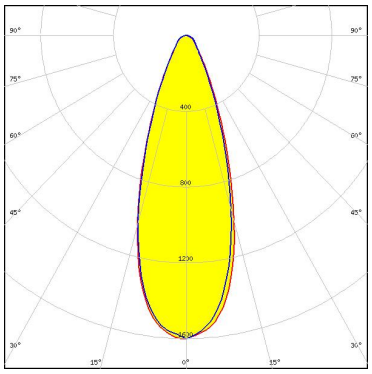
LED	LH351C
FWHM / FWTM	32.0° / 56.0°
Efficiency	91 %
Peak intensity	2.3 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



SAMSUNG

LED	LH502C
FWHM / FWTM	36.0° / 70.0°
Efficiency	89 %
Peak intensity	1.6 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

Protective plate, glass



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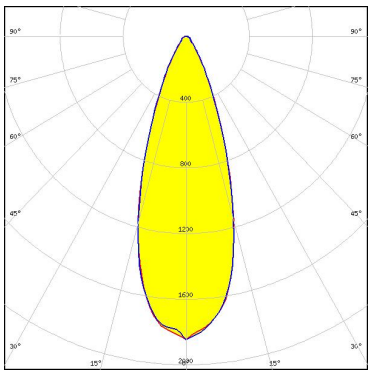
OPTICAL RESULTS (SIMULATED):

SAMSUNG

LED	LH508A Plus
FWHM / FWTM	32.0° / 62.0°
Efficiency	93 %
Peak intensity	2.1 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

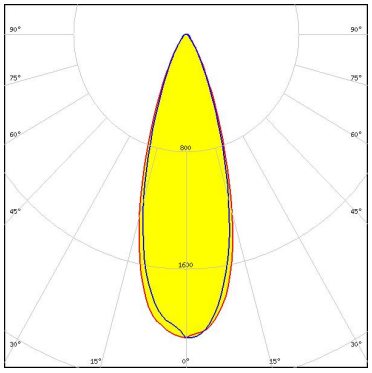
SEOUL SEMICONDUCTOR

LED	MJT 5050
FWHM / FWTM	36.0° / 66.0°
Efficiency	92 %
Peak intensity	1.8 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



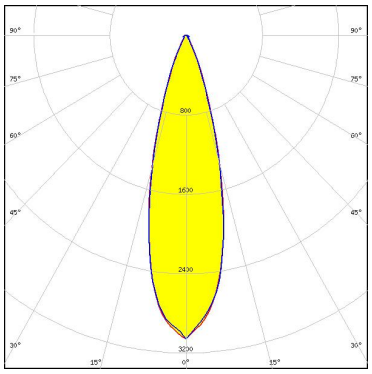
SEOUL SEMICONDUCTOR

LED	SEOUL DC 5050 6V
FWHM / FWTM	34.0° / 62.0°
Efficiency	94 %
Peak intensity	2.1 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



SEOUL SEMICONDUCTOR

LED	Z5M5
FWHM / FWTM	28.0° / 50.0°
Efficiency	94 %
Peak intensity	3.1 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



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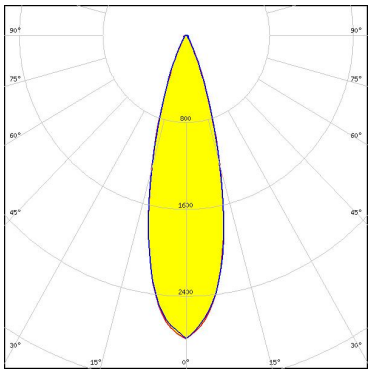
OPTICAL RESULTS (SIMULATED):

SEOUL SEMICONDUCTOR

LED	Z5M5
FWHM / FWTM	28.0° / 50.0°
Efficiency	85 %
Peak intensity	2.8 cd/lm
LEDs/each optic	1
Light colour	White

Required components:

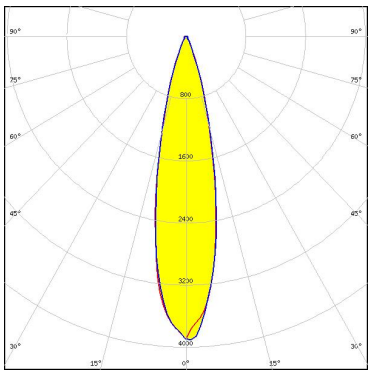
Protective plate, glass



SEOUL SEMICONDUCTOR

LED	Z8Y22T
FWHM / FWTM	23.0° / 44.0°
Efficiency	91 %
Peak intensity	3.9 cd/lm
LEDs/each optic	1
Light colour	White

Required components:



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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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