

Abacus[®]
World Leaders in Lighting

THE COMPLETE PRODUCT RANGE FROM THE LEADERS IN EXTERIOR LIGHTING

EXTERIOR LIGHTING



LIGHTING THE WORLD BEYOND EXPECTATION



At Abacus we've succeeded in developing and supplying superior products for our customers in the high performance exterior lighting sector. Customers who demand energy efficient, attractive areas in which their own customers can feel comfortable and secure.

Many of our products incorporate patented high performance reflectors, recognised as delivering specified lighting levels which minimise energy outlay and project costs while providing uniformities second to none.

For 50 years Abacus has focused its business on meeting its customers' needs, providing a design service of which we are justly proud. ISO certified for quality and environmental management, we offer an unrivalled, complete package of manufacture, supply, installation and maintenance.

Find out more about our lighting products and services online.

“ Our range of exterior lighting delivers a no-compromise solution to the challenges faced by today's designers and planners. We've balanced high-performance with low light pollution to develop a range of sympathetic yet highly effective lighting designs ideally suited to any lighting project. ”

**Andrew Morris-Richardson,
Group Managing Director**



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Our standards Use these icons to understand some of our key lighting features.



Low light pollution
This logo indicates a luminaire with ULOR of less than 2%.



ULOR
Upward Light Output Ratio
The ULOR value shows the proportion of upward light produced from the luminaire.



IP rating
This indicates the level of ingress against moisture or dust. The first digit shows you the dust protection, and the second the moisture protection. For more information visit our website and type in IP rating.



Optimum Reflector System
Patented Optimum Reflector System for wider column spacing and square illuminance distribution, so a minimum number of lanterns can be used.



Security
Luminaires with this logo are ideal for use in security applications.



Vandal resistant level 1-3
Level 1: Pole-mounted with a polycarbonate bowl.
Level 2: Low mounted with a polycarbonate bowl, robust construction and anti-vandal screws.
Level 3: As level two, with reinforced construction to withstand severe attacks.

ABACUS – FIRST CHOICE FOR HIGH PERFORMANCE AMENITY LIGHTING

CAR PARK & AMENITY LIGHTING





FIRST CHOICE FOR RETAIL

Case Study

PROJECT:

The project efficiencies afforded by the Orion and its twin lamp reflector, in combination with strong aesthetics and low environmental impact, have persuaded Tesco to install the lantern in its customer car parks during the last 10 years.

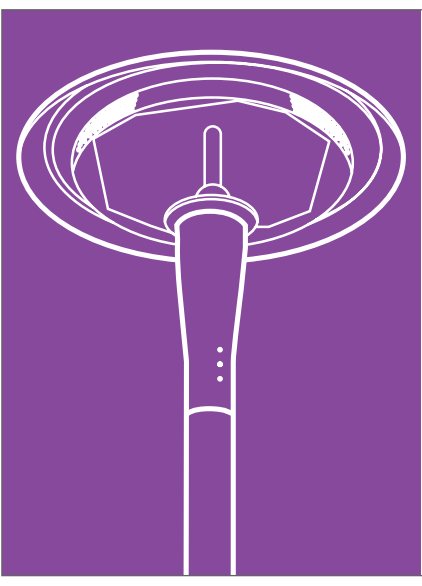
By offering a customer-focused, free of charge lighting design service, all carried out within its own exclusive AutoCAD GOLD software, Abacus ensure that the planning process is as stress free as possible. Detailed lighting contours (both vertical and horizontal overspill levels can be shown) are displayed on the drawings, often A0 in size.

How can we help you today?





ORION: MARKET LEADER FOR CAR PARK LIGHTING



“Abacus Lighting has supplied exterior lighting for our car park lighting solutions since 1993, providing a high quality service at all stages, from design to installation. We have continued to use the Orion mounted at 12m for its high performance, delivered through a twin 400 watt lamp option. This generates fewer lighting points and reduced infrastructure, this in turn reduces our initial costs and long term running and maintenance costs.”

Mark Law Tesco UK

It's no surprise that Orion leads the field in car park lighting. At its launch, it introduced into the market a lantern with optics that redefined high performance and uniformity for the retail and leisure car park lighting sectors. Orion lights the way for customers whether they choose to shop at Tesco, Asda, Morrisons, or a host of other leading hotel and leisure sector clients.

Why do so many major retailers and consultants choose Orion? It features our groundbreaking Optimum Reflector System (ORS), which is patented due to its unique two-step reflector construction, offering the market something very different to any other lighting system.

In addition to this high level of performance, Orion also reduces overspill and upward light. Reduced infrastructure and energy requirements, expressed in watts per square metre for a typical 25lux installation, reduce the carbon footprint of a retail car park. So, it's clear why Orion is a favourite amongst clients and planners

needing to meet increasingly strict planning requirements.

Abacus has built good relationships with its core amenity lighting client base over nearly two decades, and Orion has allowed us to strengthen these relationships even further. That's because by its efficient use of resources, it minimises the number of columns required, and so brings down overall project costs. Orion's facility to install twin 400w lamps increases its effectiveness and offers half output and security during off-peak hours.

The ORS optics system is now available in a range of smaller lanterns, suited to mounting at heights of 5-8m, offering a lamp capacity of 400W high-pressure sodium or 450W metal halide. Full details of the Orion 2, Orion 3 and Pegasus 2 are on the following pages.

With all these benefits, and the superlative level of service that Abacus can offer, including project design, installation and maintenance, we are proud to say that we are still able to work within a competitive

climate where project costs are constantly under pressure. So, when it comes to the important job of lighting customer car parks, it's no wonder so many businesses choose Orion from Abacus.



This could work for you

Let us help you meet your goals. Abacus is unique amongst exterior lighting companies because we have our own engineering professionals across all the relevant disciplines. Why not get in touch and take advantage of our range of free design services.

See the Orion AL4000 in more detail on page 10

FIRST CHOICE FOR PERFORMANCE



Case Study

PROJECT:

When considering which lighting product to use in its new Village Hotels' car parks, the De Vere Group selected the Orion 2 for its performance and contemporary aesthetics. The Optimum Reflector System ensures good uniformity is achieved throughout the area while upward light (ULOR) is limited to well below 1%. The reduction in lighting points resulting from the superior performance guaranteed a competitive package for the customer.

LOCATION: Leeds, England

PRODUCTS: Orion AL4100

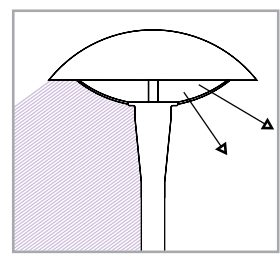


OPTIMUM REFLECTOR STORY

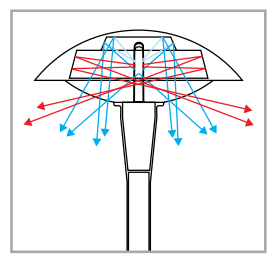
Optimum Reflector System

This unique and patented reflector system was developed to provide high optical performance within a low profile body. The twin step reflector balances the light output between the areas below the lantern and the furthest areas away. Its unmatched uniformity and performance delivers economies on power, column and associated infrastructure costs.

The energy effectiveness of the ORS system in comparison with standard reflector systems is clearly shown when the power density per unit illuminance level of an installation is measured. In examples below, we compare different systems based on a 100m x 100m area illuminated to 25lux from either 6m, 8m or 12m with a minimum uniformity of 0.25 Emin/Eave.



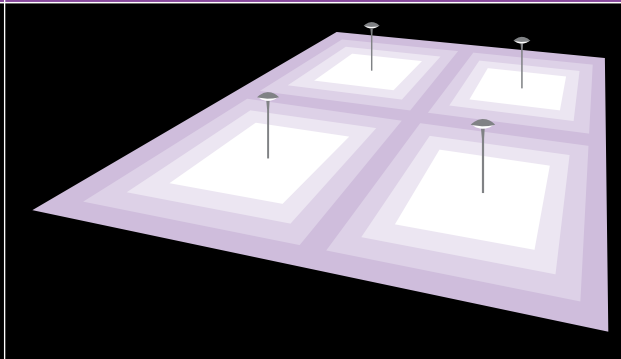
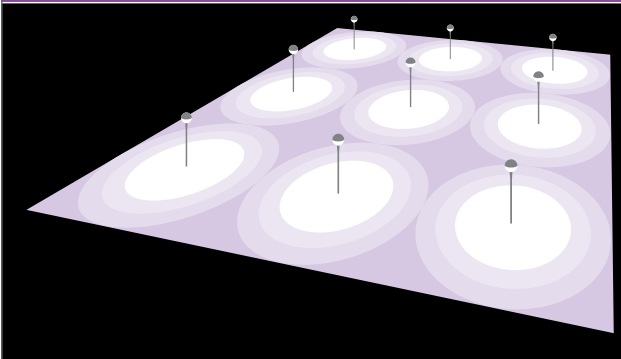
Shade
Asymmetric version, with internal 120° shield to restrict overspill



Optimum Reflector System
- Upper Reflector Tier for diffused reflection
- Lower Reflector Tier for main beam

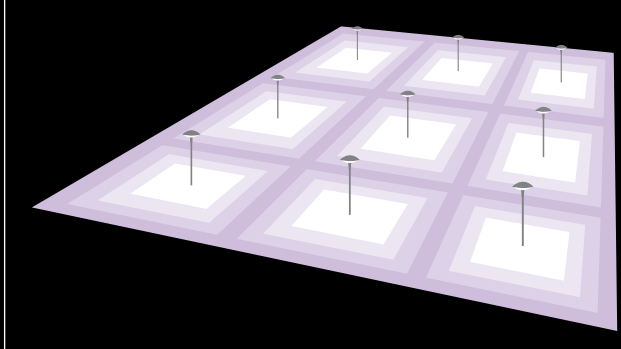
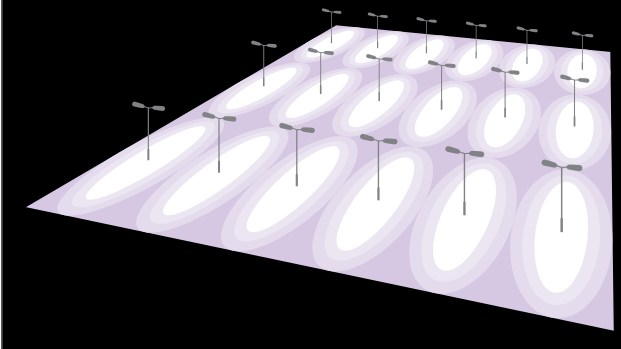
CONVENTIONAL REFLECTOR SYSTEMS

OPTIMUM REFLECTOR SYSTEM



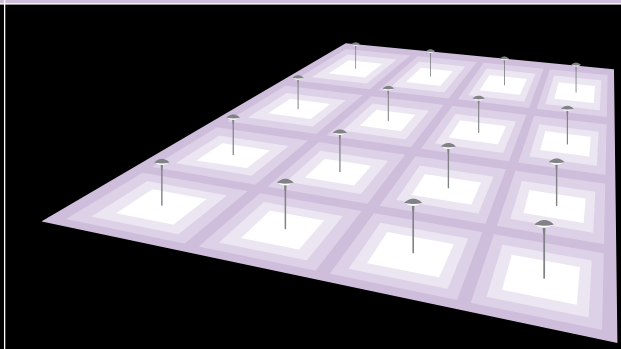
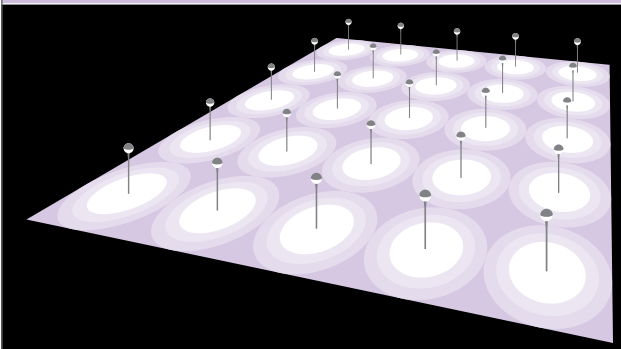
9 x Lanterns at 12m: 1 x400W SON-T
Energy Consumption: 3.87kW Power Density: 0.36W/m²/25Lux
Cable lengths: 390m Columns/Foundation: 9

4 x Orion at 12m: 2 x400W SON-T
Energy Consumption: 3.44kW Power Density: 0.33W/m²/25Lux
Cable lengths: 260m Columns/Foundation: 4



18 x Twin Road Lanterns at 8m: 2 x 150W SON-T
Energy Consumption: 5.4kW Power Density: 0.50W/m²/25Lux
Cable lengths: 550m Columns/Foundation: 18

9 x Orion 2 at 8m: 400W SON-T
Energy Consumption: 3.87kW Power Density: 0.36W/m²/25Lux
Cable lengths: 410m Columns/Foundation: 9



25 x Standard Reflectors at 6m: 250W SON-T
Energy Consumption: 6.9kW Power Density: 0.84W/m²/25Lux
Cable lengths: 700m Columns/Foundation: 25

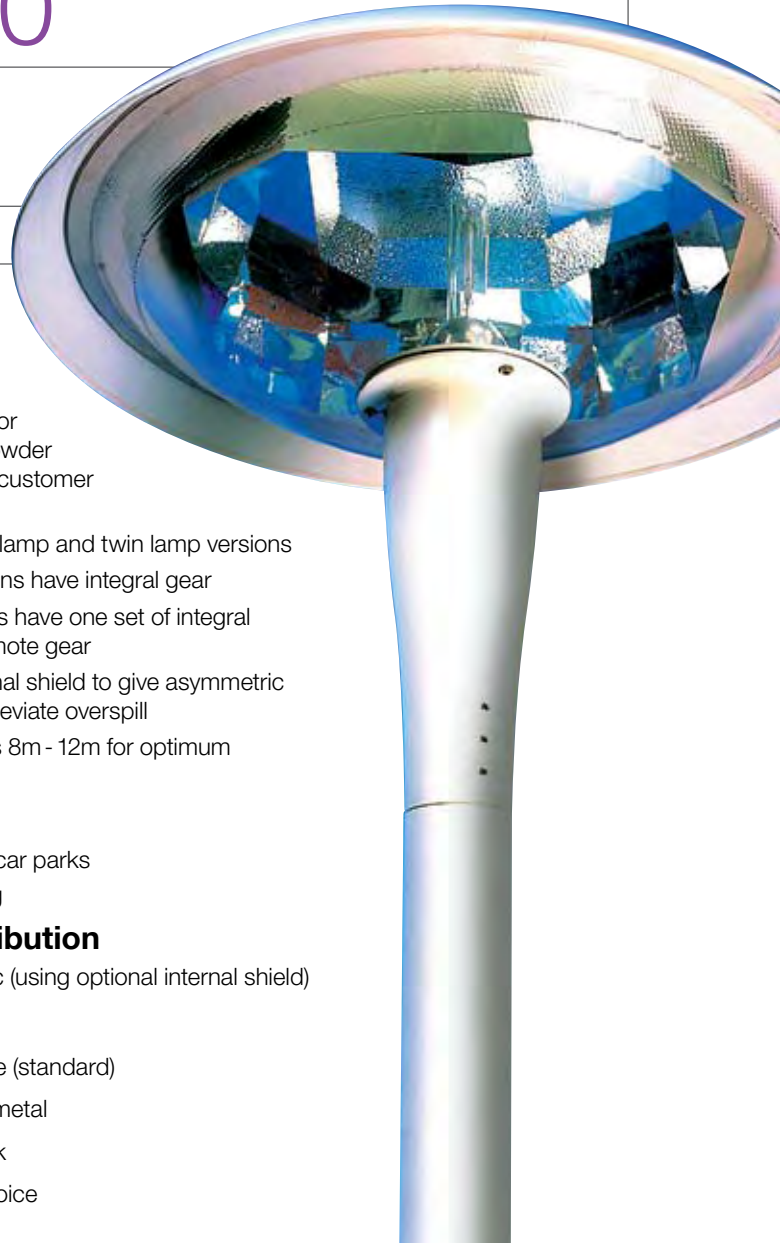
16 x Orion 3 at 6m: 250W SON-T
Energy Consumption: 4.14kW Power Density: 0.38W/m²/25Lux
Cable lengths: 620m Columns/Foundation: 16

For comparison purposes the lighting levels are calculated on initial levels. Cables are assumed to lead to a central point on one side.
Optimum Reflector System Patent No. 1151226

ORION AL4000



Optimum Reflector System Patent No. 1151226



Benefits

- A great solution for large areas requiring even light distribution
- You'll need fewer lighting points, thanks to the efficiency and uniformity of square illuminance distribution combined with a twin 400W lamp capacity
- Fewer lighting points mean you save on installation and maintenance costs – there'll be less cable, gear, lamp replacement, power consumption and waste
- Provide low light pollution < 1% ULOR, so they're dark skies friendly
- Twin lamp facility offers half output and security during off-peak hours
- Both canopy and spigot come as standard in black or white polyester powder coating (option of customer colour choice)
- Available in single lamp and twin lamp versions
- Single lamp versions have integral gear
- Twin lamp versions have one set of integral and one set of remote gear
- Option of an internal shield to give asymmetric distribution and alleviate overspill
- Mounting height is 8m - 12m for optimum performance

Features

- High performance Optimum Reflector System is highly polished and anodised aluminium, producing a square illuminance distribution at ground level
- UV stabilised clear polycarbonate bowl with a decorative outer edge in a diamond pattern
- Canopy in spun aluminium with a removable top cap for easy lamp access
- Cast aluminium spigot housing for one set of control gear (450W max)

Applications

- Retail and leisure car parks
- Large area lighting

Lighting distribution

Square. Asymmetric (using optional internal shield)

Colours

- RAL9003 White (standard)
- RAL9007 Gunmetal
- RAL9005 Black

or to customers' choice

	Lamp wattage and type	Lamp holder	Description	Weight (Kg)*	Windage (m ²)
AL4001	1 x 150/250/400W SONP-T 1 x 250/400/450W HQI-T	E40	Square distribution, integral gear	24.3	0.286
AL4002	1 x 150/250/400W SONP-T 1 x 250/400/450W HQI-T	E40	Asymmetric distribution, integral gear	25.8	0.286
AL4003	2 x 150/250/400W SONP-T 2 x 250/400W HQI-T	E40	Square distribution, control gear (1 integral, 1 loose)	24.8	0.286
AL4004	2 x 150/250/400W SONP-T 2 x 250/400W HQI-T	E40	Asymmetric distribution, control gear (1 integral, 1 loose)	26.3	0.286
AL4005	1 x 150/250/400/600W SONP-T 1 x 250/400/450W HQI-T	E40	Square distribution, remote control gear	19.8	0.286
AL4006	1 x 150/250/400/600W SONP-T 1 x 250/400/450W HQI-T	E40	Asymmetric distribution, remote control gear	21.3	0.286
AL4007	2 x 150/250/400W SONP-T 2 x 250/400W HQI-T	E40	Square distribution, remote control gear	20.3	0.286
AL4008	2 x 150/250/400W SONP-T 2 x 250/400W HQI-T	E40	Asymmetric distribution, remote control gear	21.8	0.286

*Max in range.



Column options

Choose between fixed and base hinged

12m	10m	8m	
Fixed	TB12.AM1	TB10.AM1	TB08.AM1
Base	T127RLH.AM1	T107RLH.AM1	T088RLH.AM1

Accessories

AL4000/PC Photocell

With Optimum Reflector System
Please see page 9 for further information.

Spotlight on Orion

Since its introduction the Orion has set the standard internationally for combining high lighting levels and excellent uniformity in large car parks and amenity areas. Its twin parallel lamp solution also gives customers the option of half lighting levels at low usage times, without compromising on uniformity. Its attractive and universal appearance also lends itself to a wide number of applications.



Morrisons were able to use fewer lighting columns thanks to Orion's high levels of performance and control of overspill. This, in turn, reduced running costs, infrastructure and maintenance. The result is a safe environment for customers that keeps light pollution to a minimum.



Key features

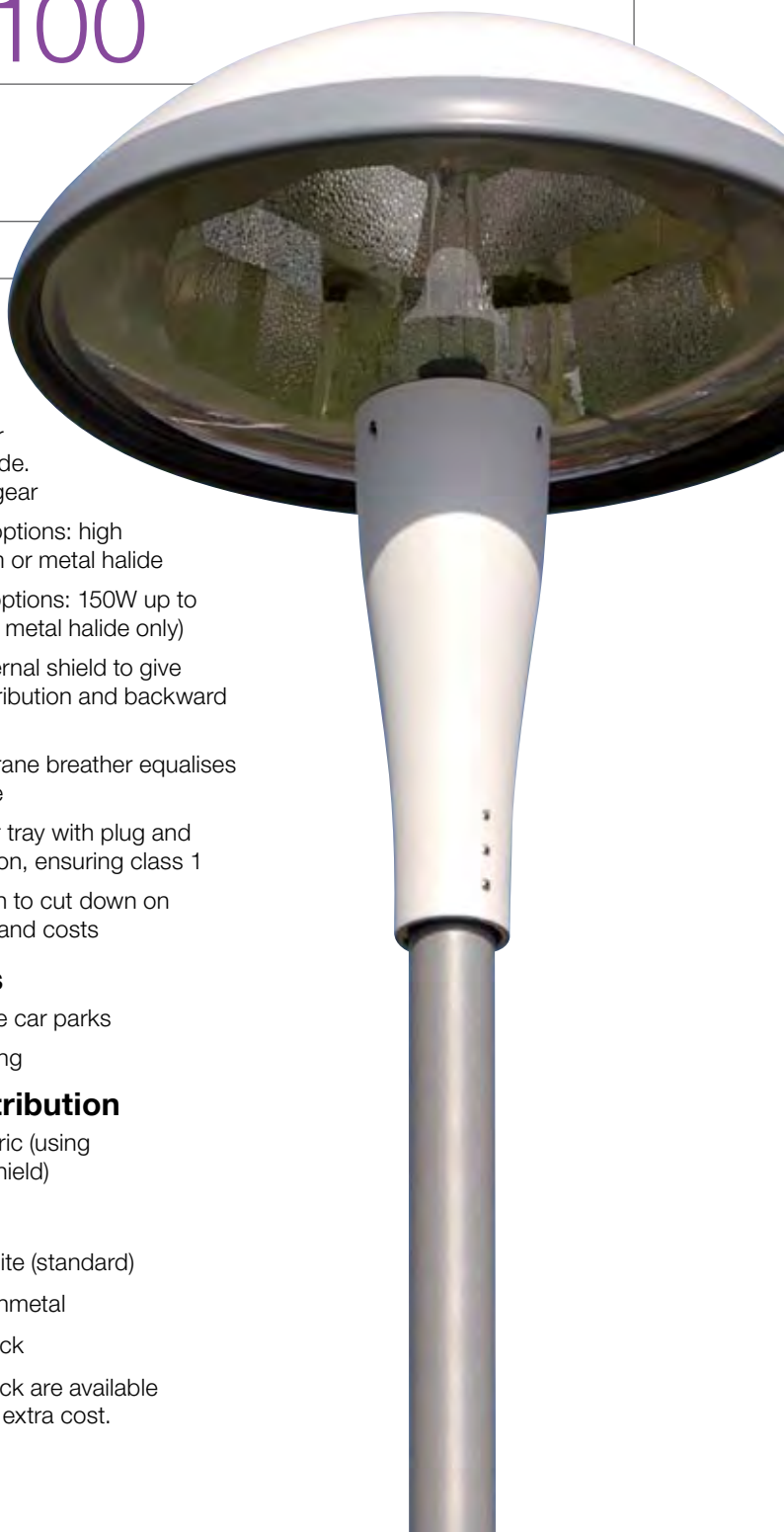
<p>1.</p>	<p>2.</p>	<p>3. Contour in Lux. MF=1.0</p>	<p>4. Contour in Lux. MF=1.0</p>
<p>Dimensions & Mounting Direct spigot entry onto 89mm diameter column shafts Mounting height: 8m – 12m</p>	<p>Maintenance Removable top cap for lamp access via 1/4 turn fasteners</p>	<p>Square distribution Lamp 2 x 400W SONP-T Mounting height: 10m</p>	<p>Asymmetric distribution Lamp 400W SONP-T Mounting height: 10m</p>

All dimensions are in mm.

ORION 2 AL4100



Optimum Reflector System Patent No. 1151226



Benefits

- The ideal solution for large areas requiring even light distribution at lower mounting levels of between 5m to 8m
- You'll need fewer lighting points, thanks to the efficiency and uniformity of square illuminance distribution
- Fewer lighting points mean you save on installation and maintenance costs – there'll be less cable, gear, lamp replacement, power consumption and waste
- Provide low light pollution <1% ULOR, so they're dark skies friendly

Features

- Patented high performance Optimum Reflector System is highly polished and anodised aluminium, producing a square illuminance distribution at ground level
- UV stabilised clear polycarbonate low profile bowl
- Canopy in ABS Plastic, available in white as standard with black and dark silver/grey available on request but may carry a surcharge
- 76mm entry diameter spigot in cast aluminium, available in colours to match the canopy

- Available with single lamp up to 400W SON or 450W metal halide. Integral control gear
- Two lamp type options: high pressure sodium or metal halide
- Four lamp size options: 150W up to 450W (450W on metal halide only)
- Option of an internal shield to give asymmetric distribution and backward overspill control
- GORE™ membrane breather equalises internal pressure
- Removable gear tray with plug and socket connection, ensuring class 1
- Pre-flexed option to cut down on installation time and costs

Applications

- Retail and leisure car parks
- Large area lighting

Lighting distribution

Square. Asymmetric (using optional internal shield)

Colours

- RAL9003 White (standard)
- RAL9007 Gunmetal
- RAL9005 Black

Gunmetal and Black are available on request and at extra cost.

	Lamp wattage and type	Lamp holder	Description	Weight (Kg)*	Windage (m²)
AL4101	1 x 150/250/400W SONP-T 1 x 150/250/400/450W HQI-T	E40	Square distribution, integral gear	17.8	0.274
AL4102	1 x 150/250/400W SONP-T 1 x 150/250/400/450W HQI-T	E40	Asymmetric distribution, integral gear	18.2	0.274
AL4103	1 x 150/250/400W SONP-T 1 x 150/250/400/450W HQI-T	E40	Square distribution, remote control gear	13.5	0.274
AL4104	1 x 150/250/400W SONP-T 1 x 150/250/400/450W HQI-T	E40	Asymmetric distribution, remote control gear	13.8	0.274

*Max in range.



