

## ANGELA-M-B

~30° medium beam compatible with BJB and B+W connectors

### SPECIFICATION:

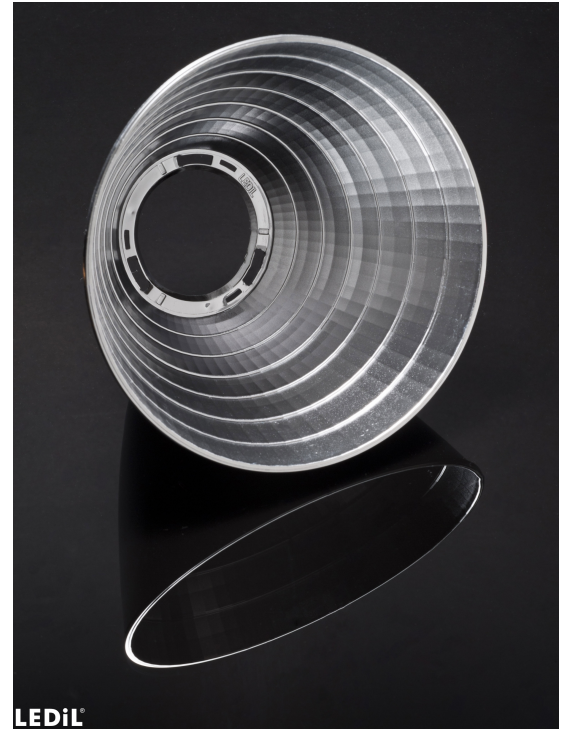
Dimensions	Ø 119.5 mm
Height	74.5 mm
Fastening	socket
ROHS compliant	yes ⓘ

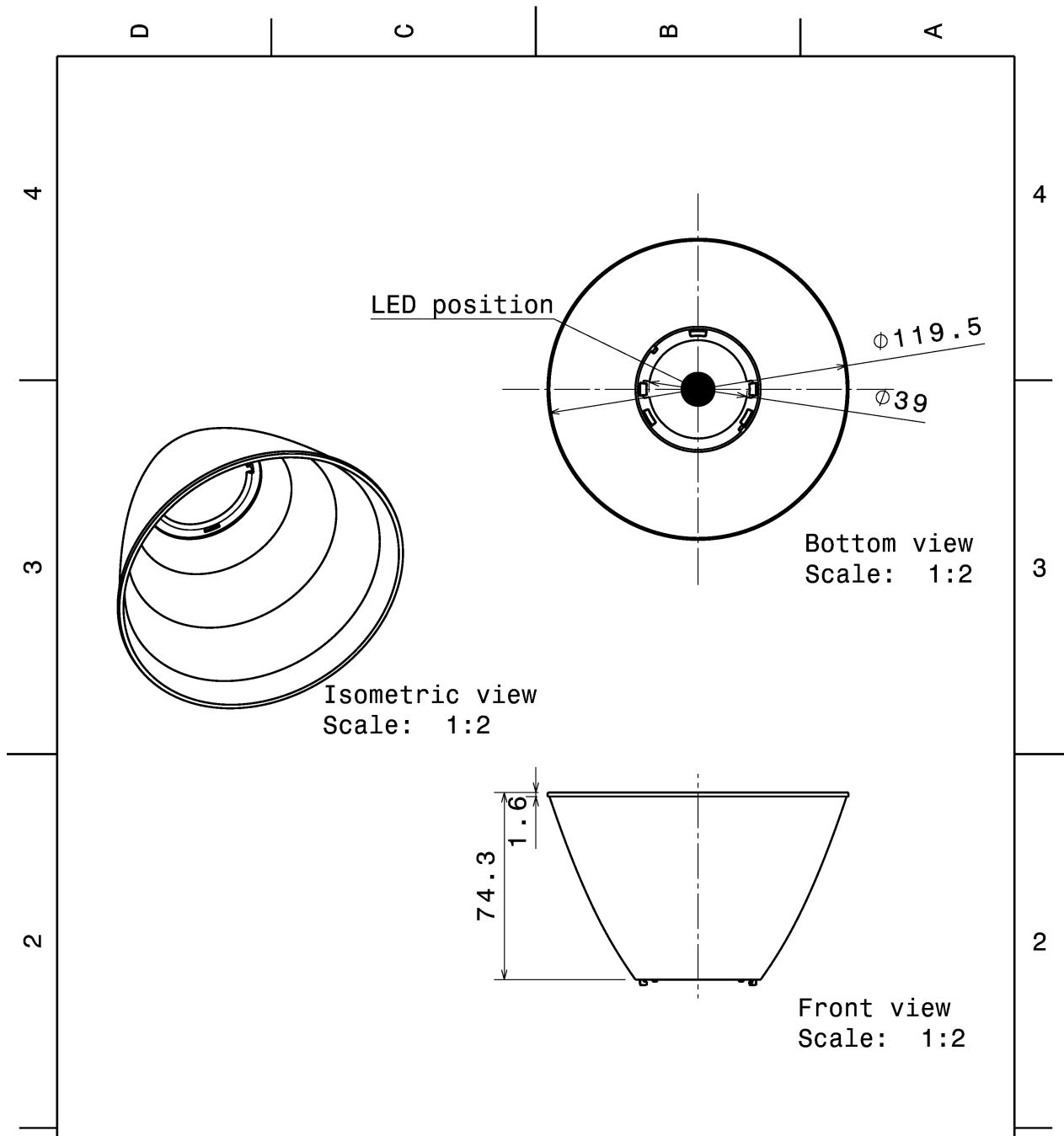
### MATERIALS:

Component	Type	Material	Colour	Finish	Coating
ANGELA-M-B	Reflector	PC	metal		HMDS

### ORDERING INFORMATION:

Component	Qty in box	MOQ	MPQ	Box weight (kg)
F13663_ANGELA-M-B » Box size: 398 x 298 x 265 mm	180	90	45	9.1





Tolerances if not otherwise shown  
According to DIN ISO 2768-1  
Linear measures:  
Up to 30mm class M, otherwise class C.  
According to DIN ISO 2768-2  
Form and position: class L

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

THIRD ANGLE PROJECTION:

DRAWING TITLE  
**Angela-B**



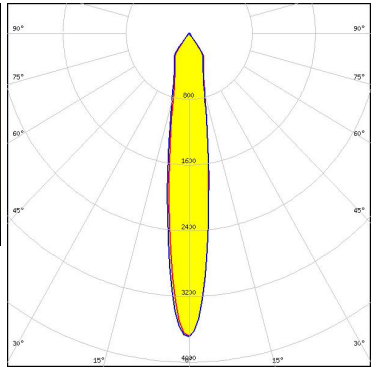


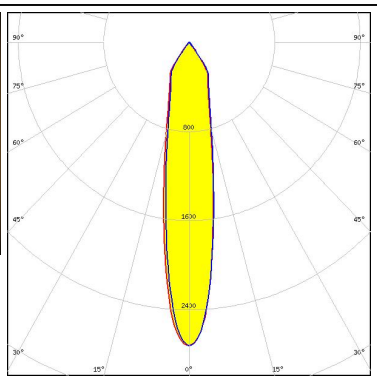


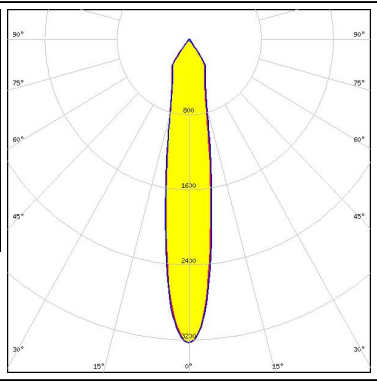


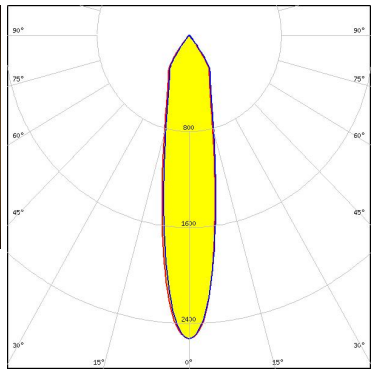
This drawing is the property of LEDiL Oy. It may not be reproduced, copied or communicated without a written agreement with LEDiL Oy."

SIZE	PART NUMBER
A4	-



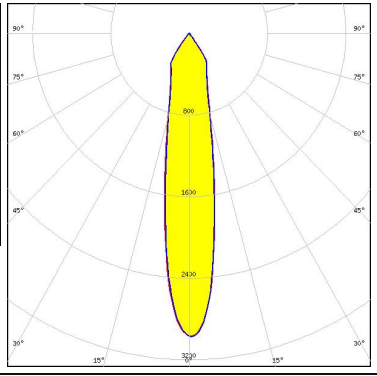


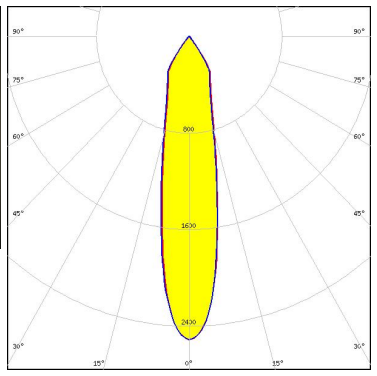


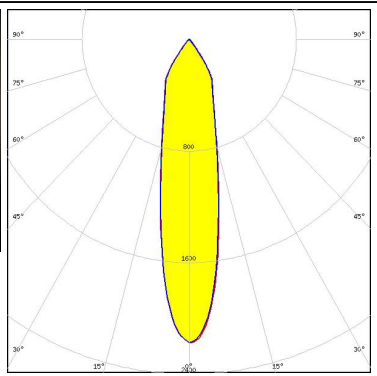

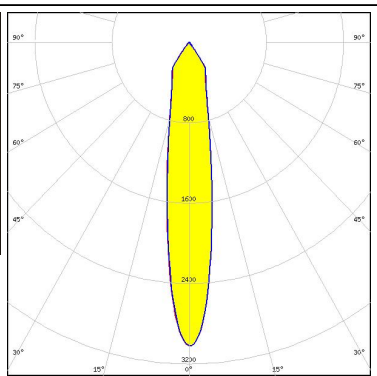
SCALE	1:2	WEIGHT	-	SHEET	1/1
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See also our general installation guide: [www.ledil.com/installation\\_guide](http://www.ledil.com/installation_guide)

#### OPTICAL RESULTS (MEASURED):

<p></p> <p>LED BXRA ES Rectangle            FWHM / FWTM 16.0° / 58.0°            Efficiency 82 %            Peak intensity 3.7 cd/m            LEDs/each optic 1            Light colour White            Required components:            BJB: 47.319.2040</p>		
<p></p> <p>LED V15 Gen6            FWHM / FWTM 19.0° / 69.0°            Efficiency 77 %            Peak intensity 2.7 cd/m            LEDs/each optic 1            Light colour White            Required components:            F13671_ANGE-RZ-LENS            BJB: 47.319.2224</p>		
<p></p> <p>LED V15 Gen6            FWHM / FWTM 18.0° / 67.0°            Efficiency 80 %            Peak intensity 3.2 cd/m            LEDs/each optic 1            Light colour White            Required components:            BJB: 47.319.2224</p>		
<p></p> <p>LED V18 Gen6            FWHM / FWTM 21.0° / 69.0°            Efficiency 77 %            Peak intensity 2.5 cd/m            LEDs/each optic 1            Light colour White            Required components:            F13671_ANGE-RZ-LENS            BJB: 47.319.2274</p>		

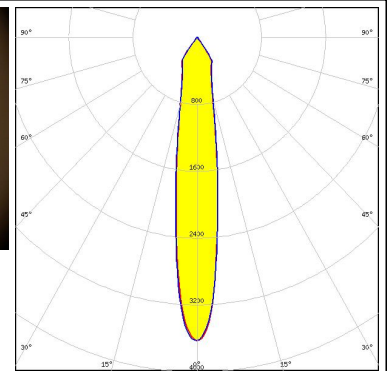
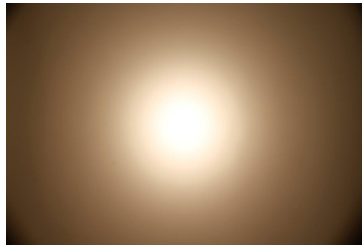
#### OPTICAL RESULTS (MEASURED):

<p></p> <p>LED V18 Gen7            FWHM / FWTM 19.0° / 68.0°            Efficiency 81 %            Peak intensity 3 cd/lm            LEDs/each optic 1            Light colour White            Required components:            BJB: 47.319.2350</p>		
<p></p> <p>LED V22 Gen6            FWHM / FWTM 22.0° / 69.0°            Efficiency 78 %            Peak intensity 2.5 cd/lm            LEDs/each optic 1            Light colour White            Required components:            A.A.G. STUCCHI: 8102-G2</p>		
<p></p> <p>LED V22 Gen6            FWHM / FWTM 23.0° / 70.0°            Efficiency 74 %            Peak intensity 2.2 cd/lm            LEDs/each optic 1            Light colour White            Required components:            F13671_ANGLE-RZ-LENS            A.A.G. STUCCHI: 8102-G2</p>		
<p><b>CITIZEN</b></p> <p>LED CLL03x/CLU03x            FWHM / FWTM 18.0° / 67.0°            Efficiency 77 %            Peak intensity 3 cd/lm            LEDs/each optic 1            Light colour White            Required components:            F13671_ANGLE-RZ-LENS            A.A.G. STUCCHI: 8101-G2</p>		

