Conditions of sale

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

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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Registered in England No. 3614702

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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 over 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.

www.abacuslighting.com

Maintenance Elements designed around you

Abacus Maintenance Elements can be applied to a wide variety of applications:

- Sports lighting systems
- Retail parks & amenity lighting
- Airport, port & industrial high mast floodlighting
- Railway lighting
- Hinged & fixed masts
- High masts with lowering headframes
- Fixed masts with & without ladders
- Anything else? Give us a call

To find out more about Abacus Maintenance Elements, call +44 (0)1623 518 316 or visit our website, www.abacuslighting.com
HIGH PERFORMANCE EXTERIOR LIGHTING SOLUTIONS

PRODUCT GUIDE

Car park & amenity lighting

ORION AL4000 10
ORION 2 AL4100 12
ORION 3 AL4150 14
PEGASUS 2 AL4250 18
ANTARES AM4400 20
LED QUARTZ® BOLLARD AL9000 24
CLASSIQUE AL1000 26
PATHSEEKER 2 AL3150 27
SKIMMER AL3200 28
SKIMMER BOLLARD AL3210 29

Architectural lighting

LIGO ROUND AL11200 32
LIGO SQUARE AL11200 33
VOLANS AL11801 34
SPICA AL11100 35
REGIA AL11300 36
ADARA DOWNLIGHT AL11400 37
ADARA UPLIGHT/DOWNLIGHT AL11400 38
TURAIS DOWNLIGHT AL11500 39
TURAIS UPLIGHT/DOWNLIGHT AL11500 40
OKUL AL11600 41
ANDROMEDA AL2500 42
CASSIOPEIA AL3950 44
ORIS AL3700 46
MICENAS AL3000 48
LUNA AM270 50

Road lighting

APOLLO LED AL6666 53
TRIVIUM EVO AL6300 54
TRIVIUM EVO LED AL6900 57
INDUS LED AL21000 59
CAMINO AM6500/AM6600 61

Floodlighting

CHALLENGER® 1 AL5760 66
CHALLENGER® 2 AL5800 70
CHALLENGER® 3 AL5900 73
AAA-LUX AL SERIES AL60, AL90, AL180 78
AAA-LUX AL SERIES AL360 79
AAA-LUX WS SERIES WS100-WS400 80
RHEA AL5210 82
THEA AL5400 83
TRENT 2 AL5000 84
TRENT 2 LED AL5500 87
TRENT 2 LED DOUBLE ASYMMETRIC AL5500 90
MURA 2 AL5300 92
MURA 2 LED AL5300 94

Guide to recommended levels for amenity and floodlighting

Glossary & recommended levels

Columns & masts

Consider the advantages of Base Hinged Columns for your amenity lighting project

Installation & maintenance

Our team of experts is on hand to provide both installation and ongoing maintenance support

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.
- **IK rating**: An international numeric classification for the degrees of protection provided by enclosures for electrical equipment against external mechanical impacts.
CAR PARK & AMENITY LIGHTING
Professional lighting systems to suit any project. Call 01623 518 333
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?
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.

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
ABACUS LIGHTING | CASE STUDY

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
CONVENTIONAL REFLECTOR SYSTEMS

**9 x Lanterns at 12m: 1 x400W SON-T**
- Energy Consumption: 3.87kW
- Cable lengths: 390m
- Columns/Foundation: 9

**18 x Twin Road Lanterns at 8m: 2 x 150W SON-T**
- Energy Consumption: 5.4kW
- Cable lengths: 550m
- Columns/Foundation: 18

**25 x Standard Reflectors at 6m: 250W SON-T**
- Energy Consumption: 6.9kW
- Cable lengths: 700m
- Columns/Foundation: 25

**OPTIMUM REFLECTOR SYSTEM**

**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

**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

**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

**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

**9 x Orion 2 at 8m: 400W SON-T**
- Energy Consumption: 3.87kW
- Power Density: 0.36W/m²/25Lux
- Cable lengths: 390m
- Columns/Foundation: 9

**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

---

**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.
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

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)

<table>
<thead>
<tr>
<th>Lamp wattage and type</th>
<th>Lamp holder</th>
<th>Description</th>
<th>Weight (kg)*</th>
<th>Windage (m²)</th>
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<tbody>
<tr>
<td>AL4001 1 x 150/250/400W SONP-T 1 x 250/400/450W HQI-T</td>
<td>E40</td>
<td>Square distribution, integral gear</td>
<td>24.3</td>
<td>0.286</td>
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<tr>
<td>AL4002 1 x 150/250/400W SONP-T 1 x 250/400/450W HQI-T</td>
<td>E40</td>
<td>Asymmetric distribution, integral gear</td>
<td>25.8</td>
<td>0.286</td>
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<tr>
<td>AL4003 2 x 150/250/400W SONP-T 2 x 250/400/450W HQI-T</td>
<td>E40</td>
<td>Square distribution, control gear (1 integral, 1 loose)</td>
<td>24.8</td>
<td>0.286</td>
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<tr>
<td>AL4004 2 x 150/250/400W SONP-T 2 x 250/400/450W HQI-T</td>
<td>E40</td>
<td>Asymmetric distribution, control gear (1 integral, 1 loose)</td>
<td>26.3</td>
<td>0.286</td>
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<tr>
<td>AL4005 1 x 150/250/400/600W SONP-T 1 x 250/400/450W HQI-T</td>
<td>E40</td>
<td>Square distribution, remote control gear</td>
<td>19.8</td>
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<tr>
<td>AL4006 1 x 150/250/400/600W SONP-T 1 x 250/400/450W HQI-T</td>
<td>E40</td>
<td>Asymmetric distribution, remote control gear</td>
<td>21.3</td>
<td>0.286</td>
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<tr>
<td>AL4007 2 x 150/250/400W SONP-T 2 x 250/400W HQI-T</td>
<td>E40</td>
<td>Square distribution, remote control gear</td>
<td>20.3</td>
<td>0.286</td>
</tr>
<tr>
<td>AL4008 2 x 150/250/400W SONP-T 2 x 250/400W HQI-T</td>
<td>E40</td>
<td>Asymmetric distribution, remote control gear</td>
<td>21.8</td>
<td>0.286</td>
</tr>
</tbody>
</table>

*Max in range.

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

www.abacuslighting.com
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.

Morrison’s 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

1. Dimensions & Mounting
   Direct spigot entry onto 89mm diameter column shafts
   Mounting height: 8m – 12m

2. Maintenance
   Removable top cap for lamp access via ¼ turn fasteners

3. Square distribution
   Lamp 2 x 400W SONP-T
   Mounting height: 10m

4. Asymmetric distribution
   Lamp 400W SONP-T
   Mounting height: 10m

All dimensions are in mm.

Column options
Choose between fixed and base hinged

<table>
<thead>
<tr>
<th></th>
<th>12m</th>
<th>10m</th>
<th>8m</th>
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</thead>
<tbody>
<tr>
<td>Fixed</td>
<td>TB12.AM1</td>
<td>TB10.AM1</td>
<td>TB08.AM1</td>
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<tr>
<td>Base</td>
<td>T127RLH.AM1</td>
<td>T107RLH.AM1</td>
<td>T088RLH.AM1</td>
</tr>
</tbody>
</table>

Accessories

AL4000/PC  Photocell

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

CAR PARK & AMENITY LIGHTING

Spotlight on Orion

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.

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   Direct spigot entry onto 89mm diameter column shafts
   Mounting height: 8m – 12m

2. Maintenance
   Removable top cap for lamp access via ¼ turn fasteners

3. Square distribution
   Lamp 2 x 400W SONP-T
   Mounting height: 10m

4. Asymmetric distribution
   Lamp 400W SONP-T
   Mounting height: 10m

All dimensions are in mm.

Professional lighting systems to suit any project. Call 01623 518 333
**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.

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

*Max in range.
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.

**Spotlight on Orion 2**

**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

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

**Key features**

**Column options**
Choose between fixed and base hinged

<table>
<thead>
<tr>
<th>Height</th>
<th>Fixed</th>
<th>Base</th>
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<tbody>
<tr>
<td>8m</td>
<td>TB08.AM2</td>
<td>T088RLH.AM2</td>
</tr>
<tr>
<td>6m</td>
<td>TB06.AM2</td>
<td>T061RLS.AM2</td>
</tr>
<tr>
<td>5m</td>
<td>TB05.AM2</td>
<td>T051RLS.AM2</td>
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</tbody>
</table>

**Accessories**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL4100/PC</td>
<td>Photocell</td>
</tr>
</tbody>
</table>

**Column options**
Choose between fixed and base hinged

<table>
<thead>
<tr>
<th>Height</th>
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</thead>
<tbody>
<tr>
<td>AL4100/PC</td>
<td>Photocell</td>
</tr>
</tbody>
</table>

All dimensions are in mm.
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 entrance 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.

<table>
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<tr>
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<th>Weight (kg)*</th>
<th>Windage (m²)</th>
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<td>AL4151 1 x 150/250/400W SONP-T 1 x 150/250/400/450W HQI-T</td>
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<td>0.253</td>
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<tr>
<td>AL4152 1 x 150/250/400W SONP-T 1 x 150/250/400/450W HQI-T</td>
<td>E40</td>
<td>Asymmetric distribution, integral gear</td>
<td>18.1</td>
<td>0.253</td>
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<tr>
<td>AL4153 1 x 150/250/400W SONP-T 1 x 150/250/400/450W HQI-T</td>
<td>E40</td>
<td>Square distribution, remote control gear</td>
<td>13.5</td>
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<tr>
<td>AL4154 1 x 150/250/400W SONP-T 1 x 150/250/400/450W HQI-T</td>
<td>E40</td>
<td>Asymmetric distribution, remote control gear</td>
<td>13.7</td>
<td>0.253</td>
</tr>
</tbody>
</table>

*Max in range.
### Accessories

| AL4150/PC | Photocell |

### Key features

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

2. **Maintenance**
   - Release three screw clamps and lift lantern canopy

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

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

### 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.

---

**Column options**

<table>
<thead>
<tr>
<th>Height</th>
<th>Fixed</th>
<th>Base</th>
</tr>
</thead>
<tbody>
<tr>
<td>8m</td>
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<td>6m</td>
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<tr>
<td>5m</td>
<td>TB05.AM2</td>
<td>T051RLS.AM2</td>
</tr>
</tbody>
</table>

---

With Optimum Reflector System

Please see page 9 for further information.

---

Professional lighting systems to suit any project. **Call 01623 518 333**
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.
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 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

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
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.

<table>
<thead>
<tr>
<th>Lamp wattage and type</th>
<th>Lamp holder</th>
<th>Description</th>
<th>Weight (kg)*</th>
<th>Windage (m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL4251 150/250/400W SONP-T 150/250/400/450W HQI-T</td>
<td>E40</td>
<td>Square distribution, integral control gear</td>
<td>10.0</td>
<td>0.206</td>
</tr>
<tr>
<td>AL4252 150/250/400W SONP-T 150/250/400/450W HQI-T</td>
<td>E40</td>
<td>Asymmetric distribution, integral control gear</td>
<td>10.5</td>
<td>0.206</td>
</tr>
</tbody>
</table>

*Max in range.
**Key features**

<table>
<thead>
<tr>
<th>Dimensions &amp; Mounting</th>
<th>Maintenance</th>
<th>Square distribution</th>
<th>Asymmetric distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct spigot entry onto 76mm diameter column shafts</td>
<td>Release three screw clamps and lift lantern canopy</td>
<td>Lamp 400W SONP-T</td>
<td>Lamp 400W SONP-T</td>
</tr>
<tr>
<td>Mounting height: 5m – 8m</td>
<td></td>
<td>Mounting height: 8m</td>
<td>Mounting height: 8m</td>
</tr>
</tbody>
</table>

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

Professional lighting systems to suit any project. **Call 01623 518 333**
**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.

---

**Specifications**

<table>
<thead>
<tr>
<th>Lamp wattage and type</th>
<th>Lamp holder</th>
<th>Description</th>
<th>Weight (kg)*</th>
<th>Windage (m²)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM4401 100/150/250W SON-T 250W HQI-T</td>
<td>E40</td>
<td>Large sphere integral gear</td>
<td>12.6</td>
<td>0.282</td>
</tr>
<tr>
<td>AM4402 100/150/250/400W SON-T 250/400W HQI-T</td>
<td>E40</td>
<td>Large sphere loose gear</td>
<td>8.7</td>
<td>0.282</td>
</tr>
<tr>
<td>AM4403 70W SON-T 70/100/150W HQI-E</td>
<td>E27</td>
<td>Small sphere integral gear</td>
<td>9.5</td>
<td>0.241</td>
</tr>
<tr>
<td>AM4404 100/150W SON-T</td>
<td>E40</td>
<td>Small sphere loose gear</td>
<td>9.7</td>
<td>0.241</td>
</tr>
</tbody>
</table>

*Max in range.
**Dimensions & Mounting**

<table>
<thead>
<tr>
<th>Height (m)</th>
<th>Large sphere, AM4401/2</th>
<th>Small sphere, AM4403/4</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 - 8</td>
<td>Mounting height: 4m – 8m</td>
<td>Mounting height: 4m – 8m</td>
</tr>
</tbody>
</table>

**Maintenance**

- Release three screw fixings and lift sphere for quick and easy lamp change.

