

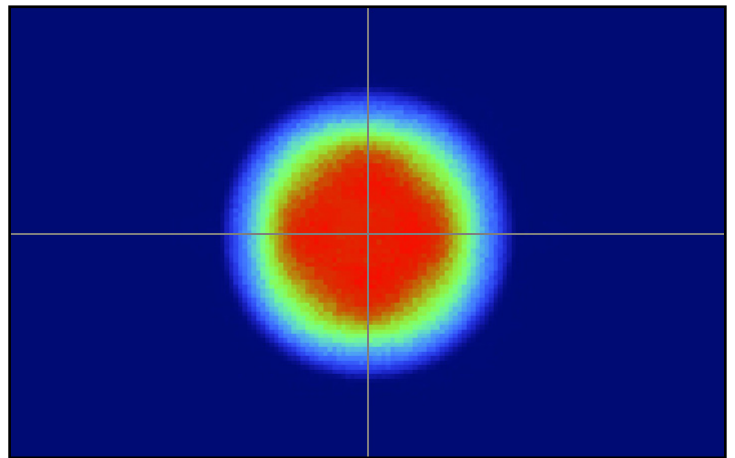
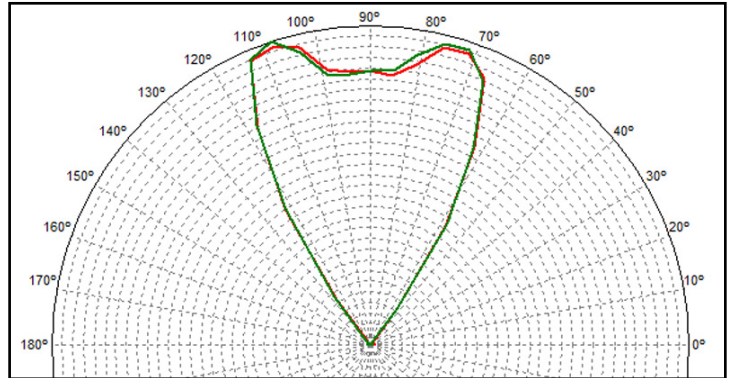
## Contents

---

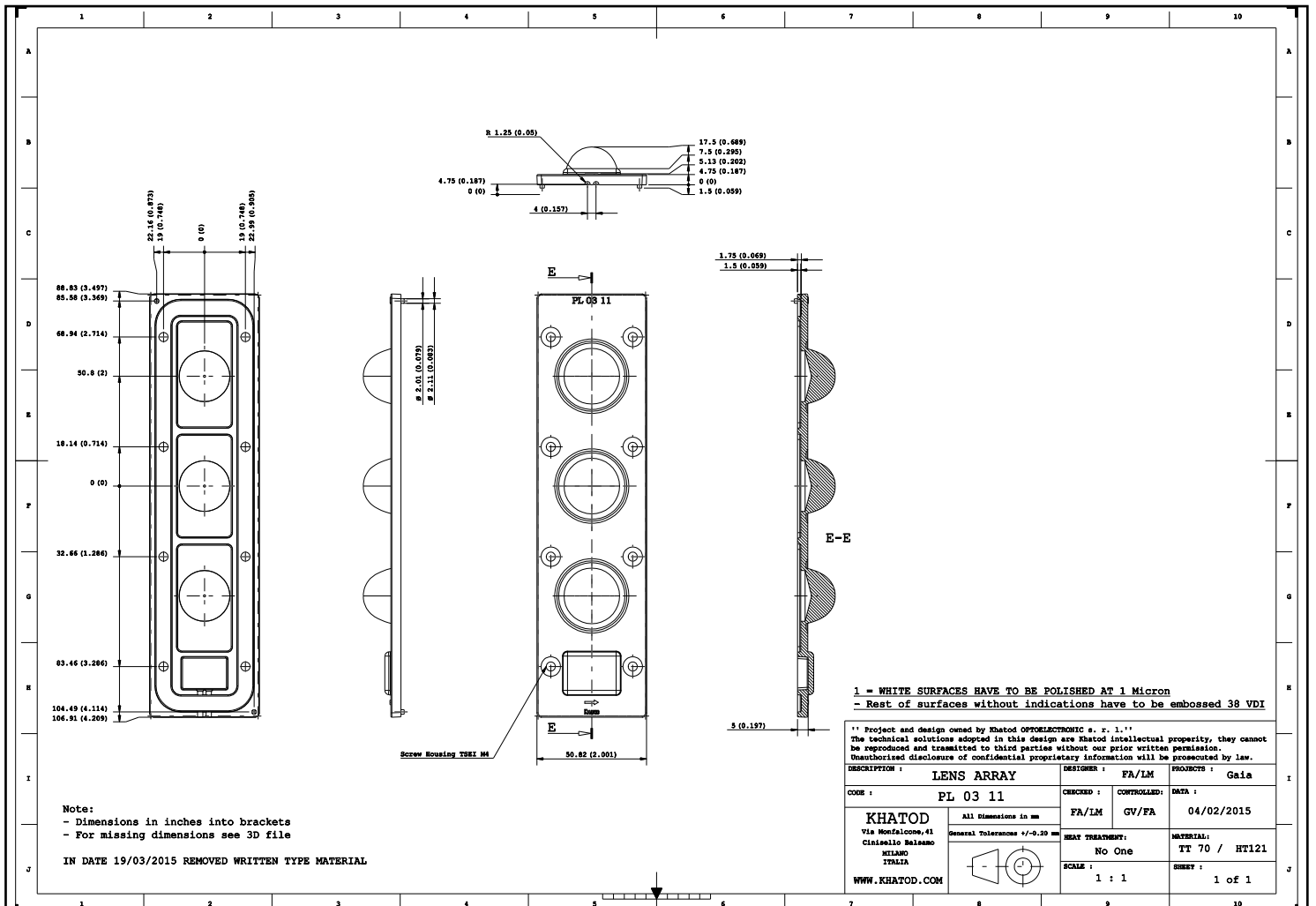
1	<b>PL0311</b>	<b>60° Rotosymmetric</b>	Pag. 2
2	<b>PL0322</b>	<b>90° Rotosymmetric</b>	Pag. 3
3	<b>PL0333</b>	<b>IESNA Type I</b>	Pag. 4
4	<b>PL0344</b>	<b>IESNA Type II</b>	Pag. 5
5	<b>PL0344 + KCLP1900ST</b>		Pag. 6
6	<b>PL0355</b>	<b>IESNA Type III</b>	Pag. 7
7	<b>PL0355 + KCLP1900ST</b>		Pag. 8
8	<b>PL0366</b>	<b>IESNA Type V</b>	Pag. 9
9	<b>PL0377</b>	<b>ME3A</b>	Pag. 10
10	<b>PL0377 + KCLP1900ST</b>		Pag. 11
11	<b>PL0388</b>	<b>120° Square</b>	Pag. 12
12	<b>KGAS07 Drawing</b>	<b>Optional</b>	Pag. 13
13	<b>Optional</b>		Pag. 13
14	<b>Materials / Use and Maintenance / Disclaimer</b>		Pag. 14

---

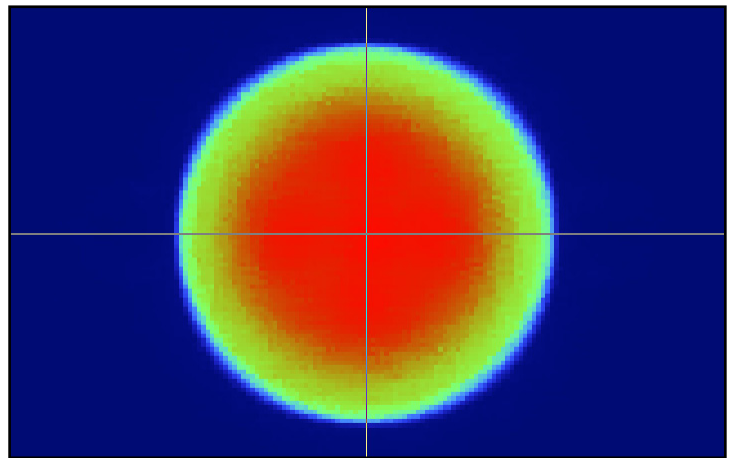
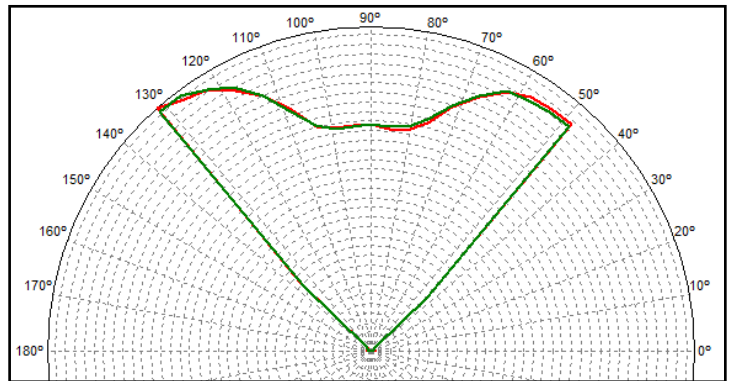
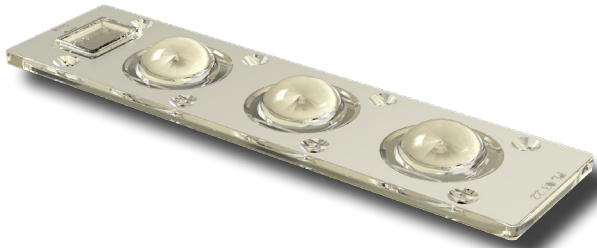
## PL0311 - 60° FWHM



