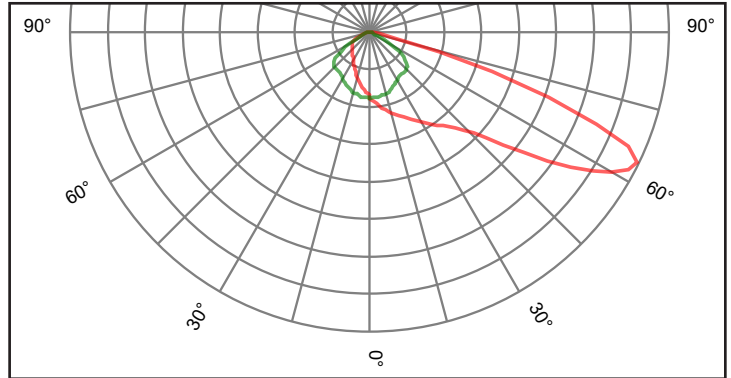
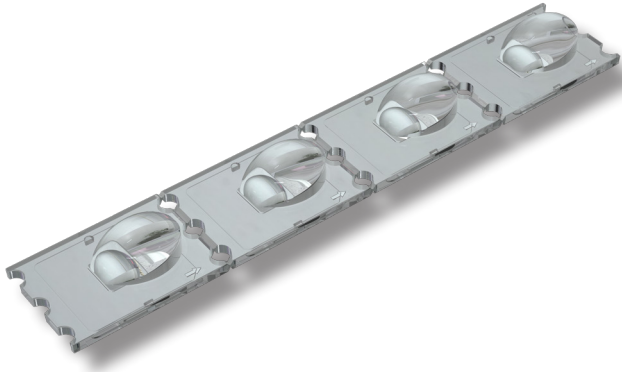
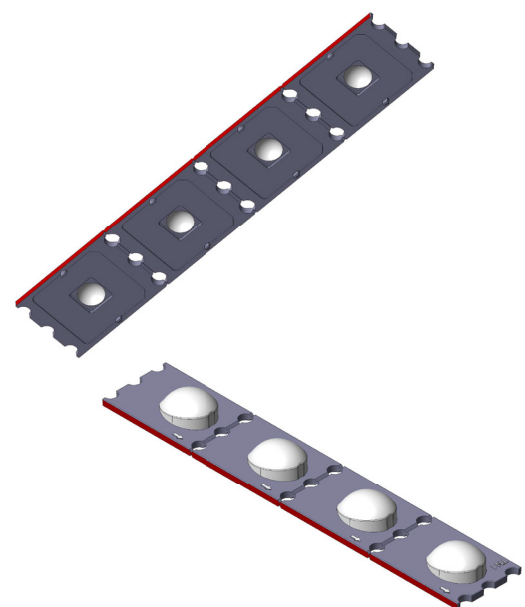
