



**PHILIPS**

GENERAL LIGHTING CATALOGUE  
1969-70





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# Information on Philips General Lighting Lamps

## British Standards

Philips G.L.S. lamps are made under B.S.I. Licence No. 333 and wherever British Standards exist the lamps shown in this Catalogue are made to comply with the provisions of such Standards.

In the case of Philips G.L.S. lamps, B.S. 161 refers.

## Lamp Fuses

Special Monel Wire Fuses are used in Philips Single Coil and Coiled Coil G.L.S. lamps from and including 40W rating, but not below 100V for any wattage.

## Lighting Design Lumen Values

Coiled Coil		Single Coil			
Watts	Lumens	Watts	Lumens	Watts	Lumens
40	390	25	200	300	4300
60	665	40	325	500	7700
75	900	60	575	750	12400
100	1260	100	1160	1000	17300
		150	1960	1500	27500
		200	2720		

## Argenta Finish

Philips Argenta finish is an internal coating of pure white Titanium Dioxide.

## Coiled Coil Lamps

Philips efficient Coiled Coil lamps give up to 20% more light than equivalent wattage single coil lamps.

## Dimensions

All dimensions shown are nominal.

# General Lighting 240V & 250V (FOR OTHER VOLTAGES SEE PAGE 27.)

## Coiled Coil Pearl or Clear

Watts	Voltage	Cap	Diam. mm	Length mm	Box Qty.
40	240, 250	BC	60	105	25
60	240, 250	BC	60	105	25
75 *	240, 250	BC	60	105	25
100	240, 250	BC	60	105	25
*Pearl only					
60	240, 250	ES	60	107	25
100	240, 250	ES	60	107	25

## Superlux

Argenta white lamp with 'pearl' window.  
Gives 35% more useful light in 2 x 70°-wide cone.

60	240, 250	BC	55	93	25
100	240, 250	BC	65	107	25
150	240, 250	BC	75	120	25

## K-Mushroom

40	240, 250	BC	55	93	25
60	240, 250	BC	55	93	25
100	240, 250	BC	65	107	25
150	240, 250	BC	75	120	25



COILED COIL B.C.



COILED COIL E.S.



SUPERLUX



K-MUSHROOM



# General Lighting 240V & 250V (FOR OTHER VOLTAGES SEE PAGE 27.)

## Single Coil

Watts	Voltage	Cap	Diam. mm	Length mm	Finish	Box Qty.
15	240, 250	BC	60	105	Pearl	25
25	240, 250	BC	60	105	Pearl	25
40	240, 250	BC	60	105	Pearl	25
60	240, 250	BC	60	105	Pearl	25
100	240, 250	BC	60	105	Pearl	25
150	240, 250	BC.ES	80	160	Pearl. Clear	25
200	240, 250	BC.ES	80	160	Pearl. Clear	25
300	240, 250	GES	110	233	Clear	12
500	240, 250	GES	110	233	Clear	12
750	240, 250	GES	150	300	Clear	6
1000	240, 250	GES	150	300	Clear	6
1500	240, 250	GES	170	335	Clear	4

## Night Light

8	200/260	BC	60	105	Pearl	12
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## Rough Service

40	230/250	BC.ES	60	105	Pearl	25
60	230/250	BC.ES	60	105	Pearl	25
100	230/250	BC.ES	68	125	Pearl	25



SINGLE  
COIL  
B.C.



SINGLE  
COIL  
G.E.S.

# Decorative 240V/250V

## Argenta Candle

Watts	Voltage	Cap	Diam. mm	Length mm	Box Qty.
25	240/250	BC.SBC.SES	35	96	48*
40	240/250	BC.SBC.SES	35	96	48*
60	240/250	BC.SBC	45	126	50

## Plain Candle Clear or Frosted

25	240/250	BC.SBC	35	96	50
40	240/250	BC.SBC	35	96	50
60	240/250	BC.SBC	45	126	50

## Twisted Candle

25	240/250	BC.SBC	35	100	50
40	240/250	BC.SBC	45	127	50
60	240/250	BC.SBC	45	127	50

## Argenta Lustre

25	240/250	BC.SBC.ES.SES	45	74	48*
40	240/250	BC.SBC.ES.SES	45	74	48*

\*4 x 12 SUB PACKS



ARGENTA  
CANDLE



PLAIN  
CANDLE



TWISTED  
CANDLE



ARGENTA  
LUSTRE

## Decorative 240V/250V

### Internally Coloured

SEVEN STANDARD COLOURS—RED, BLUE, GREEN, YELLOW, AMBER, PINK, WHITE.

Watts	Voltage	Cap	Diam. mm	Length mm	Box Qty.
15	240/250	BC	60	105	25
25	240/250	BC	60	105	25
40	240/250	BC	60	105	25
60	240/250	BC	60	105	25
100	240/250	BC	60	105	25

### Argenta Rose

60	240/250	BC	60	105	25
100	240/250	BC	60	105	25

### Superlux Rose

100	240/250	BC	65	107	25
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### 3-Light ○ \*

40/60/100	240/250	SPEC	70	120	50
60/100/160	240/250	SPEC	80	135	50

\*Must be used in 3-light fitting



INTERNALLY  
COLOURED



SUPERLUX ROSE



3-LIGHT

# Decorative and Architectural 240V/250V

## Philinea 1 Argenta White

Watts	Voltage	Cap	Diam. mm	Length		Box Qty.
				mm	ins	
35	240/250	PEG	30	305	12	25
53	240/250	PEG	30	457	18	18
60	240/250	PEG	30	500	21	18
75	240/250	PEG	30	610	24	18
110	240/250	PEG	30	915	36	6
150	240/250	PEG	30	1220	48	6

White Philinea Lampholders, type Z9902 available.

## Philinea 2 Δ Argenta White

60	240/250	S14d	30	500	50
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## Colorenta

60	240/250	BC	38	303	25
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## Striplites (to B.S. 555)

30	240/250	S.C.C.	25	221	50
60	240/250	S.C.C.	25	221	50
30	240/250	S.C.C.	25	284	50
60	240/250	S.C.C.	25	284	50

PHILINEA 1



PHILINEA 2



STRIPLITES



COLORENTA



# Signs & Pilots 240V/250V (FOR OTHER VOLTAGES SEE PAGE 27.)

## Sign

Watts	Voltage	Cap	Diam. mm	Length mm	Finish	Box Qty.
15	200/250	BC, SBC, ES, SES	28	57	Clear	100
15	200/250	BC	28	57	Frosted	100

## Internally Coloured Sign

RED, BLUE, GREEN, YELLOW, PINK, AMBER, WHITE

Watts	Voltage	Cap	Diam. mm	Length mm	Box Qty.
15	200/250	BC	28	57	100

## Switchboard Indicator

Watts	Voltage	Cap	Diam. mm	Length mm	Finish	Box Qty.
10	200/250	BC	28	57	Clear	100

## Pilot <sup>o</sup>

10	240/250	SBC, SES, E12	18	48	Clear	100
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## Single-Ended Tubular

25	240/250	BC, SBC	28	86	Clear	50
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SIGN



PILOT



SINGLE ENDED  
TUBULAR

# Appliance & Fireglow 240/250V

## Appliance

Watts	Voltage	Cap	Diam. mm	Length mm	Shape	Finish	Box Qty.
25	230/250	BC	28.5	61	Tubular	Clear	100
25	230/250	ES	45	74	Round	Pearl	50
40	230/250	ES	44.5	91	Pear	Pearl	25

## Fireglow

Watts	Voltage	Cap	Diam. mm	Length mm	Finish	Box Qty.
60	230/260	BC, BC3P	60	105	Amber	25

## Traffic Signal - 62mm LCL to B.S. 555

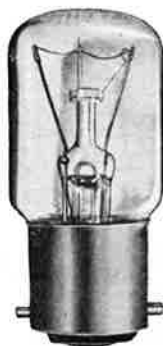
65	240, 250	ES	60	107	Clear	25
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## Bakers Oven 450° F max.

60	240, 250	BC, ES	60	105	Clear	25
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## Daylight Blue Natural Glass °

60	240/250	BC	60	105	Blue	25
100	240/250	BC	70	120	Blue	25



TUBULAR  
APPLIANCE



ROUND  
APPLIANCE



PEAR SHAPE  
APPLIANCE



FIREGLOW

# GENERAL LIGHTING. Other Voltages

For DIMENSIONS, or BOX QUANTITIES not shown, see the EQUIVALENT LAMPS in the preceding 240V-250V section.

## G.L.S. 200/210 & 220/230V

Type	Watts	Cap	Finish
Coiled Coil	40	BC	Pearl
Coiled Coil	60	BC	Pearl
Coiled Coil	75	BC	Pearl
Coiled Coil	100	BC	Pearl
Single Coil	150	BC	Pearl

## Single Coil 110V

Watts	Cap	Finish
15	BC	Pearl
25	BC	Pearl
40	BC	Pearl
60	BC, ES	Pearl
100	BC, ES	Pearl
150	BC, ES	Pearl
200	BC, ES	Pearl
300	GES	Clear
500	GES	Clear
750	GES	Clear
1000	GES	Clear

## Rough Service 110/120V

40	BC	Pearl
60	BC	Pearl
100	BC	Pearl

## Pilots 120V ○

Watts	Cap	Finish
6	SBC, SES, E12	Clear

## Signs 110V

Watts	Cap	Finish
15	BC, SBC, ES, SES	Clear

## Signs 120/130V

Watts	Cap	Finish
15	BC	Clear

## Signs 25V & 50V

Watts	Cap	Finish	Box Qty.
15	BC	Clear	100

## G.L.S. 25V & 50V Emergency Lighting

Watts	Cap	Diam. mm	Length mm	Finish	Box Qty.
25	BC, ES	60	105	Pearl	25
40	BC, ES	60	105	Pearl	25
60	BC, ES,	60	105	Pearl	25
100	BC, ES	60	105	Pearl	25

# Display Lamps

## PAR-56 Pressed Glass

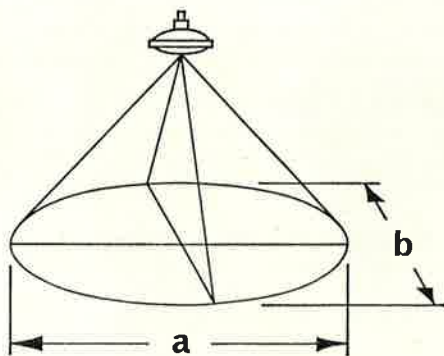
The PAR-56 is compact and precision made, having a built-in reflector/lens system which provides a powerfully projected and accurately controlled beam pattern of elliptical form. Designed for high mounting and long-throw lighting applications, the PAR-56 gives a choice of three beam types—narrow SPOT, medium FLOOD and wide FLOOD.

Watts	Voltage	Types	Cap	Dimensions		Box Qty.
				Length (from pins)	Diam.	
300	240	13027X/99	GLX/16D	140mm (max.)	179 (max.)	6
300	240	13028X/99	GLX/16D	140mm (max.)	179 (max.)	6
300	240	13029X/99	GLX/16D	140mm (max.)	179 (max.)	6

## Illumination Data

Type No.	Beam Type	Half Values* Beam Angles		Light Intensity, in Beam Centre (Candelas)	Illumination in Beam Centre Lumens per sq ft			
		Horizontal	Vertical		†10ft	†15ft	†20ft	†25ft
13027X/99	Narrow Spot	2 x 7°	2 x 5°	33,000	330	147	83	53
13028X/99	Medium Flood	2 x 12.5°	2 x 6°	18,000	180	80	45	29
13029X/99	Wide Flood	2 x 19°	2 x 8°	9,000	90	40	23	14

\*At which the light intensity is half of that in the beam centre. †Suspension height of lamp in feet



a = horizontal beam width. b = vertical beam width.



# Display Lamps

## PAR-38 Pressed Glass

PAR-38 bulbs are made of heat resistant glass, and have sealed-in parabolic reflectors which, in conjunction with the lens system of the front glass, accurately control the beam pattern and give a spot or flood of very high intensity. Mounted in watertight lampholders, these lamps are suitable for outdoor floodlighting of buildings, statues, advertising signs, service stations, sports grounds, car parks, etc.

### Spot

Watts	Type	Voltage	Cap	Diam. mm	Length mm	Box Qty.
150	13011E	24	E.S.	122	134	9
150	13011E	110	E.S.	122	134	9
150	13011E	240, 250	E.S.	122	134	9
100	13987E	240, 250	E.S.	122	134	9

### Flood

150	13012E	110	E.S.	122	134	9
150	13012E	240, 250	E.S.	122	134	9
100	13985E	240, 250	E.S.	122	134	9

### Coloured Flood 4 COLOURS—RED, BLUE, GREEN, YELLOW

100	13985E	240, 250	E.S.	122	134	9
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FLOOD



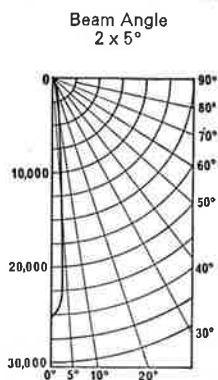
SPOT

# Display Lamps

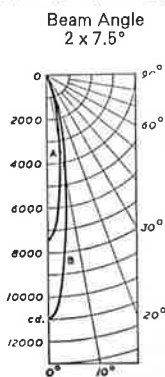
## PAR-38 Illumination Data

	Suspension height in feet	Illumination in beam centre Lumens per square foot	*Beam Width feet
24V 150W Spot	3	2,800	$\frac{1}{2}$
	6	700	1
	10	250	$1\frac{1}{2}$
240V 150W Spot	3	825	$1\frac{1}{2}$
	6	200	3
	10	75	$5\frac{1}{4}$
240V 150W Flood	3	340	3
	6	85	6
	10	30	$10\frac{1}{2}$
240V 100W Spot	3	440	$1\frac{1}{2}$
	6	110	3
	10	40	$5\frac{1}{4}$
240V 100W Flood	3	200	3
	6	50	6
	10	18	$10\frac{1}{2}$

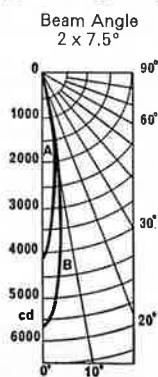
\*Width at which the illumination is at least 50% of that at the centre of the beam



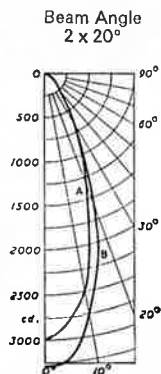
24V 150W spot.



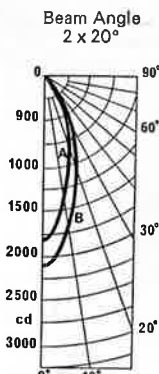
240V 150W spot 1,700 lm.  
110V 150W spot 1,900 lm.



240V 100W spot 1,000 lm.



240V 150W flood 1,700 lm.  
110V 150W flood 1,900 lm.



240V 100W flood 1,100 lm.

# Display Lamp

## PAR 36 6V 35W



A high intensity very narrow spot type has been developed for highlighting small areas. Whilst the envelope is of the pressed glass type, it includes a tungsten halogen lamp mounted inside producing a very high intensity compact source.

The rated life at 6V is 2000 hours.

Watts	Volts	Philips Type No.	Type	Beam Angle*
35	6	13825X/99	Spot	2 x 1.7°

\*Angle at which the intensity is 50% of peak value.

## Neon Screwdriver

The Neon Screwdriver Type No. 17150 has a nickel vanadium steel blade incorporated in a transparent plastic handle which houses a neon lamp and resistor.



This pocket tool can be used to indicate LIVE CONTACTS with safety. It makes an inexpensive aid to safety to ensure that wires, sockets, bus bars and so on are properly isolated before working on them.

The 17150 screwdriver will detect voltages over 110V AC/DC and is designed for use up to 500V maximum.

The 17150 neon screwdriver is supplied in 12 way tear-off plastic dispensers.

# Display Lamps

## Bowl Mirrored ◊

Watts	Voltage	Cap	Diam. mm	Length mm	Finish	Box Qty.
100	240/250	BC3P, ES	70	120	Clear	50
100	24	BC3P, ES	70	120	Clear	50
100	240/250	BC	70	120	Pearl	25

## Reflector

Watts	Voltage	Cap	Diam. mm	Length mm	Pattern	Box Qty.
100	240/250	BC, ES	95	138	Spot	24
150	240/250	ES	125	178	Spot	24
150	240/250	ES	125	178	Flood	24
150 ◊	24	ES	125	160	Spot	24

## 24V Transformers for Display Lamps

Cat. No.	Rating	Input Volts	Dimensions mm			Fixing centres mm		Wt lb
			Height	Width	Length	Length	Width	
L4501	100VA	215-245	117	115	172	155	97	9
L4502	150VA	215-245	117	115	172	155	97	9

Both transformers are of the solid filled type and are completely metal encased. They can be operated both indoors and out and are not affected by humid conditions. The mounting position is universal.



