

## HB-2X2-M

~25° medium beam

### SPECIFICATION:

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

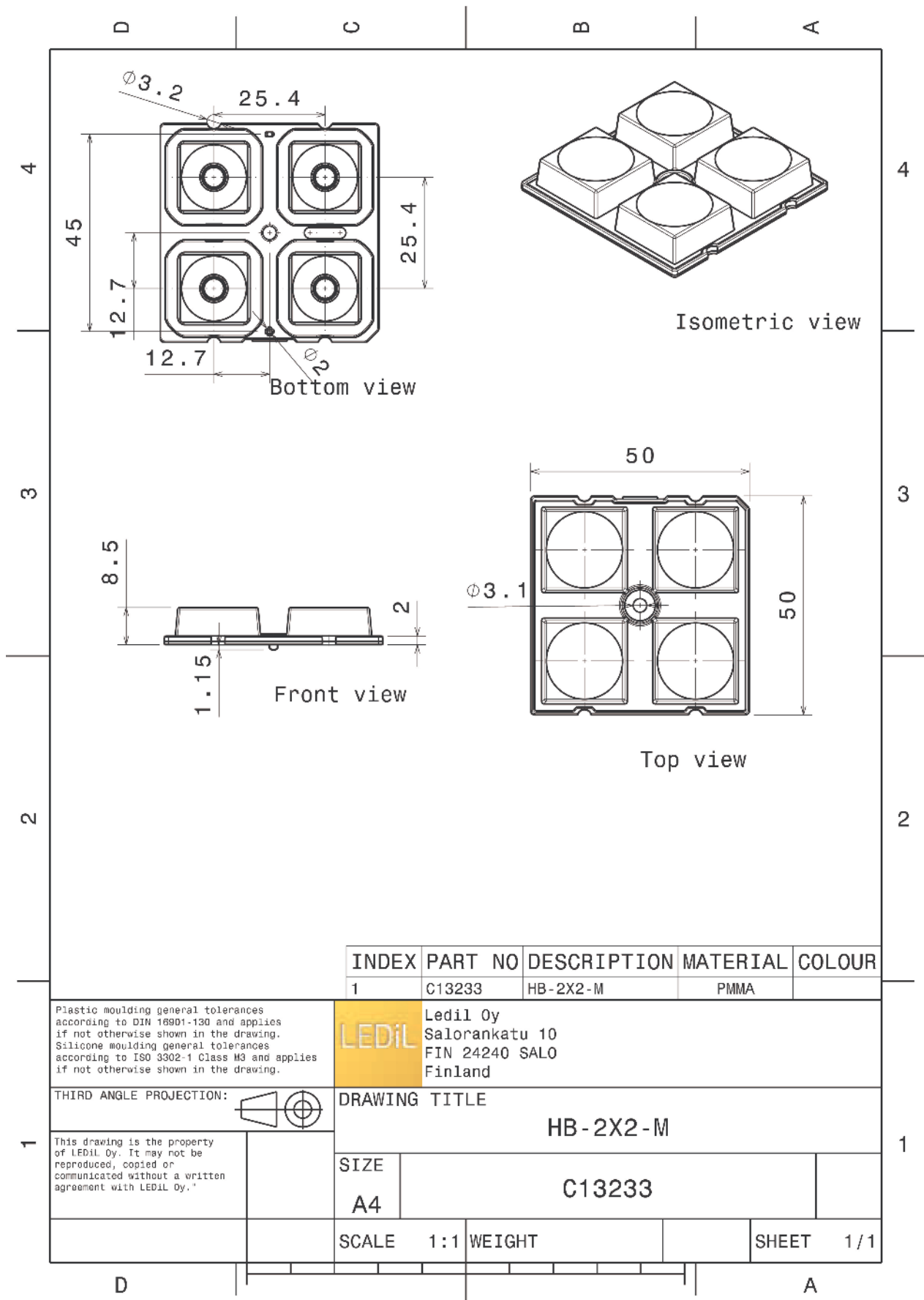
### MATERIALS:

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



### ORDERING INFORMATION:

Component	Qty in box	MOQ	MPQ	Box weight (kg)
C13233_HB-2X2-M » Box size: 480 x 280 x 300 mm	800	160	160	9.2



INDEX	PART NO	DESCRIPTION	MATERIAL	COLOUR
1	C13233	HB-2X2-M	PMMA	

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.

