Focusable LED Spot Projectors

FOCUSABLE LED PROJECTORS FOR INDUSTRIAL & BIOMEDICAL APPLICATIONS

FEATURES

- High-intensity, uniform lighting
- Long lifetime
- Focusing knob located on the body of the projector
- Simplified mounting
- White, red, amber, green, and blue

APPLICATIONS

- Machine vision
- Microscopy
- Biomedical

StockerYale Focusable LED Spot Projectors are high-intensity LED spotlights that are designed to replace conventional halogen point-sources as well as fiber optic illumination solutions. Compact and lightweight in design, these illuminators have been designed to provide a range of spot diameter possibilities at various working distances. By adjusting the focusing knob located on the body of the module, the user can vary the distance between the LED source and the optics, thus changing the system's focal distance and the projected spot diameter.

The high-luminosity LED spot projectors are well suited for both industrial and scientific applications where high-output area illumination is required. They offer long lifetimes and low power consumption when compared to traditional light sources.

The illuminators are available in a wide range of wavelengths including red, blue, green, amber, and broadband white. These products offer the high-intensity illumination required in many machine vision, microscopy, and biomedical applications.

Custom-engineered LED solutions are also available to meet specific mechanical or optical requirements.

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Spectral Characteristics

Color	Blue	Green	Amber	Red	White
[1]Peak wavelength (nm) / color temp.	455 ± 10	530 ± 15	590 ± 10	630 ± 10	5500 K
Spectral width FWHM (nm)	40	40	40	40	NA

Illumination Characteristics

Typical working distance range (mm)	0-50	0-50	0-50	0-50	0-50
[2]Focal distance range (mm)	15-30	15-30	15-30	15-30	15-30
Minimum diameter of projected spot (mm)	1.3	1.3	1.8	1.8	1.3
[3]Maximum irradiance (kW/m^2)	50	10	5	15	NA
[3]Maximum illuminance (Mlux)	1.7	5.9	2.5	2.7	9.2

Electrical characteristics & lifetime

Input voltage (V)	5-32	5-32	5-32	5-32	5-32
Output current (mA)	700	700	700	700	700
Lifetime (hours)	50,000	50,000	50,000	50,000	50,000

[1]Other wavelengths available, including UV and IR.

[2]Focal distance: the distance at which the diameter of the projected spot is the smallest. Adjustable by turning the focusing knob on the module.

[3]Irradiance and illuminance have been calculated by dividing the total measured power by the spot area (FWHM).

Available options

- Fan to drive LEDs at a higher current, thereby obtaining a higher optical output.
- Potentiometer on back of the module to manually adjust the optical output from 0 mA (min) to 700 mA (max).
- 0-5 V analog control to remotely adjust the optical output from 0 mA (min) to 700 mA (max).
- 3 mm mono jack connector instead of flying leads (flying leads are standard on all modules).

Illumination Characteristics

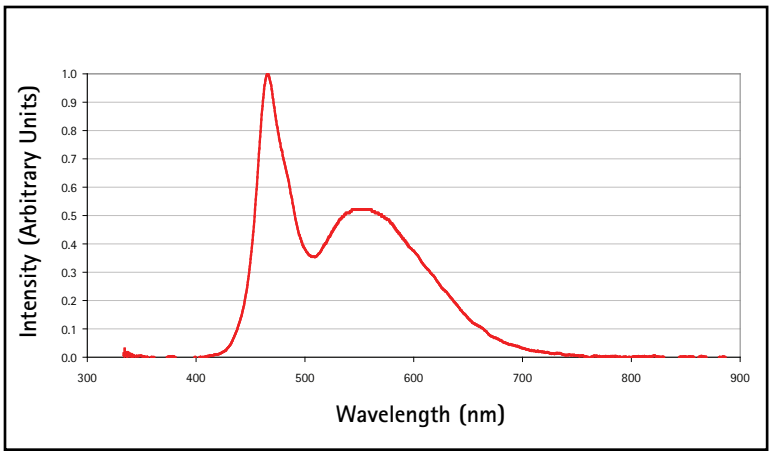


Figure 1 - Typical spectral distribution of a white LED projector.

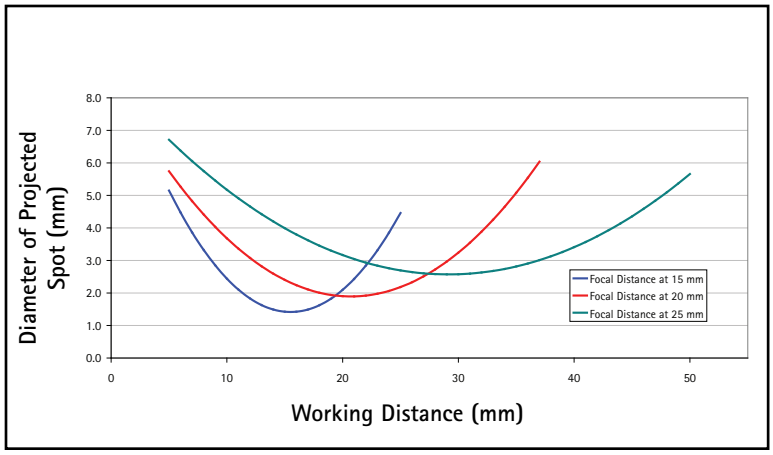


Figure 2 - Diameter of the projected spot (FWHM) vs. working distance for a white LED projector at three different focusing knob positions. The focusing knob, located on the body of the module, is used to adjust the focal distance.

