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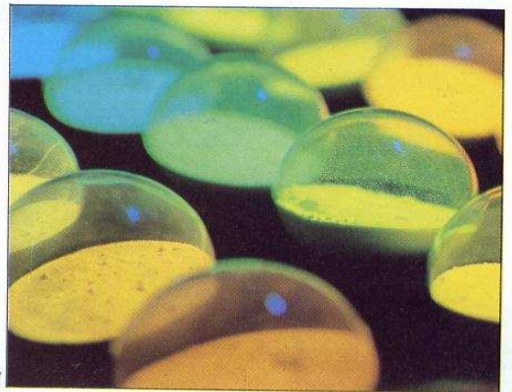
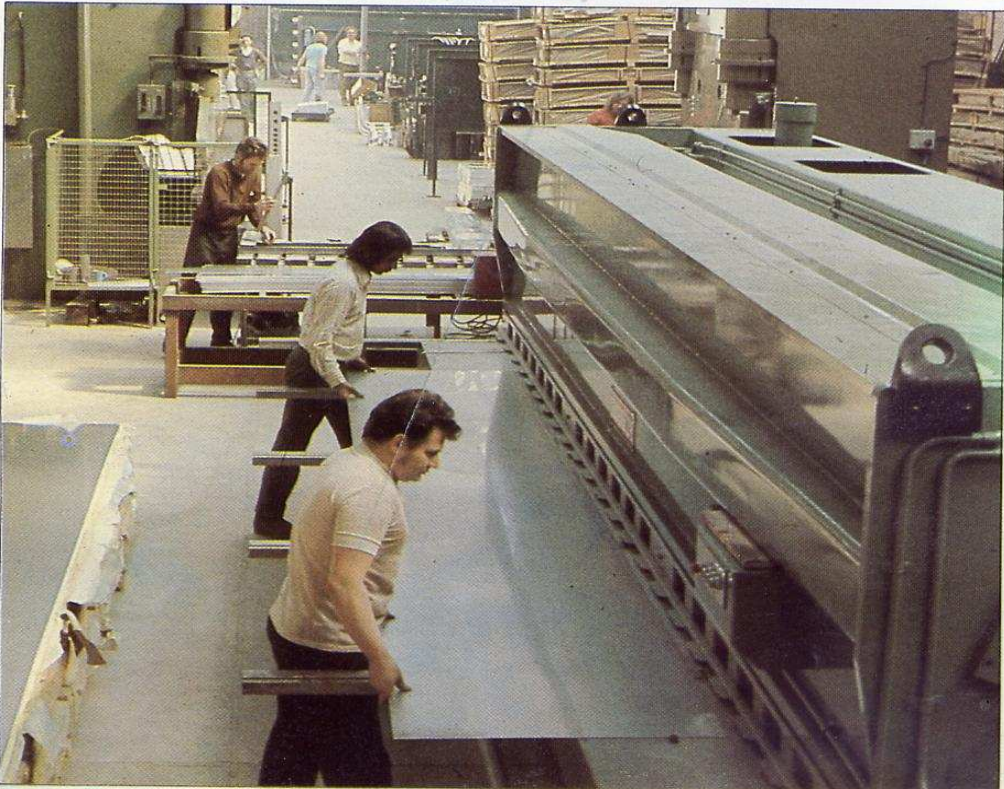
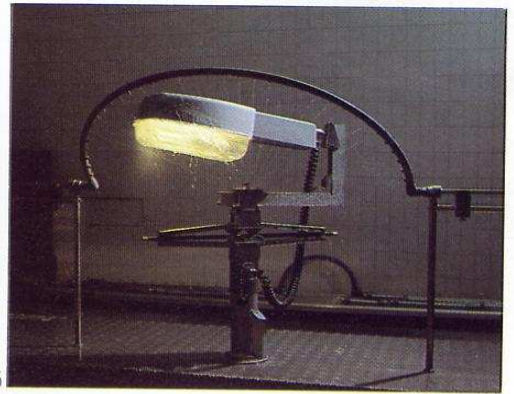
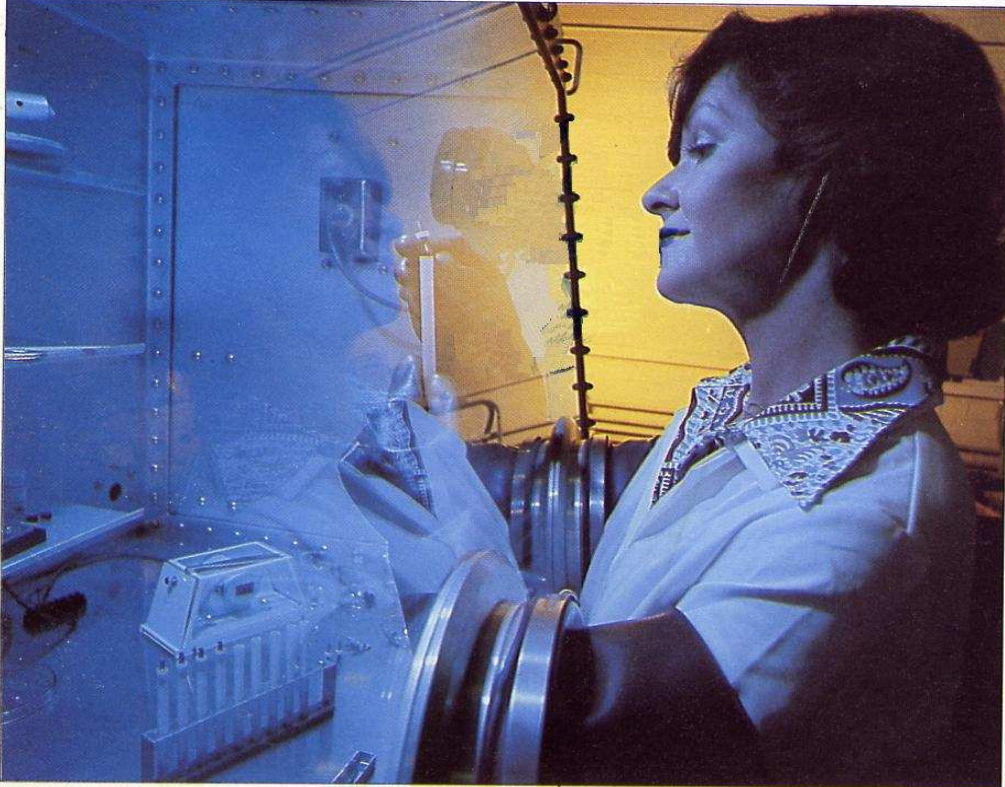
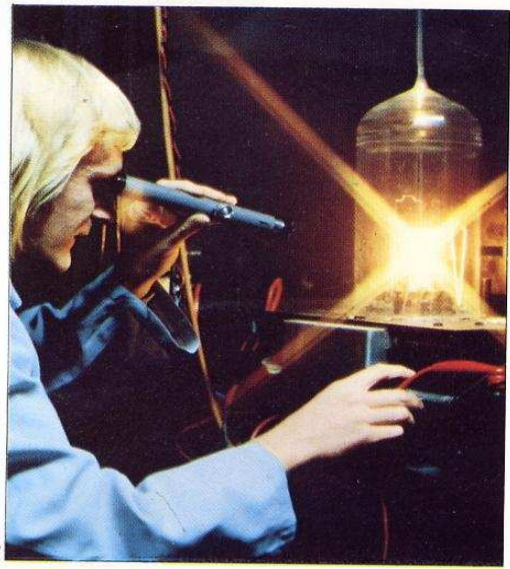
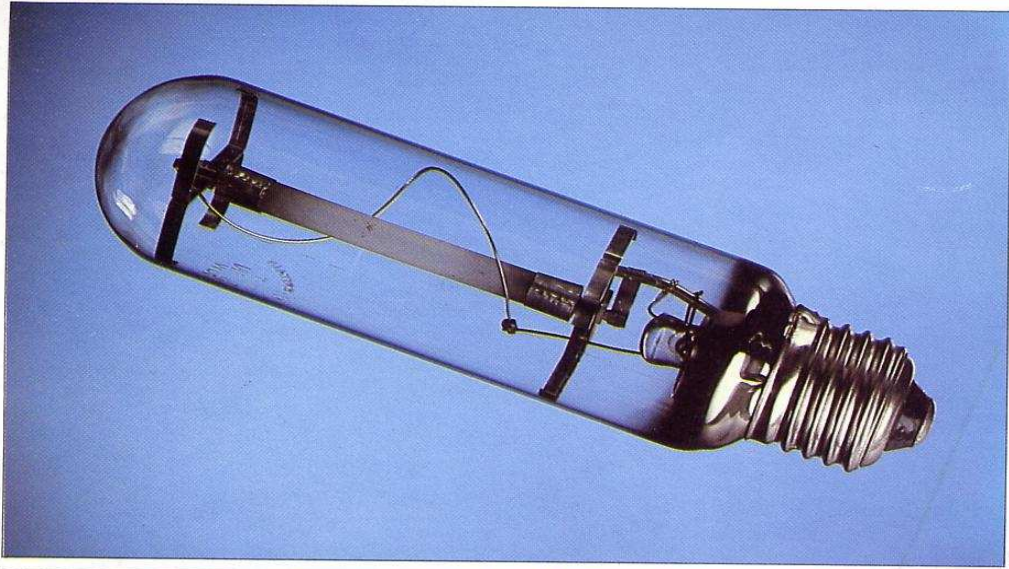
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THORN LIGHTING

