DATASHEET

PE300BF and PE300BUV

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 PE300BF and PE300BUV Cermax® lamps have an integrated ell 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

PerkinElmer™
optoelectronics.

PE300BF and PE300BUV

Operational Specifications

Description	Nominal	Range
Power	300 watts	180-320 watts
Current	21 amps (DC)	10-22 amps (DC)
Operating Voltage	14 volts (DC)	13-16 volts (DC)
Ignition Voltage	23 kilovolts (recommended minimum)	
Temperature	150 Þ 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

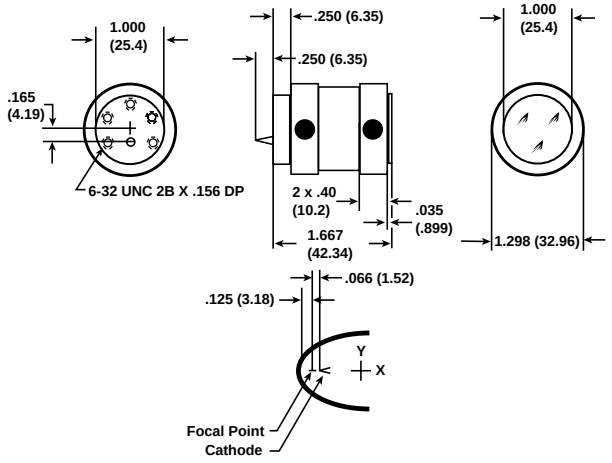
Description	PE300BF	PE300BUV
Peak Intensity	515x10^3 candelas	460x10^3 candelas
Radiant Output*	50 watts	50 watts
UV Output*	2.6 watts	6.6 watts
IR Output*	28.8 watts	26.8 watts
Visible Output*	5000 Lumens	4500 Lumens
Color Temperature	5600 Kelvin	5050 Kelvin
Peak Instabilities	4%	4%
Beam Geometry**	5º/6º/7º	5º/6º/7º

*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	.049 inch (1.24mm)
Reflector Geometry	Parabolic Y^2 = 0.5 X (inch)
Weight	132 grams
Window Diameter	1 inch (25.4 mm)

Focused Output at F/1.0 Lens

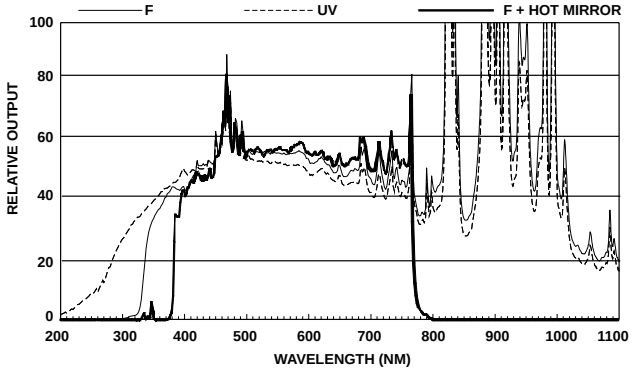
Description	Visible Output	Total Output*
6mm aperture	3130 Lumens	29 watts
8mm aperture	1410 Lumens	14 watts

* Nominal values at 300 watts after 2 hour burn-in.

Notes

1. Lamp must not be operated with window facing upwards within 45º of vertical.
2. Seal temperature must not exceed 150º C.
3. Current/power regulated power supplies and PerkinElmer lamp housing units are recommended.
4. Lamp must be operated within recommended current and power range. Over powering may lead to arc instability, hard starting and premature aging.
5. Hot mirror assembly is available for IR filtering.
6. 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 200º 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.

USA:
PerkinElmer Optoelectronics
44370 Christy St.
Fremont, CA 94538
Phone: (510) 979-6500
Fax: (510) 687-1140
Toll Free: (800) 775-6786

Europe:
PerkinElmer Optoelectronics GmbH
Wenzel-Jaksch-Str. 31
65199 Wiesbaden
Germany
Phone: +49 611 492 0
Fax: +49 611 492 369

Asia:
PerkinElmer Optoelectronics
47 Ayer Rajah Crescent #06-12
Singapore 139947
Phone: +65 775 2022
Fax: +65 775 1008

PerkinElmer™ optoelectronics.

© 2000 PerkinElmer inc. All rights reserved.