#### OPTICAL RESULTS (MEASURED):

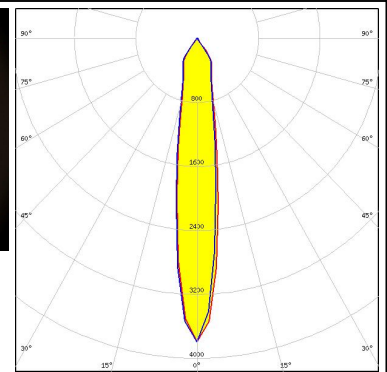
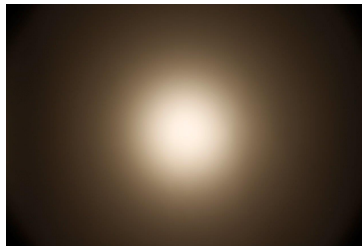
#### CITIZEN

LED CLL03x/CLU03x  
 FWHM / FWTM 16.0° / 61.0°  
 Efficiency 83 %  
 Peak intensity 3.6 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 A.A.G. STUCCHI: 8101-G2



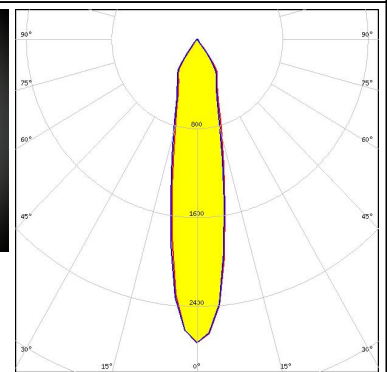
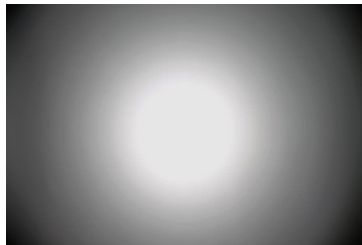
#### CITIZEN

LED CLL03x/CLU03x  
 FWHM / FWTM 16.0° / 57.0°  
 Efficiency 83 %  
 Peak intensity 3.8 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 BJB: 47.319.2021



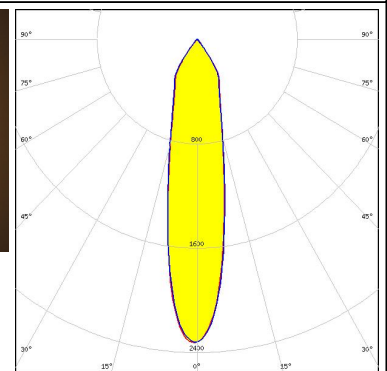
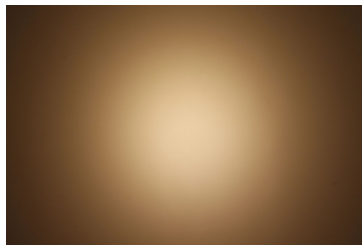
#### CITIZEN

LED CLL04x/CLU04x  
 FWHM / FWTM 21.0° / 62.0°  
 Efficiency 81 %  
 Peak intensity 2.7 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 BJB: 47.319.2030



#### CITIZEN

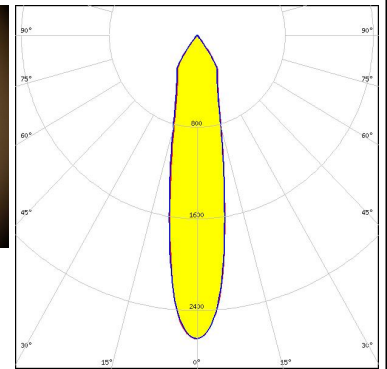
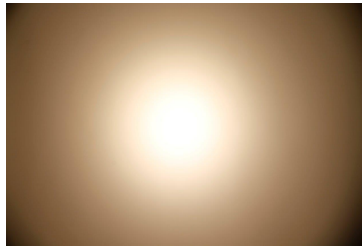
LED CLL04x/CLU04x  
 FWHM / FWTM 22.0° / 70.0°  
 Efficiency 76 %  
 Peak intensity 2.3 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 F13671\_ANGE-RZ-LENS  
 A.A.G. STUCCHI: 8102-G2



#### OPTICAL RESULTS (MEASURED):

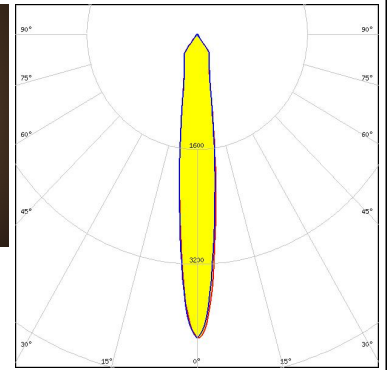
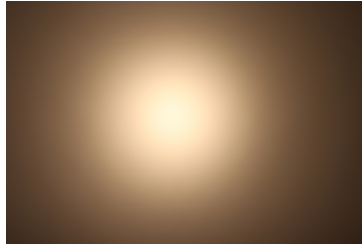
#### CITIZEN

LED CLL04x/CLU04x  
 FWHM / FWTM 21.0° / 69.0°  
 Efficiency 81 %  
 Peak intensity 2.7 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 A.A.G. STUCCHI: 8102-G2



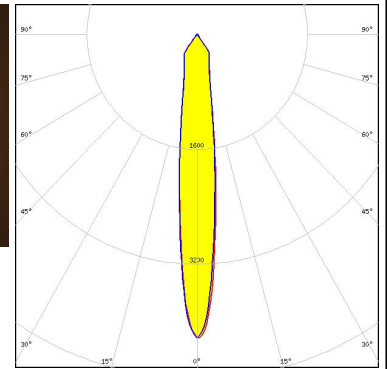
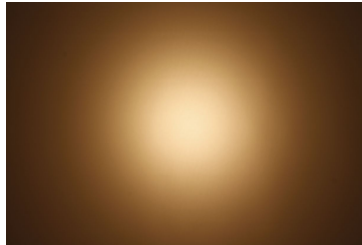
#### CITIZEN

LED CLU720/721/723  
 FWHM / FWTM 14.0° / 53.0°  
 Efficiency 83 %  
 Peak intensity 4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 A.A.G. STUCCHI: 8101-G2

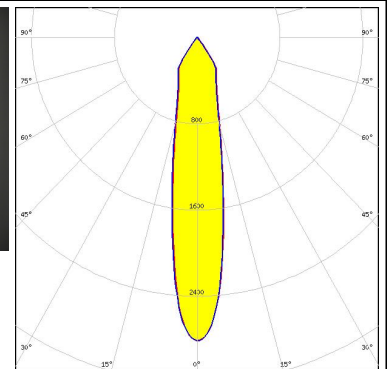
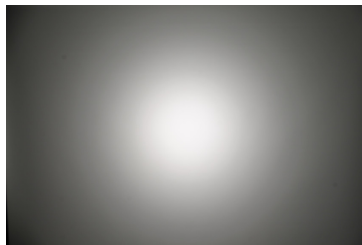


