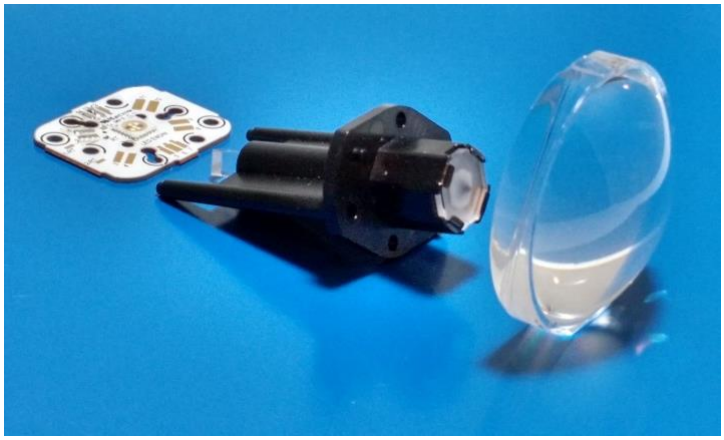
FXCM-7H-43B + FCX-53-01-0R
Zoom System for LEDEngin LZ7 LED

- **High Efficiency**
- **Zoom System, Spot-to-Flood**
- **Color-Mixing System**

The FXCM-7H-43B color-mixing rod + holder assembly with FCX-53-01-0R imaging lens is specifically designed to efficiently collect the energy from the LEDEngin LZ7 LED and provide a color-mixed adjustable-angle beam.

Typical applications are:

- Entertainment Lighting
- General Illumination
- Architectural Lighting



LZ7 is a trademark of LEDEngin. For technical specification on this LED please refer to the datasheet or visit:

http://www.ledengin.com/products/emitters

For ordering information, please contact:

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Inquiries: optics@fraen.com
Website: fraen.com

General Characteristics

Materials

Holder Material	PC
Operating Temperature range - PC	-40° C / + 120°C
Storage Temperature range - PC	-40° C / + 120°C
Optics Material	PMMA
Operating Temperature range - PMMA	-40° C / + 80° C
Storage Temperature range - PMMA	-40° C / + 80°C

Please note that small defects, flow lines, and weld lines on the surfaces of the lens are acceptable.

IMPORTANT NOTE – optic handling and cleaning:

- *Handling: Always handle the optics by the flange or holder. Do not touch the other surfaces of the optics with fingers; finger oils and contamination will absorb or refract light.*
- *Cleaning: Clean lenses only if necessary. Use only soap and water to clean the surfaces. CAUTION - Never expose the lens to alcohol or solvents as they could damage the plastic.*

Scope

This datasheet provides information about the Color-mixing Zoom Optical System with the LEDEngin LZ7-04MU00 LED.

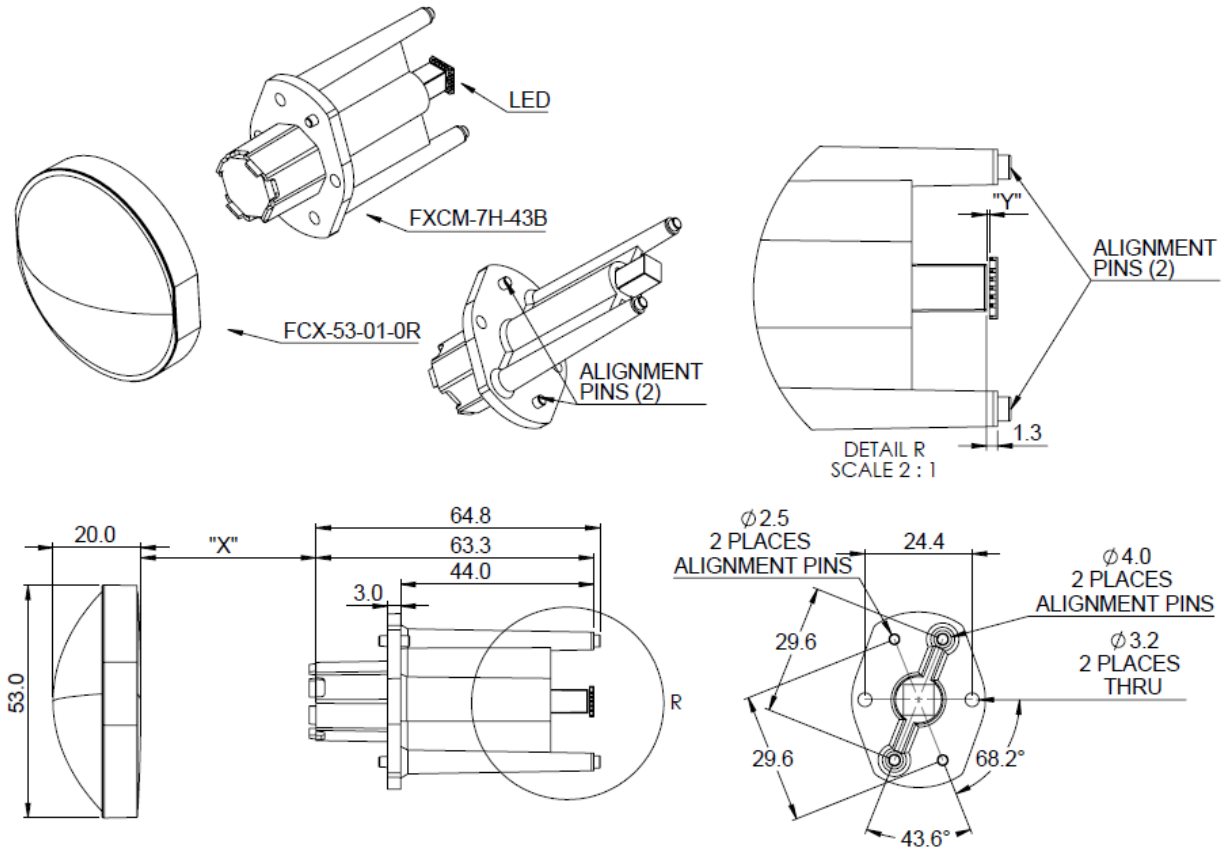
Optical Characteristics – On-axis Intensity[1], Beam Angle[2], Field Angle[3]

