

Mr. Barnett.

Osram

THE
WONDERFUL
LAMP



A S&C PRODU

WITH COMPLIMENTS.
P.S. & D. DEPT.,

Guarantee

Osram

LAMPS

The General Electric Co. Ltd., guarantees that OSRAM Lamps are made only from the best materials as scheduled hereunder, are manufactured throughout in England, and comply in every respect with the appropriate British Standard.

SCHEDULE

TUNGSTEN FILAMENTS	Manufactured at the OSRAM-G.E.C. Lamp Works, Hammersmith, Wembley and Team Valley (Newcastle).
MOLYBDENUM SUPPORTS	Manufactured at the OSRAM-G.E.C. Lamp Works, Hammersmith, Wembley and Shaw (Manchester).
GLASS BULBS, TUBING AND STEM RODS	Manufactured at the OSRAM-G.E.C. Glass Works, Wembley, Middlesex, and Lemington-on-Tyne. The Pearl finish (inside frosting of the Pearl OSRAM bulb) is also executed at these works by a special acid etching process.
LEAD-IN WIRES	Manufactured at the OSRAM-G.E.C. Lamp Works, Hammersmith and Wembley.
CAPS	Manufactured at the G.E.C. allied works, Lamp Caps Ltd., Chesterfield.
ARGON GAS	Manufactured at the OSRAM-G.E.C. Lamp Works, Hammersmith.
FLUORESCENT POWDERS	Made by Lumifax Ltd., Wembley, a subsidiary company of the G.E.C.
WORKMANSHIP	OSRAM Lamps are the product of the finest workmanship, and the equipment at the OSRAM Lamp Works represents the latest developments in the science of lamp manufacture.
RESEARCH	To ensure that the high and consistent quality of OSRAM Lamps is maintained, the product is submitted to innumerable tests—some to destruction—for every possible defect, by the Research Laboratories of The General Electric Co. Ltd., Wembley, Middlesex.

A **G.E.C.** PRODUCT



O.S.
SECTION
20th EDITION
SEPTEMBER, 1951

ELECTRIC LAMPS

MADE IN ENGLAND

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The material listed in this publication is offered subject to the Company's Terms of Business and Conditions of Sale, a copy of which may be obtained on request.

Prices apply only in Great Britain and Northern Ireland.

Manufacturers, Wholesale only
THE GENERAL ELECTRIC CO. LTD.
MAGNET HOUSE, KINGSWAY, LONDON, W.C.2.

Telephone: TEMple Bar 8000
Telegrams: "Electricity, Westcent, London."
Cablegrams: "Polyphase, London."

Branches throughout Great Britain and all the principal markets of the World.



ELECTRIC LAMPS

Classification

Below are given the Groups under which OSRAM lamps are classified and which are used throughout this catalogue.

- Group I. Lamps in 25 to 260 volts for general lighting service purposes (except those in Group VIII); Projector and Sign type lamps in all voltages, and Traction and Neon type lamps.
- Group II. Lamps of Battery type in 24 volts and below for automobile, bus, train-lighting and railway signal purposes, and other Battery type lamps in 24 volts and below except Flashlamps and those in Groups IV, V, VI, and X.
- Group III. Flashlamp Bulbs.
- Group IV. Cycle Dynamo Bulbs.
- Group V. Miners' Electric Bulbs.
- Group VI. Christmas Tree Decoration Lamps.
- Group IX. Lamps of Electric Discharge type.
- Group X. Radio Panel Lamps.

Purchase Tax

The Central Price Regulation Committee has authorized fixed amounts to be added to the list price of lamps. These are given on the bookmark.

The table below gives the percentage of list price to be charged as tax, and retailers selling at list prices nett should charge in accordance with the schedules shown on the bookmark.

Group Number	Description	Purchase Tax (% of list price)
I	Filament lamps up to and including 250 watts	26
	Other lamps in Group I*	NIL
II	Automobile bulbs	23
III	Flashlamp bulbs	22
IV	Cycle dynamo bulbs	23
V	Miners' bulbs approved by Mines Dept. and marked M.F.P.	NIL
	Other bulbs in Group V	25
VI	Christmas Decoration Sets	25
	Replacement lamps	25
IX	Fluorescent tubular lamps	26
	Other discharge lamps	NIL
X	Radio dial lamps	22

* Projector Lamps.

Projector Lamps in Classes A1 and G and any Projector Lamp embodied and sold in Tax Free Projector Apparatus are not liable to Purchase Tax.



ELECTRIC LAMPS

Foreword

OSRAM lamps comply with the highest standard of quality and the closest degree of uniformity of performance. The performance of many types is laid down in the various British Standard Specifications, and the whole process of manufacture is organized so that the finished lamp is at least equal to the requirements of its appropriate Specification.

As not only the individual components but most of the materials used in the production of OSRAM lamps are produced within the G.E.C. Organization, it is possible to apply a rigid control of quality at all stages of manufacture. Samples from batches of every type made are tested, not only for correct rating but for actual life performance. Very large quantities of lamps are continuously being tested to destruction.

This testing is carried out partly at the Lamp Works, and partly at the G.E.C. Research Laboratories at Wembley, Middlesex, where during the last 28 years so many important lamp developments have originated. At these laboratories, scientists are able to pursue every new development in electric lighting, and continual progress is being made in efficiency and reliability. Fundamental research work on all aspects of lamp development and its allied subjects, such as metallurgy, glass technology, photometry and the various phenomena associated with electric discharges through gases, luminescent materials, etc., is carried out, and every new idea in lamp making is thoroughly and scientifically investigated. A large section is devoted to the development of the lighting fittings and auxiliary apparatus with which OSRAM lamps are used. This is a point of great importance as fittings have a considerable effect on lamp performance, and it is only possible to attain maximum efficiency by relating the design of the fittings to the lamp.

Apart from the actual quality of the lamps, the OSRAM service is second to none. Stocks of lamps are held by G.E.C. branches and depots throughout the British Isles, and by G.E.C. branches and agents throughout the British Empire and in many other countries. A stock of many million lamps is maintained at the OSRAM Works.

In addition to the types of lamps included in this catalogue many others are made to the special requirements of the various Government Departments, Railways and Public Authorities throughout the world.



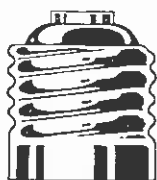
ELECTRIC LAMPS

STANDARD LAMP CAPS

The illustrations below show the standard types of lamp caps fitted to OSRAM lamps together with the names by which they are known. The letters in brackets are the abbreviations used for these names throughout this catalogue, and underneath are the international cap designations.



Edison Screw (E.S.)
E 27/25



Goliath Edison Screw (G.E.S.)
E 40/45



Small Edison
Screw (S.E.S.)
E 14/23 x 15



Miniature Edison
Screw (M.E.S.)
E 10/13



Bayonet (B.C.)
B 22/25 x 26



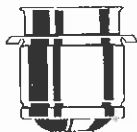
Small Bayonet (S.B.C.)
B 15d/17



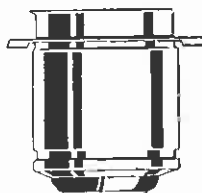
Medium Bi-Pin 23
(G 13/23)



Medium Bi-Pin 35
(G 13/35)



Prefocus
P 28/25



Large Prefocus
P 40/41



British Prefocus
Single Contact
P 22s/21



British Prefocus
Double Contact
P 22d/21

Scale : Approx. half size.

Osram

Silverlight

GROUP I

By means of a special process the inside of the lamp is sprayed with minute particles of silica which greatly increase the diffusion but have very little light absorption.

This lamp is ideal for all positions where the bulb is wholly or partially visible, such as standard lamps, open shades, cinema canopies, etc.; or where extra diffusion is required to avoid ceiling shadows in pendant fittings, etc.

Dimensions are the same as those given for standard 40, 60, 100, 150 and 200w G.L.S. lamps shown on pages 8 and 9.



Watts	Volts	Cap	Price per lamp	
			s.	d.
40†	{ 200, 210 220, 230 240, 250 260 }	B.C.	1	7
60†		B.C.	1	7
100†		B.C.	2	0
150		B.C.	2	9
200		E.S.	4	6

† These lamps have coiled-coil filaments.

PATENTS PENDING

For Purchase Tax see bookmark.



Osram

Pearl

GROUP I

The Pearl, or inside frosted bulbs, are recognised as standard for 15 to 100 watts General Lighting Service lamps by the British Standards Institution in B.S. 161—1940, with which specification OSRAM PEARL lamps comply in every detail.

All these lamps are GAS-FILLED except the 15 watt size for 60/260 volts and the 25 watt size for 200/260 volts which are VACUUM.

SINGLE COIL

Standard watts	Standard cap	STANDARD VOLTAGES AND PRICE PER LAMP									
		200, 210, 220, 230, 240, 250 and 260 volts		100, 110, 120 and 130 volts		25 volts	35, 50 and 55 volts	60, 65 and 75 volts			
15 25 40 60 75 100 150 200	B.C.	s.	d.	s.	d.	s.	d.	s.	d.		
		1	3	1	3	1	9	1	9	1	9
		1	3	1	3	1	9	1	9	1	9
		1	1	1	3	2	0	2	0	2	0
		1	1	1	3	2	6	2	6	2	6
	E.S.	1	5	1	7	—	—	—	—	—	
		1	6	1	8	4	0	4	0	4	0
		2	3	2	5	—	—	—	—	—	
4	0	4	6	—	—	—	—	—			

COILED COIL

These lamps are also available with clear bulbs at the same prices.

Watts	Standard cap	Standard Voltages and Price per Lamp	
		200, 210, 220, 230, 240, 250 and 260 volts	
		s.	d.
40	B.C.	1	4
60		1	4
75		1	7
100		1	8

For Dimensions and Light Output see pages 8 & 9.
For OSRAM PEARL Traction lamps see pages 16 & 17.
For Purchase Tax see bookmark.

OSRAM PEARL LAMPS FOR SHIPS

OSRAM PEARL lamps are recommended for ship lighting, and are particularly suitable for the fittings usually installed on ships. The frosted bulbs greatly reduce glare, a matter of importance where lamps have to be fixed in low positions and coming into the line of vision. The frosting is on the inside of the bulb. The exterior, being smooth, can easily be kept clean.

Osram

Clear

GROUP I

All these lamps are GASFILLED except the 15 watt size for 60/260 volts and the 25 watt size for 200/260 volts, which are VACUUM.



SINGLE COIL

Standard watts	Standard cap	Standard Voltages and Price per Lamp												
		200, 210, 220, 230, 240, 250 and 260 volts			100, 110, 120 and 130 volts			25 volts		35, 50 and 55 volts		60, 65 and 75 volts		
		£	s.	d.	£	s.	d.	s.	d.	s.	d.	£	s.	d.
15	B.C.	1	3		1	3		1	9		—	1	9	
25		1	3		1	3		1	9	1	9	1	9	
†40		1	1		1	3		2	0	2	0	2	0	
†60		1	1		1	3		2	6	2	6	2	6	
†75		1	5		1	7		—	—	—	—	—	—	
†100	B.C.	1	6		1	8		—	—	4	0	4	0	
150		2	3		2	5		—	—	6	6	7	6	
200		E.S.	3	6		4	0		—	—	8	0	9	0
300	G.E.S.	7	0		7	6		—	—	11	0	12	0	
500		9	0		9	6		—	—	14	6	15	6	
750		15	0		15	0		—	—	19	3	1	0	0
1000		16	0		16	0		—	—	—	—	—	—	
1500		1	2	6	1	2	6	—	—	—	—	—	—	

† The dimensions and light output figures of the 40, 60, 75 and 100-watt sizes are the same as those shown on page 8 for OSRAM Pearl lamps, which are the recognised standards for these wattages, and should be used in preference to clear lamps for General Lighting Service. For dimensions of the other sizes see pages 8 and 9.

For Purchase Tax see bookmark.

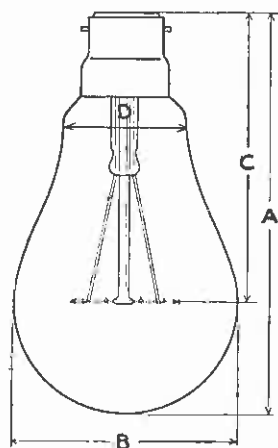


Osram

Pearl and Clear

15 to 100 watts.

GROUP I



Dimensional Diagram 15-100 watts.

* These light output figures are for coiled coil filament lamps. The remainder are for single coil lamps.
† These lamps are Vacuum, remainder Gasfilled.

DIMENSIONS AND LIGHT OUTPUT

Standard watts	Voltage range	Approx. lumens (Initial)	Length		Bulb diameter		Cap contact to filament centre		Neck diameter	
			A		B		C		D	
			Tolerance $\pm 3 \frac{1}{8}$ m/m.		Tolerance ± 1 m/m.		Tolerance ± 3 m/m.		Tolerance ± 1 m/m.	
			m/m.	ins.	m/m.	ins.	m/m.	ins.	m/m.	ins.
15	25	170	92.5	$3 \frac{5}{8}$	55	$2 \frac{1}{16}$	65	$2 \frac{1}{2}$	30	$1 \frac{1}{16}$
	35-55	145								
	60-75	† 140								
	100-130	† 120								
	200-260	† 120								
25	25	314	100	$3 \frac{1}{8}$	60	$2 \frac{1}{8}$	70	$2 \frac{1}{2}$	33	$1 \frac{1}{8}$
	35-55	280								
	60-75	260								
	100-130	240								
	200-260	† 220								
40	25	545	110	$4 \frac{1}{8}$	60	$2 \frac{1}{8}$	80	$3 \frac{1}{2}$	33	$1 \frac{1}{8}$
	35-55	490								
	60-75	470								
	100-130	470								
	200-260	* 415								
60	25	870	117.5	$4 \frac{5}{8}$	65	$2 \frac{9}{16}$	85	$3 \frac{1}{8}$	35	$1 \frac{1}{8}$
	35-55	800								
	60-75	760								
	100-130	790								
	200-260	* 700								
75	100-130	1060	125	$4 \frac{7}{8}$	70	$2 \frac{1}{2}$	90	$3 \frac{1}{2}$	39	$1 \frac{1}{2}$
	200-260	* 930								
	35-55	1430								
	60-75	1380								
	100-130	1500								
100	200-260	* 1340	137.5	$5 \frac{1}{8}$	75	$2 \frac{9}{16}$	100	$3 \frac{9}{16}$	39	$1 \frac{1}{2}$



Clear Gasfilled

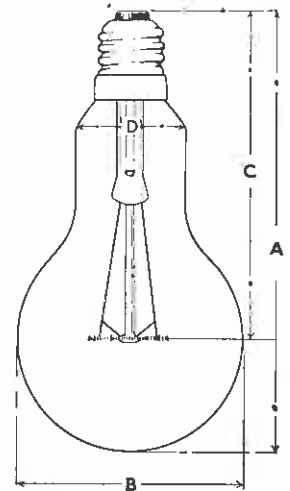
150 to 1,500 watts.

GROUP I



DIMENSIONS AND LIGHT OUTPUT

Stand ard watts	Voltage range	Approx. lumens (Initial)	Length		Bulb diameter		Cap contact to filament centre		Neck diameter	
			A		B		C		D	
			m/m.	ins.	m/m.	ins.	m/m.	ins.	m/m.	ins.
150	35-55	2310	160 ± 4.5	$6\frac{1}{4}$	80 ± 1	$3\frac{1}{8}$	120 ± 4	$4\frac{1}{2}$	39 ± 1	$1\frac{1}{2}$
	60-75	2220								
	100-130	2360								
	200-260	2090								
200	35-55	3240	178 ± 5.5	7	90 ± 1	$3\frac{1}{2}$	133 ± 5	$5\frac{1}{2}$	39 ± 1	$1\frac{1}{2}$
	60-75	3120								
	100-130	3280								
	200-260	2880								
300	35-55	5200	233 ± 7	$9\frac{1}{8}$	110 ± 1.5	$4\frac{5}{16}$	178 ± 6	7	50 ± 1	$1\frac{11}{16}$
	60-75	4960								
	100-130	5250								
	200-260	4690								
500	35-55	9100	267 ± 8	$10\frac{1}{2}$	130 ± 1.5	$5\frac{1}{4}$	202 ± 7	$7\frac{11}{16}$	52 ± 1	2
	60-75	9100								
	100-130	9500								
	200-260	8410								
750	35-55	14400	300 ± 9	$11\frac{1}{4}$	150 ± 1.5	$5\frac{7}{8}$	225 ± 8	$8\frac{7}{8}$	55 ± 1	$2\frac{3}{8}$
	60-75	14300								
	100-130	15150								
	200-260	13500								
1000	100-130	20900	300 ± 9	$11\frac{1}{4}$	150 ± 1.5	$5\frac{7}{8}$	225 ± 8	$8\frac{7}{8}$	55 ± 1	$2\frac{3}{8}$
	200-260	18900								
1500	100-130	32200	335 ± 9	$13\frac{1}{4}$	170 ± 1.5	$6\frac{11}{16}$	250 ± 8	$9\frac{11}{16}$	60 ± 1	$2\frac{3}{4}$
	200-260	30100								



Dimensional Diagram
150-1500 watts.



Osram

Spotlight Reflector

WITH INTERNALLY
SILVERED BULB

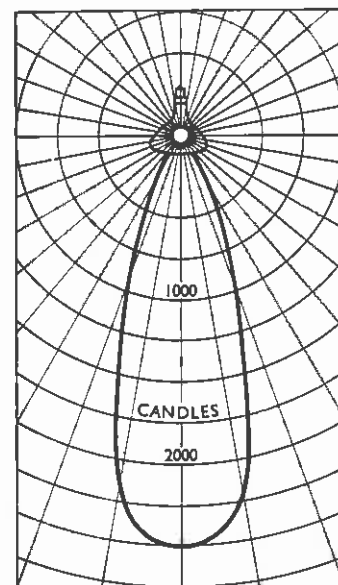
GROUP I

This lamp is designed primarily for shop lighting, both in windows and interiors, for spotlighting individual items of the display.

It can also be used for photographic purposes, the internal silvering making a separate reflector unnecessary.

Watts	Volts	Cap	Dimensions				Price per lamp	
			Length		Diameter			
			m/m	ins.	m/m	ins.	s.	d.
150	110 210 230 250	E.S.	175±5	6 $\frac{1}{4}$	126±1.5	5	15	0

For Purchase Tax see bookmark.

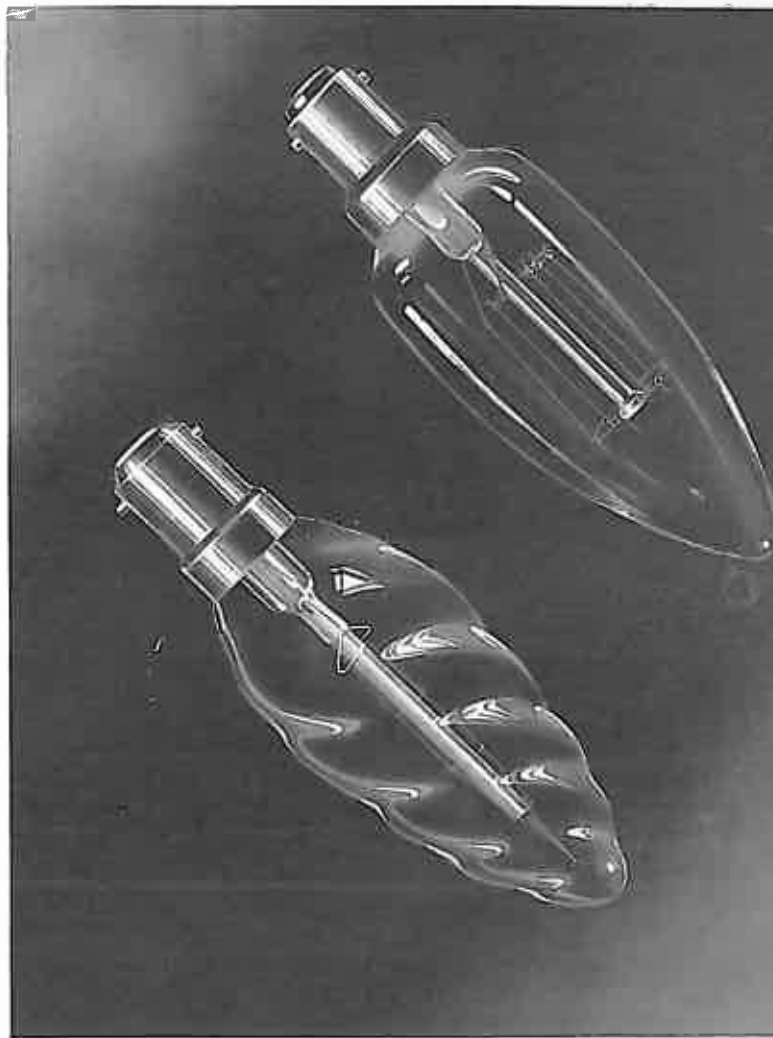


Average Light Distribution.