**Square distribution**

- Lamp 250W SON-T
- Mounting height: 8m

---

**Column options**

Choose between fixed and base hinged

<table>
<thead>
<tr>
<th>Height (m)</th>
<th>Fixed</th>
<th>Base</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>TB08.SP1</td>
<td>T081RLS.SP1</td>
</tr>
<tr>
<td>6</td>
<td>TB060</td>
<td>T061RLS</td>
</tr>
<tr>
<td>5</td>
<td>TB050</td>
<td>T051RLS</td>
</tr>
</tbody>
</table>

**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:**

“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.”

Mark Jeffrey Director AP Thompson

---

**Key features**

1. Dimensions & Mounting
   - Large sphere, AM4401/2
   - Mounting height: 4m – 8m

2. Dimensions & Mounting
   - Small sphere, AM4403/4
   - Mounting height: 4m – 8m

3. Maintenance
   - Release three screw fixings and lift sphere for quick and easy lamp change

4. Square distribution
   - Lamp 250W SON–T
   - Mounting height: 8m

---

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
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. For emergency version, please enquire.

**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

<table>
<thead>
<tr>
<th>No of LEDs &amp; wattage</th>
<th>Distribution</th>
<th>Driver current</th>
<th>Lumen output</th>
<th>Colour temp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL9001 16 x 1.6W</td>
<td>Symmetric</td>
<td>500mA</td>
<td>1976lm</td>
<td>4000K</td>
</tr>
<tr>
<td>AL9002 16 x 1.6W</td>
<td>Asymmetric</td>
<td>500mA</td>
<td>1976lm</td>
<td>4000K</td>
</tr>
<tr>
<td>AL9003 16 x 1.6W</td>
<td>Axial</td>
<td>500mA</td>
<td>1976lm</td>
<td>4000K</td>
</tr>
</tbody>
</table>

**Beam patterns**

1. Asymmetric Distribution  
   AL9002  

2. Symmetric Distribution  
   AL9001  

3. Axial Distribution  
   AL9003

For mounting details see page 26.
CAR PARK & AMENITY LIGHTING

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

<table>
<thead>
<tr>
<th>Lamp wattage and type</th>
<th>Lamp holder</th>
<th>Description</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL1012 20/23W DULUX EL</td>
<td>E27</td>
<td>Bollard: satin louvres integral gear</td>
<td>n/a</td>
</tr>
<tr>
<td>50/80W HQL</td>
<td>E27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50/70W SON-E</td>
<td>E27</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Key features

Mounting height (m)

3m

2m

1m

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

All dimensions are in mm.

To find out more visit: www.abacuslighting.com
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
- Complies with M.O.D. JSP482 Chapter 8 Document 4 ‘Category C’ areas

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

Features
- LED version available
- 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

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
| 28W LED | | | 4.3

Photometric performance
3M mounting height 5M forward throw

<table>
<thead>
<tr>
<th>Spacing</th>
<th>Initial illuminance</th>
<th>Uniformity (min:av)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12m</td>
<td>37 lux av.</td>
<td>0.35</td>
</tr>
<tr>
<td>15m</td>
<td>30 lux av.</td>
<td>0.30</td>
</tr>
<tr>
<td>18m</td>
<td>25 lux av.</td>
<td>0.23</td>
</tr>
<tr>
<td>21m</td>
<td>22 lux av.</td>
<td>0.20</td>
</tr>
<tr>
<td>24m</td>
<td>19 lux av.</td>
<td>0.15</td>
</tr>
</tbody>
</table>

4M mounting height 6M forward throw

<table>
<thead>
<tr>
<th>Spacing</th>
<th>Initial illuminance</th>
<th>Uniformity (min:av)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12m</td>
<td>28 lux av.</td>
<td>0.42</td>
</tr>
<tr>
<td>15m</td>
<td>22 lux av.</td>
<td>0.40</td>
</tr>
<tr>
<td>18m</td>
<td>18 lux av.</td>
<td>0.30</td>
</tr>
<tr>
<td>21m</td>
<td>15 lux av.</td>
<td>0.23</td>
</tr>
<tr>
<td>24m</td>
<td>13 lux av.</td>
<td>0.18</td>
</tr>
</tbody>
</table>

Accessories
- AL3150PC Photocell option

All dimensions are in mm.
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

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
- 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

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

<table>
<thead>
<tr>
<th>Lamp Wattage and Type</th>
<th>Lamp Holder</th>
<th>Description</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL3201 35W HCI-T</td>
<td>G12</td>
<td>Adjustable beam ± 5° integral gear</td>
<td>n/a</td>
</tr>
<tr>
<td>AL3202 70W HCI-T</td>
<td>G12</td>
<td>Adjustable beam ± 5° integral gear</td>
<td>n/a</td>
</tr>
<tr>
<td>AL3203 150W HCI-T</td>
<td>G12</td>
<td>Adjustable beam ± 5° integral gear</td>
<td>n/a</td>
</tr>
<tr>
<td>AL3212 Internal shield (180° light spread)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Key features

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

All dimensions are in mm.
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

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
• 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

Lighting distribution
• Beam elevation set at 70° (standard)

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

<table>
<thead>
<tr>
<th>Lamp wattage and type</th>
<th>Lamp holder</th>
<th>Description</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL3211 35/70/150W HCI-T</td>
<td>G12</td>
<td>Bollard fixed beam 70° integral gear</td>
<td>n/a</td>
</tr>
<tr>
<td>AL3212</td>
<td>Internal shield (180° light spread)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Key features

1. Mounting
   Mounting height: 1.1m

All dimensions are in mm.
Professional lighting systems to suit any project. Call 01623 518 333
Benefits

- Luminaire housing has a high resistance to UV and is treated with highly antioxidant water-repellent lubricating solution to lengthen lifespan
- Strong luminaire body can withstand a maximum static pressure load 2500kg for use in high traffic areas
- Stainless steel finish ideal for architectural use
- High efficiency thermoplastic with high vacuum deposit for lightened luminaire care
- Design allows for ease of maintenance

Technical Features

- In ground recessed uplighter
- Non-integral driver

- Powder coated die cast aluminium EN AB 44100 body
- Protective undercoating phosphochromate treatment
- Sealed to IP67
- AISI 316L stainless steel trim
- Techno polymer Rough in Housing 017 / 18 / 19
- Soda-lime tempered glass 12mm
- Silicon sealing gasket
- Supplied with pre-wired cable 0.5m long HO7RN8-F with brass cable gland M20 Ø 7 / 13mm
- Wire through connection available on request
- Drainage area 300mm
- Maximum static pressure load 2500kg

Applications

- Architectural
- In ground / surface recessed

Beam Types

- 14°
- 29°
- 62°

Colours

- Stainless

** Other colour temperatures available on request

<table>
<thead>
<tr>
<th>Lamp Wattage</th>
<th>Power Supply</th>
<th>LED</th>
<th>Beam</th>
<th>Colour Temp.</th>
<th>Touch Temp.</th>
<th>Lm</th>
<th>Fixture Colour</th>
<th>Rough Inground Casting Box</th>
<th>LED Driver</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL11201</td>
<td>18W</td>
<td>Max 500mA 50/60HZ</td>
<td>1 LED</td>
<td>14°</td>
<td>3000</td>
<td>&lt;70</td>
<td>1957</td>
<td>Stainless</td>
<td>017</td>
</tr>
<tr>
<td>AL11202</td>
<td>18W</td>
<td>Max 500mA 50/60HZ</td>
<td>1 LED</td>
<td>29°</td>
<td>3000</td>
<td>&lt;70</td>
<td>1957</td>
<td>Stainless</td>
<td>018</td>
</tr>
<tr>
<td>AL11203</td>
<td>18W</td>
<td>Max 500mA 50/60HZ</td>
<td>1 LED</td>
<td>62°</td>
<td>3000</td>
<td>&lt;70</td>
<td>1957</td>
<td>Stainless</td>
<td>019</td>
</tr>
</tbody>
</table>

Key features

1. Dimensions

2. Polar Intensity Diagram

3. Polar Intensity Diagram

4. Polar Intensity Diagram

AL11201
Luminaire: 18W 3000K
Lamp: 1 LED
Power: Max 500mA 50/60HZ

AL11202
Luminaire: 18W 3000K
Lamp: 1 LED
Power: Max 500mA 50/60HZ

AL11203
Luminaire: 18W 3000K
Lamp: 1 LED
Power: Max 500mA 50/60HZ

All dimensions are in mm.

* Please enquire regarding drivers when requesting quotation and ordering.
Benefits

- Luminaire housing has a high resistance to UV and is treated with highly antioxidant water-repellent lubricating solution to lengthen lifespan
- Strong luminaire body can withstand a maximum static pressure load 2500kg for use in high traffic areas
- Stainless steel finish ideal for architectural use
- High efficiency thermoplastic with high vacuum deposit for heightened luminaire care
- Design allows for ease of maintenance

Technical Features

- In ground recessed uplighter
- Non-integral driver

Applications

- Architectural
- In ground / surface recessed

Beam Types

- 14°
- 29°
- 62°

Colours

- Stainless

<table>
<thead>
<tr>
<th>Lamp Wattage</th>
<th>Power Supply</th>
<th>LED</th>
<th>Beam Temp.</th>
<th>Touch Temp.</th>
<th>Lm</th>
<th>Fixture Colour</th>
<th>Rough Casting Box</th>
<th>LED Driver</th>
</tr>
</thead>
<tbody>
<tr>
<td>18W</td>
<td>Max 500mA 50/60HZ</td>
<td>1 LED</td>
<td>14° 3000</td>
<td>&lt;70 1957</td>
<td>Stainless 017</td>
<td>Non-integral*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18W</td>
<td>Max 500mA 50/60HZ</td>
<td>1 LED</td>
<td>29° 3000</td>
<td>&lt;70 1957</td>
<td>Stainless 018</td>
<td>Non-integral*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18W</td>
<td>Max 500mA 50/60HZ</td>
<td>1 LED</td>
<td>62° 3000</td>
<td>&lt;70 1957</td>
<td>Stainless 019</td>
<td>Non-integral*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Other colour temperatures available on request

Key features

1. Dimensions
2. Polar Intensity Diagram
3. Polar Intensity Diagram
4. Polar Intensity Diagram

All dimensions are in mm.

* Please enquire regarding drivers when requesting quotation and ordering.
Benefits

- Adjustable bracket increases installation capability and can be adjusted for false ceilings
- Luminaire housing has a high resistance to UV and is treated with highly antioxidant water-repellent lubricating solution to lengthen lifespan
- Body treatment ensures easy opening of the product for maintenance purposes
- Available in a spotlight, medium or flood reflector options for use across a large architectural application

Technical Features

- Ceiling recessed downlighter
- Integral LED
- Clear diffuser
- Double powder coating polyester with high resistance to UV and oxidation
- Die cast aluminium body to EN AB 44100 with high resistance to oxidation
- 2 mm thick AISI 316L stainless steel trim
- Aluminium ring with adjustable bracket for mounting
- Protective undercoating phosphochromate treatment
- Sealed to IP67
- IK07 rated
- Classification: class I
- Stainless steel A4-70 treated with highly antioxidant water-repellent lubricating solution
- Soda-lime tempered glass 5mm
- Silicon sealing gasket
- Cable gland M16 Ø 5/10mm
- Driver sold separately
- IP boxes for driver available upon request

Applications

- Architectural
- Ceiling recessed

Colours

- Stainless

Key features

<table>
<thead>
<tr>
<th>AL11801</th>
<th>18W</th>
<th>Max 500 mA DC</th>
<th>1 LED</th>
<th>62°</th>
<th>4000</th>
<th>2045</th>
<th>Sold separately*</th>
<th>Stainless</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL11802</td>
<td>18W</td>
<td>Max 500 mA DC</td>
<td>1 LED</td>
<td>62°</td>
<td>3000</td>
<td>1957</td>
<td>Sold separately*</td>
<td>Stainless</td>
</tr>
</tbody>
</table>

Dimensions

All dimensions are in mm. * Driver and IP boxes sold separately, please enquire when quoting or ordering.
Benefits
- Luminaire housing has a high resistance to UV and is treated with highly antioxidant water-repellent lubricating solution to lengthen lifespan
- Strong luminaire body can withstand a maximum static pressure load 2500kg for use in high traffic areas
- Stainless steel finish ideal for architectural use
- High efficiency thermoplastic with high vacuum deposit for heightened luminaire care
- Available in standard and RGB options to suit a variety of environments
- Design allows for ease of maintenance

