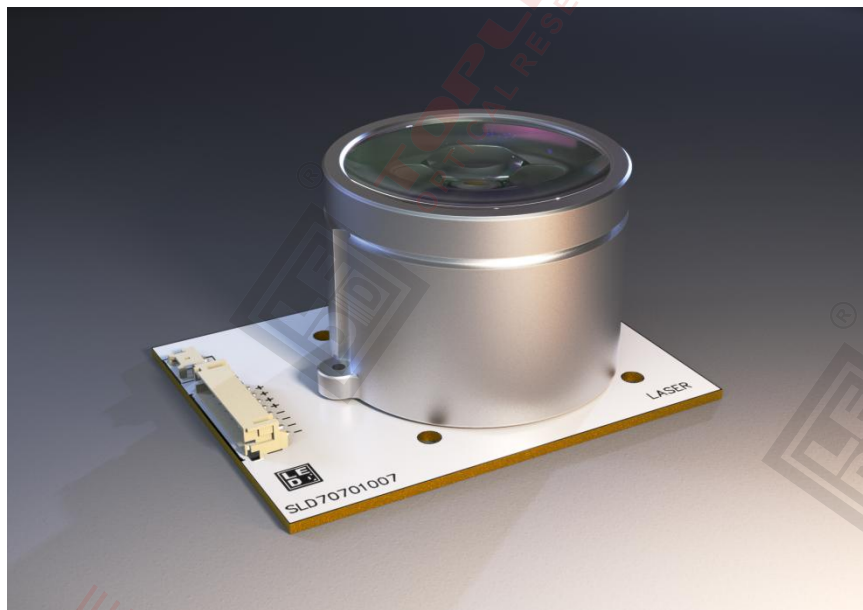


# Optical Fly-eye Lens Matrix Module

## MATLASER150

The MATLASER150 Laser Matrix Modules feature a groundbreaking condenser optics design, utilizing a patented multi-layer optical fly-eye lens matrix, which focuses the rays from the laser matrix into a very small area in space, offering high luminous density and brightness. The laser matrix supports the usage of 7 high-power laser chips. Through a simple way of installation, the condenser optics of the MATLASER150 can be quickly assembled with the corresponding laser matrix to form a laser matrix module that is high-power and equipped with dust protection. This module boasts ease of use, maintenance, upgradability and excellent performance ( up to 66X of the zoom range and 28 million cd of the luminous intensity).

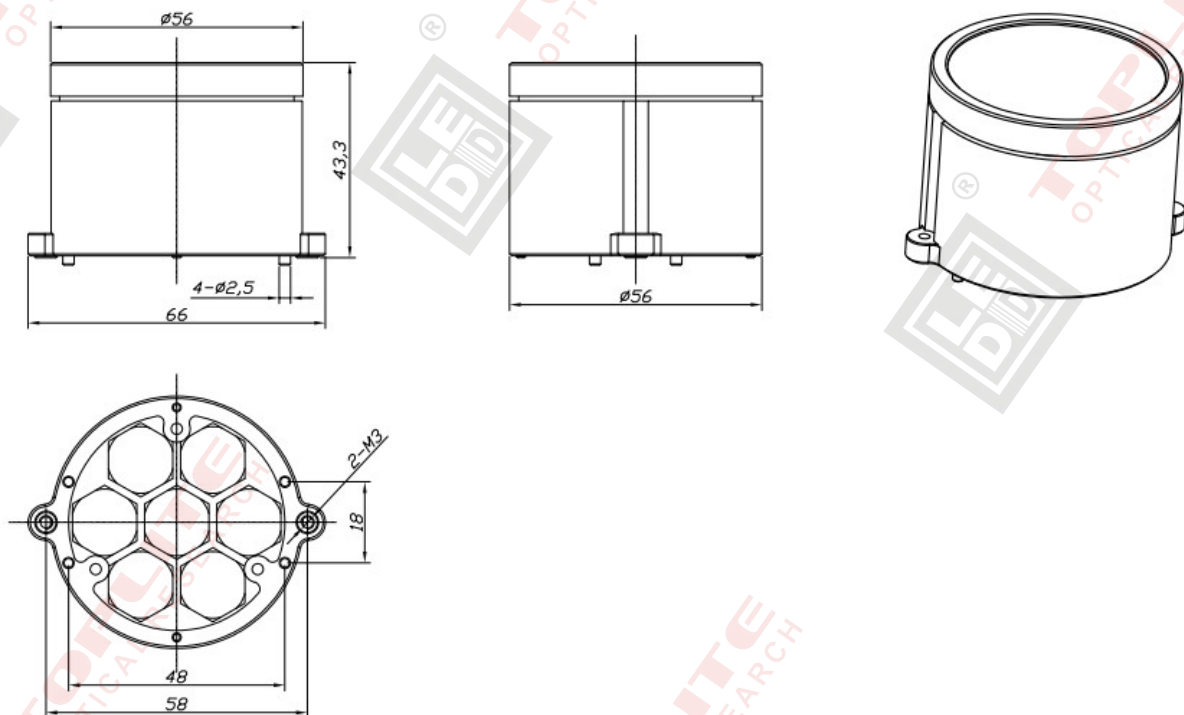
The MATLASER150 Laser Matrix Module is ideal for a wide range of lighting applications, including beam lights, outdoor searchlights, moving head lights, and other speciality lighting needs.



