

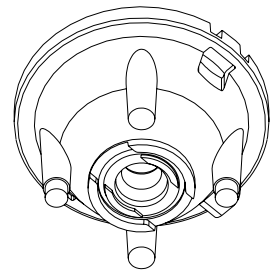
Via Monfalcone 41
20092 Cinisello Balsamo (Milano) – Italy
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CODE NUMBER: 11000000086

**SUBJECT: Secondary Optics for Power LEDs - KEPL124120A
Lens Coupling - Output Luminous Intensity Measurement**



- **Typ. Illuminance@1m ~ 1055 lux**
- High lighting efficiency
- Excellent luminous flux
- No vibration problems
- Free testing
- Superior optical engineering for a perfect uniform light distribution
- Innovative design
- Easy fixing system to the PCB
- Complying with UL94 Specifications
- ☀ UV Protected



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.

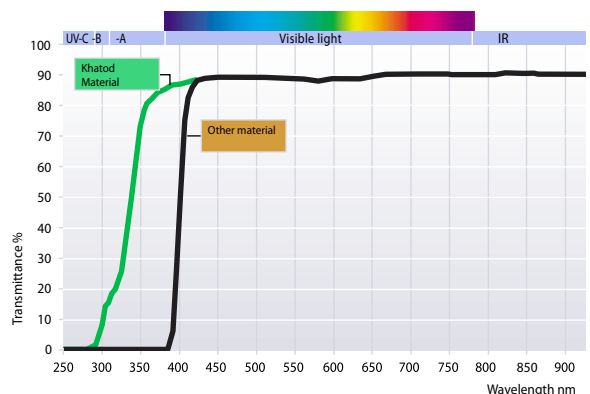
Advanced research, scientific rigour, great attention to the continuous evolution in LED Technology, have led Khatod to develop optical solutions performing an excellent, homogeneous luminous flux, and a high lighting efficiency.

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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Transmittance Curve vs Wavelength



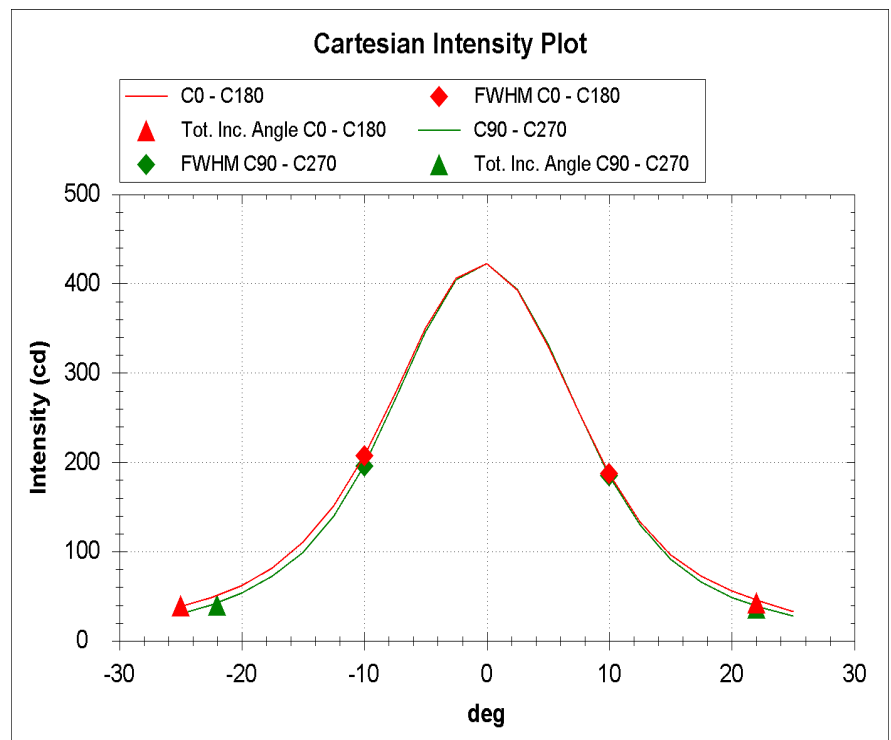
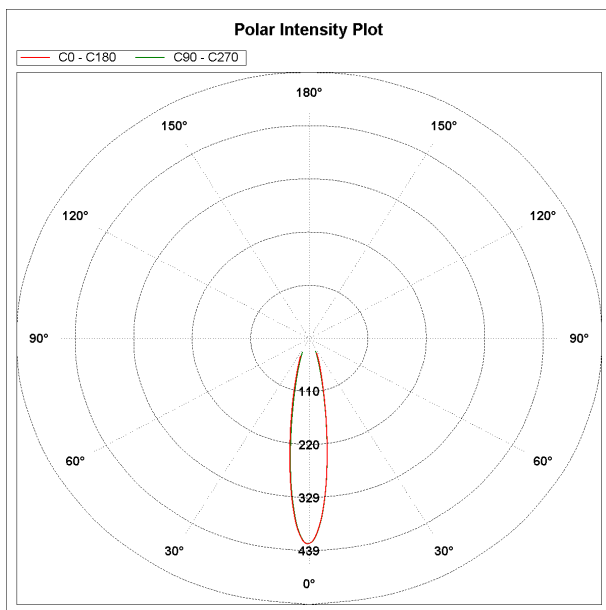
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Goniophotometer Type	KLX12M	Operator	SIMONE BASSI
Power Supply Type	ISO TECH ISP3303	Date	17/02/2011
LED Driver Type	////		

