

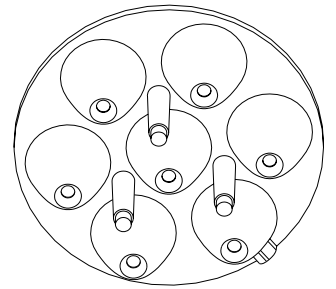
Via Monfalcone 41  
20092 Cinisello Balsamo (Milano) – Italy  
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**CODE NUMBER: 110000000038**

**SUBJECT: Secondary Optics for Power LEDs - PL121106  
Lens Coupling - Output Luminous Intensity Measurement**



- **Typ. Illuminance@1m ~ 7785 lux\***
- High lighting efficiency
- Excellent luminous flux
- No vibration problems
- NJC Technology
- Superior optical engineering for a perfect uniform light distribution
- Innovative design
- Easy fixing system to the PCB
- Complying with UL94 Specifications



**Typical Application are:**

- Wall Washing
- Architectural lighting
- Lamps
- Most applications where a compact light source is required
- Any application requiring placement of LEDs in narrow or recessed spaces, as well as in diverse LED configurations

Khatod Optics are a basic element to make your optical design real.

The right optical solution is fundamental for type and number of LEDs used in your design.

Advanced research, scientific rigour, great attention to the continuous evolution in LED Technology, have led Khatod to develop optical solutions performing an excellent, homogeneous luminous flux, and a high lighting efficiency.

The product we are proposing, is the result of Khatod's superior engineering. It helps in reducing the costs while meeting the most demanding lighting specifications and applications.

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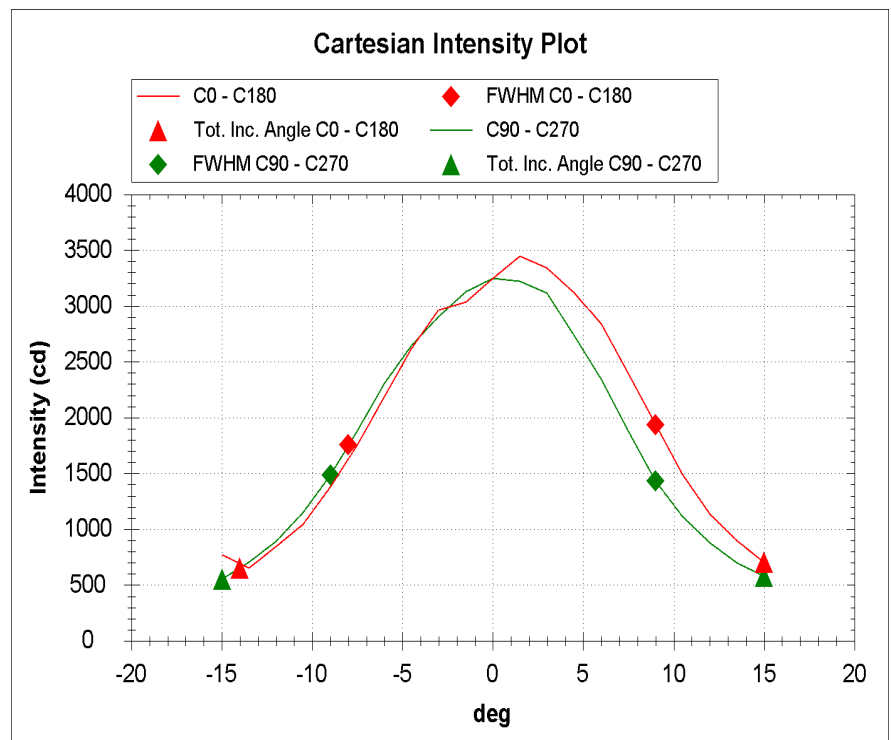
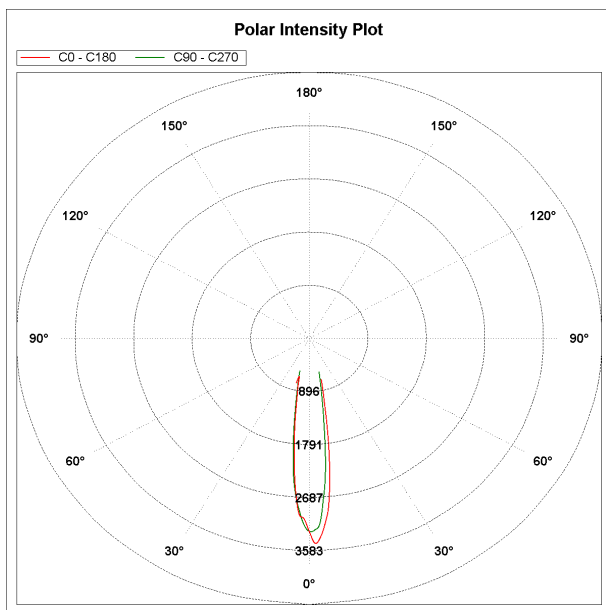
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Goniophotometer Type	KLX12M	Operator	SIMONE BASSI
Power Supply Type	ISO TECH ISP3303	Date	07/02/2011
LED Driver Type	////		

