

Abacus[®]
Leaders in Lighting

THE COMPLETE PRODUCT RANGE FROM THE LEADERS IN EXTERIOR LIGHTING

EXTERIOR LIGHTING

LIGHTING THE WORLD BEYOND EXPECTATION



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

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

For 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



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Our standards

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


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



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



IP rating
This indicates the level of ingress against moisture or dust. The first digit shows you the dust protection, and the second the moisture protection.



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





FIRST CHOICE FOR RETAIL

THE NEXT STEP

Following Abacus's success with our specially designed Orion series, the Orion LED is the next step for effective and efficient car park lighting.

Using a similar design, the Orion LED produces a square distribution which reduces the number of lighting points needed, whilst the total energy consumption is also reduced with more energy efficient LEDs.

Influenced by the Orion family, the slender design subtly blends into the skyline with its white canopy and carefully placed LED modules which result in less than 1% upward light output ratio.

How can we help you today?



ORION LED AL4500



Benefits

- Asymmetrical beam distribution ideal for boundary mounting location to reduce overspill and wasted light
- Symmetrical beam distribution ideal for wide column spacings whilst maintaining light uniformity

Technical Features

- IP66 rated
- Available in symmetrical and asymmetrical beam distributions
- Acrylic bowl and white polyester powder coated acrylic top canopy as standard
- 3mm thick aluminium LED mounting plate
- Die-cast aluminium top cap heat sink
- Die-cast aluminium spigot
- LEDs are covered by lenses with an outer bowl on the main fitting
- Harvard CLH150-1000S2A-305-B drivers
- Cree XPL LEDs
- L70 Hrs >60000
- L80 Hrs >60000
- Running current 1000mA
- Less than 1% upward light output ratio

- Colour rendering 77 (Ra)
- Colour temperature 4000K as standard
- Drivers located remotely
- Weight: 18.2kg
- Windage: 0.178m²

Applications

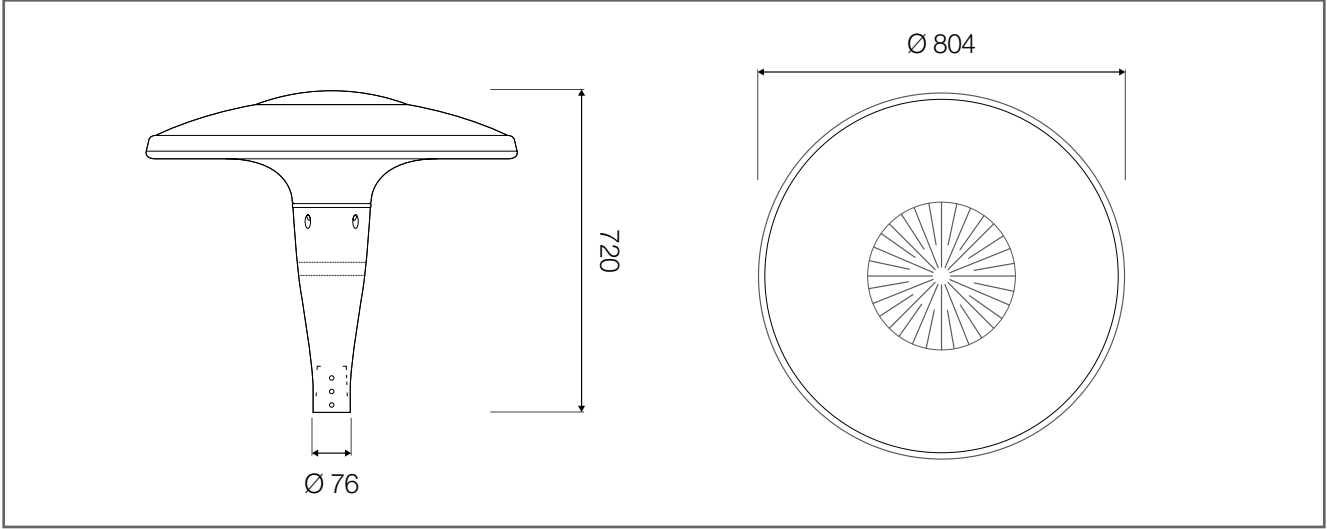
- Amenity
- Car park

Colour

- White canopy



Key features



All dimensions are in mm.

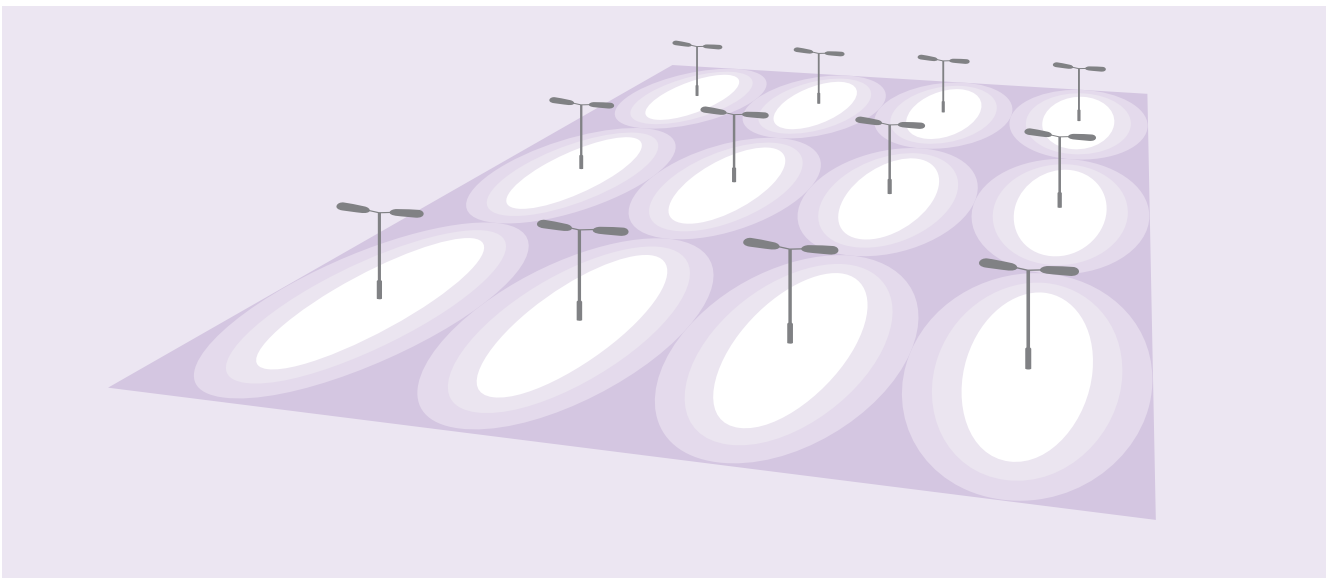
	Wattage (W)	Distribution	No. of LED Modules	Lumen Output (lm)	Power Factor	Luminous Efficacy (lm / W)	Running Current (mA)	No. of Drivers *
AL4501	302	Symmetric	8	32036	0.994	106	1000	2
AL4502	231.6	Asymmetric	6	24795	0.989	107	1000	2
AL4503	153.8	Symmetric	4	16946	0.994	110	1000	1
AL4504	117	Asymmetric	3	12723	0.990	109	1000	1
AL4505	172.5	Asymmetric	6	19426	0.961	111	1000	1

*Drivers: Harvard CLH150-1000S2A-305-B

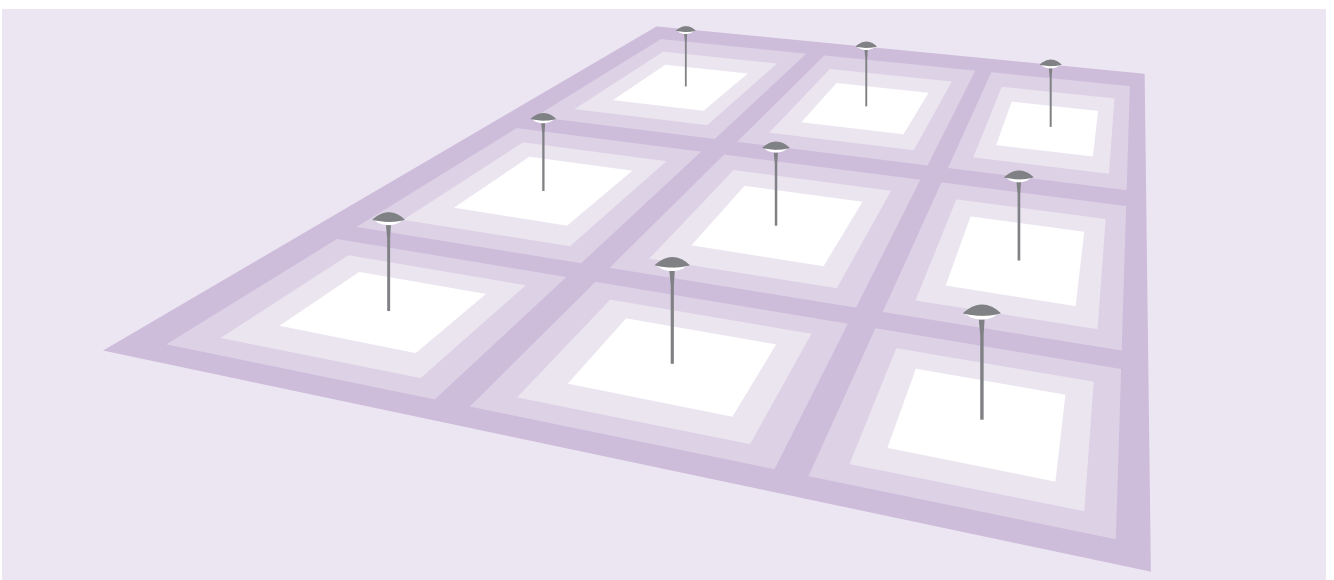
Orion LED distribution

Fitting	No. of Columns	No. of Luminaires	Mounting Height (m)	Average Lux Level (Lux)	Uniformity	Total Energy Consumption (W)	Power Density
Road Lantern	12	24	8	25.47	0.33	6.000	0.600W/m ² /25 Lux
Orion LED	9	9	8	25.19	0.26	2.682	0.268W/m ² /25 Lux

Using back-to-back road lanterns mounted at 8m to achieve 25 Lux average, total energy consumption is 6000 Watts



Using Orion LED mounted at 8m achieving 25 Lux average, total energy consumption drops to 2682 Watts



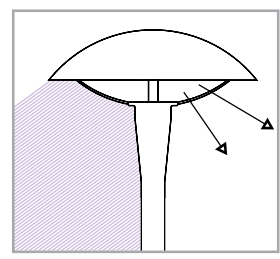


OPTIMUM REFLECTOR STORY

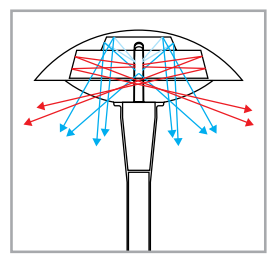
Optimum Reflector System

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

The energy effectiveness of the Optimum Reflector 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 25 Lux from either 6m, 8m or 12m with a minimum uniformity of 0.25 Emin/Eave.