Lamp Model	////	Nominal Flux (lm)	90	Angle FWHM C Plane	20
Lens Model	KEPL124120A	Total Flux (lm)	90	Angle FWHM γ Plane	20
LED Model	CREE MX-6	Imax (cd)	422		
N. LED	1	Max Ill. @ Meas. Dist. (lux)	16.9	Total Incl. Angle C Plane	47
Rated Voltage (V)	3	Measurement Distance (m)	5	Total Incl. Angle γ Plane	44
LED Drive Current (mA)	350	Room Temperature (°C)	25		

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



Polar Intensity Plot

— C0 - C180 — C90 - C270

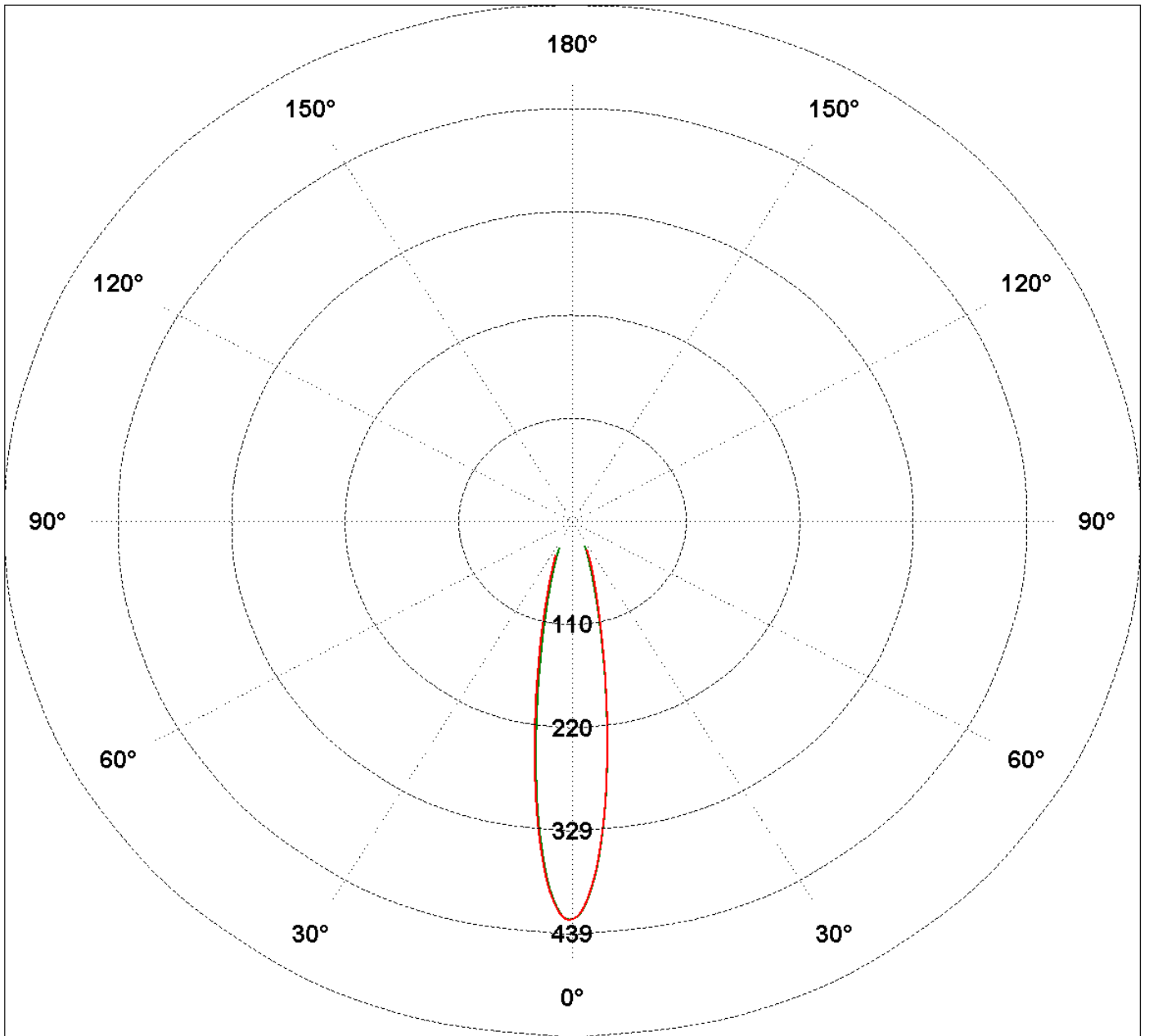


Figure C0-C180

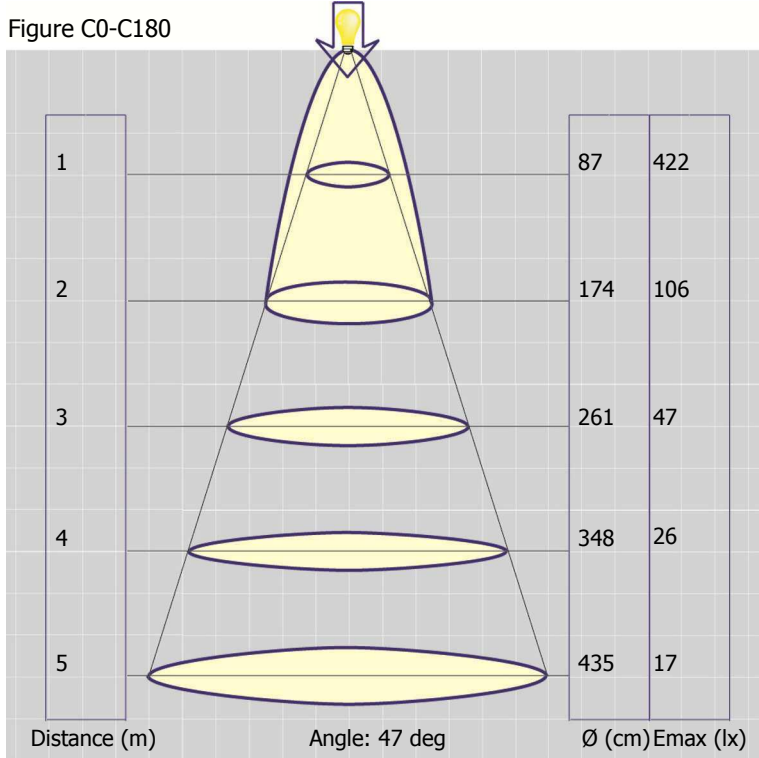
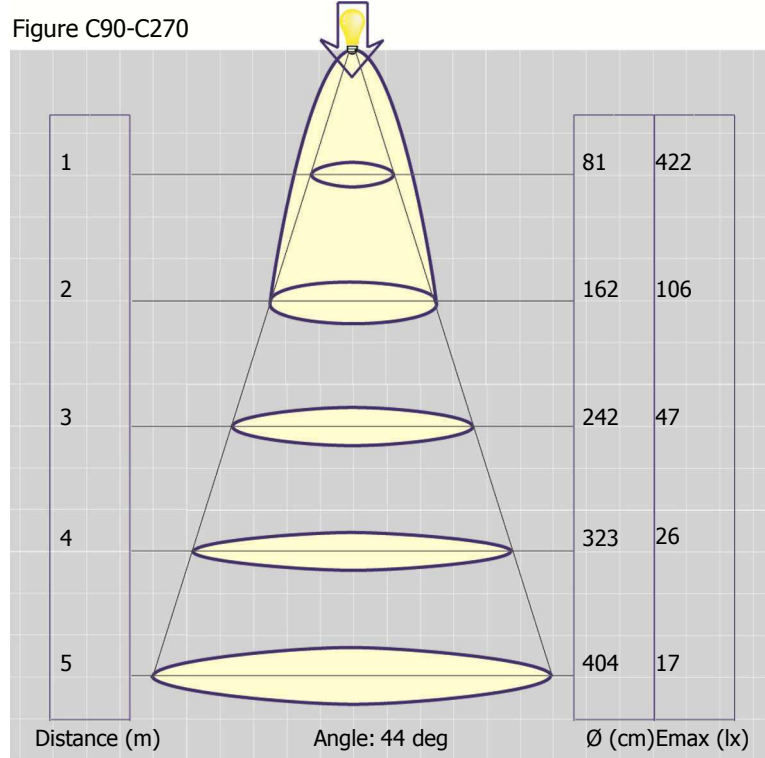
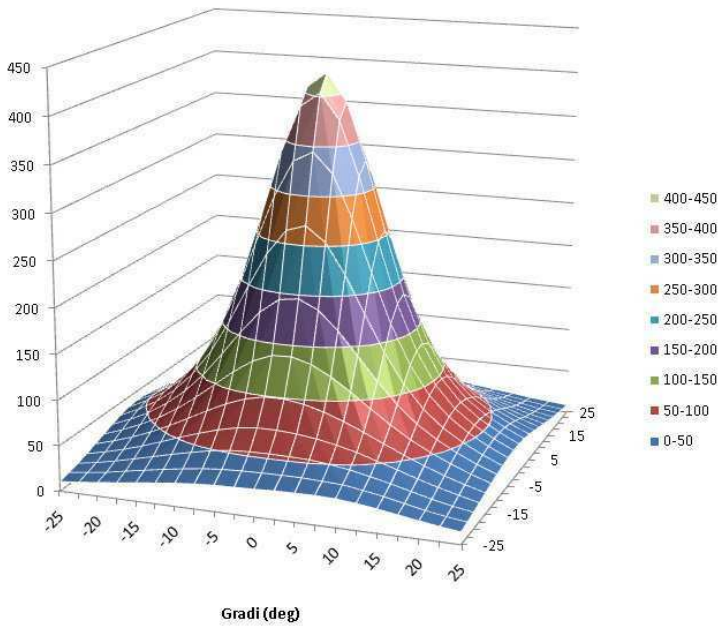


