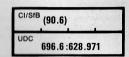
# RESIDENTIAL AND AMENITY

MU8 Post Top Lantern	219
MU80	223
Bollards	227
MFB16 Fluorescent Bulkhead	004
Luminaires	231
W4320, W4321, W4325, W4326	233
Heavy Duty Bulkhead Luminaires	233

Page





## MUS

# Lanterns for municipal lighting

A range of post-top lanterns consisting of an electrical unit with integral gear, suitable for 80/125W mercury fluorescent or 70W high-pressure sodium lamps, and a choice of six different bowl styles.

> Note: Mercury fluorescent lamps UK marking MBF = Philips International marking HPL-N

### RANGE

MU8 – Electrical unit with integral control gear.

S-Spherical bowl.

L - Low cone bowl.

E-Elliptical bowl.

H-High cone bowl.

V – 'Venus' bowl (One-piece spherical bowl with black styling ring).

M – Mushroom bowl for downward light distribution.

### **APPLICATIONS**

Suitable for use wherever the environment demands a high standard of lantern design, with particular applications in:-

- ■Residential areas
- ■Shopping precincts
- ■Walkways
- ■Leisure centres
- ■Public parks and gardens
- ■Hospital and industrial premises

Handbook Ref.

3.2.1 5.78 PL 1819

To reorder this data sheet quote

PL 9358

Replaces

219

■Gear consists of an encapsulated ballast, power factor capacitor, two terminal blocks, and porcelain FS lampholder.

■Tapped ballast permits lantern to be used with 80W or 125W mercury lamps by changing a single wire. 70W SON version is available.

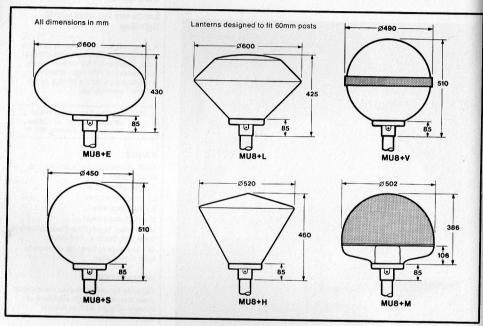
- ■Bowls are made from vandalresistant low-pressure polythene; the material resists ultra-violet light and eliminates discolouration over the life of the product.
- ■Two-part mushroom bowl has light-proof glass-reinforced polyester top cover fixed to clear polycarbonate under bowl by means of a silicone
- ■Bowls are sealed to electrical unit by means of a chloroprene gasket; a foam plastic sealing ring surrounds the incoming cables where the lantern is mounted on the post.
- ■Simply installed on post-top columns with 60mm o.d. spigots by means of a single locking grub screw.

  An adaptor for 76mm spigots is available.
- ■Bowl removes and hooks on to electrical unit for simple, speedy maintenance and relamping.
- ■All metal parts are made from corrosion-proof materials.

### RANGE OF OPERATION

240V 50Hz supplies. Normal outdoor operation.

### DIMENSIONS



### WEIGHTS

Catalogue No.	Weight (kg)
MU8+S	5.1
MU8+L	5.4
MU8+E	5.4
MU8+H	5.1
MU8+V	5.5
MU8+M	5.1

### LAMP DATA

Lighting Design Lumens	Lamp Volts	Lamp Current	Total Circuit Watts	Сар	Packing quantity
5800*	90	1.0	85	FS	40
3650	115				32
3650	115	0.8			40
5800	125	1.15			24
6200	125	1.15	137		24
	Design Lumens 5800* 3650 3650 5800	Design Lumens         Volts           5800*         90           3650         115           3650         115           5800         125	Design Lumens         Volts         Current           5800*         90         1.0           3650         115         0.8           3650         115         0.8           5800         125         1.15	Design Lumens         Volts         Current Watts           5800*         90         1-0         85           3650         115         0-8         88           3650         115         0-8         88           3650         125         1-15         137	Design Lumens         Volts         Current Watts           5800*         90         1.0         85         ES           3650         115         0.8         88         ES           3650         115         0.8         88         ES           5800         125         1.15         137         ES

### **MATERIALS & FINISH**

Electrical unit: Glass-reinforced polyester (GRP), grey finish, with encapsulated ballast, PF correction capacitor and terminal blocks.

Lampholder: Porcelain ES.

