CRYSTAL-MINE

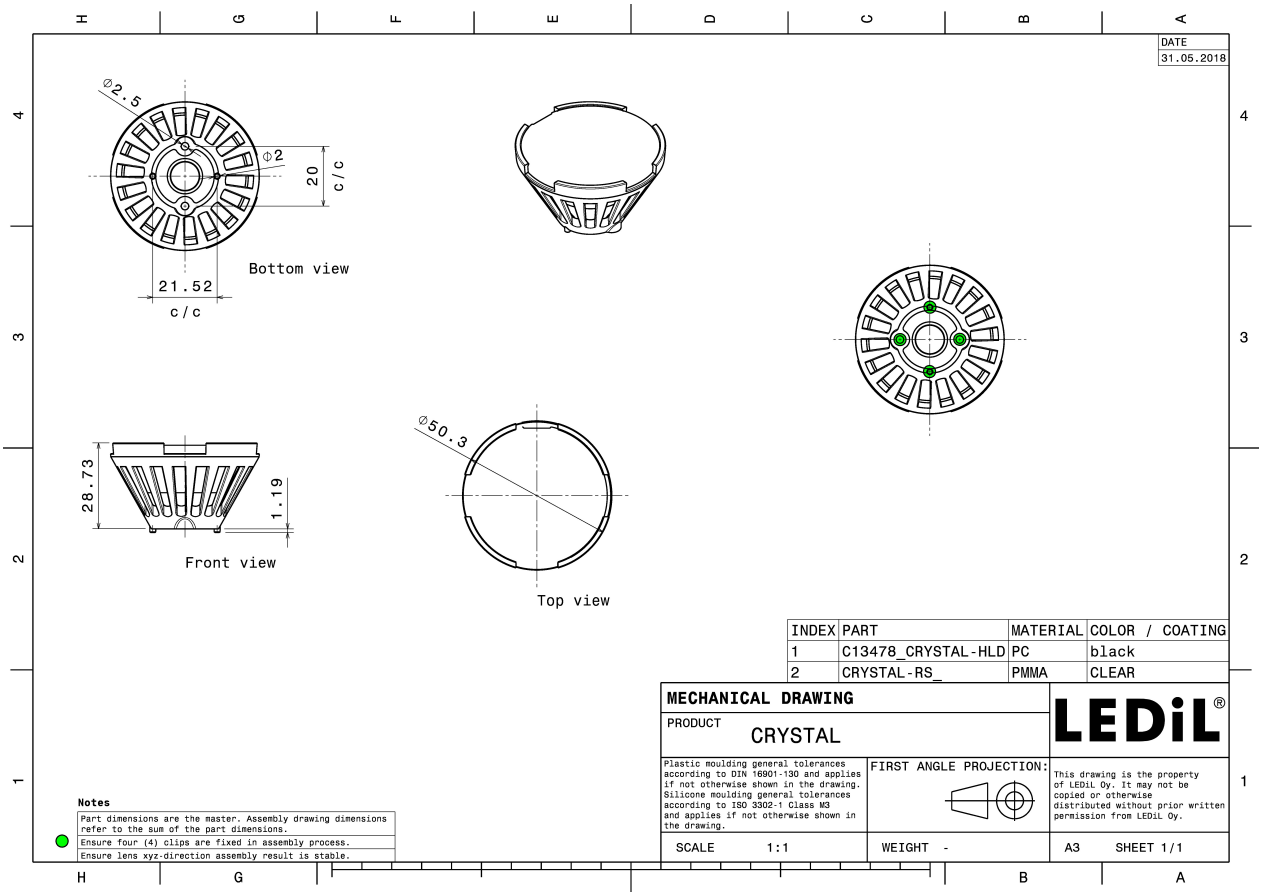
~4.9° spot beam especially designed for mining headlamps. Assembly with holder.

