

Osram

LAMPS

and

G.E.C.

EQUIPMENT

for

PHOTOGRAPHIC

STUDIO

LIGHTING



THE GENERAL ELECTRIC CO. LTD. OF ENGLAND

THE GENERAL ELECTRIC CO., LTD.

TERMS OF BUSINESS AND CONDITIONS OF SALE

1.—HOW TO ORDER.

WHEN ORDERING—

- (a) Quote Section Letter and Catalogue No. If special quotation has been submitted, give quotation reference also.
- (b) State whether order to be sent in one consignment only, or whether immediate delivery is to be made of what is in stock.
- (c) If it is not imperative that the exact articles specified be sent, add the words "or similar."

TELEPHONE ORDERS—

The telephone number of the G.E.C. Head Office, Magnet House, Kingsway, is TEMple Bar 8000 (90 lines). That of each of the Company's branches will be found on page 4 of cover.

The Company is prepared to execute orders from its customers received by telephone, but in the interests of customers themselves all such orders should be confirmed in writing. All Orders confirming Verbal Orders should be plainly marked "Confirmation."

CORRESPONDENCE—

Owing to the variety of the goods handled by the Company, letters and telegrams dealing with orders should specify—

- (a) Order number and date.
- (b) The nature of the goods, or the Section of the Catalogue concerned.

2.—A WARNING.

Instances have occurred where Shippers, Merchants, Contractors, and others receiving indents, specifications, and orders for goods described merely by reference to letters and numbers contained in the Company's Catalogues have quoted for or supplied the goods of other manufacturers under the said letters and numbers. The Directors of the Company have been advised that such action is a fraud upon the Company's rights and have been successful in obtaining an injunction and damages in proceedings taken in the Chancery Division of the High Court of Justice. The injunction restrained (inter alia) the use or employment in connection with electrical goods not manufactured or supplied by the Plaintiffs of letters or figures having reference to the Plaintiffs' Catalogue, so as to induce the belief that such goods are manufactured or supplied by the Plaintiffs.

While inviting all persons engaged in the electrical trade to make frequent reference to the Company's Catalogue as a standard work on electrical materials and goods, the Directors feel bound to issue this warning against an improper use of the Catalogue.

3.—GENERAL CONDITIONS OF SALE.

The Company will use its best endeavours to execute Orders to time, but under no circumstances will be responsible for late delivery. The Catalogue prices are those ruling on date of issue and are subject to alteration without notice.

The Company reserves the right to cancel any uncompleted Order or suspend delivery in the event of any of the buyers' engagements not being duly met, or if it has reason to believe that such engagements may not be met.

RETURNS.—Goods cannot be taken back later than 10 days from date of Invoice.

Returned goods will not be accepted unless accompanied or preceded by an Advice Note.

Advice Note must state reason for the return of goods, the date, reference letter and number of the Invoice on which the goods were charged.

The acceptance of returned goods does not necessarily entitle to credit for same. Credit can only be given when the claim has been examined and found correct.

Goods should not be returned in cases consigned as "empty," since, if so consigned, they are very liable to get lost in transit, or overlooked, in which case the Company will not hold itself responsible, and no credit can be given.

(Continued on page 3 of Cover.)



REGD. TRADE MARK

PHOTOGRAPHIC ELECTRIC LAMPS

AND

G.E.C.

EQUIPMENT FOR PHOTOGRAPHIC STUDIO LIGHTING

(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, as given on pages 2 and 3 of cover. Prices apply in Great Britain and Northern Ireland.

THE GENERAL ELECTRIC CO. LTD.

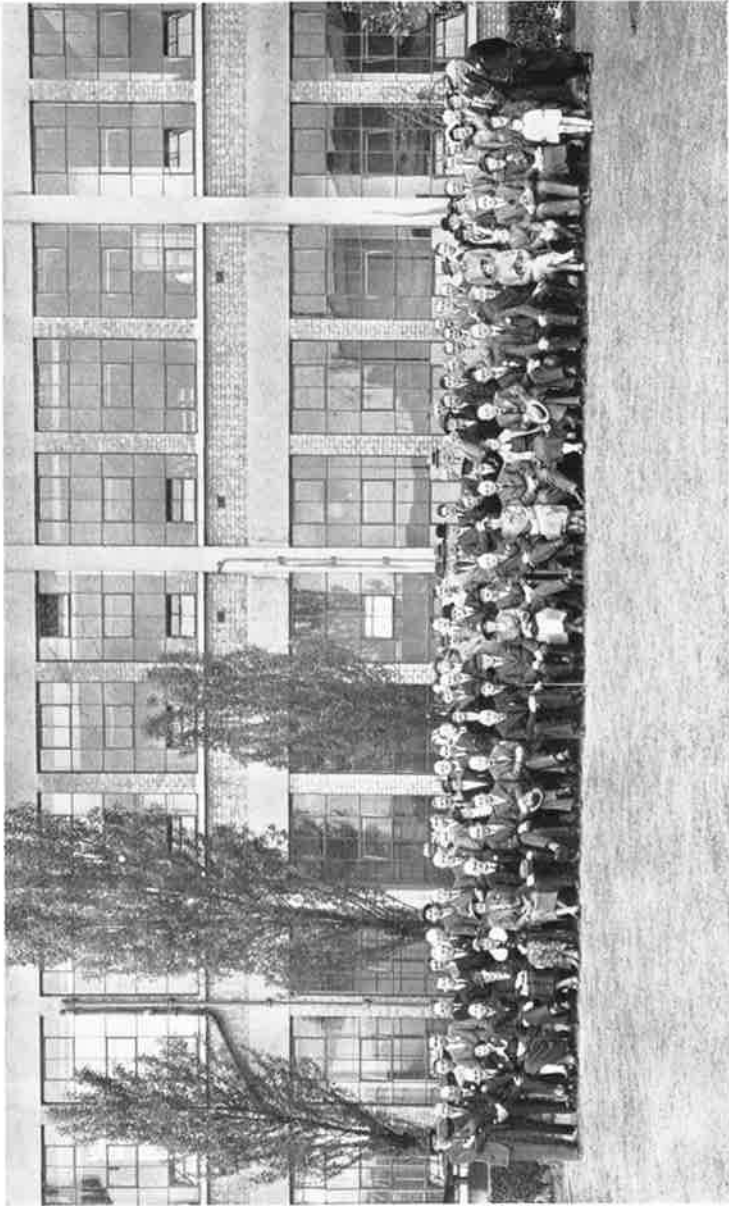
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Head Office: Magnet House, Kingsway, London, W.C.2.

Telephone: TEMple Bar 8000 (90 lines). Telegrams: Electricity, Westcent, London.
Cablegrams: Polyphase, London.

Works: Witton, Birmingham, Manchester, Coventry, Southampton, Erith,
Northampton, Wembley, London, etc.

Branches throughout Great Britain and in all principal markets of the world.



Members of the Professional Photographers' Association, whose Annual Congress was held in London, May 18-21, 1936, at the OSRAM Lamp Works, Wembley, during the Congress. The party included several well-known Court and Society photographers.



ELECTRIC PHOTOGRAPHIC LAMPS

Introduction

The General Electric Company, Ltd., has developed a wide range of electric lamps to meet the known requirements of professional photographers in every branch of their business. These lamps enable the photographer to obtain excellent negatives under all conditions, and may be used to supplement weak daylight, either for interiors or outdoor work, as a complete studio lighting equipment for portrait or commercial photographers, or for "At Home" photographs or Press work. A most valuable tool is, therefore, provided for the photographer, as these excellent lamps enable him to operate independently of the weather or of the time of year.

The range of lamps is divided broadly into three classes :

1. OSRAM Photographic Lamps for Studio Lighting.

Included under this heading are the standard high-power lamps for permanent use in the studio, and for portable equipment. These lamps are designed to provide brilliant illumination of the subject, enabling short exposures to be given, economy in operation and long life. Each type of lamp is made for a specific purpose and the range includes suitable lamps for general floodlighting, subsidiary lighting and spots, also robust high efficiency lamps for transportable lighting apparatus.

2. OSRAM Photoflood Lamps for work away from the Studio.

These lamps are particularly suited to the photographer who has to undertake either commercial or portrait work away from his studio. They give great brilliancy with very low current consumption. They can, therefore, be operated off the ordinary house lighting without special precautions, and dispense with the necessity for "power" points in the house. Instantaneous exposures can be given on rapid photographic materials, an advantage that the photographer quickly appreciates.

3. "SASHALITE" Bulbs for indoor and outdoor Press work at night.

For flashlight photographs of indoor groups and for Press work at night, "SASHALITE" bulbs are unequalled. They combine all the advantages of the old explosive forms of flash powder with none of their disadvantages. The light is instantaneous and intensely brilliant, yet is noiseless and gives no objectionable fumes. It is perfectly safe to use as there is no flame, the flash taking place inside the glass bulb.

OSIRA

MERCURY VAPOUR LAMPS FOR STUDIOS

When first introduced the initial efficiency of the 400-watt OSIRA electric discharge lamp was approximately 40 lumens per watt; it is now definitely 45 lumens per watt, an increase of 12.5 per cent. The word "definitely" is used here because, when these lamps were first introduced, one could not be quite sure that a "mercury" lumen was equal to an "ordinary" lumen owing to the large colour difference. This has now been cleared up and the photometry of these lamps put on a firm basis. The maintenance of lumens throughout life has also improved, until it now compares closely with the standard tungsten filament lamp. In this connection, of course, the vastly superior efficiency of the discharge lamp must be remembered.

When photographing on panchromatic film, a mixture of light from 200 watts to 600 watts of tungsten filament lamps with a 400-watt OSIRA high pressure mercury vapour discharge lamp causes colours to be reproduced of the same relative brightness as when seen in daylight. *The OSIRA lamp alone is too blue and the tungsten lamp alone is too red.*

The OSIRA H.P.M.V. lamp is photographically one and a-half times as efficient (for a given wattage) as a tungsten lamp. The fifty-fifty Osira mercury vapour tungsten mixture is one and a-quarter times as efficient as tungsten alone.

To obtain the brightness rendering of colours as seen in daylight, when using tungsten light a colour filter increasing the exposure by two to four times has to be used in combination with the lens. If the Osira mercury vapour tungsten mixture is used, this filter can be dispensed with and a gain in efficiency is, therefore, two and a-half times to five times.

In practice for studio work, colour rendering at present seems to be considered of secondary importance and the filter is seldom used. If it is appreciated generally that now true colour rendering can be obtained without the use of a filter and any consequent increase in exposures, the question may receive more attention.

Under the Osira mercury vapour tungsten mixtures the complexion appears to the eyes a little greenish. This may, or may not, be psychologically of importance in the studio. It does not, however, affect the faithfulness with which the daylight effect is reproduced on the film.

ACTINIC VALUE.

All ordinary photographic emulsions lack sensitivity in the green, and a large proportion of the radiation from the OSIRA H.P.M.V. lamp is in this

region. The photographic efficiency (photographic effect for a given wattage) of the OSIRA lamp does not, therefore, show the same increase over that of the filament lamp as does the luminous efficiency.

For the two emulsions tested the OSIRA lamp is photographically one and a-half times as efficient as a filament lamp, visually it is two to two and a-half times as efficient.

POSSIBLE APPLICATION.

In order to obtain the brightness rendering of colours as in daylight, when a photograph is taken on a panchromatic film by the light from tungsten filament lamps, a colour filter needs to be used over the lens. The use of such a filter doubles or quadruples either the exposure time required (for a fixed illumination) or the illumination required (for a fixed exposure).

If OSIRA H.P.M.V. lamps are used with tungsten lamps, so that the wattage of both types is approximately equal (this is a mean value between the lamps of 200 to 600 watts of tungsten to 400 watts of OSIRA mercury vapour) colours are reproduced in the same relative brightnesses as seen in daylight without the use of a filter.

At the same time the combined light source is one and a-quarter times as efficient photographically as tungsten lamps alone. The overall gain in efficiency is, therefore, the product of the gain of one and a-quarter times in actinic value for a given wattage and the multiplying factor of the filter. This product is two and a-half to five times.

In photographic studios colour rendering seems to be considered a matter of secondary importance, and filters are seldom used. The gain in efficiency obtained by the use of the OSIRA lamp instead of a colour filter to produce precise colour rendering may increase the interest in this particular problem. In the cinema studio A.C. lamps would produce stroboscopic effects with the camera shutter, unless the cameras were synchronously driven from the lighting supply. As far as is known this has never been done, but it would not be impossible.

On D.C. supplies the losses in series resistances would cause the photographic efficiency of the OSIRA lamp to fall below that of a tungsten filament lamp. The use of OSIRA mercury vapour and tungsten lamps combined would probably enable more natural make up to be used, and lighter colours could probably be used for scene painting to obtain correct brightness rendering than when tungsten lamps alone are used.

The General Electric Co., Ltd., has designed an OSIRA mercury vapour and OSRAM incandescent mixture flood, which is known as the Z 100. This fitting is the most up-to-date fitting on the photographic market.

TABLE OF EXPOSURE TIMES (FOR HIGH-EFFICIENCY LAMPS)

HOW TO USE THE TABLE.—Choose in the four following sections the number corresponding to the lamp—subject—sensitive emulsion—the distance between the lamp and subject. Add up these numbers and consult Table V in order to find the correct time of exposure.

Example :

I.	A 275-watt OSRAM Type S. Photo Flood ..	2
II.	Subject in light colour	0
III.	Kodak Panatomic Emulsion	3
IV.	Distance between Subject and Lamp ..	3
Total Number ..		8

The right time of exposure using F/6.3—2/3 or 1 sec.

Note.—The above exposure time is right when high-efficiency lamps with reflectors are used.

I. LAMPS.

500-watt OSRAM Photographic	=0
275-watt OSRAM Type S. Photo Flood	=2

II. SUBJECT.

Light, such as heads	=0
Middle tones, such as grey suits	=2
Dark, detail in dark subjects	=6

III. SENSITIVE EMULSION.

Ultra-rapid panchromatic (a)	=0
Panchromatic fine grain (b)	=3
Orthochromatic ultra-rapid (c)	=5

- (a) Such as : Supersensitive Kodak, Hypersensitive Selo.
- (b) Such as : Panatomic Kodak, Fine Grain Selo.
- (c) Such as : Kodak Verichrome, Selochrome.

