KHATOD®
OPTOELECTRONIC

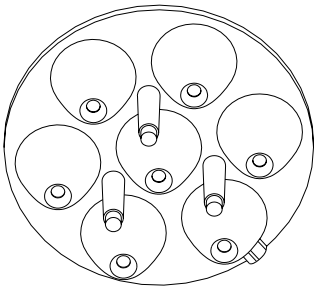
TECHNICAL DEPT.
Lenses Test Report

Via Monfalcone 41
20092 Cinisello Balsamo (Milano) – Italy
Tel. +39 0266013695 – Fax +39 0266013500

CODE NUMBER: 110000000039

SUBJECT: **Secondary Optics for Power LEDs - PL121125**
Lens Coupling - Output Luminous Intensity Measurement

- **Typ. Illuminance@1m ~ 6470 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.

Contents:

* Measurement Carried out With LED Driven @ 1000 mA

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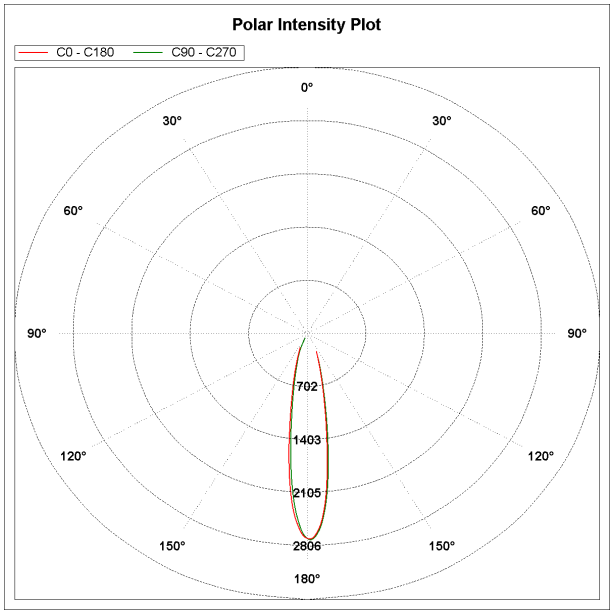
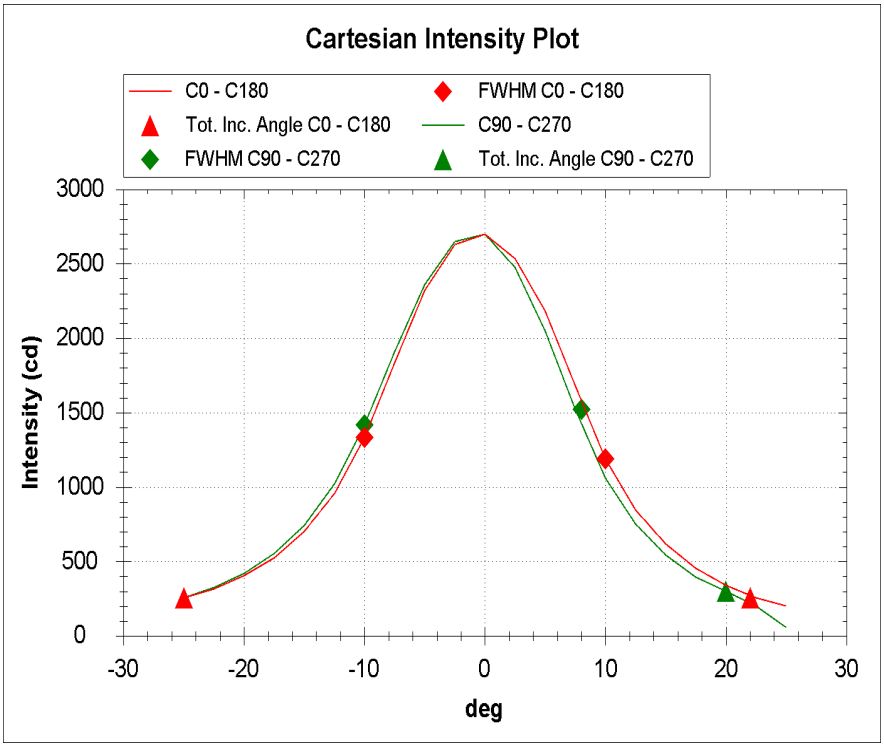
Goniophotometer Type	KLX12M	Operator	SIMONE BASSI
Power Supply Type	ISO TECH ISP3303	Date	07/02/2011
LED Driver Type	////		

