

## CRYSTAL-MINE

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

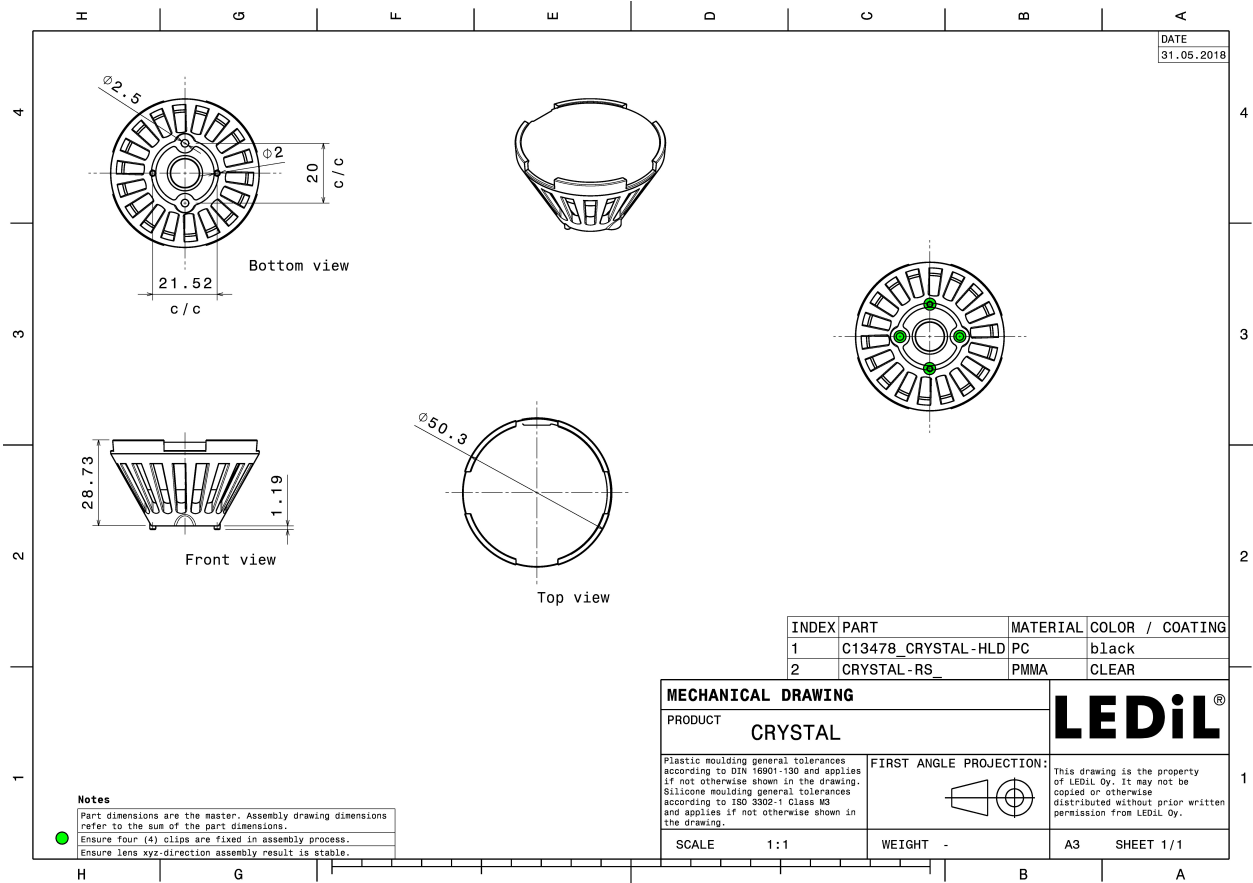
### TECHNICAL SPECIFICATIONS:

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:

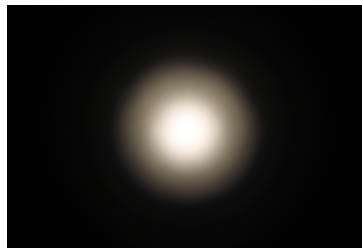
Component	Type	Material	Colour
CRYSTAL-MINE	Lens	PMMA	clear
CRYSTAL-HLD	Holder	PC	white