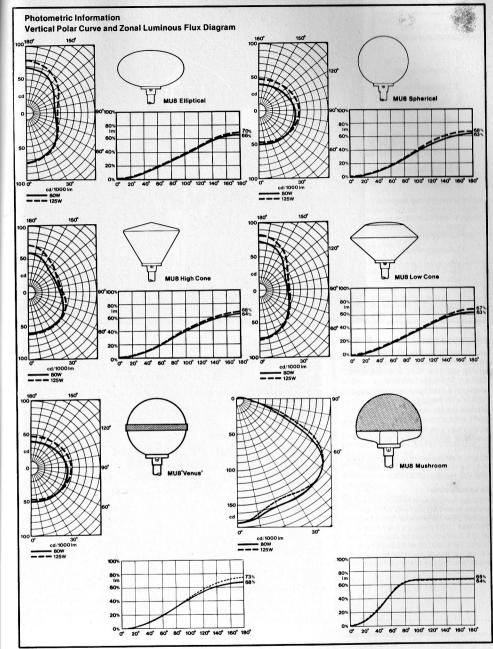
### Bowls: S. L. E & H: Low-pressure polythene,

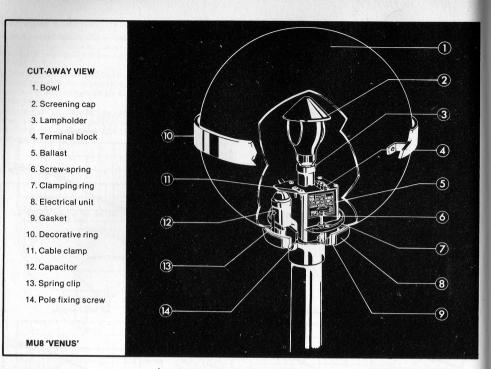
opal finish.

V: Low-pressure polythene, opal finish, aluminium styling ring, stoveenamelled black.

M: GRP top cover, grey finish with silicone seal to clear polycarbonate under bowl.

### LIGHT DISTRIBUTION DIAGRAMS





### SPECIFICATION

- ■Residential post-top lantern with choice of six vandal-resistant bowls, for use with 70W SON, 80W and 125W mercury fluorescent lamps.
- ■Integral control gear (dual wattage facility with mercury lamps).
- ■Bowls are UV-resistant; all metal parts are corrosion resistant.
- ■Complies with BS 4533 2.2 Class II electrical appliances (earth not required).
- ■Light distribution of mushroom bowl is of the cut-off type in accordance with CIE recommendations.

### To specify state:

Post-top lantern with bowl (to individual choice from 6 styles) and integral control gear for use with 70W SON, 80W and 125W mercury fluorescent lamps. Lantern must be rainproof and insect-tight, and must be built from vandal-resistant and corrosion-proof materials. Substantially as Philips MU8.

### ORDERING DATA

Catalogue No.	Description
MU8	Electrical unit complete with control gear for 80/125W Mercury
MU70	Electrical unit complete with control gear for 70W SON
MU70 or MU8 + S	Electrical unit with spherical bowl
MU70 or MU8 + L	Electrical unit with low cone bowl
MU70 or MU8 + E	Electrical unit with elliptical bowl
MU70 or MU8 + H	Electrical unit with high cone bowl
MU70 or MU8 + V	Electrical unit with Venus bowl
MU70 or MU8 + M	Electrical unit with mushroom bowl

Lanterns are individually packed

Please order lanterns in the form given in the following example:–25 Philips lanterns MU8  $\pm$  V.

Note that lamps should be ordered separately.

Note: Mercury fluorescent lamps. UK marking MBF = Philips International marking HPL-N. Lamp: Made in Holland.
Electrical Unit: Made in UK.
Bowl: Made in Holland.



# UDC 696.6:628.971

# **MU80**

### Lanterns for municipal lighting

A range of post-top lanterns consisting of electrical units for 150W and 250W high-pressure sodium lamps or 250W mercury fluorescent lamps, and a choice of three bowl styles to fit the electrical unit.

Note: Mercury fluorescent lamps
UK marking MBF = Philips
International marking HPL-N
Mercury halide lamps
UK marking MBI = Philips
International marking HPI

### RANGE

MU80 – Electrical unit with control gear for 150W SON, 250W SON or 250W Mercury.

