

CRYSTAL-MINE

~4.9° spot beam especially designed for mining headlamps. Assembly with holder.

SPECIFICATION:

Dimensions	Ø 50.3
Height	28.7 mm
Fastening	pin, screw
ROHS compliant	yes ⓘ



LEDiL

MATERIALS:

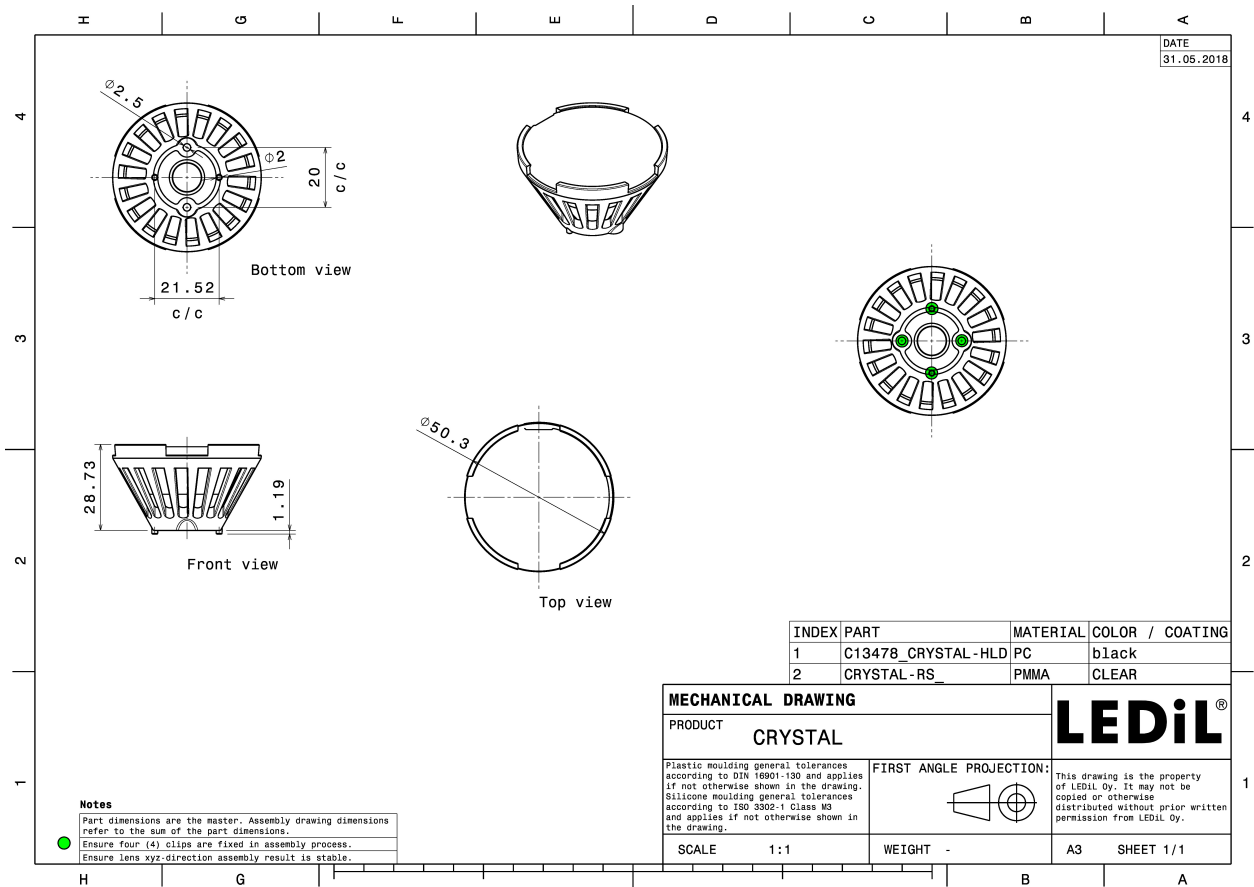
Component	Type	Material	Colour	Finish	Length (mm)
CRYSTAL-MINE	Single lens	PMMA	clear		
CRYSTAL-HLD	Holder	PC	white		

ORDERING INFORMATION:

Quantities for one set:

Single lens	1
Holder	1

Component		Qty in box	MOQ	MPQ	Box weight (kg)
F12985_CRYSTAL-MINE » Box size: 480 x 280 x 300 mm	Single lens	288	64	32	7.1
C13478_CRYSTAL-HLD » Box size: 480 x 280 x 300 mm	Holder	1152	64	32	6.1