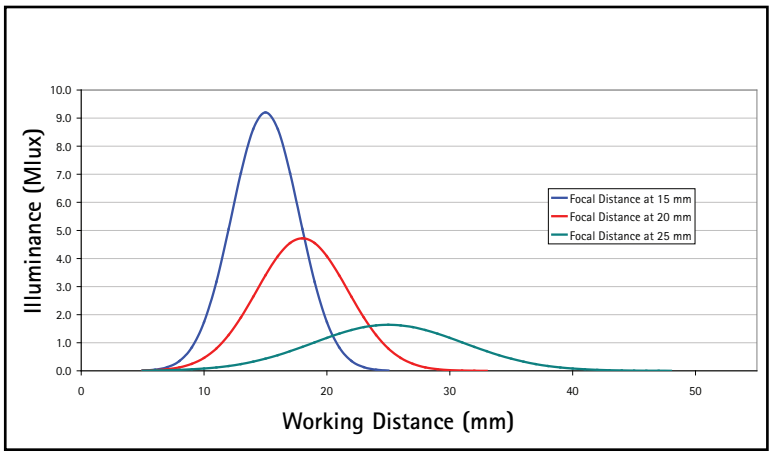


Figure 3 - Illuminance vs. working distance for a white LED projector for three different focusing knob positions.

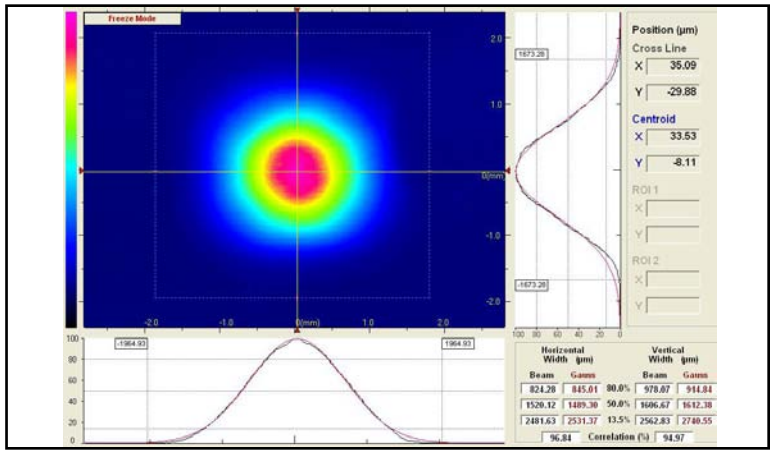


Figure 4 - Intensity profile of a projected spot measured at a working distance of 20 mm with the module adjusted to a focal distance of 15 mm.

Product Part Numbers

Product Code	Focusable Model	Standard Spot/Projector	Wavelength (nm)	–	Driver Configuration	Flying Leads or Connector	Cable Length (in cm)
LP	F	P	455 530 590 630 000 (white)		V, M, or A	F or C	40 (standard)

Example: LPFP630-VF40. Refer to website for complete part number matrix.
Please contact us for other wavelengths. Power supplies and other accessories sold separately.

Flying Leads / Connectors

- Flying leads (standard)
- Connector type: 3 mm mono jack connector

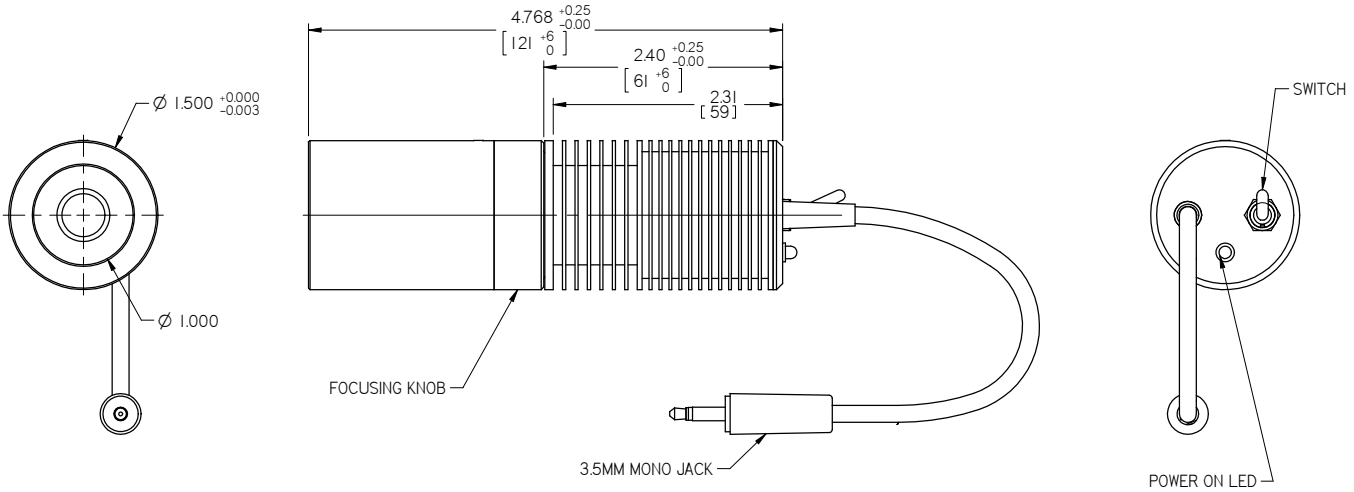
Driver Configuration

- V - Voltage driven; Fixed intensity
- M - Intensity control option; 0-5 V analog
- A - Intensity control option; 0-5 V analog

Power Supply

- Accepts 5-32 VDC. Consult factory for power supply accessories.

Dimensional Diagrams



in. [mm]

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