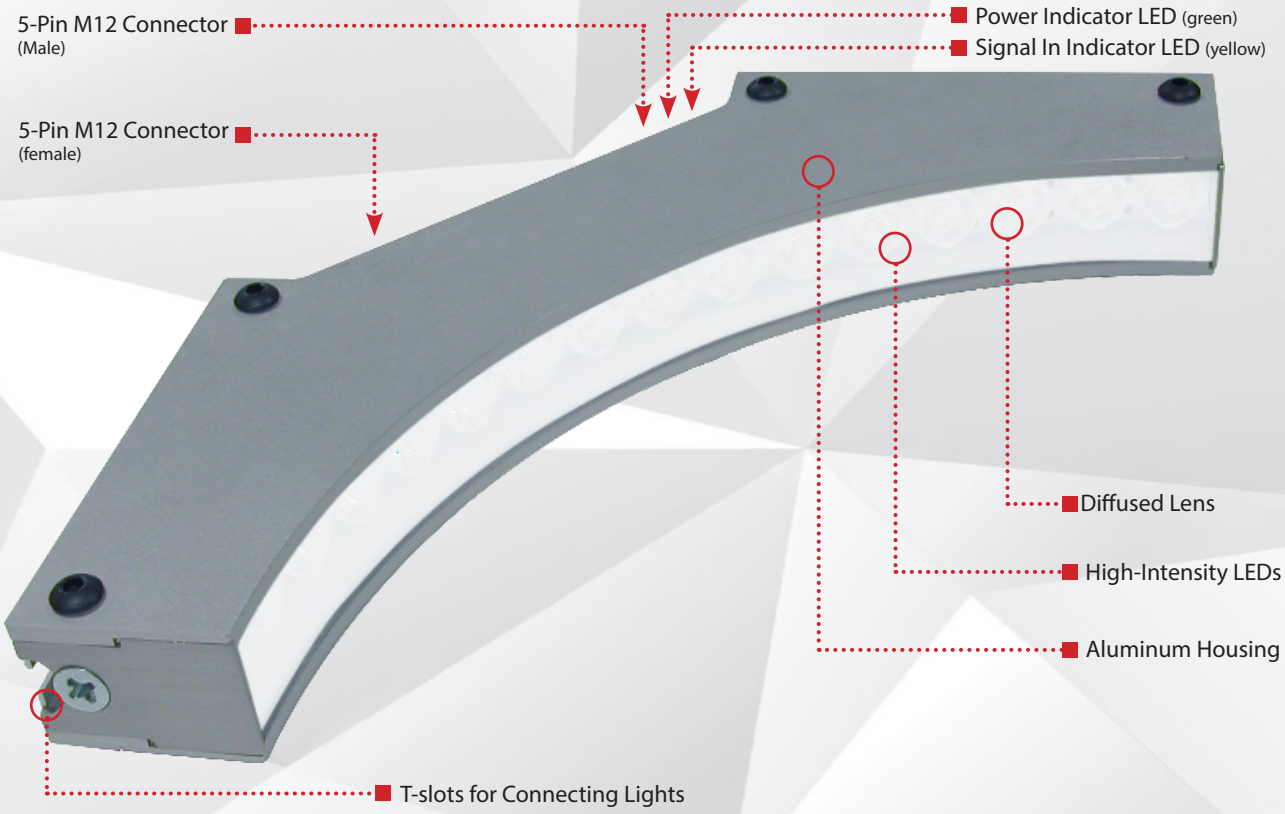
smart vision lights

DFLB-460 *Connect-a-Light*

LINEAR LIGHT

DARK FIELD

PRODUCT DATA SHEET



Warranty	Compliant	Compliant	Rated	Connector
10 YEAR	IEC 62471	CE RoHS	IP 50	5-PIN M12

PRODUCT HIGHLIGHTS

- ✓ Ability to "wrap" light around curved surfaces
- ✓ Built-in driver
- ✓ PNP and NPN trigger signal input
- ✓ T-slot for mounting and for daisy-chaining lights together
- ✓ Easily connect lights to get 180°, 270°, or 360° illumination coverage

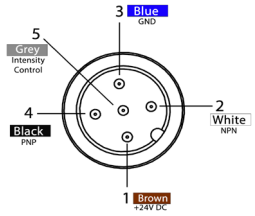
PRODUCT DESCRIPTION

The DFLB-460 Dark Field Linear Light provides a round 90˚ light illumination, allowing the light to "wrap" around a curved surface. Daisy-chain up to 4 lights together to cover an area up to 360˚. Use NPN or PNP trigger signal to control the light's pulse. Control intensity via a 1–10V analog signal line.

