

MAIN ROAD

**Side Entry
Post Top
Cut Off
Semi Cut Off
Variable Reflector
Systems**

Phosco Limited
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Phosco
L I G H T I N G

The Cavendish Square

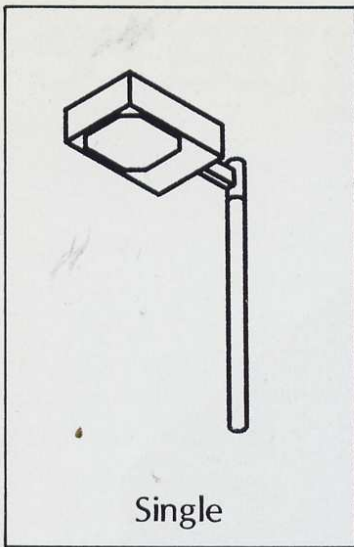


The Cavendish 'Square' Luminaire is a unique design.

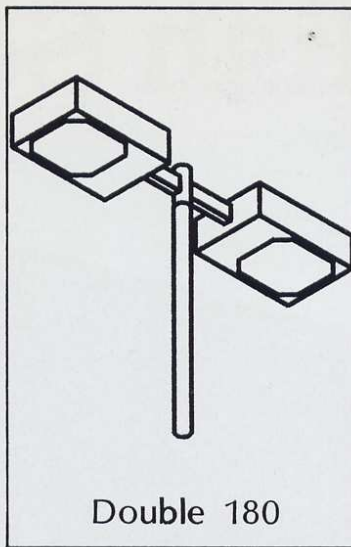
The variable light distribution, which can be altered within the fitting, enables the designer to position the fitting so that its daytime orientation relates to its architectural surroundings, while the illumination provided by night is aimed at the area which needs to be lit. This means that design of the outdoor environment is not dictated by the requirements of the lighting engineer.

The crisp clean rectangular shape is a non-intrusive style which complements almost any design of building.

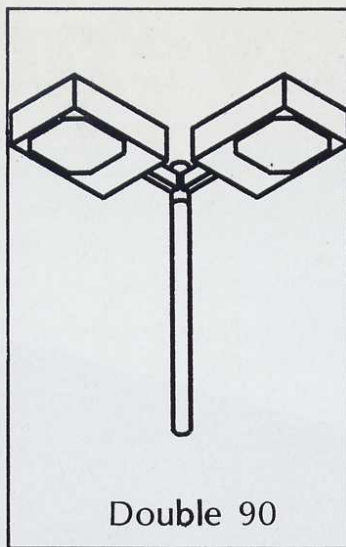
Two sizes are available: one for pedestrian areas and minor roads and a larger version for large car parks and major roads.



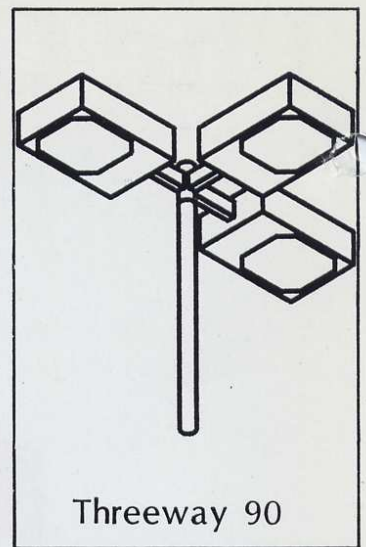
Single



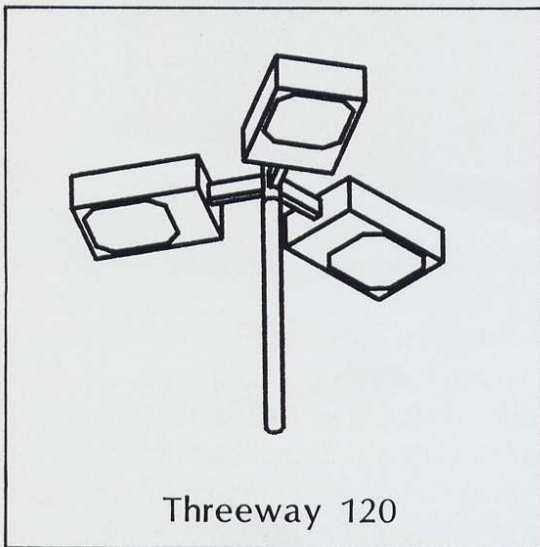
Double 180



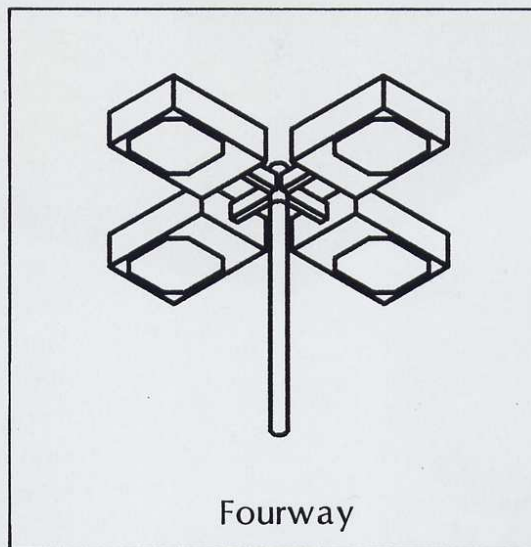
Double 90



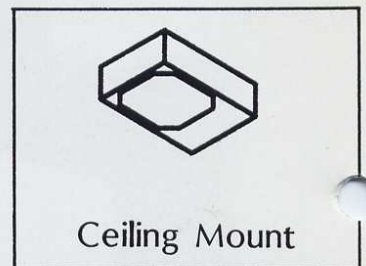
Threeway 90



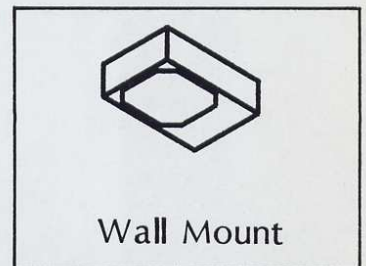
Threeway 120



Fourway

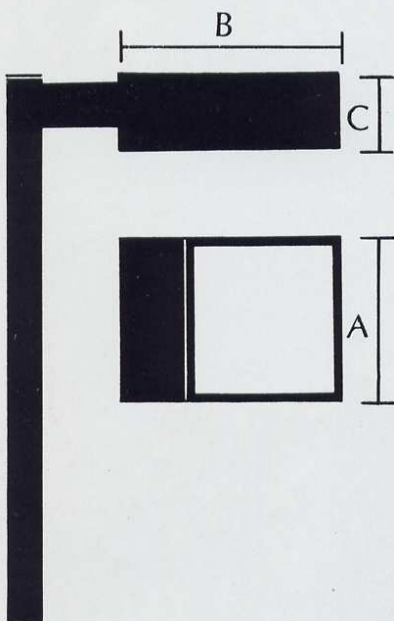


Ceiling Mount



Wall Mount

The Cavendish 'Square' Fitting



The Cavendish is a luminaire which is ideal for multiple assemblies of 2, 3 and 4 units to achieve the illumination necessary to match such areas as walkways or pedestrian and roadway intersections and car parks.

Unlike other similar luminaires the internal reflector system is rotatable, thus, a fitting seeming to point one way can if necessary be throwing light in another direction.