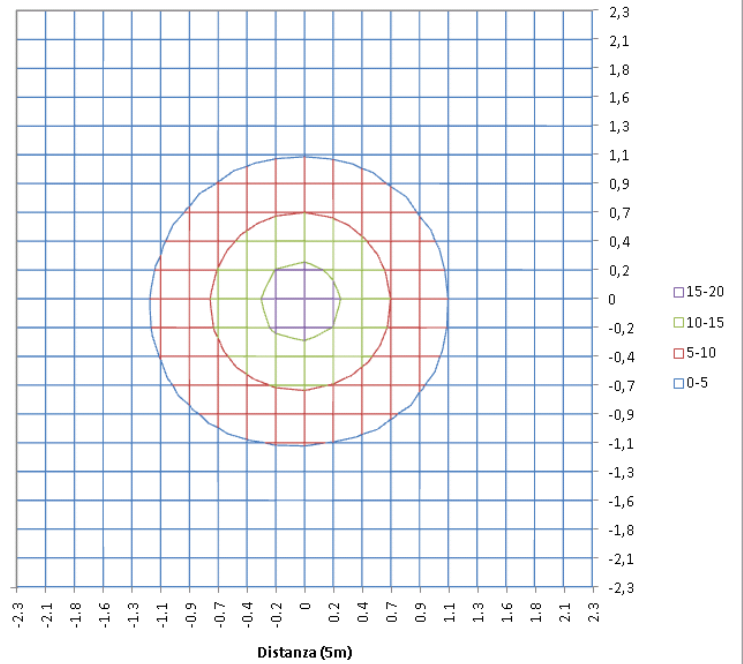
Figure C90-C270

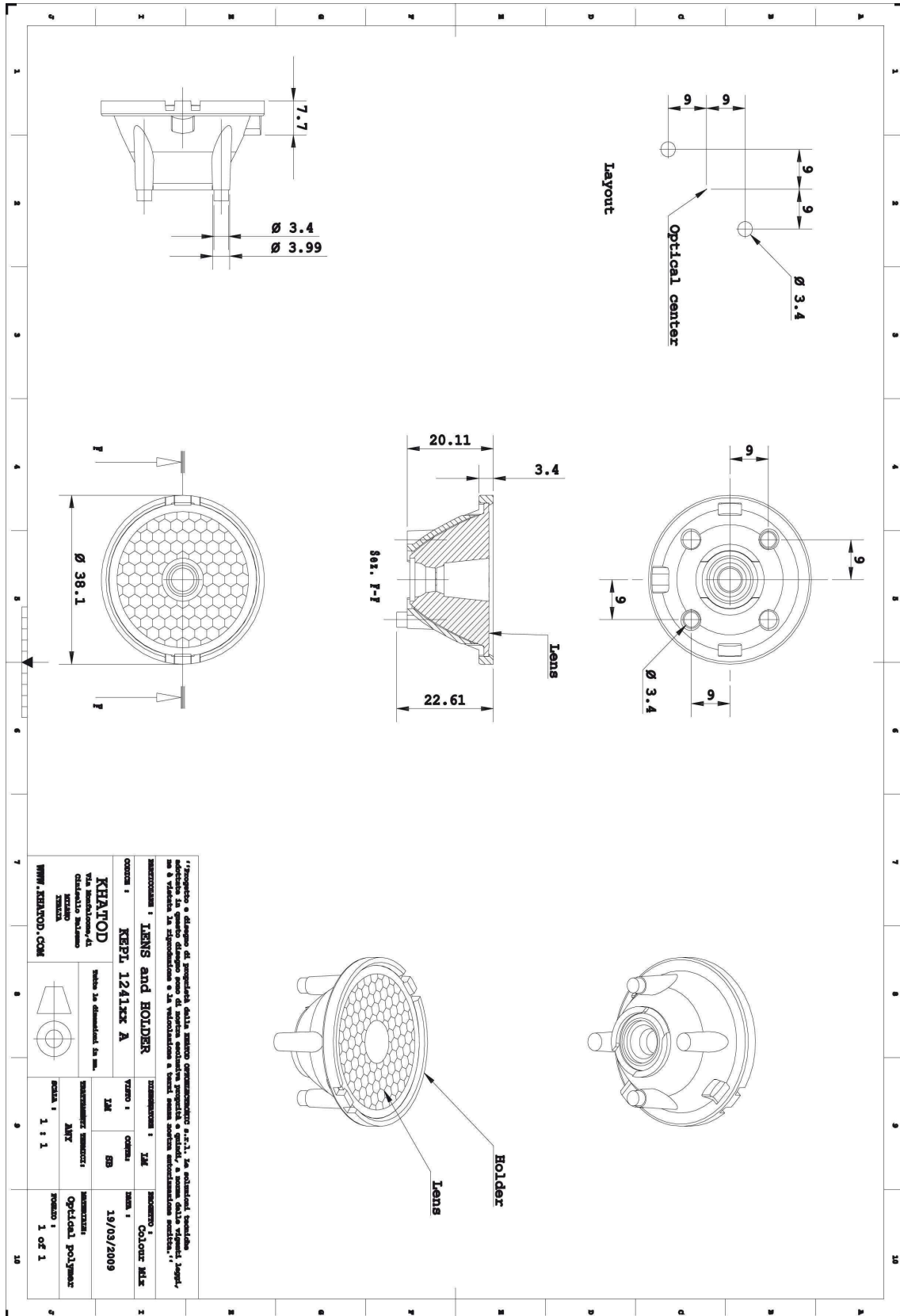


Isocandela Diagram



Isolux Diagram



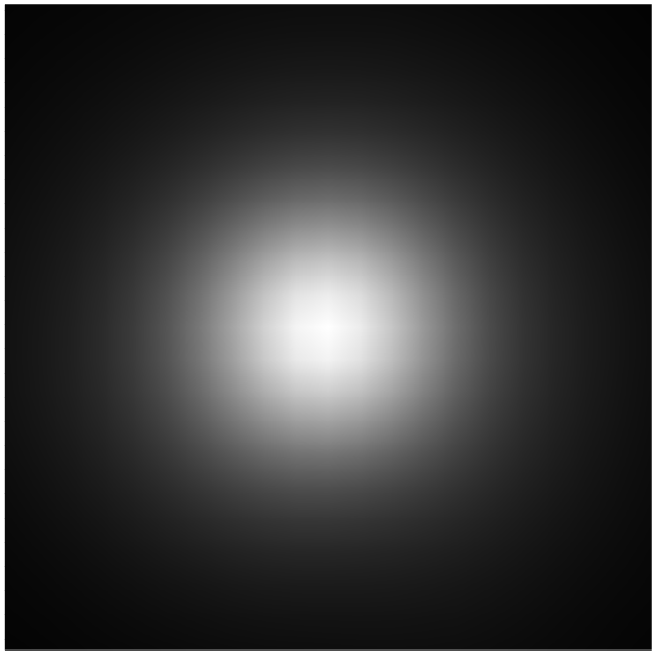


“Prospetto e disegno di progetto della nuova organizzazione s.r.l. in relazione tecnica ed