BIG S - Spherical bowl.

BIG E - Elliptical bowl.

BIG H - High cone bowl.

### APPLICATIONS

Suitable for use in situations where appearance and high light output is important, such as:

- ■Residential areas
- ■Shopping precincts
- ■Walkways
- ■Leisure centres
- ■Public parks and gardens
- ■Hospitals and industrial premises

inospitais and industrial premises

Handbook Ref.	3.2.2
To reorder this data sheet quote	5.78 PL 1827
Replaces	NEW

### **FEATURES**

- ■Precision-made electrical unit with high-pressure die-cast body.
- ■Gear consists of ballast, power factor correction capacitor(s), (ignitor on SON lamps only) terminal block and porcelain GES lampholder.
- ■Bowls are made from vandalresistant low-pressure polythene with spun-aluminium canopies; the underbowl material resists UV light. Canopies are lacquered white inside, grey outside to resist corrosion.
- Lanterns are rain-proof and insectproof; chloroprene gaskets seal the canopy to the under bowl and the complete bowl assembly to the electrical unit. A foam plastic sealing ring surrounds the incoming cables where the lantern is mounted on the post.
- ■Simply installed on post-top columns with 76mm o.d. spigots. The neck of the electrical unit is accurately aligned by means of two ridges and the assembly is secured by two locking screws.

- ■Canopy is firmly secured by means of a single centrally-mounted cap nut. The canopy can be inverted and rested on the cap nut stud to give ample working clearance for servicing or relamping.
- ■Ideal for higher mountings of 8–10 metres.

### **MATERIALS & FINISH**

Electrical unit: High-pressure die-cast aluminium, corrosion-resistant grey finish, complete with control gear components.

Lampholder: Porcelain GES.

Bowls: Spun aluminium canopy,
lacquered white inside, grey outside,
sealed to low-pressure polythene
under bowl with chloroprene gasket.

### RANGE OF OPERATION

240V 50Hz supplies. Normal outdoor operation.

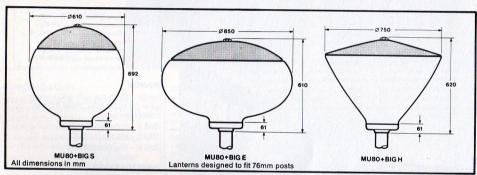
### SPECIFICATION

- ■Residential post-top lantern with choice of three vandal-resistant bowls.
- ■Integral control gear for 150W or 250W high-pressure sodium lamps, or 250W mercury fluorescent lamp.
- ■Bowls are UV-resistant; all metal parts are corrosion-resistant.
- ■Complies with BS 4533 2.2 Class II electrical appliances (earth not required).

### To specify state:

Post-top lantern with choice of three bowl styles and integral control gear for use with 150W or 250W high-pressure sodium lamps or 250W mercury fluorescent lamp. Lantern must be insect-tight, and must be built from vandal-resistant and corrosion-resistant materials. Substantially as Philips MU80.

