

OSRAM

Our Brand

LED ENGIN 

Light is OSRAM

High Efficiency TIR Lenses for LZ4 Emitter Family

LLNS-2T06-H, LLNF-2T06-H

Key Features

- Total Internal Reflection (TIR) optics provides a well-controlled beam
- Designed specifically for LED Engin LZ4 4-die emitter family
- Maximum Lux on Target™ and lumens in beam
- Provides the highest quality and quantity of light in a beam
- Smooth light gradient eliminates hot spots and rings and minimizes glare for superior illumination
- UL-rated optical grade PMMA lens material allows use of high current and temperature conditions
- Lenses are available standard with holder that mount easily onto LuxiGen LZ4 MCPCBs
- Simple fastening of holder to MCPCB with appropriate adhesive, e.g. epoxy or polyurethane based



Typical Applications

- Down lighting
- Accent lighting
- Track lighting
- Architectural lighting
- Stage and Studio lighting

Optical Specification

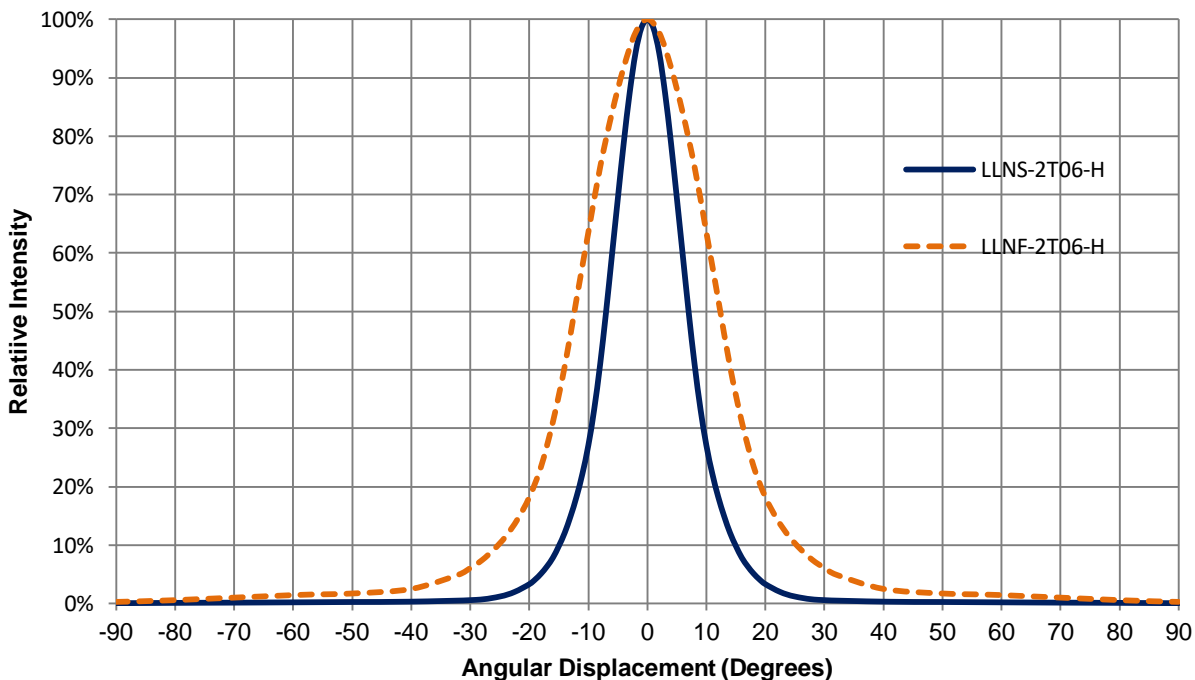
Table 1:

Part number ^[1]	Beam Angle ^[2] degrees	Field Angle ^[3] degrees	Optical Efficiency ^[4] %	On-axis Intensity ^[5] cd/lm
LLNS-2T06-H	14	30	90	8.8
LLNF-2T06-H	25	51	90	2.9

Notes for Table 1:

1. Lenses can also be ordered without the holder. Replace -H with -O for this option.
2. Beam angle is defined as the full width at 50% of the max intensity (FWHM).
3. Field angle is defined as the full width at 10% of the max intensity.
4. Optical efficiency is defined as the ratio between the incoming flux and the outgoing flux.
5. On-axis intensity is defined as the ratio between the total input lumen and the intensity in the optical center of the lens.

Typical Relative Intensity over Angle



General Characteristics

Table 2:

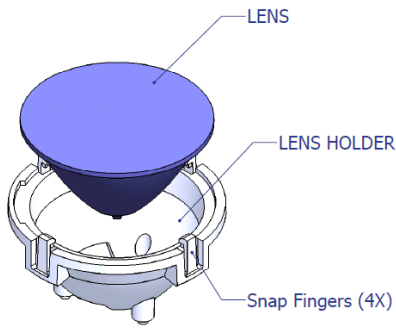
	Symbol	Value	Rating	Unit
Mechanical				
Height from Seating Plane		19.2	Typical	mm
Diameter		38.9	Typical	mm
Material				
Lens		PMMA		
Holder		Polycarbonate		
Optical				
Transmission ^[1] (>90%)	λ	410-1100	Min-Max.	nm
Environmental				
Storage Temperature	T _{stg}	-40 ~ +110	Min-Max.	°C
Operating Temperature	T _{sol}	-40 ~ +110	Min-Max.	°C