IV. DISTANCE BETWEEN LAMP AND SUBJECT.

3ft.	4ft.	5ft.	6ft.	7ft.	9ft.	12ft.	15ft.
1	2	3	5	6	8	9	10

V. TIME OF EXPOSURE (in Seconds).

APERTURE									
Total No.	F 1.5	F 2.2	F 3.2	F 4.5	F 6.3	F 9	F 12.5	F 18	F 22
1	1/300	1/150	1/75	1/40	1/25	1/10	1/5	1/2	2/3
2	1/200	1/100	1/50	1/25	1/15	1/6	1/3	2/3	1
3	1/150	1/75	1/40	1/20	1/10	1/4	1/2	1	1 1/2
4	1/100	1/50	1/25	1/15	1/6	1/3	2/3	1 1/2	2
5	1/75	1/40	1/20	1/10	1/4	1/2	1	2	3
6	1/50	1/25	1/15	1/6	1/3	2/3	1 1/2	3	4
7	1/40	1/20	1/10	1/4	1/2	1	2	4	6
8	1/25	1/15	1/6	1/3	2/3	1 1/2	3	6	8
9	1/20	1/10	1/4	1/2	1	2	4	8	12
10	1/15	1/6	1/3	2/3	1 1/2	3	6	12	16
11	1/10	1/4	1/2	1	2	4	8	16	24
12	1/6	1/8	2/3	1 1/2	3	6	12	24	32
13	1/4	1/2	1	2	4	8	16	32	48
14	1/3	2/3	1 1/2	3	6	12	24	48	60
15	1/2	1	2	4	8	16	32	60	90
16	2/3	1 1/2	3	6	12	24	48	90	120
17	1	2	4	8	16	32	60	120	180



TYPE "S"

PEARL PHOTOFLOOD LAMPS

FOR TAKING PHOTOGRAPHS AT NIGHT INDOORS

The filaments of these lamps are run at an extremely high temperature, which results in the production of light especially suitable for photography with modern negatives.

The 275-watt lamp is the same size as an ordinary 60-watt OSRAM lamp, and so can be used in any electric light socket.

It is specially recommended for indoor "movie" making with fast emulsions.



PEARL OSRAM
(Gasfilled)
Photoflood Lamp.
(275 watts.)

Distance of lamps to subject.	Diaphragm or stop opening.	Exposure in seconds. 2 " Photofloods " in " Kodaflectors. "	Exposure in seconds. 1 " Photoflood " in " Kodaflector. "
4 feet	f 4.5	1/25	1/25
"	f 6.3	1/25	1/10
"	f11	1/10	1/5
"	f16	1/5	1/2
6 feet	f 4.5	1/25	1/10
"	f 6.3	1/10	1/5
"	f11	1/5	1/2
"	f16	1/2	1
10 feet	f 4.5	1/10	1/5
"	f 6.3	1/5	1/2
"	f11	1/2	1
"	f16	1	2

If "Panatomic" Film is used instead of Supersensitive Panchromatic, exposures should be doubled.

EXPOSURE.

It is difficult to give any hard and fast exposure rules for night photography with "Photofloods." Such factors as colour of wallpaper, height of ceiling, etc., all make a difference. The table on this page is intended as a guide only; if in doubt make two separate exposures, one twice as long as the other.

Each lamp will enable about 300 exposures to be made, or 2,000 feet of ciné film to be exposed. This represents a life of approx. 2 hours, but as the lamp need only be switched on while a photograph is actually being taken the cost per exposure is negligible.

Wherever possible these lamps should be used in conjunction with a reflector, as this will more than double the light on the subject.

Voltage ranges.	Watts.	Standard cap.	Approx. dimensions.		PRICE per lamp.	
			Length.	Diameter.	s.	d.
100-110 and 200-250 volts }	275	B.C.	mm. 117.5 ± 3.5	mm. 65 ± 1	2	6



SERIES " B "

PEARL PHOTOGRAPHIC LAMPS
FOR STUDIOS



500 watts.
OSRAM Pearl Photographic Lamp.
(Gasfilled.)

These lamps give a brilliant yet soft light and have many applications in the photographer's studio. They have a life of approximately 100 hours, which is equivalent to some thousands of exposures.

They are specially suitable for use in portable fittings such as the G.E.C. No. 5A Projector, the Kodak Model E "Kodalite," and the Ensign "Multilite" Studio Lighting Equipment.

PRICE AND DIMENSIONS.

Voltage ranges.	Standard watts.	Standard cap.	Dimensions.		PRICE per lamp.	
			Length.	Diameter.	s.	d.
100-130 and 200-260 volts }	500	E.S.	mm. 175 ± 4.5	mm. 100 ± 1.5	20	0

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



LAMPS

FOR PHOTOGRAPHIC DARK ROOMS



15-watt Amber OSRAM Lamp.

These lamps allow for reasonable manipulation of the sensitive material two or three feet from the lamp, but developing may be carried out safely, one foot away, except in the case of extra rapid plates and films, which it is advisable to keep covered as much as possible during development.



OSGLIM Ruby Lamp.

Type	OSRAM.	OSRAM.	OSGLIM.	OSGLIM.
Watts	15 25*	15 25*	5	5
Price	2/7 2/6	2/10 2/9	3/4	3/4
Colour	Amber.	Ruby.	Orange.	Ruby.
Finish	Natural Colour Glass.	Natural Colour Glass.	Varnished.	Varnished.
Voltage range	100—130 200—260	100—130 200—260	200—260	200—260
<p>Light sensitive material for which the light is "safe."</p> <p>NOTE: Blue and green natural colour glass lamps can also be supplied, if required, for use with panchromatic emulsions.</p>	Gaslight papers. Slow lantern plates.	Gaslight papers. Slow lantern plates.	Gaslight papers. Slow lantern plates.	Gaslight papers. Slow lantern plates.
		Chloro-bromide and bromide papers.	Chloro-bromide and bromide papers.	Chloro-bromide and bromide papers.
			Fast lantern plates.	Fast lantern plates.
			Non-colour sensitive plates and films.	Non-colour sensitive plates and films.
				Ortho-chromatic plates and films sensitive to green but not to red.
				X ray plates and films.

* Owing to the comparatively strong light given by these 25-watt lamps they should be kept 4 to 5 feet from the sensitive material. For preference they should be used in a ceiling fitting.



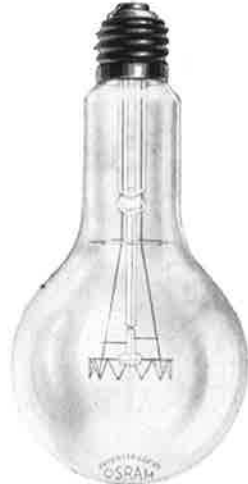
GASFILLED GENERAL SERVICE LIGHTING LAMPS FOR ALL PHOTOGRAPHIC PURPOSES



40 watts.



100 watts.



500 watts.

OSRAM General Lighting Service Lamps are eminently suitable for the normal permanent lighting of studios in conjunction with properly designed fittings.

The lamps are made in a wide range which enables the professional photographer to choose the sizes most suitable for his specific requirements.

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.S. 161—1936, with which specification PEARL OSRAM Lamps comply in every detail.

PRICES, DIMENSIONS AND LIGHT OUTPUT. 100-130 and 200-260 volts.										Price per lamp. 100-130v. and 200-260v.	
Standard watts.	Approx. lumens.	Length.		Bulb. diameter.		Cap contact to filament centre.		Neck diameter.		s.	d.
		mm.	ins.	mm.	ins.	mm.	ins.	mm.	ins.		
*40	470 410	110 ± 3½	4 ⅞	60 ± 1	2 ⅜	80 ± 3	3 ⅛	33 ± 1	1 ⅞	1	7
*60	690 600	117·5 ± 3½	4 ⅞	65 ± 1	2 ½	85 ± 3	3 ⅞	35 ± 1	1 ¾	1	7
*75	1060 910	125 ± 3½	4 ⅞	70 ± 1	2 ¾	90 ± 3	3 ½	39 ± 1	1 ½	2	3
*100	1500 1320	137·5 ± 3½	5 ⅞	75 ± 1	2 ⅞	100 ± 3	3 ⅞	39 ± 1	1 ½	2	3
150	2130 2030	160 ± 4·5	6 ½	80 ± 1	3 ½	133 ± 5	4 ¾	39 ± 1	1 ½	3	6
200	2960 2900	178 ± 5·5	7	90 ± 1	3 ½	133 ± 5	5 ¼	45 ± 1	1 ¾	6	6
300	4770 4380	233 ± 7	9 ⅞	110 ± 1·5	4 ⅞	178 ± 6	7	50 ± 1	1 ⅞	10	0
500	8700 7920	267 ± 8	10 ½	130 ± 1·5	5 ⅞	202 ± 7	7 ⅞	52 ± 1	2	12	6
750	12800	300 ± 9	11 ¾	150 ± 1·5	5 ⅞	225 ± 8	8 ⅞	55 ± 1	2 ⅞	16	0
**1000	19300 17900	300 ± 9	11 ¾	150 ± 1·5	5 ⅞	225 ± 8	8 ⅞	55 ± 1	2 ⅞	16	0
**1500	30300 28700	335 ± 9	13 ¼	170 ± 1·5	6 ⅞	250 ± 8	9 ⅞	60 ± 1	2 ¾	22	6

* These lamps (100-130 and 200-260 volt) are made with "Coiled Coil" filaments.

** Suitable for Kodak Unit Lighting.



**NATURAL COLOUR
GLASS LAMPS**

(GASFILLED)

**FOR USE IN
PHOTOGRAPHIC DARK ROOMS**

100-130 and 200-260 volts

Standard watts.	Standard cap.	Price per lamp.			
		Green, Blue or Amber.		Ruby or other tints.	
		s.	d.	s.	d.
40	B.C.	2	4	2	7
60	"	2	4	2	7
100	"	3	6	4	0
15	{ B.C. or E.S. }	2	4	2	7
25		Daylight Blue 2 3			



60-watt OSRAM Natural Coloured Glass Lamp.

OSGLIM LAMPS

**FOR USE IN
PHOTOGRAPHIC DARK ROOMS**

Varnished Ruby Red

100-250 volts

Price per lamp - - - **3s. 4d.**



OSGLIM Lamp
5 watts
(Photographic type).



ELECTRIC LAMPS FOR SPECIAL LIGHTING SERVICE

GROUP I

SUITABLE FOR PHOTOGRAPHIC SHOWCASES



ARCHITECTURAL LAMPS

100-130 and 200-260 volts

For dimensional details see page 13.

STANDARD STRAIGHT LENGTHS AND PRICE PER LAMP.

Length.		Diameter 30mm. (1 1/8 ins.)					Diameter 40mm. (1 5/8 ins.)				
mm.	ins.	Watts.	Opal	Coloured Opal.	Colour Sprayed.	Watts.	Opal.	Coloured Opal.	Colour Sprayed.		
			s. d.	s. d.	s. d.		s. d.	s. d.	s. d.		
305	12	35	10 6	12 0	11 6	60	14 9	16 3	16 0		
500	19 3/8	{ 40 60 }	14 6	16 9	15 6	100	20 3	22 3	21 9		
610	24	75	16 0	18 6	17 0	120	22 6	24 9	23 9		
*915	36	110	21 0	24 6	23 0	180	29 6	33 6	32 6		
*1220	48	150	25 6	29 3	27 6	240	35 9	39 3	38 6		

* 200-260 volts only. † Standard colours: Same as for Striplite Lamps below.

STANDARD CURVES AND PRICE PER LAMP.

	Diameter 30mm. (1 1/8 ins.)				Diameter 40mm. (1 5/8 ins.)			
	Watts.	Opal.	Coloured Opal.	Colour Sprayed.	Watts.	Opal.	Coloured Opal.	Colour Sprayed.
		s. d.	s. d.	s. d.		s. d.	s. d.	s. d.
Radius 25" 1/2 circle	40 and 60				100			
Radius 12 1/2" 1/2 circle		20 0	23 0	22 0		28 0	30 9	30 9
Radius 6 1/4" 1/2 circle								
Right angle bend	40 and 60	23 6	27 0	25 6	100	33 0	36 3	35 9

For Standard Curves overall length along the centre line of the lamp 500mm. (19 3/8 in.).

COLOURED OPAL STANDARD COLOURS: Red, Pink, Orange, Yellow, Green, Flame and White.

STANDARD CAPS, round peg type. Flat-sided caps will also be supplied without extra charge.

PRICES FOR OTHER LENGTHS AND CURVES ON APPLICATION.

Maximum length 48 inches. Lamps exceeding 24 inches in length are only available in 200-260 volts.

STRIPLITE LAMPS



OSRAM Striplite Lamps have spiralized tungsten filaments burning in a vacuum. The tubes are lighted uniformly throughout their length.

Standard watts.	Length.		Diameter.		VOLTAGE RANGES and PRICE PER LAMP. 100-130, 200-260 volts.	
	Tolerance ± 1mm.		Tolerance ± 1mm.		Clear.	Colour Sprayed.
	mm.	ins.	mm.	ins.	s. d.	s. d.
30	221	8 3/8	25	1	4 0	4 9
60	284	11 1/8	25	1	4 9	5 9
100	309	12 1/8	46	1 3/8	6 9	7 6

STANDARD CAPS: Centre Contact. The 60 and 100-watt sizes can be supplied if required with clip contact caps at 3d. per lamp extra.

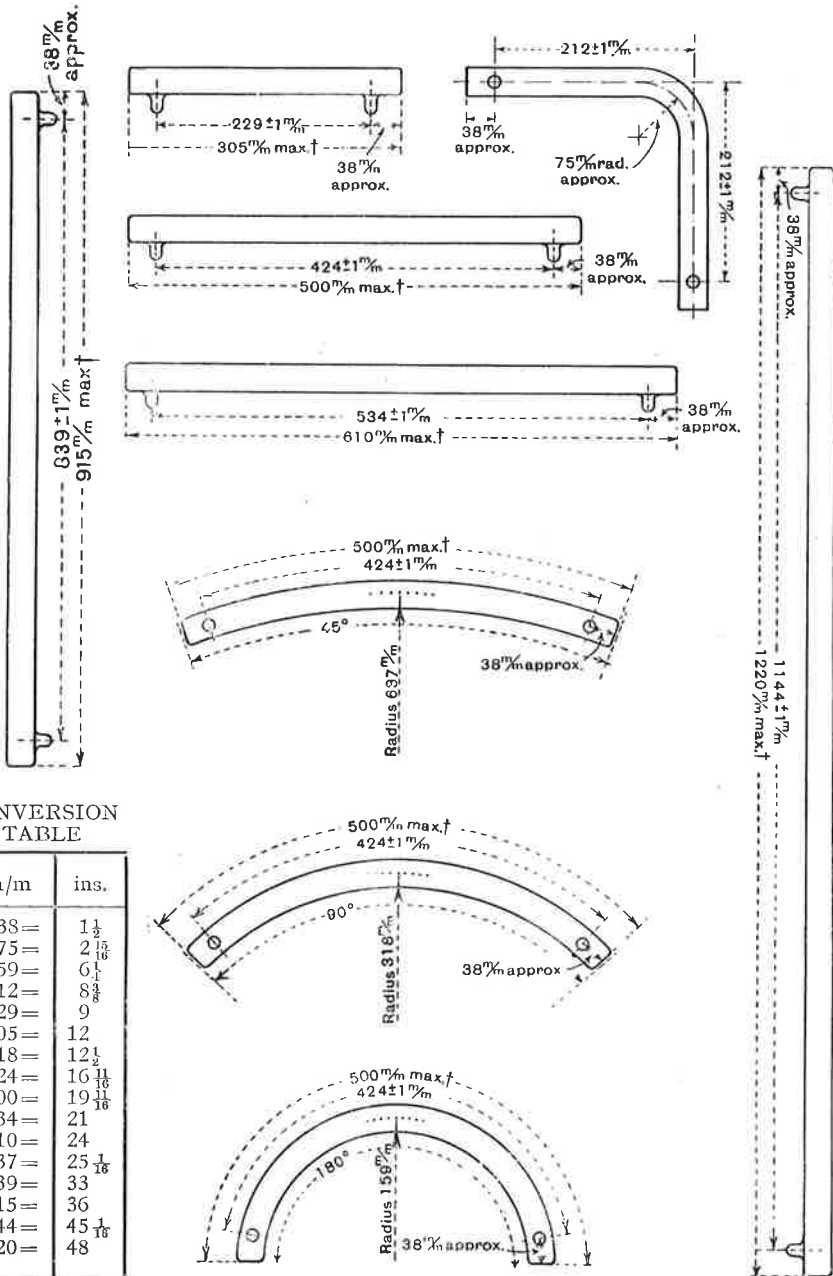
STANDARD COLOURS: Red, Orange, Yellow, Green, Blue, Flame, Pink and White.