TECHNICAL SPECIFICATIONS:

Dimensions	Ø 50.3 mm
Height	28.7 mm
Fastening	pin, screw
Colour	white
Box size	
Box weight	0 kg
Quantity in Box	288 pcs
ROHS compliant	yes

MATERIAL SPECIFICATIONS:

Component	Type	Material	Colour
CRYSTAL-MINE	Single lens	PMMA	clear
CRYSTAL-HLD	Holder	PC	white



INDEX	PART	MATERIAL	COLOR / COATING
1	C13478_CRYSTAL-HLD	PC	black
2	CRYSTAL-RS_	PMMA	CLEAR

MECHANICAL DRAWING

PRODUCT
CRYSTAL

LEDiL®

Plastic moulding general tolerances according to DIN 16901-130 and applies if not otherwise shown in the drawing. Silicone moulding general tolerances according to ISO 3302-1 Class M3 and applies if not otherwise shown in the drawing.

FIRST ANGLE PROJECTION:

SCALE 1:1 | WEIGHT - | A3 SHEET 1/1

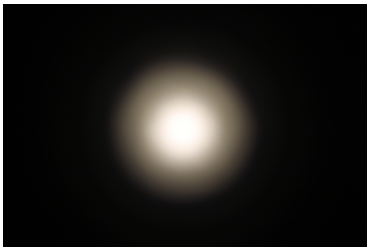
Notes

Part dimensions are the master. Assembly drawing dimensions refer to the sum of the part dimensions.
Ensure four (4) clips are fixed in assembly process.
Ensure lens xyz-direction assembly result is stable.

PHOTOMETRIC DATA (MEASURED):

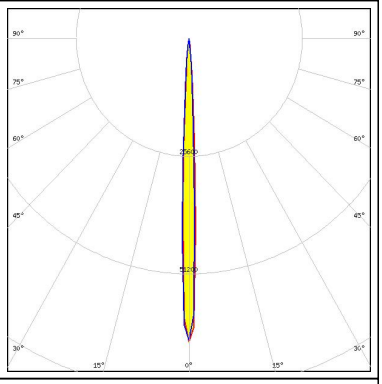
CREE

LED	XM-L2
FWHM	6.9°
Efficiency	90 %
Peak intensity	35.000 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



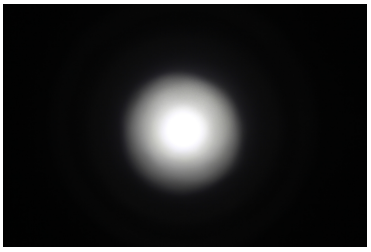
CREE

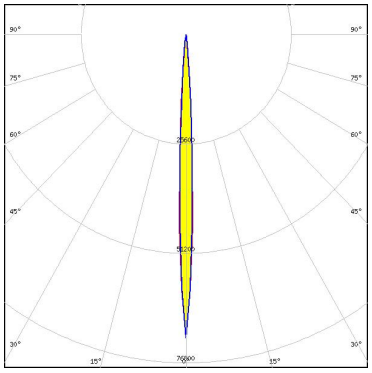
LED	XP-G
FWHM	4.7°
Efficiency	90 %
Peak intensity	66.900 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



CREE

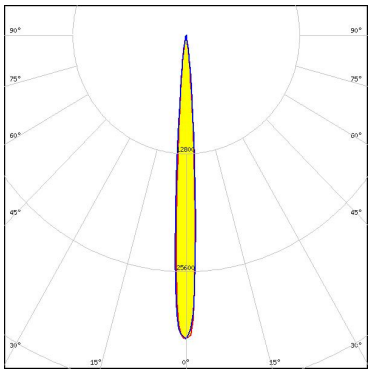
LED	XP-G2
FWHM	4.6°
Efficiency	90 %
Peak intensity	65.200 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	





CREE

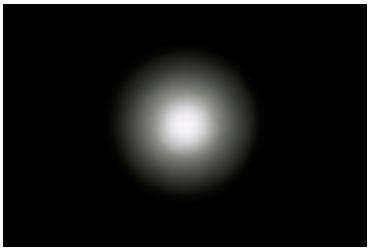
LED	XP-L HD
FWHM	7.0°
Efficiency	86 %
Peak intensity	33.000 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