**LEDiL** LediL Oy  
Salorankatu 10  
FIN 24240 SALO  
Finland

THIRD ANGLE PROJECTION:

DRAWING TITLE  
**HB-2X2-M**



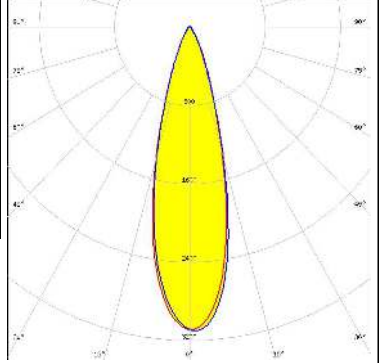


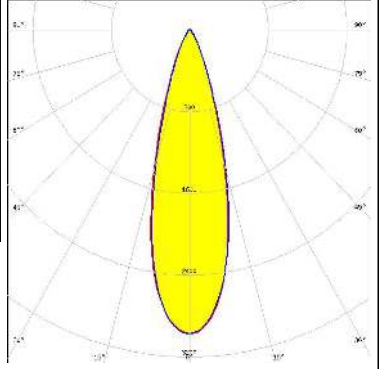


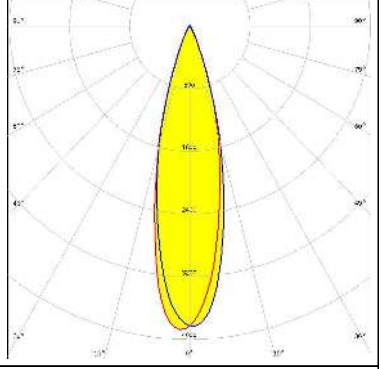

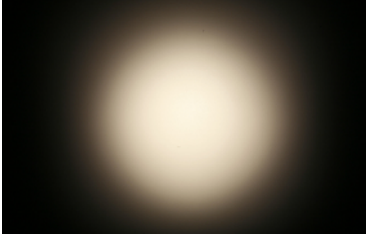
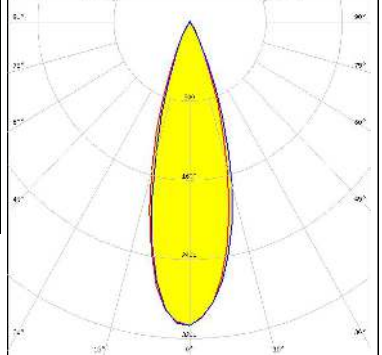
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SIZE  
**A4** **C13233**

SCALE 1:1 WEIGHT SHEET 1/1

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

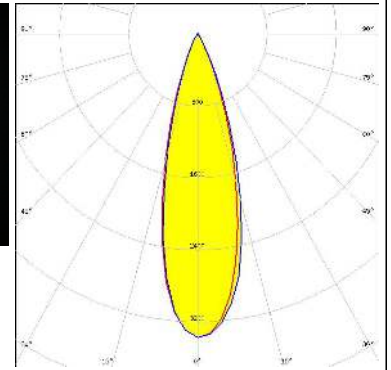
#### OPTICAL RESULTS (MEASURED):

<p></p> <p>LED QUICK FLUX XTP 2x4 xxx LS G5</p> <p>FWHM / FWTM 28.0° / 52.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 3.1 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p></p> <p>LED QUICK FLUX XTP 2x6 xxx LS G5</p> <p>FWHM / FWTM 29.0° / 52.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 3 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p></p> <p>LED XB-D</p> <p>FWHM / FWTM 26.0° / 47.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 3.9 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p></p> <p>LED XP-G</p> <p>FWHM / FWTM 31.0° / 54.0°</p> <p>Efficiency 91 %</p> <p>Peak intensity 3.1 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		

