

HIGH MAST LIGHTING

**Composite high mast
lighting systems
Docks, car parks,
major roads, industrial
sites, airports etc.
Glass fibre canopies**

Phosco Limited
Charles House,
Great Amwell,
Ware, Herts SG12 9TA
Tel: (0920) 462272
Telex: 81398
Fax: (0920) 461370

Phosco
L I G H T I N G

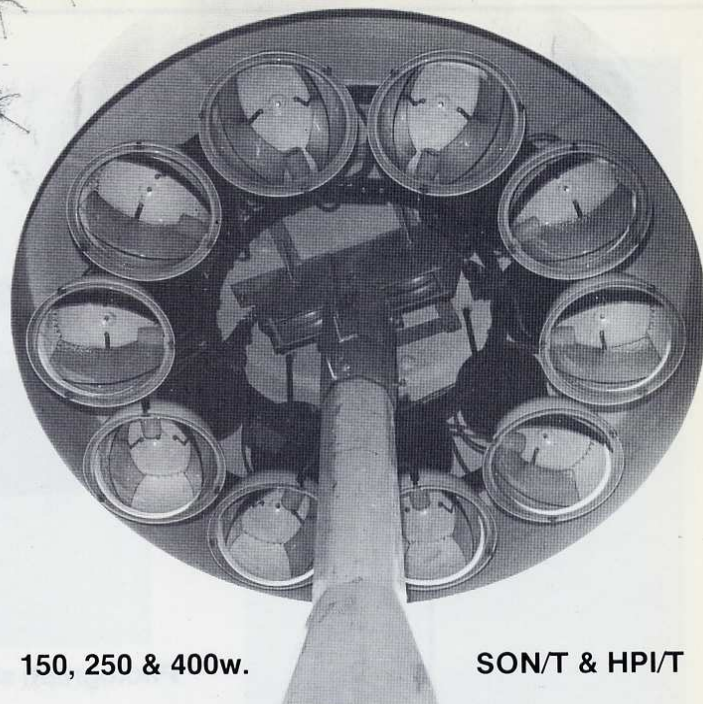
High Mast Lighting Unit

SPECIFICATION

The Phosco P213 High Mast Lighting Unit is versatile in application, simple to maintain and of pleasing appearance. It consists of a steel cradle, suspended by raising and lowering equipment, to which are attached weatherproof variable geometry lanterns and control gear boxes, surmounted by a single-piece canopy of reinforced glass fibre securely bolted to the mast head. Each individual P220/2 lantern comprises a body of spun aluminium enclosed by a clear bowl of polycarbonate plastic and containing adjustable reflectors to provide directional control of light from one Mercury halide or high pressure sodium lamp. Up to ten such lanterns with their control gear boxes can be accommodated in the P213 canopy and each one provides cut-off light distribution in accordance with BS 4533 Pt.2 Sec. 2.7. The reflectors may be set at predetermined positions to obtain axial or non-axial asymmetric distribution, possible variation being from 0° to 30° in azimuth for each of the two main beams. In addition each complete lantern may be rotated about its vertical axis and set at any required orientation. The P213 lighting unit incorporating P220/2 lanterns is thus ideal for lighting roads of the motorway class, complex road intersections and areas of civic or industrial importance. From each mast the flexibility of adjustment enables the light to be controlled in the most effective and economical way for the particular location.

PERFORMANCE DATA

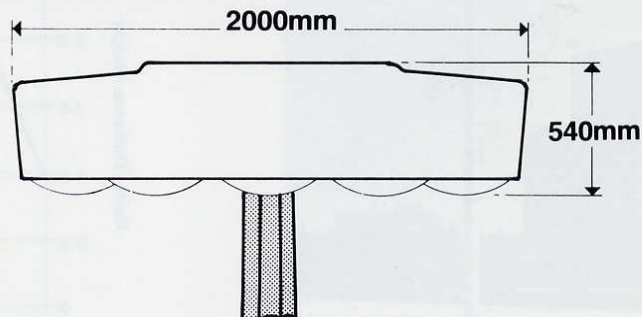
The light distribution from each P220/2 lantern complies with the requirements for cut-off lighting in BS 4533 Pt.2 Sec. 2.7. Major road lighting schemes can thus be planned in accordance with the basic geometry recommended in BS 5489, Parts 1 and 2. The adjustability of the reflectors enables axial or non-axial asymmetric distribution to be obtained to suit the location of the masts. If required, symmetrical distribution can also be obtained by mounting the lamps radially around the mast. For complex road intersections and similar situations it is possible to emphasize the lighting in any desired direction by appropriate adjustment of individual lanterns.