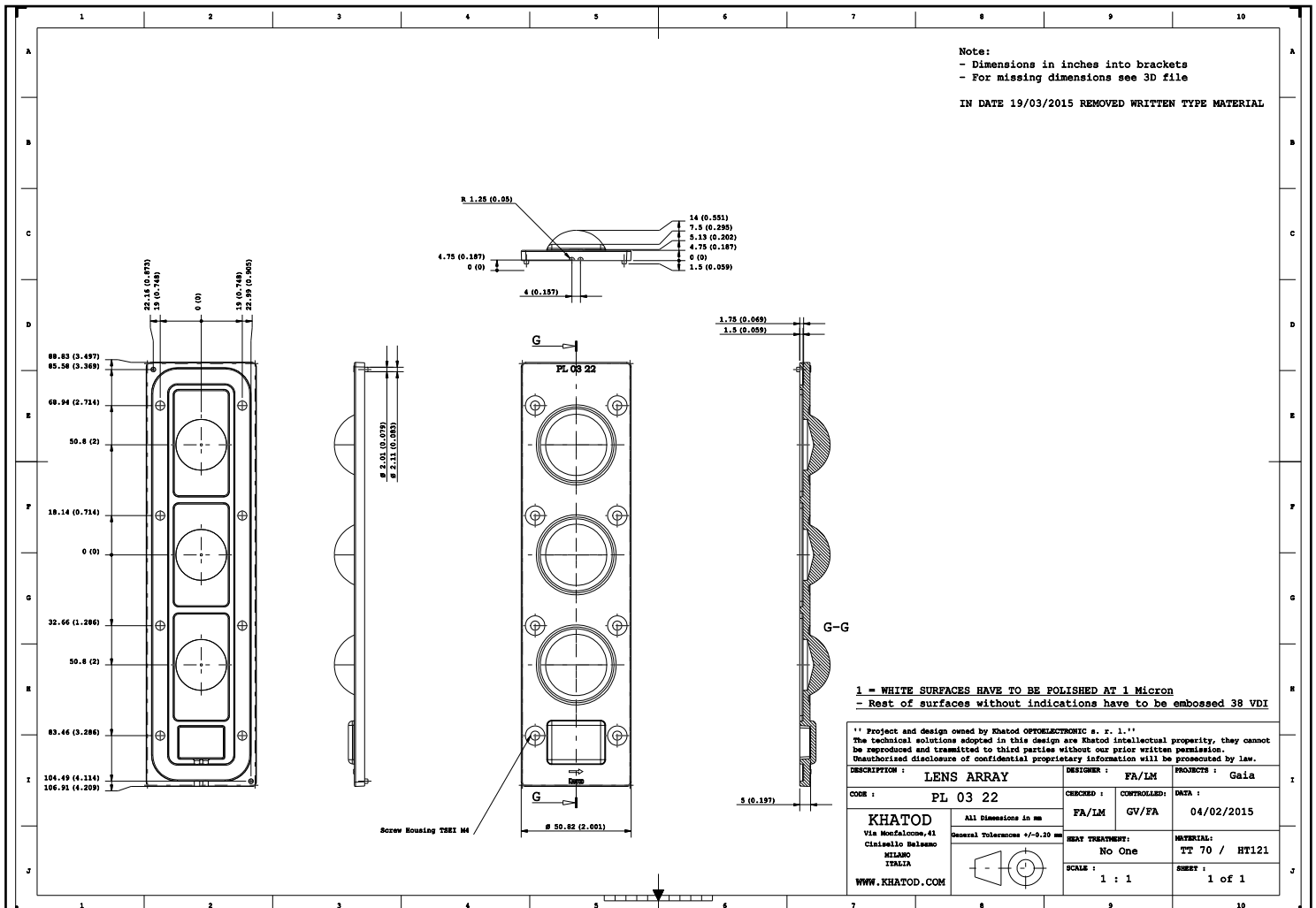
- Material = PMMA HT - (UHT On Request)
- Full angle at 50% from maximum: ~ 60°
- Full angle at 10% from maximum: ~ 75°
- The light spots here represented refer to tests carried out with Multichip LEDs with 6.8mm dome, ~1040lm@LED



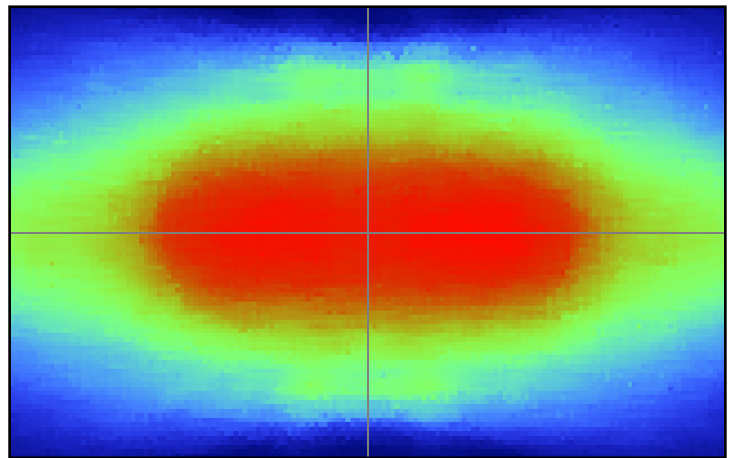
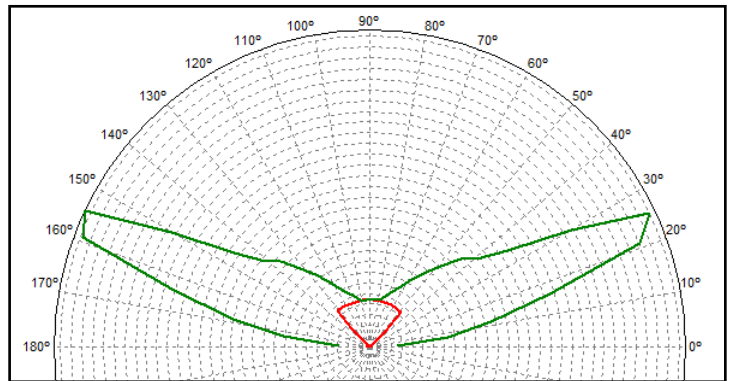
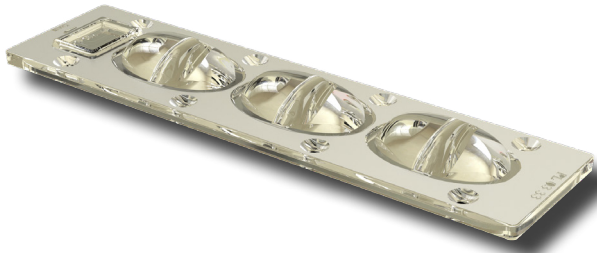
## PL0322 - 90° FWHM