REFLECTOR



BOWL  
MIRRORED



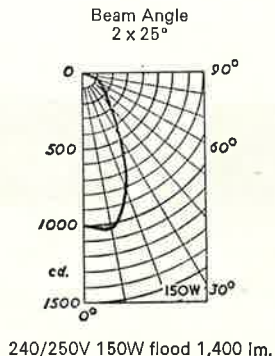
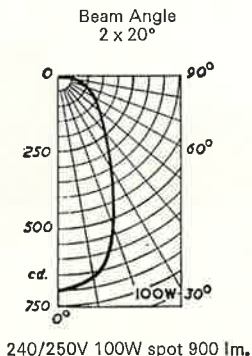
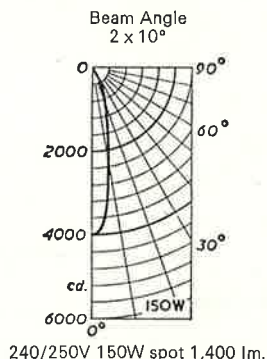
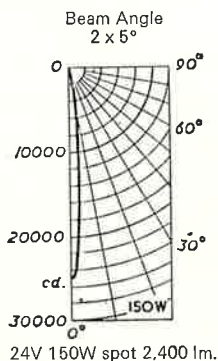
24V TRANSFORMER

# Display Lamps

## Reflector Lamps Illumination Data

	Suspension Height in feet	Illumination in beam centre Lumens per square foot	*Beam Width feet
24V 150W Spot	3	2800	1
	6	700	2
	10	250	3½
240/250V 150W Spot	3	440	2
	6	110	4½
	10	40	7
240/250V 150W Flood	3	110	4
	6	30	8
	10	10	14
240/250V 100W Spot	3	80	4
	6	20	8
	10	7	14

\*Width at which the illumination is at least 20% of that at the centre of the beam.



# GLS Indoor fittings

Catalogue No.	Type	Leaflet
---------------	------	---------

## Recessed Ceiling Fittings

W4025 (p)	Ceiling Fitting Louvre	ES	PL8195
W4026 (q)	" "	Lens ES	"
W4027 (r)	" "	Dish ES	"
W4028 (p)	" "	Louvre ES	"
W4029 (q)	" "	Lens ES	"
W4030 (r)	" "	Dish ES	"
W4031 (p)	" "	Louvre BC	"
W4032 (q)	" "	Lens BC	"
W4033 (r)	" "	Dish BC	"
W4034 (p)	" "	Louvre BC	"
W4035 (q)	" "	Lens BC	"
W4036 (r)	" "	Dish BC	"

## Spares

W4006	Spare Flange	PL8195
W4007	" Flange	"
W4008	" Louvre	"
W4009	" Lens	"
W4010	" Dish	"
W4013	" Flange	"
W4014	" Flange	"
W4015	" Louvre	"
W4016	" Lens	"
W4017	" Dish	"

## Miniature Fitting

W9159 (s)	Miniature recessed spot SBC	PL8195
-----------	-----------------------------	--------



(p)



(q)



(r)



(s)

# Tungsten display fittings

## Spot Lights

Catalogue No.	Type	Leaflet
W4001 (t)	PAR 38 Recessed Spot	PL8193
W4040	Swivel Spot	..
W4021 (u)	Adjustable Spot	..
W4216	Filter Frame	..
W8615	Filter Red	..
W8616	Filter Amber	..
W8617	Filter Green	..
W8618	Filter Blue	..
W8619	Filter Lavender	..
W9255	Adjustable 100/150W Fitting ES	..
W9256	Adjustable 100/150W Fitting BC	..
W9160	Spherical spot Black	..
W9161	Spherical spot Ivory	..
W9162	Spherical spot Silver	..
W4131	PAR 56 Fitting & Lamp (Narrow beam)	..
W4132	PAR 56 Fitting & Lamp (Medium beam)	..
W4133	PAR 56 Fitting & Lamp (Wide beam)	..

## High Intensity Spotlights (v)

W9500	High Intensity Spot Fitting Body BC3P	PL8193
W9501	Reflector Clear	..
W9502	Reflector Red	..
W9503	Reflector Yellow	..
W9504	Reflector Blue	..

## Tungsten Halogen

W4140 (w)	1kW Indoor Halogen Fitting	PL7475
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(t)



(u)



(v)

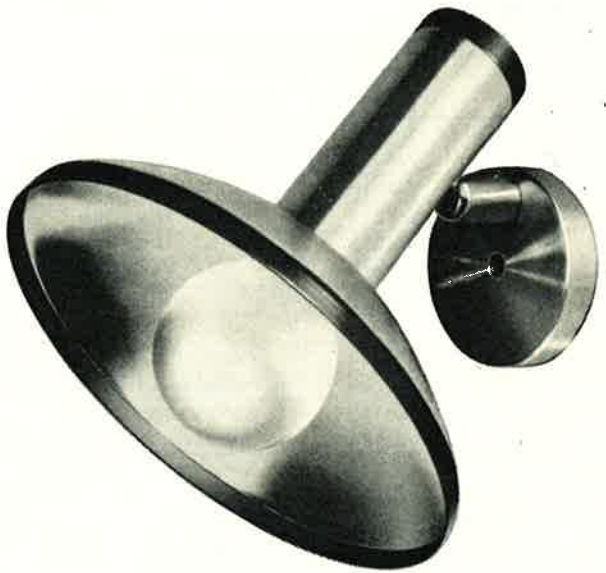


(w)

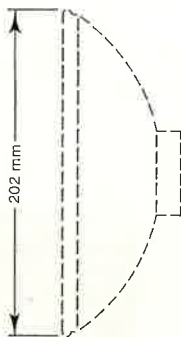


# Tungsten Display Fittings

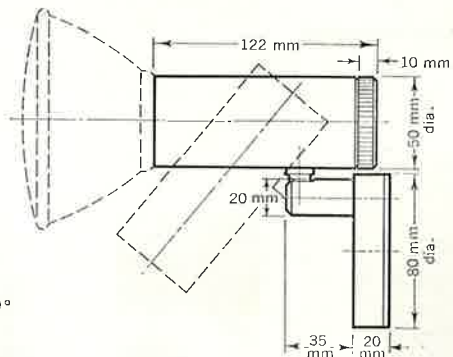
## Dragon Adjustable Spotlights



Catalogue Number	Description	Lamps
W9600	Basic unit	100, 150W Pressed Glass
W9601	Clear Reflector	High Intensity
W9602	Red Reflector	Bowl
W9603	Yellow Reflector	Mirrored
W9604	Blue Reflector	100W



Adjustment  
Angle 90°  
Rotation 170°



**Wiring** Fitted with two heat-resistant leads. The base plate is fitted with an earth point.

**Materials and Finish** Standard unit—Aluminium Porcelain E.S. lampholder.

**Packing** 4 Fittings per carton.

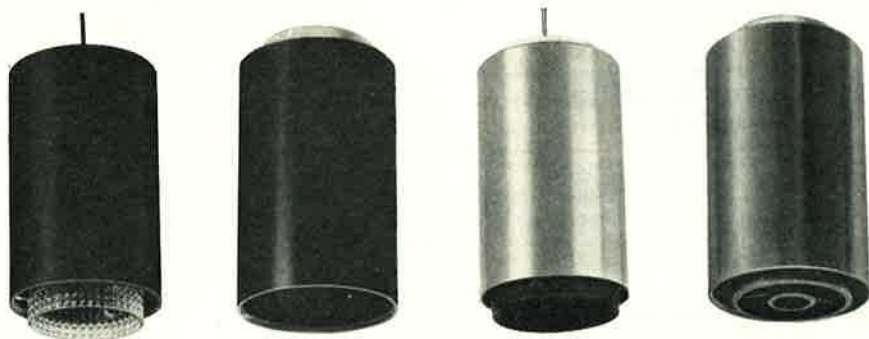


# Tungsten Display Fittings

## Cylindrical Downlights

Based on a cylindrical body to house any of the PAR 38 pressed glass reflector lamps of 100 or 150W ratings these downlights are available in a choice of two finishes for any of three mounting arrangements. By the addition of the various attachments available varying lighting effects can be achieved.

For more comprehensive details please ask for Philips publication PL7865.



Description	Cat. No. Complete	Component Parts		
		Cylinder	Attachment	Ceiling Ring

### DSS Variable Depth Recessed Downlights— Matt anthracite

Basic Unit (Cylinder, E.S. Lampholder and Ceiling Ring)	W9510	W9514	—	W9506
Basic Unit with Black-Hole Diaphragm	W9511	"	W9507	"
Basic Unit with 2-Ring Louvre	W9512	"	W9508	"
Basic Unit with Crystal Glass Ring	W9513	"	W9509	"

### Brushed aluminium

Basic Unit (Cylinder, E.S. Lampholder and Ceiling Ring)	W9515	W9519	—	W9506
Basic Unit with Black-Hole Diaphragm	W9516	"	W9507	"
Basic Unit with 2-Ring Louvre	W9517	"	W9508	"
Basic Unit with Crystal Glass Ring	W9518	"	W9509	"

### DCS Ceiling mounted Downlights— Matt anthracite

Basic Unit (Cylinder, E.S. Lampholder and Ceiling Box)	W9520	W9520	—	—
Basic Unit with Black-Hole Diaphragm	W9521	"	W9507	—
Basic Unit with 2-Ring Louvre	W9522	"	W9508	—
Basic Unit with Crystal Glass Ring	W9523	"	W9509	—

# Tungsten Display Fittings (contd.)

Description	Cat. No. Complete	Component Parts		
		Cylinder	Attachment	Ceiling Ring

## Brushed aluminium

Basic Unit (Cylinder, E.S. Lampholder and Ceiling Box)	W9525	W9525	—	—
Basic Unit with Black-Hole Diaphragm	W9526	..	W9507	—
Basic Unit with 2-Ring Louvre	W9527	..	W9508	—
Basic Unit with Crystal Glass Ring	W9528	..	W9509	—

## DPS Pendant Downlights— Matt anthracite

Basic Unit (Cylinder, E.S. Lampholder and Suspension Unit)	W9530	W9530	—	—
Basic Unit with Black-Hole Diaphragm	W9531	..	W9507	—
Basic Unit with 2-Ring Louvre	W9532	..	W9508	—
Basic Unit with Crystal Glass Ring	W9533	..	W9509	—

## Brushed aluminium

Basic Unit (Cylinder, E.S. Lampholder and Suspension Unit)	W9535	W9535	—	—
Basic Unit with Black-Hole Diaphragm	W9536	..	W9507	—
Basic Unit with 2-Ring Louvre	W9537	..	W9508	—
Basic Unit with Crystal Glass Ring	W9538	..	W9509	—

## Spare Component Parts

Anthracite Cylinder for DSS Downlights	W9514	Packing Qty. 6 per box	DCS and DPS Basic Units are individually packed	
Polished Aluminium Cylinder for DSS Downlights	W9519	.. ..		
Ceiling Ring for DSS Downlights	W9506	.. ..		
Black-hole Diaphragm	W9507	.. ..		
2-Ring Louvre	W9508	.. ..		
Crystal Glass Ring	W9509	.. ..		

# Miniature and Sub-miniature

It is impossible to include in this section the full range of Philips miniature and sub-miniature lamps. The lamps listed below are normally available ex. stock.

Many other types can also be manufactured subject to a minimum order of 10,000 pieces.

Information concerning specifications and advice as to the most suitable lamp for any application is available on request.

## MINIATURE

### Pre-focus Torch

The combination of a pre-focus type bulb and a parabolic reflector produces a high intensity beam of light, if the filament is positioned at the focal point of the reflector. The design of the pre-focus type cap ensures that the filament will be positioned automatically at the focal point of the reflector.

Type No.	Volts	Amps	Diameter mm	Length mm	Fig.
PR6	2.5	0.3	11	30.5	1
PR3	3.6	0.5	11	30.5	1
PR12	6.0	0.5	11	30.5	1

### Lens End Torch

The lens end bulbs produce a concentrated beam of light and are used in pencil type torches etc.

Volts	Amps	Cap	Diameter mm	Length mm	Fig.
1.2	0.22	M.E.S.	9.5	23	2
2.2	0.25	M.E.S.	9.5	23	2

### Round Torch

Round bulbs are suitable for torches from which either an even spread of light is required, or a beam when used with a focusing arrangement.

970	2.5	0.2	M.E.S.	11	23	3
4569D	2.5	0.3	M.E.S.	11	23	3
977	3.5	0.3	M.E.S.	11	23	3
4579D	4.5	0.3	M.E.S.	11	23	3

### Radio Panels

These lamps are for use in panel lighting and as indicators on radios, radiograms, tape recorders and other electronic apparatus.

Philips Type No.	Volts	Amps	Execution	Cap	Diameter mm	Length mm	Fig.
4619N	6.3	0.3	TUB	M.C.C.	10.0	29	4
4621N	6.5	0.3	TUB	M.C.C.	10.0	29	4
4622D	6.5	0.3	R.B.	M.E.S.	11.0	23	5
8089D	12	0.1	R.B.	M.E.S.	11.0	24	5
8097D	19	0.097	TUB	M.E.S.	10.5	30	4

# Miniature and Sub-miniature

## SUB-MINIATURE

These lamps have very small external dimensions and are for use in all electrical apparatus where a small compact lamp is required.

Philips Type No.	Volts	Amps	Cap	Diameter mm	Length mm	Fig.
4758	2.5	0.3	L.E.S.	7.5	15.5	6
4764	6.5	0.15	L.E.S.	5.0	14.0	7
4769	14	0.075	L.E.S.	5.0	14.0	7
4769	14	0.075	Wire Ends	5.0	12.0	8
327	28	0.04	S68	5.0	14.0	9



Fig. 1



Fig. 2



Fig. 3



Fig. 4



Fig. 5



Fig. 6



Fig. 7



Fig. 8



Fig. 9

# Neon Indicators

It is impossible to include in this section the full range of Philips neon lamps. Some of the more common types are listed below. Many other types can also be manufactured (subject to a minimum order of 3,000 pieces,) a few of which are listed below under the heading **Non-stocked Types**. Information concerning specifications and advice as to the most suitable lamp for any application is available on request.

## Neons with Wire Leads—No Resistor

### Stocked Types

Type No.	Current mA	Striking Voltage Volts	Special Features	Fig.
GL2	0.5	<65 A.C. 90 D.C.	High brightness lens end	1
GL7	0.75-1.0	<150 A.C.	High brightness	2
GL8	0.4-0.6	<65 A.C. 90 D.C.	—	3
GL12	1.0-1.5	<187	High brightness lens end	4
GL69	1.5	<187	High brightness <b>fluorescent green</b>	5

### Non-Stocked Types

Type No.	Current mA	Striking Voltage Volts	Special Features	Fig.
GL9	2.0	<100 A.C.	High brightness	3

## Neons with Wire Leads—Resistor fitted

These lamps are not available ex stock but are made to minimum order quantity 5,000 pieces Details on application.

Type No.	Current mA	Volts Range	Special Features	Fig.
GR7	1.5	220-250	High brightness	6
GR9	2	220-250	High brightness	7

## Double Ended Festoon Neons

These new double ended glow lamps are of high brightness and offer new scope in the design of indicator units. Such indicator units have good visibility under high ambient lighting conditions.

### Special Features

- Practically 100% luminous length due to the design of the electrodes.
- Directional illumination.
- Extreme High Brightness, of good uniformity.
- Long life with little depreciation.
- Simplified method of fitting.
- Sturdy construction.
- Low current consumption.

Colour	Type No.	Minimum Ignition Volts	Approx. Current (@ 240V)	Recommended Series Resistor Value (1 Watt Rating)			Maximum Ignition Time (in darkness)	Maximum Permitted Ambient Temp. of Lamp	Approx. Life (Hours)	Fig.
Red	GL.90	187V A.C.	4-6 mA	27 K $\Omega$	30 K $\Omega$	100 K $\Omega$	2 secs	70°C	>5000	8
Green	GL.91	187V A.C.	4-6 mA	27 K $\Omega$	30 K $\Omega$	100 K $\Omega$	2 secs	70°C	>5000	8

# Neon Indicators

## Neons with Cap—No Resistor

For approximate external resistor values see below.

### Stock Types

Type No.	mA	Striking Voltage Volts	Cap	Special Features	Fig.
GL12D } GL12N }	1.0-1.5	<200 A.C.	M.E.S. M.C.C.	High brightness lens end High brightness lens end	9 9

### Non-Stocked Types

GL14D } GL14N }	1.0	<75 A.C. 105 D.C.	M.E.S. M.C.C.	— —	9 9
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## Neons with Cap—Resistor fitted

220/250V High Brightness Types

### Stock Types

Type No.	mA	Cap	Special Features	Fig.
GL42M } GL42W }	3.0-4.0	S.E.S. S.B.C.	Lens end Lens end	11 11

### Non-Stocked Types

GL41M } GL41W }	2.0-3.0	S.E.S. S.B.C.	Lens end Lens end	12 12
GL50D } GL50N }	1.0-1.5	M.E.S. M.C.C.	Lens end Lens end	10 10
GR60N } GR60D }	1.4	M.E.S.	<b>Fluorescent green</b>	9

For peak performance, High Brightness types are recommended for use on A.C. only.