### DIMENSIONS

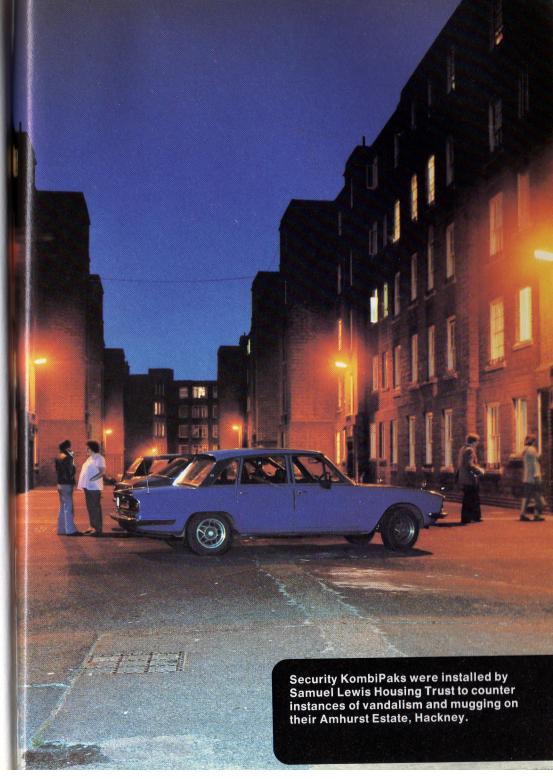


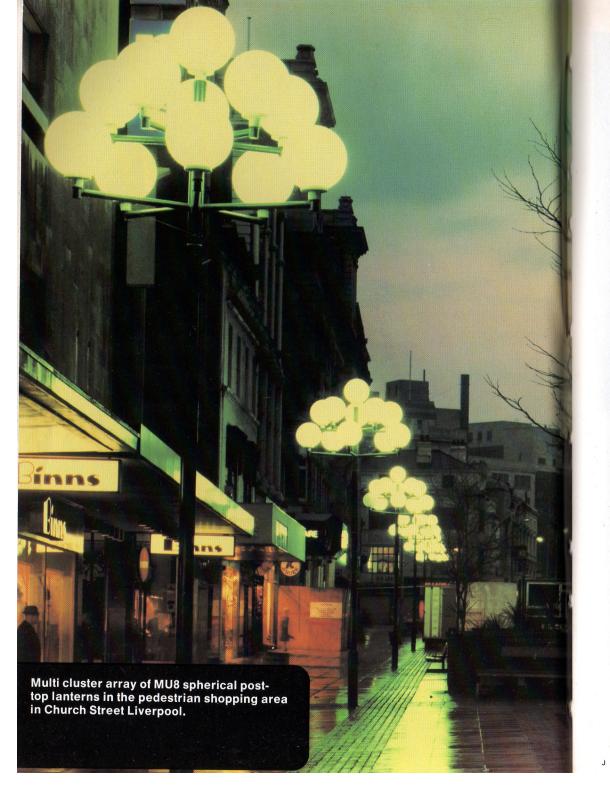
### WEIGHTS

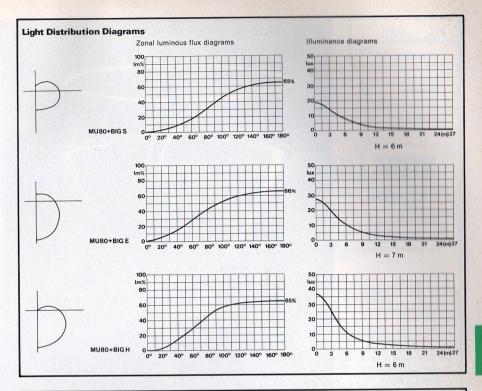
Catalogue No.	Weight (kg)			
MU80 + BIG S	10.6			
MU80 + BIG E	12.1			
MU80 + BIG H	10.7			

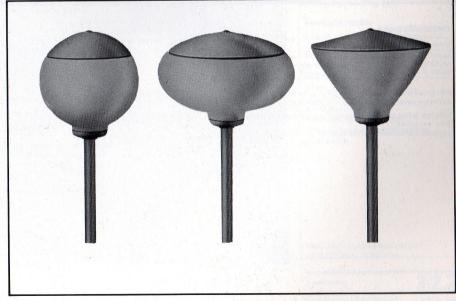
### LAMP DATA

Lamp type	Lighting Design Lumens	Lamp Volts	Lamp Current	Total Circuit Watts	Сар	Packing quantity
150W SON	13,500	100	1.8	174	GES	9
250W SON	24,000	100	3.0	280	GES	9
250W PowerWhite MBF	12,500	135	2.0	268	GES	9









### **Cut Away View** 1. Cap nut 2. Canopy 2 3. Chloroprene rubber gasket (3) 4. Spacer and nut 4 5. Fixing bolt 6. Diffuser 5 7. Unit-bracket 8. E40 lampholder 6 9. Built-in ballast 10. Capacitors 7 11. Chloroprene rubber gasket (B) 12. Electrical unit 13. Terminal block 9 14. Post fixing screw (10) (11) (12) (13)

### ORDERING DATA

MU80 + BIG H

Catalogue No.	Description
MU80 + BIG S + (lamp) MU80 + BIG E + (lamp) MU80 + BIG H + (lamp)	Electrical unit with spherical bowl & lamp. Electrical unit with elliptical bowl & lamp. Electrical unit with high cone bowl & lamp.

Please order lanterns in the form given in the following example: 25 Philips lanterns MU80 + BIG H + 250W SON.

