

Data Sheet
Discharge Lamps

SOX
low pressure sodium lamps
26W, 36W, 66W, 91W,

Description

SOX-E lamps consist of a low pressure sodium discharge operating in a U-Shaped arc tube enclosed in a tubular outer bulb which has an internal infra-red reflecting coating to provide thermal insulation. The construction of SOX-E is similar to standard SOX except that the thermal insulation is improved. This increases the efficacy of the lamp and by reducing the Wattage, significant power savings can be achieved with only a small reduction in light output. The discharge has a characteristic yellow colour, all the visible energy being concentrated at wavelengths of 589 and 589.6nm (see spectral distribution). This radiation occurs close to the peak sensitivity of the eye, thus achieving very high efficacies (lumens per watt).

Applications

The high efficacy results in low power costs, particularly useful where long operating hours are involved. The main use is for road and pathway lighting where the poor colour rendering is acceptable.

Suitable also for security lighting, car parks, storage areas, marshalling yards, construction sites etc.

Useful where monochromatic radiation is required for scientific and graphic arts purposes.

SOX-E lamps should not be used where colour discrimination is required.

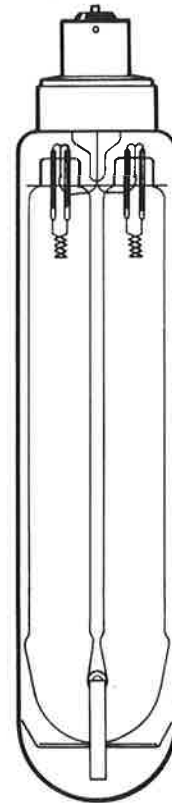
Physical Data

Rating (W)	26	36	66	92
Max. diam (mm)	53	53	67	67
Max. overall length (mm)	311	425	528	775
Average weight (g)	245	330	500	750

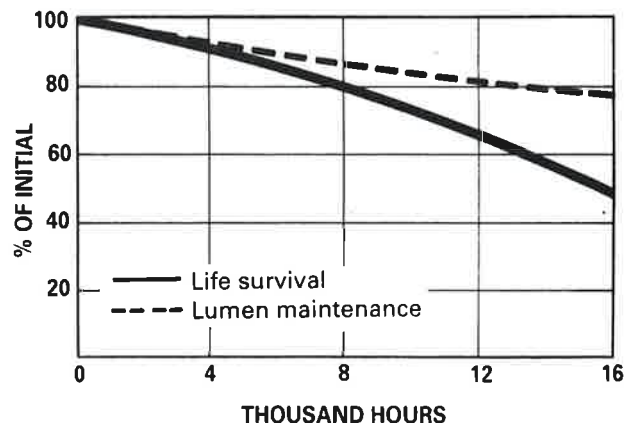
Cap BY 22d

Operating position Horizontal $\pm 20^\circ$

Maximum permissible cap temperature 150°C
Maximum permissible bulb temperature 150°C



Life survival and lumen maintenance



These curves show the performance to be expected from a representative batch of lamps operating under optimum conditions. Adverse field conditions, particularly prolonged vibration will reduce lamp life.

Nominal Luminous Data

	26W	36W	66W	91W
Lumens at 100hrs	4060 5700	6400 5700	10800	16800
Lumens at 2000hrs	3980	6220 5630	10580	16460 16660

NOTE

Due to the monochromatic nature of the light output, correlated colour temperature and colour rendering index figures are not applicable.

Nominal Electrical Data *

	26W	36W	66W	91W
Lamp volts (v)	69	120	123	173
Lamp current (A)	0.45	0.35	0.62	0.62

* With SOX-E Gear

Starting and Operating

Low pressure sodium lamps are started using high voltages generated by leakage-reactance autotransformers or electronic igniters. The initial discharge occurs in a mixture of neon and argon giving the distinctive red glow. The heat from this discharge vapourises the metallic sodium to give the characteristic yellow colour.

Lamps will start at ambient temperatures down to -20°C .

See graph for run up characteristics

Operation and Maintenance

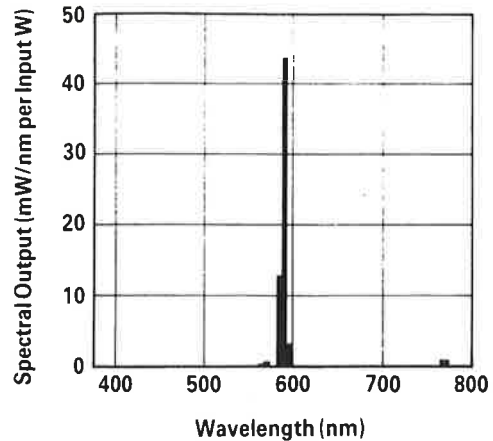
Guide for the safe Use and Disposal of SOX-E lamps.

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, including cap and wattage for use in the circuit and with appropriate control gear for the application.
3. Ensure that the lamp is correctly located in the lampholder and the glass bulb is not scratched during insertion.
4. Lamps require protection from rain, snow, condensation droplets of water, as any liquid splashing on the lamp may cause the bulb to shatter.

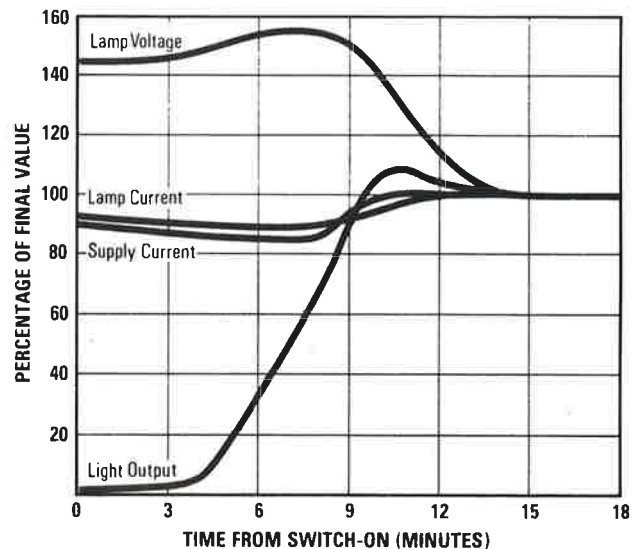
Disposal

Low pressure sodium lamps should be broken into small pieces within a large dry container, in a well ventilated area outdoors, in a dry atmosphere. Precautions must be taken against the risk of fire (from the reaction of water with sodium), flying glass and other fragments. No more than 20 lamps should be broken into the same container at any one time. When the container is no more than one-quarter full, the operator should use a hose from a safe distance to fill the container with water. The liquid may then be disposed of as a very weak solution of caustic soda and the debris as glass.

SPECTRAL DISTRIBUTION



RUN UP CHARACTERISTICS



Packaging

Rating	Individual	quantity	Outer Box	Weight (kg)
	Carton		dimensions (mm)	
26W	60x60x390	9	190x190x400	2.7
36W	65x65x490	9	210x210x510	3.8
66W	80x80x600	9	245x245x610	5.8
91W	80x80x880	9	280x280x900	9.5

British and International Standards

Lamps conform to the following standards where applicable.

BS 3767	Low pressure sodium vapour lamps
IEC 192	Low pressure sodium vapour lamps
BS 5101 Part 1	Lamp Caps
IEC 61-1	Lamp Caps

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

Made in the United Kingdom.