PRODUCT SPECIFICATIONS

Electrical Input	24VDC +/– 5%
Input Current	Max. 2A
Wattage	Max. 48 W
On/Off Input	PNP : +4VDC or greater to activate | NPN : GND (<1VDC) to activate
PNP Line	4 mA @ 4VDC | 10 mA @ 12VDC | 20 mA @ 24VDC
NPN Line	15 mA @ ground (0VDC)
Yellow Indicator LED	LED strobe indicator ON = light active
Green Indicator LED	ON = Power
Continuous Mode	NPN can be tied to ground **OR** PNP can be tied to 24VDC (not both)
Analog Intensity	Brightness output is adjustable from 10%–100% via a 1–10VDC signal. (Jumpering pin 5 to pin 1 will provide maximum intensity.)
Connection	5-pin M12 connector
Ambient Temperature	0º–40ºC (32º–114ºF)
IP Rating	IP50
Weight	~455 g
Compliances	CE, RoHS, IEC 62471
Warranty	10 year warranty. For complete warranty information, visit smartvisionlights.com/warranty.

WIRING CONFIGURATION



Pin layout for light (Male Connector)

Pins	Function	Signal	Wire Color
1	Power in	+24VDC	BROWN
2	NPN Strobe	GND for active ON	WHITE
3	Ground	GND	BLUE
4	PNP Strobe	+24VDC for active on	BROWN
5	Intensity Control	1-10VDC	GREY

OPTIONAL

For maximum intensity, connect pin 5 to pin 1 at +24VDC.

**Some cables use green/yellow for pin 5.*
For maximum intensity, tie pin 5 to pin 1 at +24VDC.
*For continuous mode, PNP (pin 4) can be tied to +24VDC (pin 1) **or** NPN (pin 2) can be tied to Ground (pin 3).*

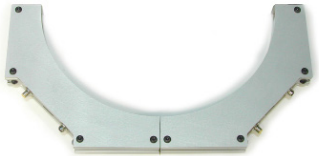
RESOURCE CORNER

Additional resources, including CAD files, videos, and application examples, are available on our website.

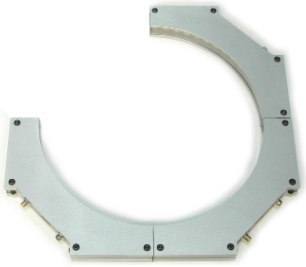
AREA ILLUMINATION

Connect up to four DFLB-460 linear lights together. When four lights are connected, the inside diameter is 460 mm.

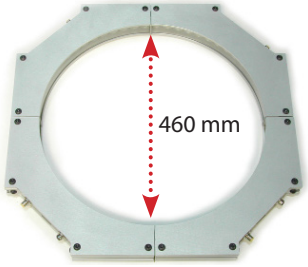
90°



180°



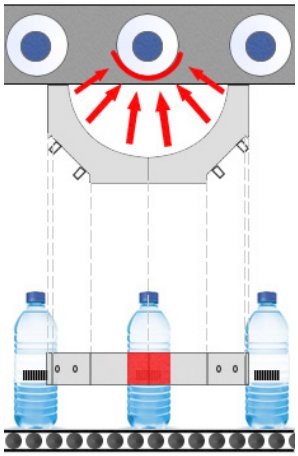
270°



360°

"WRAP" LIGHT

The DFLB-460 is able to "wrap" around an object. This feature allowing for a homogeneous light pattern to be outputted onto a curved surface.

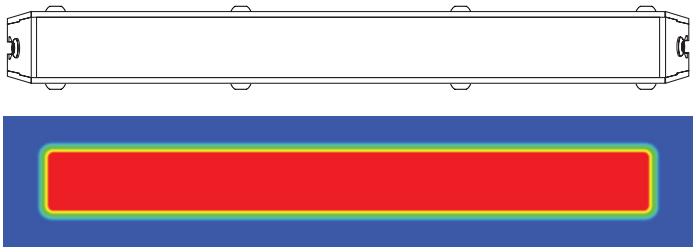


OPTICAL PERFORMANCE

The DFLB-460 offers a very diffuse light pattern.

OPICTAL PERFORMANCE FOR THE DFLB-460

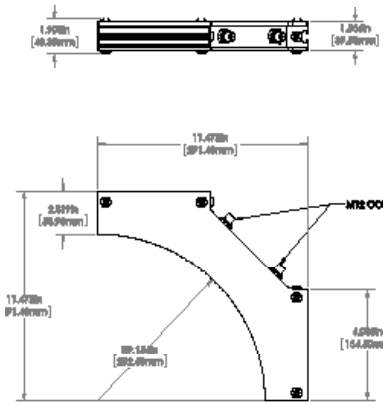
Rating	Illumination (Lux)
Average Intensity Rating	42,000
Lux measurement taken at surface of DFLB-460	



PRODUCT DRAWING

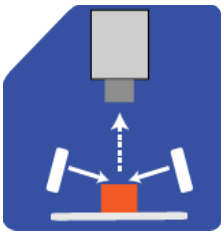
CAD files available on our website

Dim



ILLUMINATION

DFLB-460 Series of Linear Lights works best for:



Dark Field

EYE SAFETY

According to IEC-62471:2006. Full documentation available upon request.