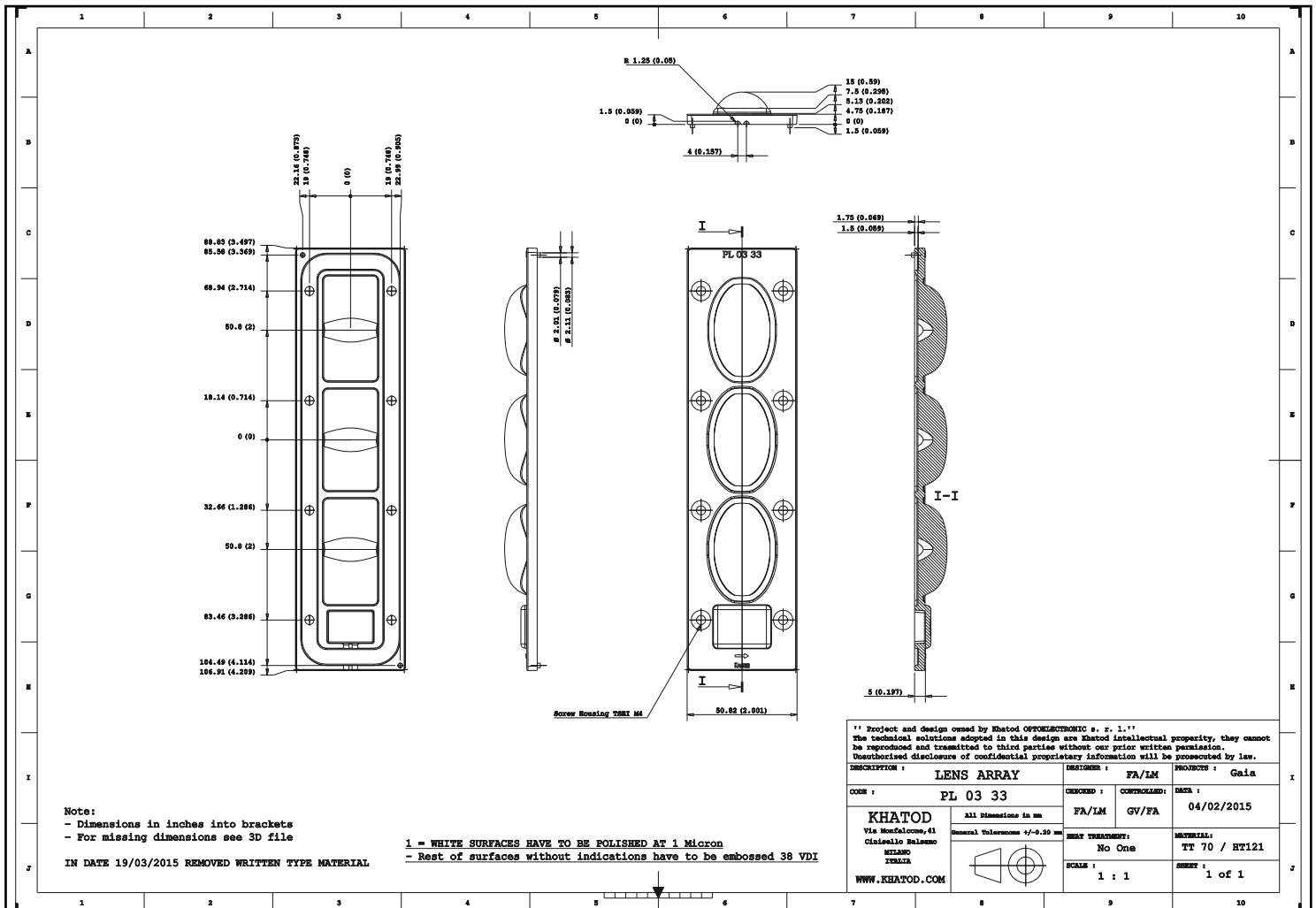
- Material = PMMA HT - (UHT On Request)
- Full angle at 50% from maximum: ~ 90°
- Full angle at 10% from maximum: ~ 95°
- The light spots here represented refer to tests carried out with Multichip LEDs with 6.8mm dome, ~1040lm@LED



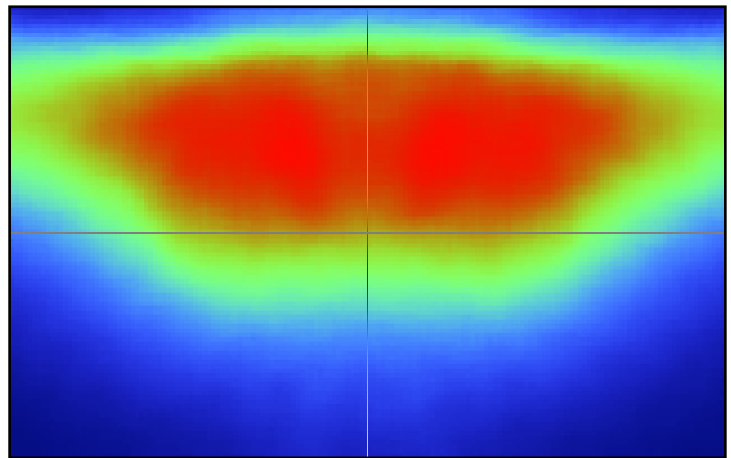
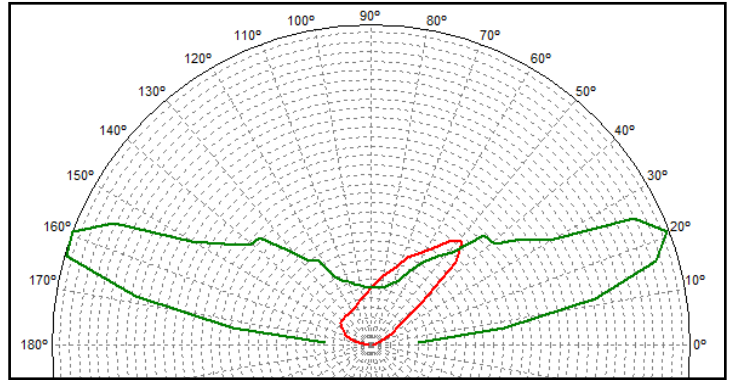
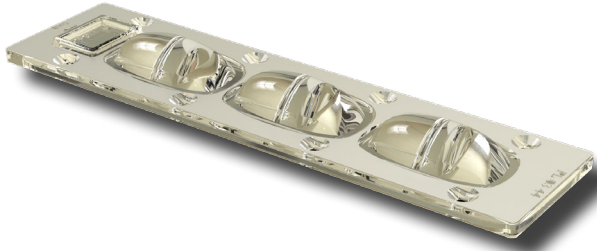
## PL0333 - IESNA Type I



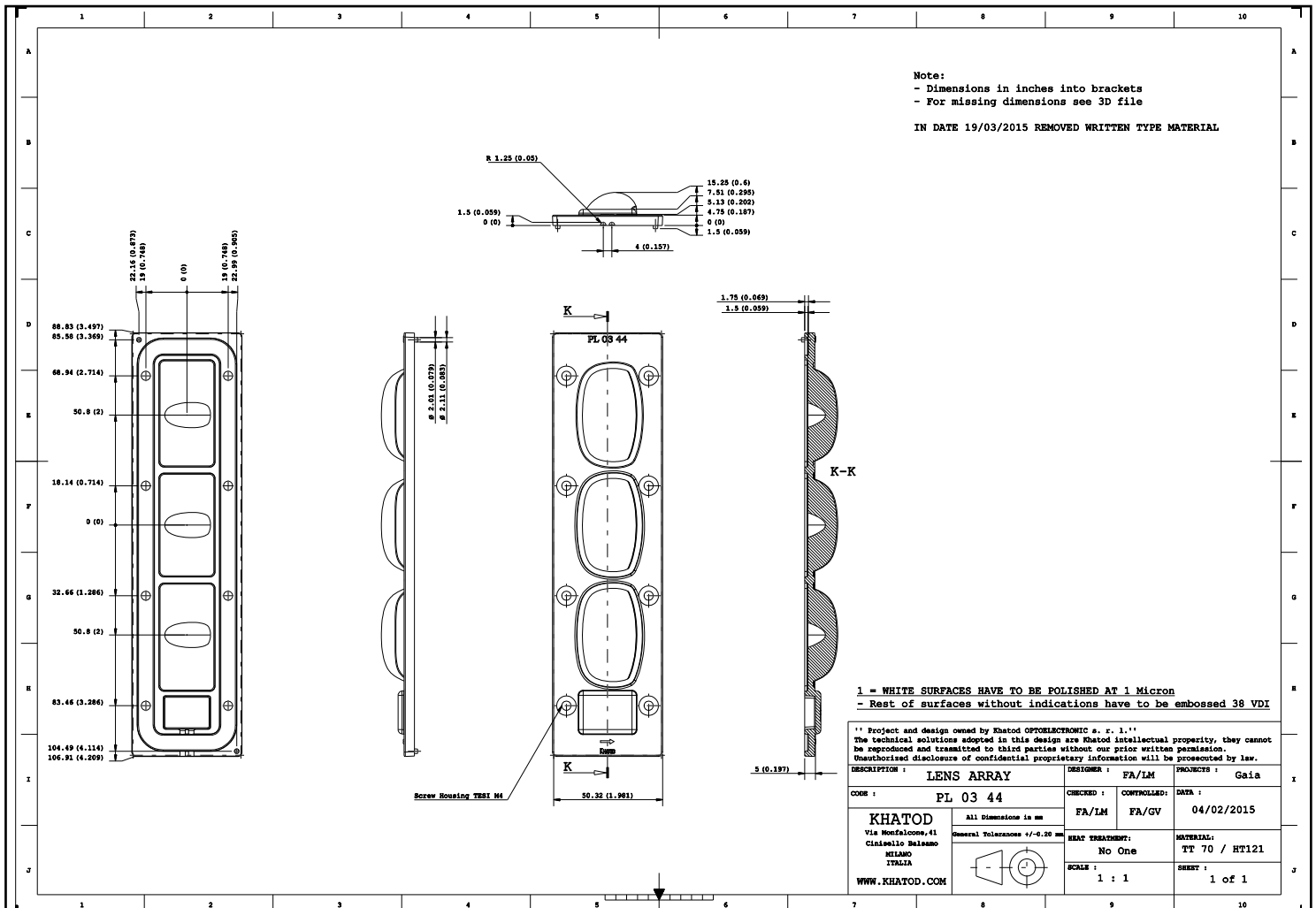
- Material = PMMA HT - (UHT On Request)
- Full angle at 50% from maximum: ~ 150°x90°
- Full angle at 10% from maximum: ~ 160°x100°
- The light spots here represented refer to tests carried out with Multichip LEDs with 6.8mm dome, ~1040lm@LED



