

CID Compact Iodide Daylight Lamp
1kW Hot Restrike Metal Halide Discharge Lamp
Specification Ref. 99 - 1425

Identification

Applications

For use in film and television lighting. Suitable for colour film stock balanced for light of 5500K and for all colour or monochrome television productions.

The CID lamp is also widely used for theatre lighting and allied applications where suitable lighting fittings can make good use of this robust, lightweight, compact high intensity light source.

Description

This 1kW CID lamp consists of a high pressure metal halide discharge lamp enclosed within an 8 inch sealed beam glass envelope with a dichroic coated reflector.

The arc tube is of quartz and the discharge is between tungsten electrodes in an atmosphere of mercury vapour with additional metallic iodides. These additions ensure a light of $5500 \pm 400K$ and the lamp operates at very high efficacy.

The extremely accurate positioning of the arc tube within the outer envelope gives a beam candle power in excess of $\frac{3}{4}$ million candelas with a total spread of 20° (to $\frac{1}{10}$ peak).

Performance

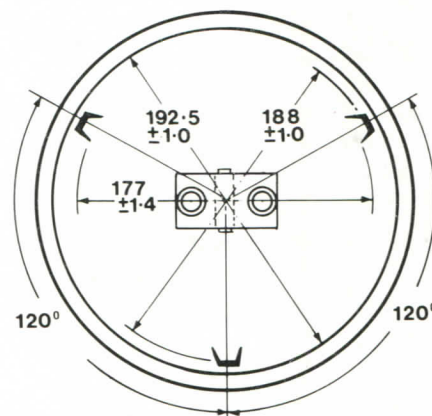
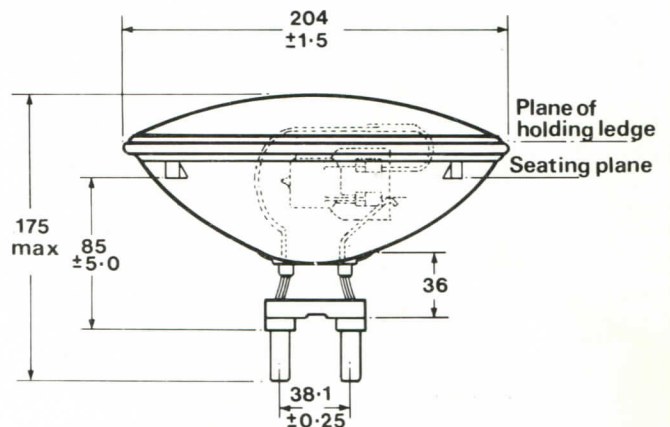
Electrical Characteristics

Supply Voltage	220/240 AC*
Base	G38 Bipost
Arc Voltage	70-85
Nominal Arc Current	15 amp
Run-up time	1 minute
Restrike time	Instantaneous
Operating Position	Any
Average Rated Life	1000 hrs

Luminous Characteristics

Peak Initial Beam Candlepower	850,000 cds
Beam Width ($\frac{1}{2}$ peak) included angle	8°
Field angle ($\frac{1}{10}$ peak) included angle	20°
Correlated Colour Temperature	$5500 \pm 400K$
Colour Rendering Index Ra	85
Chromaticity co-ordinates	x' 0.333 y' 0.341
Reflector	Dichroic coated

*Details upon application for control gear for operating on supply voltage between 100V and 240V AC 50Hz or 60 Hz.



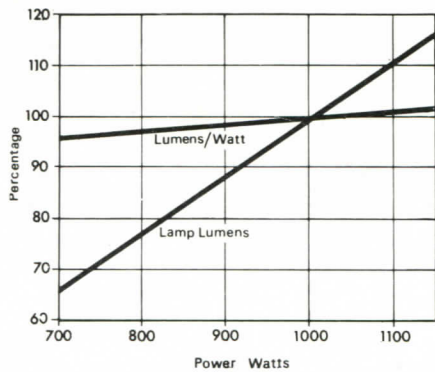
All dimensions in mm

Warning

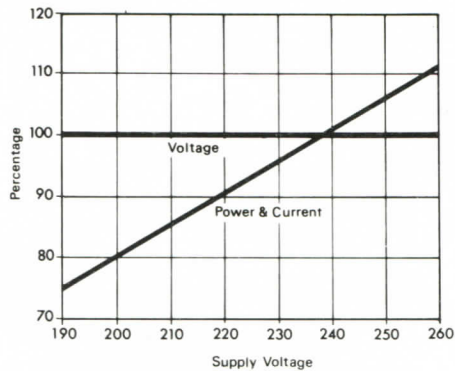
The unit generates high voltage pulses for lamp starting. Suitable safety precautions should be taken during installation and operation of the unit.

The control unit and associated lamp house must be earthed. The H.V. cable should be protected from accidental damage. The supply must be disconnected before servicing. For outdoor use the lamp must be protected from rain.