Lamp Model	////	Nominal Flux (lm)	130	Angle FWHM C Plane	20
Lens Model	PL121125	Total Flux (lm)	910	Angle FWHM γ Plane	18
LED Model	REBEL ES	Imax (cd)	2698		
N. LED	7	Max Ill.@ Meas. Dist. (lux)	107	Total Incl. Angle C Plane	47
Rated Voltage (V)	20.3	Measurement Distance (m)	5	Total Incl. Angle γ Plane	45
LED Drive Current (mA)	350	Room Temperature (°C)	25		

Notes:

General Optical Measurement Tolerance: +/-10%





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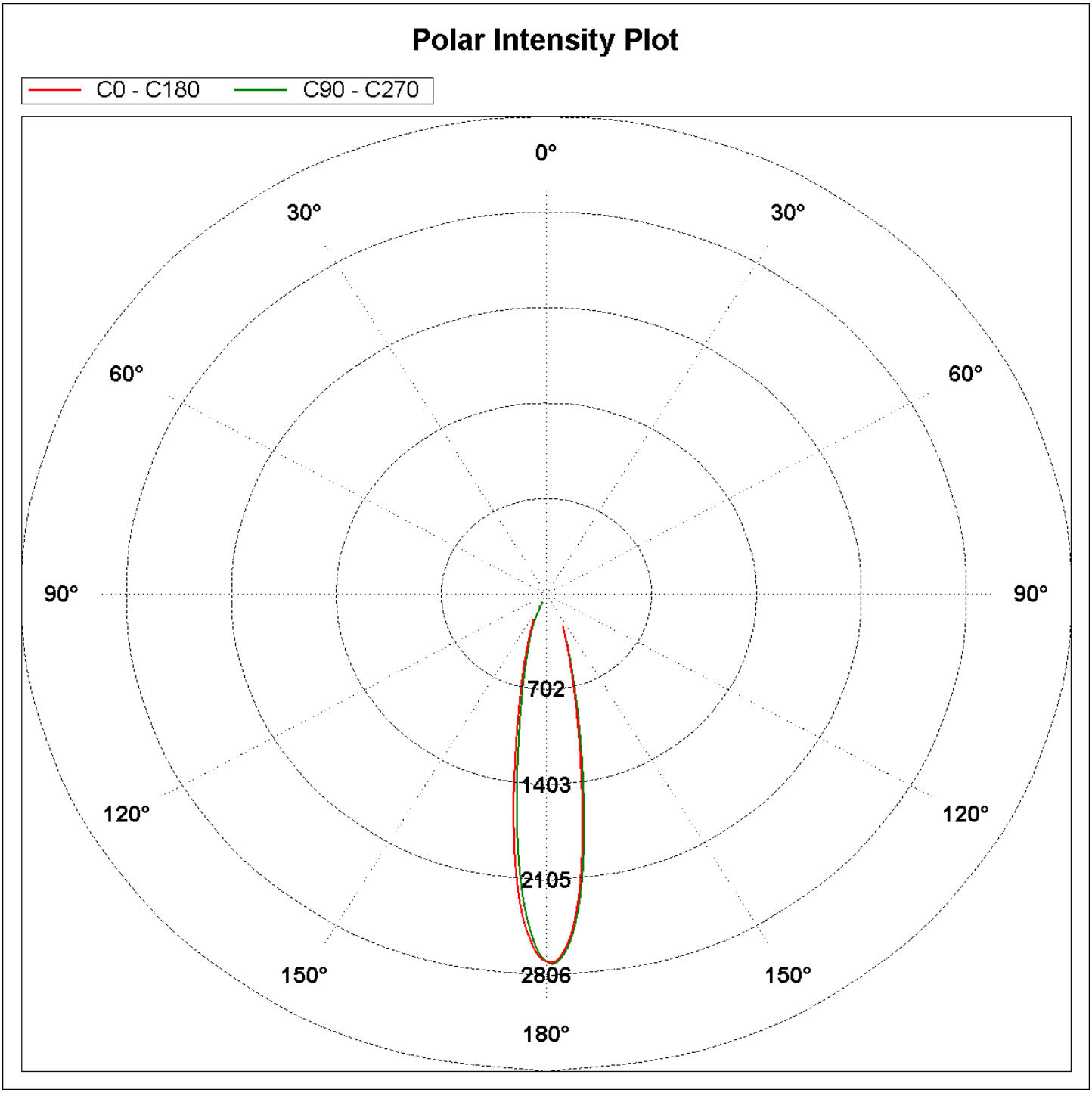

