LCHPX SERIES

High Power Line Scan
LOW-COST
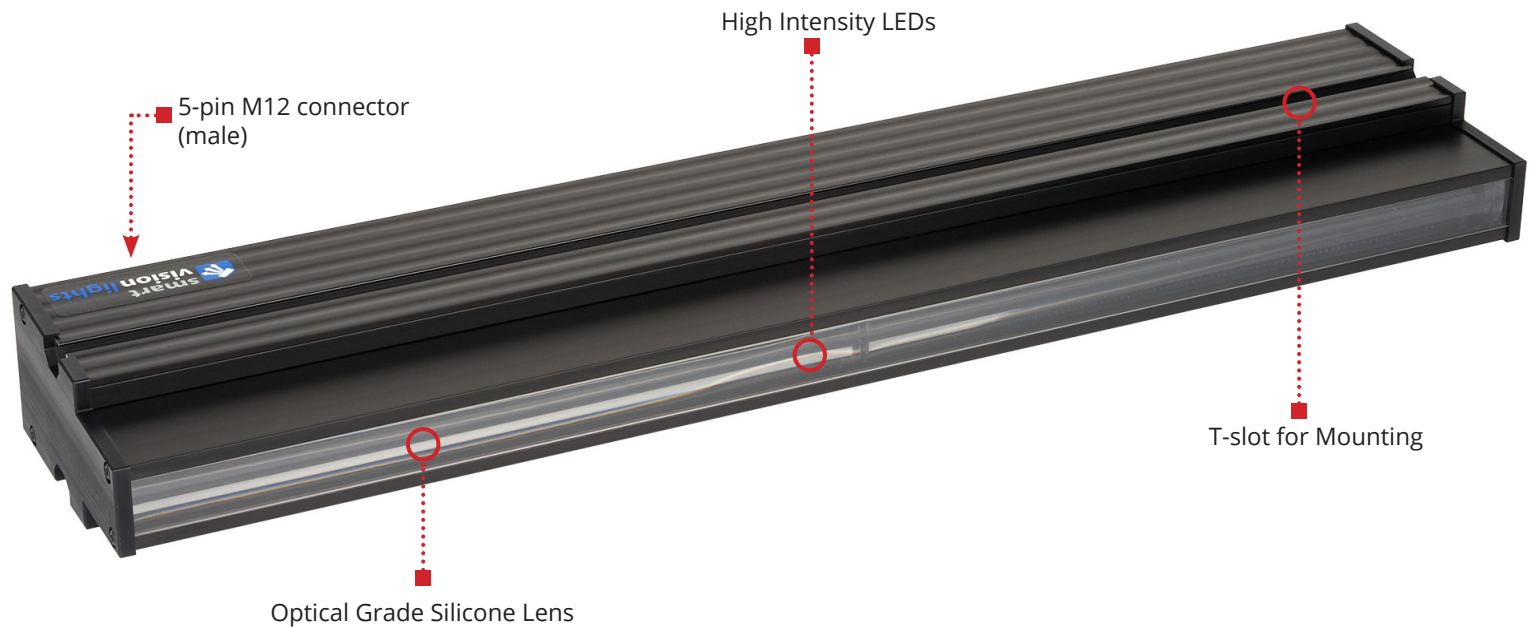
High Intensity LEDs

5-pin M12 connector
(male)

T-slot for Mounting

Optical Grade Silicone Lens

The LCHPX is a low-cost, high-powered line scan light that is capable of over 800,000 lux. This light can achieve high lux output without the need for internal fans. The LCHPX is fully enclosed and can be mounted using standard T-slot mounting hardware.

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

LCHPX HIGHLIGHTS

- ✔ Capable of over 800,000 lux
- ✔ Passive cooling
- ✔ 5-Pin M12 connector
- ✔ Available in visible, IR, and UV wavelengths
- ✔ Durable optical grade silicone lenses

REV 02/17/22

SPECIFICATIONS

Electrical Input	24 VDC +/- 5%
Input Current	Max. 1.6 A per 300 mm section
Power	Max. 38.4 W per 300 mm section
Connection	5-pin M12 connector
Operating Temperature	-10° to 40° C (14° - 104° F) | RH max 80% non-condensing humidity
Storage Temperature	-20° to 70° C | RH max 80% non-condensing humidity
IP Rating	IP50
Weight	~4.4 lbs | ~2 kgs per 300 mm segment
Compliances	CE, FCC, RoHS, REACH, WEEE
Warranty	3 years*

See SmartVisionLights.com/warranty for details

WIRING CONFIGURATION

CONTINUOUS OPERATION MODE
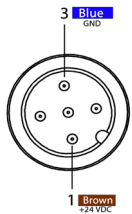
Pin layout for light (Male Connector)

| Pins	Function	Signal	Wire Color
1	Power In	+24VDC	BROWN
2	**Not Applicable**	**Not Applicable**	WHITE
3	GND	Ground	BLUE
4	**Not Applicable**	**Not Applicable**	BLACK
5	**Not Applicable**	**Not Applicable**	GREY*

LIGHTING PATTERNS

*NOTE – Lens positions are set at Smart Vision Lights and are not user serviceable. See the following part number information for details. The following patterns are based on the LCHPX300.

