smart vision lights

LC300 LINEAR LIGHT
GREY SERIES

PRODUCT DATA SHEET

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

PRODUCT HIGHLIGHTS

- ✓ 5-pin M12 quick connect
- ✓ Built-in driver, no external wiring to driver needed
- ✓ PNP and NPN trigger input signal

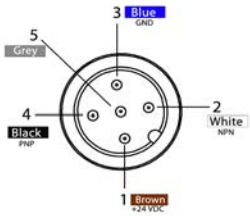
PRODUCT DESCRIPTION

The LC300 features 12 high-bright LEDs, operates in continuous mode, and includes a built-in driver. The LC300 is a low cost linear light. NPN or PNP trigger signals can be used to control the on/off input of the light.

PRODUCT SPECIFICATIONS

Electrical Input	24VDC +/- 5%
Input Current	Max. 700 mA
Wattage	Max. 17 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)
Ambient Temperature	-18º–40º C (0º–104º F)
IP Rating	IP50
Weight	~370g
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	Sinking Signal	WHITE
3	GND	Ground	BLUE
4	PNP	Sourcing Signal	BLACK
5	NOT USED	NOT USED	NOT USED

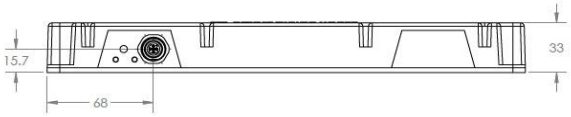
** Some cables use green/yellow for pin 5*
*For continuous mode: Tie PNP (pin 4) to +24VDC (pin 1) **or** tie NPN (pin 2) to ground (pin 3).*

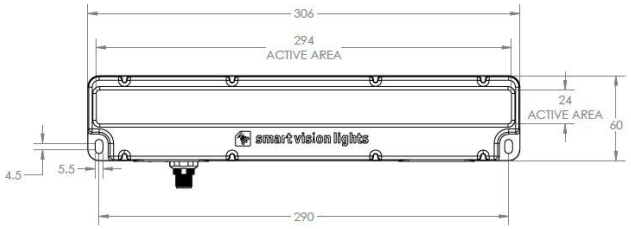
MAXIMUM INTENSITY

Light is set to maximum intensity.
It is not adjustable.

PRODUCT DRAWING

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





RESOURCE CORNER

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

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techsupport@smartvisionlights.com
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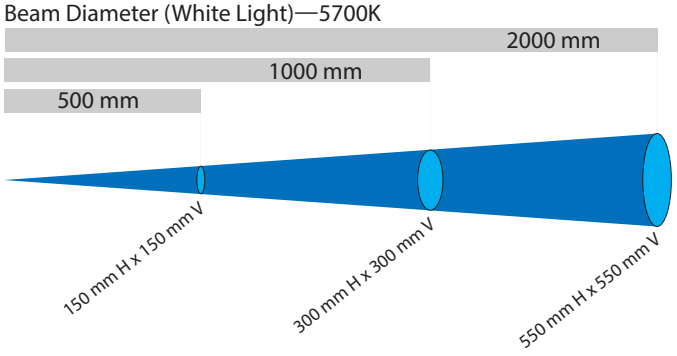
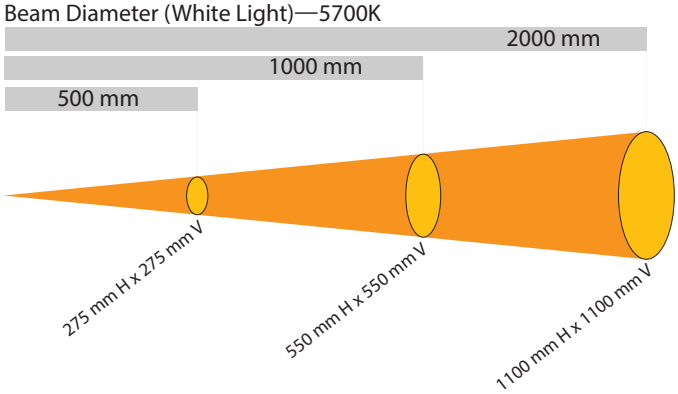
LIGHT PATTERNS

Smart Vision Lights recommends the LC300 be used at a working distance between 300 mm and 4000 mm.