Osram

Candle

GROUP I



Standard Watts	Length		Diameter		Shape	Finish	Standard voltages and Price per Lamp					
							50		60, 65, 75		100-130 and 200-260†	
	m/m	ins.	m/m	ins.			s.	d.	s.	d.	s.	d.
25	116±5	4 ¹ / ₈	38±1	1 ¹ / ₈	Plain	Clear	4	0	4	6	3	6
40	126±9	4 ³ / ₈	45±1	1 ¹³ / ₁₆	Plain	Clear	—	—	—	—	4	0
25	108±3	4 ¹ / ₈	35±1	1 ³ / ₈	Twisted	Clear	—	—	—	—	4	0
40	144±5	5 ¹¹ / ₁₆	55±2	2 ⁵ / ₁₆	Twisted	Clear	—	—	—	—	4	9

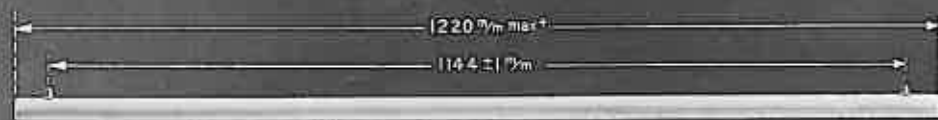
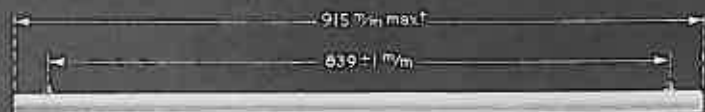
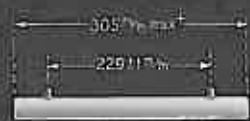
Standard sprayed colours: Red, Blue, Green, Yellow, Flame, Amber, Pink and White.

25 watt size, list price 2d. extra. 40 watt size, list price 3d. extra.

STANDARD CAP: S.B.C. When specially ordered Standard B.C. caps can be fitted without extra charge.

† Voltages: 100, 110, 120, 130, 200, 210, 220, 230, 240, 250, 260.

For Purchase Tax see bookmark.



OSRAM

Architectural

GROUP I

STANDARD STRAIGHT LENGTHS—30 mm Diam.

Length		Volts	Watts	Price Each
Inches	mm.			
12	305	100, 110, 120 130, 200, 210 220, 230, 240 250 and 260	35	£ s. d. 13 6
24	610		75	1 2 6
36	915	200, 210, 220 230, 240, 250 and 260	110	1 10 0
48	1220		150	1 15 0

STANDARD CURVES*—30 mm Diam.

Curve	Volts	Watts	Price Each
1/8 Circle Radius 25"	100, 110, 120 130, 200, 210 220, 230, 240 250 and 260	60	£ s. d. 1 10 0
1/4 Circle Radius 12 1/2"			
1/2 Circle Radius 6 1/4"			

* Overall length along centre line of lamp 500 mm (19 1/8")

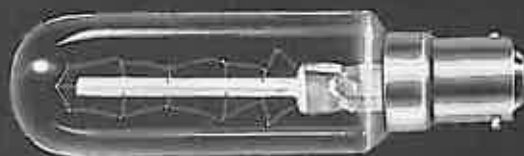
Caps—Round peg type: 38 mm, 1.5", from ends of lamp.

Standard Finish—White opal.

Colour Sprayed Finish—OSRAM Architectural lamps are also available externally sprayed in the following range of colours at 10% extra on the above list prices: RED, BLUE, GREEN, AMBER, PINK, FLAME, ORANGE, YELLOW.

Prices of OSRAM Architectural lamps in lengths and curves (up to a maximum of 48") other than those shown above may be obtained on application.

For Purchase Tax see bookmark.



CLEAR TUBULAR

Standard watts	Standard cap	Length ± 3 m/m.		Diameter ± 1 m/m.		Standard Voltages and Price per Lamp					
						50		60, 65, 75		110, 120, 200, 210, 220, 230, 240, 250, 260	
25	*S.B.C.	m/m.	ins.	m/m.	ins.	s.	d.	s.	d.	s.	d.
		92	3½	25	1	4	0	4	6	3	6

* B.C. or S.E.S. at same price if specially ordered.

OPAL TUBULAR

These lamps are particularly useful where it is not practical to employ an Architectural Lamp.

Watts	Cap	Length ± 3 m/m.		Diameter ± 1 m/m.		Standard Volts	Price per lamp	
		m/m	ins.	m/m	ins.		s.	d.
40 60	B.C. or E.S.	302	11½	38	1½	110, 120, 200, 210, 220, 230, 240, 250, and 260	8	6

STRIPLITE

These lamps have a single coil tungsten filament burning in a vacuum, the tubes lighting uniformly throughout their filament length.

Standard watts	Length		Diameter		Standard voltages and Price per Lamp 110, 120, 200, 210, 220, 230, 240, 250, 260	
	Tolerance ± 1 m/m.		Tolerance ± 1 m/m.			
	m/m.	ins.	m/m.	ins.	s.	d.
30	221	8 $\frac{11}{16}$	25	1	5	6
60	284	11 $\frac{3}{16}$	25	1		
	284	11 $\frac{3}{16}$	25	1	5	9

STANDARD CAPS. : Centre Contact.

For prices and particulars of special trough reflectors for use with OSRAM Striplite lamps, see G.E.C. Catalogue, Fittings Accessories, Section F (2).

For Purchase Tax see bookmark.

Osram

Tubular

GROUP I

Striplite

GROUP I



Internally and Externally Coloured

GROUP I

SIGN LAMPS

INTERNALLY COLOURED

The internal spraying of these lamps ensures that the colour remains permanent, and will not crack or deteriorate under atmospheric conditions.

Standard Colours: Red, Blue, Orange, Green, Yellow and White

Watts	Volts	Cap	Dimensions				Price per lamp	
			Length		Diameter			
			m/m	ins.	m/m	ins.	s.	d.
15	110, 130, 200, 210, 220, 230, 240, 250 and 260	B.C. or E.S.	90 ± 3.5	3 $\frac{5}{16}$	44 ± 2	1 $\frac{1}{2}$	2	0

GENERAL LIGHTING SERVICE

EXTERNALLY COLOURED

Standard Sprayed Colours: Red, Blue, Green, Yellow, Flame, Amber, Pink and White.

Standard watts	Standard cap	Voltages and Price per Lamp			
		200, 210, 220, 230, 240, 250, 260		100, 110, 120, 130	
		s.	d.	s.	d.
15*	B.C.	1	5	1	5
25**	B.C.	1	5	1	5
40	B.C.	1	4	1	6
60	B.C.	1	4	1	6
75	B.C.	1	8	1	10
100	B.C.	1	10	2	0
†150	B.C.	3	0	3	2
†200	E.S.	5	0	5	6
†300	G.E.S.	8	9	9	3
†500	G.E.S.	11	3	11	9

† These wattages are supplied in white only.

* Vacuum.

** 100/130 volt Gasfilled. 200/260 volt Vacuum.

100 watt to 500 watt sizes can also be supplied bowl sprayed white if required at the same prices as above.

The dimensions of these lamps are the same as those of the corresponding wattages shown on pages 8 and 9.

For Purchase Tax see bookmark.



Pygmy Externally Coloured and Clear

GROUP I

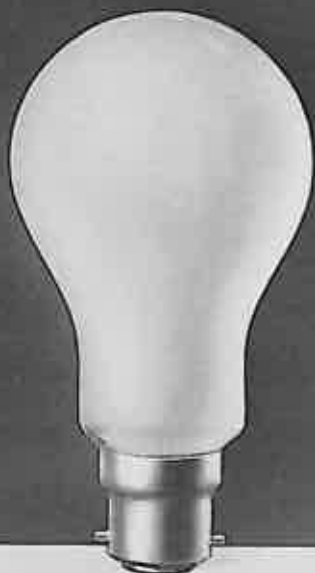


This exceptionally small lamp is specially designed for signs, illuminated score boards, totalisators, indicators, berth lights, etc., and for outlining detail in signs with parallel burning lamps, instead of series lamps. Burnt-out lamps can be located immediately, as when a lamp fails, none of the other lamps in the circuit is affected.

Standard Watts	Standard Cap	Length Tolerance ± 3 m/m.		Diameter Tolerance ± 1 m/m.		Voltages and Price per Lamp			
						CLEAR			
						100, 110, 130, 200, 210, 220, 230, 240, 250, 260	25, 50, 60, 65, 75, and 150		
		m/m.	ins.	m/m.	ins.	s.	d.	s.	d.
15	B.C.	56	$2\frac{4}{16}$	28	$1\frac{1}{8}$	1	7	2	2
	E.S.	58 ± 4	$2\frac{1}{2}$	28	$1\frac{1}{8}$				
	S.B.C.	62	$2\frac{7}{16}$	28	$1\frac{1}{8}$				
	S.E.S.	64	$2\frac{1}{2}$	28	$1\frac{1}{8}$				

STANDARD SPRAYED COLOURS : Red, Green, Blue, Yellow, Flame, Amber, Pink and White, 2d. per lamp extra.

For Purchase Tax see bookmark.



Rough Service

VACUUM

GROUP I

PEARL OR CLEAR

Watts	Cap	Voltages and Price each			
		100, 110, 120, 130		200, 210, 220 230, 240, 250 and 260	
40	B.C. or E.S.	s.	d.	s.	d.
60		1	10	1	10

In positions where there is considerable vibration or where the lamp is subject to mechanical shock, (such as in workshop inspection lamps,) the OSRAM rough service lamp, which has a very robust filament, should be employed. Dimensions are the same as those for standard 40 watt and 60 watt G.L.S. lamps shown on page 8.

Series Traction

PEARL—GASFILLED

GROUP I

These lamps are specially designed to withstand the voltage fluctuations, rough usage, vibration and other severe conditions met with in traction service. i.e. tramcar and train lighting etc.

They are marked with their rated current in amperes, and only those having the same current rating should be connected to each other in series.

When ordering Traction lamps for tram or train lighting, please state : maximum voltage ; minimum voltage ; nominal voltage ; wattage of lamp ; number of lamps in series.

Ampere rating	Nominal watts	Length		Diameter		Standard voltages and Price per Lamp	
		Tolerance ± 3.5 m/m.		Tolerance ± 1 m/m.		100, 110, 120, 130 volts	
0.35	40	m/m. 110	ins. $4\frac{1}{8}$	m/m. 60	ins. $2\frac{1}{8}$	s.	d.
0.52	60	117.5	$4\frac{1}{2}$	65	$2\frac{1}{2}$	1	7

Standard Cap—B.C. or E.S.

For Purchase Tax see bookmark.

Osram

Extra Low Voltage Long Series Traction

GASFILLED

GROUP I



These lamps are made for connection in series of 10 to 15 lamps.

The small voltage drop across each lamp enables a thicker and stronger filament to be used, so that the lamps are even more robust than the ordinary traction type.

A further advantage is that each lamp is fitted with a short-circuiting device, which only comes into action when a lamp fails, so that the rest of the series is unaffected and the burnt-out lamp can be located at once.

These lamps are only supplied with E.S. caps, and should only be used with the G.E.C. short-circuiting lampholders, which enable lamps to be changed without putting out the rest of the lamps in the series.

Volts	Nominal watts	Length		Diameter		Standard cap	Price per Lamp			
		Tolerance ± 3.5 m/m.		Tolerance ± 1 m/m.			Pearl		Clear	
40 50	40	m/m.	ins.	m/m.	ins.	E.S.	s	d.	s.	d.
		110	4 ⁵ / ₁₆	60	2 ¹ / ₈		2	3	2	3
40 50	60	117.5	4 ¹ / ₂	65	2 ¹ / ₂					

For Purchase Tax see bookmark.

Radiant Heat

GROUP I

Watts	Volts	Caps	Dimensions				Price each	
			Length		Diameter			
60	110	B.C. or E.S.	m/m.	ins.	m/m.	ins.	s.	d.
	120							
	210		117.5 ± 3.5	$4\frac{5}{8}$	65 ± 1	$2\frac{9}{16}$	2	0
	230							
	250							

The OSRAM metal filament radiant heat lamp is widely used in hospitals for the treatment of diseases which require the application of heat.

For Purchase Tax see bookmark.



Osram

Neon

GROUP I

OSRAM Neon discharge lamps are manufactured in two types. The lighting type is specially suitable and economical where a dim illumination is continuously required, and is, therefore, an ideal night light.

Neon indicator lamps, supplied in two sizes, are designed for use with domestic appliances such as cookers, control switches, etc., and many other applications where a visual indication of whether a circuit is switched on is required.

Type	Standard watts	Standard cap	Dimensions				* Price per Lamp	
			Length		Diameter		s.	d.
LIGHTING	5	B.C. or E.S.	m/m. 115 ± 3	ins. 4 1/8	m/m. 61 max	ins. 2 3/8	4	6
INDICATOR	0.5	B.C.	56 ± 3	2 1/8	28 ± 1	1 1/8	4	0
		E.S.	58 ± 4	2 1/8	28 ± 1	1 1/8	4	0
		S.E.S.	56 ± 4	2 3/8	18 ± 1	3/4	4	0
		S.B.C.	54 ± 4	2 1/8	18 ± 1	3/4	4	0

* Voltages.—200/220, 230/240, 250/260 volts.

These lamps are not subject to Purchase Tax.

Osram

Infra-red

GROUP I

The 250 watt Infra-red lamp, with or without internal reflector, has many applications in industry for process heating and drying.



250 WATT INFRA-RED LAMP WITH INTERNAL REFLECTOR

Watts	Volts	Cap	Dimensions				Price each	
			Length		Diameter			
			m/m.	ins.	m/m.	ins.	s.	d.
250	100-130	E.S.	176 ± 6.5	6 $\frac{3}{4}$	126 ± 1.5	5	15	0

250 WATT INFRA-RED LAMP—CLEAR AND INTERNALLY FROSTED *

Watts	Volts	Cap	Dimensions				Price each			
			Length		Diameter		Clear		Internally Frosted	
			m/m.	ins.	m/m.	ins.	s.	d.	s.	d.
250	100-130	E.S.	178 ± 5	7	90 ± 1	3 $\frac{1}{2}$	7	6	8	0

* For application refer to publication PH.840.

OSRAM Radiant Heat lamps for medical purposes, see page 17.

For Purchase Tax see bookmark



SERIES "B"



SERIES 1



SERIES 2

SERIES 1 and 2

The Series 1 lamp has a life of some 2 hours compared with 10 hours of the Series 2. The life of these lamps can be materially extended if two or more are connected in series while the lighting is being set up, and are only switched in parallel when the photograph is being taken.

The Series 1 Photoflood is fitted with a standard bayonet cap and is no larger than the 60-watt OSRAM Pearl lamp, so that it can be used in an ordinary electric light fitting. A safety fuse is incorporated in the cap for protection in the case of accidental breakage.

Osram

Photo-Flood

GROUP I

Standard Voltages	Nomi-nal watts	Series	Standard cap	Eff. L/W	Approx. Colour Temp. °K.	Dimensions				Price per Lamp
						Length Tolerance ± 3.5 m/m.		Diameter Tolerance ± 1 m/m.		
100-110	275	1	B.C.	29	3300	m/m.	ins.	m/m.	ins.	s. d.
200-210						117.5	4 ⁵ / ₈	65	2 ¹ / ₂	2 3
220-230						160 ± 4.5	6 ⁵ / ₁₆	80	3	6 0
240-250	500	2	E.S.†	30	3300					

† Also available with B.C. cap in 200/250 v. range.

SERIES "B"

These are high efficiency lamps made on similar lines to the Photo-Flood lamps described above. To meet the exacting requirements of professional photographers, for which they are especially suitable, they give a brilliant yet soft light and last for approximately 100 hours. For best results these lamps should be used in conjunction with the Z 25 or Z 101 Photographic Reflector.*

Standard Voltages	Stand-ard watts	Standard cap	Eff. L/W.	Approx. Colour Temp. °K.	Dimensions				Price per Lamp
					Length Tolerance ± 3.5 m/m.		Diameter Tolerance ± 1.5 m/m.		
					m/m.	ins.	m/m.	ins.	
110, 210, 230, 250,	500	E.S.	21	3150	172	6 $\frac{1}{2}$	90	3 $\frac{9}{16}$	1 0 0

* Particulars of special reflectors for use with these lamps will be sent on application.

These lamps are not subject to Purchase Tax

Photographic

GASFILLED
GROUP I

Osram

High Intensity Photo-Enlarger

GROUP I



This 150 w. lamp is enclosed in a 60 w. size G.L.S. bulb having a diffusing medium which ensures that the light from the high intensity filament is evenly distributed over the whole of the bulb surface.

The printing speed of this lamp is equivalent to a 400 w. lamp.

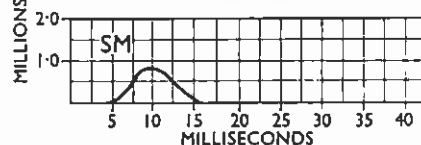
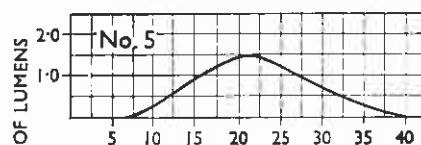
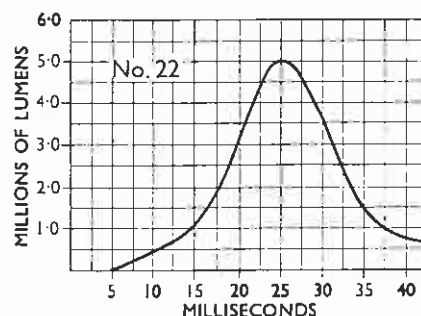
Watts	Standard Voltages	Cap	Life (hours)	Dimensions				Price per lamp	
				Length		Diameter			
				m/m	ins.	m/m	ins.	s.	d.
150	210, 230 and 240	B.C. or E.S.	100	117.5 ±3.5	4 ⁵ / ₈	65 ± 1	2 ⁹ / ₁₆	3	6

For Purchase Tax see bookmark.



G.E.C.

