KHATOD®
Optical Solutions for LED Lighting

TECHNICAL DEPT.
Lenses Test Report

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CODE NUMBER: 120000000480

SUBJECT: **Reflector for Power LEDs - KCLP1423CR**
Lens Coupling - Output Luminous Intensity Measurement

- High lighting efficiency
- Made in PC for special coating treatment
- Excellent luminuos flux
- Superior optical engineering for a perfect uniform light distribution
- Innovative design
- Easy fixing system to the PCB
- Complying with UL94 Specifications
- Innovative vacuum coating treatment, specific for optical reflector systems
- Super Wide Beam

Typical Applications:

KCLP series is suitable for any application in Wide Area Lighting, Indoor and Outoor:

- Industrial Lighting : Warehouses, Laboratories, Sheds, Garages, Machine Shops, etc.
- Indoor Lighting : Outlets & Shop Centers, Exhibition Areas, Offices, Hospital Wards, Elevators, , Passages, Aisles, etc.
- Outdoor Lighting : Parking Areas, Pathways, Petrol & Service Stations, Gardens, Playgrounds, Canopies, etc.
- Street Lighting : Streets, Walkways, Sidewalks, Bicycle Lanes, Squares, etc.
- Architectural lighting : Entertainment & Decorative, Shop Windows, Halls & Entrances, Lamps , etc.

Reflectors are of great importance in the Lighting Industry since they allow a wide variety of LED lighting applications. However, they need the most proper manufacturing technology for a perfect optical performance. The Optical Reflector Systems from Khatod assure the highest optical efficiency now available on the market. Based on the latest cutting-edge VACUUM COATING TECHNOLOGIES, our exclusive vacuum treatment plant is customized for specific optical treatments, projected and realized exclusively for the specific coating of optical reflectors for LED applications.
Always in the same spirit: 100% in- house, under our full control, from project to object, our aim is to deliver our customers the highest quality level.

Khatod Optics are basic elements to make your optical designs 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 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

1 Light Source Model

Parameter	Symbol	Value	Unit
Lens / Reflector Model	-	KCLP1423CR	-
Material (More info on page 9)	-	PC, ALUMINIUM	-
Dimensions	-	See page 8	-
Source Model	-	SEOUL Z5P	-
Number of Sources	N	7	-
Power Supply Type	-	ISO TECH ISP3303	-
Driver Type	-	-	-
Driving Voltage	V_F	-	V
Driving Current	I_F	350	mA
Nominal Flux	Φ	120×7	lm

2 Measurement Setup

Parameter	Symbol	Value	Unit
Operator	-	Simone Bassi	-
Goniophotometer Type	-	KLX12M	-
Measurement Distance	z	5	m
Room Temperature	T	25	°C
Date	-	30-Mar-2012	-