## Recommended Resistor Values for A.C.

Type No.	110/130 volts	220/250 volts
GL2	120,000	270,000
GL7	—	100,000
GL8	120,000	330,000
GL9	27,000	68,000
GL12 } GL12D } GL12N }	—	82,000
GL14D } GL14N }	56,000	180,000
GL90		30,000
GL69		100,000

All neons have a very long life and are not subject to Purchase Tax.  
Technical Data Sheets are available on request.

# Neon Indicator

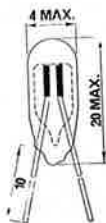


Fig. 1

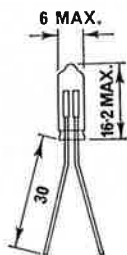


Fig. 2

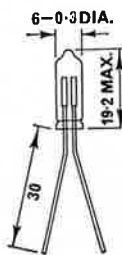


Fig. 3

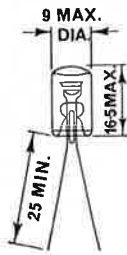


Fig. 4

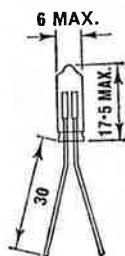


Fig. 5

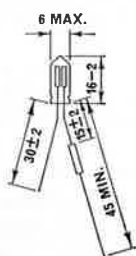


Fig. 6

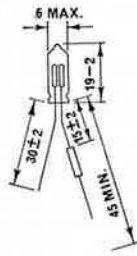


Fig. 7

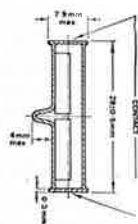


Fig. 8

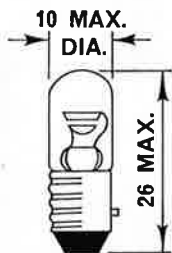


Fig. 9

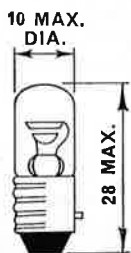


Fig. 10

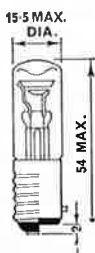


Fig. 11



Fig. 12



# Infra-Red Heating Livestock Rearing Units

These units are constructed of aluminium or glass fibre for lightness and durability, and are fitted with Z9528 E.S. skirted drip-proof porcelain lampholders. The bulbs have an internal reflector for efficiency so that little of the usable heat is allowed to escape in directions where it will be of no use. The units are supplied with infra-red lamps and, due to this, the catalogue number of the unit will vary with the type and wattage of the lamp fitted.

Philips 'Infraglo' infra-red lamps are red fronted and have been developed for poultry farmers who wish to obtain the advantage of infra-red heaters without the full amount of light. The hard glass types are more resistant to thermal shock than other blown bulb types.

In the interests of safety, we recommend that the wiring and connection of the mains supply be carried out by a qualified electrician. This will ensure that all local electrical and safety regulations are observed.

For further information about livestock rearing, please send for booklet No. PL.6993.

## Area Warming Units

There are many situations where working conditions are very cold or draughty and where, for various reasons, it has been found that orthodox heating methods do not supply adequate warmth.

This inefficiency is generally due to the fact that the orthodox heating appliances depend upon the use of air as a heat transfer medium, and thus warm a large quantity of air which does not perform any useful task.

It is now possible to use Infra-Red Area Warming Units for heating, producing absolutely safe short-wave infra-red radiation which has a direct heating effect and does not depend upon the use of air as a heat transfer medium. It is thus possible to provide a reasonable degree of warmth over the required area very economically.

A few examples of the situations in which these units can be used are as follows:—

Garage Pay Kiosks	Newspaper Stalls	Coffee Stalls
Tobacco and Confectionery Kiosks	Vestibules	Corridors
Receptionists' Offices	Entrance Halls	Passage Ways
Ticket Collectors' Boxes	Gatekeepers' Huts	Market Stalls
Fitting Cubicles	Open Snack Bars	Theatre and Cinema Canopies and Workshops
	Waiting Rooms	

Philips Infra-Red Area Warming Units are supplied complete with Infra-Red lamps. Because of this the Catalogue Number of the Unit will vary with the type and wattage of the lamp fitted. For full details of the Area Warming please send for leaflet PL.6096.

The explanation of the Unit Catalogue Number for Infra-Red fittings is as follows:—  
The first two letters of the Catalogue Number of unit indicate the fitting

SI	= Single Industrial	= Z9542	= Figure 1
RS	= Recessed Single	= Z9544	= Figure 2
AS	= Aluminium Single	= Z9578	= Figure 3
AD	= Aluminium Double	= Z9579	= Figure 4
FS	= Glass Fibre Single	= Z9558	= Figure 5

The final letter indicates the finish on the lamp. This is also indicated by the numbers after the oblique stroke of the lamp Catalogue number.

F	= Frosted finish	≡ /44
C	= Clear finish	≡ /99 or 06 for 375 watts only
R	= 'Infraglo' finish	≡ /479

The figures after the oblique stroke indicate total wattage of unit.



# Infra-Red Fittings

## 1 For Livestock Rearing or Area Warming

Cat. No. of Unit	Cat. No. of Lamps Fitted	Fig.
ASF/250	‡250E/44	3
ASC/250	‡250E/99	
ASR/250	*250E/479	
ASC/300	†300E/99	
ASR/300	*†300E/479	4
ADF/500	‡250E/44	
ADC/500	‡250E/99	
ADR/500	*250E/479	

### Fully Insulated Units

FSF/250	‡250E/44	5
FSR/300	*†300E/479	
FSC/300	†300E/99	

## 2 For Livestock Rearing

Cat. No. of Unit	Cat. No. of Lamps Fitted	Fig.
ASR/150	*†150E/479	3
ASF/150	‡150E/44	
ADR/300	*†150E/479	4
ADF/300	‡150E/44	

### Fully Insulated Units

FSR/150	*†150E/479	5
FSF/150	‡150E/44	

Purchase Tax is not applicable to complete units.

## 3 For Area Warming

Cat. No. of Unit	Cat. No. of Lamps Fitted	Fig.
SIF/250/B	‡250E/44	1
SIC/250/B	‡250E/99	
SIR/250/B	*250E/479	
SIC/300/B	†300E/99	
SIR/300/B	*†300E/479	2
SIC/375/B	†375E/99	
RSF/250	‡250E/44	
RSC/250	‡250E/99	
RSR/250	*250E/479	3
RSC/300	†300E/99	
RSR/300	*†300E/479	
RSC/375	†375E/99	
ASC/375	†375E/99	

### Fully Insulated Units

FSR/300	*†300E/479	5
FSC/300	†300E/99	

### Double Units

ADF/500	‡250E/44	4
ADC/500	‡250E/99	
ADR/500	*250E/479	
ADC/600	†300E/99	
ADR/600	*†300E/479	
ADC/750	†375E/99	

\*Philips 'INFRAGLO' Infra-Red Lamps.

†Philips Hard Glass Infra-Red Lamps.

‡Philips Frosted front Infra-Red Lamps.



Fig. 1



Fig. 2



Fig. 3



Fig. 4



Fig. 5

# Infra-Red Lamps

## Blown Bulb Internal Reflector

Watts	240/250 Volts		Dia. mm	Overall Length mm	Fig.	110/120 Volts	
	Voltage Lamp Cat. No.	Philips Type No.				Voltage Lamp Cat. No.	Philips Type No.
150	150E/44	13346E/44	111	150	1	—	—
	150E/479	13346E/479				—	—
250	250E/44	13352E/44	125	180	2	150E/44	13352E/44
	250E/479	13352E/479			4	150E/479	13352E/479
	250E/99	13372E/06*			3	150E/99	13352E/06
300	300E/99	13374E/06*	125	180	3	—	—
	300E/479	13374E/479*			4	—	—
375	375E/06	13344E/06*	125	180	3	375E/06*	13344E/06

All dimensions are nominal.

## Pressed Glass

Pressed Glass Lamps have enclosed parabolic reflectors which, in conjunction with the lens system incorporated in the lamp, accurately control the beam pattern and give a wide beam of high radiation intensity. Mounted in watertight lampholders the units are suitable for outdoor area warming.

Watts	Diameter	Overall Length	Voltage	Philips Type No.	Fig.
150	122	135	240/250	13025E/479*	5

\* indicates heat resisting glass.

## INFRA-RED LAMP HOLDERS

Type Z9528 E.S. Porcelain Fig. 6

The above lampholder is designed to take any of the blown bulb internal reflector lamps and the pressed glass type.

Type Z9570 Fig. 7

For use with quartz tubular strip ended types.

# Infra-Red Lamps

## Blown Bulb



Fig. 1



Fig. 2



Fig. 3



Fig. 4

## Pressed Glass



Fig. 5



Fig. 6

## Infra-Red Lampholders



Fig. 7

## Heating Applications

There is no limit to the number of valuable applications of infra-red heating. Philips infra-red lamps have low consumption, high efficiency, and **great** versatility. Outside their general use for heating any material, the following broad categories of applications may be listed :

**BAKING AND DRYING PAINTS, ENAMELS AND VARNISHES** on practically all types of materials, such as metal, fabric, paper, wood, ceramics and glass.

**DRYING** by evaporation of water or other liquids from all material where the action of heat has no adverse effect.

**SOFTENING OF PLASTICS AND SYNTHETIC MATERIALS** prior to shaping, punching or cutting.

**ACCELERATION OF POLYMERISATION** of plastic cements.

**HARDENING OF ANIMAL GLUES.**

**DISTILLATION OF LIQUIDS**, especially those of a volatile or highly inflammable nature, where naked flames or open heat sources cannot be used.

**PREVENTION OF MOISTURE CONDENSATION** or "sweating" of metals and glass.

For further details of industrial applications please send for leaflets PL.6018 and PL.6782.

# Chef-Aid Food Warming Unit

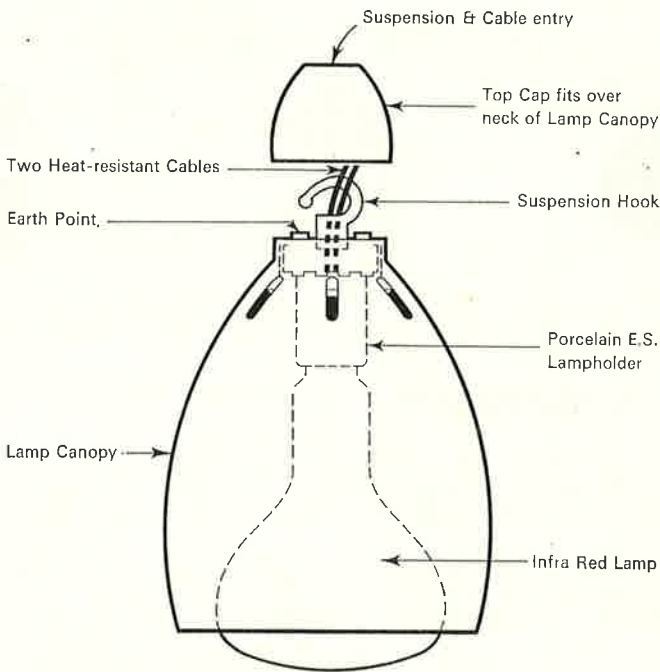
The Chef-Aid is a food warming unit for use in kitchens of all classes and for serving areas. It is a robust attractive fitting that has been designed specifically for the catering industry. Without need for a pre-heating period, at the flick of a switch it produces a spread of radiant heat which will keep freshly cooked food HOT until served, without over-cooking, drying or spoilage. The Chef-Aid is invaluable in every busy, well-run kitchen, and is complementary to the development of High Speed Gas, Electricity, and Micro-Wave cooking.

The hard glass type of bulb has been chosen because it is more resistant to thermal shock than other types. The fitting is made of polished anodised aluminium with a "copper" finish.

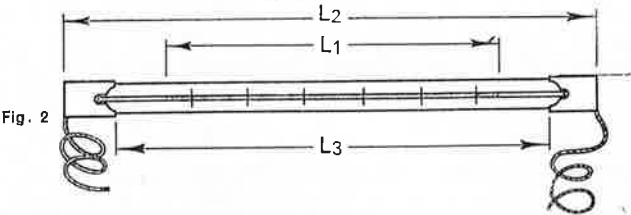
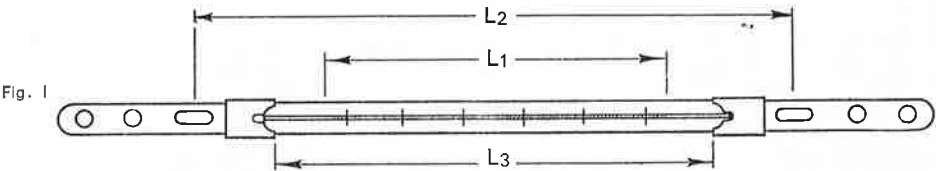
For further information about the Chef-Aid, please send for booklet No. PL.8293.

For details of performance of Chef-Aid, please send for booklet No. PL

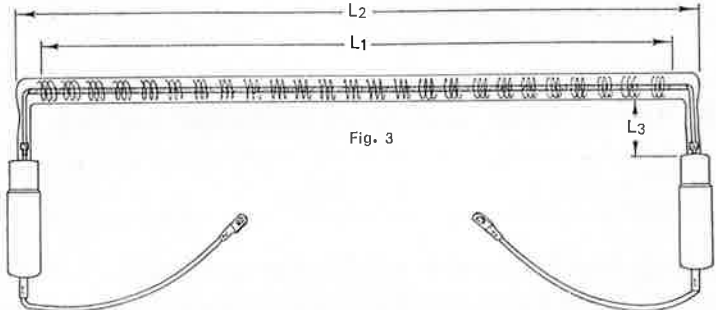
Cat. No. of Unit Lamp and Fitting	Cat. No. of Lamp Fitted	Finish	Glass
CFWC/300	300E/99	Clear	Hard Glass Type



# Quartz Infra-Red Lamps



**\*Note :-** Figs 1 & 2. The dimension L3 is given for safety reasons and represents the minimum distance between the metal end connections which carry current  
**All dimensions in millimetres**



Kilowatts	Volts	Philips Type Number	Fig	End Connection	Quartz Tube Maximum Diameter	L1 (Heated Length)	L2 (Fixing Centres)	L3* Minimum	NOTES	
									Availability	General
0.5	110/130	13169X	1	Strip	12	140±2	241±5	171	S	B
0.5	110/130	13169X/98	1	Strip	12	140±2	241±5	171	M	B, C
0.5	110/130	13169Y	2	Wire	12	140±2	221±5	171	S	B
1	220/250	13195Y	2	Wire	12	272±2	348±5	298	M	A
1	220/250	13195X/98	1	Strip	12	272±2	368±5	298	S	A, C
1	220/250	13713X	1	Strip	12	272±2	368±5	298	S	B
2	220/250	13168X	1	Strip	12	280±2	368±5	298	S	A, E
2	380/420	13765X	1	Strip	12	410±2	508±5	438	S	B
3	380/420	13954X	1	Strip	12	410±2	508±5	438	M	A
3	380/420	13230X	1	Strip	12	700±2	798±5	728	M	A
12	220/250	13478K	3	Cable	28	375±5	400±7	55±5	M	A, D, E
20	380/420	13785K	3	Cable	28	665±5	690±7	55±5	M	A, D, E

Notes :—  
A=For Horizontal operation only.  
B=For any operating position.  
C=With White Reflectorised Strip on Bulb.

D =Tungsten Halogen type.  
E =To be operated under special conditions.  
M=Supplied only to minimum order quantity.  
S =Normal Stock line.

# Quartz Infra-Red Lamps

**General Characteristics.** All types except 12 kW and 20 kW

- (a) Filament colour temperature: circa 2,400°K.
- (b) Average life: 5,000 hours at midpoint of voltage range.
- (c) Peak wavelength: circa 1,200 nm. (1.2 microns)
- (d) Resistant to thermal shock.
- (e) Immediate response to control.

Types 13478K 12 kW and 13785K 20kW

- (a) Filament colour temperature: circa 3,000°K.
- (c) Peak wavelength: circa 1,000 nm. (1.0 microns)
- (f) Do not darken during life as the tungsten halogen regenerative cycle prevents bulb blackening.

## Applications

There is no limit to the range of applications for which these lamps are suitable. By the use of suitable reflector units any size or shape of article may be heated. Intensities for production heating processes of up to 700 kW per square metre (approx 70 kW/sq ft) have been achieved, and for short-cycle experimental work over double this intensity has been achieved.

## Quartz Infra-Red Lamp Reflector Units

For the most efficient operation, quartz tubular infra-red lamps should be used in properly designed reflectors.

The type and shape of the reflector will depend upon the application.