Technical Features
- In-ground recessed uplighter
- Integral driver in AL11101 (3000K)
- Non-integral driver in AL11102 (RGB)
- Powder coated die cast aluminium EN AB 44100 body
- Protective undercoating phosphocromate treatment
- Sealed to IP67
- AISI 316L stainless steel trim
- Techno polymer Rough in Housing 017
- Soda-lime tempered glass 15mm
- Silicon sealing gasket
- Supplied with pre wired cable 0.5m long HO7RN8-F with brass cable gland M20 Ø 7 / 13mm
- Wire through connection possible with accessory
- Drainage area 300mm
- Maximum static pressure load 2500kg
- Available in LED 3000K or RGB

Applications
- Architectural
- In ground / surface recessed

Colours
- Stainless

Key features
1. Dimensions
   - AL11101
     - Luminaire: 26W 3000K
     - Lamp: 1 LED
     - Power: 220-240V 50/60HZ
   - AL11102
     - Luminaire: 12W RGB
     - Lamp: 4 LED
     - Power: Max 350mA

2. Polar Intensity Diagram
   - Beams
   - AL11101
     - 956 cd/km
     - y = 15°
   - AL11102
     - 956 cd/km
     - y = 45°

3. Polar Intensity Diagram
   - Beams
   - AL11101
     - y = 15°
   - AL11102
     - y = 45°

Technical Specifications

<table>
<thead>
<tr>
<th>Lamp</th>
<th>Wattage</th>
<th>Power Supply</th>
<th>LED</th>
<th>Beam</th>
<th>Colour Temp.**</th>
<th>Touch Temp.</th>
<th>Lm</th>
<th>Fixture Colour</th>
<th>LED Driver</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL11101</td>
<td>26W</td>
<td>220-240V 50/60HZ</td>
<td>1 LED</td>
<td>Flood</td>
<td>3000</td>
<td>&lt;70</td>
<td>2668</td>
<td>Stainless</td>
<td>Integral</td>
</tr>
<tr>
<td>AL11102</td>
<td>12W</td>
<td>Max 350mA 50/60HZ</td>
<td>4 LED</td>
<td>Flood</td>
<td>RGB</td>
<td>&lt;70</td>
<td>420</td>
<td>Stainless</td>
<td>Non-Integral*</td>
</tr>
</tbody>
</table>

* Other colour temperatures available on request
Benefits
- Powerful LEDs offer energy savings and cost reduction for maintenance
- Luminaire housing has a high resistance to UV and is treated with highly antioxidant water-repellent lubricating solution to lengthen lifespan
- Quick and easy adjustment is possible with the mechanical system and graduated ring nut allows for accurate positioning, fitting can also be locked in place to ensure correct beam direction
- 99.99% Pure aluminium high vacuum deposit for heightened luminaire care
- Design allows for ease of maintenance

Technical Features
- Surface mounted floodlight
- Integral driver
- Double powder coated polyester finish with high resistance to UV and oxidation
- Positionable with a mechanical system which can be locked or adjusted on the vertical axis, a graduated ring nut allows for accurate positioning
- Sealed to IP65 and IK09 rated
- Stainless steel A4-70 treated external fixings
- Available in anthracite or light grey for architectural use
- Extruded aluminium housing EN AW-6063 T5 / EN-AB 47100
- Soda-lime tempered glass 6mm
- Silicon sealing gasket
- Cable gland M20 13.5 Ø 7 / 13mm

Applications
- Architectural
- Surface Mounted

Beam Types
- 8°
- 24°
- 62°

Colours
- Anthracite
- Light grey

<table>
<thead>
<tr>
<th>Lamp Wattage</th>
<th>Power Supply</th>
<th>LED</th>
<th>Beam</th>
<th>Colour Temp.**</th>
<th>LED Driver</th>
<th>Lm</th>
<th>Fixture Colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL11301</td>
<td>47W</td>
<td>1 LED</td>
<td>8°</td>
<td>3000</td>
<td>Integral</td>
<td>5197</td>
<td>Anthracite</td>
</tr>
<tr>
<td>AL11302</td>
<td>47W</td>
<td>1 LED</td>
<td>8°</td>
<td>3000</td>
<td>Integral</td>
<td>5197</td>
<td>Light Grey</td>
</tr>
<tr>
<td>AL11303</td>
<td>47W</td>
<td>1 LED</td>
<td>24°</td>
<td>3000</td>
<td>Integral</td>
<td>5197</td>
<td>Anthracite</td>
</tr>
<tr>
<td>AL11304</td>
<td>47W</td>
<td>1 LED</td>
<td>24°</td>
<td>3000</td>
<td>Integral</td>
<td>5197</td>
<td>Light Grey</td>
</tr>
<tr>
<td>AL11305</td>
<td>47W</td>
<td>1 LED</td>
<td>62°</td>
<td>3000</td>
<td>Integral</td>
<td>5197</td>
<td>Anthracite</td>
</tr>
<tr>
<td>AL11306</td>
<td>47W</td>
<td>1 LED</td>
<td>62°</td>
<td>3000</td>
<td>Integral</td>
<td>5197</td>
<td>Light Grey</td>
</tr>
</tbody>
</table>

** Other colour temperatures available on request

Key features

1. Dimensions

2. Polar Intensity Diagram
   - AL11301 & AL11302
   - Luminaire: 47W 3000K
   - Lamp: 1 LED
   - Power: 220-240V 50/60HZ

3. Polar Intensity Diagram
   - AL11303 & AL11304
   - Luminaire: 47W 3000K
   - Lamp: 1 LED
   - Power: 220-240V 50/60HZ

4. Polar Intensity Diagram
   - AL11305 & AL11306
   - Luminaire: 47W 3000K
   - Lamp: 1 LED
   - Power: 220-240V 50/60HZ

All dimensions are in mm.
**Benefits**

- Powerful LEDs offer energy savings and cost reduction for maintenance
- Luminaire housing has a high resistance to UV and is treated with highly antioxidant water-repellent lubricating solution to lengthen lifespan
- Available in anthracite or light grey for architectural use
- Highly efficient thermoplastic with high vacuum deposit for heightened luminaire care
- 15° or 50° beam option offers effective downlighting
- Ability to be used as either a down or uplighter
- Design allows for ease of maintenance

**Technical Features**

- Surface mounted floodlight
- Integral driver
- Double powder coated polyester finish with high resistance to UV and oxidation
- Sealed to IP65
- Stainless steel A4-70 treated external fixings
- Extruded aluminium housing EN AW-6063 T5 / EN-AB 47100
- Soda-lime tempered glass 4mm
- Silicon sealing gasket
- Polypropylene cable gland M16 Ø5, 5 / 10mm

**Applications**

- Architectural
- Surface Mounted

---

### Beam Types

- 15°
- 50°

### Colours

- Anthracite
- Light grey

---

<table>
<thead>
<tr>
<th>Lamp Power Supply</th>
<th>LED Type</th>
<th>Beam Type</th>
<th>Colour Temp.**</th>
<th>LED Power</th>
<th>Lm</th>
<th>Fixture Colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL11401 26W 220-240V 50/60HZ 1 LED 3000</td>
<td>Integral 2760</td>
<td>Anthracite</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AL11402 26W 220-240V 50/60HZ 1 LED 3000</td>
<td>Integral 2760</td>
<td>Light Grey</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AL11403 26W 220-240V 50/60HZ 1 LED 3000</td>
<td>Integral 2760</td>
<td>Anthracite</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AL11404 26W 220-240V 50/60HZ 1 LED 3000</td>
<td>Integral 2760</td>
<td>Light Grey</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Other colour temperatures available on request**

---

### Key features

**Dimensions**

1. AL11401 & AL11402
   - Luminaire: 26W 3000K
   - Lamp: 1 LED
   - Power: 220-240V 50/60HZ

2. AL11403 & AL11404
   - Luminaire: 26W 3000K
   - Lamp: 1 LED
   - Power: 220-240V 50/60HZ

---

All dimensions are in mm.
### Benefits
- Powerful LEDs offer energy savings and cost reduction for maintenance.
- Luminaire housing has a high resistance to UV and is treated with highly antioxidant water-repellent lubricating solution to lengthen lifespan.
- Available in anthracite or light grey for architectural use.
- Highly efficient thermoplastic with high vacuum deposit for heightened luminaire care.
- 15° or 50° beam option offers effective and evenly distributed up / downlighting.
- Design allows for ease of maintenance.

### Technical Features
- Surface mounted floodlight.
- Integral driver.
- Double powder coated polyester finish with high resistance to UV and oxidation.
- Sealed to IP65.
- Stainless steel A4-70 treated external fixings.
- Extruded aluminium housing EN AW-6063 T5 / EN-AB 47100.
- Soda-lime tempered glass 4mm.
- Silicon sealing gasket.
- Polypropylene cable gland M16 Ø5, 5 / 10mm.

### Applications
- Architectural.
- Surface Mounted.

### Beam Types
- 15°
- 50°

### Colours
- Anthracite
- Light grey

### ADARA AL11400 UP / DOWNLIGHT

#### Luminaire: 52W 3000K
<table>
<thead>
<tr>
<th>Lamp</th>
<th>Power Supply</th>
<th>LED</th>
<th>Beam</th>
<th>Colour Temp.°K</th>
<th>LED Driver</th>
<th>Lm</th>
<th>Fixture Colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL11405</td>
<td>220-240V 50/60HZ</td>
<td>2 LED</td>
<td>15°</td>
<td>3000</td>
<td>Integral</td>
<td>2 x 2760</td>
<td>Anthracite</td>
</tr>
<tr>
<td>AL11406</td>
<td>220-240V 50/60HZ</td>
<td>2 LED</td>
<td>15°</td>
<td>3000</td>
<td>Integral</td>
<td>2 x 2760</td>
<td>Light Grey</td>
</tr>
<tr>
<td>AL11407</td>
<td>220-240V 50/60HZ</td>
<td>2 LED</td>
<td>50°</td>
<td>3000</td>
<td>Integral</td>
<td>2 x 2760</td>
<td>Anthracite</td>
</tr>
<tr>
<td>AL11408</td>
<td>220-240V 50/60HZ</td>
<td>2 LED</td>
<td>50°</td>
<td>3000</td>
<td>Integral</td>
<td>2 x 2760</td>
<td>Light Grey</td>
</tr>
</tbody>
</table>

** Other colour temperatures available on request.

### Key features

1. Dimensions
   - AL11405 & AL11406
     - Luminaire: 52W 3000K
     - Lamp: 2 LED
     - Power: 220-240V 50/60HZ

2. Polar Intensity Diagram
   - Beams

3. Polar Intensity Diagram
   - Beams

---

**All dimensions are in mm.**

---

38 www.abacuslighting.com
Benefits
• Powerful LEDs offer energy savings and cost reduction for maintenance
• External fixings have a high resistance to UV and are treated with antioxidant water-repellent lubricating solution to lengthen lifespan
• Housing is highly resistant to oxidation for prevention of damage to luminaire interior
• Highly efficient thermoplastic with high vacuum deposit for heightened luminaire care
• Design allows for ease of maintenance

Technical Features
• Wall mounted down lighter
• Integral driver
• Double powder coated polyester finish with high resistance to UV and oxidation
• Sealed to IP65 and IK06 rated
• Stainless steel A4-70 treated external fixings
• Die cast aluminium housing with EN-AB 47100 standard and high resistance to oxidation
• Soda-lime tempered glass 3mm
• Silicon sealing gasket
• Cable entry EPDM cable-gland free of halogens Ø 8 / 12mm
• Second cable entry available with the Turais
• Available in anthracite or light grey for architectural use
• Available in a standard or emergency version

Applications
• Architectural
• Surface Mounted

Beam Types
• 38°

Colours
- Anthracite
- Light grey

Key features

<table>
<thead>
<tr>
<th>Lamp Wattage</th>
<th>Power Supply</th>
<th>LED</th>
<th>Beam</th>
<th>Colour Temp.**</th>
<th>LED Driver</th>
<th>Lm</th>
<th>Fixture Colour</th>
<th>Emergency Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL11501</td>
<td>10W</td>
<td>220-240V 50/60HZ</td>
<td>7 LED</td>
<td>38°</td>
<td>3000</td>
<td>Integral</td>
<td>Anthracite</td>
<td>Available*</td>
</tr>
<tr>
<td>AL11502</td>
<td>10W</td>
<td>220-240V 50/60HZ</td>
<td>7 LED</td>
<td>38°</td>
<td>3000</td>
<td>Integral</td>
<td>Light grey</td>
<td>Available*</td>
</tr>
</tbody>
</table>

** Other colour temperatures available on request

Dimensions

Beams

Professional lighting systems to suit any project. Call 01623 518 333
Benefits

- Powerful LEDs offer energy savings and cost reduction for maintenance
- External fixings have a high resistance to UV and are treated with antioxidant water-repellent lubricating solution to lengthen lifespan
- Housing is highly resistant to oxidation for prevention of damage to luminaire interior
- Highly efficient thermoplastic with high vacuum deposit for heightened luminaire care
- Design allows for ease of maintenance

Technical Features

- Wall mounted up / downlighter
- Integral driver
- Double powder coated polyester finish with high resistance to UV and oxidation
- Sealed to IP65 and IK06 rated

Applications

- Architectural
- Surface Mounted

Beam Types

- 38°

Colours

- Anthracite
- Light grey

Key features

<table>
<thead>
<tr>
<th>Lamp Wattage</th>
<th>Power Supply</th>
<th>LED Lamps</th>
<th>Beam Angle</th>
<th>Colour Temp.**</th>
<th>LED Driver</th>
<th>Luminosity</th>
<th>Fixture Colour</th>
<th>Emergency Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL11503</td>
<td>14W</td>
<td>2 x 7</td>
<td>38°</td>
<td>3000</td>
<td>Integral</td>
<td>2 x 819</td>
<td>Anthracite</td>
<td>Available*</td>
</tr>
<tr>
<td>AL11504</td>
<td>14W</td>
<td>2 x 7</td>
<td>38°</td>
<td>3000</td>
<td>Integral</td>
<td>2 x 819</td>
<td>Light grey</td>
<td>Available*</td>
</tr>
</tbody>
</table>

** Other colour temperatures available on request

Dimensions

1. 111 180 90

Beams

1. 38°

All dimensions are in mm.