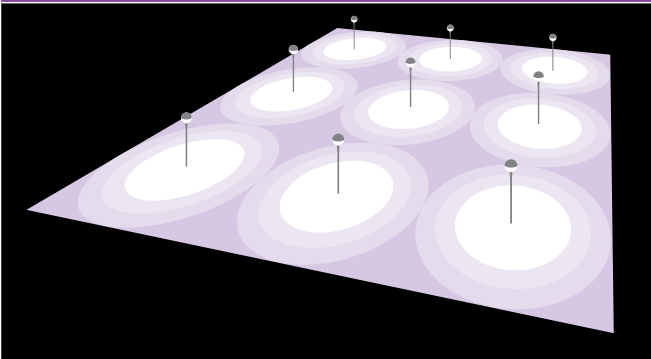


Shade
Asymmetric version, with internal 120° shield to restrict overspill

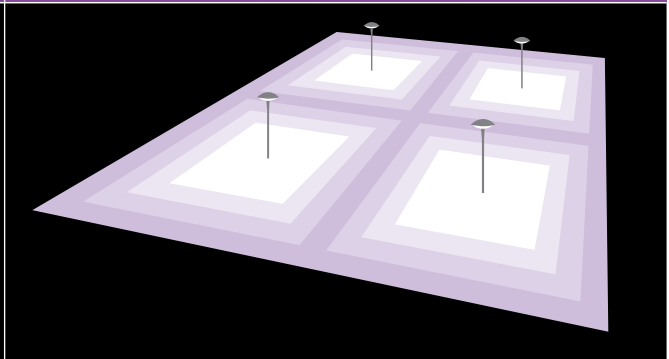


Optimum Reflector System
- Upper Reflector Tier for diffused reflection
- Lower Reflector Tier for main beam

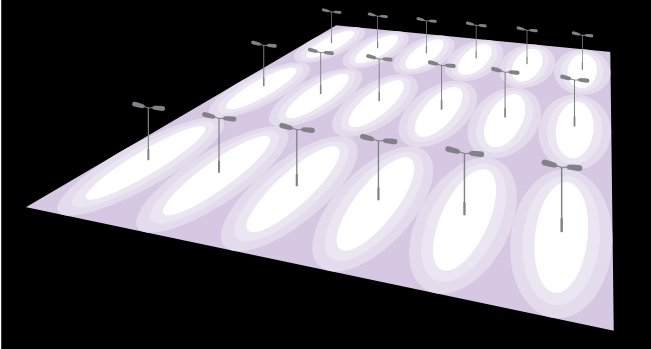
CONVENTIONAL REFLECTOR SYSTEMS OPTIMUM REFLECTOR SYSTEM



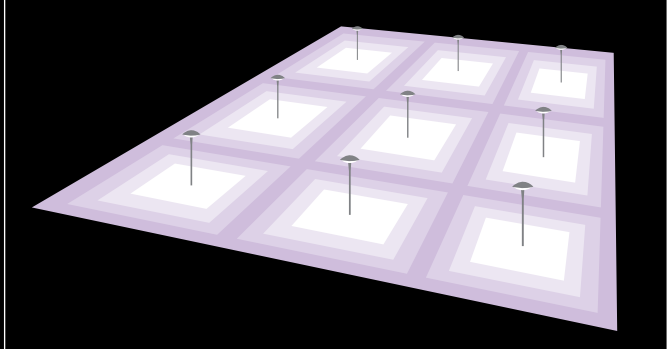
9 x Lanterns at 12m: 1 x 400W SON-T
Energy Consumption: 3.87kW Power Density: 0.36W/m²/25 Lux
Cable lengths: 390m Columns/Foundation: 9



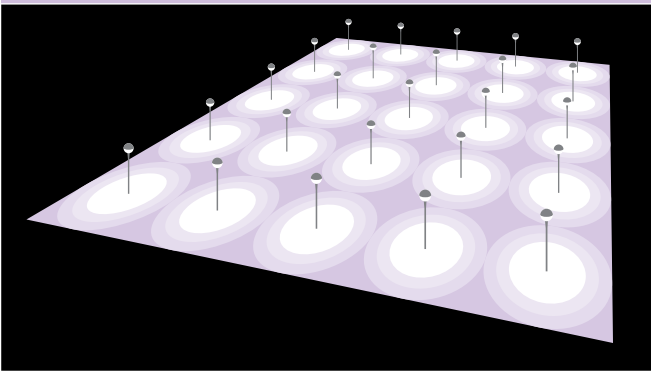
4 x Orion at 12m: 2 x 400W SON-T
Energy Consumption: 3.44kW Power Density: 0.33W/m²/25 Lux
Cable lengths: 260m Columns/Foundation: 4



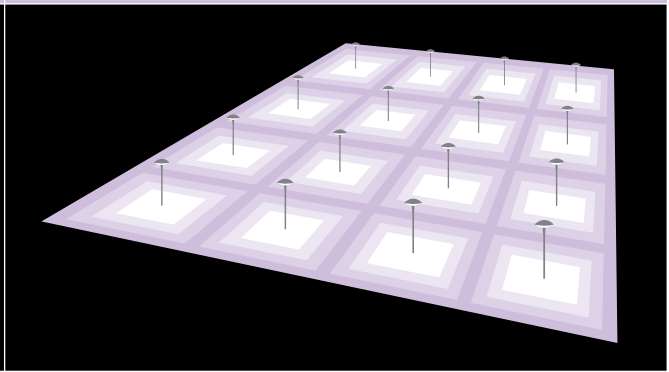
18 x Twin Road Lanterns at 8m: 2 x 150W SON-T
Energy Consumption: 5.4kW Power Density: 0.50W/m²/25 Lux
Cable lengths: 550m Columns/Foundation: 18



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



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



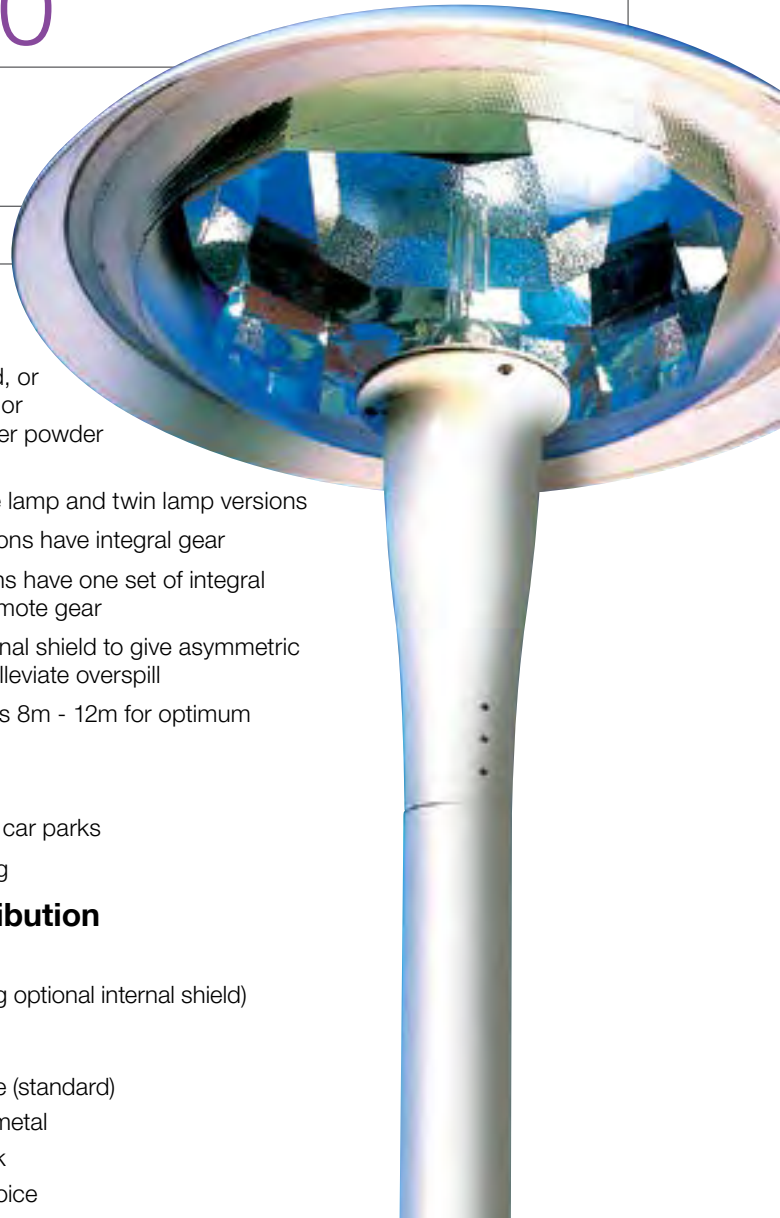
16 x Orion 3 at 6m: 250W SON-T
Energy Consumption: 4.14kW Power Density: 0.38W/m²/25 Lux
Cable lengths: 620m Columns/Foundation: 16

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

ORION AL4000



Optimum Reflector System Patent No. 1151226



Benefits

- A great solution for large areas requiring even light distribution
- You'll need fewer lighting points, thanks to the efficiency and uniformity of square illuminance distribution combined with a twin 400W lamp capacity
- Fewer lighting points mean you save on installation and maintenance costs – there'll be less cable, gear, lamp replacement, power consumption and waste
- Provide low light pollution < 1% ULOR, so they're dark skies friendly
- Twin lamp facility offers half output and security during off-peak hours

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)

- Both canopy and spigot come in white as standard, or available in black or gunmetal polyester powder coating
- Available in single lamp and twin lamp versions
- Single lamp versions have integral gear
- Twin lamp versions have one set of integral and one set of remote gear
- Option of an internal shield to give asymmetric distribution and alleviate overspill
- Mounting height is 8m - 12m for optimum performance

Applications

- Retail and leisure car parks
- Large area lighting

Lighting distribution

- Square
- Asymmetric (using optional internal shield)

Colours

- RAL9003 White (standard)
 - RAL9007 Gunmetal
 - RAL9005 Black
- or to customers' choice

	No. of Lamps	Wattage (W)	Lamp Type	Lamp Holder	Description	Weight (kg) *	Windage (m²)
AL4001	1	150 / 250 / 400	SONP-T	E40	Square distribution, integral gear	24.3	0.286
	1	250 / 400 / 450	HQI-T				
AL4002	1	150 / 250 / 400	SONP-T	E40	Asymmetric distribution, integral gear	25.8	0.286
	1	250 / 400 / 450	HQI-T				
AL4003	2	150 / 250 / 400	SONP-T	E40	Square distribution, control gear (1 integral, 1 loose)	24.8	0.286
	2	250 / 400	HQI-T				
AL4004	2	150 / 250 / 400	SONP-T	E40	Asymmetric distribution, control gear (1 integral, 1 loose)	26.3	0.286
	2	250 / 400	HQI-T				
AL4005	1	150 / 250 / 400 / 600	SONP-T	E40	Square distribution, remote control gear	19.8	0.286
	1	250 / 400 / 450	HQI-T				
AL4006	1	150 / 250 / 400 / 600	SONP-T	E40	Asymmetric distribution, remote control gear	21.3	0.286
	1	250 / 400 / 450	HQI-T				
AL4007	2	150 / 250 / 450	SONP-T	E40	Square distribution, remote control gear	20.3	0.286
	2	250 / 400	HQI-T				
AL4008	2	150 / 250 / 400	SONP-T	E40	Asymmetric distribution, remote control gear	21.8	0.286
	2	250 / 400	HQI-T				

*Max in range.