Note that lamps should be specified with electrical units to ensure that the correct control gear is supplied.

Lanterns and components are supplied individually packed.

Note: Mercury fluorescent lamps UK marking MBF = Philips International marking HPL-N Mercury halide lamps UK marking MBI = Philips International marking HPI

(14)

Made in Holland.



(90.6)696.6:628.971

# **BOLLARDS**

### Low-level lighting bollards

Vandal-resistant bollards for use with tungsten, high-pressure sodium SON, and mercury fluorescent MBF lamps, to provide a source of lowlevel lighting in various outdoor situations.

### RANGE

HGC 130 - Lighting bollard with opal diffusing light cube

HGC 131 - Lighting bollard with louvre diffuser

HGC 132 - Lighting bollard with mirror reflector for PAR 38 lamp. HGC 130 and HGC 131 available for 150W GLS lamp, or with control gear for 50W, 80W or 125W MBF lamp, or 50W or 70W SON lamp. HGC 132 available for use with 100W PAR 38 pressed glass lamp only.

### APPLICATIONS

Low-level lighting in situations such as:-

- ■Parks and greens
- ■Footpaths and pavements
- ■Pedestrian areas
- ■Bungalow parks
- ■Camping grounds
- ■Hospital premises
- ■Nursing-home precincts
- ■Private gardens and driveways
- ■Car parks

Replaces

HGC 130 – lighting bollard with opal diffusing light cube

Handbook Ref. 3.78 PL 1828 To reorder this Data Sheet quote NEW

Conversion

factor

0.57

0.52

1.59

Candela intensities for the HGC 130

and HGC 131 bollards are calculated

using the PowerWhite 80W MBF lamp.

Candela readings for the other lamp

types can be obtained by multiplying

the diagram by the following

conversion factors:-

PowerWhite 50W MBF

PowerWhite 125W MBF

Lamp

150W GLS

50W SON

70W SON

■Modular construction of four major components – column, light cube, control gear plate and top cover – simplifies assembly.

■All external parts are made from vandal and corrosion resistant materials.

■Designed for mounting on four studs or bolts up to 12mm o.d., which can either be anchored in a concrete block or fixed on a metal base plate attached to an anchoring system.

■Column and top cover made from glass-reinforced polyester (GRP) with anti-corrosion green finish.

■Vandal-resistant polycarbonate light cube resists ultra-violet radiation; will not discolour during the life of the bollard.

■Choice of three light cubes; opal diffusing finish or clear finish with white louvre or mirror controller to eliminate glare.

■HGC 130 and HGC 131 are suitable for use with GLS lamps up to 150W, mercury fluorescent (MBF) lamps from 50W to 125W or high-pressure sodium lamps 50W or 70W. Position of porcelain ES lampholder adjusts to accommodate different lamp sizes, and bollards for use with discharge lamps have integral control gear.

■Easily assembled; the cube and lampholder assembly are carried on a white lacquered metal frame fixed to the column with four stainless steel screws. The bollard is closed by the top cover, attached to the frame by a single centrally-mounted stainless steel hexagonal Allen screw.

■A silicone seal between top cover and cube and a sealing ring under the Allen screw ensure that the bollard is rainproof to IP33.

■Optional gear unit for 50W, 80W or 125W mercury fluorescent (MBF) or 50W or 70W SON lamps incorporate ballasts and power factor correction capacitors.

■All internal parts are accessible after removing the top cover to simplify relamping and servicing.

### **MATERIALS & FINISH**

Column and top cover: Glassreinforced polyester (GRP), green corrosion-resistant finish.

**Light cube:** Polycarbonate (Lexan 303), opal finish (HGC 130), clear finish (HGC 131 & 132).

Light controllers: Aluminium louvres, lacquered white (HGC 131), mirrors (HGC 132)

Lamp holder: Porcelain ES, mounted on three-position bracket to accommodate different lamp types on HGC 130 and HGC 131 bollards.

### **RANGE OF OPERATION**

240V 50Hz Normal outdoor operation.

