

## CRYSTAL-MINE

~4.9° spot beam especially designed for mining headlamps

### SPECIFICATION:

Dimensions	Ø 46.8 mm
Height	27.4 mm
Fastening	snaps
ROHS compliant	yes ⓘ

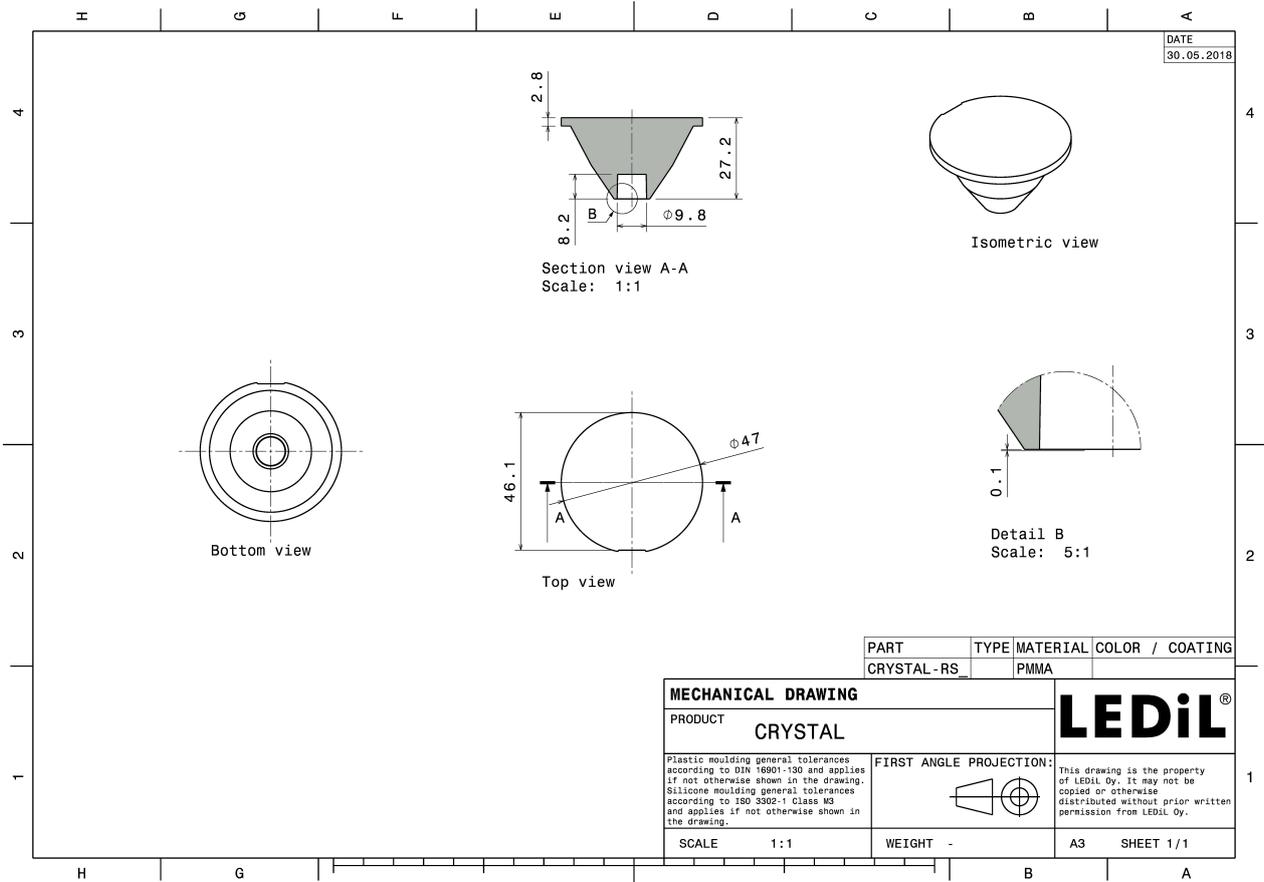
### MATERIALS:

Component	Type	Material	Colour	Finish
CRYSTAL-MINE	Single lens	PMMA	clear	

### ORDERING INFORMATION:

Component	Qty in box	MOQ	MPQ	Box weight (kg)
F12985_CRYSTAL-MINE » Box size: 480 x 280 x 300 mm	288	64	32	7.1





See also our general installation guide: [www.ledil.com/installation\\_guide](http://www.ledil.com/installation_guide)

#### OPTICAL RESULTS (MEASURED):

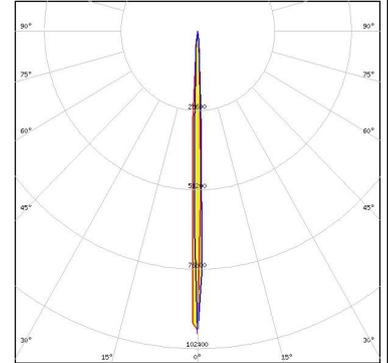
##### CREE LED

LED XM-L2  
FWHM / FWTM 6.9° / 15.0°  
Efficiency 90 %  
Peak intensity 35 cd/lm  
LEDs/each optic 1  
Light colour White  
Required components:



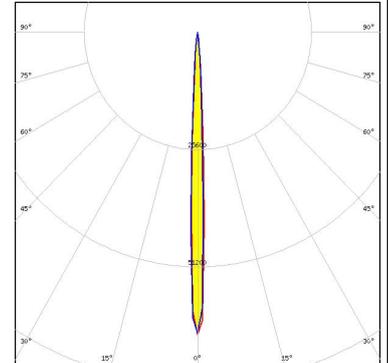
##### CREE LED

LED XP-E  
FWHM / FWTM 3.0° / 7.9°  
Efficiency 92 %  
Peak intensity 96 cd/lm  
LEDs/each optic 1  
Light colour White  
Required components:



##### CREE LED

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

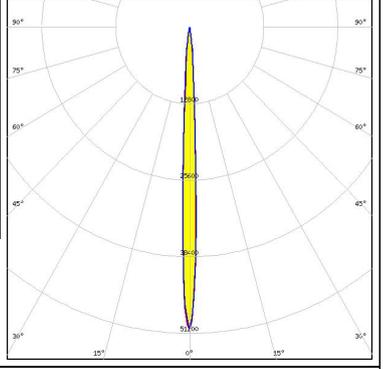


##### CREE LED

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



#### OPTICAL RESULTS (MEASURED):

<p><b>LUMILEDS</b></p> <p>LED LUXEON A</p> <p>FWHM / FWTM 4.9° / 13.0°</p> <p>Efficiency 89 %</p> <p>Peak intensity 58.2 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<p><b>LUMILEDS</b></p> <p>LED LUXEON T</p> <p>FWHM / FWTM 4.9° / 13.0°</p> <p>Efficiency 89 %</p> <p>Peak intensity 55.1 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<p><b>LUMILEDS</b></p> <p>LED LUXEON TX</p> <p>FWHM / FWTM 5.0° / 12.6°</p> <p>Efficiency 94 %</p> <p>Peak intensity 50.6 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	 
<p><b>NICHIA</b></p> <p>LED NCSxx19B</p> <p>FWHM / FWTM 3.6° / 12.0°</p> <p>Efficiency 90 %</p> <p>Peak intensity 73.3 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	

#### 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 White  
Required components:



#### SAMSUNG

LED LH351Z  
FWHM / FWTM 4.2° / 10.0°  
Efficiency 90 %  
Peak intensity 71.4 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:

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