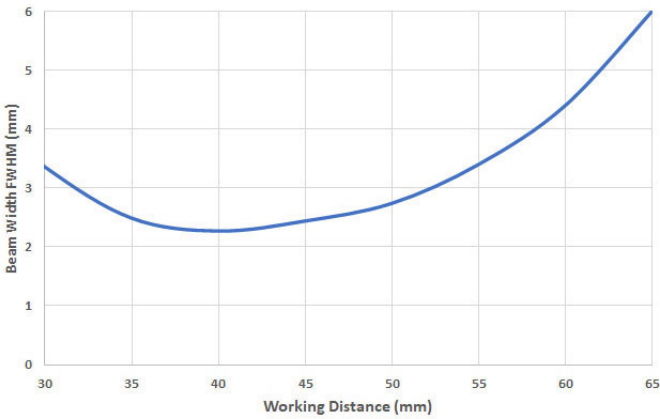| Lens Position	Working Distance (mm)	Beam Width (mm)	Illuminance (Lux) Values
1	35	2.5	805,000
2	50	3	644,000
3	100	4.5	290,000
4	100	8	274,000
Illumination measurement taken on white light, 5700 K			

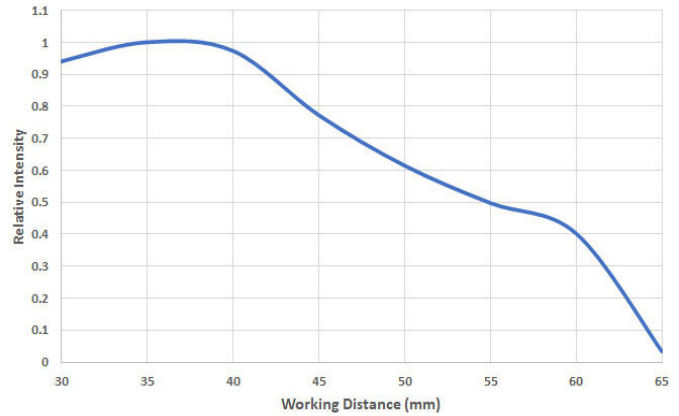# LIGHTING PATTERNS (CONTINUED)

LENS POSITION 1

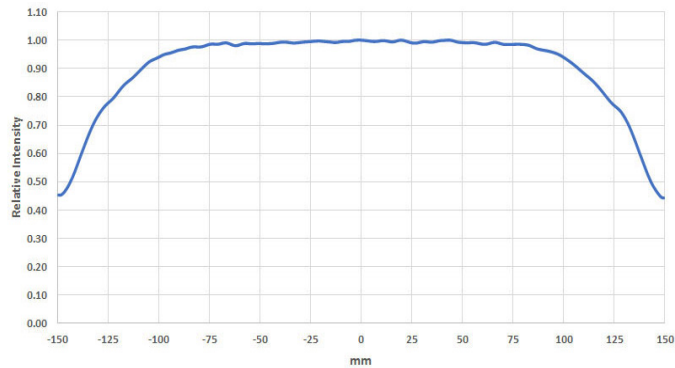### Intensity Map (at 35 mm Working Distance)
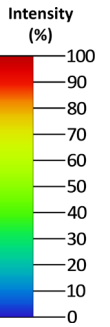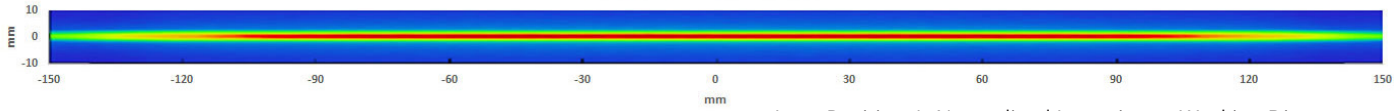
Lens Position 1: Beam Width vs. Working Distance
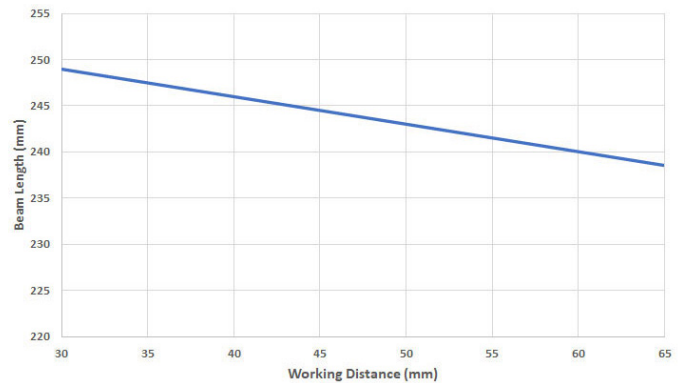