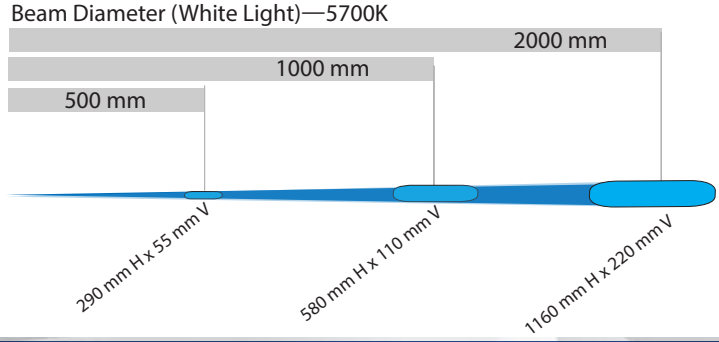
Beam Diameter (White Light)—5700K



Beam Diameter (White Light)—5700K



Beam Diameter (White Light)—5700K



LIGHTING PATTERN FOR THE LC300 **with Narrow (Standard) Lenses**

Working Distance mm (inches)	Pattern (80%–100% measured intensity) mm (inches)
500 mm (19.7")	150 mm (~5.9") H x 150 mm (~5.9") V
1000 mm (39.4")	300 mm (~11.8") H x 300 mm (~11.8") V
2000 mm (78.8")	550 mm (~21.6") H x 550 mm (~21.6") V

Typical Output Performance	Illuminance (Lux)
Distance = 500 mm	11,000
Illuminance measurement taken on White Lights—5700 K	

LIGHTING PATTERN FOR THE LC300 **with Wide (W) Lenses**

Working Distance mm (inches)	Pattern (80%–100% measured intensity) mm (inches)
500 mm (19.7")	275 mm (~10.8") H x 275 mm (~10.8") V
1000 mm (39.4")	550 mm (~21.6") H x 550 mm (~21.6") V
2000 mm (78.8")	1100 mm (~43") H x 1100 mm (~43") V

Typical Output Performance	Illuminance (Lux)
Distance = 500 mm	8000
Illuminance measurement taken on White Lights—5700K	

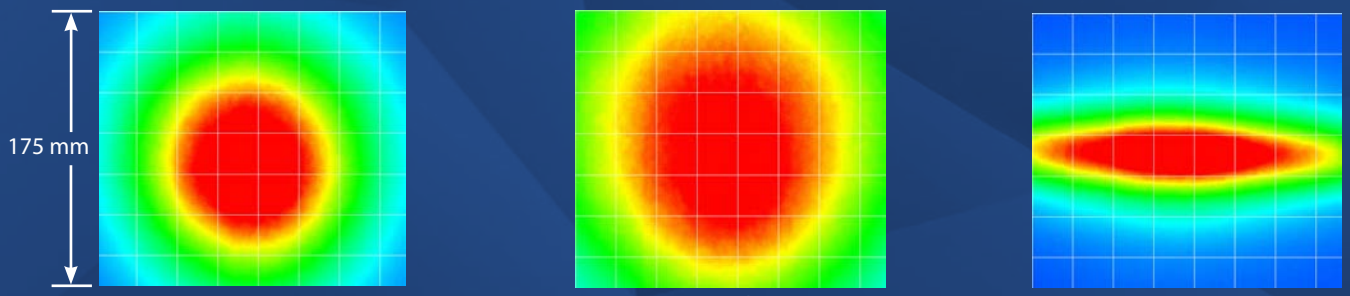
LIGHTING PATTERN FOR THE LC300 **with Line (L) Lenses**

Working Distance mm (inches)	Pattern (80%–100% measured intensity) mm (inches)
500 mm (19.7")	290 mm (~12.2") H x 55 mm (~2.1") V
1000 mm (39.4")	580 mm (~24.4") H x 110 mm (~4.3") V
2000 mm (78.8")	1160 mm (~48.8") H x 220 mm (~8.6") V

Typical Output Performance	Illuminance (Lux)
Distance = 500 mm	19,000
Illuminance measurement taken on White Lights—5700K	

The LC300 Linear Light produces a uniform light pattern.