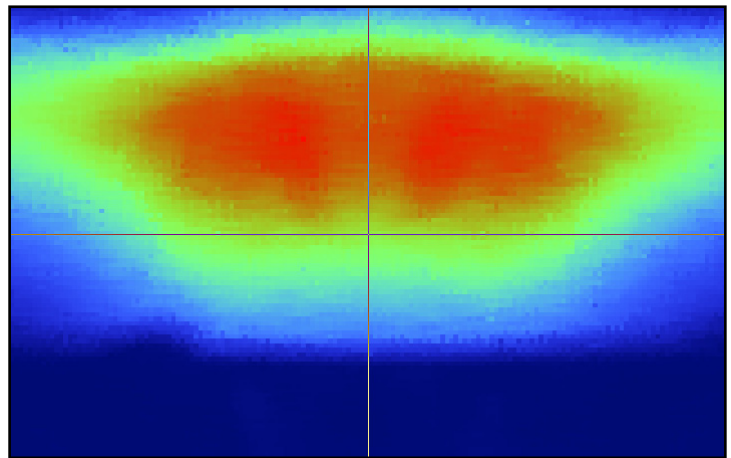
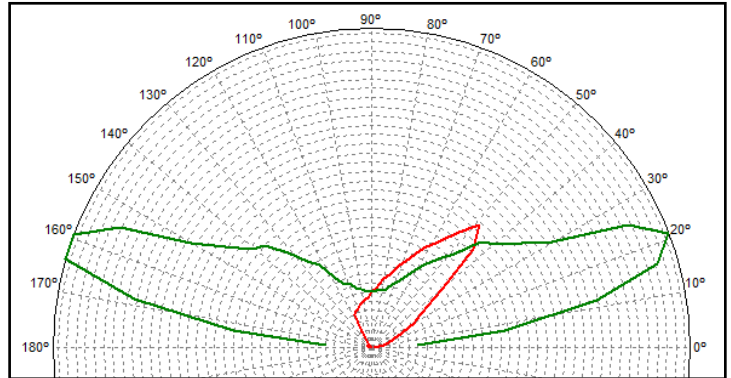
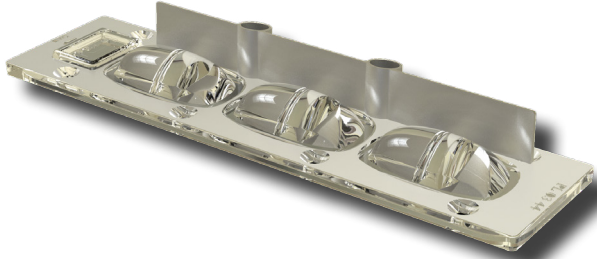
## PL0344 - IESNA Type II



- Material = PMMA HT - (UHT On Request)
- Full angle at 50% from maximum: ~ 160°x120°
- Full angle at 10% from maximum: ~ 175°x145°
- The light spots here represented refer to tests carried out with Multichip LEDs with 6.8mm dome, ~1040lm@LED



## PL0344 + KCLP1900ST



- Material = PMMA HT - (UHT On Request)
- Full angle at 50% from maximum: ~ 160°x80°
- Full angle at 10% from maximum: ~ 170°x140°
- The light spots here represented refer to tests carried out with Multichip LEDs with 6.8mm dome, ~1040lm@LED
- Use only with protective glass

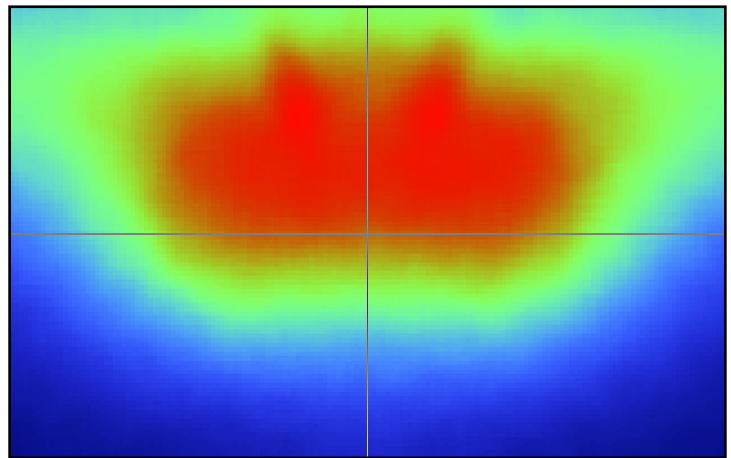
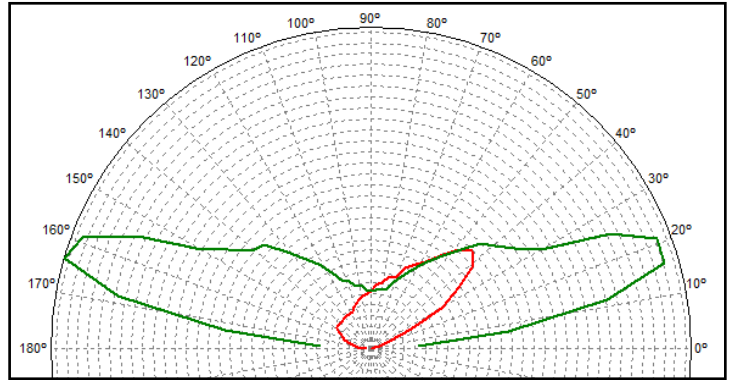
### KCLP1900ST - Drawing

**Note:**  
- Dimensions in inches into brackets  
- For missing dimensions see 3D file  
1 = SURFACE EMBOSSED 38 VDI

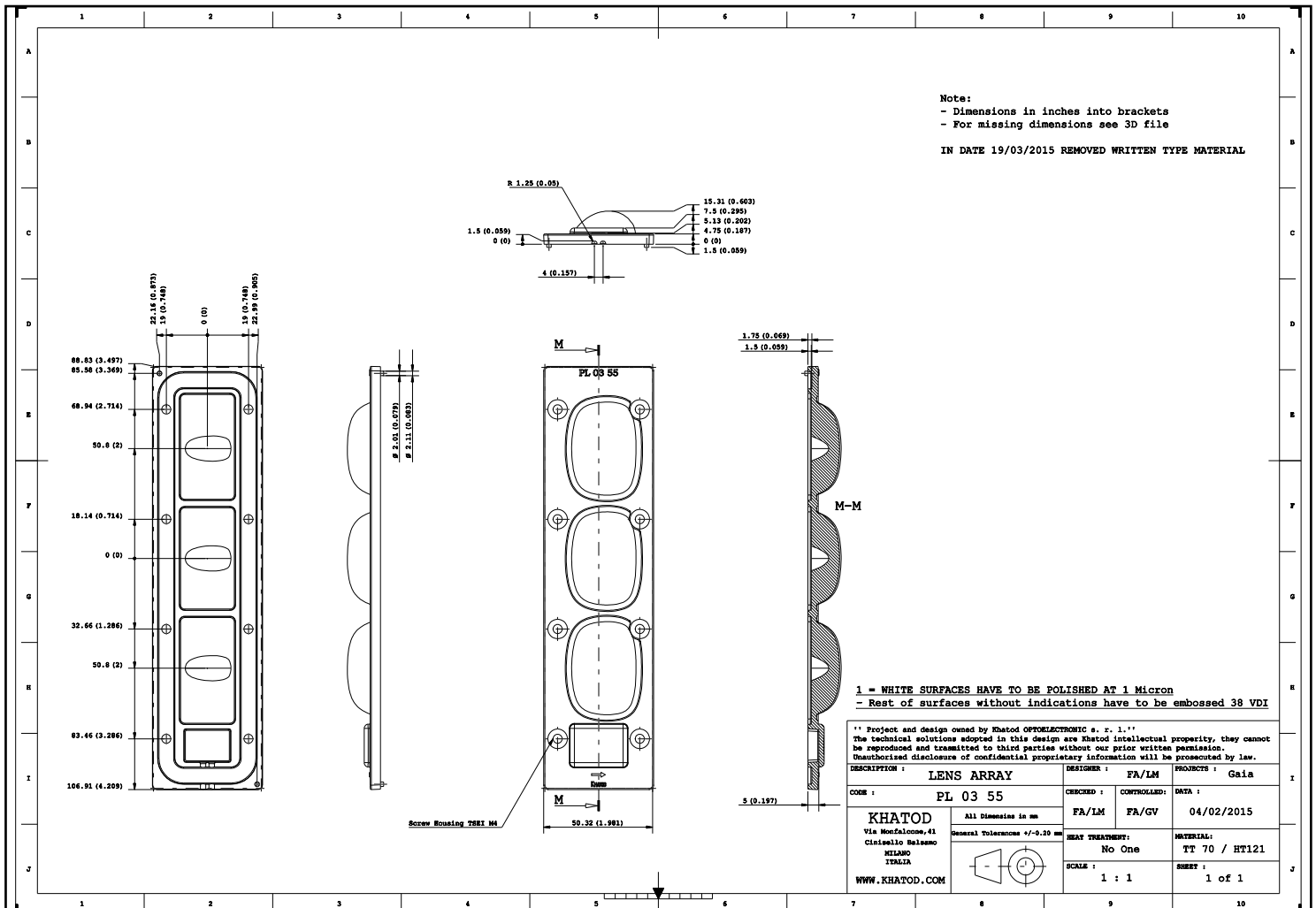
**\*\* Project and design owned by Khatod OPTOELECTRONIC s. r. l. \*\***  
The technical solutions adopted in this design are Khatod intellectual property, they cannot be reproduced and transmitted to third parties without our prior written permission. Unauthorized disclosure of confidential proprietary information will be prosecuted by law.