### For Heating Flat Materials e.g. Strip or Sheet

Simple plane reflectors are best for flat materials. Such reflectors, of highly polished high purity aluminium, are easily constructed and may be used with any of the Philips range of quartz infra-red lamps, with the exception of types 13168X (2 kW), 13954X (3 kW), 13478K (12 kW) and 13785K (20 kW). The lamps should be mounted a minimum of 2" from the reflecting surface.

Simple reflectors of this type will slowly lose their efficiency unless forced-air cooled.

**Note.** The exceptions mentioned above may still be used in flat reflectors but, owing to the high intensity of the lamps, the reflector design is more complicated. Further details are available on request.

### For Heating Solid or Shaped Materials e.g. Rods, Billets, Ingots, etc.

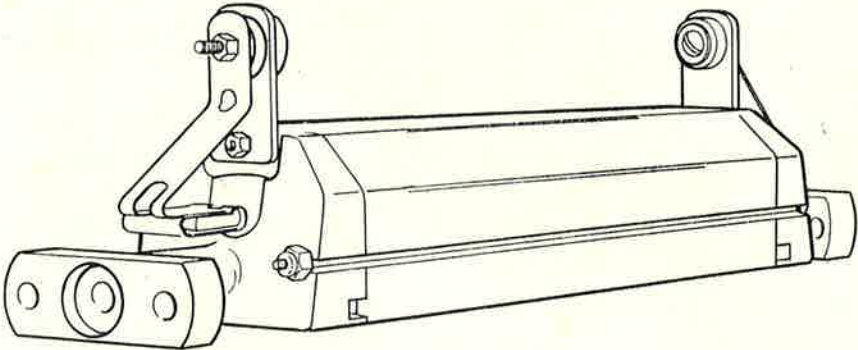
Curved reflectors are best for shaped materials which have to be heated from all sides. Philips market two basic types of curved reflectors:—elliptical watercooled and parabolic watercooled.

### Elliptical Watercooled Reflector Units

These are extruded from high purity aluminium. The reflective surface is specially prepared and anodised to give maximum reflectivity and a long useful life. The unit is fitted with special plate quartz windows to allow maximum transmission of infra-red radiation and to protect the reflective surface from damage. The unit is water cooled.

**For further information regarding reflector units see leaflet ref. PL8317 and for more detailed information regarding applications and oven construction see booklet ref. PL6782.**

# Quartz Infra-Red Lamp Reflector Units



Two basic sizes of reflector are available each capable of accepting two lamp ratings.

Cat. No.	Rating	Reflector Unit	Lamp Type	Heated Length
EWQ/1	220/250V 1 kW	Z.9594	13713X	272 mm (10 $\frac{3}{4}$ " )
EWQ/2S	220/250V 2 kW	Z.9594	13168X	272 mm (10 $\frac{3}{4}$ " )
EWQ/2L	380/420V 2 kW	Z.9595	13765X	410 mm (16 $\frac{1}{4}$ " )
EWQ/3S	380/420V 3 kW	Z.9595	13954X	410 mm (16 $\frac{1}{4}$ " )

For more comprehensive details please send for leaflet PL8317.

## Parabolic Aircooled Reflector Units

This reflector unit is made of 20 s.w.g. super purity aluminium sheet electrolytically polished and anodised. It is intended for use in simple low intensity ovens or as a cheap reflector for testing the feasibility of infra-red heating processes. (Fig 12b).

Cat. No.	Rating	Reflector	Lamp Type	Heated Length
SIQ/1000	220/250V 1 kW	Z.9551	13713X	272 mm (10 $\frac{3}{4}$ " )

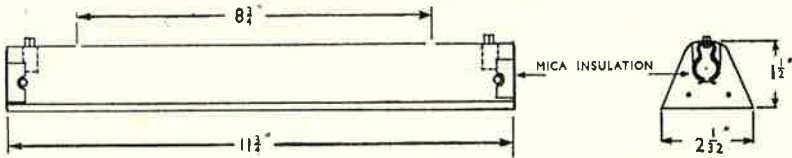


FIG. 12(b)

REFLECTOR. Material Electro-brightened and anodised super purity Aluminium.

Bulb No.	V	W	Section	Cap
2	12	36	Single Filament Headlamps	SCC
5	12	36	Single Filament Headlamps	SBC
123	24	36	Single Filament Headlamps	SBC
149	24	6	Side/Tail	SCC
150	24	6	Side/Tail	SBC
172	6	36	Single Filament Headlamps	BPF
185	12	48	Single Filament Headlamps	BPF
200	6	3	Side/Tail	SCC
204	6	3	Side/Tail	SBC
205	6	6	Side/Tail	SCC
206	6	6	Side/Tail	SBC
207	12	6	Side/Tail	SCC
209	12	6	Side/Tail	SBC
227	24	6	Side/Tail	MCC
253	6	6	Festoons	D/E
254	12	6	Festoons	D/E
255	6	3	Festoons	D/E
256	12	3	Festoons	D/E
262	6	3	Festoons	D/E
263	12	3	Festoons	D/E
264	6	10	Festoons	D/E
265	12	10	Festoons	D/E
266	6	15	Festoons	D/E
267	12	15	Festoons	D/E
280	12	1.5	Auxiliary	LES
281	12	2	Auxiliary	BA7S
282	6	0.6	Auxiliary	BA7S
283	24	3	Auxiliary	BA7S
312	6	30/24	British Prefocus Headlamps	BPF
317	6	18	Stop Lamps	ASCC
319	6	18	Stop Lamps	ASBC
323	12	48	British Prefocus Headlamps	BPF
330	24	44	British Prefocus Headlamps	BPF
331	24	44	British Prefocus Headlamps	BPF
333	24	24	Stop Lamps	ASBC
334	24	6/24	Stop and Tail Lamps	SBC (Stagg)
335	12	21	Stop Lamps	ASBC
336	24	45/40	Duplo Headlamps	BPF
338	24	18	Stop Lamps	ASBC
339	24	24	Stop Lamps	ASCC
359	24	44/38	British Prefocus Headlamps	BPF
370	12	45/50	Duplo Headlamps	BPF
371	12	45/50	Duplo Headlamps	BPF
380	12	6/21	Stop and Tail Lamps	SBC (Stagg)
381	12	6/21	Stop and Tail Lamps	SBC
382	12	21	Stop Lamps	ASCC
383	6	6/18	Stop and Tail Lamps	SBC
384	6	6/18	Stop and Tail Lamps	SBC (Stagg)



Bulb No.	V	W	Section	Cap
391	6	15/15	Duplo Headlamps	1L, 1sh
392	6	25/25	Duplo Headlamps	Bosch
393	6	25/25	Duplo Headlamps	Bosch
395	12	35/35	Duplo Headlamps	Bosch
410	12	45/50	Duplo-D Headlamps	3L, P45
411	12	45/50	Duplo-D Headlamps	3L, P45
414	12	50/40	British Prefocus Headlamps	BPF
423	6	45/40	Duplo-D Headlamps	3L, P45
424	6	45/40	Duplo-D Headlamps	3L, P45
428	24	55/50	Duplo-D Headlamps	3L, P45
429	24	55/50	Duplo-D Headlamps	3L, P45
448			See Type No. 12258	
453			See Type No. 12336	
501	12	6	Side/Tail	Wedge
606	24	44	British Prefocus Headlamps	BPF
622	24	36	Single Filament Headlamps	BC
641	6	3	Indicator Lamps	MCC
643	12	2.2	Indicator Lamps	MCC
650	24	2.8	Indicator Lamps	MES
651	24	2.8	Indicator Lamps	MCC
653	24	6	Festoons	D/E
679	6	45/40	Duplo Headlamps	3-pin DC
692	24	6/24	Stop and Tail Lamps	SBC
951	6	6	Side/Tail	MCC
987	12	2.2	Indicator Lamps	MES
988	6	3	Side/Tail	MCC
989	12	6	Side/Tail	MCC
990	6	3	Indicator Lamps	MES
993	24	2.8	Indicator 15 mm	MES
4215B	12	24	Single Filament Headlamps	BC
4440W	24	6	Side/Tail Lamps	SBC
6258	6	55	Tungsten Halogen Lamps	P14/5S
6336	6	55	Tungsten Halogen Lamps	PK22/S
6725	6	35/35	Duplo Headlamps	3-pin DC
6829	6	1.2	Auxiliary Lamps	BA7S
6855	6	1.5	Festoons	D/E
6913	6	2	Auxiliary Lamps	MCC
6914	6	3	Festoons	D/E
7002	12	60/45	Sealed Beam Headlamps	—
12258	12	55	Tungsten Halogen Lamps	P14/5S
12336	12	55	Tungsten Halogen Lamps	PK22/S
12748	12	45/40	Duplo Headlamps	Bosch
12807	12	18	Festoons	D/E
12854	12	10	Festoons	D/E
12913	12	2	Auxiliary Lamps	MCC
13258	24	70	Tungsten Halogen Lamps	P14/5S
13336	24	70	Tungsten Halogen Lamps	PK22/S

# Auto

## Direct Equivalent types

Bulb No	Order as Philips No.		
448	12258		
453	12336		

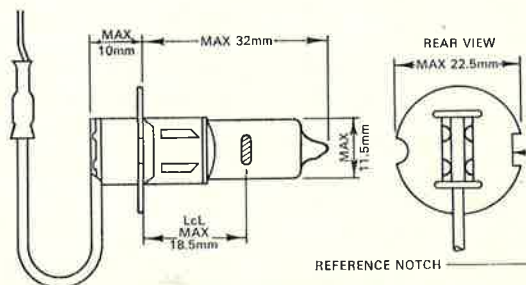
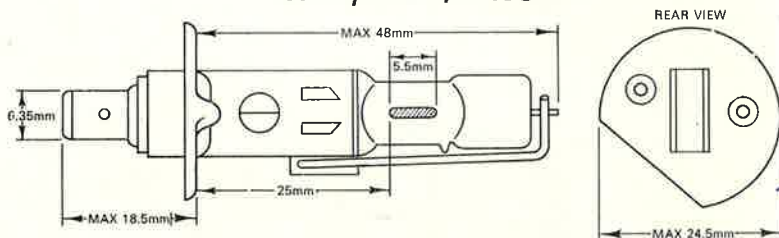
  

Philips No.	Order as Bulb No.	Philips No.	Order as Bulb No.
6620	423	12728	395
6620/86	424	12741	370
6718	392	12741/86	371
6728	393	12829	281
6745	679	12842	263
6828	282	12850	267
6842	262	12866	265
6850	266	13620	429
7030	391	13620/86	428
12620	410	13741	336
12620/86	411	13829	283

## Tungsten Halogen Lamps

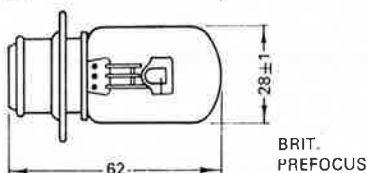
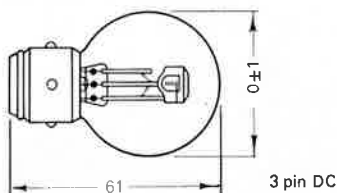
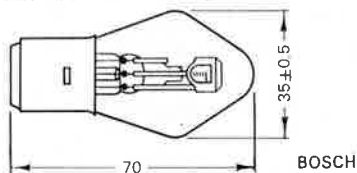
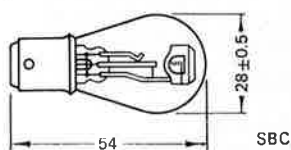
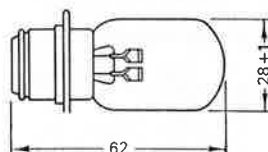
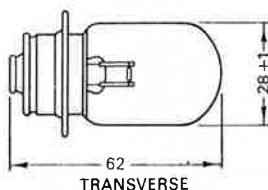
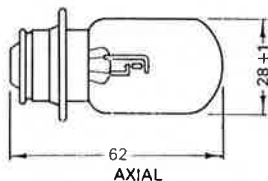
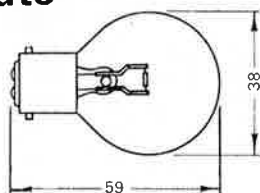
Bulb No.	Philips	No.	V	W	Cap	Filament
—	6258	H1	6	55	P14/5s.	Axial
448	12258	H1	12	55	P14/5s.	Axial
—	13258	H1	24	70	P14/5s.	Axial
—	6336	H3	6	55	PK22/s.	Transverse
453	12336	H3	12	55	PK22/s.	Transverse
—	13336	H3	24	70	PK22/s.	Transverse

### 6258/12258/13258



### 6336/12336/13336

# Auto



## Single Filament

Bulb No.	V	W	Cap	Filament
2	12	36	SCC	Axial S.C.
5	12	36	SBC	Axial S.C.
4215B	12	24	BC	Axial S.C.
123	24	36	SBC	Axial C.C.
622	24	36	BC	Axial C.C.

## British Prefocus Cap

Bulb No.	V	W	Cap Contact	Filament
172	6	36	Single	Axial S.C.
185	12	48	Single	Axial C.C.
323	12	48	Single	Trans. C.C.
330	24	44	Double	Trans. C.C.
331	24	44	Double	Axial C.C.
606	24	44	Single	Trans. C.C.

## British Prefocus Cap

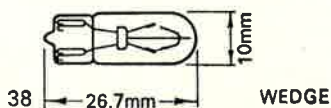
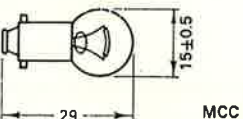
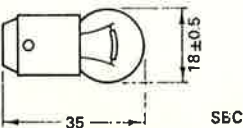
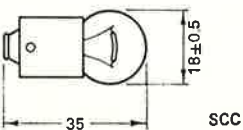
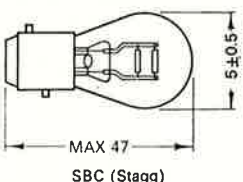
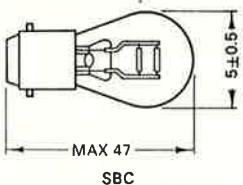
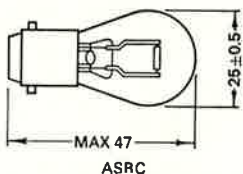
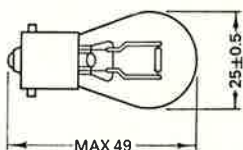
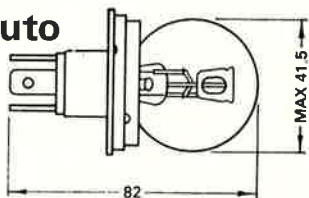
Bulb No.	V	W	Cap Contact	Filament
312	6	30/24	Double	Vertical Dip
414	12	50/40	Double	Left Dip
359	24	44/38	Double	Left Dip

## Duplo

Bulb No.	V	W	Cap
391	6	15/15	SBC 1 long, 1 short pin
392	6	25/25	Bosch
393	6	35/35	Bosch
6725	6	35/35	3-pin DC
679	6	45/40	3-pin DC
395	12	35/35	Bosch
12748	12	45/40	Bosch
370	12	45/40	Brit. Prefocus
371*	12	45/40	Brit. Prefocus
336	24	45/40	Brit. Prefocus

\*Cadmium Yellow finish

## Auto



## Duplo-D (Asymmetric Beam)

Bulb No.	V	W	Cap	Marchal No
423	6	45/40	3 Lug P45	663B
424*	6	45/40	3 Lug P 45	663J
410	12	45/40	3 Lug P45	1263B
411*	12	45/40	3 Lug P45	1263J
429	24	55/50	3 Lug P45	2463B
428*	24	55/50	3 Lug P45	2463J

\*Cadmium yellow finish

## Stop Lamps

Bulb No.	V	W	Cap	Dia mm
317	6	18	ASCC	25
319	6	18	ASBC	25
382	12	21	ASCC	25
335	12	21	ASBC	25
339	24	24	ASCC	25
333	24	24	ASBC	25
338	24	18	ASBC	25

## Stop/Tail Lamps

Bulb No.	V	W	Cap	Dia mm
383	6	6/18	SBC	25
384	6	6/18	SBC (Stagg)	25
381	12	6/21	SBC	25
380	12	6/21	SBC (Stagg)	25
692	24	6/24	SBC	25
334	24	6/24	SBC (Stagg)	25

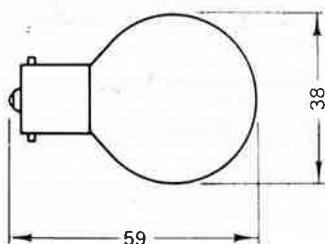
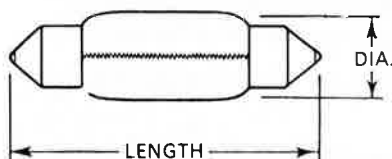
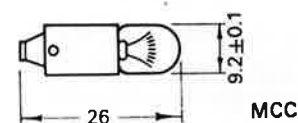
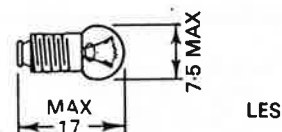
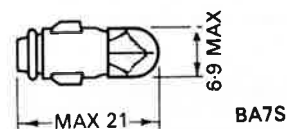
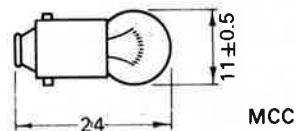
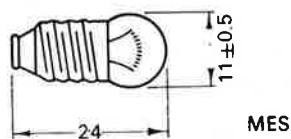
## Side or Tail Lamps

