



smart vision lights

# LB300

# Connect-a-Light LINEAR LIGHT BACKLIGHT

## P R O D U C T D A T A S H E E T



Warranty <b>10</b> YEAR	Compliant <b>IEC</b> 62471	Compliant <b>CE</b> RoHS	Rated <b>IP</b> <b>50</b>	Connector <b>5-PIN</b> <b>M12</b>
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## PRODUCT HIGHLIGHTS

- ✓ 5-pin M12 quick connect
- ✓ Built-in driver, no external wiring needed
- ✓ PNP and NPN trigger input signal
- ✓ Daisy-chain up to six LB300 linear lights using a standard 5-pin M12 jumper cable
- ✓ Backlight lens (2447 diffuser) is factory installed





## PRODUCT DESCRIPTION

The LB300 array utilizes 12 high-intensity LEDs, features an integrated constant-current driver built into the light and operates in continuous operation. The LB300 features a factory installed 2447 diffuser backlight lens and is a viable option for silhouetting objects. NPN or PNP trigger signals can be used to control the on/off input of the light. Intensity of the light can be controlled via 1–10VDC analog signal line or manual potentiometer. Daisy-chain up to six LB300 lights together.

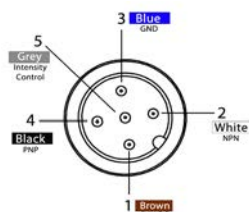


## PRODUCT SPECIFICATIONS

Electrical Input	24VDC +/- 5%
Input Current	Max. 700 mA
Wattage	Max. 17 W
Strobe 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 <b>OR</b> PNP can be tied to 24VDC (not both)
Potentiometer	270° turn pot — Intensity control of 10% –100%. Turn clockwise to increase intensity
Analog Intensity	The output is adjustable from 10%–100% of brightness by a 1–10VDC signal. (Jumpering pin 5 to pin 1 will provide maximum intensity.)
Connection	5-pin M12 connector
Ambient Temperature	-18°–40°C (0°–104°F)
IP Rating	IP50
Weight	~370 g
Compliances	CE, RoHS, IEC 62471
Warranty	10 years. For complete warranty information, visit <a href="http://smartvisionlights.com/warranty">smartvisionlights.com/warranty</a> .



## WIRING CONFIGURATION



Pin layout for light (Male Connector)

Pins	Function	Signal	Wire Color
1	Power In	+24VDC	BROWN
2	NPN	Sinking Signal	WHITE
3	GND	Ground	BLUE
4	PNP	Sourcing Signal	BLACK
5	Intensity Control	1–10VDC	GREY*

\*Some cables use green/yellow for pin 5

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

For continuous mode: Tie PNP (pin 4) can be tied to +24VDC (pin 1) or tie NPN (pin 2) can be tied to Ground (pin 3).

### OPTIONAL

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



## RESOURCE CORNER

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



## PART NUMBER

LB300 –

COLOR:



*Additional wavelengths available upon request.*

### Part Number Example:

LB300-625 LB300, 625 nm Red Wavelength



This light is available in our SWIR LEDs

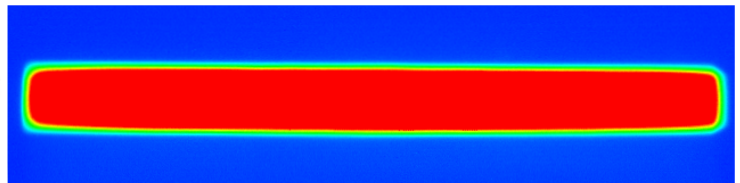


## OPTICAL PERFORMANCE

The LB300 offers a diffuse light pattern.

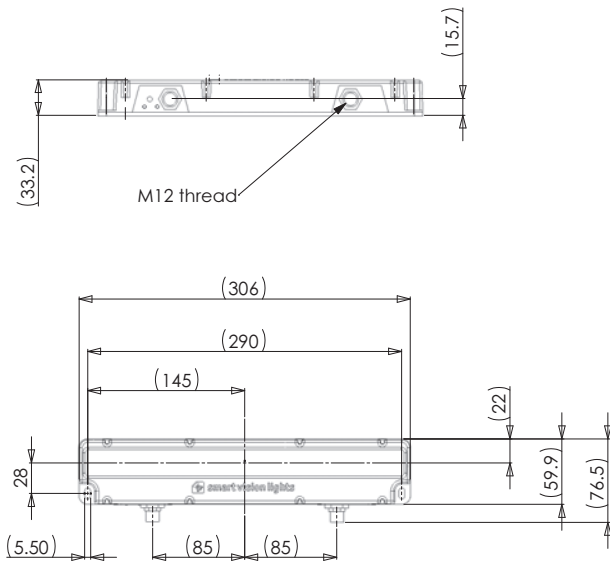
### OPTICAL PERFORMANCE FOR THE LB300

Rating	Illuminance (Lux)
Average Intensity Rating	42,000
<i>Illuminance measurement taken at surface of LB300</i>	



