

NERLITE® DF-50 Dark-Field Illuminators

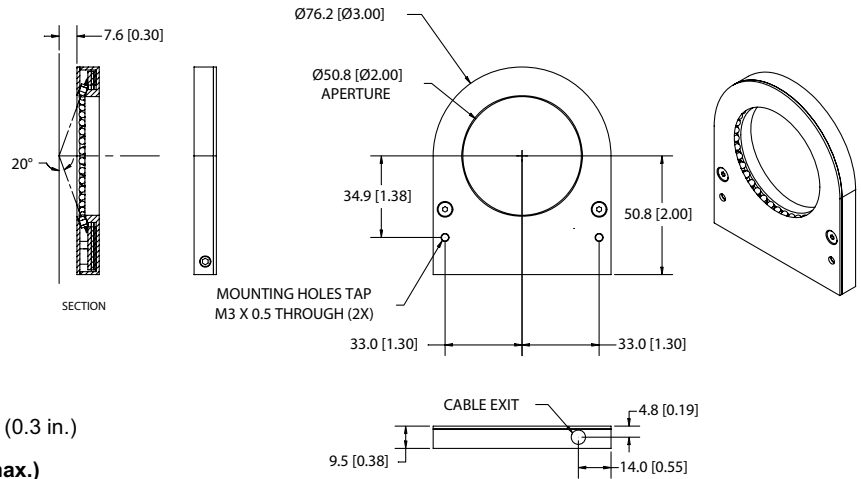
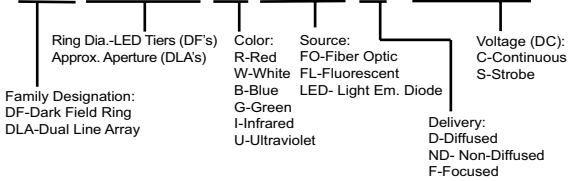
The **DF-50 Series** of dark-field illuminators provides low-angle illumination to the region of interest. The unit uses a single tier of LEDs mounted 70° to the optical axis. The light enhances the contrast of surface features such as laser, embossed or engraved marks or surface defects. The light is particularly suited for applications such as BGA ball placement, laser-etched symbologies and surfaces with geometric contours.



Model #	Description
RVA:010609310	DF-50, R LED-ND, 12V-C
RVA:010609311	DF-50, R LED-ND, 24V-C
RVA:010609312	DF-50, R LED-ND, 24V-S
RVA:010609320	DF-50, W LED-ND, 12V-C
RVA:010609321	DF-50, W LED-ND, 24V-C
RVA:010609322	DF-50, W LED-ND, 24V-S
RVA:010609330	DF-50, B LED-ND, 12V-C
RVA:010609331	DF-50, B LED-ND, 24V-C
RVA:010609332	DF-50, B LED-ND, 24V-S

Description Key Example

Dx-xxx-x, R LED-D, 12V-C



Illumination & Electrical:

Lighting Technique: Dark-field
Light Aperture: 50.8 mm (2.0 in.)
Field Of View x Stand-Off ¹: 17.8 mm (0.7 in.) x 7.6 mm (0.3 in.)
Light Characteristics:

Source	Color (nm)	Exp. Life	Voltage/Current (max.)		
			12V-C	24V-C	24V-S ²
LED	Red plus (660)	50k hrs.	126 mA	69 mA	1.2 A pk. ²
LED	White – 6500 Kelvin	10k hrs.	240 mA	120 mA	2.4 A pk. ²
LED	Blue (470)	10k hrs.	240 mA	120 mA	2.4 A pk. ²

¹ Suggested

² Maximum strobe pulse width = 1.3ms

CE Conformity: Yes

Mechanical:

L x W x H (mm/in.): 88.9 mm x 76.2 mm x 9.5 mm
 (3.5 in. x 3.0 in. x 0.38 in.)
Mounting: (2) M3 x 0.5 through holes
Housing Material: Black Anodized Aluminum
Weight: 136 grams (4.8 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
RVA:010500301	CPS-12 3.5A, 12VDC, US Cord	12V-C
RVA:010500303	CPS-12 3.5A, 12VDC, EU Cord	12V-C
RVA:010501402	CPS-24, 24VDC, US cord	24V-S ¹
RVA:010501401	CPS-24, 24VDC, EU cord	24V-S ¹
RVA:010502601	CPS-24T, 24VDC US w/9-pin D-sub	24V-C & 24V-S ¹
RVA:010502602	CPS-24T, 24VDC EU w/9-pin D-sub	24V-C & 24V-S ¹
RVA:010502700	ICM-1, M/D Intensity Cntrl, 12V-C	12V-C
RVA:010502701	ICM-1, M/D Intensity Cntrl, 24V-C	24V-C ²
RVA:010502702	SCM-1, 1 Channel M/D Strobe Cntrl.	24V-S
RVA:010901900	SCM-2, 2 Channel Strobe Cntrl.	24V-S
RVA:010503500	VPS-II, 2 Ch. Variable PS, US Cord	12V-C
RVA:010503501	VPS-II, 2 Ch. Variable PS, EU Cord	12V-C
RVA:030003702	Ext. Cable, Cont., 1.8 M (6 ft.)	12V-C & 24V-C
RVA:030003703	Ext. Cable, Cont., 3.0 M (10 ft.)	12V-C & 24V-C
RVA:030003601	Y cable, 2 Lights, 9 pin D-sub Cont.	12V-C & 24V-C
RVA:030007006	Ext. Cable, Strobe, 1.8 M (6 ft.)	24V-S
RVA:030007010	Ext. Cable, Strobe, 3.0 M (10 ft.)	24V-S
RVA:030006900	Y cable, 2 Lights, 9 pin D-sub Strb.	24V-S

¹ RVA:01050140x used only with RVA:010901900;

RVA:01050260x used with either RVA:010502702 or 24V-C lights with DB-9 connectors

Cables/Connectors:

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