Publication no. 859 Sept 1981
Supercedes no. 468 Sept 1978

ROAD LIGHTING





- 1 Tubular 70W SON lamp
- 2 Ceramic arc tube performance analysis
- 3 Dosing an alumina arc tube at Thorn's Leicester factory
- 4 A Thorn aluminium street lighting column being erected
- 5 An Alpha 8 lantern on 'rain test' at Thorn's Enfield laboratory
- 6 Aluminium sheets being formed into columns
- 7 Phosphors glowing under UV radiation
- 8 A typical motorway stretch lit by Thorn Lighting
- 9 Park Lane re-lit with Thorn 400W SON lanterns
- 10 A Group A road lit by Alpha lanterns on aluminium columns

INTRODUCTION

The increasing use of road lighting throughout the world creates a demand in the field of public lighting in which Thorn Lighting takes a leading role.

As Europe's largest lighting manufacturer, Thorn devote some £6m a year to capital investment plus £3m annually to research and development programmes.

Backed by these considerable resources, Thorn research, design, manufacture and test to a high standard of quality, construction and performance, providing a complete integrated road lighting package of luminaire, lamp, control gear and column.

To supplement these advantages, a comprehensive technical design service is available for the planning of road and all other outdoor lighting schemes.

For easy reference, the luminaire range in this catalogue is divided into three sections, each identifying a particular application:—