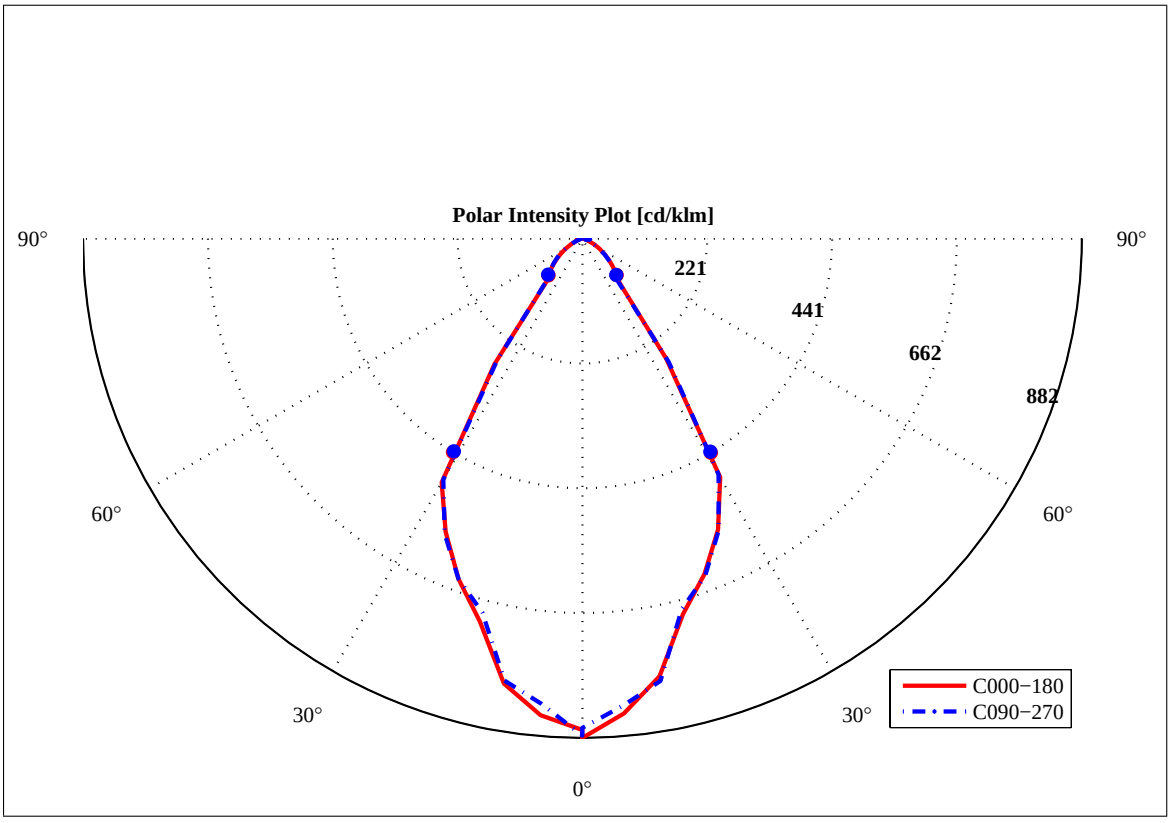
3 Results

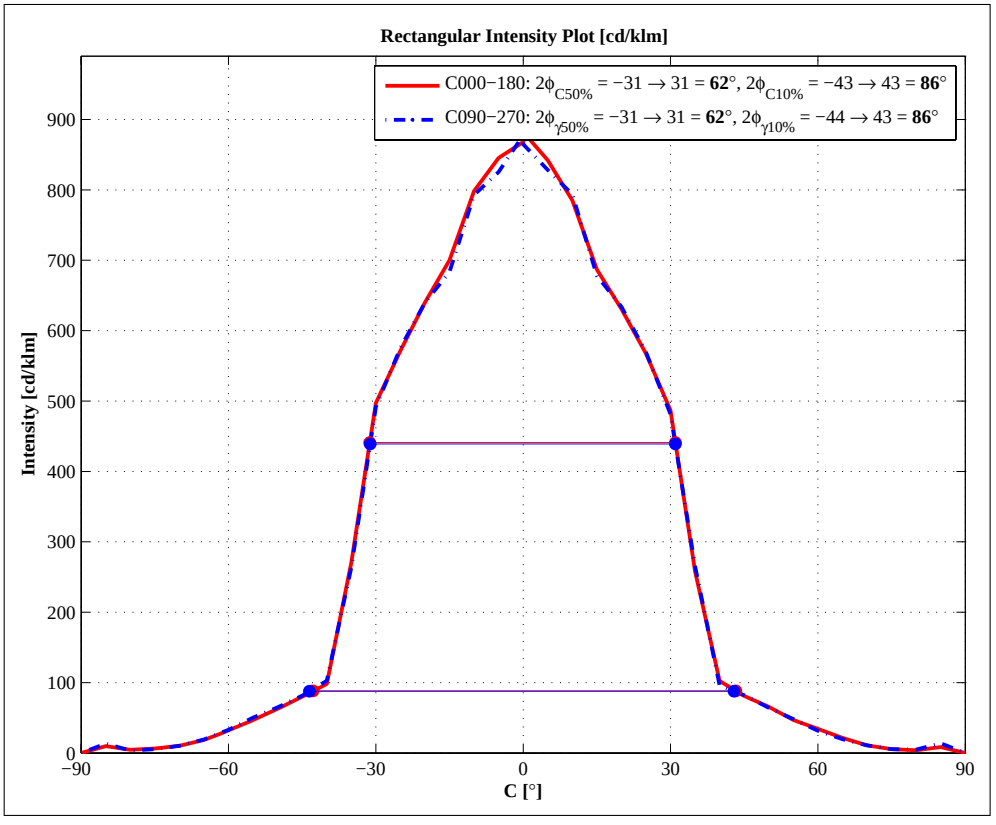
Parameter	Symbol	Value	Unit
Total Flux	Φ	840	lm
Max Intensity	I_{max}	741	cd
Max Illuminance at 5 m	E_{max}	30	lx
C-Viewing Angle at 50%I_{max}	$2\varphi_C$	62	°
γ-Viewing Angle at 50%I_{max}	$2\varphi_\gamma$	62	°
C-Viewing Angle at 10%I_{max}	$2\varphi_{C10\%}$	86	°
γ-Viewing Angle at 10%I_{max}	$2\varphi_{\gamma 10\%}$	86	°
General Optical Measurement Tolerance	-	±10%	-