Notice

Exempt Group: No photobiological hazard to eyes or skin even for continuous, unrestricted use. Applicable for wavelengths 625, 850, and 940.

Caution

Risk Group 1: Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to eyes. Safe for most applications except prolonged exposure. Applicable for wavelengths 470, 505, 530, and WHI.

PART NUMBER

DFLB-460 – □□□ – □

COLOR:

WHI | 470 | 505 | 530 | 625 | 850 940

LENS:

Leave blank for Standard (Line)

W = Wide

N = Narrow

Part Number Examples:

DFLB-460-625 DFLB-460, 625 nm Red Wavelength, Standard (Line) Lens

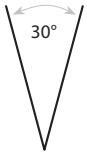
DFLB-460-WHI-N DFLB-460, White, Narrow Lens

Line lens optic not available for UV wavelengths.
Additional wavelengths and lens options available upon request.

STANDARD LENS OPTICS

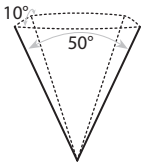
NARROW
Narrow, 14° angle-cone lenses are standard. Standard lenses project a narrow beam of illumination and are used for long working distances.

WIDE
Wide, 30° angle-cone lenses project a large area of illumination. They create a floodlight effect and can be used for short working distances.



LINE
Line lenses are standard.
Line, with a 10° width and a 50° fan angle, projects a thin, narrow beam of illumination.

Additional lens options available upon request.



MOUNTING

Smart Vision Lights recommends using a 5/16" drop-in T-nut with the T-slot for mounting.

ACCESSORIES

Jumper Cables (Daisy Chain)

Lengths	Part Number
300 mm	5PM12-J300
1000 mm	5PM12-J1000
2000 mm	5PM12-J2000

Power Cables

Lengths	Part Number
5 m	5PM12-5
10 m	5PM12-10
15 m	5PM12-15

Connector (Only for Direct Connect)

Description	Part Number
Set of 2 Connectors	LXJ-2DTN

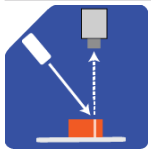
GLOSSARY

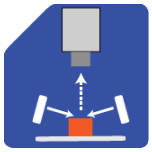
This glossary covers all Smart Vision Lights product families; some content in this section may not apply to this specific light.

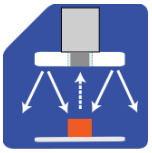
TERMINOLOGY

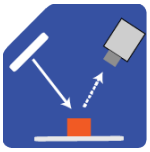
OverDrive™ Light includes an integrated high-current strobe driver for complete LED light control.
Continuous Operation Light stays on continuously.
Multi-Drive™ Combines continuous operation and OverDrive™ strobe (high-current strobe operation) modes into one easy-to-use light.
Built-In Driver The built-in driver allows full function without the need of an external driver.
Camera to Light Connecting the light directly to the camera, without the need for additional controllers or equipment.
Polarizers Filters that reduce reflections on specular surfaces.
Diffuser Used to widen the angle of light emission, reduce reflections, and increase uniformity.

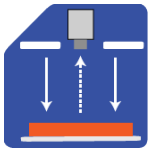
TYPES OF ILLUMINATIONS

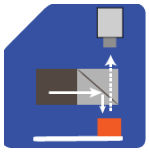

Projector

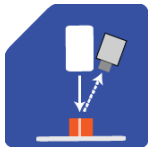

Dark Field

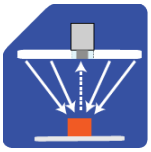

Radial

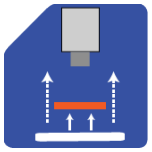

Bright Field


Direct


Axial

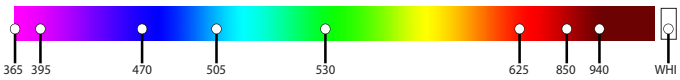

Line


Diffuse Panel


Backlight

COLOR/WAVELENGTHS LEGEND

Wavelength options range from 365 nm to 1550 nm.
Additional wavelengths available for many light families.



*See Part Number section for **this light's** available standard wavelengths.*

SWIR SHORTWAVE INFRARED

Shortwave infrared LEDs are available in 1050 nm, 1200 nm, 1300 nm, 1450 nm, and 1550 nm.
*Check Part Number section to see if **this light** is available in SWIR wavelengths.*