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



ARCHITECTURAL LAMPS

Dimensions of Standard Tubes with Peg Type Caps



CONVERSION TABLE

m/mm	ins.
38 =	$1\frac{1}{2}$
75 =	$2\frac{13}{16}$
159 =	$6\frac{1}{8}$
212 =	$8\frac{3}{8}$
229 =	9
305 =	12
318 =	$12\frac{1}{2}$
424 =	$16\frac{11}{16}$
500 =	$19\frac{11}{16}$
534 =	21
610 =	24
637 =	$25\frac{1}{8}$
839 =	33
915 =	36
1144 =	$45\frac{1}{8}$
1220 =	48

NOTE:- † This dimension is subject to -4mm tolerance.

OSIRA

REGD. TRADE MARK

HIGH PRESSURE MERCURY VAPOUR ELECTRIC DISCHARGE LAMPS

FOR PHOTOGRAPHIC STUDIOS



OSIRA
H.P.M.V.
Lamp.

Made in England by the G.E.C. under one or more of the following British Patents: 344497, 384067, 391971, 397162, 405065, and other British Patents and pending Patent applications.

A G.E.C. Invention.

The OSIRA lamp was invented and developed in the Research Laboratories of The General Electric Co., Ltd., at Wembley, Middlesex, and was first put into operation for street lighting on June 22nd, 1932, in East Lane, Wembley. This was the first public lighting installation in the world in which this type of lamp was used. It is now available for photographic studio work.

Principle of Operation.

OSIRA electric discharge lamps constitute the most important recent advance in the technique of light production. The light is produced not because the gas or vapour is very hot, but by the discharge of electricity through a mixture of gases which includes mercury vapour at a higher pressure than has been practical hitherto.

Efficiency.

OSIRA H.P.M.V. lamps give three times as much light as ordinary gasfilled tungsten filament lamps of equivalent wattage; for instance, the 400-watt OSIRA lamp gives practically the same light as a 1,000-watt OSRAM lamp. Thus by using these lamps the illumination can be greatly increased without adding to the amount of electricity consumed.

Electricity Supply.

OSIRA lamps can only be used on alternating current supplies of voltages from 200 to 260 volts.

Choke Coils.

The characteristics of these OSIRA lamps are similar to those of an electric arc, i.e., they have a "negative" resistance, and consequently they must always be used in conjunction with a specially designed choke.

Power Factor.

The power factor of lamp and G.E.C. choke is about 0.6, but by suitable condensers this can be raised to between 0.8 and 0.9.

Switching.

When first switched on OSIRA H.P.M.V. lamps pass about twice their normal burning current and take about five minutes to attain full brightness.

If the electricity supply is interrupted the lamp will have to cool down before it will light up again, which it will do automatically if the switch is left on.

OSIRA

HIGH PRESSURE MERCURY VAPOUR ELECTRIC DISCHARGE LAMPS

FOR PHOTOGRAPHIC STUDIOS—*continued.*

Fuses.

The provision of separate fuses for each lamp is recommended.

Wiring.

OSIRA lamps are arranged for parallel burning; each lamp must have a G.E.C. choke coil in series with it, preferably on the phase side of the lamp.

If a condenser is used for power factor correction it should be connected across the mains on the mains side of the choke.

Burning Position.

The standard lamps are made for burning in the cap-up position only, but if specially ordered lamps can be supplied for burning cap down.

Running Characteristics and Dimensions.

Lamp rating. Watts.	Approx. starting current at 230 volts.		Average current when burning at full brightness at 230 volts.	
	Without Condenser.	With Condenser.	Without Condenser.	With Condenser.
150	amps. $2\frac{1}{2}$	amps. $1\frac{3}{4}$	amps. $1\frac{1}{2}$	amps. 1
250	$4\frac{1}{2}$	$3\frac{1}{2}$	2	1.3
400	$5\frac{1}{2}$	4	3.2	2.2

Standard watts.	LIGHT OUTPUT AND DIMENSIONS.						
	Approx. light output in lumens.	Overall length.		Overall diameter.		Length from cap centre contact to end of light column.	
		mm.	ins.	mm.	ins.	mm.	ins.
150	4800	230 ± 15	$9\frac{1}{16}$	43 ± 4	$1\frac{13}{16}$	177 ± 13	7
250	9000	290 ± 10	$11\frac{3}{8}$	50 ± 2	$1\frac{15}{16}$	110 ± 5	$4\frac{5}{16}$
400	17000	325 ± 15	$12\frac{3}{4}$	50 ± 2	$1\frac{15}{16}$	110 ± 5	$4\frac{9}{16}$

PRICES.

Standard voltages.	Standard watts.	Standard cap.	Price per lamp.		
200/210, 220	150	E.S.	£	s.	d.
230, 240/250	250	G.E.S.	1	17	0
	400	G.E.S.	2	0	0

Full particulars of Chokes and Condensers for use with OSIRA H.P.M.V. lamps furnished on application.



GASFILLED

PROJECTOR LAMPS

FOR PHOTOGRAPHIC STUDIOS

The production of OSRAM Gasfilled Projector Lamps has opened a new chapter in the art of light projection for Studio Photographic work, and year by year, as new types have been produced, the field has grown, until other forms of illuminant have almost entirely been displaced.

The use of these lamps is by far the most satisfactory way of obtaining the concentrated source of light so necessary for many optical, photographic and floodlighting purposes. For simplicity, efficiency and accuracy of effect the OSRAM Gasfilled Projector Lamp has proved itself to be unsurpassed.

OUTSTANDING ADVANTAGES.

OSRAM Gasfilled Projector Lamps have several definite advantages over the arc and other earlier forms of projector lamps :—

The light, besides being of the highest intensity, is absolutely steady and silent.

The lamps are always ready for immediate use.

They are made for all standard voltages so that they can be run direct off any standard lighting mains, whether alternating or direct current systems.

They require no attention, whereas the arc lamp needs frequent replacements of carbons and continual regulation.

The risk of fire, and of breaking valuable condenser lenses, is eliminated.

High optical efficiency is assured by the concentrated form of filament used, made possible by the use of specially treated tungsten wire, which does not sag.

With the OSRAM Tubular Projector Lamp the source of light can be brought close up to the lens, and a short focus condenser used, thus enabling an unusually large amount of light to pass through the lens. The high efficiency so obtained can be increased by placing a reflector close behind the lamp.

There are no deposits or fumes to corrode the adjusting screws and guides, or cloud the lens. The inside of the lantern keeps perfectly clean, a valuable feature in micro-photography, and in the enlargement of photographs.

In stage lighting, many beautiful effects hitherto unattainable can be obtained by the use of OSRAM Gasfilled Projector Lamps, owing to the more flexible control of the beam of light.

The light output of OSRAM Gasfilled Projector Lamps is practically constant throughout their life. Blackening of the bulbs has been reduced to an imperceptible amount by the use of chromium-plated support wires and other highly technical refinements.

CONVERSION OF APPARATUS.

Most types of optical apparatus made for other forms of illuminant can be adapted at small cost to take OSRAM Gasfilled Projector Lamps.



GASFILLED

PROJECTOR LAMPS FOR PHOTOGRAPHIC STUDIOS

CLASSIFICATION

OSRAM Projector Lamps are supplied in a number of different shapes and dispositions of filament which for convenience are designated by Classes.

Below are given the Classes and the uses for which the respective lamps have been specially designed :—

CLASS A.1.

Bulb Shape.—Tubular. *Burning Position.*—Vertical, cap down.
Approximate Life.—100 hours.
Lighting Service.—Cinematograph Projectors.—Home Cinemas.—
Optical Lanterns.—Photographic Enlarging Apparatus. *See page 22*

CLASS A.2.

Bulb Shape.—Round. *Burning Position.*—Vertical, cap down. They may be tilted slightly without reducing their life. *Approximate Life.*—300 hours.
Lighting Service.—Stage Limes, Spotlights, etc. *See page 24*

CLASS A.3.

Bulb Shape.—Round. *Burning Position.*—Horizontal. They may be tilted slightly without reducing their life. *Approximate Life.*—300 hours.
Lighting Service.—Spotlights.—Stage Limes.—Medical Examination Tubes.—Advertising Projectors, etc. *See page 26*

CLASS B.1.

Bulb Shape.—Round. *Burning Position.*—These lamps may be used in any position, except within 45° from the vertical, cap upwards.
Approximate Life.—800 hours.
Lighting Service.—For use in Spots and Floods, and for naked shadow effect work in photography, where length of life and hardness are more important than very high optical efficiency. Also for interior illumination with special fittings. *See page 28*

CLASS B.2.

Bulb Shape.—Pear. *Burning Position.*—Any. *Approximate Life.*—800 hours.
Lighting Service.—Floodlighting the exterior of buildings where a narrow beam of light is required. For use in Theatre Spots and Floods, where length of life and hardness are more important than very high optical efficiency. Also for interior illumination with special fittings. *See page 28*

CLASS E.

Bulb Shape.—Round. *Burning Position.*—Any position within 45° from vertical, cap down. *Approximate Life.*—100 hours.
Lighting Service.—Epidiascope Apparatus and Theatre and Studio Spotlights. *See page 30*

(Continued on next page.)



GASFILLED

PROJECTOR LAMPS FOR PHOTOGRAPHIC STUDIOS

CLASSIFICATION (*continued*)

CLASS F.

Bulb Shape.—Round. *Burning Position.*—Horizontal up to, and including, 24 watts. Vertical for larger wattages. *Approximate Life.*—100 hours.

Lighting Service.—Small Home Cinemas, Projectors, etc. *See page 32*

CLASS G.

Bulb Shape.—Tubular. *Burning Position.*—Vertical, cap down. *Approximate Life.*—100 hours.

Lighting Service.—Exciter Lamps for use in conjunction with Photo-cells for Sound Film reproduction and similar purposes. *See page 34*

CINEMA STUDIO LAMPS.

Bulb Shape.—Round. *Approximate Life.*—100 hours.

Lighting Service.—Film production, studio lighting, large Spotlights and Searchlights. *See page 36*

TUBULAR HORIZON LAMPS.

Bulb Shape.—Tubular. *Approximate Life.*—1,000 hours.

Lighting Service.—Wide beam floodlighting and stage work. *See page 35*

SIZE OF CLASS A.1 OSRAM PROJECTOR LAMP REQUIRED FOR OPTICAL LANTERNS.

On pages 20 and 21 will be found particulars of the sizes of OSRAM Projector Lamps generally used in a number of makes of optical lanterns.

When in doubt as to the correct size of Class A.1 Projector Lamp to use, it is advisable under favourable conditions and when a reflector is used behind the lamp to allow :—

At least 5 watts per square foot of screen surface for standard size lantern slides.

At least 7 watts per square foot of screen surface for cinematograph films.

Extra wattage must be allowed for very long throws, coloured slides and tinted films.



GASFILLED

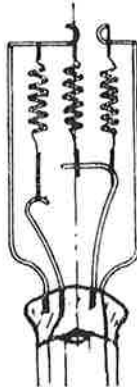
PROJECTOR LAMPS

STANDARD FILAMENTS

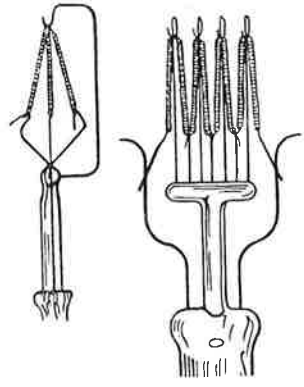
Below are illustrated a range of standard filaments as fitted to OSRAM Projector Lamps



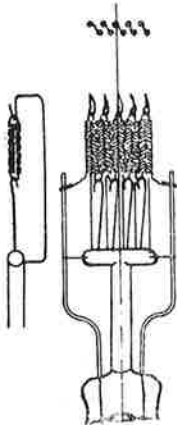
Single Coil Flat Grid.



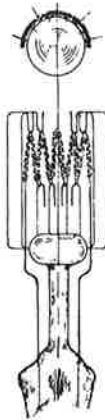
Coiled Coil Flat Grid.



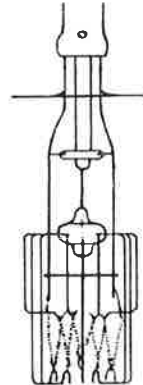
Staggered Grid.



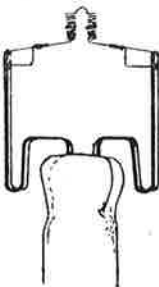
Biplane Grid.



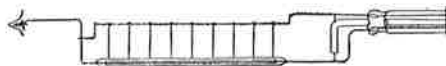
Bunch (cap down).



Bunch (cap up).



Twin Pillar.



Line Filament.