Column options

Choose between fixed and base hinged

8m	6m	5m	
Fixed	TB08.AM2	TB06.AM2	TB05.AM2
Base	T088RLH.AM2	T061RLS.AM2	T051RLS.AM2

Accessories



Spotlight on Orion 2

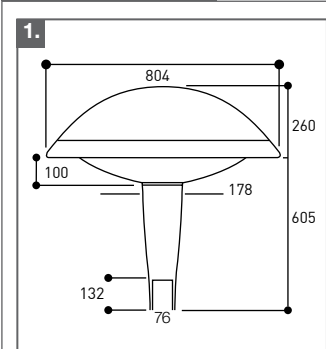
The Orion 2 was developed to strengthen the successful Orion series, giving you greater flexibility and choice. Without compromising performance, the Orion 2 is 20% smaller in diameter with a single lift off canopy, reducing overall costs. It is specifically designed for use with single high wattage HID lamps, and is aesthetically suited to lower height columns.

Also available with a twin arm option – BKTD.AM2.

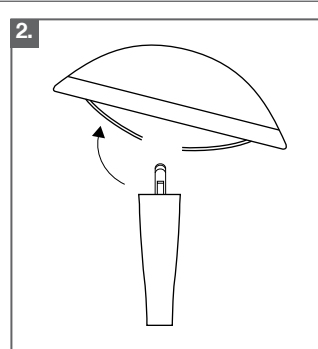


With Optimum Reflector System
Please see page 9 for further information.

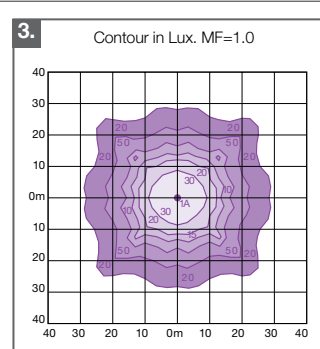
Key features



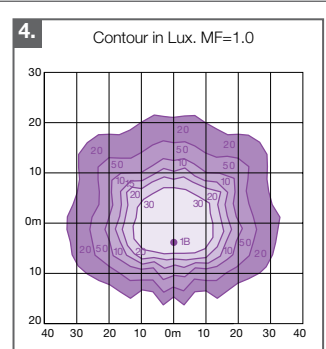
Dimensions & Mounting
Direct entry onto 76mm column shaft or spigot
Mounting height: 5m – 8m



Maintenance
Release three screw clamps and lift lantern canopy



Square distribution
Lamp 400W SONP-T
Mounting height: 8m



Asymmetric distribution
Lamp 400W SONP-T
Mounting height: 8m

All dimensions are in mm.

ORION 3 AL4150



Optimum Reflector System Patent No. 1151226



Benefits

- A truly flat glass option to go with the great looks of the Orion family. Despite the marginal reduction in illuminance levels, in comparison to the Orion 2, it is the ideal combination of high performance and 0% upward light (ULOR)
- You'll need fewer lighting points, thanks to the efficiency and uniformity of square illuminance distribution
- Fewer lighting points mean you save on installation and maintenance costs – there'll be less cable, gear, lamp replacement, power consumption and waste

Features

- High performance Optimum Reflector System is highly polished and anodised aluminium, producing a square illuminance distribution at ground level
- UV stabilised clear polycarbonate flat bowl
- Canopy in ABS Plastics, available in white as standard with black and dark silver/grey available on request but may carry a surcharge
- 76mm entry diameter spigot in cast aluminium, available in colours to match the canopy

- Available with single lamp up to 400W SON or 450W metal halide. Integral control gear
- Two lamp type options: high pressure sodium or metal halide
- Four lamp size options: 150W up to 450W (450W on metal halide only)
- Option of an internal shield to give asymmetric distribution and backward overspill control
- GORE™ membrane breather equalises internal pressure
- Removable gear tray with plug and socket connection, ensuring class 1
- Pre-flexed option to cut down on installation time and costs

Applications

- Retail and leisure car parks
- Large area lighting

Lighting distribution

Square. Asymmetric (using optional internal shield)

Colours

- RAL9003 White (standard)
- RAL9007 Gunmetal
- RAL9005 Black

Gunmetal and Black are available on request and at extra cost.

	Lamp wattage and type	Lamp holder	Description	Weight (Kg)*	Windage (m²)
AL4151	1 x 150/250/400W SONP-T 1 x 150/250/400/450W HQI-T	E40	Square distribution, integral gear	17.8	0.253
AL4152	1 x 150/250/400W SONP-T 1 x 150/250/400/450W HQI-T	E40	Asymmetric distribution, integral gear	18.1	0.253
AL4153	1 x 150/250/400W SONP-T 1 x 150/250/400/450W HQI-T	E40	Square distribution, remote control gear	13.5	0.253
AL4154	1 x 150/250/400W SONP-T 1 x 150/250/400/450W HQI-T	E40	Asymmetric distribution, remote control gear	13.7	0.253

*Max in range.



Column options

Choose between fixed and base hinged

8m	6m	5m	
Fixed	TB08.AM2	TB06.AM2	TB05.AM2
Base	T088RLH.AM2	T061RLS.AM2	T051RLS.AM2

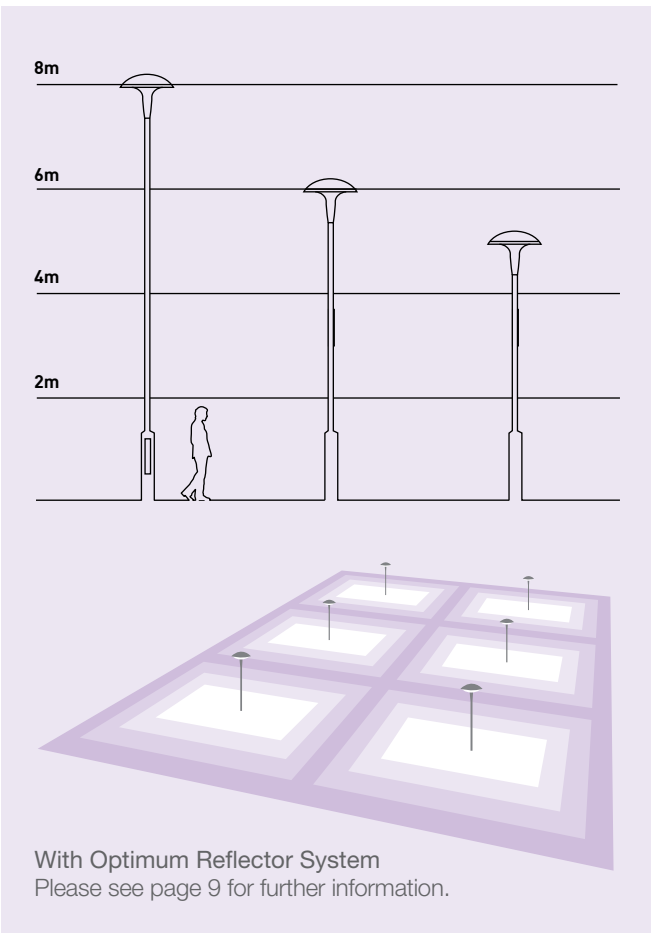
Accessories



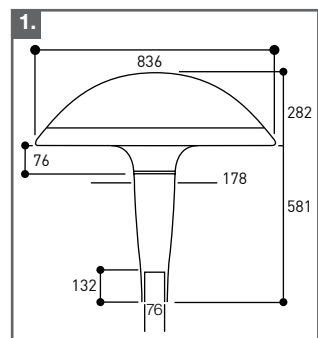
Spotlight on Orion 3

The Orion 3 brings you even more choice within our best-selling Orion series. The Orion 3 lantern shares the same reflector system heritage as the original Orion. For projects where low light pollution is essential, the Orion 3 has a flat polycarbonate bowl that complies with environment zone E1.

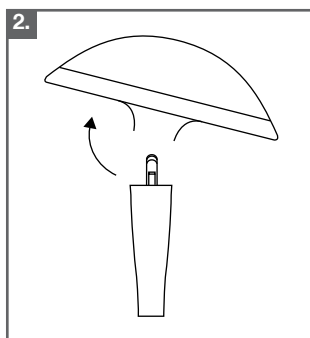
Also available with a twin arm option – BKTD.AM2.



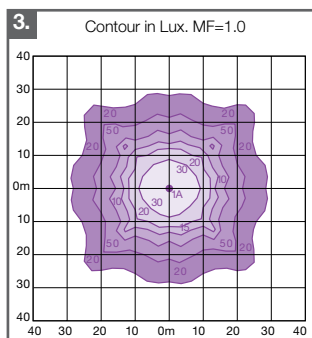
Key features



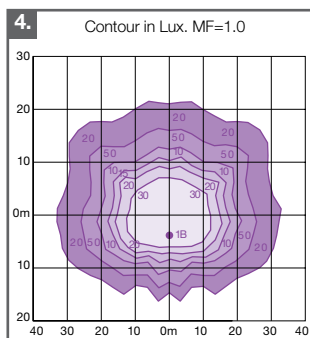
Dimensions & Mounting
Direct entry onto 76mm column shaft or spigot
Mounting height: 5m – 8m



Maintenance
Release three screw clamps and lift lantern canopy



Square distribution
Lamp 400W SONP-T
Mounting height: 8m



Asymmetric distribution
Lamp 400W SONP-T
Mounting height: 8m

All dimensions are in mm.

LEEDS BRADFORD AIRPORT

Case Study

PROJECT:

A prestigious project at one of the busiest airports in the north of England, requiring a total cut-off lantern with maximum performance.

LOCATION:

Leeds, England

PRODUCTS:

Pegasus AL4201, AL4202 and AL6412

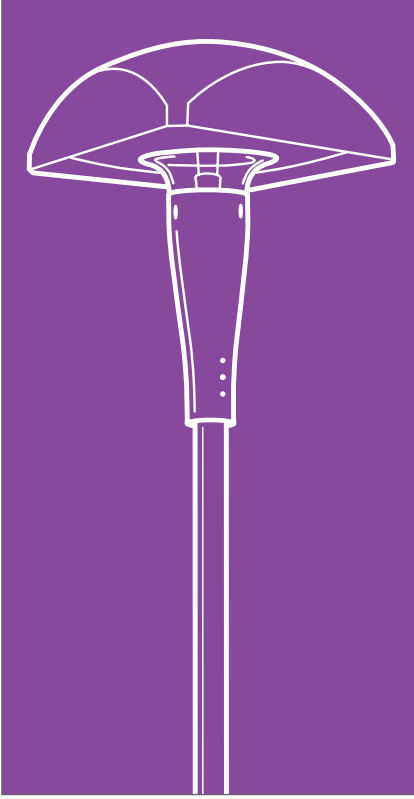
BENEFITS:

No upward light ensures the car park lighting is safe for pilots and does not disturb residents close to the airport.





PEGASUS 2 TAKES OFF



“Here at Leeds Bradford International Airport, we have had a very close working relationship with Abacus Lighting for over eight years. Our approved contractor scheme continually monitors the quality and reputation of each service provider that we employ, and I am pleased to say Abacus have always delivered a quality product, on time with full flexibility.

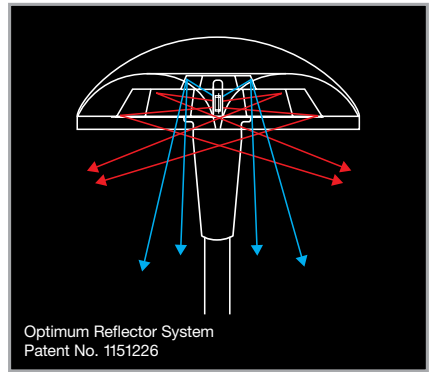
Within our Long Stay car park we have specified the Pegasus lantern, which offers flat glass and shield properties, hence preventing upward light spillage and overspill, which is a very critical factor for an airport. Aesthetically the fitting suits our modern image and would look pleasing to the eye in any environment. Abacus recruit very friendly employees who continually strive to give good customer service, technical or non-technical, both before and after installation. All in all, Abacus provides a very professional service, which Leeds Bradford Airport values as our preferred supplier.”

David Marshall Airport Maintenance Manager

Replacing the original Pegasus lantern, the new Pegasus 2 still offers a flat glass solution to large area lighting but with improved functionality and aesthetics. Using groundbreaking, patented ORS optics, Pegasus 2 can provide significant opportunities to reduce a project’s column numbers and associated costs.

How have we improved the Pegasus functionality and aesthetics? We’ve incorporated the new base casting, as featured on the Orion 2 and Orion 3 lanterns, which allows control gear to be housed internally. This casting in combination with a revised polycarbonate bowl has enhanced its visual appeal for any large area application. In addition we’ve added an easy release clamp system, which provides quick removal of the lantern canopy, allowing maintenance to be carried out swiftly and easily.

Pegasus 2 is a refreshing new option for our customers in the retail and leisure sectors, where the Pegasus has become a popular choice. However, it is also ideal for installation near airports, environmentally sensitive areas or anywhere else that qualifies as environmental zone E1. Within this zone only lanterns emitting a 0% upward light ratio (ULOR) are permitted. The full cut-off beam ensures that the Pegasus 2 fulfils this criterion, whilst supplying a high level of performance.



This could work for you

Just ask Abacus to install and maintain your lighting. Our dedicated team of engineers are certified to work across a range of sectors and we are qualified to undertake comprehensive inspection of your installation.

See the Pegasus in more detail on page 18

PEGASUS 2 AL4250



Optimum Reflector System Patent No. 1151226



Benefits

- Another flat glass lantern for mounting heights of between 5m and 8m
- Thanks to the Optimum Reflector System you'll need fewer lighting points meaning you'll save on installation and maintenance costs – there'll be less cable, gear, lamp replacement, power consumption and waste

Features

- High performance Optimum Reflector System is highly polished and anodised aluminium, producing a square illuminance distribution at ground level
- UV stabilised clear polycarbonate bowl
- Canopy in ABS plastic, available in white as standard with black and dark/silver grey on request but may carry a surcharge
- 76mm entry diameter spigot in cast aluminium, available in colours to match the canopy
- Two lamp type options: high pressure sodium or metal halide, with integral gear
- Four lamp size options: 150W up to 450W (metal halide)
- Option of an internal shield to give asymmetric distribution and backward overspill control

Applications

- Retail and leisure car parks
- Large area lighting

Lighting distribution

- Square
- Asymmetric (utilising optional internal shield)

Colours

- RAL9003 White (standard)
- RAL9007 Gunmetal
- RAL9005 Black

Gunmetal and Black are available on request and at extra cost.

	Lamp wattage and type	Lamp holder	Description	Weight (Kg)*	Windage (m ²)
AL4251	150/250/400W SONP-T 150/250/400/450W HQI-T	E40	Square distribution, integral control gear	10.0	0.206
AL4252	150/250/400W SONP-T 150/250/400/450W HQI-T	E40	Asymmetric distribution, integral control gear	10.5	0.206

*Max in range.



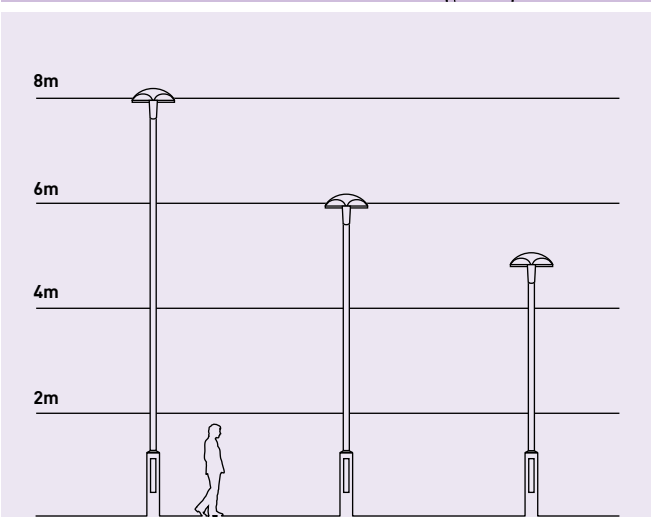
Column options

Choose between fixed and base hinged

8m	6m	5m	
Fixed	TB08.AM2	TB06.AM2	TB05.AM2
Base	T088RLH.AM2	T061RLS.AM2	T051RLS.AM2

Accessories

AL4250/PC Photocell



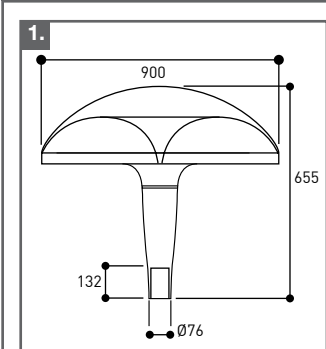
With Optimum Reflector System
Please see page 9 for further information.

Spotlight on Pegasus

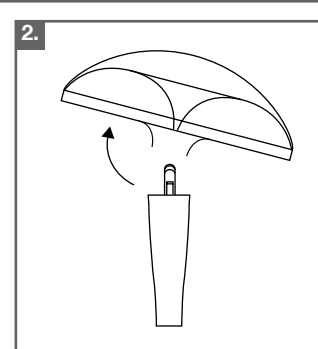
Also available with a twin arm option – BKTD.AM2.



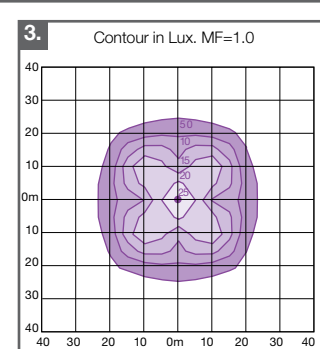
Key features



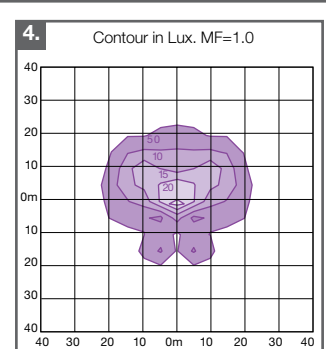
Dimensions & Mounting
Direct spigot entry onto 76mm diameter column shafts
Mounting height: 5m – 8m



Maintenance
Release three screw clamps and lift lantern canopy



Square distribution
Lamp 400W SONP-T
Mounting height: 8m



Asymmetric distribution
Lamp 400W SONP-T
Mounting height: 8m

All dimensions are in mm.

ANTARES AM4400



Benefits

- Offers a good performance from a square reflector distribution, with the option of an asymmetric beam using an internal shield to prevent light overspill
- Low light pollution 2% ULOR

Features

- Injection moulded polycarbonate clear lower bowl fitted to aluminium top cover, finished with black or white polyester powder coating
- Hydro-formed aluminium reflector system providing efficient square light distribution
- High-pressure die cast aluminium spigot attachment carrying integral control gear (where applicable)
- Two size options – large sphere or small sphere
- Available with integral and remote gear
- Compatible with a range of columns up to 8m

Applications

- Parks and gardens
- Pedestrian areas
- Retail and leisure car parks
- Large area
- General car parks

Lighting distribution

- Square
- Asymmetric (utilising optional internal shield), available on AM4401/02 only

Colours

- RAL9005 Black (standard)
- RAL9016 White Gloss

White Gloss is available on request and at extra cost.

	Lamp wattage and type	Lamp holder	Description	Weight (Kg)*	Windage (m ²)*
AM4401	100/150/250W SON-T 250W HQI-T	E40	Large sphere integral gear	12.6	0.282
AM4402	100/150/250/400W SON-T 250/400W HQI-T	E40	Large sphere loose gear	8.7	0.282
AM4403	70W SON-T 70/100/150W HQI-E	E27	Small sphere integral gear	9.5	0.241
AM4404	100/150W SON-T	E40	Small sphere loose gear	9.7	0.241

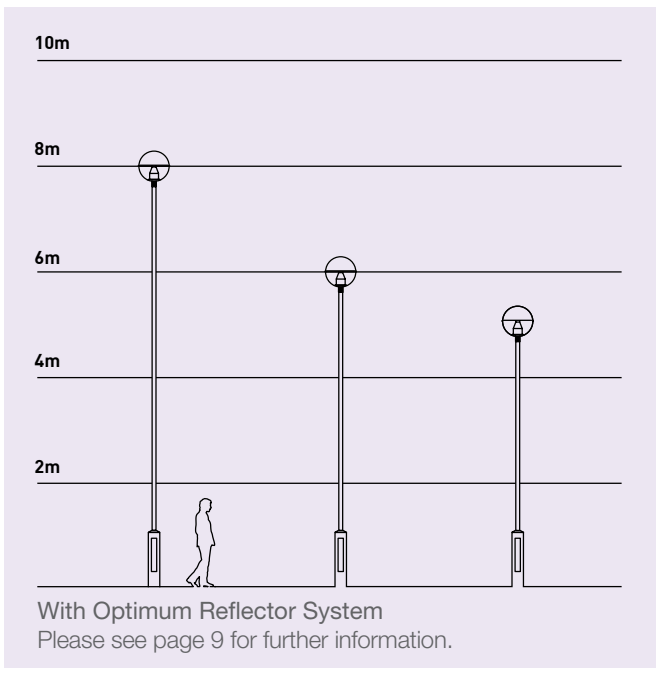
*Max in range.



Column options

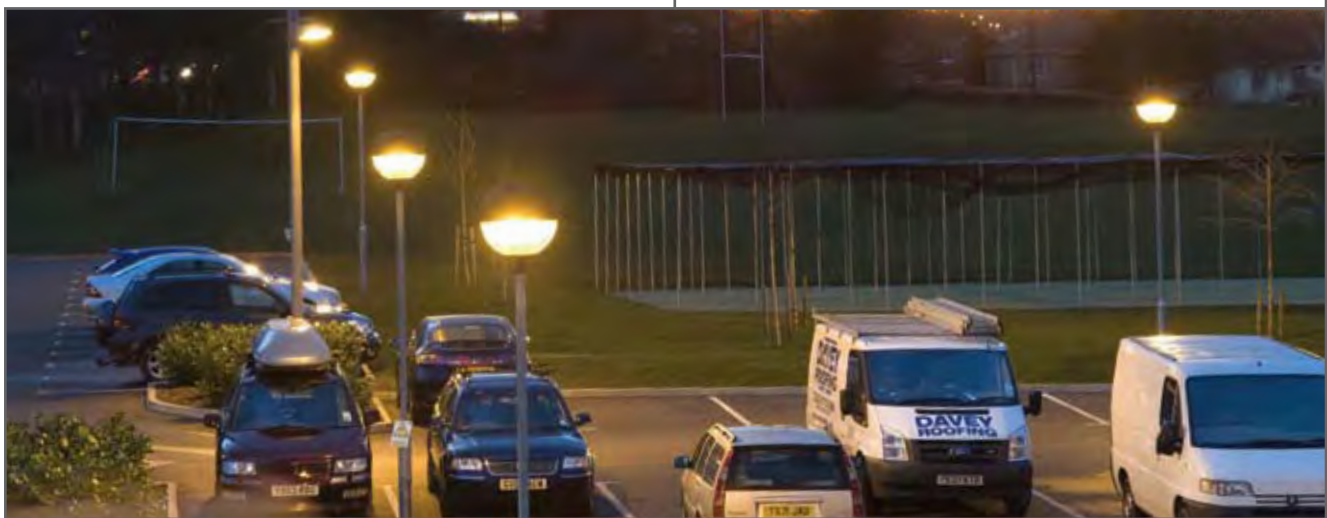
Choose between fixed and base hinged

8m	6m	5m	
Fixed	TB08.SP1	TB060	TB050
Base	T081RLS.SP1	T061RLS	T051RLS



Spotlight on Antares

PROJECT:	Car park lighting was integral to this community sport area funded by Barclays. The project specification required a safe and securely lit environment for visitors at night.
LOCATION:	South Bristol, England
PRODUCTS:	Antares AM4400
BENEFITS:	Low level mounting height ensured minimal visual intrusion whilst providing a uniformly well lit car park.
RESULTS:	<p>“We chose Abacus because they have an excellent reputation for project management, clarity of design and commercial awareness. We found them to be particularly helpful, especially during the planning stage.”</p> <p>Mark Jeffrey Director AP Thompson</p>



Key features

<p>1.</p>	<p>2.</p>	<p>3.</p>	<p>4. Contour in Lux. MF=1.0</p>
<p>Dimensions & Mounting Large sphere, AM4401/2 Mounting height: 4m – 8m</p>	<p>Dimensions & Mounting Small sphere, AM4403/4 Mounting height: 4m – 8m</p>	<p>Maintenance Release three screw fixings and lift sphere for quick and easy lamp change</p>	<p>Square distribution Lamp 250W SON-T Mounting height: 8m</p>

All dimensions are in mm.

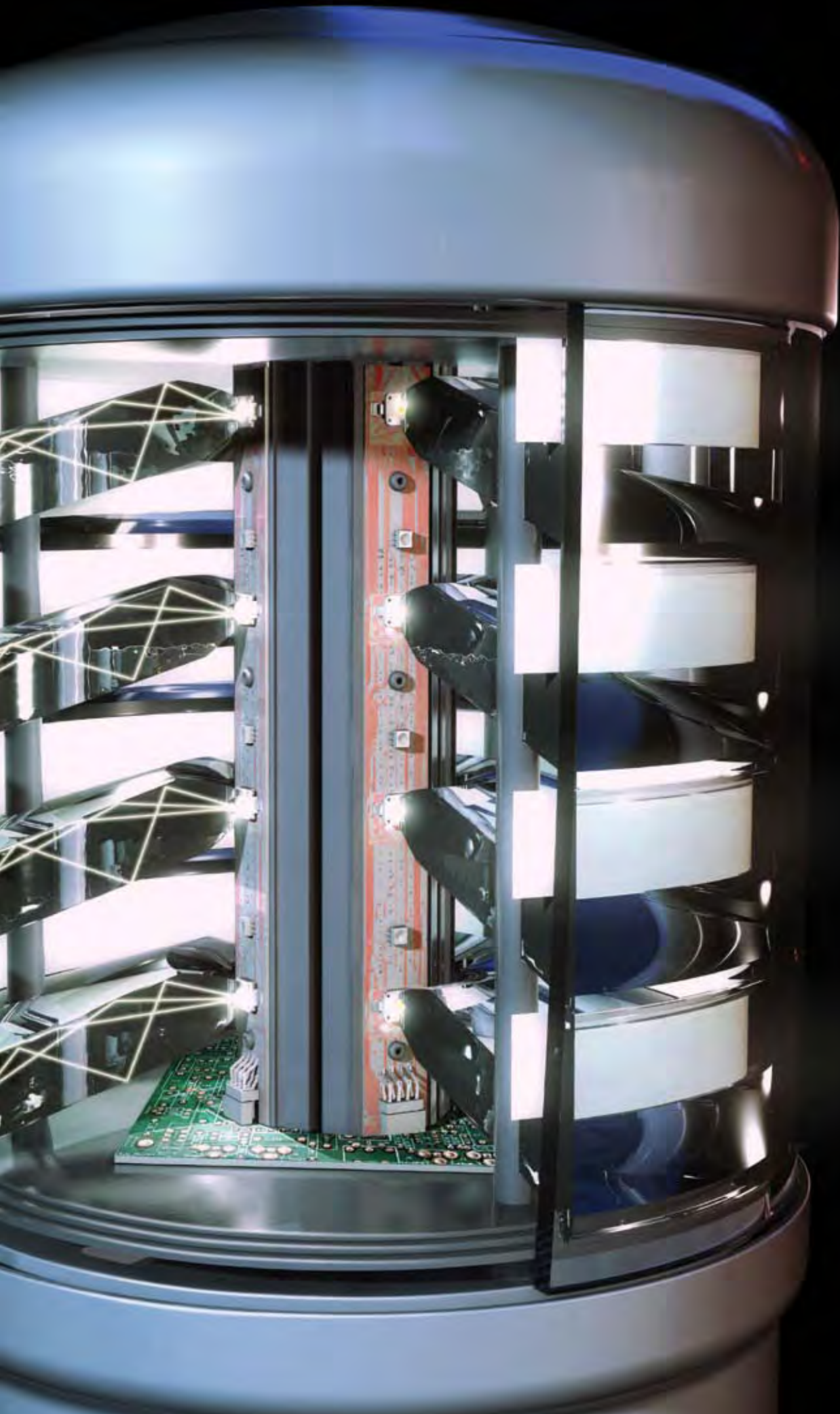
ABACUS – LEADERS IN CAR PARK & AMENITY LIGHTING

LED QUARTZ BOLLARD

Bringing you the next generation
in LED lighting technology...

