

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



Warranty
10
YEAR

Compliant
IEC
62471

Compliant
CE
RoHS

Rated
IP
50

Connector
5-PIN
M12

PRODUCT HIGHLIGHTS

- ✓ Built-in driver, no external wiring needed
- ✓ PNP and NPN strobe input
- ✓ T-Slot for mounting and connecting together
- ✓ Direct connect up to 6 units



PRODUCT DESCRIPTION

The modular design of the LX300 linear light, part of the Direct Connect Linear Light Series, offers integrated light-to-light connectors, eliminating the need for cable connectors to string lights together. The light operates in continuous operation. This innovative design requires power connection to the first light but eliminates the need for jumper cables to pass power through to the next, enabling tailored-length solutions in increments of 300 mm. Direct connect up to six LX300 together. Compatible with the LX150.

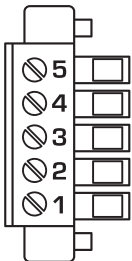


PRODUCT SPECIFICATIONS

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)
Potentiometer	270° turn pot – Intensity control of 10% to 100%. Turn clockwise to increases intensity
Analog Intensity	The output is adjustable from 10–100% of brightness by a 1–10VDC signal. (Jumpering pin 3 to pin 1 will provide maximum intensity)
Connection	5-pin M12 connector
Ambient Temperature	-18°–40° C (0°–104° F)
IP Rating	IP50
Weight	~540g
Compliances	CE, RoHS, IEC 62471



WIRING CONFIGURATION



Pins	Function	Signal	Wire Color
5	GND	Ground	BLUE
4	PNP	4VDC to 30VDC for active on	BLACK
3	Intensity Control	1-10VDC	GREY*
2	NPN Strobe	GND for active ON	WHITE
1	Power	+24VDC	BROWN

For maximum intensity, it is possible to tie pin 3 to pin 1 at +24VDC.

*For continuous mode: PNP (pin 4) can be tied to +24 V DC (pin 1) **or** NPN (pin 2) can be tied to Ground (pin 5).*

OPTIONAL

For maximum intensity, analog intensity may be connected to +VDC (24VDC) - Jumper pin 3 to pin 1

Pin layout for light (Male Connector)



RESOURCE CORNER

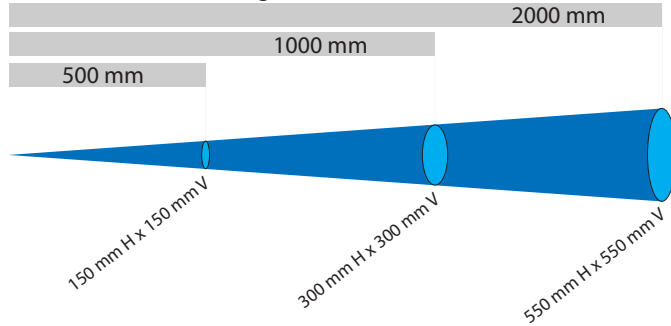
Additional resources are available on our website, including CAD files, videos, and application examples.



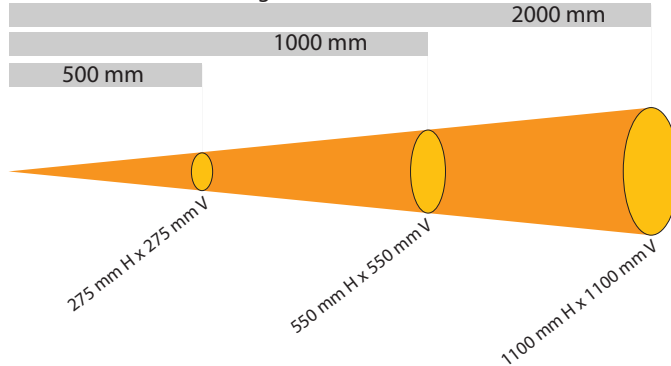
LIGHT PATTERNS

Smart Vision Lights recommends the LX300 be used at a working distance between 300 mm to 4000 mm.