150, 250 & 400w.

SON/T & HPI/T

DIMENSIONS



Weight of P213 Canopy	50 kg
Weight of complete unit with 10 lamps	203 kg
Weight of complete unit with 8 lamps	180 kg
Weight of complete unit with 6 lamps	156 kg
Weight of P220/2 lantern	2.7 kg
Weight of P220/2 lantern (including gear)	12kg
Projected Area of Canopy	1 sq. m

CATALOGUE NUMBERS

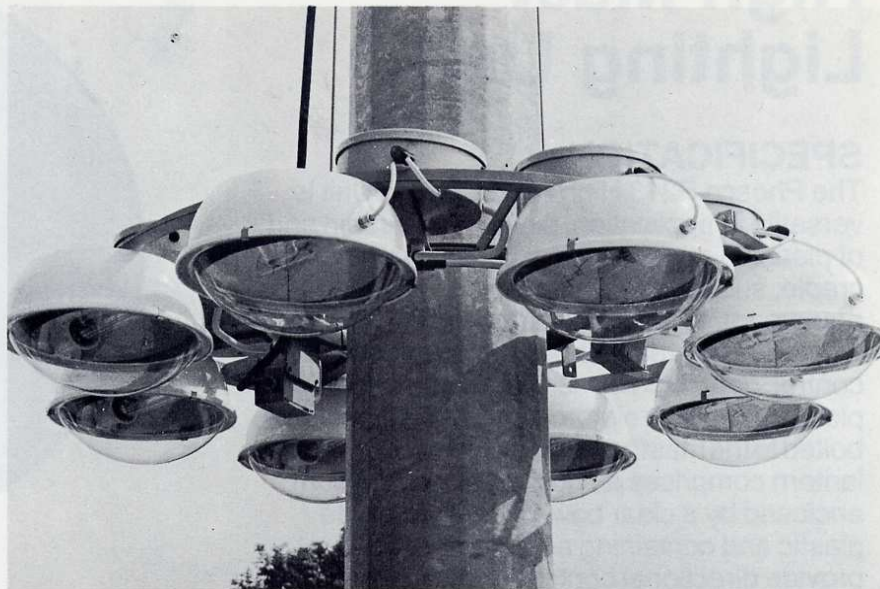
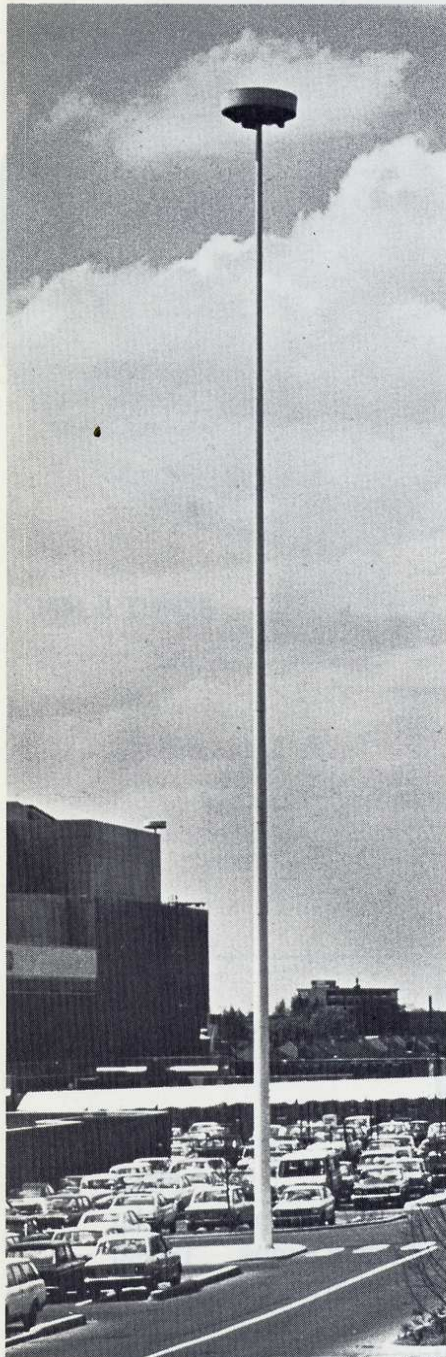
P213 Glass fibre canopy and steel cradle
P220/2 Cut-off lighting unit for HPI/T or SON/T
WB503 Control gear box

