S75 Brick Light
SPOTLIGHT

Polarizer / diffuser mounting slots

Mounting holes

10 - 100% intensity limiting potentiometer

5-pin M12 connector (male)
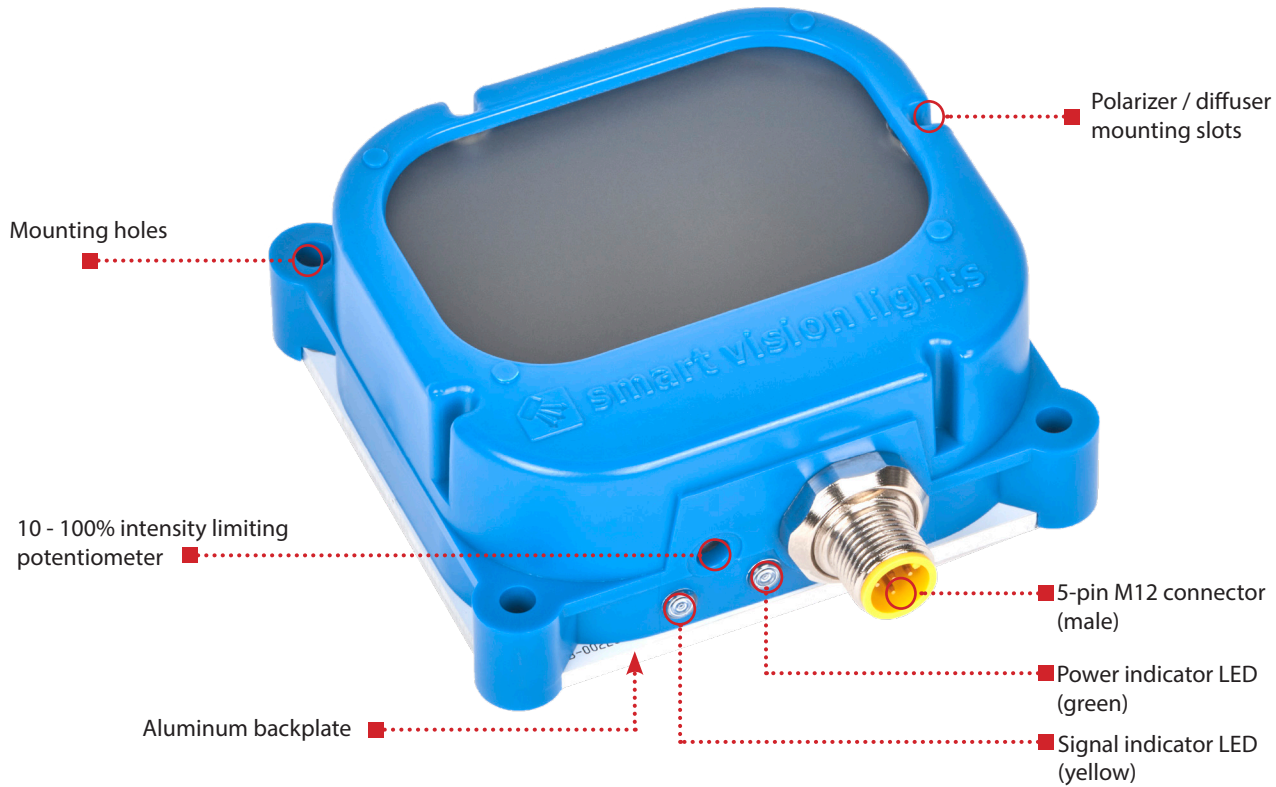
Power indicator LED (green)

Aluminum backplate

Signal indicator LED (yellow)

The S75 Brick Light Series is a spot light that features a built-in smart driver. 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 by adjusting the built-in manual potentiometer. Heat is dissipated through the aluminum backplate, which allows the S75 Brick Light Series to be run at a higher intensity.

