

# PE500DF and PE500DUV

## 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 PE500DF and PE500DUV 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

# PE500DF and PE500DUV

## Operational Specifications

Description	Nominal	Range
Power	500 watts	340-575 watts
Current	27 amps (DC)	20-32 amps (DC)
Operating Voltage	18.5 volts (DC)	16-21 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

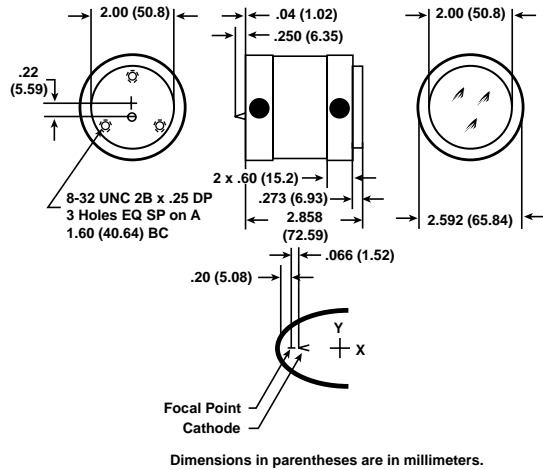
Description	PE500DF	PE500DUV
Peak Intensity	24x10 <sup>5</sup> candelas	17x10 <sup>5</sup> candelas
Radiant Output*	112 watts	112 watts
UV Output*	5.5 watts	11.5 watts
IR Output*	65 watts	62 watts
Visible Output*	10500 Lumens	9600 Lumens
Color Temperature	5600 Kelvin	5050 Kelvin
Peak Instabilities	4%	4%
Beam Geometry**	3°/4°/5°	3°/4°/5°

\*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	.09 inch (2.28mm)
Reflector Geometry	Parabolic $Y^2 = 0.8 X$ (inch)
Weight	664 grams
Window Diameter	2 inch (50.8 mm)

## Focused Output at F/1.0 Lens

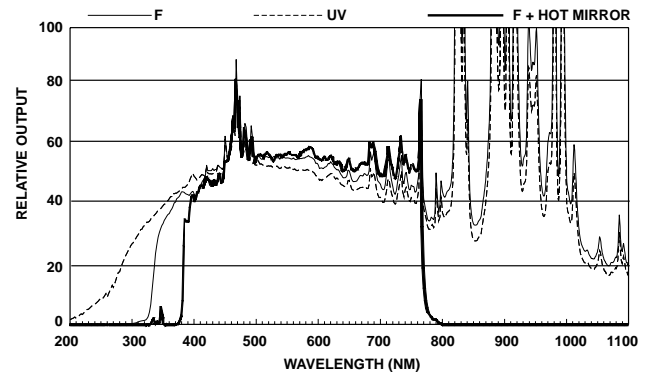
Description	Visible Output	Total Output*
6mm aperture	5200 Lumens	48 watts
8mm aperture	2300 Lumens	22 watts

\* Nominal values at 500 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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