#### CITIZEN

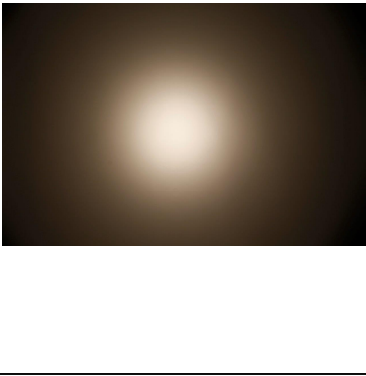
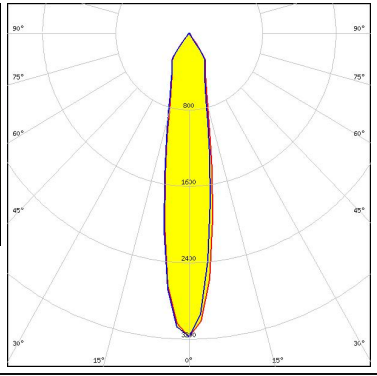

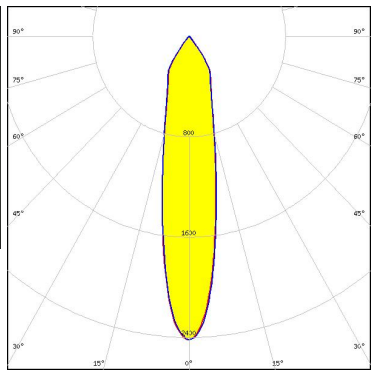

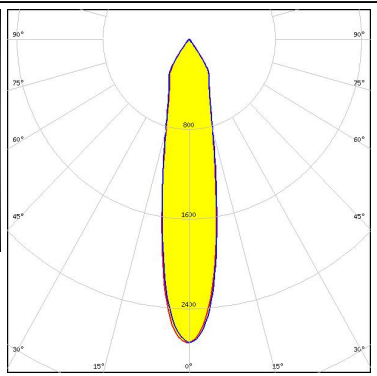
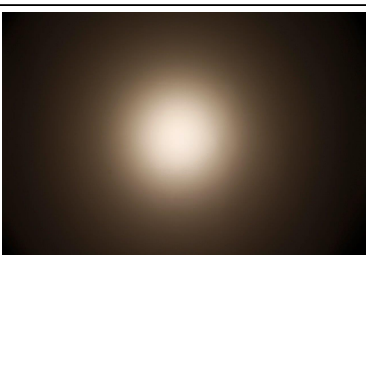
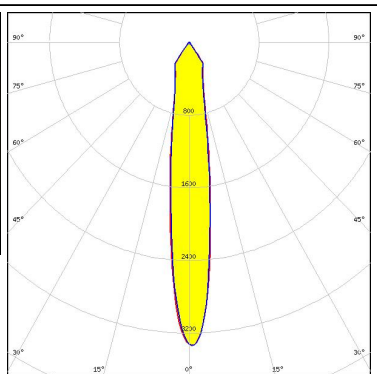
LED CLU720/721/723  
 FWHM / FWTM 14.0° / 50.0°  
 Efficiency 82 %  
 Peak intensity 4.2 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 BJB: 47.319.2021



LED CXA/B 25xx  
 FWHM / FWTM 20.0° / 68.0°  
 Efficiency 79 %  
 Peak intensity 2.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 BJB: 47.319.2141



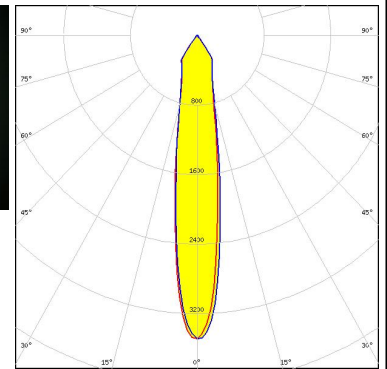
#### OPTICAL RESULTS (MEASURED):

<p><b>CREE</b> LEDs</p> <p>LED CXA/B 25xx            FWHM / FWTM 18.0° / 67.0°            Efficiency 82 %            Peak intensity 3.2 cd/lm            LEDs/each optic 1            Light colour White            Required components:            A.A.G. STUCCHI: 8401-G2</p>		
<p><b>CREE</b> LEDs</p> <p>LED CXA/B 25xx            FWHM / FWTM 21.0° / 69.0°            Efficiency 76 %            Peak intensity 2.4 cd/lm            LEDs/each optic 1            Light colour White            Required components:            F13671_ANGLE-RZ-LENS            BJB: 47.319.2141</p>		
<p><b>CREE</b> LEDs</p> <p>LED CXA/B 30xx            FWHM / FWTM 21.0° / 68.0°            Efficiency 80 %            Peak intensity 2.7 cd/lm            LEDs/each optic 1            Light colour White            Required components:            A.A.G. STUCCHI: 8404-G2</p>		
<p><b>LUMILEDS</b></p> <p>LED LUXEON CoB 1204/1205            FWHM / FWTM 16.0° / 56.0°            Efficiency 82 %            Peak intensity 3.8 cd/lm            LEDs/each optic 1            Light colour White            Required components:            A.A.G. STUCCHI: 8301-G2</p>		

#### OPTICAL RESULTS (MEASURED):

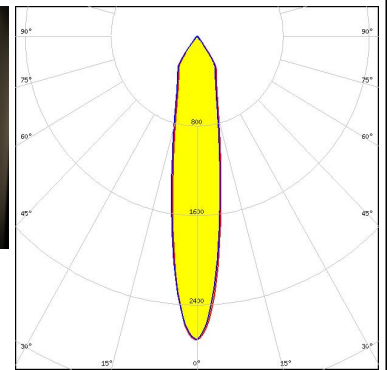
#### LUMILEDS

LED LUXEON CoB 1208  
 FWHM / FWTM 17.0° / 64.0°  
 Efficiency 83 %  
 Peak intensity 3.5 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 A.A.G. STUCCHI: 8301-G2



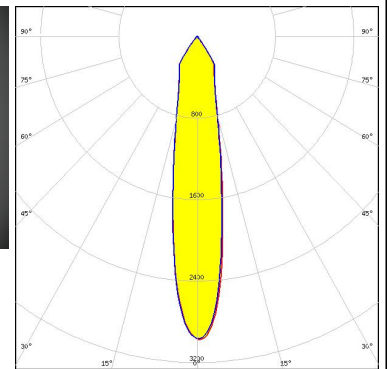
#### LUMILEDS

LED LUXEON CoB 1208  
 FWHM / FWTM 19.0° / 69.0°  
 Efficiency 77 %  
 Peak intensity 2.7 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 F13671\_ANGE-RZ-LENS  
 A.A.G. STUCCHI: 8301-G2