Photoflash Bulbs



Type of Bulb	Volts	Cap	Dimensions		Peak Lumens	Time to Peak in Millisecs.	Effective Duration of Flash in Millisecs.	Total light Output Lumens/secs.	Time to Half Peak in Millisecs.	Colour Temperature K.	Price each	
			Length mm.	Diam. mm.							s.	d.
No. 22	3-9	ES	125 \pm 2/3	60.3 \pm 1	5,000,000	25	20	75,000	16	3,800	1	8
No. 5	3-9	ASCC	63	34	1,500,000	21	20	18,000	16	3,800	1	1
SM	3-9	ASCC	63	34	800,000	9	10	4,500	—	3,300	1	3

EXPOSURE GUIDE NUMBERS*

Shutter Speed	No. 22		No. 5		Speed Midget	
	28° BS Film	31° BS Film	28° BS Film	31° BS Film	28° BS Film	31° BS Film
Open Flash 1/25 1/50	320	450	165	238	100	130
1/100	295	400	135	195	—	—

* The appropriate figure divided by the distance in feet from bulb to subject will give the recommended F number.

These bulbs are not subject to Purchase Tax.

Projector Lamps

The following is a list of suitable OSRAM Projector lamps for certain types of projection apparatus.

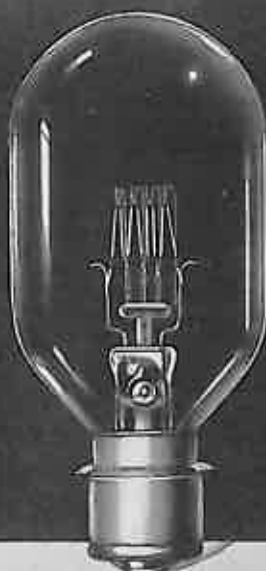
A.	Apparatus manufactured by	The General Electric Co., Ltd.
B.	"	" Kodak, Ltd.
C.	"	" Pathéscope, Ltd.
D.	"	" Specto Ltd.
E.	"	" Strand Electric & Engineering Co., Ltd.
F.	"	" Victor Animatograph Corporation, Ltd.

Apparatus.	Type of OSRAM Projector Lamp recommended.	Apparatus.	Type of OSRAM Projector Lamp recommended.
A		C	
Z300 Studio Spotlight	110 volt, 100 watt, S.B.C., Class A.1	(Lamps obtainable from Pathéscope Ltd.)	
Z104 Studio Spotlight	{ 500 watt, Prefocus Cap, 64 m/m. Bulb, Class A.1.	Pathéscope " Ace " Projector	{ 18 volt, 9 watt M.E.S. Cap, Class F.
Z96 Studio Spotlight	2000 watt, Bipost Cap, Class S.	Pathéscope " Imp " Projector	{ 20 volt, 10 watt, Special Pathéscope Cap, Class A.1.
Z140 Studio Spotlight	5000 watt, Bipost Cap, Class S.	Pathéscope " Kid " Projector	
B		Pathéscope " Home Movie " Projector	
Kodascope Model " C "	{ 100 volt, 100 watt, 110 volt, 300 watt with E.S. or Prefocus Cap, Class A.1.	Pathéscope " Gem " Projector	{ 12 volt, 100 watt, Special Pathéscope Cap, Class F.
Kodascope Model " D "	{ 100 volt, 300 watt, 110 volt, 400 watt, Prefocus Cap, Class A.1.	Pathéscope " H " Projector	{ 80 volt, 100 watt, Special Pathéscope Cap, Class A.1.
Kodascope Models " E " and " E.E "	{ 100 volt, 300 watt, Prefocus Cap, Class A.1.	Pathéscope " Lux " Projector	
Kodascope Models " G " and " G.A "	{ 110 volt, 500 watt,* 110 volt, 750 watt, Prefocus Cap, Class A.1.	Pathéscope " 200B " Projector	{ 110 volt, 200 watt Special Pathéscope Cap, Class A.1.
Kodascope Model " K "	{ 50 volt, 250 watt, 100 volt, 300 watt, Prefocus Cap, Class A.1.	D	
Kodascope Model " K50 "	{ 110 volt, 500 watt,* Prefocus Cap Class A.1.	Analysing	{ 50 volt, 250 watt, Prefocus Cap, Offset Filament, Class A.1.
Kodascope Model " K75 "	{ 110 volt, 750 watt, Prefocus Cap, Class A.1.	Dual	{ 30 volt, 100 watt, Prefocus Cap, Offset Filament, Class A.1.
Kodascope Model " L "	{ 100 volt, 300 watt, 110 volt, 500 watt,* or 110 volt, 750 watt, Prefocus Cap, Class A.1.	Specto 500	{ 115 volt, 500 watt*, Prefocus Cap, Class A.1.
Kodascope Model " Sixteen 10 "	{ 115 volt, 500 watt,* Prefocus Cap, Class A.1.	E	
Kodascope Model " Sixteen 20 "	{ 115 volt, 750 watt, Prefocus Cap, Class A.1.	Pattern 27 " Float " Spotlight	{ 100 or 250 watt, E.S. Cap, Class B.1.
Kodascope " Eight 30 "	{ 100 volt, 100 watt, S.C.C. Cap, Class A.1.	Pattern 45 " Miniature " Spotlight	{ 250 watt, E.S. Cap, Class B.1.
Kodascope " Eight 35 "	{ 100 volt, 200 watt, S.C.C. Cap, Class A.1.	Pattern 44 " Baby " Spotlight	{ 500 watt, G.E.S. Cap, Class B.1.
Kodascope " Eight 50R "	{ 100 volt, 200 watt, Prefocus Cap, Class A.1.	Pattern 43 Spotlight	{ 1000 watt, G.E.S. Cap, Class A.1 or B.1.
Kodascope " Eight 70 "	{ 100 volt, 300 watt, Prefocus Cap, Class A.1.	Pattern 73 " Mirror " Spotlight	{ 1000 watt, G.E.S. or Mogul Prefocus Cap, Class A.1 or B.1.
Kodascope " Eight 80 "	{ 100 volt, 200 watt, S.C.C. Cap, Class A.1.	Pattern 83 " Circle Front " Spotlight	{ 1000 or 900 watt, G.E.S. or Mogul Prefocus Cap, Class A.1.
Kodascope " Home Eight deLuxe "	{ 100 volt, 200 watt, S.C.C. Cap, Class A.1.	Pattern 50 " Pageant " Focus Lantern	{ 1000 watt, G.E.S. Cap, Class A.1. or B.1.
Kodascope " Eight 46 "	{ 200/250 volt, 250 watt, Prefocus Cap, Class A.1.	Pattern 51 " Optical Effects " Projector	{ 1000 watt, G.E.S. Cap, Class A.1.
Kodak Retina Projector " Kodaslide " Models A, 1, 2, 2A and 5	{ 200/250 volt, 100 watt, Prefocus Cap, Class A.1.	Pattern 76 " Acting Area " Lantern	{ 500 or 1000 watt, G.E.S. Cap, Class B.1.
Kodak 35 m/m. Fluorographic Projector	{ 200/250 volt, 100 watt, Prefocus Cap, Class A.1.	Pattern 102 " Soft Edge " Spotlight	{ 2000 watt, Bipost Cap, Class S.
		F	
		Victor Greyline Projector	{ 110 volt, 750 watt, Prefocus Cap, Class A.1.

* 32 millimetre bulb.



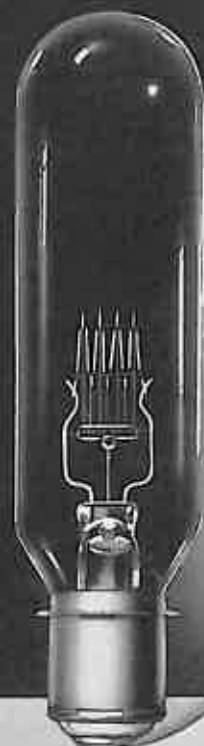
A1/4 12v.



A1/8 200/250v.



A1/9



A1/11 200/250 v.

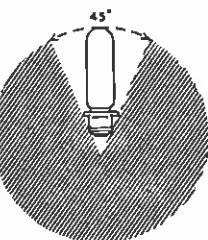
Osram

Gasfilled Projector

pecially designed for accurate projection work.

GROUP I

TUBULAR BULB. GRID FILAMENT



CLASS A.1

BURNING POSITION.

The shaded portion of this diagram shows the position in which this lamp MUST NOT BE MOUNTED.

CLASS A.1

These lamps have grid filaments and must be burned vertically, cap down. Tilting the lamp results in reduction of burning life. Suitable for optical lanterns, photographic enlarging, advertising projectors, home cinemas, etc.

Cat. No.	Volts	Watts	Dimensions			Objective Average life (hours)	Standard cap	Price per Lamp		
			Overall length	Diameter	Light centre length			£	s.	d.
A1/1	50	25	57 ± 3	16 ± 1	29 ± 2	50	A.S.C.C.		4	3
A1/2	115	50*	76 ± 3	25 ± 1	34.5 ± 2	50	A.S.C.C.		6	6
A1/3	30	100†	133 ± 7	25 ± 1	55.5 ± 0.5	50	Pre-focus		11	9
	12	100*	133 ± 7	25 ± 1	55.5 ± 0.5	50	Pre-focus		11	9
	115	100*	133 ± 7	25 ± 1	55.5 ± 0.5	50	Pre-focus		11	9
A1/4	200, 210 } 220, 230 } 240, 250 }	100*	133 ± 7	25 ± 1	55.5 ± 0.5	50	Pre-focus		11	9
	50	250*	133 ± 7	32 ± 2	55.5 ± 0.5	50	Pre-focus	1	2	0
	115	250*	133 ± 7	32 ± 2	55.5 ± 0.5	50	Pre-focus	1	1	0
A1/5	200, 210 } 220, 230 } 240, 250 }	250*	133 ± 7	32 ± 2	55.5 ± 0.5	50	Pre-focus	1	1	0
A1/6	115	300*†	133 ± 7	32 ± 2	55.5 ± 0.5	25	Pre-focus	1	6	0
A1/7	115	500*†	133 ± 7	32 ± 2	55.5 ± 0.5	25B	Pre-focus	1	13	9
	115	500	133 ± 7	64 ± 2	55.5 ± 0.5	50	Pre-focus	1	5	0
A1/8	200, 210 } 220, 230 } 240, 250 }	500	133 ± 7	64 ± 2	55.5 ± 0.5	50	Pre-focus	1	5	0
A1/9	115	750*†	133 ± 7	38 ± 2	55.5 ± 0.5	25B	Pre-focus	1	18	9
A1/10	30	900	235 ± 10	64 ± 2	84 ± 0.5	50	Large Pre-focus	1	17	6
	115	1000	235 ± 10	64 ± 2	84 ± 0.5	50	Large Pre-focus	1	12	6
A1/11	200, 210 } 220, 230 } 240, 250 }	1000	235 ± 10	64 ± 2	84 ± 0.5	50	Large Pre-focus	1	12	6

* Bulb tip black sprayed.

† Forced cooling is necessary for these lamps, so that no part of the wall of the bulb exceeds a temperature of 500° C.

B.—Bi-plane filament.

‡ Offset filament

These lamps are not subject to Purchase Tax.

For lamps recommended by manufacturers of apparatus, see page 23.

Dimensions are given in millimetres in accordance with BS 1522 of 1949. For conversion table to inches see page 59.



B1/1



B1/3 or B1/4



B2/1

CLASS B.1

These lamps may be used at any angle except within 45° of vertical (cap upwards). They are suitable for floodlighting and also for types of theatre spotlights in which ability to withstand rough usage is more important than high optical efficiency.

Voltage	Watts	Cat. No.	Dimensions m/m.			Objective Average life (hours)	Cap	Price per Lamp		
			Overall length ± 10	Diameter	Light centre length ± 6			£	s.	d.
115	100	B1/1	115	80 ± 2	75	800	E.S.		9	0
200		B1/2	125	95 ± 2	75		E.S.		17	6
210		B1/3	180	130 ± 5	115		G.E.S.	1	3	0
220		B1/4	180	130 ± 5	115		G.E.S.	1	10	0
230	1000									
240										
250										

CLASS B.2 BUNCH FILAMENT

These lamps can be used in any position.

115, 200	500	B2/1	267 ± 8	130 ± 5	202 ± 7	800	G.E.S.	1	3	0
210, 220		B2/2	300 ± 9	150 ± 5	225 ± 8	800	G.E.S.	1	10	0
230, 240	1000									
250										

For lamps recommended by manufacturers of apparatus, see page 23.

For Purchase Tax see bookmark. The 500 and 1000 watt lamps are not subject to Purchase Tax.

Dimensions are given in millimetres in accordance with BS 1522 of 1949. For conversion table to inches see page 59.



Gasfilled Projector

GROUP I

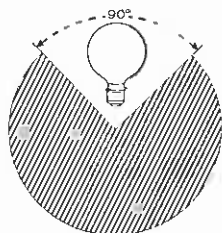
ROUND BULB
BUNCH FILAMENT



CLASS B.1

BURNING POSITION.

The shaded portion of this diagram shows the position in which the Class B.1 lamp MUST NOT BE MOUNTED



Gasfilled Projector

GROUP I

CLASS E

BURNING POSITION.

The shaded portion of this diagram shows the position in which this lamp MUST NOT BE MOUNTED.

ROUND BULB

GRID FILAMENT

EPIDIASCOPE TYPE

This class is specially designed for EPIDIASCOPE projection apparatus.

Voltage	Watts	Cat. No.	Dimensions			Objective average life (hours))	Cap	Price per lamp		
			Overall length ± 10	Diameter ± 2	Light centre length					
115 200 210 220 230 240 250	500	E/1	m/m.	m/m.	m/m.	100	Pre-focus	£	s.	d.
		E/3	135	100	60 ± 0.5			1	8	6
			135	100	85 ± 5	100	E.S.	1	7	6

CLASS F

EXTRA LOW VOLTAGE

ROUND BULB

These lamps, though of low wattage, give a very intense, concentrated light. They are specially suitable for all purposes where small dimensions in the apparatus employed are of primary importance, e.g., micro projectors.

Voltage	Watts	Cat. No.	Dimensions			Objective average life (hours)	Cap	Price per lamp		
			Overall length	Diameter	Light centre length					
6	30†	F1	m/m.	m/m.	m/m.	25	S.E.S.	6	0	
	48†	F2	57 ± 5	35 ± 2	47 ± 5	100	S.B.C.	7	6	
12	24†	F3	60 ± 5	38 ± 2	44 ± 5	100	S.B.C.	3	9	
	48*	F4	70 ± 5	50 ± 2	40 ± 3	100	S.E.S.	5	6	
	48*	F13	70 ± 5	50 ± 2	38 ± 5	100	E.S.	5	6	
	48*									

* Twin pillar filaments.

† Transverse line filaments.

For lamps recommended by manufacturers of apparatus, see page 23.

For Purchase Tax see bookmark.

Dimensions are given in millimetres in accordance with BS 1522 of 1949. For conversion table to inches see page 59.



Gasfilled Projector

GROUP I

CLASS G

EXCITER LAMPS FOR SOUND FILM APPARATUS

These lamps are intended for use in conjunction with photo-cells for sound reproduction and similar purposes.

They must be used vertically cap down, as illustrated, and in this position only.

Many detailed improvements have been made in OSRAM Exciter lamps and the accuracy of filament mounting is such that they may be used for the very delicate process of *recording* sound on film tracks, as well as for reproduction.

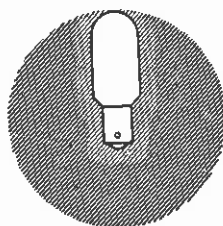
Cat. No.	B.S. No.	Volts	Amps.	Cap	Dimensions			Objective average life (hours)	Price per Lamp
					Diameter	Overall length	Light Centre length		
G.8	E.L.1	8	4	A.S.C.C.	m/m.	m/m.	m/m.	100	5 6
G.9	E.L.2	8.5	4	A.S.C.C.	25 ± 1	75 ± 3	44 ± 1		5 6
G.11	E.L.4	10	5	A.S.C.C.			44 ± 1		7 6
G.12	E.L.5	10	5	A.S.C.C.			41 ± 1		7 6
G.14	E.L.6	10	7.5	A.S.C.C.			44 ± 1		7 6
G.15	E.L.7	10	7.5	A.S.C.C.	18 ± 1	40 ± 2	41 ± 1		7 6
G.16	E.L.8	27	1	A.S.C.C.			44 ± 1		8 6
G.4	E.L.9	6	1*	S.C.C.			41 ± 1		5 6
							21.5 ± 0.5		5 6

* Axial filament.

EXCITER LAMPS.

BURNING POSITION

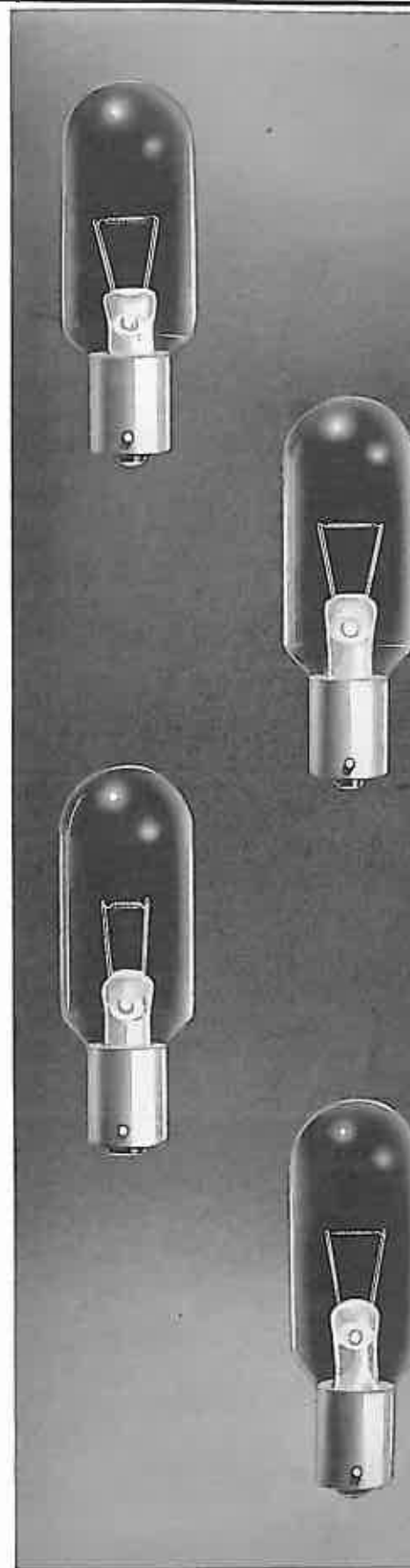
The shaded portion of this diagram shows the position in which this lamp MUST NOT BE MOUNTED.

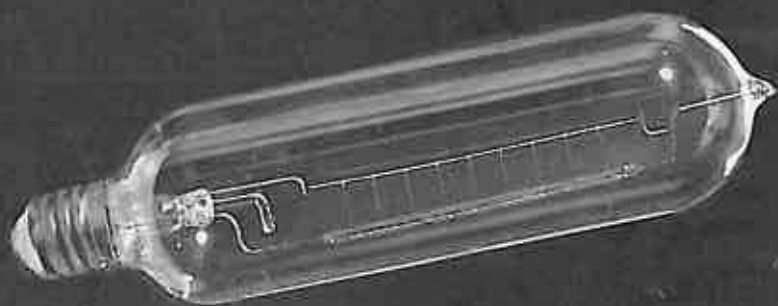


For lamps recommended by manufacturers of apparatus, see page 23.

These lamps are not subject to Purchase Tax.

Dimensions are given in millimetres in accordance with BS 1522 of 1949. For conversion table to inches see page 59.





Osram

Gasfilled Projector

HORIZON TYPE

GROUP I

CLASS FL

These lamps have filaments of line construction for use in special fittings. The resultant beam is of very narrow vertical divergence and a large horizontal spread, and has many uses in theatre and flood-lighting schemes.

