

Excelitas' Cermax VQ—

Lighting technology for demanding medical applications

Cermax VQ

Xenon Elliptical and Parabolic Lamps

Key Features and Benefits

- Reduced noise—significantly less cooling required resulting in less acoustic fan noise
- Longer lamp lifetime
- Improved heat sink design
- Unparalleled color performance—true bright, white 6000 K light for true color rendition
- Instant on-off
- Environmentally-safe—inert, non-toxic Xenon gas offers an environmentally-safe alternative to mercury-based lamps
- Flexible power ranges—product range operating from 275W – 425W
- RoHS Compliant

Applications

- Fiber optic illumination—endoscopic, surgical headlamp, industrial
- Microscopy—surgical, fluorescence
- Spectroscopy
- Photo activation



Overview

Cermax® VQ™ by Excelitas is the latest breakthrough in Xenon lighting technology. Cermax VQ is the premiere solution for medical lighting applications including endoscopy, surgical headlamps, and microscopy where performance and reliability are paramount.

Excelitas' Cermax VQ line delivers the unparalleled color performance that has made Cermax Xenon the medical industry standard for over 20 years. The patented VQ design satisfies the increasing demands of medical OEMs by providing longer lamp lifetime, improved lamp-to-lamp consistency, easy replacement, and a significant reduction in audible cooling noise for an ultra-quiet illumination system.

Cermax VQ products are available in our high-precision parabolic line (ME300BF and ME400BF) and elliptical line (ME300C-10F) of Xenon lamps and modules. All of the VQ products are manufactured utilizing diamond turning technology, providing an accurate beam profile and greatly improving lamp-to-lamp uniformity, coupling efficiency and system light output.

The Cermax VQ family is the right choice for supporting your next generation medical illumination system.

Cermax VQ Xenon Elliptical and Parabolic Lamps

Table 1. Technical Specifications

Type		ME300C-10F	ME300BF	ME400BF
Power	Nominal	300 Watts	300 Watts	400 Watts
	Range	275-325 Watts	275-325 Watts	350-425 Watts
Current	Range	17-25 Amps	17-25 Amps	25-32 Amps
Voltage	Nominal	13 Volts	13.5 Volts	14.5 Volts
	Range	11-15 Volts	12-15 Volts	13-16 Volts
Maximum operating temperature ¹		150° C	150° C	150° C
Minimum ignition voltage at lamp ²		20 kV	20 kV	20 kV
Minimum ignition pulse duration ²		60 nS	60 nS	60 nS
Radiant output ³		75 Watts	75 Watts	100 Watts
UV output <390nm ³		4 Watts	4 Watts	6 Watts
IR output >770nm ³		37 Watts	37 Watts	55 Watts
Visible output 390-770nm ³		5000 Lumens	5500 Lumens	7500 Lumens
Spot size at cross over	@ 50% points	3 mm	-	-
	@ 10% points	9 mm	-	-
Beam divergence @ 10%	new	-	10°	10°
	@ 100 hours	-	12°	12°
	@ 1000 hours	-	15°	15°
Window diameter		1 inch / 25.4 mm	1 inch / 25.4 mm	1 inch / 25.4 mm
Color temperature		6000 Kelvin	6000 Kelvin	6000 Kelvin
Focused output ⁴				
	6 mm aperture	3500 Lumens	4000 Lumens ⁵	6200 Lumens ⁵
	3 mm aperture	1600 Lumens	2000 Lumens ⁵	3400 Lumens ⁵

Technical Specifications Notes

Unless minimum or maximum values are stated, values are nominal and may vary.

Specifications subject to change without notice.