* Please enquire regarding emergency version when requesting quotation and ordering.
**Benefits**

- Powerful LEDs offer energy savings and cost reduction for maintenance
- External fixings have a high resistance to UV and are treated with antioxidant water-repellent lubricating solution to lengthen lifespan
- Housing is highly resistant to oxidation for prevention of damage to luminaire interior
- Design allows for ease of maintenance

**Technical Features**

- Wall mounted down lighter
- Integral driver
- Available in anthracite or light grey for architectural use
- Double powder coated polyester finish with high resistance to UV and oxidation

- Sealed to IP65 and IK07 rated
- Stainless steel A4-70 treated external fixings
- Die cast aluminium housing with EN-AB 47100 standard and high resistance to oxidation
- EPDM sealing gasket
- Vandal resistant opal polycarbonate UV resistant diffuser

**Applications**

- Architectural
- Surface Mounted

**Colours**

- Anthracite
- Light Grey

---

**Key features**

<table>
<thead>
<tr>
<th>Lamp Wattage</th>
<th>Power Supply</th>
<th>LED</th>
<th>Colour Temp.</th>
<th>LED Driver</th>
<th>Lm</th>
<th>Fixture Colour</th>
<th>Emergency Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL11601 17.5W</td>
<td>220-240V 50/60HZ</td>
<td>42 LED</td>
<td>3000</td>
<td>Integral</td>
<td>1586</td>
<td>Anthracite</td>
<td>Available*</td>
</tr>
<tr>
<td>AL11602 17.5W</td>
<td>220-240V 50/60HZ</td>
<td>42 LED</td>
<td>3000</td>
<td>Integral</td>
<td>1586</td>
<td>Light grey</td>
<td>Available*</td>
</tr>
</tbody>
</table>

**Dimensions**

Polar Intensity Diagram

All dimensions are in mm.

* Please enquire regarding emergency version when requesting quotation and ordering.
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 15º 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

<table>
<thead>
<tr>
<th>Lamp wattage and type</th>
<th>Lamp holder</th>
<th>Description</th>
<th>Weight (kg)</th>
<th>Windage (m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL3851</td>
<td>G12</td>
<td>Secondary Reflector System</td>
<td>18.2</td>
<td>0.366</td>
</tr>
</tbody>
</table>
Column options

<table>
<thead>
<tr>
<th>Column Options</th>
<th>6m</th>
<th>5m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed</td>
<td>S061/AL3852/9007</td>
<td>S051/AL3852/9007</td>
</tr>
</tbody>
</table>

Accessories

<table>
<thead>
<tr>
<th>Accessories</th>
<th>Shaft diameter (mm)</th>
<th>Root length (mm)</th>
<th>Flange plate (circular) (mm)</th>
<th>Flush door opening (mm)</th>
<th>Cable entry (root) (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELS987/6A</td>
<td>127</td>
<td>1000</td>
<td>290 Type 0</td>
<td>400 x 100</td>
<td>150 x 50</td>
</tr>
</tbody>
</table>

Column hot dip galvanised and polyester powder coated to RAL9007 Gunmetal.

Dimensions & Mounting

<table>
<thead>
<tr>
<th>Dimensions &amp; Mounting</th>
<th>5m – 6m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting height</td>
<td>5m – 6m</td>
</tr>
</tbody>
</table>

Maintenance

<table>
<thead>
<tr>
<th>Maintenance</th>
<th>AL3851</th>
<th>AL3851</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access the lamp and control gear by removing glass cover</td>
<td>150W HCI-T</td>
<td>150W HCI-T</td>
</tr>
<tr>
<td>Mounting height: 5m</td>
<td>Mounting height: 5m</td>
<td></td>
</tr>
</tbody>
</table>

All dimensions are in mm.

Key features

1. Dimensions & Mounting
   Mounting height: 5m – 6m

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

3. AL3851
   150W HCI-T
   Mounting height: 5m

4. AL3851
   150W HCI-T
   Mounting height: 5m

Full photometry available on our website www.abacuslighting.com

Professional lighting systems to suit any project. Call 01623 518 333
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

<table>
<thead>
<tr>
<th>Lamp wattage and type</th>
<th>Lamp holder</th>
<th>Description</th>
<th>Weight (kg)*</th>
<th>Windage (m²)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL3952 150W HCI–T</td>
<td>G12</td>
<td>Secondary Reflector, Integral Control Gear System</td>
<td>19.5</td>
<td>0.18</td>
</tr>
</tbody>
</table>

*Max in range.
Column options

<table>
<thead>
<tr>
<th>Column options</th>
<th>6m</th>
<th>5m</th>
<th>4m</th>
</tr>
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<tbody>
<tr>
<td><strong>Fixed</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Straight</td>
<td></td>
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</tr>
<tr>
<td>Tubular</td>
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<td>127</td>
<td>127</td>
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<tr>
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<td>290</td>
</tr>
<tr>
<td><strong>Tubular</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accessories</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ELS987/6A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single phase, cut-out, 6A, termination plate up to 10mm² loop in/out Dimensions 68mm(W), 53m(D), 170mm(H)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Column hot dip galvanised and polyester powder coated to RAL9007 Gunmetal.

Key features

1. **Dimensions & Mounting**
   - 60mm/114mm spigot
   - Mounting height: 4m – 6m

2. **Maintenance**
   - Access the lamp and control gear by removing glass cover

3. **Contour in Lux. MF=1.0**

4. **AL3952**
   - 150W HCl-T
   - Mounting height: 5m

**AL3952**
- 150W HCl-T
- Mounting height: 5m

All dimensions are in mm.

Full photometry available on our website www.abacuslighting.com

Professional lighting systems to suit any project. Call 01623 518 333
**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

<table>
<thead>
<tr>
<th>Lamp wattage and type</th>
<th>Lamp holder</th>
<th>Description</th>
<th>Weight (kg)</th>
<th>Windage (m²)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL3701 70W SON-T 70/100/150W MH</td>
<td>E27</td>
<td>Flat glass, integral control gear</td>
<td>7.5</td>
<td>0.05</td>
</tr>
<tr>
<td>AL3702 100/150W SON-T</td>
<td>E40</td>
<td>Flat glass, integral control gear</td>
<td>7.5</td>
<td>0.05</td>
</tr>
<tr>
<td>AL3703 140/90/60W Cosmo White supplied with electronic control gear</td>
<td>PGZ12</td>
<td>Flat glass, integral control gear</td>
<td>7.5</td>
<td>0.05</td>
</tr>
<tr>
<td>AL3705 150W/MH</td>
<td>E27</td>
<td>Flat glass, integral control gear</td>
<td>9</td>
<td>0.06</td>
</tr>
<tr>
<td>AL3706 150/250W SON-T</td>
<td>E40</td>
<td>Flat glass, integral control gear</td>
<td>9</td>
<td>0.06</td>
</tr>
<tr>
<td>AL3707 140W Cosmo White supplied with electronic control gear</td>
<td>PGZ12</td>
<td>Flat glass, integral control gear</td>
<td>9</td>
<td>0.06</td>
</tr>
</tbody>
</table>

*Max in range.*
Column and bracket options
Choose between fixed and base hinged

<table>
<thead>
<tr>
<th></th>
<th>8m</th>
<th>6m</th>
<th>5m</th>
<th>8m</th>
<th>6m</th>
<th>5m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tubular</td>
<td>TB081/SP</td>
<td>TB060/SP</td>
<td>TB050/SP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hi-cone</td>
<td>TB081/HC</td>
<td>TB060/HC</td>
<td>TB050/HC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hi-cone(Silver)</td>
<td>TB081/HC/2P9006</td>
<td>TB060/HC/2P9006</td>
<td>TB050/HC/2P9006</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Base</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light duty</td>
<td>T081RLS/SP</td>
<td>T061RLS/SP</td>
<td>T051RLS/SP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light duty(Black)</td>
<td>T041RLS/SP/2P9005</td>
<td>T051RLS/SP/2P9005</td>
<td>T061RLS/SP/2P9005</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brackets</td>
<td>Silver</td>
<td>Gunmetal</td>
<td>Galv. Finish</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single (300mm)</td>
<td>CHC/S/300/9006</td>
<td>CHC/S/300/9007</td>
<td>CHC/S/300</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Twin</td>
<td>CON/D/xx/76 or 89</td>
<td>CHC/D/300/9007</td>
<td>CHC/D/300</td>
<td>150 x 50</td>
<td>150 x 50</td>
<td>150 x 50</td>
</tr>
</tbody>
</table>

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, termination plate

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

Columns and bracket options

<table>
<thead>
<tr>
<th></th>
<th>8m</th>
<th>6m</th>
<th>5m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base diameter (mm)</td>
<td>168</td>
<td>140</td>
<td>140</td>
</tr>
<tr>
<td>Shaft diameter (mm)</td>
<td>89</td>
<td>76</td>
<td>76</td>
</tr>
<tr>
<td>Base height (mm)</td>
<td>1250</td>
<td>1250</td>
<td>1250</td>
</tr>
<tr>
<td>Flange plate (mm)</td>
<td>Type 1</td>
<td>Type 0</td>
<td>Type 0</td>
</tr>
<tr>
<td>Root length (mm)</td>
<td>1200</td>
<td>1000</td>
<td>800</td>
</tr>
<tr>
<td>Door opening (mm)</td>
<td>600 x 115</td>
<td>500 x 100</td>
<td>500 x 100</td>
</tr>
<tr>
<td>Cable entry (root) (mm)</td>
<td>150 x 50</td>
<td>150 x 50</td>
<td>150 x 50</td>
</tr>
</tbody>
</table>

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

Professional lighting systems to suit any project. Call 01623 518 333

47
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

- LED version available
- 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

<table>
<thead>
<tr>
<th>Lamp wattage and type</th>
<th>Lamp holder</th>
<th>Description</th>
<th>Weight (kg)*</th>
<th>Windage (m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL3001 70/100/150W SON-T</td>
<td>E27/E40</td>
<td>Flat glass, post mounted, integral gear</td>
<td>17.38</td>
<td>0.136</td>
</tr>
<tr>
<td>AL3001 70/100/150W HQI-E</td>
<td>E27</td>
<td>Flat glass, post mounted, integral gear</td>
<td>17.2</td>
<td>0.136</td>
</tr>
<tr>
<td>AL3001 125W HQL</td>
<td>E27</td>
<td>Flat glass, post mounted, integral gear</td>
<td>13.7</td>
<td>0.136</td>
</tr>
</tbody>
</table>

*Max in range.
### Column options
Choose between fixed and base hinged

<table>
<thead>
<tr>
<th>6m</th>
<th>5m</th>
<th>4m</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fixed</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tubular</td>
<td>TB060/SP1</td>
<td>TB050/SP1</td>
</tr>
<tr>
<td>Tubular [Black]</td>
<td>TB060/SP1/2P9005</td>
<td>TB050/SP1/2P9005</td>
</tr>
<tr>
<td>Classic</td>
<td>TB060/CL1</td>
<td>TB050/CL1</td>
</tr>
<tr>
<td>Classic [Black]</td>
<td>TB060/CL1/2P9005</td>
<td>TB050/CL1/2P9005</td>
</tr>
</tbody>
</table>

| **Base** | | |
| **Light duty** | T061RLS/SP1 | T051RLS/SP1 | T041RLS/SP1 |
| Light duty [Black] | T061RLS/SP1/2P9005 | T051RLS/SP1/2P9005 | T041RLS/SP1/2P9005 |

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

### Accessories
ELSAB1/6A Single phase, cut-out, 6A, termination plate

### 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

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

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

**AM3001**
- 100W HQI-E
- Mounting height: 5m

**AM3001**
- 100W HQI-E
- Mounting height: 5m

All dimensions are in mm.