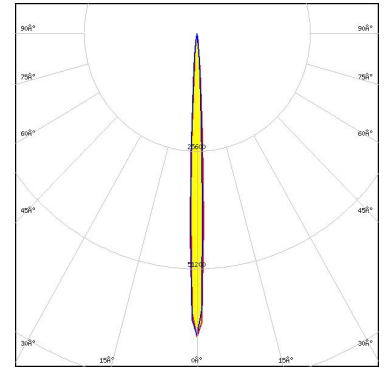


See also our general installation guide: www.ledil.com/installation_guide

OPTICAL RESULTS (MEASURED):



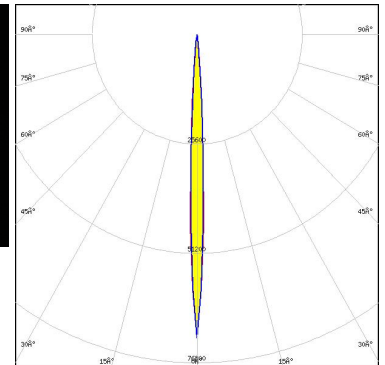
LED XP-G
FWHM / FWTM 4.7° / 10.5°
Efficiency 90 %
Peak intensity 66.9 cd/lm
LEDs/each optic 1
Light colour/type White
Required components:



Light distribution files



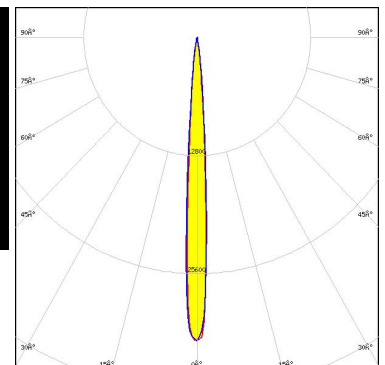
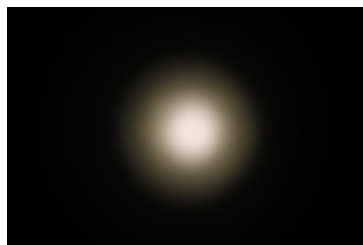
LED XP-G2
FWHM / FWTM 4.6° / 12.0°
Efficiency 90 %
Peak intensity 65.2 cd/lm
LEDs/each optic 1
Light colour/type White
Required components:



Light distribution files



LED XP-L HD
FWHM / FWTM 7.0° / 14.0°
Efficiency 86 %
Peak intensity 33 cd/lm
LEDs/each optic 1
Light colour/type White
Required components:

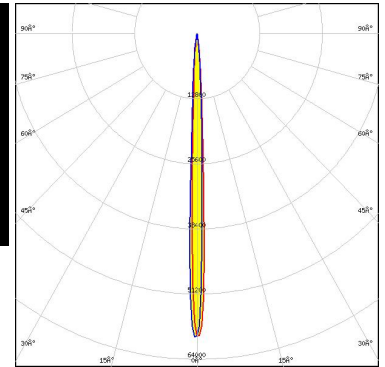


Light distribution files

OPTICAL RESULTS (MEASURED):



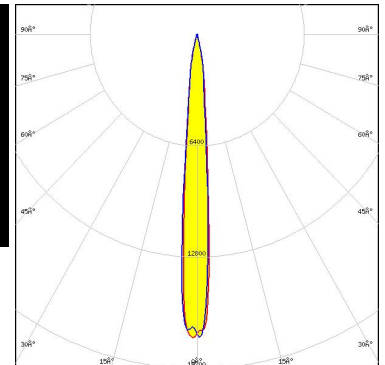
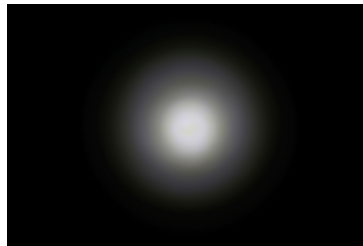
LED XP-L HI
FWHM / FWTM 4.5° / 12.0°
Efficiency 92 %
Peak intensity 60 cd/lm
LEDs/each optic 1
Light colour/type White
Required components:



Light distribution files



LED LUXEON 5050 Round LES
FWHM / FWTM 9.0° / 23.0°
Efficiency 94 %
Peak intensity 17.5 cd/lm
LEDs/each optic 1
Light colour/type White
Required components:



Light distribution files



LED LUXEON A
FWHM / FWTM 4.9° / 13.0°
Efficiency 89 %
Peak intensity 58.2 cd/lm
LEDs/each optic 1
Light colour/type White
Required components:



Light distribution files

OPTICAL RESULTS (MEASURED):



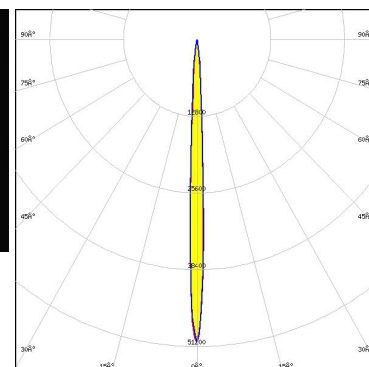
LED LUXEON T
FWHM / FWTM 4.9° / 13.0°
Efficiency 89 %
Peak intensity 55.1 cd/lm
LEDs/each optic 1
Light colour/type White
Required components:



Light distribution files



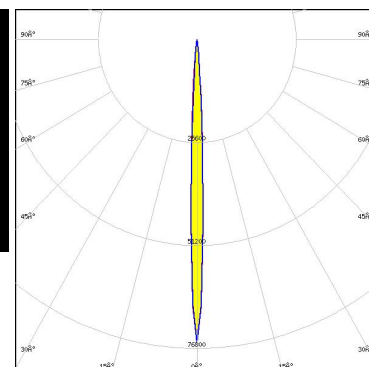
LED LUXEON TX
FWHM / FWTM 5.0° / 12.6°
Efficiency 94 %
Peak intensity 50.6 cd/lm
LEDs/each optic 1
Light colour/type White
Required components:



Light distribution files



LED NCSxx19B
FWHM / FWTM 3.6° / 12.0°
Efficiency 90 %
Peak intensity 73.3 cd/lm
LEDs/each optic 1
Light colour/type White
Required components:

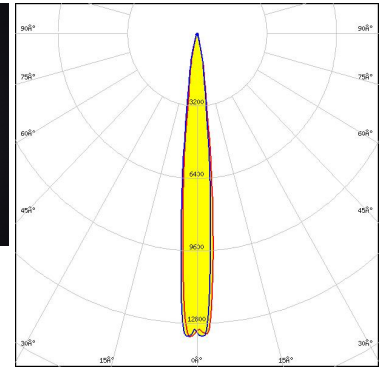


Light distribution files

OPTICAL RESULTS (MEASURED):



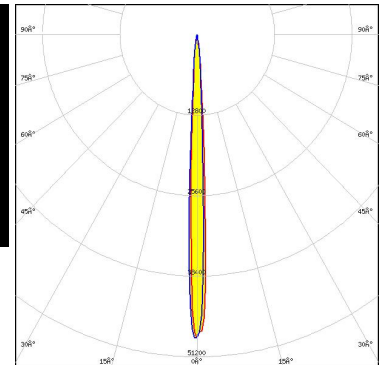
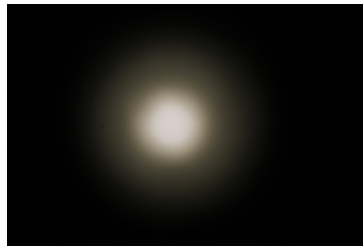
LED NV4x144A
FWHM / FWTM 11.0° / 24.0°
Efficiency 90 %
Peak intensity 13.4 cd/lm
LEDs/each optic 1
Light colour/type White
Required components:



Light distribution files



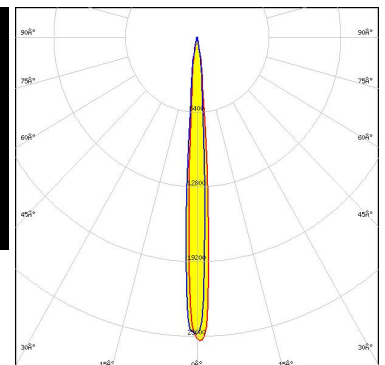
LED NVSxx19B/NVSxx19C
FWHM / FWTM 6.0° / 13.0°
Efficiency 93 %
Peak intensity 48 cd/lm
LEDs/each optic 1
Light colour/type White
Required components:



Light distribution files



LED NWSx229A
FWHM / FWTM 7.0° / 18.0°
Efficiency 91 %
Peak intensity 26 cd/lm
LEDs/each optic 1
Light colour/type White
Required components:

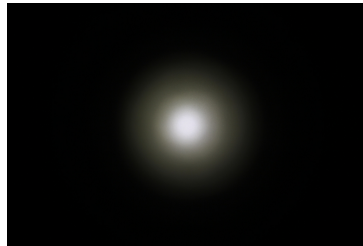


Light distribution files

OPTICAL RESULTS (MEASURED):

SAMSUNG

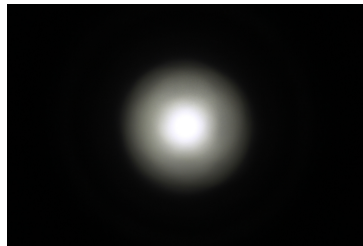
LED LH351B
FWHM / FWTM 5.1° / 13.0°
Efficiency 90 %
Peak intensity 51.8 cd/lm
LEDs/each optic 1
Light colour/type White
Required components:



Light distribution files

SAMSUNG

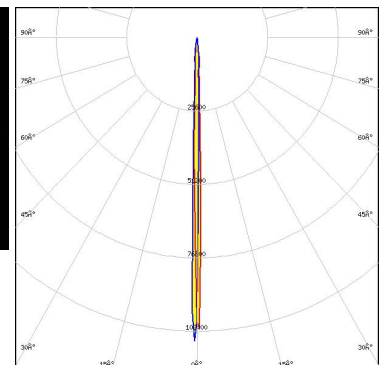
LED LH351Z
FWHM / FWTM 4.2° / 10.0°
Efficiency 90 %
Peak intensity 71.4 cd/lm
LEDs/each optic 1
Light colour/type White
Required components:



Light distribution files



LED nPola
FWHM / FWTM 2.0° / 7.0°
Efficiency 94 %
Peak intensity 114 cd/lm
LEDs/each optic 1
Light colour/type White
Required components:

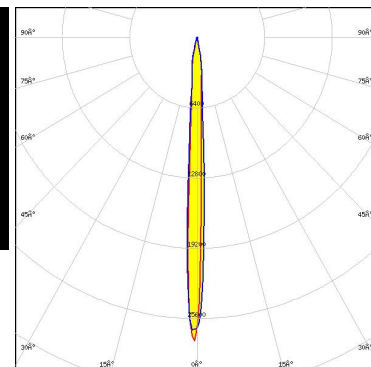
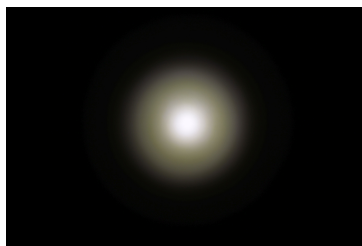


Light distribution files

OPTICAL RESULTS (MEASURED):



LED Z5M3
FWHM / FWTM 6.0° / 19.0°
Efficiency 93 %
Peak intensity 28.6 cd/lm
LEDs/each optic 1
Light colour/type White
Required components:

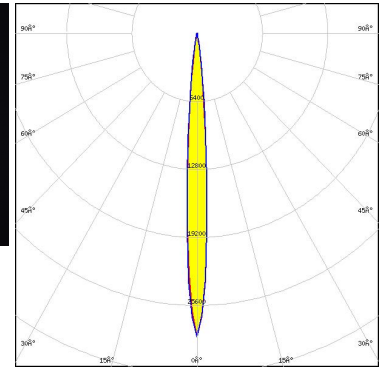
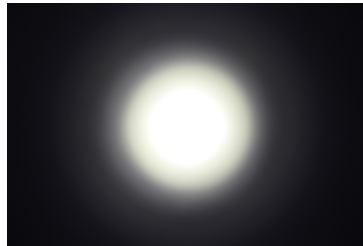


Light distribution files

OPTICAL RESULTS (SIMULATED):



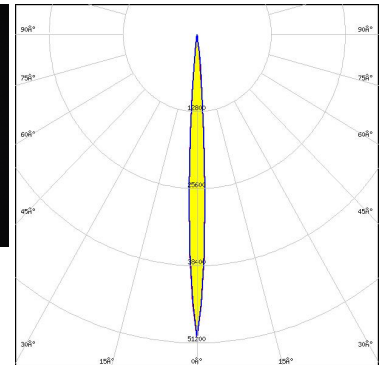
LED XHP35 HD
FWHM / FWTM 7.8° / 17.0°
Efficiency 94 %
Peak intensity 28.6 cd/Im
LEDs/each optic 1
Light colour/type White
Required components:



Light distribution files



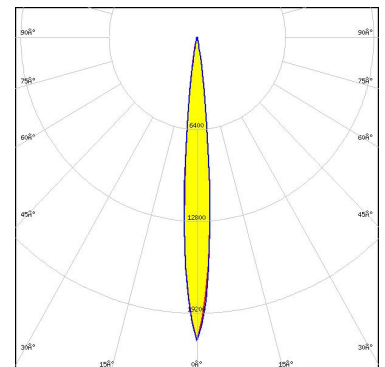
LED XHP35 HI
FWHM / FWTM 6.2° / 13.0°
Efficiency 94 %
Peak intensity 50.4 cd/Im
LEDs/each optic 1
Light colour/type White
Required components:



Light distribution files



LED XHP35.2 HD
FWHM / FWTM 10.0° / 19.0°
Efficiency 94 %
Peak intensity 21.1 cd/Im
LEDs/each optic 1
Light colour/type White
Required components:

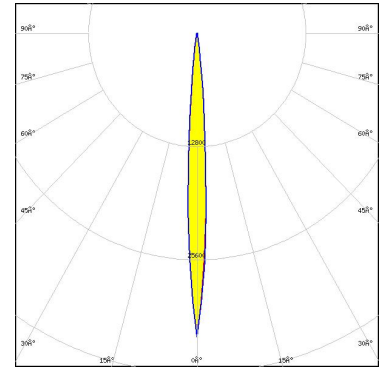


Light distribution files

OPTICAL RESULTS (SIMULATED):