#### OPTICAL RESULTS (MEASURED):

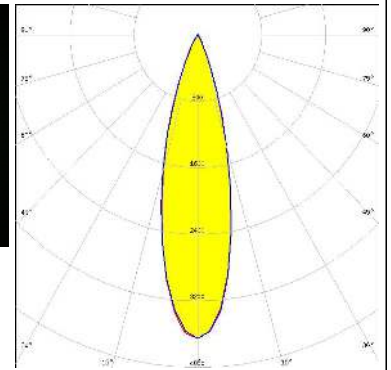
##### CREE LED

LED XP-G2  
 FWHM / FWTM 33.0° / 54.0°  
 Efficiency 93 %  
 Peak intensity 3.4 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:



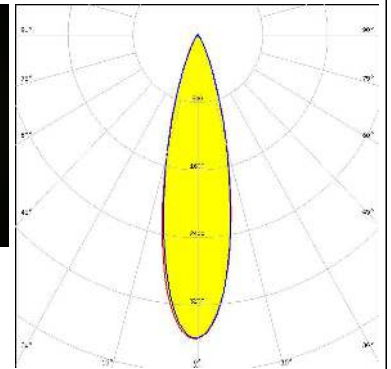
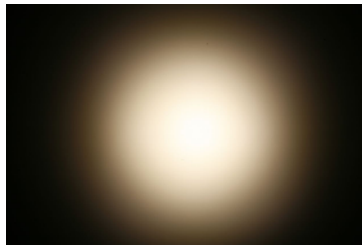
##### CREE LED

LED XT-E  
 FWHM / FWTM 25.0° / 46.0°  
 Efficiency 92 %  
 Peak intensity 3.7 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:



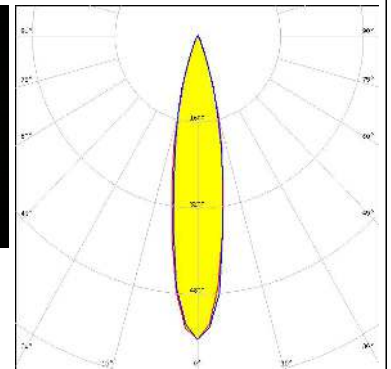
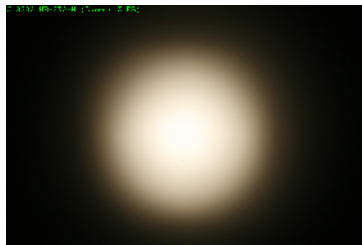
##### LUMILEDS

LED LUXEON Q  
 FWHM / FWTM 26.0° / 49.0°  
 Efficiency 94 %  
 Peak intensity 3.6 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:


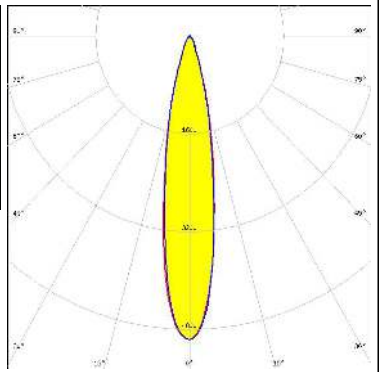

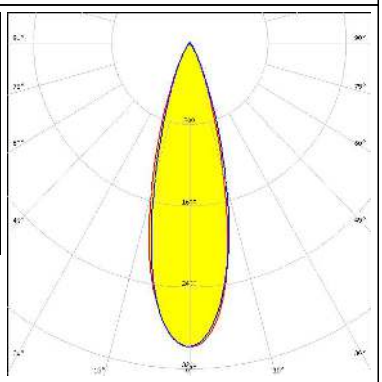
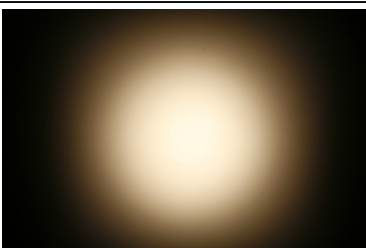
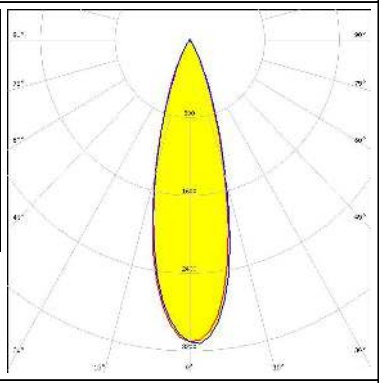
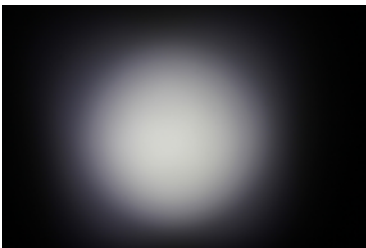
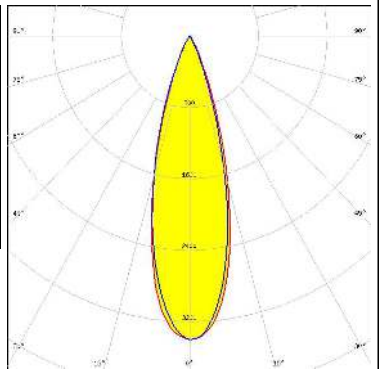


##### LUMILEDS


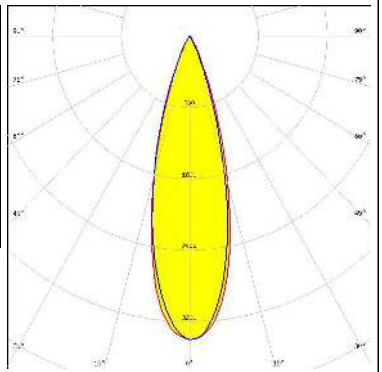

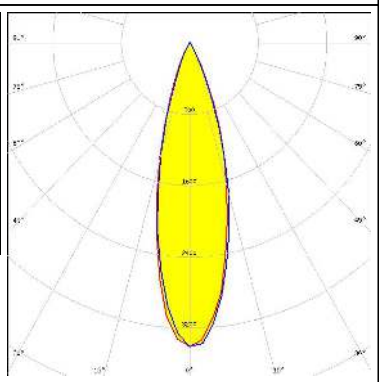

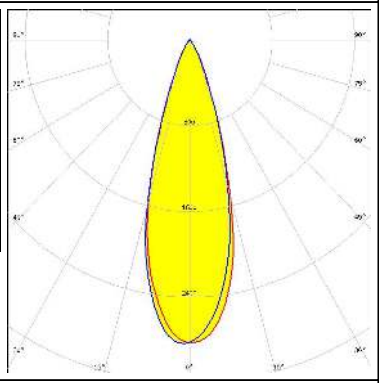

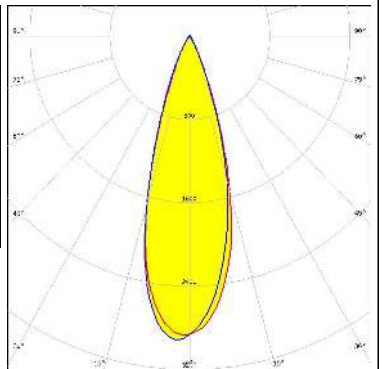
LED LUXEON Z ES  
 FWHM / FWTM 21.0° / 42.0°  
 Efficiency 91 %  
 Peak intensity 5.6 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:





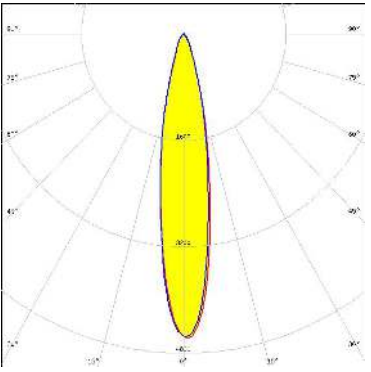


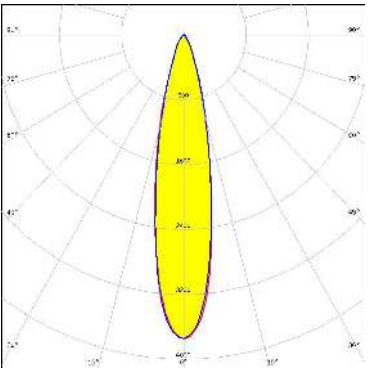


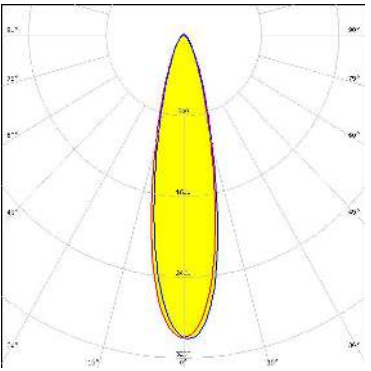


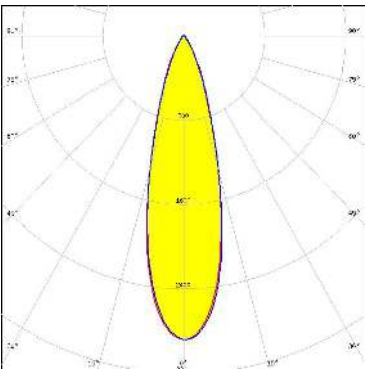
#### OPTICAL RESULTS (MEASURED):

<p><b>NICHIA</b></p> <p>LED NVSxxE21A            FWHM / FWTM 20.0° / 40.0°            Efficiency 94 %            Peak intensity 5 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		
<p><b>NICHIA</b></p> <p>LED NVSxx19B/NVSxx19C            FWHM / FWTM 29.0° / 53.0°            Efficiency 90 %            Peak intensity 3 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		
<p><b>NICHIA</b></p> <p>LED NVSxx19B/NVSxx19C            FWHM / FWTM 29.0° / 52.0°            Efficiency 91 %            Peak intensity 3.1 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		
<p><b>OSRAM</b></p> <p>LED PrevaLED Brick HP 2x8            FWHM / FWTM 30.0° / 51.0°            Efficiency 93 %            Peak intensity 3.4 cd/lm            LEDs/each optic 1            Light colour White            Required components:</p>		

#### OPTICAL RESULTS (MEASURED):

<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED OSLON Square CSSRM2/CSSRM3</p> <p>FWHM / FWTM 30.0° / 51.0°</p> <p>Efficiency 93 %</p> <p>Peak intensity 3.4 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED OSLON Square PC</p> <p>FWHM / FWTM 30.0° / 54.0°</p> <p>Efficiency 91 %</p> <p>Peak intensity 3.4 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p><b>SAMSUNG</b></p> <p>LED LH351B</p> <p>FWHM / FWTM 31.0° / 53.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 2.8 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p><b>SAMSUNG</b></p> <p>LED LH351Z</p> <p>FWHM / FWTM 32.0° / 52.0°</p> <p>Efficiency 93 %</p> <p>Peak intensity 2.9 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		

#### OPTICAL RESULTS (MEASURED):

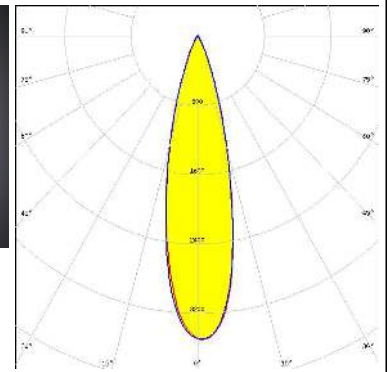
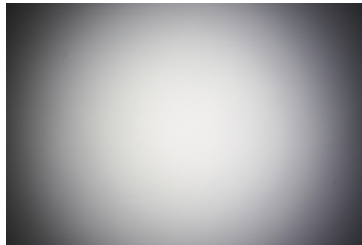
<p> SEOUL SEMICONDUCTOR</p> <p>LED Z8Y15</p> <p>FWHM / FWTM 20.0° / 41.0°</p> <p>Efficiency 89 %</p> <p>Peak intensity 4.6 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p> SEOUL SEMICONDUCTOR</p> <p>LED Z8Y19</p> <p>FWHM / FWTM 22.0° / 46.0°</p> <p>Efficiency 89 %</p> <p>Peak intensity 3.8 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p> SEOUL SEMICONDUCTOR</p> <p>LED Z8Y22</p> <p>FWHM / FWTM 24.0° / 53.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 3 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		
<p> SEOUL SEMICONDUCTOR</p> <p>LED Z8Y22P</p> <p>FWHM / FWTM 28.0° / 56.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 2.9 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>		

