



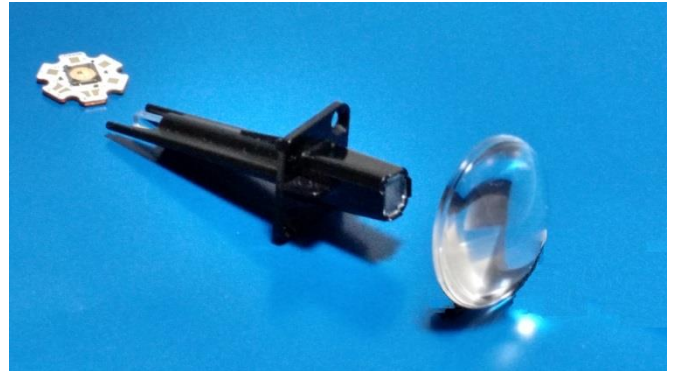
**FXCM-5D-47B + FCX-35-01-0R**  
**Zoom System for LEDEngin LZ4 LED**

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

The FXCM-5D-47B color-mixing rod + holder assembly with FCX-35-01-0R imaging lens is specifically designed to efficiently collect the energy from the LEDEngin LZ4 LED and provide a color-mixed adjustable-angle beam.

Typical applications are:

- Entertainment Lighting
- General Illumination
- Architectural Lighting



LZ4 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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## General Characteristics

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### 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 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

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This datasheet provides information about the Color-mixing Zoom Optical System with LEDEngin LZ4 LEDs.

## Optical Characteristics – On-axis Intensity<sup>1</sup>, Beam Angle<sup>2</sup>, Field Angle<sup>3</sup>

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The measurements below were made using an LEDEngin LZ4 four chip LED.

Beam Shape	On-axis Intensity (peak)	Beam Angle (FWHM)	Field Angle (FW10%)
Wide	1.1 cd/lm	47°	59°
Narrow	22 cd/lm	7°	9°

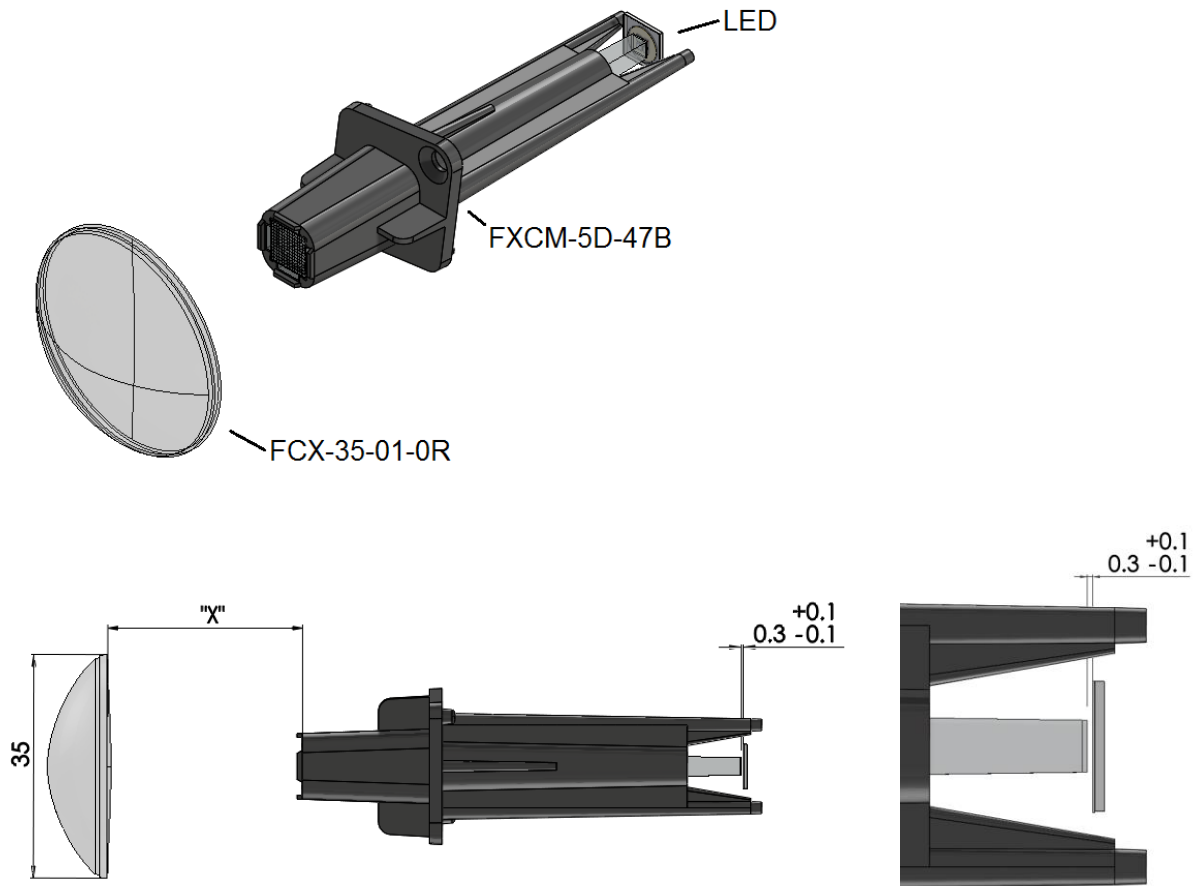
1. To calculate the on-axis intensity in candelas (cd), multiply the on-axis candela per lumen value, above, of the lens (cd/lm) by the total luminous flux in lumens (lm) of the LED used. Luminous intensity depends on the flux binning and tolerance of the LEDs. Please refer to the LED datasheet for more 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.