Lamp Model	////	Nominal Flux (lm)	130	Angle FWHM C Plane	15
Lens Model	PL121106	Total Flux (lm)	910	Angle FWHM $\gamma$ Plane	16
LED Model	REBEL ES	Imax (cd)	3445		
N. LED	7	Max Ill. @ Meas. Dist. (lux)	137	Total Incl. Angle C Plane	26
Rated Voltage (V)	20.3	Measurement Distance (m)	5	Total Incl. Angle $\gamma$ Plane	27
LED Drive Current (mA)	350	Room Temperature (°C)	25		

Notes:  
General Optical Measurement Tolerance: +/-10%



## Polar Intensity Plot

— C0 - C180    — C90 - C270

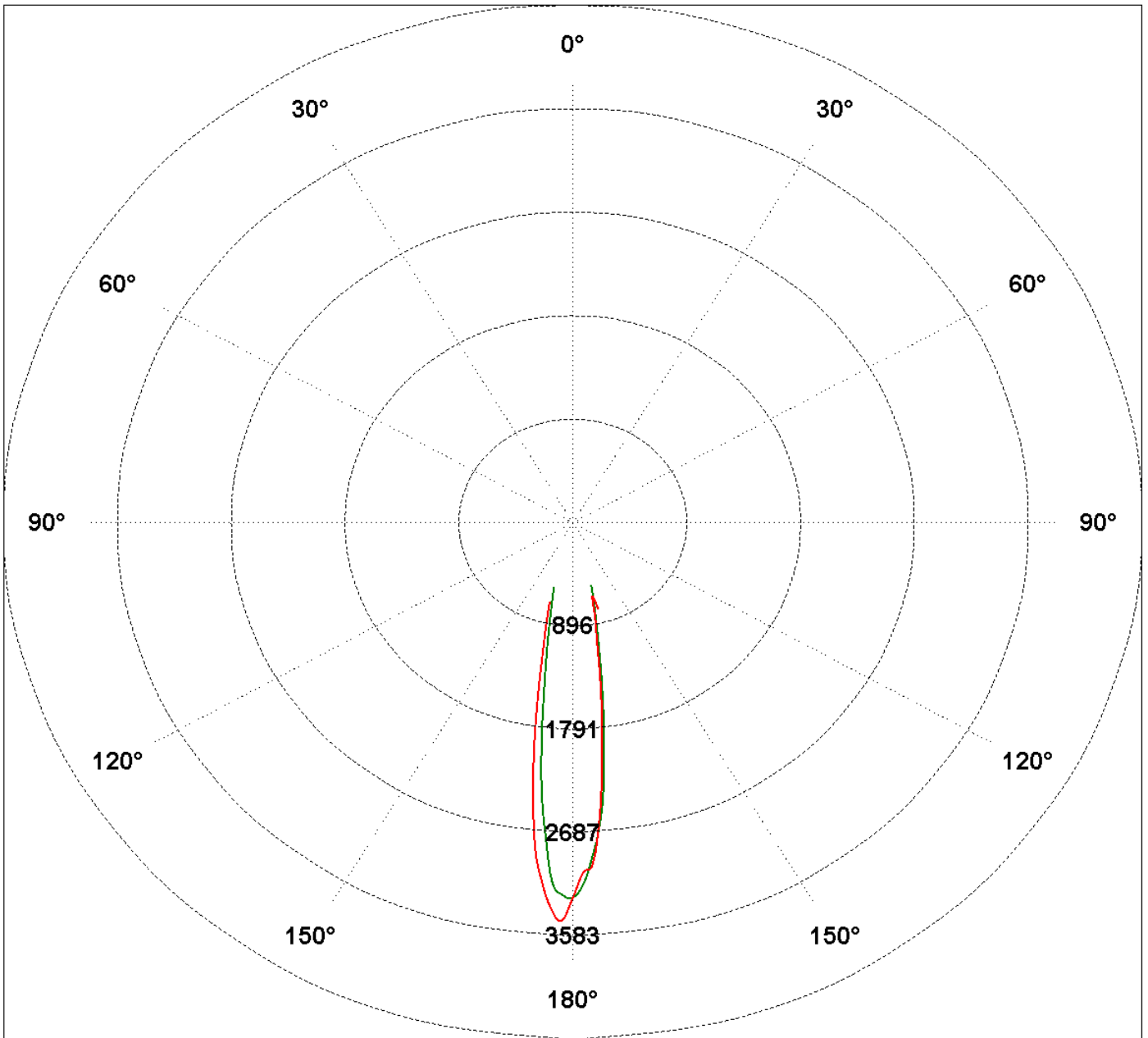


Figure C0-C180

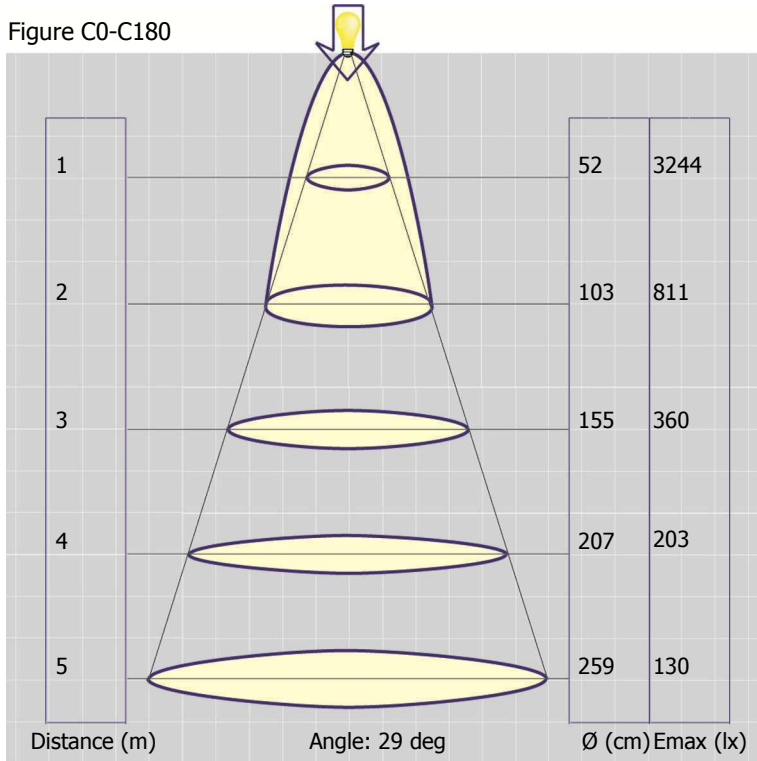
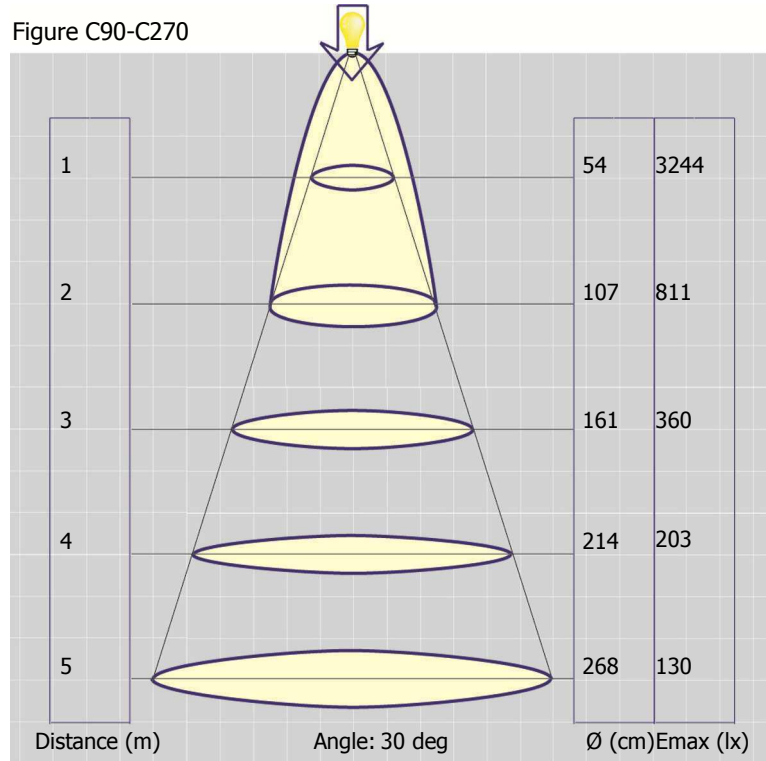
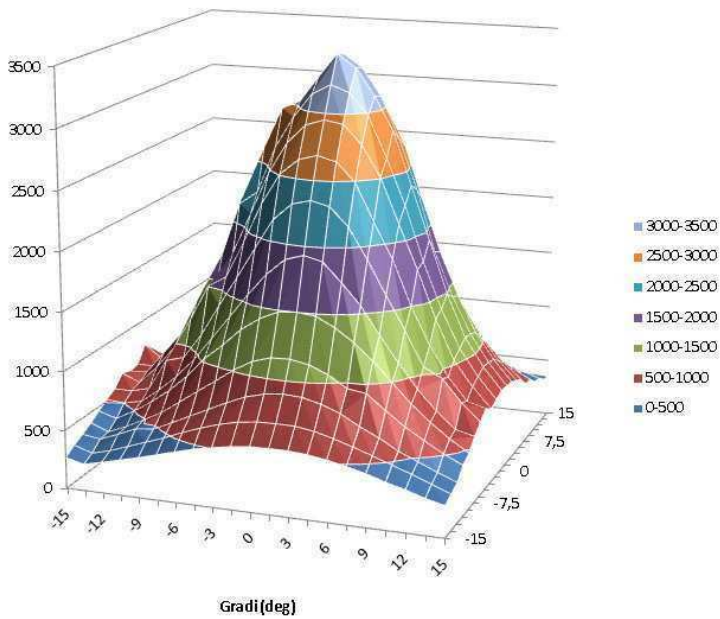