DESCRIPTION :	REFLECTOR	DESIGNER :	FA/LM	PROJETS :	Gaia
CODE :	KCLP 1900 ST	CHECKED :	FA/LM	CONTROLLED :	GV/FA
Khatod Via Montefiore, 41 Cinisello Balsamo MI-LAND ITALIA WWW.KHATOD.COM		All Dimensions in mm General Tolerances +/-0.20 mm	DATE : 04/02/2015	MATERIAL: PC Black	SHEET : 1 of 1

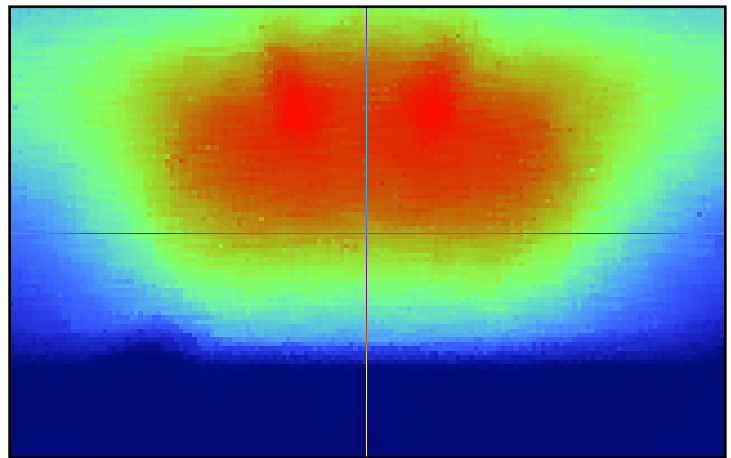
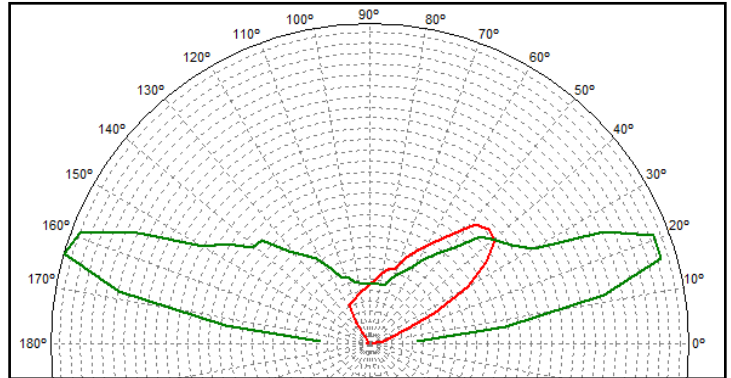
## PL0355 - IESNA Type III



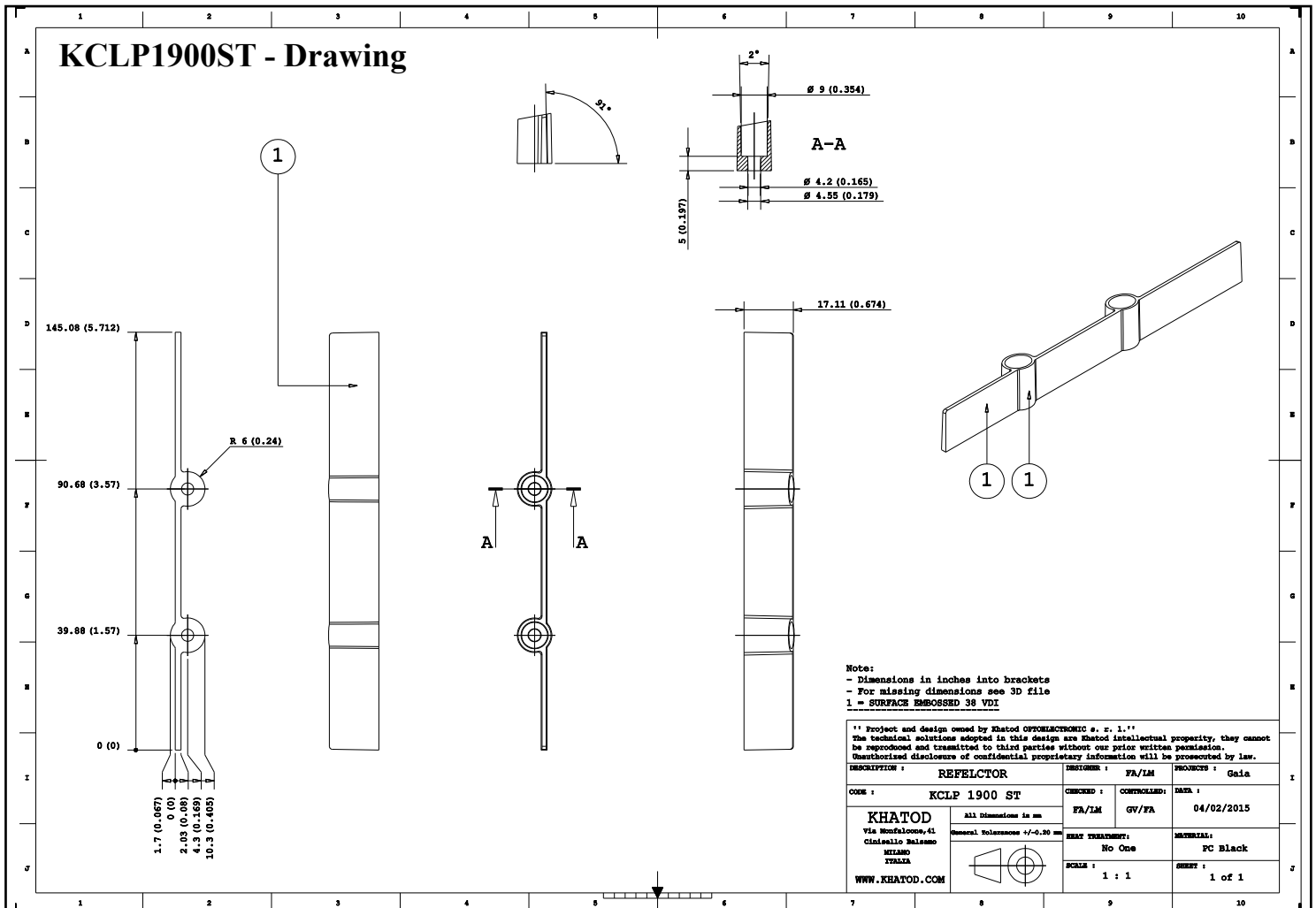
- Material = PMMA HT - (UHT On Request)
- Full angle at 50% from maximum: ~ 160°x130°
- Full angle at 10% from maximum: ~ 175°x155°
- The light spots here represented refer to tests carried out with Multichip LEDs with 6.8mm dome, ~1040lm@LED



## PL0355 + KCLP1900ST

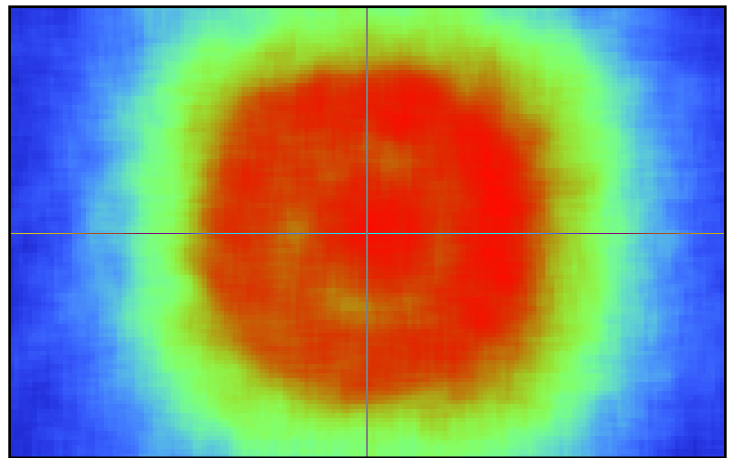
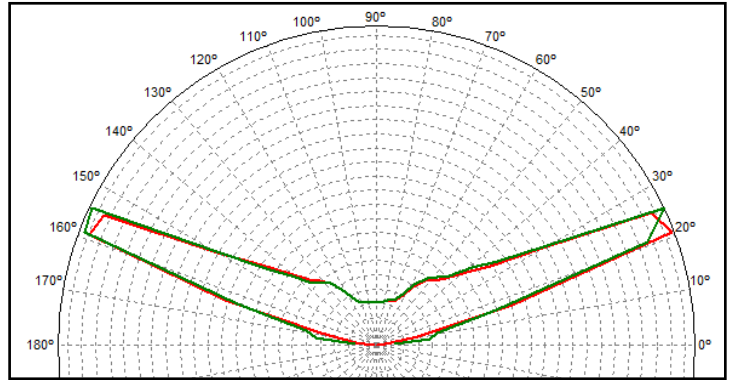