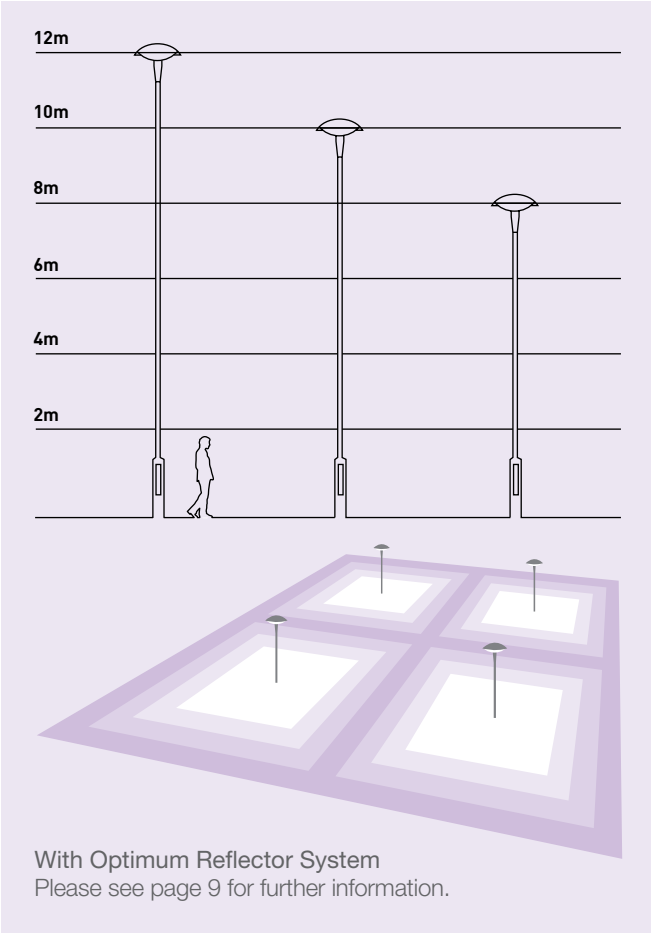
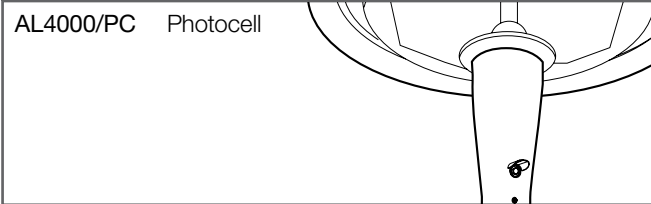


Column options

Choose between fixed and base-hinged

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

Accessories



Spotlight on Orion

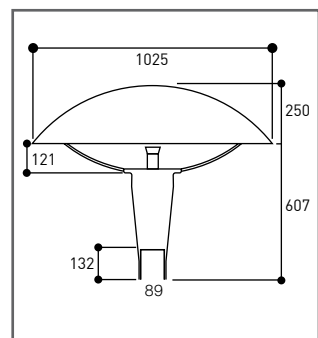
Since its introduction the Orion has set the standard internationally for combining high lighting levels and excellent uniformity in large car parks and amenity areas. Its twin parallel lamp solution also gives customers the option of half lighting levels at low usage times, without compromising on uniformity.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



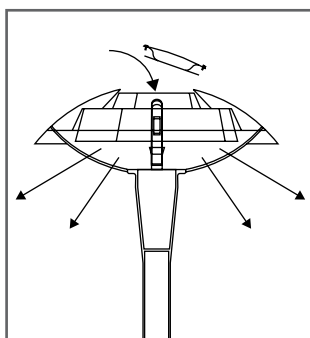
Morrisons were able to use fewer lighting columns thanks to the Orion's high levels of performance and control of overspill. This, in turn, reduced running costs, infrastructure and maintenance. The result is a safe environment for customers that keeps light pollution to a minimum.



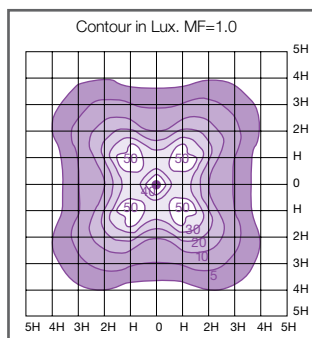
Key features



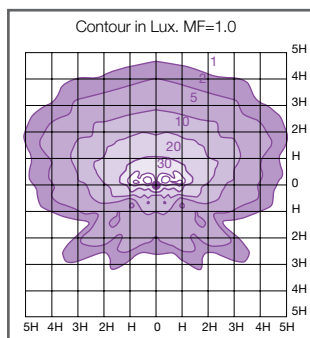
Dimensions & Mounting
Direct spigot entry onto 89mm diameter column shafts
Mounting height: 8m – 12m



Maintenance
Removable top cap for lamp access via ¼ turn fasteners



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



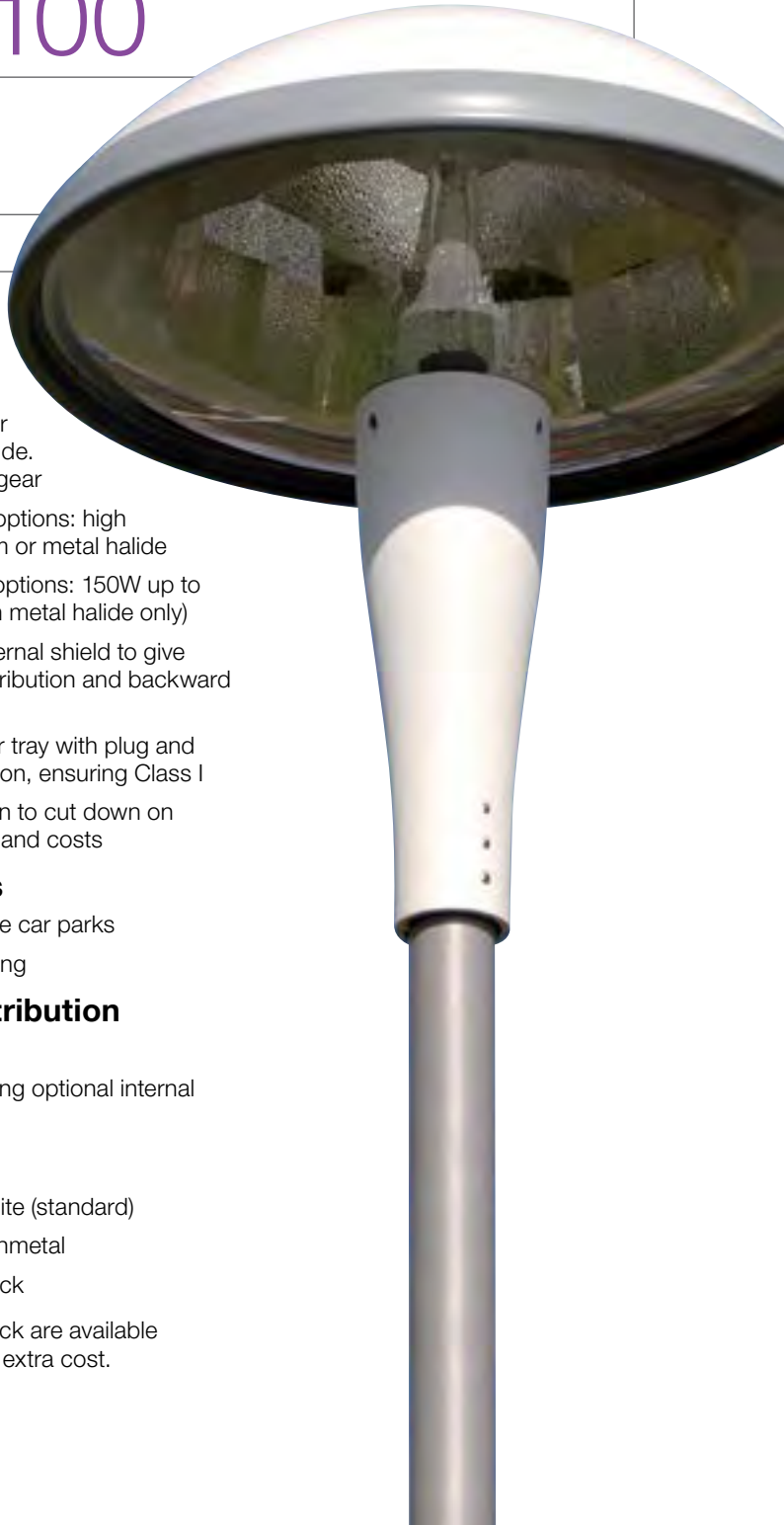
Asymmetric distribution
Lamp 400W SONP-T
Mounting height: 10m

All dimensions are in mm.

ORION 2 AL4100



Optimum Reflector System Patent No. 1151226



Benefits

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

Features

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

- 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
- Removable gear tray with plug and socket connection, ensuring Class I
- 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.

	No. of Lamps	Wattage (W)	Lamp Type	Lamp Holder	Description	Weight (kg) *	Windage (m ²)
AL4101	1	150 / 250 / 400	SONP-T	E40	Square distribution, integral gear	17.8	0.274
	1	150 / 250 / 400 / 450	HQI-T				
AL4102	1	150 / 250 / 400	SONP-T	E40	Asymmetric distribution, integral gear	18.2	0.274
	1	150 / 250 / 400 / 450	HQI-T				
AL4103	1	150 / 250 / 400	SONP-T	E40	Square distribution, remote control gear	13.5	0.274
	1	150 / 250 / 400 / 450	HQI-T				
AL4104	1	150 / 250 / 400	SONP-T	E40	Asymmetric distribution, remote control gear	13.8	0.274
	1	150 / 250 / 400 / 450	HQI-T				

*Max in range.



