

LED Fiber Optic Illuminator



Description

The LED Fiber Optic Illuminator (FOI), Model OTFI-0100, by Excelitas couples high intensity white light from multiple LED's into fiber optic light guides ranging from 3 mm to 10 mm diameter. It achieves 650 lumens through an 8 mm diameter fiber and 470 lumens through a 5 mm diameter fiber.¹

Excelitas' FOI exceeds the light output of a 150-watt halogen lamp and provides an energy efficient, maintenance free alternative to halogen and metal-halide fiber optic illuminators. The benefits of model OTFI-0100 include:

- Low energy consumption of only 53 watts typical at full intensity.
 - 65% more energy-efficient than 150-watt halogen illuminator technology.
- Long lifetime of 25,000 hours.
 - 125 times longer lifetime than a typical EKE 150-watt halogen lamp.

Designed for microscopy, vision inspection systems, industrial borescopes and machine vision applications, the Illuminator, provides a consistent color temperature over time and when the light is dimmed, resulting in a more consistent visual appearance.

OEM configurations and custom solutions are also available. Please contact Excelitas for further details.

Key Features and Benefits

- Exceeds the brightness levels of 150-watt halogen-based fiber illuminator technology
- Approximately 3 times more energy efficient than halogen-lamp based technology
- Does not emit light in UV or IR
- Fiber compatibility - accepts fiber light guides with active areas ranging from 3 mm to 10 mm diameter.
- Integrated handle design of housing permits benchtop stacking
- Linear intensity control from <10-100%
- Small footprint
- RoHS-compliant, UL and CE-approved

Applications

- Microscopy
- Industrial Borescopes
- Inspection Systems
- Machine Vision

Optical Specifications

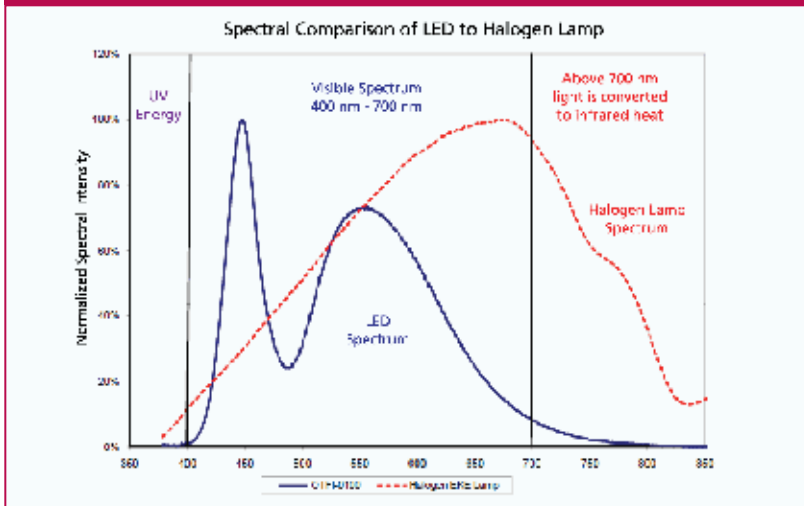
Parameter	Units	Min.	Typical	Max.
Flux from 5 mm fiber light guide ¹	lumens	350	470	-
Flux from 8 mm fiber light guide ¹	lumens	484	650	-
CCT (correlated color temperature)	°Kelvin	5,000	5,300	6,000
Dimming, manual intensity control rotary switch front panel	%	<10	15 settings	100
Fiber compatibility ^{2,3}	mm inches	3 mm (0.118")	5 mm (0.197")	10 mm (0.394")

¹ Luminous flux output measured from 5 mm glass fiber-optic flexible light guide with a 0.6 NA. Light output from other fibers may vary depending on fiber characteristics. Measured using calibrated Instrument Systems CAS140CT spectrometer.

² Designed for fiber optics with light acceptance areas of 3 mm – 18 mm diameter. Fibers with an active area of greater than 10 mm may require a custom adapter*. Excelitas offers adapters which can be modified to mechanically accept fibers with ferrule outer dimensions of up to 20 mm.³ *Please contact Excelitas for more details.

³ Fiber adapters sold separately. Please consult Excelitas' accessory list for available fiber adapters.

Spectral Characteristics



Environmental Specifications

Parameter	Min.	Typical	Max.	Units
Operating temperature	0	20	+40	°C
Storage temperature	-20	25	+65	°C
Cooling method	Forced air cooling. Intake vents: sides, exhaust vents: rear			

Electronics driver board includes integrated thermal cut off to prevent overheating.

Lumen maintenance values calculated at 70% light intensity at 25,000 hours.

Product specifications are subject to change without notice. Limited warranty for 12 months from date of manufacture.

US and International patents pending for optics and fiber light guide mechanical coupler.

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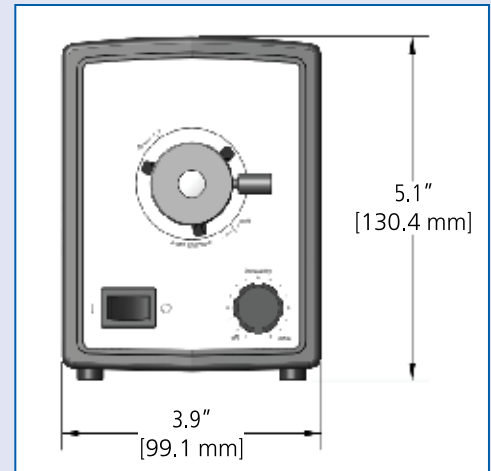


Figure 1. Fiber Optic Illuminator Front View

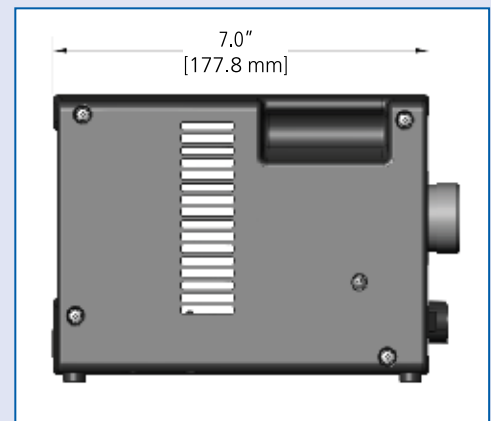


Figure 2. Fiber Optic Illuminator Side View

Unit weight with power supply and cord: 3.1Kg (6.8 lb.)

Do not block vents.

Electrical Specifications

Parameter	Rating
External universal power supply accepts input voltage range	90-260 VAC, 50/60 Hz
Power consumption	53W typical
LED Drive	current regulated DC

Power cord sold separately. Please consult Excelitas' accessory list for available power cords.

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