- Material = PMMA HT - (UHT On Request)
- Full angle at 50% from maximum: ~ 160°x90°
- Full angle at 10% from maximum: ~ 175°x110°
- The light spots here represented refer to tests carried out with Multichip LEDs with 6.8mm dome, ~1040lm@LED
- Use only with protective glass

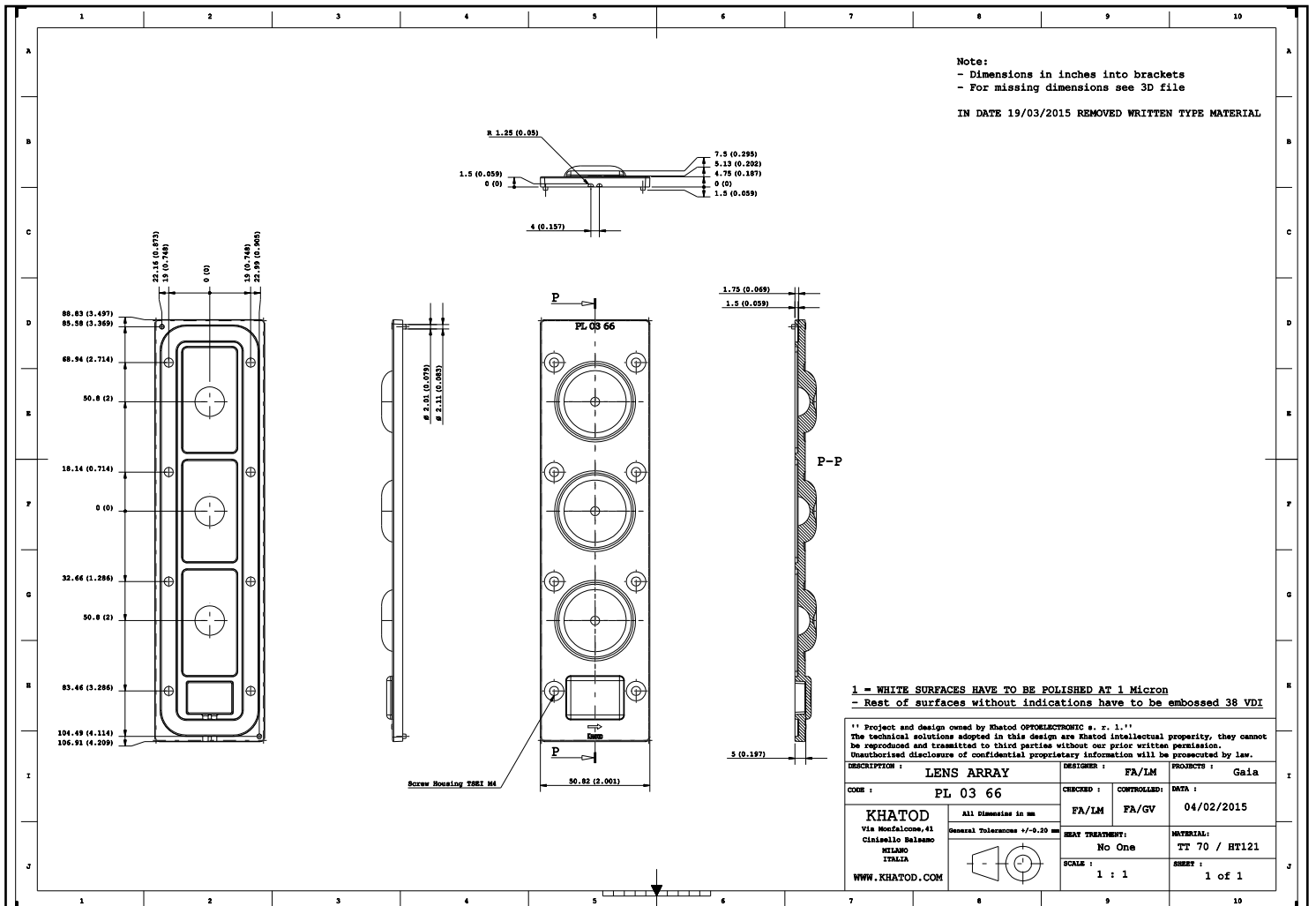




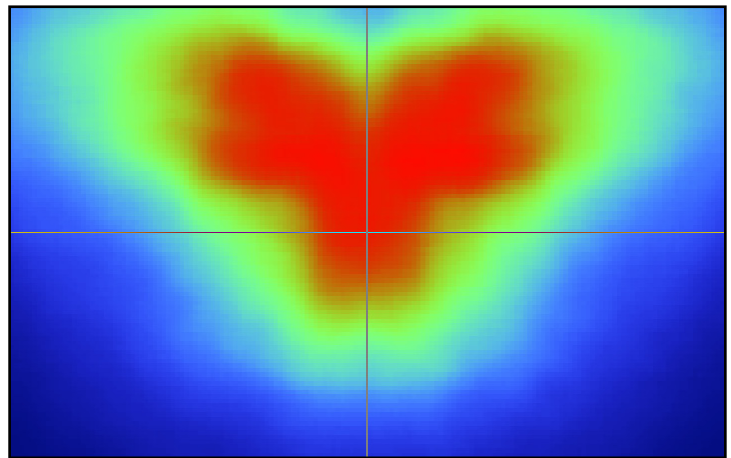
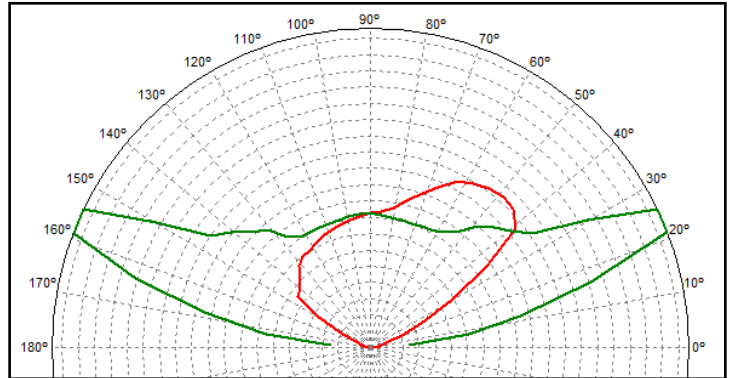
## PL0366 - IESNA Type V



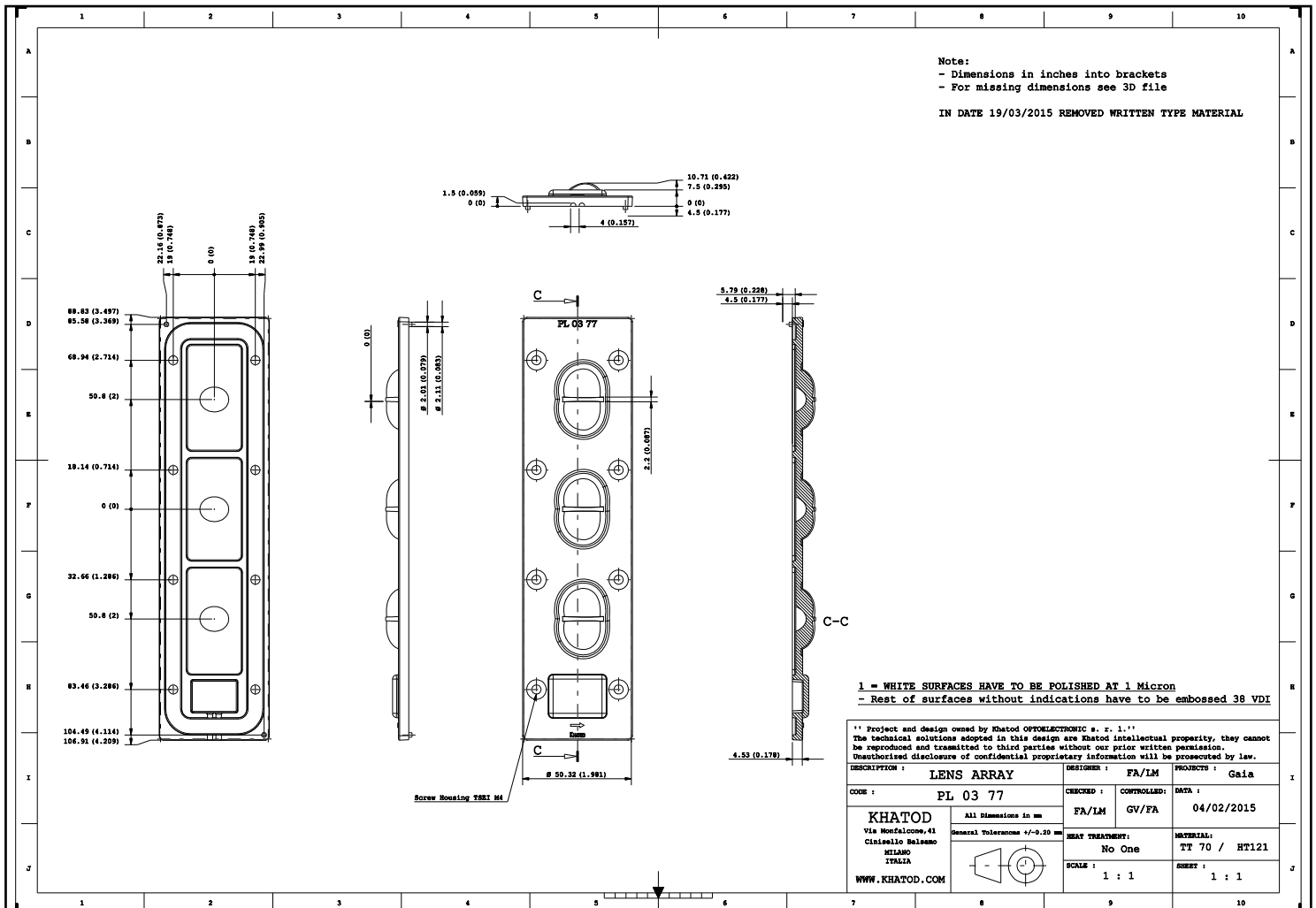
- Material = PMMA HT - (UHT On Request)
- Full angle at 50% from maximum: ~ 145°
- Full angle at 10% from maximum: ~ 155°
- The light spots here represented refer to tests carried out with Multichip LEDs with 6.8mm dome, ~1040lm@LED