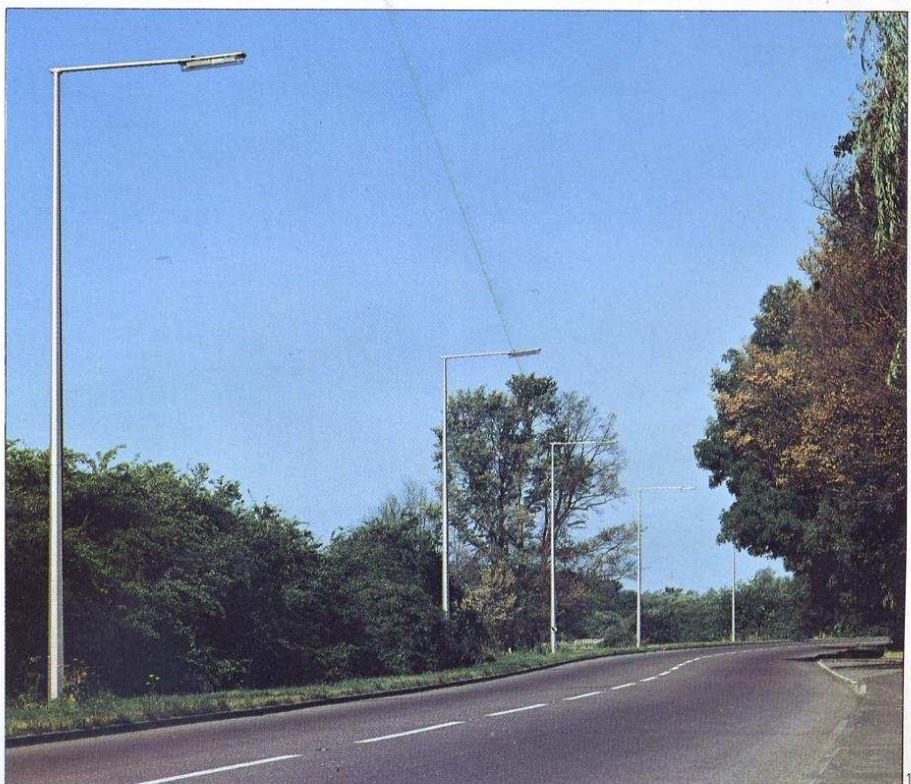
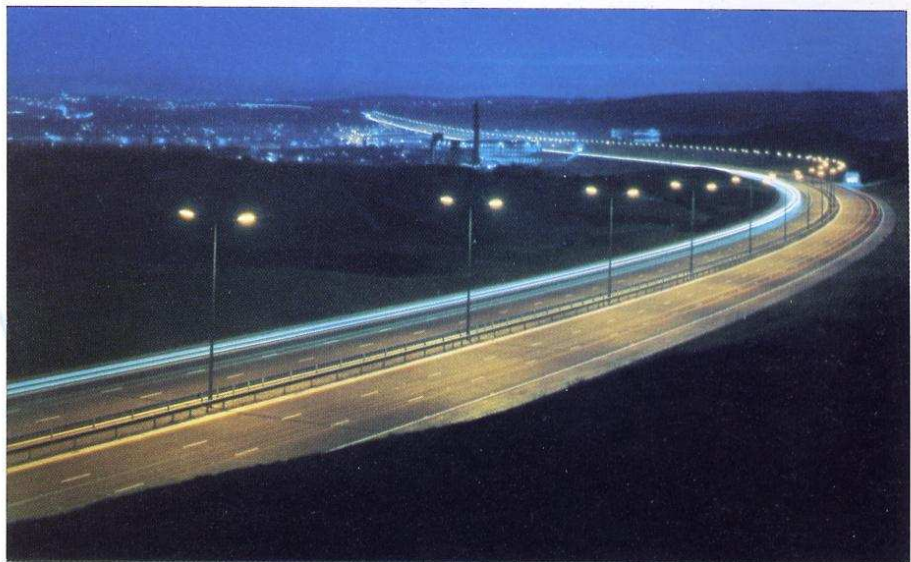
Alpha luminaires for major roads
Beta luminaires for minor roads
Gamma luminaires for amenity and area lighting

The importance of well designed luminaires with sealed optical compartments, and having integral control gear, is recognised and recommended.

The range of discharge lamps supplied with these luminaires represents the primary light source for road lighting. This includes the well established mercury and low pressure sodium lamps, and in addition, high pressure sodium which is rapidly gaining widespread acceptance, with long life, increasing efficacy and colour quality. The Thorn range of 70—150—250 and 400W high pressure sodium lamps with the proven electronic ignitor system offers a wide choice suitable for all road lighting requirements.

Thorn aluminium columns are designed to match the range of luminaires for 5m to 12m mounting heights. The light weight of aluminium ensures easy installation, its low impact resistance reduces accident injury risk, while its resistance to corrosion significantly reduces maintenance costs.

A separate section of the catalogue includes a comprehensive range of control gear covering the majority of voltage requirements throughout the world.



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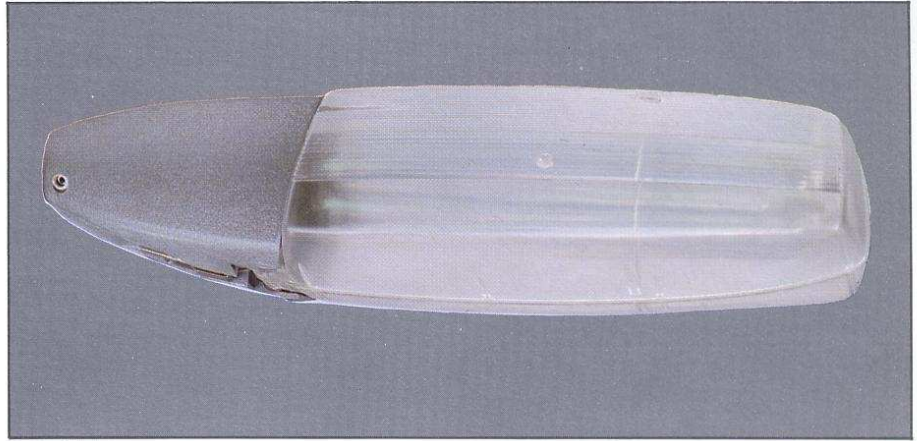
An Alpha 8 lantern on a Thorn aluminium column