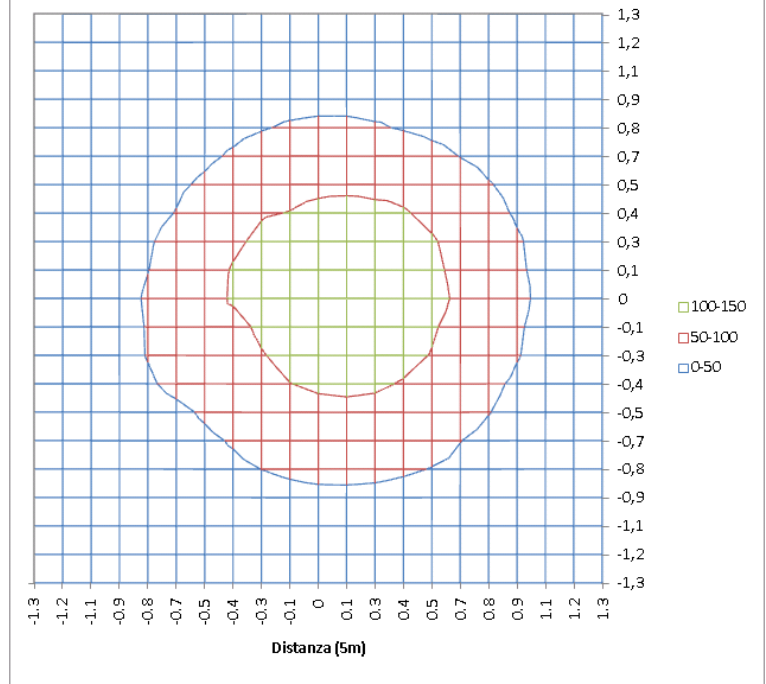
Figure C90-C270

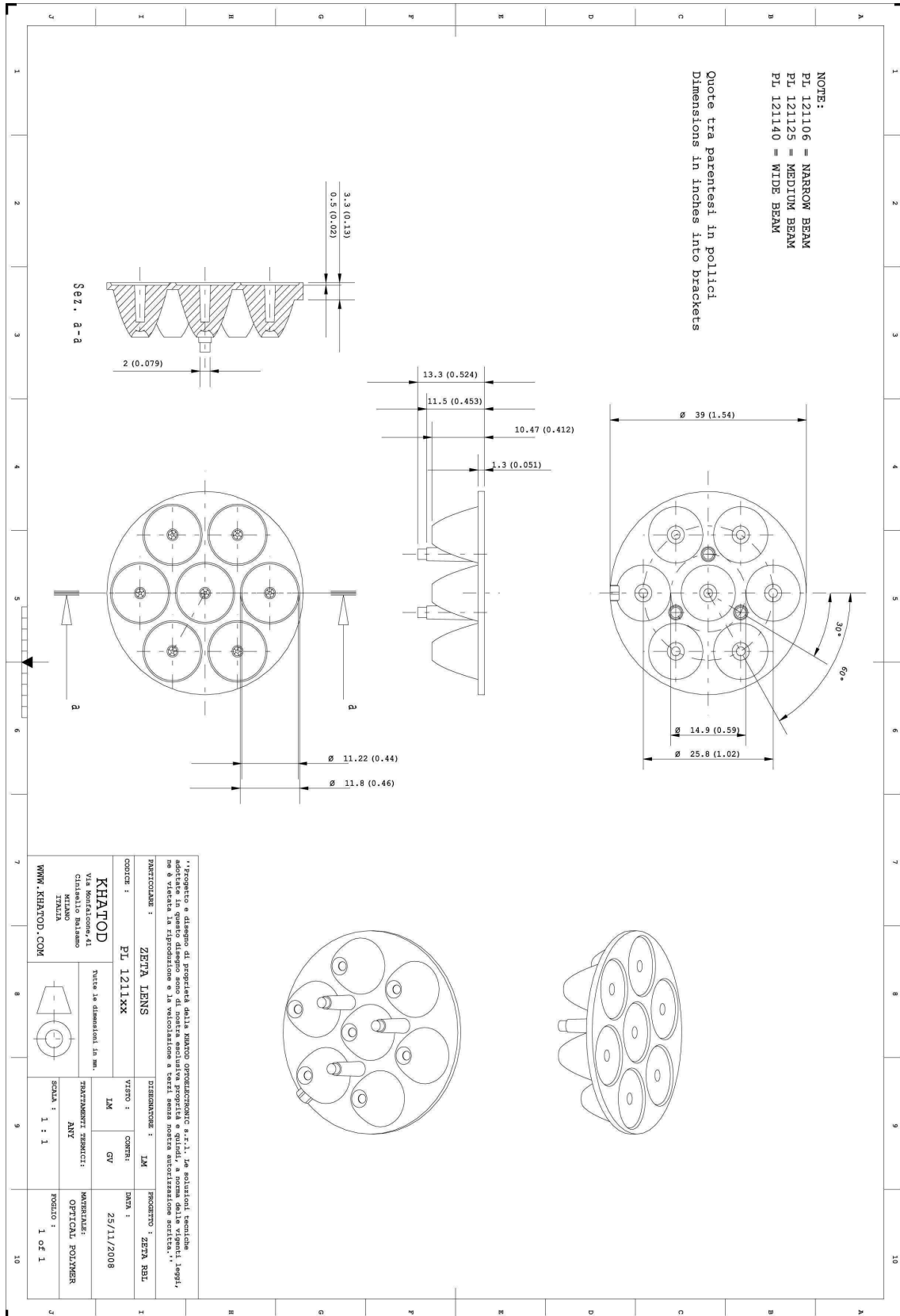


Isocandela Diagram



Isolux Diagram



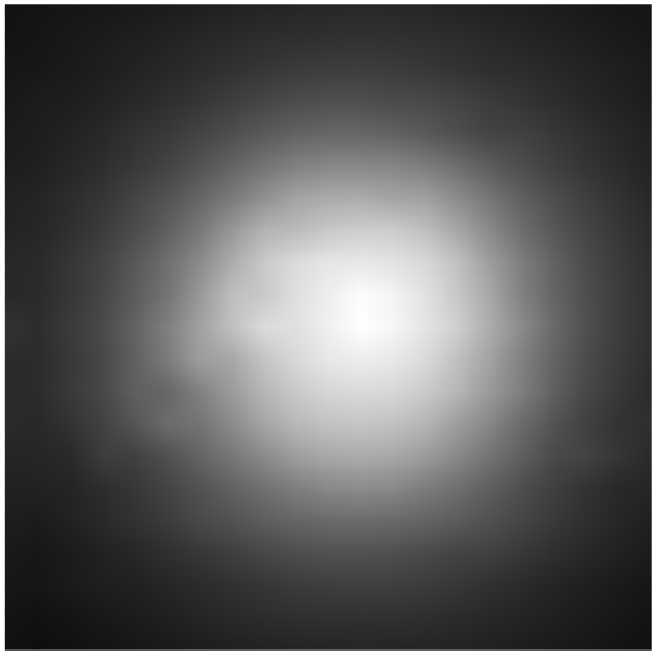