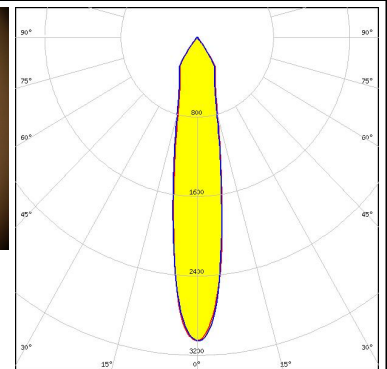
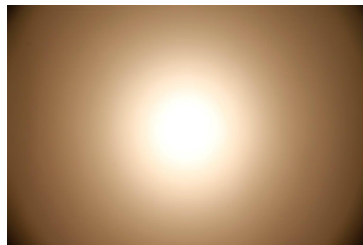
#### LUMILEDS

LED LUXEON CoB 1211  
 FWHM / FWTM 19.0° / 67.0°  
 Efficiency 80 %  
 Peak intensity 3 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 BJB: 47.319.2030




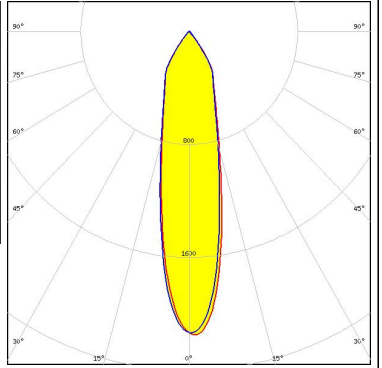
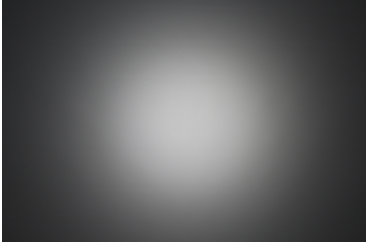
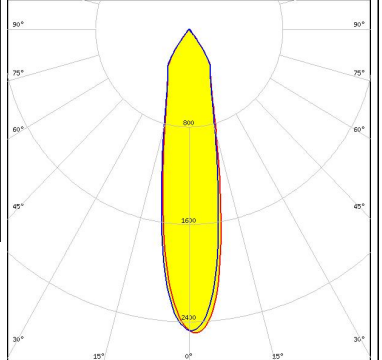

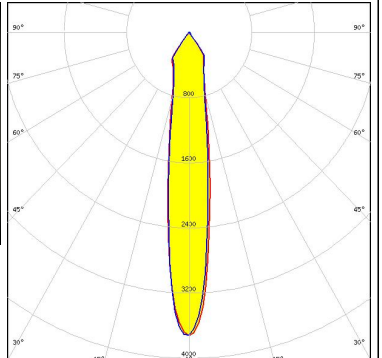
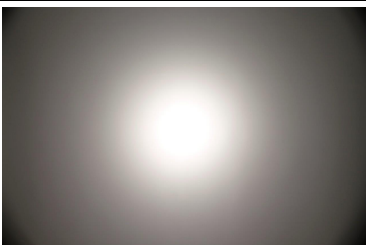
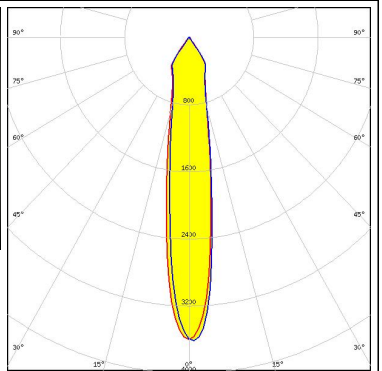
#### LUMILEDS

LED LUXEON CoB 1211  
 FWHM / FWTM 19.0° / 67.0°  
 Efficiency 81 %  
 Peak intensity 3.1 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 A.A.G. STUCCHI: 8102-G2





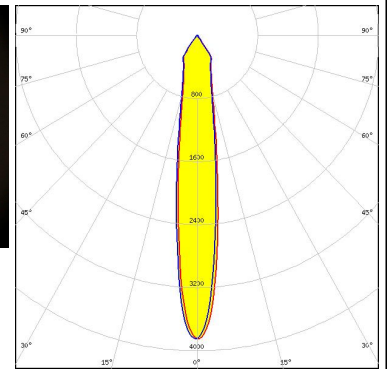
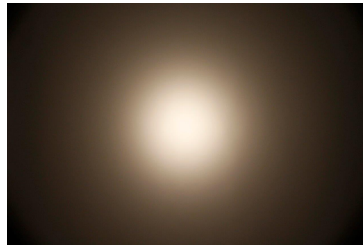
#### OPTICAL RESULTS (MEASURED):

<p><b>LUMILEDS</b></p> <p>LED LUXEON CoB 1213/1216/1812</p> <p>FWHM / FWTM 24.0° / 70.0°</p> <p>Efficiency 75 %</p> <p>Peak intensity 2.2 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: F13671_ANGE-RZ-LENS BJB: 47.319.2030</p>		
<p><b>LUMILEDS</b></p> <p>LED LUXEON CoB 1213/1216/1812</p> <p>FWHM / FWTM 22.0° / 69.0°</p> <p>Efficiency 79 %</p> <p>Peak intensity 2.5 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: BJB: 47.319.2030</p>		
<p><b>LUMILEDS</b></p> <p>LED LUXEON K12</p> <p>FWHM / FWTM 17.0° / 65.0°</p> <p>Efficiency 87 %</p> <p>Peak intensity 3.7 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: BJB: 47.319.2070</p>		
<p><b>LUMILEDS</b></p> <p>LED LUXEON K16</p> <p>FWHM / FWTM 17.0° / 67.0°</p> <p>Efficiency 87 %</p> <p>Peak intensity 3.7 cd/m</p> <p>LEDs/each optic 1</p> <p>Light colour White</p> <p>Required components: BJB: 47.319.2070</p>		

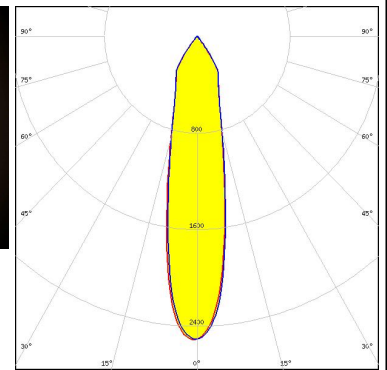
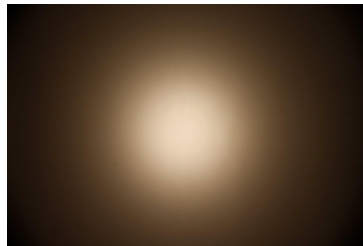
#### OPTICAL RESULTS (MEASURED):