Lens Position 1: Normalized Intensity vs. Working Distance

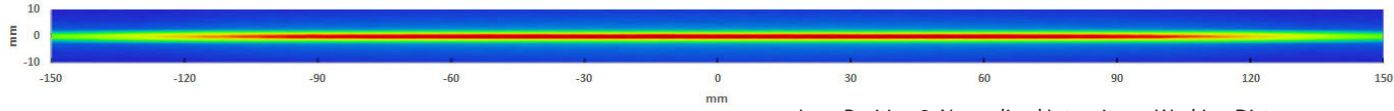Lens Position 1: Horizontal Beam Profile at 35 mm Working Distance

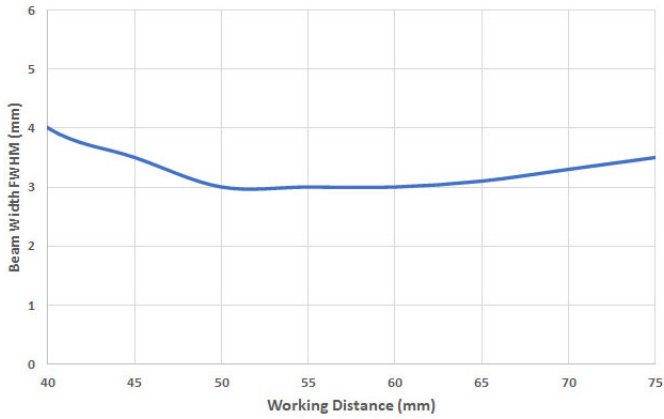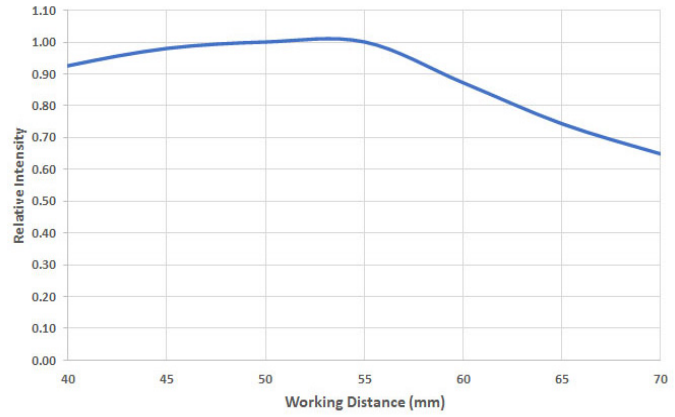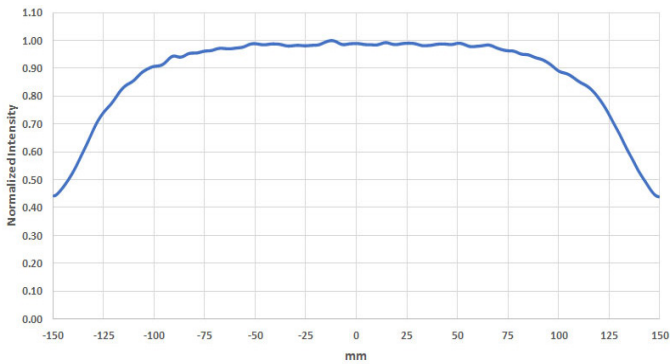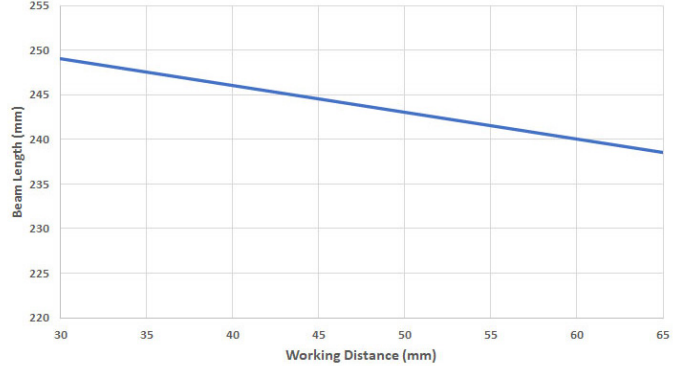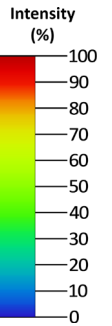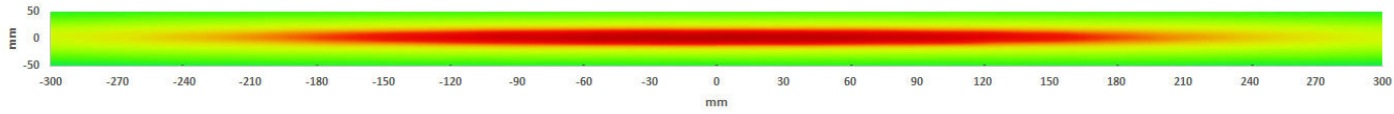Lens Position 1: Beam Length (80% max) vs. Working Distance