See page 24-25

www.abacuslighting.com



LED QUARTZ BOLLARD AL9000



High performance, energy-saving technologies and flawless design: security lighting the Abacus way.

Energy-efficient

In recent years LEDs have advanced significantly to become one of the most efficient, attractive and versatile forms of lighting around. For a start, LEDs use far less electricity than standard sources, producing a better quality of crisp, white light. And where a traditional bollard would emit only 28% of the light it produces, the AL9001 Quartz has a superior 90% efficiency - credentials that make it one of the most energy-efficient security lighting systems of its kind.

Performance

Combine instantaneous, bright white light with our patented louvre-based design and the result is simply exceptional: crisp, focused light in a variety of energy-efficient beam patterns, with virtually no light escaping upwards. The bollard itself is tough and robust, made from hardwearing steel tubing protected by a durable, polyester-based coating. Anti-vandal screws give even greater protection against shocks or vibrations. The LED louvres are behind a 5mm thick polycarbonate cylinder, preventing any direct vandalism. And perhaps most importantly, LEDs don't lose performance over time in the same way as conventional HID lamps. So much so, in fact, that they last at least four times longer.

Economical and safe

Fitted with LED technology, our Quartz Bollard can reduce wattage by a sizeable 60% - 80%, meaning you'll not only save money on energy

bills - there's less cabling needed to install them too. No UV and less heat produced makes them safe for pedestrian areas. Not to mention the fact that their longer lifespan puts them miles ahead of the competition in terms of maintenance and replacement costs.

Visual effects

Whether you're installing bollards to give clear, visual instructions, enhance mood, highlight architectural features or even support your branding, our unique red, green and blue colour effects will create drama - without interfering in any way with the more functional white light being given off. For added visual impact, we can even print your logo, advertising or directional arrows on the top louvre ring, as shown in the picture to the right.

Features

- Sturdy IP66 die-cast aluminium head unit with clear polycarbonate outer cylinder (UV stabilised)
- Tough bollard shaft made from heavy duty steel CHS tubing
- Black or silver textured polyester coating on bollard shaft and head-unit castings
- Louvred light controller, with LED light pumped into and through the acrylic louvres, producing a controlled light output
- Operational equipment housed in the bollard itself, using IP67 driver on a fully removable tray, with facility to loop in and loop out electric cabling





Specification

All LED Quartz bollards, regardless of main colour, louvre rings and beam type, have the same product code – **AL9000**.

Individual requirements need to be specified when ordering – please see below for details.

Beam patterns

Asymmetric

Symmetric

Axial

Bollard colours



RAL9005 Black



Fusion Silver 25

Colour effects



All white



White with red band



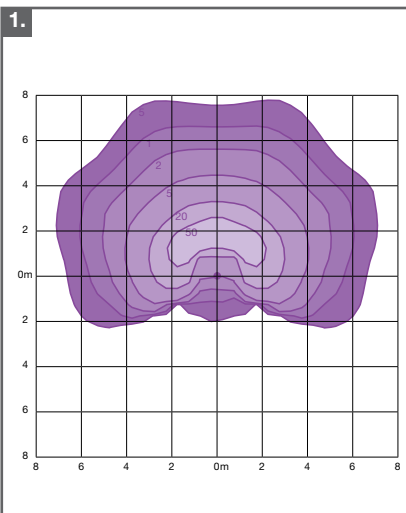
White with blue band



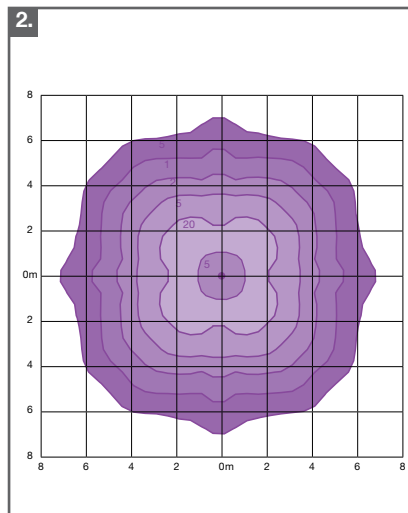
White with green band



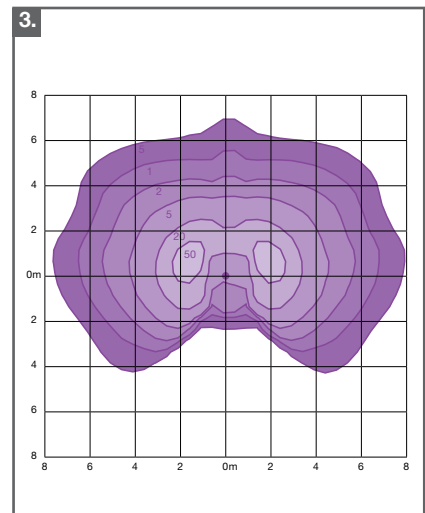
Beam patterns



Asymmetric Distribution



Symmetric Distribution



Axial Distribution

For mounting details see page 26.

CLASSIQUE AL1000



Benefits

- High performance bollard with excellent light distribution
- Extensively tested for vandal resistance
- Highly versatile with a wide range of applications from parks to security

Features

- Die-cast aluminium head unit with clear polycarbonate outer tube
- Bollard shaft of steel CHS tube
- Bollard shaft and head unit castings are finished in black, textured polyester coating
- Louvred light controller of pressed aluminium satin finish
- Integral control gear
- Symmetrical lighting distribution
- Supplied for root mounting as standard, with the option of flange plate fixing
- Mounting height 0.9m

Access

Access the lamp and control gear by removing the head unit (secured by 3 x M8 socket head concealed screws)

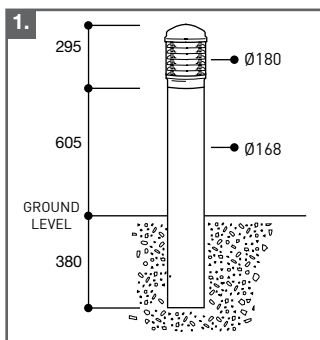
Colours

- Black
- Silver



	Lamp wattage and type	Lamp holder	Description	Weight (Kg)
AL1012	20/23W DULUX EL 50/80W HQL 50/70W SON-E	E27 E27 E27	Bollard: satin louvres integral gear	n/a

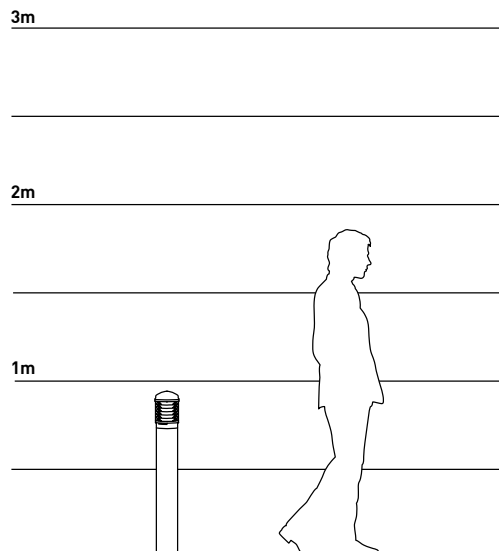
Key features



Mounting

Supplied for root mounting as standard. Flange plate fixing available
Mounting height: 0.90m

Mounting height (m)



This could work for you

To find out more visit:
www.abacuslighting.com

All dimensions are in mm.



CAR PARK & AMENITY LIGHTING

PATHSEEKER 2 AL3150



Benefits

- Optional photocell available
- Tamper-resistant cover screws available
- Simple to fix using external stainless steel brackets and two lower points, all external to gasket line to preserve IP rating

Features

- Strong pressure die-cast LM24 aluminium body prevents distortion when fixing and preserves IP rating
- Textured black full polyester powder finish
- Spacings up to eight times mounting height
- Impact-resistant, flame retardant prismatic polycarbonate cover

- Supplied complete with lamp
- Emergency pack: contact Abacus sales for price and availability

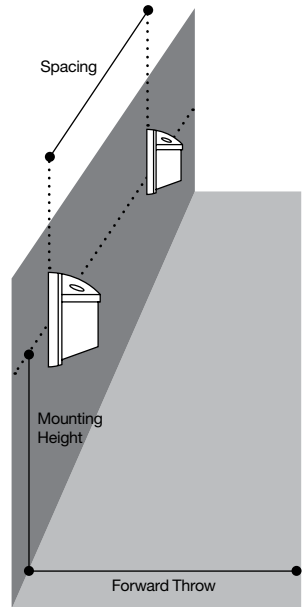
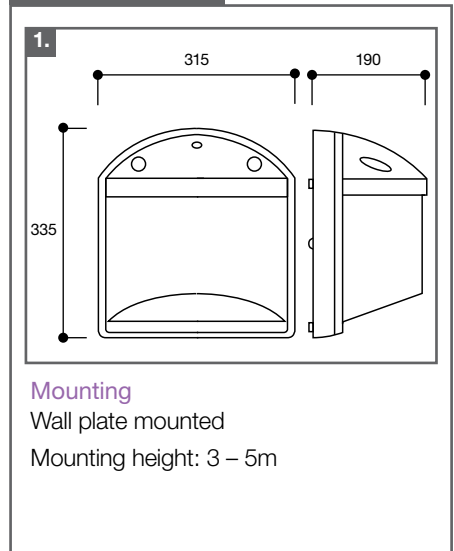
Access

Access the lamp and control gear by removing screws in front panel



	Lamp wattage and type	Lamp holder	Description	Weight (Kg)
AL3151	70W SON-T Plus	E27	Lamp and integral control gear	4.3
	70W MBI	E27		4.3
	42W TC-T	Gx24q-4		2.8

Key features



Photometric performance

3M mounting height 5M forward throw

Spacing	Initial illuminance	Uniformity (min:av)
12m	37 lux av.	0.35
15m	30 lux av.	0.30
18m	25 lux av.	0.23
21m	22 lux av.	0.20
24m	19 lux av.	0.15

4M mounting height 6M forward throw

Spacing	Initial illuminance	Uniformity (min:av)
12m	28 lux av.	0.42
15m	22 lux av.	0.40
18m	18 lux av.	0.30
21m	15 lux av.	0.23
24m	13 lux av.	0.18

Accessories

AL3150PC Photocell option

All dimensions are in mm.

SKIMMER AL3200



Benefits

- Excellent vertical lighting in 360° (or shielded) plane
- Extensively tested for vandal resistance
- Great versatility to suit a wide range of applications from marinas to parks
- Integral gear control
- Option of internal shield to reduce overspill (AL3212)
- Surface mounted and comes supplied with ground mounting plate
- Not suitable for loop in loop out armoured cable or flex. One entry for 2.5mm² flex only

Features

- Cast aluminium body, finished with polyester powder and coated in dark green, ensures a durable finish and a high level of vandal resistance
- Variable beam via elevation adjustable lamp holder
- High strength internal support rods for increased shock resistance
- Polycarbonate refractor producing a 360° horizontal spread of light

Lighting distribution

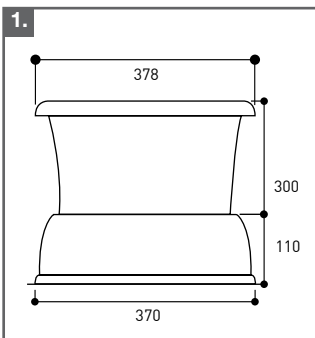
- 360° horizontal spread of light
- Beam at 90° vertical ± 5° adjustable

Access

Access to lamp via removal of top cover with stainless steel security screws fitted as standard

	Lamp wattage and type	Lamp holder	Description	Weight (Kg)
AL3201	35W HCI-T	G12	Adjustable beam ± 5° integral gear	n/a
AL3202	70W HCI-T	G12	Adjustable beam ± 5° integral gear	n/a
AL3203	150W HCI-T	G12	Adjustable beam ± 5° integral gear	n/a
AL3212	Internal shield (180° light spread)			

Key features



Mounting

Surface-mounted version supplied with ground mounting plate
Mounting height: ground mounted



SPOTLIGHT

PROJECT:

A mixed development of retail and residential units by Asda stores.

LOCATION:

Poole, England

PRODUCTS:

Skimmer AL3200, AL4001 and AL4004

BENEFITS:

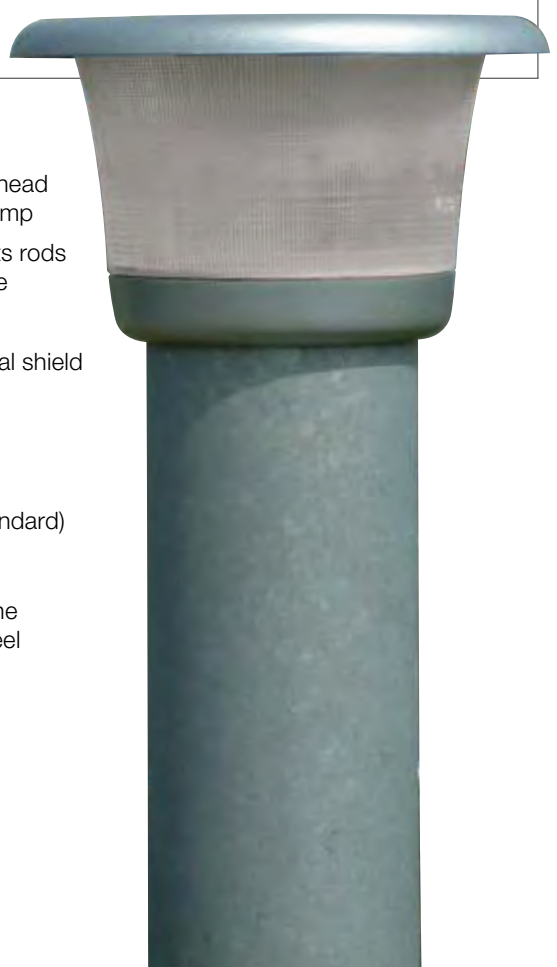
An aesthetically pleasing lantern that delivers exceptional lighting results to the quayside location.

All dimensions are in mm.



CAR PARK & AMENITY LIGHTING

SKIMMER BOLLARD AL3210



Benefits

- We offer you the excellent Skimmer Unit mounted on a highly resistant steel tube for a wider range of applications
- An adjustable beam with vertical lighting levels means you can change the direction of the light
- Any shock impact on lighting head unit is not transferred to the lamp
- High strength canopy supports rods for increased shock resistance
- Integral control gear
- Asymmetric option with internal shield to reduce overspill
- Mounting height 1.1m

Features

- Cast aluminium lighting unit, finished with polyester powder and coated in Silver/Grey, ensures a durable finish and a high level of vandal resistance
- Variable beam via adjustable lamp holder
- Polycarbonate refractor producing a 360° horizontal spread of light
- Steel CHS steel tube
- Control gear fitted in a removable plastic housing located within the CHS steel tube

Lighting distribution

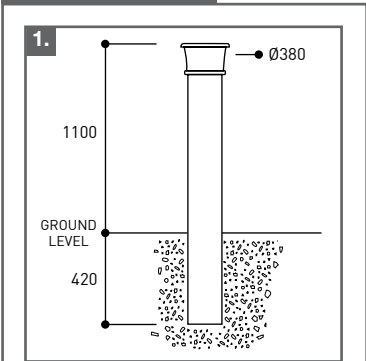
- Beam elevation set at 70° (standard)

Access

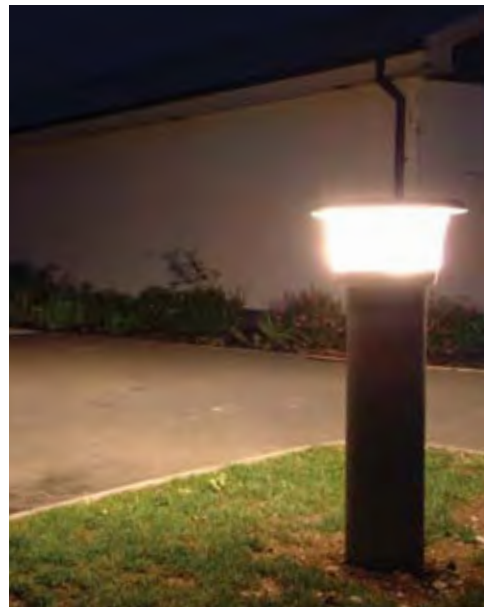
Access the lamp by removing the body (secured with stainless steel security screws)

	Lamp wattage and type	Lamp holder	Description	Weight (Kg)
AL3211	35/70/150W HCI-T	G12	Bollard fixed beam 70° integral gear	n/a
AL3212	Internal shield (180° light spread)			

Key features



Mounting
Mounting height: 1.1m



SPOTLIGHT

PROJECT:
A footpath through a park that is liable to a high level of vandalism.

LOCATION:
Kirkby in Ashfield, England

PRODUCTS:
Skimmer Bollard AL3210

BENEFITS:
A vandal resistant product that requires low maintenance.

All dimensions are in mm.

ABACUS – LEADERS IN ARCHITECTURAL LIGHTING

ARCHITECTURAL LIGHTING





THE CONCEPT FOR SUCCESS

Case Study

PROJECT:

The site location for the proposed Test Bed Status School presented the need to integrate full educational facilities into a traditional style building, to accord with its surroundings. The external lighting, therefore, had to provide performance in a subtle but aesthetic manner in keeping with the architectural philosophy. For the foregoing reasons, the Concept Retro Range was successfully chosen to illuminate the vehicular and pedestrian areas, being both column and wall bracket mounted.

LOCATION: County Durham, England

PRODUCTS: Concept® Retro AL8020



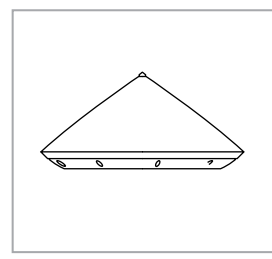


VARIABLE BEAM STORY

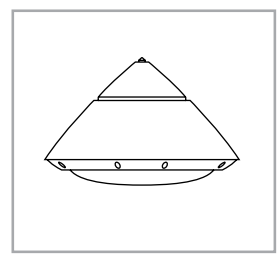
Variable Beam Reflector

The innovative, patented Variable Beam Reflector is at the heart of the success of the Concept lantern. Its unique design incorporates a series of highly polished and anodised reflector 'fins'; these can be positioned in a variety of positions to deliver four beam options for optimum lighting results across a range of applications.

- 5° axial or elongated lighting distribution ideal for pathways
- 15° amenity and road lighting distribution
- 30° oblong light distribution or square distribution when mounted in a twin lantern arrangement
- 50° forward throw to light wide areas (remote gear only)



Concept Low Cone lantern with the flat glass option



Concept High Cone lantern with the low profile bowl option

Reflector segments

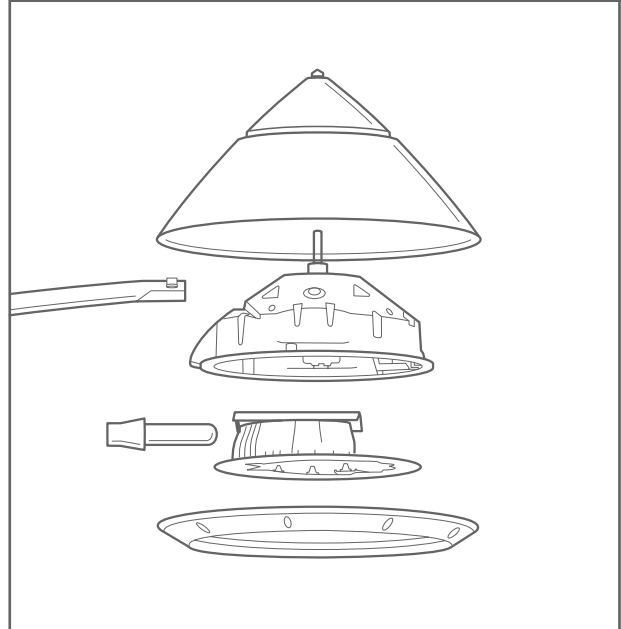


Variable Beam Reflector

The reflector segments can be located in a variety of set positions, each providing a different beam distribution

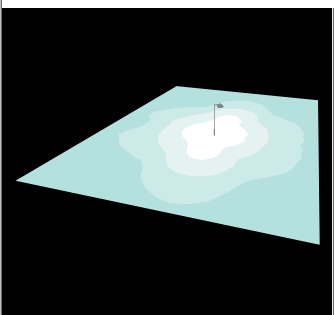


High Cone canopy

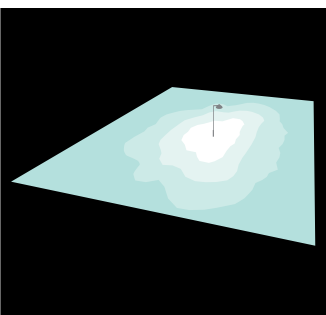


Exploded diagram

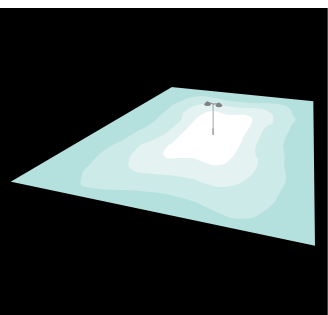
The Concept lantern comprises a canopy, reflector and bezel (with flat glass or low profile bowl) fixed to the central chassis (patent pending)



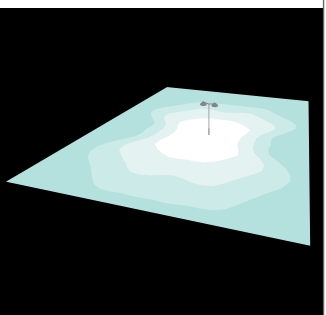
5° Lighting for footpaths
Single Concept lantern with 150W SON-PT lamp mounted on a 6m column



15° Lighting for roads
Single Concept lantern with 150W SON-PT lamp mounted on a 6m column



30° Lighting larger amenity areas
Twin Concept lantern with 2 x 150W SON-PT lamp mounted on a 6m column



50° Lighting larger amenity areas
Twin Concept lantern with 2 x 150W SON-PT lamp mounted on a 6m column (remote gear only)

Variable Beam Reflector – Patent Pending No. PCT/GB2005/001443 Chassis (method of assembly) – Patent Pending No. PCT/GB2005/001441

CONCEPT® LOW CONE AL8030



Benefits

- High performance and versatility
- 0% ULOR with the flat glass option
- End of life refurbishment

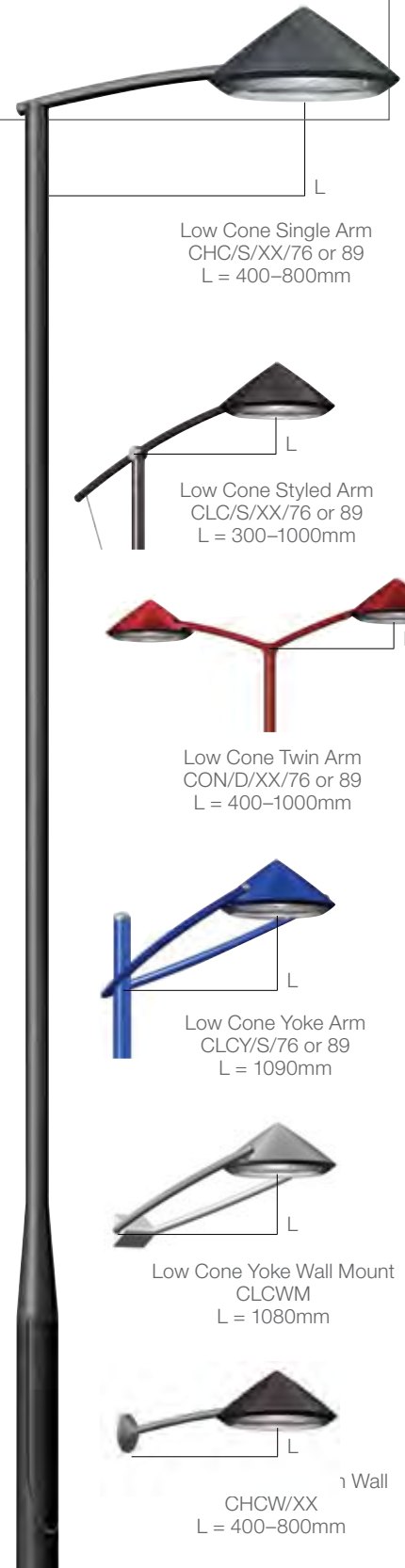
Features

- Aluminium canopy and trim finished in durable, polyester powder coating
- Die-cast aluminium central chassis designed to accept multiple bracket options
- Highly polished, anodised aluminium reflector
- GRP decorative bezel finished in silver
- Polycarbonate bowl with low profile styling or flat glass version for low light pollution applications

- Offered with the 8m, 6m and 5m height Low Cone contemporary column
- Electronic control gear up to 150W
- Central chassis module sealed to IP65
- Accepts up to 250W metal halide or high pressure sodium lamps
- Integral control gear to 150W (excluding 50° variable beam)

Colours

- RAL9005 Black
- RAL9007 Gunmetal
- RAL9006 Silver
- RAL9003 White
- RAL3020 Red
- Interpon 610 Blue



Low Cone Single Arm
CHC/S/XX/76 or 89
L = 400–800mm

Low Cone Styled Arm
CLC/S/XX/76 or 89
L = 300–1000mm

Low Cone Twin Arm
CON/D/XX/76 or 89
L = 400–1000mm

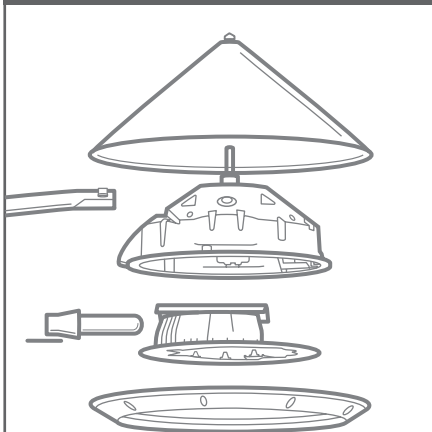
Low Cone Yoke Arm
CLCY/S/76 or 89
L = 1090mm

Low Cone Yoke Wall Mount
CLCWM
L = 1080mm

Low Cone Yoke Wall Mount
CLCWM
L = 1080mm

CHCW/XX
L = 400–800mm

Low Cone canopy



Low Cone Exploded View

The Concept Low Cone lantern comprises a canopy, reflector and bezel with flat glass or low profile bowl. The chassis construction allows it to be fully refurbished with different canopies to adapt to changing styles or applications and the redundant parts can be recycled or reused, to help compliance with the WEEE Directive.