The large version P536 also has optics that can be altered to provide a number of different beam patterns. (see across for examples)

Housing Size	Dimensions in mm			Max. lamp size	
	A	B	C	SON	MBI
Small P535	280	400	120	70w	
Large P536	390	560	170	400w	400w

SPECIFICATION

POLES 6, 8, 10m for P536

The poles shall be tapered tubular steel ofm dimension above ground and supplied with a spigot of 100mm. Finish shall be hot dip galvanised. (Columns to be painted shall have a 'T' wash etch priming coat applied at the factory.) The pole shall be rooted/baseplated type.

The bracket shall be manufactured of steel and shall fit a 100mm spigot. Finish shall be painted black (or other special colour to match luminaire). It shall be suitable for no. lantern/s degrees apart.

POLES 3.5, 4, 5m for P535

The poles shall be tapered tubular steel ofm dimension above ground and be supplied with a 76mm spigot. Finish shall be hot dip galvanised. (Columns to be painted shall have a 'T' wash etch priming coat applied at the factory.) The pole shall be rooted/baseplated type.

The bracket shall be manufactured of steel and shall fit a 76mm spigot. Finish shall be black (or other special colour to match luminaire). It shall be suitable for no. lantern/s at degrees apart.

LUMINAIRE P536 OR P535

The luminaire shall be of sound aluminium construction reinforced for strength and rigidity. The door shall be fixed by quick release catches and attached to the body of the fitting by releasable cable. The luminaire shall be manufactured to IP54. The optics shall be (for P536 — adjustable for beam angle and be) rotatable through 360 degrees to enable a wide variety of illumination patterns to be obtained. The finish shall be black (other colours to special order).

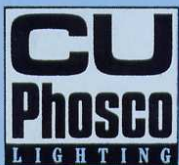
OPTIONS — PHOTOCCELL, INTEGRAL GEAR, SPECIAL COLOUR

Pole Ref:	5m	TT505005
	6m	TT508009
	8m	TT610013
	10m	TT612101

Bracket Ref:	CB 51000	1
	CB 52180	2 x 180°
	CB 53090	3 x 90°
	CB 53120	3 x 120°
	CB 54090	4 x 90°
	CB 5W100	Wall bracket (if required)
	CB 5S100	Soffit bracket (if required)

All bracket references are for 5m. For 6, 8 or 10m substitute height for 5 (i.e. CB 82180 2 x 180° for 8m).

Luminaires Ref: P535 — Small
P536 — Large
G — Integral control gear (specify type and wattage)
PC — Miniature Photocell
i.e. P536/G 150W SON/PC



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Group A Post Top Lantern

Specification

This lantern is suitable for lighting city centres, main shopping streets, promenades, parks and areas of civic importance.

The canopy is made of heavy gauge aluminium and is secured by a captive knob which is unscrewed for access to the interior. The main body consists of a strong steel frame mounted on a spigot cap of cast LM.6 alloy and enclosed by a diffusing bowl of acrylic plastic. Built-in control gear may be supplied for all versions if required. In the 400w. size only two sets of control gear can be accommodated in the hood.

Standard Finish: Stove enamel

Exterior: Hammered Beige

Interior: White

Spigot entry 110mm dia. x 163mm high

Weight - 26kg excluding lamps or control gear

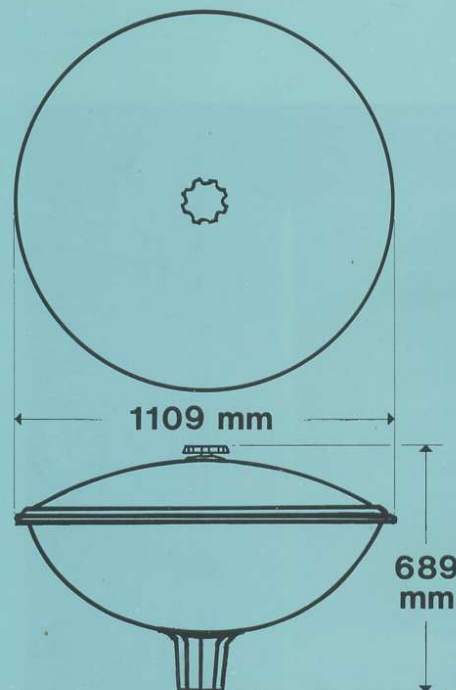
Windage Area - 0.40 sq. metres

I.P. Classification IP44 (Provisional)

ORDERING DETAIL:

Please add suffix 'G' to catalogue number when required with built-in control gear stating lamp e.g. P169/3/MG (250w SON).

NOTE: Only 2 x 400w sets of gear can be accommodated in the hood.



Catalogue No.	Lamp-holder	Lamps
P169/2/M	G.E.S.	2 x 250w MBF-MBI or SON 2 x 400w MBF-MBI or SON
P169/3/M	G.E.S.	3 x 250w MBF-MBI or SON 3 x 400w MBF-MBI or SON
P169/4/M	G.E.S.	4 x 250w MBF-MBI or SON
P169/3/S	B.C.	3 x 90w SOX 3 x 135w SOX

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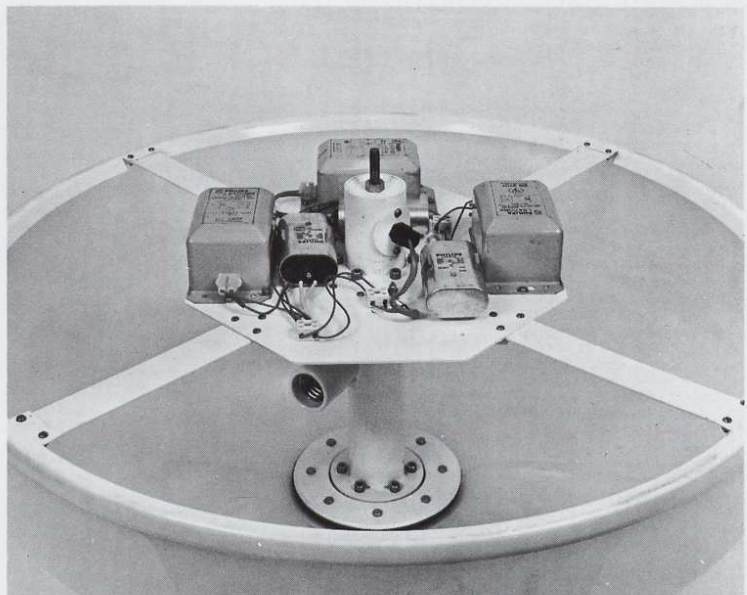
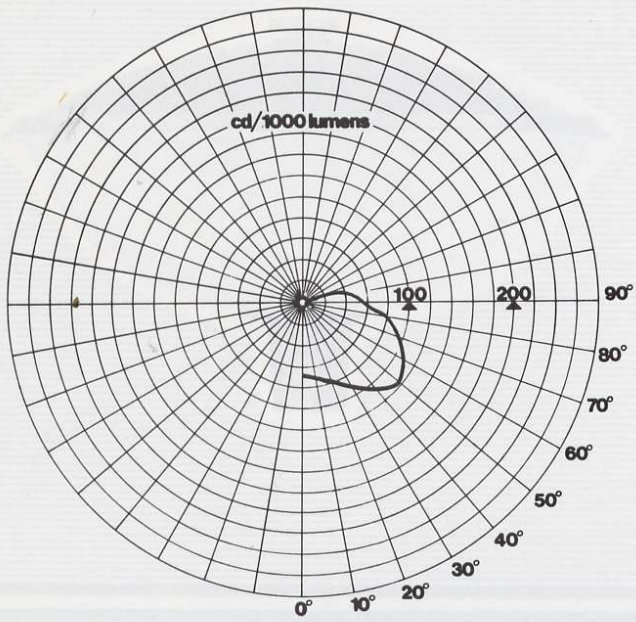
P169

Performance Data

Total light output ratio -0.71

Downward light output ratio -0.58

The light distribution is symmetrical



Photograph of the interior of the lantern showing layout of the control gear

Photograph shows an installation of P.169 lanterns on steel columns at Coleford, Gloucester. Photograph by courtesy of West Dean R.D.C.