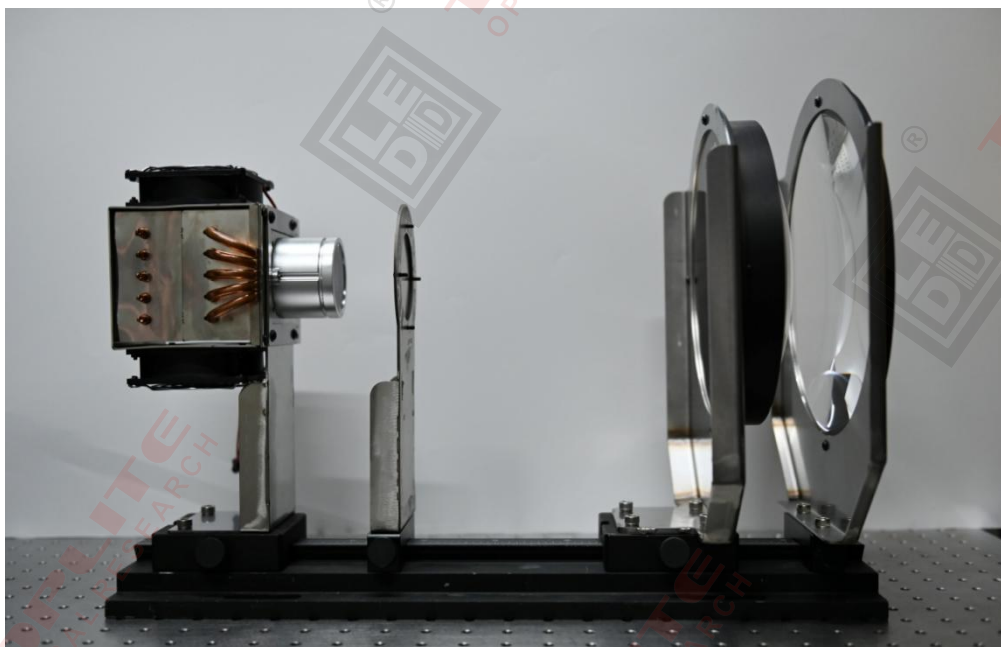
### Product Features:

- Module No.: MATLASER150
- Laser Matrix: LaserLight SMD1000 × 7
- Total Power: 140 W
- Luminous Flux: Up to 7000 lm
- Light Emission Size: Φ48.5 mm
- Iris/Gate: Φ2.0 mm

- Converging Lens Module Size: L66mm× Φ56mm × H43.3mm



### **Photoelectric Parameter and Test:**



There are 3 main parts in this set of test prototype above, from left to right they are: MATLASER150 module mounted on one heat sink, iris with diameter of Φ2.0 mm and the IMMBEAM lens set.

