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MODEL NO: PL1198xx Series

SUBJECT: **Z-POWER[®] LED P5 II – Lens Coupling - Output Luminous Intensity Measurement**

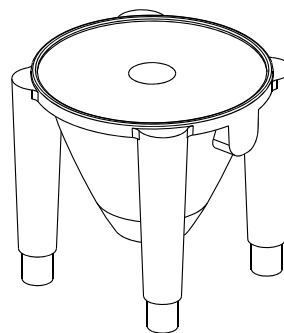


PL1198xx series

- NJC Technology
- No vibration problems
- High efficiency

Typical applications are

- Architectural lighting
- Lamps
- Street lights
- Most applications where a compact light source is required



DESCRIPTION:

Verification of Luminous Intensity with coupling conditions between Khatod lenses and Z-POWER[®] P5 II F50360 RGB LEDs, lot. n° 8709-T03001.

REPORT:

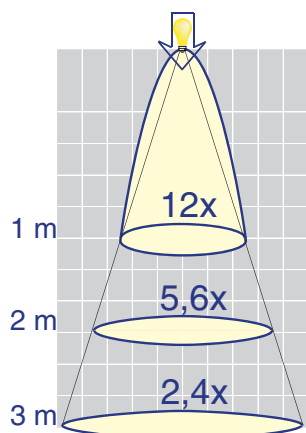
From 1 m $\pm$ 0,02 distance, we have measured Luminous Intensity emitted by LED.
Such measurements have been repeated with the same test conditions but coupling LEDs to the lens Khatod cod. PL119825LSD, and PL119840.

MEASURED DATA:

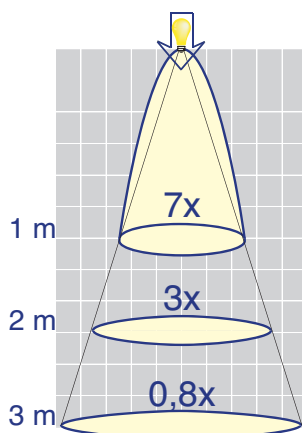
Column 1 shows p/n of the Lenses, column 2 shows Luminous Intensity detected measuring LEDs without lens, column 3 shows Luminous Intensity detected on LEDs coupled with lens, column 4 shows the difference (X*) between col. 2 and col. 3

Lens Type	LED Lux from 1 Mt (ftc From 1 Mt)	LED + lens Lux from 1Mt (ftc From 1 Mt)	X*
PL119825LSD (30°)	20 (1,85 ftc)	275 (25,38 ftc)	12
PL119840 (40°)	20 (1,85 ftc)	148 (13,66 ftc)	7
Test carried out after 5 min. of operation of the LED to IF=R:220, G:350, B:100 mA ~ , local power source GOSSEN KONSTANTER mod 3226-K118 Measurements carried out with Luxometer mod LUX-1337 of ISO-TEC and MINOLTA mod LS – 150 * X is the value of the measurement of the LED brightness at 1 meter distance, without optic devices applied to the LED.			

Illuminance chart white LED



PL119825LSD



PL119840

* X is the value of the measurement of the LED brightness at 1 meter distance, without optic devices applied to the LED

Test conditions:

Test current: RED 220 mA - GREEN 350 mA - BLUE 100 mA

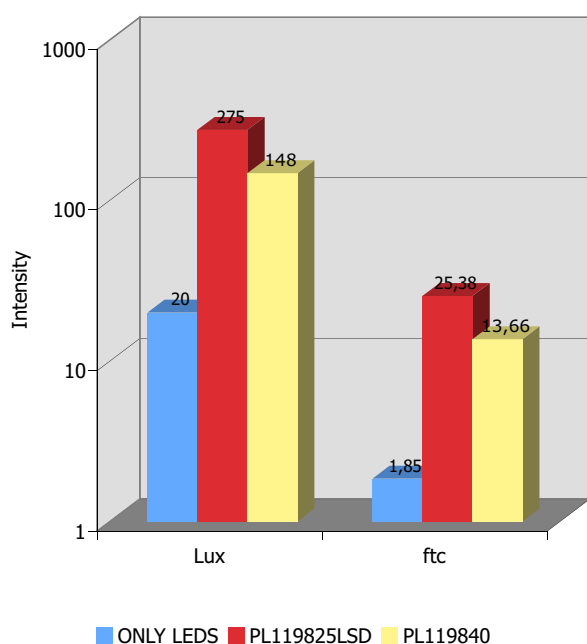
Room Luminous Intensity : 0 Lumen

Room Temperature: 22° C

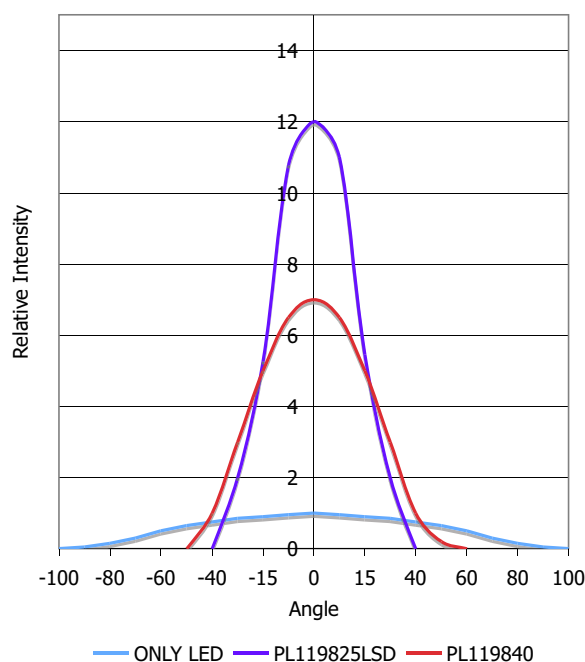
LED temperature after 15 min. : ~ 42 °C

The diagram demonstrates the performance of the Khatod optoelectronic lenses

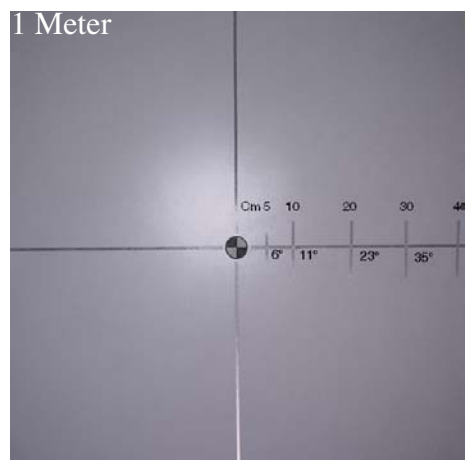
Intensity to 1 Meter



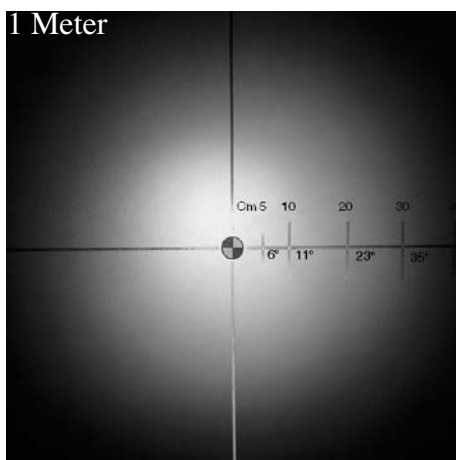
Spectrum Distribution



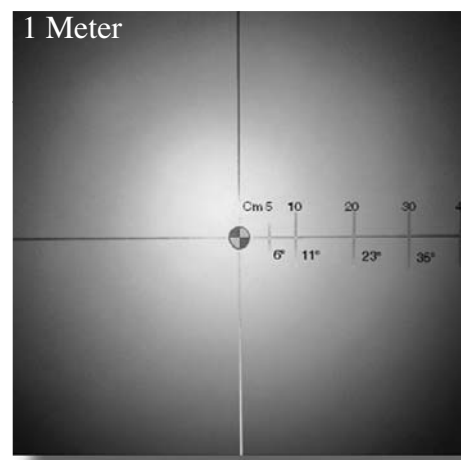
Photos:



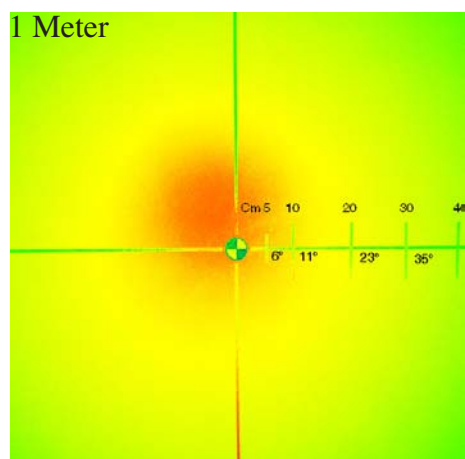
LED P5 II



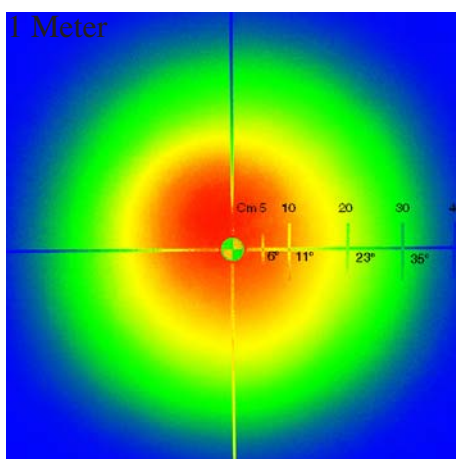
PL119825LSD (25°)



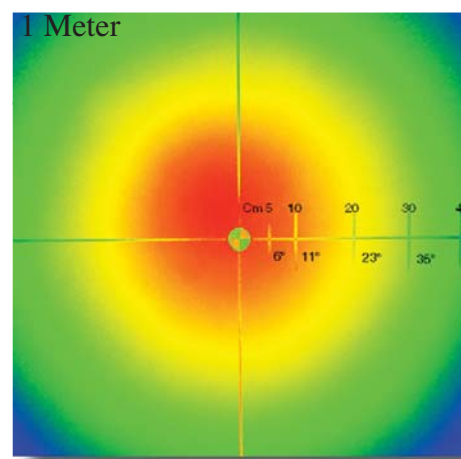
PL119840 (40°)