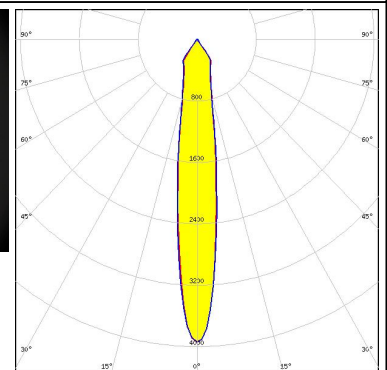
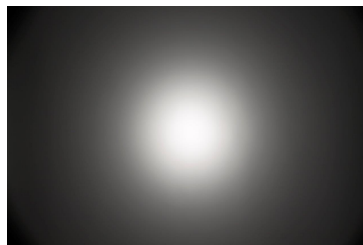
LED CxM-14 (19x19)  
 FWHM / FWTM 16.0° / 56.0°  
 Efficiency 82 %  
 Peak intensity 3.9 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 BJB: 47.319.2021



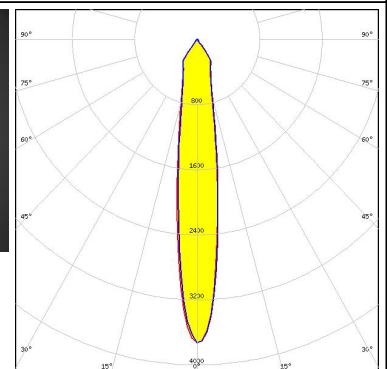
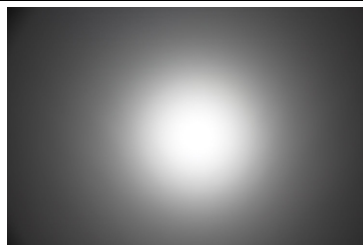
LED CxM-22 (28x28)  
 FWHM / FWTM 22.0° / 69.0°  
 Efficiency 81 %  
 Peak intensity 2.5 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 BJB: 47.319.2030



Opto Semiconductors  
 LED Soleriq S13  
 FWHM / FWTM 15.0° / 55.0°  
 Efficiency 83 %  
 Peak intensity 4 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 A.A.G. STUCCHI: 8502-G2



Opto Semiconductors  
 LED Soleriq S13 19x19  
 FWHM / FWTM 16.0° / 56.0°  
 Efficiency 80 %  
 Peak intensity 3.7 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 BJB: 47.319.2021

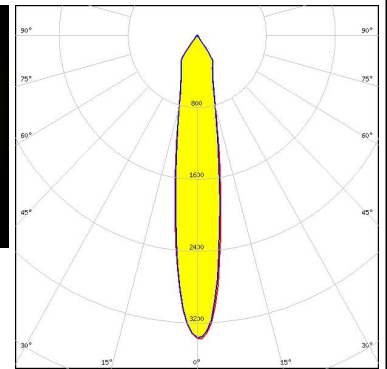
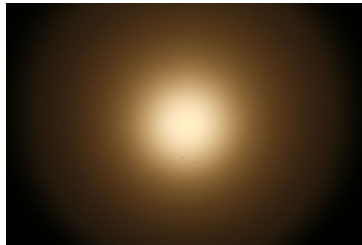


#### OPTICAL RESULTS (MEASURED):

#### OSRAM

Opto Semiconductors

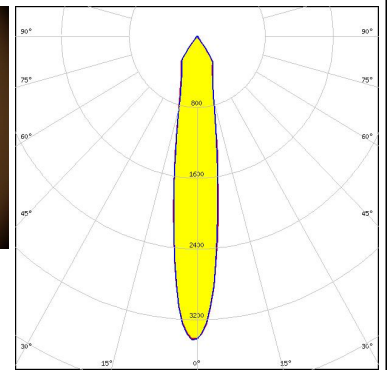
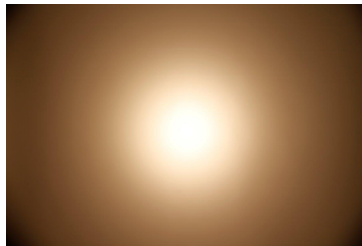
LED Soleriq S19  
 FWHM / FWTM 18.0° / 65.0°  
 Efficiency 83 %  
 Peak intensity 3.4 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 BJB: 47.319.2170



#### OSRAM

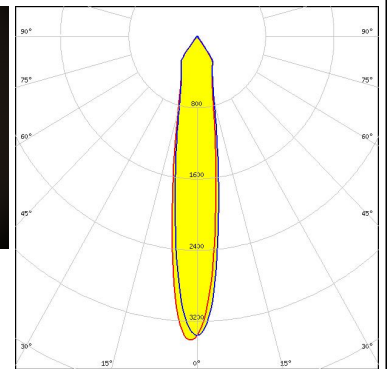
Opto Semiconductors

LED Soleriq S19  
 FWHM / FWTM 17.0° / 65.0°  
 Efficiency 83 %  
 Peak intensity 3.4 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 A.A.G. STUCCHI: 8503-G2



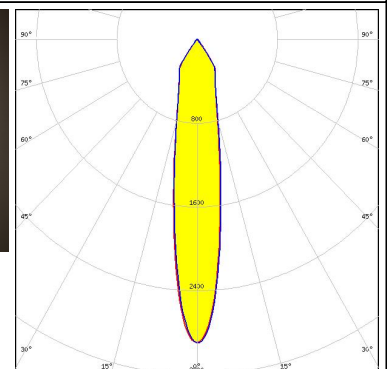
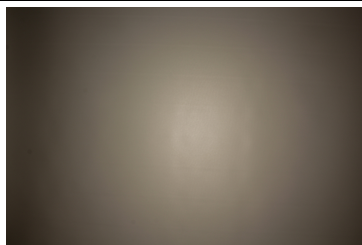
#### SAMSUNG

LED LC016D / LC019D / LC026D / LC033D  
 FWHM / FWTM 17.0° / 66.0°  
 Efficiency 81 %  
 Peak intensity 3.4 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 A.A.G. STUCCHI: 8101-G2



#### SAMSUNG

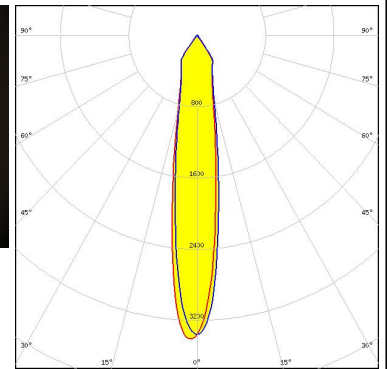
LED LC016D / LC019D / LC026D / LC033D  
 FWHM / FWTM 18.0° / 68.0°  
 Efficiency 78 %  
 Peak intensity 2.9 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 F13671\_ANGLE-RZ-LENS  
 A.A.G. STUCCHI: 8101-G2