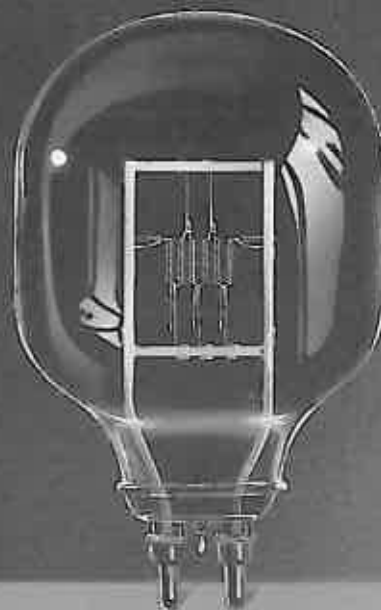
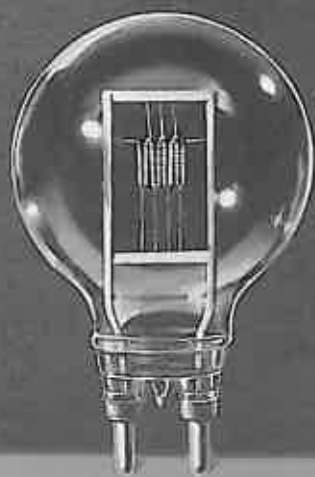
Burning position, horizontal.

Volts	Watts	Cat. No.	Dimensions		Objective Average life (hours)	Cap	Price per Lamp		
			Overall length	Diameter			£	s.	d.
115, 200 210, 220 230, 240 250	500	FL/1	m/m. 355 ± 10	m/m. 90 ± 1	1000	G.E.S.	1	15	0
	1000	FL/2	390 ± 10	90 ± 1	1000	G.E.S.	2	5	0

For lamps recommended by manufacturers of apparatus, see page 23.

These lamps are not subject to Purchase Tax.

Dimensions are given in millimetres in accordance with BS 1522 of 1949. For conversion table to inches see page 59.



CLASS S

Cinema Studio lamps are available with a bi-post construction. The cap consists of two hollow pins welded into a glass dish, and two channel members carrying the filament are mounted firmly to the inside of the pins; the bulb is then fused to the edge of the glass dish.

The result is a rigidly constructed lamp with the filament accurately fixed in relation to the cap pins; as a consequence, accurate control of the light is possible without expert focusing.

Burning position, between vertical cap down and horizontal.

Osram

Gasfilled Projector

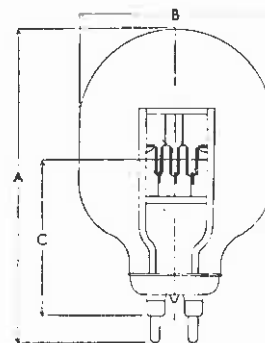
BI-POST TYPE
GROUP I

Volts	Watts	Cat. No.	Dimensions				Cap	Price per Lamp
			(A) Overall length*	(B) Diameter	(C) Light centre length	Objective average life (hours)		
115 and 240	2000	S/1	m/m. 232 ± 6	m/m. 152.5 ± 2	127 ± 2	100	Bi-post	l. s. d. 4 5 0
	5000	S/2	335 ± 6	203 ± 2	165 ± 2			15 0 0

* These lamps have the following pin centres, 1.5 ins. ± .010.

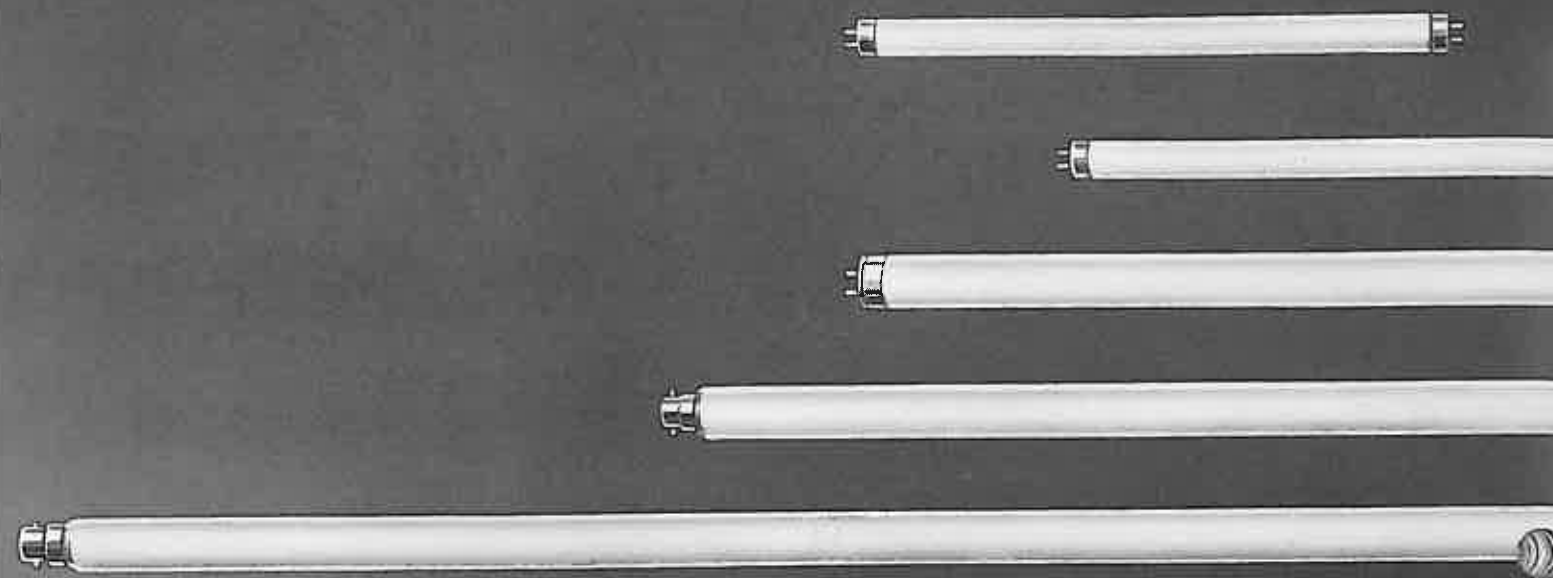
For lamps recommended by manufacturers of apparatus, see page 23.

These lamps are not subject to Purchase Tax.



OSRAM Bi-Post
Projector Lamp.

Dimensions are given in millimetres in accordance with BS 1522 of 1949. For conversion table to inches see page 59



Fluorescent

GROUP IX TYPE MCF/U

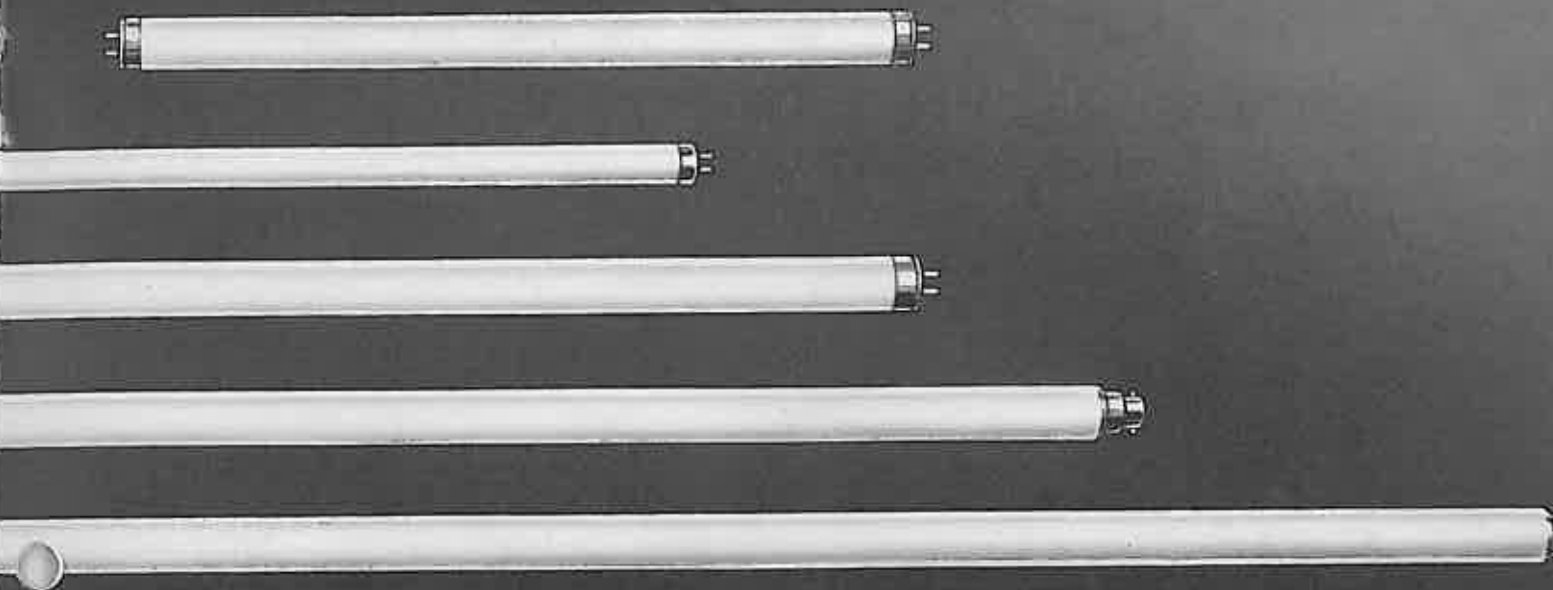
OSRAM fluorescent lamps provide a source of light which surpasses in economy all other means of illumination. They are widely used in shops, offices, hotels, restaurants; in public buildings of all kinds, in streets and factories, and now more and more in the home.

Besides their economy in current consumption, OSRAM fluorescent lamps bring such important benefits as glare-free illumination and freedom from harsh shadows; they work at a low temperature and are available in a useful range of 'whites', namely, Mellow, Natural, Warm White, Daylight and Colour Matching. In addition there are four 'self colours' Red, Blue, Green and Yellow.

Of the standard sizes—the 5 ft. 80 watt, 4 ft. 40 watt and 2 ft. 40 watt are obtainable for use with "instant start" gear. This adds one shilling to the price of the lamp, and threepence to the purchase tax.

For light output and other technical information, see page 32.

The appropriate auxiliary gear and a complete list of G.E.C. fluorescent fittings, are given in G.E.C. Catalogue F.7.



Size	Watts	Colour	Cap	Price	Purchase Tax Extra
1 1/2 ft.	15	Mellow, Natural or Warm White	Bi-pin	s. d. 11 6	s. d. 3 0
2 ft.	20	Mellow, Natural or Warm White	Bi-pin	12 6	3 3
2 ft.	40*	Mellow, Natural or Warm White	Bi-pin	13 0	3 5
3 ft.	30	Mellow, Natural or Warm White	Bi-pin	13 0	3 5
4 ft.	40*	Daylight, Natural, Mellow or Warm White	Bi-pin	14 0	3 8
		Colour Matching	Bi-pin	15 6	4 0
5 ft.	80*	Daylight, Natural, Mellow or Warm White	B.C.	15 6	4 0
		Colour Matching	B.C.	17 0	4 5
		Red, Blue, Green or Yellow	B.C.	20 0	5 3
8 ft.	125	Natural	B.C.	32 6	8 5

Lamp wattages are nominal and exclude gear losses.

INSTANT START* These lamps are available for use with instant start gear. List price plus 1s. extra (Purchase Tax — 3d.)

When ordering, please specify: Length, Wattage and Colour and whether required for use with instant start gear.

Purchase tax extras in the above table apply only when the lamps are sold at list prices. When sold at a discount, purchase tax will be charged at 26% of the list price (see page 2).



Fluorescent

GROUP IX. TYPE MCF/U.

TECHNICAL DATA

5 ft. 80 w. and 4 ft. 40 w. For industrial and commercial lighting.

Lamp	Cap	Diameter ins.	LAMP CURRENT				Colour	LIGHT OUTPUT		Approximate brightness candelas per sq. in. after 100 hours
			Mains		Operating amps.	Starting amps.		Initial lumens 100 hours	Average for first 5,000 hours of life (lumens)	
			Circuit	amps.						
5ft. 80w.	B.C.	1½	Single lamp	·50	·85	1·0-1·6	{ Daylight Warm White Natural Mellow Colour Matching	4000	3200	5·0
			Twin lamp	·80				4000	3200	5·0
								3440	2720	4·3
								2960	2240	3·7
								2960	2240	3·7
4ft. 40w.	Bi-pin	1½	Single lamp (inductive)	·25	·41	·5-·75	{ Daylight Warm White Natural Mellow Colour Matching	2080	1760	3·2
			Twin lamp	·40				2080	1760	3·2
								1800	1520	2·8
								1600	1200	2·3
								1600	1200	2·3
8ft. 125w.	B.C.	1½	Single lamp	·8	·85	1·0-1·6	Natural	6000	5000	4·3
			Twin lamp	1·4						

3 ft. 30 w., 2 ft. 40 w., 2 ft. 20 w. and 1½ ft. 15 w. For decorative and domestic lighting.

Lamp	Cap	Diameter ins.	LAMP CURRENT				Colour	Initial light output 100 hours (lumens)	Approximate brightness candelas per sq. in. after 100 hours	
			Mains		Operating amps.	Starting amps.				
			Circuit	amps.						
3 ft. 30 w.	Bi-pin	1	Single lamp (inductive)	·18	·34	·4-·65	{ Warm White Mellow Natural	1380	4·3	
			Twin lamp	·33				1080	3·4	
								1260	3·9	
2 ft. 40 w.†	Bi-pin	1½	Two-in-Series	·50	·88	1·0-1·6	{ Warm White Mellow Natural	1300	4·2	
								1040	3·3	
								1200	3·8	
2 ft. 20 w.†	Bi-pin	1½	Twin-in-Series	·25	·35	·4-·7	{ Warm White Mellow Natural	760	2·4	
			Single lamp	·15				600	1·9	
								680	2·2	
1½ ft. 15 w.†	Bi-pin	1	Two-in-Series	·18	·30	·4-·65	{ Warm White Mellow Natural	510	3·3	
			Single lamp	·12				405	2·6	
								465	3·0	

5 ft. 80 w. (coloured). For decorative and display lighting.

Lamp	Cap	Diameter ins.	LAMP CURRENT				Colour	Initial light output 100 hours (lumens)	Approximate brightness candelas per sq. in. after 100 hours		
			Mains		Operating amps.	Starting amps.					
			Circuit	amps.							
5 ft. 80 w.	B.C.	1½	Single lamp	·50	·85	1·0-1·6	Red	320	0·2		
			Twin lamp	·80			Blue	1120	1·4		
							Green	4000	5·0		
							Yellow	2400	2·4		

Wattages quoted are nominal, and refer to lamps only, excluding gear losses.

† 2 ft. 20 watt and 1½ ft. 15 watt lamps may be operated singly on 100-130 volts and singly or two in series on 200-250 volts.

‡ 2 ft. 40 watt lamps may be operated singly on 100-130 volts or two in series on 200-250 volts.

Auxilliary Gear see page 56

Manufactured under one or more of the following British patents : 480356, 520759, 521110, 523528, 530531, 533451 535897, 537901, 563185, 578192, 578195, 580363, 610025 and other Patents granted or pending.



An important component in the fluorescent lamp circuit is the automatic Starter Switch, which controls the "striking" of the lamp after it is switched on. OSRAM Starter Switches, as listed below, have been carefully designed for the various circuits in common use. They are all of the "Glow" type with the exception of those bearing the suffix T after the catalogue number, these being of the "Thermal" type.

Canister Starters

All current designs of fluorescent fittings use the canister starter incorporating a self-contained radio interference suppressor and having a 4-pin base to engage in the special starter socket S1547 illustrated above.

Osram Starter Switches

Manufactured under one or more of the following British Patents:—
521618, 532490, 538239, 536750
541925, 556428, 558205

FOR USE WITH—					
Starter Switch Cat. No.	Model No.	Lamps in Circuit	Lamp rating	Supply voltage	Price each
OS 8 T	ST 23	1	8 ft. 125 w.	200/250 A.C.	6 4
OS 8 L	ST 12	1	5 ft. 80w.	200/220 A.C.	
OS 8 H	ST 13	1		230/250 A.C.	
OS 8 T	ST 23	1		200/250 D.C.	
OS 4 L	ST 17	1	4 ft. 40 w. or 3 ft. 30 w.	200/220 A.C.	
OS 4 H	ST 18	1		230/250 A.C.	
OS 4 T	ST 24	1		200/250 D.C.	
OS 8 T	ST 23	1 2 (in series)	2 ft. 40 w.	100/130 A.C.	
				200/250 A.C.	
OS 3 T	ST 25	1 2 (in series)	2 ft. 20 w. or 18 ins. 15 w.	100/130 A.C.	
				200/250 A.C.	

Glass Tubular Starters.

Earlier models of Fluorescent Fittings were designed for starters of this class. They are fitted with an S.B.C. cap.

OS12L OS12H	1 1	5 ft. 80 w.	200/220 A.C. 230/250 A.C.	4 4
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Radio Interference Suppressor.

F8050 For use in conjunction with Glass type Starters 2 0

Osram Starter Switches are not subject to Purchase Tax.



Cold Cathode Fluorescent

The standard OSRAM cold cathode fluorescent lamps are 20 m/m. in diameter, 8 ft. 6 in. lighting length and 9 ft. 6 in. overall length. They operate at a higher voltage than ordinary OSRAM fluorescent lamps and require no starters. They are internally coated with fluorescent powders giving a variety of colours.

The standard colours are Mellow, Warm White, Intermediate, Natural, Colour Matching and Gold.

Daylight lamps are available for use in existing installations.

The Gold lamp is made under British Patent No. 457486, and the Mellow, Natural, Intermediate, and Colour Matching lamps are made under British Patent No. 578192.

Standard OSRAM Cold Cathode lamps are generally used in G.E.C. double or triple tube fittings with the transformers and other gear housed in the end boxes. (Leaflet OS.596.)

In addition to the standard size, these lamps can be made-up into many shapes and lengths for decorative lighting purposes.

The main advantages of OSRAM Cold Cathode lamps are as follows:—

- High luminous efficiency.
- Low surface brightness.
- Low maintenance costs.
- Ability to operate on a reduced supply voltage if necessary.
- Instant start—without any special starting device.
- An attractive range of colours.
- Dimming is possible with suitable control gear.

APPLICATIONS

OSRAM Cold Cathode lamps are being used to light shops, large stores, banks, restaurants and hotels. In addition there are outstanding OSRAM Cold Cathode installations in factories, printing works, foundries, etc.

G.E.C. Cold Cathode units can be installed by electrical contractors without difficulty, but the wiring should comply with Section 8 of I.E.E. Regulation for the Electrical Equipment of Buildings.

TECHNICAL DATA AND PRICES

Standard OSRAM 9 ft. 6 in. Cold Cathode Fluorescent Lamps.

Colour	Lamp Current mA.	Lumens per watt at 100 hrs.	Lumens per watt average through life	Surface bright- ness c/sq. in. at 100 hrs.	Price per Lamp
Mellow	60	32	25	1.5	£ s. d. 1 16 6
Warm White		40	31	1.9	
Natural		36	28	1.7	
Intermediate	120	40	31	1.9	2 1 6
Colour Matching	60	32	25	1.5	
Gold		20	20	1.1	1 16 6

Prices for special colours or shapes on application.

These lamps are not subject to Purchase Tax.



Mercury

GROUP IX. TYPES MA AND MAF

The characteristics of these lamps are similar to those of other electric arcs; that is they have a negative resistance characteristic and consequently must always be used in conjunction with a suitable ballast. The power factor of the lamp and G.E.C. choke is about 0.6, but by suitable capacitors this can be raised to between 0.8 and 0.95.

OSRAM Mercury Lamps are arranged for parallel burning and each lamp must have a G.E.C. choke coil in series with it on the phase side of the mains. If a capacitor is used for power factor correction it should be connected across the mains on the supply side of the choke. The provision of separate fuses for each lamp is recommended.