GASFILLED

PROJECTOR LAMPS

FOR PHOTOGRAPHIC STUDIOS

Types of OSRAM Projector Lamps generally used in the following Projection Apparatus :—

Apparatus.	Manufactured or Supplied by.	Type of OSRAM Projector Lamp recommended.
Pattern 45 " Miniature " Spotlight	The Strand Electric and Engineering Co., Ltd.	250w. Class B.1 round bulb projector lamp with E.S. cap.
Pattern 44 " Baby " Spotlight	Do.	500w. Class B.1 round bulb projector lamp with G.E.S. cap.
Pattern 43 Focus Lantern	Do.	1,000w. Class B.1 round bulb projector lamp with G.E.S. cap.
Pattern 50 " Pageant " Lantern	Do.	1,000w. Class A.1 tubular or Class B.1 projector lamp with G.E.S. cap.
Pattern 43a " Batten " Focus Lantern	Do.	1,000w. Class A.1 tubular or Class B.1 projector lamp with G.E.S. cap.
Pattern 51 " Optical Effect " Lantern	Do.	1,000w. Class A.1 tubular projector lamp with G.E.S. cap.
Pattern 27 " Float Baby " Spot	Do.	100w. or 250w. Class B.1 round bulb projector lamp with E.S. cap.
Pattern 52 2,000w. Focus Lantern	Do.	2,000w. round bulb Cinema Studio-Spotlight lamp with G.E.S. cap.
Optical Lanterns (all types)	Cinema Traders, Ltd.	Class A.1 and A.3 with E.S. cap.
Focuslite Outfits (all types)	Do.	Class A.1 and A.3 with E.S. cap.
No. 51 Self-contained Mirror Bowl	Do.	500w. Class A.1 with E.S. cap.
No. 54 Spotlight	Do.	100w. Class A.3 with E.S. cap.
No. 55 Spotlight	Do.	250w. Class A.1 with E.S. cap.
No. 58 Spotlight	Do.	500w. Class A.1 with E.S. cap.
No. 59 Spotlight	Do.	1,000w. Class A.1 with G.E.S. cap.
No. 61 Cabaret Flood	Do.	500w. General Service with G.E.S. cap.
No. 150 Floodlight	Do.	300w. to 500w. General Service with G.E.S. cap.
No. 63 Searchlight	Do.	500w. Class A.1 with E.S. cap.
No. 157/161 Floodlight	Do.	500w. Photographic with E.S. cap.
Pattern 73 Mirror Spot	Do.	1,000w. Class A.1 or B.1 projector lamp with G.E.S. cap.
Pattern 41 Photo. Flood	Do.	1,000w. Class A.1 projector lamp with G.E.S. cap.
Pattern 463 Photo. Spot	Do.	2,000w. cinema studio projector lamp with G.E.S. cap.

Special Types of OSRAM Projector Lamps generally used in the following Special Projection Apparatus. The lamps may be obtained from the manufacturers given below :—

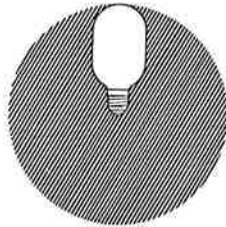
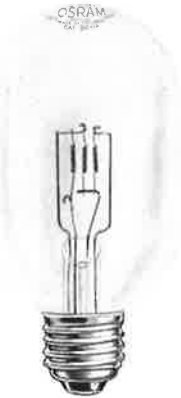
Apparatus.	Manufactured or Supplied by.	Type of OSRAM Projector Lamp recommended.
Monolite Lantern Outfits	Ensign, Ltd. High Holborn, London, W.C.2.	250w. or 500w. Class A.1 tubular projector lamp with E.S. cap.
" Alpha " or SS 100 Projector	Do.	60v. 100w. Class A.1 projector lamp with E.S. cap.
" Silent Sixteen " SS 180 Projector	Do.	60v. 180w. Class A.1 projector lamp with E.S. cap.
" Super Cine " SS 250 Projector	Do.	50v. 250w. Class A.1 projector lamp with prefocus cap.
Ensign " 50 " Projector	Do.	60v. 50w. Class A.1 tubular projector lamp with small bayonet cap.
Ensign " 100B " Projector	Do.	100v. 100w. Class A.1 projector lamp with prefocus cap and 25 mm. bulb.
Ensign " 300B " Projector	Do.	100v. 300w. Class A.1 projector lamp with prefocus cap.
" Optiscope " Lantern No. 6	Do.	250w. or 500w. Class A.1 tubular projector lamp, silver backed, with E.S. cap.
" Optiscope " Lantern No. 9	Do.	250w. or 500w. Class A.1 tubular projector lamp, silver backed, with E.S. cap.
Kodascope " A "	Kodak, Ltd., Kingsway, London, W.C.2.	50v. 200w. or 250w. Class A.1 tubular projector lamp with prefocus or E.S. cap.
Kodascope " B "	Do.	50v. 200w. or 250w. Class A.1 tubular projector lamp with prefocus cap.
Kodascope " C "	Do.	100v. 100w. Class A.1 tubular projector lamp with prefocus cap and 25 mm. bulb.
Kodascope " D " and " E "	Do.	100v. 300w. Class A.1 projector lamp with prefocus cap.
Kodascope " L "	Do.	100v. 300w., 110v. 500w., 110v. 750w. Class A.1 projector lamp with prefocus cap.
Kodatoy	Do.	115v. 50w. Class A.1 projector lamp with A.S.C.C. cap.
Kodalite " A " and " B "	Do.	500w. Class A.1 projector lamp with prefocus cap.
Kodalite " E "	Do.	500w. Photographic lamp with E.S. cap.
Kodak Spotlite	Do.	500w. Class A.1 or Class E projector lamp with E.S. cap.
Pathescope " B " Projector	Pathescope, Ltd., North Circular Road, Cricklewood, London, N.W.	110v. 200w. Class A.1 projector lamp with special " Pathé " cap.
Pathescope " Imp "	Do.	19v. 10w. Type C small tubular projector lamp.
Pathescope " Ace "	Do.	16v. 8w. round bulb projector lamp.
Pathescope " Ace "	Do.	18v. 9w. round bulb projector lamp.
Pathescope " Rex "	Do.	16v. 128w. round bulb projector lamp.



GASFILLED

PROJECTOR LAMPS

CLASS A.1 TUBULAR. GRID FILAMENT
VERTICAL BURNING



CLASS A.1

BURNING POSITION.

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

250 watts (Class A.1) OSRAM
Gasfilled Projector Lamp.
(Illustration approximately half full size.)

100 watts (Class A.1) OSRAM
Gasfilled Projector Lamp.
(Illustration approximately half full size.)

These lamps have grid filaments and must be burned vertically, cap below. Tilting the lamp results in reduction of burning life. Suitable for OPTICAL LANTERNS, SPOT-LIGHTS, PHOTOGRAPHIC ENLARGING, ADVERTISING PROJECTORS, HOME CINEMAS, ETC.

CAUTION.—It is essential for projector lamps to be used in the position for which they are designed, and for the apparatus in which they are used to be well ventilated, otherwise their life may be seriously reduced.

WATTAGES, VOLTAGE RANGES AND PRICES.

For Dimensions see opposite page.

Watts.	Diam.	Voltages and Price per Lamp.														
		30 volts.		50 volts.		60 volts.		110 volts.		100 and 110 volts.		200 to 260 volts.				
	mm.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
100	—	—	11	9	—	—	12	6	—	—	—	10	9	—	—	—
200	—	—	—	—	1	1	0	—	—	—	—	—	—	—	—	—
250	32	—	—	—	1	1	0	—	—	—	1	1	0	1	0	0
250	63	1	2	6	—	—	—	—	—	—	1	0	0	—	—	—
300	—	—	—	—	—	—	—	—	—	—	1	6	0†	—	—	—
500	32	—	—	—	—	—	—	1	17	6	—	—	—	—	—	—
500	63	—	—	—	1	6	0	—	—	—	1	4	0	1	4	0
600	—	1	15	0	—	—	—	—	—	—	—	—	—	—	—	—
750	—	—	—	—	—	—	—	2	2	6	—	—	—	—	—	—
900	—	1	15	0	—	—	—	—	—	—	—	—	—	—	—	—
1000	—	—	—	—	—	—	—	—	—	—	1	10	0	1	10	0

† 100 volts only.

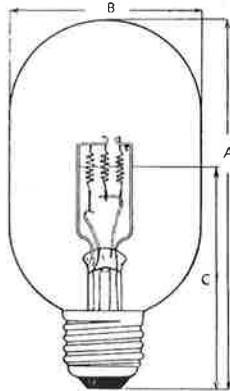
Prefocus Caps, where not standard, can be supplied at 1/- extra.
Mogul Prefocus Caps instead of G.E.S., 2/6 extra.



GASFILLED

PROJECTOR LAMPS

CLASS A.1 TUBULAR—VERTICAL BURNING



Class A.1 OSRAM Gasfilled Projector Lamp.

DIMENSIONAL DATA.

Voltage.	Watts.	Dimensions mm.			Approx. area of filament. Width × Height.	Standard Cap.
		A Overall length ±10.	B Diameter ±2.	C Light centre length ±5.		
		mm.	mm.	mm.	mm.	
30	100	135	32	75	6 × 6	E.S.
	250	135	63	75	8 × 8	E.S.
	600	230	63	120	13 × 12	G.E.S.
	900	230	63	120	14 × 12	G.E.S.
50	200	135	32	75	6 × 7	E.S.
	250	135	32	75	7 × 8	E.S.
	500	135***	63	75**	14 × 12	E.S. or G.E.S.
60	100	135	25	75	5 × 7	E.S.
100	300*	135	32	55.6 †	11 × 10	Prefocus
110	500*	135	32	55.6 †	9 × 9 †	Prefocus
110	750*	135	38	55.6 †	10 × 10 †	Prefocus
100 and 110	100	135	32 or 25	75	10 × 9	B.C. or E.S.
	250	135	32	55.6	11 × 10	Prefocus
	250	135	63	75	11 × 10	E.S.
	500	135***	63	75**	13 × 16	E.S.
	1000	230	63	120	16 × 15	G.E.S.
200 to 260	100	135	32	75	8 × 13	B.C. or E.S.
	250	135	63	75	11 × 13	E.S.
	500	135***	63	75**	15 × 18	E.S.
	1000	230	63	120	17 × 20	G.E.S.

* Forced cooling is essential.

** 90 mm. with G.E.S. cap.

*** 150 mm. with G.E.S. cap.

† Biplane Filament, life 25 hours.

‡ ± 0.5 mm. from centre of filament to top of cap flanges.

Mogul prefocus caps can be supplied instead of G.E.S. caps, in which case the light centre length measured from the bulb side of cap flange to the centre of filament is 35 mm. less than that quoted for G.E.S. caps. Medium prefocus caps can be supplied instead of E.S. if required, when the light centre length will be 55.6 ± 0.5 mm., measured from bulb side of flange.



GASFILLED

PROJECTOR LAMPS

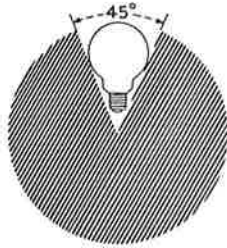
CLASS A.2

ROUND BULB. GRID FILAMENT. VERTICAL BURNING
CAP DOWN



100 watts (Class A.2) OSRAM
Projector Lamp.

*(Illustration approximately
one-third full size.)*



CLASS A.2.

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



150 watts (Class A.2)
OSRAM Projector Lamp.

*(Illustration approximately
one-sixth full size.)*

The round bulb causes a small reduction in optical efficiency by keeping the reflector further away from the filament than in Class A.1, listed on page 22. These lamps may be tilted slightly without reducing their life. Suitable for STAGE LIMES, SPOTLIGHTS, ETC.

CAUTION.—It is essential for projector lamps to be used in the position for which they are designed, and for the apparatus in which they are used to be well ventilated, otherwise their life may be seriously reduced.

WATTAGES, VOLTAGE RANGES AND PRICES.

For Dimensions see opposite page.

Watts.	Voltages and Price per Lamp.					
	100 and 110 volts.			200 to 260 volts.		
	£	s.	d.	£	s.	d.
80		8	6†		—	
100		10	9		10	9
250	1	0	0	1	0	0
500	1	7	6	1	7	6
1000	1	18	0	1	18	0
1500	2	12	6	2	15	0
2000	3	16	0	4	6	0
3000	5	5	0	5	15	0

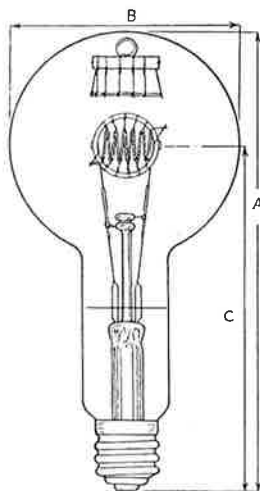
† 20 volts only.



GASFILLED

PROJECTOR LAMPS

CLASS A.2



CLASS A.2 OSRAM Gasfilled Projector Lamp.

DIMENSIONAL DATA.

Voltage.	Watts.	Dimensions mm.			Approx. area of filament. Width × Height.	Cap.
		A Overall length ±10.	B Diameter ±2.	C Light centre length ±5.		
		mm.	mm.	mm.	mm.	
20 and 110	80	80	60	30	†9	S.B.C.
	100	115	75	80	10 × 13	E.S.
	250	160	90	115	11 × 10	E.S.
	500	250	120	190	13 × 16	G.E.S.
	1000	300	150	225	17 × 23	G.E.S.
	1500	330	170	250	22 × 32	G.E.S.
200 to 260	2000	350	200	250	26 × 34	G.E.S.
	3000	395	240	275	30 × 35	G.E.S.
	100	115	70	80	8 × 18	E.S.
200 to 260	250	160	90	115	11 × 13	E.S.
	500	250	120	190	15 × 18	G.E.S.
	1000	300	150	225	20 × 36	G.E.S.
	1500	330	170	250	26 × 38	G.E.S.
	2000	350	200	250	22 × 35	G.E.S.
	3000	395	240	275	30 × 42	G.E.S.

† Line filament.



GASFILLED

PROJECTOR LAMPS

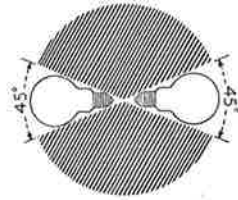
CLASS A.3

ROUND BULB. GRID FILAMENT. HORIZONTAL BURNING



100 watts (Class A.3) OSRAM Gasfilled Projector Lamp.

(Illustration approximately half full size.)



BURNING POSITION.

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

Suitable for SPOTLIGHTS, STAGE LIMES, MEDICAL EXAMINATION TUBES, ADVERTISING PROJECTORS, ETC.

WATTAGES, VOLTAGE RANGES AND PRICES.

For Dimensions see opposite page.

Watts.	Voltages and Price per Lamp.					
	100 and 110 volts.			200 to 260 volts.		
	£	s.	d.	£	s.	d.
100		10	9		10	9
250	1	0	0	1	0	0
500	1	7	6	1	7	6
1000	1	18	0	1	18	0
1500	2	12	6	2	15	0

VENTILATION.—Owing to concentration of filament and small size of bulb, it is important that the lantern should be ventilated, otherwise the life of the lamp may be seriously reduced.