Bulb No.	V	W	Cap	Dia mm
200	6	3	SCC	18
204	6	3	SBC	18
988	6	3	MCC	14
205	6	6	SCC	18
206	6	6	SBC	18
951	6	6	MCC	15
207	12	6	SCC	18
209	12	6	SBC	18
989	12	6	MCC	15
149	24	6	SCC	18
150	24	6	SBC	18
227	24	6	MCC	15
4404W*	24	6	SBC	18
501	12	6	Wedge	10

\*Reinforced construction

All dimensions shown are in millimetres and are nominal

# Auto



All dimensions shown are in millimetres and are nominal

## Indicator Lamps

Bulb No.	V	W	Cap	Dia. mm
990	6	3	MES	11
641	6	3	MCC	11
987	12	2.2	MES	11
643	12	2.2	MCC	11
650	24	2.8	MES	11
651	24	2.8	MCC	15
993	24	2.8	MES	15

## Auxiliary Lamps

Bulb No.	V	W	Cap	Dia. mm
282	6	0.6	BA7S	6.7
6829	6	1.2	BA7S	6.7
281	12	2	BA7S	6.7
283	24	3	BA7S	6.7
280	12	1.5	LES	7.5
6913	6	2	MCC	8.8
12913	12	2	MCC	8.8

Made in Great Britain and Holland

## Festoon Lamps

Bulb No.	V	W	Dia. mm	Length mm
6855	6	1.5	6	31
6914	6	3	7.5	39
255	6	3	7.5	35.5
262	6	3	7.5	31
253	6	6	11	38
264	6	10	15	44
266	6	15	15	44
256	12	3	7.5	35.5
263	12	3	7.5	31
X 254	12	6	11	38
12854	12	10	11	39
265	12	10	15	44
267	12	15	15	44
12807	12	18	15	44
653	24	6	11	38

## Bus & Coach Interior Lamps

V	W	Cap	Finish	Dia mm
12	12	BC	Pearl	38
12	12	SBC	Pearl and clear	38
12	24	BC	Pearl	38
12	24	SBC	Pearl	38
24	12	BC	Pearl and clear	38
24	12	SBC	Pearl	38
24	20	BC	Pearl	38
24	20	SBC	Pearl	38
24	12	BC	Pearl	50

# Auto

## Sealed Beam Headlight Units

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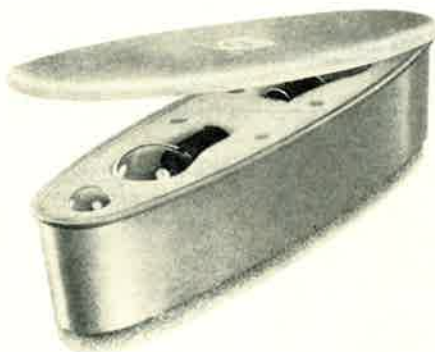


Type number: 7002. Voltage: 12V 60/45W.  
Left hand dip. Diameter 7 inch.

- Better visibility ahead—especially at higher speeds.
  - Accurate optical focussing of the filament, in the reflector.
  - Permanent correct position of the filament throughout life.
  - A long effective life—no deterioration of reflector and no blackening of the bulb.
  - Easy alignment of the unit in the housing.
  - Easy conversion from conventional 7 inch light units to sealed beam units.
- 

## Spare Bulb Kit

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Philips handy Spare Bulb Kit serves as a clothes brush or windscreen cleaner and carries a selection of lamps fitting British and most types of Continental cars.

### Kit contains

Bulb No. 382 Front/rear/flasher and reversing light

Bulb No. 380 Side lamp/front flasher and stop/tail light

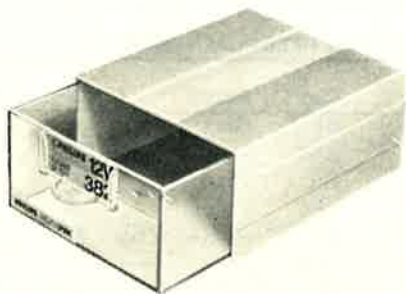
Bulb No. 989 Side light, number plate and interior boot light

Bulb No. 987 Panel light and parking light

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## Philips Handipaks

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Dealer orders for bulbs type 380, 382, 987 and 989 can be supplied in standard display cartons or in sturdy polystyrene Handipaks at no extra cost.

Philips Handipaks interlock to give a flexible storage system for use in the home, garage or workshop.

# Photographic Lamps and Equipment

The items listed are normal stock types for which further information and data (together with other items subject to minimum order quantities) is as given in Philips Photo Dealer Wall Chart PL8306.

Item	Philips Type No.
<b>Photo Equipment</b>	
Slide Synchroniser	EL1995
Electronic Timer	PDC010
Automatic Timer	PDT020
Automatic Timer	PDT021
Foot Switch	PDS030
Darkroom Safelight Fitting	PDF040

Lamp Reference	Philips Type No.
<b>Photoflux Flashbulbs</b>	
"	Super AG1B
"	PF1B
"	PFC4
"	PF5B
"	PF6B
"	PF45,
"	PF60, PF60/97
"	PF100, PF100/97

## Photoflood Lamps

P1/1	No. 1 PF207
P1/2	No. 2 PF208

## Reflector Photoflood Lamps

P1/5	SM PF216
P1/6	KM PF215
P1/7	NM PF218

## Photopearl Lamps

P2/1	PF308
P2/2	PF210

## Reflector Photopearl Lamps

P2/3	BM PF318
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Lamp Reference	Philips Type No.
<b>Enlarger Lamps</b>	
P3/3	PF603
P3/4	PF605
P3/6	PF607

## Darkroom Safelight Lamps

Yellow-Green	PF710
Dark Red	PF712

## Tungsten Halogen Photo Lamps

P1/12	PF800R
P1/14	PF810
P1/	PF811
P2/7	13989R
P2/9	12259R
P2/12	6358R
P2/	6369R
P2/	6365R
P2/	6366R

## Tungsten Halogen Flood Lamps

K/4	12013R
K/5	13021R
K/6	12110R

## Projector Lamps Class A1

A1/5	6070C
A1/6	6131C
A1/7	6152C
A1/8	375C
A1/9	6153C
A1/17	13120C/04
A1/21	6158N
A1/37	7212N
A1/45	6839C
A1/53	6153H
A1/58	6185C
A1/59	7242C
A1/91	7242H

# Photographic Lamps and Equipment

Lamp Reference	Philips Type No.
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## Projector Lamps Class A1 (continued)

A1/165	392N
A1/167	13141N
A1/168	13141W
A1/178	6280C
A1/180	6282C
A1/182	6284C
A1/183	7066N
A1/186	7238N
A1/188	297C
A1/193	7909J
A1/201	6293C
A1/205	6294C
A1/207	6296C
A1/212	6289C
A1/215	7023
A1/216	7158
A1/220	7027
A1/223	7748
A1/226	12098R
A1/227	12216R
A1/228	12260R
A1/229	6847
A1/230	6853
A1/231	6834
A1/232	6423

## Projection Lamps Classes B1, B2, E & T

B1/2	123E
B2/5	6115G
E/3	437E
E/5	422E/01
T/1	559C
T/2	490C
T/3	558C
T/4	6291C
T/6	7401C
T/8	13339W

Lamp Reference	Philips Type No.
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## Projector Lamps Class F & G

F/14	6031E
F/40	13105B
F/74	6106M
Clear Editor	6814
G/5	7210C
G/29	7253C

## Miscellaneous Lamps Class M

M/16	13347C
M/19	13702C
M/20	13347W

## Studio Lamps Class CP

CP/9	13191P
CP/10	13173P
Pearl	PP2414G
CP/12	13177P
CP/13	13185P
CP/14	13111P
CP/23	6362P
CP/24	6363P
CP/25	6364P
CP/28	6377C
CP/33	6376P
CP/34	6377P
CP/35	6378P
CP—	6376C

## Studio Lamps Class S

S/6	13174P
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# Tungsten Halogen Floodlamps

Philips Type No.	Watts	Volts	Philips Type No.	Watts	Volts
13989R	1000	240/250	13021R	1500	240/250
12013R	1000	240/250	12110R	2000	240/250
6358R	1250	240/250	12259R	2000	240/250

Whilst types 13989R, 6358R and 12259R have been included in this section of the catalogue their primary use is in photographic applications. Having similar physical dimensions to other halogen lamps of comparable wattage they can be used in similar fittings if required.

Philips Type No.	Average Life (hours)	Light Output (lumens)	Maximum Diameter mm	Maximum Clearance Length mm	Distance between Contact Surfaces mm	Maximum Filament Length mm	Cap
13989R	200	25000	12	189.1	185.7 $\pm$ 2.5	123	R7s
12013R	2000	22000	12	189.1	185.7 $\pm$ 2.5	123	R7s
6358R	200	31500	12	189.1	185.7 $\pm$ 2.5	123	R7s
13021R	2000	33000	12	255	250.7 $\pm$ 2.5	175	R7s
12110R	2000	44000	12	334.4	341 $\pm$ 2.5	223	Fa4
12259R	200	58000	12	334.4	341 $\pm$ 2.5	223	Fa4

BURNING POSITION: 13989R, 6358R, 12259R—Any position  
12013R, 13021R, 12110R—Horizontal  $\pm 4^\circ$

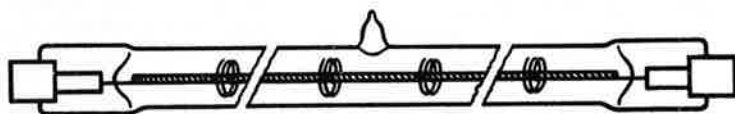
## Fuses

In the interests of safety it is recommended that all tungsten halogen lamps shown above should have separate fuses incorporated in the circuit. These ratings are as follows:—

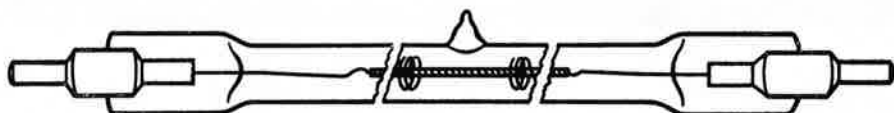
1000W	13989R and 12013R—	5 amps
1250W	6358R	— 5 amps
1500W	13021R	— 7 amps
2000W	12110R and 12259R—	10 amps

The fuses should comply with B.S.1362.

Further details of the photographic types are given in the Photo Wallchart PL8306



13989R, 12013R, 13021R



12110R, 12259R

# Fluorescent

All lamps are made to B.S. 1853 where applicable and Philips are holders of B.S.I. Licence No. 3296.  
C.R.I. = Colour Rendering Index Classification—  
International Commission on Illumination—  
Ra8 tests.

## "White" Colours

**High Efficiency** (general purpose). Selected phosphors ensure high lumen output well maintained throughout life.

Name	Colour Temp. °K	C.R.I.	Description
White 35	3500	62	Intermediate colour for almost all applications using high efficiency lamps, e.g. factories and storerooms.
Daylight 33	4300	67	Mixes well with outside daylight. Used for street bollards and signs, high bay lighting in heavy industry.
Warm White 29	2900	53	A warm colour for the lighter industries.

**De Luxe.** A judicious compromise between high efficiency and high fidelity: for commercial lighting.

Natural 25	4050	75	A pleasant cool appearance for the lighting of shops, department stores and offices.
De Luxe Warm White 32	2900	87	A warm colour for offices and shops (especially lighting of meats.)
Colour 34	3900	85	An earlier (warmer) version of Natural 25.
Colour Matching 55	6500	93	For critical appraisal, e.g. in paint and dye industries.

**Special De Luxe.** These lamps are unique to Philips and achieve high fidelity colour rendering unequalled by any other fluorescent lamps available.

Softone 27	2700	95	The only fluorescent lamp with colour rendering which <b>exactly matches tungsten</b> lighting. First choice for the home and for 'social lighting', e.g. hotels and restaurants.
Trucolor 37	4200	96	For Hospitals, Art Galleries; also commercial installations where colour rendering is the main criterion.
GraphicA 47	5000	97	For Graphic Arts industry. Complies with B.S.950 Part 2.

# Fluorescent

## Standard Types

(BiPin Caps)

### 1½" (38mm) Diameter

Rating	Description	Finish	Packing Quantity	High Efficiency		
				White 35	Warm White 29	Daylight 33
125W 8'	MCFE	Siliconed	12	8250	8250	8250
140W 5'	TLM	Special Stripe	25	—	—	5950
85W 8'	MCFE	Siliconed	12	6450	6450	6450
85W 6'	MCFE	Siliconed	25	5700		
65/80W 5'*	MCFE†	Siliconed	25	4500	4500	4500
40W 4'	MCFE†	Siliconed	25	2700	2700	2700
40W 2'	MCFE†	Siliconed	25	1450	1450	1450
30W 3'	MCFE†	Siliconed	25	1800	1800	1800
20W 2'	MCFE†	Siliconed	25	1050	1050	1050
15W 18"	MCFE†	Siliconed	25	—	700	700

### 1" (26mm) Diameter

30W 3'	MCFE†	Siliconed	25	—	1800	—
15W 18"	MCFE†	Siliconed	25	—	750	750

### 5/8" (16mm) Diameter

13W 21"	MCFE		24	—	800	800
8W 12"	MCFE		24	350	350	350
6W 9"	MCFE		24	200	200	200
4W 6"	MCFE		24	—	100	100

†High Efficiency colours in these types also available in MCFA (earth strip).

\*Light Output at 65W loading. An 80W BC cap lamp is available.

○ Made in Holland



# Fluorescent

## 1½" (38mm) Diameter

De Luxe		Special De Luxe					
Natural	De Luxe Warm White	Colour	Colour Matching	Softone	Trucolor	GraphicA	Rating
25	32	34	55	27	37	47	
6400	5150	5150	5150	—	—	—	125W 8'
—	—	—	—	—	—	—	140W 5'
5000	3800	4200	—	—	—	—	85W 8'
4300	—	—	—	—	—	—	85W 6'
3400	2850	2850	3000	2400	2350	2600	65/80W 5'
2200	1750	1800	1850	—	—	1750	40W 4'
1200	950	1000	1000	—	—	—	40W 2'
—	1150	1200	1200	—	—	—	30W 3'
850	700	700	700	600	575	650	20W 2'
—	—	—	—	—	—	—	15W 18"

## 1" (26 mm) Diameter

—	1150	1225	—	1075	—	—	30W 3'
—	—	500	500	400	—	400	15W 18"

## 5/8" (16mm) Diameter

—	—	—	—	—	—	—	13W 21"
—	—	250	250	—	—	—	8W 12"
—	—	—	—	—	—	—	6W 9"
—	—	—	—	—	—	—	4W 6"

## Replacement Lamp Types

Philips replacements for other manufacturers' types

### Lamp Name

White  
Daylight/Cool White  
Warm White  
Natural  
De Luxe Warm White  
Warmtone  
De Luxe Natural  
Kolor-rite  
Northlight

### Philips Type

White 35  
Daylight 33  
Warm White 29  
Natural 25  
De Luxe Warm White 32  
Softone 27  
Natural 25  
Trucolor 37  
Colour Matching 55

# Fluorescent

## Reflectalite

These fluorescent lamps have an internal reflector to direct most of the light through a 130° window. The maximum intensity through this window is up to 180% of standard lamps. Lighting levels are largely unaffected by dust settling on the lamps, or by the normal depreciation of fittings and reflectors. Dimensions and electrical characteristics are identical to those of standard fluorescent lamps of the same rating.

### Lighting Design Data

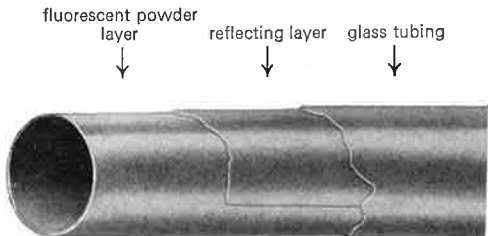
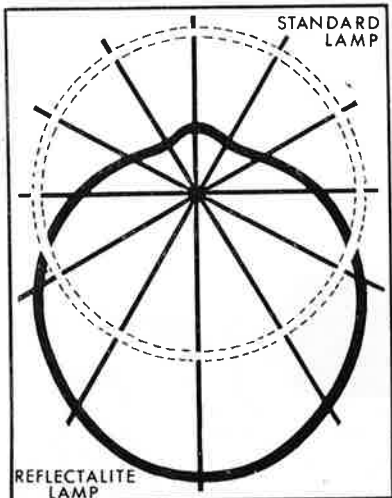
**In existing installations,** simply replace your normal fluorescent lamps with Reflectalite. **In new installations,** design your lighting as though to use standard lamps, but install Reflectalite. You will have the same illumination levels to begin with and at least 10% and possibly up to 30% higher illumination levels at the time when cleaning of the fittings and lamps would normally be necessary.