Standard canopy cover: WHITE
Other colours to order.

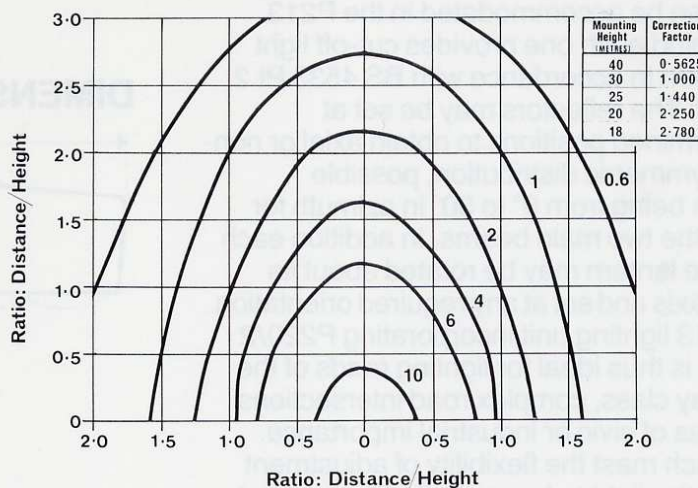
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LIGHTING

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Charles House
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Ware, Herts SG12 9TA
Telephone (0920) 462272
Telex 81398
Fax (0920) 461370

P213



Photograph shows the lanterns lowered for maintenance purposes.

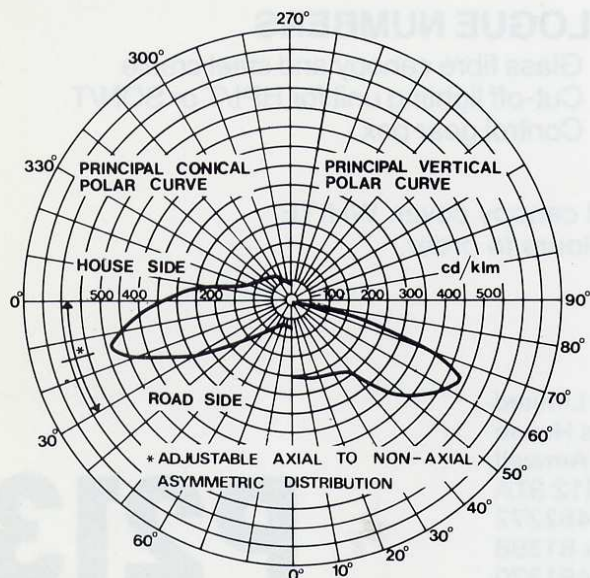


Illuminance Contours (Lux) on horizontal plane from one P220/2 lantern with a 400w SON/XL-T (56500 lumens) at a mounting height of 30 metres.

Note: Conversion factors for other lamp types:-

Lamp Types	Factor
150w SON/XLT	0.31
250w SON/XLT	0.58
250w MBI/T	0.27
400w MBI/T	0.5

The polar curves indicate the characteristic light distribution from one P220/2 lighting unit with 400 watt SON/T lamp.



