

Data Sheet

Discharge Lamps

MBI-T

Metal Halide Lamp

ARCSTREAM 3000

150w

Description

Arcstream consists of a high pressure metal halide discharge operating in a quartz bulb. With an electrode spacing of only 6mm the arc is extremely compact.

An outer quartz envelope gives thermal and physical protection and the lamp has a ceramic bi-pin cap.

Features

Small bright source size enables compact fittings with accurate optical control to be designed.

Single cap for ease of maintenance

High efficiency – low operating costs

Excellent colour rendering

Colour appearance blends with Lightstream and fluorescent lamps.

Long life – reduced maintenance costs

Good colour stability through life.

Applications

The features shown above make Arcstream suitable for a wide range of applications where the quality of lighting is important.

It is particularly suitable where precise optical control of the light source is required

e.g. Display spotlights

Uplights

Downlights

Floodlights

Physical Data

Dimensions – see drawing

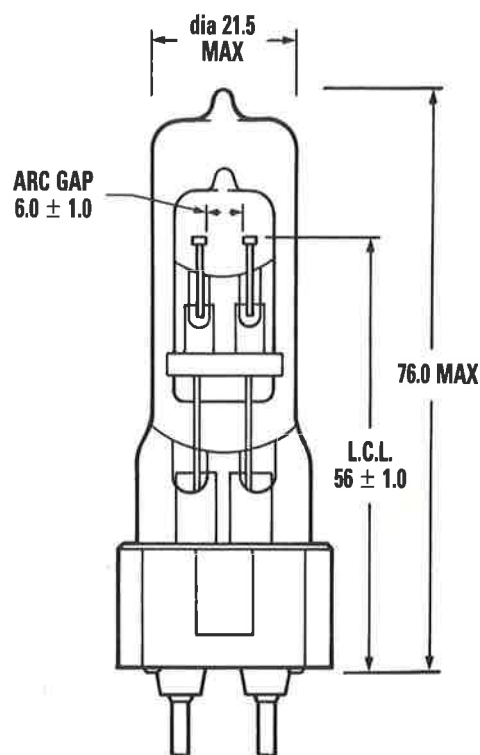
Base – G12

Operating position – Universal

Minimum starting temperature – 20°C

Weight 35g max.

Average lamp life 6000 hours



All dimensions mm

The graph shows the survival of representative groups of lamps operated under control conditions at 5 hrs/start. Lamp life in service will be affected by a number of parameters such as mains voltage deviations, switching cycle, operating position, vibration and shocks, luminaire design and control gear. The information given is intended to be a practical guide in determining lamp replacement schedules.

Electrical Data

(For nominal lamp and control gear)

Lamp Power (W)	150	
Lamp Voltage (V)	95	
Lamp Current (A)	1.8	
*Supply voltage (V)	220	240
Supply Current (A)	0.85	0.76
Supply Power (W)	170	172
Power factor lagging	0.9	0.9
% 3rd harmonic	16%	18%
+ Capacitor current (A)	1.4	1.4
Recommended fuse rating (A)	4	

Fuse ratings for multiple lamp installations

Number of lamps	1	2	3	4	5	6
Fuse rating (A)	4	6	10	10	16	16

HBC or MCB

For further information on fuse ratings see Data Sheet 4:90.2

Run – up characteristics – see diagram

Re-strike time – 4 minutes

Ballast	G53460.T
Ignitor	G53459
P F Capacitor	GC2331 (20 μ F)

*Supply voltage – In order to maximise lamp survival, lumen maintenance and colour uniformity, the supply voltage and ballast design voltage should be within $\pm 3\%$

Supply voltage variations of $\pm 5\%$ are permissible for short periods only.

It is therefore essential to use the chcke tapping appropriate to the supply voltage at the fitting.

+This figure is the maximum circuit current with a failed lamp or with no lamp installed.

Nominal Luminous Data

Light output

Lumens 100 hrs	12,000
2000 hrs	10,000

Time for light output to reach 90% – 1 minute

Colour appearance

Nominal correlated colour temperature	3000K
Chromaticity co-ordinates x	= 0.434
y	= 0.402

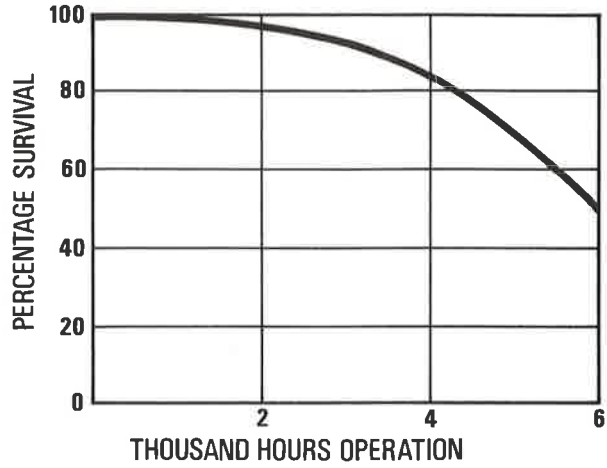
The spread of colour appearance of a typical batch of lamps under standard conditions will be within $\pm 200K$.

Variations in operating position and supply voltage should be minimised for best colour uniformity.