Working Distance = 500 mm Grid set to 25 mm x 25 mm



PART NUMBER

LC300 – □□□ – □

COLOR:

LENS:

Leave blank for Standard (Narrow)

W = Wide

L = Line

Part Number Examples:

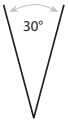
LC300-625 (LC300, 625 Red Wavelength, Standard [Narrow Lens])

LC300-WHI-L (LC300, White, Line Lens)

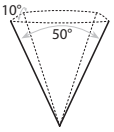
LENS OPTICS

NARROW (Standard)
Narrow, 16° angle-cone lenses are standard. Standard lenses create a narrow beam of illumination and are used for long working distances.

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

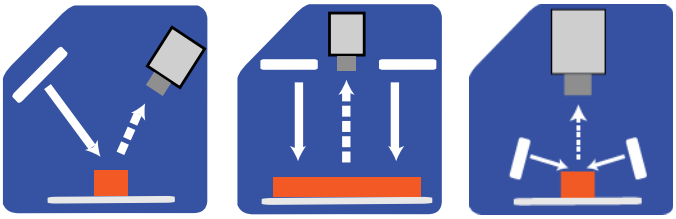


LINE
Line, with a 10° width and a 50° fan angle, projects a thin, narrow beam of illumination.



ILLUMINATION

LC300 Series of Linear Lights works best for:



Bright Field | Direct Lighting | Dark Field

When To Use a Linear Polarizer

Polarizing filters can reduce reflections on specular (dielectric or nonmetal) surfaces.

A Linear Polarizer has a typical transmission of 38 percent while blocking 62 percent of the light not in the polarization plane.

WARNING: Running a light in continuous operation while using a standard polarizer with certain wavelengths (e.g. white, blue) may burn the polarizer.

EYE SAFETY

SMART VISION LIGHTS IEC 62471 COMPLIANT

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.

ACCESSORIES

Power Cables

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

Mount

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

Mounting Rails

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

Power Adapters *

Description	Part Number
AC, 24 V, 1.7 A	T1 Power Supply

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

Diffuser

Description	Part Number
Diffuser Kit	LC300-DKIT

Linear Polarizer

Description	Part Number
Linear Polarizer Kit	LC300-LP

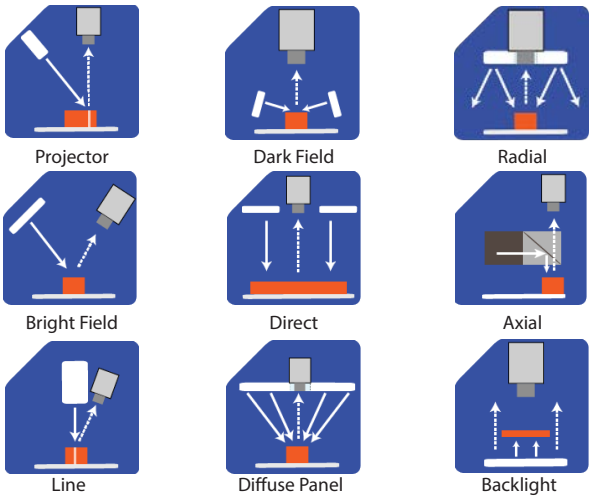
GLOSSARY

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

TERMINOLOGY

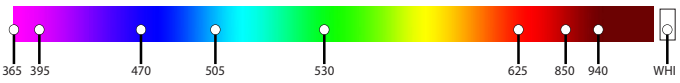
OverDrive™ Lights include an integrated high-pulse driver for complete LED light control.
Continuous Operation Lights stay on continuously.
Multi-Drive™ Combines continuous operation and OverDrive™ strobe (high-pulse operation) mode into one easy-to-use light.
Built-In Driver The built-in driver allows 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



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.