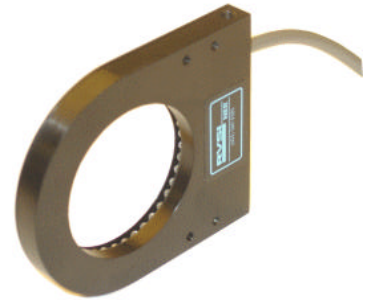


The **DF-50 Series** of dark-field illuminators provides low-angle illumination to the region of interest. The unit uses a single tier of LEDs mounted 70° to the optical axis. The light enhances the contrast of surface features such as laser, embossed or engraved marks or surface defects. The light is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



MODEL #	DESCRIPTION
010-609310	DF-50, R LED-ND, 12V-C
010-609311	DF-50, R LED-ND, 24V-C
010-609312	DF-50, R LED-ND, 24V-S
010-609320	DF-50, W LED-ND, 12V-C
010-609321	DF-50, W LED-ND, 24V-C
010-609322	DF-50, W LED-ND, 24V-S
010-609330	DF-50, B LED-ND, 12V-C
010-609331	DF-50, B LED-ND, 24V-C
010-609332	DF-50, B LED-ND, 24V-S

Description Key			
Example: Dx-xxx-x, R LED-D, 12V-C			
Family	Color:	Source:	Voltage (DC):
Designation:	R = Red	FO = Fiber Optic	C = Continuous
DF = Dark Field Ring	W = White	FL = Fluorescent	S = Strobe
DLA = Dual Line Array	B = Blue	LED = Light Emitting Diode	Delivery:
Ring Dia. - LED Tiers (DFs)	G = Green		D = Diffused
Approx. Aperture (DLAs)	I = Infrared		ND = Non-Diffused
	U = Ultraviolet		F = Focussed

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
LED	Red plus (660)	50k hrs.	126 mA	69 mA	1.2 A pk.
LED	White – 6500 Kelvin	10k hrs.	240 mA	120 mA	2.4 A pk.
LED	Blue (470)	10k hrs.	240 mA	120 mA	2.4 A pk.

¹Suggested

CE Conformity: Yes

MECHANICAL:

L x W x H (mm/in.):

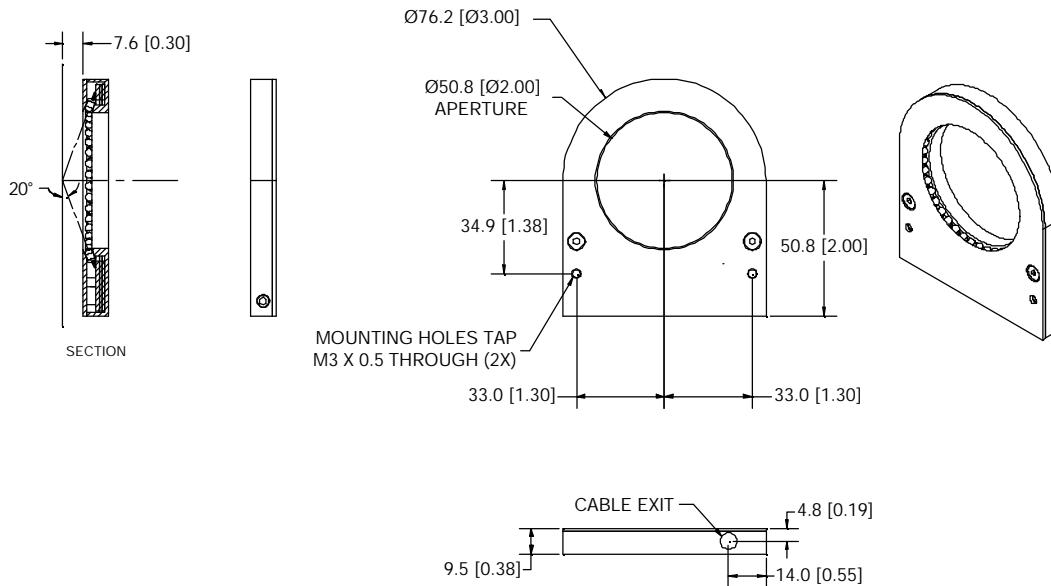
88.9 mm x 76.2 mm x 9.7 mm
 (3.5 in. x 3.0 in. x 0.38 in.)
Mounting: (2) M3 x 0.5 through holes
Housing Material: Black Anodized Aluminum
Weight: 136 grams (4.8 oz.)

Mounting:
Housing Material:
Weight:

ENVIRONMENTAL:

Max. Operating Humidity
Operating Temp.
Storage Temp.

95% non-condensing
 40° C (104° F)
 50° C (122° F)



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



Products are protected under US Patent #s:
 5,461,417; 5,187,611; 5,539,485; 5,301,402;
 5,604,550; 5,684,530; 5,713,661

All RVSI/NER Products come with an Industry-Leading 2-Year Warranty