Column options

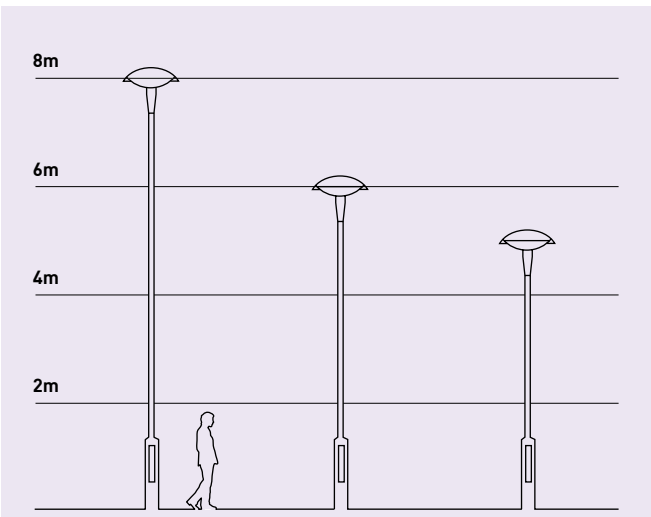
Choose between fixed and base-hinged

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

Accessories

AL4100/PC Photocell

10m



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

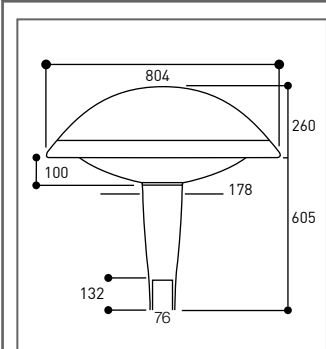
Spotlight on Orion 2

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

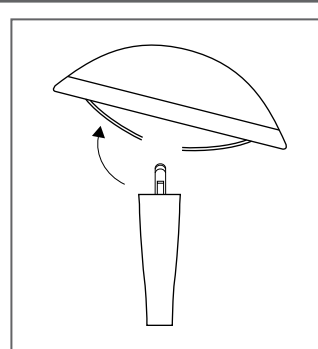
Also available with a twin arm option – BKTD.AM2.



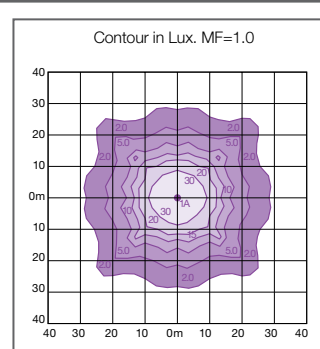
Key features



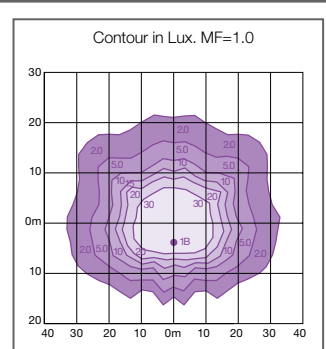
Dimensions & Mounting
Direct entry onto 76mm column shaft or spigot
Mounting height: 5m – 8m



Maintenance
Release three screw clamps and lift lantern canopy



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



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

All dimensions are in mm.

ORION 3 AL4150



Optimum Reflector System Patent No. 1151226



Benefits

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

Features

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

- 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
- Removable gear tray with plug and socket connection, ensuring Class I
- 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.

	No. of Lamps	Wattage (W)	Lamp Type	Lamp Holder	Description	Weight (kg) *	Windage (m ²)
AL4151	1	150 / 250 / 400	SONP-T	E40	Square distribution, integral gear	17.8	0.253
	1	150 / 250 / 400 / 450	HQI-T				
AL4152	1	150 / 250 / 400	SONP-T	E40	Asymmetric distribution, integral gear	18.1	0.253
	1	150 / 250 / 400 / 450	HQI-T				
AL4153	1	150 / 250 / 400	SONP-T	E40	Square distribution, remote control gear	13.5	0.253
	1	150 / 250 / 400 / 450	HQI-T				
AL4154	1	150 / 250 / 400	SONP-T	E40	Asymmetric distribution, remote control gear	13.7	0.253
	1	150 / 250 / 400 / 450	HQI-T				

*Max in range.

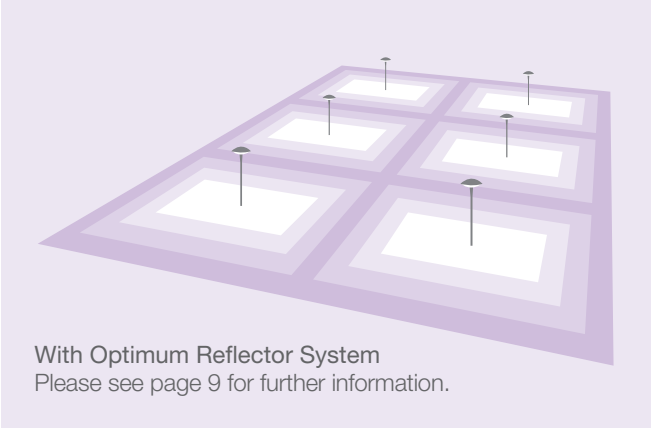
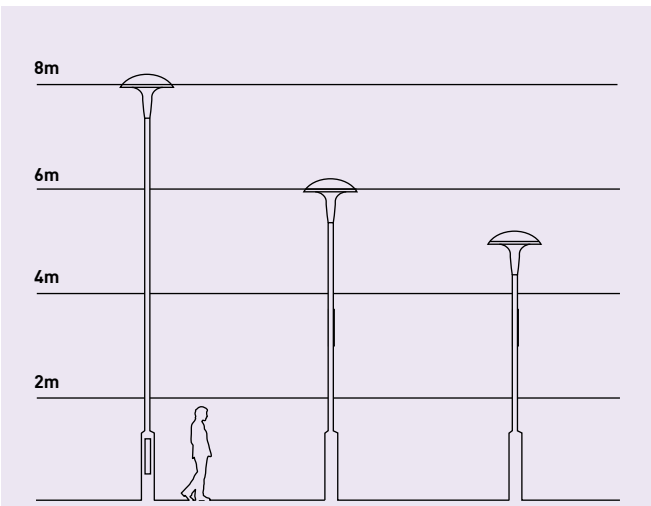


Column options

Choose between fixed and base-hinged

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

Accessories



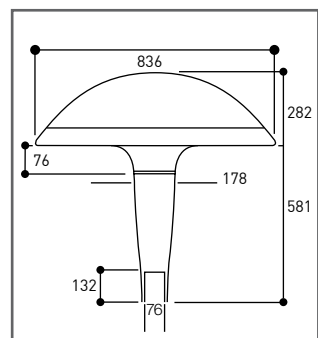
Spotlight on Orion 3

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

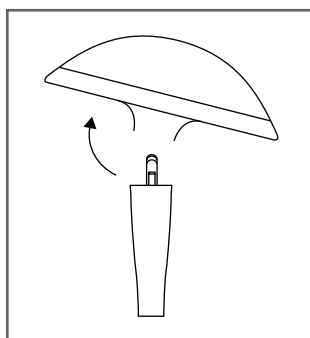
Also available with a twin arm option – BKTD.AM2.



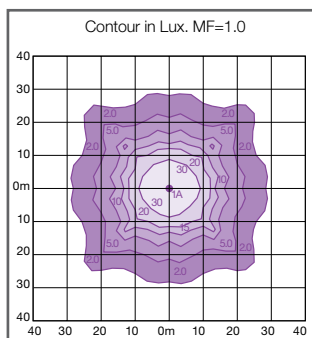
Key features



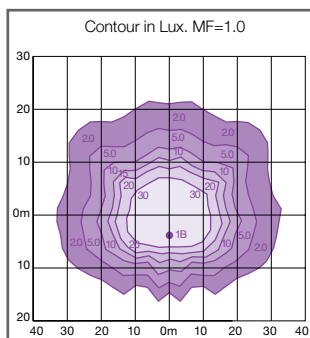
Dimensions & Mounting
Direct entry onto 76mm column shaft or spigot
Mounting height: 5m – 8m



Maintenance
Release three screw clamps and lift lantern canopy



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

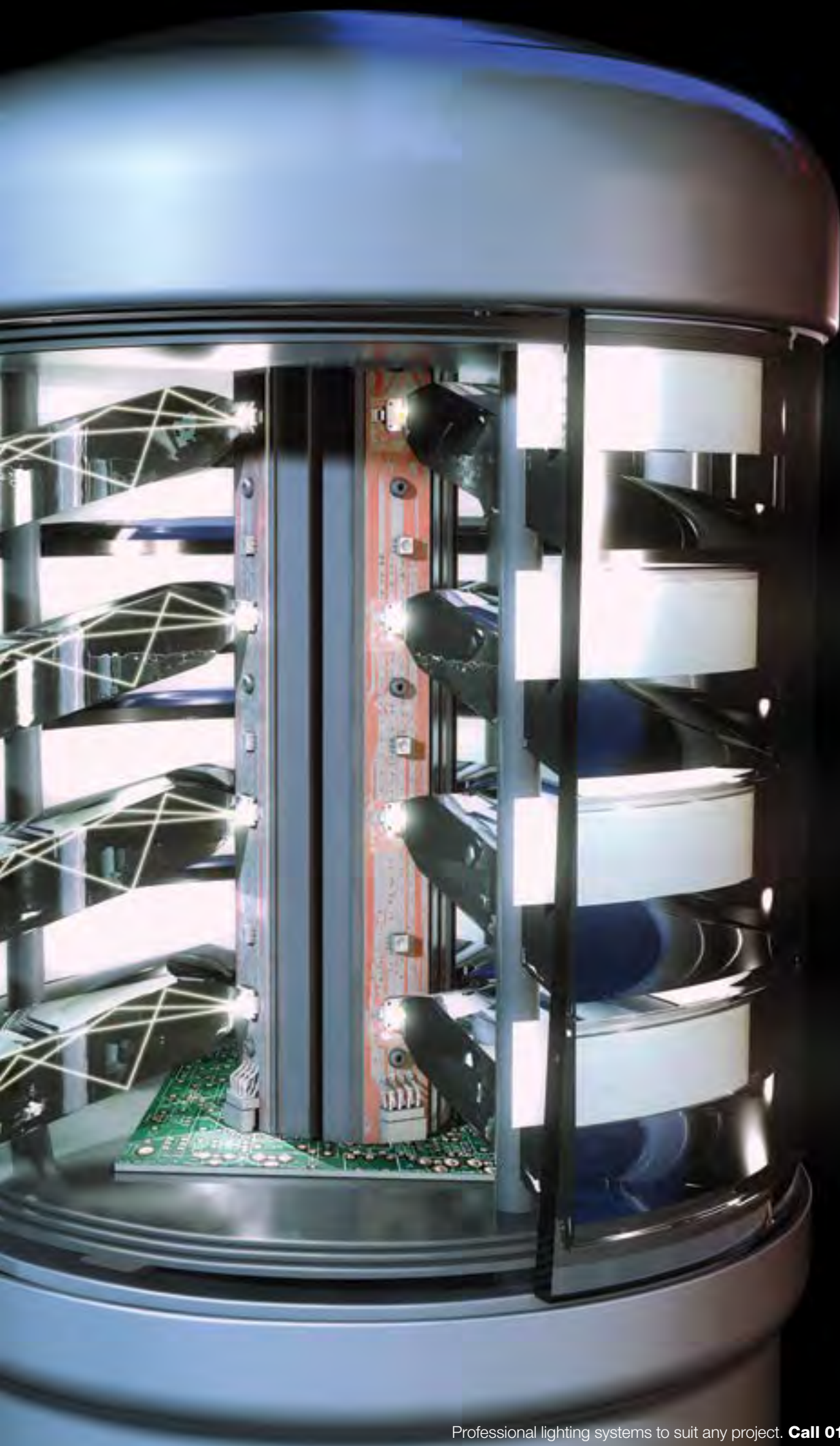


Asymmetric distribution
Lamp 400W SONP-T
Mounting height: 8m

All dimensions are in mm.