A Beta 79 lantern on a Thorn aluminium column



A Gamma 6 lantern on a Thorn aluminium column

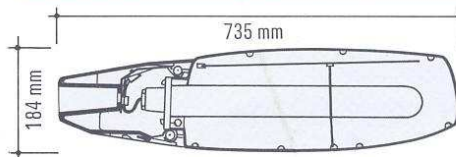
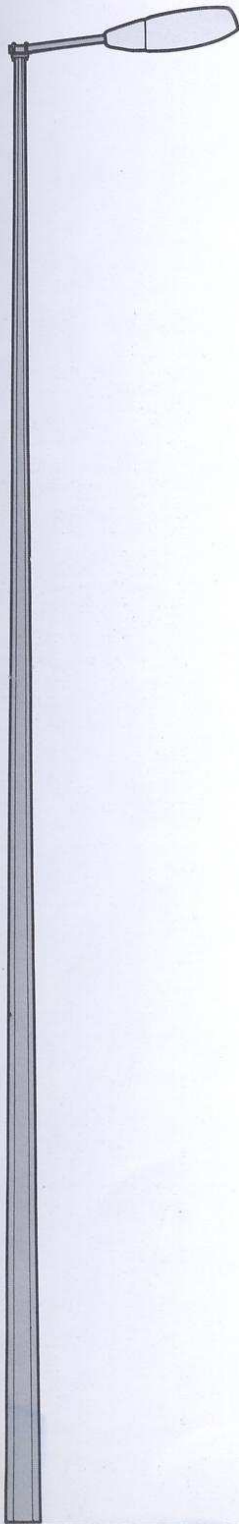


The Alpha 1, for lighting main highways, is of a unique design and construction which maintains a modern appearance. It employs a 55W or 90W SOX low pressure sodium lamp and can be mounted on the THORN 8m Aluminium Column.

Light is directed through a series of interior prisms integral in the moulding of the Opticell, to provide a semi cut-off distribution. The end support is in die cast aluminium, and a purpose designed toggle arrangement secures the complete assembly.

A special feature of the luminaire is the lamp enclosure called the Opticell which is injection moulded in ultra violet stabilised acrylic, and provides a hermetically sealed light control unit preventing ingress of dust, moisture and insects.

A NEMA socket for use with photocell switch control can be supplied fitted and wired into the luminaire as an optional extra. Control gear is mounted remote.



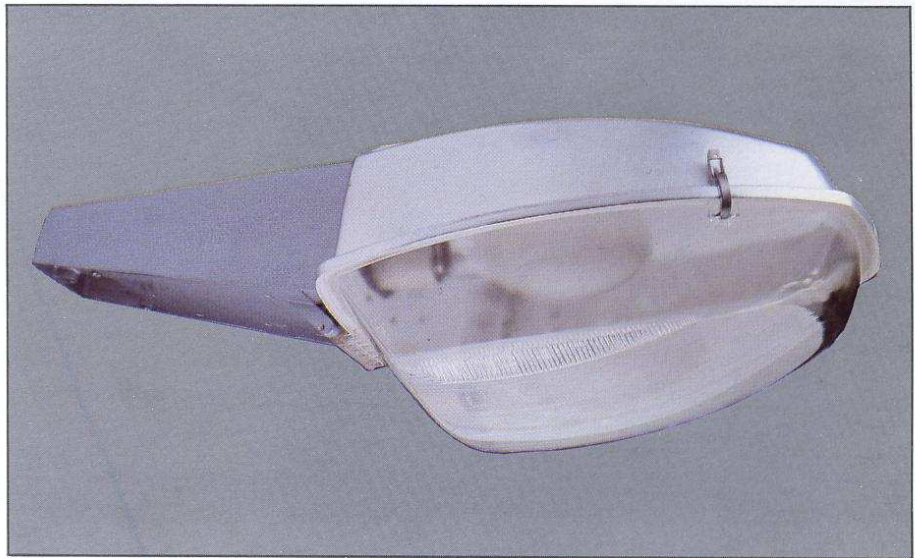
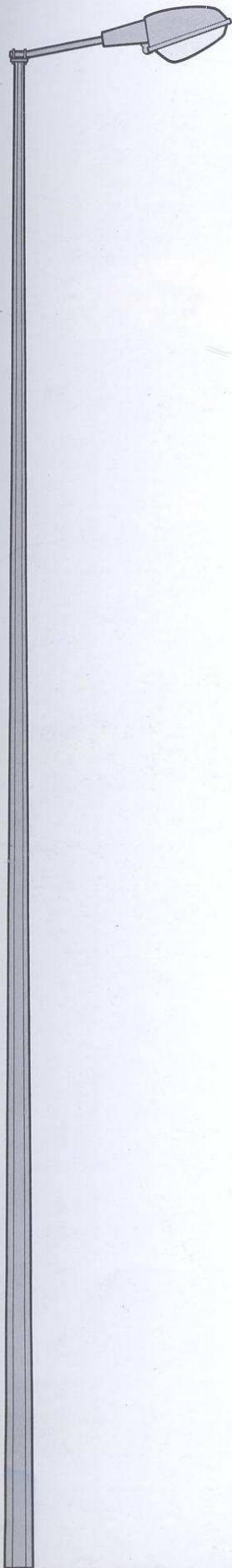
Maximum width: 241 mm
 Maximum weight: 3.85 kg
 Windage area: 0.119 m²
 Recommended mounting height: 6-8 m
 Mounting: Side entry for 42 mm \varnothing (1 1/4" BSP) x 110 mm

Range

Lamp	W	Lantern catalogue no.
SOX	55	QA1E/D1055
SOX	90	QA1E/D1090

For lanterns with NEMA photocell socket insert P after QA1E in catalogue number



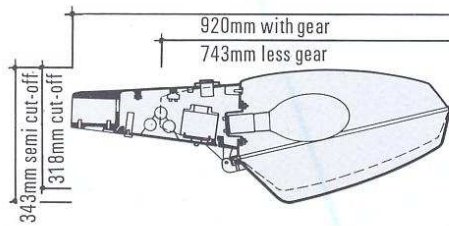


The Alpha 3 is a high efficiency luminaire for major traffic route lighting with a 250 or 400W high pressure sodium or 400W mercury lamp and can be mounted on THORN 10 or 12m columns.

The luminaire is available in multiple variations of remote or integral gear types with semi cut-off or cut-off light distributions, all from the same basic design. The lamp enclosure/optical system

comprises a single piece aluminium pressing with attached end support/control gear compartment in die cast aluminium. The cover bowl is in ultra violet stabilised clear acrylic and is secured to the canopy by stainless steel toggle catches.

The Alpha 3 can also be supplied complete with a NEMA socket for photocell switch control.