LIGHT OUTPUT AND RUNNING CHARACTERISTICS

Type	Lamp Rating	Nominal average output throughout life (lumens)	P.F. Capacitor	Approximate Mains starting current at 230 volts		Average current when burning at full brightness at 230 volts	
				Without capacitor	With G.E.C. capacitor	Without capacitor	With G.E.C. capacitor
MA/V†	Watts		m.f.d.	amps.	amps.	amps.	amps.
	250	8000	15	3.5	2.5	2.0	1.4
	400	14400	20	5.5	4.5	3.0	2.3
MAF/V	400	12800	20	5.5	4.5	3.0	2.3

DIMENSIONS AND PRICES

Type	Lamp Rating	Overall length		Overall diameter		Distance from contact on cap to the centre of discharge		Cap	Price per lamp		
		m/m.	ins.	m/m.	ins.	m/m.	ins.		£	s.	d.
MA/V	250	290 ± 8	11 3/8	48 ± 3	1 7/8	170 ± 8	6 3/4	G.E.S.	2	8	0
	400	330 ± 8	12 3/4	48 ± 3	1 7/8	190 ± 8	7 1/2	G.E.S.	2	12	6
MAF/V	400	335 ± 7.5	13 1/4	165 ± 1.5	6 1/2	—	—	G.E.S.	3	12	6

VOLTAGE RANGES: 200/210, 220/230, 240/250.

For particulars of Chokes and Capacitors for use with OSRAM discharge lamps see page 55.

† The MA/V lamps are made for burning in the cap-up position or horizontally with a magnetic deflector. However, it is recommended that where a lamp is to burn horizontally with such a reflector, an MA/V (hard glass) lamp should be used instead of the standard MA/V. Where lamps are required to burn horizontally without a magnetic reflector, or vertically, cap-down, special types are available. The MA/V (hard glass) type is used where a magnetic deflector is fitted in the lantern, the MA/H type where no magnetic deflector is fitted.

MA/V (hard glass), MA/H—250 watts Prices on application
MA/V (hard glass), MA/H—400 watts Prices on application

These lamps are not subject to Purchase Tax.





Mercury

GROUP IX

TYPES MB & MBF

OSRAM Mercury Lamps of the M.B. Type are used mainly in industry—for workshop lighting and yard lighting. They are also used in lighting side-streets, car parks and railway stations.

Where colour correction is required the fluorescent type MBF is used.

General operation of the lamps is similar to that of the MA types. Although these lamps are designed for vertical burning they may be operated in other positions without material effect on performance.

For particulars of auxiliary gear, see page 55.

LIGHT OUTPUT AND ELECTRICAL CHARACTERISTICS

Type	Lamp rating	Nominal average output throughout life (lumens)	P.E. Capacitor	Approximate starting current at 230 volts		Average current at full brightness at 230 volts	
				Without capacitor	With G.E.C. capacitor	Without capacitor	With G.E.C. capacitor
MB/V Pearl MBF/V Fluorescent	watts		mfd.	amps.	amps.	amps.	amps.
	80	2500	7.5	1.35	0.8	0.75	0.45
	125	4100	10	1.7	1.15	1.10	0.70
	80	2500	7.5	1.35	0.8	0.75	0.45
	125	4100	10	1.7	1.15	1.10	0.70

PRICES AND DIMENSIONS

Type	Lamp rating	Overall length		Diameter		Distance from contact on cap to the centre of discharge		Standard Cap	List Price each	
		m/m.	ins.	m/m.	ins.	m/m.	ins.		s.	d.
MB/V Pearl MBF/V Fluorescent	watts									
	80	160 ± 4.5	6 3/16	80 ± 1	3 1/8	113 ± 4	4 3/8	3 Pin B.C.	35	0
	125	178 ± 5.5	7	90 ± 1	3 9/16	128 ± 5	5 1/8	3 Pin B.C.	40	0
	80	178 ± 5.5	7	110 ± 1.5	4 3/8	—	—	3 Pin B.C.	43	0
	125	233 ± 7	8 1/8	130 ± 1.5	5 1/8	—	—	G.E.S.	52	6

Voltage ranges: 200/210, 220/230, 240/250.

These lamps are not subject to Purchase Tax.

OSRAM Mercury Lamps of the MA, MAF, MB and MBF types are manufactured under one or more of the following British Letters Patent and other British Patents and pending applications: 473929, 483846, 491096, 491179, 525965, 559824, 577599, 585282, 594059, 608726.

Osram

Dual

GROUP IX TYPE MBT/U

OSRAM Dual lamps are designed for use in commercial and industrial lighting, where good quality of light combined with luminous efficiency is essential.

The lamp contains in one Pearl bulb a mercury discharge and a tungsten incandescent filament.

The filament, besides emitting light, acts as a ballast in series with the discharge, thus dispensing with the necessity for an external choke.



These lamps may be operated in any position.

Class and Rating	Nominal average output throughout life (lumens)	Dimensions (m.m.)			Outer Bulb Finish	Caps	List Price each	
		Overall length	Diameter	Light Centre Length			s.	d.
MBT/U 160w.	2400	178	90 ± 1	D = 128 ± 6 F = 133 ± 6	Pearl	E.S. or B.C.	42	6
MBT/U 250w.	4250	233	110 ± 1.5	D = 173 ± 6 F = 178 ± 6	Pearl	G.E.S.	50	0

D = Discharge.

F = Filament.

Voltage range : 200-210, 220-230, 240-250 v. A.C.

These lamps are not subject to Purchase Tax.



Osram

1 kW. Mercury High Bay

GROUP IX TYPE MB

This lamp has been designed for use in aircraft hangars, steel and iron works, in fact all places having a high ceiling. It has a very high efficiency and is suitable for connecting across the phases of a 3-phase supply.

Type	Watts	Nominal average output throughout life (lumens)	Overall length		Overall diameter (Maximum)		Standard Cap	Price per lamp		
MB/V	1000	48,000	$\frac{in}{10.}$ 3.35 ± 7.5	$\frac{in.}{13.}$ $13\frac{1}{2}$	$\frac{m}{m.}$ 165 ± 1.5	$\frac{in.}{6\frac{1}{2}}$	G.E.S.	£	s.	d.
								8	0	0

These lamps are not subject to Purchase Tax.

Black Glass Lamp

(ULTRA-VIOLET)

GROUP IX

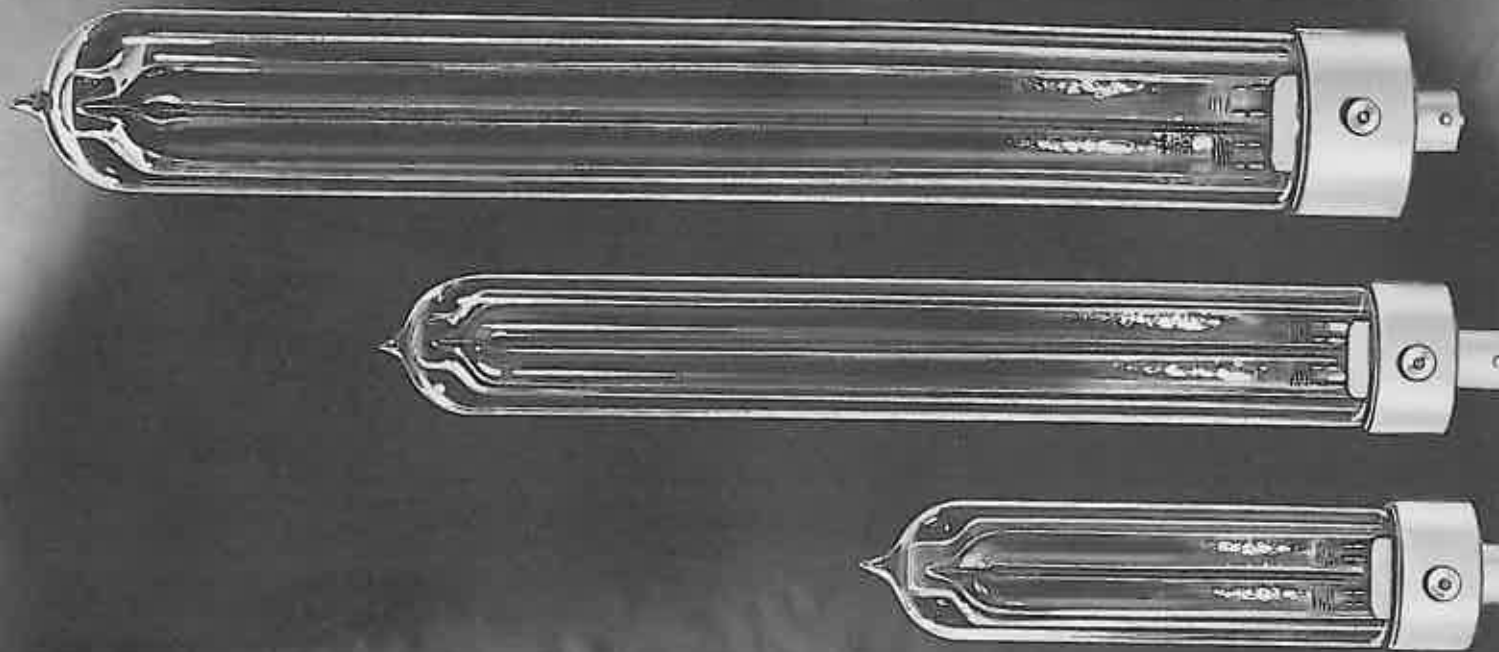
TYPE MBW/U

This is a mercury lamp in which practically all visible radiation is absorbed by the "black glass" bulb, and the radiation transmitted is restricted almost exclusively to the wave-length 3650Å. The lamp can be used to excite fluorescence in fluorescent powders and paints sympathetic to these wave lengths. Articles can be marked so that the marking is invisible under normal light, but visible under the lamp. The Black Glass lamp can be used to detect the presence of certain kinds of oil and grease. It is invaluable in the preparation of optically flat surfaces and can also be used to detect alterations in documents.

Watts	Dimensions m/m.			Price each		
	Overall length	Diameter	Light centre length			
125	178 ± 5.5	90 ± 1	128 ± 5	£	s.	d.
				3	3	0

Cap: 3 pin B.C. Voltage range, 200/210, 220/230, 240/250 v.
Details of choke and capacitor for use with this lamp will be found on page 55.
These lamps are not subject to Purchase Tax.

S O D I U M L A M P S



OSRAM Sodium lamps are available in four sizes and are suitable for floodlighting and street lighting.

They require an A.C. supply, and must be used in conjunction with special G.E.C. auto-transformers. The 45 w. and 60 w. lamps may be burnt horizontally or vertically (cap up). The 85w. and 140 w. should be burnt horizontally, but may be tilted to any angle not exceeding 20° (cap up).

The lamps are composed of an inner tube in which the sodium discharge takes place and a detachable vacuum flask jacket. The latter serves to maintain the inner tube at an even temperature. Both inner tube and outer jacket are mounted on a special two-piece ceramic bayonet cap, so that they can be replaced independently.

Osram

Sodium

GROUP IX

TYPE SO/H

Watts	Dimensions m/m.			Nominal average output throughout life (lumens)	Cap	Price each					
	Overall length ± 10 m/m.	Diameter ± 2 m/m.	Light centre length ± 10 m/m.			Without jacket			With detachable jacket		
45	238	50	140	2200	Ceramic B.C.	£	s.	d.	£	s.	d.
60	300	50	170	3400	Ceramic B.C.	2	0	6	2	17	0
85	415	50	230	5400	Ceramic B.C.	2	10	6	3	8	6
140	518	65	280	9000	Ceramic B.C.	3	0	0	4	2	0
					Ceramic B.C.	3	11	0	4	15	6

Details of auto-transformers for use with OSRAM Sodium Lamps are given on page 55.

These lamps are not subject to Purchase Tax.



Osram

Headlights

BRITISH PRE-FOCUS TYPE BULB FOR PRIVATE CARS AND MOTOR CYCLES GROUP II

These bulbs, having a diameter of 28 m/m. and overall dimensions of 62 m/m. are the latest development in car headlight design. The main feature is that they are pre-focused at our works, thus relieving the motorist of any anxiety regarding the accurate focusing of his headlights. The focus is maintained by the focusing disc (British patent No. 436770) attached to the cap, which also provides a sealed joint between the bulb and the reflector, thus preventing any corrosion of the latter.

Volts	Watts	Contact	* Catalogue No.	Price each s. d.
SINGLE FILAMENT HEADLIGHTS (For Offside Lamps) (Axial Filaments)				
6	36	Single	172	3 9
12	36	Single	162	3 9
	48	"	165	4 9
DOUBLE FILAMENT (For Near Side Lamps) (Transverse Filaments)				
6	36 & 36	Double	306†	4 6
12	36 & 36	Double	300†	5 0
	42 & 36	"	354†	5 0
	48 & 48	"	302†	6 9
SPOT AND PASS LIGHTS (Transverse Filaments)				
6	36	Single	173	4 0
12	48	"	323	4 9
MOTOR CYCLE HEADLIGHTS (Transverse Filaments)				
6	30 & 24	Double	312††	5 6

* Three digit Nos. correspond with Lucas Cat. Nos.

† For R.H. drive cars. The anti-dazzle filament dips the beam to the left.

For L.H. drive (foreign cars) the prices are the same, but the Cat. No. is the next highest odd number. Thus 12v. 48 & 48w. No. 302 becomes No. 303, etc.

†† These have a straight vertical dip.

For Purchase Tax see bookmark.

Osram

Headlights

BRITISH PRE-FOCUS TYPE
BULB FOR BUSES AND
COMMERCIAL VEHICLES

GROUP II



These are similar to B.P.F. bulbs for private cars, except that they have been designed to meet the special conditions on commercial vehicles.

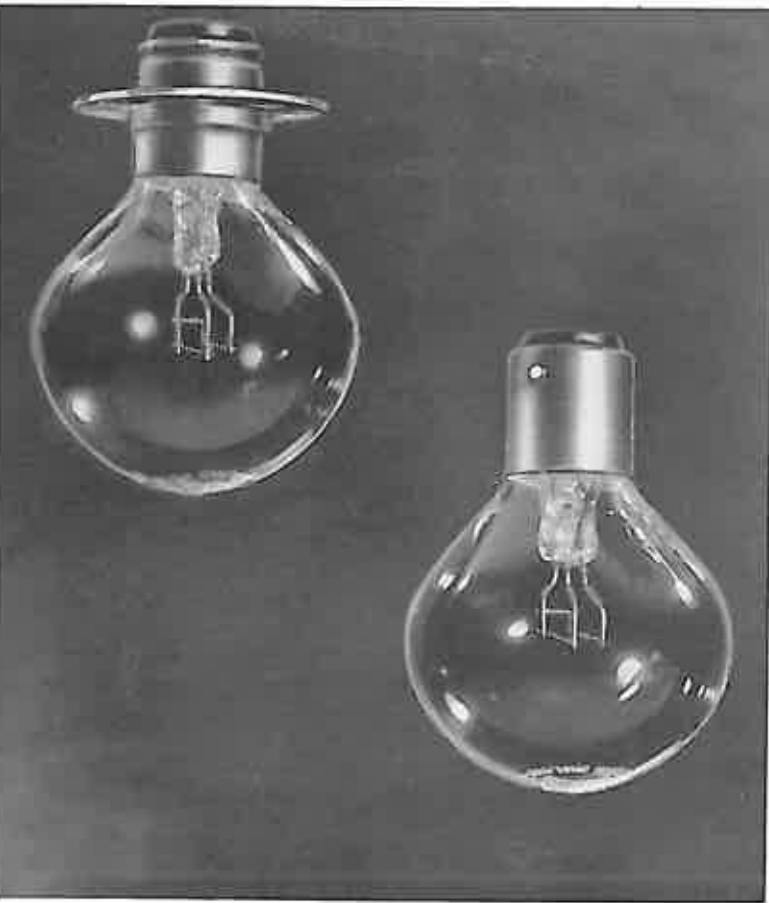
Volts	Watts	Contact	Cat. No.**	Price each s. d.
SINGLE FILAMENT (For Offside Lamps). (Transverse Filaments)				
12	38	Single	325	3 9
	38	Double	326	3 9
	48	Single	185†	4 9
	48	Single	323*	4 9
24	44	Single	330*	5 6
DOUBLE FILAMENTS. (For Near Side Lamps R.H. drive). (Transverse Filaments).				
12	44 & 38	Double	358	6 3
24	44 & 38	Double	359	7 6

† Axial Filaments.

* Also suitable for Spot and Pass Lights.

** Three Digit Nos. coincide with Lucas Cat. Nos.

For Purchase Tax see bookmark.



Osram

Anti-Dazzle Headlights

BI-FOCAL TYPE

GROUP II

These bulbs have twin filaments which are switched on alternatively by means of a changeover or "dipping" switch. The anti-dazzle filament is located above the main filament and produces a "dipped" beam. The main or lower filament provides the normal driving beam.

The new Transverse filaments give a better driving light and "dip" than the old "V" filament.

Volts	Watts	Amps	Cap	Cat. No.†	Price each (Clear) Bulb		
6	18 & 18	3 & 3	S.B.C.	180	s. 4	d. 6	
	24 & 24	4 & 4	S.B.C.†	168	3	6	
			A.S.B.C.	OS7147	3	6	
	30 & 30	5 & 5	Pre-focus*	OS7147P	4	0	
			S.B.C.	169	3	6	
	36 & 36	6 & 6	S.B.C.†	170	3	6	
12	36 & 36	3 & 3	A.S.B.C.	OS6324	3	6	
			Pre-focus*	OS6336P	4	0	
	36 & 36	6 & 6	Bosch B.C.†	OS6366	3	9	
			12	S.B.C.	OS1336	3	6
				A.S.B.C.	OS1336A	3	6
				Pre-focus*	OS1336P	4	0
24	36 & 36	1.5 & 1.5		Bosch B.C.†	182	3	9
			S.B.C.	194	5	9	

* American type.

† Substitutes for OSRAM Lucas Graves bulbs.

‡ Made in accordance with BS 941, where applicable.

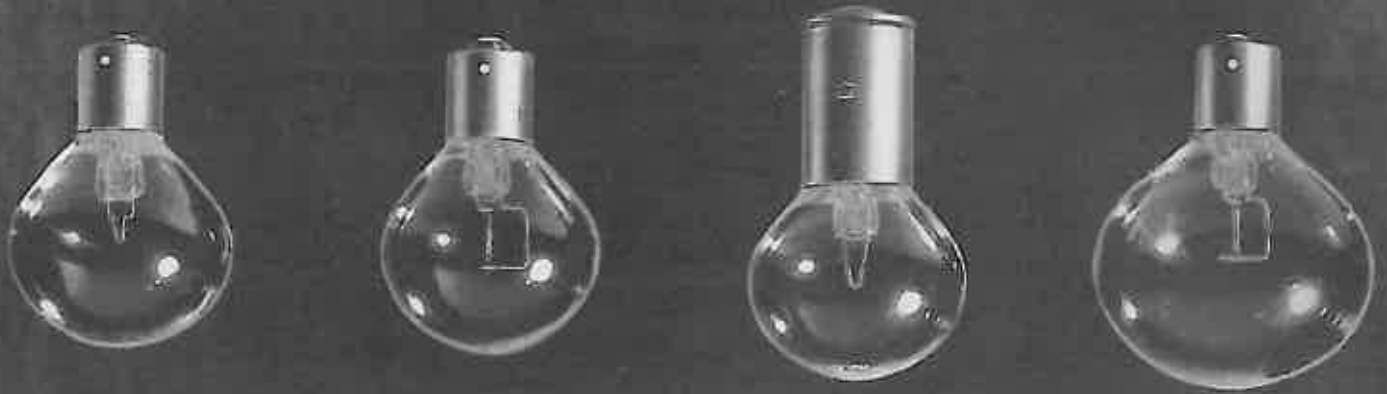
Ratings in most common use are shown in heavy type.