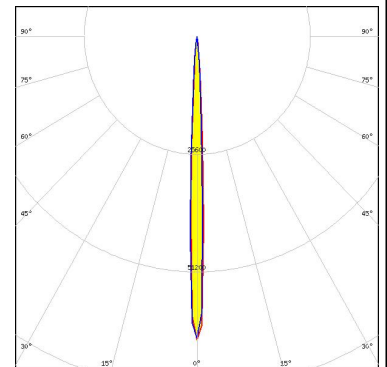
**PHOTOMETRIC DATA (MEASURED):**



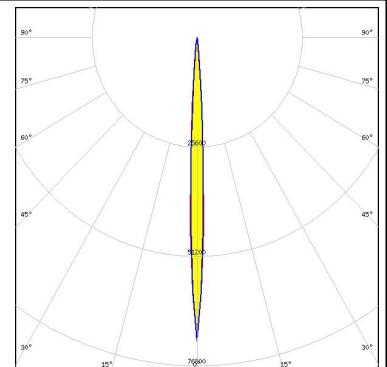
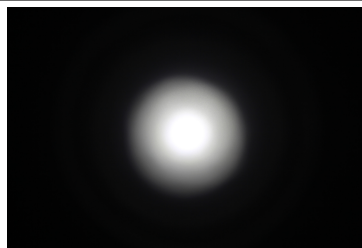
LED XM-L2  
FWHM 6.9°  
Efficiency 90 %  
Peak intensity 35.000 cd/lm  
Required components:



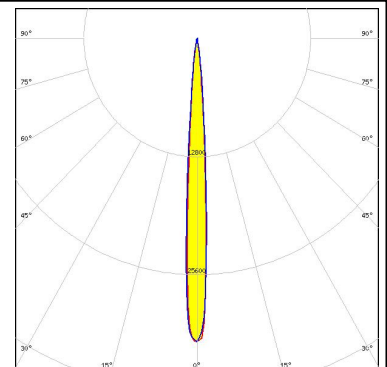
LED XP-G  
FWHM 4.7°  
Efficiency 90 %  
Peak intensity 66.900 cd/lm  
Required components:



LED XP-G2  
FWHM 4.6°  
Efficiency 90 %  
Peak intensity 65.200 cd/lm  
Required components:



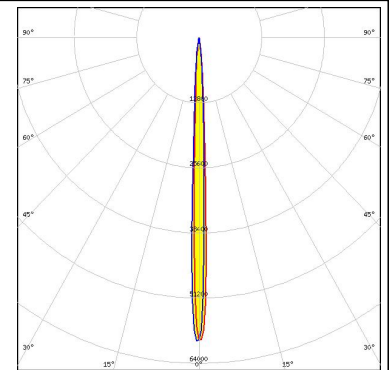
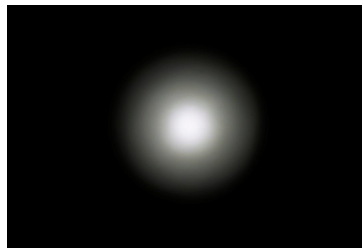
LED XP-L  
FWHM 7.0°  
Efficiency 86 %  
Peak intensity 33.000 cd/lm  
Required components:



**PHOTOMETRIC DATA (MEASURED):**



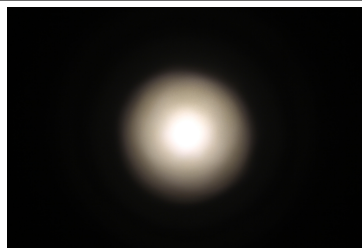
LED XP-L HI  
FWHM 4.5°  
Efficiency 92 %  
Peak intensity 60.000 cd/lm  
Required components:



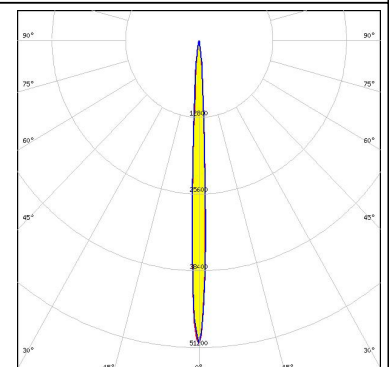
LED LUXEON A  
FWHM 4.9°  
Efficiency 89 %  
Peak intensity 58.200 cd/lm  
Required components:



LED LUXEON T  
FWHM 4.9°  
Efficiency 89 %  
Peak intensity 55.100 cd/lm  
Required components:



LED LUXEON TX  
FWHM 5.0°  
Efficiency 94 %  
Peak intensity 50.600 cd/lm  
Required components:

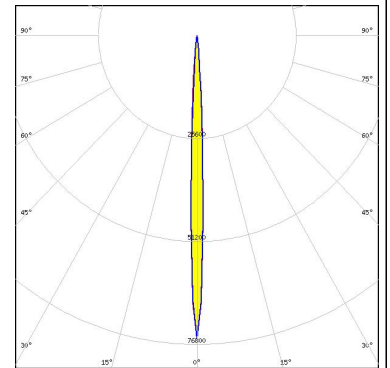
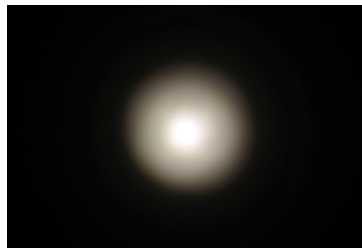