Variable Beam Reflector



Variable Beam Reflector

The innovative, patented Variable Beam Reflector is at the heart of the success of the Concept lantern. Its unique design incorporates a series of highly polished and anodised reflector segments; these can be positioned in a variety of positions to deliver four beam options for optimum lighting results across a range of applications.

- 5° axial or elongated lighting distribution ideal for pathways
- 15° road lighting distribution
- 30° oblong light distribution or square distribution when mounted in a twin lantern arrangement
- 50° forward throw to light wide areas

	Lamp wattage and type	Lamp holder	Description	Weight (Kg)*	Windage (m²)
AL8031	70/100/150/250W SON/HQI	E27/E40	Low profile bowl, Variable Beam Reflector	14.67	0.11
AL8032	70/100/150/250W SON/HQI	E27/E40	Flat glass, Variable Beam Reflector	15.56	0.10

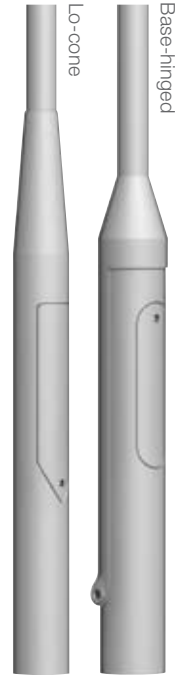
*Max in range.



Column and bracket options

Choose between fixed and base hinged

	8m	6m	5m		8m	6m	5m
Fixed	TB081/LO-CONE	TB060/LO-CONE	TB050/LO-CONE	Base diameter (mm)	168	140/168	140/168
Base	T088RLH/2PXXXX	T068RLH/2PXXXX	T051RLS/2PXXXX				
Yoke	CLCY/89	CLCY/76	CLCY/76	Shaft diameter (mm)	89	76	76
Styled	CLC/S/XX/89	CLC/S/XX/76	CLC/S/XX/76				
Single	CHC/S/XX/89	CHC/S/XX/76	CHC/S/XX/76	Base height (mm)	1250	1250	1250
Twin	CON/D/XX/89	CON/D/XX/76	CON/D/XX/76				
Single Wall	-	-	CHCW/XX	Flange plate (mm)	Type 1	Type 0	Type 0
Yoke Wall	-	-	CLCWM/XX				
Accessories				Door opening (mm)	1200	1000	800
ELS955/8	Single phase, cut-out, 6A, termination plate						
ELS955/9	Twin fuse cut-out, 6A, termination plate						
AL8030PC	Photocell option, miniature, two part up to 150W						
				Cable entry (root) (mm)	600 x 115	500 x 100	500 x 100



Columns and brackets finished hot dip galvanised then spray painted with 2-pack acrylic coat. Wet finish 190 microns.



Key features

<p>1.</p>	<p>2.</p>	<p>3. Contour in Lux. MF=1.0</p>	<p>4. Contour in Lux. MF=1.0</p>	<p>5. Contour in Lux. MF=1.0</p>	<p>6. Contour in Lux. MF=1.0</p>
<p>Dimensions & Mounting Mounting height: 5m – 8m</p>	<p>Maintenance Access the lamp and control gear by lowering the bezel (secured by ¼ turn fasteners)</p>	<p>5° Single Concept® Lantern 150W SON-PT Mounting height: 8m</p>	<p>15° Single Concept® Lantern 150W SON-PT Mounting height: 8m</p>	<p>30° Single Concept® Lantern 150W SON-PT Mounting height: 8m</p>	<p>50° Single Concept® Lantern 150W SON-PT Mounting height: 8m</p>

All dimensions are in mm.

CONCEPT® HIGH CONE AL8040



Benefits

- High performance and versatility
- 0% ULOR with the flat glass option
- End of life refurbishment

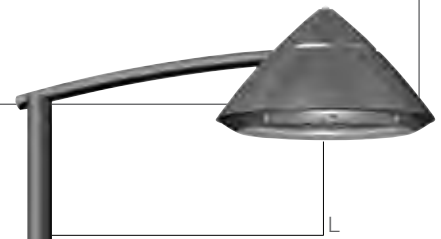
Features

- Aluminium canopy and trim finished in durable, polyester powder coating
- Die-cast aluminium central chassis designed to accept multiple bracket options
- Highly polished, anodised aluminium reflector
- GRP decorative bezel finished in silver
- Polycarbonate bowl with low profile styling or flat glass version for low light pollution applications

- Offered with the 8m, 6m and 5m height High Cone contemporary column
- Electronic control gear up to 150W
- Central chassis module sealed to IP65
- Accepts up to 250W metal halide or high pressure sodium lamps
- Integral control gear up to 150W (excluding 50° variable beam)

Colours

- RAL9005 Black
- RAL9007 Gunmetal
- RAL9006 Silver
- RAL9003 White
- RAL3020 Red
- Interpon 610 Blue



High Cone Single Arm
CHC/S/XX/76 or 89
L = 400-800mm

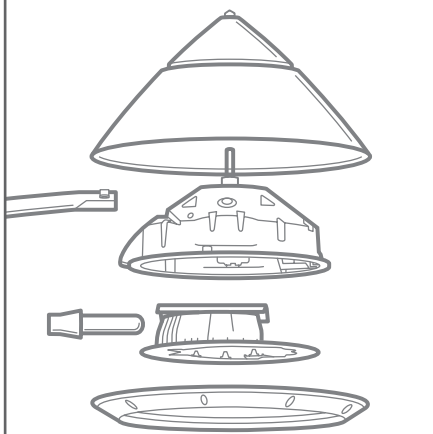


High Cone Twin Arm
CON/D/XX/76 or 89
L = 400-1000mm



High Cone Single Arm Wall
CHCW/XX
L = 400-800mm

High Cone canopy



High Cone Exploded View

The Concept High Cone lantern comprises a canopy, reflector and bezel with flat glass or low profile bowl. The chassis construction allows it to be fully refurbished with different canopies to adapt to changing styles or applications and the redundant parts can be recycled or reused, to help compliance with the WEEE Directive.

Variable Beam Reflector



Variable Beam Reflector

The innovative, patented Variable Beam Reflector is at the heart of the success of the Concept lantern. Its unique design incorporates a series of highly polished and anodised reflector segments; these can be positioned in a variety of positions to deliver four beam options for optimum lighting results across a range of applications.

- 5° axial or elongated lighting distribution ideal for pathways
- 15° road lighting distribution
- 30° oblong light distribution or square distribution when mounted in a twin lantern arrangement
- 50° forward throw to light wide areas

	Lamp wattage and type	Lamp holder	Description	Weight (Kg)*	Windage (m²)
AL8041	70/100/150/250W† SON/HQI	E27/E40	Low profile bowl, Variable Beam Reflector	14.86	0.11
AL8042	70/100/150/250W SON/HQI	E27/E40	Flat glass, Variable Beam Reflector	15.80	0.12

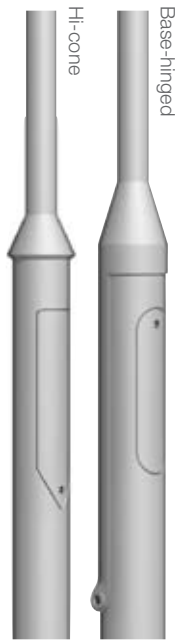
†250W Remote gear. *Max in range.



Column and bracket options

Choose between fixed and base hinged

	8m	6m	5m		8m	6m	5m
Fixed	TB081/Hi-CONE	TB060/Hi-CONE	TB050/Hi-CONE	Base diameter (mm)	168	140/168	140/168
Base	T081RLS	T061RLS	T051RLS				
Single	CHC/S/XX/89	CHC/S/XX/76	CHC/S/XX/76	Shaft diameter (mm)	89	76	76
Twin	CON/D/XX/89	CON/D/XX/76	CON/D/XX/76				
Single Wall	-	-	CHCW/XX	Base height (mm)	1250	1250	1250
Accessories				Flange plate (mm)	Type 1	Type 0	Type 0
ELS955/8	Single phase, cut-out, 6A, termination plate			Root length (mm)	1200	1000	800
ELS955/9	Twin fuse cut-out, 6A, termination plate			Door opening (mm)	600 x 115	500 x 100	500 x 100
AL8040PC	Photocell option, miniature, two part up to 150W			Cable entry (root) (mm)	150 x 50	150 x 50	150 x 50
Columns and brackets finished hot dip galvanised then spray painted with 2-pack acrylic coat. Wet finish 190 microns.							



Key features

<p>1.</p>	<p>2.</p>	<p>3. Contour in Lux. MF=1.0</p>	<p>4. Contour in Lux. MF=1.0</p>	<p>5. Contour in Lux. MF=1.0</p>	<p>6. Contour in Lux. MF=1.0</p>
<p>Dimensions & Mounting All bracket options offered with an outreach of 500mm – 1000mm</p>	<p>Maintenance Access the lamp and control gear by lowering the bezel (secured by ¼ turn fasteners)</p>	<p>5° Single Concept® Lantern 150W SON-PT Mounting height: 8m</p>	<p>15° Single Concept® Lantern 150W SON-PT Mounting height: 8m</p>	<p>30° Single Concept® Lantern 150W SON-PT Mounting height: 8m</p>	<p>50° Single Concept® Lantern 150W SON-PT Mounting height: 8m</p>

All dimensions are in mm.

CONCEPT® RETRO AL8020



Benefits

- High performance and versatility
- 0% ULOR with the flat glass option
- End of life refurbishment

Features

- Aluminium canopy and trim finished in durable, polyester powder coating
- Die-cast aluminium central chassis designed to accept multiple bracket options
- Highly polished, anodised aluminium reflector
- GRP decorative bezel finished in silver
- Polycarbonate bowl with low profile styling or flat glass version for low light pollution applications

- Offered with the 8m, 6m and 5m height High Cone contemporary column
- Electronic control gear up to 150W
- Central chassis module sealed to IP65
- Accepts up to 250W metal halide or high pressure sodium lamps
- Integral control gear to 150W (excluding 50° variable beam)

Colours

- RAL9005 Black
- RAL9007 Gunmetal
- RAL9006 Silver
- RAL9003 White
- RAL3020 Red
- Interpon 610 Blue



Retro Swan Neck
SN/76 or 89



Retro Single Arm
CHC/S/XX/76 or 89
L = 300-1000mm



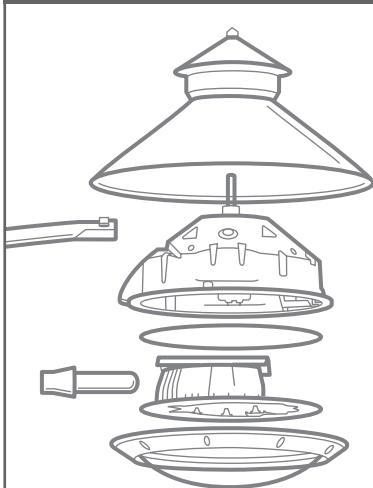
Retro Twin Arm
CON/D/XX/76 or 89
L = 400-1000mm



Retro Wall
RWM/XX
L = 400-800mm

L = Distance from column to centre of lantern

Retro canopy



Retro exploded view

The Concept® Retro lantern comprises a canopy, reflector and bezel with flat glass or low profile bowl. Different canopies can be fitted to adapt to changing styles thanks to the chassis construction. The redundant parts can be recycled or reused.

Variable Beam Reflector



Variable Beam Reflector

The innovative, patented Variable Beam Reflector is at the heart of the success of the Concept lantern. Its unique design incorporates a series of highly polished and anodised reflector segments; these can be positioned in a variety of positions to deliver four beam options for optimum lighting results across a range of applications.

- 5° axial or elongated lighting distribution ideal for pathways
- 15° road lighting distribution
- 30° oblong light distribution or square distribution when mounted in a twin lantern arrangement
- 50° forward throw to light wide areas

	Lamp wattage and type	Lamp holder	Description	Weight (Kg)*	Windage (m²)
AL8021	70/100/150/250W SON/HQI	E27/E40	Low profile bowl, Variable Beam Reflector	15.61	0.13
AL8022	70/100/150/250W SON/HQI	E27/E40	Flat glass, Variable Beam Reflector	15.61	0.13

*Max in range.



Column and bracket options

Choose between fixed and base hinged

	8m	6m	5m		8m	6m	5m																
Fixed	TB081/Hi-CONE/R	TB060/Hi-CONE/R	TB050/Hi-CONE/R		Base diameter (mm)	168	140/168	140/168															
Base	T081RLS	T061RLS	T051RLS																				
Swan neck	SN/89	SN/76	SN/76						Shaft diameter (mm)	89	76	76											
Single	CHC/S/XX/89	CHC/S/XX/76	CHC/S/XX/76																				
Twin	CON/D/XX/89	CON/D/XX/76	CON/D/XX/76										Base height (mm)	1250	1250	1250							
Wall	-	-	RWM/XX																				
Accessories																	Flange plate	Type 1	Type 0	Type 0			
ELS955/8	Single phase, cut-out, 6A, termination plate																						
ELS955/9	Twin fuse cut-out, 6A, termination plate																						
AL8020PC	Photocell option, miniature, two part up to 150W																						
Columns and brackets finished hot dip galvanised then spray painted with 2-pack acrylic coat. Wet finish 190 microns.				Root length (mm)	1200	1000	800																
								Door opening (mm)													600 x 115	500 x 100	500 x 100
									Cable entry (root) (mm)	150 x 50	150 x 50	150 x 50											



Key features

<p>1. </p>	<p>2. </p>	<p>3. Contour in Lux. MF=1.0 </p>	<p>4. Contour in Lux. MF=1.0 </p>	<p>5. Contour in Lux. MF=1.0 </p>	<p>6. Contour in Lux. MF=1.0 </p>
<p>Dimensions & Mounting Mounting height: 5m – 8m</p>	<p>Maintenance Access the lamp and control gear by lowering the bezel (secured by ¼ turn fasteners)</p>	<p>5° Single Concept® Lantern 150W SON-PT Mounting height: 8m</p>	<p>15° Single Concept® Lantern 150W SON-PT Mounting height: 8m</p>	<p>30° Single Concept® Lantern 150W SON-PT Mounting height: 8m</p>	<p>50° Single Concept® Lantern 150W SON-PT Mounting height: 8m</p>

All dimensions are in mm.

CONCEPT® CLASSIC AL8010



Benefits

- High performance and versatility
- End of life refurbishment

Features

- Aluminium canopy and trim finished in durable, polyester powder coating
- Die-cast aluminium central chassis designed to accept multiple bracket options
- Highly polished, anodised aluminium reflector
- GRP decorative bezel finished in silver
- Polycarbonate teardrop bowl
- Offered with the 8m, 6m and 5m height Classic contemporary column

- Electronic control gear up to 150W
- Central chassis module sealed to IP65
- Accepts up to 250W metal halide or high pressure sodium lamps
- Integral control gear to 150W (excluding 50° variable beam)

Colours

- RAL9005 Black
- RAL6005 Moss Green

Note: option to select gold colour on upper canopy



Classic Swan Neck
SN/76 or 89



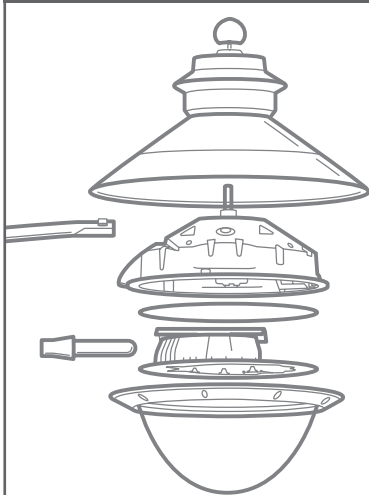
Classic Yoke
CY/76 or 89



Classic Wall Mount
CWM/XX
L = 400–600mm

L = Distance from column to centre of lantern

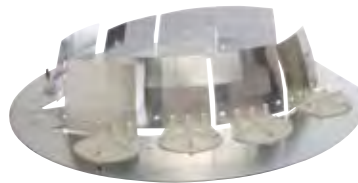
Classic canopy



Classic exploded view

The Concept® Classic lantern comprises a canopy, reflector and bezel with polycarbonate tear bowl. Different canopies can be fitted to adapt to changing styles thanks to the chassis construction. The redundant parts can be recycled or reused.

Variable Beam Reflector



Variable Beam Reflector

The innovative, patented Variable Beam Reflector is at the heart of the success of the Concept lantern. Its unique design incorporates a series of highly polished and anodised reflector segments; these can be positioned in a variety of positions to deliver four beam options for optimum lighting results across a range of applications.

- 5° axial or elongated lighting distribution ideal for pathways
- 15° road lighting distribution
- 30° oblong light distribution or square distribution when mounted in a twin lantern arrangement
- 50° forward throw to light wide areas

Lamp wattage and type	Lamp holder	Description	Weight (Kg)*	Windage (m ²)
AL8011 70/100/150/250W SON/HQI	E27/E40	Swan neck or wall mounted bracket, Variable Beam Reflector	16.12	0.23
AL8012 70/100/150/250W SON/HQI	E27/E40	Classic yoke bracket, Variable Beam Reflector	16.12	0.23

*Max in range.



Column and bracket options
Choose between fixed and base hinged

	8m	6m	5m		8m	6m	5m
Fixed	TB081/CLASSIC	TB060/CLASSIC	TB050/CLASSIC	Base diameter (mm) Shaft diameter (mm) Base height (mm) Flange plate Root length (mm) Door opening (mm) Cable entry (root) (mm)	168 89 1250 Type 1 1200 600 x 115 150 x 50	140/168 76 1250 Type 0 1000 500 x 100 150 x 50	140/168 76 1250 Type 0 800 500 x 100 150 x 50
Base	T081RLS	T061RLS	T051RLS				
Yoke	CY/89	CY/76	CY/76				
Swan neck	SN/89	SN/76	SN/76				
Wall	-	-	CWM/XX				
Accessories							
ELS955/8	Single phase, cut-out, 6A, termination plate						
ELS955/9	Twin fuse cut-out, 6A, termination plate						
AL8010PC	Photocell option, miniature, two part up to 150W						
<p>Columns and brackets finished hot dip galvanised then spray painted with 2-pack acrylic coat. Wet finish 190 microns.</p>							



Key features

<p>1.</p>	<p>2.</p>	<p>3. Contour in Lux. MF=1.0</p>	<p>4. Contour in Lux. MF=1.0</p>	<p>5. Contour in Lux. MF=1.0</p>	<p>6. Contour in Lux. MF=1.0</p>
<p>Dimensions & Mounting All bracket options offered with an outreach of 500mm – 1000mm</p>	<p>Maintenance Access the lamp and control gear by lowering the bezel (secured by ¼ turn fasteners)</p>	<p>5° Single Concept® Lantern 150W SON-PT Mounting height: 8m</p>	<p>15° Single Concept® Lantern 150W SON-PT Mounting height: 8m</p>	<p>30° Single Concept® Lantern 150W SON-PT Mounting height: 8m</p>	<p>50° Single Concept® Lantern 150W SON-PT Mounting height: 8m</p>

All dimensions are in mm.

ANDROMEDA AL3850



Benefits

- Dramatic design which will enhance a wide range of urban environments

Features

- Lighting head comprises of a cast aluminium unit and front bezel, incorporating a brightened spun aluminium reflector
- Cast aluminium bracket carrying the upper reflector canopy
- Upper reflector canopy is fixed at 15° and incorporates a secondary reflector system, a multifaceted reflector which provides precise control of reflected light
- Post top mounted on to a stylised galvanised tubular steel finished polyester powder coated column

Note: Column height as stated is total height, to the upper lantern canopy

Colours

- RAL9007 Gunmetal



Lamp wattage and type	Lamp holder	Description	Weight (Kg)	Windage (m ²)
AL3851 150W HCI-T	G12	Secondary Reflector System	18.2	0.366



Column options

	6m	5m		6m	5m
Fixed			Shaft diameter (mm)	127	127
Straight Tubular	S061/AL3852/9007	S051/AL3852/9007			
Accessories			Root length (mm)	1000	800
ELS987/6A	Single phase, cut-out, 6A, termination plate up to 10mm ² loop in/out Dimensions 68mm(W), 53m(D), 170mm(H)		Flange plate (circular) (mm)	290 Type 0	290 Type 0
Column hot dip galvanised and polyester powder coated to RAL9007 Gunmetal.			Flush door opening (mm)	400 x 100	400 x 100
			Cable entry (root) (mm)	150 x 50	150 x 50



Key features

<p>1.</p>	<p>2.</p>	<p>3.</p> <p>Contour in Lux. MF=1.0</p>	<p>4.</p>
<p>Dimensions & Mounting Mounting height: 5m – 6m</p>	<p>Maintenance Access the lamp and control gear by removing glass cover</p>	<p>AL3851 150W HCI-T Mounting height: 5m</p>	<p>AL3851 150W HCI-T Mounting height: 5m</p>

All dimensions are in mm.

Full photometry available on our website www.abacuslighting.com

CASSIOPEIA AL3950



Benefits

- Distinct contemporary styling lends itself to a wide range of urban environments

Features

- Lighting head comprises of a cast aluminium unit and front bezel, incorporating a brightened spun aluminium reflector
- Cast aluminium support arms carrying the upper reflector canopy
- Upper reflector canopy incorporates a secondary reflector system, a multifaceted reflector which provides precise control of reflected light
- Post top mounted on to a stylised galvanised column finished polyester powder coated in RAL9007 Gunmetal

Note: column height as stated is total height, to the upper lantern canopy

Colours

- RAL9007 Gunmetal



	Lamp wattage and type	Lamp holder	Description	Weight (Kg)*	Windage (m ²)*
AL3952	150W HCI-T	G12	Secondary Reflector, Integral Control Gear System	19.5	0.18

*Max in range.

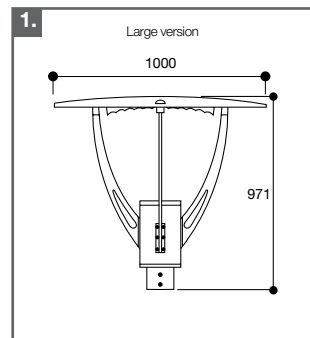


Column options

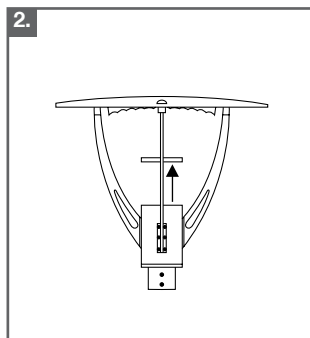
	6m	5m	4m		6m	5m	4m
Fixed				Shaft diameter (mm) Root length (mm) Flange plate (circular) (mm) Door opening (mm) (80mm clear width) Cable entry (root) (mm)	127	127	127
Accessories					1000	800	800
ELS987/6A Single phase, cut-out, 6A, termination plate up to 10mm ² loop in/out Dimensions 68mm(W), 53m(D), 170mm(H)					290 Type 0	290 Type 0	290 Type 0
Column hot dip galvanised and polyester powder coated to RAL9007 Gunmetal.					400 x 100	400 x 100	400 x 100
					150 x 50	150 x 50	150 x 50



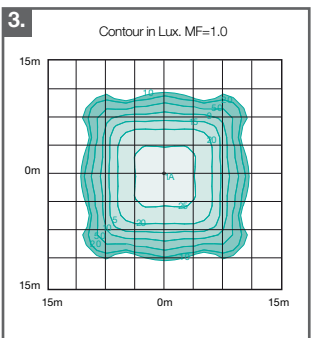
Key features



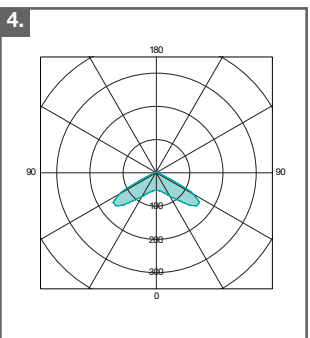
Dimensions & Mounting
 60mm/114mm spigot
 Mounting height:
 4m – 6m



Maintenance
 Access the lamp and control gear by removing glass cover



AL3952
 150W HCI-T
 Mounting height: 5m



AL3952
 150W HCI-T
 Mounting height: 5m

All dimensions are in mm.

Full photometry available on our website www.abacuslighting.com

ARTEMIS AL3920



Benefits

- Attractive indirect lantern suited to metal halide or high pressure sodium lamps

Features

- Base of high pressure die cast aluminium body, complete with die cast aluminium arms supporting the upper canopy. Canopy comprises aluminium reflector in white and an upper aluminium section in grey
- Glass protector sealed onto the aluminium base, with lamp and gear compartments protected to IP66
- High purity one-piece aluminium reflector, allowing spacings of up to four times lantern height. Toughened flat glass 5mm thick
- Integral control gear, insulation Class 1 (standard)
- Supplied as standard in Gunmetal 9007 finish

Colours

- RAL9007 Gunmetal

	Lamp wattage and type	Lamp holder	Description	Weight (Kg)*	Windage (m ²)*
AL3921	150W HCI-TS	RX7s	Indirect reflector	12	0.14
	150W SON-TD	RX7s	Indirect reflector	12	0.14

*Max in range.

