

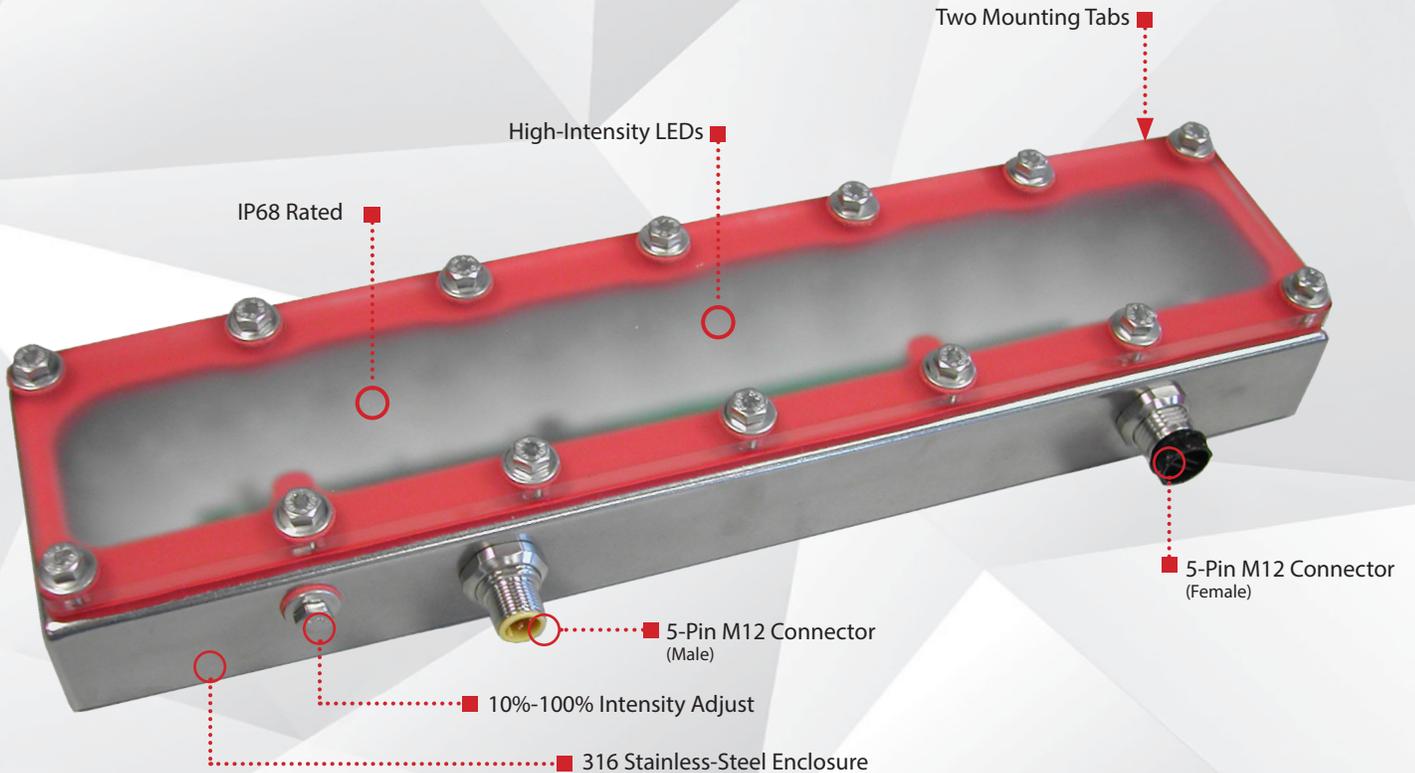


smart vision lights

ODLW300 *Connect-a-Light* LINEAR LIGHT

WASHDOWN | OVERDRIVE™

PRODUCT DATA SHEET



Warranty
10
YEAR

Compliant
IEC
62471

Compliant
CE
RoHS

Rated
IP
68

Connector
5-PIN
M12

PRODUCT HIGHLIGHTS

- ✓ OverDrive™ — up to five times brighter than a standard linear Connect-a-Light
- ✓ Built-in driver
- ✓ PNP and NPN trigger input signal
- ✓ Washdown light with 316 stainless-steel enclosure
- ✓ Daisy-chain up to six ODLW300 linear lights using a 5-pin M12 washdown jumper cable