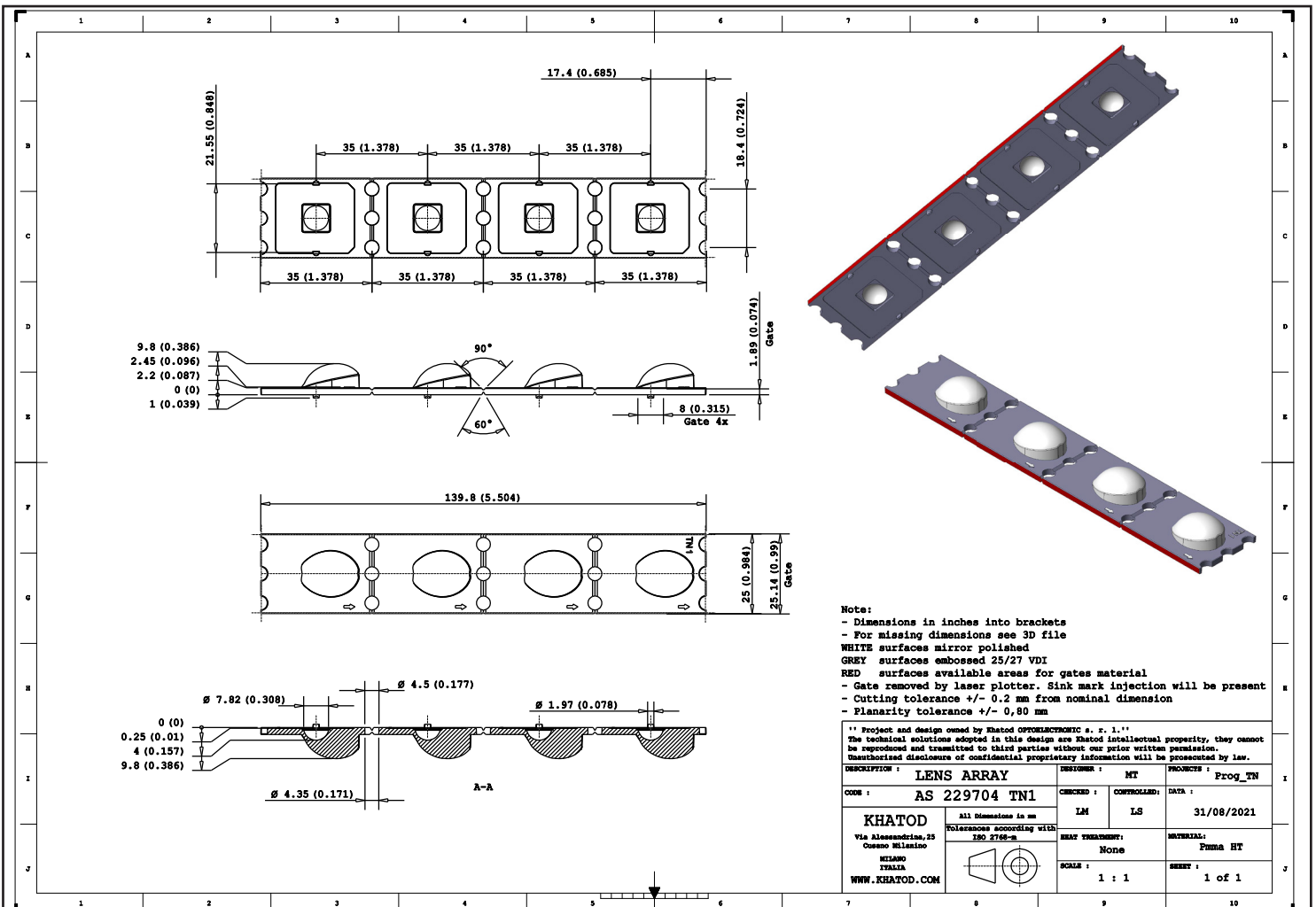
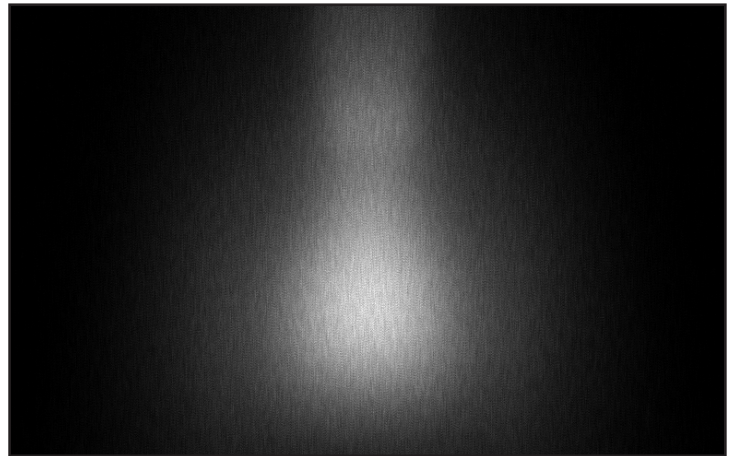