---

Professional lighting systems to suit any project. Call 01623 518 333
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)

<table>
<thead>
<tr>
<th>Lamp wattage and type</th>
<th>Lamp holder</th>
<th>Description</th>
<th>Weight (kg)*</th>
<th>Windage (m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM273 70W SON-T</td>
<td>E27</td>
<td>Flat glass, integral gear</td>
<td>5.3</td>
<td>0.09</td>
</tr>
<tr>
<td>70/100W HQI-E</td>
<td>E27</td>
<td>Flat glass, integral gear</td>
<td>5.3</td>
<td>0.09</td>
</tr>
<tr>
<td>AM274 100/150W SON-T</td>
<td>E40</td>
<td>Flat glass, integral gear</td>
<td>5.5</td>
<td>0.09</td>
</tr>
</tbody>
</table>

*Max in range.
Professional lighting systems to suit any project. Call 01623 518 333

Column and bracket options
Choose between fixed and base hinged

<table>
<thead>
<tr>
<th>Dimensions &amp; Mounting</th>
<th>6m</th>
<th>5m</th>
<th>4m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting height:</td>
<td>4m-6m</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Accessories</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ELSAB1/6A</td>
<td>Single phase, cut-out, 6A, termination plate</td>
</tr>
<tr>
<td>ELSAB12/6A</td>
<td>Single phase, twin fuse cut-out, 6A</td>
</tr>
</tbody>
</table>

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

1. Dimensions & Mounting
   Mounting height: 4m-6m

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

3. AM274
   150W SON-T
   Mounting height: 5m

4. AM274
   150W SON-T
   Mounting height: 5m
ABACUS – FIRST CHOICE FOR SAFETY

ROAD LIGHTING
Benefits
- Easy assembly and maintenance
- Modular future-proof design
- Excellent thermal management
- High reliability and performance from Cree or Lumiled LEDs
- LM-80 compliant
- 100,000 life time to 70% lumen maintenance
- Independent LED drive compartment with Philips Xitanium LED electronic driver(s) built in
- Adaptive for most bracket diameters
- Internal adjustable luminaire elevation

Technical Features
- 4 Optics available for tailored performance A3 Type 3 Long as standard
- Modular Designed LEDs for easy maintenance
- Philips drivers (Xitanium), dimming available as an option 1:10 Dali
- Utilising CREE LEDs as standard or Lumiled LEDs as an option
- Adjustable mounting bracket to allow for luminaire elevation both bracket or post mounting solutions
- Post top and side mounted spigot entry positions 60mm & 40mm with adaptor accessory (State at time of quoting & ordering)
- Independent LED driver compartment
- NEMA Photoelectric interface option available
- CE and UL Certified
- 5 year Warranty for luminaire body, LED modules and driver

Applications
- Road  • Open Area  • Rail  • Amenity

Colour
- Light Grey

<table>
<thead>
<tr>
<th>Wattage</th>
<th>LED Modules</th>
<th>No. of LEDs</th>
<th>Power Consumption</th>
<th>Typical Flux 5000K</th>
<th>Dimensions (L x W x D mm)</th>
<th>Weight (kg)</th>
<th>Wind Area (m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL6666 / 30</td>
<td>30W</td>
<td>1</td>
<td>14</td>
<td>33W</td>
<td>2783</td>
<td>502 x 346 x 102</td>
<td>3.4kg</td>
</tr>
<tr>
<td>AL6666 / 35</td>
<td>35W</td>
<td>1</td>
<td>14</td>
<td>38W</td>
<td>3150</td>
<td>502 x 346 x 102</td>
<td>3.4kg</td>
</tr>
<tr>
<td>AL6666 / 60</td>
<td>60W</td>
<td>2</td>
<td>28</td>
<td>62W</td>
<td>5566</td>
<td>564 x 346 x 102</td>
<td>4.3kg</td>
</tr>
<tr>
<td>AL6666 / 70</td>
<td>70W</td>
<td>2</td>
<td>28</td>
<td>73W</td>
<td>5850</td>
<td>564 x 346 x 102</td>
<td>4.3kg</td>
</tr>
<tr>
<td>AL6666 / 90</td>
<td>90W</td>
<td>3</td>
<td>42</td>
<td>93W</td>
<td>8349</td>
<td>626 x 346 x 102</td>
<td>5.3kg</td>
</tr>
<tr>
<td>AL6666 / 120</td>
<td>120W</td>
<td>4</td>
<td>56</td>
<td>123W</td>
<td>11132</td>
<td>688 x 346 x 102</td>
<td>6.3kg</td>
</tr>
<tr>
<td>AL6666 / 150</td>
<td>150W</td>
<td>5</td>
<td>70</td>
<td>155W</td>
<td>13915</td>
<td>750 x 346 x 102</td>
<td>7.3kg</td>
</tr>
<tr>
<td>AL6666 / 180</td>
<td>180W</td>
<td>6</td>
<td>84</td>
<td>185W</td>
<td>16696</td>
<td>812 x 346 x 102</td>
<td>8.3kg</td>
</tr>
<tr>
<td>AL6666 / 210</td>
<td>210W</td>
<td>7</td>
<td>98</td>
<td>216W</td>
<td>19473</td>
<td>874 x 346 x 102</td>
<td>9.3kg</td>
</tr>
<tr>
<td>AL6666 / 240</td>
<td>240W</td>
<td>8</td>
<td>112</td>
<td>246W</td>
<td>22257</td>
<td>936 x 346 x 102</td>
<td>10.3kg</td>
</tr>
<tr>
<td>AL6666 / 270</td>
<td>270W</td>
<td>9</td>
<td>126</td>
<td>277W</td>
<td>25040</td>
<td>998 x 346 x 102</td>
<td>11.3kg</td>
</tr>
<tr>
<td>AL6666 / 300</td>
<td>300W</td>
<td>10</td>
<td>140</td>
<td>308W</td>
<td>27823</td>
<td>1060 x 346 x 102</td>
<td>12.3kg</td>
</tr>
</tbody>
</table>

Key features
- Colour Rendering: >75
- Power Factor: >0.95
- Luminaire Efficiency: >85%
- Ambient Environment: Temperature: -40 - +50°C; Humidity: 10% - 95%
- Lifespan: 100,000 life time to 70% lumen maintenance
- Driver Current: 700mA

Professional lighting systems to suit any project. Call 01623 518 333
Benefits

- Autonomous system reduces power to give up to 40% energy savings
- Power interrupted by knife switch when luminaire is opened for health & safety purposes
- Adjustable lamp holder increases flexibility of optical variations
- Treated and coated to guarantee a high corrosion resistance

Technical Features

- Pressure compensation filter on the body
- IP66 and IK08 rated
- Either Post top or side entry installation
- Selected Cosmo options available with 6 hour dim facility
- No control cable required, system with complete autonomy establishes the middle of the nighttime hours and reduces the power accordingly
- Reflector made of high purity (99.8%) one piece pressed electro polished anodised aluminium
- Adjustable porcelain lamp holder
- Multiple light source options available
- Die cast aluminium body and top cover, degreased and phosphor chromate treated with surface protection coat and polyester powder coating

Applications

- Road

Colour

- Light Grey

- Flat glass low profile as standard, deep bowl option also available
- Bi power, power saving versions available in selected flat glass versions. These versions are equipped with a programmable switch and electromechanical bi power reactor

Dimensions

Dimensions in mm

Trivium Evo Mini
AL6321 / AL6322

Trivium Evo
AL6331 / AL6332
### Key features

<table>
<thead>
<tr>
<th></th>
<th>AL6321 / Trivium Evo Mini / Flat Glass</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>SONP-T 70W E27</td>
</tr>
<tr>
<td></td>
<td>cd/klm C0 - C180</td>
</tr>
<tr>
<td></td>
<td>SONP-T 70W E27</td>
</tr>
<tr>
<td></td>
<td>C190 - 270</td>
</tr>
<tr>
<td></td>
<td>Cosmo White 140W PGZ12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>AL6322 / Trivium Evo Mini / Low Profile Bowl</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>SONP-T 70W E27</td>
</tr>
<tr>
<td></td>
<td>cd/klm C0 - C180</td>
</tr>
<tr>
<td></td>
<td>SONP-T 100W E40</td>
</tr>
<tr>
<td></td>
<td>C190 - 270</td>
</tr>
<tr>
<td></td>
<td>SONP-T 100W E40</td>
</tr>
<tr>
<td></td>
<td>SONP-T 150W E40</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>AL6331 / Trivium Evo / Flat Glass</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td>SONP-T 70W E27</td>
</tr>
<tr>
<td></td>
<td>cd/klm C0 - C180</td>
</tr>
<tr>
<td></td>
<td>SONP-T 100W E40</td>
</tr>
<tr>
<td></td>
<td>C190 - 270</td>
</tr>
<tr>
<td></td>
<td>SONP-T 100W E40</td>
</tr>
<tr>
<td></td>
<td>SONP-T 150W E40</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>AL6332 / Trivium Evo / Low Profile Bowl</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.</td>
<td>SONP-T 400W E40</td>
</tr>
<tr>
<td></td>
<td>cd/klm C0 - C180</td>
</tr>
<tr>
<td></td>
<td>SONP-T 250W E40</td>
</tr>
<tr>
<td></td>
<td>C190 - 270</td>
</tr>
<tr>
<td></td>
<td>SONP-T 150W E40</td>
</tr>
<tr>
<td></td>
<td>SONP-T 100W E40</td>
</tr>
</tbody>
</table>
## Technical Specifications

<table>
<thead>
<tr>
<th>Lamp Wattage</th>
<th>Light Source</th>
<th>Lamp Holder</th>
<th>Conventional Ballast</th>
<th>Bipower Available (B)</th>
<th>Nighttime 6th-Dm (N)</th>
<th>Electronic Ballast Available (E)</th>
<th>Body Type/ Bowl or Flat Glass</th>
<th>Weight (kg)</th>
<th>Wind Area (m²)</th>
<th>Spigot Post Top</th>
<th>Spigot Side Entry</th>
</tr>
</thead>
<tbody>
<tr>
<td>50W</td>
<td>SONP-T</td>
<td>E27</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td></td>
<td>7.44kg</td>
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<td>0.1080</td>
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</table>

**AL6300 Series Light Distribution Type:** Road

*B=10.15kg  ** B=11.1kg  *** B=12.2kg
Benefits

• Power interrupted by knife switch when luminaire is opened for health & safety purposes
• Overload and power surge protection to lengthen lifespan and protect components and LEDs
• Treated and coated to guarantee a high corrosion resistance
• Excellent optical control ideal for road use with high resistance to optical and thermal decline, thus extending luminaire life span

Technical Features

• Pressure compensation filter on the body
• Post top or side entry installation possible
• IP66 and IK08 rated
• Class I as standard, Class II available on selected ranges upon request
• Die cast aluminium body and top cover, degreased and phosphor chromate treated with surface protection coat and polyester powder coating
• Gaskets consist of anti-aging weather resistant silicone rubber

Applications

• Road

Colour

• Light Grey

Applications

• Road

Colour

• Light Grey

Dimensions

Dimensions in mm

Trivium Evo Mini
AL6921 / AL6922

Trivium Evo
AL6931 / AL6932

Professional lighting systems to suit any project. Call 01623 518 333
### Technical Specifications

<table>
<thead>
<tr>
<th>LED Type</th>
<th>Luminare Wattage</th>
<th>Luminaires (m²)</th>
<th>Drive Current (mA)</th>
<th>Number of LEDs</th>
<th>Fixed Current Driver Available</th>
<th>Programmable Driver Available</th>
<th>Body</th>
<th>Light Distribution Type</th>
<th>Weight (kg)</th>
<th>Wind Area (m²)</th>
<th>Spigot Post Top</th>
<th>Spigot Side Entry</th>
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<td>3450</td>
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### Key features

1. AL6921 Standard LEDs C0 - C180 C190 - 270
2. AL6922 Standard LEDs C0 - C180 C190 - 270
3. AL6931 Standard LEDs C0 - C180 C190 - 270
4. AL6931 XL-M-2 High Output LEDs C0 - C180 C190 - 270
5. AL6932 Standard LEDs C0 - C180 C190 - 270
6. AL6932 XL-M-2 High Output LEDs C0 - C180 C190 - 270
Benefits

- Modern looking slim line luminaire for a positive aesthetic feel in a variety of surroundings and application areas
- Fitting equipped with an automatic anti-closing mechanism for safer assembly, installation and maintenance purposes reducing health & safety risks

Technical Features

- IP66 and IK08 rated
- Classification I
- Flat glass
- Constructed to meet EN 60598-1, EN 60598-2-3 standards
- Power correction factor >0.9
- Power supply 220-240V / 50-60Hz VAC
- Overload and surge protection upto 10kV
- First brand LED mounted on a pressed aluminium circuit, highly heat-dissipating Metal Core Printed Circuit Board (MCPCB)
- Die cast aluminium body and cover with highly aesthetic aspect
- Replacement of the entire LED module including upper luminaire cover
- Extra-clear 4mm tempered glass
- Power supply cable access through a PG 13.5 cable gland (IP68)
- Anti-aging rubber gaskets with stainless steel closure clips
- Teflon pressure compensation filter
- Driver specification: high efficiency powersource and duration for external use
- Optional body with fin casing on the upper cover available upon request

Applications

- Road
- Pathways

Colour

- Silver

Dimensions

Dimensions in mm

Standard body

Optional fin body (F)
### Technical Specifications

<table>
<thead>
<tr>
<th>Lamp Wattage (W)</th>
<th>Lumen Output (lm)</th>
<th>Drive Current (mA)</th>
<th>Number of LEDs</th>
<th>Fixed Current Driver Available</th>
<th>Light Distribution Type</th>
<th>Distribution</th>
<th>Standard Body Weight (kg)</th>
<th>Optional Fin Body Weight (kg)</th>
<th>Wind Area (m²)</th>
<th>Spigot Post Top</th>
<th>Spigot Side Entry</th>
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</table>

**PROGRAMMABLE DRIVER AVAILABLE ON ALL OPTIONS**

For optional body with fin casing (f) please request when quoting and ordering.

