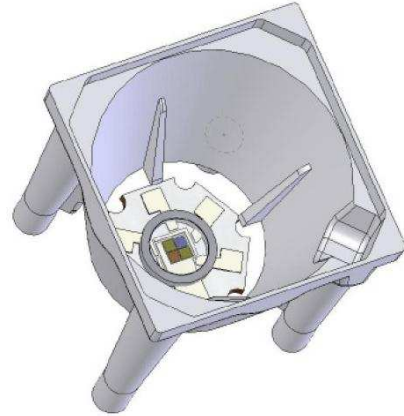


# ACULED™ LHS-AL25 Lens System

Standard Optics for ACULED™ RGB Light Source



## Introduction

The ACULED LHS-AL25 lens system is designed to collect and guide the light emitted by the ACULED RGB LED.

Easily attachable lenses lead the beam into a smaller angle to provide more light power in a particular certain direction.

With the LHS-AL25, Excelitas' ultra bright ACULED RGB light source is even further "setting the mood" in illumination. Test it using our Evaluation Kit.

## Features and Benefits

- High luminous flux by collecting lenses
- Small footprint due to complex lens design
- Optics including micro lenses for excellent color mixing
- Two different aperture angles available, customized optics on request
- Increased luminous intensity compared to bare ACULED

## Applications

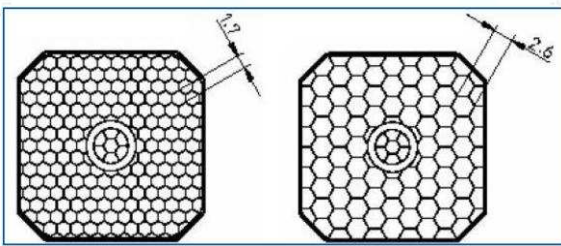
- High-power light source for general illumination
- Vision systems
- Architectural lighting
- Mood lighting
- Medical lighting
- Backlighting
- Displays and signs

## Specifications

	Material	Transmission	Holder	Operating and Storage Temperature	Divergence Angles	Part Number
ACULED LHS-AL25-L22	Optical grade PMMA	Typically > 90% from 500 nm to 700 nm	ABS	- 40° C to + 80° C	typically 22° with 2.6 mm micro lenses (medium beam)	LHS-AL25-L22
ACULED LHS-AL25-L32	Optical grade PMMA	Typically > 90% from 500 nm to 700 nm	ABS	- 40° C to + 80° C	typically 32° with 1.7 mm micro lenses (wide beam)	LHS-AL25-L32

Flammability class (1.5 mm nominal thickness):

- Optics (PMMA): class HB second IEC 60695-11-10
- Lens holder (PC-ABS): UL recognized, 94 V-0 flame class rating



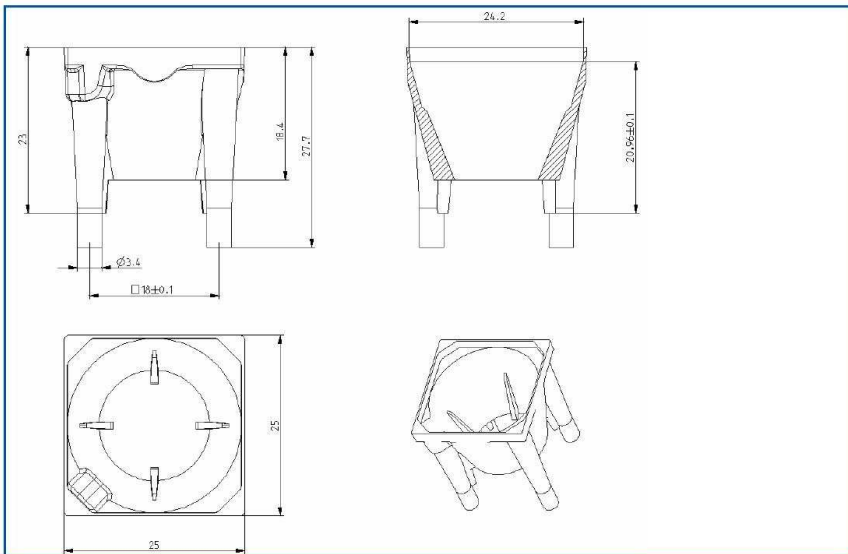
**Figure 1**

Top view of optics (micro lens structure).