Downward light output ratio..... 0.76
 Peak intensity 475 cd/klm
 Upper limit of beam 67°
 Lower limit of beam 56°
 0°-30° zone max 220 cd/klm
 min 165 cd/klm

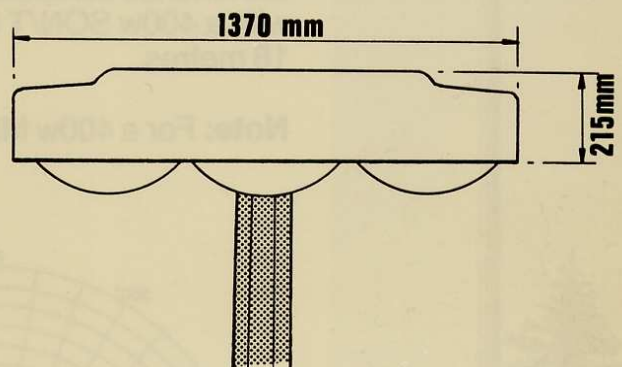
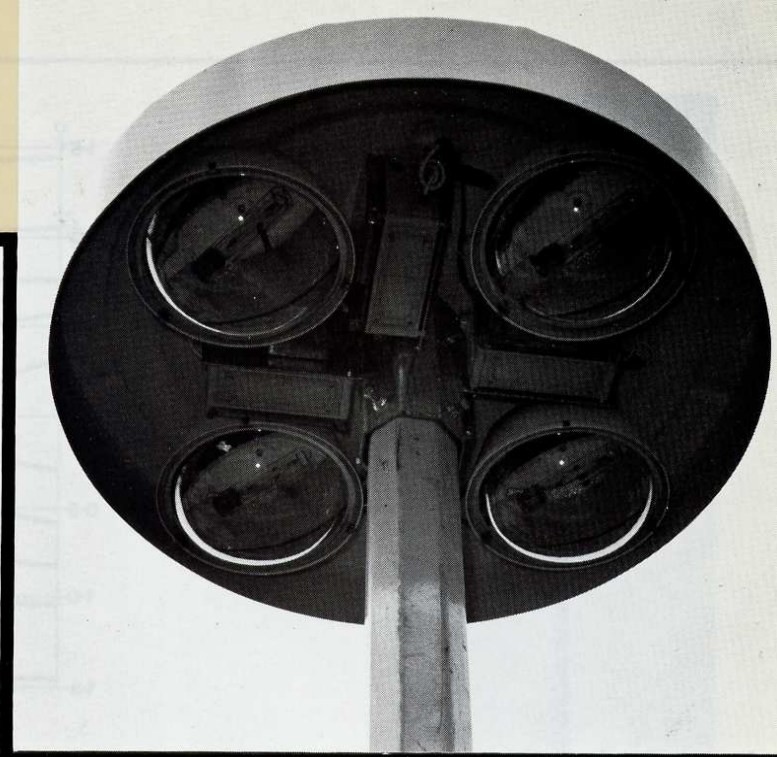
High Mast Lighting Unit (Fixed Head)

SPECIFICATION

This lantern array has been designed for mounting on masts about 18 metres in height for lighting major traffic routes, complex road intersections and areas of civic or industrial importance. The lantern consists of a glass fibre canopy securely bolted to the mast head and carrying 2, 3 or 4 cut-off lanterns. Catalogue No. P220/2, suitable for one 400w mercury halide or high pressure sodium lamp. Each individual lighting unit comprises a body of spun aluminium enclosed by a clear bowl of polycarbonate plastic and containing *adjustable anodised aluminium reflectors* to provide directional control. The control gear is accommodated in weatherproof aluminium boxes attached to the head frame.

The reflectors may be set at predetermined positions to obtain axial or non axial asymmetric distribution, possible variation being from 0° to 40° in azimuth for each of the two main beams.

In addition each complete lighting unit may be rotated about its vertical axis and set at any required orientation. From each mast this flexibility of adjustment enables the light to be controlled in the most effective and economical way for the particular location.