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LIGHTING PATTERNS (CONTINUED)

LENS POSITION 2 (FACTORY DEFAULT)

Intensity Map (at 50 mm Working Distance)

Intensity (%)

Lens Position 2: Beam Width vs. Working Distance

Lens Position 2: Normalized Intensity vs. Working Distance

Lens Position 2: Horizontal Beam Profile at 50 mm Working Distance

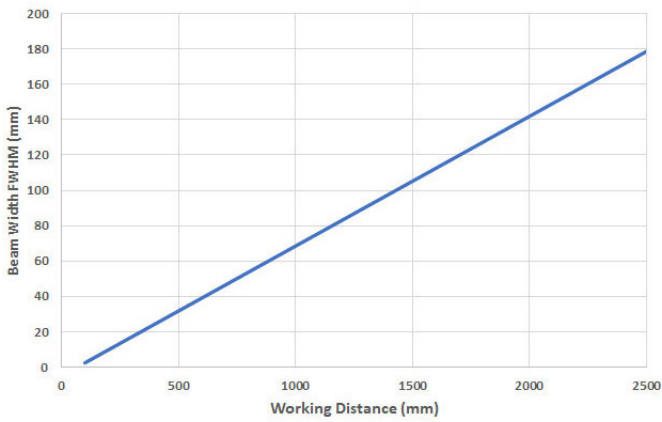Lens Position 2: Beam Length (80% max) vs. Working Distance

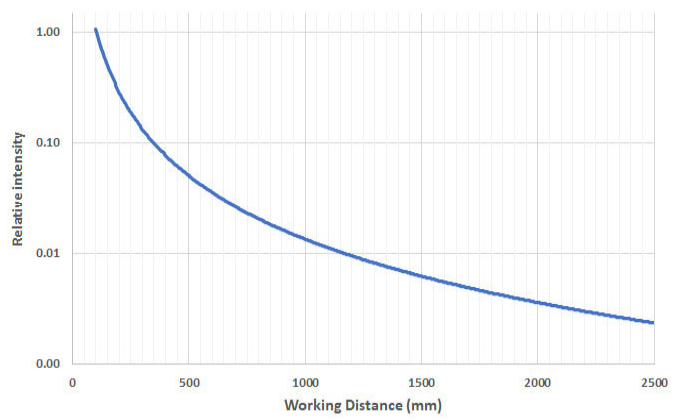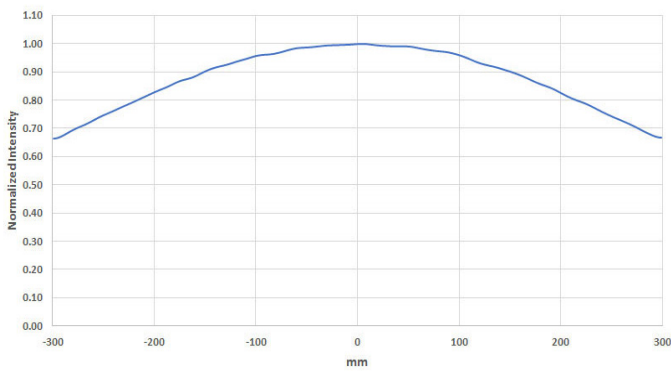# LIGHTING PATTERNS (CONTINUED)

LENS POSITION 3

Intensity Map (at 1000 mm Working Distance)

Lens Position 3: Beam Width vs. Working Distance
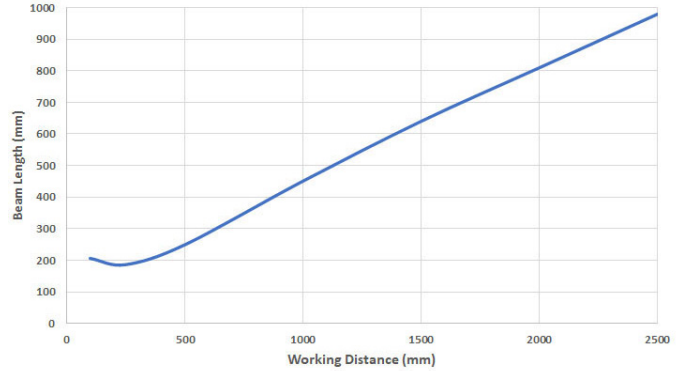