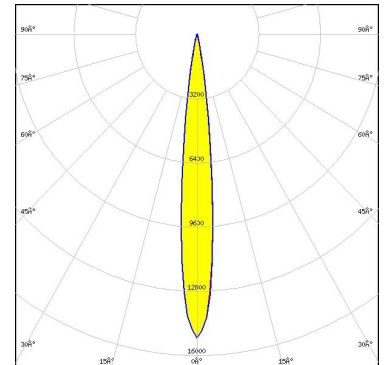
LED XHP35.2 HD
FWHM / FWTM 8.0° / 16.0°
Efficiency 96 %
Peak intensity 34.3 cd/lm
LEDs/each optic 1
Light colour/type White
Required components:



Light distribution files



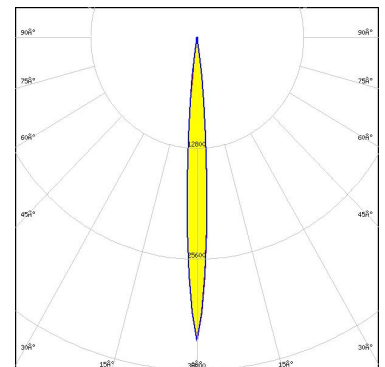
LED XHP50.2
FWHM / FWTM 12.0° / 22.0°
Efficiency 95 %
Peak intensity 15.1 cd/lm
LEDs/each optic 1
Light colour/type White
Required components:



Light distribution files



LED XM-L2
FWHM / FWTM 8.0° / 16.0°
Efficiency 97 %
Peak intensity 35 cd/lm
LEDs/each optic 1
Light colour/type White
Required components:

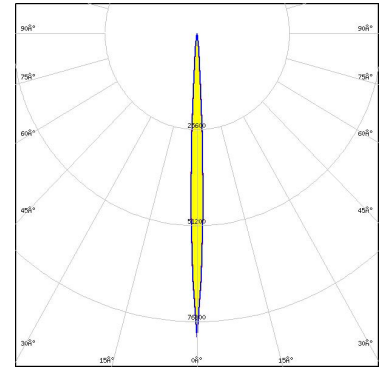


Light distribution files

OPTICAL RESULTS (SIMULATED):



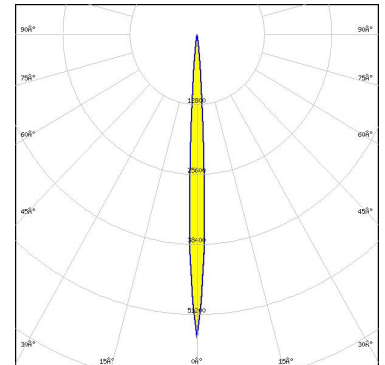
LED LUXEON C
FWHM / FWTM 4.0° / 10.0°
Efficiency 94 %
Peak intensity 80.9 cd/m
LEDs/each optic 1
Light colour/type White
Required components:



Light distribution files



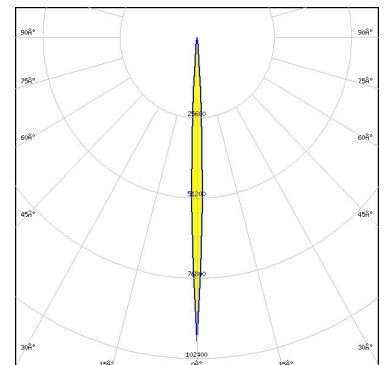
LED LUXEON HL4Z
FWHM / FWTM 6.0° / 12.0°
Efficiency 96 %
Peak intensity 55.5 cd/m
LEDs/each optic 1
Light colour/type White
Required components:



Light distribution files



LED LUXEON Rubix
FWHM / FWTM 4.0° / 10.0°
Efficiency 95 %
Peak intensity 96.7 cd/m
LEDs/each optic 1
Light colour/type White
Required components:

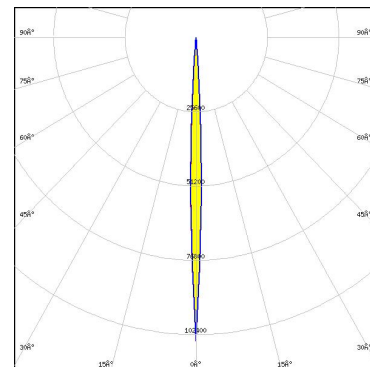


Light distribution files

OPTICAL RESULTS (SIMULATED):