ORDERING DETAIL:

P232 High Mast Lighting Unit (Fixed Head) comprising of glass fibre canopy housing 4 x P220/2 cut off lighting units and control gear boxes prewired with 400w MBI/H or 250/400w SON/T control gear. Please specify lamp and control gear required.
E.G. P232/400w SON/T

Weight of P232 canopy	29kg
Weight of steel head frame	18kg
Weight of P220/2 lantern	2.7kg
Weight of WB506 box with gear (max) ...	9.1kg
Projected area of canopy	0.3m ²

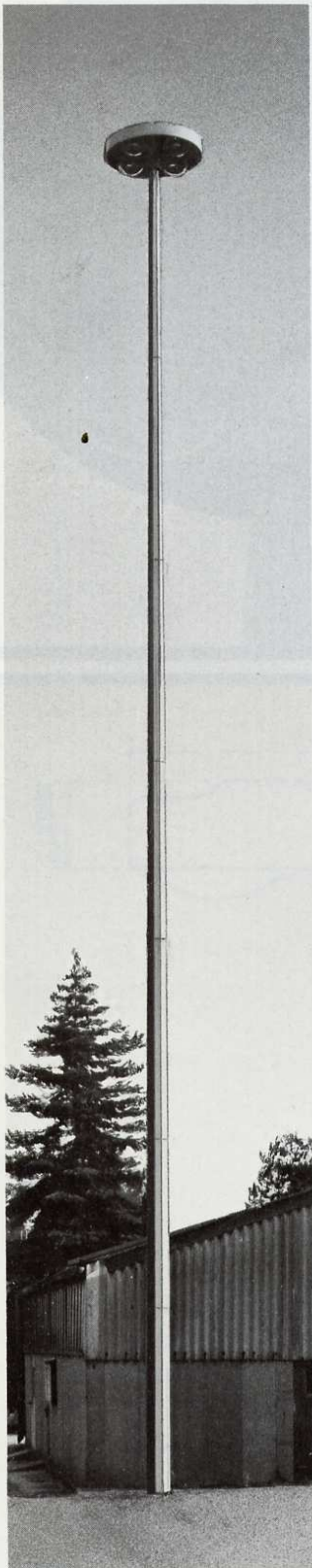
Phosco Limited reserve the right to amend the design and/or specification without prior notice.

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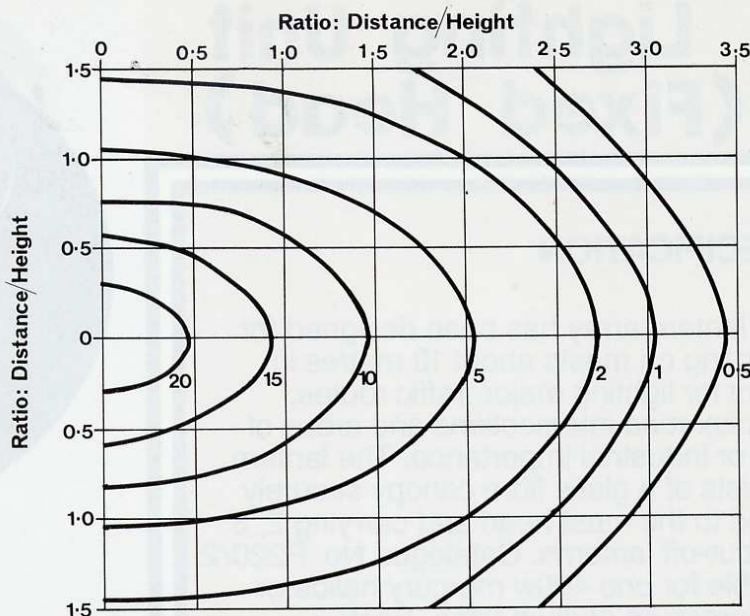
Phosco Limited
Ware, Herts. SG12 9TA
Telephone
Ware (0920) 2272
Telex 81398
Fax: (0920) 61370

