

## \* PRODUCT DATASHEET

- \* Model: HX-20-45
- \* Dimensions:
  - Lens:  $\Phi 20.00\text{mm}$  H10.70mm
  - 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:  $\Phi 21.50\text{mm}$  H13.40mm
  - Lens with bipod striped cylinder holder:  $\Phi 21.95\text{mm}$  H13.60mm
- \* Surface Treatment: Polishing surface
- \* Beam Angle: 45deg
- \* For Led: Luxeon Edixeon Seoul
- \* 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 :

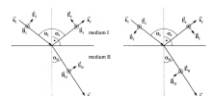
\*The OPTIC-FOV (Shenzhen Hongxuan Optoelectronic Technology Co., Ltd) lens offers low-profile lenses specifically designed for the Luxeon® LEDs, Edison® LEDs, Bridgelux® LEDs or Seoul® LEDs.

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

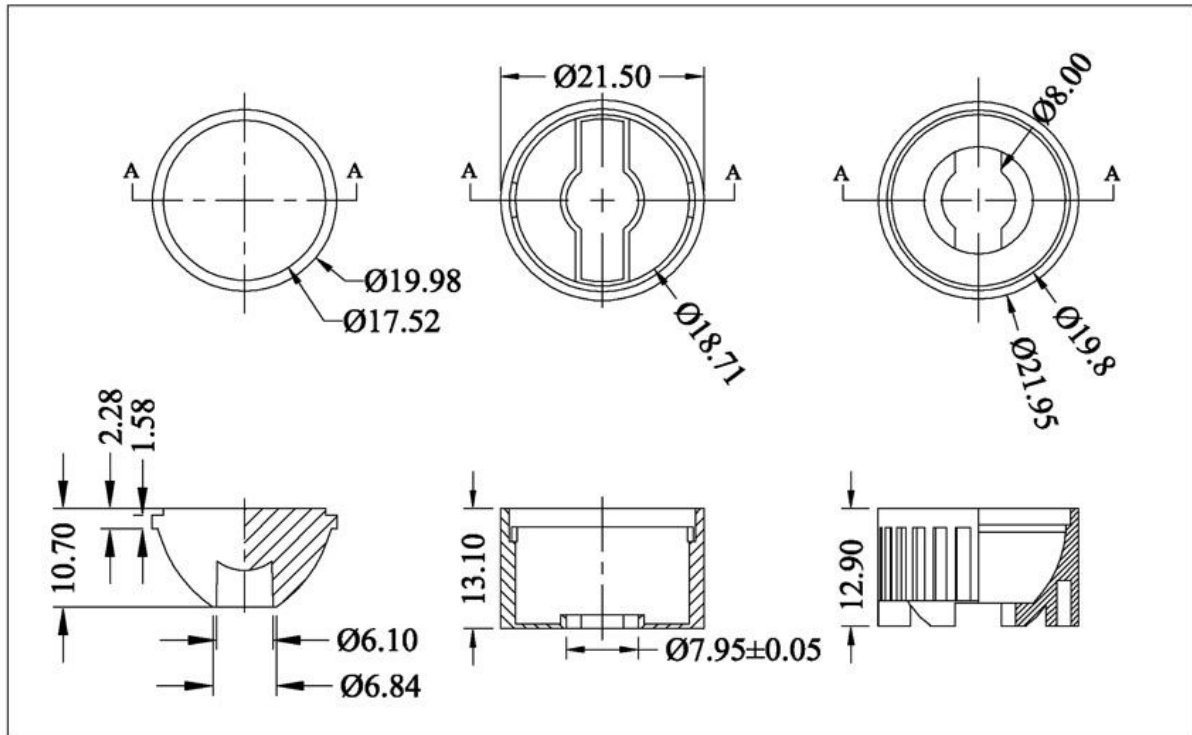
The high collection efficiency reaches 85% of the total flux emitted by the LEDs.

\*Lens holders are available in white or black,and provide the proper alignment the 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.



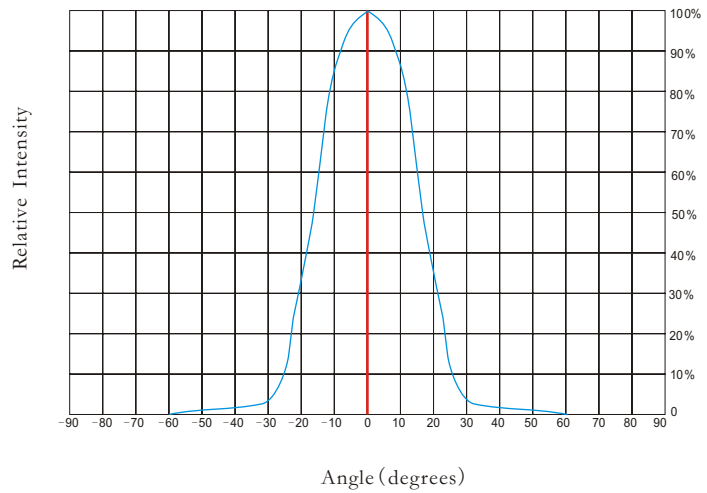
## \* Holder and Lens dimensions of the 2D views



## \* Beam Pattern



## \* Angular Intensity Distribution

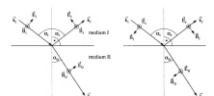


## \* Typical illuminance values

| Normal Distance (m)                  | 1.5  | 2    | 5   | 9   |
|--------------------------------------|------|------|-----|-----|
| Illuminance (lux <sub>1W led</sub> ) | 52.6 | 29.6 | 4.7 | 1.5 |
| Illuminance (lux <sub>3W led</sub> ) | 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 |
|                            | Absorbption            | 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  $\pm 0.10$  and  $\pm 0.05$ .
- 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.