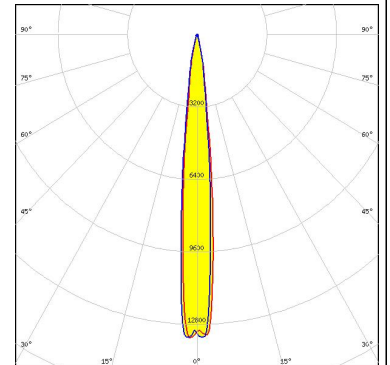
#### PHOTOMETRIC DATA (MEASURED):



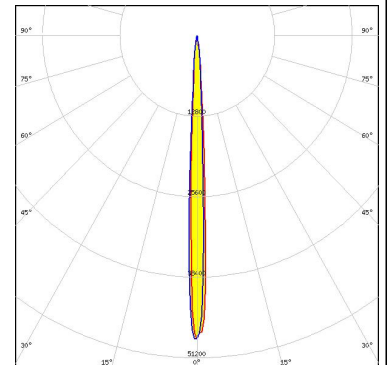
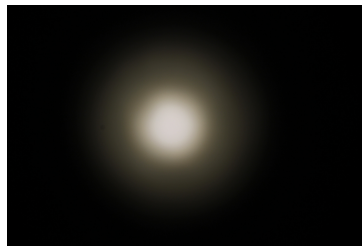
LED NCSxx19B  
 FWHM 3.6°  
 Efficiency 90 %  
 Peak intensity 73.300 cd/Im  
 Required components:



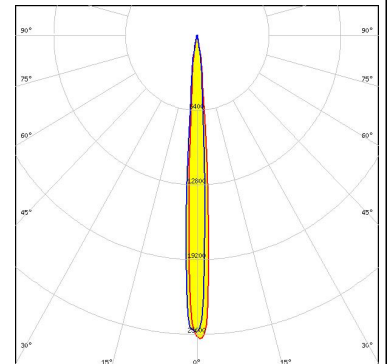
LED NV4x144A  
 FWHM 11.0°  
 Efficiency 90 %  
 Peak intensity 13.400 cd/Im  
 Required components:



LED NVSxx19B/NVSxx19C  
 FWHM 6.0°  
 Efficiency 93 %  
 Peak intensity 48.000 cd/Im  
 Required components:



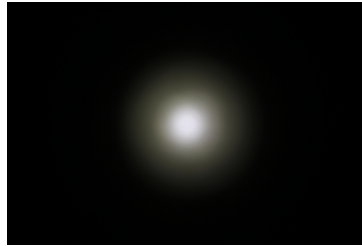
LED NWSx229A  
 FWHM 7.0°  
 Efficiency 91 %  
 Peak intensity 26.000 cd/Im  
 Required components:



## PHOTOMETRIC DATA (MEASURED):

### SAMSUNG

LED LH351B  
FWHM 5.1°  
Efficiency 90 %  
Peak intensity 51.770 cd/lm  
Required components:



### SAMSUNG

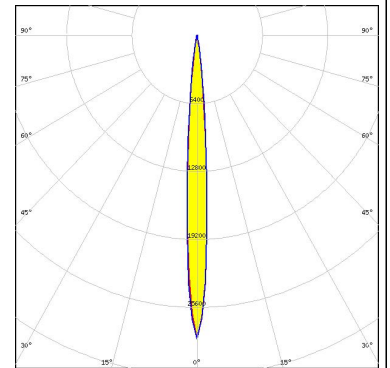
LED LH351Z  
FWHM 4.2°  
Efficiency 90 %  
Peak intensity 71.400 cd/lm  
Required components:



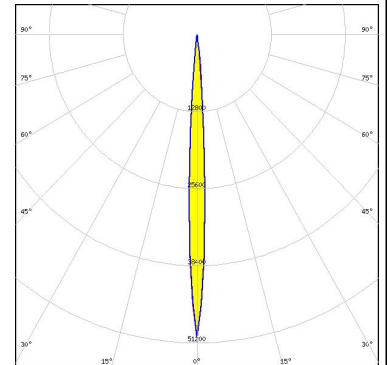
#### PHOTOMETRIC DATA (SIMULATED):