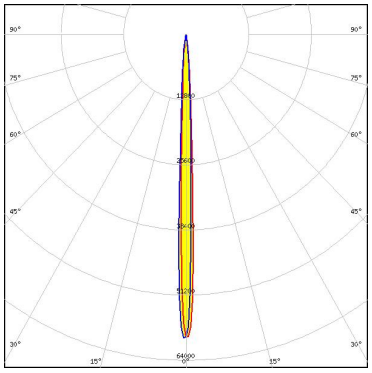


PHOTOMETRIC DATA (MEASURED):

CREE

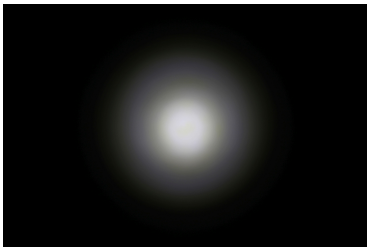
LED	XP-L HI
FWHM	4.5°
Efficiency	92 %
Peak intensity	60.000 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

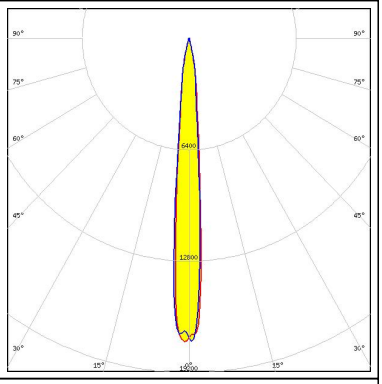




LUMILEDS

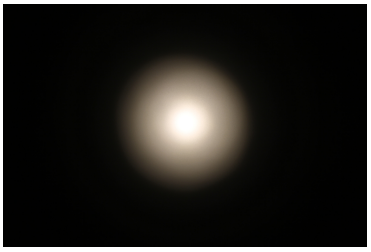
LED	LUXEON 5050
FWHM	9.0°
Efficiency	94 %
Peak intensity	17.457 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	





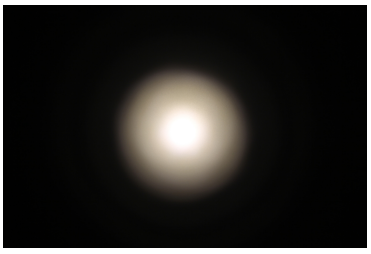
LUMILEDS

LED	LUXEON A
FWHM	4.9°
Efficiency	89 %
Peak intensity	58.200 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



LUMILEDS

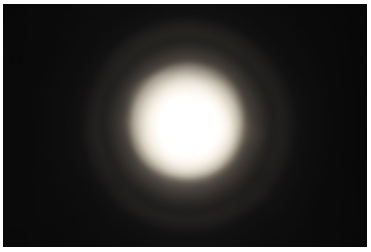
LED	LUXEON T
FWHM	4.9°
Efficiency	89 %
Peak intensity	55.100 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

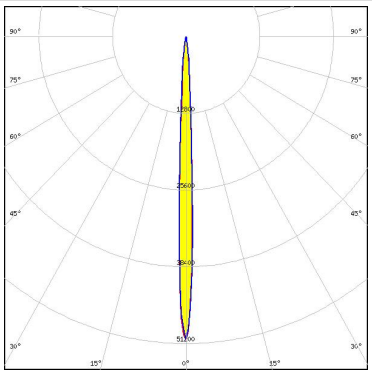


PHOTOMETRIC DATA (MEASURED):

LUMILEDS

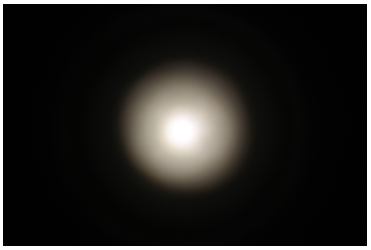
LED	LUXEON TX
FWHM	5.0°
Efficiency	94 %
Peak intensity	50.600 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