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Figure C0-C180

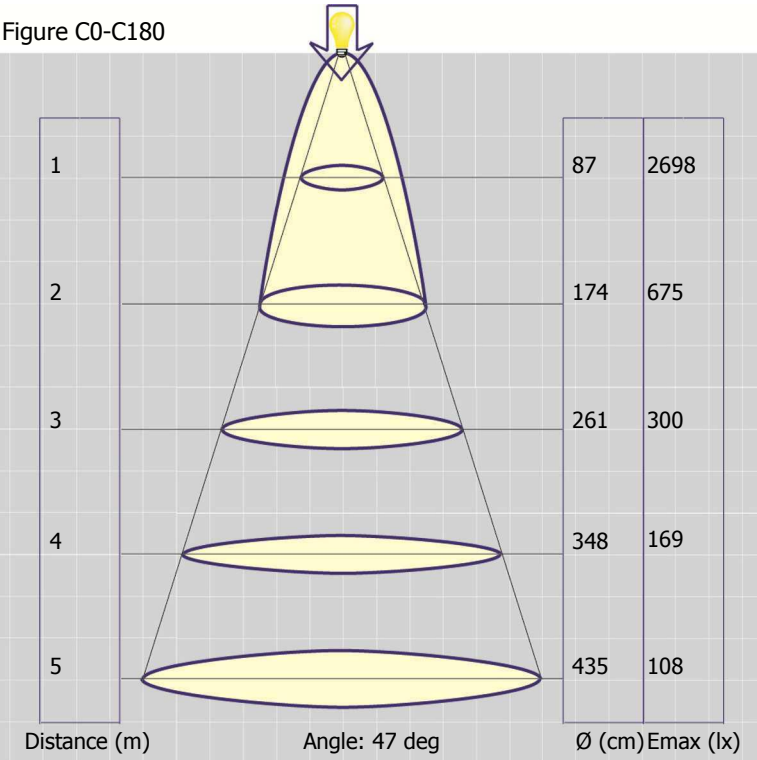