Lens Position 3: Normalized Intensity vs. Working Distance

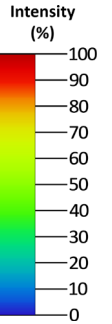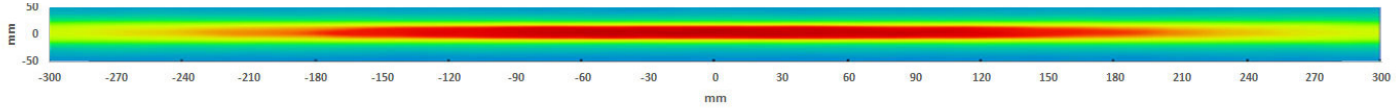Lens Position 3: Horizontal Beam Profile at 100 mm Working Distance

Lens Position 3: Beam Length (80% max) vs. Working Distance

LIGHTING PATTERNS (CONTINUED)

LENS POSITION 4

Intensity Map (at 1000 mm Working Distance)

Lens Position 4: Beam Width vs. Working Distance

Lens Position 4: Normalized Intensity vs. Working Distance

Lens Position 4: Horizontal Beam Profile at 100 mm Working Distance

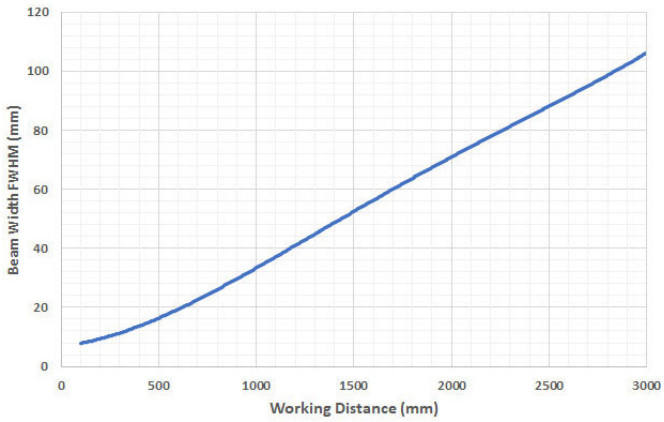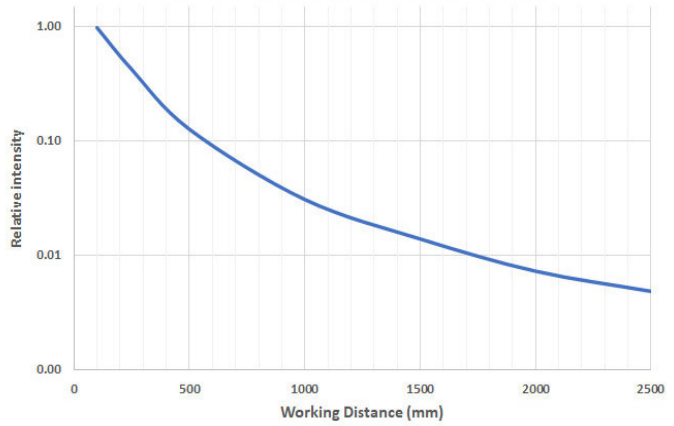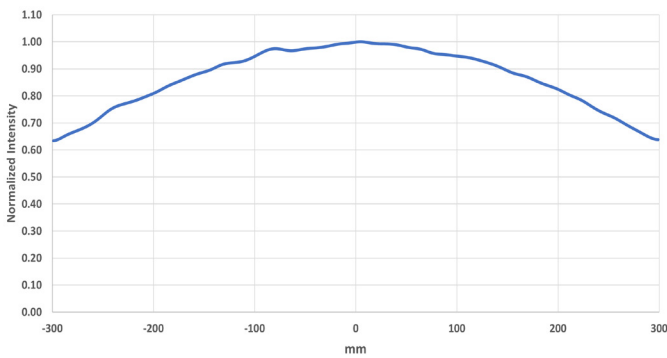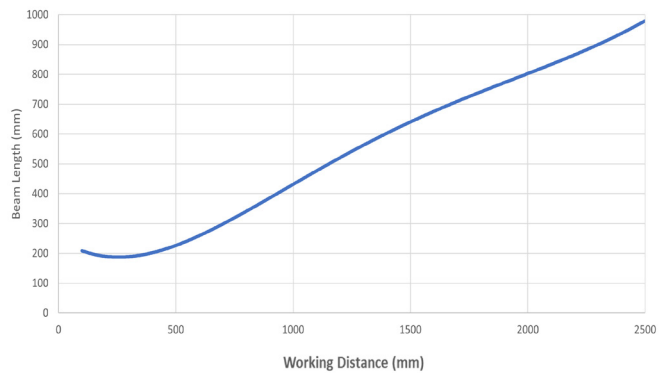Lens Position 4: Beam Length (80% max) vs. Working Distance