(1) Optimum operating temperature 100 – 130° C

(2) Ignition requirements assuming use of a PerkinElmer-approved power supply

(3) Total nominal output from lamp in all directions

(4) Measured after 2 hours of operation

(5) Measured with f/1 lens

Figure 1. ME300BFM

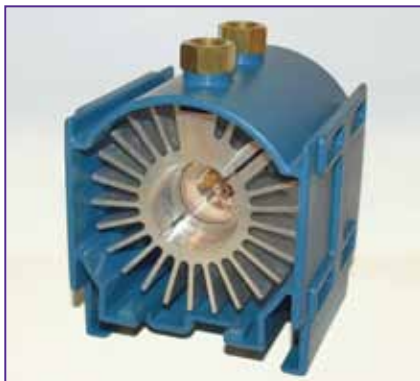


Figure 2. ME300C-10FML

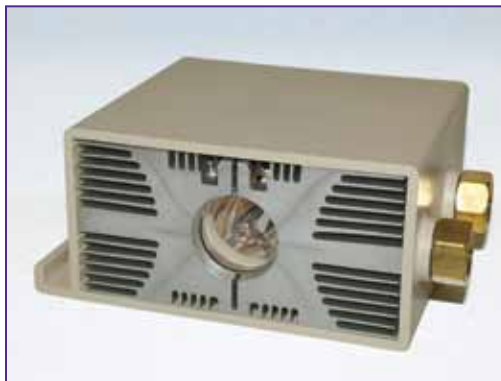


Figure 3. ME400BFMS

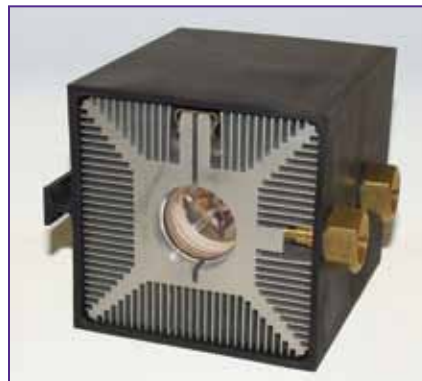


Figure 4. Nominal Lifetime Curves

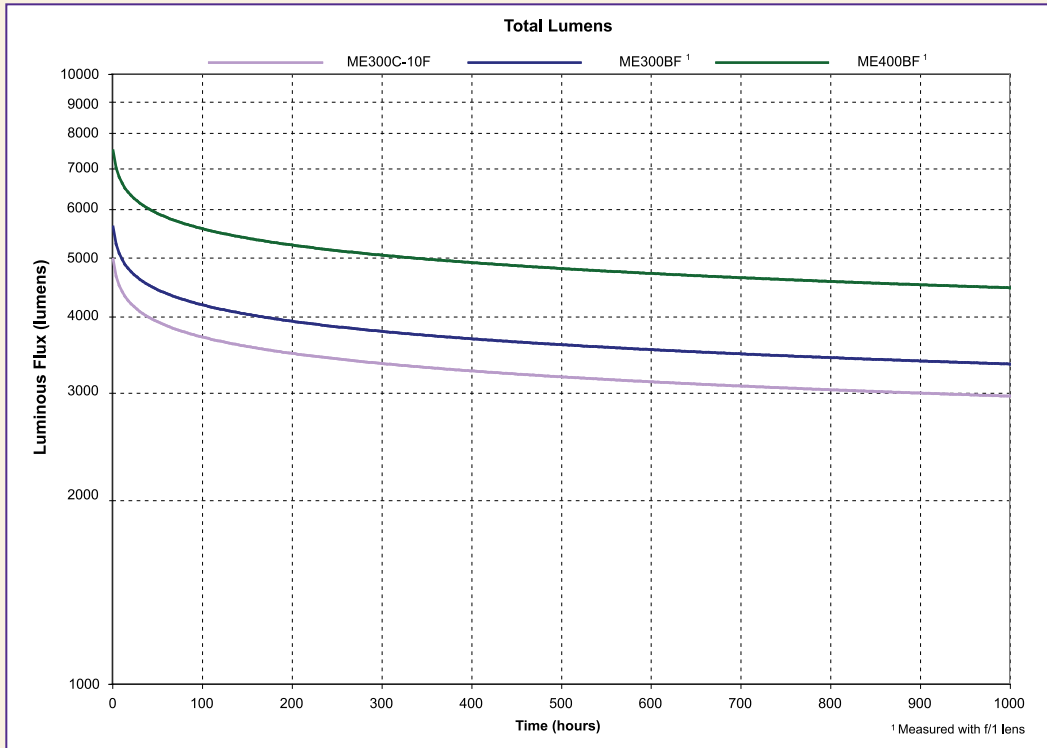
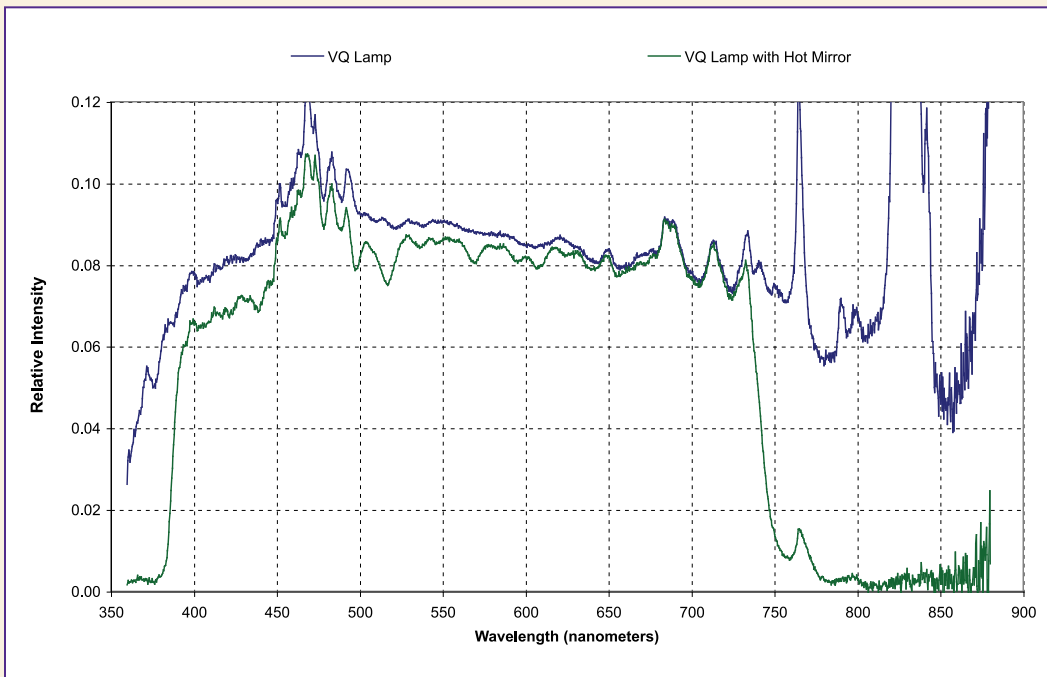