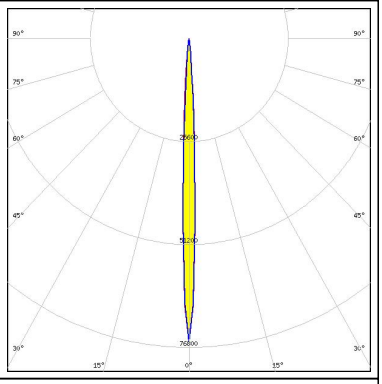




NICHIA

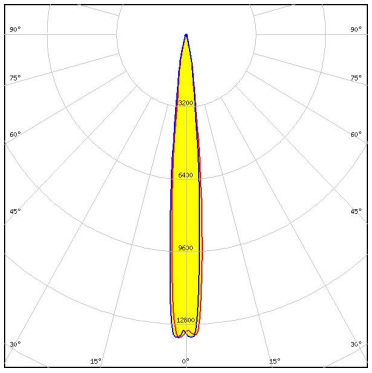
LED	NCSxx19B
FWHM	3.6°
Efficiency	90 %
Peak intensity	73.300 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	





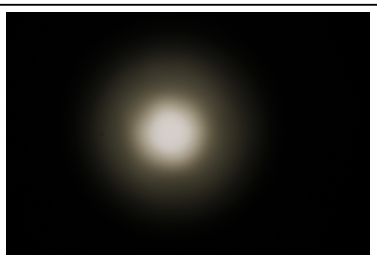
NICHIA

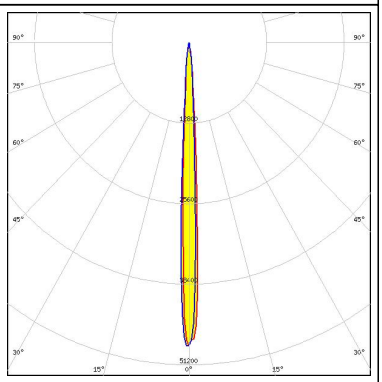
LED	NV4x144A
FWHM	11.0°
Efficiency	90 %
Peak intensity	13.400 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



NICHIA

LED	NVSxx19B/NVSxx19C
FWHM	6.0°
Efficiency	93 %
Peak intensity	48.000 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

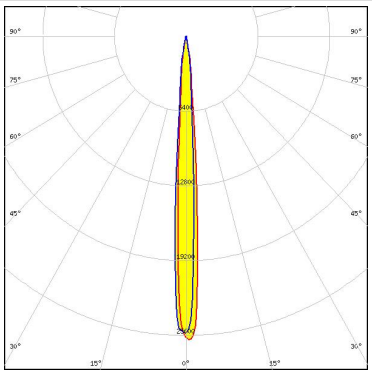




PHOTOMETRIC DATA (MEASURED):

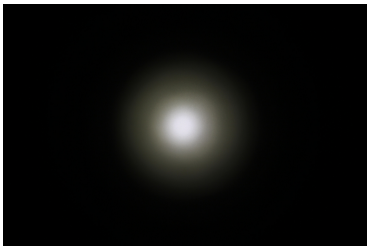
NICHIA

LED	NWSx229A
FWHM	7.0°
Efficiency	91 %
Peak intensity	26.000 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



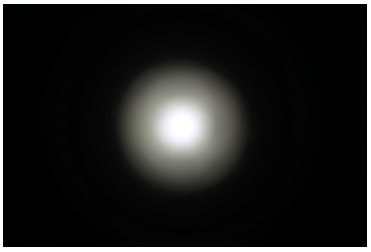
SAMSUNG

LED	LH351B
FWHM	5.1°
Efficiency	90 %
Peak intensity	51.770 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