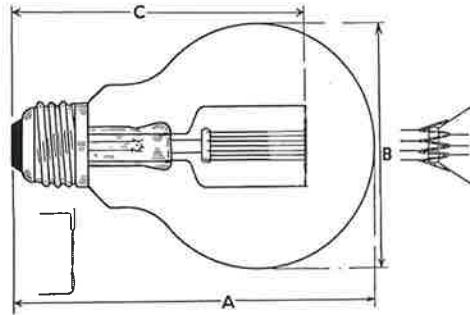


GASFILLED

PROJECTOR LAMPS

CLASS A.3

ROUND BULB. HORIZONTAL BURNING



Class A.3 OSRAM Gasfilled Projector Lamp.

DIMENSIONAL DATA.

Voltage.	Watts.	Dimensions mm.			Approx. area of filament. Width × Height.	Cap.
		A Overall length ±10.	B Diameter ±2.	C Light centre length ±5.		
100 and 110	100	115	75	95	10 × 15	E.S.
	250	160	90	120	13 × 13	E.S.
	500	250	120	205	15 × 18	G.E.S.
	1000	300	150	240	17 × 23	G.E.S.
	1500	335	170	270	22 × 32	G.E.S.
200 to 260	100	115	75	95	10 × 13	E.S.
	250	160	90	120	14 × 15	E.S.
	500	250	120	205	20 × 15	G.E.S.
	1000	300	150	240	20 × 36	G.E.S.
	1500	335	170	270	26 × 38	G.E.S.



GASFILLED

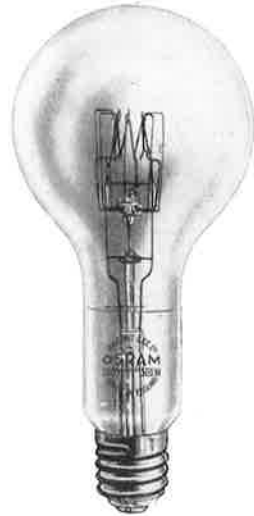
PROJECTOR LAMPS

CLASS B.1 AND B.2



BURNING POSITION.

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



250 watts (Class B.1) OSRAM Gasfilled Projector Lamp.

(Illustration approximately one-third full size.)

500 watts (Class B.2) OSRAM Projector Lamp.

(Illustration approximately one-quarter full size.)

CLASS B.1.

ROUND BULB. BUNCH FILAMENT. FLOODLIGHTING TYPE.

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.

CLASS B.2.

STANDARD GENERAL SERVICE BULB. BUNCH FILAMENT.

These lamps can be used in any position.

WATTAGES, VOLTAGE RANGES AND PRICES.

For Dimensions see opposite page.

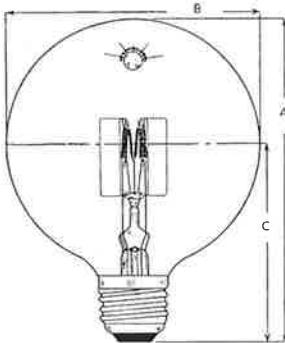
Watts.	Voltages and Price per Lamp.					
	100 to 130 volts.			200 to 260 volts.		
	£	s.	d.	£	s.	d.
Class B.1 {	100	9	0	9	0	
	250	17	6	17	6	
	500	1	3	0	1	3
	1000	1	10	0	1	10
Class B.2 {	500	—	—	1	3	0
	1000	—	—	1	10	0



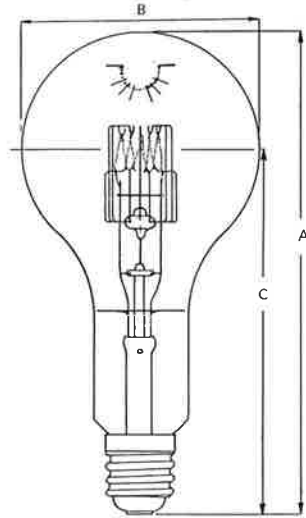
GASFILLED

PROJECTOR LAMPS

CLASS B.1 AND B.2



Class B.1 OSRAM Projector Lamp.



Class B.2 OSRAM Projector Lamp.

DIMENSIONAL DATA.

CLASS B.1.

Voltage.	Watts.	Dimensions mm.			Approx. area of filament. Width × Height.	Cap.
		A Overall length ±10.	B Diameter ±2.	C Light centre length ±5.		
		mm.	mm.	mm.	mm.	
100 to 130	100	130	80	75	10 × 11	E.S.
	250	122	95	75	8 × 11	E.S.
	500	190	130	115	11 × 14	G.E.S.
	1000	190	130	115	18 × 23	G.E.S.
200 to 260	100	130	80	75	10 × 10	E.S.
	250	122	95	75	11 × 10	E.S.
	500	190	130	115	15 × 15	G.E.S.
	1000	190	130	115	20 × 25	G.E.S.

CLASS B.2.

200 to 260	500 1000	267 300	130 150	202 225	15 × 20 25 × 25	G.E.S. G.E.S.
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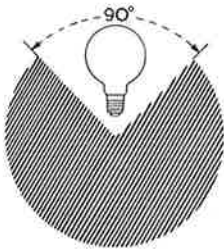


GASFILLED

PROJECTOR LAMPS

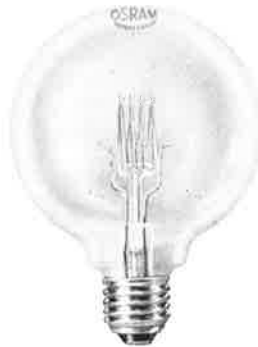
CLASS E

ROUND BULB. GRID FILAMENT. EPIDIASCOPE TYPE



BURNING POSITION.

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



500 watts (Class E) OSRAM Gasfilled Epidiascope Lamp.

(Illustration *approximately one-third full size.*)

This class is specially designed for EPIDIASCOPE apparatus. It is suitable also for spotlight and shop window projectors, which have to be rotated through wide angles. They can be used safely in any position up to 45° from vertical, cap downwards.

WATTAGE, VOLTAGE RANGES AND PRICES.

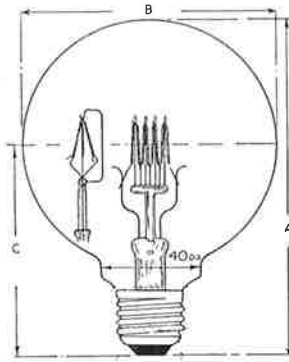
For Dimensions see opposite page.

Watts.	Voltages and Price per Lamp.					
	100 and 110 volts.			200 to 260 volts.		
	£	s.	d.	£	s.	d.
500	1	10	0	1	10	0



**GASFILLED
PROJECTOR LAMPS**

CLASS E



OSRAM Gasfilled Epidiascope Lamp.

DIMENSIONAL DATA.

Voltage.	Watts.	Dimensions mm.			Approx. area of filament. Width × Height.	Cap.
		A Overall length ±10.	B Diameter ±2.	C Light centre length ±5.		
100 and 110 } }	500	mm. 135	mm. 100	mm. 85	mm. 13 × 16	E.S.
200 to 260 } }	500	135	100	85	15 × 18	E.S.



GASFILLED

PROJECTOR LAMPS

CLASS F

EXTRA LOW VOLTAGE

SUITABLE FOR SMALL HOME CINEMA
AND PROJECTION WORK



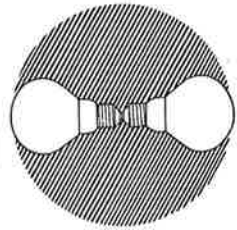
100 watts
(Class F)
OSRAM
Gasfilled
Projector
Lamp.



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



24 watts (Class F)
OSRAM Gasfilled Pro-
jector Lamp.



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

(Illustrations approximately half full size.)

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 is of primary importance. The 8 and 24 watts lamps have line filaments, the 48 and 100 watts twin pillar filaments. The 48, 100 and 300 watts sizes are designed for vertical burning.

WATTAGES, VOLTAGE RANGES AND PRICES.

For Dimensions see opposite page.

Watts.	Volts.	Price per Lamp.		
		£	s.	d.
8	4		3	9
24	6		4	3
24	12		3	9
48	12		3	9
100	†12		10	9
300	†12	1	12	6

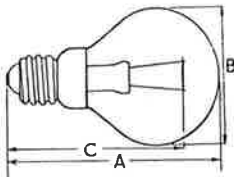
† Tubular Bulb.



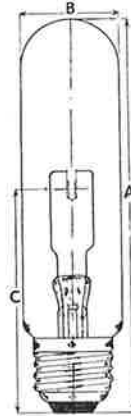
GASFILLED

PROJECTOR LAMPS

CLASS F



24 watts (Class F)
Horizontal Burning OSRAM
Gasfilled Projector Lamp.



100 watts (Class F)
Vertical Burning OSRAM
Projector Lamp.

DIMENSIONAL DATA.

Voltage.	Watts.	Dimensions mm.			Approx. area of filament. Width × Height.	Cap.
		A Overall length ±10.	B Diameter ±2.	C Light centre length ±5.		
		mm.	mm.	mm.	mm.	
4	8	60	38	50	*4	S.E.S.
6	24	60	38	50	*4	E.S.
12	24	60	50	50	*6	S.B.C.
12	48	70	50	40	4 × 3	E.S.
†12	100	135	32	75	5 × 6	E.S.
†12	300	135	63	90	*18	G.E.S.

* Filament length.

† Tubular bulb.



GASFILLED

PROJECTOR LAMPS

CLASS G

EXCITER LAMPS FOR SOUND FILM APPARATUS



32 watts (Class G)
OSRAM Exciter Lamp.
(Illustration approximately
half full size.)

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

Of tubular bulb shape, they are designed for burning vertically, cap down, and it is essential they should be used in this position only.

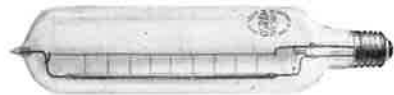
Owing to concentration of filament and small size of bulb it is important that the lantern in which this lamp is used should be ventilated. Otherwise the life of the lamp may be seriously reduced.

WATTAGES, VOLTAGE RANGES AND PRICES.

Watts.	Code numbers.	Voltage.	Apparatus for which suitable.	Cap.	Price per Lamp.
32	8450	8	{ British Acoustic }	A.S.C.C.	s. d. 5 6
32	8456	8		B.T.P.	"
34	85450	8.5	—	"	6 0
50	105475	10	R.C.A.	"	7 6
75	1075475	10	"	"	7 6

TUBULAR HORIZON LAMPS

These lamps have filaments of a special 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 cinema studio stage floodlighting schemes.



1000 watts OSRAM Horizon Lamp.
(Illustration approximately one-eighth full size.)

WATTAGE, VOLTAGE RANGES AND PRICE.

For Dimensions see opposite page.

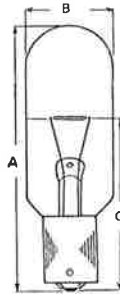
Watts.	Volts.	Price per Lamp.
1000	{ 100-130 200-260 }	£ s. d. 2 5 0



GASFILLED

PROJECTOR LAMPS

CLASS G

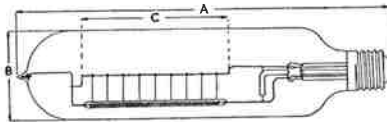


Class G. OSRAM Exciter Lamp.

DIMENSIONAL DATA.

Code numbers.	A Length.	B Diameter.	C Filament centre to cap central contact plate.
	Tolerance ± 2 mm.	Tolerance ± 1 mm.	Tolerance ± 1.5 mm.
8450	mm. 72	mm. 26	mm. 50
8456	72	26	56
85450	72	26	50
105475	72	26	47.5
1075475	72	26	47.5

TUBULAR HORIZON LAMPS



1000 watts OSRAM Tubular Horizon Lamp.

DIMENSIONAL DATA.

Voltage.	Watts.	Approx. Dimensions.			Cap.
		A Overall Length. ± 10 .	B Diam. ± 2 .	C Length of Light Source.	
100-130 200-260	1000	mm. 390	mm. 90	mm. †160 210	G.E.S.

† High efficiency. Life 200 hours.



GASFILLED

CINEMA STUDIO LAMPS

ROUND BULB.

The large OSRAM lamps shown here are designed to meet the many onerous demands of the studio world. The lamps are robust, silent and efficient; the colour is suitable for black and white or colour work, and is constant, so that full advantage can be taken of modern film emulsions.

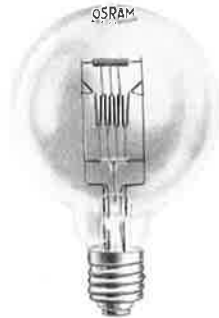
The mounting of the filament is such that the lamps can be burnt at an angle. Moreover, the design of the filament includes a number of special processes whereby it is possible to produce a concentrated source which can give an extraordinarily even beam of light when used in the appropriate G.E.C. projector.

WATTAGES, VOLTAGE RANGES AND PRICES.

For Dimensions see opposite page.

Watts.	Volts.	Price per Lamp.
2000	{ 100, 110 and 115 200 to 260	£ s. d. 4 5 0
		4 5 0
3000	{ 100, 110 and 115 200 to 260	5 5 0
		5 15 0
5000	{ 100, 110 and 115 200 to 260	15 0 0
		15 0 0

Approximate life —100 hours.



2000 watts OSRAM Studio Lamp.
(Illustration approximately one-eighth full size.)



5000 watts OSRAM Studio Lamp.
(Illustration approximately one-eighth full size.)

BIPOST LAMPS

Cinema Studio Lamps are now available with a new form of 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 joined to the edge of the glass dish.

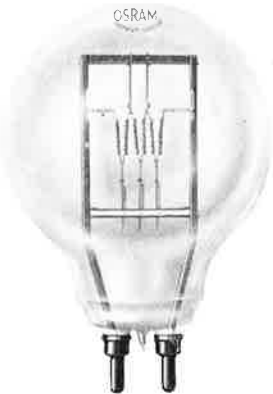
The result is a rigidly constructed lamp with the filament accurately fixed in relation to the cap pins: as a consequence accurate control of the light is possible without expert focussing.

WATTAGES, VOLTAGE RANGE AND PRICES.

For Dimensions see opposite page.

Watts.	Volts.	Price per lamp.
1000 2000 5000	} 110 and } 115	£ s. d. 3 5 0
		4 5 0
		15 0 0

Approximate life—100 hours.

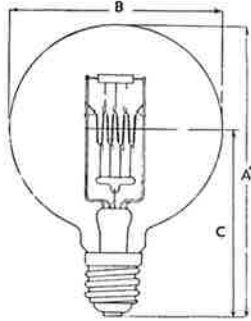


5000 watts Bipost OSRAM Lamp.
(Illustration approximately one-sixth full size.)