LED QUARTZ BOLLARD

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



LED QUARTZ BOLLARD AL9000



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

Energy-efficient

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

Performance

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

Economical and safe

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

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

Visual effects

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

Features

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





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

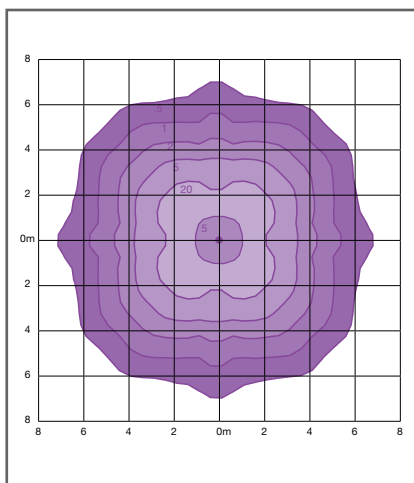


Fusion Silver 25

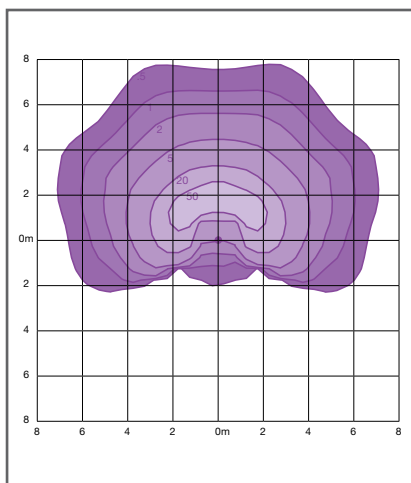


	Total Wattage (W)	Number of LEDs	Individual LED Wattage (W)	Distribution	Driver Current (mA)	Lumen Output (lm)	Colour Temp. (K)
AL9001	30	16	1.6	Symmetric	500	1976	4000
AL9002	30	16	1.6	Asymmetric	500	1976	4000
AL9003	30	16	1.6	Axial	500	1976	4000

Beam patterns



Symmetric Distribution
AL9001



Asymmetric Distribution
AL9002



For mounting details see page 20

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

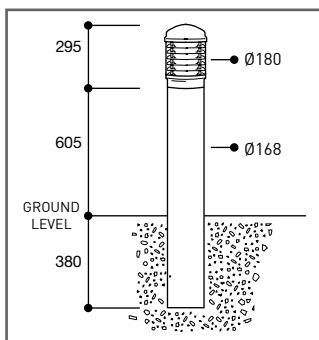
Access the lamp and control gear by removing the head unit (secured by 3 x M8 socket head concealed screws)

Colours

- Black
- Silver

	Wattage (W)	Light Source / Lamp Type	Lamp Holder	Description	Weight (kg)
AL1012	20 / 23	DULUX EL	E27	Bollard: satin louvres integral gear	N / A
	50 / 80	HQL	E27		
	50 / 70	SON-E	E27		

Key features

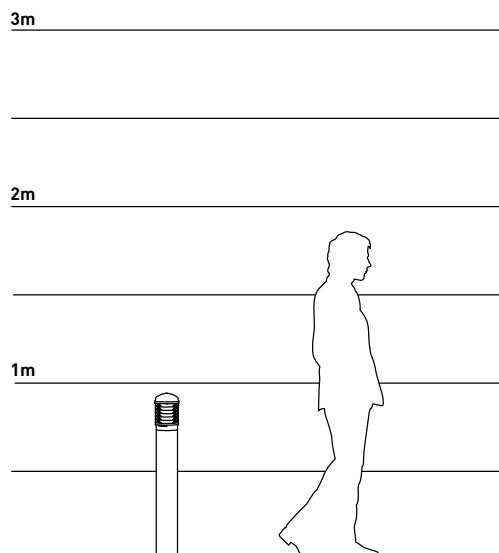


Mounting

Supplied for root mounting as standard. Flange plate fixing available

Mounting height: 0.90m

Mounting height (m)



This could work for you

To find out more visit:
www.abacuslighting.com

All dimensions are in mm.



CAR PARK & AMENITY LIGHTING

PATHSEEKER 2 AL3150



Benefits

- Optional photocell available
- Tamper-resistant cover screws available
- Simple to fix using external stainless steel brackets and two lower points, all external to gasket line to preserve IP rating
- Complies with M.O.D. JSP482 Chapter 8 Document 4 'Category C' areas
- Impact-resistant, flame retardant prismatic polycarbonate cover
- Supplied complete with lamp
- Emergency pack: contact Abacus sales for price and availability

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

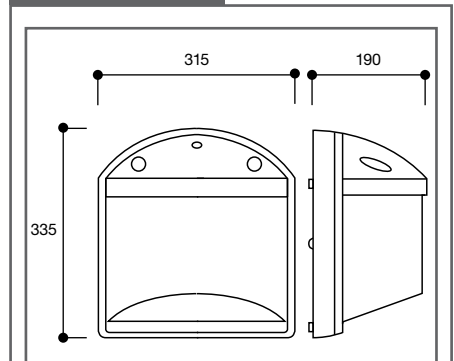
Access

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

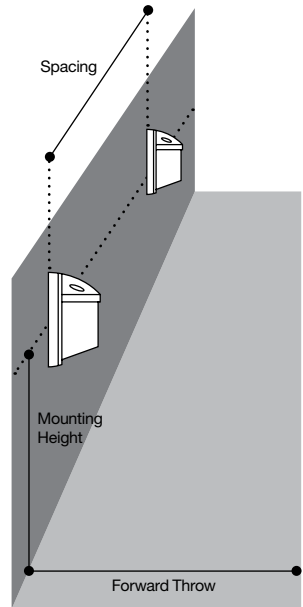


	Wattage (W)	Light Source / Lamp Type	Lamp Holder	Description	Weight (kg)
AL3151	70	SON-T Plus	E27	Lamp and Integral Control Gear	4.3
	70	MBI	E27		4.3
	42	TC-T	Gx24q4	2.8	
	28	LED	-	4.3	

Key features



Mounting
Wall plate mounted
Mounting height: 3 – 5m



Photometric performance*

3M mounting height 5M forward throw

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

4M mounting height 6M forward throw

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

Accessories

AL3150PC Photocell option

All dimensions are in mm.

* Performance based on conventional versions

VETTA AL22000

- IP66
- IK06
- IK10
- IK10
++



Technical Features

- Graphite full polyester powder finish
- Silver option available
- Strong die-cast LM2 aluminium body
- High efficiency prismatic polycarbonate or borosilicate glass front refractor
- LED version with excellent performance
- Wide distribution (18W LED & 42W TC-T) or area distribution (32W LED) options
- Highly specular, multi-faceted injection moulded vacuum metallised reflector
- Excellent distribution with less than 2% upward light
- Optional photocell control
- TC-T versions with high frequency tri-lamp ballast enables retro-fit of 26 and 32W lamps

- Conventionally switched and Smart External versions available
- Fitted with 4000K lamp(s), 4000K LEDs (18W / 32W), 5000K LEDs (18W) and 5700K LEDs (32W)

Applications

- Architectural
- Amenity

Colours

- Black
- Silver

	Wattage (W)	Light Source	Colour Temp. (K) *	Smart External / Standard	Distribution	Cover	IK Rating	Dim	Weight (kg)
AL22001	18	LED	5000	Smart External	Wide	Polycarbonate	IK10	Y	3.9
	18	LED	4000	Smart External	Wide	Polycarbonate	IK10	Y	3.9
AL22002	32	LED	5700	Smart External	Area	Polycarbonate	IK10	Y	4.0
	32	LED	4000	Smart External	Area	Polycarbonate	IK10	Y	4.0
AL22003	18	LED	5000	Standard	Wide	Polycarbonate	IK10++	N	3.8
	18	LED	4000	Standard	Wide	Polycarbonate	IK10++	N	3.8
AL22004	32	LED	5700	Standard	Area	Polycarbonate	IK10++	N	3.9
	32	LED	4000	Standard	Area	Polycarbonate	IK10++	N	3.9
AL22005	18	LED	5000	Standard	Wide	Glass	IK06	N	4.6
	18	LED	4000	Standard	Wide	Glass	IK06	N	4.6
AL22006	42	TC-T	-	Standard	Wide	Polycarbonate	IK10++	N	3.6
AL22007	42	TC-T	-	Standard	Wide	Glass	IK06	N	3.5
AL22008	50	SON-T	-	Standard	Wide	Polycarbonate	IK10++	N	3.6
AL22009	50	SON-T	-	Standard	Wide	Glass	IK06	N	5.5

For emergency version, please enquire when quoting / ordering
 * Please confirm colour temperature when quoting / ordering



LED Characteristics

	Ra	°K	L70/B10	P/U	%	R/Rx	PF	LL/CW
18W LED	65	4000 / 5000	60K	P	>85	R	>0.95	Poly - 61.9 / Glass - 52.4
32W LED	65	4000 / 5700	60K	P	>88	R	>0.95	73.0

Circuit type Non-dimming (HF fluorescent) / Non-dimming (LED)
 • Smart External versions use digital dimming gear and are always suffixed D

Silver option Enquire when quoting / ordering

Emergency version Prefix catalogue number with: Emergency / AutoTest / Scanlight AT
 • Emergency, AutoTest and Scanlight AT versions add 0.4kg to weights listed
 • Lamp version emergency operation is provided by a sustained emergency lamp (fitted) - 5W TC-S
 • 42W TC-T versions use electronic control gear

Additional options Photocell (standard versions only) and tamper resistant screws (To fasten tamper resistant screws, order special screwdriver)

Photometric performance

18W LED with polycarbonate cover

3M mounting height 3M forward throw

Spacing	Average illuminance	Uniformity (min:av)
10ctrs	18 Lux av.	0.53
15ctrs	12 Lux av.	0.49
20ctrs	10 Lux av.	0.35