# HGC 130 -213 -21

### **DIMENSIONS, WEIGHTS & LAMP DATA**

Lamp type	Lighting Design Lumens	Lamp Volts	Lamp Current	Total Circuit Watts	Сар	Packing quantity
13987E PAR 38		240	0.417	100	ES	15
150W GLS	2075	240	0.625	150	ES	25
PowerWhite 50W MBF	1900	95	0.6	59	ES	50
PowerWhite 80W MBF	3650	115	0.8	90	ES	40
PowerWhite 125W MBF	5800	125	1.15	138	ES	24
50W SON	3200*	85	0.75	61	ES	40
70W SON	5800*	90	1.0	85	ES	40

\*100 hr. figure.

### SPECIFICATION

■Decorative low-level lighting bollards for use with GLS lamps up to 150W or mercury fluorescent lamps from 50W to 125W, or 50W and 70W high-pressure sodium SON lamps. Bollard with mirror controller is for PAR 38 pressed glass lamp only.

■Bollards for use with discharge lamps have integral control gear.

■Opal diffusing light cube or clear cube with louvre or mirror controllers.

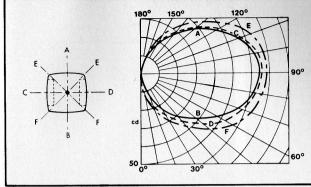
■Complies with BS 4533 2.2 Class I electrical appliances.

■Degree of Protection IP33.

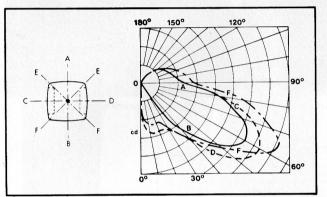
### To specify state:

Vandal-resistant low-level lighting bollards with non-corrosive green finish and choice of opal diffusing light cube or clear cube with louvre or mirror controllers. Degree of Protection IP33. Philips HGC or similar.

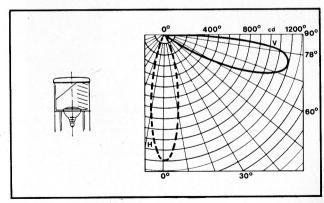
### LIGHT DISTRIBUTION DIAGRAMS



HGC 130 1 x 80W PowerWhite



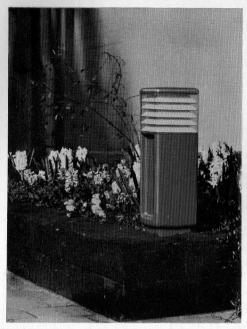
HGC 131 1 x 80W PowerWhite



HGC 132 1 x 100W PAR 38 Spot

---- V = Vertical

229





HGC 131 Lighting bollard with louvre diffuser.

HGC 132 Lighting bollard with mirror reflector.

### **ORDERING DATA**

Ordering reference	Description	Weight (kg)
HGC 130	Bollard with opal light cube for GLS lamp	6.7
HGC 130 + 50	Bollard with opal light cube for 50W MBF or SON lamps	8.4
HGC 130 + 70	Bollard with opal light cube for 70W SON lamp	8.4
HGC 130 + 80	Bollard with opal light cube for 80W MBF lamp	8.6
HGC 130 + 125 HGC 131	Bollard with opal light cube for 125W MBF lamp Bollard with clear light cube and louvre controller	8.6
	for GLS lamp	7.0
HGC 131 + 50	Bollard with clear light cube and louvre controller for 50W MBF or SON lamps	8.7
HGC 131 + 70	Bollard with clear light cube and louvre controller for 70W SON lamp	8.7
HGC 131 + 80	Bollard with clear light cube and louvre controller for 80W MBF lamp	8-9
HGC 131 + 125	Bollard with clear light cube and louvre controller for 125W MBF lamp	8-9
HGC 132	Bollard with clear light cube and mirror controller for GLS lamp	7.0
HGC 132 + 50	Bollard with clear light cube and mirror controller for 50W MBF or SON lamps	8.7
HGC 132 + 70	Bollard with clear light cube and mirror controller for 70W SON lamp	8.7
HGC 132 + 80	Bollard with clear light cube and mirror controller for 80W MBF lamp	8.9
HGC 132 + 125	Bollard with clear light cube and mirror controller for 125W MBF lamp	8.9

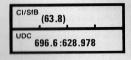
Please order bollards in the form given in the following example:-25 Philips low-level lighting bollards HGC 131 + 50W SON

25 Philips high-pressure sodium lamps 50W SON

Note that lamps should be ordered separately.

Note: Mercury fluorescent lamps. UK Marking MBF = European marking HPL-N.