The measurements below were made using an LEDEngin LZ7 seven chip LED. The beam shape in the "narrow" position is an octagon. The beam and field angles were measured for the largest possible profile, i.e., the corners of the octagon. For multi-LED lamps, incrementally-rotating the LEDs will provide a rounder beam with further color-mixing.

Beam Shape	On-axis Intensity (peak)	Beam Angle (FWHM)	Field Angle (FW10%)
Wide	0.7 cd/lm	54°	79°
Narrow	16 cd/lm	8.0°	8.8°

1. To calculate the on-axis intensity in candelas (cd), multiply the on-axis candela per lumen value, above, of the lens (cd/lm) by the total luminous flux in lumens (lm) of the LED used. Luminous intensity depends on the flux binning and tolerance of the LEDs. Please refer to the LED datasheet for more details on flux binning.
2. Beam angle is the full angle where the beam intensity is half the on-axis peak intensity
3. Field angle is the full angle where the beam intensity is 10% of the on-axis peak intensity.

Mechanical Characteristics



Dimensions are in millimeters.

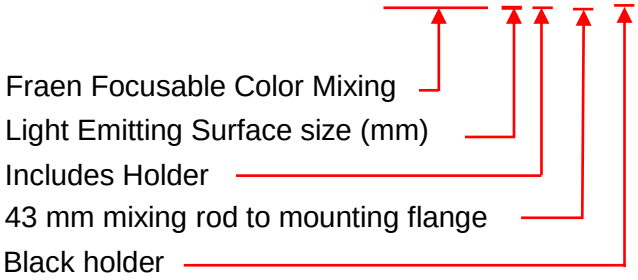
Changing the distance, “X”, changes the system zoom. For a narrow spot, the best distance is 46 mm. For a wide spot, the best distance is 1 mm.

For best performance, the distance (gap, “Y”) between the input surface of the clear mixing rod and the output surface of the LEDEngin LZ7 LED should be 0.3 +/- 0.1 millimeters.

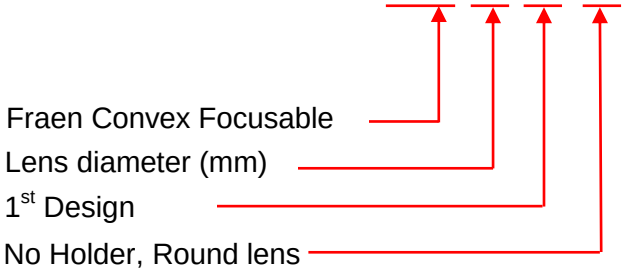
CAD models are available upon request. Contact Fraen by emailing optics@fraen.com or go to http://www.fraen.com/optics/contact-us/.

Ordering Part Numbers

FXCM-7H-43B (Rod + Holder Assembly)



FCX-53-01-0R (53 mm Lens)



The last two characters are ‘zero R’

For assistance, please contact Fraen http://www.fraen.com/optics/contact-us/.

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