Group A Cut-off Lantern with Variable Optics

Mk. III

A cut off lantern for axial or non-axial distribution. The main beams (65° to the downward vertical) can be rotated through 360° in azimuth and their toe-in adjusted from 0° to 400° for a 400 watt SON/T lamp and minus 10° to 25° for a 250 watt SON/T lamp.

Specification

The lamp housing comprises a body of Spun SIC aluminium stove enamelled grey outside, white inside containing adjustable SIB anodised mirrors and an adjustable E40 ceramic lampholder wired to the gear compartment with special 200°C Silicone insulated cable. The UV resistant polycarbonate bowl is attached by a hinge and amstenitic stainless steel clips. A gasket is provided to obtain a weatherproof seal. The lamp housing is rigidly connected to the gear housing. The gear housing is cast LM6M aluminium stove enamelled grey with the control gear mounted on a removable cast aluminium door. (Plug and socket optional). All wiring is Heat Resistant 105°C PVC.

Spigot Entry

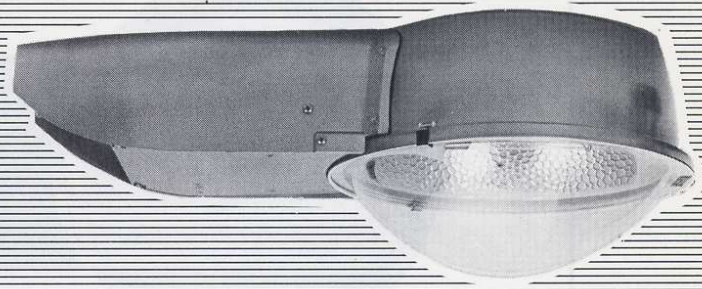
42mm diameter × 100mm or
48mm diameter × 100mm

Lamp Types

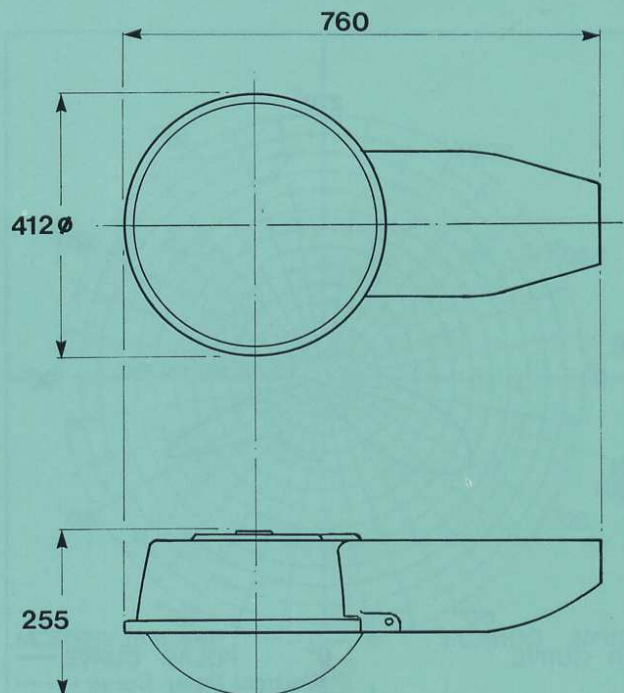
400 watt, 250 watt, 150 watt SON/T
400 watt, 250 watt, MBI/H (tubular)

IP rating (Lamp Compartment) 54
IP rating (Gear Compartment) 43
Complies with BS 4533 Section 102.7

Windage area: 0.143 m²
Electrical: Class I
IP rating (Lamp Compartment) 54
IP rating (Gear Compartment) 43
Complies with BS 4533 Section 102.7



for Tubular discharge
lamps up to 400w.



Ordering Detail

When ordering please indicate lamp for which control gear is to be supplied and if required with twist-lock socket for photo-cell add suffix PC to catalogue number.
e.g. P220/4 PC (400w SON/T)

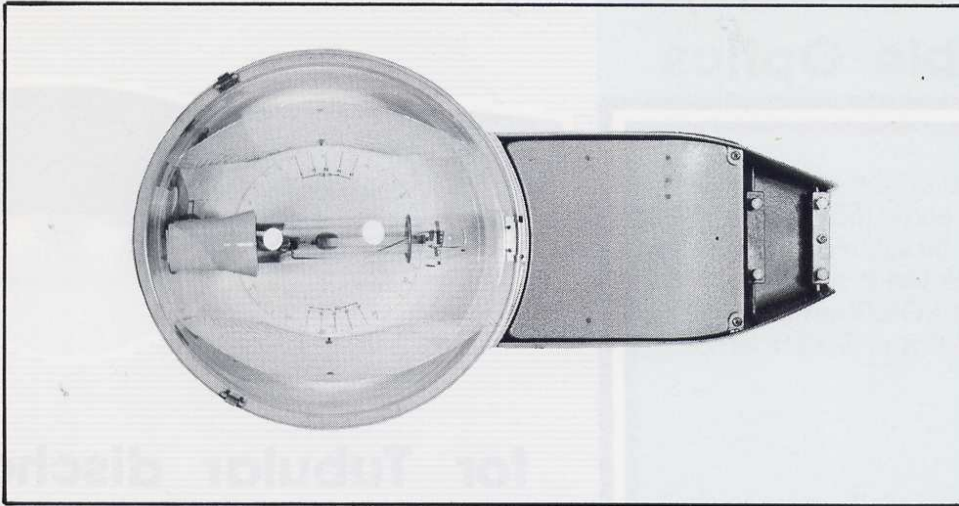
Weight

with 400 watt SON/T gear	15.2Kg
250 watt SON/T gear	15.0Kg
400 watt MBI/H gear	13.2Kg

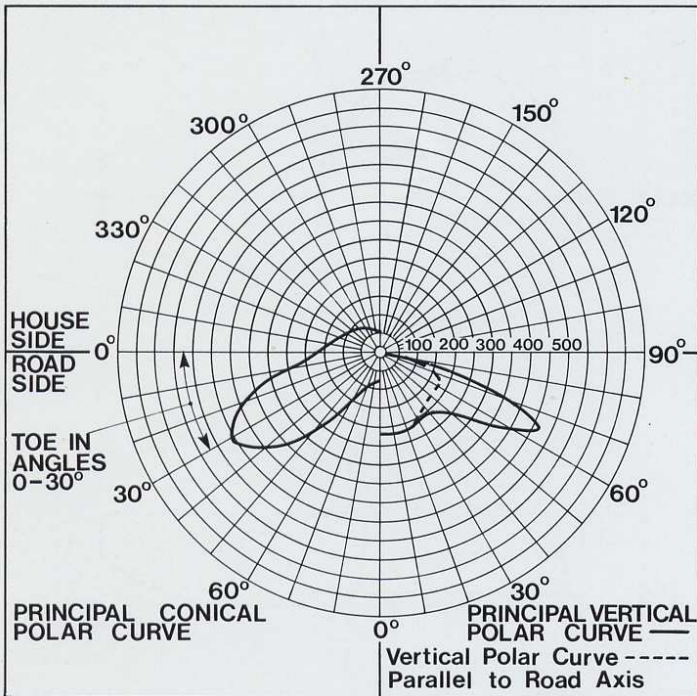
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P220/4



FRONTAL VIEW OF P220/4 SHOWING INSIDE OF BOWL



TYPICAL LIGHT DISTRIBUTION

Performance Data*

Downward light output ratio	0.82
Peak intensity	460 cd/klm
Upper limit of beam	68°
Lower limit of beam	59°
0° — 30° zone max	220 cd/klm
min	170 cd/klm

*Varies slightly with toe-in adjustment and lamp types.