Luminaire	With gear		Less gear	
	SCO	CO	SCO	CO
Maximum width : mm	464	464	464	464
Maximum weight : kg	14.40	13.72	5.44	4.76
Windage area : m ²	0.198	0.189	0.170	0.162
Recommended mounting height : m	10-12	10-12	10-12	10-12
Mounting :	Side entry for 42 mm ϕ (1 1/4" BSP) x110 mm			

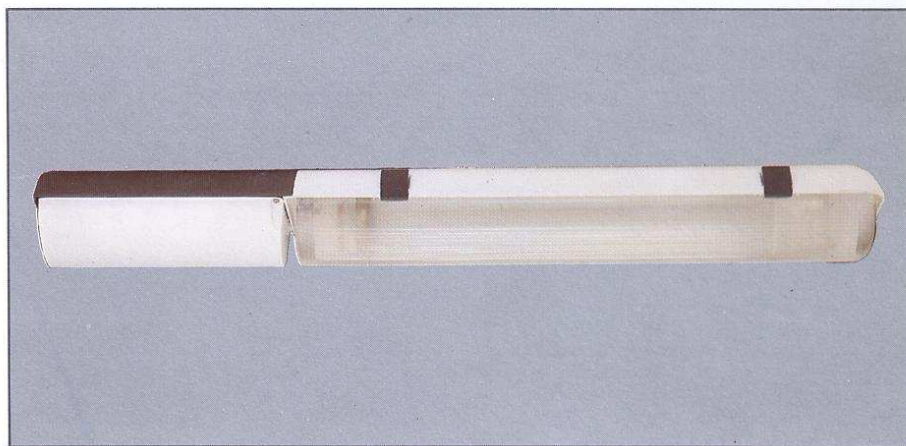
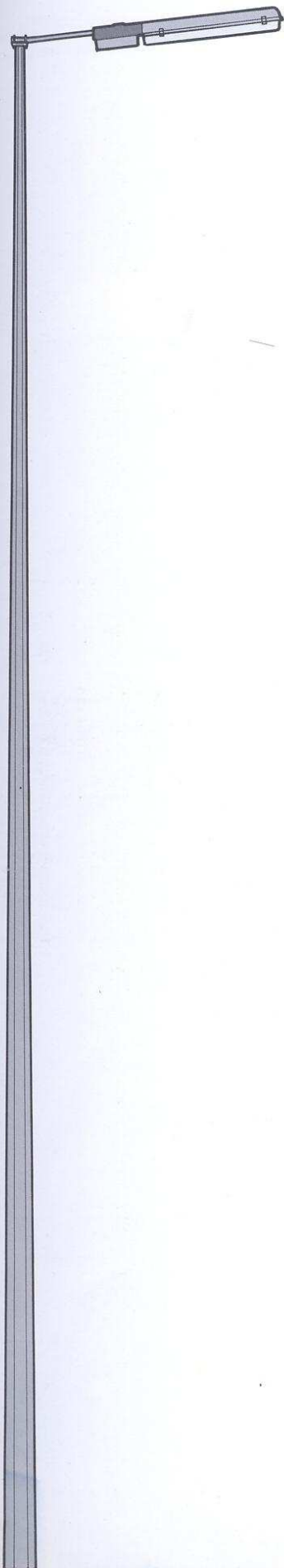
Range

Lamp	W	V	Hz	Lantern catalogue no.	Type
SON	250	220/240	50	QA3D/WSNB1250.T	SCO with gear
		220/240	60	QA3D/WSNB1250-2-6	
SON	400	220/240	50	QA3D/WSNB1400.T	SCO with gear
		220/240	60	QA3D/WSNB1400-2-6	
MBF	400	220	50	QA3D/WSB1400.2	SCO with gear
		240	50	QA3D/WSB1400.4	
		220	60	QA3D/WSB1400-2-6	
SON	250	—	—	QA3D/WS1250	SCO less gear
SON	400	—	—	QA3D/WS1400	SCO less gear
MBF	400	—	—	QA3D/WS1400	SCO less gear

For cut-off distribution lanterns change S to C in catalogue number.

For lanterns with NEMA photocell socket insert P after S or C in catalogue number.



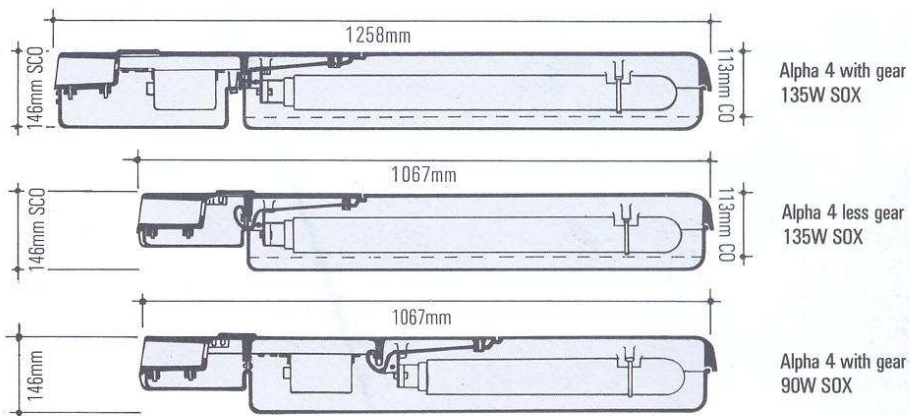


The Alpha 4 is for lighting major traffic routes and motorways, and provides a high light output from a 90W or 135W SOX low pressure sodium lamp. Designed to compact dimensions, the basic luminaire is available in multiple variations of remote or integral gear types, with semi cut-off or cut-off light distributions. The Alpha 4 may be mounted on the THORN 8 or 10m aluminium column.

fibreglass moulding with attached end support/gear housing in pressure die cast aluminium. An aluminium hinged cover provides access for mains wiring connection. The cover bowl is injection moulded in ultra violet stabilised acrylic, and contains a series of integral prisms and lenses to effect close control of the light distribution.