PRODUCT DESCRIPTION

The ODLW300 Series features a 100% waterproof stainless-steel enclosure specially designed for food industry and washdown environments where water and harsh detergents are present. The integrated OverDrive™ driver allows for a maximum strobe rate of 5000 strobes per second. NPN or PNP trigger signal input can be used to control the pulse of the light. Intensity of the light can be controlled via 1–10VDC analog signal line or the manual potentiometer. Daisy-chain up to six ODLW300 lights together.

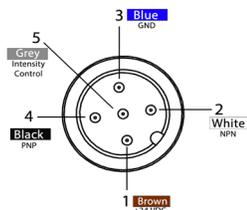


PRODUCT SPECIFICATIONS

Electrical Input	24VDC +/-5%
Input Current	Max. 4.6 A draw during strobe
Input Power	Max. 110 W during strobe
Trigger Input	PNP > +4 VDC (24 VDC max.) to activate or NPN ≥ GND <1VDC to activate (not both)
PNP Line	2.8 mA @ 4VDC 8.8 mA @ 12VDC 17.6 mA @ 24VDC
NPN Line	14.4 mA @ Common (0VDC)
Duty Cycle	Max. 10%
Strobe / Pulse Time	Max. 5000 SPS (Strobes Per Second) Max. Single Pulse = 125ms
Potentiometer	270° turn pot — intensity control of 10%–100%. Turn clockwise to increases intensity.
Analog Intensity	The output is adjustable from 10%–100% of brightness by a 1 – 10VDC signal.
Connection	5-pin M12 connector
Ambient Temperature	-18°–40°C (0°–104°F)
IP Rating	IP68
Weight	~1430 g
Power Supply	A separate power supply for OverDrive™ (high-pulse operation) is recommended. See Input Current for value.
Compliances	CE, RoHS, IEC 62471
Warranty	UV LEDs have a 2 year warranty, all other LEDs have a 10 year warranty. For complete warranty information, visit smartvisionlights.com/warranty .



WIRING CONFIGURATION



Pin layout for light (male connector)

Pin	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.

OPTIONAL

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



RESOURCE CORNER

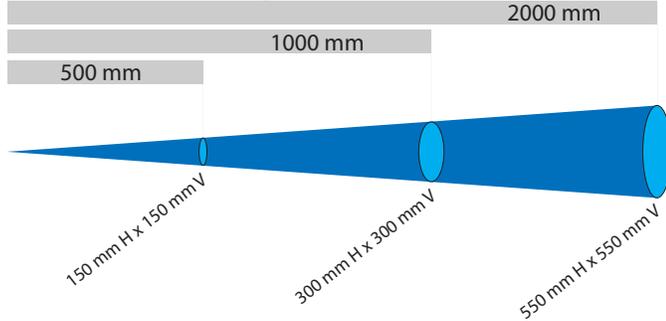
Additional resources, including CAD files, videos, and application examples, are available on our website.



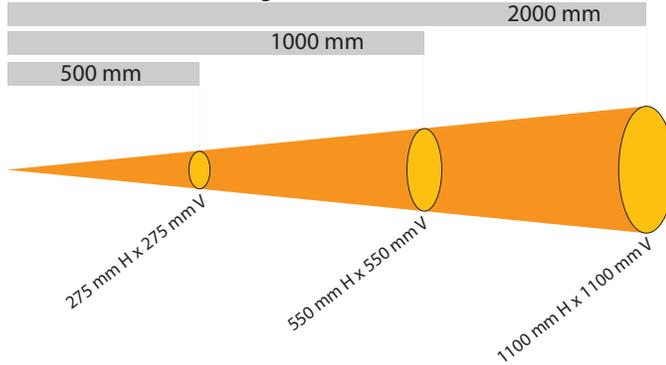
LIGHT PATTERNS

Smart Vision Lights recommends the ODLW300 be used at a working distance between 300 mm and 4000 mm.