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PART NUMBER GUIDE

LCHPX ☐☐☐☐ – ☐☐☐ – ☐

SIZE:
300 mm
600 mm
900 mm
1200 mm

COLOR:
WHI 365 470
625 850

LENS POSITION:
1
2 (Factory Default)
3
4

Part Number Example:

LCHPX300-625-4   LCHPX, 300 mm, 625 (red)
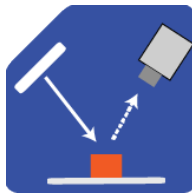Wavelength, Lens Position 4

* Additional wavelengths and lens options available upon request.
Every 300mm section comes with two screws and two T-nuts for mounting

ILLUMINATION

LCHPX Series of Line Scan Lights works best for:
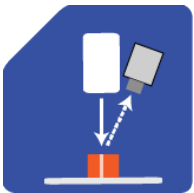
Line   Bright Field

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 wavelength 625.

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 wavelength WHI.

Caution
Risk Group 2: Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to the eyes. Applicable for wavelength 470.

Warning
Risk Group 3: UV emitted from this product. Avoid eye and skin exposure to unshielded product. Applicable for wavelength 365.

MOUNTING

The LCHPX uses a T-slot mounting system. Two M5 screws and two T-nuts come with each 300mm section
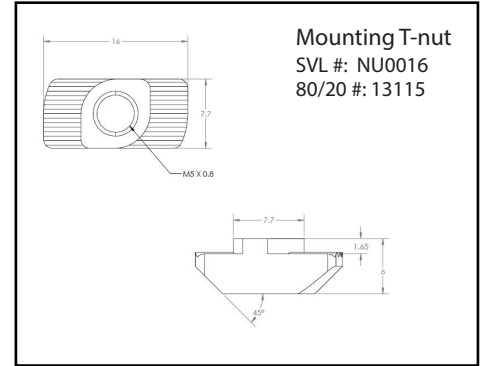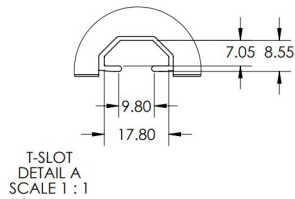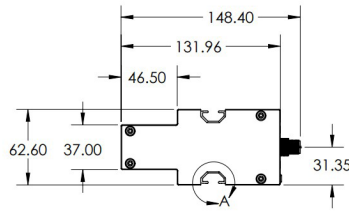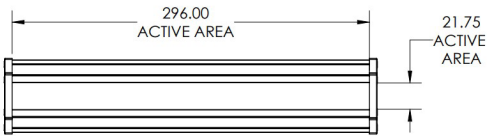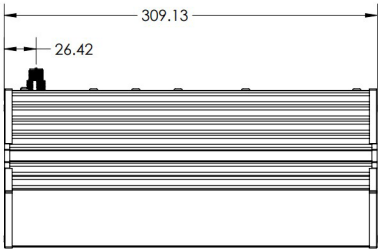
ACCESSORIES

Mounting Kit	
Part Number	Description
SC0045	M5 X 8x10 mm screws
NU0016	T-nuts (80/20 part number 13115)

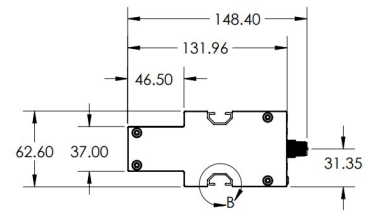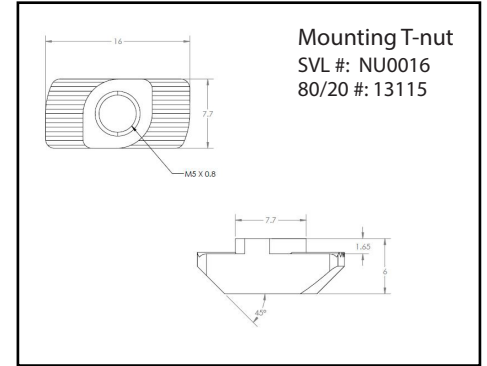Light comes with two screws and two T-nuts per light per 300 mm section.