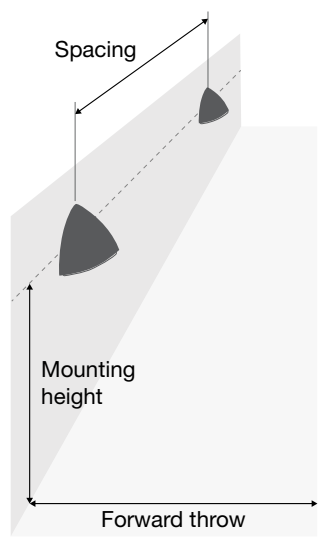
4M mounting height 4M forward throw

10m	15 Lux av.	0.64
15m	9 Lux av.	0.55
20m	7 Lux av.	0.49

5M mounting height 5M forward throw

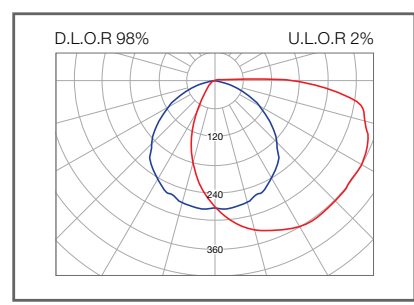
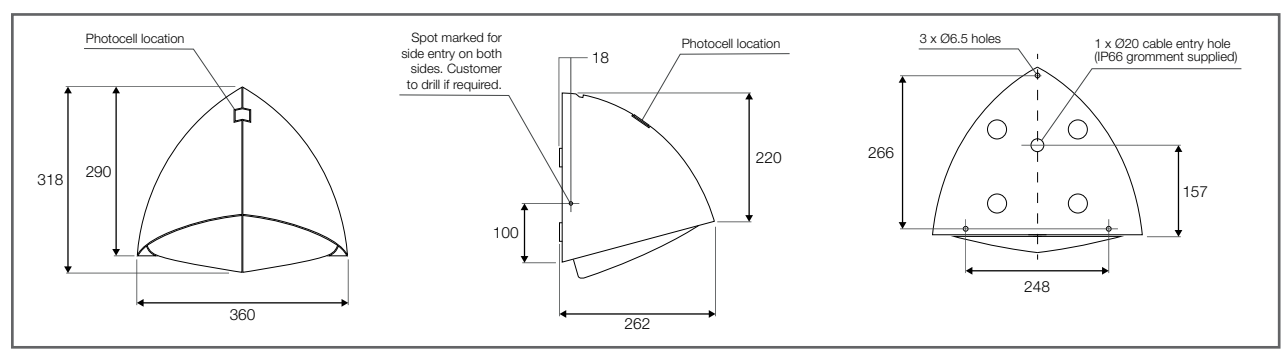
10m	10 Lux av.	0.56
15m	7 Lux av.	0.49
20m	5 Lux av.	0.55

Figures are based on initial lumens

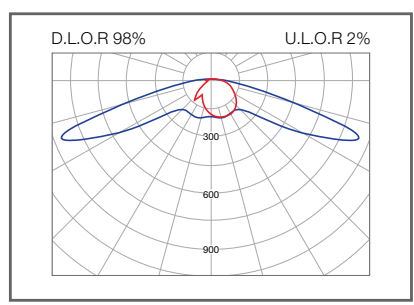


e.g At 3m mounting height and 10m centres: 18 Lux average horizontal illuminance at ground level

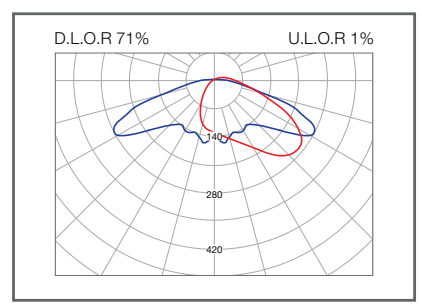
Key features



Polycarbonate cover 32W LED
 (Area distribution)
 AL22002 / AL22004
 Luminaire lumen output
 32W = 2700lm



Polycarbonate cover 18W LED
 (Wide distribution)
 AL22001 / AL22003
 Luminaire lumen output
 18W = 1430lm



Polycarbonate cover 50W
 (Wide distribution)
 AL22008

All dimensions are in mm.

CARICO AL22500

IP65



Benefits

- Internal drivers and electrics protected from the elements by the durable rated IP65 body

Features

- Power: LumaFit LED 33W (System wattage 36.6W)
- 115° optics
- Colour temperature 5000K as standard
- CRI: 85
- Array lumens: 4438lm
- Delivered lumens: 3114lm
- LumaFit LEDs on aluminium boards
- Dimmable driver

- Voltage 120 - 277V, 50/60Hz
- Die-cast aluminium back housing, finished in black powdercoating over a chromate conversion coat
- Cast-in template for ease of mounting over electrical boxing
- Colour matched hinged polycarbonate front housing with clear polycarbonate ribbed lens area
- 20mm coin plus with O-rings for conduit and photocell
- 5 year warranty
- Rated life: 50000 hours
- Operating temperature -40°C ~ + 40°C

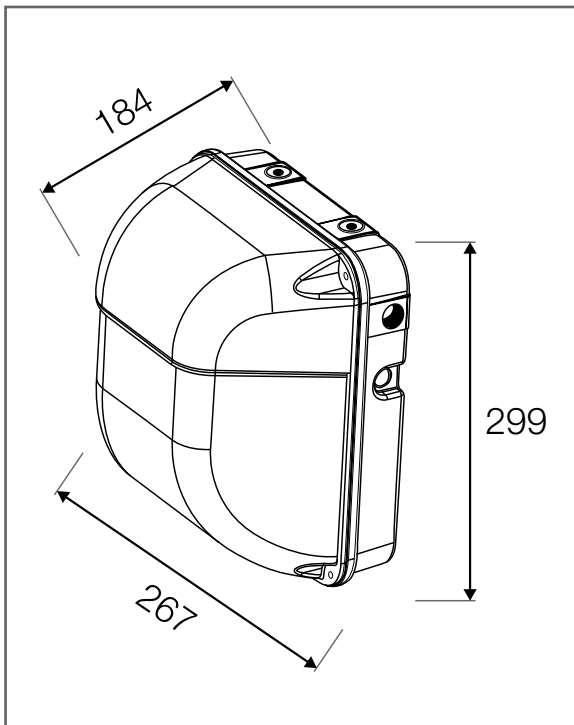
- Direct mount of a 100mm recessed outlet box or using 20mm surface conduit
- Emergency version available

Colours

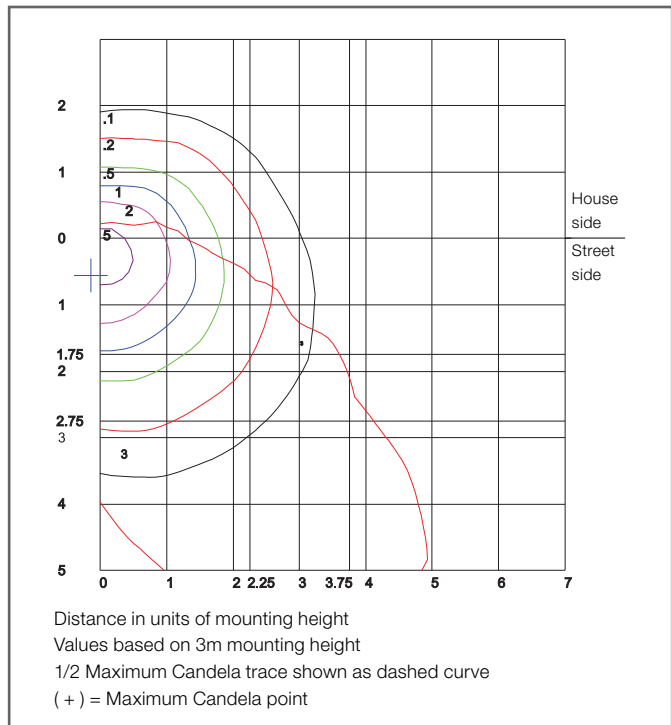
- Black

	Wattage (W)	Array Lumens (lm)	Delivered Lumens (lm)	Optic	CRI	Colour Temp. (K)	Colour
AL22501	36.6	4438	3114	115°	85	5000	Black

Key features



Dimensions



Polar diagram

All dimensions are in mm.



CAR PARK & AMENITY LIGHTING

MITAD AL22400

IP65



Benefits

- Internal drivers and electrics protected from the elements by the durable rated IP65 body

Features

- Power: 17W (System power 19.5W)
- Colour temperature 4000K as standard
- Available in a round or square body
- Die-cast aluminium housing with half cutoff front frame
- Finished in black textured powdercoat over a chromate conversion coat

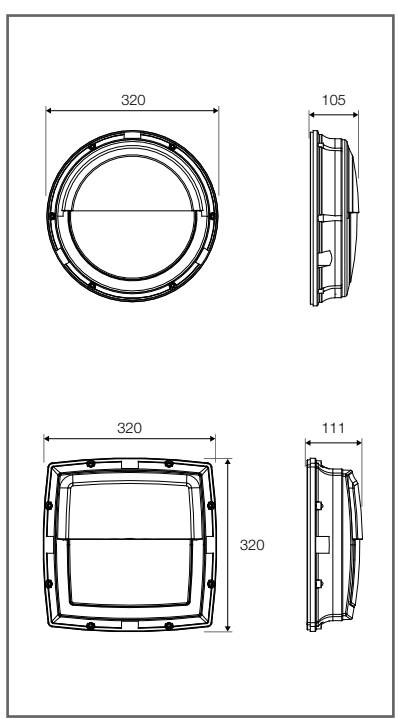
- LumaLens polycarbonate opal lens
- LumaFit LEDs on aluminium boards
- Dimmable driver
- 5 year warranty
- Rated life: 50000 hours
- Voltage 120 - 277V, 50/60Hz
- Operating temperature -40°C ~ + 40°C
- Emergency version available
- Optional microwave sensor

Colour

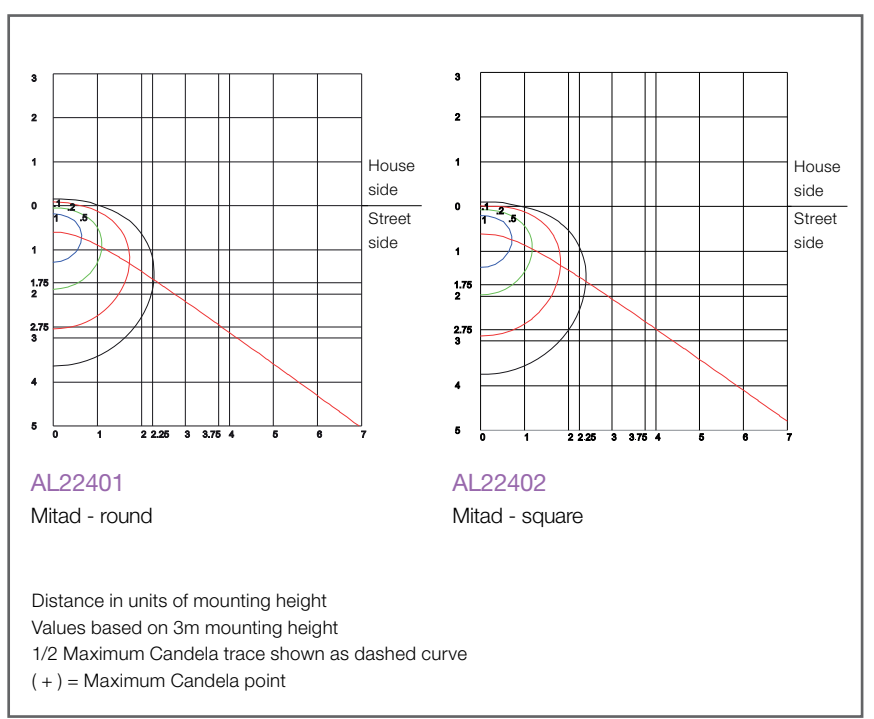
- Black

	Wattage (W)	Colour Temp. (K)	Array Lumens (lm)	Delivered Lumens (lm)	CRI	Shape	Colour
AL22401	19.5	4000/5000	2485	1467	82	Round	Black
AL22402	19.5	4000/5000	2421	1570	82	Square	Black

Key features



Dimensions



Polar diagrams

AL22401
Mitad - round

AL22402
Mitad - square

Distance in units of mounting height
 Values based on 3m mounting height
 1/2 Maximum Candela trace shown as dashed curve
 (+) = Maximum Candela point

All dimensions are in mm.