economica in questo disegno sono di natura esecutiva, progettuale e grafica, a norma della vigente legge n. 678 del 19/03/2009 e la responsabilità e la validazione e tutti i versamenti sono esclusivamente della Khatod.”

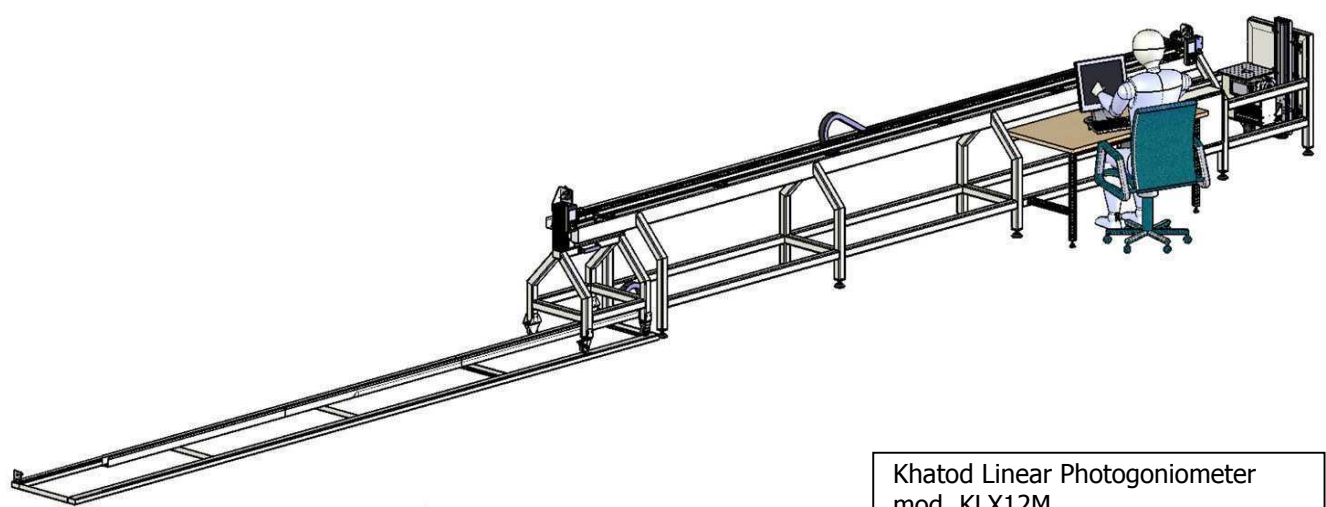