Left: wide beam (32°).

Right: medium beam (22°).

## Dimensions

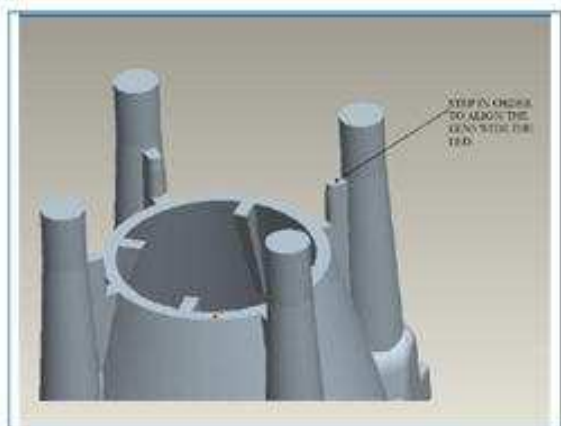


**Figure 2**

Dimensions of the LHS-AL25 lens holder. Tolerances are according to EN 22768/1.

## Assembly

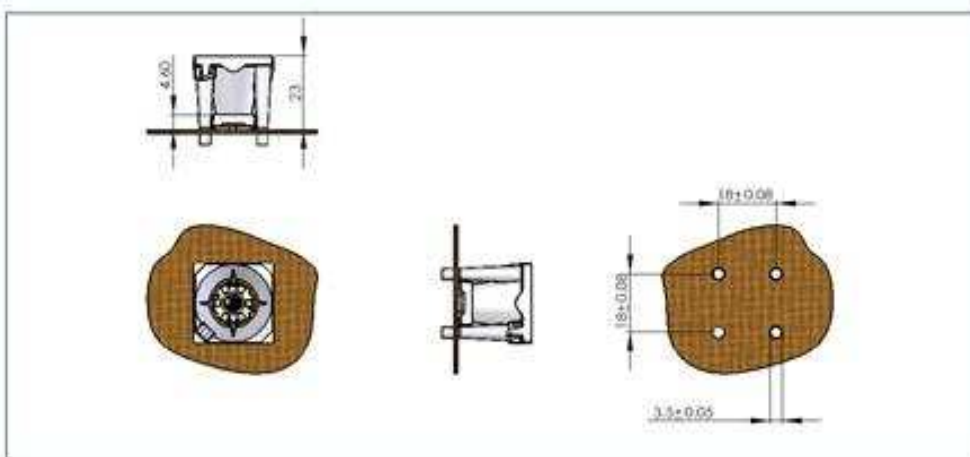
The ACULED LHS-AL25 should be mounted directly to the substrate (heat sink), where the ACULED itself is mounted to. The four feet of the holder have to be planar to the backside of the ACULED copper board to achieve proper beams. Please refer to figure 2 and 3 for details of the holder.



**Figure 3**

This figure shows the holder upside down. The steps at the legs should stand on the substrate where the ACULED is mounted on to achieve proper vertical alignment.

The ACULED lens should be placed on the optical axis of the ACULED. This is defined as the middle of the gap cross between the four chips of the ACULED. Please refer to figures 4 to 6 for details.