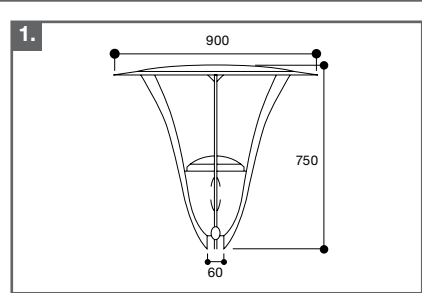


Column options

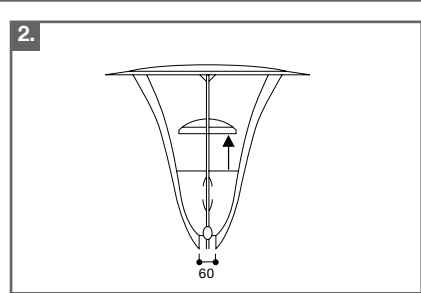
	6m	5m	4m		6m	5m	4m
Fixed				Base diameter (mm)	140	140	140
Tubular	TB060/SP2	TB050/SP2	TB040				
Tubular (Painted)	TB060/SP2/ 2P9007	TB050/SP2/ 2P9007	TB040/ 2P9007	Shaft diameter (60mm spigot)	76	76	60/ 76
Hi-cone RAL9007 (Gunmetal)	TB060/HC/ 2P9007	TB050/HC/ 2P9007	TB040/HC/ 2P9007	Base height (mm)	1250	1250	1250
Accessories				Flange plate (mm)	Type 0	Type 0	Type 0
ELSAB1/6A Single phase, cut-out, 6A, termination plate				Door opening (mm)	500 x 100	500 x 100	500 x 100
Columns and brackets finished hot dip galvanised then spray painted with 2-pack acrylic coat. Wet finish 190 microns.				Door opening (mm)	500 x 100	500 x 100	500 x 100
				Cable entry (root) (mm)	150 x 50	150 x 50	150 x 50



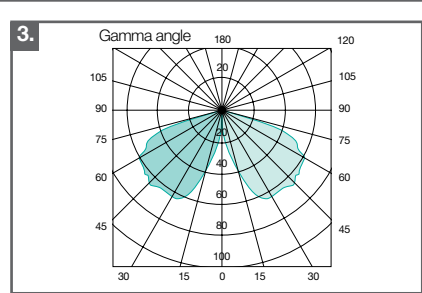
Key features



Dimensions & Mounting
Mounting height:
4m – 6m



Maintenance
Access the lamp and control gear by removing the glass cover



AL3921
150W SON-TD
Mounting height: 5m

All dimensions are in mm.

Full photometry available on our website www.abacuslighting.com

ORIS AL3700



Benefits

- Contemporary aesthetics combined with flat glass optics
- Suited to a wide range of applications

Features

- High pressure die cast aluminium body and door opening sealed to IP66
- Tool free access by means of front opening clasp
- Low wind resistance resulting from sleek profile
- Smaller model suited to take up to 150W SON/MH and 140W Cosmo White. Larger model suited to take up to 250W SON/MH and 140W Cosmo White
- Integral control gear
- Supplied as standard in RAL9006

Colours

- RAL9006 Silver
- RAL9007 Gunmetal
- RAL9005 Black
- RAL9003 White



	Lamp wattage and type	Lamp holder	Description	Weight (Kg)*	Windage (m ²)*
AL3701	70W SON-T 70/100/150W MH	E27	Flat glass, integral control gear	7.5	0.05
AL3702	100/150W SON-T	E40	Flat glass, integral control gear	7.5	0.05
AL3703	140/90/60W Cosmo White supplied with electronic control gear	PGZ12	Flat glass, integral control gear	7.5	0.05
AL3705	150W/MH	E27	Flat glass, integral control gear	9	0.06
AL3706	150/250W SON-T	E40	Flat glass, integral control gear	9	0.06
AL3707	140W Cosmo White supplied with electronic control gear	PGZ12	Flat glass, integral control gear	9	0.06

*Max in range.



Column and bracket options

Choose between fixed and base hinged

	8m	6m	5m		8m	6m	5m
Fixed				Base diameter (mm) Shaft diameter (mm) Base height (mm) Flange plate (mm) Root length (mm) Door opening (mm) Cable entry (root) (mm)	168	140	140
Tubular	TB081/SP	TB060/SP	TB050/SP		89	76	76
Hi-cone	TB081/HC	TB060/HC	TB050/HC		1250	1250	1250
Hi-cone (Silver)	TB081/HC/2P9006	TB060/HC/2P9006	TB050/HC/2P9006		Type 1	Type 0	Type 0
Base					1200	1000	800
Light duty	T081RLS/SP	T061RLS/SP	T051RLS/SP		600 x 115	500 x 100	500 x 100
Light duty (Black)	T041RLS/SP/2P9005	T051RLS/SP/2P9005	T061RLS/SP/2P9005		150 x 50	150 x 50	150 x 50
Brackets	Silver	Gunmetal	Galv. Finish		For flange plate add/FP: e.g. TB040/FP/HC1		
Single (300mm)	CHC/S/300/9006	CHC/S/300/9007	CHC/S/300		Accessories		
Twin	CON/D/xx/76 or 89	CHC/D/300/9007	CHC/D/300		ELSAB1/6A Single phase, cut-out, 6A, termination plate ELSAB12/6A Single phase, twin fuse cut-out, 6A, termination plate		



Columns and brackets finished hot dip galvanised then spray painted with 2-pack acrylic coat (if required). Wet finish 190 microns.



Key features

1.

AL3701/02/03
Mounting height: 4m-6m

2.

AL3705/06/07
Mounting height: 6m-10m

3.

Maintenance
Tool free access to lamp and integral control gear by opening clasp and lowering door

4.

AL3701/2
150W SON
Mounting height: 6m

All dimensions are in mm. Full photometry available on our website www.abacuslighting.com

ASTRAL AL3400



Benefits

- Contemporary styling with high vandal protection thanks to the impact resistant polycarbonate cylinder

Features

- Cast aluminium base finished with a polyester powder coating
- Aluminium top canopy finished on the inner surface with a reflective white paint
- Impact resistant clear polycarbonate cone (UV stabilised)
- Mirrored louvres to ensure directional light control and minimal glare
- Integral gear control
- Asymmetric version available with internal shield to restrict overspill
- Supplied in Gunmetal (RAL9007) as standard

Colours

- RAL9007 Gunmetal



	Lamp wattage and type	Lamp holder	Description	Weight (Kg)*	Windage (m ²)
AL3401	70/100W HCI-E/P	E27	Clear bowl, integral gear	11.2	0.30
AL3401	50/70/100W SON-E	E27/E40	Clear bowl, integral gear	11.4	0.30
AL3401	50/80/125W HQL	E27	Clear bowl, integral gear	10.7	0.30
AL3401	42W DULUX-T/E	GX 24q-3	Clear bowl, integral gear	9.8	0.30

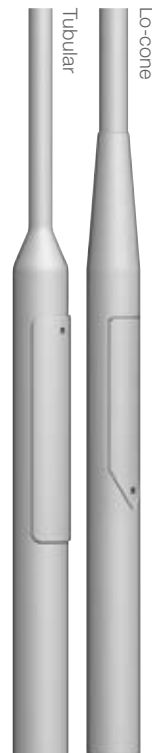
*Max in range.



Column options

Choose between fixed and base hinged

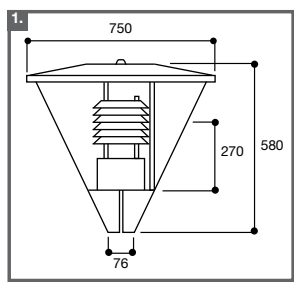
	5m	4m		5m	4m
Fixed			Base diameter (mm) Shaft diameter (mm) Base height (mm) Flange plate Root length (mm) Door opening (mm) Cable entry (root) (mm)		
Tubular	TB050	TB040/M741		140/168	140/168
Tubular (Gunmetal)	TB050/2P9007	TB040/M741/2P9007		76	76
Lo-cone	TB050/LC2	TB040/LC2		1250	1250
Lo-cone (Gunmetal)	TB050/LC2/2P9007	TB040/LC2/2P9007		Type 0	Type 0
Base				1000	800
Light duty	T051RLS	T041RLS		500 x 100	500 x 100
Light duty (Gunmetal)	T051RLS/2P9007	T041RLS/2P9007		150 x 50	150 x 50
For flange plate add /FP: e.g. TB040/FP/LC2					
Accessories					
ELSAB1/6A	Single phase, cut-out, 6A, termination plate				
AL3499	Asymmetric shield				
AL3400PC	Photo cell option				



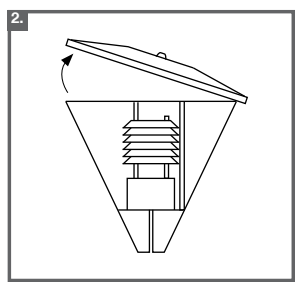
Columns and brackets finished hot dip galvanised to BSEN1461:1999
 Where indicated, columns are spray painted with a long life 2-pack acrylic coat, wet finish 190 microns. RAL9007 Gunmetal.



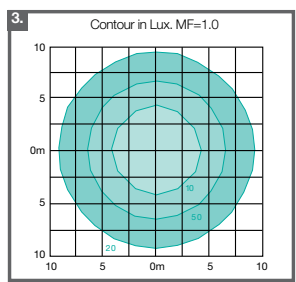
Key features



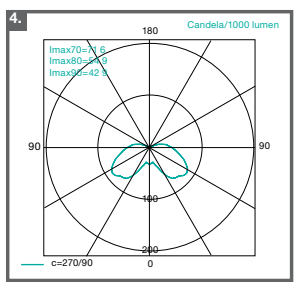
Dimensions & Mounting
 Mounting height: 4m-5m



Maintenance
 Access to lamp by removing top canopy



AL3401
 70W SON-E
 Mounting height: 4m



AL3401
 70W SON-E
 Mounting height: 4m

All dimensions are in mm.

UMBRA AL2500



AL2502

Benefits

- Clean contemporary styling
- High vandal resistance from polycarbonate cylinder

Features

- Cast aluminium base and top cap with spun aluminium canopy, all finished in polyester powder coating
- Aluminium top canopy finished on the inner surface with a reflective white paint
- Impact resistant clear polycarbonate cylinder (UV stabilised)
- Mirrored louvres (AL2501) or circular shield version (AL2502) ensure directional light control and minimal glare
- Integral gear control
- Supplied in Silver (RAL 9006) as standard

Colours

- RAL9006 Silver



AL2501

	Lamp wattage and type	Lamp holder	Description	Weight (Kg)*	Windage (m ²)
AL2501	70/100W HCI-E/P	E27	Mirrored louvre, integral gear	9.1	0.14
AL2501	50/70/100W SON-E	E27/E40	Mirrored louvre, integral gear	9.1	0.14
AL2501	50/80/125W HQL	E27	Mirrored louvre, integral gear	9.2	0.14
AL2501	42W DULUX-T/E	GX 24q-3	Mirrored louvre, integral gear	7.3	0.14
AL2502	70/100W HCI-E/P	E27	Circular shield, integral gear	9.1	0.14
AL2502	50/70/100W SON-E	E27/E40	Circular shield, integral gear	9.1	0.14
AL2502	50/80/125W HQL	E27	Circular shield, integral gear	9.2	0.14
AL2502	42W DULUX-T/E	GX 24q-3	Circular shield, integral gear	7.3	0.14

*Max in range.



Column options

Choose between fixed and base hinged

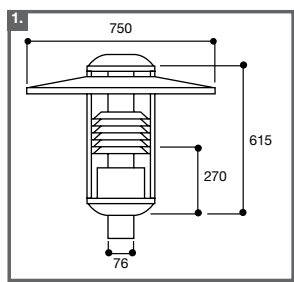
	5m	4m		5m	4m
Fixed			Base diameter (mm) Shaft diameter (mm) Base height (mm) Flange plate Root length (mm) Door opening (mm) Cable entry (root) (mm)		
Tubular	TB050	TB040/M741		140/168	140/168
Tubular (Silver)	TB050/2P9006	TB040/M741/2P9006		76	76
Lo-cone	TB050/LC2	TB040/LC2		1250	1250
Lo-cone (Silver)	TB050/LC2/2P9006	TB040/LC2/2P9006		Type 0	Type 0
Base				800	600
Light duty	T051RLS	T041RLS		500 x 100	500 x 100
Light duty (Silver)	T051RLS/2P9006	T041RLS/2P9006		150 x 50	150 x 50
For flange plate add /FP: e.g. TB040/FP/LC2					
Accessories					
ELSAB1/6A	Single phase, cut-out, 6A, termination plate				
AL2599	Asymmetric shield (suitable for AL2501 only)				



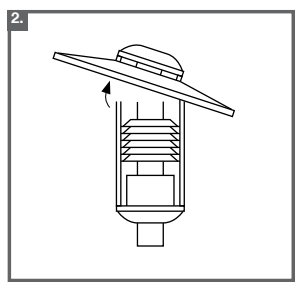
Columns and brackets finished hot dip galvanised to BSEN1461:1999
 Where indicated, columns are spray painted with a long life 2-pack acrylic coat, wet finish 190 microns. RAL9006 Silver.



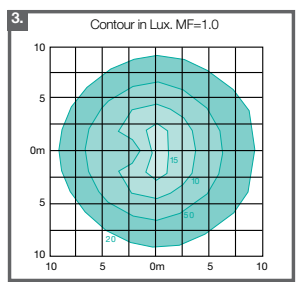
Key features



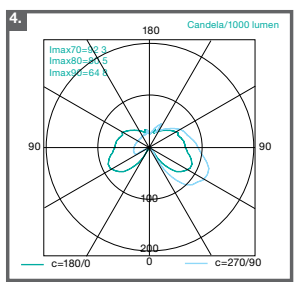
Dimensions & Mounting
 AL2501
 Mounting height: 4m-5m



Maintenance
 Access to lamp & gear by removing polycarbonate cylinder



AL3401
 70W SON-E
 Mounting height: 4m



AL3401
 70W SON-E
 Mounting height: 4m

All dimensions are in mm.

MICENAS AL3000



Benefits

- Classic styled modern heritage luminaire
- No glazing panes offer high level of vandal resistance
- High performance optics with flat glass producing zero upward light

Features

- Gravity cast aluminium body finished in a textured black polyester powder coating
- Hinge-up aluminium alloy upper cover with the same finish as the body, joined together through stainless steel hinges and safety clamps
- Stay-rod mechanism to support the canopy when open, for ease of maintenance
- Optical system incorporates a hydroformed and anodised reflector, and 4mm tempered clear flat glass
- Sealed optical system
- Galvanised steel control gear tray
- Integral gear

Colours

- RAL9005 Black

	Lamp wattage and type	Lamp holder	Description	Weight (Kg)*	Windage (m ²)
AL3001	70/100/150W SON-T	E27/E40	Flat glass, post mounted, integral gear	17.38	0.136
AL3001	70/100/150W HQI-E	E27	Flat glass, post mounted, integral gear	17.2	0.136
AL3001	125W HQL	E27	Flat glass, post mounted, integral gear	13.7	0.136

*Max in range.

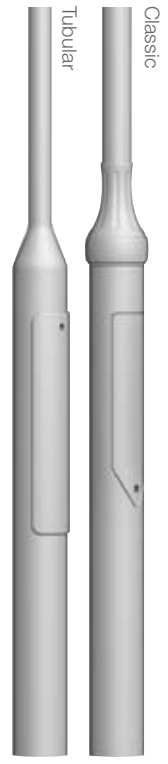


Column options

Choose between fixed and base hinged

	6m	5m	4m		6m	5m	4m
Fixed				Base diameter (mm)	140/168	140/168	140/168
Tubular	TB060/SP1	TB050/SP1	TB040				
Tubular [Black]	TB060/SP1/ 2P9005	TB050/SP1/ 2P9005	TB040/ 2P9005	Shaft diameter (60mm spigot)	76	76	60/76
Classic	TB060/CL1	TB050/CL1	TB040/CL1				
Classic [Black]	TB060/CL1/ 2P9005	TB050/CL1/ 2P9005	TB040/CL1/ 2P9005	Base height (mm)	1250	1250	1250
Base							
Light duty	T061RLS/SP1	T051RLS/SP1	T041RLS/SP1	Flange plate (mm)	Type 1	Type 0	Type 0
Light duty [Black]	T061RLS/SP1/ 2P9005	T051RLS/SP1/ 2P9005	T041RLS/SP1/ 2P9005				
				Door opening (mm)	600 x 115	500 x 100	500 x 100
				Root length (mm)	1000	800	600
				Cable entry (root) (mm)	150 x 50	150 x 50	150 x 50

For flange plate add /FP: e.g. TB040/FP/CL2



Accessories

ELSAB1/6A	Single phase, cut-out, 6A, termination plate
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Columns and brackets finished hot dip galvanised to BSEN1461:1999

Where indicated, columns are spray painted with a long life 2-pack acrylic coat, wet finish 190 microns. RAL9005 Black.



Key features

1.

Dimensions & Mounting
AL3000
Mounting height: 4m-6m

2.

Maintenance
Access to lamp and gear via aluminium hinged upper cover, secured by stainless steel locking bolts

3.

AM3001
100W HQI-E
Mounting height: 5m

4.

AM3001
100W HQI-E
Mounting height: 5m

All dimensions are in mm.

LUNA AM270



Benefits

- High performance optics with flat glass producing zero upward light

Features

- Die-cast aluminium lantern frame with spun aluminium top canopy. Finished polyester powder coated black
- Flat glass produces zero upward light
- Hinged reflector assembly, incorporating the control gear
- Precise optical control using a road lantern reflector
- Hydroformed and anodised aluminium reflector
- Available with post top, wall or twin mounting options

Colours

- RAL9005 Black (standard)
- RAL9016 Gloss White (optional)

	Lamp wattage and type	Lamp holder	Description	Weight (Kg)*	Windage (m ²)
AL273	70W SON-T	E27	Flat glass, integral gear	5.3	0.09
	70/100W HQI-E	E27	Flat glass, integral gear	5.3	0.09
AL274	100/150W SON-T	E40	Flat glass, integral gear	5.5	0.09

*Max in range.



Column and bracket options

Choose between fixed and base hinged

	6m	5m	4m		6m	5m	4m
Fixed				Base diameter (mm) Shaft diameter (60mm spigot) Base height (mm) Flange plate (mm) Root length (mm) Door opening (mm) Cable entry (root) (mm)			
Tubular	TB060/SP1	TB050/SP1	TB040		140	140	140
Hi-cone	TB060/HC	TB050/HC	TB040/HC		76	76	60/76
Hi-cone (Black)	TB060/HC/2P9005	TB050/HC/2P9005	TB040/HC/2P9005		1250	1250	1250
Base					Type 0	Type 0	Type 0
Light duty	T061RLS/SP1	T051RLS/SP1	T041RLS/SP1		1000	800	600
Light duty (Black)	T061RLS/SP1/2P9005	T051RLS/SP1/2P9005	T041RLS/SP1/2P9005		500 x 100	500 x 100	500 x 100
Brackets	White	Galv. Finish	Black		150 x 50	150 x 50	150 x 50
Post top	PR-01/S/60/2P9016	PR1-01/S/60	PR1-01/S/60/2P9005				
Twin	PR1-01/D/60/2P9016	PR1-01/D/60	PR1-01/D/60/2P9005				
Wall	WB/01/60/ODC2P9005	WB/01/60/ODC	WB/01/60/ODC2P9005				



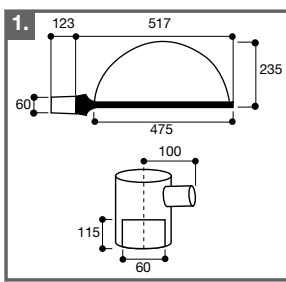
For flange plate add/FP: e.g. TB040/FP/HC1

Accessories	
ELSAB1/6A	Single phase, cut-out, 6A, termination plate
ELSAB12/6A	Single phase, twin fuse cut-out, 6A

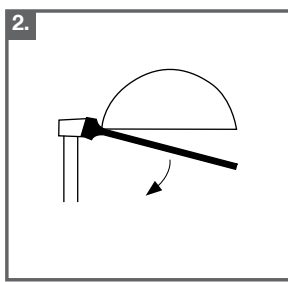
Columns and brackets finished hot dip galvanised to BSEN1461:1999
 Where indicated, columns are spray painted with a long life 2-pack acrylic coat, wet finish 190 microns. RAL9005 Black RAL9016 White.



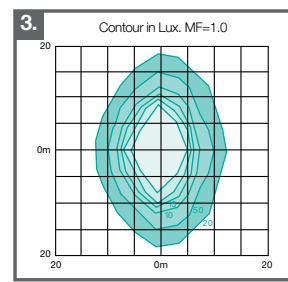
Key features



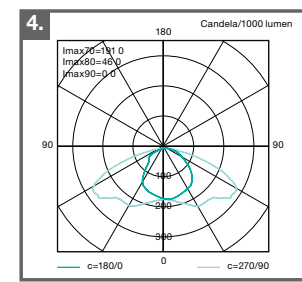
Dimensions & Mounting
 Mounting height: 4m-6m



Maintenance
 Access the lamp and control gear by lowering glass via 3 releasing screw fixings



AM274
 150W SON-T
 Mounting height: 5m



AM274
 150W SON-T
 Mounting height: 5m

All dimensions are in mm.

Full photometry available on our website www.abacuslighting.com

ECLISSE AL3600



Benefits

- Design orientated aesthetic, ideal for a range of projects
- Sleek silhouette with minimal skyline impact
- Robust construction granting product longevity

Features

- Die-cast aluminium body finished polyester powder coated (Grey Sable)
- High performance anodised reflector with road lighting distribution
- Toughened glass with silicon rubber gasketing providing ingress protection to IP66
- Supplied with bracket for post top mounting on Ø60mm

Colours

- RAL9007 Gunmetal



	Lamp wattage and type	Lamp holder	Description	Weight (Kg)*	Windage (m ²)
AL3601	70/100/150W HQI-E 70W SON-T 100/150W SON-T	E27 E40	Flat glass, integral gear	13.7	0.074

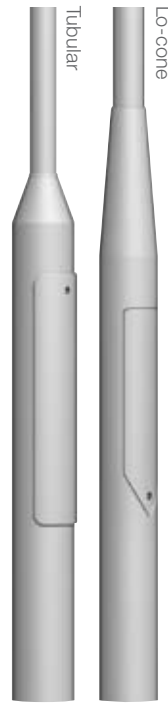
*Max in range.



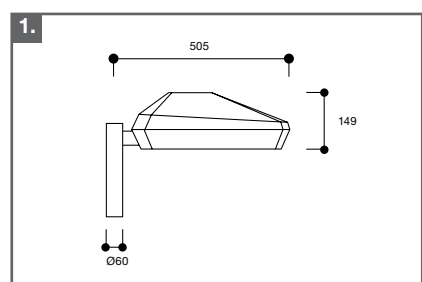
Column options

Choose between fixed and base hinged

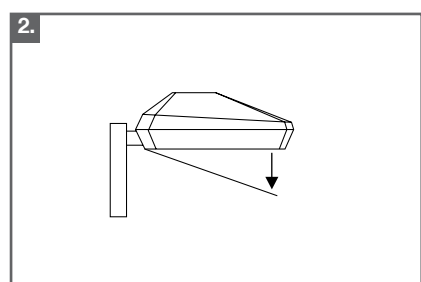
	6m	5m	4m		6m	5m	4m
Fixed				Base diameter (mm)	140/168	140/168	140/168
Tubular	TB060/SP1	TB050/SP1	TB040				
Tubular (Gunmetal)	TB060/SP1/2P9007	TB050/SP1/2P9007	TB040/2P9007	Shaft diameter (60mm spigot)	76	76	60/76
Lo-cone (Gunmetal)	TB060/LC/2P9007	TB050/LC/2P9007	TB040/LC/2P9007				
Base				Base height (mm)	1250	1250	1250
Light duty	T061RLS/SP1	T051RLS/SP1	T041RLS/SP1				
Finished (Gunmetal)	T061RLS/SP1/2P9007	T051RLS/SP1/2P9007	T041RLS/SP1/2P9007	Flange plate (mm)	Type 0	Type 0	Type 0
Accessories							
ELSAB1/6A	Single phase, cut-out, 6A, termination plate			Door opening (mm)	500 x 100	500 x 100	500 x 100
Columns and brackets finished hot dip galvanised to BSEN1461:1999							
Where indicated, columns are spray painted with a long life 2-pack acrylic coat, wet finish 190 microns.				Root length (mm)	1000	800	600
RAL9007 Gunmetal.							
				Cable entry (root) (mm)	150 x 50	150 x 50	150 x 50



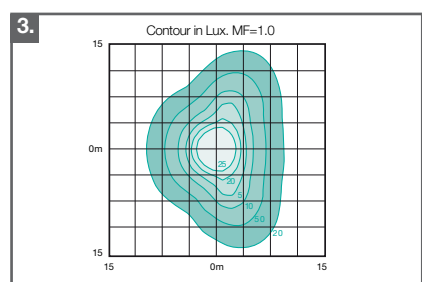
Key features



Dimensions & Mounting
Mounting height: 4m-6m



Maintenance
Access the lamp and control gear by lowering glass via 4 releasing screw fixings



AL3601
70W SON-T
Mounting height: 5m

All dimensions are in mm.