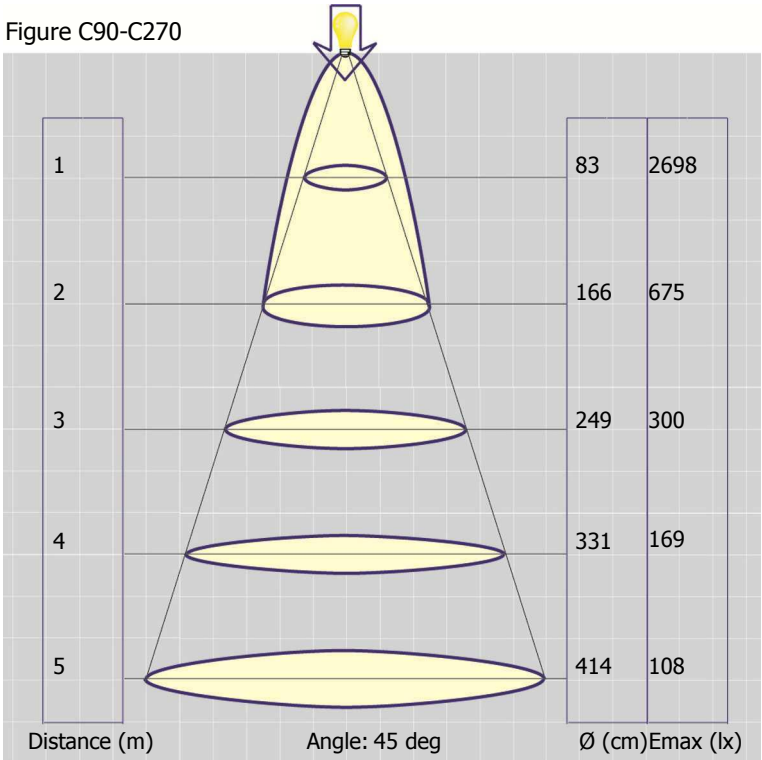
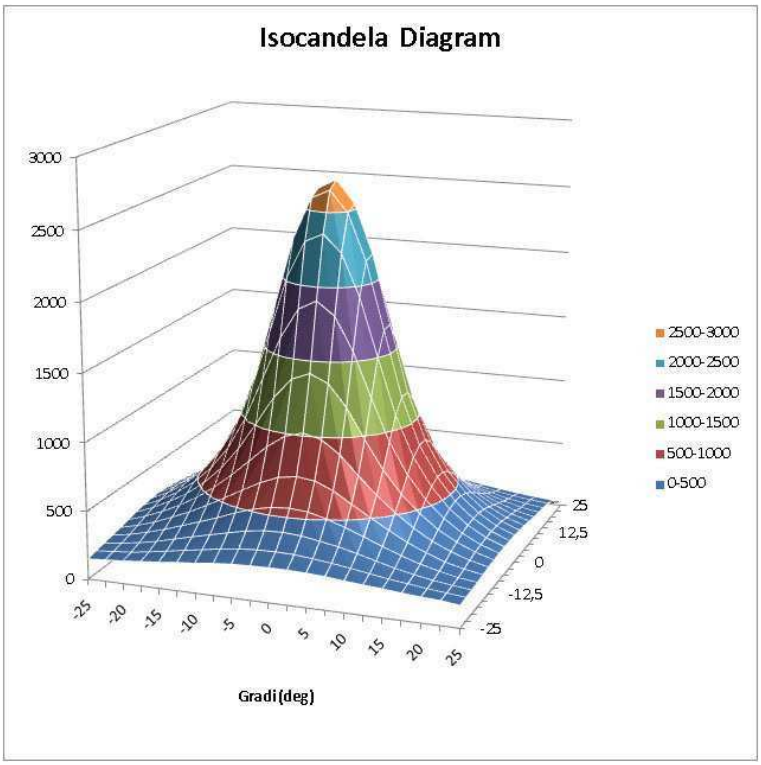
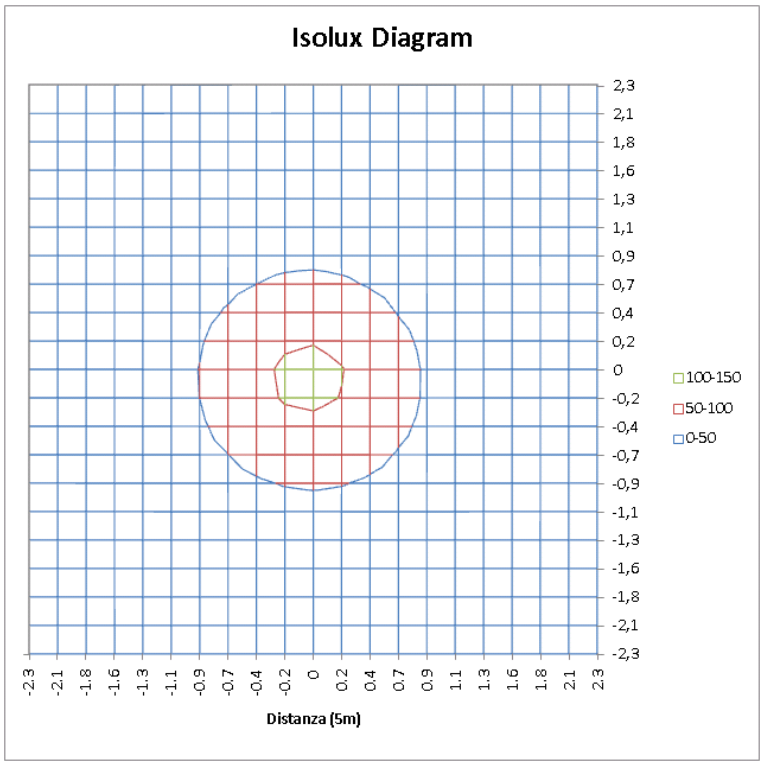