---

### Key features

1. **Indus AB1**
   - Vertical
   - Horizontal

2. **Indus (f) AB1**
   - Vertical
   - Horizontal

3. **Indus B1**
   - Vertical
   - Horizontal

4. **Indus (f) B1**
   - Vertical
   - Horizontal
CAMINO AM6500/AM6600

Benefits
- Flexibility from two body options and up to 600W SON-T
- Sealed hydroformed anodised aluminium reflector with curved tempered glass bowl for added performance (IP66 optics)
- Integral or remote control gear versions

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

<table>
<thead>
<tr>
<th>Lamp wattage and type</th>
<th>Lamp holder</th>
<th>Description</th>
<th>Weight (kg)*</th>
<th>Windage (m²)</th>
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</table>

*Weight excluding control gear

Key features

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

2. Side mounting
   - Access to optics by releasing single recessed front clip and raising canopy

3. Column options (post top)
   - 10m: TB108, TB08.SP1, TB050
   - 8m: T107RLS, T081RLS.SP1, T051RLS
   - 5m: T051RLS

All dimensions are in mm. *Max in range.

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

Professional lighting systems to suit any project. Call 01623 518 333

For column and bracket options, consult the Abacus Lighting column brochure
Trent Bridge, Nottingham (Challenger 3)
Professional lighting systems to suit any project. Call 01623 518 333
**FLOODLIGHTING**

**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.**
Professional lighting systems to suit any project. Call 01623 518 333
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 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
<table>
<thead>
<tr>
<th>Beam Type</th>
<th>Lamp: Manufacturer Product Code</th>
<th>Lamp Manufacturer</th>
<th>Lamp: Abacus Product Code</th>
<th>Lampholder Type</th>
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**Technical information may alter dependent on control gear used.**
**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).

**Maintenance**

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

**Dimensions**

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

**Mounting:**
- Stirrup mounted using M20 fixing
- Stirrup adjustment +/- 140°

**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

www.abacuslighting.com
Professional lighting systems to suit any project. Call 01623 518 333
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

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<thead>
<tr>
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<th>Lamp: Abacus Product Code</th>
<th>Lampholder Type</th>
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### Lamp references

![Lamp references](image-url)

**Lamp Manufacturer & Lamp Ref.**

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<tr>
<th>Lamp Manufacturer</th>
<th>Lamp Wattage</th>
<th>Colour Temp</th>
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<th>Lamp Current:</th>
<th>Supply Voltage:</th>
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*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 70º max setting

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

Key features

1. AL5804
2kW MHN-LA2KW
Narrow beam

2. AL5805
2kW MHN-LA2KW
Medium beam

3. AL5806
2kW MHN-LA2KW
Wide beam
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)
## Technical Specifications

<table>
<thead>
<tr>
<th>Beam Type</th>
<th>Lamp Manufacturer &amp; Lamp Ref.</th>
<th>Lamp Manufacturer</th>
<th>Lamp: Abacus Product Code</th>
<th>Lampholder Type</th>
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<tr>
<td>AL5901 Narrow</td>
<td>Philips MHN-SA 2KW 400V/956</td>
<td>Osram</td>
<td>LPW2000M/HN-SA-XW UNP</td>
<td>K12s-7 WH UNP</td>
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<td>AL5902 Medium</td>
<td>Philips MHN-SB/HO 2KW 400V/956</td>
<td>Osram</td>
<td>LPW2000M/HN-SB K12s-7 WH UNP</td>
<td>K12s-7 WH UNP</td>
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<td>Philips MHN-SA 2KW 400V/956</td>
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<td>Philips MHN-SB/HO 2KW 400V/956</td>
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<td>Philips MHN-SA 2KW 400V/956</td>
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<td>LPW2000M/HN-SA-XW UNP</td>
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<td>Osram</td>
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<td>Osram</td>
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<td>AL5909 Wide</td>
<td>Philips MHN-SA 2KW 400V/956</td>
<td>Osram</td>
<td>LPW2000M/HN-SA-XW UNP</td>
<td>K12s-7 WH UNP</td>
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<td>AL5910 Extra</td>
<td>Philips MHN-SA 2KW 400V/956</td>
<td>Osram</td>
<td>LPW2000M/HN-SA-XW UNP</td>
<td>K12s-7 WH UNP</td>
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<td>AL5911 Narrow</td>
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<td>AL5912 Medium</td>
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<td>AL5914 Extra</td>
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<td>Osram</td>
<td>LPW2000M/HN-SA-XW UNP</td>
<td>K12s-7 WH UNP</td>
</tr>
</tbody>
</table>

### ELECTRONIC CONTROL GEAR AVAILABLE

Please request when quoting and ordering.

### Lamp references

- ![MHN-SA](image1.png)
- ![MHN-SB](image2.png)
- ![HQU-TS](image3.png)

<table>
<thead>
<tr>
<th>Lamp Manufacturer &amp; Lamp Ref.</th>
<th>Lamp Wattage</th>
<th>Colour Temp</th>
<th>RA:</th>
<th>Lamp Lumen Output: (Initial lm)</th>
<th>Lamp Current:</th>
<th>Supply Voltage</th>
<th>Total Circuit Power:</th>
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<tr>
<td>Philips MHN-SB 2000W/956</td>
<td>2kW</td>
<td>5600K</td>
<td>90</td>
<td>200,000 lm</td>
<td>11.5A</td>
<td>380/400/415V</td>
<td>2136W</td>
</tr>
<tr>
<td>Philips MHN-SB/HO 2000W/956</td>
<td>2kW</td>
<td>5600K</td>
<td>90</td>
<td>220,000 lm</td>
<td>11.5A</td>
<td>380/400/415V</td>
<td>2136W</td>
</tr>
<tr>
<td>MHN-SA 2000W/956</td>
<td>2kW</td>
<td>5600K</td>
<td>90</td>
<td>200,000 lm</td>
<td>11.3A</td>
<td>380/400/415V</td>
<td>2136W</td>
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<tr>
<td>Osram HQI-TS2000/D/S</td>
<td>2kW</td>
<td>5900K</td>
<td>93</td>
<td>200,000 lm</td>
<td>11.5A*</td>
<td>380/400/415V</td>
<td>2105W</td>
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<tr>
<td>HQI-TS1000/D/S</td>
<td>1kW</td>
<td>5900K</td>
<td>90</td>
<td>90,000 lm</td>
<td>9.4A</td>
<td>380/400/415V</td>
<td>1040W</td>
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</tbody>
</table>

*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 +/- 140º
No baffle in extra narrow version

Weight: 15kg. Front wind area: 0.196m²
at 70º elevation

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

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

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

1. AL5911
MHN-SA Pro 2kW
Narrow beam

2. AL5912
MHN-SB Pro 2kW
Medium beam

3. AL5913
MHN-SB Pro 2kW
Wide beam

4. AL5914
MHN-SB Pro 2kW
Extra narrow beam

Professional lighting systems to suit any project. Call 01623 518 333
The AAA-LUX range of innovative high powered LED floodlights is built with control, safety and security in mind. The AL-Series is designed for large area lighting in places such as ports and airports, whilst the high performance WS-Series focuses on sports lighting.

The technical capabilities underpinning this LED range allows ease of control, instant start up and variable switching using the AAA-LUX lighting control management system. This system is capable of dimming or switching all or select sections of a lighting application, lighting via fingertip control or use of sensors, with pre-programmed lighting scenes available including an emergency function which brings all lights up to 100% power. Use of the systems tracking and analytical ability allows designated personnel to optimise for best performance and cost effective performance in addition to implementing preventative maintenance.

**AL - Series**
- Large area lighting: ports, airports, car parks
- Mounting height between 12m and 45m
- Three illumination distributions: 60°, 90°, 180°

**AL360 - Series**
- Large area lighting: ports, airports, car parks
- Mounting height upto 25m
- Illumination distribution: 360°

**WS - Series**
- Sports floodlighting
- Six variations to suit
Aaa-Lux Control
management system

The system can be remotely monitored from a central location via computer. Wireless push button boxes or proximity sensors at entry gates can send information to the control box to activate the lights or alternatively smart devices can be used to give the same control. These signals are fed into the system and will activate the desired pre-programmed lighting scenes. In case of emergency, all lights can be switched to maximum at the central console.

The facility manager can analyse the energy consumption of the system, and optimise between lighting level and energy costs.

With a remote access module, an installer can access the system and inspect the luminaires and light management system. Based on luminaire data, maintenance can be scheduled.

Easy replacement

- Direct 400VAC connection
- Wireless control
- No complicated bracketry required

Electrically the luminaire will be connected to existing 400 VAC electrical installations. Even the existing light switches can remain in place. However, in case of new installation, cabling costs are significantly lower. First, the product has no in-rush of start-up current, resulting in a much simpler cabling layout and also, fuses can have a lower rating. Secondly, with the wireless control of the luminaires no extra control cabling is needed.

Energy saving -
Total-cost-of-ownership

- Dimmed to the right level
- Switched on when needed
- Short ROI

Conventional luminaires are based on Metal Halide (MH) or High Pressure Sodium (HPS) lamps. These sources have a start-up and cooling period and cannot be dimmed. Over lifetime these lamps suffer from significant lumen depreciation, which means that new installations over-illuminate the area every night by approximately 40%. Even areas with no activity, but camera surveillance only, are illuminated at full power with MH or HPS light sources. With the Aaa-Lux lighting management system luminaires are set at the requested illumination level.

Areas with no human activities are dimmed to camera level, increasing energy savings above 70%. Beside this, the projected 15 year lifetime reduces lamp replacements costs as well. In many cases, our TCO model calculates breakeven times below 3 years.

Professional lighting systems to suit any project. Call 01623 518 333
Benefits

- Wireless control simplifies operation for ease of use
- Centrally monitor and adjust power consumption
- Control system enables efficient planning of maintenance
- No re-lamping costs
- Instant startup allows the light to be switched on and off as and when required, thus saving energy costs by reducing power consumption from wasted light
- Flexible dimming to 10% for low use & security giving substantial energy savings over conventional HID lamps
- Increased system efficiency by reducing wasted light

Technical Features

- Controllable via smart devices, touch screen or wireless switch box
- Mounting height 12-45m
- Die cast aluminium polyester powder coated body with integrated heat sink and flexible bracket mount
- Lenses installed behind toughened flat glass to ensure maximum lense integrity
- High powered 1,375kW luminaire (AL60, AL90, AL180)
- High powered 0.69kW luminaire (AL700)
- Dimmable in accordance with EN12193
- Highly efficient optics

Lighting Control & AL-Series

When different zones of a site require full lighting levels and others need to be dimmed at different times through the dark hours, the dimmed zones can be brought back up to full lighting levels instantly for emergencies or to allow maximum dimming duration between working time of the zones. This saves energy, keeps running costs low and increases the level of site security.

<table>
<thead>
<tr>
<th>Lamp Wattage &amp; Power Consumption</th>
<th>Typical LED Module Qty</th>
<th>Voltage Output</th>
<th>Maximum Current</th>
<th>Power Factor (at max. power)</th>
<th>Colour Temp.</th>
<th>Colour Rendering (Ra)</th>
<th>Weight inc. bracket (kg)</th>
<th>Luminous Efficacy (lm/W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL60 1375W</td>
<td>8</td>
<td>400Vac</td>
<td>4A</td>
<td>&gt;0.98</td>
<td>5200K</td>
<td>&gt;80</td>
<td>28</td>
<td>103 Typical</td>
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<tr>
<td>AL90 690W</td>
<td>4</td>
<td>400Vac</td>
<td>2A</td>
<td>&gt;0.98</td>
<td>5200K</td>
<td>&gt;80</td>
<td>19</td>
<td>105 Typical</td>
</tr>
<tr>
<td>AL180 690W</td>
<td>4</td>
<td>400Vac</td>
<td>2A</td>
<td>&gt;0.98</td>
<td>5200K</td>
<td>&gt;80</td>
<td>19</td>
<td>105 Typical</td>
</tr>
</tbody>
</table>

Dimensions

- Dimensions in mm
- Connect bracket with M20 bolt

Key features

1. AL60 Lamp: 8 LED modules cd/klm C0 - C180 C190 - 270
2. AL90 Lamp: 8 LED modules cd/klm C0 - C180 C190 - 270
3. AL180 Lamp: 8 LED modules cd/klm C0 - C180 C190 - 270

Applications

- Large area lighting
- Large area car parks

Colours

- Black
Benefits
- Wireless control simplifies operation for ease of use
- Centrally monitor and adjust power consumption
- Control system enables efficient planning of maintenance
- No re-lamping costs
- Instant startup allows the light to be switched on and off as and when required, thus saving energy costs by reducing power consumption from wasted light
- Flexible dimming down to 10% for low use and security giving substantial energy savings over conventional HID lamps
- Increased system efficiency by reducing wasted light

Technical Features
- Controllable via smart devices, touch screen or wireless switch box

Lighting Control & AL360
When different zones of a site require full lighting levels and others need to be dimmed at different times through the dark hours, the dimmed zones can be brought back up to full lighting levels instantly for emergencies or to allow maximum dimming duration between working time of the zones. This saves energy, keeps running costs low and increases the level of site security.