LED P5 II
Spectro Metric Analysis

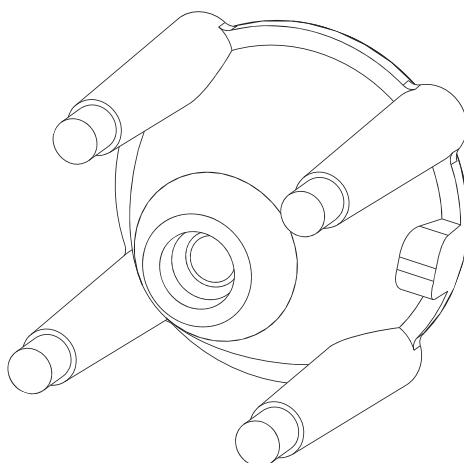


PL119825LSD (25°)
Spectro Metric Analysis

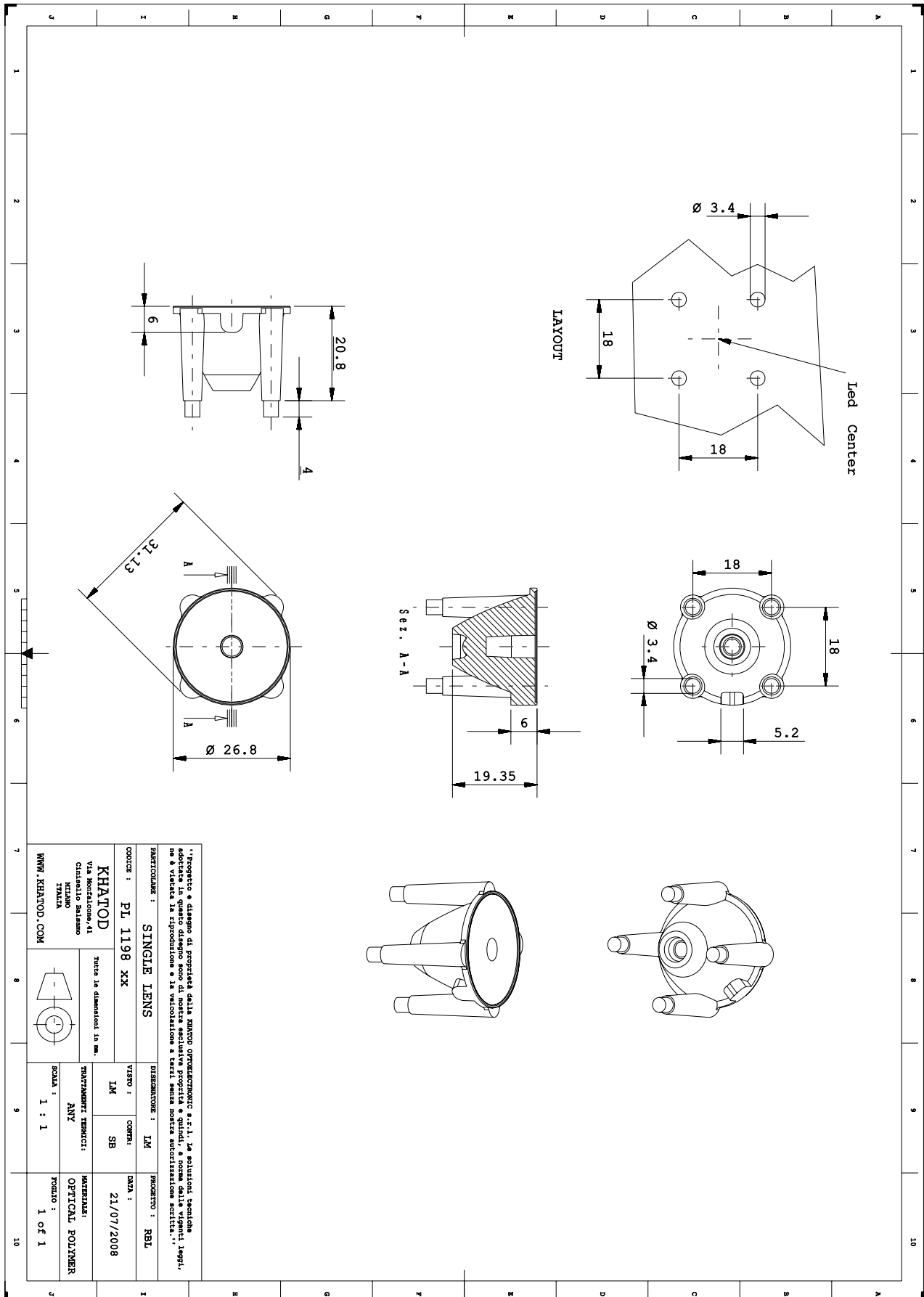


PL119840 (40°)
Spectro Metric Analysis

Measurements carried out with Luxometer mod LUX-1337. Room Luminous Intensity: 0 Lumen. Camera mod. Fujifilm S7000



Drawing.



Lens characteristics

Parameter	Symbol	Rating	Unit
Lens Material	PMMA Optics	--	--
Holder Material	--	--	--
Operating Temperature	Topr	-40 to +85	°C
Storage Temperature	Tstg	-40 to +85	°C
Average transmittance in visible spectrum (400 – 700nm) >90% as measured using 3mm thick Optical Grade PMMA			

LED characteristics

For technical specification on LEDs please refer to Seoul Semiconductor® datasheet or visit www.seoulsemicon.com

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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