

* PRODUCT DATASHEET

- * Model: HX-20-45M
- * Dimensions:
 - Lens: $\Phi 20.00\text{mm}$ H10.40mm
 - striped cylinder holder: $\Phi 21.50\text{mm}$ H13.10mm
 - bipod striped cylinder holder: $\Phi 21.95\text{mm}$ H12.90mm
- * Materials:
 - Lens: Optical Grade PMMA / PC
 - Holder: ABS
- * Assembly Dimensions:
 - Lens with striped cylinder holder: $\Phi 21.50\text{mm}$ H13.10mm
 - Lens with bipod striped cylinder holder: $\Phi 21.95\text{mm}$ H13.15mm
- * Surface Treatment: Matte surface
- * Beam Angle: 45deg
- * For Led: Luxeon Edixeon Seoul x
- * Certification: SGS RoHs



- * Features:
 - High efficiency
 - Available in 1 beam Patterns
 - Optimized for uniform effects
 - Lens with holder
- * Typical applications:
 - Stage lighting
 - Street lights
 - Decorative light
 - Architectural lighting
 - Down light
 - Flashlight

* Brief description :

*The OPTIC-FOV (Shenzhen Hongxuan Optoelectronic Technology Co., Ltd) lens offers low-profile lenses specifically designed for the Luxeon® LEDs, Edison® LEDs, Bridgelux® LEDs or Seoul® LEDs.

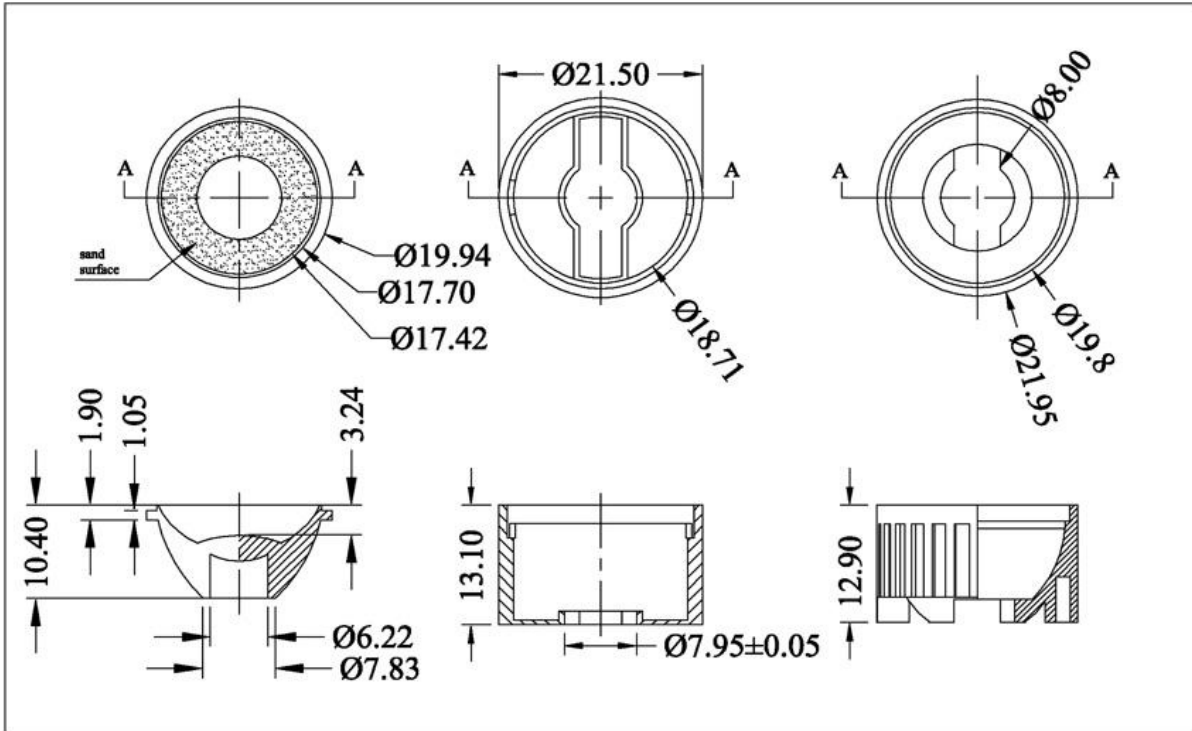
*A software-optimized aspheric profile enables the generation of several different beam output patterns: narrow, medium, elliptical and wide beams.