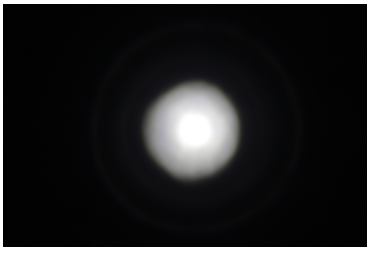
SAMSUNG

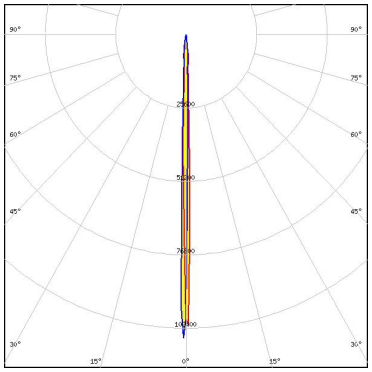
LED	LH351Z
FWHM	4.2°
Efficiency	90 %
Peak intensity	71.400 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



SEOUL SEMICONDUCTOR

LED	nPola
FWHM	2.0°
Efficiency	94 %
Peak intensity	114.000 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



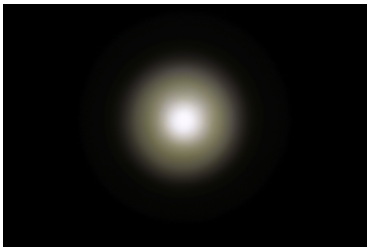


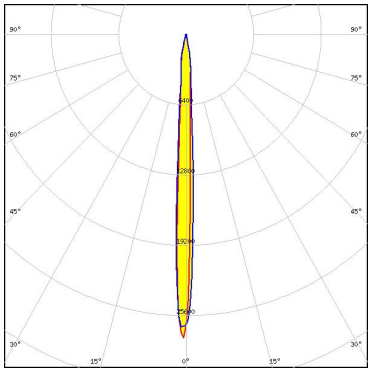
PHOTOMETRIC DATA (MEASURED):

SEOUL SEMICONDUCTOR

LED	Z5M3
FWHM	6.0°
Efficiency	93 %
Peak intensity	28.600 cd/lm
LEDs/each optic	1
Light colour	White

Required components:

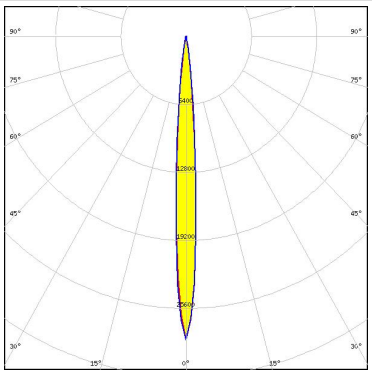




PHOTOMETRIC DATA (SIMULATED):

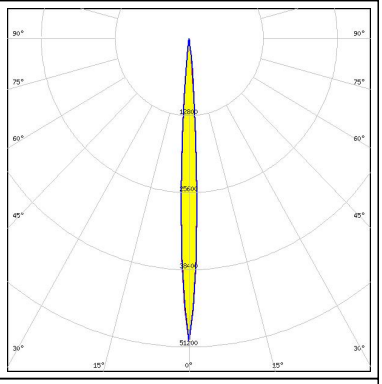
CREE

LED	XHP35 HD
FWHM	7.8°
Efficiency	94 %
Peak intensity	28.600 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



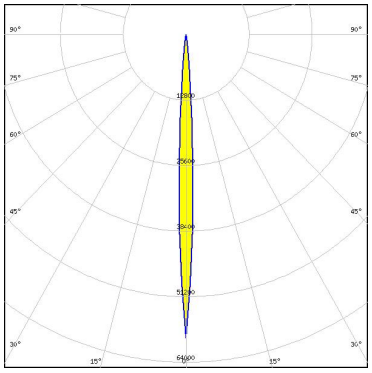
CREE

LED	XHP35 HI
FWHM	6.2°
Efficiency	94 %
Peak intensity	50.400 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