GASFILLED

CINEMA STUDIO LAMPS

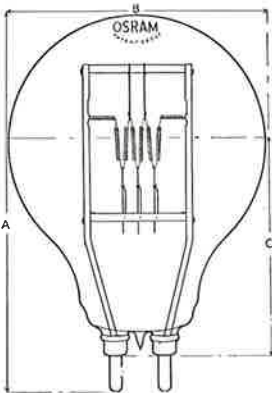


OSRAM Cinema Studio Lamp.

DIMENSIONAL DATA.

Voltage.	Watts.	Approx. Dimensions.			Type of Filament.	Approx. Area of Filament. Width x Height.	Cap.
		Overall Length. ± 10 .	Diam. ± 2 .	Filament Centre to Cap Contact. ± 5 .			
100 110 and 115	2000	mm.	mm.	mm.	Grid	mm.	G.E.S.
	3000	210	150	135	"	23 x 20	"
	5000	350	200	250	"	40 x 20	Two Pin*
200 to 260	2000	220	150	135	Grid	32 x 20	G.E.S.
	3000	350	200	250	"	40 x 27	"
	5000	386	388	230	"	42 x 32	Two Pin

*Also supplied with G.E.S. cap.



OSRAM Bipost Projector Lamp.

BIPOST LAMPS

DIMENSIONAL DATA.

Voltage.	Watts.	Approx. Dimensions.			Type of Filament.	Cap.
		A	B	C		
		Overall Length.	Diam.	Light Centre Length.		
110 and 115	1000	mm.	mm.	mm.	Grid	Bipost
	2000	232	152.5	127	"	"
	5000	295	203	165	"	"



GASFILLED

PROJECTOR LAMPS

LIGHT OUTPUT

Below is given the approximate total light output of each of the various types of OSRAM Projector Lamps listed in this catalogue.

These light output values are only given as a standard of comparative brilliance between one projector lamp and another, and do not indicate the intensity of the beam of light obtainable from each lamp when used with apparatus which concentrates the light of the filament in one direction.

CLASSES AND LIGHT OUTPUT VALUES.

Class.	Voltage.	Watts.	Approximate Light Output. Lumens.	Approximate Efficiency. Lumens per Watt.	
A1	30	100	2150	21.5	
		250	6250	25	
		600	15600	26	
		900	25650	28.5	
	50	200	4800	24	
		250	6250	25	
		500	13250	26.5	
	60	50	750	15	
		100	1570	15.7	
		180	2420	19	
	110	100	300	6900	23
		500	12000	24	
		750	18750	25	
	100 and 110	100	100	1800	18
		250	250	5650	22.5
		500	500	12000	24
		1000	1000	24000	24
	200 to 260	100	100	1300	13
250		250	4250	17	
500		500	1000	20	
1000		1000	22000	22	
A2	100 and 110	100	100	1500	15
		250	250	4625	18.5
		500	500	10000	20.0
		1000	1000	20500	20.5
		1500	1500	31500	21
		2000	2000	43000	21.5
	200 to 260	3000	3000	67500	22.5
		100	100	1050	10.5
		250	250	3500	14
		500	500	8250	16.5
		1000	1000	15500	18.5
		1500	1500	30000	20
A3	100 and 110	2000	2000	41000	20.5
		3000	3000	63000	21
		100	100	1400	14
		250	250	4500	18
		500	500	9500	19
	200 to 260	1000	1000	20000	20
1500		1500	33000	22	
100		100	1050	10.5	
250		250	3500	14.0	
500		500	8250	16.5	
A3	200 to 260	1000	1000	18500	18.5
		1500	1500	30000	20
		1500	1500	30000	20



GASFILLED

PROJECTOR LAMPS

LIGHT OUTPUT *(continued)*

Class.	Voltage.	Watts.	Approximate Light Output. Lumens.	Approximate Efficiency. Lumens per Watt.
B1	100 to 130	100	1200	12
		250	3625	14.5
		500	8000	16
		1000	17500	17.5
	200 to 260	100	1000	10
		250	3125	12.5
500		7250	14.5	
1000		16000	16	
B2	100 to 130	500	8000	16
		1000	17500	17.5
	200 to 260	500	7250	14.5
		1000	16000	16
E	100 and 110	500	11200	22.4
	200 to 260	500	10300	20.6
F	4	8	104	13
		24	432	18
	12	24	455	19
		48	1010	21
		100	2100	21
		300	6600	22
G	8	32	560	17.5
	8.5	34	595	17.5
	10	50	975	19.5
	10	75	1575	21.0
Cinema Studio	100, 110 115	2000	52000	26
		2500	60000	24
		3000	81000	27
		5000	140000	28
	200 to 260	2000	48000	24
		3000	75000	25
		5000	132500	26.5
Bipost	110 and 115	1000	23000	23
		2000	49000	24.5
		5000	145000	29.0
Tubular Horizon	100 to 130	1000	16500 23500	16.5 23.5†
	200 to 260	1000	15500 22500	15.5 22.5†

† 200 hours life.

“SASHALITE”

(TRADE MARK OF “SASHALITE LTD.”)

PHOTO FLASH BULBS

FOR INDOOR AND OUTDOOR USE FOR
PRESS, STUDIO OR COMMERCIAL WORK



“SASHALITE” Bulbs. Simplicity of Operation.

“SASHALITE” BULBS are clear glass bulbs of the shape of an ordinary electric house lamp. They contain a small amount of thin aluminium foil in an atmosphere of low pressure oxygen. The bulb has a small screwed cap, which fits into an electric pocket torch in place of the usual small lamp bulb. They are also suitable for the Photo Flash Bulb outfits made by Messrs. Ensign Ltd. By operating the switch of the torch sufficient current passes for the battery to heat the filament in the “SASHALITE” bulb, around which the foil is located. This causes the foil to burn instantly and at an intense brilliance for approximately 1-65th part of a second, all smoke and residue remaining enclosed within the bulb.

As a result of this, natural posture and correct expression of the subject without restraint of movement, or assumed poise, are truthfully registered. When “SASHALITE” bulbs are used, any slight involuntary movement, blinking or closing of the eyes, takes place after the subject has been registered, and not during the time the photograph is actually being taken. As a result pictures taken by the “SASHALITE” method never disappoint. They are always faithful reproductions of the subject.

“SASHALITE” Bulb Advantages.

Here are some of them—you may think of others. The using of “SASHALITE” electric flash bulbs is a sure safeguard against smoke, smell, noise, dust and mess. They do not cause shock, movement, wry facial expression, blinking, or closing of the eyes. The medium that provides light without these defects will be welcomed by all photographers, whether professional or amateur, as no special camera is required.

Outdoors in wind or rain—indoors in the nursery, at the piano, or welcoming guests in the hall, “SASHALITE” bulbs are as simple to operate as an electric torch or bell push, and as safe.

Exposures with large “SASHALITE” bulbs, using standard bulbs and reflectors and super-sensitive panchromatic film, can generally be recommended in accordance with the undermentioned table :—

F No.	Distance.	Number of Bulbs.
F 8	Up to 5 yards	1
F 8	From 5 yards to 7½ yards	2
F 8	From 7½ yards to 10 yards	3
F 8	10 yards to 15 yards	6

It is usual to work at F 8 rather than any larger aperture on account of the difficulty in focussing, and in order to obtain the necessary depth.

“SASHALITE” Photo Flash Bulbs—continued.

For certain commercial subjects, where greater depth of field is required and the aperture is stopped down to F 11, the exposure will generally be :—

F No.	Distance.	Number of Bulbs.
F 11	Up to 5 yards	2
F 11	From 5 yards to 7½ yards	4
F 11	From 7½ yards to 10 yards	6

Above this distance it is advisable to use “SASHALITES” wired up in series or parallel at distances of about 3-5 yards apart.

CAMERA TYPE USED IN PROFESSIONAL STUDIO.

“SASHALITE” Bulb Exposure Table.

Stop	F 32	F 22	F 16	F 11	F 8	F 6·5	F 4·5
Distance Factor	1	2	3	4	5	6	7

In order to determine this—

- First.** Decide at what stop you are going to set the lens.
- Second.** Measure the distance between subject and flash-bulb.
- Third.** Divide the distance by the factor given for the stop; the result gives the number of bulbs to be used.
- Alternative.** Divide the distance between subject and flash by the number of bulbs it is proposed to use. If the number of the result is between 1 and 7 use the stop whose factor is the same as this result.

These figures are based on the use of a plate of 700 H & D.

Price: Large (M.E.S. cap) 1/3 each; Baby (B.C. cap) 8d. each.

**“SASHALITE”
PHOTO FLASH BULB ACCESSORIES**

**REFLECTORS AND PISTOL GRIP FITTINGS
for use with “SASHALITE” Photo Flash Bulbs**

The handle of the pistol grip is hollow and arranged to take an ordinary three-cell torch battery. The current taken from the battery is only momentary and therefore one battery will fire many “SASHALITE” bulbs. It is important that a flashlight will act without fail and for the purpose of making a test a pilot lamp is fitted in the back of the handle. The lamp is in series with the filament of the “SASHALITE” bulb, and when the housing is pressed home, the pilot lamp should glow, indicating that all is in order.



**Price, complete with
battery - £1 10s. each.**

Pistol Grip Fitting,
11in. diam. Reflector.

“SASHALITE” CLIPS

Designed specifically for the use of “SASHALITES” in Reflectors

A simple device for affixing to the “SASHALITE” Reflector Unit enabling several “SASHALITE” bulbs to be fired at the same time for obtaining a greater quantity of light.

The requisite number of additional bulbs are screwed individually into the clips and fixed around the edge of the reflectors as shown in the photograph. Then on pressing the trigger, or, alternatively, operating the switch provided for remote control, the bulbs will instantaneously ignite, giving an intense yet soft light. No more current than required for a single bulb is used, thus it is economical.



“SASHALITE” Reflector Unit, showing method of fixing additional bulbs.

This is due to the fact that only the centre bulb is electrically ignited, the remaining bulbs being placed in very close proximity to the centre bulb (they must be set within $\frac{1}{32}$ of an inch of the centre bulb) are affected by a particular light radiation peculiar to “SASHALITE” bulbs, thereby causing them to fire practically simultaneously with the centre bulb.

It has also the advantage that a “SASHALITE” bulb in which the filament has been damaged so that it cannot be ignited electrically can nevertheless be utilised entirely satisfactorily in this way, provided that the glass itself has not been cracked or broken.

It should, perhaps, be pointed out that there is no risk of bulbs being accidentally ignited because of this remarkable property.

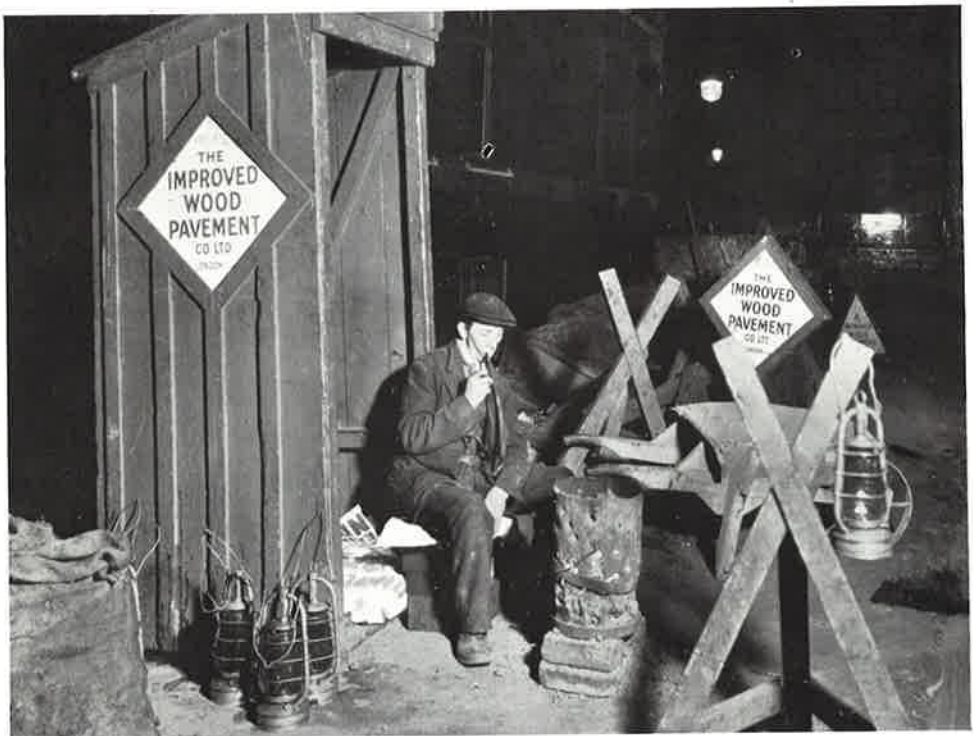
For the ignition to take place the bulbs must be quite close together, and, moreover, there must be no opaque substance (such as a bulb wrapper) in between the auxiliary bulb and that which is to be ignited electrically.

Clips only, price 1/- each.

**PHOTOGRAPHS TAKEN WITH
"SASHALITE" BULBS**



"London after dark."

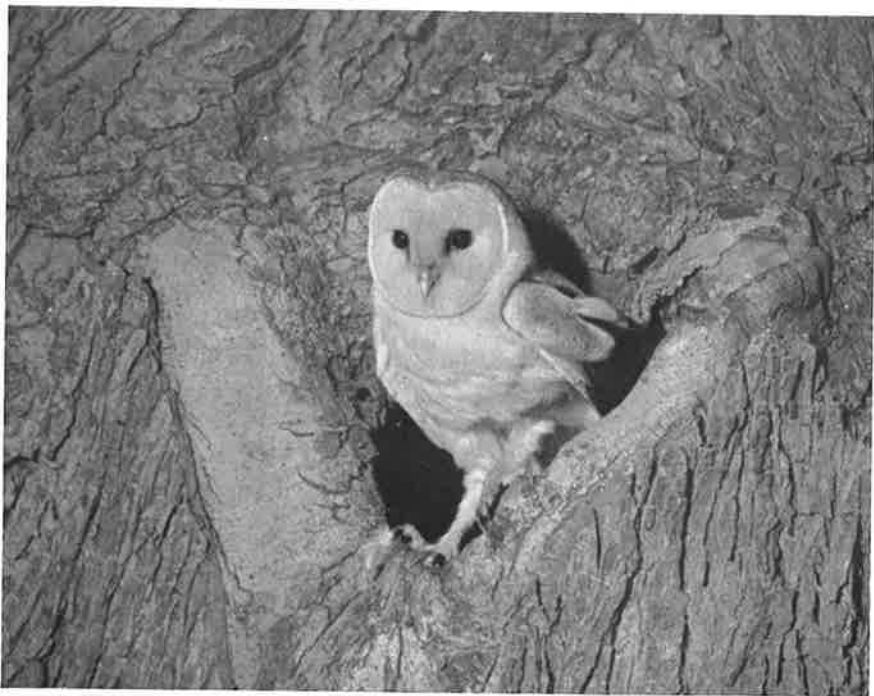


"The hole in the road."