ABACUS - LEADERS IN ARCHITECTURAL LIGHTING

ARCHITECTURAL LIGHTING



NALTAR AL21600

IP65

IK06

Technical Features

- Available in three distributions:
 - Batwing
 - Oval (Optional beam widths: 15 x 60°, 16°, 30°, 50°)
 - Symmetrical
- Power;
 - Batwing: 21 LED, 53W total
 - Oval spotlight: 4 x 10W LED, 44W total
 - Oval spotlight: 4 x 18W LED, 80W total
 - Symmetrical: 1 x 38W LED, 45W total
- Weight;
 - Batwing: 9.4kg
 - Oval spotlight (44W): 9.7kg
 - Oval spotlight (80W): 10kg
 - Symmetrical: 9.4kg
- Available in 2700K, 3000K, 4000K and 5600K colour temperatures
- Luminous flux (light source flux);
 - Batwing: 5040lm, 5460lm, 5880lm, 6300lm
 - Oval spotlight: 3740lm, 3820lm, 4360lm, 4408lm
 - Symmetrical: 4408lm, 4598lm, 5016lm, 5082lm
- Control systems available:
 - Light sensor (on / off)
 - Microwave motion sensor
 - Dimming (ZigBee control)
- Ra >80
- IP65 rated

- Protection Class I (IEC - EN60593)
- CE, ENEC, RoHS certified
- ADC3 die-cast aluminium light source housing
- 1090 anodized high purity aluminium reflector
- Transparent polycarbonate light emitting area, covering PMMA optical lens with 92% light transmission
- Anti-corrosion pre-treatment then finished in an AKZO-NOBEL UV resistant polyester powder coat
- EPDM polyfoam gasket
- Stainless steel fixings
- Input Voltage: AC220-240V
Input Voltage for 1:10V: AC100-240V
- Surge protection 6kV
- Ambient temperature tested -25°C ~ +45°C
- Service life ≥35000 hours
- Diameter: 200mm

Applications

- Amenity
- Architectural

Colours

- Anthracite
- Light grey
- Black



Symmetrical



Batwing



Oval
(up or down)





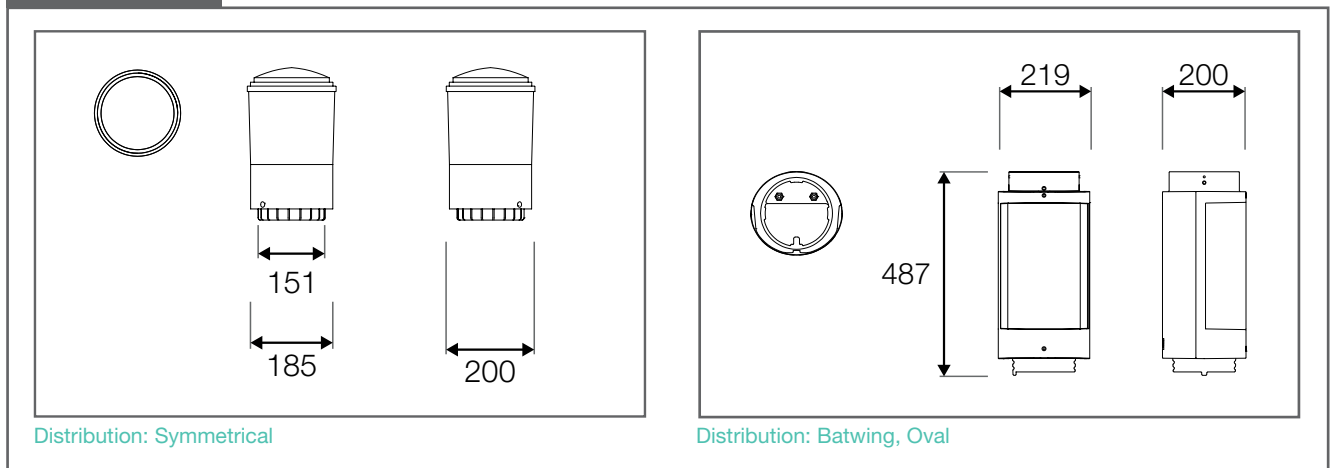
	Wattage (W)	No. of LEDs	Colour Temp. (K) *	Lumen Output (lm)	Distribution	Weight (kg) *
AL21601	53	21	2700	5040	Batwing	9.4
	53	21	3000	5460	Batwing	9.4
	53	21	4000	5880	Batwing	9.4
	53	21	5600	6360	Batwing	9.4
AL21602	44	4	2700	3740	Oval, down, 50°	9.7
	44	4	3000	3820	Oval, down, 50°	9.7
	44	4	4000	4360	Oval, down, 50°	9.7
	44	4	5600	4408	Oval, down, 50°	9.7
AL21603	44	4	2700	3470	Oval, down, 15 x 60°	9.7
	44	4	3000	3820	Oval, down, 15 x 60°	9.7
	44	4	4000	9560	Oval, down, 15 x 60°	9.7
	44	4	5600	9680	Oval, down, 15 x 60°	9.7
AL21604	80	4	2700	8320	Oval, upward, 16°	10.0
	80	4	3000	8720	Oval, upward, 16°	10.0
	80	4	4000	9560	Oval, upward, 16°	10.0
	80	4	5600	9680	Oval, upward, 16°	10.0
AL21605	80	4	2700	8320	Oval, upward, 30°	10.0
	80	4	3000	8720	Oval, upward, 30°	10.0
	80	4	4000	9560	Oval, upward, 30°	10.0
	80	4	5600	9680	Oval, upward, 30°	10.0
AL21606	80	4	2700	8320	Oval, upward, 50°	10.0
	80	4	3000	8720	Oval, upward, 50°	10.0
	80	4	4000	9560	Oval, upward, 50°	10.0
	80	4	5600	9680	Oval, upward, 50°	10.0
AL21607	80	4	2700	8320	Oval, upward, 15° x 60°	10.0
	80	4	3000	8720	Oval, upward, 15° x 60°	10.0
	80	4	4000	9560	Oval, upward, 15° x 60°	10.0
	80	4	5600	9680	Oval, upward, 15° x 60°	10.0
AL21608	45	1	2700	4408	Symmetrical	TBC***
	45	1	3000	4598	Symmetrical	TBC***
	45	1	4000	5016	Symmetrical	TBC***
	45	1	5600	5094	Symmetrical	TBC***

* Please confirm colour temperature when quoting / ordering

** AL21608 can only be stacked at the top location, AL21601 - AL21607 can be stacked at any location on the fitting

*** Available upon request

Key features



All dimensions are in mm.

CERA AL21500

IP65

Technical Features

- Power: 6 LED, 14W
- Weight: 4.9kg
- Available in 2700K, 3000K, 4000K and 5600K colour temperatures
- Luminous flux (light source flux): 1440lm, 1560lm, 1680lm, 1800lm
- IP65 rated
- Protection Class I (IEC - EN60593)
- CE, ENEC, RoHS certified
- Die-cast aluminium 6063 light source housing
- 1090 anodized high purity aluminium reflector
- Polycarbonate light emitting area
- Anti-corrosion pre-treatment then finished in an AKZO-NOBEL UV resistant polyester powder coat

- Water vapour resistant silicone gasket
- Stainless steel fixings
- Input Voltage: AC220-240V
- Surge protection 6kV
- Ambient temperature tested -40°C ~ +50°C
- Service life ≥35000 hours
- Length of lit area: 1.5m
- Diameter: 110mm

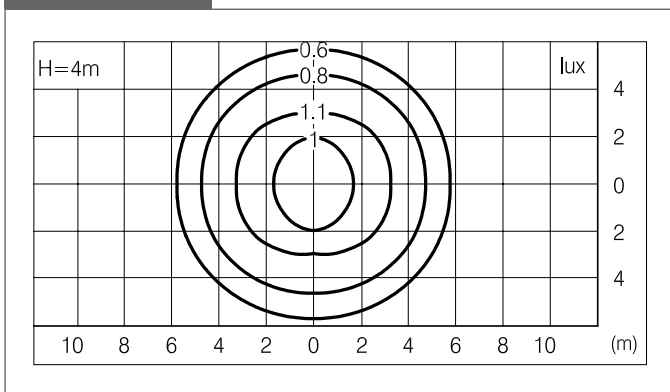
Applications

- Amenity
- Architectural

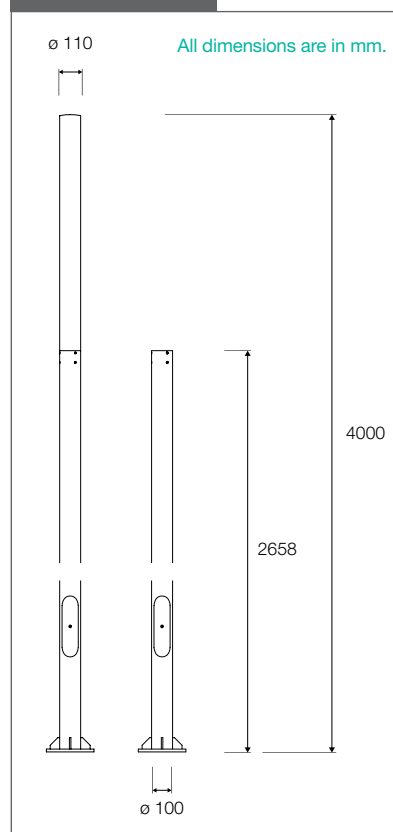
Colours

- Anthracite
- Light grey
- Black

Photometry



Dimensions



	Wattage (W)	Number of LEDs	Colour Temp. (K) *	Lumen Output (lm)	Weight (kg)
AL21500	14	6	2700	1440	4.9
	14	6	3000	1560	4.9
	14	6	4000	1680	4.9
	14	6	5600	1800	4.9