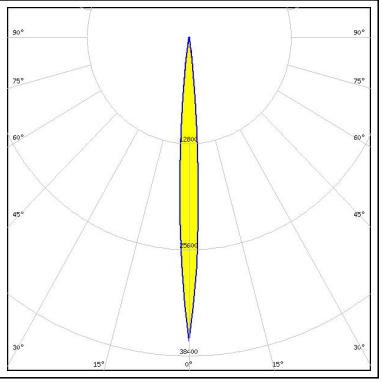
OSRAM
Opto Semiconductors

LED	OSCONIQ P 3737 (2W version)
FWHM	5.5°
Efficiency	94 %
Peak intensity	59.300 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



OSRAM
Opto Semiconductors

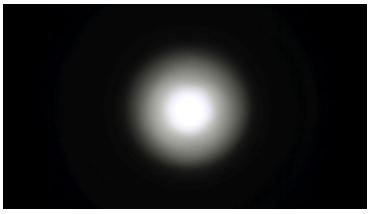
LED	OSCONIQ P 3737 (3W version)
FWHM	5.5°
Efficiency	94 %
Peak intensity	59.300 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	

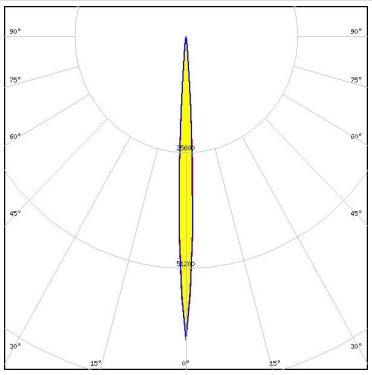


PHOTOMETRIC DATA (SIMULATED):

OSRAM
Opto Semiconductors

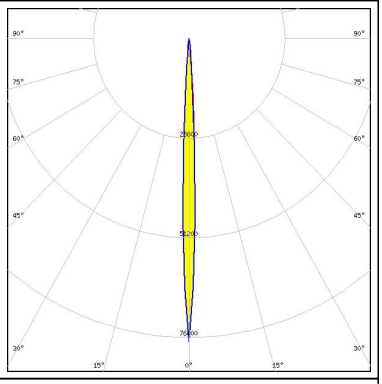
LED	OSLON Square CSSRM2/CSSRM3
FWHM	5.4°
Efficiency	94 %
Peak intensity	67.000 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	





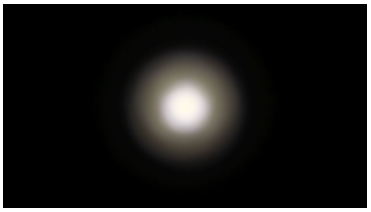
OSRAM
Opto Semiconductors

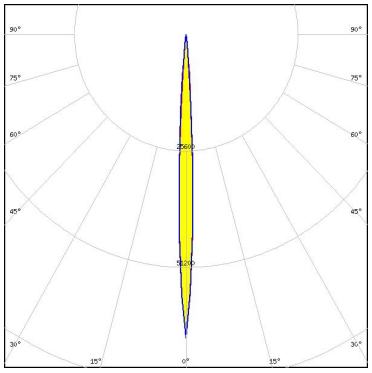
LED	OSLON Square Flat
FWHM	4.8°
Efficiency	94 %
Peak intensity	78.000 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



SEOUL SEMICONDUCTOR

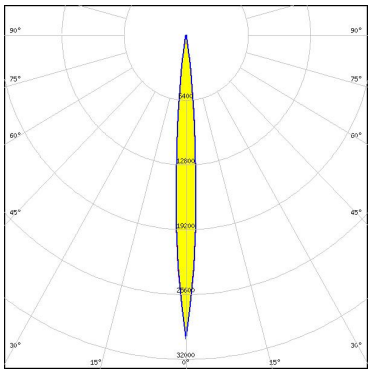
LED	Z5M1/Z5M2
FWHM	5.4°
Efficiency	94 %
Peak intensity	66.700 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	





SEOUL SEMICONDUCTOR

LED	Z8Y22P
FWHM	7.8°
Efficiency	94 %
Peak intensity	29.900 cd/lm
LEDs/each optic	1
Light colour	White
Required components:	



GENERAL INFORMATION:

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

MATERIALS:

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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