The light distribution complies with the requirements for cut-off lanterns in BS 4533: Pt 301 and is therefore suitable for road lighting to the recommendations of BS 5489: Pt 2. For complex interchanges, large industrial areas, etc., the lanterns may be mounted in groups on high masts and the adjustability enables the overall light distribution from each mast to be moulded to meet the photometric requirements of the installation.

Group A Post Top Lantern

SPECIFICATION

This lantern is particularly suitable for lighting areas of civic importance, such as the main shopping streets, promenades, markets and public gardens. The canopy is made of heavy gauge sheet aluminium and secured by a cast aluminium knob which is released for access to the interior. An alternative canopy is available in glass fibre if required. The main body of the lantern comprises a strong steel frame mounted on a spigot cap of cast LM6 alloy enclosed by a diffusing bowl of acrylic plastic. The lantern is suitable for mercury-fluorescent, high pressure sodium, low pressure sodium or mercury halide lamps and built-in control may be supplied for all versions, except 3 x 400w with glass fibre canopy.

If required this lantern may be supplied with centrally mounted socket for single part photo-cell unit. This replaces the cast aluminium knob, and the canopy is secured by a large nut with a gasket to ensure a weatherproof seal.

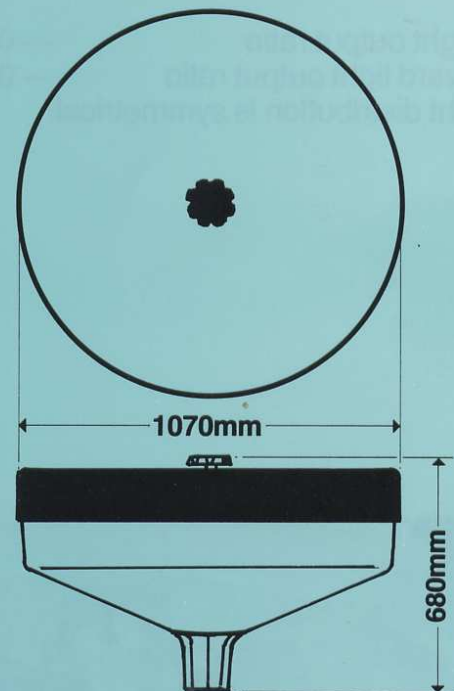
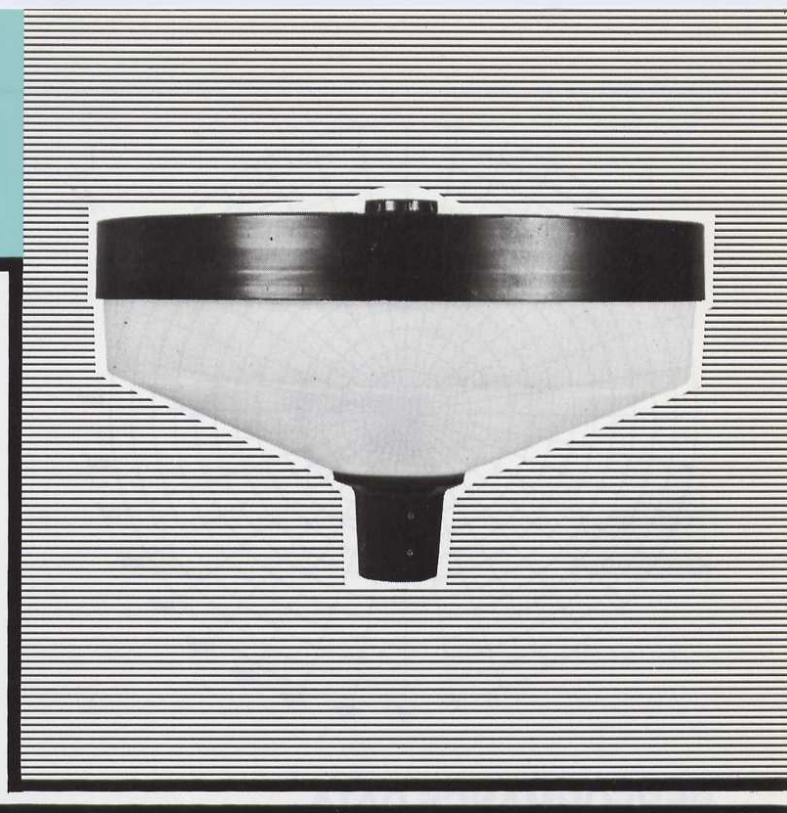
STANDARD FINISH

The aluminium canopy and spigot cap are stove enamelled matt black. The interior is white. Glass fibre canopy matt black or other colours to special order.

Please add suffix 'G' to catalogue number when required with built-in control gear. If required with Glass Fibre canopy add prefix 'F' e.g. FP.222/2/M. If required with socket for photo-cell control add suffix PC e.g. P.222 S/PC.

Spigot Cap 110mm dia. x 163mm high.
Weight — 26kg excluding lamps or control gear.

Projected Area — 0.43m².

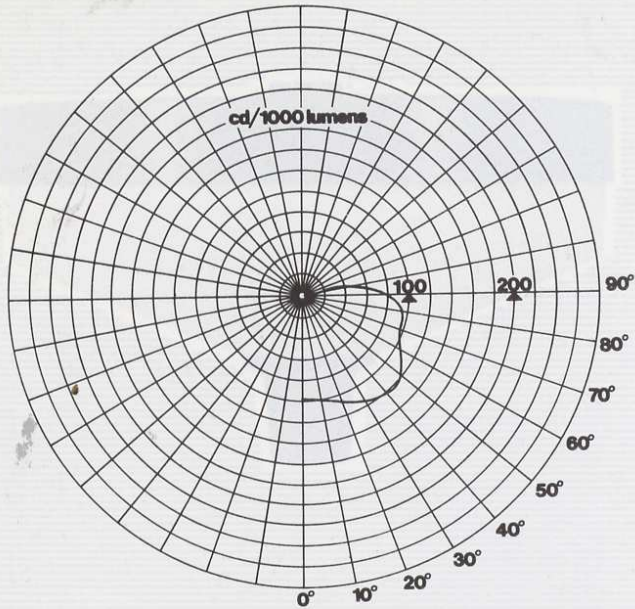


CATALOGUE No.	LAMPHOLDERS	LAMP TYPES
P222/2/M	G E S	2 x 250w/400w MBF or MBI 2 x 150w/250w/400w SON
P222/3/M	G E S	3 x 250w/400w MBF or MBI 3 x 150w/250w/400w SON
P222/4/M	G E S	4 x 250w MBF or MBI 4 x 150w/250w SON
P222/3/S	B C	3 x 90w SOX 3 x 135w SOX