S75 HIGHLIGHTS

Warranty	Tested	Compliant	Rated	Connector
10 YEAR	**IEC 62471**	**CE ROHS**	**IP 50**	**5-PIN M12**

- ✔ High-impact injection molded housing
- ✔ Built-in potentiometer for physical intensity limiting
- ✔ Built-in status indicators
- ✔ Smallest profile brick light

REV 10/31/22

SPECIFICATIONS

Electrical Input	24 VDC +/- 5%
Input Current	Max. 400 mA
Input Power	Max. 9.6 W
PNP Trigger	2.8 mA @ 4VDC | 8.8 mA @ 12VDC | 17.6 mA @ 24VDC
NPN Trigger	14.4 mA @ Common (0VDC)
Trigger Input	PNP > +4 VDC (24 VDC max.) to activate **or** NPN ≥ GND <1VDC to activate **(not both)**
Strobe Duration	Min. 30 µs | Max. ∞
Strobe Trigger Latency	10 µs
Power Indicator	Turns green when powered up
Status Indicators	Strobe indicator will turn yellow when on
Intensity Limit	270° turn-pot. Turn clockwise to increase intensity limit.
Analog Intensity	The output is adjustable from 10% - 100% of intensity limit by a 1 - 10 VDC signal. Jumpering pin 5 to pin 1 will provide maximum intensity
Connection	5-pin M12 connector
Operating Temperature	-10° to 40° C (14° to 104° F) | RH max 80% non-condensing humidity
Storage Temperature	-20° to 70° C (-4° to 158° F) | RH max 80% non-condensing humidity
IP Rating	IP50
Weight	~0.34 lbs | ~370 g
Compliances	CE, IEC 62471, RoHS
Warranty	10 years[1]

[1]*See SmartVisionLights.com/warranty for details*

WIRING CONFIGURATION

CONTINUOUS OPERATION MODE
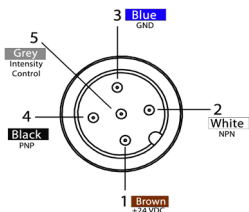
Pin layout for light (Male Connector)

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*

For maximum intensity, tie pin 5 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 3).*

For proper light function, apply either a PNP or NPN signal, not both.

Failure to supply light with correct input current will result in inconsistent lighting behavior.
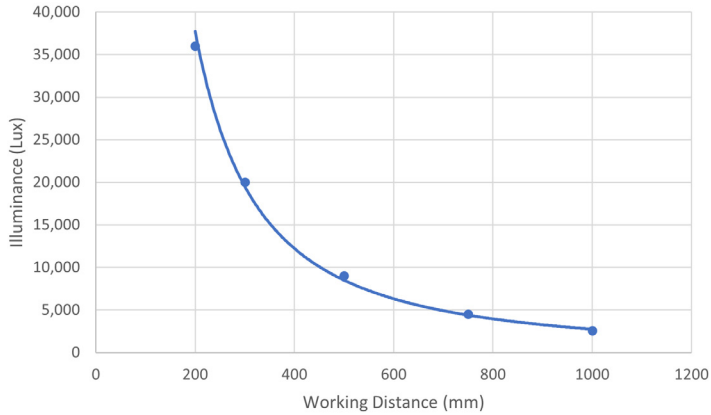*(see Product Specifications for requirements)*
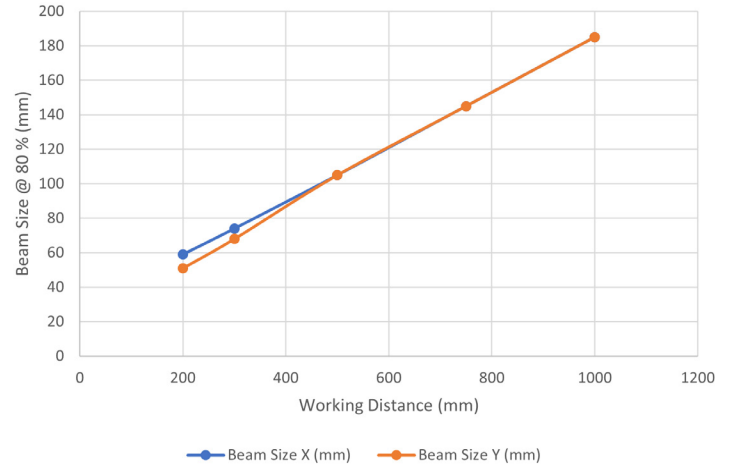
LIGHTING PATTERNS

The S75 is recommended to be used at a working distance between 200 mm to 1000 mm. **Illuminance values taken on white light - 5700K**