<table>
<thead>
<tr>
<th>AL360</th>
<th>1375W</th>
<th>400Vac</th>
<th>4A</th>
<th>&gt;0.98</th>
<th>5200K</th>
<th>45°, 50°, 55°, 60°</th>
<th>&gt;80</th>
<th>28</th>
<th>105</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Lamp Wattage &amp; Power Consumption</td>
<td>Voltage Output</td>
<td>Maximum Current</td>
<td>Power Factor (at max. power)</td>
<td>Colour Temp.</td>
<td>Distribution (deg)</td>
<td>Colour Rendering (Ra)</td>
<td>Weight inc. bracket (kg)</td>
<td>Luminous Efficacy (lm/W)</td>
</tr>
</tbody>
</table>

Lighting Distribution
- 360° radial

Applications
- Large area lighting
- Large area car parks

Colours
- Black

Dimensions
Dimensions in mm

Key features
1. AL360-45, Lamp: 8 LED modules
2. AL360-50, Lamp: 8 LED modules
3. AL360-55, Lamp: 8 LED modules
4. AL360-60, Lamp: 8 LED modules
Benefits

• Wireless control simplifies operation for ease of use
• Centrally monitor and adjust power consumption
• Control system enables efficient planning of maintenance
• No re-lamping costs
• Instant startup allows the light to be switched on and off as and when required, thus saving energy costs by reducing power consumption from wasted light
• Flexible dimming down to 10% for low use and security giving substantial energy savings over conventional HID lamps
• Increased system efficiency by reducing wasted light

Technical Features

• Controllable via smart devices, touch screen or wireless switch box
• Mounting height 12-45m
• Die cast aluminium polyester powder coated body with integrated heat sink and flexible bracket mount
• Lenses installed behind toughened flat glass for maximum integrity of the lenses
• High powered 1.55kW luminaire (WS100 - WS301)
• High powered 0.775kW luminaire (WS400)
• Dimmable in accordance with EN12193
• Highly efficient optics

Lighting Distribution

• The AAA-LUX WS-series of LED luminaires offers a variety distribution options to suit individual requirements

Applications

• Sports Lighting

Colour

Black

Lighting control & WS-Series

Using a pitch side control box, smart device, sensors or a computer based in house, individual courts or areas can be switched on and others dimmed or switched off, with the ability to switch lighting to full power instantly to allow for unexpected use or for a maximum energy saving between uses of the sport pitches or courts with little downtime.
Dimensions

Dimensions in mm

<table>
<thead>
<tr>
<th>Lamp Wattage &amp; Power Consumption</th>
<th>Typical LED Module Qty</th>
<th>Voltage Output</th>
<th>Maximum Current</th>
<th>Power Factor (at max. power)</th>
<th>Colour Temp.</th>
<th>Colour Rendering (Ra)</th>
<th>Weight inc. bracket (kg)</th>
<th>Luminous Efficacy (lm/W)</th>
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<tbody>
<tr>
<td>WS100</td>
<td>8</td>
<td>400Vac</td>
<td>4.5A</td>
<td>&gt;0.98</td>
<td>5200K</td>
<td>&gt;80</td>
<td>28</td>
<td>106 Typical</td>
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<td>WS150</td>
<td>8</td>
<td>400Vac</td>
<td>4.5A</td>
<td>&lt;0.98 (at max. power)</td>
<td>5200K</td>
<td>&gt;80</td>
<td>28</td>
<td>106 Typical</td>
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<td>WS200</td>
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<td>400Vac</td>
<td>2.3A</td>
<td>&gt;0.98</td>
<td>5200K</td>
<td>&gt;80</td>
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<td>106 Typical</td>
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<td>WS250</td>
<td>8</td>
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<td>&gt;0.98</td>
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<tr>
<td>WS301</td>
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<td>WS400</td>
<td>4</td>
<td>400Vac</td>
<td>1.9A</td>
<td>&gt;0.98</td>
<td>5200K</td>
<td>&gt;80</td>
<td>19</td>
<td>106 Typical</td>
</tr>
</tbody>
</table>

Key features

1. **WS100**
   - Lamps: 8 LED modules
   - cd/km: C0 - C180, C190 - 270

2. **WS150**
   - Lamps: 8 LED modules
   - cd/km: C0 - C180, C190 - 270

3. **WS200**
   - Lamps: 8 LED modules
   - cd/km: C0 - C180, C190 - 270

4. **WS250**
   - Lamps: 8 LED modules
   - cd/km: C0 - C180, C190 - 270

5. **WS301**
   - Lamps: 8 LED modules
   - cd/km: C0 - C180, C190 - 270

6. **WS400**
   - Lamps: 4 LED modules
   - cd/km: C0 - C180, C190 - 270

Connect bracket with M20 bolt
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

<table>
<thead>
<tr>
<th>Lamp wattage and type</th>
<th>Lamp holder</th>
<th>Description</th>
<th>Max Weight (kg)*</th>
<th>Windage (m²)</th>
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<tbody>
<tr>
<td>AL5216 400/600/1000W SON-T</td>
<td>E40</td>
<td>Double Asymmetric Medium</td>
<td>11.2</td>
<td>0.2</td>
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<tr>
<td>AL5217 400/600/1000W HQI-T</td>
<td>E40</td>
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<td>11.2</td>
<td>0.2</td>
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<tr>
<td>AL5218 400/600/1000W SON-T</td>
<td>E40</td>
<td>Double Asymmetric Wide</td>
<td>11.2</td>
<td>0.2</td>
</tr>
<tr>
<td>AL5219 400/600/1000W HQI-T</td>
<td>E40</td>
<td></td>
<td>11.2</td>
<td>0.2</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Lamp wattage and type</th>
<th>Lamp holder</th>
<th>Description</th>
<th>Weight (kg)*</th>
<th>Windage (m²)</th>
</tr>
</thead>
<tbody>
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<td>AL5401 2 x 400W SONP-T/HQI-T</td>
<td>E40</td>
<td>Narrow Beam</td>
<td>21.0</td>
<td>0.5</td>
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<tr>
<td>AL5402 2 x 400W SONP-T/HQI-T</td>
<td>E40</td>
<td>Medium Beam</td>
<td>21.0</td>
<td>0.5</td>
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<tr>
<td>AL5403 1000W SONP-T/HQI-T</td>
<td>E40</td>
<td>Narrow Beam</td>
<td>21.0</td>
<td>0.5</td>
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<tr>
<td>AL5404 1000W SONP-T/HQI-T</td>
<td>E40</td>
<td>Medium Beam</td>
<td>21.0</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Dimensions

Mounting:
Stirrup mounted using M20 fixing. Stirrup adjustment +/- 10°

Key features

AL5401
2x400W SON-T
Narrow beam

AL5402
2x400W SON-T
Medium beam
Benefits

• Luminaire body is treated to guarantee high corrosion resistance, thus lengthening the life span of the lantern body

• Aesthetic styling suitable for architectural and commercial locations

• 50° high grade performance reflector available to give highly efficient light output

Technical Features

• IP66 and IK08 rated

• Class I as standard, Class II available on select ranges upon request

• Three beam types available: Asymmetric, Double Asymmetric, Symmetric

• Options for beam widths available for each beam type

• Die cast aluminium body and front frame, degreased and phosphor chromate treated with surface protection coat and polyester powder coating

• Double goniometric scale for ease of vertical aiming on site

• Anti-aging silicon rubber gasket

• Tempered glass with high temperature thermal shock, mechanically fixed into the frame

• Pressure compensation filter on the body

• Stirrup mounting or 60mm diameter post mount

• Access options: Hexagon stainless steel screws, or tool-less access by stainless steel securing clip. State on order

• Multiple light source options available (LED)

Applications

• Area

• Sport

Colour

Light Grey

Dimensions

Body Type 4
AL5047, AL5042, AL5045, AL5043, AL5046, AL5086/P, AL5080/S

Body Type 5
AL5057, AL5052, AL5055, AL5058, AL5053, AL5066/P, AL5090/S

Dimensions in mm
Key features

1. Symmetric Body 5

Vertical          Horizontal

![Graphs showing light distribution](image1)

AL5057 400W MBI E40
AL5057 250W MBI E40
AL5057 400W SONP-T E40

2. Asymmetric Body 5

Vertical          Horizontal

![Graphs showing light distribution](image2)

AL5058 400W MBI E40 Narrow with Baffle
AL5052 400W MBI E40 Wide
AL5055 400W MBI E40 Medium
AL5055 400W SONP-T E40 Medium

3. Double Asymmetric Body 5

Vertical          Horizontal

![Graphs showing light distribution](image3)

AL5056 400W MBI E40 Medium
AL5056 400W MBI E40 Medium with louvres
AL5053 400W MBI E40 Wide
AL5056 400W SONP-T E40 Medium

4. Street Optics Body 5

Vertical          Horizontal

![Graphs showing light distribution](image4)

AL5090/S 250W SONP-T E40 15°
AL5090/S 400W SONP-T E40 5°
AL5090/S 150W SONP-T E40 30°
AL5090/S 150W SONP-T E40 25°

5. Path Optics Body 4

Vertical          Horizontal

![Graphs showing light distribution](image5)

AL5080/P 140W Cosmo PGZ12 25°
AL5080/P 70W SONP-T E27 25°
AL5080/P 150W SONP-T E40 10°
AL5080/P 60W Cosmo PGZ12 5°

Professional lighting systems to suit any project. Call 01623 518 333
## Technical Specifications

<table>
<thead>
<tr>
<th>Lamp Wattage</th>
<th>Light Source</th>
<th>Lamp Holder</th>
<th>Conventional Ballast</th>
<th>Electronic Ballast Available (E)</th>
<th>Body Type</th>
<th>Light Distribution Type</th>
<th>Weight (kg)</th>
<th>Wind Area (m²)</th>
<th>Mount</th>
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<tbody>
<tr>
<td>100W</td>
<td>MBI, SONP-T</td>
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</table>
Benefits

- Maximum glare control allows for mounting indoors or at lower height to avoid glare for site users
- Aesthetic styling suitable for architectural and commercial locations

Technical Features

- IP66 and IK08 rated
- Class I as standard, Class II available on select ranges upon request
- Class I has surge protection fitted, up to 10kV protection
- Body 4 & 5 consist of a symmetrical distribution with 3 beam widths
- Body 8 & 9 consist of street lighting optics
- Multiple wattages available in all versions
- Programmable drivers available on selected versions
- Die cast aluminium and front frame, degreased and phosphor chromate treated with surface protection coat & polyester powder coating
- Double goniometric scale for ease of vertical aiming on site for body styles 4 & 5
- Tempered glass with high temperature thermal shock resistance, mechanically fixed into the frame
- Pressure compensation filter on the body
- High efficiency metalised polycarbonate vacuum formed reflectors
- Power correction factor >0.90
- Stirrup for bodies 4 & 5
- 60 or 76mm diameter post mount for bodies 8 & 9
- Access options: Hexagon stainless steel screws, or tool-less access by stainless steel securing clip. State on order
- Bodies 4 & 5 come with Multichip Philips Luxeon M LEDs
- Bodies 8 & 9 come with Luxeon T e or Cree XM-L2 LEDs

Applications

- Area
- Sport

Colour

- Light Grey

Floodlighting Trent 2 LED AL5500

Professional lighting systems to suit any project. Call 01623 518 333
Dimensions

Dimensions in mm

Key features

1. Symmetric Body 4

   | AL5541 30° | AL5542 60° | AL5544 80° |
   | Vertical   | Horizontal | Vertical   |

2. Symmetric Body 5

   | AL5551 30° | AL5552 60° | AL5554 80° |
   | Vertical   | Horizontal | Vertical   |

3. Street Optic Body 8

   | AL5580 15° |

4. Street Optic Body 9

   | AL5590 15° |
## Technical Specifications

<table>
<thead>
<tr>
<th>AL5541</th>
<th>Wattage (Total Inc. Driver)</th>
<th>Number of LEDs</th>
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<th>Lumen Output (lm)</th>
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<th>CCT &amp; CRI</th>
<th>Fixed Current Driver</th>
<th>Program- mable Driver</th>
<th>Running Current</th>
<th>Symmetrical Beam Width</th>
<th>Body Type</th>
<th>Weight (kg)</th>
<th>Weight (n2)</th>
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<td>13kg</td>
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**LIGHT DISTRIBUTION TYPE:** Symmetric