PRODUCT DRAWINGS (LCHPX300)

*CAD files available on our website
 Drawings are in mm

Mounting T-nut
SVL #: NU0016
80/20 #: 13115

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PRODUCT DRAWINGS (LCHPX600)

*CAD files available on our website
Drawings are in mm

609.13

26.42

596.00
ACTIVE AREA

21.75
ACTIVE
AREA

7.05   8.55

9.80

17.80

T-SLOT
DETAIL B
SCALE 1 : 1

Mounting T-nut
SVL #: NU0016
80/20 #: 13115

16

7.7

M5 X 0.8

7.7

1.65

6

45°

148.40

131.96

46.50

62.60   37.00
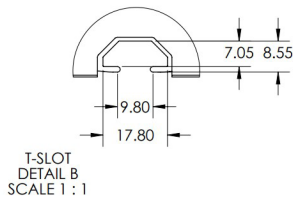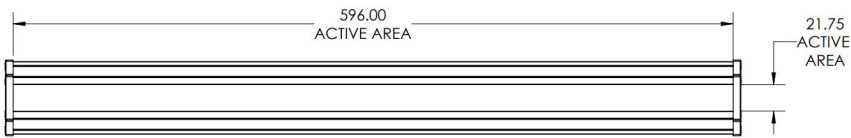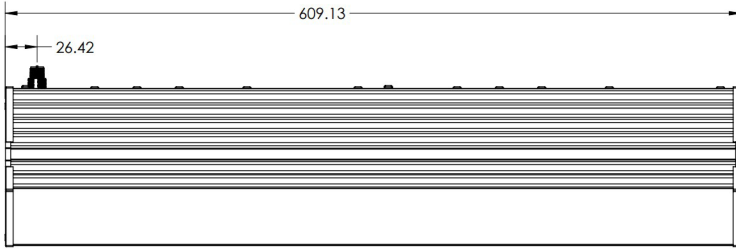
31.35

B

smart vision lights

PRODUCT DRAWINGS (LCHPX900)

*CAD files available on our website
Drawings are in mm

909.13

626.42

26.42

Mounting T-nut
SVL #: NU0016
80/20 #: 13115

16

7.7

M5 X 0.8

7.7

1.65

6

45°

896.00
ACTIVE AREA

21.75
ACTIVE
AREA

148.40

131.96

46.50

62.60

37.00

31.35

C

7.05 8.55

9.80
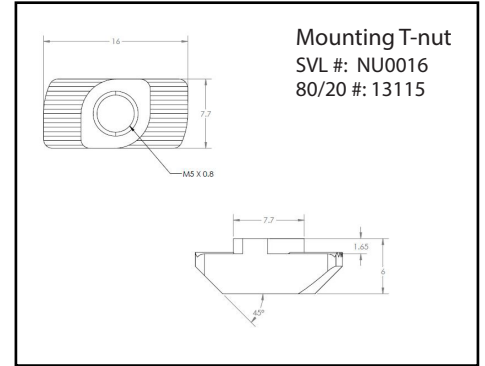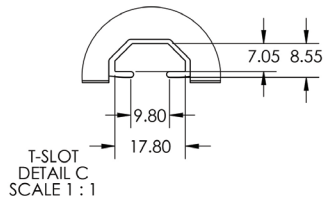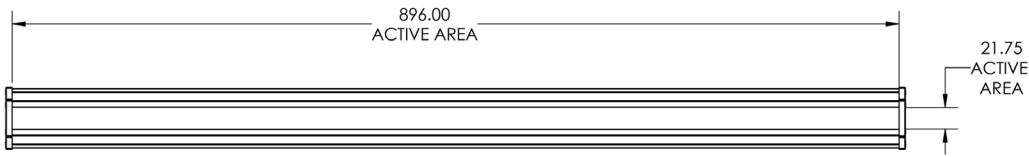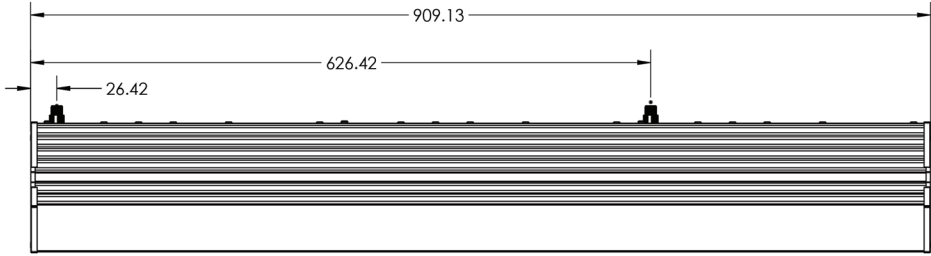
17.80