Lamp and bollard: Made in Holland. Control gear: Made in U.K.





### Fluorescent bulkhead luminaire

A high-quality luminaire, supplied as a KombiPak complete with two 8W miniature fluorescent lamps and fixing accessories; ceiling or wall mounted for security and amenity lighting.

### RANGE

MFB 16 - KombiPak luminaire with control gear, two TL 8W/35 miniature fluorescent lamps and starters, four fixing screws and masonry plugs, cable gland and hexagon key for opening.

### **APPLICATIONS**

For use in domestic, public, commercial and industrial premises, in situations such as:-

- ■Parking areas
- ■Office buildings
- Shops and supermarkets
- ■Schools and colleges
- ■Passageways and corridors
  ■Public stairways
  ■Factory buildings and warehouses
  ■Vehicle and pedestrian
- underpasses
- ■Precincts and public enclosures of all kinds



Handbook Ref.

To reorder this Data Sheet quote Replaces

PL 1865 PL 1291 ■Supplied as KombiPak complete with fixing accessories.

■Cover secured by hexagon screw to deter tampering.

■Can be mounted in any position; knockouts for cable entry are provided to rear, 20mm tapped conduit entries provided at either end (plugged if not used).

■High-efficiency fluorescent lighting provides almost as much light as a 75W GLS lamp for only about one third of the power consumption, and with a much longer service life.

■Gear tray easily removed after disconnection from incoming mains terminal block for workshop servicing.

■Each lamp has its own ballast and starter.

■Power Factor correction capacitor and fuse supplied as standard.

### **MATERIALS & FINISH**

Body: Die-cast corrosion-resistant aluminium alloy, painted grey. Diffuser: Opal polycarbonate. Gear tray: Steel, zinc-plated,

painted white. Weight: 2.5 kg.

Note: Cable entry is provided by tapped entry from either side or from the base, via BS box entry knock out.

### SPECIFICATION

■Degree of Protection IP 23.

■Type compliance with BS 4533 2.2 Class I Electrical (earth required).

### To specify state:

Luminaire with die-cast aluminium housing and integral control gear, suitable for TL 8W/35 miniature fluorescent lamps and supplied as a complete pack for ceiling or bulkhead mounting. Substantially as Philips MFB 16 KombiPak.

### **RANGE OF OPERATION**

from minus 5°C to 30°.

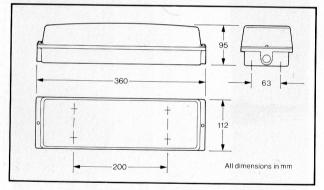
Country of origin: Lamp made in Holland:

Luminaire made in UK.

240V 50Hz.

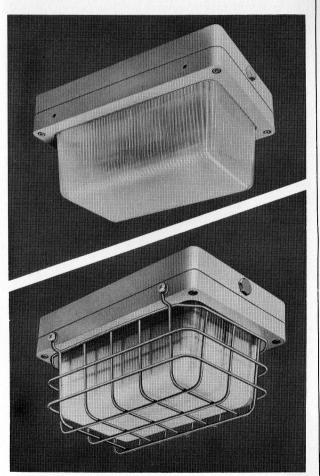
Indoor or outdoor operation (Degree of Protection IP 23).
Suitable for ambient temperatures

### **DIMENSIONS**



### ORDERING DATA

Catalogue No.	Description	Packing quantity	
MFB 16	Luminaire	Individually packed	
Spares TL 8W/35 S 10	Fluorescent lamp Starter	25	
310	Starter	10	



# W4320 W4321 W4325 W4326

### Heavy-duty bulkhead luminaires

A range of heavy-duty bulkhead luminaires for indoor or outdoor use, in versions for normal industrial use and for use in Zone II hazardous areas. The luminaires use highefficacy mercury fluorescent lamps, and are supplied complete with integral control gear.

Note: Mercury fluorescent lamps UK marking MBF = Philips International marking HPL-N

### RANGE

W4320 – Standard luminaire for 50W mercury fluorescent lamp.

W4321 – Standard luminaire for 80W mercury fluorescent lamp.

W4325 – Division 2 luminaire for 50W mercury fluorescent lamp.

W4326 – Division 2 luminaire for 80W mercury fluorescent lamp.

