

## NERLITE® DOAL®-50 "V2" Series LED

**DOAL-50 "V2" Series LED Illuminators** provide diffuse illumination in the same optical axis as the camera. "V2" (Version 2) DOAL's provide up to twice the light intensity of their predecessors, are passively-cooled (no fans) and suitable for clean room environments. The DOAL is designed for applications that have flat specular surfaces requiring uniform lighting. With the DOAL, light rays reflect off the beam splitter directly on to the object at nearly 90°. This lighting technique helps bring out surface textures, elevation changes and translucent features.

Model #	Description
NER-010200810	DOAL-50 V2, R LED-D, 12V-C
010-200815	DOAL-50 V2, R LED-D, 12V-C w/AR Shield
NER-010200811	DOAL-50 V2, R LED-D, 24V-C w/DB9
NER-010200816	DOAL-50 V2, R LED-D, 24V-C w/DB9 & AR Shield
NER-010200814	DOAL-50 V2, R LED-D, 24V-C w/"Flying Leads"
NER-010200812	DOAL-50 V2, R LED-D, 24V-S
NER-010200820	DOAL-50 V2, W LED-D, 12V-C
NER-010200821	DOAL-50 V2, W LED-D, 24V-C w/DB9
010-200828	DOAL-50 V2, W LED-D, 24V-C w/ DB9 & AR Shield
NER-010200824	DOAL-50 V2, W LED-D, 24V-C w/"Flying Leads"
NER-010200822	DOAL-50 V2, W LED-D, 24V-S
NER-010200830	DOAL-50 V2, B LED-D, 12V-C
NER-010200831	DOAL-50 V2, B LED-D, 24V-C w/DB9
NER-010200834	DOAL-50 V2, B LED-D, 24V-C w/"Flying Leads"
NER-010200832	DOAL-50 V2, B LED-D, 24V-S
010-200891	DOAL-50 V2, I LED-D, 12V-C
010-200892	DOAL-50 V2, I LED-D, 24V-C w/DB9
010-200840	DOAL-50 V2, G LED-D, 12V-C
010-200896	DOAL-50 V2, R LED-D, 24V-S w/"Flying Leads"



**Mechanical:**

**L x W x H (mm/in.):** 106.7 mm x 58.2 mm x 55.4 mm  
(4.20 in. x 2.29 in. x 2.18 in.)  
**Mounting:** (7) M6 x 1.0 (0.25" deep)  
**Housing Material:** Black Anodized Aluminum  
**Weight:** 388.4 grams (13.7 oz.)

**Environmental:**

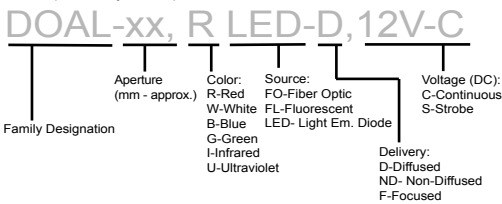
**Max. Operating Humidity:** 95% non-condensing  
**Operating Temp.** 40°C (104°F)  
**Storage Temp.** 50°C (122°F)

**Accessories:**

Part #	Description	Models Used On
NER-010901900	SCM-2 Channel Strobe Control	24V-S <sup>2</sup>
NER-010501402	CPS-24, 24VDC, US cord	24V-S <sup>1,2</sup>
NER-010501401	CPS-24, 24VDC, EU cord	24V-S <sup>1,2</sup>
NER-010502601	CPS-24T, 24VDC US w/9-pin D-sub	24V-C & 24V-S <sup>1,2</sup>
NER-010502602	CPS-24T, 24VDC EU w/9-pin D-sub	24V-C & 24V-S <sup>1,2</sup>
NER-010500301	CPS-12 3.5A, 12VDC, US Cord	12V-C
NER-010500303	CPS-12 3.5A, 12VDC, EU Cord	12V-C
NER-010502700	ICM-1, M/D Intensity Cntrl, 12V-C	12V-C
NER-010502701	ICM-1, M/D Intensity Cntrl, 24V-C	24V-C <sup>2</sup>
NER-010502702	SCM-1, 1 Channel M/D Strobe Control	24V-S <sup>2</sup>
NER-010503500	VPS-II, 2 Ch. Variable PS, US Cord	12V-C
NER-010503501	VPS-II, 2 Ch. Variable PS, EU Cord	12V-C
NER-030003702	Ext. Cable, Cont., 18 M (6 ft.)	12V-C & 24V-C <sup>2</sup>
NER-030003703	Ext. Cable, Cont., 3.0 M (10 ft.)	12V-C & 24V-C <sup>2</sup>
NER-030007006	Ext. Cable, Strobe, 1.8 M (6 ft.)	24V-S <sup>2</sup>
NER-030007010	Ext. Cable, Strobe, 3.0 M (10 ft.)	24V-S <sup>2</sup>
NER-030006900	Y cable, 2 Lights, 9 pin D-sub Strb.	24V-S <sup>2</sup>
NER-030003601	Y cable, 2 Lights, 9 pin D-sub Cont.	12V-C & 24V-C <sup>2</sup>

