

NERLITE® LALL™-47x47 Large Area LED Lights Custom Models

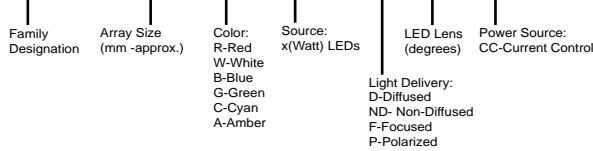
Description: LALL™-47x47 Large Area LED Lights deliver very high intensity, non-diffused area illumination to flood large (≥12" square) areas with light. Their enclosures are designed for NEMA 4X and IP-64 compliance to address applications where equipment wash down is a requirement. LALL-47x47 units are passively cooled (no fans) for quiet, non-disruptive operation. Their adjustable mounting bracket supports installation to horizontal, vertical, or angled planes and provides virtually limitless light aiming options.

Applications: Dark-field (creating shadows and reflection) or bright-field lighting for diffused surfaces; Illumination of large areas for robot guidance; Food processing and packaging; Package sorting; Clean room illumination.

Model #	Description
NER-010655006	LALL-47x47, R1 LED-ND10/P, CC, 3.0M (9.8 ft.) Flying Leads Cbl.
NER-010655009	LALL-47x47, R1 LED-ND50, CC, 3.0M (9.8 ft.) Flying Leads Cbl.
NER-010655014	LALL-47x47, W1 LED-ND50, CC, 3.0M (9.8 ft.) Flying Leads Cbl.
NER-010655023	LALL-47x47, B1 LED-ND10, CC, 3.0M (9.8 ft.) Flying Leads Cbl.
NER-010655043	LALL-47x47, C1 LED-ND10, CC, 3.0M (9.8 ft.) Flying Leads Cbl.

Description Key Example

LALL-00x00, RxLED-NDxx, CC



Illumination & Electrical:

Lighting Technique: Area Array
Active Area: 47 mm x 47 mm (1.85 in. x 1.85 in.)

Source	Color (nm)	Exp. Life	Max. Current ^{1,3}	
			Continuous	Stroke ^{2,3}
LED	Red (625)	50k hrs.	0.35 A	0.47 A peak
LED	White - 5500 Kelvin	50k hrs.	0.35 A	0.47 A peak
LED	Cyan (505)	50k hrs.	0.35 A	0.47 A peak
LED	Blue (470)	50k hrs.	0.35 A	0.47 A peak

¹ When using PPxxx Controllers, controller supply voltage must be at least 1 volt higher than load voltage of light: 14.04 VDC for red models; 15.96 VDC for white, blue and cyan models.

² Maximum pulse width = 1ms, maximum frequency = 60Hz

³ Exceeding max. current, pulse width or frequency voids product warranty.

CE Conformity: Pending

Mechanical:

L x W x H (mm/in.): 69.9 mm x 50.8 mm x 69.9 mm (2.75 in. x 2.00 in. x 2.75 in.)

Mounting: (2) 2.4 mm [.09 in.] and (1) 6.4 mm [.25 in.] thru holes

Housing Material: Black Anodized Aluminum

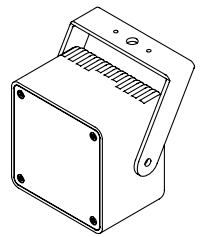
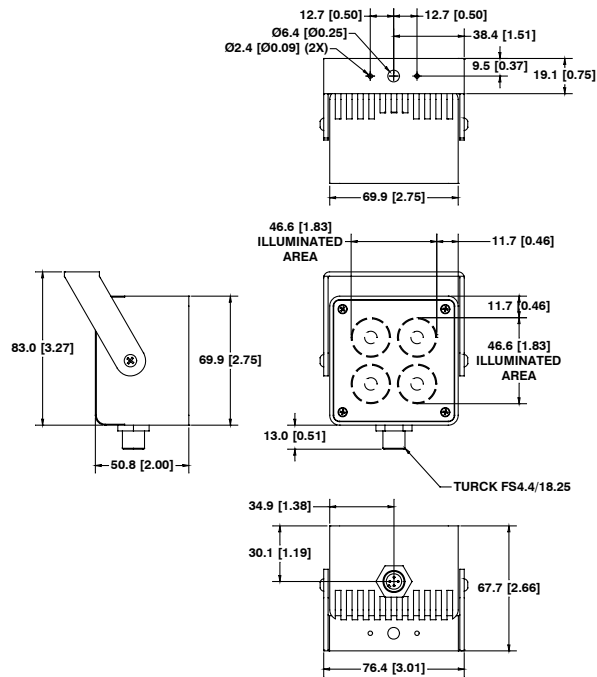
Weight: 454 grams (16 oz.)