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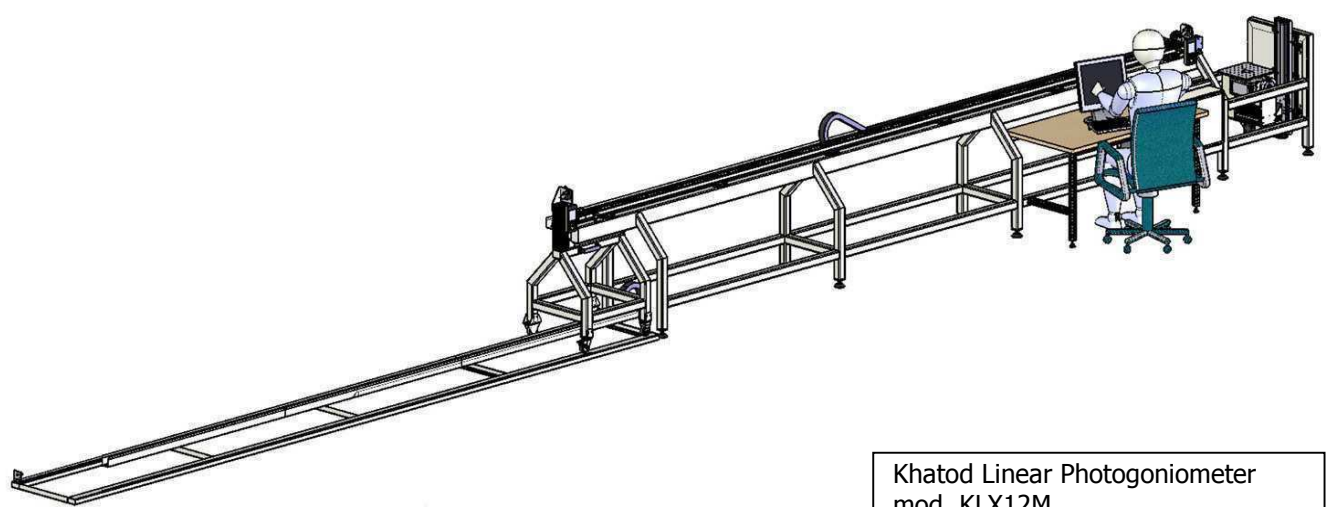
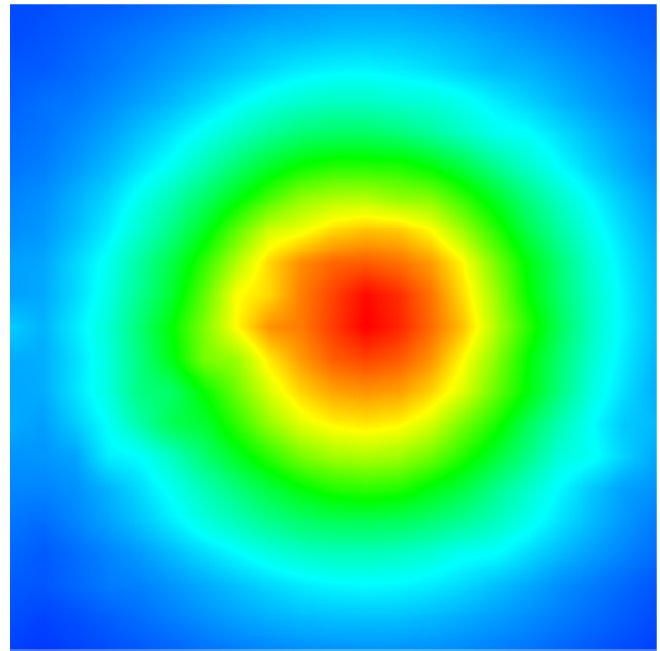
<b>KHATOD</b> Via Morfasso, 41 Cinisello Balsamo MILANO ITALIA WWW.KHATOD.COM	Nome in dimensioni in mm. ZEPHA LENS PL 1211XX	DISPOSITIVO : LM VITRO : LM COMPT : GV	PROGETTO : ZEPHA RBL DATA : 29/11/2008
TRATTAMENTO ASSIEME : ANX	SCALA : 1 : 1	MATERIALE : OPTICAL POLYMER	FOGLIO : 1 OF 1