#### OPTICAL RESULTS (MEASURED):

#### TOSHIBA

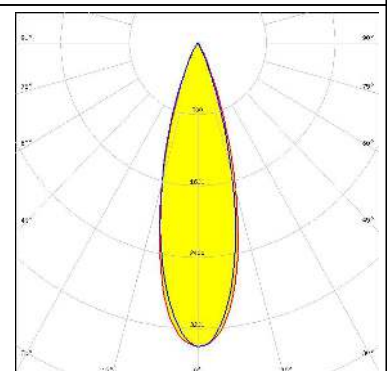
Leading Innovation >>>

LED TL1L4  
 FWHM / FWTM 25.0° / 46.0°  
 Efficiency 85 %  
 Peak intensity 3.5 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



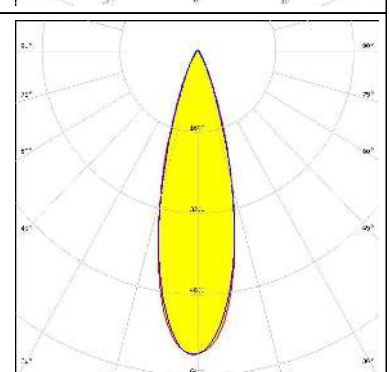
#### TRIDONIC

LED RLE 2x4 2000lm HP EXC2 OTD  
 FWHM / FWTM 29.0° / 50.0°  
 Efficiency 93 %  
 Peak intensity 3.4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:



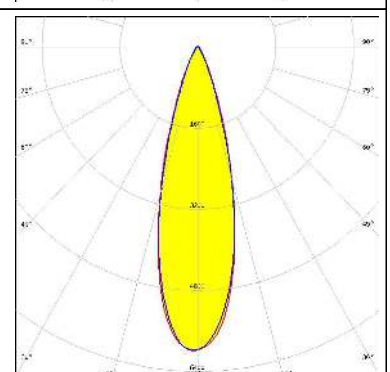
#### TRIDONIC

LED RLE G1 49x121mm 2000lm xxx EXC OTD  
 FWHM / FWTM 29.0° / 53.0°  
 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 29.0° / 53.0°  
 Efficiency 94 %  
 Peak intensity 3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:

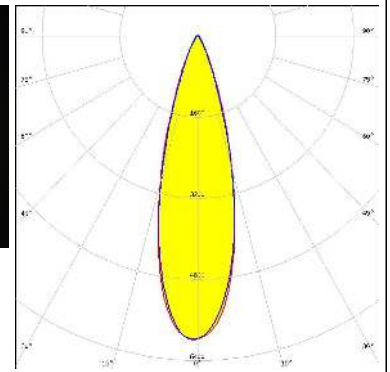




### OPTICAL RESULTS (MEASURED):

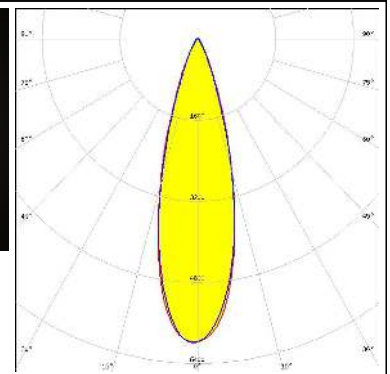
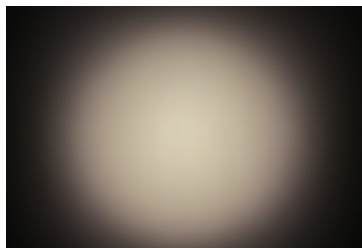
#### TRIDONIC