**Test I:**

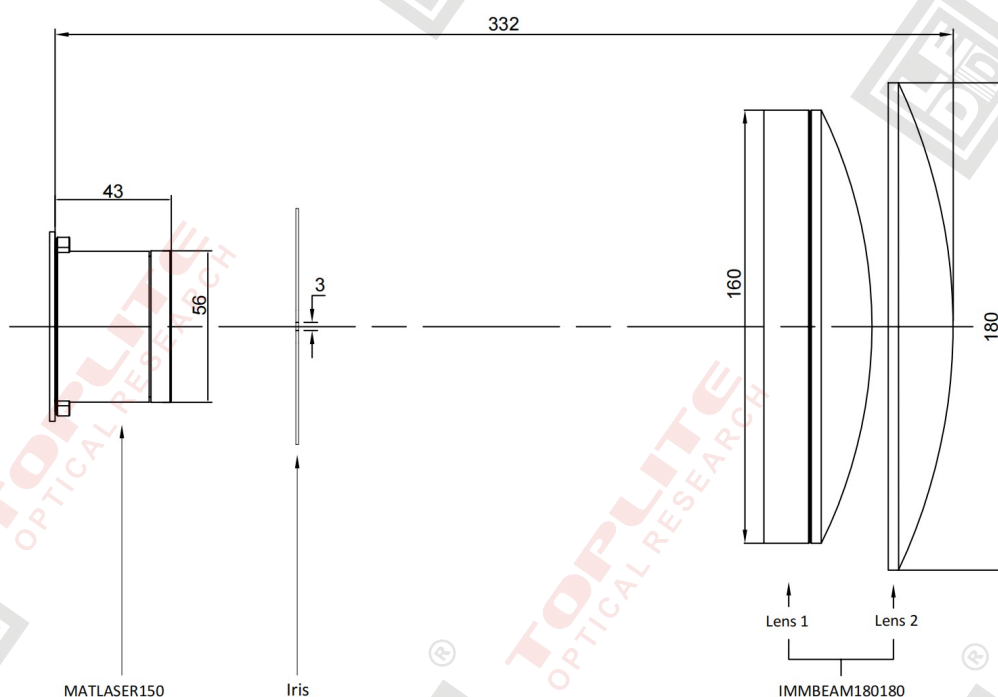
- Light Collimating Lens System: IMMBEAM180180
- PCBA: SLD70701007
- Iris:  $\Phi 2.0$  mm
- Minimum Beam Angle:  $0.55^\circ$
- Luminous Intensity: up to 17 million cd
- Operation A:

Only move lens 1 to adjust beam angle and sharpness of light spot at different throw distances. When the light spot is very sharp at one given distance, it means that the output reaches its peak. Lens 1 can be moved within 15 mm. Move lens 1 towards to lens 2 can obtain narrow beam angle, towards to the iris can obtain wide beam angle with the maximum is  $15^\circ$ . If a soft light spot is needed at wide beam angle, it is allowed to add one piece of glass diffuser on the right of iris, then the wide beam angle can be up to  $18^\circ$ , the whole lighting system has 32X zoom capacity from  $0.55^\circ$  to  $18^\circ$ .

- Operation B:

Move lens 1 and lens 2 to adjust beam angle and sharpness of the light spot. When the lens set is close to iris lighting system is wide beam angle, the maximum can be  $30^\circ$ , obtain up to 54X zoom capacity from  $0.55^\circ$  to  $30^\circ$ .