## AS229704TN1 - Counterbeam optic for tunnel entrance lighting - 65° Max cd



Pre-factured for customized length  
Screw Fixing

- Material = PMMA HT
- Angle 65° max candela
- Full angle at 50% from maximum: ~ 110°x110°
- Full angle at 10% from maximum: ~ 144°x130°
- The light spots here represented refer to tests carried out with 4 LEDs 5.0x5.0mm and ~ 605 Lumen@LED

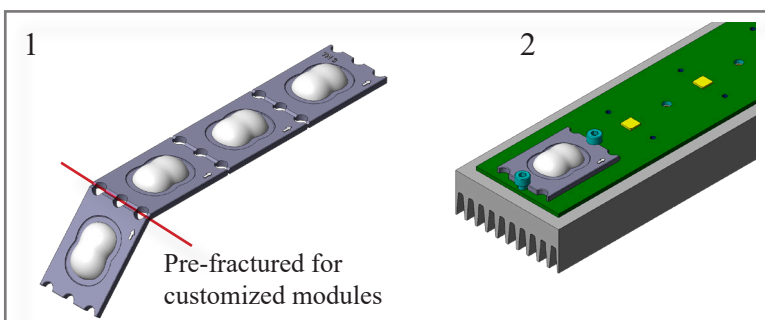
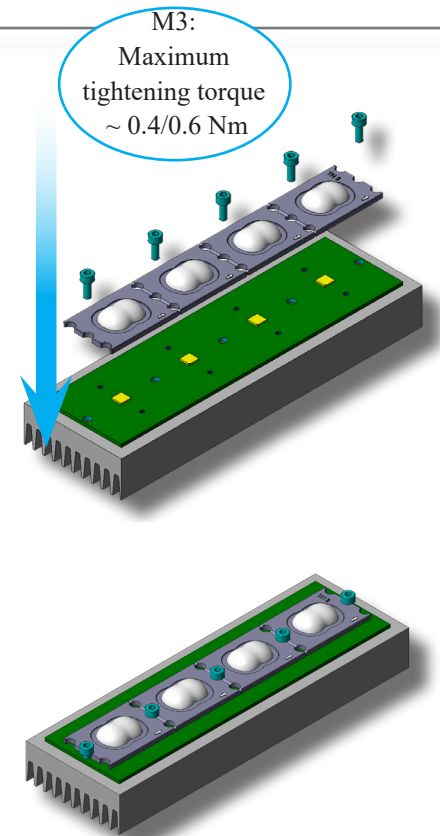
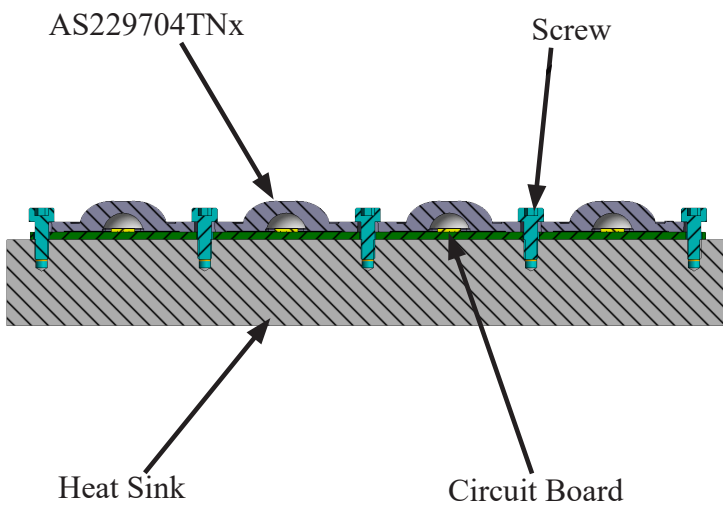
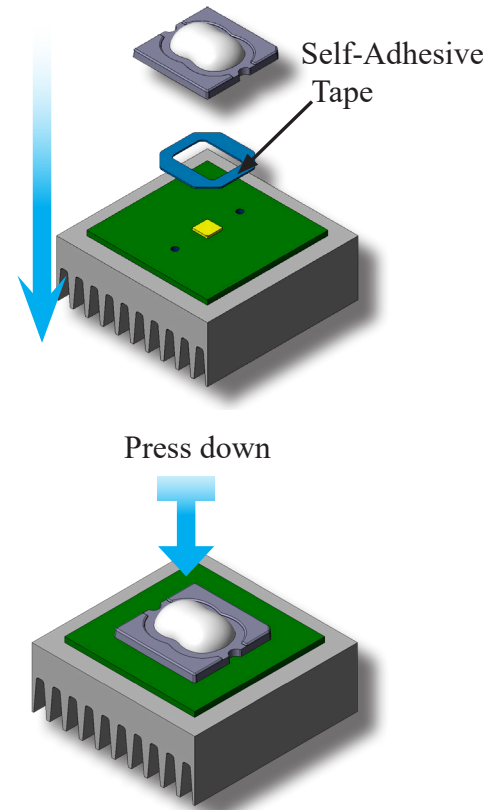
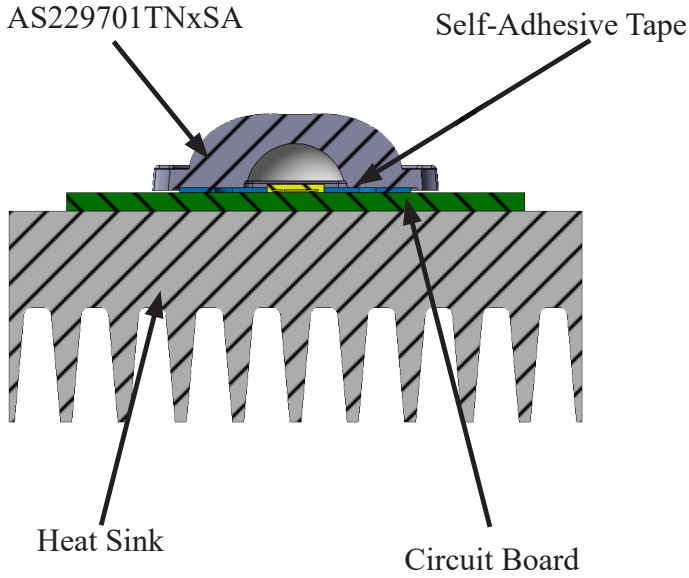


