

## 70W SON-R

### High Pressure Sodium Reflector Lamp

#### Identification

##### Applications

The 70W SON-R is suitable for commercial interior lighting, for downlighter and display use in new or existing fittings with the addition of control gear. The long life and high efficacy will give savings in power and maintenance costs when used as an alternative to tungsten reflector lamps.

Typical applications include lift lobby lighting, hotel foyers, clubs, pubs, shop window displays, etc. where the warm golden white colour with its pleasing effect on skin complexions can be used to best advantage.

##### Description

The lamp consists of a polycrystalline alumina arc tube mounted in a 95mm diameter soft glass reflector bulb with a light diffuse front to remove striations from the beam.

The SON-R operates from standard 70W control gear which is available both loose and in boxed form.

The broadly continuous nature of high pressure sodium spectrum allows adequate colour discrimination for many applications where precise colour rendering is not of importance.

##### Dimensions

Bulb diameter	96mm (max)
Overall length	138mm (max)
Cap	E27 (ES)
Operating position	-- Universal

##### Advantages

Compared with a 150W PAR38 the high efficacy of the SON-R gives a 42% saving in power costs. This includes control gear losses.

The average life of 70W SON-R is in excess of 10,000 hours which will result in savings in maintenance costs through the much less frequent lamp replacement than required for incandescent filament reflector sources.

The low power of the 70W SON-R but with similar light output performance to a 150W incandescent reflector lamp means that there is considerably less heat in the beam which is an important factor when illuminating objects that are susceptible to heat damage.

The compact size of the lamp (96mm diameter) compared with 150W PAR38 or 150W blown glass reflector (approx. 125mm diameter) allows existing installations, which would not take the larger lamps, to be upgraded in light output.



## Performance

The beam distribution has been designed to be similar to 150W PAR38 performance.

	70W SON-R	150W PAR38 Spot	150W PAR38 Flood
Peak intensity Candelas	6400	6600	3000
Half angle to 50% peak intensity	12	8.5	16.5
Lamp lumens	4000	1740	1740

## Colour Characteristics

Nominal chromaticity co-ordinates

$$x = 0.542$$

$$y = 0.415$$

Correlated colour temp = 2000 K

Ra index 25

## Nominal Electrical Characteristics (at 50 Hz)

	Supply	Lamp
Volts	220	240
Watts	86	88
Starting current (amps)	0.75	0.76
Running current (amps)	0.52	0.48

Minimum starting voltage 198

## Control Gear (50Hz)

Choke	G53320.T
Ignitor	G53353.4 (240V supply) G5333.2 (220V supply)
PF capacitor	GC2383 (8 $\mu$ F)

## Control Gear Box

The above gear is available pre-wired in a sheet steel gear box with a fused terminal block for incoming mains supply and a two-way terminal block for lamp connection. Catalogue No. RBSG70.4.

## Fuse Rating

A 4 amp HRC, 5 amp MCB or a 5 amp rewirable fuse should be used. This allows for the high starting current which may occur during the first few seconds after switch on.

## Operation and Maintenance

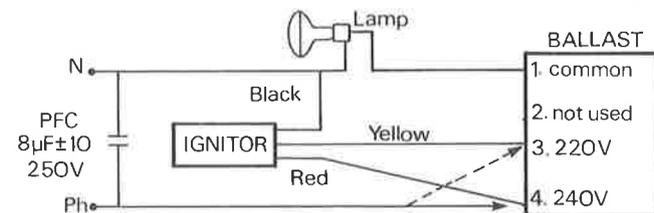
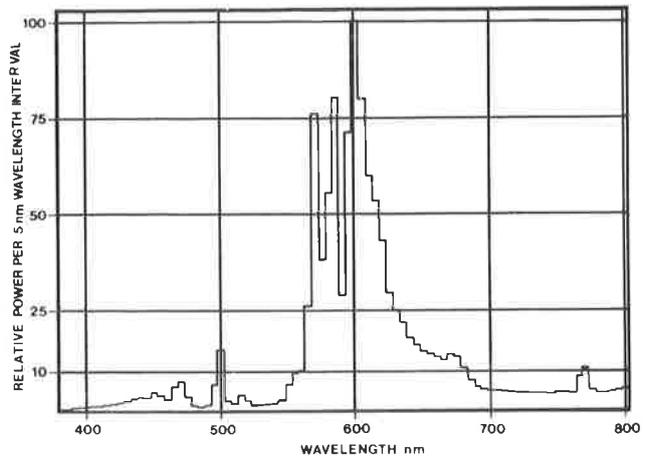
### Starting and Operating

The lamp is started by a high voltage pulse supplied by an ignitor which ceases to operate once the arc is struck. The control gear may be mounted up to 6 metres from the lamp when using 1.0mm<sup>2</sup> twin and earth cable. The lamp starts immediately and takes 4 mins to reach 90% full brightness. High pressure sodium lamps will restrike within one minute of extinction and rapidly regain full light output. This is a most useful feature for indoor use.

### Packing

	Dimensions (mm)	Weight (kg)
Individual tuck end carton	110x110x165	1.68
10-way outer carton	560x235x180	0.14

## SPECTRAL POWER DISTRIBUTION



## British and International Standards

Lamps conform to the following standards where applicable.

IEC 662	High pressure sodium lamps
BS 5101	Part 1 lamps caps
IEC 60-1	Lamp caps

## Guide for the Safe Installation, Operation and Disposal of High Pressure Sodium Lamps (SON)

### Before use

- 1 Always isolate the equipment from the electricity supply before inserting or replacing a lamp.
- 2 Check that the replacement lamp is the correct type for the application. This includes checking that the lamps voltage (if applicable), wattage and cap are suitable for use in the circuit and with the control gear.
- 3 Ensure that the lamp is correctly located in the lamp-holder and the glass bulb is not scratched during insertion.

### During use

- 1 For all lamps (unless indicated to the contrary by the manufacturer) prevent rain, snow, condensation droplets or water splashing on the lamp as these may cause the bulb to shatter.
- 2 If the outer bulb is broken the lamp must not be operated.

### 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 sodium lamps it is not necessary to break up the inner arc tube. The debris of large quantities of lamps must be disposed of in accordance with the rules of the Local Authority.

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

Made in the U.K. Some components may originate from other countries.