T-SLOT
DETAIL C
SCALE 1 : 1
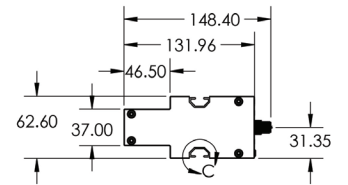
PRODUCT DRAWINGS (LCHPX1200)

*CAD files available on our website
  Drawings are in mm

Mounting T-nut
SVL #: NU0016
80/20 #: 13115

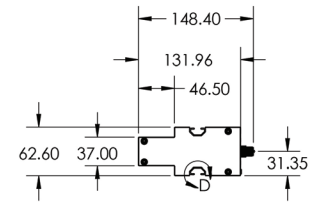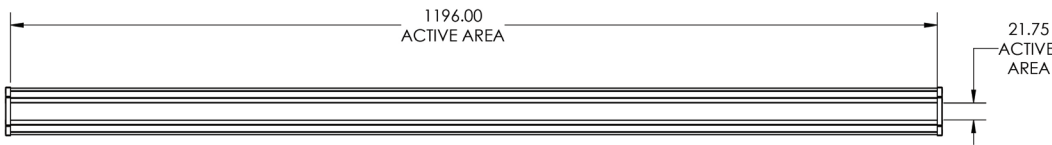M5 X 0.8

1209.13

626.42

26.42

1196.00
ACTIVE AREA

21.75
ACTIVE
AREA

148.40

131.96

46.50

62.60   37.00

31.35

7.05   8.55

9.80

17.80

T-SLOT
DETAIL D
SCALE 1 : 1
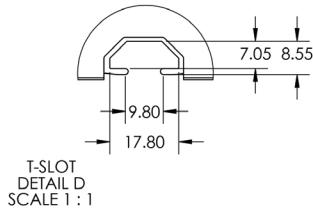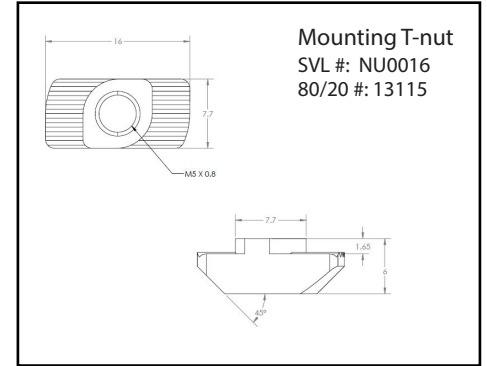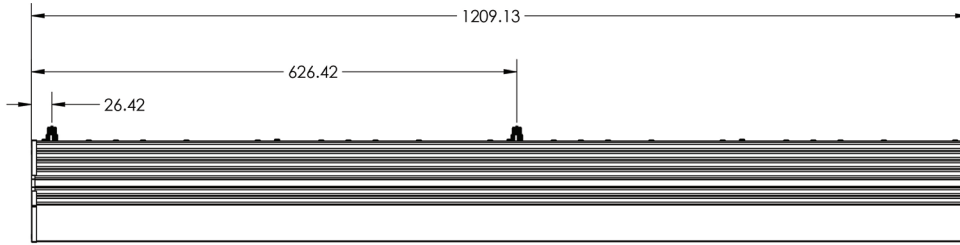
GLOSSARY

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

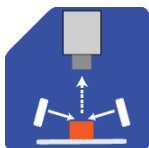**SafeStrobe** Limiter to keep the light in safe working parameters.

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

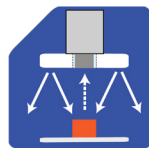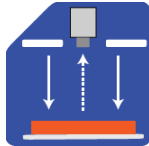**Daisy-Chain** Connect lights in a series with the use of cables.
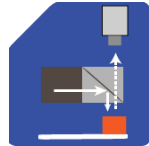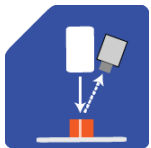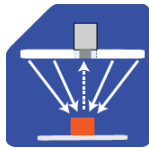
TYPES OF ILLUMINATION
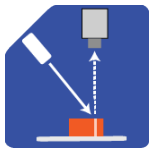
Projector

Dark Field

Radial
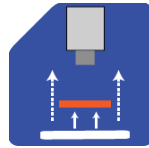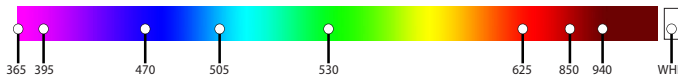
Bright Field

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 SHORT WAVE 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 Registrar

ANAB ANSI National Accreditation Board ACCREDITED ISO/IEC 17021-1 MANAGEMENT SYSTEMS CERTIFICATION BODY

ISO 9001:2015 Certified QMS