NOTE: The beam shape in the “Narrow” position is square. For multi-LED lamps, incrementally-rotating the LEDs will provide a rounder beam with further color-mixing.



## Mechanical Characteristics

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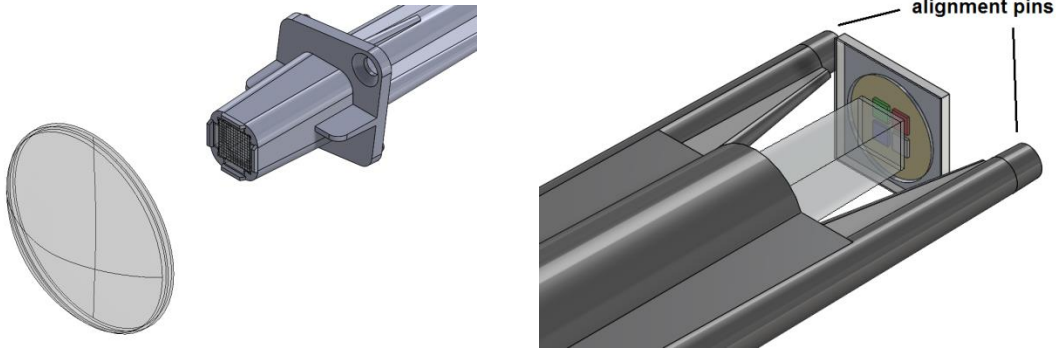


Dimensions are in millimeters.

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

**Wide Position: X = 1 mm**

**Narrow Position: X = 30 mm**



## Ordering Part Numbers

### FXCM-5D-47B (Rod + Holder Assembly)

Fraen Focusable Color Mixing  
 Light Emitting Surface Size  
 (mm), Shape (square)  
 Flange to Rod Distance (mm), Black Holder

### FCX-35-01-0R (35 mm Lens)

Fraen Convex Focusable  
 Lens diameter (mm)  
 1<sup>st</sup> Design  
 No Holder, Round lens

The last two characters are 'zero R'

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