Full photometry available on our website www.abacuslighting.com

SHERWOOD AL3450/60

IP65

Benefits

- Modern park fitting suited to a wide variety of applications
- Choice of two styles

Features

- Polycarbonate upper bowl mounted onto a black plastic base
- Tool free access by means of the twist lock bowl
- Option of central metal ring within the bowl or clear bowl with internal louvre. Upper bowl section has an internal cap to direct light downwards
- Accepts up to 100W SON/MH lamps
- Fits onto 60mm tube; 60mm length spigot where applicable

- Integral control gear in base
- Supplied as standard in Black

Colours

- RAL9005 Black

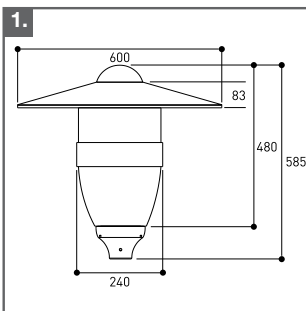


Sherwood 1
AL3450

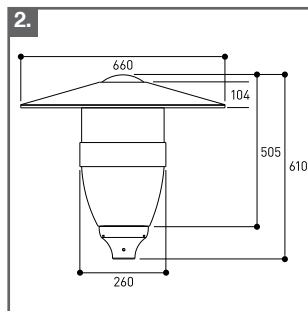
Sherwood 2
AL3460

	Lamp wattage and type	Lamp holder	Description	Weight (Kg)*	Windage (m²)
AL3451	70/100W/MH, 70W SON-E	E27	Symmetrical, integral control gear	4	0.21
AL3452	100W SON-E	E40	Symmetrical, integral control gear	4	0.21
AL3453	150W SON-E	E40	Symmetrical, integral control gear	5	0.23
AL3454	150W MH	E27	Symmetrical, integral control gear	5	0.23
AL3461	70/100W MH, 70W SON-E	E27	Symmetrical, integral control gear	4	0.21
AL3462	100W SON-E	E40	Symmetrical, integral control gear	4	0.21
AL3463	150W SON-E	E40	Symmetrical, integral control gear	5	0.23
AL3464	150W MH	E27	Symmetrical, integral control gear	5	0.23

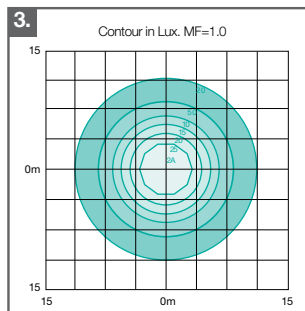
Key features



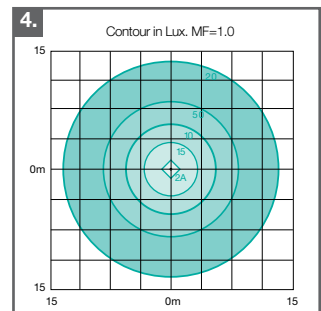
Dimensions & Mounting
Post top mounting onto 60mm diameter column or spigot
Mounting height: 4m – 5m
Models: AL3451/2, AL3461/2



Dimensions & Mounting
Post top mounting onto 60mm diameter column or spigot
Mounting height: 4m – 5m
Models: AL3453/4, AL3463/4



AL3451
70W SON-E
Mounting height: 5m



AL3461
70W SON-E
Mounting height: 5m

All dimensions are in mm. *Max in range.

TORINO AL3050



Benefits

- Modern park fitting with a choice of two reflectors

Features

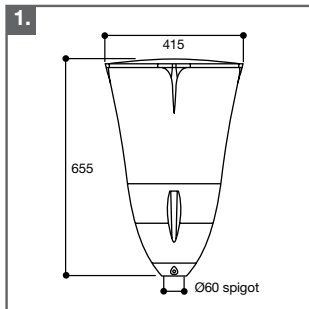
- Choice of asymmetric road reflector or symmetric reflector
- High pressure die-cast aluminium base powder coated to Gunmetal Grey 9007
- Canopy made in an injection moulded UV stabilised PMM acrylic
- Accepts up to 150W SON/MH lamps
- Integral control gear in base
- Fits onto 60mm tube; 60mm length spigot where applicable

Colours

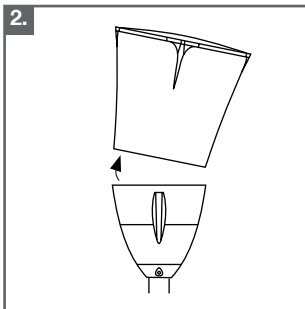
- RAL9007 Gunmetal

	Lamp wattage and type	Lamp holder	Description	Weight (Kg)*	Windage (m ²)
AL3051	70W SON-T, 70/100/150W/MH	E27	Asymmetric reflector, integral gear	8	0.178
AL3052	100/150W SON-T	E40		9	0.178
AL3053	70W SON-T, 70/100/150W/MH	E27	Symmetric reflector, integral gear	8	0.178
AL3054	100/150W SON-T	E40		9	0.178

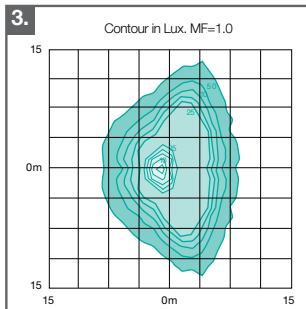
Key features



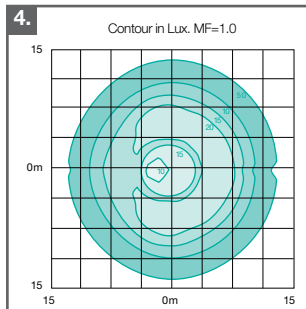
Dimensions & Mounting
Post top mounting onto 60mm diameter column or spigot
Mounting height: 4m – 5m



Maintenance
Access to lamp and gear by removing 3 screws to lift canopy



AL3051
70W SON-T
Mounting height: 5m



AL3053
70W SON-T
Mounting height: 5m

All dimensions are in mm. *Max in range.

ABACUS – FIRST CHOICE FOR SAFETY

ROAD LIGHTING



TRIVIUM AL6310



Benefits

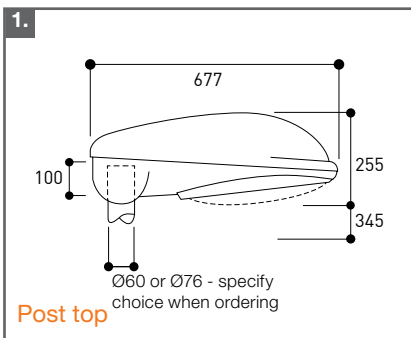
- High output road lantern with capacity up to 400W
- 0% ULOR dark skies friendly with flat glass option
- Adjustable lamp holder, providing various horizontal and vertical positions to accommodate different lamp types

Features

- Die-cast aluminium body finished in a Light Grey polyester powder coating (RAL7024)
- High performance reflector in high purity anodised aluminium
- Available in low profile glass bowl or flat glass option
- Optional shield to limit backward or forward spill light
- Integral control gear
- Upper body hinges upwards to access lamp and gear

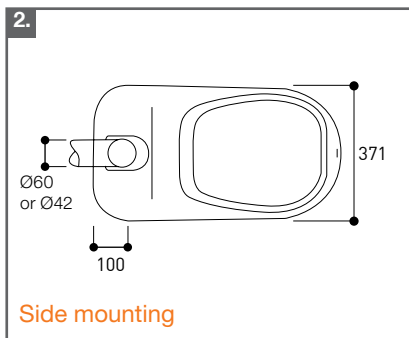
	Lamp wattage and type	Lamp holder	Description	Weight (Kg)	Windage (m ²)
AL6311	70W SON-T 70/100/150W HQI-E	E27	Low profile bowl	6.5	0.155
AL6312	100/150/250/400W SON-T 250/400W HQI-T	E40	Low profile bowl	6.5	0.155
AL6313	70W SON-T 70/100/150W HQI-E	E27	Flat glass	6.5	0.121
AL6314	100/150/250/400W SON-T 250/400W HQI-T	E40	Flat glass	6.5	0.121
AL6399	External shield				

Key features



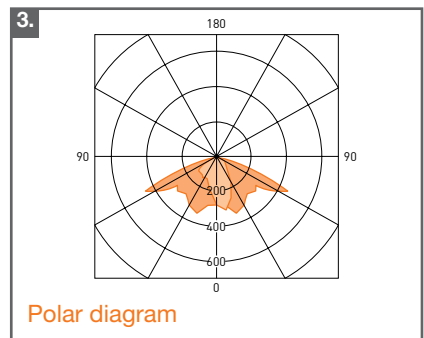
Mounting

Post top mounting onto 60mm/76mm diameter columns
Mounting height: 4m – 10m
Side mounting onto 60mm / 42mm diameter columns



Access

Upper body hinges upwards and locks into position to enable access to lamp and gear



Column options (post top)

	8m	6m	5m
Fixed	TB081/SP	TB060	TB050
Base	T081RLS/SP	T061RLS	T051RLS

All dimensions are in mm.

For column and bracket options, consult the Abacus Lighting column brochure

STRADA AL6210



Benefits

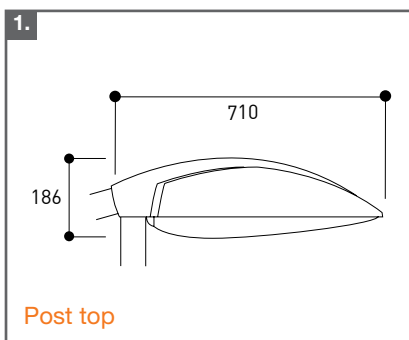
- Great versatility with a wide range of applications from roads to residential areas

Features

- Die-cast aluminium body finished in a Light Grey polyester powder coating (RAL7024)
- High performance reflector in high purity anodised aluminium
- Clear, impact resistant, UV stabilised polycarbonate bowl
- Adjustable lamp holder, providing various horizontal and vertical positions to accommodate different lamp types
- Five lamp size options; 70W up to 150W
- Integral control gear
- Bowl hinges downwards to access lamp and gear

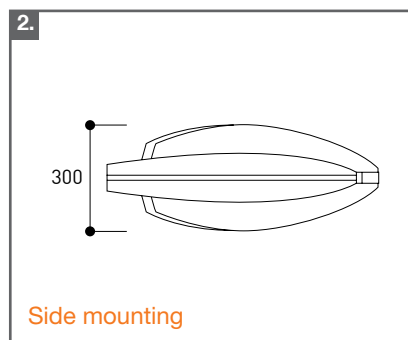
	Lamp wattage and type	Lamp holder	Description	Weight (Kg)*	Windage (m ²)
AL6211	70 SON-T 80/125W HQL 70/100/150W HQI-E	E27	Low profile bowl	7.4	0.104
AL6212	100/150W SON-T	E40	Low profile bowl	8.9	0.104

Key features



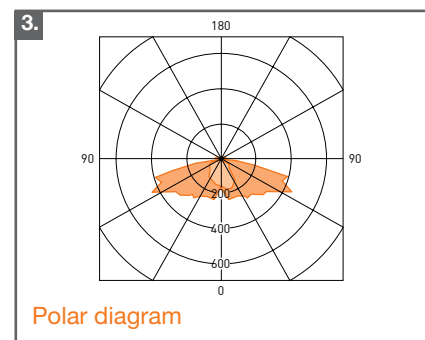
Mounting

Spigot adaptor allowing post top or side entry mounting onto 60/76mm diameter columns
Mounting height: 5m – 10m



Access

Bowl hinges downwards to access



Column options (post top)

	8m	6m	5m
Fixed	TB081/SP	TB060	TB050
Base	T081RLS/SP	T061RLS	T051RLS

TRAJETO AL6410



Benefits

- Great all-rounder for general utility lighting
- Modern design with a sleek silhouette

Features

- Die-cast aluminium upper and lower body finished Light Grey polyester powder coated (RAL7035 upper body and RAL7038 lower body)
- One piece reflector in high purity aluminium, chemically anodised and brightened
- Removable pre-wired control gear tray of heat resistant plastic
- Flat glass, 5mm toughened glass with stainless steel closing clip for positive sealing to IP66 (optics/control gear unit)

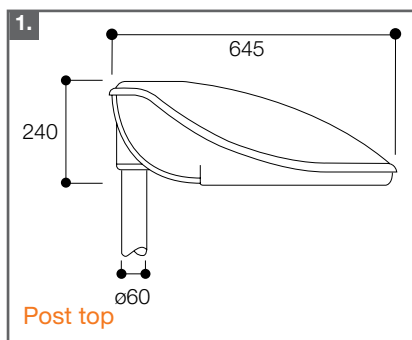
- Adjustable lamp holder, providing various horizontal and vertical positions to accommodate various lamp types
- Spigot adapter allowing post top or side entry mounting on to 60mm diameter columns and facilitates elevation of road lantern
- Post mounted versions may be set between 0° to 15° elevation
- Side entry lanterns are elevated between 0° to -15°



	Lamp wattage and type	Lamp holder	Description	Weight (Kg)*	Windage (m ²)
AL6411	70/100W HQI-T 70W SON-T	E27	Flat glass, integral gear	7.1	0.113
AL6412	100/150W SON-T	E40	Flat glass, integral gear	7.1	0.113
AL6413[†]	250W SON-T	E40	Flat glass, integral gear	7.1	0.113

[†]Special version

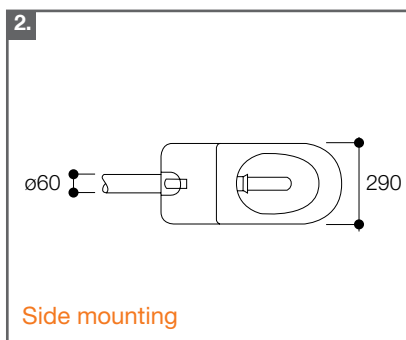
Key features



Post top

Mounting

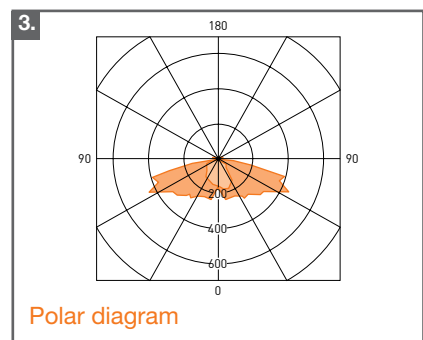
Spigot adapter allowing post top or side entry on to 60mm diameter column or spigot



Side mounting

Access

Upper body hinges upwards and locks into position to enable access to lamp and gear



Polar diagram

Column options (post top)

	10m	8m	5m
Fixed	TB108	TB08.SP1	TB050
Base	T107RLS	T081RLS.SP1	T051RLS

All dimensions are in mm. *Max in range.

For column and bracket options, consult the Abacus Lighting column brochure

ATENAS AL6350



Benefits

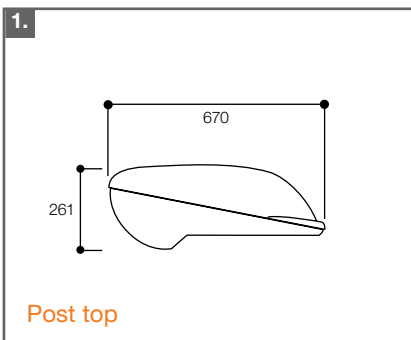
- High performance road optics within a contemporary stylish lantern
- Flat glass for minimum upward light
- Toughened flat glass 5mm thick
- Optional photocell
- Integral control gear

Features

- High pressure die cast aluminium body and door opening sealed to IP65
 - High pressure die cast aluminium upper and lower bodies; adjustable lamp holder providing different vertical and horizontal positions for optimised lamp performance. High purity one-piece aluminium reflector allowing spacing of up to four times column height
 - IP65 protection to both optics and control gear compartment
- Supplied as standard in RAL7011 lower section, RAL9006 upper section

	Lamp wattage and type	Lamp holder	Description	Weight (Kg)*	Windage (m ²)
AL6351	70 SON-T; 70/100/150W MH	E27	Integral control gear	11.5	0.132
AL6352	100/150/250/400W SON-T 250/400W MH	E40	Integral control gear	12	0.132

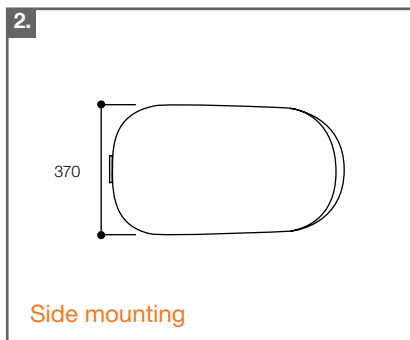
Key features



Post top

Mounting

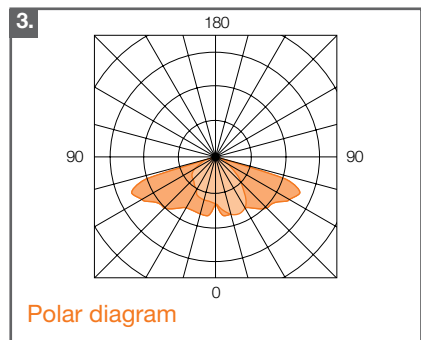
Post top or side mounting onto 60mm column or spigot



Side mounting

Access

Tool free access by means of front opening clasp



Polar diagram

Column options (post top)

8m	6m	5m
Fixed TB081/SP1	TB060/SP1	TB050/SP1
Base T081RLS/SP1	T061RLS/SP1	T051RLS/SP1

All dimensions are in mm. *Max in range.

For column and bracket options, consult the Abacus Lighting column brochure

CAMINO AM6500/AM6600



Benefits

- Flexibility from two body options and up to 600W SON-T

Features

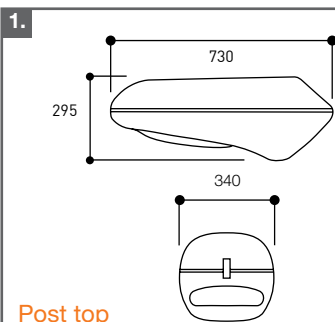
- Die-cast aluminium, with single recessed front clip (IP44 housing)
- Finished Light Grey polyester powder coating (RAL7035)

- Sealed hydroformed anodised aluminium reflector with curved tempered glass bowl for added performance (IP66 optics)
- Integral or remote control gear versions

	Lamp wattage and type	Lamp holder	Description	Weight (Kg)*	Windage (m ²)
AM6501	70W SON-T	E27	Small body, integral gear	12.0	0.15
	100W SON-T	E40		12.1	
	150W SON-T	E40		12.4	
	250W SON-T	E40		13.5	
	250W HQI-T	E40		13.5	
AM6502	70/100/150/250W SON-T	E40	Small body, loose gear	9.1 [†]	0.15
	250W HQI-T	E40		9.1	
AM6601	150W SON-T	E40	Large body, integral gear	15.9	0.20
	250W SON-T	E40		17.1	
	400W SON-T	E40		18.0	
	600W SON-T	E40		20.5	
	250/400W HQI-T	E40		18.0	
AM6602	150/250/400/600W SON-T	E40	Large body, loose gear	12.8 [†]	0.20
	250/400W HQI-T	E40			

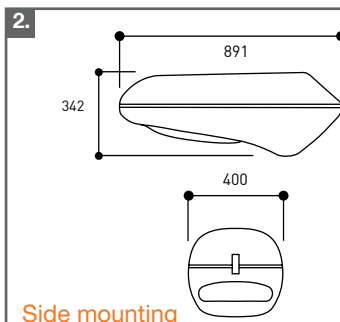
*Weight excluding control gear

Key features



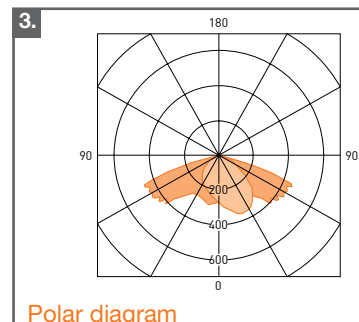
Mounting

Re-positionable and adjustable steel column clamping bracket for side entry (50mm/60mm) or post top fixing (60mm/76mm)



Access

Access to optics by releasing single recessed front clip and raising canopy



Column options (post top)

	10m	8m	5m
Fixed	TB108	TB08.SP1	TB050
Base	T107RLS	T081RLS.SP1	T051RLS

All dimensions are in mm. *Max in range.

For column and bracket options, consult the Abacus Lighting column brochure

ABACUS – FIRST CHOICE FOR SPORTS LIGHTING

FLOODLIGHTING



Trent Bridge, Nottingham (Challenger 3)

www.abacuslighting.com



CHALLENGER SERIES

THE RANGE THAT MEETS ANY CHALLENGE

PRODUCT

Our Challenger product range is a serious contender for any floodlighting application. From stadia to grassroots pitches, industrial applications to golf courses, these products deliver superior floodlighting every time.

Specifically designed to meet any requirement, the series starts with the high performance Challenger 1 for side-lit applications, moves on to the roof mounted Challenger 2 and finishes with the mighty Challenger 3 for larger stadia projects.

BENEFITS:

Here are just some of the Challenger Series' features

- Effective obtrusive light control
- Precision aiming for superior results
- GORE™ membrane breather system for optimal performance
- Sturdy toughened glass and pressure die-cast bodies for longer outdoor life

Whatever your floodlighting needs the Challenger series and our additional floodlighting products, Rhea, Thea, Trent, Tiber and Mura are sure to perform.

Abacus floodlighting for all architectural, security, utility and sports applications.





Mission Hills Golf Course, China



Winter Palace, St.Petersburg, Russia (Challenger 3)



Vantovy Bridge (Challenger 3)



CHALLENGER[®] 1 AL5760



Benefits

- Challenger 1 gives excellent light control; reducing light overspill, upward light and glare
- Includes a double asymmetric distribution with Flat Glass Technology
- Designed for lighting outdoor sports grounds and smaller sports stadiums where obtrusive light control is an essential requirement
- The Challenger 1 floodlight now contains a factory fitted 2kw cut-out ignitor which offers better protection for the lamp and floodlight cabling

Technical Features

- Body of high-pressure die cast aluminium, first given a zinc chromate substrate, then finished in RAL7035 light grey polyester powder coating for optimum protection against harsh environments

- Narrow, medium and wide beam, double asymmetric light distributions
- Toughened front glass, secured within an aluminium frame
- Double asymmetric reflector system of high purity, polished and anodised aluminium. Incorporating an internal baffle to improve efficiency and reduce glare
- Galvanised steel stirrup, with additional locking screws
- Sealed to IP66; with silicone rubber gasketing
- Electrical connection box (IP66) housing ignitor, located on the side of the stirrup, fitted with 2 x GORE™ membrane breathers
- Simple aiming using a separate aiming device for accurate results
- Breather management system regulates air flow through the cable hose and in/out through IP67 GORE™ membrane. This method alleviates stress on the front glass

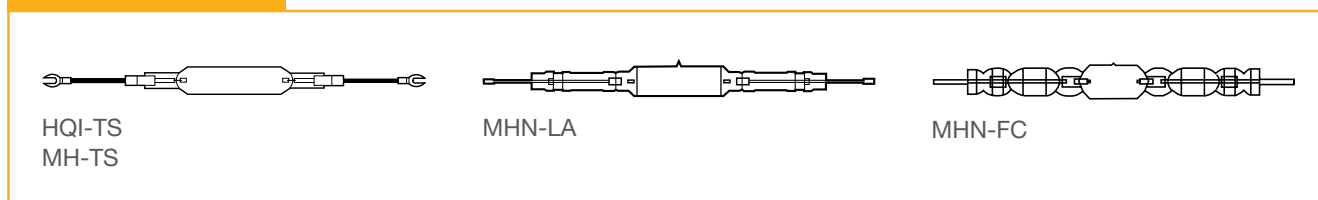


els Point Tennis Club, Ireland



	Beam Type	Lamp: Manufacturer Product Code	Lamp Manufacturer	Lamp: Abacus Product Code	Lampholder Type
AL5761	Narrow	2kW: MHN-LA 2000W/842 & 956	Philips	LPP2000MHN-TD (842) & LPP2000/D (956)	XWH UNP
AL5762	Medium	2kW: MHN-LA 2000W/842 & 956	Philips	LPP2000MHN-TD (842) & LPP2000/D (956)	XWH UNP
AL5763	Wide	2kW: MHN-LA 2000W/842 & 956	Philips	LPP2000MHN-TD (842) & LPP2000/D (956)	XWH UNP
AL5764	Narrow	2kW: HQI-TS 2000W/N/L K12S FS1	Osram	LPW2000M/LA	K12s-7
AL5765	Medium	2kW: HQI-TS 2000W/N/L K12S FS1	Osram	LPW2000M/LA	K12s-7
AL5766	Wide	2kW: HQI-TS 2000W/N/L K12S FS1	Osram	LPW2000M/LA	K12s-7
AL5767	Narrow	2kW: MH-TS 2000W/L/K12/45K	Venture	LPV2000M/LA	K12s-7
AL5768	Medium	2kW: MH-TS 2000W/L/K12/45K	Venture	LPV2000M/LA	K12s-7
AL5769	Wide	2kW: MH-TS 2000W/L/K12/45K	Venture	LPV2000M/LA	K12s-7
AL5770	Narrow	1kW: MHN-LA 1000W/842 & 956	Philips	LPP1000MHN-TD (842) & LPP1000MHD-TD (956)	XWH UNP
AL5771	Medium	1kW: MHN-LA 1000W/842 & 956	Philips	LPP1000MHN-TD (842) & LPP1000MHD-TD (956)	XWH UNP
AL5772	Wide	1kW: MHN-LA 1000W/842 & 956	Philips	LPP1000MHN-TD (842) & LPP1000MHD-TD (956)	XWH UNP
AL5773	Narrow	2kW: MHN-FC2000/740	Philips	LPP2000MHN-FC	XW UNP
AL5774	Medium	2kW: MHN-FC2000/740	Philips	LPP2000MHN-FC	XW UNP
AL5775	Wide	2kW: MHN-FC2000/740	Philips	LPP2000MHN-FC	XW UNP
AL5776	Narrow	1kW: MHN-FC1000/740	Philips	LPP1000MHN-FC	XW UNP
AL5777	Medium	1kW: MHN-FC1000/740	Philips	LPP1000MHN-FC	XW UNP
AL5778	Wide	1kW: MHN-FC1000/740	Philips	LPP1000MHN-FC	XW UNP
AL5779	Narrow	2kW: MH-TS2000W/XL/K12/745	Venture	LPV2000MH-TS-XL	K12s-7
AL5780	Medium	2kW: MH-TS2000W/XL/K12/745	Venture	LPV2000MH-TS-XL	K12s-7
AL5781	Wide	2kW: MH-TS2000W/XL/K12/745	Venture	LPV2000MH-TS-XL	K12s-7

Lamp references

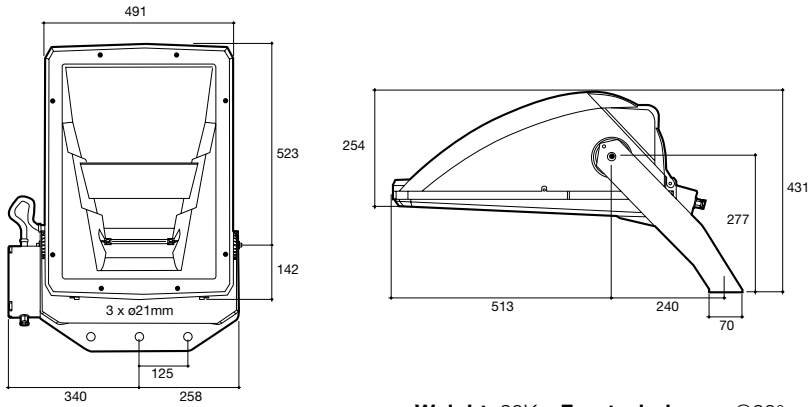


Lamp Manufacturer & Lamp Ref.	Lamp Wattage	Colour Temp	RA:	Lamp Lumen Output: (Initial lm)	Lamp Current:	Supply Voltage	Total Circuit Power:
Venture							
MH-TS2000W/L/K12/4K	2kW	4500K	65	240,000 l.lm	10.3A	380/400/415V	2150W
MH-TS2000W/XL/K12/745	2kW	4500K	65	240,000 l.lm	10.3A	380/400/415V	2150W
Philips							
MHN-LA2KW400V/842	2kW	4200K	80	220,000 l.lm	9.6A	380/400/415V	2105W
MHN-LA2KW400V/956	2kW	5600K	90	190,000 l.lm	10.3A	380/400/415V	2113W
MHN-LA1KW230V/842	1kW	4200K	80	100,000 l.lm	9.3A	230/240V	1040W
MHN-LA1KW230V/956	1kW	5600K	90	90,000 l.lm	10.1A	230/240V	1040W
MHN-FC2000W/740	2kW	4200K	60	210,000 l.lm	10.1A	380/400/415V	2032W
MHN-FC1000W/740	1kW	4100K	65	93,000 l.lm	10A	230/240V	1040W
Osram							
HQI-TS2000WNL	2kW	4400K	65	230,000 l.lm	10.7A	380/400/415V	2180W
HQI-TS2000WDL	2kW	5400K	85	205,000 l.lm	10.3A	380/400/415V	2180W

Technical information may alter dependent on control gear used

Dimensions

Dimensions in mm



Mounting:

Stirrup mounted using M20 fixing
Stirrup adjustment +/- 140°

Weight: 20Kg. **Front wind area:** @60° setting (Flat Glass) - 0.126m² 70° max setting (+10 elevation) - 0.135m²
Side wind area: 0.108m²

Maintenance



Easy Maintenance:

Access to the lamp by means of opening the rear door

Key features

Abacus Light Control System

A combination of efficient lighting design and careful floodlight design has rewarded Abacus with an international reputation for pioneering high performance floodlighting combined with effective control of obtrusive light.