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P222

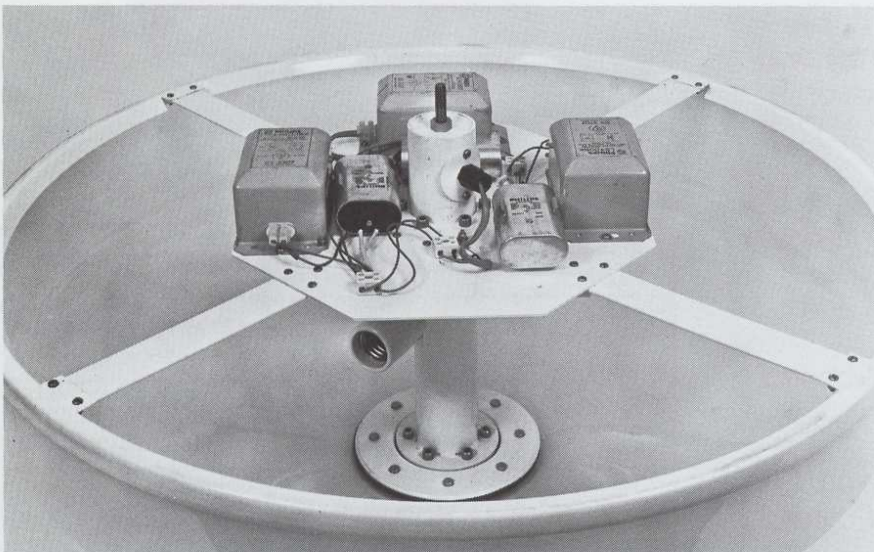


PERFORMANCE DATA

Total light output ratio — 0.72
 Downward light output ratio — 0.63
 The light distribution is symmetrical.



Photograph shows an installation of P222 lanterns on C.U. Limited's 'Highway' concrete columns, at Skelmersdale. *Photograph by courtesy of D.H. Garside, CEng., FIMunE., MICE., AMInstHE., Chief Engineer, Skelmersdale Development Corporation.*



Photograph of the interior of the lantern showing layout of the control gear.

Group A Side Entry Civic Lantern

SPECIFICATION P290

These lanterns are suitable for mounting on walls or columns and are particularly suitable for lighting shopping precincts and roads of civic importance. They are designed to comply with the requirements of BS 4533: Part 2: Section 2.7.

The canopy is moulded in resin-bonded glassfibre mounted on a circular frame of cast LM6-M alloy containing two internal reflectors of high quality aluminium chemically brightened and anodised. The cover bowl is of clear acrylic plastic secured to the canopy by a robust hinge and three captive securing screws. A socket is cast integral with the frame for mounting on a tubular steel bracket and securing by two stainless steel socket head screws. The lampholder is mounted on a steel bracket moulded into the canopy and wired to a terminal block for attachment of the incoming supply cable. A separate earthing screw is also provided.

P407

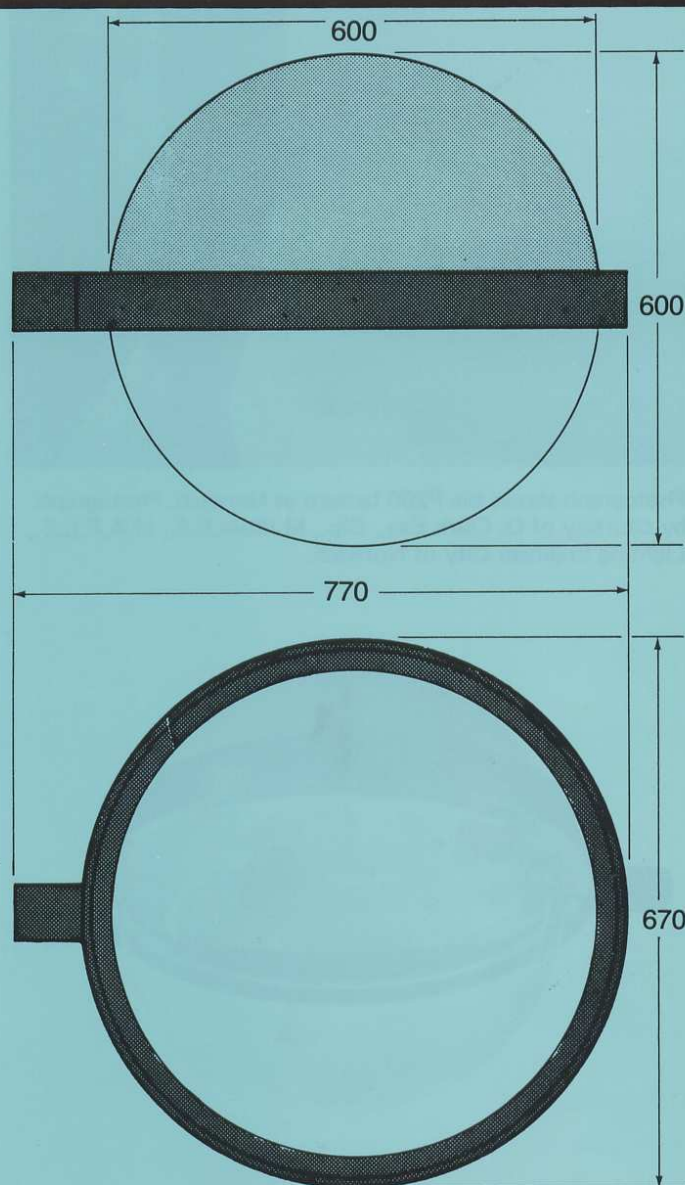
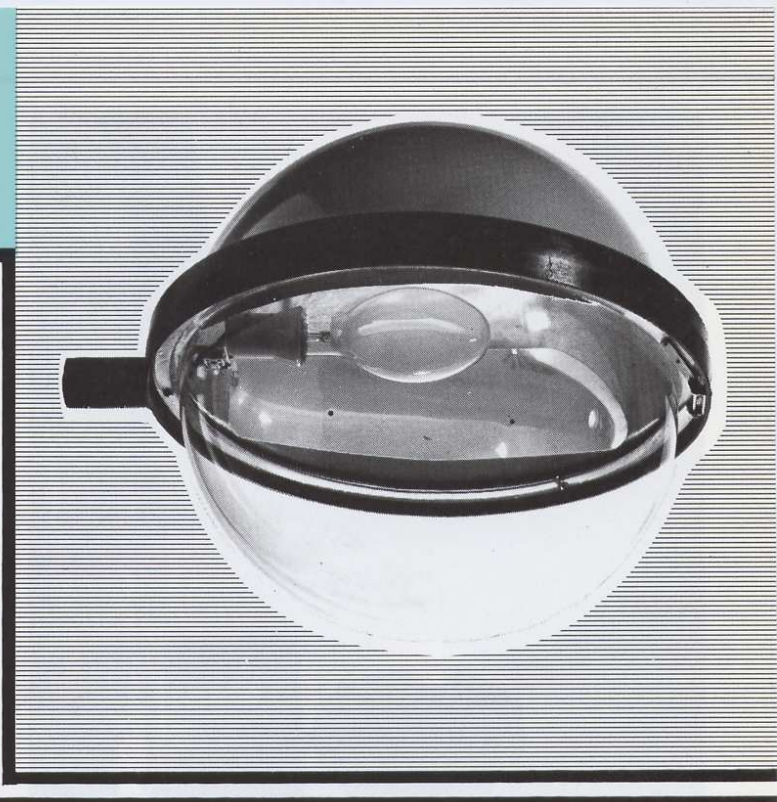
This version employs an opal acrylic canopy which glows slightly at night and the bowl is made from pin spot acrylic.

