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Cermax® Xenon Arc Lamps

# 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

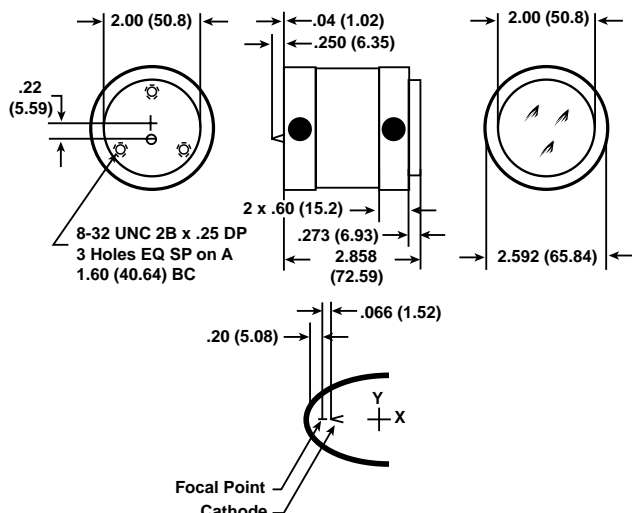
Description	PE1000DF	PE1000DUV
Peak Intensity	38x10 <sup>5</sup> candelas	27x10 <sup>5</sup> candelas
Radiant Output*	250 watts	250 watts
UV Output*	13 watts	25 watts
IR Output*	137 watts	133 watts
Visible Output*	24000 Lumens	22000 Lumens
Color Temperature	5600 Kelvin	5050 Kelvin
Peak Instabilities	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

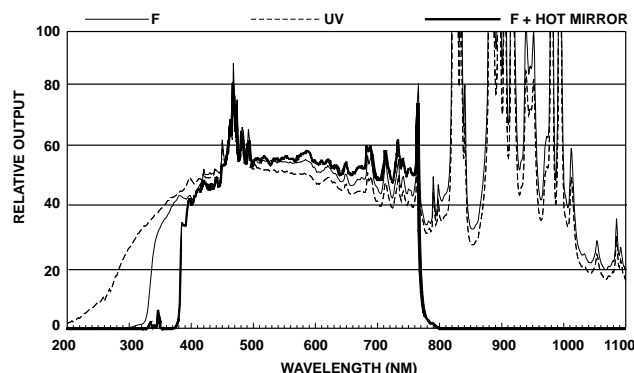
Description	Visible Output	Total Output*
6mm aperture	10400 Lumens	96 watts
8mm aperture	4600 Lumens	44 watts

\* 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](mailto:opto@perkinelmer.com) or visit our web site at [www.perkinelmer.com/opto](http://www.perkinelmer.com/opto).

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

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