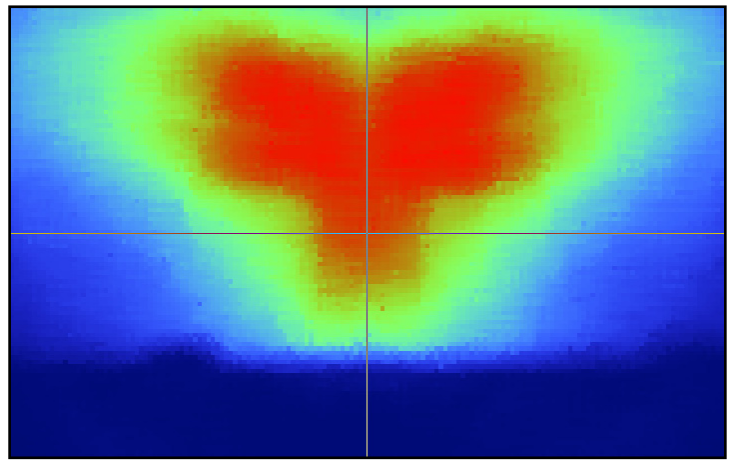
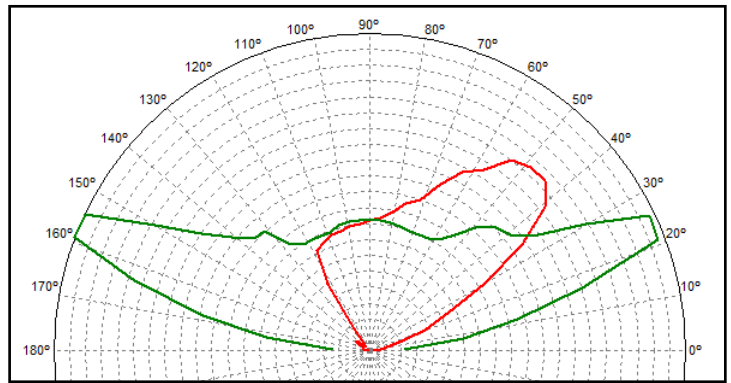
## PL0377 - ME3A



- Material = PMMA HT - (UHT On Request)
- Full angle at 50% from maximum: ~ 155°x120°
- Full angle at 10% from maximum: ~ 165°x140°
- The light spots here represented refer to tests carried out with Multichip LEDs with 6.8mm dome, ~1040lm@LED



## PL0377 + KCLP1900ST



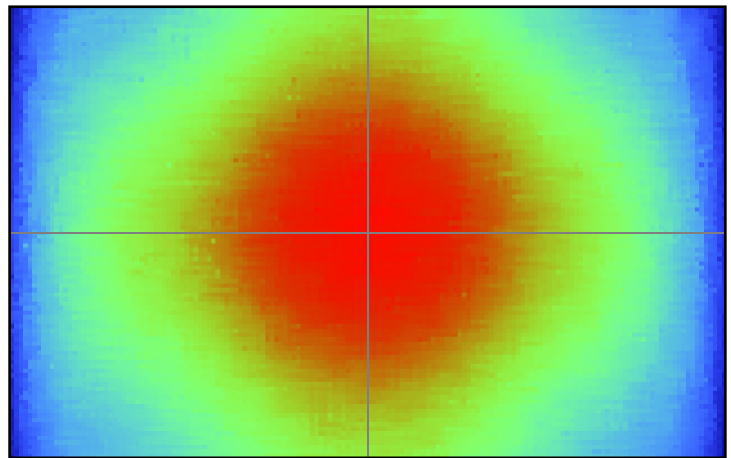
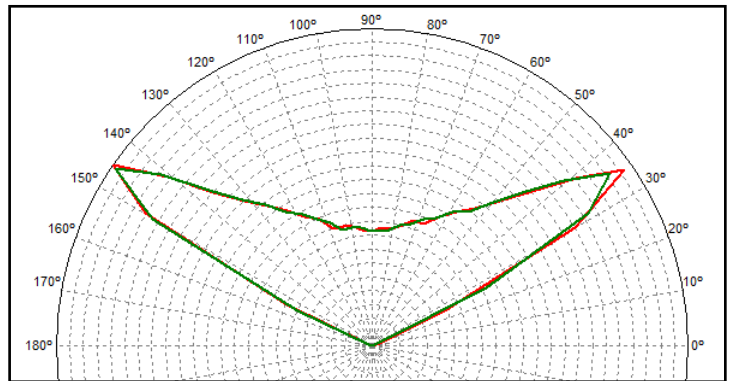
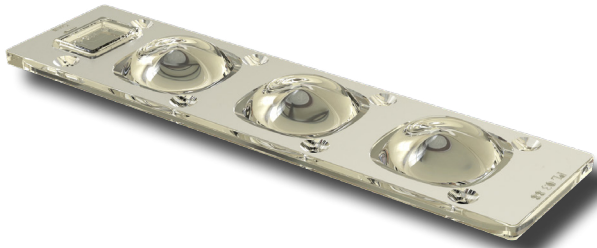
- Material = PMMA HT - (UHT On Request)
- Full angle at 50% from maximum: ~ 155°x90°
- Full angle at 10% from maximum: ~ 160°x130°
- The light spots here represented refer to tests carried out with Multichip LEDs with 6.8mm dome, ~1040lm@LED
- Use only with protective glass