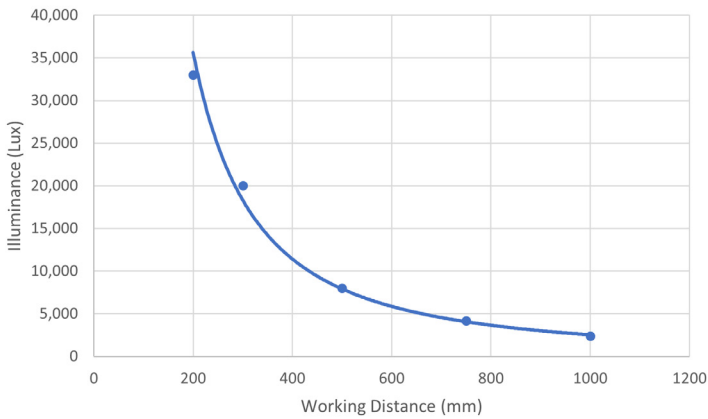## Standard (14°) lighting patterns

Illuminance vs. Working Distance

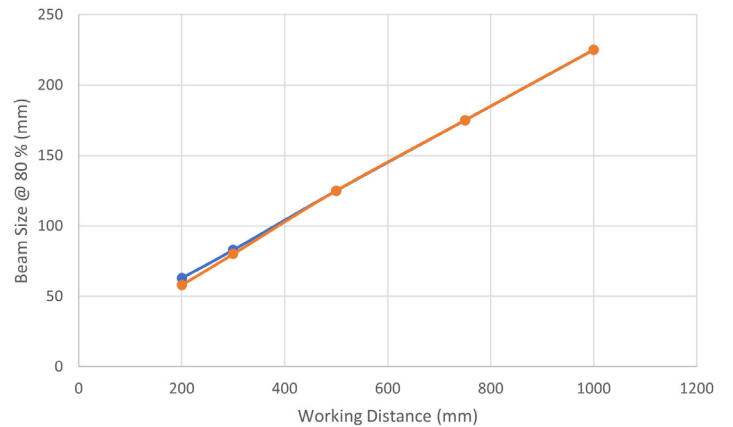Beam Size at 80% Max Intensity vs. Working Distance

— Beam Size X (mm)   — Beam Size Y (mm)

Wide (30°) lighting patterns

Illuminance vs. Working Distance

Beam Size at 80% Max Intensity vs. Working Distance
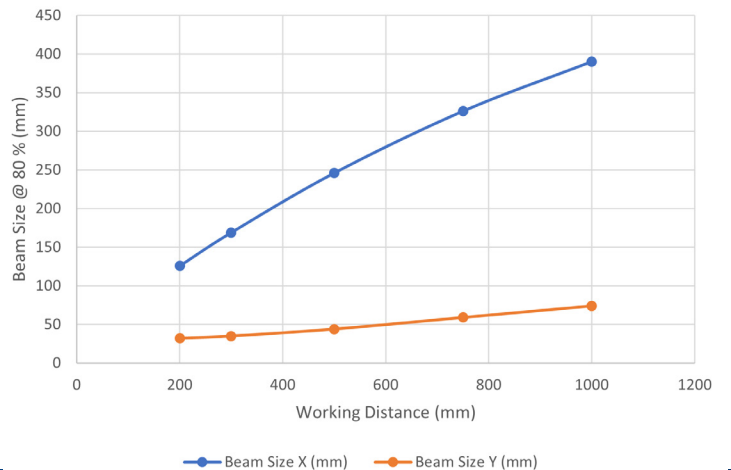

— Beam Size X (mm)   — Beam Size Y (mm)

Line (10° x 50°) lighting patterns
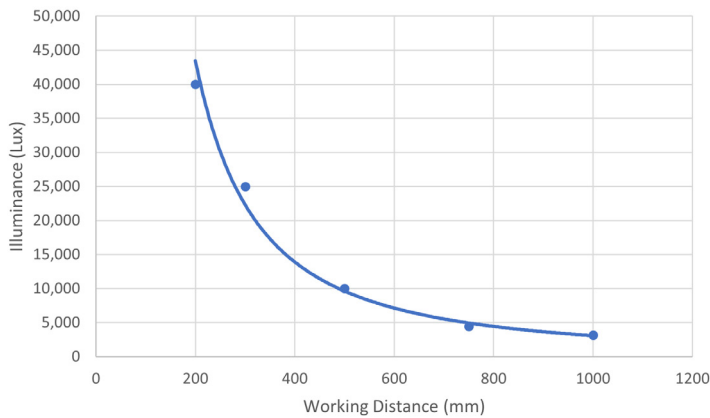
Illuminance vs. Working Distance