Rating	Description	Finish	Packing Quantity	Available Colours			
				35	29	33	25
125W 8'	MCFRE	Siliconed	12	✓	✓	✓	
140W 5' ○	MCFRE	Special Strip	25			✓	
85W 8'	MCFRE	Siliconed	12	✓	✓	✓	
85W 6'	MCFRE	Siliconed	25	✓			
65/80W 5' †	MCFRE	Siliconed	25	✓	✓	✓	✓
40W 4' †	MCFRE	Siliconed	25	✓	✓	✓	
20W 2' †	MCFRE	Siliconed	25	✓	✓	✓	

\*BiPin caps, but BiPin/BC adaptors available

FOR TECHNICAL DETAILS OF REFLECTALITE LAMPS,  
ASK FOR LEAFLET PL 7728/3.

†High Efficiency colours in these types also available;  
MCFRA (Earth Stripe)



Design details of a Reflectalite Lamp

# Fluorescent

## Circular ◉

Reception areas, restaurants, shops, hotels and private offices are particularly suitable for these popular fluorescent lamps which have also achieved acceptance in the home. All wattages operate on standard switch start gear and the TLEM 40W may also be used with Starterless gear. A special four-pin cap completes the circle and is standard for all ratings.

Rating	Description	Packing Quantity	Lighting Design Lumens		
			29	32	34
40W 16" ◉	TLE or TLEM	6	2500	1650	1700
32W 12" ◉	TLE	6	1650	1050	1150
22W 8½" ◉	TLE	6	850		650

## Special

### Actinic 05

A U.V. phosphor for use in the printing industry, especially in the making of diazo photo copies. Replacements for printing machines are normally obtained through the machine maker. For technical details ask for data sheet.

### Fluorescent Blacklamps (Colour 08) ◉

A phosphor similar to Actinic 05 but in a tube of black filter glass to remove visible radiation. Available in 40W 4' and 20W 2' for switch start operation only. For excitation of fluorescent pigments in display work or for detection work. For further details ask for data sheet.

Rating	Description	Packing Quantity
20W 2' ◉	MCFE	6
40W 4' ◉	MCFE	6

**Caution:** U.V. lamps should not be viewed directly and should be installed and used with appropriate care.



FLUORESCENT  
BLACKLAMP

# Fluorescent

## GraphicA 47

This lamp is primarily intended for use in the Graphic Arts industry and is almost obligatory for viewing of colour prints and transparencies. GraphicA 47 has been developed specifically to comply with the visible spectrum requirements of B.S.950 Part 2. For further details ask for leaflet PL8648 or consult your local Philips Sales Office.

Rating	Description	Lighting Design Lumens	Packing Quantity
65/80W 5'	MCFE	2600	25
40W 4'	MCFE	1300	25
20W 2'	MCFE	620	25
15W 18" $\varnothing$ 1" DIA	MCFE	400	25

## TUV Germicidal Tubes $\varnothing$

Philips 15W and 30W low pressure mercury vapour TUV tubes resemble standard fluorescent lamps without phosphor and transmit 254nm radiation (close to the effective germicidal peak) for the control of moulds, yeast, viruses and bacteria.

A 6W lamp with E.S. cap is also available for use without external control gear on 240V 50Hz supply.

Rating	Description	Packing Quantity
6W $\varnothing$	TUV	6
15W 18" $\varnothing$	TUV	6
30W 3' $\varnothing$	TUV	6

### WARNING

This is specialised equipment which should only be used under professional supervision as the short wave ultra-violet energy radiated by the lamps can be injurious to the eyes and skin of humans and animals.



TUV 15W 18" TUBE



TUV 6W LAMP

# Fluorescent

## Control Gear For 240V 50Hz

All Philips chokes and ballasts are polyester resin filled and comply with BS 2818 where applicable.

### Small Cross Section Chokes—Physical Details

Ballast Cat. No.	Length mm	Fixing Centres mm	Centre Line		Termination
			Fixing mm	Finish	
H2440	140	115 x 37.5 or 127 x 37.5	115, 127	Zinc plate	Pin
H2430	140	115 x 37.5 or 127 x 37.5	115, 127	Zinc plate	Pin
H2420	140	115 x 37.5 or 127 x 37.5	115, 127	Zinc plate	Pin
H2415	140	115 x 37.5 or 127 x 37.5	115, 127	Zinc plate	Pin
H2413	100	75 x 28.6 or 86 x 28.6	75, 86	Zinc plate	Pin
H2406	100	75 x 28.6 or 86 x 28.6	75, 86	Zinc plate	Pin

Cross section 47 x 38mm.

### Small Cross Section Chokes—Circuit Details

Lamp Circuit 240V 50Hz	Choke	P.F.C. Capacitor	Capacitor Value	Starter Switch
1 x 4' 40W 1 x TLE 16" 40W	H2440	H1635	3.5 mfd $\pm$ 10% 250V	1 x K3001P
1 x 3' 30W 1 x TLE 12" 32W	H2430	H1635	3.5 mfd $\pm$ 10% 250V	1 x K3001P
1 x 2' 20W 1 x TLE 8" 22W	H2420	H1655	5.5 mfd $\pm$ 5% 250V	1 x K3001P
1 x 18" 15W	H2415	H1655	5.5 mfd $\pm$ 5% 250V	1 x K3001P
1 x 21" 13W	H2413	*	1.0 mfd $\pm$ 10% 250V	1 x K3001P
1 x 12" 8W	H2406	*	1.0 mfd $\pm$ 10% 250V	1 x K3001P
1 x 9" 6W				
1 x 6" 4W				
2 x 2' 20W	H2440	H1635	3.5 mfd $\pm$ 10% 250V	2 x K3002P
2 x 18" 15W	H2430	H1635	3.5 mfd $\pm$ 10% 250V	2 x K3002P
2 x 12" 8W	H2413	*	1.0 mfd $\pm$ 10% 250V	2 x K3002P
2 x 9" 6W	H2406	*	1.0 mfd $\pm$ 10% 250V	2 x K3002P
2 x 6" 4W				

\*Use 1 x H1635 per two circuits.  
(Either single lamp circuit or two in series circuit).



# Fluorescent

## Control Gear

### Intermediate Cross Section Chokes & Ballasts—Physical Details

#### Switch Start Chokes

Ballast Cat. No.	Length mm	Width mm	Height mm	Fixing Centres mm	Centre Line Fixing mm	Finish	Termination
H2825	165	62	45	135 x 42	150	S.E. Grey	Pin
H2685	165	62	45	135 x 42	150	S.E. Grey	Pin
H2865	140	62	45	113 x 42	125	S.E. Grey	Pin
H2840	115	62	45	90 x 42	100	S.E. Grey	Pin
H2830	115	62	45	90 x 42	100	S.E. Grey	Pin

#### Starterless Ballasts

H2825X	315	62	46.5	305 x 42	—	Zinc Plate	Pin
H2885X	251	62	46.5	241 x 42	—	Zinc Plate	Pin
H2865X	165	62	45	135 x 42	150	Zinc Plate	Pin
H2840X	140	62	45	113 x 42	125	Zinc Plate	Pin

### Intermediate Cross Section Chokes & Ballasts—Circuit Details

#### Switch Start Circuits

Lamp Circuit	Ballast or Choke	P.F.C. Capacitor	Capacitor Value	Starter Switch
240V 50 HZ				
1 x 8' 125W	1 x H2825	1 x H1672	7.2 mfd $\pm$ 5% 440V	1 x K3125
1 x 5' 140W	2 x H2865	2 x H1684		1 x K3012P
1 x 6' 85W	1 x H2685	1 x H1684	8.4 mfd $\pm$ 5% 250V	1 x K3001P
1 x 5' 80W	1 x H2685	1 x H1684	8.4 mfd $\pm$ 5% 250V	1 x K3001P
1 x 5' 65/80W	1 x H2865	1 x H1655	5.5 mfd $\pm$ 5% 250V	1 x K3001P
1 x 4' 40W or 1 x TLE 16" 40W	1 x H2840	1 x H1635	3.5 mfd $\pm$ 10% 250V	1 x K3001P
1 x 3' 30W or 1 x TLE 12" 32W	1 x H2830	1 x H1635	3.5 mfd $\pm$ 10% 250V	1 x K3001P
2 x 2' 40W	1 x H2685	1 x H1684	8.4 mfd $\pm$ 5% 250V	2 x K3002P
2 x 2' 20W	1 x H2840	1 x H1635	3.5 mfd $\pm$ 10% 250V	2 x K3002P
2 x 18" 15W	1 x H2830	1 x H1635	3.5 mfd $\pm$ 10% 250V	2 x K3002P

#### Starterless Circuits

1 x 8' 125W	1 x H2825X	1 x H1678	7.8 mfd $\pm$ 5% 440V	—
1 x 8' 85W	1 x H2885X	1 x H1650	5.0 mfd $\pm$ 5% 440V	—
1 x 5' 65W	1 x H2685X	1 x H1684	8.4 mfd $\pm$ 5% 250V	—
1 x 4' 40W	1 x H2840X	1 x H1655	5.5 mfd $\pm$ 5% 250V	—

# Fluorescent

## Control Gear

### High Power Factor Switch Start Units ('G' Type)

Circuit 50 HZ 230/240V	Type No.	Length mm	Width mm	Height mm	Fixing Centres mm	Starter Required
1 x 2' 20W	H2620G	283	61	42	267 x 38	K3001P
1 x 3' 30W	H2630G	283	61	42	267 x 38	K3001P
1 x 4' 40W	H2640G	283	61	42	267 x 38	K3001P
1 x 5' 65W	H2665G	311	61	46	295 x 38	K3001P

Add 1" to height of H26-G units for starter switch.

Note: Starter switch K3001P supplied at extra charge.

# Fluorescent

## Capacitors

Philips capacitors are fitted with discharge resistor and either pins or 9" wire tails.

### Power Factor Correction Capacitors

To correct power factor by parallel connection across mains, to greater than 0.85.

Cat. No.	Packing Quantity	For use with	Capacitance (mfd)	Tolerance %	Working volts	Length mm	Diameter mm
H1611	50	2 x 65W 5'	11.0	±10	250	153	38
H1684	100	1 x 85W 6' 1 x 80W 5' 2 x 40W 2'	8.4	±5	250	116	38
H1655	100	1 x 65W 5' 1 x 20W 2' 1 x 15W 18"	5.5	±5	250	87	38
H1635	100	1 x 40W 4' 1 x 30W 3' 2 x 15W 18" 2 x 20W 2'	3.5	±10	250	72	38

### Series Capacitors

Special close tolerance types for starterless circuits and leading circuits.

H1678	50	7.8	±5	440	202	38
H1684	100	8.4	±5	250	116	38
H1655	100	5.5	±5	250	87	38
H1650	50	5.0	±5	440	150	38
H1672	50	7.2	±5	440	189	38

### Starter Switches

All starter switches incorporate R.I.S. capacitors and comply with BS.3772.

Suffix 'P' indicates polycarbonate casing making earthing unnecessary.

Cat. No.	Packing Quantity	Type	For use with
K3001P ◊	10,100 or 1000	Miniature 2 Pin	4W to 8W Single lamp
K3002P ◊	10,100 or 1000	Miniature 2 Pin	Two lamps in series
K3079	12	Large Can 4 Pin	Single 30, 40W 4' or 80W on 200-250V
K3012P ◊	25	Miniature 2 Pin	Single 120W 5' on 200-250V
K3125	Bulk Pack	Miniature 2 Pin	Single 125W leading circuit

◊ Made in Holland

# Fluorescent

## Electronic Light Regulators

This compact equipment regulates the light output from fluorescent lamps using the most up-to-date circuitry with silicon controlled rectifiers (thyristors). The light output can be controlled smoothly between 5 and 100% or held at any required level; the lamp will ignite at any setting.

This equipment is intended primarily for large installations of 40W and 65W lamps. Several of our standard range of fittings are available to order suitable for dimming installations. Technical and price details of dimmers and fittings are available from your local Sales Office.

## Regulators

Cat. No.	For lamps	Min. to Max. No. of Lamps*	Height mm	Width mm	Depth mm
H1004	40W 4ft	10-50	348	210	80
H1005	65/80W 5ft	8-32	348	210	80

\*The apparatus will not operate satisfactorily if loaded with less than the stated minimum number of lamps.

## Control Potentiometers

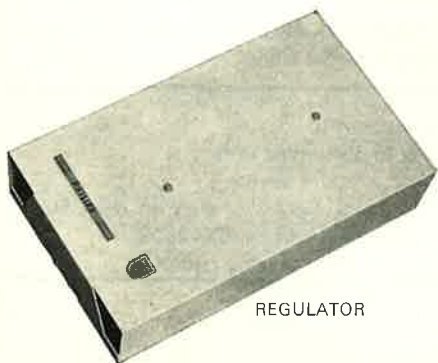
Cat. No.	Type	Length mm	Width mm	Depth mm
H1016	Built-in hand Pot.	58 dia.	—	65
H1015	Portable hand Pot.	180	74	80
H1017	Motor Pot.	215	105	84

## Ballasts

Cat. No.	For lamps	Length mm	Width mm	Height mm	Fixing Centres mm
H1040	40W 4ft	215	60	47	202
H1065	65/80W 8ft	308	60	47	295

PRICES ON APPLICATION.

All equipment made in Holland, except ballasts.



REGULATOR



HAND POTENTIOMETER

Philips provide a complete range of accessories, details are available on request

# Discharge

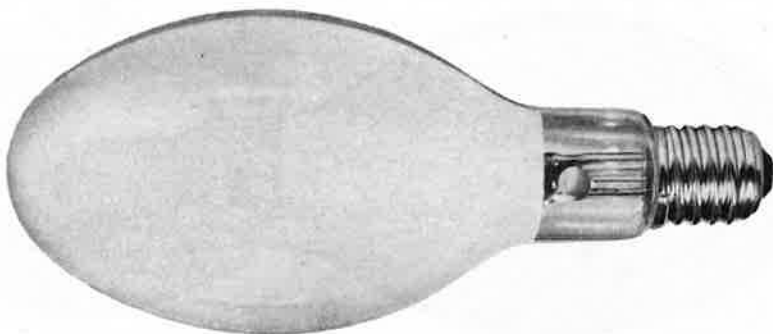
## Philips PowerWhite

Philips PowerWhite mercury fluorescent lamps have an exclusive rare earth phosphor coating resulting in lamps with a 10% increase in light output and an 85% increase in percentage red—two improvements previously unattainable together. The increase in percentage red now gives these lamps colour properties similar to normal fluorescent tubes, making them ideally suited to commercial lighting installations, e.g., shops, hotels, passenger termini, etc. In addition, use of Philips PowerWhite for street lighting and industrial applications will result in schemes with higher illumination levels, better colour rendition, with no additional running costs.

Lamp Rating Watts	Pkg Qty	Lighting Design Lumens	Dimensions mm		Lamp		Cap	Ballast	P.F.C. Capacitor ø
			O.A.L.	Dia	V	A			
50	50	1830	125	55	95	0.6	E.S.	L4050	L4008/03
80	32	3480	152	70	115	0.8	E.S. or 3-pin B.C.	L4080BX	L4008/03
125	24	6000	172	75	125	1.15	E.S., G.E.S., or 3-pin B.C.	L4125BX	L4008/03
250	9	13100	220	90	135	2.0	G.E.S.	L4250BX	L4013/03
400	6	22200	282	120	140	3.2	G.E.S.	L4400BX	L4020/03
700	6	39000	320	140	140	5.6	G.E.S.	L4700	2 x L4020/03
1000	4	56000	400	165	145	7.3	G.E.S.	L4999	3 x L4020/03

Burning Position : Universal  
ø giving P.F.C. to > 0.85

**For more comprehensive details please ask for Philips Publication PL8190**



PHILIPS POWERWHITE LAMP

# Discharge

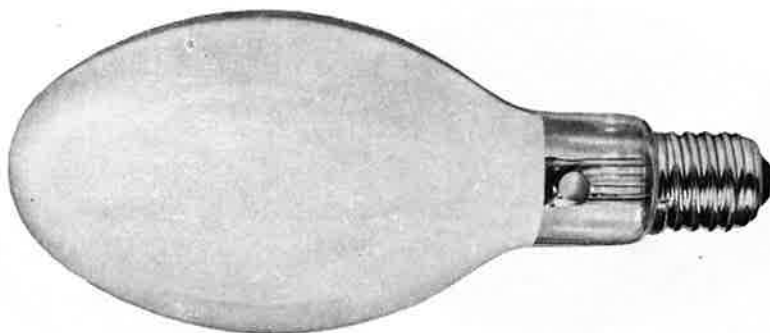
## MBF/U Mercury Fluorescent

A comprehensive range of eight ratings in isothermal envelopes internally coated with a specially developed phosphor giving high efficiency combined with good colour correction. They incorporate many of the exclusive features such as twin auxiliary electrodes and mechanical caps used in Philips MB/U lamps. Ideal for both industrial and street lighting applications where good colour and high efficiency is required.