Specific to Challenger 1 the Abacus Light Control System consists of a series of complimentary measures to effectively control light pollution.



Double Asymmetric Reflector

The double asymmetric reflector is designed to ensure full flow of light over the lit area from each floodlight. With the main beam emitted from the floodlight at an angle of 60 degrees forward from the normal to the front glass, it results in a flat appearance (fig 1). The benefit is that less of the reflector is visible to spectators and onlookers, resulting in low glare to the surrounding locality.

Internal Baffle

The internal baffle re-directs upward stray light back into the floodlight beam, providing increased efficiency. At angles above the beam the baffle shields direct lamp glare (fig 3).

Produces sharp run back above high peak resulting in greater overspill containment and minimal intrusion to adjacent areas bordering the installation (fig 2).

fig.1

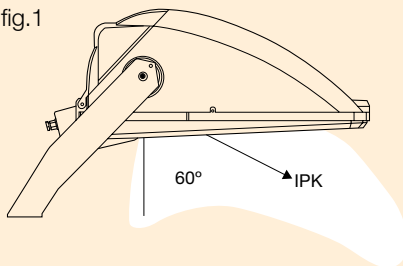


fig.2

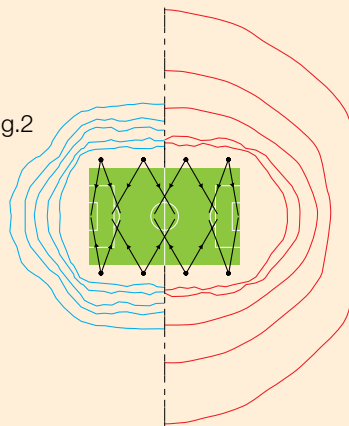
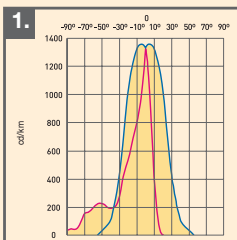
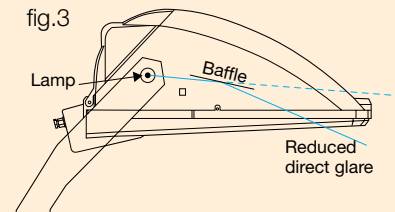
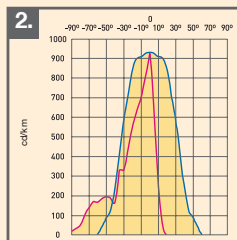


fig.3



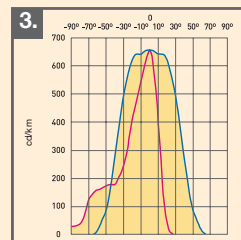
AL5764/AL5767

2kW HQI - TS / MH - TS
Narrow beam



AL5765/AL5768

2kW HQI - TS / MH - TS
Medium beam



AL5766/AL5769

2kW HQI - TS / MH - TS
Wide beam



Emirates Golf Course, Dubai



England FA Academy

CHALLENGER[®] 2 AL5800

IP66

Benefits

- The Challenger 2 offers an asymmetric reflector ideally suited to lighting medium and larger stadia from the side, typically from the roof
- The floodlight bears the quality hallmarks of the Challenger floodlight range

Technical Features

- Body of high pressure die cast aluminium, finished in light grey (RAL7035), polyester powder coating
- Reflector system of high purity, polished and anodised aluminium. Incorporating an internal baffle to improve efficiency and reduce glare
- Toughened front glass, secured by cast aluminium front frame
- Galvanised steel stirrup, with additional elevation locking screws
- Electrical connection box (IP66) housing ignitor, located on side of stirrup, fitted with 2 x GORE™ membrane breathers
- Designed to accept double ended, long arc 2kW or 1kW metal halide lamps
- Dual provision on the side of the floodlight body to attach the gun sight aiming device to allow accurate beam alignment (AL5931)
- Easy access for re-lamping via opening of the rear cover. Positive closure via large stainless steel catch



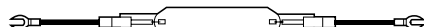
Colorline Stadium, Norway



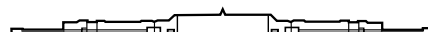
Technical Specifications

	Beam Type	Lamp: Manufacturer Product Code	Lamp Manufacturer	Lamp: Abacus Product Code	Lampholder Type
AL5801	Narrow	2kW: HQI-TS 2000W/N/L	Osram	LPW2000M/LA	K12s-7
AL5802	Medium	2kW: HQI-TS 2000W/N/L	Osram	LPW2000M/LA	K12s-7
AL5803	Wide	2kW: HQI-TS 2000W/N/L	Osram	LPW2000M/LA	K12s-7
AL5804	Narrow	2kW: MHN-LA2KW/842 & 956	Philips	LPP2000MHN-TD (842) & LPP2000/D (956)	XWH-UNP
AL5805	Medium	2kW: MHN-LA2KW/842 & 956	Philips	LPP2000MHN-TD (842) & LPP2000/D (956)	XWH-UNP
AL5806	Wide	2kW: MHN-LA2KW/842 & 956	Philips	LPP2000MHN-TD (842) & LPP2000/D (956)	XWH-UNP
AL5807	Narrow	1kW: MHN-LA1KW/842 & 956	Philips	LPP1000MHN-TD (842) & LPP1000MHD-TD (956)	XWH-UNP
AL5808	Medium	1kW: MHN-LA1KW/842 & 956	Philips	LPP1000MHN-TD (842) & LPP1000MHD-TD (956)	XWH-UNP
AL5809	Wide	1kW: MHN-LA1KW/842 & 956	Philips	LPP1000MHN-TD (842) & LPP1000MHD-TD (956)	XWH-UNP
AL5810	Narrow	2kW: MH-TS2000W/L/K12/4K	Venture	LPV2000M/LA	K12s-7
AL5811	Medium	2kW: MH-TS2000W/L/K12/4K	Venture	LPV2000M/LA	K12s-7
AL5812	Wide	2kW: MH-TS2000W/L/K12/4K	Venture	LPV2000M/LA	K12s-7
AL5813	Narrow	2kW: MH-TS2000W/XL/K12/745	Venture	LPV2000MH-TS-XL	K12s-7
AL5814	Medium	2kW: MH-TS2000W/XL/K12/745	Venture	LPV2000MH-TS-XL	K12s-7
AL5815	Wide	2kW: MH-TS2000W/XL/K12/745	Venture	LPV2000MH-TS-XL	K12s-7

Lamp references



HQI-TS
MH-TS



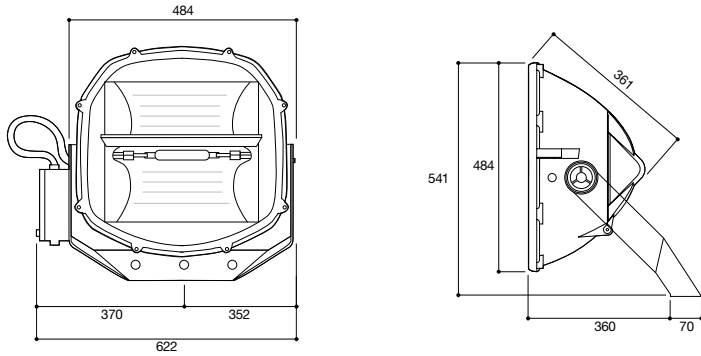
MHN-LA

Lamp Manufacturer & Lamp Ref.	Lamp Wattage	Colour Temp	RA:	Lamp Lumen Output: (Initial lm)	Lamp Current:	Supply Voltage:	Total Circuit Power:
Venture							
MH-TS2000W/L/K12/4K	2kW	4500K	65	240,000 l.lm	10.3A	380/400/415V	2150W
MH-TS2000W/XL/k12/745	2kW	4500K	65	240,000 l.lm	10.3A	380/400/415V	2150W
Philips							
MHN-LA2KW400V/842	2kW	4200K	80	220,000 l.lm	9.6A	380/400/415V	2105W
MHN-LA2K400V/956	2kW	5600K	90	190,000 l.lm	10.3A	380/400/415V	2113W
MHN-LA1KW230V/842	1kW	4200K	80	100,000 l.lm	9.3A	230/240V	1040W
Osram							
HQI-TS2000WNL	2kW	4400K	65	230,000 l.lm	10.7A	380/400/415V	2180W
HQI-TS2000WDL	2kW	5400K	85	20,5000 l.lm	10.3A	380/400/415V	2180W

Technical information may alter dependent on control gear used

Dimensions

Dimensions in mm



Mounting:

Stirrup mounted using M20 fixing
Stirrup adjustment +/- 140°

Weight: 15Kg. **Front wind area:** 0.196m² 70°
max setting

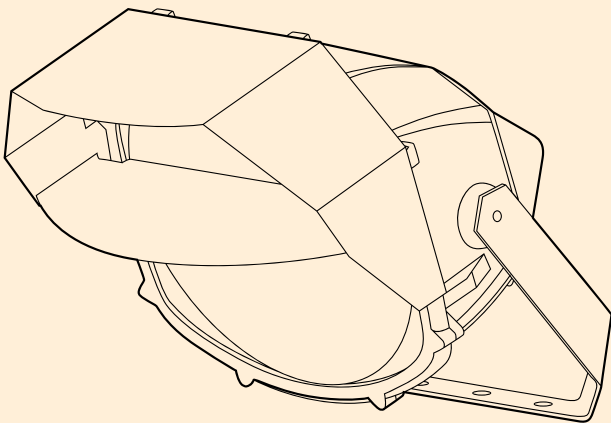
Maintenance



Easy Maintenance:

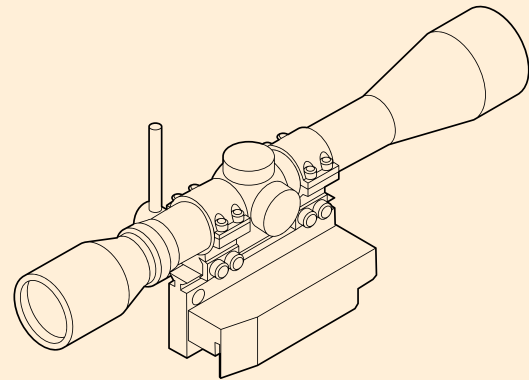
Access to the lamp by means
of opening the rear door

Accessories



Single blade louver – AL5922

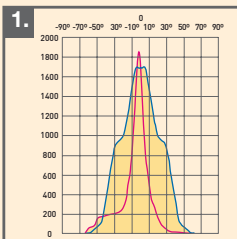
This accessory for the Challenger 2 & 3 minimises upward light while maintaining good vertical lighting levels on the playing field



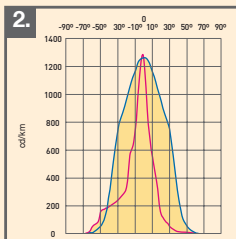
Aiming tool kit – AL5931

Set of equipment and instructions to enable the Challenger 2 & 3 to be aimed with pinpoint accuracy to a specific point on the design area. Allows the highest level of control over the aiming and commissioning part of a floodlighting project

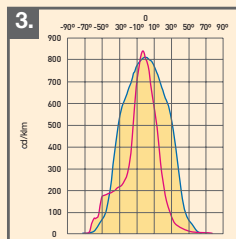
Key features



AL5804
2kW MHN-LA2KW
Narrow beam



AL5805
2kW MHN-LA2KW
Medium beam



AL5806
2kW MHN-LA2KW
Wide beam



FLOODLIGHTING

CHALLENGER® 3 AL5900

IP66



Benefits

- The Challenger 3 delivers an optically precise symmetrical beam specifically designed and suited to stadium floodlighting requirements

Technical Features

- Body of high pressure die cast aluminium, finished in light grey (RAL7035), polyester powder coating
- Reflector system of high purity, polished and anodised aluminium. Incorporating an internal baffle to improve efficiency and reduce glare
- Toughened front glass, secured by cast aluminium front frame
- Galvanised steel stirrup, with additional elevation locking screws
- Electrical connection box (IP66) housing ignitor, located on side of stirrup, fitted with 2 x Gore™ membrane breathers

- Designed to accept double ended, short arc 2kW or 1kW metal halide lamps
- Dual provision on side of floodlight body to attach gun sight aiming device to allow accurate beam alignment (AL5931)
- Easy access for re-lamping via opening of the rear cover. Positive closure via large stainless steel catch

Options

Half concentric louvre (AL5921) or single blade visor (AL5922) to reduce light pollution. Gun sight aiming kit, incorporating gun sight and bracket (AL5931)

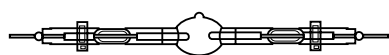


Lord's, London

Technical Specifications

	Beam Type	Lamp: Manufacturer Product Code	Lamp Manufacturer	Lamp: Abacus Product Code	Lampholder Type
AL5901	Narrow	2kW: HQI-TS 2000WDS	Osram	LPW2000M/D	K12s-7 cable
AL5902	Medium	2kW: HQI-TS 2000WDS	Osram	LPW2000M/D	K12s-7 cable
AL5903	Wide	2kW: HQI-TS 2000WDS	Osram	LPW2000M/D	K12s-7 cable
AL5904	Narrow	1kW: HQI-TS 1000WDS	Osram	LPW1000MB/L	K12s-7 cable
AL5905	Medium	1kW: HQI-TS 1000WDS	Osram	LPW1000MB/L	K12s-7 cable
AL5906	Wide	1kW: HQI-TS 1000WDS	Osram	LPW1000MB/L	K12s-7 cable
AL5907	Narrow	MHN-SA 2KW 400V /956	Philips	LPP2000MHN-SA	XW UNP
AL5908	Medium	MHN-SA 2KW 400V /956	Philips	LPP2000MHN-SA	XW UNP
AL5909	Wide	MHN-SA 2KW 400V /956	Philips	LPP2000MHN-SA	XW UNP
AL5910	Extra Narrow	MHN-SA 2KW 400V /956	Philips	LPP2000MHN-SA	XW UNP
AL5911	Narrow	MHN-SB 2KW 400V /956	Philips	LPP2000MHN-SB	K12s-7 WH UNP
AL5912	Medium	MHN-SB 2KW 400V /956	Philips	LPP2000MHN-SB	K12s-7 WH UNP
AL5913	Wide	MHN-SB 2KW 400V /956	Philips	LPP2000MHN-SB	K12s-7 WH UNP
AL5914	Extra Narrow	MHN-SB 2KW 400V /956	Philips	LPP2000MHN-SB	K12s-7 WH UNP

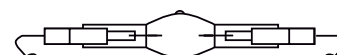
Lamp references



MHN-SA



MHN-SB



HQI-TS

Lamp Manufacturer & Lamp Ref.	Lamp Wattage	Colour Temp	RA:	Lamp Lumen Output: (Initial lm)	Lamp Current:	Supply Voltage	Total Circuit Power:
Philips MHN-SB 2000W/956	2kW	5600K	90	200,000 l.lm	11.5A	380/400/415V	2136W
MHN-SA 2000W/956	2kW	5600K	90	200,000 l.lm	11.3A	380/400/415V	2136W
Osram HQI-TS2000/D/S	2kW	5900K	93	200,000 l.lm	11.5A*	380/400/415V	2105W
HQI-TS1000/D/S	1kW	5900K	90	90,000 l.lm	9.4A	380/400/415V	1040W

*Measured on a 10.3A ballast.

Technical information may alter dependent on control gear used



Dimensions

Dimensions in mm

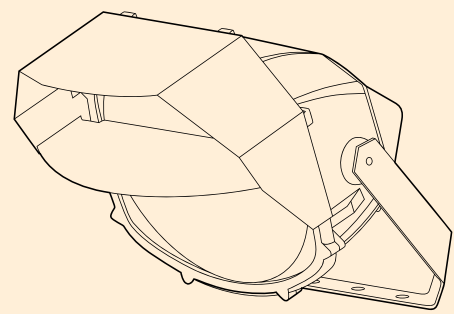
Mounting:
Stirrup mounted using M20 fixing
Stirrup adjustment +/- 140°
No baffle in extra narrow version

Weight: 15Kg. **Front wind area:** 0.196m²
at 70° elevation

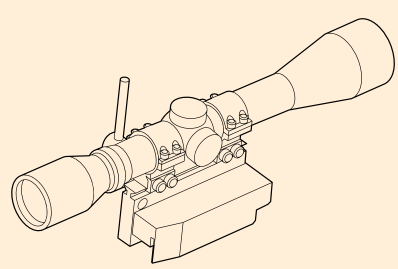
Maintenance

Easy Maintenance:
Access to the lamp by means of opening the rear door

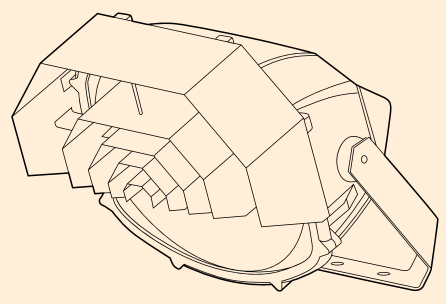
Accessories



Single blade louvre – AL5922
This accessory for the Challenger 2 & 3 minimises upward light while maintaining good vertical lighting levels on the playing field



Aiming tool kit – AL5931
Set of equipment and instructions to enable the Challenger 2 & 3 to be aimed with pinpoint accuracy to a specific point on the design area. Allows the highest level of control over the aiming and commissioning part of a floodlighting project

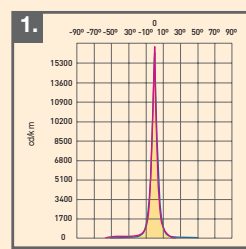


Half concentric louvre – AL5921
This accessory for the Challenger 3 provides the highest level of upward light and overspill control

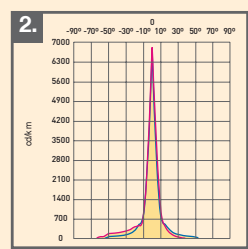


Challenger 3 with louvres

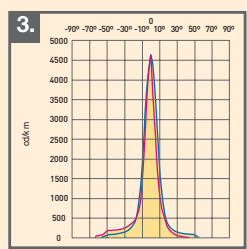
Key features



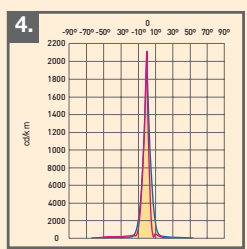
AL5911
MHN-SA Pro 2kW
Narrow beam



AL5912
MHN-SB Pro 2kW
Medium beam

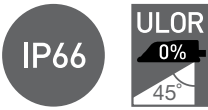


AL5913
MHN-SB Pro 2kW
Wide beam



AL5914
MHN-SB Pro 2kW
Extra narrow beam

RHEA AL5210



Benefits

- Compact lightweight 1KW floodlight for effective large area lighting

Technical Features

- Body of high pressure die cast aluminium, finished in light grey polyester powder coating (RAL 9006)
- Toughened front glass secured by extruded aluminium clips
- Reflector of polished and anodised aluminium
- Integral baffle, ensuring excellent glare limitation and increased performance
- Rear mounted electrical connection box
- Steel stirrup with secure locking system and general elevation protractor

- Remote control gear with integral ignitor
- Breather system fitted to 1kW versions as standard
- Easy access for re-lamping via opening front glass

Accessories

- Cowl (for reduced light pollution)

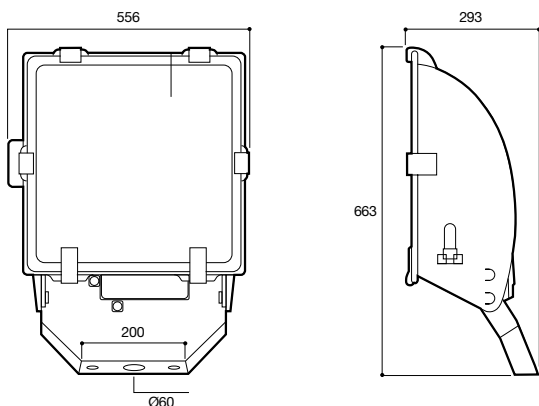
Colours

- RAL9006 Silver

	Lamp wattage and type	Lamp holder	Description	Max Weight (Kg)*	Windage (m²)
AL5216	400/600/1000W SON-T	E40	Double Asymmetric Medium	11.2	0.2
	400/1000W HQI-T			11.2	0.2
AL5218	400/600/1000W SON-T	E40	Double Asymmetric Wide	11.2	0.2
	400/1000W HQI-T			11.2	0.2

Dimensions

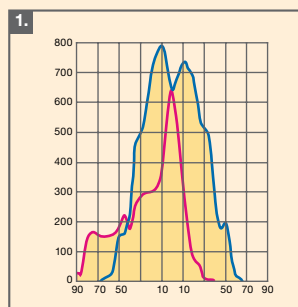
Dimensions in mm



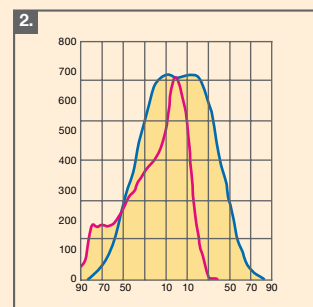
Mounting:

Stirrup mounted using M20 fixing Stirrup adjustment +/- 140°

Key features



AL5216
1kW-SON-T
Double Asymmetric Medium



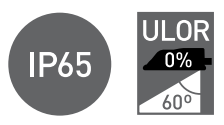
AL5218
1kW-SON-T
Double Asymmetric Wide

*Max in range.



FLOODLIGHTING

THEA AL5400



Benefits

- Robust floodlight offering flat glass optics at 60° elevation, with the option of either 1KW or 2 x 400W lamps
- Ideally suited to high mast floodlighting applications such as ports, airports and industrial areas

Technical Features

- Die-cast aluminium body polyester powder coated finish metallic grey RAL9006
- Toughened front glass, hinged to the body and secured via extruded aluminium clips
- Breather system fitted to all versions
- High performance reflector in polished and anodised aluminium

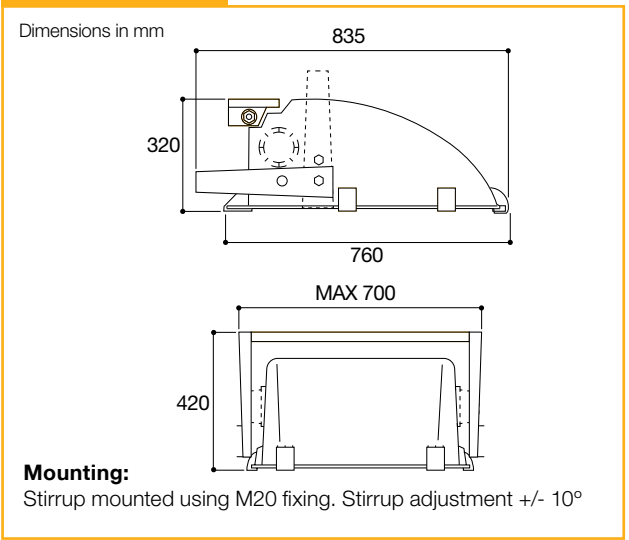
- Stirrup in hot dipped galvanised steel. Fixing ensures flat glass +/-10° elevation adjustment
- Separate connection chamber/ignitor housing, connected to rear/top of floodlight body
- Access to lamp via front glass. Electrical installation via rear/top. Connection box houses ignitor

Colours

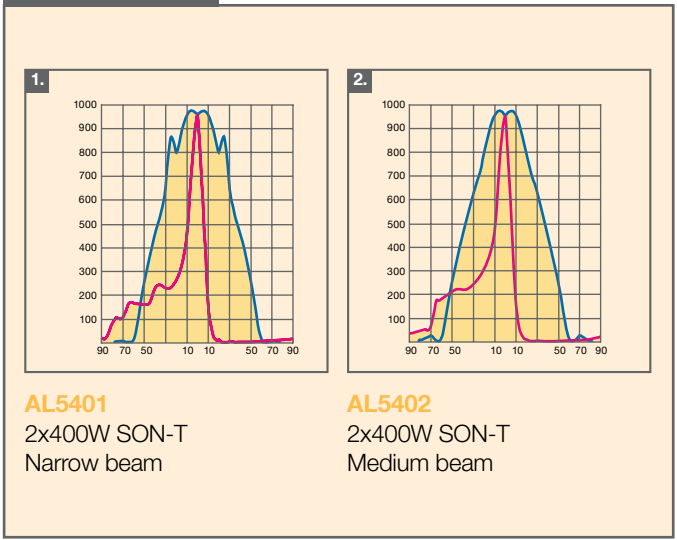
- RAL9006 Silver

	Lamp wattage and type	Lamp holder	Description	Weight (Kg)*	Windage (m ²)
AL5401	2 x 400W SONP-T/HQI-T	E40	Narrow Beam	21.0	0.5
AL5402	2 x 400W SONP-T/HQI-T	E40	Medium Beam	21.0	0.5
AL5403	1000W SONP-T/HQI-T	E40	Narrow Beam	21.0	0.5
AL5404	1000W SONP-T/HQI-T	E40	Medium Beam	21.0	0.5

Dimensions



Key features



*Max in range.