Beam Size at 80% Max Intensity vs. Working Distance

— Beam Size X (mm)   — Beam Size Y (mm)
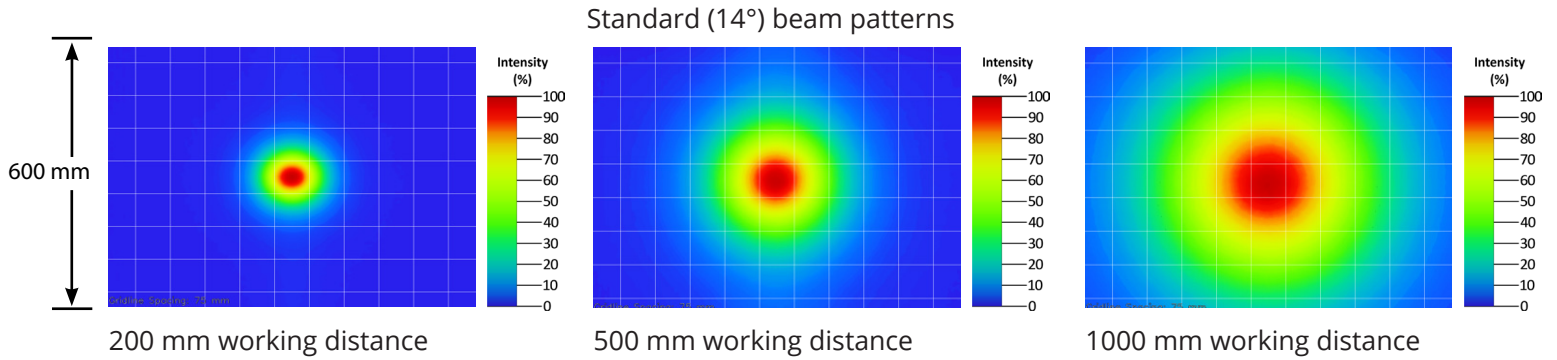
BEAM PATTERNS

The S75 is recommended to be used at a working distance between 200 mm to 1000 mm. **Illuminance values taken on white light - 5700K**