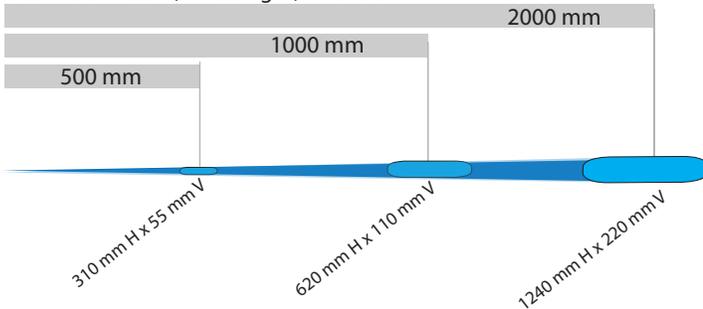
Beam Diameter (White Light) — 5700K



Beam Diameter (White Light) — 5700K



Beam Diameter (White Light) — 5700K



LIGHTING PATTERN FOR THE ODLW300 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	55,000
<i>Illuminance measurement taken on White Lights — 5700K</i>	

LIGHTING PATTERN FOR THE ODLW300 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	40,000
<i>Illuminance measurement taken on White Lights — 5700K</i>	

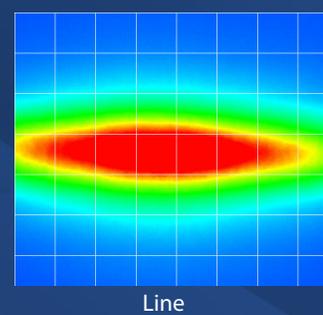
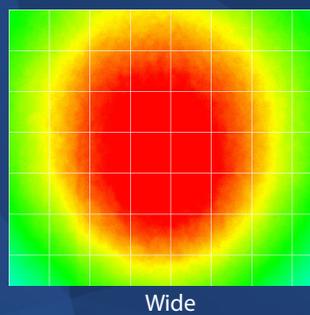
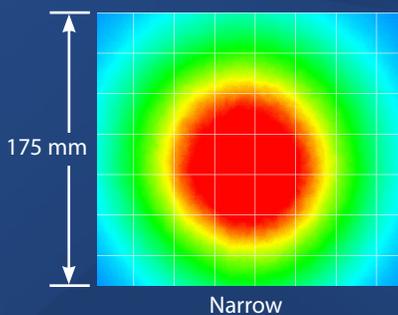
LIGHTING PATTERN FOR THE ODLW300 with Line (L) Lenses

Working Distance mm (inches)	Pattern (80%–100% measured intensity) mm (inches)
500 mm (19.7")	310 mm (~12.2") H x 55 mm (~2.1") V
1000 mm (39.4")	620 mm (~24.4") H x 110 mm (~4.3") V
2000 mm (78.8")	1240 mm (~48.8") H x 220 mm (~8.6") V

Typical Output Performance	Illuminance (Lux)
Distance = 500 mm	95,000
<i>Illuminance measurement taken on White Lights — 5700K</i>	

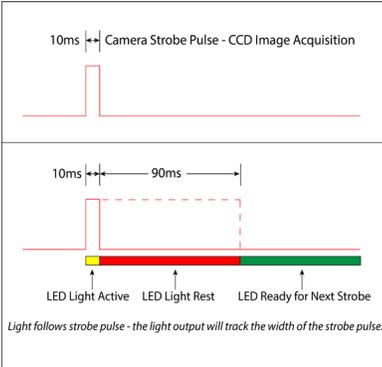
The ODLW300 Linear Light produces a uniform light pattern.

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



DUTY CYCLE (OVERDRIVE™ MODE ONLY)

The Duty Cycle (D) is related to the Strobe Time (ST) and Rest Time (RT).