Weatherproof rating: IP44

CAT. No.	LAMP-HOLDER	LAMP	FIXING
P290	G.E.S.	150/250/400W SON 250/400W MBF/U	42 x 100mm
P407	G.E.S.	150/250/400W SON	42 x 100mm

Control gear can be accommodated in lantern up to 250w size.

P290 Dimensions (shown in millimetres)



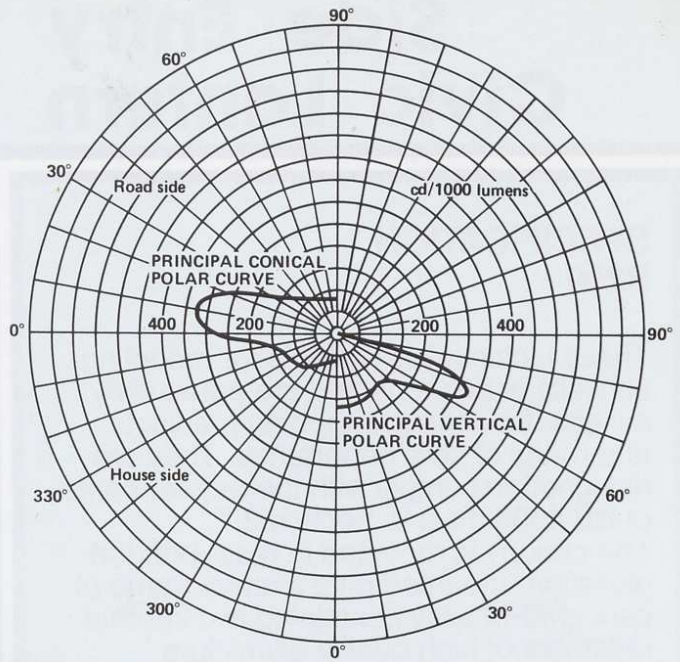
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P290



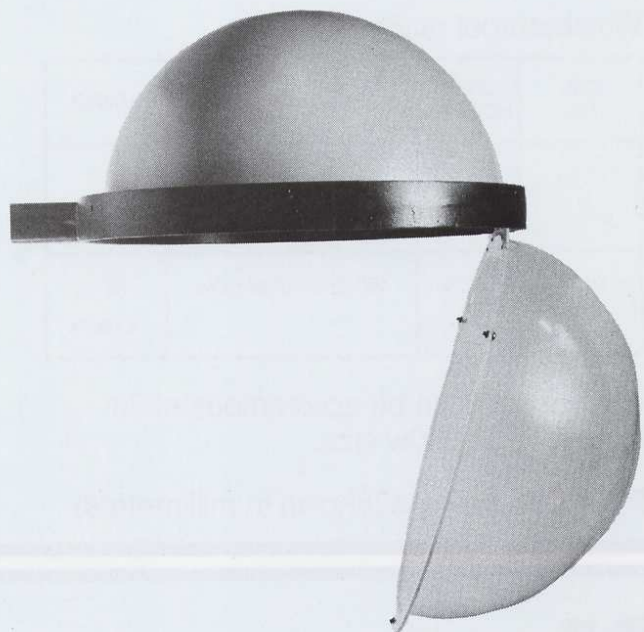
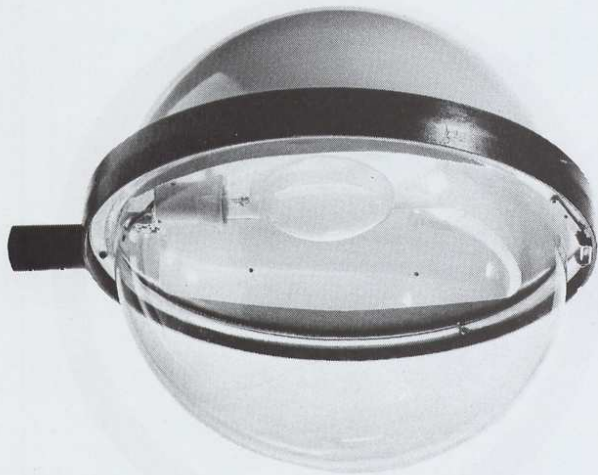
Photograph shows the P290 lantern at Norwich. Photograph by courtesy of D. Clark Esq., Dip., M.Illum.E.S., M.A.P.L.E., Lighting Engineer City of Norwich.



PERFORMANCE DATA

P290 Polar Curves 400 watt SON lamp

Weight (lantern only): 12kg
 Projected Area: 0.29m²
 Wall Bracket: WB549



Photographs of the P290 lanterns, illustrating the cover bowl lowered for access to the lamp

L.T.I. DRUM LANTERN

WITH VARIABLE OPTICS

This lantern complies with the requirements of BS 4533: Part 2 Section 2.7 and provides a cut-off or L.T.I. distribution. Designed for mounting in groups on high masts the Drum lantern is also ideal for lighting motorways and main roads where a short projection is required. The light is controlled in two main beams by internal reflectors which may be individually adjusted to vary the beam direction in azimuth.

The optical unit may also be rotated through 360° and set to obtain a desired orientation of the two beams. This method, enables infinite patterns of light distribution to be obtained without altering the physical appearance of the lantern array.

I.P. Classification: Lamp compartment: 54
Gear compartment: 44

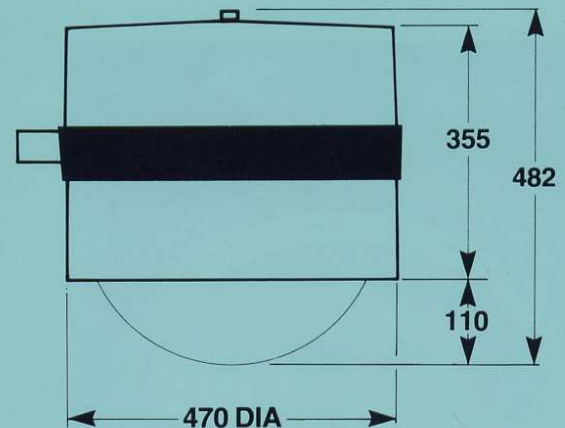
SPECIFICATION

The central frame is a single piece casting of LM6-M silicon aluminium alloy and incorporates a socket for side-entry mounting on a 42mm dia spigot penetrating 100mm and secured by four stainless steel socket-head screws. The canopy is of SIC sheet aluminium secured by a central captive knurled knob and is readily removable for access to the interior.

The lower portion is also of sheet aluminium, similar in form to the canopy, fixed to the underside of the frame and containing the optical unit which comprises adjustable reflectors and a body of spun aluminium enclosed by a clear bowl of polycarbonate plastic. The control gear is mounted on the frame and a terminal block is provided for connection of the incoming supply with a cable clamp and separate earthing terminal.