Standard (14°) beam patterns

600 mm

200 mm working distance — 500 mm working distance — 1000 mm working distance

Wide (30°) beam patterns

600 mm

200 mm working distance — 500 mm working distance — 1000 mm working distance

Line (10° x 50°) beam patterns

600 mm

200 mm working distance — 500 mm working distance — 1000 mm working distance
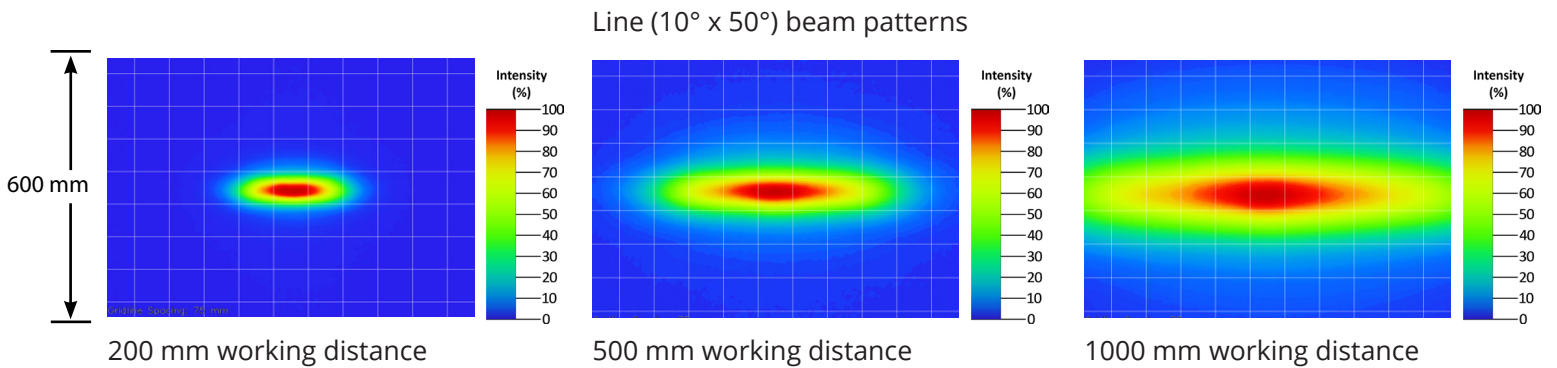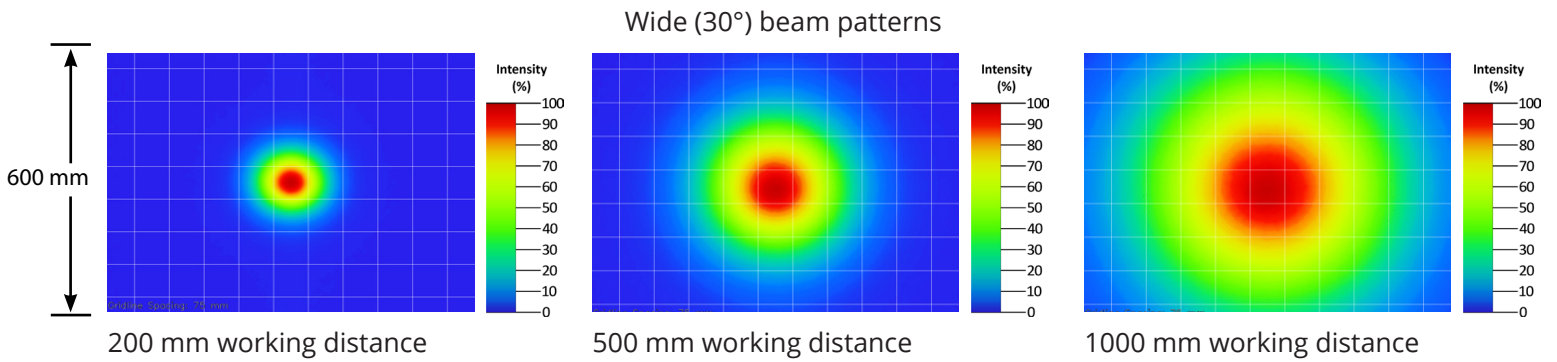
LENS OPTICS

NARROW (Standard)
Narrow, 14° angle-cone lenses are standard. Standard lenses create a narrow beam of illumination and are used for long working distances.
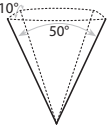
16°

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

10°   50°

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.
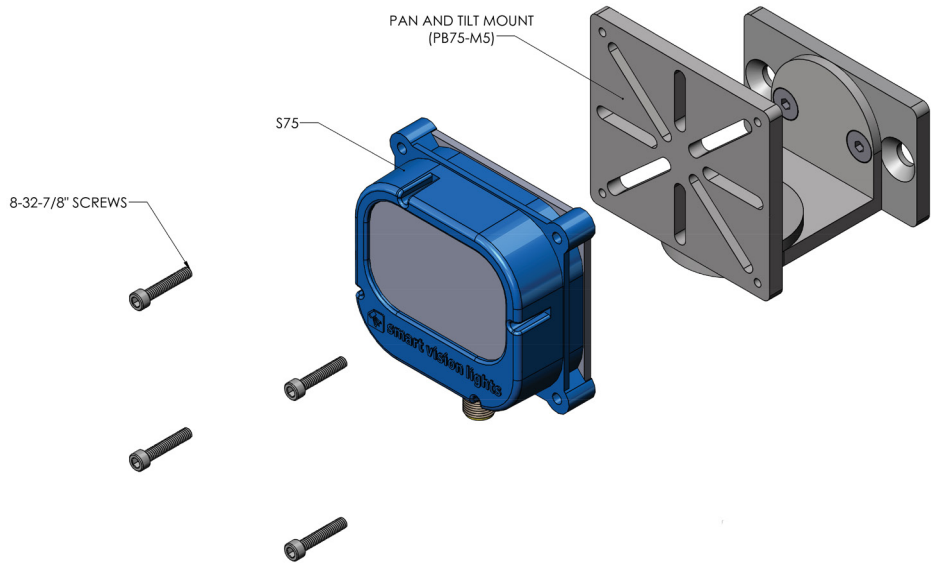
30°

MOUNTING

Mounting options on the S75 Series of Brick Light include four holes. See Accessories for additional mounting options.