A heavy-duty galvanised steel wireguard is available for use as an optional extra on all luminaires in the range.

### APPLICATIONS

For use wherever a heavy-duty bulkhead luminaire for wall or ceiling mounting is required, in situations such as:—

- ■Indoor and outdoor factory areas
- ■Industrial lifts
- ■Pedestrian subways and walkways
- ■Public lavatories
- ■PetroChemical industries
- ■Marine applications

Top: W4320 standard fitting Bottom: W4325 Division 2 fitting

### To reorder this data sheet quote ### Replaces PL 8817

### PEATURES

- ■Die-cast corrosion-resistant aluminium body with epoxy resin stoved finish gives excellent protection against arduous environments.
- ■Double wall construction provides an open fixing channel and an enclosed control gear compartment.
- ■Ballast, power factor correction capacitor and two-way porcelain terminal block are securely fixed to the base of the casting and are protected against the heat of the lamp by a 20 SWG anodised aluminium reflector.
- ■Ribbed glass diffuser is carried in a die-cast aluminium front frame assembly, hinged to the body and secured by means of four stainless steel socket head captive screws. A U-shaped silicone rubber gasket seals the luminaire against dust and moisture.
- ■Luminaires for use in Zone II areas incorporate Klippon two-way terminal blocks for looping two 7/·029 cables, and spark-proof locking lampholders.
- ■Heavy-duty guard made from 14 SWG galvanised steel wire available for all types.
- ■High-efficiency mercury fluorescent lamp gives high lumen output for low energy consumption; lamp life can be six times that of tungsten equivalent.

### MATERIALS & FINISH

Body and front frame: Die-cast corrosion-resistant LM6 aluminium alloy, epoxy resin stoyed finish

Cover fasteners: Two stainless steel wire retaining hinges; four 6mm stainless steel socket head captive screws.

Sealing gasket: Silicone rubber. Lampholder: Porcelain ES (sparkproof locking type on Division 2 luminaires).

### SPECIFICATION

■Heavy-duty bulkhead luminaires for indoor or outdoor use, complete with integral control gear for operating mercury fluorescent lamps. Types for use in Zone II areas are approved by HM Factory Inspectorate for use in these areas as defined by BS Code of Practice CP 1003: 1964.

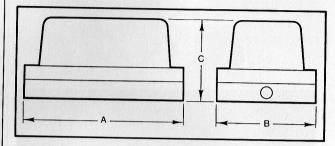
### To specify state:

Heavy-duty bulkhead luminaire for indoor and outdoor use, with corrosion-resistant die-cast aluminium body and integral control gear for mercury fluorescent lamp. Substantially as Philips W4320 series.

### **DIMENSIONS & WEIGHTS**

Catalogue No.	Overal A	l dimensio B	ons (mm) C	Maximum Ambient temp. (°C)	Weight (kg)	Lampholder
W4320/1	297	189	157	35	6·3	ES
W4325/6	297	199	172	35	6·3	ES

### **DIMENSIONS**



### LAMP DATA

Lamp type	Lighting Design Lumens	Lamp Voltage V	Lamp current A	Total circuit Watts
50W MBF/U	1900	95	0·6	62
80W MBF/U	3650	115	0·8	88

### ORDERING DATA

Catalogue No.	Description	Packing quantity
W4320	Bulkhead luminaire for 50W MBF/U lamp	- coming quantity
W4321	Bulkhead luminaire for 80W MBF/U lamp	
W4325	Division 2 bulkhead luminaire for 50W MBF/U lamp	
W4326	Division 2 bulk head luminaire for 50W MBF/U lamp	
	Division 2 bulkhead luminaire for 80W MBF/U lamp	1
Optional accesso	ory	
W4331	Wireguard c/w screws and washers	
Spare	- Same of the colored and washers	
W4330	Prismatic glass diffuser	1

Please order luminaires in the form given in the following example. Note that lamps should be ordered separately:-

25 Philips heavy-duty bulkhead luminaires W4326

25 Philips 80W MBF/U mercury fluorescent lamps

### 25 Philips wireguards complete W4331

### RANGE OF OPERATION

240V 50Hz continuous operation. For indoor or outdoor use.

Note: Mercury fluorescent lamps. UK marking MBF = Philips International marking HPL-N.

Luminaire: Made in UK. Lamp: Made in UK.