The high collection efficiency reaches 85% of the total flux emitted by the LEDs.

*Lens holders are available in white or black, and provide the proper alignment between the LEDs and the lenses, set correct distance between the lens and LED.

*The lens holder can be glued to the PCB to provide a secure assembly.

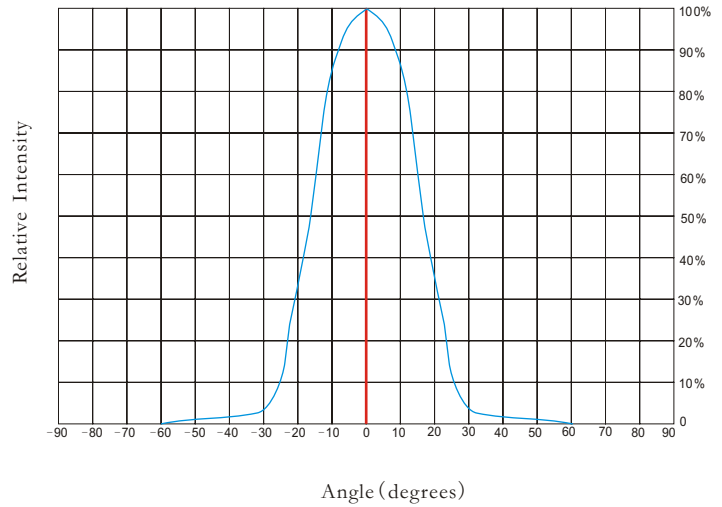
* Holder and Lens dimensions of the 2D views



* Beam Pattern



* Angular Intensity Distribution

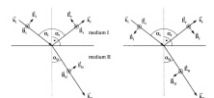


* Typical illuminance values

Normal Distance (m)	1.5	2	5	9
Illuminance (lux _{1W led})	52.6	29.6	4.7	1.5
Illuminance (lux _{3W led})	87.6	49.3	7.9	2.4

Notes:

- *Luminous flux characteristics at IF=350mA and TJ=25°C: for 1W Edixeon® ARC (Part Name: EDEH-1LS5-E1/Neutral White/75lm/Lambertian LED)
- *Luminous flux characteristics at IF=700mA and TJ=25°C: for 3W Edixeon® ARC (Part Name: EDEH-3LS5-E3/Neutral White/125lm/Lambertian LED)
- *Performance values given are typical values and will vary dependant on LED binning, colour and drive profile
- *Typical illuminance values is reference data (Receiving surface of the average illuminance values).



* LED Lens materials feature table

Items	Features	Experimental methods	Units	PMMA
Physical properties	Density	ASTM D792	g/cm	1.19
	Absorbtion	ASTM D570	%	2
Optical properties	Refraction index	ASTM D542		1.49
	Transmittance	ASTM D1003	%	95
	ABBE	ASTM D542		58
	Birefringence		nm	<20
Thermodynamical properties	Glass transition point	DSC	°C	150
	Heat distortion	ASTM D648 (1.85kg/cm)	°C	120
Mechanical properties	Tensile strength	ASTM D638	MPA	730
	Tensile elongation	ASTM D638	%	10
	Flexural modulus	ASTM D790	10MPA	3

* Notes:

- 1.Engineering drawings and all dimensions are in millimeters,holder and lens tolerance,respectively ± 0.10 and ± 0.05 .
- 2.Product operating temperature range $-40^{\circ}\text{C} \sim +70^{\circ}\text{C}$ (upper limit $+80^{\circ}\text{C}$).
- 3.Product storage temperature range $-40^{\circ}\text{C} \sim +70^{\circ}\text{C}$ (upper limit $+80^{\circ}\text{C}$).
- 4.Average transmittance in visible specturm $400\text{nm} \sim 700\text{nm} > 92\%$.
- 5.If necessary,clean lenses with mild soap water and soft cloth.
- 6.Never use any commercial cleaning solvents on lenses,like alcohol.
- 7.Please handle and install lenses with wearing gloves,skin oils may damage lens or its optical characteristic.