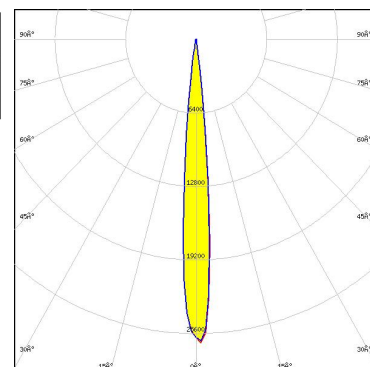
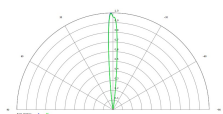
LED LUXEON Rubix
FWHM / FWTM 4.0° / 10.0°
Efficiency 95 %
Peak intensity 104.6 cd/lm
LEDs/each optic 1
Light colour/type Green
Required components:



Light distribution files



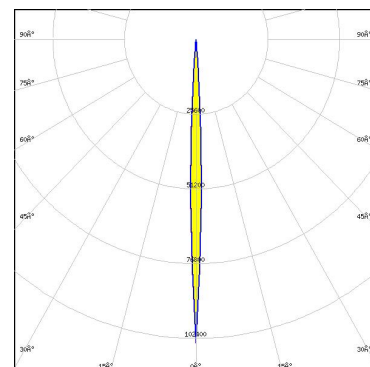
LED LUXEON Rubix
FWHM / FWTM 10.0° / 17.0°
Efficiency 97 %
Peak intensity 26.6 cd/lm
LEDs/each optic 4
Light colour/type RGBW
Required components:



Light distribution files



LED LUXEON Rubix
FWHM / FWTM 4.0° / 10.0°
Efficiency 95 %
Peak intensity 104 cd/lm
LEDs/each optic 1
Light colour/type Blue
Required components:

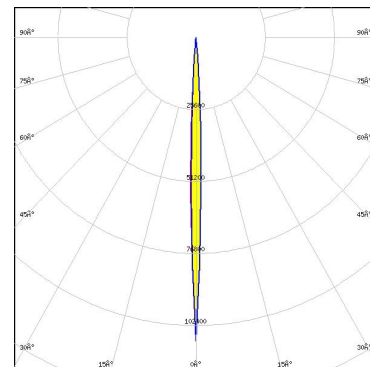


Light distribution files

OPTICAL RESULTS (SIMULATED):



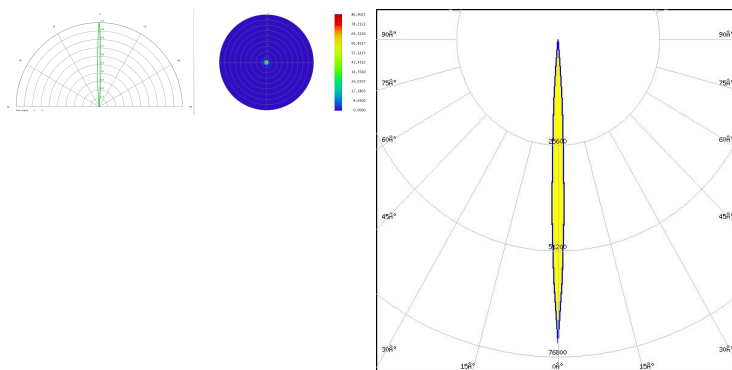
LED LUXEON Rubix
FWHM / FWTM 4.0° / 10.0°
Efficiency 95 %
Peak intensity 107.9 cd/lm
LEDs/each optic 1
Light colour/type Red
Required components:



Light distribution files



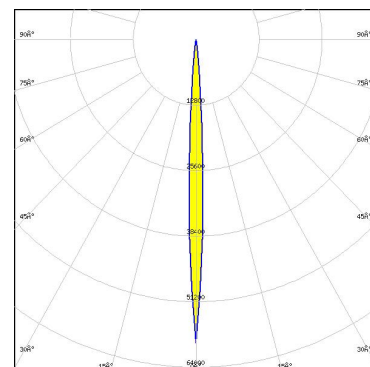
LED SST-10-B130
FWHM / FWTM 5.0° / 10.0°
Efficiency 95 %
LEDs/each optic 1
Light colour/type IR
Required components:



Light distribution files



LED OSCONIQ P 3737 (2W version)
FWHM / FWTM 5.5° / 12.8°
Efficiency 94 %
Peak intensity 59.3 cd/lm
LEDs/each optic 1
Light colour/type White
Required components:

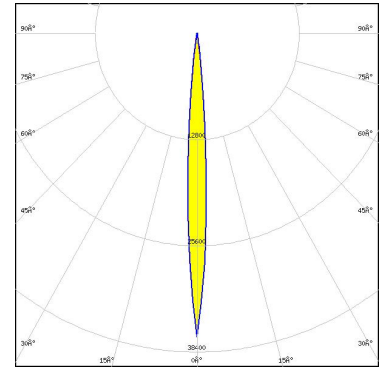


Light distribution files

OPTICAL RESULTS (SIMULATED):