STANDARD FINISH

Body: Hammered grey
Spinning: White powder coated
Weight: (with 400w SON/T gear)
14.2Kg
Projected area: 0.20m²
Spigot entry: 42mm x 100mm



Dimensions in millimetres

CATALOGUE No.	LAMP AND GEAR
P370G (250w SON)	SON/T 250w
P370G (400w SON)	SON/T 400w
P370G (400w MBI)	MBI 400w

Photocell facility available if required



FM 13959

Phosco
LIGHTING

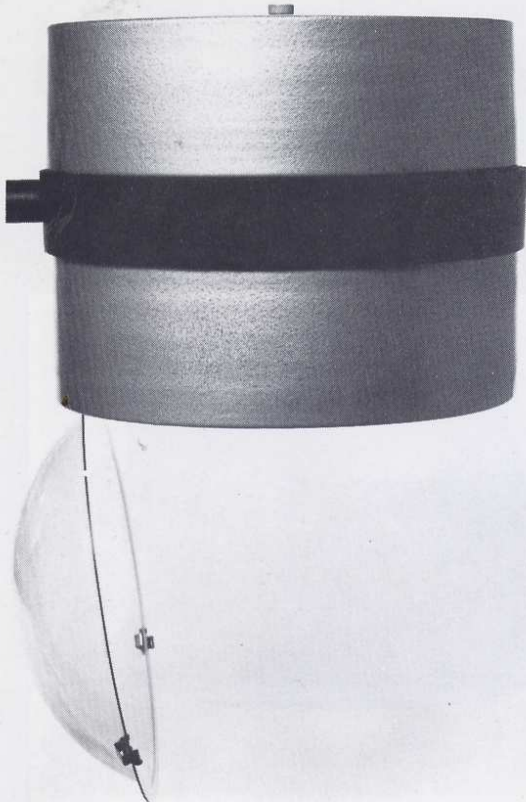
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P370

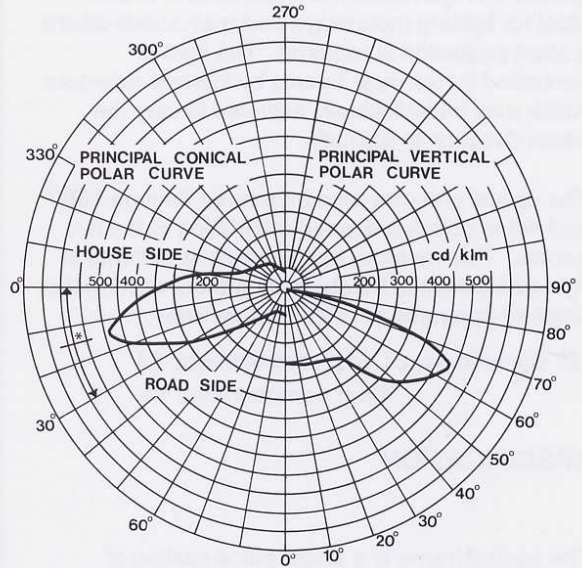
Performance Data*

Downward light output ratio	0.82
Peak intensity	460 cd/klm
Upper limit of beam	68°
Lower limit of beam	59°
0° — 30° zone max	220 cd/klm
min	170 cd/klm

*Varies slightly with toe-in adjustment and lamp types.

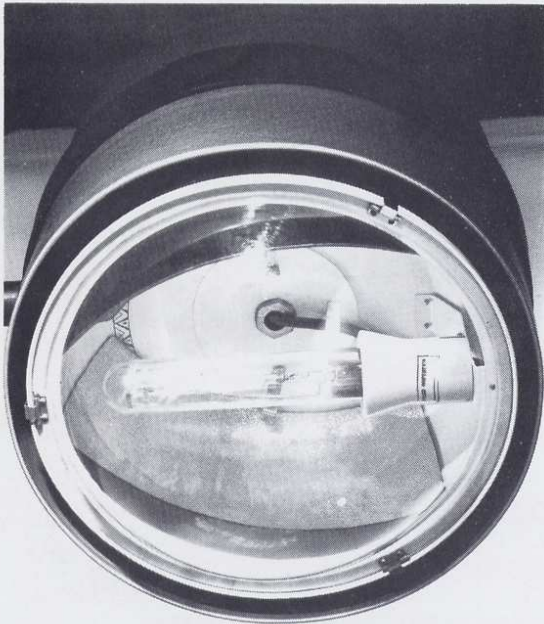


Cover bowl open for access to lamp and reflectors



TYPICAL LIGHT DISTRIBUTION

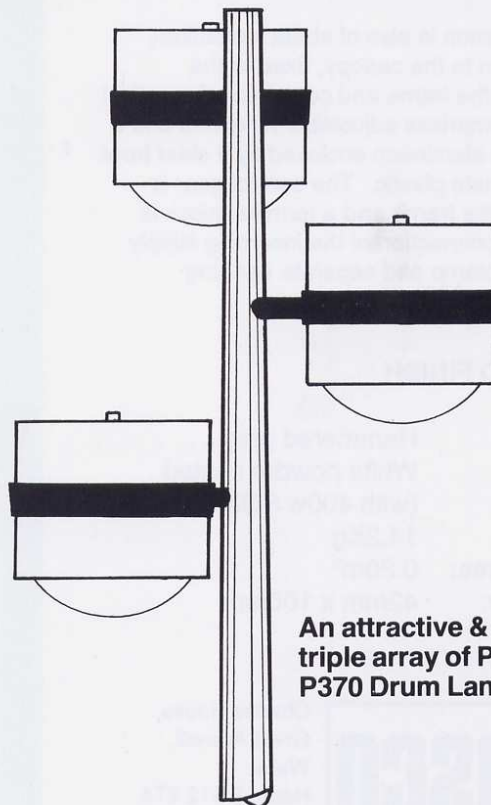
The light distribution complies with the requirements for cut-off lanterns in BS 4533: Pt 301 and is therefore suitable for road lighting to the recommendations of BS 5489: Pt 2. For complex interchanges, large industrial areas, etc., the lanterns may be mounted in groups on high masts and the adjustability enables the overall light distribution from each mast to be moulded to meet the photometric requirements of the installation.