- Light Path Diagram of Test I:



**Test II:**

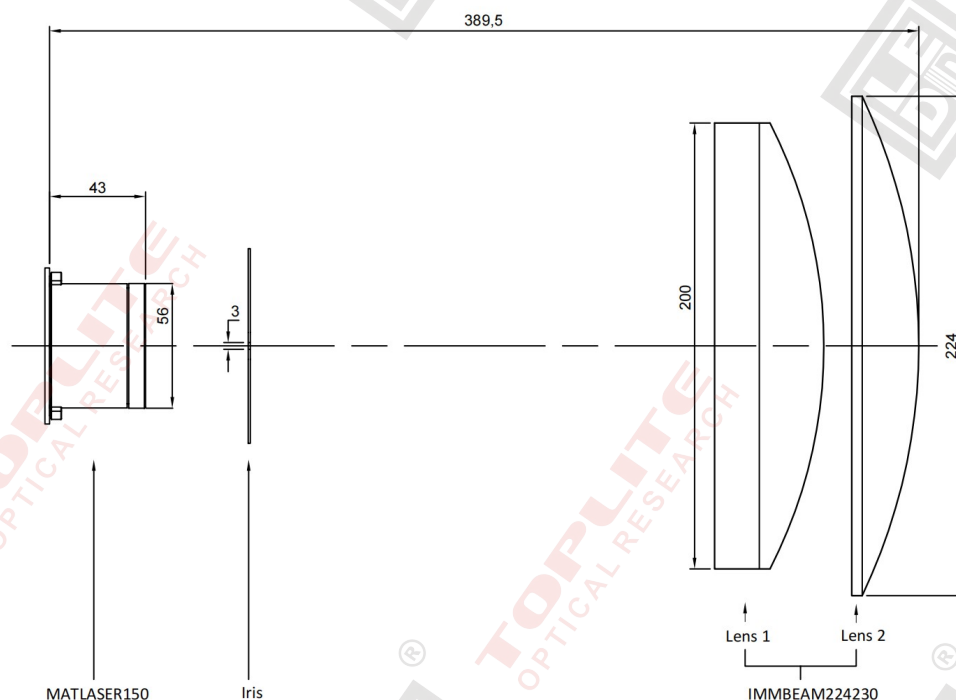
- Light Collimating Lens System: IMMBEAM224230
- PCBA: SLD70701007
- Iris:  $\Phi 2.0$  mm
- Minimum Beam Angle:  $0.45^\circ$
- Luminous Intensity: up to 28 million cd
- Operation A:

Only move lens 1 to adjust beam angle and sharpness of light spot at different throw distances. When the light spot is very sharp at one given distance, it means that the output reaches its peak. Lens 1 can be moved within 15 mm. Move lens 1 towards to lens 2 can obtain narrow beam angle, towards to the iris can obtain wide beam angle with the maximum is  $15^\circ$ . If a soft light spot is needed at wide beam angle, it is allowed to add one piece of glass diffuser on the right of iris, then the wide beam angle can be up to  $18^\circ$ , the whole lighting system has 40X zoom capacity from  $0.45^\circ$  to  $18^\circ$ .

- Operation B:

Move lens 1 and lens 2 to adjust beam angle and sharpness of the light spot. When the lens set is close to iris lighting system is wide beam angle, the maximum can be  $30^\circ$ , obtain up to 66X zoom capacity from  $0.45^\circ$  to  $30^\circ$ .

- Light Path Diagram of Test II:



The glass diffuser, around  $\Phi 40\text{mm}$ , is allowed to be added on the right of iris in the light path to have wider angle, more uniform and soft light spot. The space between iris and glass diffuser is  $0\sim 32\text{mm}$ , in this space move glass diffuser to how soft the light spot is. Please keep a space, minimum  $3\sim 5\text{mm}$ , between lens and glass diffuser while moving lens towards to iris.

**Cautions:**

Since it is so bright during testing, **DO NOT** look directly at the rays, focus point and beam by naked eyes. Please be sure to take relevant protective measures before starting the test.