Figure C90-C270







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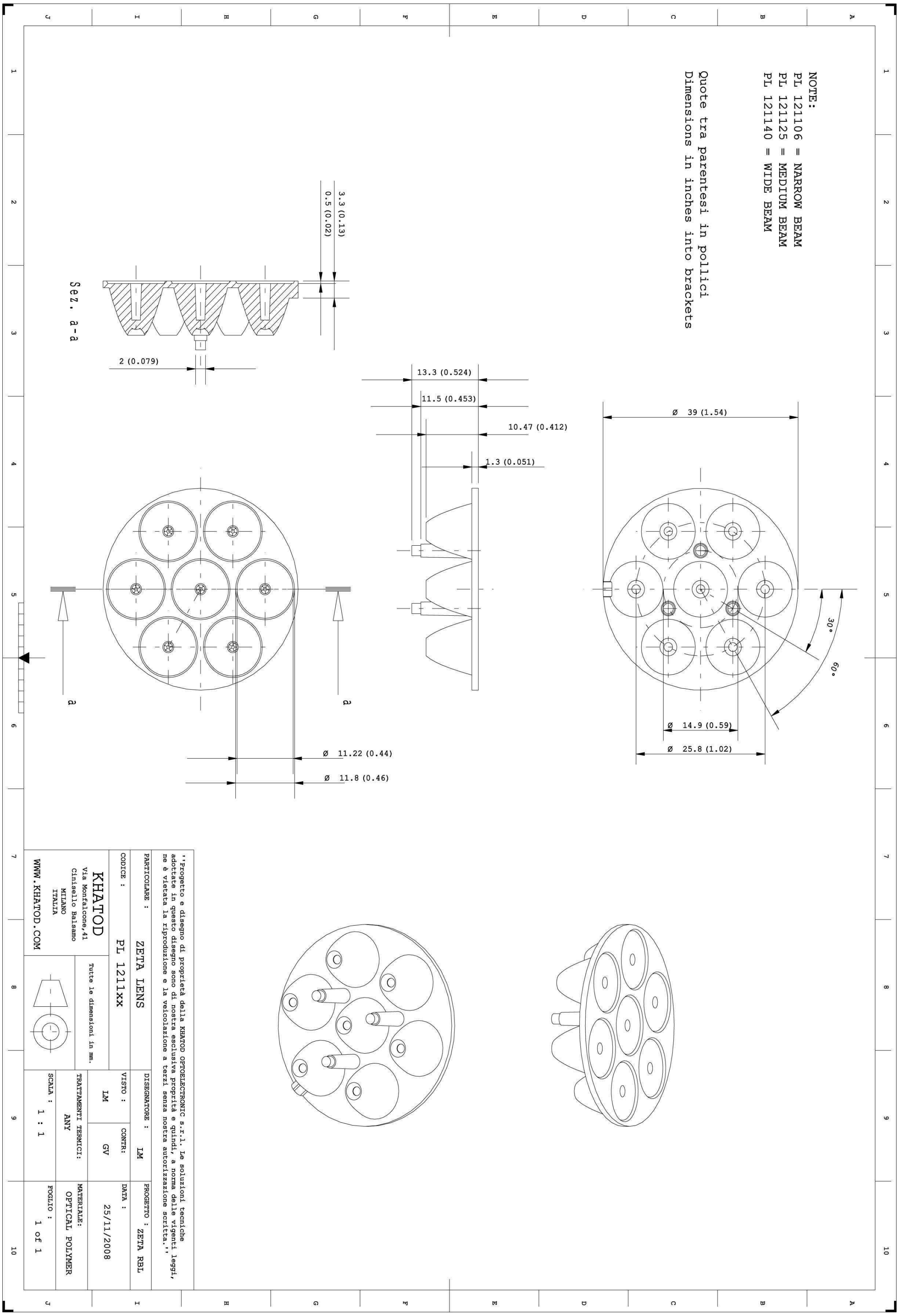