LED RLE G1 49x223mm 4000lm xxx EXC OTD  
FWHM / FWTM 29.0° / 53.0°  
Efficiency 94 %  
Peak intensity 3 cd/lm  
LEDs/each optic 1  
Light colour White  
Required components:

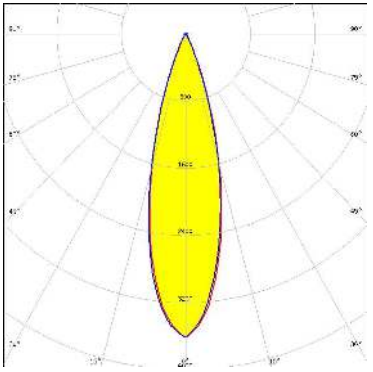
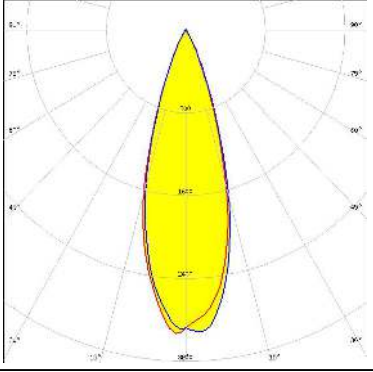
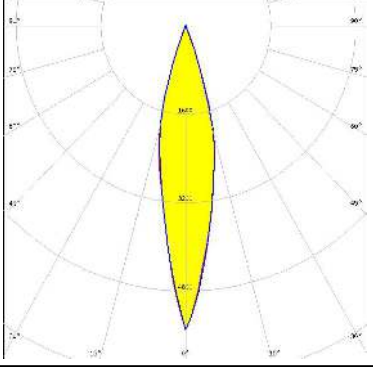
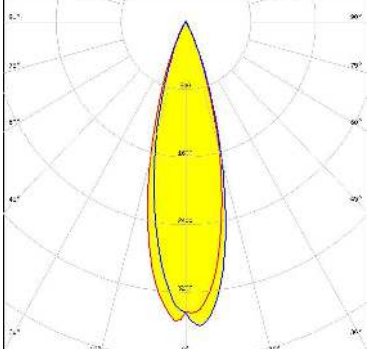


#### TRIDONIC

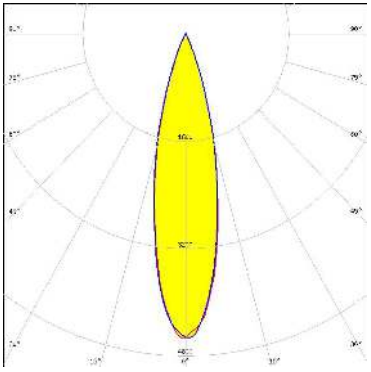
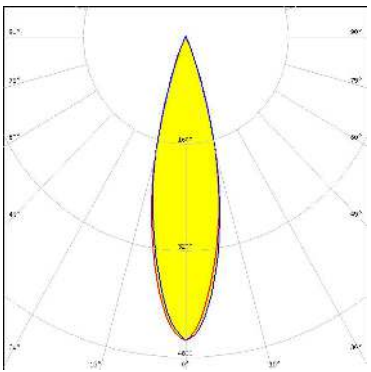
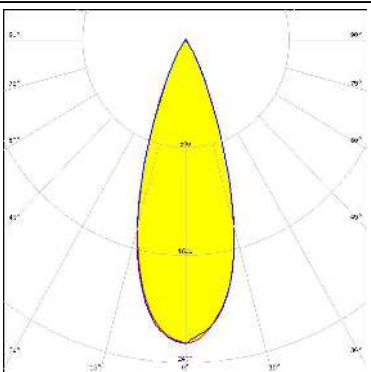
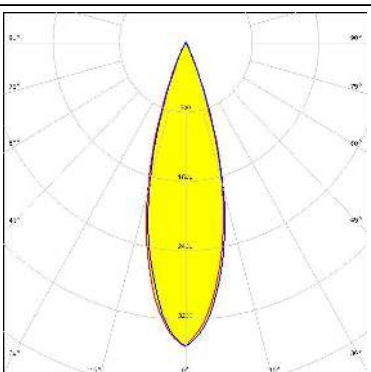
LED RLE G1 49x245mm 4000lm xxx EXC OTD  
FWHM / FWTM 29.0° / 53.0°  
Efficiency 94 %  
Peak intensity 3 cd/lm  
LEDs/each optic 1  
Light colour White  
Required components:



#### OPTICAL RESULTS (SIMULATED):

<p><b>CREE</b> → <b>LED</b></p> <p>LED: XD16            FWHM / FWTM: 28.0° / 48.0°            Efficiency: 95 %            Peak intensity: 3.6 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>CREE</b> → <b>LED</b></p> <p>LED: XP-G2            FWHM / FWTM: 32.0° / 52.0°            Efficiency: 93 %            Peak intensity: 3 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p> <p style="background-color: #ADD8E6; padding: 5px; text-align: center;">Protective plate, glass</p>	
<p><b>CREE</b> → <b>LED</b></p> <p>LED: XQ-E HI            FWHM / FWTM: 22.0° / 42.0°            Efficiency: 93 %            Peak intensity: 5.5 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	
<p><b>LUMILEDS</b></p> <p>LED: LUXEON 3030 2D (Round LES)            FWHM / FWTM: 28.0° / 49.0°            Efficiency: 94 %            Peak intensity: 3.6 cd/lm            LEDs/each optic: 1            Light colour: White            Required components:</p>	

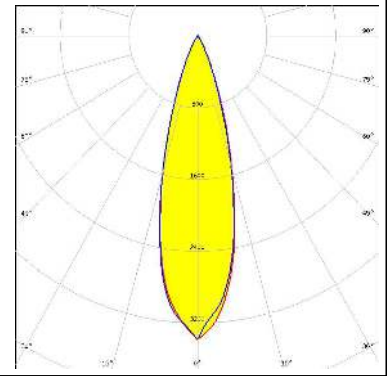
#### OPTICAL RESULTS (SIMULATED):

<p><b>LUMILEDS</b></p> <p>LED LUXEON C</p> <p>FWHM / FWTM 25.0° / 45.0°</p> <p>Efficiency 94 %</p> <p>Peak intensity 4.6 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED OSCONIQ C 2424</p> <p>FWHM / FWTM 26.0° / 43.0°</p> <p>Efficiency 96 %</p> <p>Peak intensity 4.6 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED OSOLON Square CSSRM2/CSSRM3</p> <p>FWHM / FWTM 36.0° / 56.0°</p> <p>Efficiency 87 %</p> <p>Peak intensity 2.3 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p> <p style="background-color: #ADD8E6; padding: 2px;">Protective plate, glass</p>	
<p><b>OSRAM</b> Opto Semiconductors</p> <p>LED OSOLON SSL 80</p> <p>FWHM / FWTM 29.6° / 48.1°</p> <p>Efficiency 94 %</p> <p>Peak intensity 3.5 cd/lm</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components:</p>	

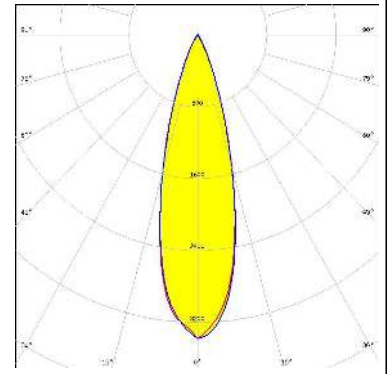
#### OPTICAL RESULTS (SIMULATED):

### SAMSUNG

LED LH231B  
FWHM / FWTM 28.0° / 50.0°  
Efficiency 94 %  
Peak intensity 3.4 cd/lm  
LEDs/each optic 1  
Light colour White  
Required components:



LED Z8Y22T  
FWHM / FWTM 28.0° / 51.0°  
Efficiency 94 %  
Peak intensity 3.4 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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#### LEDiL Oy

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Casic Motor Building  
Shenzhen 518057  
P.R.CHINA

#### Local sales and technical support

[www.ledil.com/  
where\\_to\\_buy](http://www.ledil.com/where_to_buy)

#### Shipping locations

Salo, Finland  
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