

Cermax® Xenon Arc Lamps

PE1500D-10F and PE1500D-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 PE1500D-10F and PE1500D-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



PE1500D-10F and PE1500D-10UV

Operational Specifications

Description	Nominal	Range
Power	1500 watts	900-1550 watts
Current	65 amps (DC)	45-80 amps (DC)
Operating Voltage	18.5 volts (DC)	17-23 volts (DC)
Ignition Voltage	28 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

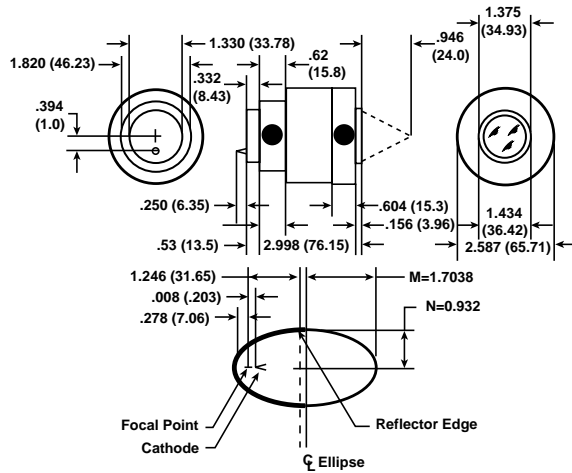
Description	PE1500D-10F	PE1500D-10UV
Radiant Output*	365 watts	-
UV Output*	19.5 watts	-
IR Output*	200 watts	-
Visible Output*	40000 Lumens	-
Color Temperature	5900 Kelvin	5050 Kelvin
Peak Instabilities	4%	4%
Spot Size at Crossover	.15" at 50% pts	.15" at 50% pts
Spot Size at Crossover	.40" at 10% pts	.40" 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	.075 inch (1.58 mm)
Reflector Geometry	Ellipsoidal $1=X^2/M^2 + Y^2/N^2$
Weight	687 grams
Window Diameter	1.375 inch (34.92 mm)

Focused Output

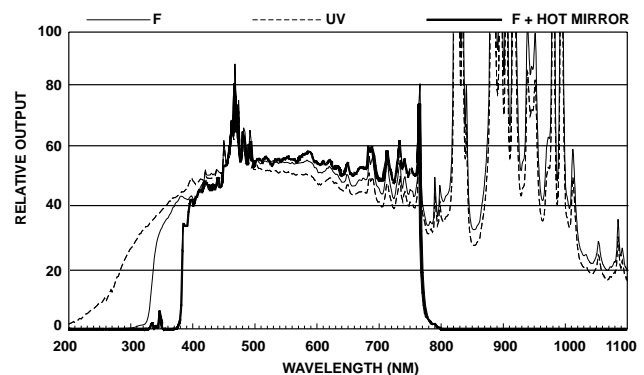
Description	Visible Output*	Total Output
12mm aperture	31000 Lumens	278 watts
9mm aperture	26000 Lumens	247 watts
6mm aperture	18000 Lumens	171 watts
3mm aperture	7600 Lumens	72 watts

* Nominal values at 1500 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.
- 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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