Lamp Rating Watts	Pkg Qty	Lighting Design Lumens	Dimensions mm		Lamp		Cap	Ballast	P.F.C. Capacitor $\phi$
			O.A.L.	Dia	V	A			
50	50	1750	125	55	95	0.6	E.S.	L4050	L4008/03
80	32	3200	152	70	115	0.8	E.S. or 3-pin B.C.	L4080BX	L4008/03
125	24	5200	172	75	125	1.15	E.S., G.E.S. or 3-pin B.C.	L4125BX	L4008/03
250	9	11500	220	90	135	2.0	G.E.S.	L4250BX	L4013/03
400	6	20000	282	120	140	3.2	G.E.S.	L4400BX	L4020/03
700 $\phi$	6	34500	320	140	140	5.6	G.E.S.	L4700 $\phi$	2 x L4020/03
1000 $\phi$	4	49000	400	165	145	7.3	G.E.S.	L4999 $\phi$	3 x L4020/03
2000 $\phi$	1	118000	435	185	270	8.0	G.E.S.	L4991	L4661

Burning Position : Universal  
 $\phi$  giving P.F.C. to  $> 0.85$

For more comprehensive details please ask for Philips Publication PL8190



MBF/U MERCURY FLUORESCENT LAMP

# Discharge

## MBFR/U Mercury Fluorescent Internal Reflector

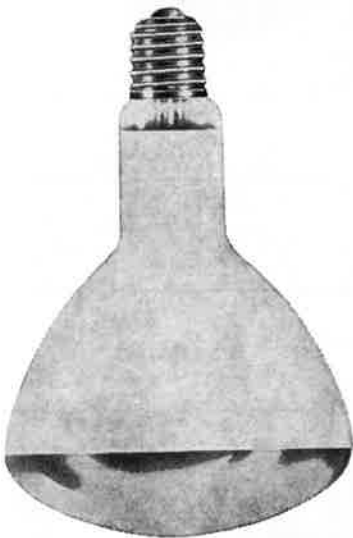
Philips internally reflectorised mercury fluorescent lamps are ideally suited to high-bay installation where maintenance is a problem. This range—the largest available—has a titanium dioxide reflector surface (first introduced in the Philips Reflectalite lamps) inside the lamp and is therefore independent of atmospheric pollution and maintains its high efficiency throughout the long reliable life of the lamp. The fluorescent coating is applied to the inside of this reflector.

Lamp Rating Watts	Pkg Qty	Lighting Design Lumens*	Dimensions mm		Lamp		Cap	Ballast	P.F.C. Capacitor ø
			O.A.L.	Dia	V	A			
125 ø	9	4600	185	125	125	1.15	E.S. or 3-pin B.C.	L4125BX	L4008/03
250 ø	5	10200	257	165	135	2.0	G.E.S.	L4250BX	L4013/03
400 ø	5	17900	297	180	140	3.2	G.E.S.	L4400BX	L4020/03
700 ø	4	31500	320	200	140	5.25	G.E.S.	L4700 ø	2 x L4020/03
1000 ø	4	47000	370	220	145	7.3	G.E.S.	L4999 ø	3 x L4020/03

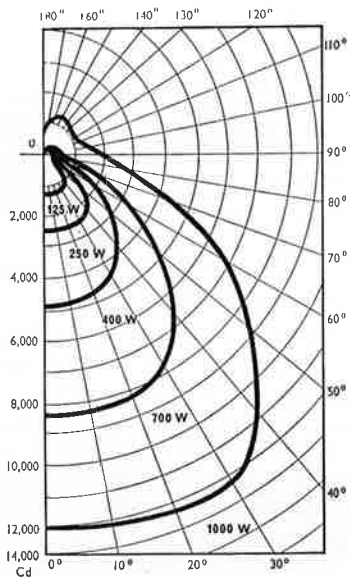
Burning Position: Universal  
ø giving P.F.C. to > 0.85

\*Due to the preferential distribution of these lamps, calculations of illumination should be made in conjunction with the polar curve.

For more comprehensive details please ask for Philips Publication PL8190



MBFR/U MERCURY FLUORESCENT  
INTERNAL REFLECTOR



LIGHT DISTRIBUTION DIAGRAM

# Discharge

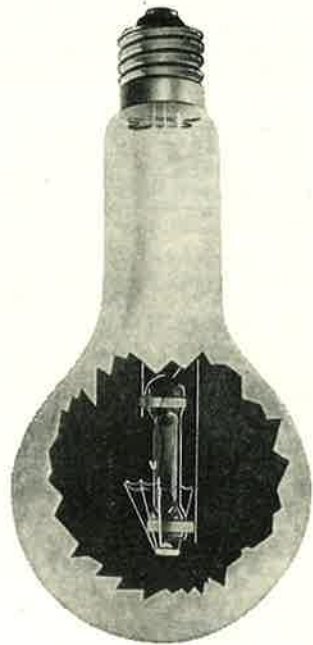
## MBTL Blended

These replace the former MBT/U Lamp—they are the same size but with new features: the life is doubled and lumen output greater than the old lamps.

By a judicious combination of tungsten filament and mercury discharge tube the lamp operates from the mains to give "instant-start" light output with no control gear.

The 250W and 500W ratings use a specially developed phosphor on the inside of the envelopes to give extra red light for improved colour rendition. The 160W is silica coated for diffuse white output.

They are most suitable for industrial, commercial and public lighting where their long life and independence of external control gear is an advantage, particularly where maintenance or accessibility is a problem. After switching off there is a short restarting delay of two or three minutes. These lamps are not suitable for operation on D.C. mains.



MBTL BLENDED LAMP

Lamp Rating Watts	Pkg Qty	Lighting Design Lumens	Dimensions mm		Lamp		Cap	Control Gear
			O.A.L.	Dia	V	A		
160	24	2560	178	90	240/250	0.65	E.S. or	None Necessary
					220/230		B.C.	
250	9	4840	233	110	240/250	1.05	G.E.S.	
500	6	11000	267	130	240/250	2.20	G.E.S.	

Burning Position: All ratings —Vertical, cap up  
 250W, 500W—Universal, if supply regulation good

## MBT/U

100	32	1250	152	70	240/250	0.45	B.C.	None Necessary
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Burning Position: Universal

**All Lamps**—Power Factor > 0.96

Not suitable for operation on D.C. Mains.

**For more comprehensive details please ask for Philips Publication PL8190**



# Discharge

## MB/U Mercury

The use of quartz discharge tubes in the 250W and 400W ratings makes Philips Mercury lamps even more suitable for public and industrial lighting and makes the former MA/V types obsolete. A 25% increase in efficiency, combined with universal burning position for the entire range, is obtained.

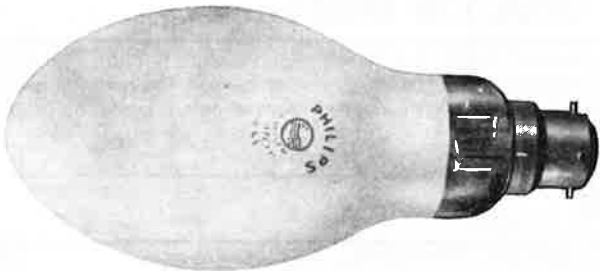
The 250W and 400W ratings make magnetic arc deflectors unnecessary. Twin auxiliary electrodes ensure reliable starting, even at  $-40^{\circ}\text{C}$ .

Lamp Rating Watts	Pkg Qty	Lighting Design Lumens	Dimensions mm		Lamp		Cap	Ballast	P.F.C. Capacitor $\varnothing$
			O.A.L.	Dia	V	A			
80	32	2850	148	70	115	0.8	3-pin B.C.	L4080BX	L4008/03
125	24	4950	168	75	125	1.15	3-pin B.C.	L4125BX	L4008/03
250	12	10600	290	48	135	2.0	G.E.S.	L4250BX	L4013/03
400	12	18800	330	48	140	3.2	G.E.S.	L4400BX	L4020/03
1000 $\varnothing$	4	48000	372	65	145	7.3	G.E.S.	L4999 $\varnothing$	3 x L4020/03

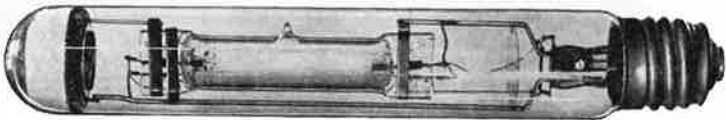
Burning Position : Universal  
 $\varnothing$  giving P.F.C. to  $> 0.85$

For more comprehensive details please ask for Philips Publication PL8190

80W MB/U



250W MB/U



# Discharge

## SOX Sodium (Integral)

Philips SOX lamps are the logical development of the highly efficient SOI/H lamps. SOX are the most efficient lamps available in the world and are interchangeable with the SOI/H and SO/H. This new efficiency is obtained by an exclusive, optimum tin oxide coating, giving up to 175 lm/W. They operate on the same control gear as SOI/H SO/H equivalents and fit the same lanterns. Dimple construction—single B.C. cap—fully interchangeable—triple coil cathodes—all features designed to give a longer life with more constant lumen maintenance.

Lamp Rating Watts	Pkg Qty	Lighting Design Lumens	Dimensions mm		Lamp		Cap	Ballast	P.F.C. Capacitor ø
			O.A.L.	Dia	V	A			
35	9	4300	310	52	70	0.60	B.C.	L4045BX	L4015/03
55	9	7150	425	52	104	0.60	B.C.	L4045BX	L4015/03
90	9	12250	528	66	112	0.95	B.C.	L4140BX	L4025/03
135	9	21200	775	66	164	0.95	B.C.	L4135	L5020/03
180	9	31500	1120	66	245	0.90	B.C.	L4135	L5020/03

Burning Positions: All ratings—Horizontal  $\pm 20^\circ$   
35W, 55W—Vertical, cap up

ø giving P.F.C. to  $> 0.85$

For more comprehensive details please ask for Philips Publication PL8160

## SON, SON/T & MBI/H

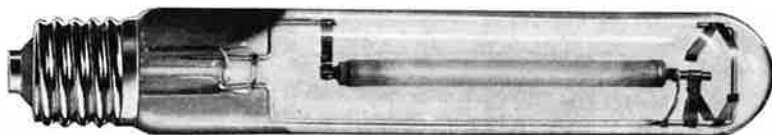
From only a recent introduction Philips High Pressure Sodium Lamps and Mercury Halide lamps have already displayed both reliability and efficiency. Proven in numerous installations these new types represent a blend of greatly improved colour rendering properties and luminous efficacy.

### SON/T

Lamp Rating Watts	Pkg Qty	Lighting Design Lumens	Dimensions mm		Lamp		Cap	Ballast	P.F.C. Capacitor ø	Ignitor
			O.A.L.	Dia	V	A				
400	12	36,000	275	46	105	4.4	G.E.S.	L4404BX	2 x L4020/03	126428.1

Burning Position: Universal

ø giving P.F.C. to  $> 0.85$



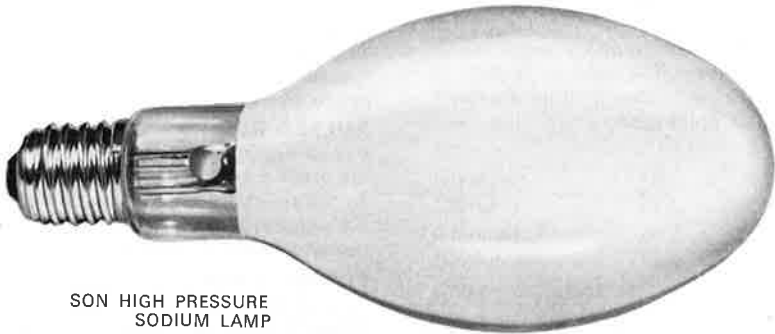
SON/T HIGH PRESSURE SODIUM LAMP

For more comprehensive details please ask for Philips Publication PL8190

# Discharge

## SON

Lamp		Lighting		Dimensions						P.F.C.	
Rating	Pkg	Design	mm		Lamp		Cap	Ballast		Capacitor	Ignitor
Watts	Qty	Lumens	O.A.L.	Dia	V	A				ø	
250	9	19500	220	90	100	3.0	G.E.S.	L4254BX	2 x L4015/03	126428.1	ø
400	6	36000	282	120	105	4.4	G.E.S.	L4404BX	2 x L4020/03	126428.1	ø
Burning Position: 250W: Horizontal or Vertical											
400W: Universal											
ø giving P.F.C. to > 0.85											

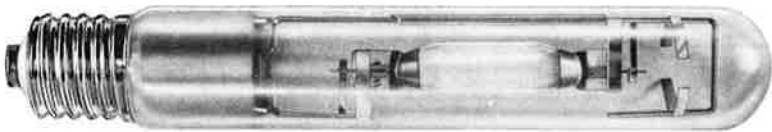


SON HIGH PRESSURE  
SODIUM LAMP

For more comprehensive details please ask for Philips Publication PL8190

## MBI/H

Lamp		Lighting		Dimensions						P.F.C.	
Rating	Pkg	Design	mm		Lamp		Cap	Ballast		Capacitor	Ignitor
Watts	Qty	Lumens	O.A.L.	Dia	V	A				ø	
400	12	27000	283	46	125	3.4	G.E.S.	L4400BX	2 x L4020/03	126428.1	ø
2000	4	165000	460	100	252	8.4	G.E.S.	L4991	L4661	126427.1	ø
Burning Position: 400W: Horizontal ± 15°											
2000W: Horizontal											
ø giving P.F.C. to > 0.85											



MBI/H MERCURY HALIDE LAMP

For more comprehensive details please ask for Philips Publication PL8190

# Discharge

## Lamps for Special Application

Philips can offer the most comprehensive range of special discharge lamps in Europe. These lamps and their applications are far too numerous to be listed within this catalogue. Further technical details can be obtained by application to any Philips Branch Office.

### PRINTING LAMPS

Philips provide a large range of lamps with many applications in photo-printing processes. The HOGK and HOQ are provided in quartz envelopes; the HOKI having a quartz burner with integral jacket. The MBR/U "Repro" lamps are specifically designed for photo-copying, plate making and photo litho processes.

**SPECTRAL LAMPS** Philips spectral lamps have been developed for laboratory use and are generally employed in refractometry polarimetry, spectroscopy, etc. The extensive range of interchangeable lamps gives a wide choice of spectra in both the visible and ultra-violet bands.

**COMPACT SOURCE** Mercury and Xenon Lamps. A large range of special types is available to machine manufacturers. Their high luminance and small arc size make them essential for many special applications, such as microfilm enlargers, recording and measuring instruments, microscopy and photochemistry.

**PULSED XENON** These are low-pressure pulsed xenon lamps specially developed for the graphic art industry.

As the spectrum largely approximates to average daylight this lamp is of particular use with regard to colour exposures.

**FLASH-TUBES** Philips flash-tubes are hard glass or quartz discharge lamps in many different shapes and sizes with xenon filling. Among the many uses are timing apparatus and professional photographic equipment.

3000W HOKI



125W MBR/U



# Discharge



## Capacitors

BS 4017

The Power Factor in discharge lamp circuits may be improved by the appropriate Power Factor Correction capacitor. Philips capacitors use special low-loss paper and super-purity chlorinated hydrocarbons giving long life even under the most arduous conditions. The new range L4008/L4025 operates from  $-15^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$ , and is for 250V operation.

Philips are the first and only company in the United Kingdom whose P.F.C. capacitors are manufactured to British Standard 4017. Each capacitor bears the British Standard Kitemark as evidence of compliance with the specification.

### Control Gear—Capacitors

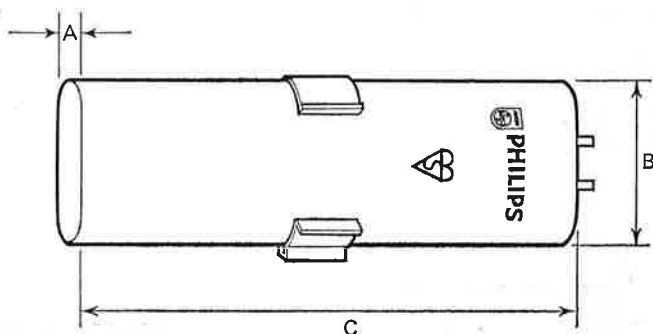
Cat. No.	Pkg Qty	Capacitance m.f.d. +10%	Cross Section	Dimensions mm		
				A	B	C
L4008/03	50	8	Round	38.1 Dia		x 101.6
L4010/03	50	10	Round	38.1 Dia		x 127.0
L4013/03	30	13	Obround	54.5 x	35.5 x	156.0
L4015/03	30	15	Obround	54.5 x	35.5 x	156.0
L4015/04	32	15	Obround	55.5 x	39.5 x	119.0
L4018/03	25	18	Obround	54.5 x	35.5 x	168.5
L4020/03	25	20	Obround	54.5 x	35.5 x	168.5
L4025/03	25	25	Obround	73.9 x	49.0 x	117.5
L4661 *	1	40	Cubic	120.0 x	99.0 x	190.0
L5020/03†	25	20( $\pm 5\%$ )†	Obround	70.0 x	38.0 x	152.0

Working Voltage 250V r.m.s.