**Figure 4**

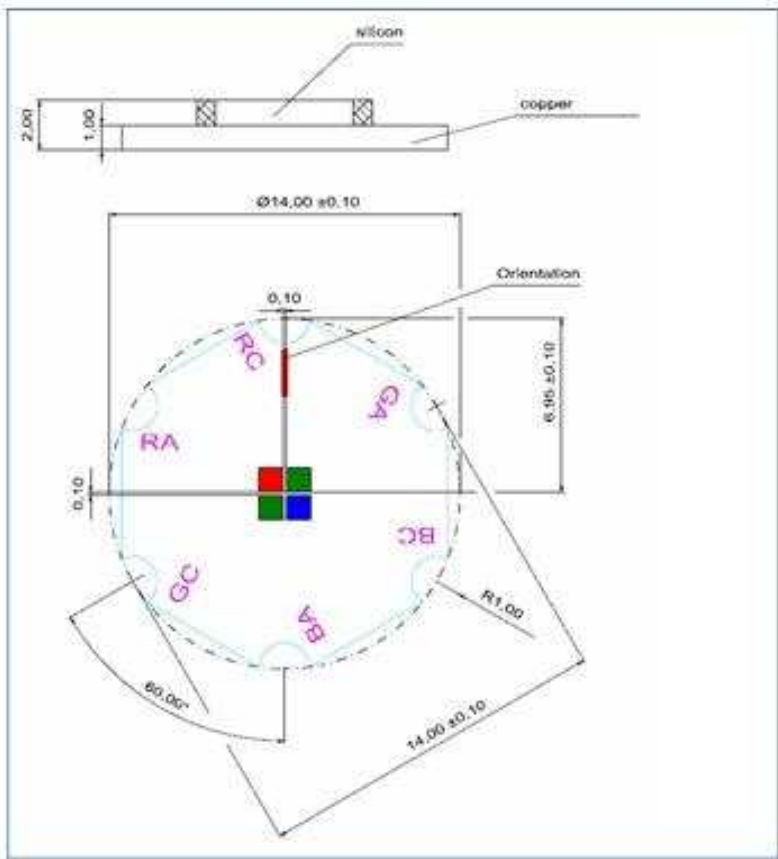
Diameter and distances of the holes in the board where the lens holder is mounted. The distance between the holes and the ACULED's centers is 12.73 mm.



**Figure 5**

How to assemble lens (holder), ACULED and substrate (heat sink) in principle.

Do not look directly into the high-power LED light source. The high intensity beam could cause irreversible damage to your eyes.



**Figure 6**  
 Dimensions and tolerances of the ACULED. The middle of the gap cross defined by the four chips should be on the optical axis of the lens.

Attention: Using lenses can concentrate the total amount of light emitted by an LED. Take care to avoid any direct exposure to human eyes in your application.

**Worldwide Headquarters**  
**Excelitas Technologies**  
 44370 Christy Street  
 Fremont, CA 94538-3180  
 Telephone: +1 510-979-6500  
 Toll free: (North America) +1 800-775-OPTO (6786)  
 Fax: +1 510-687-1140  
 generalinquiries@excelitas.com  
[www.excelitas.com](http://www.excelitas.com)

**European Headquarters**  
**Excelitas Technologies**  
 Wenzel-Jaksch-Str. 31  
 65199 Wiesbaden, Germany  
 Telephone: (+49) 611-492-247  
 Fax: (+49) 611-492-170

**Asia Headquarters**  
**Excelitas Technologies**  
 47 Ayer Rajah Crescent #06-12  
 Singapore 139947  
 Telephone: (+65) 6775-2022  
 Fax: (+65) 6775-1008



For a complete listing of our global offices, visit [www.excelitas.com](http://www.excelitas.com)  
 ©2011 Excelitas Technologies Corp All rights reserved. The Excelitas logo and design are registered trademarks of Excelitas Technologies Corp. ACULED™ is a trademark of Excelitas Technologies Corp. or its subsidiaries, in the United States and other countries. All other trademarks not owned by Excelitas Technologies or its subsidiaries that are depicted herein are the property of their respective owners. Excelitas reserves the right to change this document at any time without notice and disclaims liability for editorial, pictorial or typographical errors.  
 600135\_01 DTS0406