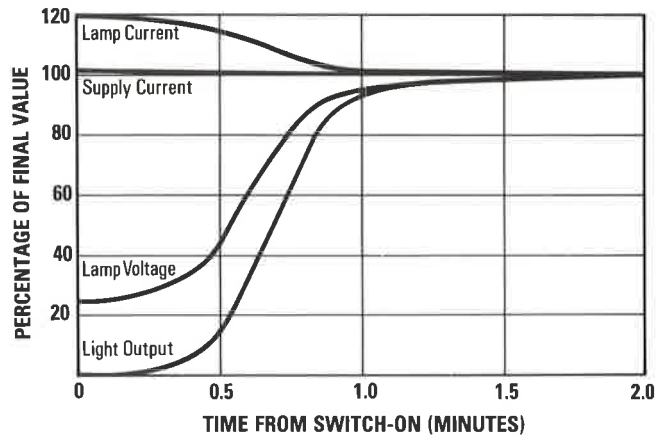
Colour rendering

General colour rendering index (Ra)	80
DIN 5035 Colour rendering group	– Group 1(b)
Spectral power distribution	– see histogram

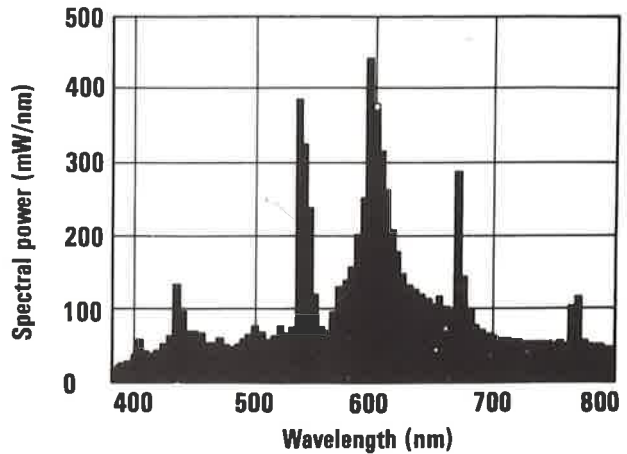
LIFE SURVIVAL



RUN UP CHARACTERISTICS



SPECTRAL DISTRIBUTION



Guidance for luminaire manufacturers

Temperature limits

Bulb maximum	550°C
Cap/bulb interface maximum	150°C

Lamp Enclosure

The outer bulb of the lamp is made of quartz which transmits UVA and UVB radiation.

Lamps should always be operated in enclosed luminaires with UV absorbent cover glasses and personnel should never be exposed to radiation from a bare lamp.

There is a very minor risk of the lamp envelope shattering on failure and full enclosure is essential to retain the fragments under such circumstances.

Reflector Design

Due to the nature of the arc, colour appearance variation is possible when it is viewed from different directions. This effect can be minimised by reflector design.

In general, to produce a homogeneous beam, reflectors should be parabolic in section. Any spreading of the beam required should be achieved using the degree of facetting and surface texture rather than use of an ellipsoidal shape. Narrow angle reflectors should incorporate a small degree of facetting or surface texture.

NOTE

All the performance information quoted has been measured with the lamp in the base down position and at rated supply volts.

Operation and Maintenance

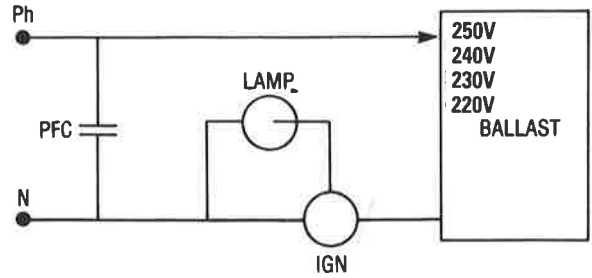
Important The following information gives precautions for the safe handling, installation, use and disposal of **Arcstream** lamps. *metal handle lamps like those of enclosed*

Compliance with these instructions is essential. *in hand glass is quartz outer*

1. Always isolate the equipment from the electricity supply before inserting or removing a lamp.
2. Check that the replacement lamp is of the correct type, (including its wattage, cap and voltage, if applicable), for the application, and for use in the circuit. Only the appropriate control gear must be used.
3. Do not touch the quartz bulb: if handled without a glove the lamp should be cleaned with a cloth moistened with methylated spirit.
4. Ensure that the lamp is correctly located in the lamp holder and the bulb is not scratched during insertion.
5. During operation, parts of the lamp surface may reach temperatures up to 550°C. Prevent rain, snow, condensation droplets or water splashing on the lamp as these may cause the bulb to shatter.
6. If the outer bulb is broken the lamp must not be operated.

where The outer bulb is made of quartz which transmits UVA and UVB radiation. This radiation is harmful to eyes and skin, operators must be shielded from direct or reflected short wave ultra violet radiation.

CIRCUIT DIAGRAM



8. There is a very minor risk of the lamp envelope shattering on failure, particularly if it is run beyond its rated life.
9. To prevent a U.V. hazard and to retain any fragments in the event of the lamp shattering, the lamp should only be operated in a fully enclosed luminaire with an appropriate U.V. absorbing cover glass in place. *Manufactured such that no smoke or fumes are given off should the lamp shatter inside.*
10. Ensure that the lamp has cooled sufficiently and the supply is isolated before removal from the luminaire.
11. Small quantities of these lamps may be disposed of with ordinary refuse. The lamp should be placed in its original or similar packing before disposal.
12. Large quantities of lamps must be disposed of in accordance with the rules of the Local Authority.

Packaging

Individual bubble pack

12 way outer carton
 Dimensions 220 x 120 x 75mm
 Weight 505g

to date
 All base lamps are made of quartz and all cap lamps is outer one is glass with the exception of the arc stream range
 If they are lamp must be not used
 Do not touch the quartz bulb, if lamp is bare cap can appear if handled with a cloth

Thorn Lighting reserve the right to alter the specification without prior notice or public announcement.

Made in the United Kingdom.