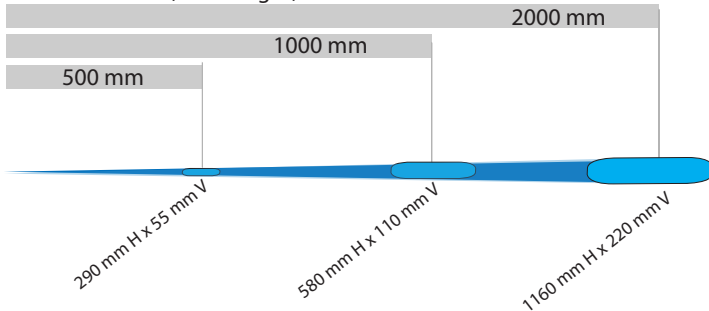
Beam Diameter (White Light) – 6500 K



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LIGHTING PATTERN FOR THE LX300 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
<i>Illumination measurement taken on White Lights - 6500K</i>	

LIGHTING PATTERN FOR THE LX300 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	8,000
<i>Illumination measurement taken on White Lights - 6500K</i>	

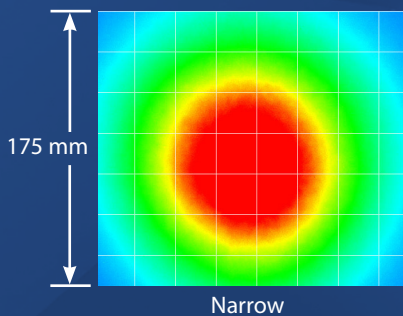
LIGHTING PATTERN FOR THE LX300 with Line (L) Lenses

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

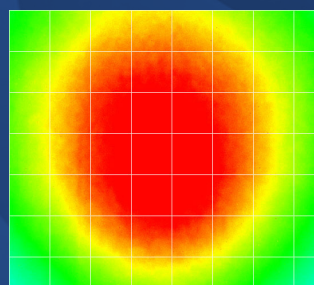
Typical Output Performance	Illuminance (Lux)
Distance = 500 mm	19,000
<i>Illumination measurement taken on White Lights - 6500K</i>	

The LX300 Linear Light produces a uniform light pattern.

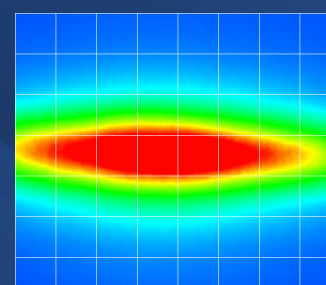
Working Distance = 500 mm Grid set to 25 mm x 25 mm



Narrow



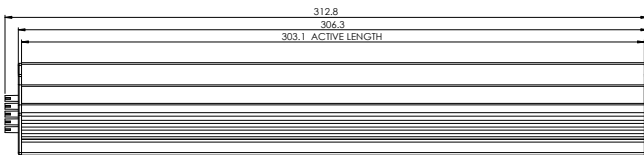
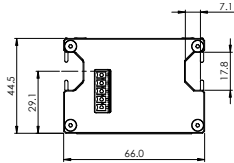
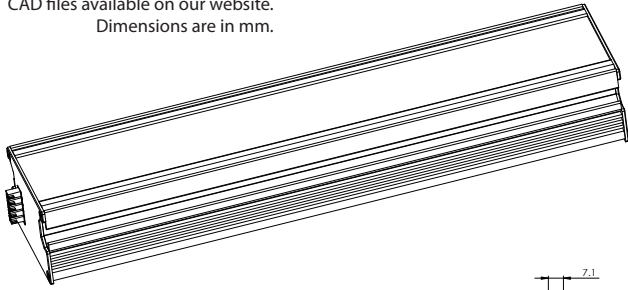
Wide



Line

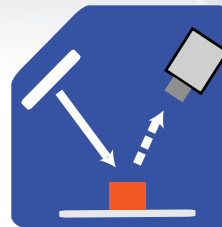
PRODUCT DRAWING

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

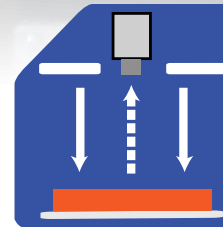


ILLUMINATION

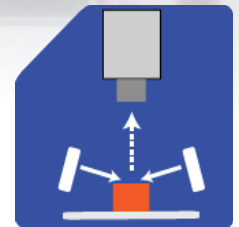
LX300 Series of Linear Lights works best for:



Bright Field



Direct Lighting



Dark Field

EYE SAFETY



According to IEC-62471:2006. Full documentation available upon request with purchase of product.