Three Digit Nos. coincide with Lucas Cat. Nos.

Dimensions of Automobile Lamps are normally given in millimetres. For conversion table to inches see page 59.

For Purchase Tax see bookmark.

C A R B U L B S



Made in accordance with B.S. 941, where applicable.

Axial Filament and Bulb diameter 38mm., except where otherwise indicated.

Volts	Watts	Amps.	S.C.C. Caps		S.B.C. Caps		Bosch C.C. Caps	
			††Cat. No.	Price each	††Cat. No.	Price each	††Cat. No.	Price each
6	18	3	11	s. d. 3 0	14	s. d. 3 1	—	s. d. —
	24	4	106	2 6	109	2 7	—	—
	36	6	108	2 9	111	2 10	130	3 0
	36	6	75†	2 9				
12	24	2	1	2 6	4	2 7	—	—
	36	3	2	2 6	5	2 7	—	—
	36	3	57†	2 6				
	48	4	23	4 0	27	4 1	96	4 3
	60	5	90	5 6	28	5 7	87	5 9
24(a)	36	1.5	OS2436	3 0	123	3 0	—	—
	48	2.0	OS2448	4 6	140	4 6	—	—
	60	2.5	124*	6 0	128	6 0	131	6 3 (b)

(a) B.C. Cap no extra.

(b) Bosch double contact cap.

* Bulb diameter 50 ± 1mm.

† "V" Filament.

†† One, Two and Three digit Nos. coincide with Lucas Catalogue Nos.

EXTRAS.

B.C., A.S.C.C., and A.S.B.C. Caps, 1d. extra on price for S.C.C. cap.

3-pin French Caps, 3d. extra on price for S.C.C. cap.

Dimensions of Automobile Lamps are normally given in millimetres. For conversion table to inches see page 59.

For Purchase Tax see bookmark.

Osram

Single Filament Headlights

GROUP II



Osram

Stop and Combined Stop and Tail

GROUP II

Combined Stop and Tail Lights have twin filaments. The small-wattage filament permanently illuminates the rear lamp. The large wattage filament is automatically switched on when the brake pedal is actuated, causing the rear lamp to brighten, thus warning a following driver that the car is slowing up or stopping.

Volts	Watts	Amps.	Cap	Cat. No.*	Price each s. d.
STOPLIGHTS. (Bulb diameter 25 ± 1 mm.)					
6	18	3	S.C.C.	317	3 9
12	18	1.5	S.C.C.	221	3 6
COMBINED STOP AND TAIL LIGHTS. (Bulb diameter 25 ± 1 mm.)					
6	3 & 18	0.5 & 3	S.B.C.	190	3 6
6	3 & 18	0.5 & 3	S.B.C.†	352	3 9
12	6 & 18	0.5 & 1.5	S.B.C.	189S	3 6
12	6 & 18	0.5 & 1.5	S.B.C.†	361	3 9

† With Index (staggered) Pins.

S Substitute for 12 v. 6 and 24 w.

* Three digit Nos. coincide with Lucas Cat. Nos.

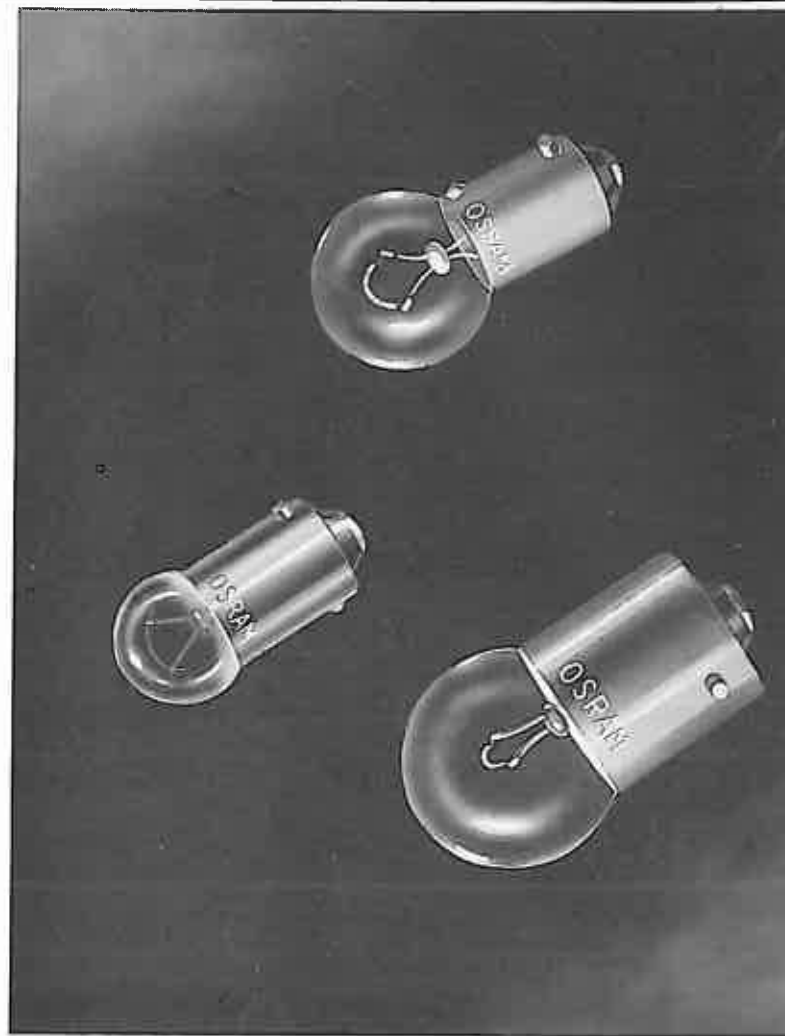
For Purchase Tax see bookmark.

Dimensions of Automobile Lamps are normally given in millimetres. For conversion table to inches see page 59.

Osram

Side and Tail

GROUP II



Made to B.S. 941 where applicable.

Volts	Watts	Amps	S.C.C. Cap		S.B.C. Cap		M.C.C. Cap	
			Catalogue No.*	Price each	Catalogue No.*†	Price each	Catalogue No.*	Price each
6	3	0.5	200	s. d. 1 4 (a)	204	s. d. 1 5	988†	s. d. 1 6
	6	1.0		1 7 (a)		1 8		—
12	6	0.5	207	1 4 (a)	209	1 5	989†	1 7
24	6	0.25	149	1 8 (b)	150	1 8	—	—

Bulb diameter 18 m/m.

† Bulb diameter 15 m/m. Also used for motor cycle parking lights.

(a) B.C. cap 1d. extra.

(b) B.C. cap No extra.

* Three digit Nos. coincide with Lucas Cat. Nos.

Dimensions of Automobile Lamps are normally given in millimetres. For conversion table to inches see page 59.

For Purchase Tax see bookmark.



Osram

Panel and Warning

INDICATOR TYPE

GROUP II

Volts	Watts	Amps	Diam. of bulb ± 1 m/m.	M.E.S. Cap		M.C.C. Cap	
				Catalogue No †	Price each	Catalogue No.	Price each
2*	1.5	0.75	15 m/m.	OS7577	s. d. 2 6	—	s d —
6	3	0.5	11 m/m.	990	1 3	OS7584M	1 6
8	1.6	0.2	15 m/m.	983	2 3	—	—
12	2.2	0.18	11 m/m.	987	1 3	OS7592M	1 6
16	3	0.2	15 m/m.	985	2 3	—	—
24	2.8	0.12	15 m/m.	993	2 0	—	—

For 2.5 volt and 3.5 volt warning lights for use in series with a resistance, as used on many British cars, see page 51 ††

* This bulb is also suitable for some types of Police Lamps and Mine Inspection Lamps.

† Three Digit Nos. coincide with Lucas Cat. Nos.

Dimensions of Automobile Lamps are normally given in millimetres. For conversion table to inches see page 59
For Purchase Tax see bookmark.

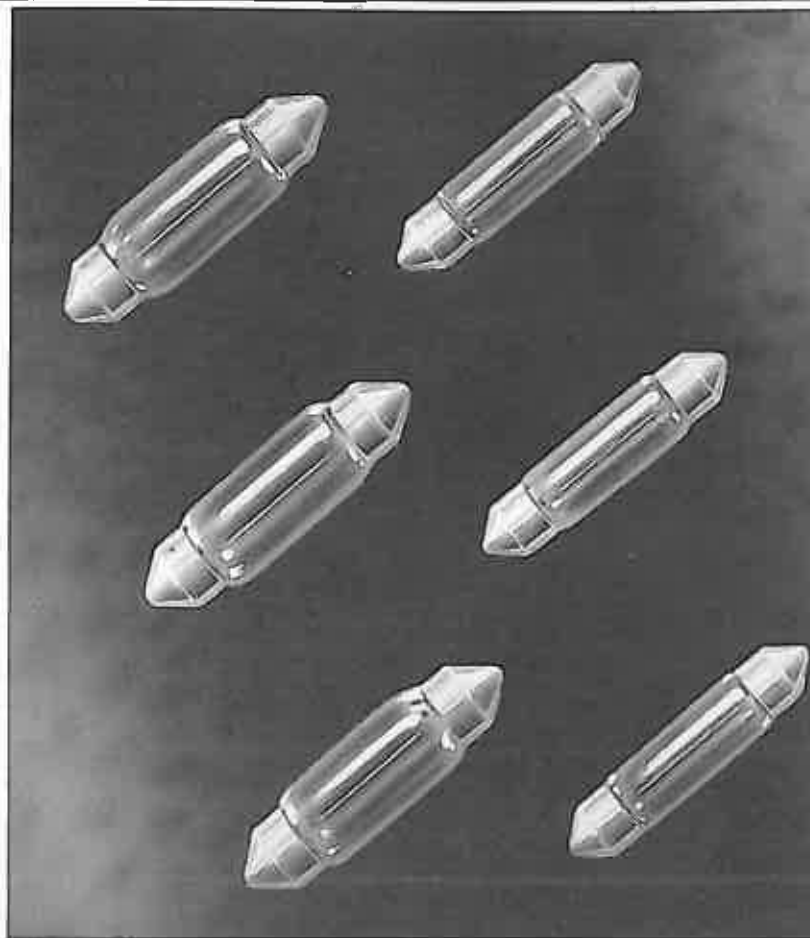
Aircraft

OSRAM lamps are manufactured by the G.E.C. for all types of aircraft. They are made strictly to British Standards and can be relied upon to give the same standard of service as that which characterises OSRAM lamps in industry, commerce and the home.
Prices and particulars on application.

Osram

Festoon

GROUP II



Volts	Watts	Amps.	Dimensions		Catalogue † No.	Price each	
			Overall Length ±1m/m.	Diameter ±0.5m/m.		s.	d.
6	3	0.5	m/m. 35.5	m/m. 7.5	255 253	2	3
	6	1.0	38	11		2	7
12	3	0.25	35.5	7.5	256 254	2	3
	6	0.5	38	11		2	7
24	6	0.25	38	11	OS 2426 260	2	6
	6	0.25	44	11		3	0

† Three Digit Nos. coincide with Lucas Cat. Nos.

Dimensions of Automobile Lamps are normally given in millimetres. For conversion table to inches see page 59.

For Purchase Tax see bookmark.



Osram

***Bus, Coach,
Commercial
Vehicle
and Yacht
Lighting***

GROUP II

Trolley Bus

GROUP I

INTERIOR LIGHTING GROUP II

Volts	Watts	Amps.	Diameter of bulb	Cap	Price each	
					Pearl	
12	12†	1.0	{ m/m. 38 50	B.C. or S.B.C.	s.	d.
					2	4
24	12	0.5	{ 38 50	B.C. or S.B.C.	2	9
					2	9
	20	0.83	{ 38 50	B.C. or S.B.C.	2	9
					2	9

† Made in accordance with the latest issue of B.S. 555.

For HEADLIGHTS see pages 41 to 43

For SIDE & TAIL LIGHTS see pages 44 and 45

35 VOLT GROUP I

Description	Volts	Watts	Diameter of bulb	Type	Cap	Price per Lamp	
Instrument Side Interior Head Lamp	35	6	m/m. 22	Clear	S.B.C.	s.	d.
	35	6	38	Clear	B.C.	2	6
	35	15	38	Clear	B.C.	2	9
	35	36	38	Clear	S.B.C.	4	0

For Purchase Tax see bookmark.

Dimensions of Automobile bulbs are normally given in millimetres. For conversion table to inches see page 59.

Osram

Cycle Dynamo

GROUP IV



HEADLAMPS

Volts	Amps.	Bulb diameter ± 1 m/m.	Finish	Cap	Price each	
6	0.3	18 m/m.	Clear	S.C.C.	s. 1	d. 4
6	0.5	18 m/m.	Clear	S.C.C.	1	4
6	0.3	15 m/m.	Clear	M.E.S.	0	9
6	0.5	15 m/m.	Clear	M.E.S.	0	9

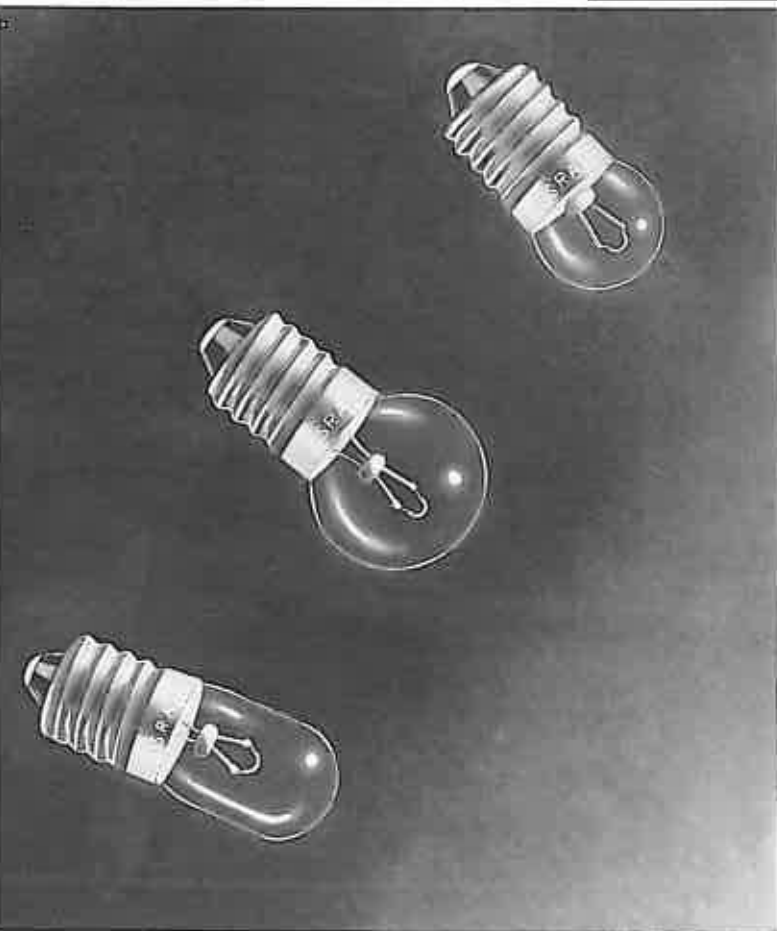
TAIL LAMPS

Volts	Amps.	Bulb diameter ± 1 m/m.	Finish	Cap	Price each	
6	.04	11 m/m.	Clear	M.E.S.	s. 0	d. 9
6	.3	15 m/m.	Clear	M.E.S.	0	9

Some cycle dynamo sets utilise standard 3.5 volt. 0.15 amp. 11 m/m. OSRAM flash lamp bulbs for the rear lamp. (See page 51).

Dimensions of Cycle Dynamo bulbs are normally given in millimetres. For conversion table to inches see page 59.

For Purchase Tax see bookmark.



Osram

Radio Dial

GROUP X

ROUND BULB, Clear, with M.E.S. Cap.

Volts	Amps.	Diameter ±1 m/m	Cat. No.	Price each	
		m/m		s.	d.
6.0	0.04	11	OS.64	1	0
6.0	0.06	11	OS.66		
*6.2	0.3	15	OS.70		6
†6.3	0.11	11	OS.76		7½
†6.5	0.3	11	OS.75		6

TUBULAR, Clear, with M.E.S. Cap.

Volts	Amps.	Diameter ±1 m/m	(Max.) Overall Length	Cat. No.	Price each	
		m/m	m/m		s.	d.
4	0.3	10	30	OS.82	1	0
*6.2	0.3	10	30	OS.85		
†6.5	0.3	10	30	OS.90		7½

* High Efficiency Lamps for intermittent use only. For continuous running applied voltage should not exceed 4v. Suitable for series burning with valves taking 0.2 amp.

† For continuous burning on 6.5 volts, or in series with valve heaters taking 0.3 amp.

†† For continuous burning on 6.3 volts or in series with valve heaters taking 0.1 amp. In cases where H.T. current is passed through the Dial bulbs, they must be shunted by a resistance, so that the current through them is reduced to 0.1 amp.

M.C.C. Cap (miniature centre contact) 1d. extra. Packed in boxes of 50. Please order in multiples of 50 to save packing materials.

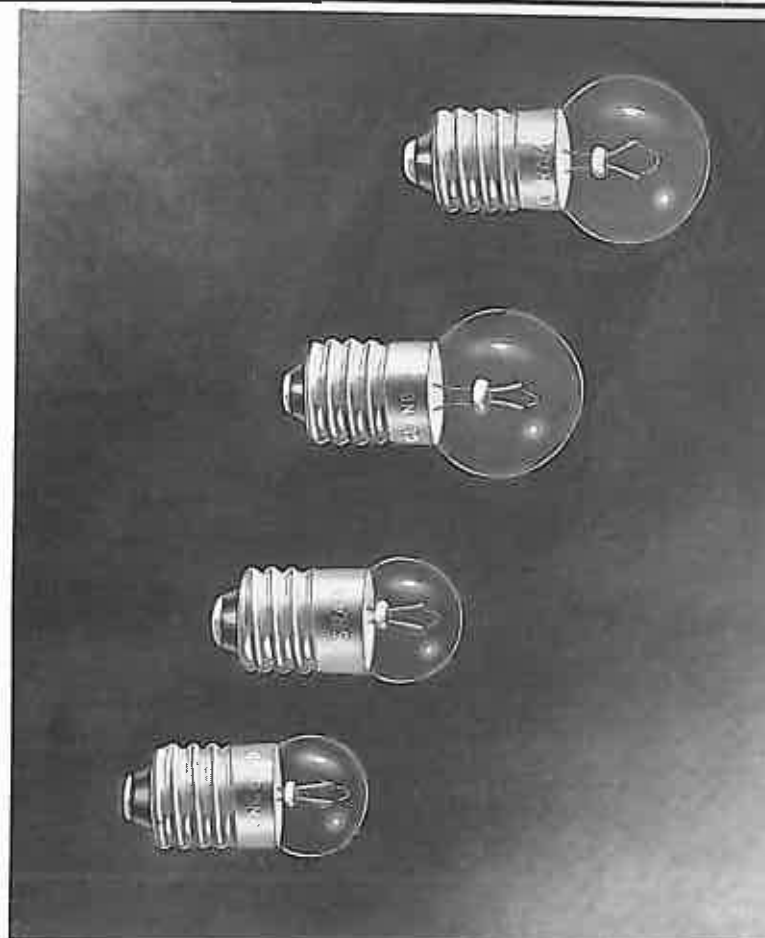
Dimensions of Radio Dial lamps are normally given in millimetres. For conversion table to inches see page 59.

For Purchase Tax see bookmark.