Operating Temperature Range:  $-15^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$

\* 440V A.C. Working

† Use with L4135



### Ignitors

Cat. No.	Pkg Qty	Mains Voltage V	Dimensions mm			Fixing Centres	Weight Gr.
			O.A.L.	Width	Ht.		
126428.1 $\odot$	12	220/240	195	65	45	180 x 42	1075
126427.1 $\odot$	10	380/440	285	65	45	270 x 42	1850

Peak Voltage (approx.) 4000V

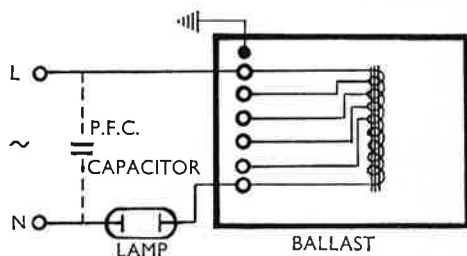
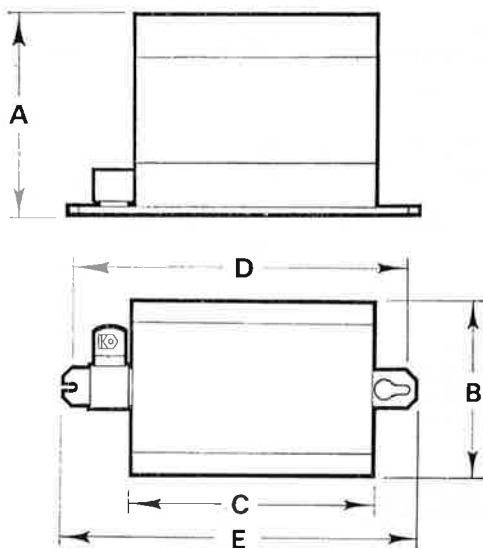
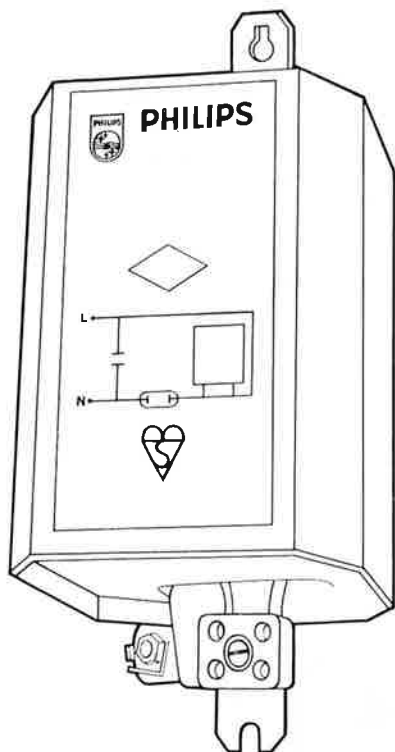
For more comprehensive details please ask for Philips Publication PL8190

# Discharge

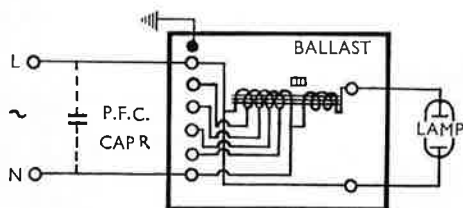
## Ballasts

Discharge lamps need control gear to limit the current flowing through the circuit and the characteristics must match the lamp requirements.

Philips are the first and only company in the United Kingdom to manufacture discharge ballasts to British Standards 3707 and 3768. Each ballast bears the British Standard Kitemark as evidence of compliance with the specification.



FOR MERCURY LAMPS ON 200/250V 50 Hz.



FOR SODIUM LAMPS ON 200/250V 50 Hz.

# Discharge

## Ballasts

Discharge lamps need control gear to limit the current flowing through the circuit and the characteristics must match the lamp requirements.

**For Mercury Lamps** All Philips mercury ballasts comply with B.S. 3707.

Lamp Rating W	Cat. No.	Packing Qty.	A mm	B mm	C mm	D mm	E mm	Weight lbs.	Voltage Range	Circuit Watts	P.F.C. Capacitor Ø
50	L4050◇	6	70	65	90	136.5	148	3½	220/250V	59	L4008/03
80	L4080BX◇	6	90.5	67	90.5	128.5	138	4¾	230/250V	90	L4008/03
125	L4125BX◇	6	90.5	67	115	153.5	163	6½	230/250V	138	L4008/03
250	L4250BX◇	4	102	90	125	171.5	183.5	10½	230/250V	265	L4013/03
250 SON	L4254BX◇	4	108	106	130	176.5	188.5	11¼	230/250V	280	2×L4015/03
400	L4400BX◇	4	108	106	130	176.5	188.5	13	230/250V	420	L4020/03
400 SON, SON/T	L4404BX ◇	4	108	106	130	176.5	188.5	14	230/250V	440	2×L4020/03
700	L4700◇ ⊙	2	133	116	170	220	235	23	230/250V	730	2×L4020/03
1000	L4999◇ ⊙	2	133	114	170	220	235	28¼	230/250V	1040	3×L4020/03
2000	L4991★ Not Illustrated	1	180	135	240	180	256	59	380/440V	2080	L4661

**For Sodium Lamps** All Philips sodium ballasts comply with B.S. 3768.

35 } 55 }	L4045BX◇	4	92	90	125	171.5	183.5	10	230/250V	55 } 75 }	L4015/03
90	L4140BX◇*	2	112	110	165	211.5	223.5	17¾	230/250V	115	L4025/03
135 } 180 }	L4135◇	4	108	106	130	176.5	188.5	15	190/250V	175 } 220 }	L5020/03

◇ With Polyester Filling.

\* Used for Spectral Lamp range also.

The above ballasts are suitable for 50 Hz supply.

Ballasts for other voltage and frequency ranges, and for printing and special lamps are available.

Full details given on request.

# Outdoor Fittings

Catalogue No.	Type	Leaflet
---------------	------	---------

## Wellglass Fittings

W4270	Wellglass Fitting Top Entry 60-100W GLS	PL7795
W4271	.. Fitting Top Entry 150-200W GLS	..
W4272 (x)	.. Fitting Side Entry 60-100W GLS	..
W4273	.. Fitting Side Entry 150-200W GLS	..
W4280	.. Spare glass—small	..
W4281	.. Spare glass—large	..
W4282	.. Reflector—small	..
W4283	.. Reflector—large	..
W4287 (x)	.. Wall bracket	..
W4291	.. 2-slot BC lampholder	..
W4292	.. 3-slot BC lampholder	..
W4293	.. ES lampholder	..
W4294	.. Corner wall bracket	..

## Bulkhead Fittings

W4295 (y)	Bulkhead fitting	PL7796
W4296	.. Spare glass	..

## Area Floodlights

For Lamps (a) 750-1000W GLS, 1000W MB/U

	Fixing Arrangements		
	2"- 3" Pole Clamp	3"-4" Pole Clamp	2" Scaffold Pole Clamp
Complete Fitting	W4109	W4111	W4113
Comprising	=W4103	=W4103	=W4103
	+W4115	+W4115	+W4115
	+W4106	+W4107	+W4108

For Lamps (b) 300-500W GLS, 400-700W PowerWhite, 250-400W MB/U, 500W MBTL

Complete Fitting	W4100(yy)	W4101	W4102
Comprising	=W4103	=W4103	=W4103
	+W4104	+W4104	+W4104
	+W4106	+W4107	+W4108

For Lamps (c) 125-250W PowerWhite, 250W MBTL

Complete Fitting	W4110	W4112	W4114
Comprising	=W4103	=W4103	=W4103
	+W4116	+W4116	+W4116
	+W4106	+W4107	+W4108

## Par 38 Fittings

Complete Fitting	W4246 = W4245 + W9223 (z)	PL8309
	W4247 = W4245 + W9222	PL8309
	W4248 = W4245 + W9223 + W9222	PL8309
	W4260 Par 38 Outdoor Wall Fitting	PL8309



(x)



(y)



(yy)



(z)



# Outdoor Fittings

## Floodlight Fittings (Tungsten & Discharge)

Cat. No.	Description	Leaflet No.
DHF014	Flood for PAR 38, 125W MBFR/U	PL8309
DVF101 (ff)	Flood for PAR 56	PL8309
NLF011	Flood for 1000W G.L.S., 700W PowerWhite	PL8309
NNF010	Flood for 1000W/1500W Projector, 700W PowerWhite	PL8309
NNF012	Flood for 2000W Projector, 2000W MBF/U	PL8309
HNFO01 (gg)	Flood for 2 × 400W SON/T or 2 × 400W MBI/H	PL8309
HNFO01	Flood for 1000W MB/U	PL8309
HNFO02	Flood for 2000W MBI/H	PL8309
HNFO03	Flood for 400W SON/T or 400W MBI/H Narrow Beam	—
HNFO03	Flood for 400W SON/T or 400W MBI/H Wide Beam	—
NV71	Flood for 2 × 2000W MBI/H	PL8309

## Floodlight Projectors for Tungsten Halogen Lamps

W4060	Tungsten Halogen 1000W Flood Narrow Beam	PL8309
W4061	Tungsten Halogen 1000W Flood Wide Beam	PL8309
W4062	Tungsten Halogen 1000W Flood Medium Beam	PL8309
W4063	Pole Clamp	PL8309
W4120	Tungsten Halogen 2000W Flood Narrow Beam	PL8309
W4121 (dd)	Tungsten Halogen 2000W Flood Wide Beam	PL8309
W4122	Tungsten Halogen 2000W Flood Medium Beam	PL8309
W4300	1000W/1500W Medium Beam Halogen Flood Light	PL8554
W4301	1000W/1500W Narrow Beam Halogen Flood Light	PL8554
W4302	Spigot for W4300/W4301	—
W4303	Spigot and Pole Clamp for W4300/W4301	—

## Sodium & Mercury Fluorescent Floodlight Projectors

R7773	Renfrew Flood for 1000W MB/U	—
R7774	Renfrew Flood for 400W MB/U	—
R7788 (ee)	90W SOX Flood Body C/W Gear only	PL8309
R7798	250W PowerWhite Flood Body C/W Gear only	PL8309
R7784 (ee)	Base Mounting Assembly	PL8309
R7801	2" Diameter Pole Mounting Assembly	PL8309
R7802	3" Diameter Pole Mounting Assembly	PL8309
R7803	4" Diameter Pole Mounting Assembly	PL8309

Please specify Cat. No and Lamp Type when placing order.

## Area Lighting Fittings

R8100	Area Lighting Fitting for 400W SON/T or 400W MBI/H	PL8557
R8104	Post Top Lantern for 80W PowerWhite	PL8556
R8105	Post Top Lantern for 125W PowerWhite	PL8556
R8109	Wall Bracket for 8104/R8105	PL8556



(dd)



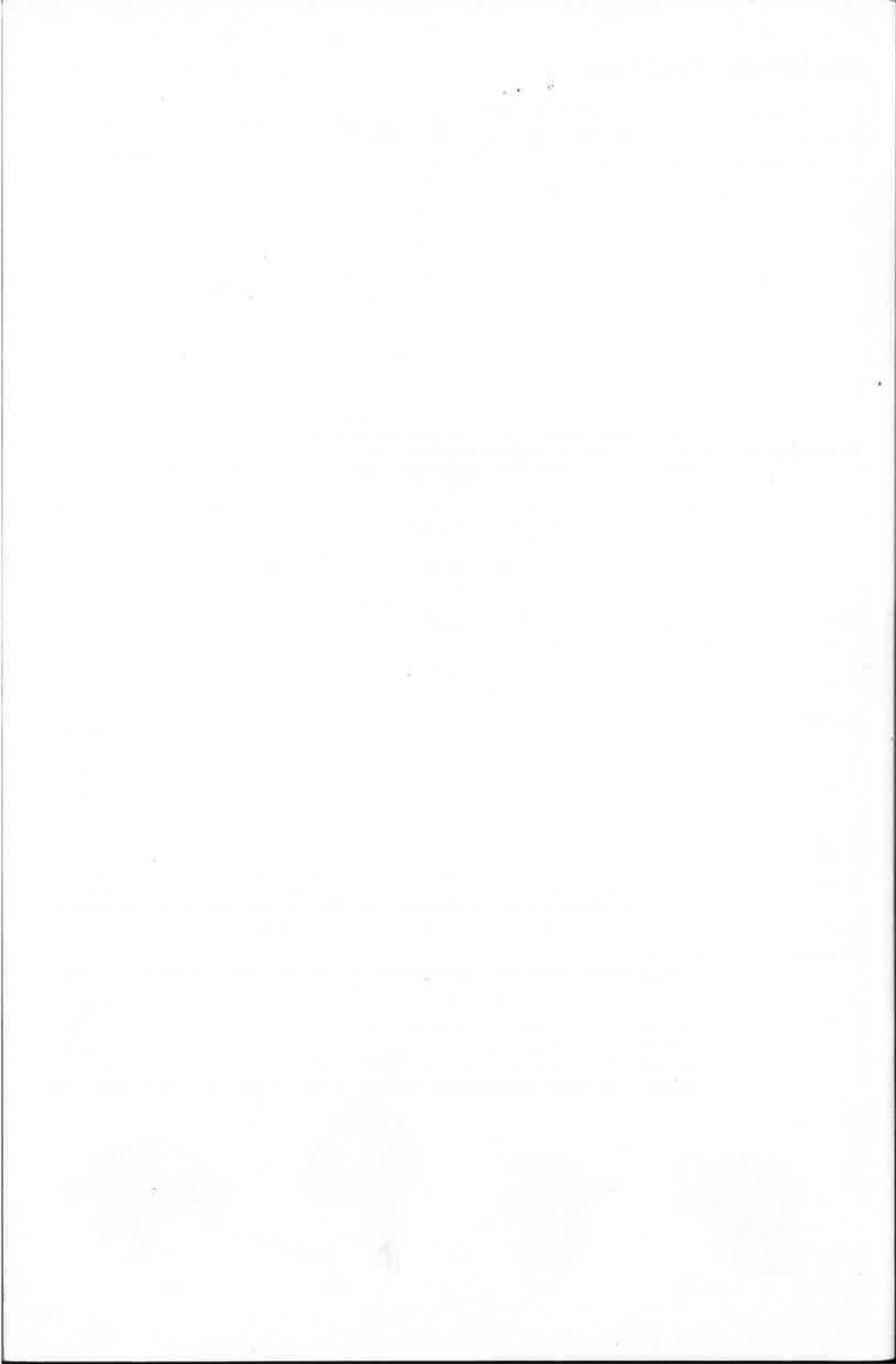
(ee)



(ff)



(gg)



# Philips Electrical Limited

## Distribution Centres and Sales Offices

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City/Town	Address	Telephone Telex	Office
<b>Hamilton</b>	Wellhall Road, Hamilton, Lanarkshire	Hamilton 22661 Telex 77532	Sales Office & Distribution Centre
<b>Newcastle</b>	Peel Buildings, Waterloo Street, Newcastle-on-Tyne NE1 4AT	Newcastle 21236	Sales Office
<b>Leeds</b>	Seacroft Ring Road, Leeds LS14 1YY	Leeds 640171	Sales Office
<b>Liverpool</b>	Telephone calls to Liverpool are connected by private line to the Stockport sales office	051.236 5895	Sales Office
<b>Stockport</b>	Abbey House, St. Petersgate Stockport SK1 1D	061.480 9261	Sales Office
<b>Nottingham</b>	Telephone calls to Nottingham are connected by private line to the Northampton (Sywell) sales office	0602 292185	Sales Office
<b>Birmingham</b>	2219 Coventry Road, Sheldon, Birmingham, 26	021 743 4202	Sales Office
<b>Northampton (Sywell)</b>	Wellingborough Road, Sywell, Northampton NN6 0BX	Northampton 43611 Telex 31383	Sales Office & Distribution Centre
<b>London (Croydon)</b>	P.O. Box 130, 17 Beddington Farm Road, Croydon CR9 4JN	01 686 3377 Telex 23510	Sales Office & Distribution Centre
<b>Cardiff</b>	Telephone calls to Cardiff are connected by private line to the Bristol sales office	Cardiff 24854	Sales Office
<b>Bristol</b>	Portview Road, Avonmouth, Bristol BS11 9LS	Avonmouth 4551	Sales Office
<b>Belfast</b>	123 York Street, Belfast BT15 1AG	Orders Belfast 33541 Enquiries Belfast 33581 Telex 74392	Sales Office