### KCLP1900ST - Drawing

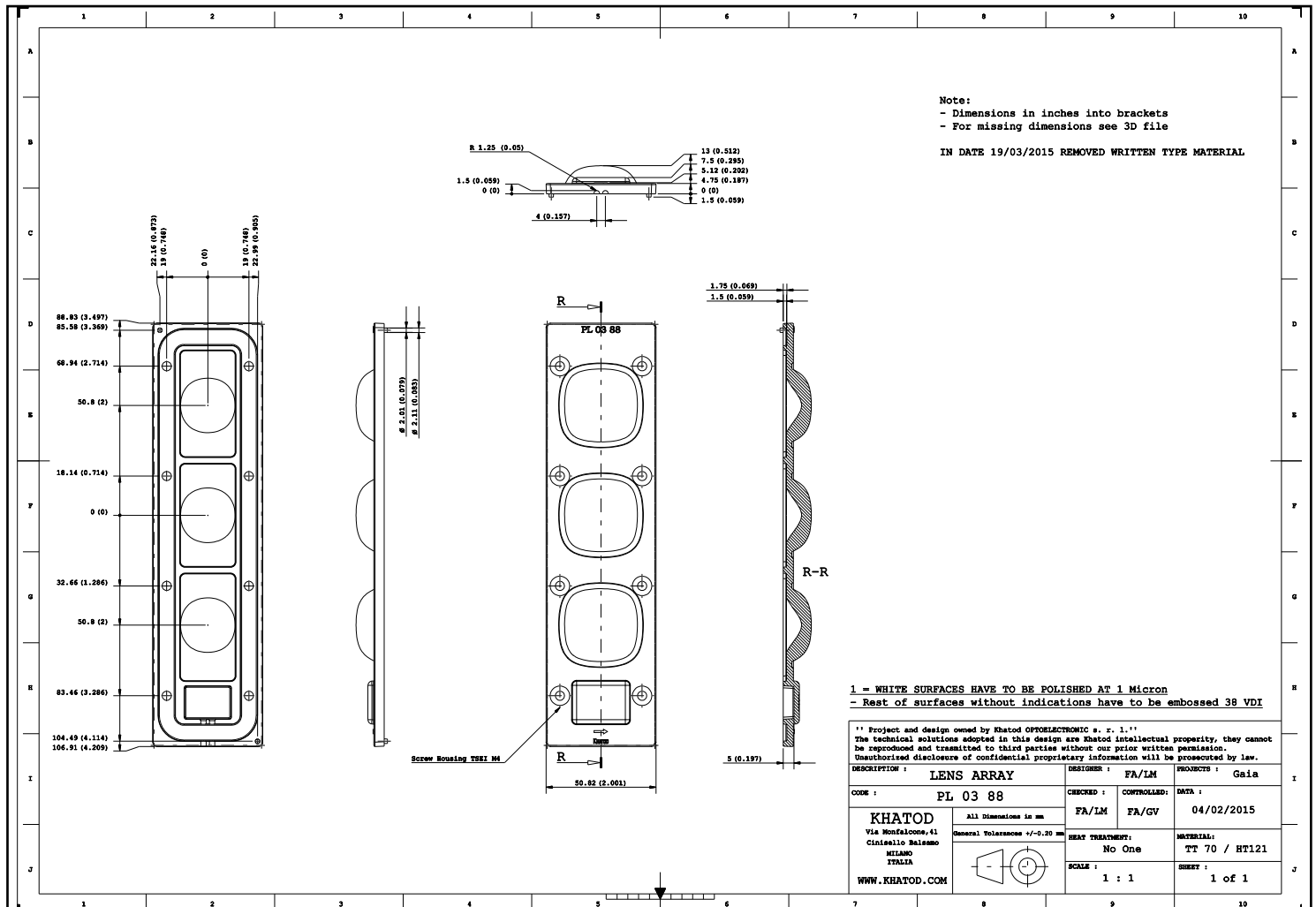
**Note:**  
 - Dimensions in inches into brackets  
 - For missing dimensions see 3D file  
 1 = SURFACE EMBOSSED 38 VDI

** Project and design owned by Khatod OPTOELECTRONIC s. r. l. ** The technical solutions adopted in this design are Khatod intellectual property, they cannot be reproduced and transmitted to third parties without our prior written permission. Unauthorized disclosure of confidential proprietary information will be prosecuted by law.			
DESCRIPTION :	REFLECTOR	DESIGNER :	FA/LM
CODE :	KCLP 1900 ST	CONTROLLED:	DATA :
Khatod Via Montefiore, 41 Cinisello Balsamo MIANO TREVISO WWW.KHATOD.COM		FA/LM	04/02/2015
All Dimensions in mm General Tolerances +/-0.20 mm		REAR TREATMENT:	MATERIAL:
		No One	PC Black
SCALE :		1 : 1	SHEET :
			1 of 1

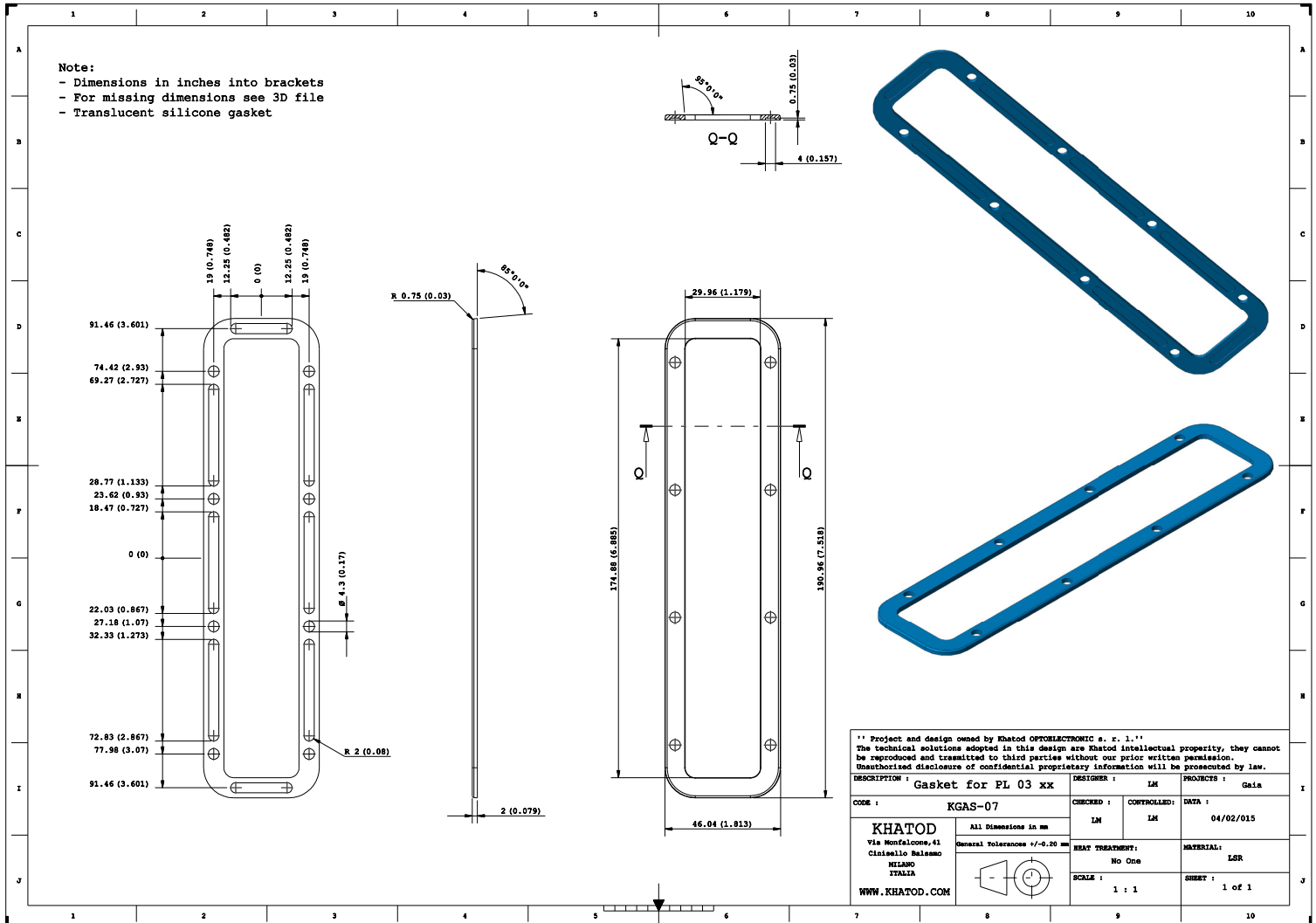
## PL0388 - 120° Square



- Material = PMMA HT - (UHT On Request)
- Full angle at 50% from maximum: ~ 120°
- Full angle at 10% from maximum: ~ 130°
- The light spots here represented refer to tests carried out with Multichip LEDs with 6.8mm dome, ~1040lm@LED



## KGAS07 - Drawing



## Optional

- KGAS07 : Gasket for IP Version
- UHT\* : Ultra High-Temperature (\*For more information, see on page 14) - Eg PL03xxUHT
- KCLP1900ST : Reflector for Use with Lenses: PL0344 - PL0355 - PL0377 (GAIA Lens + KCLP1900ST)
- Other Optionals or Beams: On Request.

## Materials

Material	Top	Tstg
PMMA - HT (Hight Temperature)	-30°...110°C	-30°...110°C
PMMI - UHT (Ultra High Temperature)*	-30°...145°C	-30°...145°C

### 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.

## 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.

## Disclaimer

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 specifications.

Should you require further information, please contact Khatod for advice. All lens testing must be subject to identical conditions as Khatod test condition. Khatod Optoelectronic, Milan, Italy, manufactures lenses for LEDs. Any other use of the lens shall void our liability and warranty. The lenses are an inert component to be used in the manufacture of various products. Our warranty and liability are limited only to the manufacture of the lens. You may not modify, copy, distribute reproduce, license or alter the lens and related materials of Khatod. Khatod does not warrant against damages or defects arising out of the use or misuse of the products; against defects or damage arising from improper installation, or against defects in the product or in its components. No warranty of any kind, expressed or implied, is made regarding the safety of the products. The entire risk as to the quality or performance of the product is with the buyer. In no event shall Khatod be liable for any direct, indirect, punitive, incidental, special, consequential damages, or any damages whatsoever arising out of or connected with the use or misuse of the product. Khatod shall not have any obligation with respect to the product or any part thereof, whether based on contract, tort, strict liability or otherwise. Buyer assumes all risks and liability from use of the product. The laws of Milan, Italy govern this product warranty and liability and you hereby consent to the exclusive jurisdiction and venue of courts in Milan, Italy in all disputes arising out of or relating to the use of this product. Production, marketing, distribution, sale of these products as well as their possible modifications and variations are only exclusive right of Khatod Optoelectronic. No company can perform any of these actions without written permission released by Khatod Optoelectronic. The information contained in this document is proprietary of Khatod Optoelectronic and may change without notice.

REPRODUCTION PROHIBITED.