Osram

Flashlamp

GROUP III



For Spotlight torches, Panel lamps for radio receivers,
Cycle lamps, etc.

ROUND BULB, Focusing Type, Clear with M.E.S. Cap

Volts	Amps.	Diameter ± 1 m/m.	Catalogue No.	Price each	Purchase Tax extra
		m/m.		s. d.	d.
††2.5	0.2	11	OS43	} 0 5 ½	1 ½
2.5	0.3	11	OS45		
††*3.5	0.15	11	OS50		
3.5	0.3	11	OS55		
4.0	0.3	11	OS60		
4.5	0.3	15	OS65		

Standard Package 50 per box. Please order in multiples of 50 to save packing materials.

* Recommended for fuse bulbs in radio receivers.

†† These bulbs are used for car ignition warning lights in series with an appropriate resistance.

Dimensions of Flashlamp bulbs are normally given in millimetres. For conversion table to inches see page 59.

For Purchase Tax see page 2.



Krypton-Filled Miners' Bulbs

GROUP V



OSRAM Krypton-filled Miners' bulbs give approximately 20% more light than the equivalent Argon-filled lamp, without any increase in current consumption and without in any way reducing the life of the bulb.

The effect of Krypton gas is to reduce the energy lost by the filament through convection, and also to allow the filament to be run at a higher temperature without reducing its life. The result is that more light is produced for the same expenditure of energy.

They have been fully tested and approved by the Ministry of Fuel and Power, who has certified that they give the additional light claimed.

Each approved bulb bears the official M.F.P. stamp.

For use in	Volts	Amps.	Shape	Dimensions		Caps	Finish	Price each s. d.
				Diameter mm.	Overall Length mm.			
CATEGORY 1 (A). Approved by the Ministry of Fuel and Power.								
Hand Lamps (a)	2.5	1.75	Pear	18±2	43.5±2	953	Pearl	3 0
Hand Lamps (a)	2.5	1.75	Pear	18±2	45.5±2	E14	Pearl	3 0
Cap Lamps	3.6	1.0	Round	18±1	31+1-2	E10	Clear	3 0
Cap Lamps	4.0	0.8	Round	18±1	31+1-2	E10	Clear	3 3
Hand Lamps (a)	4.0	1.0	Pear	18±2	45.5±2	E14	Pearl	3 0
Cap Lamps	3.75	1.0 & 1.0	Pear	18±2	40 ±2	SBC	Clear	3 6
CATEGORY 1 (B). Temporarily approved by the Ministry of Fuel and Power.								
Hand Lamps (a)	2.5	1.5	Pear	18±2	43.5±2	953	Pearl	3 0
Hand Lamps (a)	2.5	1.5	Pear	18±2	45.5±2	E14	Pearl	3 0
Hand Lamps (a)	4.0	0.75	Pear	18±2	45.5±2	E14	Pearl	3 0
Hand Lamps (a)	4.0	0.75	Pear	18±2(b)	47.0±2	PEG	Pearl	3 0

(a) These bulbs have fuses in the caps.

(b) With pip on bulb.

These lamps are not subject to Purchase Tax.



OSRAM Decoration Lights are especially attractive for all indoor parties and celebrations and for the decoration of restaurants, snack bars, shop interiors, window displays and Christmas trees.

They can be used on any voltage between 200 and 260 volts, consuming approximately 36 watts per set only. They can be run for over 24 hours for less than the cost of 1 unit of electricity.

The Standard set consists of twelve OSRAM 20 volt 3 watt coloured lamps, together with lamp holders wired in series, and spaced 14 inches apart in a closed circuit. The lamp holders are connected together with P.V.C. covered flexible wire, and a B.C. adaptor is provided for connecting to the nearest lighting point.

The Party Light set is similar to the Standard set, but in addition is supplied with bell shades and clear lamps. The bells are transparent and each bears a delightful coloured representation of one of the best known nursery rhymes.

The Illuminated Star set consists of twelve illuminated stars in various attractive colours.

Fitted in each star is the OSRAM 20v. 3 w. 15m/m round bulb, which when switched on gives a very pleasing effect.

Like the Standard and Party Light sets, the Star set is wired in series and a B.C. adaptor is provided. The stars are easily removable when it is required to replace the lamps.

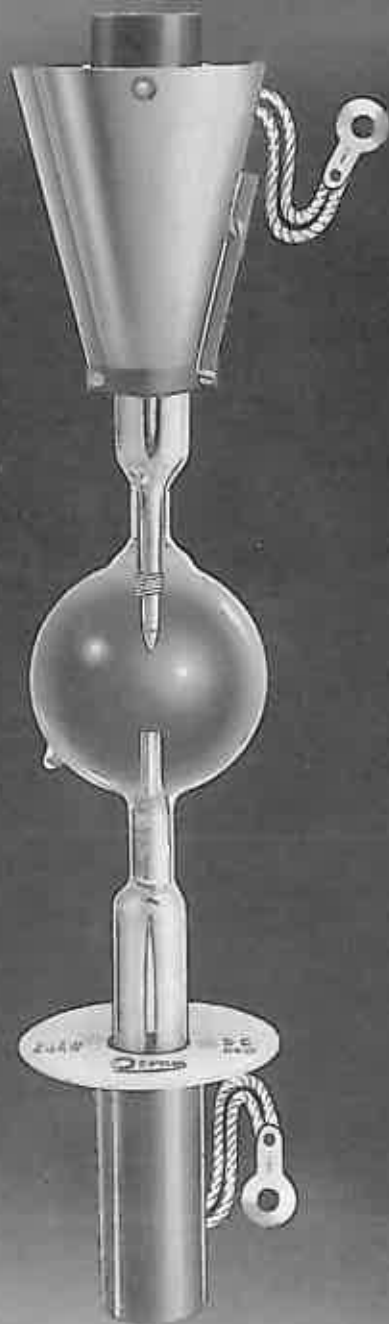
A spare lamp is included with each set. The Cat Nos. for spare lamps are —Standard set OS 2010, Party Light OS 2009, and Illuminated Stars OS 2018.

Osram

Decoration Lights Party Lights and Illuminated Stars

GROUP VI

	Cat. No.	£	s	d.	Purchase Tax extra
Standard Set	OS2011	1	1	0	5 3
Party Lights	OS2102	1	8	0	7 0
Illuminated Stars	OS2103	1	15	0	8 9
Spare Lamp, 20 v., 3 w., Coloured	OS2010		1	0	3
Spare Lamp, 20 v., 3 w., Clear	OS2009		1	0	3
Spare Lamp, 20 v., 3 w., Clear 15 m/m.	OS2018		1	0	3



Osram

$2\frac{1}{2}$ kW. Compact Source

COLOUR CORRECTED

GROUP IX TYPE M.E.C.

The OSRAM $2\frac{1}{2}$ -kW. Compact Source Lamp is a new development in high pressure mercury vapour discharge lighting. The lamp is made of quartz, which will withstand the high temperature and high pressure developed when in operation. Colour is corrected by the addition of Cadmium vapour.

The lamp is designed for direct current operation only, and must be used with special control gear.

Designed for special applications such as Film Studio lighting, the lamp, as its name implies, has a very small source of light combined with a very high arc brightness. It is suitable for most applications which now use the carbon arc, with the exception of colour film projection. The lamp is approved by Technicolor Ltd. for the taking of Technicolor films.

Watts.	Volts		Current		Initial Light Output
	Supply	Arc	Starting	Running	
2,500	100-120 D.C.	70-80	60 amps. max.	35 amps.	112,500 lumens approx.

Manufactured under one or more of the following
British Patents : 489630, 535244, 579236, 630547,
Other patents granted or pending.

Price of operating gear and further details may be obtained on application.

Overall Length	Diameter	Light Centre Length	Arc Length	Cap	Red Ratio	Burning Position	List Price
315 ± 5 mms.	65 mms. max.	152.5 ± 3 mms.	15 ± 1 mms.	Between Centres with Flexible Leads	10%	Vertical, Anode Down	£40 each

These lamps are not subject to Purchase Tax.

Robertson

Carbon Filament

Radiator

Sprayed Flame

GROUP I.

ROBERTSON Radiator lamps are supplied with flame coloured bulbs, which give a glow very similar to that of a coal fire, and create an atmosphere of comfort and warmth.

Watts	Standard Cap	DIMENSIONS				Voltage Range and PRICE PER LAMP	
		Length		Diameter		100/110 200/220	115/125 230/250
		mm.	ins.	mm.	ins.	s.	d.
250	B.C.	285 ± 5	11½	57 ± 1	2¼	9	0

For Purchase Tax see bookmark.



GEAR FOR USE WITH OSRAM MERCURY AND SODIUM LAMPS

(Described on page 35 to 39)

MERCURY

Lamp Rating	CHOKE COILS						CAPACITORS						
	Protected type Cat. No.	Price			Solid filled type Cat. No.	Price			Cat. No.	Rating in mfd.	Price		
80 watts	Z1824	£	s.	d.	Z1822	£	s.	d.	Z1749	7½	£	s.	d.
125 watts	Z1833	4	7	4	Z1835	4	12	0	Z1750	10	1	3	4
250 watts	Z1863	4	17	4	Z1867	5	3	8	Z1752	15	1	10	4
400 watts	Z1873	5	11	4	Z1877	5	19	0	Z1754	20	1	16	8

SODIUM

AUTO TRANSFORMERS

CAPACITORS

45 watts	Z1733	4	17	0	Z1736	5	9	8	Z1752	15	1	10	4
60 watts					Z1746	6	9	8	Z1754	20	1	16	8
85 watts													
140 watts	Z1743	5	15	0									

Further details will be supplied on application.

S&C CHOKES AND CAPACITORS

GEAR TABLES FOR OSRAM FLUORESCENT LAMPS ON 50 CYCLE A.C. SUPPLIES.

SWITCH START.

3 ft. 30 w., 2 ft. 40 w., 2 ft. 20 w., and 1½ ft. 15 w. Lamps.

GEAR	SUPPLY	SINGLE LAMP CIRCUIT				TWIN LAMP CIRCUIT					
		3 ft. 30 w.	2 ft. 40 w.	2 ft. 20 w.	1½ ft. 15 w.	INDUCTIVE			CAPACITIVE		
Choke	105/110 v.	—	F 8216	F 8236	F 8246	—	F 8236	F 8246	—	F 8237	F 8247
	120/127 v.	—	F 8217	F 8237	F 8247	—	F 8237	F 8247	—	F 8238	F 8248
	200 v.	F 8314	—	F 8231	F 8231	F 8314	F 8231	F 8231	F 8319	F 8233	F 8233
	210 v.	F 8315	—	F 8234	F 8234	F 8315	F 8234	F 8234	F 8318	F 8235	F 8235
	220 v.	F 8313	—	F 8234	F 8234	F 8313	F 8234	F 8234	F 8318	F 8235	F 8235
	230/240 v.	F 8318	—	F 8235	F 8235	F 8318	F 8235	F 8235	F 8315	F 8234	F 8234
Capacitor	105/127 v.	—	F 8527	F 8505	F 8505	—	None	None	—	F 8605	F 8606
	200/250 v.	F 8525	—	F 8504	F 8504	None	None	None	F 8604	F 8604	F 8604
Starter	105/127 v.	—	OS 8 T	OS 3 T	OS 3 T	—	OS 3 T	OS 3 T	—	OS 3 T	OS 3 T
	200/220 v.	OS 4 L	—	OS 3 T	OS 3 T	OS 4 L	OS 3 T	OS 3 T	OS 4 L	OS 3 T	OS 3 T
	230/250 v.	OS 4 H	—	OS 3 T	OS 3 T	OS 4 H	OS 3 T	OS 3 T	OS 4 H	OS 3 T	OS 3 T

* These chokes will still be suitable when the supply is dropped to the future standard 240 v.
A slight deviation from the above recommendations may be desirable with totally enclosed multi-lamp fittings. In such cases the unit is supplied with gear appropriate to the voltage ordered.

5 ft. 80 w. and 4 ft. 40 w. Lamps.

GEAR	SUPPLY	SINGLE LAMP CIRCUIT		TWIN LAMP CIRCUIT			
		5 ft. 80 w.	4 ft. 40 w.	CIRCUIT A		CIRCUIT B	
Choke	200/210 v.	F 8301	F 8311	F 8301	F 8311	F 8303	F 8313
	210/220 v.	F 8304	F 8314	F 8304	F 8314	F 8305	F 8315
	230/240 v.	F 8305	F 8315	F 8305	F 8315	F 8304	F 8314
	240/250 v.	F 8303	F 8313	F 8303	F 8313	F 8301	F 8311
Capacitor	200/250 v.	F 8524	F 8525	—	—	F 8624	F 8625
Starter	200/220 v.	OS 8L	OS 4L	OS 8L	OS 4L	OS 8L	OS 4L
	230/250 v.	OS 8H	OS 4H	OS 8H	OS 4H	OS 8H	OS 4H

TWO LAMPS IN SERIES.

2 ft. 40 w., 2 ft. 20 w. and 1½ ft. 15 w. Lamps.

GEAR	SUPPLY	2 ft. 40 w.	2 ft. 20 w.	1½ ft. 15 w.
Choke	200 v.	F 8301	F 8314	F 8314
	210 v.	F 8304	F 8314	F 8315
	220 v.	F 8305	F 8315	F 8313
	230/240 v.	F 8303	F 8313	F 8318
Capacitor	200/250 v.	F 8524	F 8525	F 8525
	200/220 v.	Two OS 8T	Two OS 3T	Two OS 3T
Starter	230/250 v.	—	—	—

INSTANT START.

5 ft. 80 w. Lamps.

GEAR	SUPPLY	SINGLE LAMP CIRCUIT	TWIN LAMP CIRCUIT	
			Circuit A	Circuit B
Instant Start Ballast	200/210 v.	F 8401	F 8401	F 8404
	220 v.	F 8402	F 8402	F 8404
	230/240 v.	F 8402	F 8402	F 8405
	240/250 v.	F 8403	F 8403	F 8405
Capacitor	200/250 v.	F 8524	—	F 8608
Suppressor	200/250 v.	F 8050	F 8050	F 8050

TWO LAMPS IN SERIES.

2 ft. 40 w. Lamps.

GEAR	SUPPLY	2 ft. 40 w.
Instant Start Ballast	200/210 v.	F 8406
	220/240 v.	F 8407
	250 v.	F 8408
Capacitor	200/250 v.	F 8524

8 ft. 125 w. Lamp.

GEAR	SUPPLY	INDUCTIVE†	CAPACITIVE*
Transformer	200/210 v.	F 8950	F 8750
	220/230 v.	—	F 8008
	230/240 v.	F 8951	—
	240/250 v.	—	—
Choke	200/250 v.	—	F 8304
	200/250 v.	—	—
Capacitor	200/210 v.	F 8519	—
	230/240 v.	F 8518	—
	250 v.	F 8518	—
	200/250 v.	—	F 8624 F 8601 F 8607
Starter	200/250 v.	—	OS 8T (ST 23)

† Instant Start.

* Switch Start.

TUNGSTEN BALLAST LAMPS.

For use with 4 ft. 40 w. MCFA/U. (T.L.C. System).

SUPPLY	TYPE	LAMP RATING		LIGHT OUTPUT (Initial lumens)
		Volts	Watts	
220/230 v.	2	140	60	635
240 v.	3	151	65	685
250 v.	4	162	70	735

Cap : B/22/25—26. 3-pin B.C.

Bulb : Pearl. 60 w. Single Coil.

TRANSFORMERS FOR T.L.C. SYSTEM.

SUPPLY	TRANSFORMER
200/220	F 8015
230/240	F 8016
240/250	F 8017



ELECTRIC LAMPS

STANDARD PACKAGES

GROUPS I & II

The ordering of lamps in standard packages cannot be recommended too strongly as it expedites delivery and reduces transit breakages. All lamps are stocked ready packed in the quantities shown in the accompanying schedule, so that they can be despatched at a moment's notice.

SCHEDULE OF STANDARD PACKING.

	Watts	Voltage range	Quantity in standard package
OSRAM LAMPS (Gasfilled)	15	25 to 55	100
	25	25 to 130	100
	40	25 to 260	100
	60	25 to 260	100
	75	100 to 260	50
	100	35 to 260	50
	150	35 to 260	50
	200	35 to 260	50
	300	35 to 260	25
	500	35 to 260	12
	750	100 to 260	12
OSRAM LAMPS (Vacuum)	1000	100 to 260	12
	1500	100 to 260	12
OSRAM LAMPS (Vacuum)	15	60 to 260	100
	25	200 to 260	100
	Type	Bulb diameter	Quantity in standard package
OSRAM LAMPS (Auto-mobile)	Headlight Sidelight Tail-light Indicator	m/m. 38	12
		23 and 19	12
		15	24
		11 and 8	12
	Festoon		

STANDARD VOLTAGES

GROUP I

Below are given the voltages which have been standardized for Group I General Lighting Service lamps from 25 to 260 volts. The prices of Group I lamps shown in this catalogue apply only to the standard voltages in each range.

Prices of lamps for other voltages will be quoted on application.

OSRAM GASFILLED LAMPS

(Standard voltages)

25, 35, 50, 55, 60, 65, 75,
100, 110, 120, 130, 200, 210, 220,
230, 240, 250, 260.

OSRAM VACUUM LAMPS

(Standard voltages)

60, 65, 75, 100, 110,
120, 130, 200, 210, 220, 230,
240, 250, 260

PACKING, DELIVERY AND BREAKAGES IN TRANSIT

Packing and delivery of lamps is free.

Transit breakages, which will be replaced or credited at G.E.C. option, must be returned carriage paid within seven days, and G.E.C. advice note numbers quoted.

The Company does not accept responsibility for the safe custody of, or undertake to return, lamps forwarded for examination.