**MOUNT:** Stirrup or wall mount

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<th>Fixed Current Driver</th>
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<td></td>
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<td>N</td>
<td>8</td>
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<td>10.83kg</td>
<td>0.083</td>
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<td>13kg</td>
<td>14.25kg</td>
<td>0.112</td>
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</tr>
</tbody>
</table>

**LIGHT DISTRIBUTION TYPE:** Street Optic

**MOUNT:** Spigot or wall mount
Benefits

- Maximum glare control allows for mounting indoors or at a lower height to avoid glare for site users
- Aesthetic styling suitable for architectural and commercial locations
- Reduces maintenance risks with a knife switch to interrupt the power feed upon opening

Technical Features

- IP66 and IK08 rated
- Class I as standard, protected against surges up to 10kV
- Asymmetrical lighting distribution
- Available in four distribution angles
- Available in two body sizes
- Multiple wattages available in the 16 LED and 20 LED versions
- Programmable drivers on selected versions
- Die-cast aluminium body and front frame in polyester powder coating
- Galvanized steel bracket
- Extra-clear 4mm thick tempered glass
- Power correction factor >0.90
- Philips LUMILEDS LUXEON M MULTICHIP LEDs
- Mounted on a pressed aluminium circuit, highly heat dissipating Metal Core Printed Circuit Board
- Compliant with EN 60598-1 and EN 60598-2-5
- Photobiological Risk Group exempt based on EN62471
- Multiple light source options available (LED)

Applications

- Area
- Sport

Colour

- Light Grey

Dimensions

Dimensions in mm
Technical Specifications

<table>
<thead>
<tr>
<th>Wattage (Total Inc. Driver)</th>
<th>Number of LEDs</th>
<th>Nominal Lumen Output (lm)</th>
<th>Lumen Output (lm)</th>
<th>CCT &amp; CRI</th>
<th>Fixed Current Driver</th>
<th>Programmable Driver</th>
<th>Running Current</th>
<th>Beam Width</th>
<th>Body Type</th>
<th>Weight (kg)</th>
<th>Wind Area (m²)</th>
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<tbody>
<tr>
<td>AL5545 78W 12</td>
<td>10900</td>
<td>8600</td>
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<td>4</td>
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<td>0.077</td>
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<td>0.087</td>
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<td>0.087</td>
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<td>0.087</td>
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<td>14.4kg</td>
<td>0.087</td>
<td></td>
<td></td>
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</tbody>
</table>

**LIGHT DISTRIBUTION TYPE:** Double Asymmetric

**MOUNT:** Stirrup or wall mount

**Key features**

1. Body 4 45° Wide
2. Body 4 45°
3. Body 4 55°
4. Body 4 60°
5. Body 5 45° Wide
6. Body 5 45°
7. Body 5 55°
8. Body 5 60°

Professional lighting systems to suit any project. Call 01623 518 333
Benefits
• Vertical orientation indicator allows for ease of elevating
• Smart and compact styling suitable for smaller applications and indoor areas allowing for use across areas
• Three reflector options to adapt to wide range of applications or for use in areas requiring varied lighting for a consistent aesthetic

Technical Features
• IP67 and IK08 rated
• Class I as standard, Class II available on select ranges of body type 3 upon request
• Electronic ballast versions available.
• Available in 3 beam types: Double Asymmetric, Asymmetric and Symmetric
• Options of beam widths for most types of lamp
• Die cast aluminium body and front frame
• Galvanised and painted steel bracket with vertical orientation indicator
• Anti-aging silicon rubber gasket
• Tempered front glass sealed to the front cover
• Multiple light source options available

Applications
• Area

Colours
- Black
- Titanium
- Silver

Dimensions
Dimensions in mm

Body Type 6
AL5364, AL5367, AL5362, AL5365, AL5363, AL5366

Body Type 7
AL5377, AL5372, AL5375, AL5373, AL5376
<table>
<thead>
<tr>
<th>Model</th>
<th>Lamp Wattage</th>
<th>Light Source</th>
<th>Lamp Holder</th>
<th>CCT</th>
<th>Conventional Ballast Available (%)</th>
<th>Electronic Ballast</th>
<th>Body Type</th>
<th>Light Distribution Type</th>
<th>Weight (kg)</th>
<th>Wind Area (m²)</th>
<th>Mount</th>
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</thead>
<tbody>
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<td>AL5364</td>
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<td>N</td>
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<td>Symmetric Medium</td>
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</tr>
<tr>
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<td>MBI</td>
<td>G12</td>
<td>3000</td>
<td>N</td>
<td>Y</td>
<td>6</td>
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<td>0.056</td>
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<td>MBI</td>
<td>G12</td>
<td>3000</td>
<td>Y</td>
<td>N</td>
<td>6</td>
<td>Asymmetric Medium</td>
<td>4.101kg</td>
<td>0.056</td>
<td>Stirrup or Wall Mount</td>
</tr>
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<td>G12</td>
<td>3000</td>
<td>Y</td>
<td>N</td>
<td>6</td>
<td>Asymmetric Medium</td>
<td>4.101kg</td>
<td>0.056</td>
<td>Stirrup or Wall Mount</td>
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<tr>
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<td>MBI</td>
<td>G12</td>
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<td>Y</td>
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<td>Asymmetric Medium</td>
<td>4.101kg</td>
<td>0.056</td>
<td>Stirrup or Wall Mount</td>
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<td>3000</td>
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<td>N</td>
<td>6</td>
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<td>0.056</td>
<td>Stirrup or Wall Mount</td>
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<td>MBI</td>
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<td>3000</td>
<td>Y</td>
<td>N</td>
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<td>Asymmetric Medium</td>
<td>4.101kg</td>
<td>0.056</td>
<td>Stirrup or Wall Mount</td>
</tr>
</tbody>
</table>

Professional lighting systems to suit any project. Call 01623 518 333 93
**Benefits**

- Design of optics gives maximum glare control and visual comfort for use at lower levels or in sporting applications where low height or indoor areas are to be lit.
- Vertical orientation indicator allows for ease of elevating allowing for adaptability and quick adjustment to be undertaken during installation and maintenance.

**Technical Features**

- IP67 and IK08 rated
- Class I
- RGB LED version with 4 pre-programmed light scenes, with 12 variations available, with light intensity dimming to 25%, 50% and 75%. A master unit controls up to 30 slave units to programme scenes by remote control.
- Die cast aluminium body and front frame.
- Galvanised and painted steel bracket with vertical orientation indicator with stainless steel external screws.
- Anti-aging silicon rubber gasket.
- Extra-clear tempered 4mm thick glass sealed to the front cover.
- Standard LED and RGB versions available, multiple wattages available in two body sizes.
- Multiple light source options also available.
- Power correction factor >0.90.
- High efficiency metalised polycarbonate vacuum formed reflectors (none RGB version).
- LED types are mounted on a pressed aluminium circuit, highly heat dissipating Metal Core Printed Circuit Board.
- Surge protection fitted, up to 6kV protection, option of 10kV.
- Photobiological Risk Group exempt based on EN62471.

**Applications**

- Area

**Colour**

- Light grey

**Dimensions**

Dimensions in mm:

<table>
<thead>
<tr>
<th>Body Type 6</th>
<th>Body Type 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL5380</td>
<td>AL5381</td>
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</table>

- **Body Type 6**
  - 220 mm
  - 106 mm
  - 62 mm
  - ø10.5 mm

- **Body Type 7**
  - 246 mm
  - 116 mm
  - 62 mm
  - ø10.5 mm

**FLOODLIGHTING MURA 2 LED AL5300**

IP67 IK08 CE

Body Type 6 Standard LED

Body Type 7 Standard LED

Body Type 7 RGB LED Symmetric
<table>
<thead>
<tr>
<th>Wattage (Total inc. Driver)</th>
<th>Number of LEDs</th>
<th>LED Nominal Lumens (lm)</th>
<th>Luminaire Nominal Lumen Output (lm)</th>
<th>L80 (Hours) Ta=25°C</th>
<th>CCT &amp; CRI</th>
<th>Fixed Current Driving</th>
<th>Programmable Driver</th>
<th>Running Current</th>
<th>Symmetrical Beam Width</th>
<th>Body Type</th>
<th>Weight (kg)</th>
<th>Wind Area (m²)</th>
<th>Mount</th>
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<tbody>
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<td>40°</td>
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<td>4000K / &gt;70 CRI</td>
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<td>700mA</td>
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<td>7</td>
<td>4.75kg</td>
<td>0.075</td>
<td>Stirrup</td>
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</table>

Light Distribution Type: Symmetrical (AL5380, AL5381)
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 (IEE 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.

<table>
<thead>
<tr>
<th>Application</th>
<th>Lighting Level</th>
<th>Uniformity</th>
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</thead>
<tbody>
<tr>
<td>Safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safe pedestrian movement, Revealing obstacles and scene irregularities</td>
<td>1 Lux (min)</td>
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</tr>
<tr>
<td>For safe facial recognition (friend or foe)</td>
<td>5 Lux (ave)</td>
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</tr>
<tr>
<td>Outdoor Car Parks (ref: BS 5489-1:2003+A2:2008)</td>
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<td></td>
</tr>
<tr>
<td>Light traffic: Shop parking areas, housing, cycle parks</td>
<td>5 Lux (ave)</td>
<td>Uo = 0.25</td>
</tr>
<tr>
<td>Medium traffic: Parking at major stores, office buildings, sports and multi-purpose building complexes</td>
<td>10 Lux (ave)</td>
<td>Uo = 0.25</td>
</tr>
<tr>
<td>Heavy traffic: Parking areas at schools, churches, major sports and multi-purpose building complexes</td>
<td>20 Lux (min)</td>
<td>Uo = 0.25</td>
</tr>
<tr>
<td>Open Footbridges, Stairways &amp; Ramps (ref: BS 5489-1:2003+A2:2008)</td>
<td>30 Lux (ave)</td>
<td>Uo = 0.5</td>
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</tbody>
</table>

Uo=Emin/Eave. These are guidelines only.
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.

<table>
<thead>
<tr>
<th>Application</th>
<th>Lighting Level</th>
<th>Uniformity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Safety &amp; Security</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very low risk: occasional light traffic areas</td>
<td>5 Lux (ave)</td>
<td>Uo = 0.25</td>
</tr>
<tr>
<td>Low risk: General lighting – occasional use</td>
<td>10 Lux (ave)</td>
<td>Uo = 0.40</td>
</tr>
<tr>
<td>Medium risk: Storage areas with frequent traffic</td>
<td>20 Lux (ave)</td>
<td>Uo = 0.40</td>
</tr>
<tr>
<td>High risk: Operational areas requiring high levels of safety</td>
<td>50 Lux (ave)</td>
<td>Uo = 0.40</td>
</tr>
<tr>
<td><strong>Industrial Sites &amp; Storage Areas</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short term handling of large units and raw materials.</td>
<td>20 Lux (ave)</td>
<td>Uo = 0.25</td>
</tr>
<tr>
<td>Continuous handling of large units and raw materials. Loading and unloading of freight; open loading platforms</td>
<td>50 Lux (ave)</td>
<td>Uo = 0.40</td>
</tr>
<tr>
<td>Reading documents; using tools</td>
<td>100 Lux (ave)</td>
<td>Uo = 0.50</td>
</tr>
<tr>
<td>Demanding work; machine operation, inspection</td>
<td>200 Lux (ave)</td>
<td>Uo = 0.50</td>
</tr>
<tr>
<td><strong>General Circulation Areas</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pedestrian walkways</td>
<td>5 Lux (ave)</td>
<td>Uo = 0.25</td>
</tr>
<tr>
<td>Slow moving traffic areas</td>
<td>10 Lux (ave)</td>
<td>Uo = 0.40</td>
</tr>
<tr>
<td>Regular traffic areas</td>
<td>20 Lux (ave)</td>
<td>Uo = 0.40</td>
</tr>
<tr>
<td>Pedestrian use, turning vehicles, loading and unloading points</td>
<td>50 Lux (ave)</td>
<td>Uo = 0.40</td>
</tr>
</tbody>
</table>

Please refer to BS EN 12464-2:2007 or CIE S 015E:2005 for a wider range of application guidance

These are guidelines only

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.
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](http://www.abacuslighting.com)
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.
OUR SERVICES

INSTALLATION & MAINTENANCE
FROM THE PROFESSIONALS

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 RISQS 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
Our Profile

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 over 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.

www.abacuslighting.com

Installation & Maintenance

Maintenance Elements designed around you

Abacus Maintenance Elements can be applied to a wide variety of applications:

- Sports lighting systems
- Retail parks & amenity lighting
- Airport, port & industrial high mast floodlighting
- Railway lighting
- Hinged & fixed masts
- High masts with lowering headframes
- Fixed masts with & without ladders
- Anything else? Give us a call

To find out more about Abacus Maintenance Elements, call +44 (0)1623 518 316 or visit our website, www.abacuslighting.com
Conditions of sale
All goods supplied are subject to the company's general conditions of sale which are available on request.

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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