The lamp canopy is a single piece white

The Alpha 4 can also be supplied with a NEMA socket for photocell switch control.

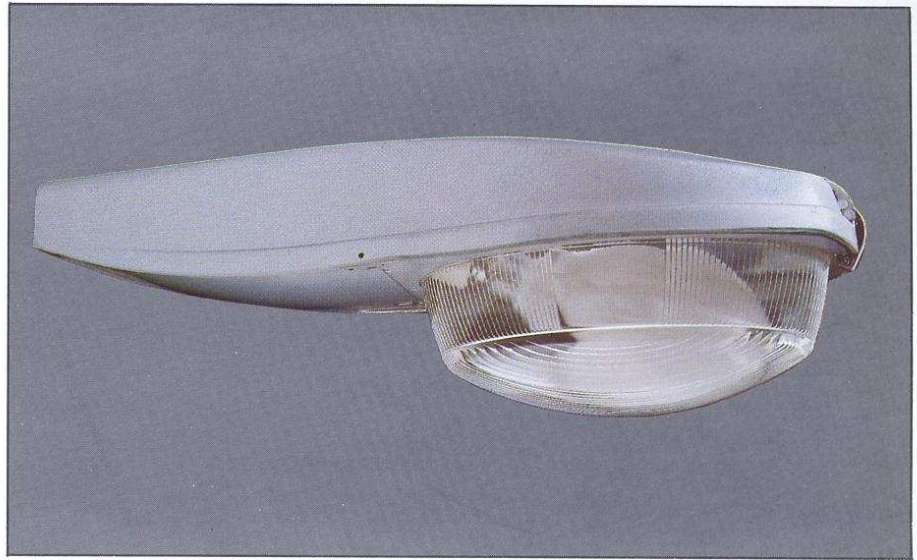
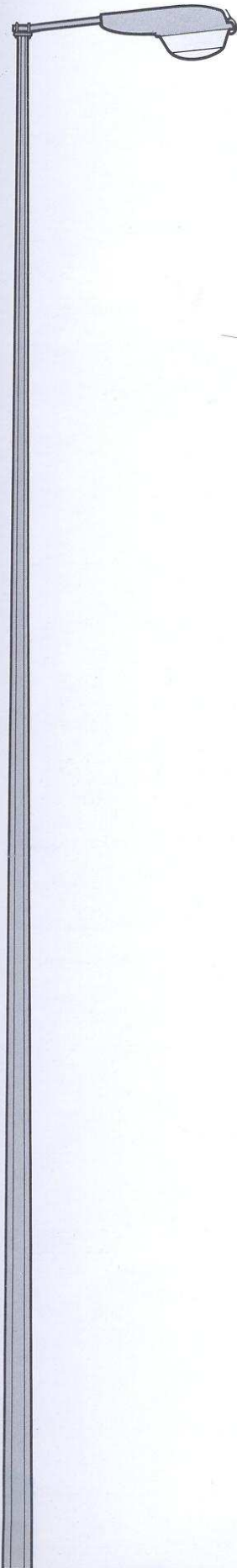


Luminaire	With gear		Less gear	
	SCO	CO	SCO	CO
Maximum width: mm	188	188	188	188
Maximum weight: kg	12.50	11.83	5.00	4.33
Windage area: m ²	0.170	0.150	0.140	0.120
Recommended mounting height: m	10	10	10	10
Mounting	For 42mm \varnothing (1/4" BSP) x 110mm			

Range					
Lamp	W	V	Hz	Lantern catalogue no.	Type
SOX	90	220	50	QA4SB1090.2	With gear SCO
		240	50	QA4SB1090.4	
SOX	135	220	50	QA4SB1135.2	With gear SCO
		240	50	QA4SB1135.4	
SOX	135	220	50	QA4CB1135.2	With gear CO
		240	50	QA4CB1135.4	
SOX	135	—	—	QA4S1135	Less gear SCO
				QA4C1135	Less gear CO

For lanterns with NEMA photocell socket insert P after S or C in catalogue number



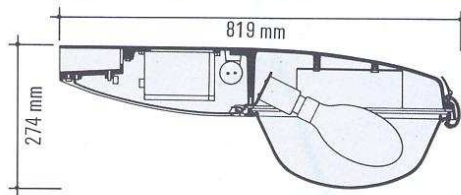


The Alpha 7 is a robust luminaire for main road lighting with a 250W or 400W mercury or 250W high pressure sodium lamp, and can be mounted on THORN 8, or 10m aluminium columns.

The body of the luminaire comprises a single piece aluminium die casting incorporating divided compartments for lamp and control gear. Optical

control is by an overlamp reflector and a heat resisting glass refractor bowl which is retained in a hook-on die cast aluminium ring.