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.

Caution

Risk Group 2: UV emitted from this product. Eye or skin irritation may result from exposure. Use appropriate shielding. Does not pose optical hazard if aversion responses limit exposure. Applicable for wavelengths: 365 and 395.



PART NUMBER

LX300



COLOR:



LENS:

Leave blank for standard (narrow)
W = Wide (30°)
L = Line (10° x 50°)



LINEAR POLARIZER:

Leave blank for none
LPI = Factory Installed

Part Number Examples:

LX300-625	LX300, 625 nm Red Wavelength, Standard (Narrow) Lenses
LX300-WHI-L	LX300, White, Line Lenses
LX300-470-W-LPI	LX300, 470 nm Blue Wavelength, Wide Lenses, with Linear Polarizer installed

** Line lens optic not available for UV wavelengths
 Additional wavelengths and lens options available upon request
 This light ships with a male to female terminal block connector. See accessories for replacements*



STANDARD LENS OPTICS

NARROW

Narrow lenses are standard.

Narrow, 14° angle cone lenses projects a narrow beam of illumination and are used for long working distances.

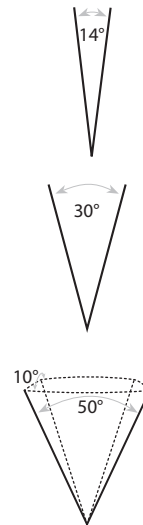
WIDE

Wide, 30° angle cone lenses projects a large area of illumination. They create a floodlight effect, 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.

** Additional lens options available upon request.*



When to Use a Linear Polarizers?


Polarizing filters can reduce reflections on specular surfaces.


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


WARNING: Running a light in continuous operation while using a standard polarizer with certain wavelengths (ex. white, blue) may result in burning of the polarizer.




ACCESSORIES

Connector (Only for Direct Connect)	
	
Description	Part Number
Set of 2 connectors	LXJ-2DTN

Power Cable	
	
Description	Part Number
5-pin pigtail connector	5PM12-LXP

Replacement Terminal Block Plugs	
	
Description	Part Number
Male to female terminal block connectors	LX-2CON-KIT

No Direct Connect End Cap	
	
Description	Part Number
No direct connect end cap	PLT0146-CLR



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.

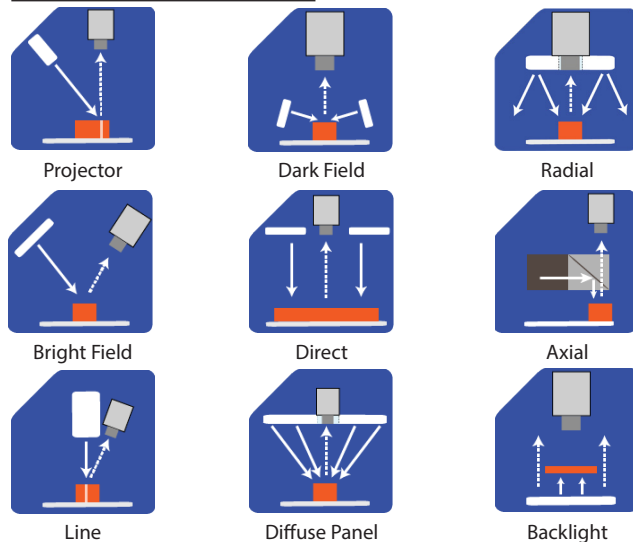
Built-in Driver The built-in driver allows full function without the need of an external controller.

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.

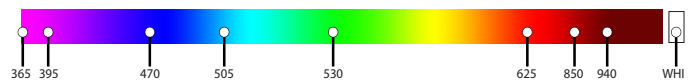
Diffuser Used to widen the angle of light emission, reduce reflections, and increase uniformity.

TYPES OF ILLUMINATION



COMMON COLOR/WAVELENGTHS LEGEND

Wavelengths 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.*

*Check Part Number section to see if **this light** is available in SWIR wavelengths.