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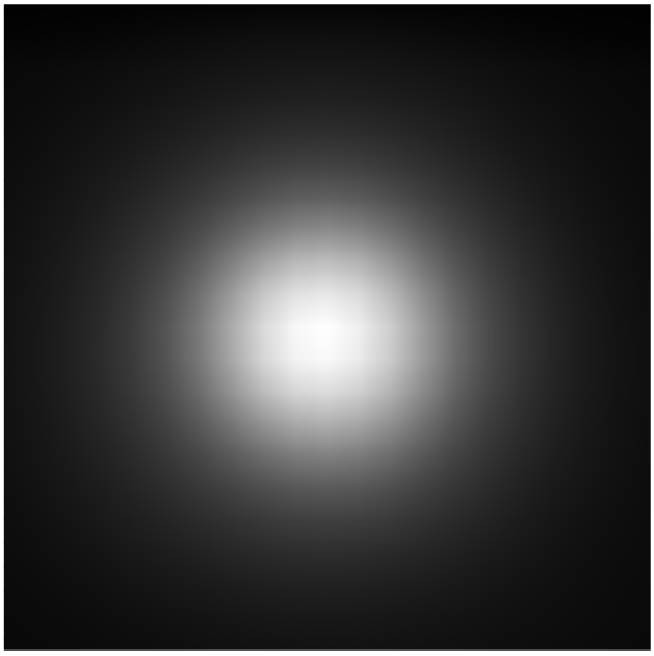
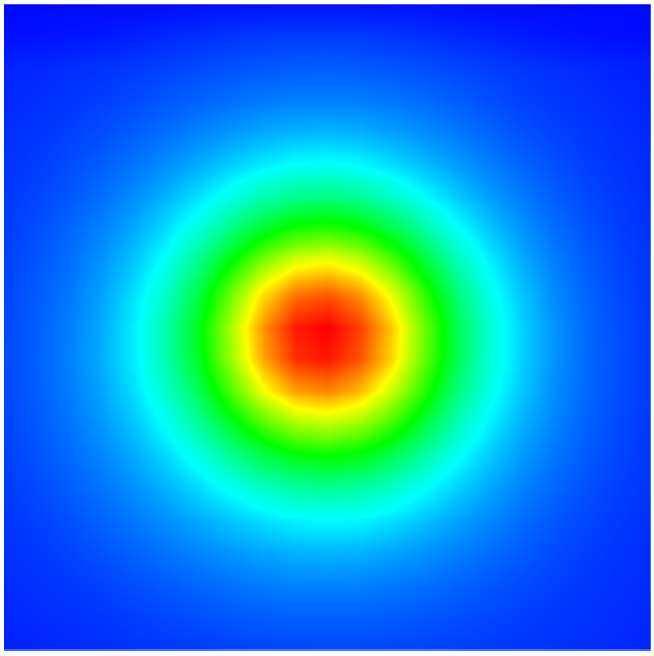
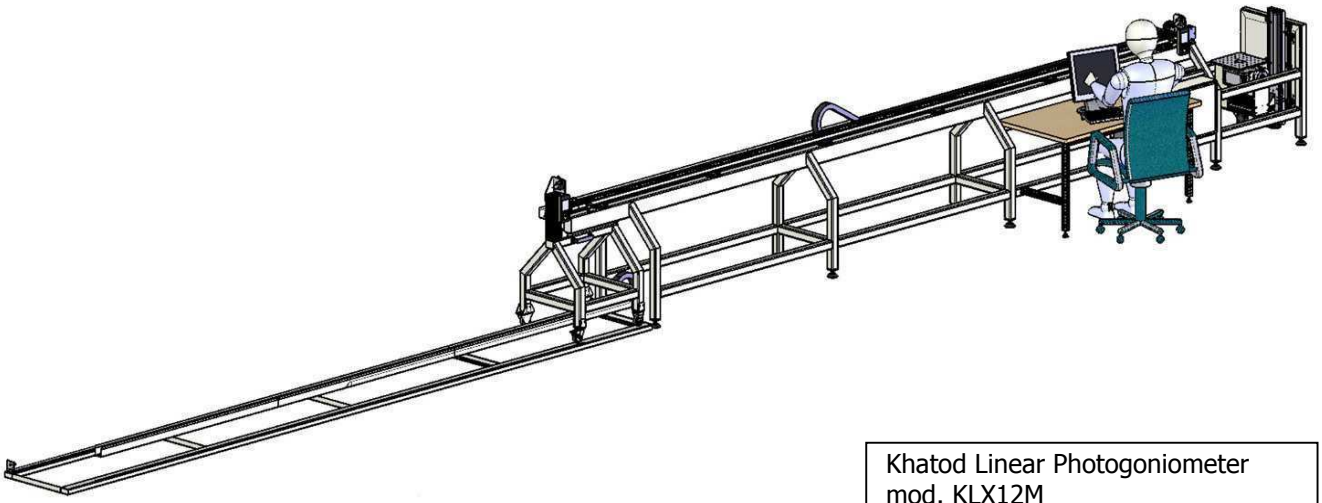
Gray Scale Illuminance @ 5m Distance



