

Cermax® Xenon Arc Lamps

PE175B-10F and PE175B-10UV

CERMAX® FOCUSED XENON ARC LAMPS



Description

The Cermax® xenon arc lamp is an innovative lamp design in the specialty lighting industry. These lamps were introduced in the early 1980's and are now used in endoscopes in most major hospitals worldwide, in high brightness projection display systems, and for a wide variety of other high performance applications.

The PE175B-10F and PE175B-10UV Cermax® lamps have an integrated elliptical reflector, enabling high intensity, focused output of ultraviolet, visible, and infrared radiation. With their internal reflector and rugged ceramic body construction, Cermax® lamps are the safest and most compact alternative to conventional quartz xenon lamps. This makes them ideal for applications that require a high degree of illumination control. Current-regulated or power-regulated power supplies with output ripples of less than 5% are recommended. Single shot ignition

pulses are advised because radio frequency starters may damage the lamps internal reflector.

In addition to lamps, PerkinElmer Optoelectronics manufactures Cermax® arc lamp power supplies, lamp holders, OEM lighting systems, and fiber optic light sources.

Applications

- Medical and industrial fiber optic illuminators
- Machine vision
- Infrared and visible spotlights/beacons
- Spectroscopy
- Microscopy
- UV Curing
- Video projection



PE175B-10F and PE175B-10UV

Operational Specifications

Description	Nominal	Range
Power	175 watts	150-200 watts
Current	14 amps (DC)	12-16 amps (DC)
Operating Voltage	12.5 volts (DC)	10.5-13.5 volts (DC)
Ignition Voltage	23 kilovolts (recommended minimum)	
Temperature	150° C (maximum)	
Lifetime*	1000 hours (500 hour warranty)	

* End of lamp life is defined as 50% of initial output.

Output at Nominal Power

F= UV Filtered Output/ UV = UV Enhanced Output

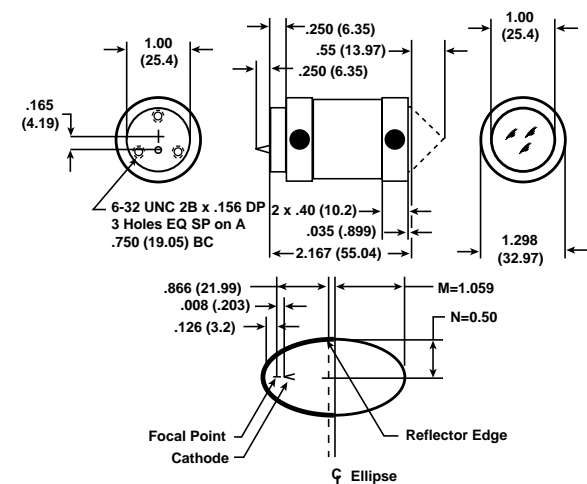
Description	PE175B-10F	PE175B-10UV
Radiant Output*	34 watts	34 watts
UV Output*	1.5 watts	4.9 watts
IR Output*	18.8 watts	18 watts
Visible Output*	2740 Lumens	2460 Lumens
Color Temperature	5900 Kelvin	5050 Kelvin
Peak Instabilities	4%	4%
Spot Size at Crossover	.09" at 50% pts	0.9" at 50% pts
Spot Size at Crossover	.23" at 10% pts	.23" at 10% pts

*These values indicate total output in all directions.

Wavelengths = UV<390nm, IR>770nm, Visible 390nm to 770nm.

** Beam Geometry defined as half angle at 10% PTS after 01/100/1000 hours.

Dimensions



Dimensions in parentheses are in millimeters.

Physical Specifications

Description	Specification
Arc Gap	.038 inch (0.96mm)
Reflector Geometry	Ellipsoidal $1 = X^2/M^2 + Y^2/N^2$
Weight	150 grams
Window Diameter	1 inch (25.4 mm)

Focused Output

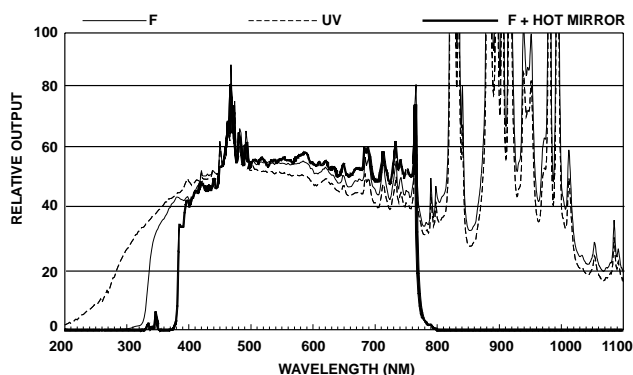
Description	Visible Output*	Total Output
6mm aperture	1930 Lumens	18.5 watts
3mm aperture	1170 Lumens	9 watts

* Nominal values at 175 watts after 2 hour burn-in

Notes

- Lamp must not be operated with window facing upwards within 45° of vertical.
- Seal temperature must not exceed 150° C.
- Current/power regulated power supplies and PerkinElmer lamp housing units are recommended.
- Lamp must be operated within recommended current and power range. Over powering may lead to arc instability, hard starting and premature aging.
- Hot mirror assembly is available for IR filtering.
- CERMAX lamps are much safer lamps to use than their quartz xenon arc lamp equivalents. However, caution must be practiced when operating lamps because they are under high pressure, require high voltage, reach temperatures up to 200° C, and their IR and UV radiation can cause skin burns and eye damage. Read hazard sheet included with each lamp shipment.

Spectral Output



PerkinElmer welcomes inquiries about special lamps. We would be pleased to discuss the requirements of your application and the feasibility of designing a lamp specifically suited to your needs.

For more information e-mail us at opto@perkinelmer.com or visit our web site at www.perkinelmer.com/opto.

All values are nominal; specifications subject to change without notice.

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