Note for Table 2:

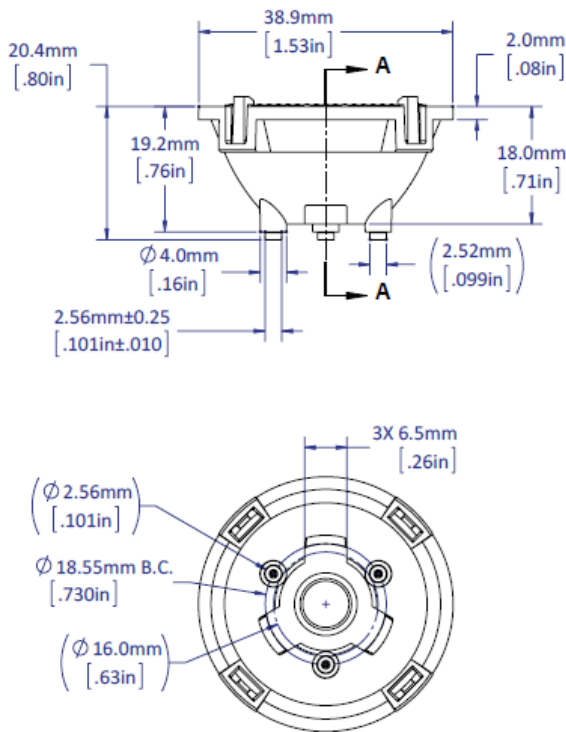
1. Lenses can also be ordered without the holder. Replace -H with -O for this option.

LLNS-2T06-H, LLNF-2T06-H

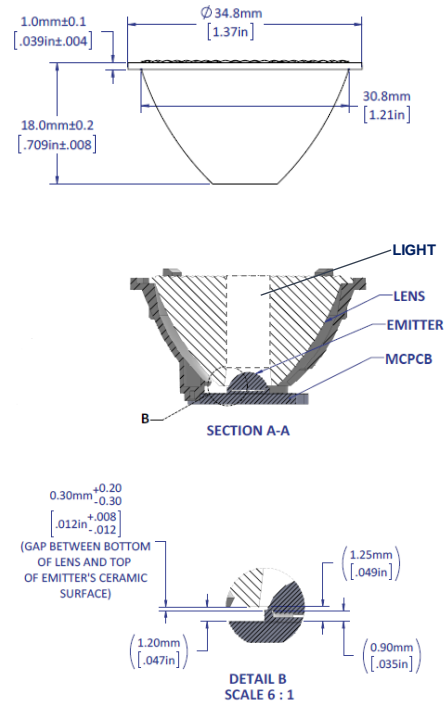
Mechanical Dimensions [1]



Lens with Holder



Lens only



Notes:

1. LLNS-2T06-H and LLNF-2T06-H consist of a through light tunnel along the center axis of the lens, thus might not be suitable for outdoor application.

LLNS-2T06-H, LLNF-2T06-H

Assembly Instruction

Lens holders can be assembled to the PCB using an epoxy or polyurethane-based adhesive (example: Dow Corning 3145 RTV).

Cyanoacrylate (superglue) adhesive should not be used to avoid contamination of the lens (blooming of the epoxy).

When integrating the lens into a fixture without the lens holder, special attention is needed to maintain the distance between the lens bottom and the emitter top. Variation in this distance will result in variation of the beam profile.

See mechanical detail B. on previous page.

Lens Cleaning

Use a lint-free soft cloth to dust off the lens. For deeper cleaning a solution of neutral detergent (example: dishwashing soap) can be used. Do not use any solvents or abrasive liquid/fabric.

LLNS-2T06-H, LLNF-2T06-H

About LED Engin

LED Engin, an OSRAM brand based in California's Silicon Valley, develops, manufactures, and sells advanced LED emitters, optics and light engines to create uncompromised lighting experiences for a wide range of entertainment, architectural, general lighting and specialty applications. LuxiGen™ multi-die emitter and secondary lens combinations reliably deliver industry-leading flux density, upwards of 5000 quality lumens to a target, in a wide spectrum of colors including whites, tunable whites, multi-color and UV LEDs in a unique patented compact ceramic package. Our LuxiTune™ series of tunable white lighting modules leverage our LuxiGen emitters and lenses to deliver quality, control, freedom and high density tunable white light solutions for a broad range of new recessed and downlighting applications. The small size, yet remarkably powerful beam output and superior in-source color mixing, allows for a previously unobtainable freedom of design wherever high-flux density, directional light is required. LED Engin is committed to providing products that conserve natural resources and reduce greenhouse emissions; and reserves the right to make changes to improve performance without notice.

For more information, please contact LEDE-Sales@osram.com or +1 408 922-7200.

LED Engin office:
651 River Oaks Parkway
San Jose, CA 95134
USA
408 922-7200
LEDE-Sales@osram.com
www.osram.us/ledengin

Our Brand

LED ENGIN

OSRAM