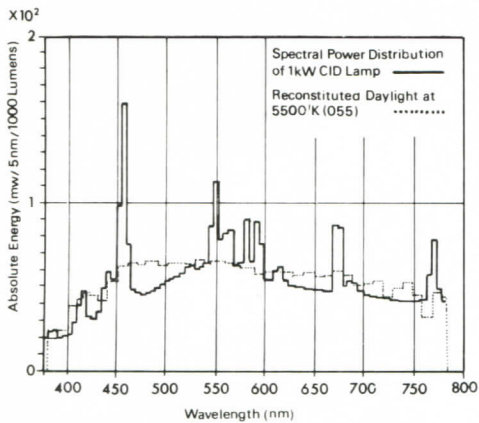
DEPENDENCE OF OPTICAL CHARACTERISTICS OF LAMP ON POWER DISSIPATED



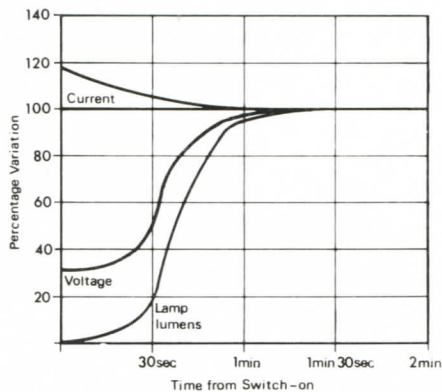
DEPENDENCE OF ELECTRICAL CHARACTERISTICS OF LAMP SUPPLY VOLTAGE



TYPICAL SPECTRAL POWER HISTOGRAM



TRANSIENT CHARACTERISTICS OF LAMP FROM SWITCH-ON



During Use

If the outer envelope is broken the lamp must not be operated.

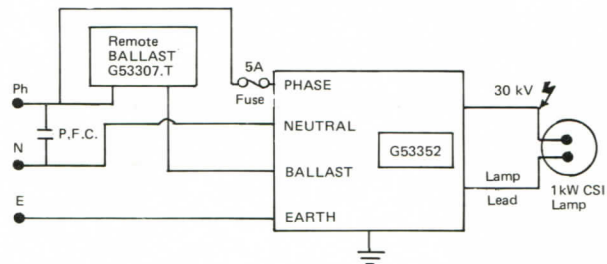
Where mercury discharge and metal halide lamps are used for prolonged periods in close proximity to eyes and skin there may be a slight possibility of a low level UV radiation hazard. Suitable protection should be employed.

Certain metal halide lamps have operating restrictions, details of which are specified with the lamps.

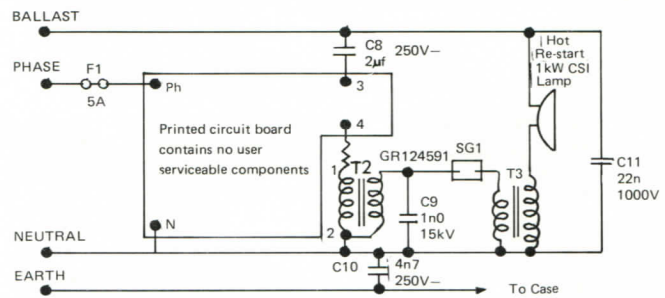
Disposal

These lamps should be broken in a container. Precautions must be taken against flying glass or other fragments. The operation should be carried out outdoors (or in a well ventilated area). With high pressure mercury lamps it is not necessary to break up the inner arc tube. Where applicable, the debris of large quantities of lamps must be disposed of in accordance with the rules of the Local Authority.

1kW Hot Re-start Circuit (for 220/240V 50Hz supplies)



Schematic wiring diagram for Hot Re-strike with G53352 ignitor



The G.53352 consists of a 50/60Hz transformer (T2) high voltage capacitor (C9), spark gap (SG1), output transformer (T3) and control circuitry.

Electrical Characteristics 220/240V 50Hz

Supply Voltage	220	240
Supply Frequency (Hz)	50	50
Supply Current (A)	5.6	5.0
Total Circuit Watts (W)	1120	1140
Supply Power Factor (Lagging)	0.91	0.94
Lamp Voltage (V)	77	77
Lamp Current (A)	14.7	14.7
Lamp Wattage (W)	1000	1000
Maximum starting current (A)		
1) line current (175µF PFC)	5	3.5
2) lamp current no PFC	16	16
% 3rd Harmonic content in line current	18	18
Recommended fuse rating	20A	20A

Power Factor Correction

Capacitors are connected between phase and neutral for single phase operation. The recommended value of power factor correction is 175µF which results in a supply power factor of 0.94 (lagging) in the 240V circuit and 0.91 in the 220V circuit.

For details of Three Phase Operation and supply voltages other than 220/240V AC 50Hz see Thorn Lighting Data sheet ref. T49/T available on request.

Further Information

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

Operation and Maintenance

Safety

Before Use

Always isolate the equipment from the electricity supply before inserting or replacing a lamp.

Check that the replacement lamp is the correct type for the application, wattage and cap for use in the circuit and with control gear.

Ensure that the lamp is correctly located in the lampholder and the glass outer is not scratched during insertion.