#### OPTICAL RESULTS (MEASURED):

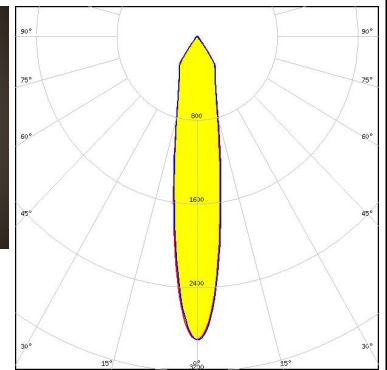
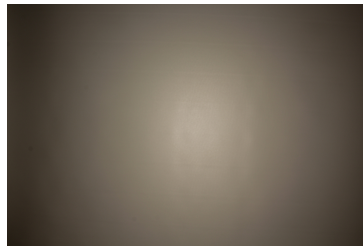
### SAMSUNG

LED LC016D / LC019D / LC026D / LC033D  
 FWHM / FWTM 17.0° / 66.0°  
 Efficiency 81 %  
 Peak intensity 3.4 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 BJB: 47.319.2021



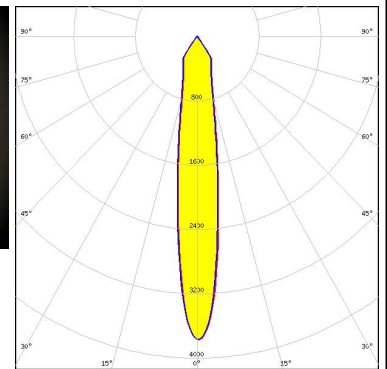
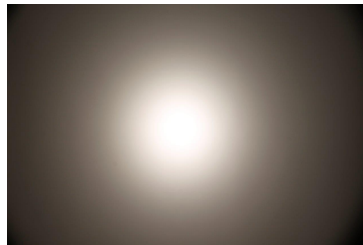
### SAMSUNG

LED LC016D / LC019D / LC026D / LC033D  
 FWHM / FWTM 18.0° / 68.0°  
 Efficiency 78 %  
 Peak intensity 2.9 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 F13671\_ANGE-RZ-LENS  
 BJB: 47.319.2021



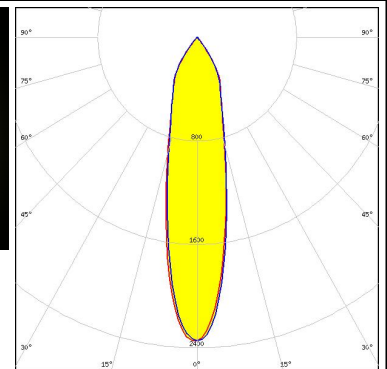
SEOUL SEMICONDUCTOR

LED ZC12/18  
 FWHM / FWTM 16.0° / 57.0°  
 Efficiency 82 %  
 Peak intensity 3.8 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 A.A.G. STUCCHI: 8101-G2

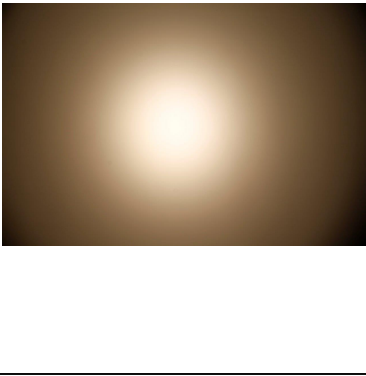
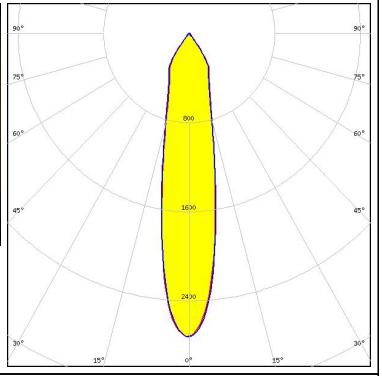

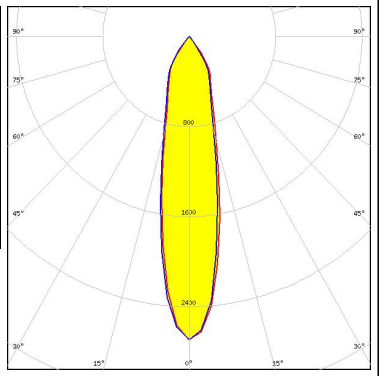

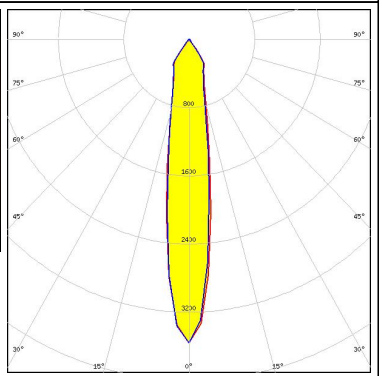
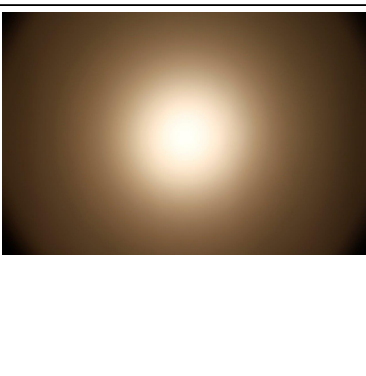
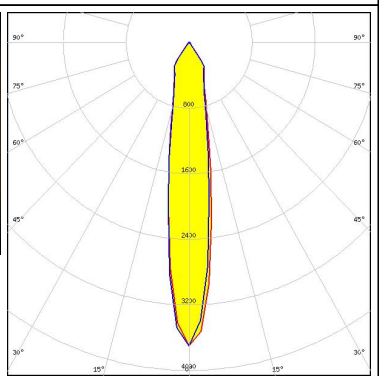


SEOUL SEMICONDUCTOR

LED ZC25/40/60  
 FWHM / FWTM 24.0° / 69.0°  
 Efficiency 77 %  
 Peak intensity 2.4 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 F13671\_ANGE-RZ-LENS  
 BJB: 47.319.2030



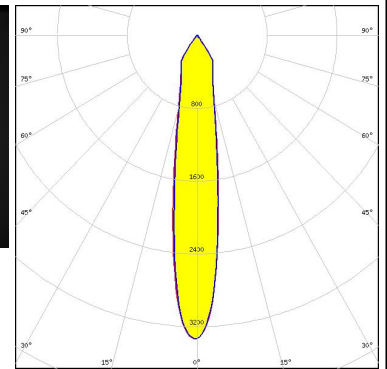
#### OPTICAL RESULTS (MEASURED):