OSRAM
Opto Semiconductors

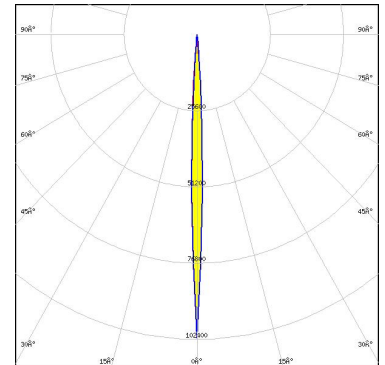
LED OSCONIQ P 3737 (3W version)
FWHM / FWTM 5.5° / 12.8°
Efficiency 94 %
Peak intensity 59.3 cd/lm
LEDs/each optic 1
Light colour/type White
Required components:



Light distribution files

OSRAM
Opto Semiconductors

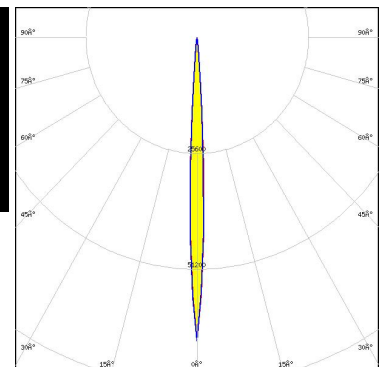
LED OSLON Pure 1414
FWHM / FWTM 4.0° / 10.0°
Efficiency 95 %
Peak intensity 102 cd/lm
LEDs/each optic 1
Light colour/type White
Required components:



Light distribution files

OSRAM
Opto Semiconductors

LED OSLON Square CSSRM2/CSSRM3
FWHM / FWTM 5.4° / 11.0°
Efficiency 94 %
Peak intensity 67 cd/lm
LEDs/each optic 1
Light colour/type White
Required components:

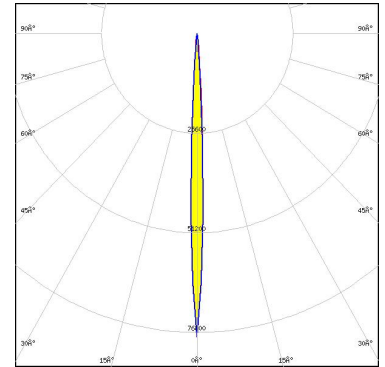


Light distribution files

OPTICAL RESULTS (SIMULATED):

OSRAM
Opto Semiconductors

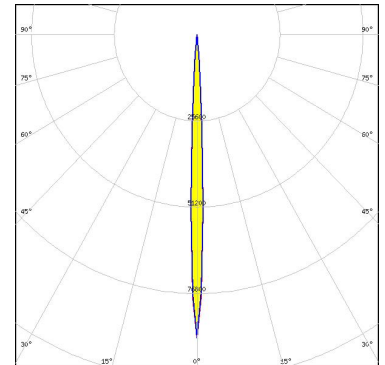
LED OSLON Square Flat
FWHM / FWTM 4.8° / 10.0°
Efficiency 94 %
Peak intensity 78 cd/lm
LEDs/each optic 1
Light colour/type White
Required components:



Light distribution files

OSRAM
Opto Semiconductors

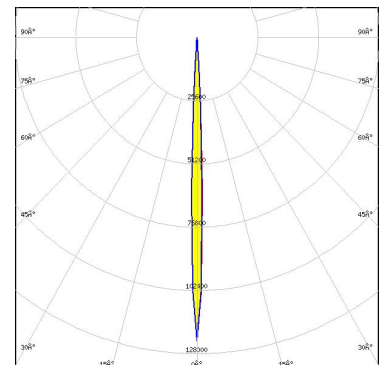
LED OSRAM OSTAR Projection Compact (KW CSLPM1.TG)
FWHM / FWTM 4.0° / 9.0°
Efficiency 94 %
Peak intensity 90 cd/lm
LEDs/each optic 1
Light colour/type White
Required components:



Light distribution files

OSRAM
Opto Semiconductors

LED OSTAR Projection Compact (KW.CSLNM1.TG)
FWHM / FWTM 4.0° / 8.0°
Efficiency 94 %
Peak intensity 122.8 cd/lm
LEDs/each optic 1
Light colour/type White
Required components:

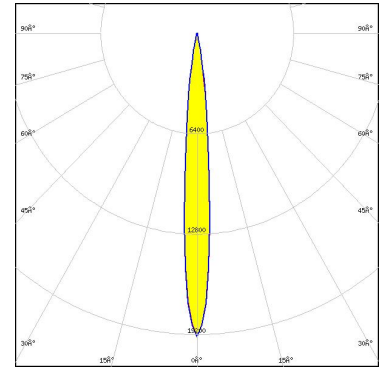


Light distribution files

OPTICAL RESULTS (SIMULATED):