Figure 5. Nominal Spectral Output



Cermax VQ Xenon Elliptical and Parabolic Lamps

Figure 6. ME300C-10FM: Radial Elliptical Lamp Module Configuration

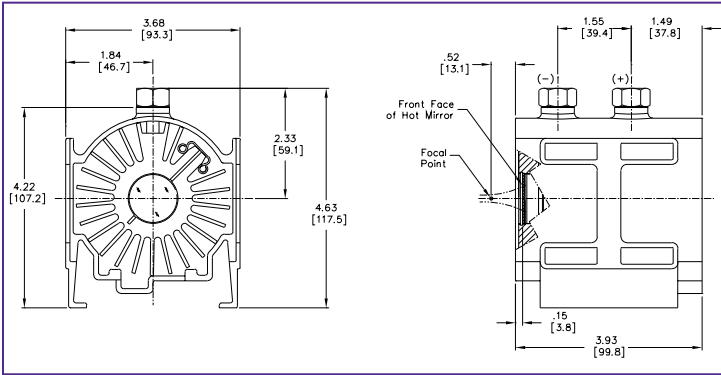


Figure 7. ME300C-10FML: Low Profile Elliptical Lamp Module Configuration

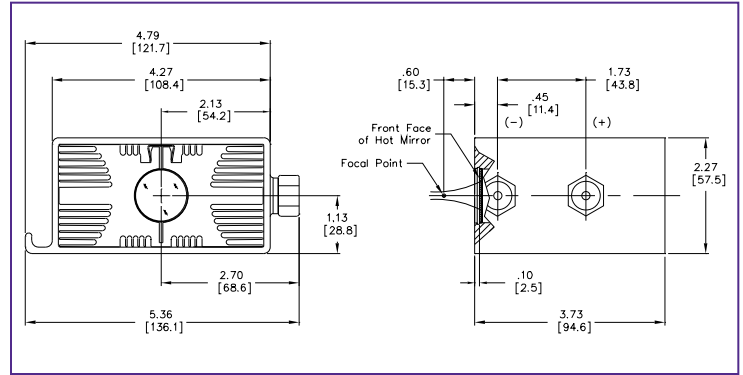


Figure 8. ME300BFM: Radial Parabolic Lamp Module Configuration

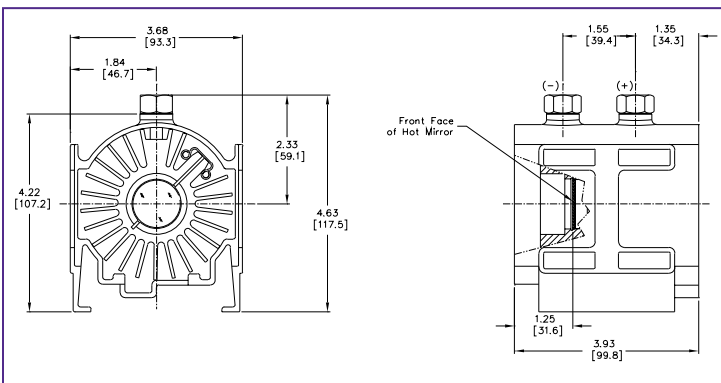


Figure 9. ME300BFML: Low Profile Parabolic Lamp Module Configuration

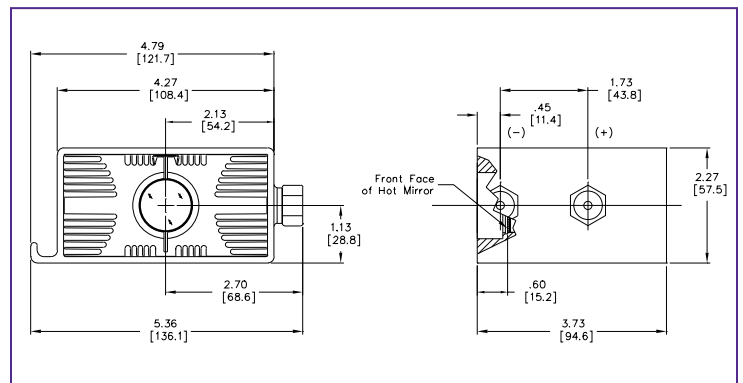


Figure 10. ME400BFMS: Square Parabolic Lamp Module Configuration

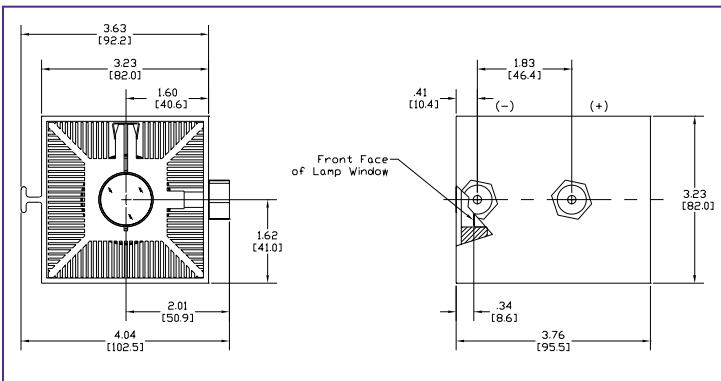
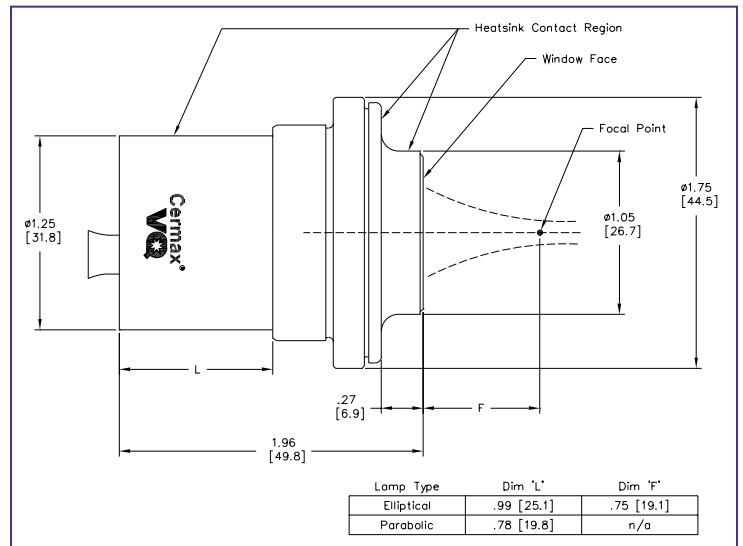


Figure 11. Lamp Dimensions



Notes: Dimensions in brackets are in millimeters.
 Above modules ship with hot mirrors in place.
 Additional versions without hot mirrors are also available.

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