TRENT AL5000



Benefits

- Aesthetic styling suitable for architectural and commercial locations
- 50° high grade performance reflector available to give highly efficient light output
- Flat glass at 50°
- Sealed to IP66 and coated in all-weather and corrosion resistant polyester powder
- Three reflector options to adapt to wide range of applications
- Tool free access by releasing the long catch for quick and simple servicing
- Wide cooling fins incorporated in the body dissipate heat effectively
- Accessories include a protection grid, cowl and flux control louvre

Technical Features

- Body in die cast aluminium and polyester powder coated
- Thermal separation between lamp and wiring box
- 4mm tempered glass
- Double asymmetric 50° and asymmetric reflector option
- Heat resistant silicon gasket sealed
- Galvanised steel stirrup with M12 central bolt hole. To order quote AL5020 on bracket reference e.g. FLX/X/AL5020. For non-Abacus brackets you need to suspend this floodlight to enable free

movement, see dimensions drawing on page 85

- With integral gear
- 150W, 250W and 400W options
- Choice of high pressure sodium or metal halide lamps

Accessories

- Protection grid
- Cowl
- Vertical louvre
- Additional bracket FLX/X/AL5020

Colours

- RAL9006 Silver
- RAL9005 Black



Please note we mount this floodlight from a suspended position



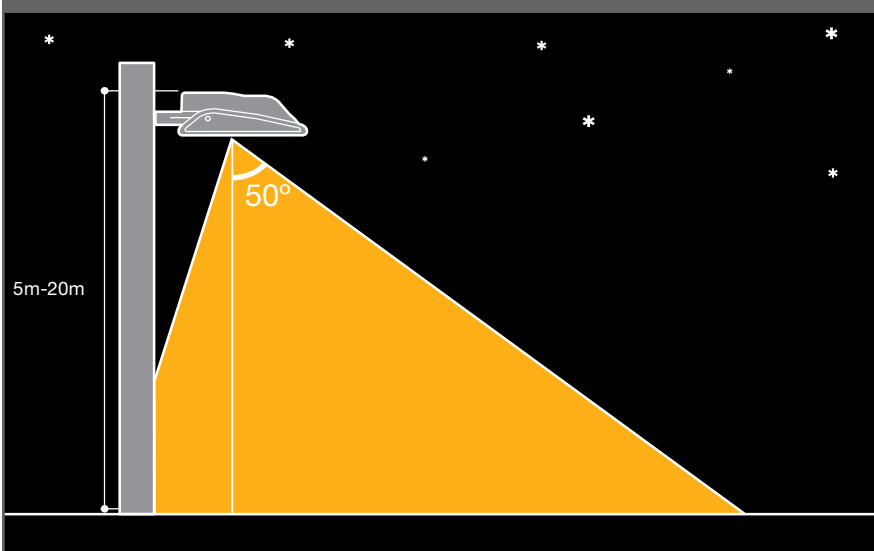
	Lamp Watts	Lamp Type	Lamp Holder	Description	Weight (Kg)
AL5021	150W	SONP-T / HQI-T	E40	Narrow Symmetric Beam Integral Control Gear	10.50
	250W				11.03
	400W				12.22
AL5022	150W	SONP-T / HQI-T	E40	Asymmetric Beam Integral Control Gear	10.50
	250W				11.03
	400W				12.22
AL5023	150W	SONP-T / HQI-T	E40	Double Asymmetric (50°) Beam Integral Control Gear	10.50
	250W				11.03
	400W				12.22



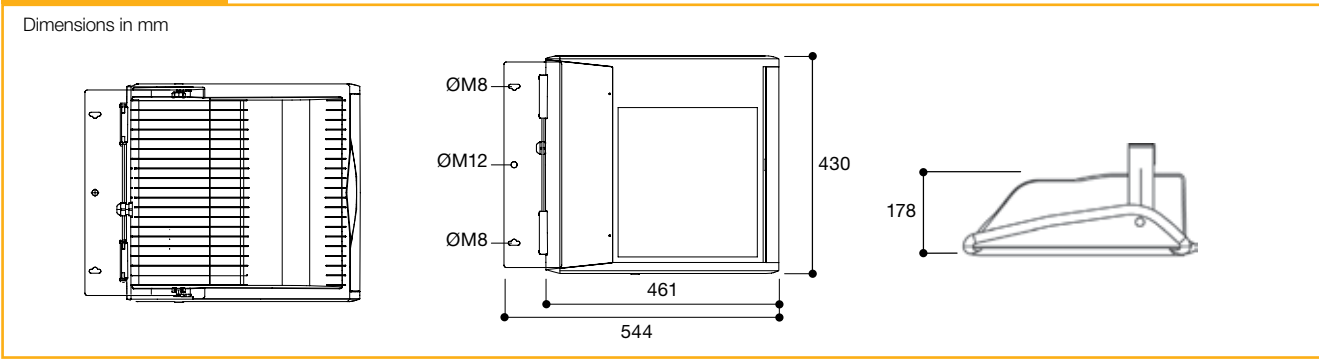
Accessories



50° flat glass reflector dark skies friendly



Dimensions



Key features

1.

10000 cd/klm

9000

8000

7000

6000

5000

4000

3000

2000

1000

-90 -60 60 90 V

AL5021
400W-SONP-T
Symmetric

2.

500 cd/klm

450

400

350

300

250

200

150

100

50

-90 -70 -50 -10 10 50 70 90

AL5022
400W-SONP-T
Asymmetric

3.

800 cd/klm

700

600

500

400

300

-90 -70 -50 -10 10 50 70 90

AL5023
400W-SONP-T
Double Asymmetric

TIBER AL5120



Benefits

- Value flat glass floodlight offering high performance 50° reflector
- 50° high grade performance reflector to give highly efficient light output
- Flat glass therefore dark skies friendly
- Sealed to IP65 and coated in all-weather and corrosion resistant polyester powder
- Three reflector options to adapt to wide range of applications
- Access to lamp and gear by loosening two screws and sliding top clamp bar for quick and simple servicing
- Wide cooling fins incorporated in the body dissipate heat effectively

- Heat resistant silicon gasket sealed
- Galvanised steel stirrup with M12 central bolt hole
- With integral gear
- 150W, 250W and 400W options
- Choice of high pressure sodium or metal halide lamps
- Protection grid accessory available

Accessories

- Protection grid

Colours

- RAL9005 Black



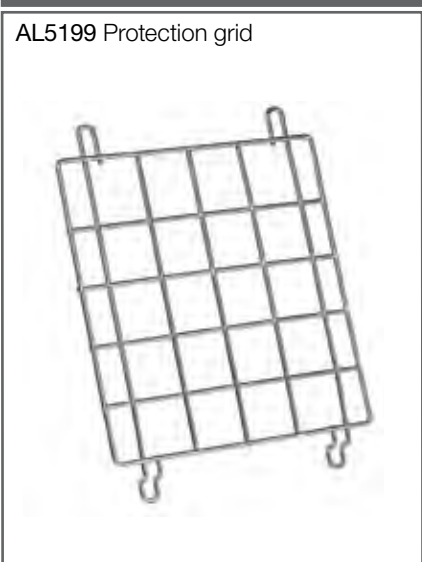
Technical Features

- Body in die cast aluminium and polyester powder coated
- Thermal separation between lamp and wiring box
- 4mm tempered glass
- Double asymmetric 50° and asymmetric reflector option

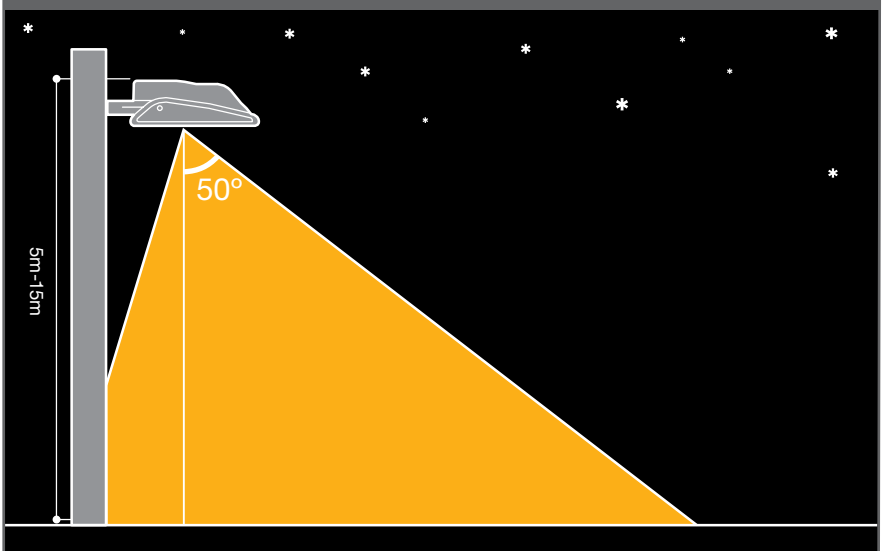
	Lamp Watts	Lamp Type	Lamp Holder	Description	Weight (Kg)
AL5121	150W 250W 400W	SONP-T / HQI-T	E40	Narrow Symmetric Beam Integral Control Gear	9.79 10.32 11.51
AL5122	150W 250W 400W	SONP-T / HQI-T	E40	Asymmetric Beam Integral Control Gear	9.79 10.32 11.51
AL5123	150W 250W 400W	SONP-T / HQI-T	E40	Double Asymmetric (50°) Beam Integral Control Gear	9.79 10.32 11.51



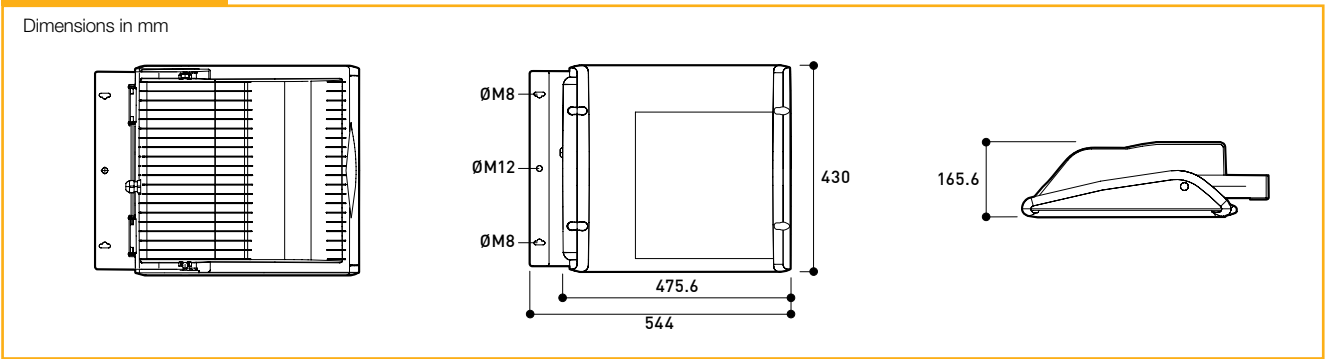
Accessories



50° flat glass reflector dark skies friendly



Dimensions



Key features

1.

AL5121
400W-SONP-T
Symmetric

2.

AL5122
400W-SONP-T
Asymmetric

3.

AL5123
400W-SONP-T
Double Asymmetric

MURA AL5320

IP66



Benefits

- Maximum 150W floodlight with smart and compact styling suitable for smaller applications and indoor areas
- Flat glass, dark skies friendly
- Sealed to IP66 and coated in all-weather and corrosion resistant polyester powder
- Three reflector options to adapt to wide range of applications
- Tool free access by releasing the aluminium top clamp bar for quick and simple servicing
- Wide cooling fins incorporated in the body dissipate heat effectively
- Accessories include fixed and adjustable wall brackets, protection grid and louvre

- Double asymmetric, narrow symmetric and asymmetric reflector options
- Heat resistant silicon gasket sealed
- Galvanised steel stirrup with M10 central bolt hole
- Integral gear
- 70W and 150W options
- Choice of high pressure sodium or metal halide lamps

Accessories

- Protection grid
- Louvre
- Fixed wall bracket
- Adjustable wall bracket

Colours

- RAL9006 Silver
- RAL9005 Black

Technical Features

- Body in die cast aluminium and polyester powder coated
- 4mm tempered glass



	Lamp Watts	Lamp Type	Lamp Holder	Description	Weight (Kg)
AL5321	70W 150W	SON-TD / HQI-TS	RX7s	Symmetric Beam Integral Control Gear	4.6 5.5
AL5322	70W 150W	SON-TD / HQI-TS	RX7s	Double Asymmetric Beam Integral Control Gear	4.6 5.5
AL5323	70W 150W	SON-TD / HQI-TS	RX7s	Asymmetric Beam Integral Control Gear	4.6 5.5
AL5324	70W 150W	SONP-T SONP-T / HQI-T	E27		4.6 5.5
AL5325	70W 150W	HCI-T	G12	Symmetric Beam Integral Control Gear	4.6 5.5



Accessories



AL5395
Protection grid



AL5396
AL5396/B
Fixed wall bracket



AL5397
AL5397/B
Adjustable wall bracket

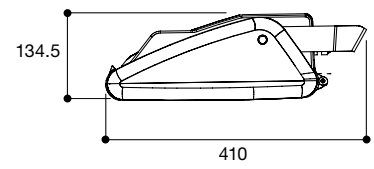
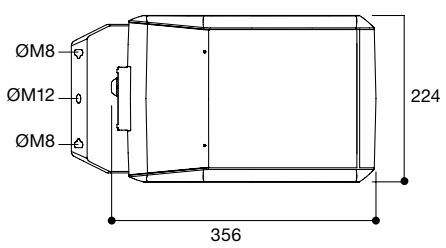
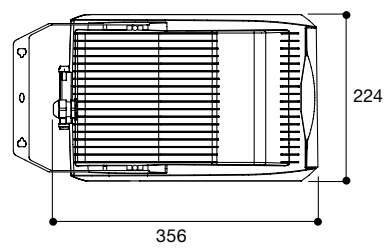


AL5398
AL5398/B
Louvre

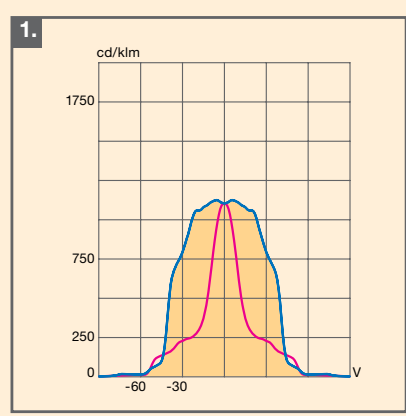
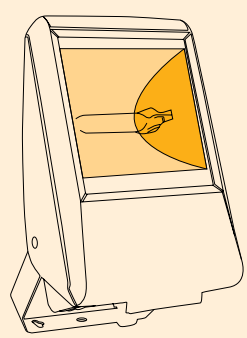
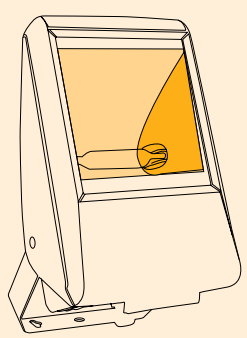
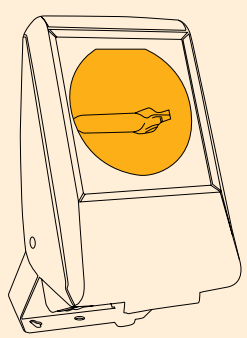


Dimensions

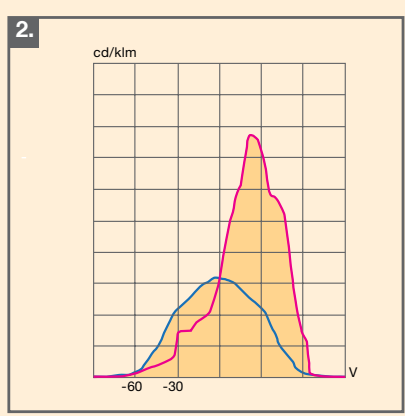
Dimensions in mm



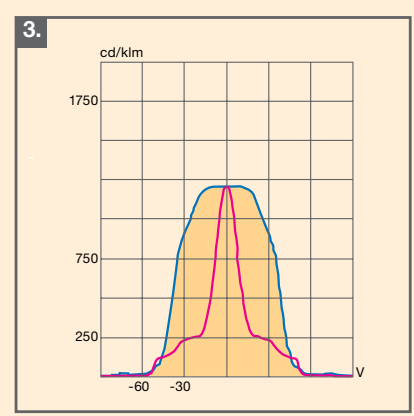
Key features



AL5321
70W-SON-TD
Symmetric



AL5322
70W-SON-TD
Double Asymmetric



AL5323/AL5324/AL5325
70W-SON-TD
Asymmetric

AMENITY LIGHTING

Amenity lighting is used to enhance and provide a safe night environment for the benefit of local residents, pedestrians, car park and road users.

It covers a wide range of general applications and purposes:

- To improve night time visual attractiveness and surroundings for residents and visitors
- To allow safer movement of pedestrians in the outdoor environment
- To offer outdoor car park users the appropriate level of lighting to balance the requirements of security, comfort and visibility
- To provide security lighting for local properties by deterring or revealing intruders
- To discourage violence, vandalism and crime by providing less concealment and allowing visual recognition of people within the night scene
- To provide low level general lighting of access roads, low traffic residential roadways and footpaths
- To provide the appropriate level of lighting for the level of security risk, be it low, medium or high

These requirements may usually be achieved by introducing relatively low lighting levels dependent, however, upon the overall purpose and degree of attractiveness desired. High levels of illuminance uniformity are usually unnecessary.

It is more important to ensure that minimum illuminance values are achieved in order to allow safe movement of pedestrians. The minimum values are determined in the relevant categories. The lighting of roadways should comply with the relevant code of practice or standard.

Increasing illuminance levels will also improve visual performance and instill in the pedestrian the psychological effect of increased safety, providing glare is controlled. Surround ratios of road and footpath illuminance against the illuminance of the surrounding area are governed by British and European standards (BE 5489-1 and BS EN 13201-2).

In the night environment a poorly designed lighting installation may produce lighting pollution. This can cause serious adverse effects, both physiological and ecological, in both urban and rural areas.

There are three distinct areas of light pollution: Overspill, Glare and Sky Glow.

The objective for the lighting system should be to limit these to an acceptable level for the location and application by careful design. By controlling obtrusive light, both the lighting quality and performance are increased.

Amenity lighting can create a positive effect. Showing luminaire form may enhance the night time appearance and reflections can also create attractive sparkle. Good amenity lighting should take into consideration all aspects of the lit environment.

Application	Lighting Level	Uniformity
Safety		
Safe pedestrian movement. Revealing obstacles and scene irregularities	1 Lux (min)	
For safe facial recognition (friend or foe)	5 Lux (ave)	
Outdoor Car Parks (ref: BS 5489-1:2003+A2:2008)		
Light traffic: Shop parking areas, housing, cycle parks	5 Lux (ave)	Uo = 0.25
Medium traffic: Parking at major stores, office buildings, sports and multi-purpose building complexes	10 Lux (ave)	Uo = 0.25
Heavy traffic: Parking areas at schools, churches, major sports and multi-purpose building complexes	20 Lux (min)	Uo = 0.25
Open Footbridges, Stairways & Ramps (ref: BS 5489-1:2003+A2:2008)	30 Lux (ave)	Uo = 0.5
Roadways & Public Amenity areas: (S, C, ME Classes) Please refer to BS 5489-1:2003+A2:2008 & EN 13201-2:2003 for guidance.		

Uo=Emin/Eave. These are guidelines only



FLOODLIGHTING

The use of floodlights to illuminate exterior areas has a wide and varied range of applications.

Some typical categories are:

- General lighting
- Working areas
- Security
- Sports

Applications such as lighting for sports, security, airports, docks and the illumination of hostile and hazardous environments often require specialist attention. Our lighting design service is available to advise on these and all other aspects of exterior lighting. You can also refer to the Abacus Sports Lighting Solutions brochure and the Abacus website for detailed information on standards and recommended solutions.

General and working areas

Most general and working areas are illuminated by floodlights mounted on masts or buildings. The type of floodlight, lamp selection and mounting height are dependent upon the overall size of the area, illuminance level, visual task, site restrictions and the cost effectiveness of the overall design.

Calculations

All general exterior lighting calculations will include a maintenance factor due to depreciation caused by various elements. Where a 'Maintained Illuminance Level' is required, it is necessary to incorporate a full maintenance factor comprising all depreciation factors:

1. Depreciation due to build-up of dirt on a luminaire
2. Lamp lumen depreciation
3. Lamp survival
4. Deterioration of internal reflecting surfaces
5. Atmospheric losses

The use of a 'Maintained Illuminance' should ensure the specified illuminance level is always provided during the period to planned maintenance. It is of particular importance in specifications for sports lighting.

Application	Lighting Level	Uniformity
Safety & Security		
Very low risk: occasional light traffic areas	5 Lux (ave)	U _o = 0.25
Low risk: General lighting – occasional use	10 Lux (ave)	U _o = 0.40
Medium risk: Storage areas with frequent traffic	20 Lux (ave)	U _o = 0.40
High risk: Operational areas requiring high levels of safety	50 Lux (ave)	U _o = 0.40
Industrial Sites & Storage Areas		
Short term handling of large units and raw materials. Loading and unloading of bulk goods	20 Lux (ave)	U _o = 0.25
Continuous handling of large units and raw materials. Loading and unloading of freight; open loading platforms	50 Lux (ave)	U _o = 0.40
Reading documents; using tools	100 Lux (ave)	U _o = 0.50
Demanding work; machine operation, inspection	200 Lux (ave)	U _o = 0.50
General Circulation Areas		
Pedestrian walkways	5 Lux (ave)	U _o = 0.25
Slow moving traffic areas	10 Lux (ave)	U _o = 0.40
Regular traffic areas	20 Lux (ave)	U _o = 0.40
Pedestrian use, turning vehicles, loading and unloading points	50 Lux (ave)	U _o = 0.40
Please refer to BS EN 12464-2:2007 or CIE S 015E:2005 for a wider range of application guidance		

These are guidelines only



BASE HINGED COLUMNS

PRODUCT

Why not consider the base hinged column for your car park or large area lighting project? The benefits of a simple and quick maintenance solution are clear. Ground level operation and lamp change, means there's no need to work at heights. The 4m to 8m spring operated light duty range, for example, can be lowered for maintenance in less than one minute.

BENEFITS:

Offering ground level maintenance for lantern cleaning, lamp change and column painting, the base hinged column is available from a height of 4m up to a maximum of 50m. It is the best selling base hinged column, and with good reason!

To see our columns in operation visit www.abacuslighting.com





COLUMNS & MASTS

We design, manufacture and install a variety of columns and masts. Base hinged and fixed columns, and the widest range of high mast systems – even unique telescopic masts. Whatever your requirements, we'll either have a product in our range or we can design one for you.

Standard columns

Abacus manufactures and supplies a wide range of standard columns in tubular, octagonal and conical styles, often in a choice of galvanised steel or aluminium. We also offer a variety of brackets designed to accommodate most standard luminaires, as well as a bespoke service, tailoring columns and brackets to specific requirements for your project.

A range of three architecturally styled columns, type LoCone, HiCone and Classic, are available with complementary brackets. A shield-shaped flush door enhances its appeal for amenity and architectural applications.

You can also enhance the appearance and longevity of your products with a wide range of paint finishes and surface protections; from standard finishes to specialist options such as marine and anti-graffiti protection.



High mast systems

Whether you need a mast for lighting a port or stadium, road junction or industrial facility, we have the right product for you. Choose from fixed masts, base hinged or raising and lowering winch masts. We also manufacture masts for telecoms, wind turbines, CCTV, signage and a whole host of other uses, not related to lighting.

Telescopic masts

Our latest innovation is the unique telescopic mast system, perfect for addressing planning issues. These masts can be raised using the latest touch-screen technology and are installed in some of the world's most iconic sports stadia.

PAINT SHOP FACILITY

COLUMN FINISHING & PROTECTION OPTIONS

Abacus offers a wide range of paint finishes designed to suit the requirements of our customers. Finishes are applied to the column once the column has been hot dip galvanised in accordance with the British and European standard, EN1461. Download the full list of options from our website.



INSTALLATION & MAINTENANCE FROM THE PROFESSIONALS



We also offer
maintenance
for non-Abacus
products

Installation

We are proud to offer a professional turn-key solution, from design through to installation. Our highly skilled installation teams work worldwide across a whole range of industries. We can supply everything from foundations to commissioning, either as a sub contractor or main contractor.

Let us take the worry out of your project by handling it, from start to finish.

Maintenance

At Abacus the great service doesn't stop with installation. Our fully qualified engineers can also offer you a variety of maintenance packages to suit every requirement.

Working at all heights, we will inspect and report on all aspects of your lighting system – including testing your electrical systems and cabling to certify compliance to NICEIC standards. We can also repair and replace key components and develop a tailored maintenance programme to suit your specific project.

Our reputation is built on providing professional and efficient maintenance services for a wide variety of customers. We are also a LinkUp approved contractor for work on rail projects.

Our expertise covers all types of industry sectors including:

- Sports lighting systems
- Airport, port and industrial high mast floodlighting
- Retail parks and amenity lighting
- Railway lighting
- All hinged mast systems
- High masts with lowering headframes
- Fixed masts with and without ladders

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Conditions of sale

All goods supplied are subject to the company's general conditions of sale which are available on request.

Registered Office:

Oddicroft Lane, Sutton-in-Ashfield, Nottinghamshire,
NG17 5FT, United Kingdom.
Registered in England No. 612235

Trade Descriptions

All descriptions represent only particulars of the goods to which they apply and do not form part of any contract. The company reserves the right to change specification without prior notification or public announcement.

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