<p><b>SEOL</b> SEOUL SEMICONDUCTOR</p> <p>LED ZC25/40/60 FWHM / FWTM 21.0° / 68.0° Efficiency 81 % Peak intensity 2.7 cd/m LEDs/each optic 1 Light colour White Required components: A.A.G. STUCCHI: 8102-G2</p>		
<p><b>SEOL</b> SEOUL SEMICONDUCTOR</p> <p>LED ZC25/40/60 FWHM / FWTM 23.0° / 68.0° Efficiency 81 % Peak intensity 2.7 cd/m LEDs/each optic 1 Light colour White Required components: BJB: 47.319.2030</p>		
<p><b>SHARP</b></p> <p>LED Mega Zenigata (GW6DME) FWHM / FWTM 17.0° / 63.0° Efficiency 83 % Peak intensity 3.6 cd/m LEDs/each optic 1 Light colour White Required components: A.A.G. STUCCHI: 8301-G2</p>		
<p><b>SHARP</b></p> <p>LED Mega Zenigata (GW6DME) FWHM / FWTM 17.0° / 61.0° Efficiency 84 % Peak intensity 3.7 cd/m LEDs/each optic 1 Light colour White Required components: BJB: 47.319.2011</p>		

#### OPTICAL RESULTS (MEASURED):

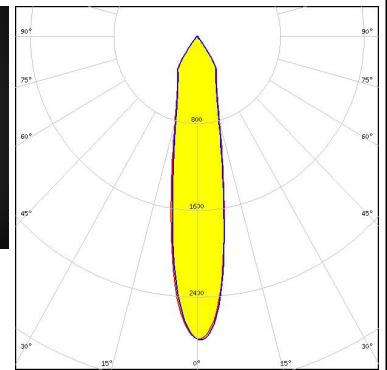
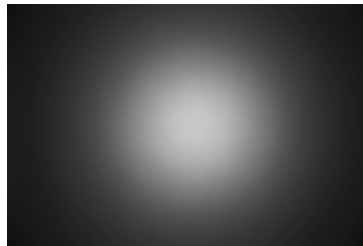
#### TRIDONIC

LED SLE G7 LES17 H  
 FWHM / FWTM 17.0° / 66.0°  
 Efficiency 80 %  
 Peak intensity 3.3 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:



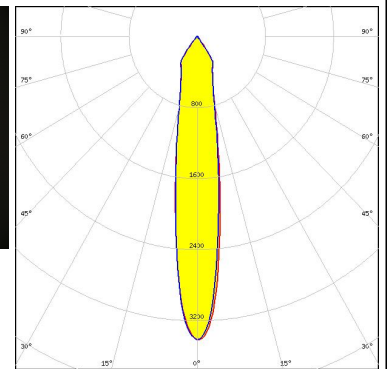
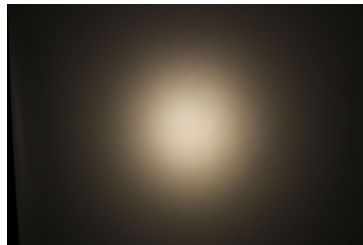
#### TRIDONIC

LED SLE G7 LES21 H  
 FWHM / FWTM 20.0° / 68.0°  
 Efficiency 80 %  
 Peak intensity 2.8 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:



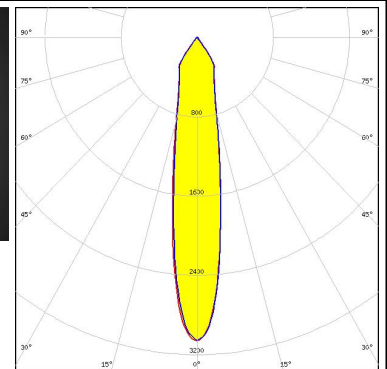
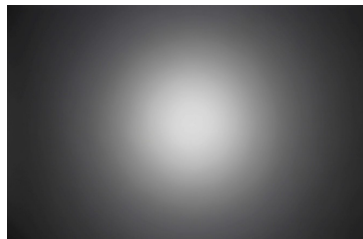
#### XICATO

LED XOB 14.5 mm  
 FWHM / FWTM 17.0° / 66.0°  
 Efficiency 82 %  
 Peak intensity 3.4 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 BJB: 47.319.2021



#### XICATO

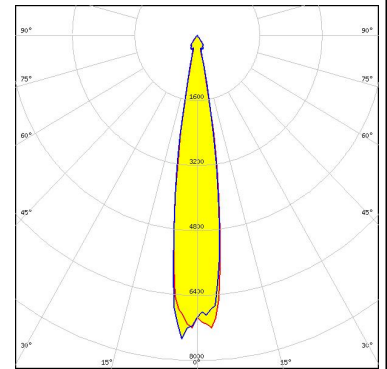
LED XTM - 19mm LES  
 FWHM / FWTM 19.0° / 68.0°  
 Efficiency 81 %  
 Peak intensity 3.1 cd/m  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 C15743\_XTM-ADAPTER-50-B



#### OPTICAL RESULTS (SIMULATED):

### CITIZEN

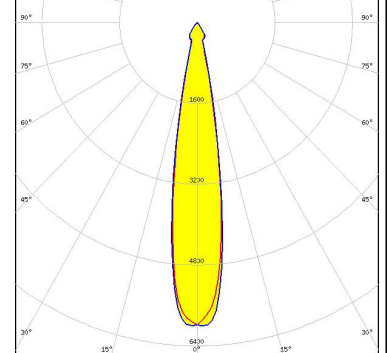
LED CLU730/731/733  
 FWHM / FWTM 16.0° / 26.0°  
 Efficiency 91 %  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 BJB: 47.319.2030



### OSRAM

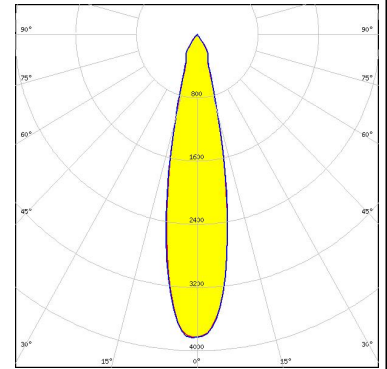
Opto Semiconductors

LED Soleriq S15  
 FWHM / FWTM 18.0° / 30.0°  
 Efficiency 90 %  
 Peak intensity 6 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 BJB: 47.319.2021



### SAMSUNG

LED LC040D / LC060D / LC080D  
 FWHM / FWTM 23.0° / 45.0°  
 Efficiency 87 %  
 Peak intensity 3.8 cd/lm  
 LEDs/each optic 1  
 Light colour White  
 Required components:  
 BJB: 47.319.2030



### 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.

Due to use of high power COB's with this product, special attention to proper thermal design is highly recommended. LEDiL has no liability for direct, indirect or consecutive damages arising from the LEDiL products being used outside of the recommended temperature range.

### 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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