P232

Printed by Graphic 4/88 Welwyn Garden City/Hertfordshire

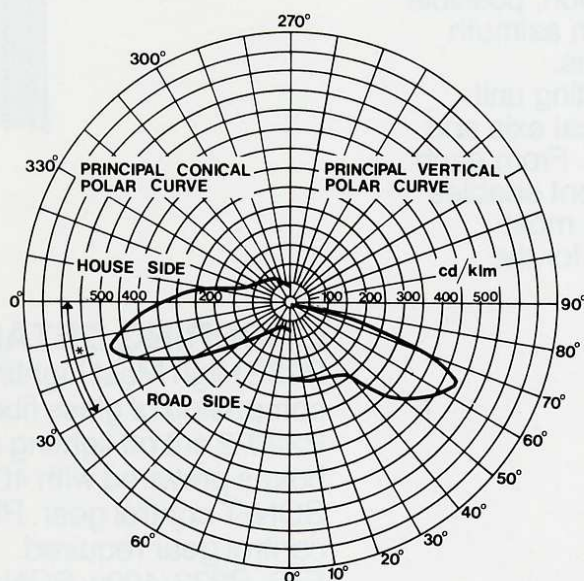


Mounting Height (METRES)	Correction Factor
20	0.810
18	1.000
16	1.266
14	1.653



Illuminance contours (Lux) on horizontal plane from one P220/2 lantern with a 400w SON/T lamp (46500 lumens) at a mounting height of 18 metres.

Note: For a 400w MBI/H lamp (29200 lumens) multiply values by 0.63



* ADJUSTABLE AXIAL TO NON-AXIAL ASYMMETRIC DISTRIBUTION

PERFORMANCE DATA

The light distribution from each individual unit, Catalogue No. P220/2, complies with the requirements of B.S. 4533 Pt.2 Section 2.7 arrangements in relation to the mounting height and road width in accordance with the basic principles of B.S. 5489 Parts 1 and 2. The polar curves indicate the characteristic light distribution from one P220/2 lighting unit with 400w SON/T lamp.

Downward light output ratio	0.76
Peak intensity	475 cd/klm
Upper limit of beam	67°
Lower limit of beam	56°
0° to 30° zone max	220 cd/klm
0° to 30° zone min	165 cd/klm

1 kw High Mast Lantern

Specification

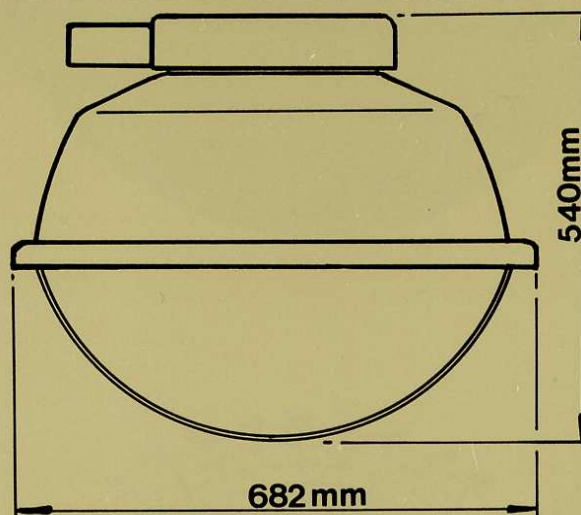
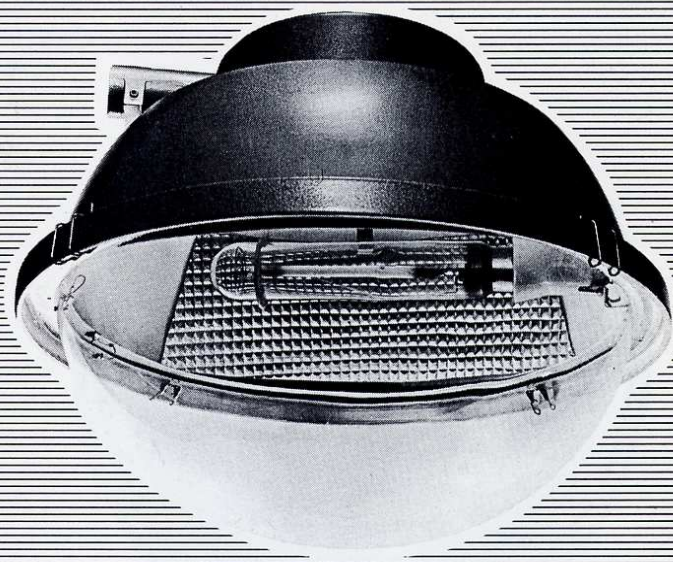
The lantern is principally designed for use at mounting heights of 15 metres and above on conventional columns or high masts. It is suitable for lighting motorways, complex and multi-level road junctions, large industrial sites, car parks, dockyards, railway marshalling yards and many other applications.