NOTES:

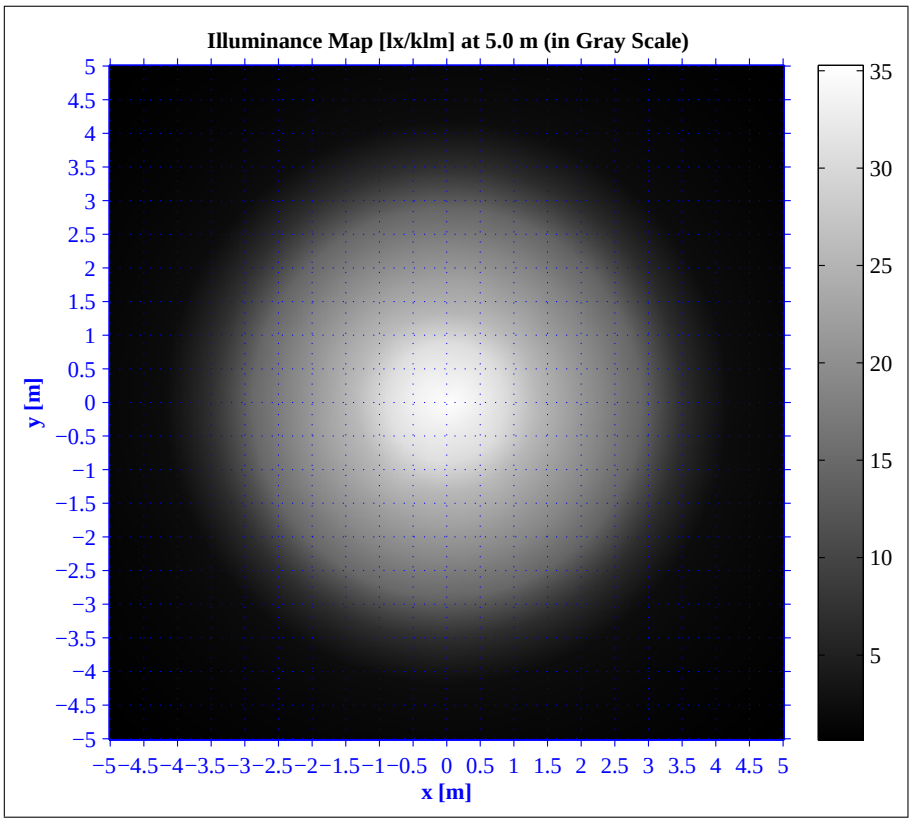
- Intensity (I) and illuminance (E) data are normalized by 1000 lm
- The optical values shown are the result of optical simulations carried out with ASAP and ZEMAX software systems. The optical simulations are carried out on the basis of the typical values provided in the LED manufacturers' official datasheets. The photometric analysis has been carried out on physical samples. On request, by supplying your PCB, we can provide the measurement photometric file.