Example of the S75 using the Pan and Tilt Mount (**Part Number: PB75-M5.**)

PAN AND TILT MOUNT
(PB75-M5)

S75

8-32-7/8" SCREWS

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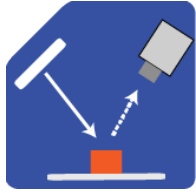
Warning
Risk Group 2: UV emitted from this product. Eye or skin irritation may result from exposure. Use appropriate shielding. Does not pose optical hazard if aversion responses limit exposure. Applicable for wavelength 365 and 395.
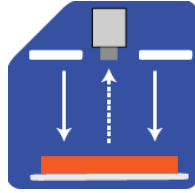
ILLUMINATION

The S75 works best for:
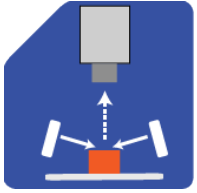
Dark Field

Bright Field

Direct Lighting

PART NUMBER GUIDE

S75 – ☐☐☐☐ **–** ☐ **–** ☐☐☐

COLOR:

WHI 365/395 470 505 530 625 850/940

LENS:

Leave blank for Standard (Narrow, 16°)

W = Wide (30°)

L = Line (10° x 50°)

LINEAR POLARIZER:

Leave blank for none

LPI = Factory Installed

Part Number Examples:

S75-625   S75, 625 nm Red Wavelength, Standard (Narrow) Lens

S75-WHI-L   S75, White, Line Lens

S75-470-W-LPI   S75, 470 nm Blue Wavelength, Wide Lens, with Linear Polarizer Installed
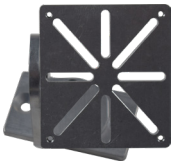
Line lens optic not available for UV wavelengths.
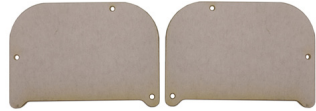*Additional wavelengths and lens options available upon request.*

*For lights with lenses, running in continuous operation while using a linear polarizer with certain wavelengths (e.g., white, blue) may burn the polarizer. Incorrect usage of the polarizer is not covered by warranty.

ACCESSORIES

Power Cables

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

Mount

Description	Part Number
Pan and Tilt Mount	PB75-M5

Linear Polarizer

Description	Part Number
Linear Polarizer for S75	S75-LP

Diffuser

Description	Part Number
Diffuser Kit for S75	S75-DKIT

PRODUCT DRAWINGS

*CAD files available on our website
  Drawings are in mm

(77)

2 x ⌀ 4.60 THRU ALL

27.1

(69)

(45.50)

M12 thread

(35.7)

