

HIGH PRESSURE COMPACT SOURCE
XENON DISCHARGE LAMP
TYPE XE 1kW D.C. Ref. 98-1430

Number L 64

Replaces

Date July 1977

GENERAL DESCRIPTION

The 1 kW Xenon Discharge lamp consists essentially of an arc burning between tungsten electrodes in a high pressure of pure Xenon contained in a quartz bulb. It is designed to operate from a constant current (or constant power) d.c. supply.

The light source is very bright and compact, and emits radiation virtually in a continuum extending from the ultra-violet, through the visible to the infra-red. There is a pronounced peak in the near infra-red at about 900nm. Thus the lamp is a powerful source of ultra-violet and infra-red as well as light.

The colour of the visible radiation is very similar to noon sunlight having an approximate colour temperature of 5600 K. Colour rendering is excellent. The light output may be modified over a wide range by adjusting the power input without appreciably altering the colour of the light.

On starting the lamp approximately full light output is given immediately.

The combined characteristics of high brightness, high efficiency, good colour and colour rendering of the compact source Xenon lamp can at the present time be matched only by the high intensity carbon arc. The Xenon lamp has a much longer life and is very much more convenient to operate than the carbon arc. Running costs are of the same order.

GENERAL APPLICATIONS

- Cinematography.
- Cine projectors.
- Colour matching.
- Fadeometer testing.
- Solar simulators.
- Arc imaging furnaces.
- Graphic arts.
- Optical instruments.
- Laboratory and general scientific purposes.

PHYSICAL CHARACTERISTICS

Arc length:	3.5 ± 0.1
Overall length:	205 max.
L.C.L. from rim of bottom cap:	94 ± 0.5
Bulb diam. max:	40
Axiality:	± 1.0
Weight:	690 gm
Caps:	At both ends a special cap with threaded stud and cylinder for mounting with a flexible lead

ELECTRICAL CHARACTERISTICS

Lamp rating (watts):	1000
Supply voltage:	65v DC (min)
Supply ripple content (r.m.s.) Max:	5%
Lamp operating voltage (Volts):	21-23
Lamp operating current (Amps):	46

OPERATING POSITION

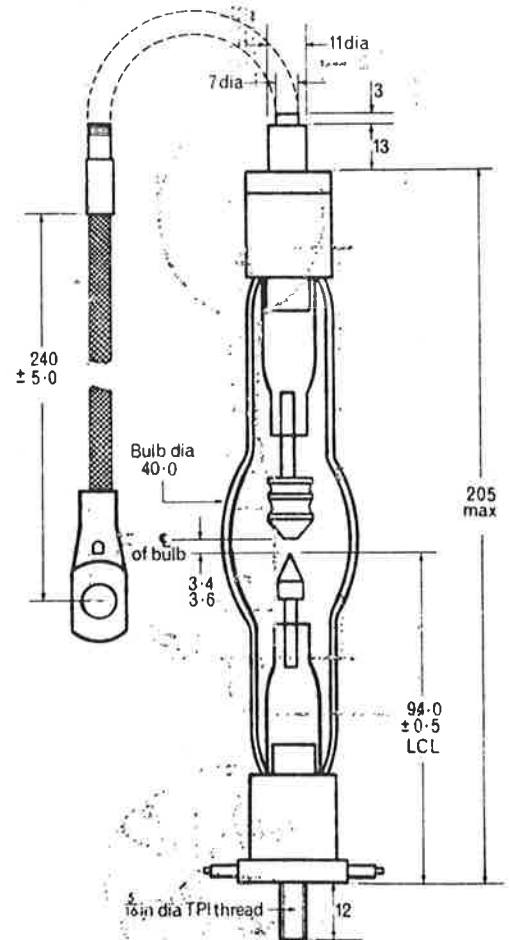
The lamp is designed to operate in a horizontal position providing a magnetic field is applied, either from a current carrying conductor or a permanent magnet to deflect the convective gas stream. It may also be operated in a vertical burning position free from any induced or magnetic fields which might deflect the arc.

LIGHT SOURCE CHARACTERISTICS AND PERFORMANCE

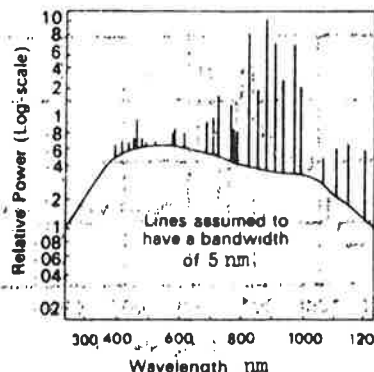
Light output (initial lumen):	32,000
Mean horizontal candle power (initial cd.):	3,000
Average luminance of brightest circle of 1mm. dia. (cd. per sq.cm.):	100,000
Average luminance of brightest circle of 2mm. dia. (cd. per sq.cm.):	48,000
Average objective life (hours):	1500

CONTROL GEAR

Further information on application.



All dimensions in mm unless otherwise stated



TYPICAL SPECTRAL POWER DISTRIBUTION OF COMPACT SOURCE XENON LAMP