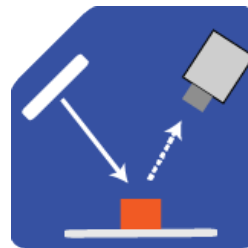
## PRODUCT DRAWING

CAD files available on our website.  
Dimensions are in mm.

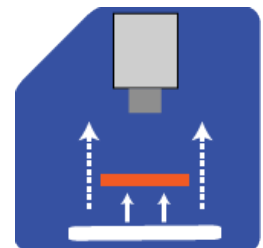


## ILLUMINATION

LB300 Series of Linear Lights works best for:



Bright Field



Backlight

## 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, 940, 1050, 1200, 1300, 1450, and 1550.

### 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.



## ACCESSORIES

### Power Cables



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

### Jumper Cables (Daisy-Chain)



Length	Part Number
300 mm	5PM12-J300
1000 mm	5PM12-J1000

### Mount



Description	Part Number
3-Axis Pan and Tilt Mount	PB300-M5

### Mounting Rails



Length	Part Number
300 mm	LEXT300
600 mm	LEXT600
900 mm	LEXT900
1200 mm	LEXT1200
Custom sizes available	

### Variable Control Pot



Description	Part Number
Controls the intensity of the light	IVP-C1

### Power Adapters \*



Description	Part Number
AC, 24 V, 1.7 A	T1 Power Supply
24VDC, 9 A / AC	T2 Power Supply

\* European Versions Available (Add "-EURO" to end of T1. Example T1-EURO Power Supply)



## GLOSSARY

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

### TERMINOLOGY

**OverDrive™** Lights include an integrated high-pulse driver for complete LED light control.

**Continuous Operation** Lights stay on continuously.

**Multi-Drive™** Combines continuous operation and OverDrive™ strobe (high-pulse operation) mode into one easy-to-use light.

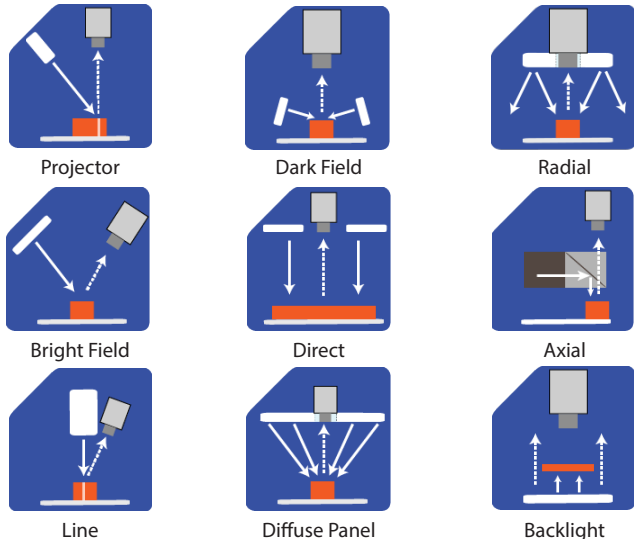
**Built-In Driver** The built-in driver allows full function without the need for an external controller.

**Camera to Light** Connect the light directly to the camera, without the need for additional controllers or equipment.

**Polarizers** Filters that reduce reflections on specular surfaces.

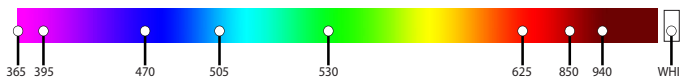
**Diffuser** Used to widen the angle of light emission, reduce reflections, and increase uniformity.

### TYPES OF ILLUMINATIONS



### COMMON 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.



Shortwave infrared LEDs are available in 1050 nm, 1200 nm, 1300 nm, 1450 nm, and 1550 nm.