Interior view showing adjustable reflectors



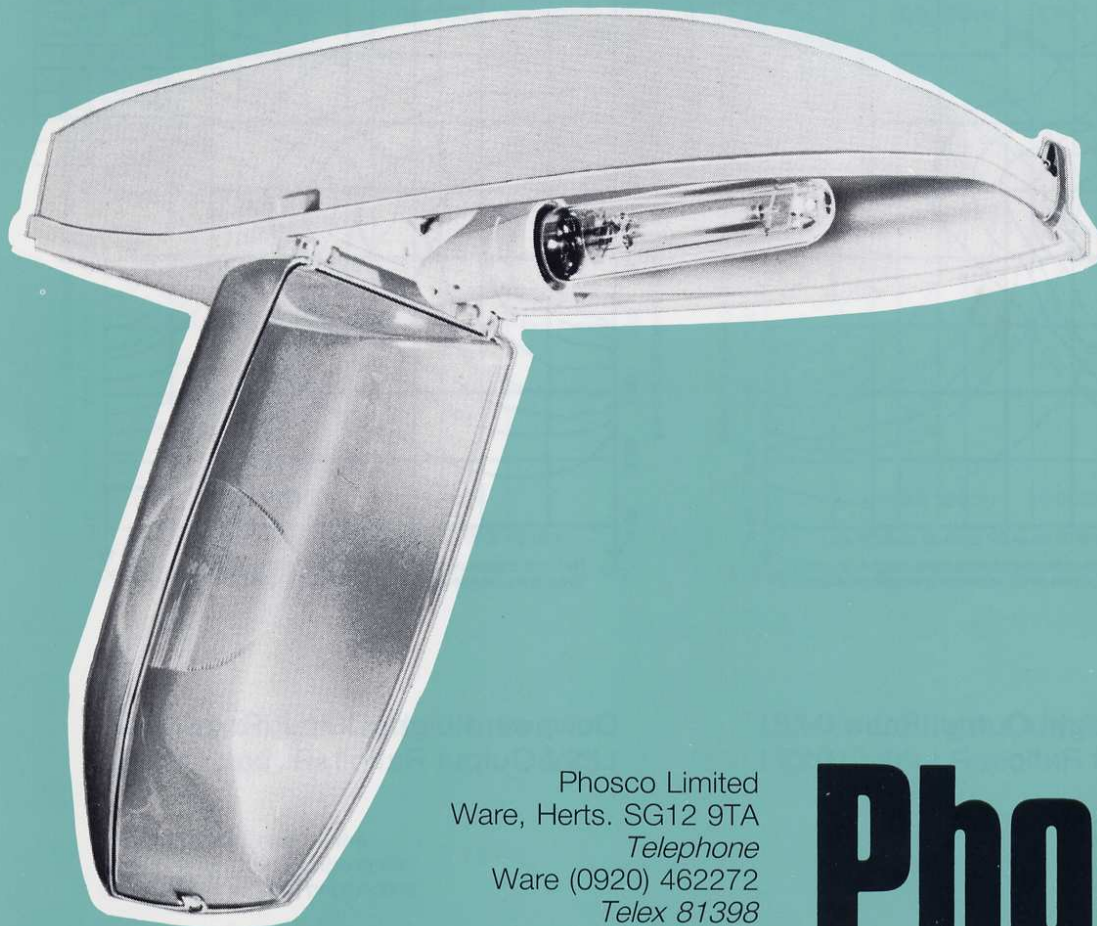
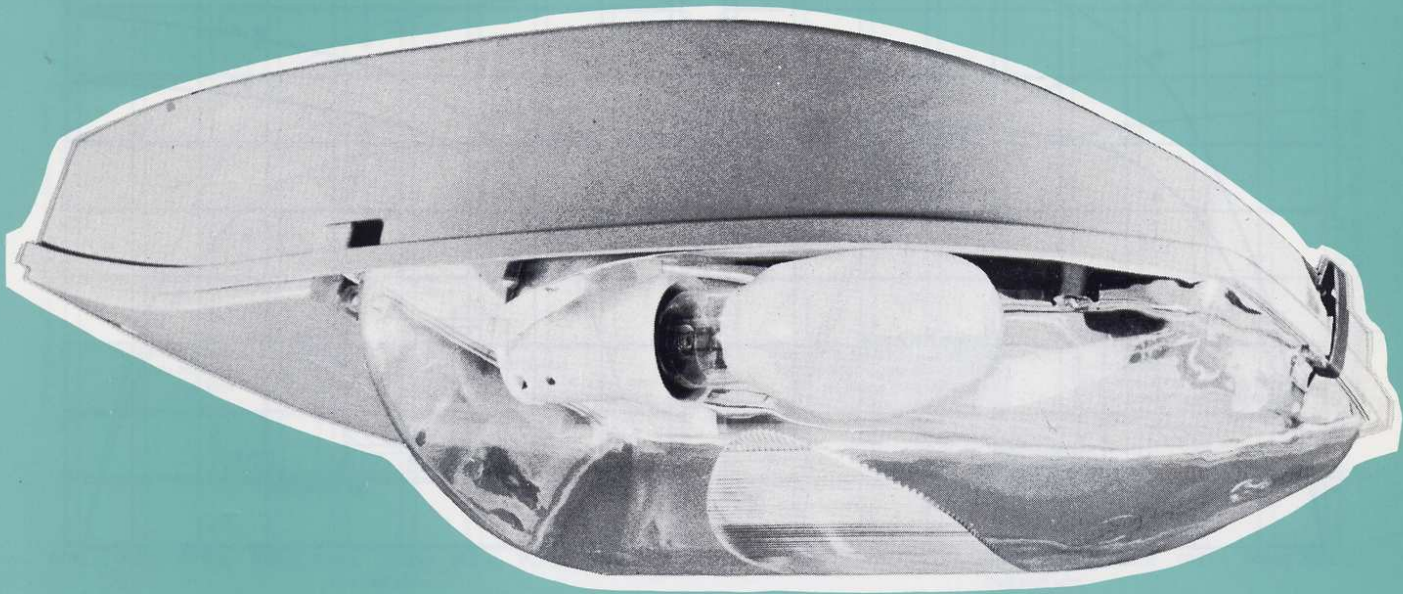
Canopy removed for access to gear department



An attractive & effective triple array of Phosco P370 Drum Lanterns

Phosco Limited reserve the right to amend the design and/or specification without prior notice.

MAIN ROAD LANTERN



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Phosco

P426 lanterns are intended for road lighting at mounting heights of 8m and above.

P426 is available for 150w and 250w SON or SON/T lamps; 250w MBF, MBI or MBIF lamps. P426 will accommodate 400w SON/T lamps in L.T.I. mode. All versions are available for remote or integral gear.

Compliance

The lanterns comply in all respects with the requirements of BS4533: Part 2: Section 2.7: 1976.

IP Classification: Lamp compartment IP55; Gear compartment IP44.

Mounting

A side entry socket accepts a spigot 42mm nominal diameter and 100mm long. Integral gear versions wired on to detachable tray.

Lampholder

Porcelain skirted GES wired with heat-resisting insulated wire to a noryl terminal block.

Lantern Construction

The lantern is constructed around a single piece compression moulded canopy made in glass reinforced polyester resin - light in weight, strong and ultraviolet proofed.

Integral gear lanterns have the control gear on a detachable tray housed in a separate compartment at the entry end of the body, enclosed by an injection moulded polycarbonate hinged cover plate. One or two part photoelectric cell control units can be mounted on the canopy.

Optical control is provided by a pair of high purity aluminium reflectors brightened and anodised against corrosion. The light distributions can be either cut-off or semi-cut-off type. These alternative distributions are achieved by an adjustable moulded lampholder bracket.

A precision injection moulded enclosing bowl made of U.V. stabilised anti-vandal polycarbonate or acrylic is hinged to the body and fastened by a robust stainless steel toggle catch. A sponge gasket prevents the entry of dust and moisture.

The body finish is self coloured light grey.

DLOR ranges from 0.74 (SON. CO) to 0.79 (SON/T SCO).

Dimensions: overall length - 746mm

overall depth - 240mm

overall width - 340mm

Lantern weight without control gear: 4.7Kg

Lantern weight windage area: 0.133m²

Ordering Details

P426 is available with control gear in canopy add suffix 'G'

P426 is available with fitted NEMA socket add suffix 'PC' or hole for 2-part cell add suffix 'H'

Example: P426/G/PC

P426PK is a 150w SON version available in a READYLITE PACK complete with wall bracket, photocell and fixings, etc.