Calculating Rest Time

$$RT = \frac{ST}{D} - ST$$

RT = Rest Time
ST = Strobe Time
D = Duty Cycle

Example

$$RT = \frac{10 \text{ ms}}{0.1} - 10 \text{ ms} = 90 \text{ ms}$$

Rest Time is 90 ms for 10 ms Strobe Time

Maximum Duty Cycle for OverDrive™ light is 10% (0.1)

DAISY-CHAIN LIGHTS

ODLW300 Series light requires the use of a standard 5-pin M12 jumper cable to effectively parallel up to six (6) ODLW300 lights.

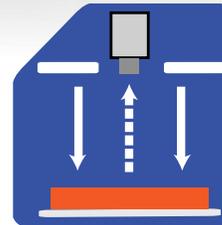


ILLUMINATION

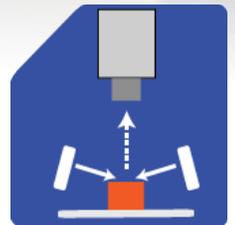
ODLW300 Series of Linear Lights works best for:



Bright Field



Direct Lighting



Dark Field

EYE SAFETY

According to IEC 6247:2006. 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, 1550, and 1650.

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 wavelength 365 and 395.



PART NUMBER

ODLW300 — —



LENS:
 Leave blank for Standard (Narrow)
 W = Wide
 L = Line

Part Number Examples:

- ODLW300-625** ODLW300, 625 nm Red Wavelength, Standard (Narrow Lens)
- ODLW300-WHI-L** ODLW300, White, Line Lens



This light is available in our SWIR LEDs.



Additional wavelength and lens options available upon request.



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.



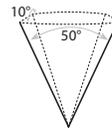
WIDE

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.



Additional lens options available upon request.



MOUNTING

The ODLW300 series features two 316 stainless-steel tabs welded directly to the housing for simple yet versatile mounting options.

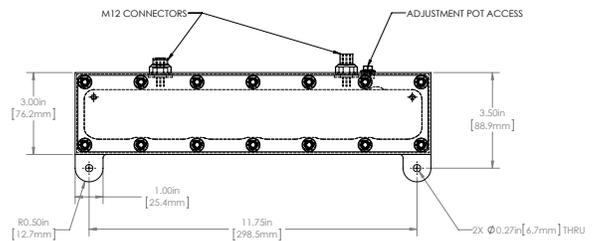
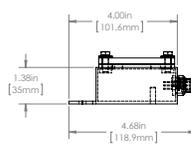
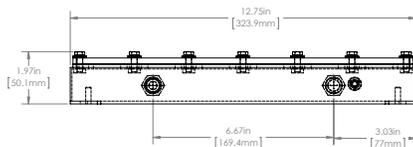


Two Mounting Tabs



PRODUCT DRAWING

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





ACCESSORIES

Power Cables (Wash-down)	
	
Length	Part Number
10 m	W5PM12-10
15 m	W5PM12-15

Jumper Cables (Daisy Chain) (Washdown)	
	
Length	Part Number
300 mm	W5PM12-J300

Washdown cables have a 316 Stainless-Steel connector(s).



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.

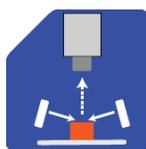
Polarizers Filters that reduce reflections on specular surfaces.

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

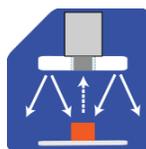
TYPES OF ILLUMINATIONS



Projector



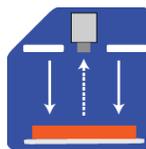
Dark Field



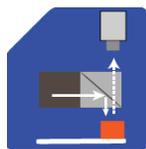
Radial



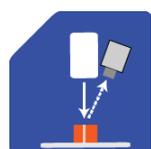
Bright Field



Direct



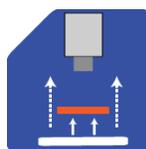
Axial



Line



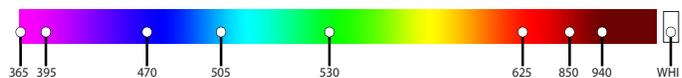
Diffuse Panel



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.



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.