

VILLUMINATOR™

Top Hat Illumination Modules

We offer a range of high performance and innovative flat top illumination modules for the most demanding optical illumination applications.



VIL100X



VIL121X / VIL151X



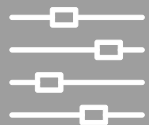
VIL350X



Unrivalled
Uniformity



Versatile



Wide Wavelength
Selection

ABOUT OUR PRODUCT

Featuring our innovative patent-pending flat-fielding technology, by using LEDs as incoherent light sources, Villuminators™ flat top illumination modules are compact long-lasting luminaires with many choices of wavelengths that provide uniform top hat illumination, making them ideal for a variety of applications, including fluorescence imaging, machine vision, projection, display, and more.

Features

- Superior Top Hat Uniformity (>95%)
- Versatile to fit many applications
- Wide Selection of wavelengths
- Long-lasting luminaires
- Customizable

Specifications

	VIL100X	VIL120X	VIL151X	VIL350X ⁵
Uniformity ¹	> 95%			
Flat Field Beam Diameter ²	Ø11mm	Ø13mm	Ø21mm	Ø35mm
Typical Optical Power	Up to 240mW	Up to 140mW	Up to 240mW	Up to 6W
Working Distance ³	11mm	16mm	19mm	23mm
Weight	90g	140g	150g	580g
Dimension, mm	Ø40, Length 50	Ø40, Length 71	Ø40, Length 77	W97 x D81 x H106
Max Current/Voltage	1.5A / 4V			27A / 5V
Cooling	Passive Heatsink			Active Fan
Accessories	LED Driver (VLD0201)	Field Aperture attachment (VIL-FA-1) ⁴ LED Driver (VLD0201)		LED Driver (VLD2501)

^{1, 2, 3, 4} Refer to page 2 for more information

⁵ Currently only offered with white LED and not for microscopy applications

VBMB PTE LTD (V-BMB)

All product specifications are subject to change without notice. Last updated: AUG-2025
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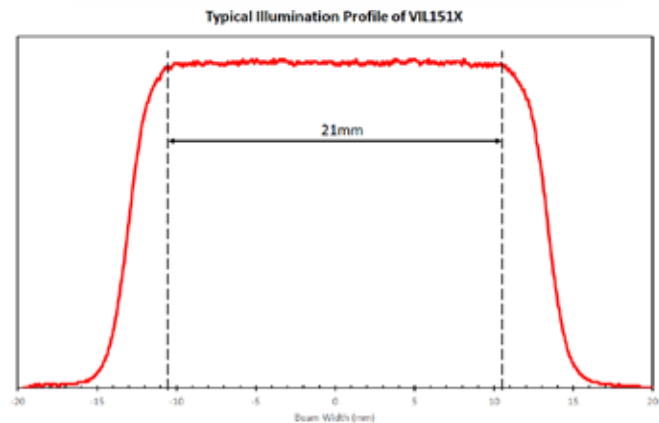
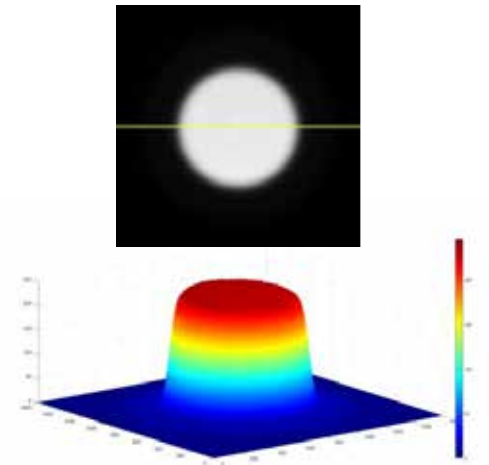
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Part Number and Ordering Information

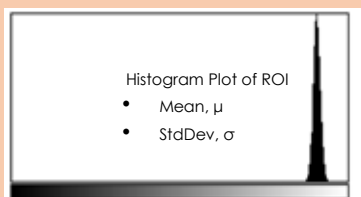
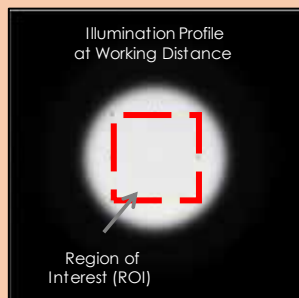


Only for VIL120X and VIL151X modules

Identifier	Wavelength/Color	Identifier	Wavelength/Color
A	5700K (Cool White)	L	500 (Cyan)
B	4000K (Neutral White)	M	530 (Green)
C	2700K (Warm White)	N	554 (Lime)
D	365 (Ultra Violet)	O	590 (Amber)
E	385 (Ultra Violet)	P	615 (Red-Orange)
F	395 (Violet)	Q	630 (Red)
G	425 (Violet)	R	660 (Deep Red)
H	450 (Royal Blue)	S	730 (Far Red)
K	470 (Blue)	T	810 (Near-Infrared)

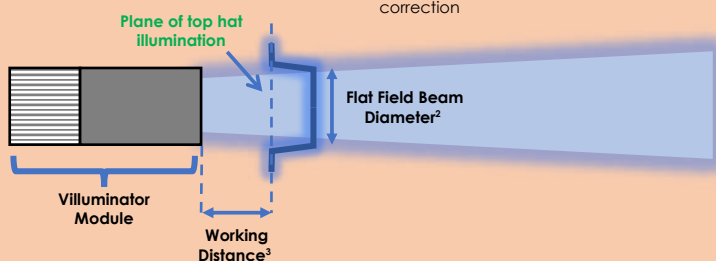


Definitions

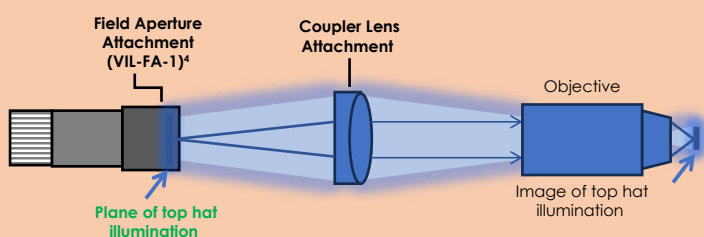


$$\text{ROI Uniformity}^1 = \frac{\text{Min}}{\text{Max}} \times 100\%$$

Note: Min/Max is $\text{Mean} \pm 2\sigma$ within the entire ROI, where σ is the standard deviation after noise correction



Accessories

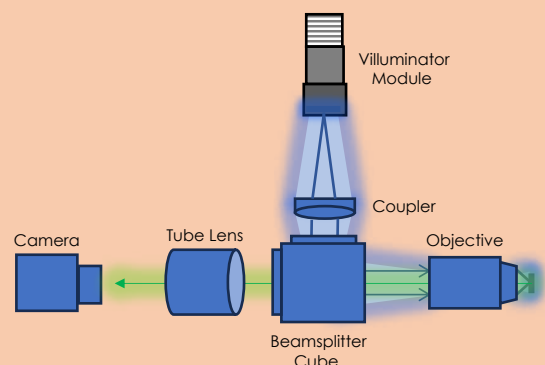


General example for microscopy

Applications

FLUORESCENCE MICROSCOPY

Only for VIL120X and VIL151X modules



GENERAL PROJECTION