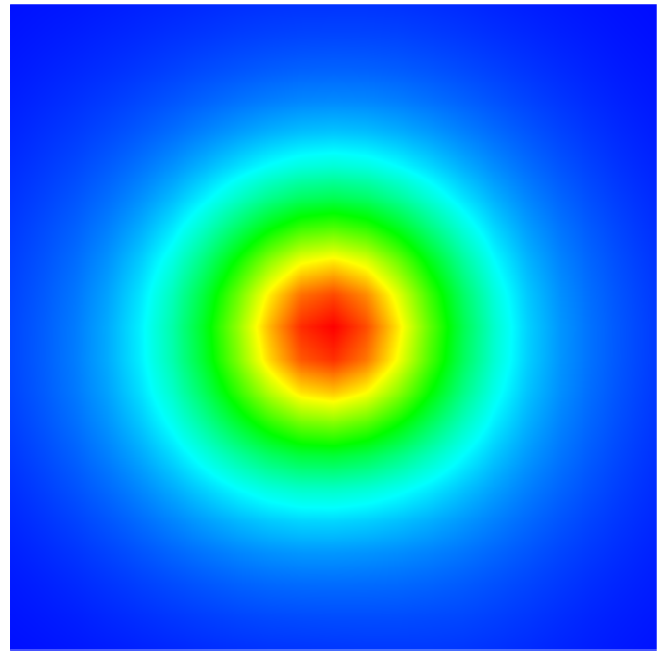
INTITOLAMENTO : LENS and HOLDER VERSIONE : KEPL 1241XX A		REVISIONI : JM DATA : 19/03/2009	
PROGETTISTA : Khatod Via Melchiorri, 44 01012 Viterbo WWW.KHATOD.COM		PRODOTTORE : JM DATA : 19/03/2009	
SCALE : 1 : 1		PRODOTTO : Optical polycarbonate 1 of 1	