**CODE NUMBER: 11000000038**

Gray Scale Illuminance @ 5m Distance



False Colours Illuminance @ 5m Distance



Khatod Linear Photogoniometer  
mod. KLX12M

## Luminous Distribution Intensity Data

CODE NUMBER: 110000000038

C (deg) γ (deg)	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°	110°	120°	130°	140°	150°	160°	170°	180°	190°
0°	3244	3244	3244	3244	3244	3244	3244	3244	3244	3244	3244	3244	3244	3244	3244	3244	3244	3244	3244	3244
5°	3020	3007	3021	3014	2968	2904	2833	2745	2655	2599	2529	2494	2522	2522	2481	2467	2495	2469	2473	2345
10°	1642	1584	1606	1561	1523	1430	1315	1264	1244	1222	1191	1147	1112	1077	1085	1089	1115	1110	1155	1157
15°	706	716	722	685	687	665	630	624	602	577	554	548	533	512	510	504	537	604	773	629
20°	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25°	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30°	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35°	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40°	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45°	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50°	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55°	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60°	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65°	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70°	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75°	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80°	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85°	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90°	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

200°	210°	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°	330°	340°	350°
3244	3244	3244	3244	3244	3244	3244	3244	3244	3244	3244	3244	3244	3244	3244	3244
2227	2208	2245	2301	2365	2431	2472	2533	2575	2639	2693	2750	2799	2857	2904	2945
1217	1167	1052	1083	1154	1190	1222	1261	1300	1367	1437	1469	1509	1526	1593	1568
590	513	492	496	503	528	535	553	581	616	634	652	696	653	726	682
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



## Lens characteristics

Parameter	Symbol	Rating	Unit
Lens Material	PC Optics	--	--
Holder Material	--	--	--
Operating Temperature	Topr	-40 to +120	°C
Storage Temperature	Tstg	-40 to +120	°C

## Notes:

Please note that flow lines and weld lines on the external surfaces of the lenses are acceptable if the optical performance of the lens is within the specification described in the section "OPTICAL CHARACTERISTICS"

- Should you require further information, please contact Khatod for advice.
- All lens testing must be subject to identical conditions as Khatod test condition.
- Published by Khatod optoelectronic srl - All the data contained in this document are the property of Khatod optoelectronic srl and may change without notice.

## **KHATOD LENS Use And Maintenance**

- DO NOT HANDLE OR INSTALL LENSES WITHOUT WEARING GLOVES, SKIN OILS MAY DAMAGE LENS OR LIGHT TRANSMISSION
- CLEAN LENSES WITH MILD SOAP AND WATER AND A SOFT CLOTH
- DO NOT USE ANY COMMERCIAL CLEANING SOLVENTS ON LENSES

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