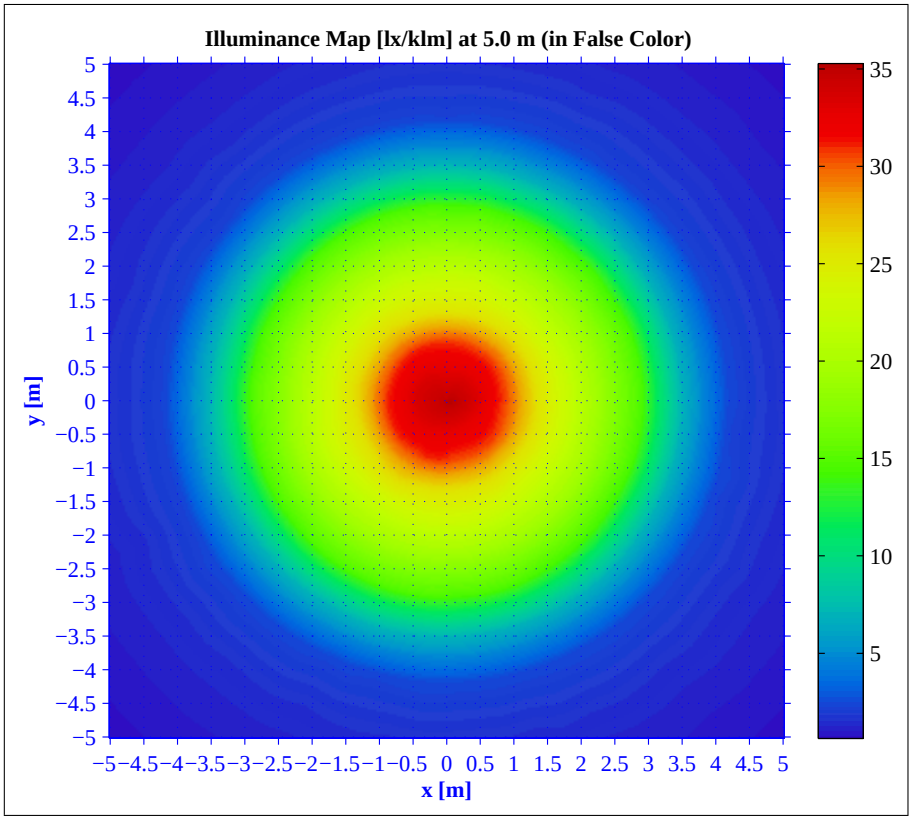
4 Intensity Plot



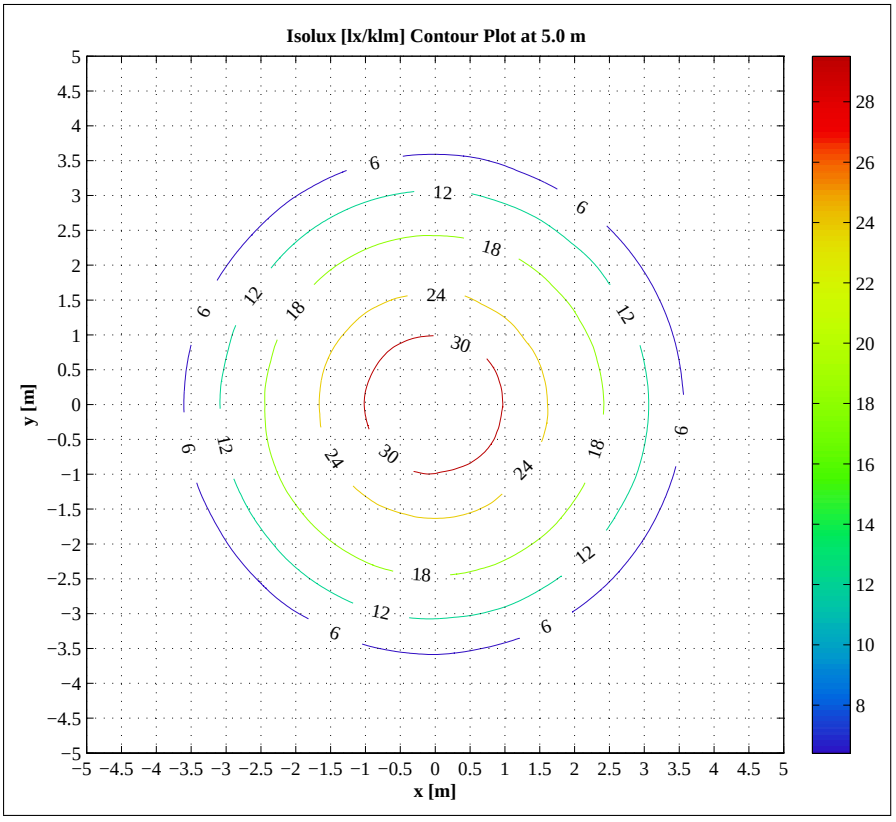


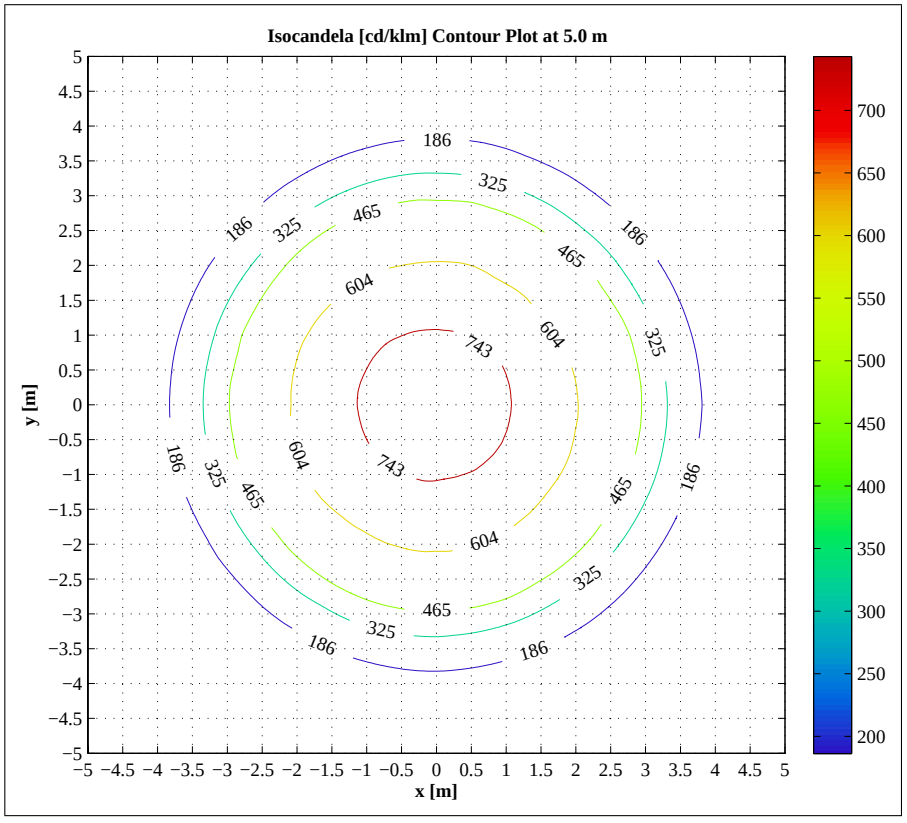
5 Illuminance Map



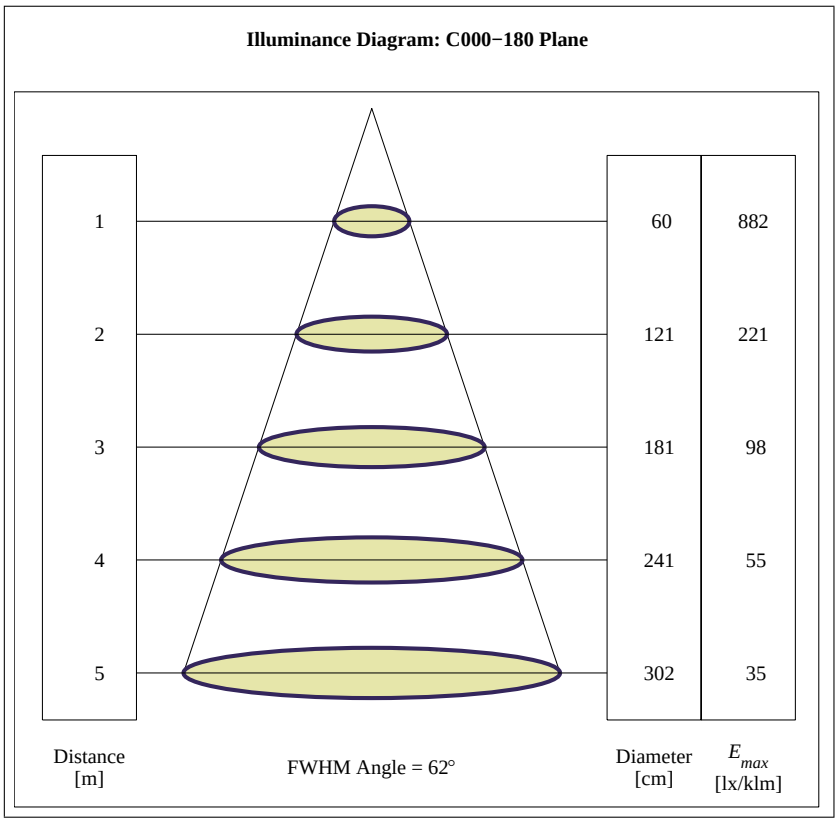


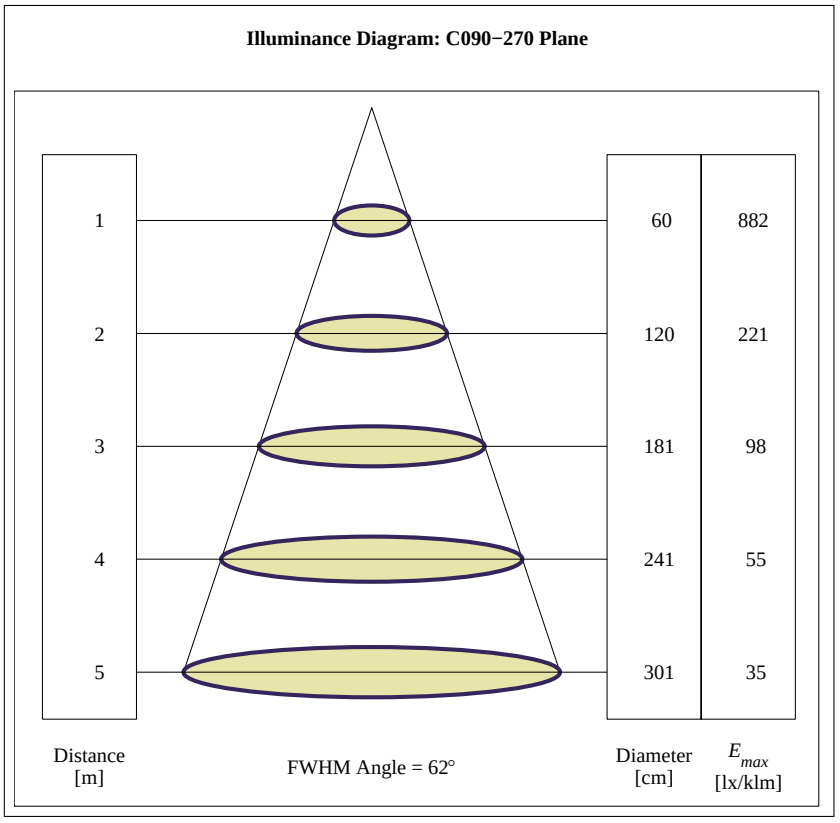
6 Isolux / Isocandela Plots



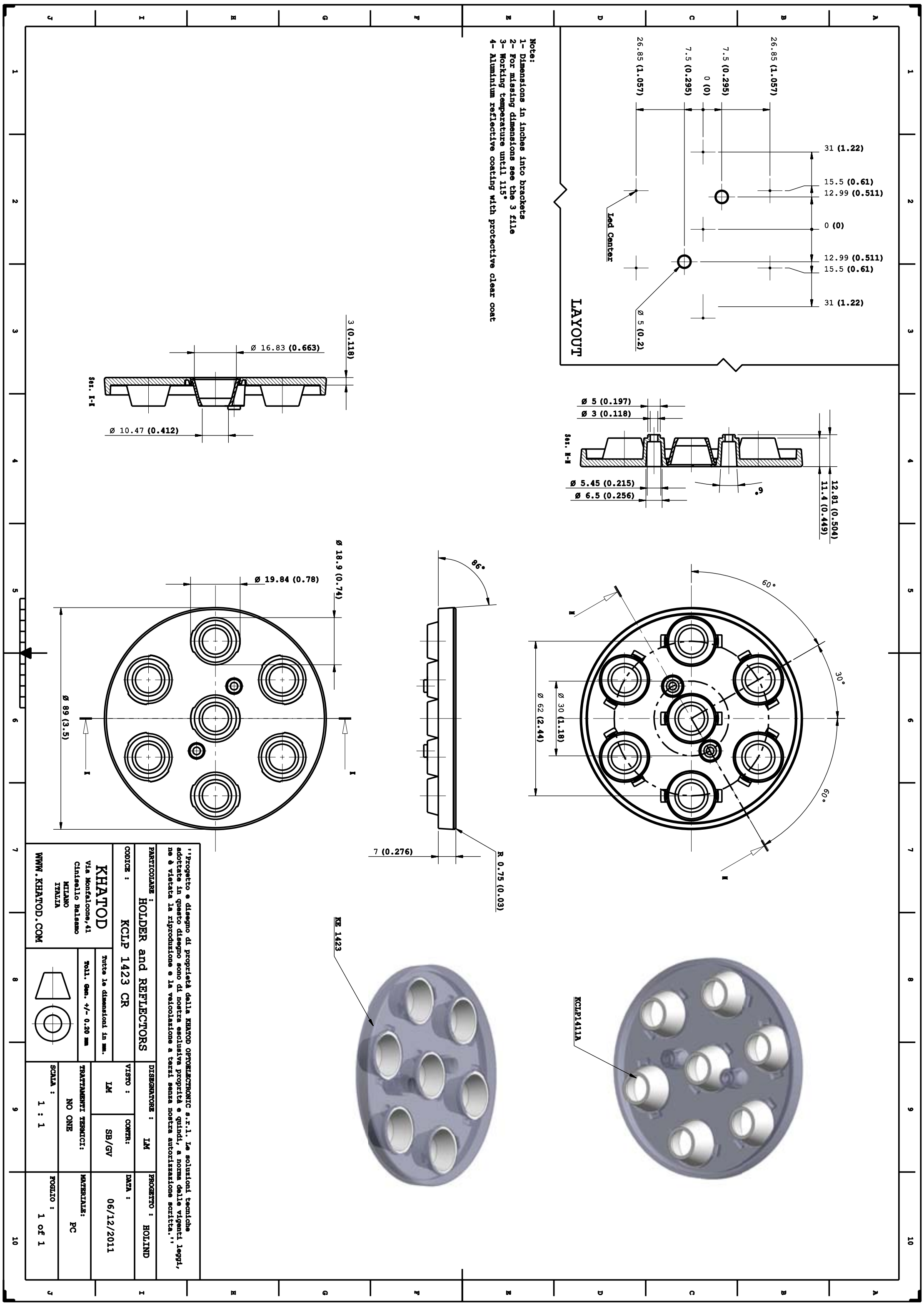


7 Illuminance Diagram





8 Drawing


Note:
1- Dimensions in inches into brackets
2- For missing dimensions see the 3 file
3- Working temperature until 115°
4- Aluminium reflective coating with protective clear coat
LAYOUT
Led Center
KE 1423
KCLP1411A
PARTICOLARE : HOLDER and REFLECTORS
CODICE : KCLP 1423 CR
DISEGNATORE : LM
PROGETTO : HOLIND
VISTO : LM
CONTR: SB/GV
DATA : 06/12/2011
TRATTAMENTI TERMICI: NO ONE
MATERIALE: PC
SCALA : 1 : 1
FOGLIO : 1 of 1
KHATOD
Via Monfalcone,41
Cinisello Balsamo
MILANO
ITALIA
WWW.KHATOD.COM
Tutte le dimensioni in mm.
Toll. Gen. +/- 0.20 mm

9 Use and Maintenance

Lens characteristics

Parameter	Symbol	Rating	Unit
Reflector Material	PC , Aluminium Reflective Coating with protective clear coat	--	--
Holder Material	PC	--	--
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.
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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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