Ready Reckoner

NUMBER OF LAMPS

LIST PRICE	6	7	8	9	10	11	12	13	14	15	16	17
s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1 1	6 6	7 7	8 8	9 9	10 10	11 11	13 0	14 1	15 2	16 3	17 4	18 5
1 3	7 6	8 9	10 0	11 3	12 6	13 9	15 0	16 3	17 6	18 9	20 0	21 3
1 4	8 0	9 4	10 8	12 0	13 4	14 8	16 0	17 4	18 8	20 0	21 4	22 8
1 5	8 6	9 11	11 4	12 9	14 2	15 7	17 0	18 5	19 10	21 3	22 8	24 1
1 6	9 0	10 6	12 0	13 6	15 0	16 6	18 0	19 6	21 0	22 6	24 0	25 6
1 7	9 6	11 1	12 8	14 3	15 10	17 5	19 0	20 7	22 2	23 9	25 4	26 11
1 9	10 6	12 3	14 0	15 9	17 6	19 3	21 0	22 9	24 6	26 3	28 0	29 9
1 10	11 0	12 10	14 8	16 6	18 4	20 2	22 0	23 10	25 8	27 6	29 4	31 2
2 0	12 0	14 0	16 0	18 0	20 0	22 0	24 0	26 0	28 0	30 0	32 0	34 0
2 3	13 6	15 9	18 0	20 3	22 6	24 9	27 0	29 3	31 6	33 9	36 0	38 3
2 6	15 0	17 6	20 0	22 6	25 0	27 6	30 0	32 6	35 0	37 6	40 0	42 6
2 7	15 6	18 1	20 8	23 3	25 10	28 5	31 0	33 7	36 2	38 9	41 4	43 11
2 9	16 6	19 3	22 0	24 9	27 6	30 3	33 0	35 9	38 6	41 3	44 0	46 9
3 0	18 0	21 0	24 0	27 0	30 0	33 0	36 0	39 0	42 0	45 0	48 0	51 0
3 3	19 6	22 9	26 0	29 3	32 6	35 9	39 0	42 3	45 6	48 9	52 0	55 3
3 6	21 0	24 6	28 0	31 6	35 0	38 6	42 0	45 6	49 0	52 6	56 0	59 6
3 8	22 0	25 8	29 4	33 0	36 8	40 4	44 0	47 8	51 4	55 0	58 8	62 4
3 9	22 6	26 3	30 0	33 9	37 6	41 3	45 0	48 9	52 6	56 3	60 0	63 9
4 0	24 0	28 0	32 0	36 0	40 0	44 0	48 0	52 0	56 0	60 0	64 0	68 0
4 6	27 0	31 6	36 0	40 6	45 0	49 6	54 0	58 6	63 0	67 6	72 0	76 6
LIST PRICE	18	19	20	21	22	23	24	25	30	36	40	48
s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1 1	19 6	20 7	21 8	22 9	23 10	24 11	26 0	27 1	32 6	39 0	43 4	52 0
1 3	22 6	23 9	25 0	26 3	27 6	28 9	30 0	31 3	37 6	45 0	50 0	60 0
1 4	24 0	25 4	26 8	28 0	29 4	30 8	32 0	33 4	40 0	48 0	53 4	64 0
1 5	25 6	26 11	28 4	29 9	31 2	32 7	34 0	35 5	42 6	51 0	56 8	68 0
1 6	27 0	28 6	30 0	31 6	33 0	34 6	36 0	37 6	45 0	54 0	60 0	72 0
1 7	28 6	30 1	31 8	33 3	34 10	36 5	38 0	39 7	47 6	57 0	63 4	76 0
1 9	31 6	33 3	35 0	36 9	38 6	40 3	42 0	43 9	52 6	63 0	70 0	84 0
1 10	33 0	34 10	36 8	38 6	40 4	42 2	44 0	45 10	55 0	66 0	73 4	88 0
2 0	36 0	38 0	40 0	42 0	44 0	46 0	48 0	50 0	60 0	72 0	80 0	96 0
2 3	40 6	42 9	45 0	47 3	49 6	51 9	54 0	56 3	67 6	81 0	90 0	108 0
2 6	45 0	47 6	50 0	52 6	55 0	57 6	60 0	62 6	75 0	90 0	100 0	120 0
2 7	46 6	49 1	51 8	54 3	56 10	59 5	62 0	64 7	77 6	93 0	103 4	124 0
2 9	49 6	52 3	55 0	57 9	60 6	63 3	66 0	68 9	82 6	99 0	110 0	132 0
3 0	54 0	57 0	60 0	63 0	66 0	69 0	72 0	75 0	90 0	108 0	120 0	144 0
3 3	58 6	61 9	65 0	68 3	71 6	74 9	78 0	81 3	97 6	117 0	130 0	156 0
3 6	63 0	66 6	70 0	73 6	77 0	80 6	84 0	87 6	105 0	126 0	140 0	168 0
3 8	66 0	69 8	73 4	77 0	80 8	84 4	88 0	91 8	110 0	132 0	146 8	176 0
3 9	67 6	71 3	75 0	78 9	82 6	86 3	90 0	93 9	112 6	135 0	150 0	180 0
4 0	72 0	76 0	80 0	84 0	88 0	92 0	96 0	100 0	120 0	144 0	160 0	192 0
4 6	81 0	85 6	90 0	94 6	99 0	103 6	108 0	112 6	135 0	162 0	180 0	216 0

LENGTH CONVERSION TABLE (APPROXIMATE)

To use this table—take the horizontal line of figures opposite the INCHES (at the left and right) and the vertical column of figures under the FRACTIONS (at the top) and the CENTIMETRE equivalent will be found at the intersection of the LINE and the COLUMN, i.e. 13 ¹/₁₆ INCHES equals 33.81 CENTIMETRES.

INCHES	FRACTIONS OF INCHES																INCHES
	0	¹ / ₁₆	¹ / ₈	³ / ₁₆	¹ / ₄	⁵ / ₁₆	³ / ₈	⁷ / ₁₆	¹ / ₂	⁹ / ₁₆	⁵ / ₈	¹¹ / ₁₆	³ / ₄	¹³ / ₁₆	⁷ / ₈	¹⁵ / ₁₆	
0	—	.16	.32	.48	.63	.79	.95	1.11	1.27	1.43	1.59	1.75	1.90	2.06	2.22	2.38	0
1	2.54	2.70	2.86	3.02	3.17	3.33	3.49	3.65	3.81	3.97	4.13	4.29	4.44	4.60	4.76	4.92	1
2	5.08	5.24	5.40	5.56	5.71	5.87	6.03	6.19	6.35	6.51	6.67	6.83	6.98	7.14	7.30	7.46	2
3	7.62	7.78	7.94	8.10	8.25	8.41	8.57	8.73	8.89	9.05	9.21	9.37	9.52	9.68	9.84	10.00	3
4	10.16	10.32	10.48	10.63	10.79	10.95	11.11	11.27	11.43	11.59	11.75	11.90	12.06	12.22	12.38	12.54	4
5	12.70	12.86	13.02	13.17	13.33	13.49	13.65	13.81	13.97	14.13	14.29	14.44	14.60	14.76	14.92	15.08	5
6	15.24	15.40	15.56	15.71	15.87	16.03	16.19	16.35	16.51	16.67	16.83	16.98	17.14	17.30	17.46	17.62	6
7	17.78	17.94	18.10	18.25	18.41	18.57	18.73	18.89	19.05	19.21	19.37	19.52	19.68	19.84	20.00	20.16	7
8	20.32	20.48	20.63	20.79	20.95	21.11	21.27	21.43	21.59	21.75	21.90	22.06	22.22	22.38	22.54	22.70	8
9	22.86	23.02	23.17	23.33	23.49	23.65	23.81	23.97	24.13	24.29	24.44	24.60	24.76	24.92	25.08	25.24	9
10	25.40	25.56	25.71	25.87	26.03	26.19	26.35	26.51	26.67	26.83	26.98	27.14	27.30	27.46	27.62	27.78	10
11	27.94	28.10	28.25	28.41	28.57	28.73	28.89	29.05	29.21	29.37	29.52	29.68	29.84	30.00	30.16	30.32	11
12	30.48	30.63	30.79	30.95	31.11	31.27	31.43	31.59	31.75	31.90	32.06	32.22	32.38	32.54	32.70	32.86	12
13	33.02	33.17	33.33	33.49	33.65	33.81	33.97	34.13	34.29	34.44	34.60	34.76	34.92	35.08	35.24	35.40	13
14	35.56	35.72	35.87	36.03	36.19	36.35	36.51	36.67	36.83	36.98	37.14	37.30	37.46	37.62	37.78	37.94	14
15	38.10	38.25	38.41	38.57	38.73	38.89	39.05	39.21	39.37	39.52	39.68	39.84	40.00	40.16	40.32	40.48	15
16	40.63	40.79	40.95	41.11	41.27	41.43	41.59	41.75	41.90	42.06	42.22	42.38	42.54	42.70	42.86	43.02	16
17	43.17	43.33	43.49	43.65	43.81	43.97	44.13	44.29	44.44	44.60	44.76	44.92	45.08	45.24	45.40	45.56	17
18	45.71	45.87	46.03	46.19	46.35	46.51	46.67	46.83	46.98	47.14	47.30	47.46	47.62	47.78	47.94	48.10	18
19	48.25	48.41	48.57	48.73	48.89	49.05	49.21	49.37	49.52	49.68	49.84	50.00	50.16	50.32	50.48	50.63	19
20	50.79	50.95	51.11	51.27	51.43	51.59	51.75	51.90	52.06	52.22	52.38	52.54	52.70	52.86	53.02	53.17	20
21	53.33	53.49	53.65	53.81	53.97	54.13	54.29	54.44	54.60	54.76	54.92	55.08	55.24	55.40	55.56	55.71	21
22	55.87	56.03	56.19	56.35	56.51	56.67	56.83	56.98	57.14	57.30	57.46	57.62	57.78	57.94	58.10	58.25	22
23	58.41	58.57	58.73	58.89	59.05	59.21	59.37	59.52	59.68	59.84	60.00	60.16	60.32	60.48	60.63	60.79	23
24	60.95	61.11	61.27	61.43	61.59	61.75	61.90	62.06	62.22	62.38	62.54	62.70	62.86	63.02	63.17	63.33	24
25	63.49	63.65	63.81	63.97	64.13	64.29	64.44	64.60	64.76	64.92	65.08	65.24	65.40	65.56	65.71	65.87	25
26	66.03	66.19	66.35	66.51	66.67	66.83	66.98	67.14	67.30	67.46	67.62	67.78	67.94	68.10	68.25	68.41	26
27	68.57	68.73	68.89	69.05	69.21	69.37	69.52	69.68	69.84	70.00	70.16	70.32	70.48	70.63	70.79	70.95	27
28	71.11	71.27	71.43	71.59	71.75	71.90	72.06	72.22	72.38	72.54	72.70	72.86	73.02	73.17	73.33	73.49	28
29	73.65	73.81	73.97	74.13	74.29	74.44	74.60	74.76	74.92	75.08	75.24	75.40	75.56	75.71	75.87	76.03	29
30	76.19	76.35	76.51	76.67	76.83	76.98	77.14	77.30	77.46	77.62	77.78	77.94	78.10	78.25	78.41	78.57	30
31	78.73	78.89	79.05	79.21	79.37	79.52	79.68	79.84	80.00	80.16	80.32	80.48	80.63	80.79	80.95	81.11	31
32	81.27	81.43	81.59	81.75	81.90	82.06	82.22	82.38	82.54	82.70	82.86	83.02	83.17	83.33	83.49	83.65	32
33	83.81	83.97	84.13	84.29	84.44	84.60	84.76	84.92	85.08	85.24	85.40	85.56	85.71	85.87	86.03	86.19	33
34	86.35	86.51	86.67	86.83	86.98	87.14	87.30	87.46	87.62	87.78	87.94	88.10	88.25	88.41	88.57	88.73	34
35	88.89	89.05	89.21	89.37	89.52	89.68	89.84	90.00	90.16	90.32	90.48	90.63	90.79	90.95	91.11	91.27	35
36	91.43	91.59	91.75	91.90	92.06	92.22	92.38	92.54	92.70	92.86	93.02	93.17	93.33	93.49	93.65	93.81	36
37	93.97	94.13	94.29	94.44	94.60	94.76	94.92	95.08	95.24	95.40	95.56	95.71	95.87	96.03	96.19	96.35	37
38	96.51	96.67	96.83	96.98	97.14	97.30	97.46	97.62	97.78	97.94	98.10	98.25	98.41	98.57	98.73	98.89	38
39	99.05	99.21	99.37	99.52	99.68	99.84	100.00	100.2	100.3	100.5	100.6	100.8	100.9	101.1	101.3	101.4	39
40	101.6	101.7	101.9	102.0	102.2	102.4	102.5	102.7	102.9	103.0	103.2	103.3	103.5	103.6	103.8	103.9	40

WEIGHT CONVERSION TABLE (APPROXIMATE)

oz.	kg.	lb.	kg.	lb.	kg.	lb.	kg.	lb.	kg.	lb.	kg.	lb.	kg.	lb.	kg.	lb.	kg.
1	.028	1	.454	17	7.71	33	15.0	49	22.2	65	29.5	85	38.5	275	125.0	850	385.0
2	.057	2	.907	18	8.16	34	15.4	50	22.7	66	29.9	90	40.8	300	136.0	900	408.0
3	.085	3	1.36	19	8.62	35	15.9	51	23.1	67	30.4	95	43.1	325	147.0	950	431.0
4	.113	4	1.81	20	9.07	36	16.3	52	23.6	68	30.8	100	45.3	350	159.0	1000	453.0
5	.142	5	2.27	21	9.52	37	16.8	53	24.0	69	31.3	110	49.9	375	170.0	1100	499.0
6	.170	6	2.72	22	9.98	38	17.2	54	24.5	70	31.7	120	54.4	400	181.0	1200	544.0
7	.198	7	3.17	23	10.4	39	17.7	55	24.9	71	32.2	130	59.0	425	193.0	1300	590.0
8	.227	8	3.63	24	10.9	40	18.1	56	25.4	72	32.6	140	63.5	450	204.0	1400	635.0
9	.255	9	4.08	25	11.3	41	18.6	57	25.8	73	33.1	150	68.0	475	215.0	1500	680.0
10	.283	10	4.53	26	11.8	42	19.0	58	26.3	74	33.6	160	72.6	500	227.0	1600	726.0
11	.312	11	4.99	27	12.2	43	19.5	59	26.8	75	34.0	170	77.1	550	249.0	1700	771.0
12	.340	12	5.44	28	12.7	44	19.9	60	27.2	76	34.5	180	81.6	600	272.0	1800	816.0
13	.369	13	5.90	29	13.1	45	20.4	61	27.7	77	34.9	190	86.2	650	295.0	1900	862.0
14	.397	14	6.35	30	13.6	46	20.9	62	28.1	78	35.4	200	90.7	700	317.0	2000	907.0
15	.426	15	6.80	31	14.1	47	21.3	63	28.6	79	35.8	225	102.0	750	340.0	2100	952.0
16	.454	16	7.26	32	14.5	48	21.8	64	29.0	80	36.3	250	113.0	800	363.0	2200	998.0

16 oz. = 1 lb. = .454 kg.

28 lb. = 1 qr. = 12.7 kg.

112 lb. = 1 cwt. = 50.8 kg.

2240 lb. = 1 ton = 1016.0 kg.

SEPARATE SECTIONS OF G.E.C. CATALOGUE

SECTION.

- BA** (1) TORCHES AND LIGHTING BATTERIES
(2) INDUSTRIAL BATTERIES
- BB** RADIO DRY BATTERIES
- C** CONDUIT AND CONDUIT FITTINGS
- F** (1) LIGHTING FITTINGS
(2) LIGHTING FITTINGS ACCESSORIES
(3) GLASSWARE
(4) INDUSTRIAL LIGHTING FITTINGS AND ACCESSORIES
(5) ENCLOSED LIGHTING FITTINGS
(6) FLOODLIGHTS AND FLOODLIGHTING
(7) FLUORESCENT FITTINGS
(8) SHOP WINDOW LIGHTING
- H** (3) CATERING EQUIPMENT
(4) WATER HEATING AND WATER HEATING EQUIPMENT
(5) AIR HEATING EQUIPMENT
- HA** (1) HOUSEHOLD ELECTRIC APPLIANCES
(2) ELECTRIC FIRES
- L** (1) BELLS, PUSHES AND INDICATORS, ETC.
- M** (1) SMALL MEASURING INSTRUMENTS
(2) INDUSTRIAL MEASURING INSTRUMENTS, TESTING SETS, ETC.
(3) THERMIONIC TESTING SETS, FATIGUE TESTERS, ETC.
- OS** OSRAM LAMPS
- OV** (1) OSRAM VALVES (BATTERY MINIATURES)
(2) OSRAM VALVES (A.C. AND D.C./A.C.)
- P** (4) WITTON MOTORS
- S** (1) ELECTRICAL ACCESSORIES
- V** (3) ELECTRIC FANS
(4) FRACTIONAL H.P. MOTORS
(5) PROPELLER FANS
- W** (1) PIRELLI-GENERAL WIRES AND CABLES
(2) WIRING SUNDRIES AND WIRING SYSTEMS
(5) SHIP WIRING CABLES
- X** (1) SWITCHBOARD PANELS AND ACCESSORIES
(2) OUTDOOR SWITCHGEAR
(3) AUTOMATIC CIRCUIT BREAKERS
(5) INDUSTRIAL MOTOR CONTROL GEAR
- X & Y** IRONCLAD SWITCHGEAR
- Z** (1) STREET LIGHTING EQUIPMENT

A large number of publications are also available, describing the great many products which are not included in the Company's catalogues. Any of these publications will gladly be supplied on receipt of precise requirements.

THE GENERAL ELECTRIC CO. LTD. OF ENGLAND

Known throughout the world as the



REGD. TRADE MARK

Head Office: **MAGNET HOUSE, KINGSWAY, LONDON, W.C.2**

HOME BRANCHES AND SALES DEPOTS:

	Address.	Telephone No.	Telegrams.
SOUTHERN AREA:			
LONDON, W.C.2 ..	Magnet House, Kingsway ..	Temple Bar 8090 ..	"Electricity"
BOURNEMOUTH ..	63, Holdenhurst Road ..	5763 ..	"Electricity"
BRIGHTON, 1 ..	Regent Hill, Western Road ..	23277 ..	"Electricity"
CANTERBURY ..	Beer Cart Lane ..	2212 ..	"Electricity"
CROYDON ..	516, London Road ..	Thornton Heath 3246 ..	"Electricity"
IPSWICH ..	Electric House, Lloyds Avenue ..	3771 ..	"Electricity"
LUTON ..	39/43, John Street ..	3531 ..	"Electricity"
PLYMOUTH ..	Belgrave Lane ..	60226 ..	"Electricity"
READING ..	72/74, Castle Street ..	60251 ..	"Electricity"
SOUTHAMPTON ..	Magnet House, Commercial Road ..	3511 ..	"Electricity"
NORTH WEST AREA:			
MANCHESTER, 3 ..	Magnet House, Victoria Bridge ..	Blackfriars 3434 ..	"Electricity"
BLACKBURN ..	Magnet House, 40/42, Darwen Street ..	4141 ..	"Gecko"
BLACKPOOL ..	Magnet House, 214, Church Street ..	20033 ..	"Magnet"
BRADFORD ..	109, Thornton Road ..	20461 ..	"Electricity"
LEEDS ..	Magnet House, Wallington Street ..	32171 ..	"Induction"
LIVERPOOL, 1 ..	Magnet House, 82/86, Whitechapel ..	Royal 7282 ..	"Electricity"
SHEFFIELD, 1 ..	Magnet House, Fitzalan Square ..	25191 ..	"Magnet"
MIDLANDS AREA:			
BIRMINGHAM, 4 ..	Magnet House, Moor Street ..	Midland 4421 ..	"Electricity"
LEICESTER ..	West Bridge ..	58111 ..	"Electricity"
NORTHAMPTON ..	32a, Newland ..	2958 ..	"Electricity"
NOTTINGHAM ..	Magnet House, 25, Stoney Street ..	45664 ..	"Electricity"
STOKE-ON-TRENT ..	Magnet House, South Wolfe Street ..	48375 ..	"Electricity"
SOUTH WEST AREA:			
CARDIFF ..	Magnet House, Kingsway ..	8860 ..	"Electricity"
BRISTOL, 2 ..	18, Lawford Street ..	57867 ..	"Electricity"
GLOUCESTER ..	Magnet House, 2, St. Aldate Street ..	23017 ..	"Electricity"
SWANSEA ..	Magnet House, The Kingsway ..	5026 ..	"Electricity"
NORTH EAST AREA:			
NEWCASTLE-ON-TYNE ..	Magnet House, Gallowgate ..	25160 ..	"Switch"
HULL ..	Magnet House, 57, Beverley Road ..	Central 36740 ..	"Electricity"
MIDDLESBROUGH ..	Magnet House, 52/58 Corporation Road ..	3621 ..	"Electricity"
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GLASGOW, C.2 ..	Magnet House, 71, Waterloo Street ..	Central 9250 ..	"Electricity"
ABERDEEN ..	Magnet House, 32, Market Street ..	Central 8343 ..	"Electricity"
DUNDEE ..	26/30, North Lindsay Street ..	5073 ..	"Electricity"
EDINBURGH, 2 ..	Magnet House, 3, George Street ..	Central 5081 ..	"Electricity"
INVERNESS ..	14, Falcon Square ..	830 ..	"Electricity"
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BELFAST ..	Magnet House, Queen Street ..	25650 ..	"Electricity"
IRELAND:			
DUBLIN ..	Magnet House, 19, Trinity Street ..	71141 ..	"Electricity"
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