<sup>1</sup> NER-01050140x used only with NER-010901900;  
<sup>2</sup> 24V-C and 24V-S accessories are not available for "Flying Leads" configurations

**Description Key Example**



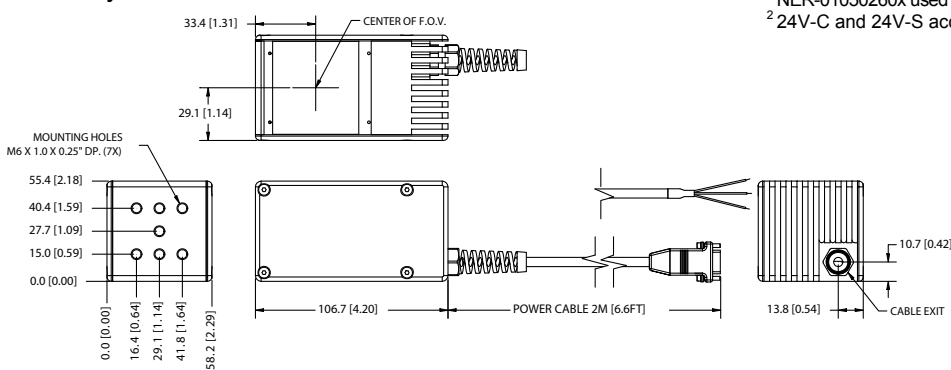
**Illumination & Electrical:**

**Lighting Technique:** Diffuse On-Axis Light (DOAL®)  
**Light Aperture:** 50 mm x 49 mm (2 in. x 1.93 in.)  
**Field Of View x Stand-Off:** 25 mm x 25 mm (1 in. x 1 in.)  
**Light Characteristics:**

Source	Color (nm)	Exp. Life	Voltage/Current (max.)		
			12V-C	24V-C	24V-S
LED	Red (640)	60k hrs.	400 mA	200 mA	4.0 A pk.
LED	IR (880)	50k hrs.	240 mA	105 mA	n/a
LED	White - 6500 Kelvin	10k hrs.	400 mA	200 mA	4.0 A pk.
LED	Blue (470)	10k hrs.	400 mA	200 mA	4.0 A pk.
LED	Green (533)	10k hrs.	400 mA	n/a	n/a

**CE Conformity:**

Yes



**Cables/Connectors:**

	Connector	Length	Pin#	1	2	3	4	5	6	7	8	9
<b>12V-C Models</b>	9 pin D-sub Male	2.0 M (6.6 ft.)		n/a	n/a	GND	+12VDC	n/a	n/a	n/a	n/a	n/a
<b>24V-S Models</b> <sup>1</sup>	9 pin D-sub Male <sup>1</sup>	2.0 M (6.6 ft.) <sup>1</sup>		V-	n/a	n/a	+24VDC	n/a	n/a	n/a	n/a	n/a
<b>24V-C Models</b> <sup>1</sup>	9 pin D-sub Male <sup>1</sup>	2.0 M (6.6 ft.) <sup>1</sup>		n/a	n/a	n/a	n/a	n/a	n/a	+24VDC	n/a	GND

<sup>1</sup> Note: Models w/"Flying Leads" have a 4.5 M (15 ft.) cable with tinned leads and no connector; leads are labeled GND, V+ (+24VDC), and SHIELD.