Note:  
- Dimensions in inches into brackets  
- For missing dimensions see 3D file  
WHITE surfaces mirror polished  
GREY surfaces embossed 25/27 VDI  
RED surfaces available areas for gates material  
- Gate removed by laser plotter. Sink mark injection will be present  
- Cutting tolerance +/- 0.2 mm from nominal dimension  
- Planarity tolerance +/- 0,80 mm

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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 : LENS ARRAY	DESIGNER : MT	PROJECT : Prog_TN
CODE : AS 229704 TN1	CHECKED : IM	DATA : 31/08/2021
<b>KHATOD</b> Via Alessandro, 25 Cusano Milanino MILANO ITALIA WWW.KHATOD.COM	All dimensions in mm Tolerances according with ISO 2768-m	DRAWING METHOD : None SCALE : 1 : 1 SHEET : 1 of 1
	MATERIAL : PMMA HT	

## Assembly Specifications



## Application Examples

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## Thermal shock resistance level

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### Initial Visual Inspection

Visual inspection to check the lens integrity before the test

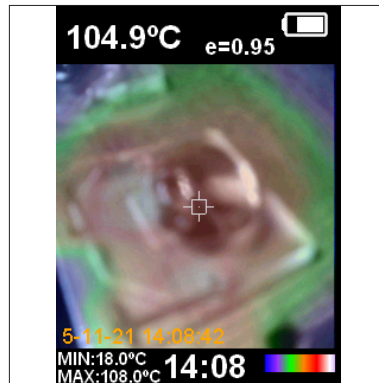
The part resulted physically intact.

The reference temperature of the component under test is 105° C.

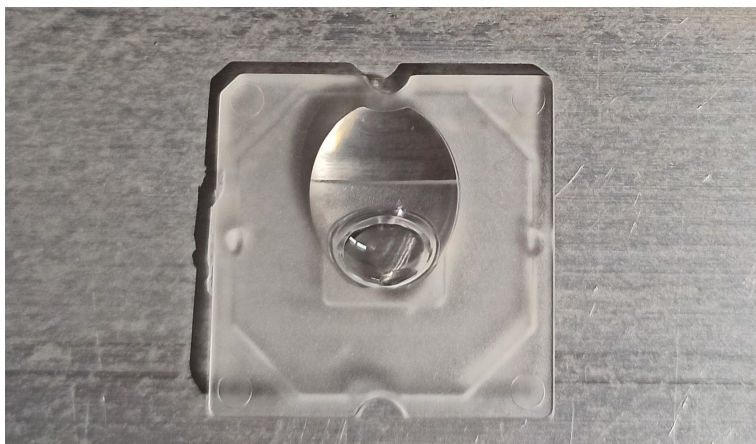
Photo: the lens in the climatic chamber.



Temperature stress in the climatic chamber



Temperature detected on the part by IR thermal camera



### Final Visual Inspection

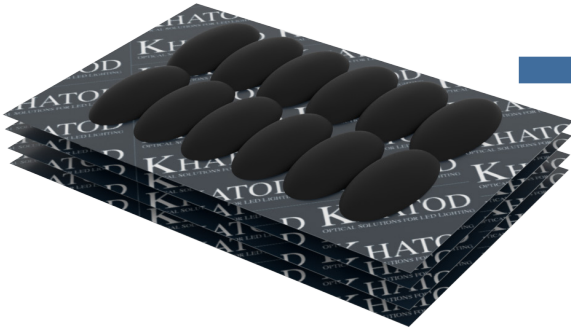
After testing, an expective view is made with positive result (view photo)

In the picture: the lens in the climatic chamber after testing.

Based on the testing result, AS229701TNxSA test specimens provided to overcome the thermal stress test up to 105°C without any physical deterioration of the material.

## Packaging - AS229704TNx

Item	Quantity	Total Parts	Size (L*W*H)	G.W.
Skinpacked Cardboard	20 pcs per Skinpacked Cardboard	20 pcs	50*32 cm	0.52 Kg
Outer Box	30 Skinpacked Cardboard per Outer Box	600 pcs	50*32*38 cm	18.5 Kg



30 Skinpacked Cardboard  
20 Modules each



30 Skinpacked Cardboard / Outer Box

## Materials

Material	Top
PMMA HT	-40°...110°C
AS2297xxTNx Temperature resistance: long-term exposure	-40°...105°C
AS2297xxTNx Temperature resistance: short-term exposure	up to + 110 °C

## Notes:

- The optical values shown are the result of optical simulations carried out with LIGHTTOOLS, 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.

## 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.

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