The lantern houses a 1000 watt SON/T or 1000 watt MBI lamp and produces a cut-off road lighting distribution. The azimuth angle between the two beams can be adjusted from 110° to 180°. This is achieved by relocating the mirrors in the lamp housing. The mirrors are held in position by a simple spring clip. Further adjustments can be achieved by rotating the whole lamp compartment relative to the mounting spigot casting.

By utilising this 'variable geometry' facility with a single lantern or an array of lanterns the light distribution can be made to match the shape of the area to be lit, thus achieving maximum light flux utilisation.

Construction

The aluminium spigot casting supports the lamp housing from a central fixing point. The spigot casting also provides a cool wiring box for the mains electrical connections. Access is via a spun aluminium lid. The lamp housing consists of a spun aluminium canopy and a clear acrylic bowl retained by four stainless steel clips and two stainless steel wire hinging straps. If required, the bowl can be completely removed for cleaning by unclipping the wire straps. The housing also contains two adjustable reflectors for optical control.



Projected Area : — 0.28m²
Weight : — 11Kg
Fixing : — Side entry 42 x 100mm

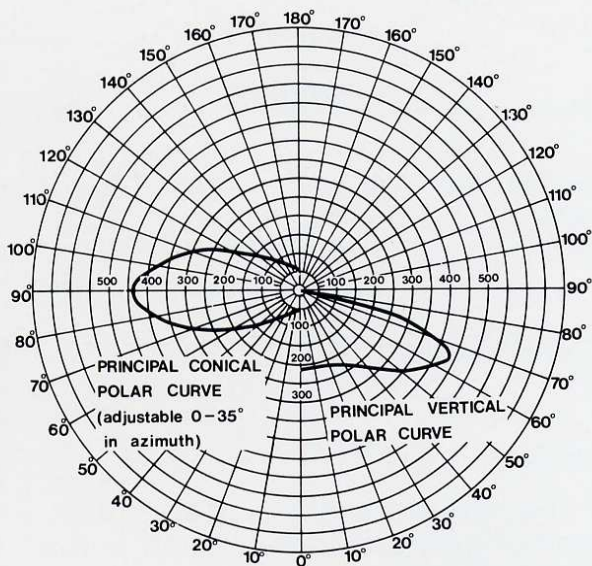
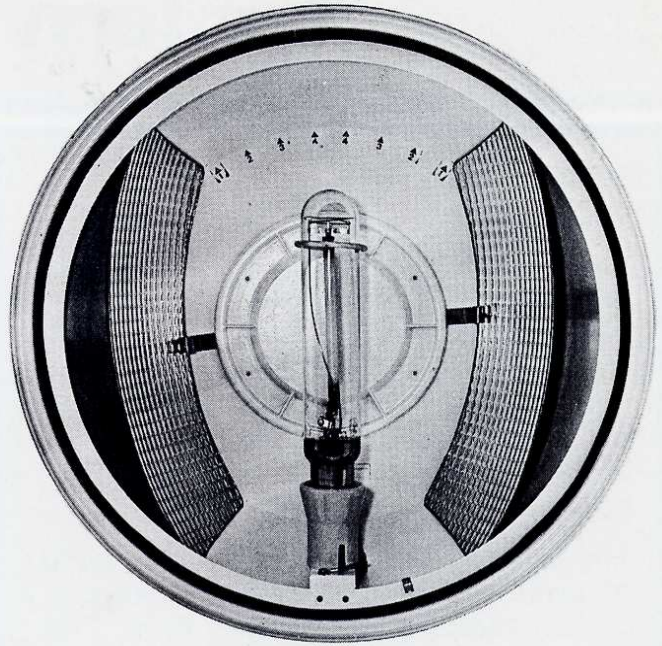
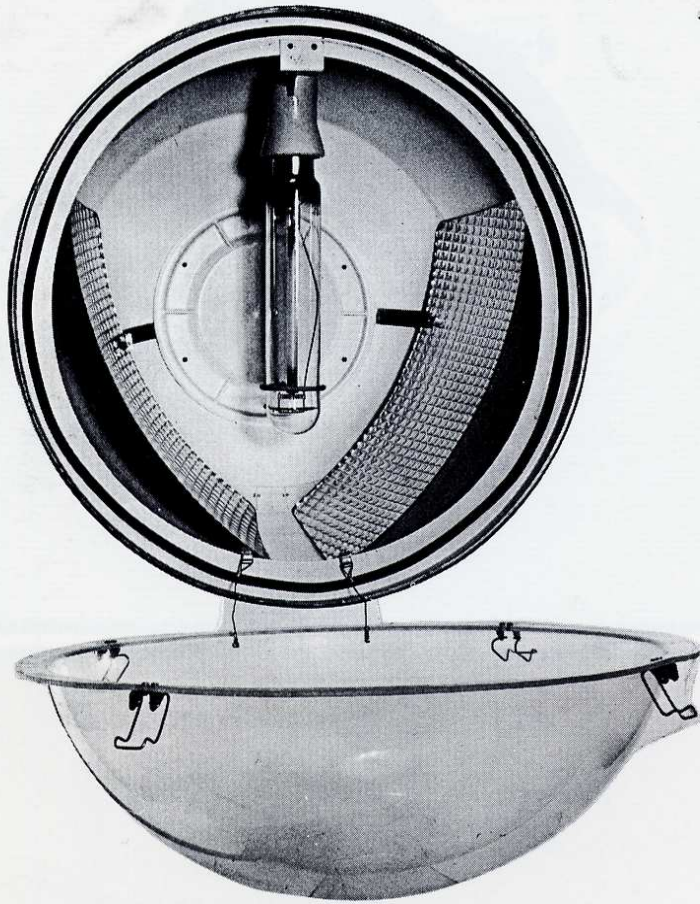
I.P. Classification: 44

Finish

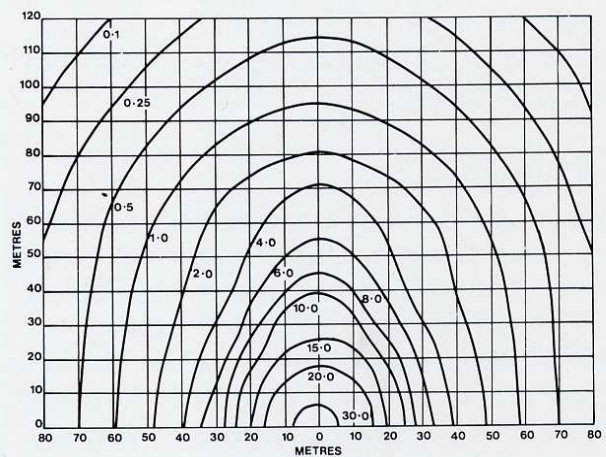
All the external metal surfaces are hammer grey stove enamelled and all exterior fixings are made from stainless steel. The castings are made from LM6M aluminium which has a very low copper content and hence is extremely resistant to corrosion.

Phosco
LIGHTING

P380



Downward Light Output Ratio . . . 0.85
 Peak Intensity 440 cd/klm
 Upper Limit of Beam 67°
 Lower Limit of Beam 58°
 0°-30° ZONE Max 240 cd/klm



ISO-LUX DIAGRAM

P380 LANTERN WITH 1000W SON/T LAMP

MOUNTING HEIGHT 30M

I. P. RATING :- 44