

PE1000DF and PE1000DUV

CERMAX[®] 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 PE1000DF and PE1000DUV Cermax[®] lamps have an integrated parabolic 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



PE1000BF and PE1000BUV

Operational Specifications

| Description | Nominal | Range |
|-------------------|------------------------------------|--------------------|
| Power | 1000 watts | 820-1050 watts |
| Current | 51 amps (DC) | 46-54 amps (DC) |
| Operating Voltage | 19.5 volts (DC) | 18.5-22 volts (DC) |
| Ignition Voltage | 35 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

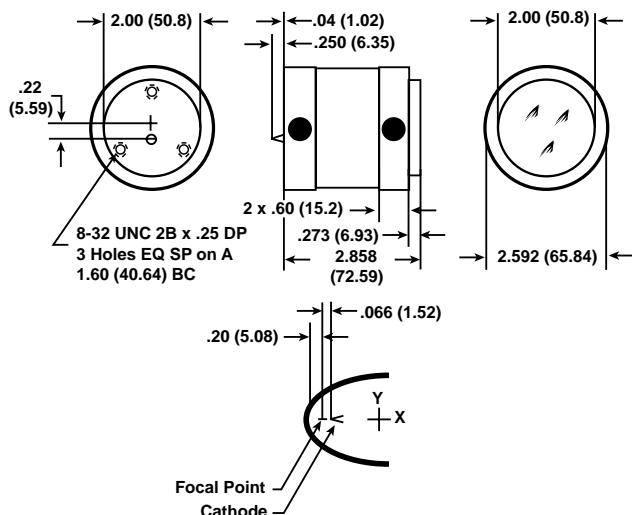
| Description | PE1000DF | PE1000DUV |
|--------------------|-----------------------------|-----------------------------|
| Peak Intensity | 38x10 ⁵ candelas | 27x10 ⁵ candelas |
| Radiant Output* | 250 watts | 250 watts |
| UV Output* | 13 watts | 25 watts |
| IR Output* | 137 watts | 133 watts |
| Visible Output* | 24000 Lumens | 22000 Lumens |
| Color Temperature | 5600 Kelvin | 5050 Kelvin |
| Peak Instabilities | 4% | 4% |
| Beam Geometry** | 4°/5°/6° | 4°/5°/6° |

*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



Physical Specifications

| Description | Specification |
|--------------------|--------------------------------|
| Arc Gap | .09 inch (2.28mm) |
| Reflector Geometry | Parabolic $Y^2 = 0.8 X$ (inch) |
| Weight | 680 grams |
| Window Diameter | 2 inch (50.8 mm) |

Focused Output at F/1.0 Lens

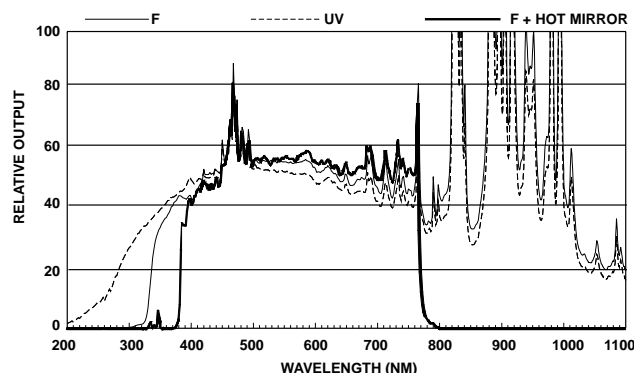
| Description | Visible Output | Total Output* |
|--------------|----------------|---------------|
| 6mm aperture | 10400 Lumens | 96 watts |
| 8mm aperture | 4600 Lumens | 44 watts |

* Nominal values at 1000 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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