“SASHALITE” PHOTOS—*continued.*



The “hide” used for photographing barn owl seen below by flashlight. Note the reflector and flash bulb.



A flashlight photograph taken at 11.30 p.m. of a barn owl leaving its nesting hole in a tree.

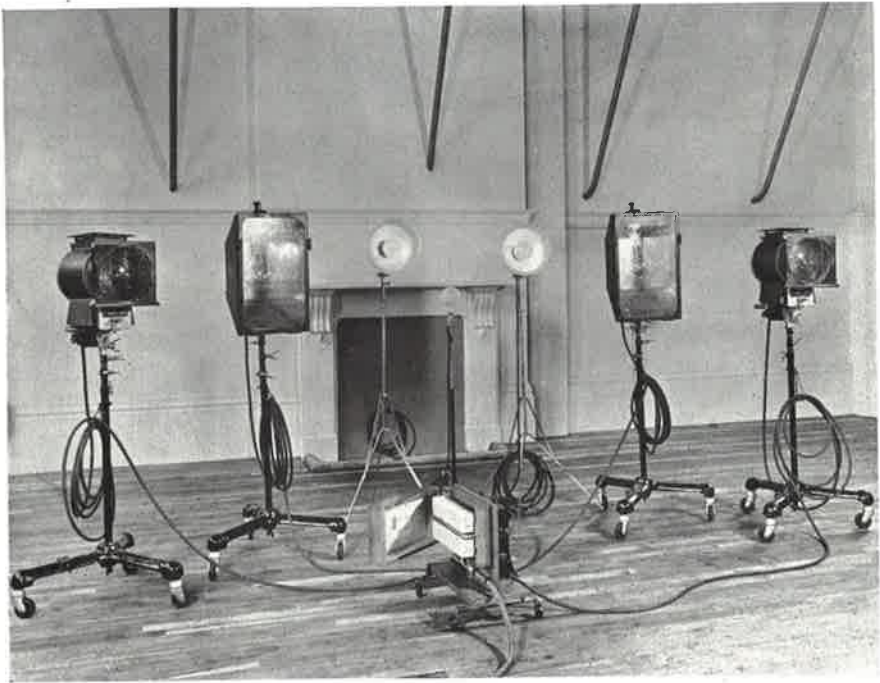
G.E.C.

PHOTOGRAPHIC STUDIO LIGHTING EQUIPMENT

The General Electric Co., Ltd., has devoted considerable attention to the design of the most suitable form of lighting equipment for photographic studios, and a wide range of apparatus is included in this catalogue suitable for every class of studio, and for every photographic lighting requirement.

This apparatus has been designed and developed in the famous G.E.C. Research Laboratories at Wembley and is approved by leading manufacturers of photographic equipment. It has been designed for use with various types of OSRAM tungsten filament and OSIRA electric discharge lamps.

Technical information is available from the OSRAM Photographic Department of the G.E.C. on all questions of lighting for photographic studios, and specially designed equipment can be supplied to customers' own requirements. Lighting designs, arrangement and complete schemes for any class of studio will be submitted, without obligation and free of charge, on request.



Typical G.E.C. Photographic Studio Lighting Equipment, showing easily portable Distribution Box for safe handling of the apparatus.

G.E.C.

500 WATT PORTABLE PHOTOGRAPHIC REFLECTOR

Cat. No. Z 5A



Cat. No. Z 5A.

G.E.C. 500-watt Portable Photographic Reflector.

This reflector is intended for providing an intense light for indoor photography.

It is constructed of aluminium, having a double reflector let into the inside so as to ensure **greater strength**. The internal surface is suitably diffused and the outside **has a highly polished surface**.

The reflector is mounted on a small correctly weighted stand; tilting is effected by means of a knuckle joint and wing nut.

The reflector is **designed** for use in conjunction with a high-efficiency OSRAM 500-watt photographic type with internally frosted bulb; this lamp screws into an E.S. holder.

The reflector is provided with 12 feet of tough rubber twin T.R.S. flexible cable fitted with a 5-amp. bakelite plug to customers' requirements.

Cat. No. Z 5A.

Price of complete unit, exclusive of OSRAM lamp

£1 5 0 each

OSRAM 500-watt photographic lamps Price each **£1 0 0**

G.E.C.

500 WATT

PHOTOGRAPHIC REFLECTOR

Cat. No. Z 5A

Mounted on Light Telescopic Stand

This reflector is intended for providing an intense light for indoor photography.

It is constructed of aluminium, having a double reflector let into the inside so as to ensure greater strength. The internal surface is suitably diffused and the outside has a highly polished surface.

The reflector is mounted on a small collapsible stand; tilting is effected by means of a knuckle joint and wing nut.

The lamp recommended is a high-efficiency OSRAM 500-watt photographic type with internally frosted bulb; this lamp screws into an E.S. holder.

The reflector is provided with 12 feet of tough rubber twin C.T.S. flexible cable, fitted with a 5-amp. bakelite plug to customers' requirements.

Cat. No. Z 5A.

Price of complete unit, exclusive of OSRAM lamp

£2 15 0 each.

500-watt OSRAM photographic lamp

Price **£1 0 0** each



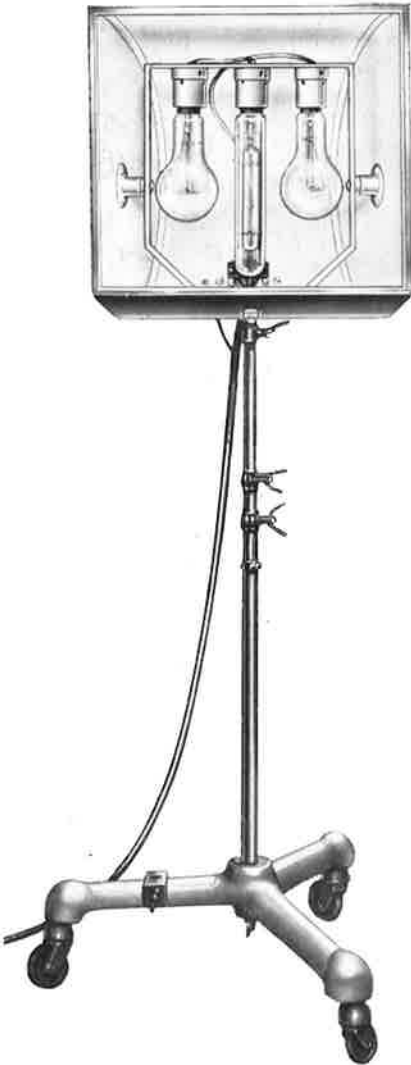
Cat. No. Z 5A G.E.C. 500-watt photographic reflector on stand.

G.E.C.

PHOTOGRAPHIC STUDIO LIGHT

FOR USE ON A.C. ONLY

Cat. No. Z **100**



Cat. No. Z **100**.
G.E.C. Photographic Studio Light.
For use on A.C. only.

This unit has been designed for use with one OSIRA 400-watt and two OSRAM 300-watt lamps. It has been specially made for photographic studio work, and is ideal for use with all emulsions.

When a photograph is taken on a panchromatic film by the light from tungsten filament lamps, in order to obtain the true rendering of colours as in daylight a colour filter must be used over the lens. The use of such a filter doubles, or quadruples, either the exposure time required (for a fixed illumination) or the illumination required (for a fixed exposure). When the G.E.C. Z **100** Photographic Floodlight is used, colours are reproduced in the same relative brightness as seen in daylight without the use of a filter. The increased actinic efficiency of the OSIRA and OSRAM mixture over a similar wattage of tungsten filament lamps, from the photographic point of view, is from *two and a-half to five times*.

The lamp mounting frame is held rigid inside the aluminium housing which has a 30° angle of tilt. The light is suitably diffused and mixed by means of a flashed opal glass screen.

The heavily-plated double extension stand can be extended to a height of 8 feet, and is provided with a 3-way cast base with rubber-tyred castors.

Cat. No. Z **100**.

Price complete with Choke No. Z **1871**
and diffuser, but excluding lamps

£14 10 0

400-watt OSIRA lamp

Price each **£2 0 0**

300-watt OSRAM lamp

Price each **10 0**

Extra for condenser for power factor
connection **£1 5 0**

For technical data see page 4.

G.E.C.

1500 WATT

THREE-WAY PORTABLE PHOTOGRAPHIC REFLECTOR

Cat. No. Z 101

This unit is intended for providing an intense light for indoor photography. It comprises three 10-in. reflectors, having a double reflector let into the inside so as to ensure greater strength. The internal surfaces are suitably diffused, and the outsides highly polished.

The reflectors are mounted on a small correctly weighted folding stand. Tilting in all directions is effected by means of movable clamps.

A rotating switch operates the lighting of the lamps in the reflectors; one, two or three may be in operation at any one time.

The unit is easily taken to pieces or assembled; a special carrying case is obtainable.

The lamps recommended are high-efficiency OSRAM 500-watt Photographic Type with internally frosted bulbs.

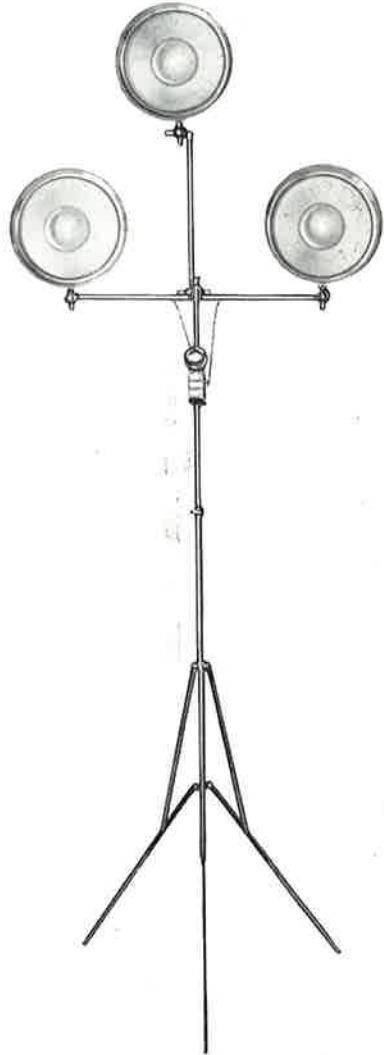
Price of complete unit with wired reflectors and 12 feet of flexible cable (exclusive of OSRAM lamp and carrying case)

£10 10 0

Carrying case extra .. **£1 10 0**

500-watt OSRAM photographic lamps

Price £1 0 0 each.



Cat. No. Z 101.

G.E.C. 1500-watt Portable Three-way
Photographic Reflector.

G.E.C.

STUDIO BROADSIDE REFLECTOR

Cat. No. Z 10



This broadside unit has been designed for general floodlighting.

The reflector is constructed of polished sheet aluminium and accommodates one 1,000-watt or one 1,500-watt OSRAM gasfilled lamp.

It is attached to a double telescopic standard by means of a quadrant which enables the reflector to be tilted if required.

The standard is fitted with a 3-way cast base having rubber-tyred castors, and a boss is provided so that the reflector may be mounted directly on the base for footlighting.

A double-pole 20-amp. ironclad switch is fixed to the back of the reflector, and a detachable diffusing glass screen is supplied for use in front of the lamp.

Cat. No. Z 10

Price of complete unit, exclusive of OSRAM lamp	£6 5 0
1,000-watt OSRAM lamps	
Price each	16 0
1,500-watt OSRAM lamps	
Price each	£1 2 6

Cat. No. Z 10

G.E.C. Studio Broadside Reflector.

G.E.C.

2 kW.

STUDIO EFFECT SPOTLIGHT

Cat. No. Z 8

This spotlight is intended for modelling effect lighting in the studio. It is of small construction in order that it may be easily concealed in the set, while the optical system has been designed to give the highest possible beam candle power.

The body is constructed of sheet metal and light aluminium castings. It has a special 8 $\frac{3}{8}$ -in. short focus stepped lens of low absorption fitted to the front.

An adjustable mirror is provided behind the lamp, and the back of the spotlight is hinged so that the complete interior may be withdrawn for relamping.

The 2 kW. OSRAM lamp is focused by means of a sliding platform, and a double-pole 20-amp. switch is fitted. The spotlight is mounted on a double telescopic stand, having a 3-way base fitted with rubber-tyred castors. It can be tilted at varying angles and may be removed from the telescopic tube and mounted on the 3-way base close to the floor.

Cat. No. Z 8

Price of Spotlight complete with detachable diffuser as illustrated (exclusive of lamp)

£13 10 0

The lamp used is an OSRAM 2 kW. round bulb of special construction

Price each **£4 5 0**



Cat. No. Z 8

G.E.C. 2 kW. Studio Effect Spotlight.

G.E.C.

2 kW.

STUDIO PROJECTOR

Cat. No. Z 12



Cat. No. Z 12
G.E.C. 2 kW. Studio Projector.

This projector, which is designed for use with a 2 kW. OSRAM lamp, has been specially made for confined spaces where an 18-in. diameter projector cannot be accommodated.

The body of the unit is constructed of sheet aluminium, having wheeled edges front and back, and bonded in the front to a metal framework designed to hold two diffusing frames. A removable back is fitted which accommodates a 12-in. diameter optically worked parabolic mirror.

One glazed diffusing frame is supplied with each unit.

Detachable circular louvres are supplied for cutting off spilled light.

The angle of tilt of the projector may be altered by means of a quadrant attached to a "U"-shaped cradle and the whole is mounted on a double extension telescopic standard.

The standard is fitted with a 3-way cast base having rubber-tyred castors, while a boss is provided so that the projector may be mounted directly on the base for ground shots.

A double-pole 20-amp. ironclad switch is fixed to the bottom of the projector.