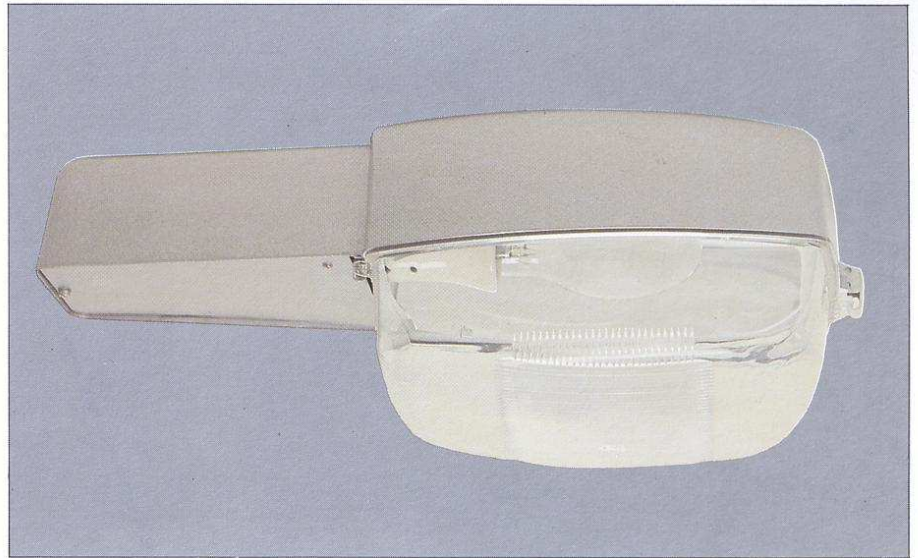
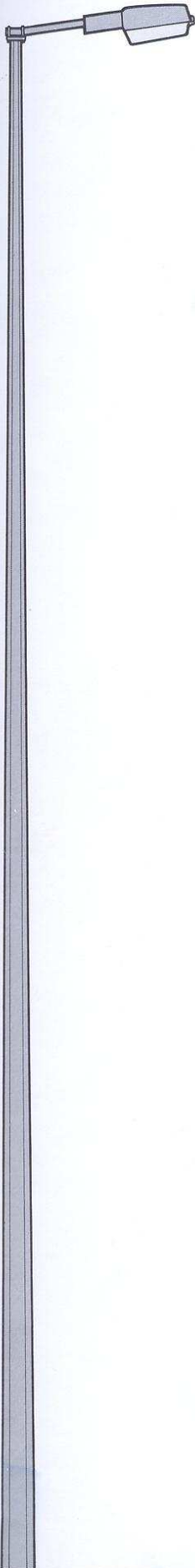
A NEMA socket for use with photocell switch control can be supplied fitted and wired into the luminaire as an optional extra.



Maximum width: 317 mm
Maximum weight: 18.16 kg
Windage area: 0.133 m²
Recommended mounting height: 8-10 m
Mounting: Side entry for 42 mm \varnothing (1 1/4" BSP) x 125 mm

Range

Lamp	W	V	Hz	Lantern catalogue no.
MBF	250	220	50	QA7G/B1250.2
		240	50	QA7G/B1250.4
		220	60	QA7G/B1250.2.6
MBF	400	200/250	50	QA7G/B1400.T
		220/270	60	
SON	250	220/240	50	QA7G/NB1250.T
		220/240	60	QA7G/NB1250.2.6

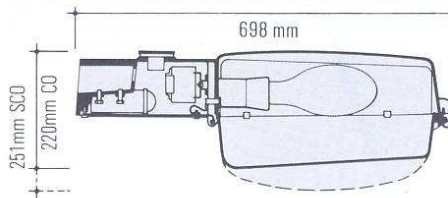


The Alpha 8 is a lantern of compact dimensions, specially designed to obtain high light output from 150W or 250W high pressure sodium elliptical or clear tubular lamps. In this respect it complies with the BS code of practice for 10m and 12m mounting specified for Group A road and motorway lighting. The Alpha 8 can also be used with a 250W mercury lamp for 8m mounting. Thorn aluminium columns at appropriate mounting heights are suitable for the luminaire.

The Alpha 8 is available in multiple control gear variations, with or without NEMA socket for photocell control, and provides a semi cut off or cut off light distribution.

The luminaire comprises a sealed lamp compartment and attached gear housing/end support in pressure die cast aluminium. Optical control is by anodised aluminium reflectors. Cover bowls are injection moulded, UV stabilised acrylic with integral hook-on hinge, and closure is secured by a single plastic toggle catch.

Lanterns are supplied for use with the higher efficiency SON-T lamp. If elliptical lamps are to be used the over lamp reflector should be removed.

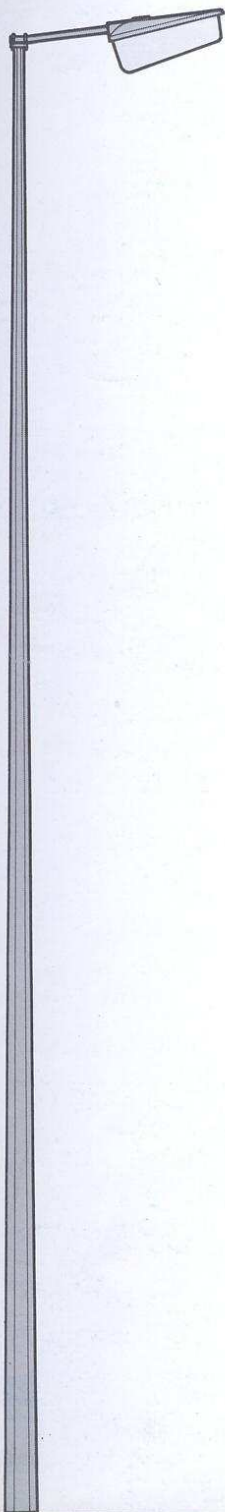
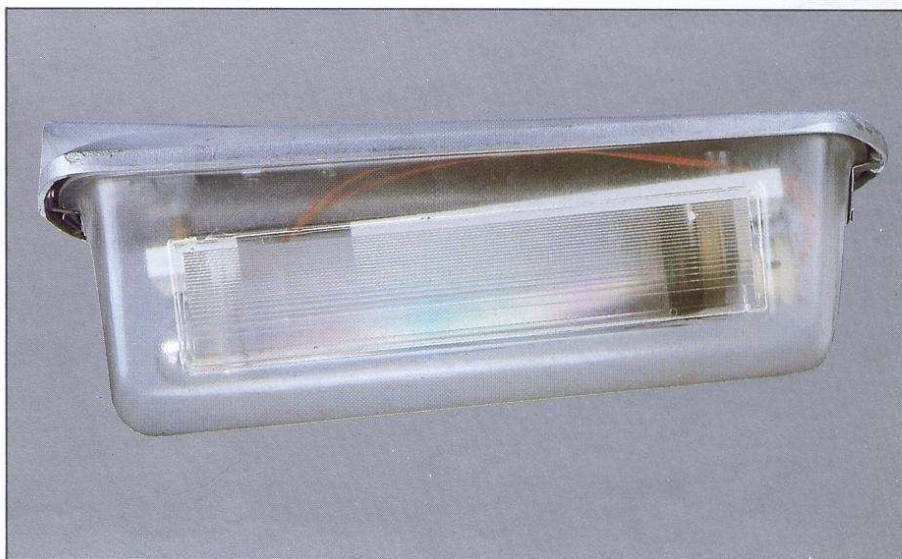