False Colours Illuminance @ 5m Distance





Khatod Linear Photogoniometer
mod. KLX12M

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Luminous Distribution Intensity Data

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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°	2698	2698	2698	2698	2698	2698	2698	2698	2698	2698	2698	2698	2698	2698	2698	2698	2698	2698	2698	2698
5°	2183	2127	2093	2082	2041	2024	2032	2012	2017	2048	2040	2057	2099	2110	2147	2208	2228	2266	2323	2319
10°	1191	1153	1131	1106	1078	1063	1064	1054	1048	1062	1072	1097	1128	1141	1184	1228	1261	1291	1333	1352
15°	620	600	582	560	544	535	533	537	540	542	553	569	577	590	605	625	652	677	700	721
20°	338	326	319	309	304	302	301	300	296	299	302	312	321	336	351	362	377	388	403	420
25°	202	196	195	193	193	190	153	111	76	57.5	78.7	123	169	208	221	232	240	246	255	266
30°	0	0	0	0	139	63.8	0	0	0	0	0	0	0	74	158	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°
2698	2698	2698	2698	2698	2698	2698	2698	2698	2698	2698	2698	2698	2698	2698	2698
2334	2366	2348	2351	2375	2352	2347	2360	2324	2305	2302	2263	2245	2247	2207	2185
1381	1412	1412	1418	1431	1417	1409	1417	1403	1399	1395	1363	1333	1313	1263	1219
734	729	733	737	737	743	741	741	745	743	720	705	689	673	661	642
431	431	434	432	426	426	423	420	417	419	413	406	395	382	370	352
274	280	279	274	269	262	257	255	260	264	265	259	250	243	229	214
0	0	195	187	0	0	0	0	0	0	0	198	187	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

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 proprety 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