Cat. No. Z 12

Price of Projector complete as above,
with telescopic stand **£21 0 0**

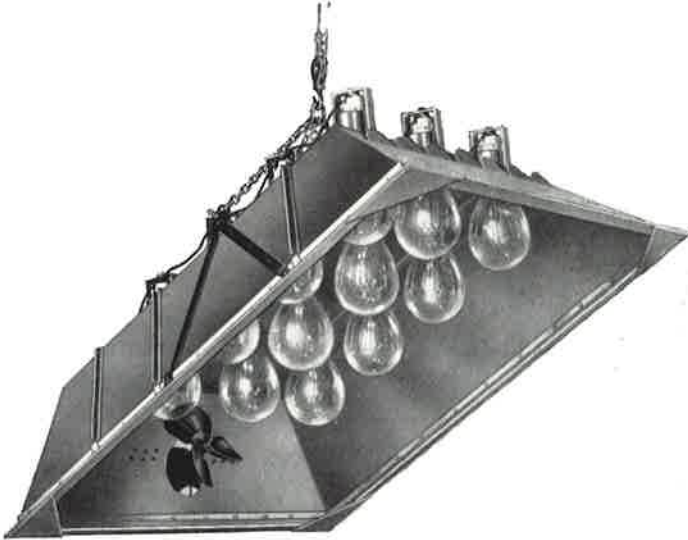
The lamp used is an OSRAM 2 kW. round
bulb of special construction

Price each **£4 5 0**

G.E.C.

STUDIO OVERHEAD REFLECTOR UNITS

Cat. Nos. Z 120 and Z 60



Cat. No. Z 120. G.E.C. Studio Overhead Reflector Unit.

Designed for providing an intense general illumination in the set from overhead.

Cat. No. Z 120 reflector is constructed of sheet aluminium, strengthened with angle section metal. It is arranged to accommodate twelve 1,500-watt OSRAM gasfilled lamps in three rows of four lamps. The lampholders are set at an angle so as to bring the lamps vertical when the reflector is tilted at an angle of 30° with the ground. There are separate double-pole fuses which serve as isolating links for each row of lamps, if desired.

Three chains, terminating in a heavy ring, are attached to suspension lugs, one chain being adjustable for length so that the tilt of the reflectors may be varied. A ball-bearing fan having an air delivery of 700 cu. ft. per minute is fitted to one side of the reflector for cooling purposes. A tumbler switch is arranged for disconnecting this fan when absolute silence is required.

Dimensions of Reflector, 4ft. 6in. × 4ft.

Cat. No. Z 120. Price, complete and wired, with fan, exclusive of OSRAM lamps **£24 0 0**
Less fan **£15 0 0**

Cat. No. Z 60 is a similar design arranged for six 1,500-watt OSRAM gasfilled lamps, but no fan is fitted.

Dimensions, 4ft. × 2ft. 3in.

Cat. No. Z 60. Price, complete and wired, exclusive of OSRAM lamps **£9 0 0**

Cat. No. Z 40 is similarly designed for four 1,500-watt OSRAM gasfilled lamps.

Dimensions, 2ft. 3in. × 2ft. 3in.

Price, complete and wired, exclusive of OSRAM lamps **£7 10 0**
1,500-watt OSRAM gasfilled lamps each **£1 2 6**

All units are provided with front wire safety guards.

G.E.C.

2 kW.

STUDIO PROJECTOR

Cat. No. Z 18B



Cat. No. Z 18B

G.E.C. 2-kW. Studio Projector.

This projector, which is designed for use with a 2-kW. OSRAM lamp, is extremely light, the total weight, exclusive of stand, being 48 lbs.

The body of the projector is constructed of sheet aluminium having wheeled edges front and back, and bonded in the front to a metal framework designed to hold two diffusing frames. One glazed diffuser is supplied with each projector.

A removable back is fitted, which accommodates an 18-in. diameter optically worked parabolic mirror.

Detachable circular louvres are supplied for cutting off spilled light.

A double-pole switch is fixed to the base of the lamphouse, and an adjustable cradle is provided, the back strut of which is telescopic, and so allows the cradle to be straight or offset as desired. The projector may be set at any convenient angle by means of a quadrant.

The cradle has bolt holes for securing to any flat surface, or may be mounted on a collapsible tripod stand, fitted with worm and chain raising and lowering gear, and rubber-tired ball-bearing castors.

Alternatively, the projector can be supplied with a spot-rail clamp so that it may be fixed on the spot-rail at the top of a set.

Cat. No. Z 18B

Price of the projector, complete with optically worked mirror, adjustable cradle, switch, detachable louvres and diffuser

£22 0 0

Collapsible tripod stand extra

£10 0 0

Spot-rail clamp extra

£2 12 6

Facet mirror in back spinning interchangeable with above

extra £6 10 0

G.E.C.

PHOTOGRAPHIC STUDIO PROJECTOR

Cat. No. Z 12L

To the demand by film studios for more efficient and more specialised lighting units, The General Electric Company, Ltd., has produced a new lighting unit utilising a square prismatic plate lens designed at The General Electric Company's Laboratories at Wembley.

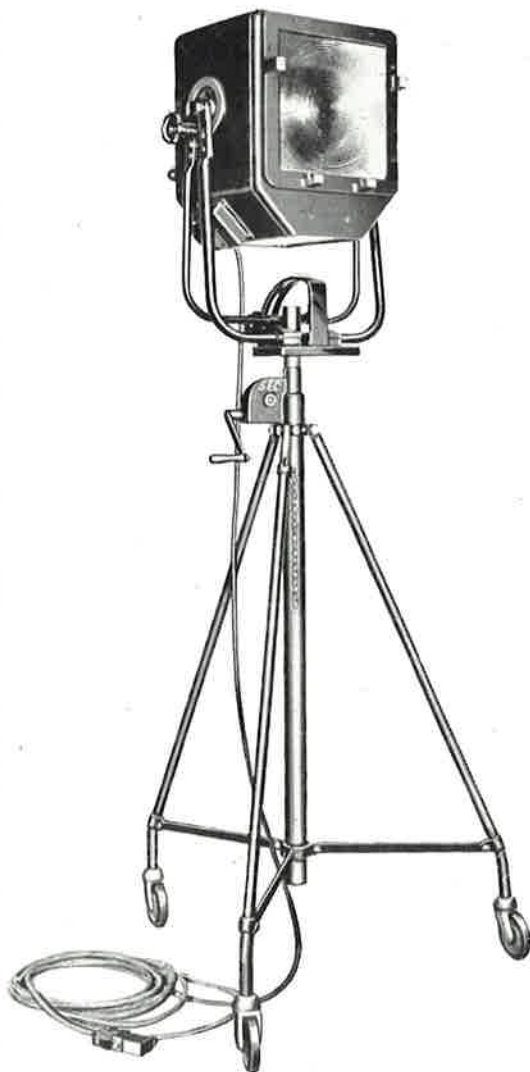
This lens is housed in a solidly constructed body built up of aluminium castings, and by this method it has been possible to produce a projector which, in appearance, is not only pleasing but is solidly constructed to withstand the hard usage in the studio.

Optically the unit is designed to house an OSRAM 2 kW. lamp, backed by a spheroidal mirror mounted in cast aluminium rings with special focussing screws to ensure accurate alignment, and the whole mounting is easily detachable by a single wing headed bolt in the base.

The mirror, once focussed, is so mounted that it may be removed for cleaning, or for lamp changing, and replaced without disturbing the focussing.

The top of the projector is fitted with a special counter-sunk ring for hoisting to spot-rails, etc.; this ring folds down flush with the top.

Two types of cradle are at present in production for this unit. First, a plain tubular fixed cradle of very light design, for use either on a stand or on offset spigots, where such are available on the spot-rail, and the second



Cat. No. Z 12L

G.E.C. Photographic Studio Projector.

Photographic Studio Projector (continued).

a G.E.C. patented adjustable offsetting cradle of tubular construction with a single hand-wheel clamping device, ensuring easy operation and complete control of the unit at the same time.

The unit illustrated is fitted with a 12-in. square lens designed for a 2-kW. OSRAM Bipost projector lamp.

An outstanding feature of this unit is that it has been designed for flooding purposes rather than spotting purposes, and therefore produces a spread of absolutely even illumination 12 feet in diameter at a distance of only 10 feet. No other unit ever produced has previously been able to do this.

For this projector, The General Electric Company, Ltd., developed two special types of stand, the first being a lightweight collapsible tripod stand mounted on rubber-tyred castors, with a single tube extension elevated by a self-sustaining winch.

The second is a fixed tubular tripod stand mounted on rubber-tyred castors, with single tubular extension. These stands have been produced with the idea of minimising both cost and weight.

Prices.

Cat. No. Z 12L.	2-kW. Projector, complete on adjustable offset cradle	£23 0 0
	As above, but mounted on fixed tubular cradles ..	£21 10 0

STANDS.

Adjustable, collapsible wind-up type	£7 17 6
Fixed tubular tripod	£5 0 0

LAMPS.

2-kW. Flat Grid Filament Bipost OSRAM	Price each	£4 5 0
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Cat. No. Z 61L.	5-kW. Projector of similar design, incorporating a 16-in. square prismatic plate lens and housing the 5-kW. OSRAM Bipost projector lamp.	Price, complete on adjustable offset cradle, exclusive of lamp	£28 10 0
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As above, but mounted on fixed tubular cradle ..	£26 10 0
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STANDS.

Adjustable, collapsible wind-up type	£10 0 0
Fixed tubular tripod	£5 5 0

LAMPS.

5-kW. Flat Grid Filament Bipost	£15 0 0
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TERMS OF BUSINESS—(continued from page 2 of Cover).

BREAKAGE, DAMAGE AND PILFERAGE.—Except in special cases the Company does not hold itself responsible for any loss or damage in transit.

Goods should be examined immediately on delivery, and in case of breakage, damage, or pilferage the Consignee should notify the Carriers immediately, and lodge a claim within three days of delivery, keeping the broken or damaged articles for examination. In the case of non-delivery a claim must be lodged with the Carriers within fourteen days of despatch.

ALLEGED SHORTAGE.—Claims for alleged shortage can only be entertained if received within three days of receipt of goods and if accompanied by fullest possible particulars of case, number, condition, etc.

CONSEQUENTIAL DAMAGE.—Whilst every care is taken to ensure correct execution of orders, and whilst any faulty goods are of course replaced, the Company will not entertain claims for consequential damage, loss of time sustained, or cost of repairs executed without previous consent.

SUBSTITUTION OF IMPROVED DESIGNS.—The Company will supply that pattern which experience has shown to be the best, instead of invariably sending exactly the one that may be ordered.

DIMENSIONS AND DRAWINGS.—Although all dimensions and drawings appearing in the Company's Catalogue have been compiled with every possible care, no guarantee is given that same will not be departed from or varied without notice.

HOME ORDERS.

TERMS OF PAYMENT.—Ledger accounts will be opened upon satisfactory references being furnished.

Accounts are payable monthly subject to a cash discount of 2½ per cent if paid during the month following delivery, unless otherwise agreed (except Electrical Plant P Section of the Company's Catalogue, which is strictly Net).

No Cash Discount will be allowed off Overdue Accounts or Accounts under £1.

Cheques, Postal and Money Orders to be made payable to **The General Electric Company, Limited**, and crossed as follows:—

“Midland Bank, Limited.”

DELIVERY.—Goods are delivered free within the Company's Van Delivery areas. Outside these areas orders of the value of £5 and upwards will be sent carriage free within the usual delivery areas of the Railway Companies in Great Britain.

(NOTE.—The Company's extensive Van Deliveries cover a radius of approximately 12 miles from the G.P.O., London, and in the case of most of the Provincial Branches approximately 6 miles from the local G.P.O.)

CASES.—All cases and packing material are charged at cost price, full value being allowed if returned in good condition and carriage paid within one month, and duly advised; only two-thirds value will be allowed on machinery cases.

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TERMS OF PAYMENT.—Unless otherwise arranged, customers are requested to provide for payment through a London Bank against Bill of Lading.

Payment for orders received from Export Houses in Great Britain will be 2½ per cent Cash within seven days or Net monthly account (except Electrical Plant P Section and Osram Lamps OS Section of the Company's Catalogue, which are strictly Net).

DELIVERY.—Free Warehouse or Works. Electrical Plant free on rails Birmingham. Extra charge for delivery f.o.b., case and packing

THESE TERMS ARE SUBJECT TO MODIFICATION BY SPECIAL CONDITIONS RELATING TO DIFFERENT DEPARTMENTS, DETAILS OF WHICH WILL BE SENT ON REQUEST.

THE GENERAL ELECTRIC CO., LTD., OF ENGLAND

Known throughout the world as the

G.E.C.

REGD. TRADE MARK

Manufacturers and Suppliers of Everything Electrical.

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EASTLEIGH, ERITH, NORTHAMPTON AND LEMINGTON-ON-TYNE.

RESEARCH LABORATORIES: WEMBLEY.

HOME BRANCHES :

	Address.	Telephone No.
ABERDEEN	Magnet House, 32, Market Street	Central 2770/1
BELFAST	Magnet House, Queen Street	25656 (3 lines)
BIRMINGHAM	Magnet House, Moor Street	Midland 4421/3 (8 lines)
BLACKBURN	Magnet House, 40/42, Darwin Street	4141/2 (2 lines)
BLACKPOOL	Magnet House, 24, Birley Street	3233 (2 lines)
BRIGHTON	Regent Hill, Western Road	3277/8
BRISTOL	Magnet House, 26, Victoria Street	24551 (3 lines)
CARDIFF	Magnet House, Castle Arcade & Womanby St.	2620
COBK	Magnet House, Grand Parade	823
CROYDON	516, London Road	Thornton Heath 8246
DUBLIN	Magnet House, Trinity Street	71141/2/3/4
DUNDEE	26/30, North Lindsay Street	2168/9 (2 lines)
EDINBURGH	Magnet House, 8 George Street	23241/2/3/4/5
GLASGOW	Magnet House, 71 Waterloo Street	Central 9250
GLOUCESTER	Magnet House, 2, St. Aldate Street	8017
HULL	Magnet House, 164, 166, 168, George Street	Central 34625/6
INVERNESS	14, Falcon Square	830
IPSWICH	Electric House, Lloyds Avenue	3771/2/3 (3 lines)
LEDS	Magnet House, Wellington Street	20671 (3 lines)
LEICESTER	Magnet House, 33, Rutland Street	58111/2
LIVERPOOL	Magnet House, Church Alley	Royal 6380 (6 lines)
MANCHESTER	Magnet House, Victoria Bridge	Blackfriars 3434 (8 lines)
MIDDLESBROUGH	Magnet House, 62/68, Corporation Road	3621/2
NEWCASTLE-ON-TYNE	Magnet House, Gallowgate	25160/1/2/3/4
NOTTINGHAM	Magnet House, 25, Stoney Street	43547/8/9 and 48540
PLYMOUTH	Magnet House, 175, Union Street	60226 (3 lines)
SHEFFIELD	Magnet House, Fitzalan Square	26101/2/3
SOUTHAMPTON	Magnet House, Commercial Road	5831/2/3
STOKE-ON-TRENT	Magnet House, South Wolfe Street	48575/6 (2 lines)
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Head Office :

MAGNET HOUSE, KINGSWAY, LONDON, W.C.2

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