Luminaire	SCO	CO
Maximum width: mm	353	353
Maximum weight: kg	11.08	10.88
Windage area: m ²	0.120	0.110
Recommended mounting height: m	10-12	10-12
Mounting: Side entry for 42mm \varnothing (1/4" BSP) x 100mm		

Range					
Lamp	W	V	Hz	Lantern catalogue no.	Type
SON-T	150	220/240	50	QA8DS/WNB1150.T	SCO with gear
		220/240	60	QA8DS/WNB1150.2.6	
SON-T	250	220/240	50	QA8DS/WNB1250.T	SCO with gear
		220/240	60	QA8DS/WNB1250.2.6	
MBF	250	220	50	QA8DS/WNB1250.2	SCO with gear
		240	50	QA8DS/WNB1250.4	
		220/240	60	QA8DS/WNB1250.2.6	

For cut-off distribution lanterns change S to C in catalogue number
For lanterns with NEMA photocell socket insert P after S or C in catalogue number



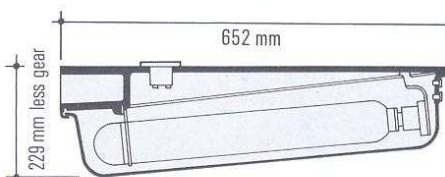


The Alpha 9 is for main highway lighting with a 90W SOX low pressure sodium lamp and can be mounted on the THORN 8m aluminium column.

semi cut-off light distribution. Alternatively a bowl in vandal-resistant material can be supplied. Stainless-steel toggle catches and hinges secure the bowl to the canopy.

Available with remote control gear, the luminaire comprises a die cast aluminium canopy and a cover bowl in ultra violet stabilised high impact acrylic with interior, sealed refractor plates, providing a

A NEMA socket for photocell switch control can be supplied fitted and wired into the luminaire as an optional extra.



Luminaire

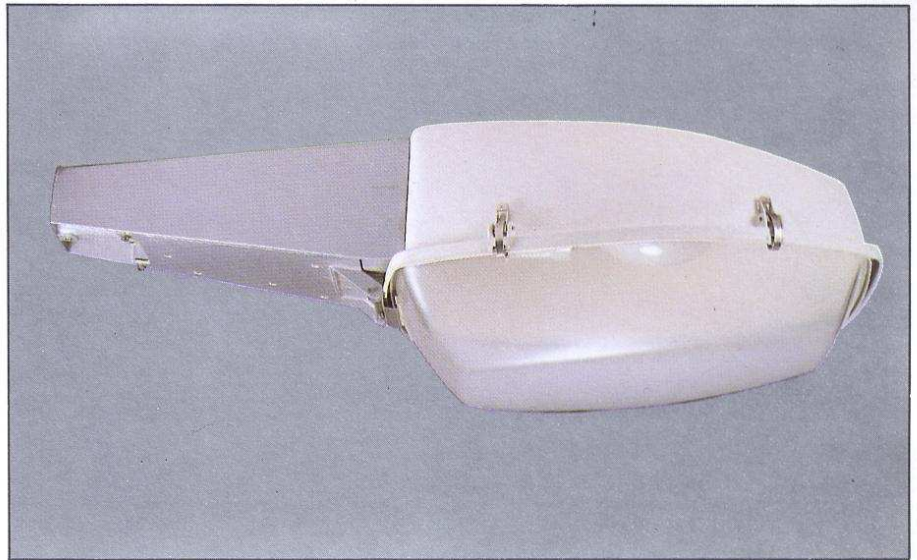
Maximum width: mm	296
Maximum weight: kg	3.96
Windage area: m ²	0.126
Recommended mounting height: m	8
Mounting:	Side entry for 42 mm ø (1 3/8" BSP) x 105 mm

Range

Lamp	W	V	Hz	Lantern catalogue no.
SOX	90	—	—	QA9D/W1090

For lanterns with anti vandal cover bowl change D to V in catalogue number.
For lanterns with NEMA photocell switch insert P after W in catalogue number.



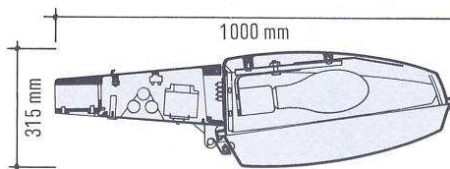


The Alpha 30 is for major road lighting and is designed to comply with Continental European requirements for a closely controlled cut-off light distribution from a 250W or 400W high pressure sodium or 400W mercury lamp.

The luminaire is available with integral control gear, and can be mounted on THORN 10 or 12m aluminium columns. The lamp compartment is a single piece white fibreglass moulding, and the attached end support/gear housing is in die cast aluminium.

Optical control is by a pair of side mounted, anodised aluminium reflectors, and an adjustable lampholder, providing variable directions of the maximum intensity. Cover bowls are in uv stabilised clear acrylic (as illustrated) for mercury lamps, or patterned acrylic for high pressure sodium.

A NEMA socket for use with photocell switch control can be supplied fitted and wired into the luminaire as an optional extra.



Luminaire

Maximum width: 460mm
Maximum weight: 16.80kg
Windage area: 0.198m²
Recommended mounting height: 10-12m
Mounting: Side entry for 60mm \varnothing (2" BSP) x 110mm

Range

Lamp	W	V	Hz	Lantern catalogue no.
SON	250	220/240	50	QA30M/60NB1250.T
		220/240	60	QA30M/60NB1250.2.6
SON	400	220/240	50	QA30M/60NB1400.T
		220/240	60	QA30M/60NB1400.2.6
MBF	400	220	50	QA30D/60B1400.2
		240	50	QA30D/60B1400.4
		220	60	QA30D/60B1400.2.6

For lanterns with NEMA photocell socket insert P after 60 in catalogue number.