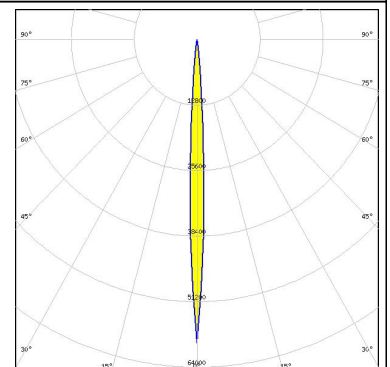
LED XHP35 HD  
 FWHM 7.8°  
 Efficiency 94 %  
 Peak intensity 28.600 cd/lm  
 Required components:



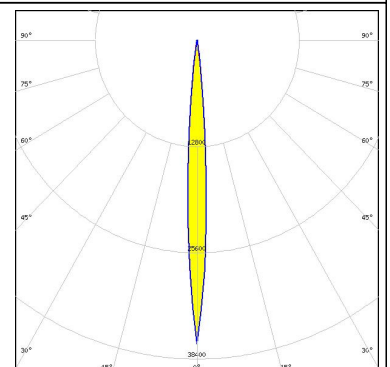
LED XHP35 HI  
 FWHM 6.2°  
 Efficiency 94 %  
 Peak intensity 50.400 cd/lm  
 Required components:



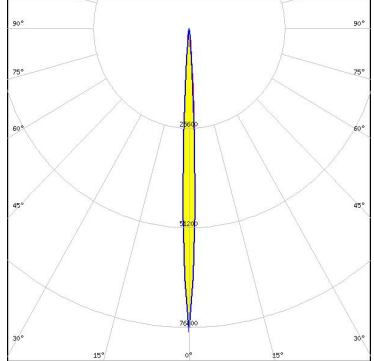

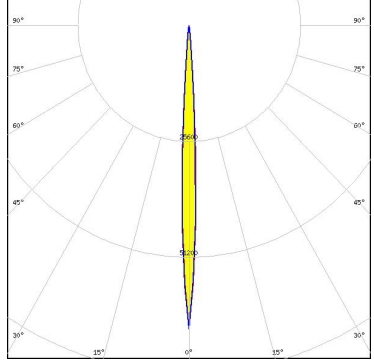

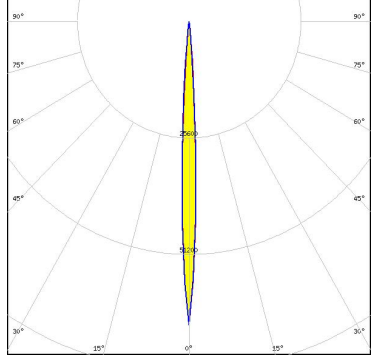
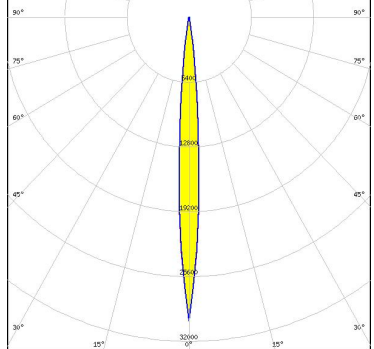
LED OSCONIQ P 3737 (2W version)  
 FWHM 5.5°  
 Efficiency 94 %  
 Peak intensity 59.300 cd/lm  
 Required components:



LED OSCONIQ P 3737 (3W version)  
 FWHM 5.5°  
 Efficiency 94 %  
 Peak intensity 59.300 cd/lm  
 Required components:



#### PHOTOMETRIC DATA (SIMULATED):

<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED                    Oslon Square Flat</p> <p>FWHM                4.8°</p> <p>Efficiency            94 %</p> <p>Peak intensity      78.000 cd/lm</p> <p>Required components:</p>		
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED                    Oslon Square Gen3</p> <p>FWHM                5.4°</p> <p>Efficiency            94 %</p> <p>Peak intensity      67.000 cd/lm</p> <p>Required components:</p>		
<p><b>SEOL</b> SEOUL SEMICONDUCTOR</p> <p>LED                    Z5M1/Z5M2</p> <p>FWHM                5.4°</p> <p>Efficiency            94 %</p> <p>Peak intensity      66.700 cd/lm</p> <p>Required components:</p>		
<p><b>SEOL</b> SEOUL SEMICONDUCTOR</p> <p>LED                    Z8Y22P</p> <p>FWHM                7.8°</p> <p>Efficiency            94 %</p> <p>Peak intensity      29.900 cd/lm</p> <p>Required components:</p>		

#### 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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#### LEDiL Oy

Joensuunkatu 13  
FI-24240 SALO  
Finland

#### LEDiL Inc.

228 West Page Street  
Suite D  
Sycamore IL 60178  
USA

#### Local sales and technical support

[www.ledil.com/  
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