SAMSUNG

LED	LH151B
FWHM / FWTM	10.0° / 20.0°
Efficiency	97 %
Peak intensity	19.4 cd/lm
LEDs/each optic	4
Light colour/type	White
Required components:	



Light distribution files

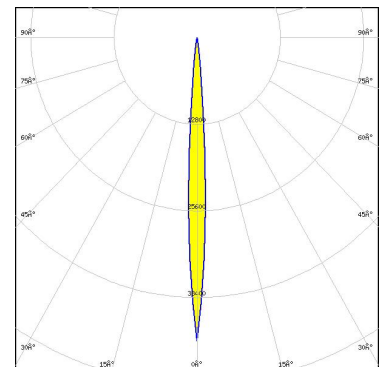
SAMSUNG

LED	LH351B
FWHM / FWTM	6.0° / 13.0°
Efficiency	96 %
Peak intensity	48 cd/lm
LEDs/each optic	1
Light colour/type	White
Required components:	

Light distribution files

SAMSUNG

LED	LH351C
FWHM / FWTM	6.0° / 14.0°
Efficiency	96 %
Peak intensity	44.8 cd/lm
LEDs/each optic	1
Light colour/type	White
Required components:	

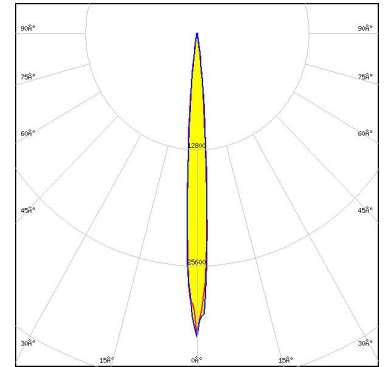


Light distribution files

OPTICAL RESULTS (SIMULATED):

SAMSUNG

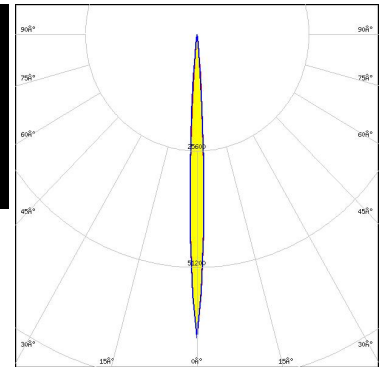
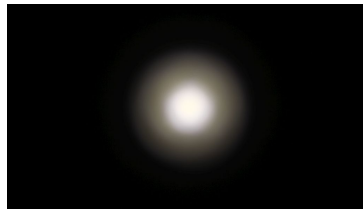
LED LH351D
FWHM / FWTM 7.5° / 15.0°
Efficiency 97 %
Peak intensity 34.2 cd/m
LEDs/each optic 1
Light colour/type White
Required components:



Light distribution files



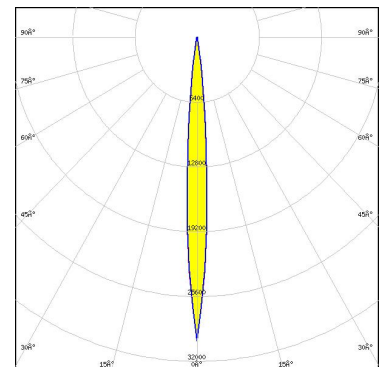
LED Z5M1/Z5M2
FWHM / FWTM 5.4° / 11.0°
Efficiency 94 %
Peak intensity 66.7 cd/m
LEDs/each optic 1
Light colour/type White
Required components:



Light distribution files



LED Z8Y22P
FWHM / FWTM 7.8°
Efficiency 94 %
Peak intensity 29.9 cd/m
LEDs/each optic 1
Light colour/type White
Required components:

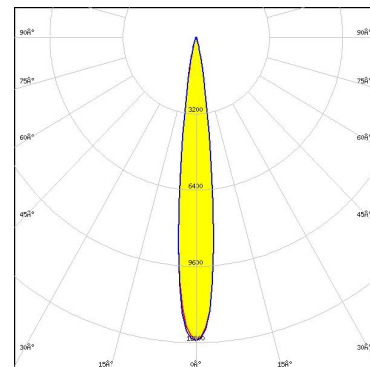


Light distribution files

OPTICAL RESULTS (SIMULATED):



LED Z8Y50P
 FWHM / FWTM 12.0° / 24.0°
 Efficiency 97 %
 Peak intensity 12.7 cd/lm
 LEDs/each optic 1
 Light colour/type White
 Required components:



Light distribution files

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.

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LEDiL Oy

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P.R.CHINA

Local sales and technical support

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

Shipping locations

Poznan, Poland
Hong Kong, China

Distribution Partners

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