CODE NUMBER: 11000000086

Gray Scale Illuminance @ 5m Distance



False Colours Illuminance @ 5m Distance



Khatod Linear Photogoniometer
mod. KLX12M

Luminous Distribution Intensity Data

CODE NUMBER: 110000000086

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°	422	422	422	422	422	422	422	422	422	422	422	422	422	422	422	422	422	422	422	422
5°	330	325	323	325	323	323	327	325	327	332	329	330	335	334	336	341	341	344	350	347
10°	187	185	184	185	183	183	185	184	184	185	185	188	192	193	196	200	201	203	207	208
15°	96.5	95.6	95	93.8	93.5	93.1	92.7	93	92	91.5	92.4	94.3	95.3	97.4	99.6	102	106	108	110	113
20°	55.8	54.2	53	51.5	50.6	50.4	49.8	49.7	49.1	48.5	49.1	49.8	50.3	51.6	53.7	55.5	57.9	59.7	61.8	64.2
25°	32.5	31.5	30.2	28.9	28.6	28.6	28.7	29	29	28	28.6	29	29.5	30.4	32	33.7	35.6	37.1	38.8	39.8
30°	0	0	0	0	15.5	16	0	0	0	0	0	0	0	18.5	19.7	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

KHATOD[®]

OPTOELECTRONIC

200°	210°	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°	330°	340°	350°
422	422	422	422	422	422	422	422	422	422	422	422	422	422	422	422
348	351	347	346	348	344	343	345	339	337	337	333	332	333	329	328
211	214	213	211	209	204	199	196	193	194	195	195	194	195	191	188
115	115	115	113	110	107	102	99.3	99.1	101	103	104	104	103	102	99
65.4	64.7	63.4	62	59.5	57.5	54.8	53.3	54.7	57.4	59.3	60.2	60	59.5	58.4	57
39.3	38	36.2	34.9	33.4	31.7	30.4	30	32.7	35.9	37.5	37.2	36.6	36	34.6	33.3
0	0	20.1	19.1	0	0	0	0	0	0	0	22.7	22	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

Lens characteristics

Parameter	Symbol	Rating	Unit
Lens Material	PMMA Optics	--	--
Holder Material	PC	--	--
Operating Temperature	Topr	-30 to +80	°C
Storage Temperature	Tstg	-30 to +80	°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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