Environmental:

Max. Operating Humidity: 95% non-condensing

Operating Temp.: 40°C (104°F)

Storage Temp.: 50°C (122°F)



Cables/Connectors:

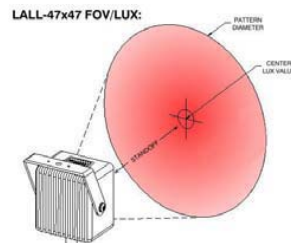
Cable	Detachable, supplied with light
Connector	n/a, Flying Leads
Lead/Pin #1	V+
Lead/Pin #2	V-

Installation Options:¹

Part #	Description	Used on Models
NER-010503800	LC-50, 0.35A CC Dvr, 24VDC, Fixed Output ²	w/Flying Leads
NER-010503850	LC-100, 0.35A CC Dvr, 24VDC, Variable Output ²	w/Flying Leads
NER-BA10-0AS0	PP600, 2 Chnl. CC Cntrl, 24VDC, Push Button ²	w/Flying Leads
NER-BA10-0AT0	PP610, 2 Chnl. CC Cntrl, 24VDC, PB/RS232 ²	w/Flying Leads
NER-BA00-0AA0	DSP60, 24VDC, 2.5A, DIN Mount Power Supply	PP6xx, LC-50/100
NER-BA00-0AB0	DSP100, 24VDC, 4.2A DIN Mount Power Supply	PP6xx, LC-50/100
NER-DA00-0AB0	AC Power Cord, US, 1.8 M (6.0 ft.)	DIN Mount PS
NER-DA00-0AC0	AC Power Cord, EU, 2.5 M (8.2 ft.)	DIN Mount PS
NER-DA00-0AD0	AC Power Cord, UK, 2.0 M (6.6 ft.)	DIN Mount PS

¹ Constant Current (CC) driver or controller required; choose one from above.

² LC-xxx and PP6xx CC drivers & controllers require a DC power supply; choose one from above.



LALL-47x47 Illumination Properties

Standoff	White LED	Red LED
	Lux Value (Center)	Lux Value (Center)
3'	1210	1320
6'	330	420
9'	180	210
12'	120	140



When provided, affix peel and stick eye safety warning labels to a system location visible to system operators and supporting personnel.

WARNINGS: For safe use of this product, observe the following warnings:



Handling: Surfaces hot during and after operation, avoid contact.



Service: No user serviceable parts inside, contact supplier for service.



Eye Safety: Products containing LEDs fall under the IEC standard for laser product safety (IEC 60825-1). Please refer to the IEC classifications and categorization of NERLITE products below for safe operation.



IEC Laser Safety Class Definitions pertinent to NERLITE LED products:

IEC Class Code	Definition
1	Considered as safe to eye and skin under all reasonably foreseeable conditions of operation.
1M	Considered as safe to eye and skin under all reasonably foreseeable conditions of operation, provided they are not viewed with magnifying optics of any kind.
2	Will not cause permanent eye damage under all reasonably foreseeable conditions of operation, provided that any exposure may be terminated by the blink reflex of the eye. Since this assumes the eye can detect this radiation, the wavelength range is limited to visible light (400nm to 700nm).



IEC Laser Safety Class Codes of NERLITE LED Machine Vision Illuminators

IEC Class Code	NERLITE Products (Refer to Model Descriptions)
1	R LED, W LED, G LED, I LED
1M	U LED
2	B LED, B1 LED, B3 LED, R1 LED, R3 LED, W1 LED, W3 LED, G1 LED, G3 LED, I1 LED, DUAL AXIS LIGHTS containing I LED



Training: Customers are encouraged to document their unique application and instruct employees on procedures to limit exposure to LED radiation. The documentation and instruction should include but not necessarily be limited to:

- Operational overview of equipment including LED lighting.
- Need for personal protection (e.g. protective eyewear, UV protective eyewear)
- Understanding hazard controls (e.g. warning signs)
- Bio-effects of LED radiation upon the eyes and skin (refer to <http://www.icnirp.de/documents/led.pdf> for the International Commission on Non-ionizing Radiation Protection's statement on "LEDS and Laser Diodes: Implications for Hazard Assessment")



General LED Precautions:

These devices contain visible and non-visible LEDs – Light Emitting Diodes.



WARNING – RISK OF DISCOMFORT:

Observation of the Class 1 and 2 code definitions are substantial for eye protection.



Flashing LED Precautions:

This device contains LEDs – Light Emitting Diodes – that are flashing (aka strobing or pulsing) during operation.



WARNING – RISK OF DISCOMFORT:

Flashing (aka strobing or pulsing) lights have been known to cause discomfort in people; you can prevent this by taking precautions during use.



Ultra Violet (UV) LED Precautions:

This device contains UV Light LEDs – Ultra Violet Light Emitting Diodes. The LED during operation radiates intense UV light.



WARNING – RISK OF CORNEA AND LENS DAMAGE:

Viewing the LED output with certain optical instruments (for example: eye loupes, magnifiers and microscopes) within a distance of 100 mm may pose an eye hazard. During operation, these LEDs radiate UV light, requiring that precautions must be taken to prevent looking directly at the UV light with unprotected eyes. Do not look directly, or through an optical system, into the UV light. When there is a possibility to receive a reflection of light, protect your eyes by using UV light protective glasses so that light will not reach eyes directly.



Blue LED Precautions:

This device contains Blue LEDs – Blue Light Emitting Diodes.



WARNING – RISK OF RETINAL DAMAGE:

During operation, these LEDs radiate Blue light, requiring that precautions must be taken to prevent looking directly at the Blue light with unprotected eyes. Eye protection from visible "blue light" LED radiation can be provided by normal aversion responses (e.g. looking away from light source, blink reflex).



Infra Red (IR) LED Precautions:

This device contains IR LEDs – IR Light Emitting Diodes.



WARNING – THERMAL HAZARD: RISK OF LENS DAMAGE:

During operation, these LEDs radiate non-visible thermal energy. Eye hazards are dependent upon brightness of the source and since IR LED output is non-visible, precautions must be taken to prevent looking toward the output of the LED assembly.