(15.4)
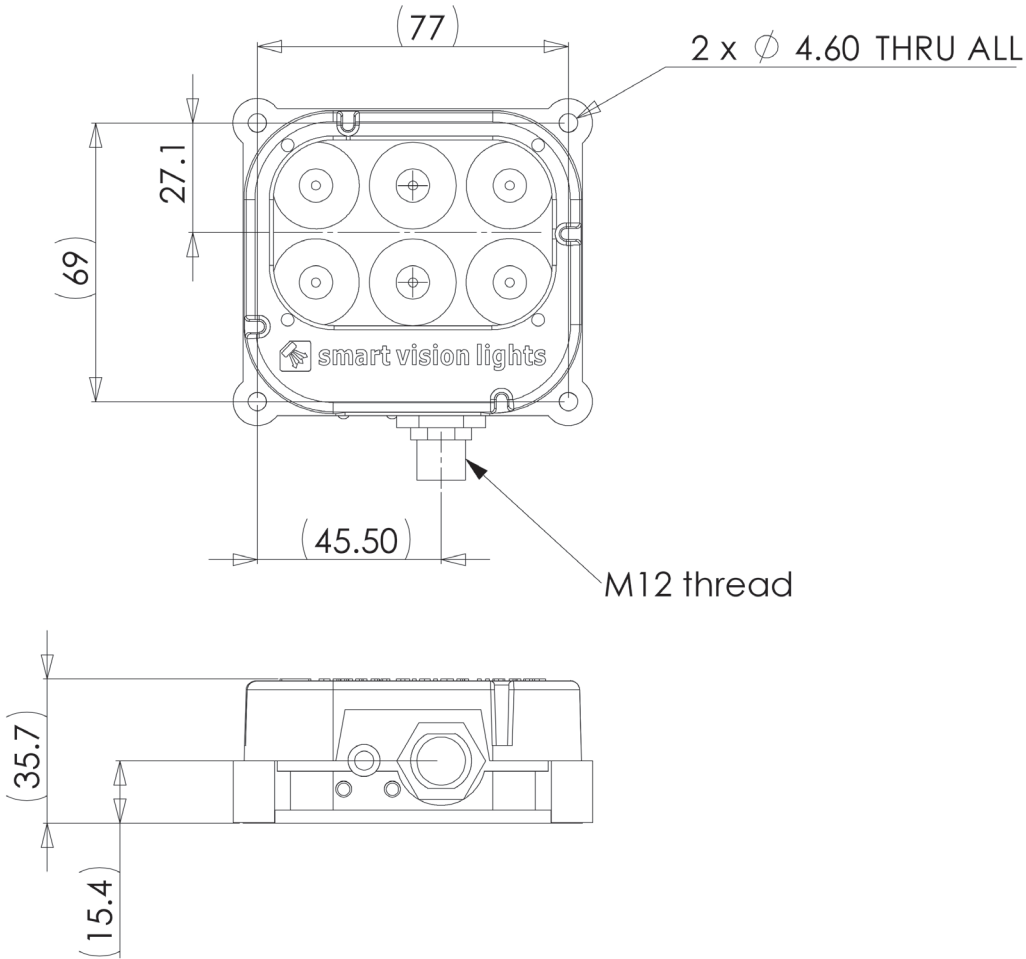
GLOSSARY

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

TERMINOLOGY

Continuous Operation The light stays on continuously.

OverDrive™ Integrated driver that produces a high-current strobe to the LEDs to drive them beyond their nominal continuous operation output.

Multi-Drive™ Integrated driver that combines continuous operation and OverDrive™ strobe mode

NanoDrive™ Integrated driver that provides fast switching where the light can go from off to on in less than 500 ns.

Built-in Driver The driver contained within the light that controls the current to the LEDs and provides PNP, NPN, and analog dimming controls.

SmartVisionLink™ Integrated feature that enables lighting control through the Bluetooth module and app.

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.

**Diffusers** Widens the angle of emission by scattering light in all directions.

Pattern Area Lighting Modulated lighting pattern placed over a backlight's surface used to enhance defect detection on transparent and glossy surfaces

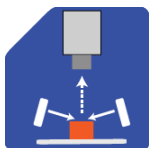**SafeStrobe** Limiter to keep the light in safe working parameters.

Direct Connect Connect lights in a series without the use of cables.

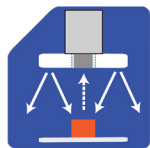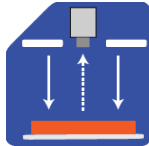**Daisy Chain** Connect lights in a series with the use of cables.
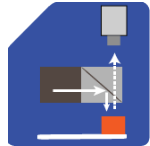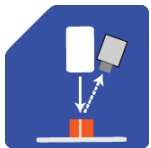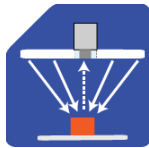
TYPES OF ILLUMINATION
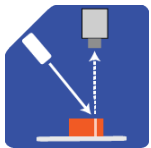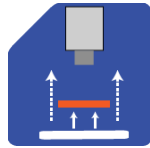
Projector

Dark Field

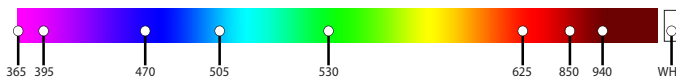Radial

Bright Field

Direct

Axial

Line

Diffuse Panel

Backlight

Dome
"Light Tent"

COMMON COLOR / WAVELENGTHS LEGEND

Wavelengths options range from 365 nm to 1650 nm.*
Additional wavelengths available for many light families.

| 365 | 395 | | 470 | 505 | | 530 | | | 625 | 850 | 940 | | WHI |

*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, 1550 nm, and 1650 nm.*

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

ASR
American Systems
R E G I S T R A R

ANAB
ANSI National Accreditation Board
A C C R E D I T E D
ISO/IEC 17021-1
MANAGEMENT SYSTEMS
CERTIFICATION BODY

ISO 9001:2015 Certified QMS

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