* Please confirm colour temperature when quoting / ordering



PESCARA AL21700

IP65



Technical Features

- Power: LED 50.5W (59W total power)
- Weight: 23.8kg
- Available in 2700K, 3000K, 4000K and 5000K colour temperatures
- Luminous flux (light source flux): 5808lm, 6060lm, 6648lm, 6754lm
- Available in two distribution options: Asymmetric and Batwing
- IP65 rated
- Protection Class I (IEC - EN60593)
- CE, ENEC, RoHS certified
- ADC3 die-cast aluminium alloy light output ring and light source frame
- Marine grade fiberglass top canopy with internal steel frame reinforcement
- Water vapour resistant silicone gasket
- Anti-corrosion pre-treatment then finished in an AKZO-NOBEL UV resistant polyester powder coat
- PMMA internal LED optical lens behind 4mm tempered glass 1090 anodized 1.2mm 99.85% purity aluminium reflector
- Input Voltage: AC220-240V
- Ambient temperature tested -40°C ~ +50°C
- Withstand wind speed 45m/s
- Service life \geq 35000 hours
- For best results, use on columns up to 6m

Applications

- Amenity
- Architectural

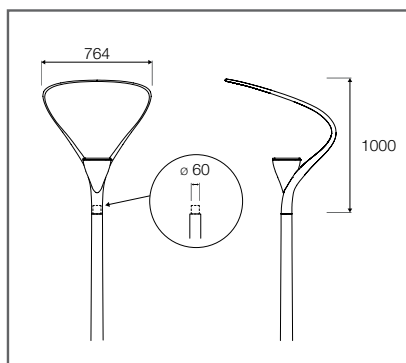
Colours

- Anthracite
- Light grey
- Black

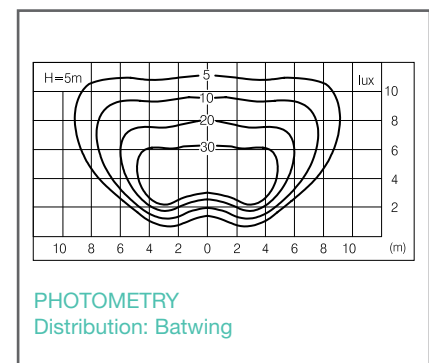
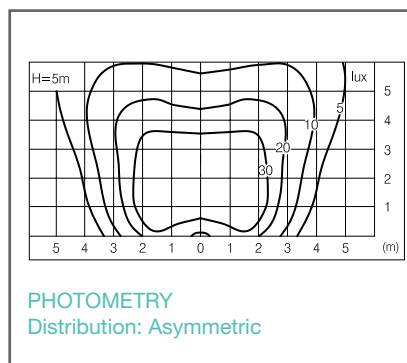
	Wattage (W)	Colour Temp. (K) *	Lumen Output (lm)	Distribution	Weight (kg)
AL21701	59	2700	5808	Asymmetric	23.8
	59	3000	6060	Asymmetric	23.8
	59	4000	6648	Asymmetric	23.8
	59	5600	6754	Asymmetric	23.8
AL21702	59	2700	5808	Batwing	23.8
	59	3000	6060	Batwing	23.8
	59	4000	6648	Batwing	23.8
	59	5600	6754	Batwing	23.8

* Please confirm colour temperature when quoting / ordering

Key features



Dimensions



All dimensions are in mm.

OLETTA AL21300 POST

IP65

Technical Features

- Available in a four light distributions, using 1-4 modules
- Number of LED and Wattage;
 - 1 module: 18 LED, 24W
 - 2 modules: 36 LED, 47W
 - 3 modules: 54 LED, 67W
 - 4 modules: 72 LED, 89W
- Weight;
 - 1 module: 6.04kg
 - 2 modules: 11.7kg
 - 3 modules: 17.4kg
 - 4 modules: 22.6kg
- Available in 2700K, 3000K, 4000K and 5600K colour temperatures
- Luminous flux (light source flux);
 - 1 module: 2304lm, 2502lm, 2700lm, 2880lm
 - 2 modules: 4608lm, 5004lm, 5400lm, 5760lm
 - 3 modules: 6912lm, 7506lm, 8100lm, 8640lm
 - 4 modules: 9216lm, 10008lm, 10800lm, 11520lm
- IP65 rated
- Protection Class I (IEC - EN60593)
- CE, ENEC, RoHS certified
- Ra >80
- ADC3 die-cast aluminium alloy body
- 1090 anodized 1.2mm 99.85% purity aluminium reflector
- Transparent polycarbonate light emitting area
- Anti-corrosion pre-treatment then finished in an AKZO-NOBEL UV resistant polyester powder coat
- Water vapour resistant silicone gasket
- Stainless steel fixings
- Voltage;
 - Input Voltage: AC220-240V
 - Input Voltage for 1:10V: AC100-240V
- Surge protection 6kV
- Ambient temperature tested -40°C ~ +50°C
- Withstand wind speed 45m/s
- Service life ≥35000 hours
- For best results, use on columns up to 6m

Applications

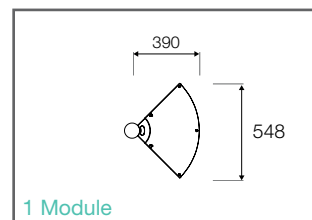
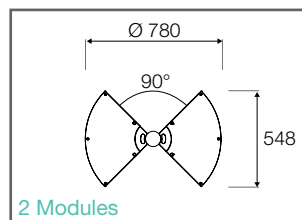
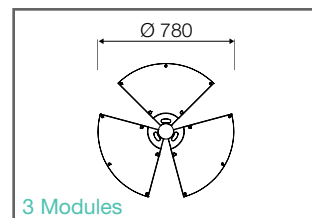
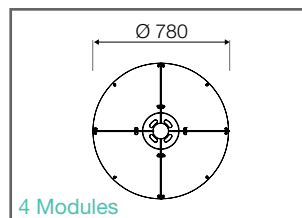
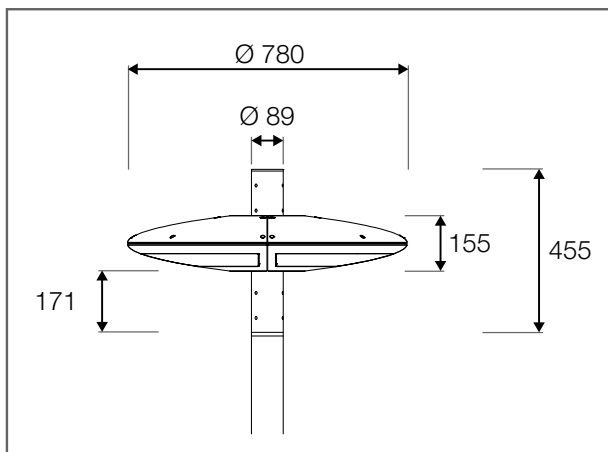
- Amenity
- Architectural

Colours

- Anthracite
- Light grey
- Black



Dimensions



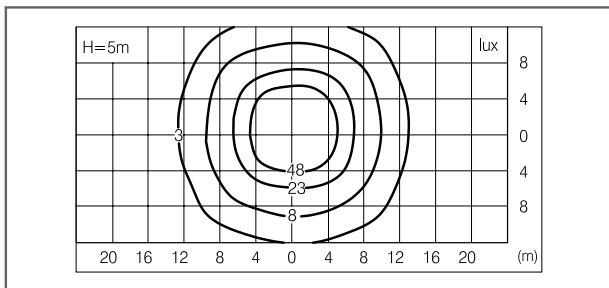
All dimensions are in mm.



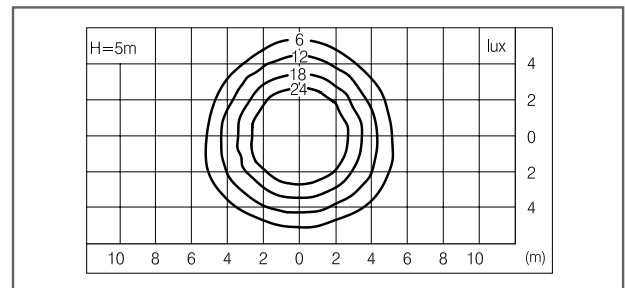
	Wattage (W)	No. of LEDs	Colour Temp. (K) *	Lumen Output (lm)	No. of Segments	Weight (kg)
AL21304	24	18	2700	2304	1	6.04
	24	18	3000	5502	1	6.04
	24	18	4000	2700	1	6.04
	24	18	5600	2880	1	6.04
AL21305	47	36	2700	4608	2 (Back to back)	11.7
	47	36	3000	5004	2 (Back to back)	11.7
	47	36	4000	5400	2 (Back to back)	11.7
	47	36	5600	5760	2 (Back to back)	11.7
AL21306	47	36	2700	4608	2 (Staggered)	11.7
	47	36	3000	5004	2 (Staggered)	11.7
	47	36	4000	5400	2 (Staggered)	11.7
	47	36	5600	5760	2 (Staggered)	11.7
AL21307	67	54	2700	6911	3 (Radial)	17.4
	67	54	3000	7506	3 (Radial)	17.4
	67	54	4000	8100	3 (Radial)	17.4
	67	54	5600	8640	3 (Radial)	17.4
AL21308	89	72	2700	6911	4 (Radial)	22.6
	89	72	3000	7560	4 (Radial)	22.6
	89	72	4000	8100	4 (Radial)	22.6
	89	72	5600	8640	4 (Radial)	22.6

* Please confirm colour temperature when quoting / ordering

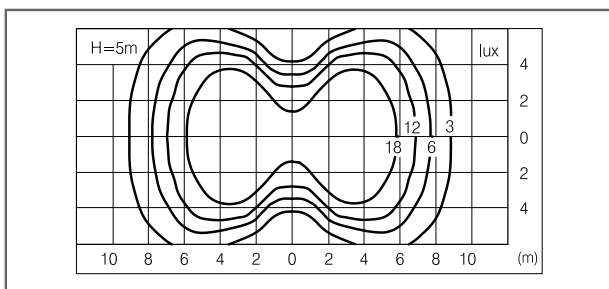
Photometry



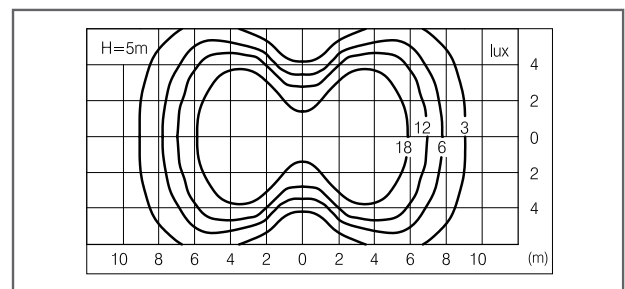
AL21308 4 Modules



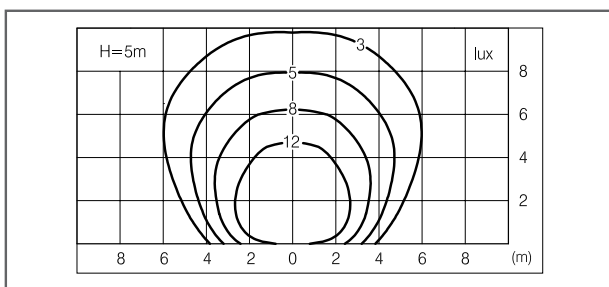
AL21307 3 Modules



AL21306 2 Modules (Staggered)



AL21305 2 Modules (Back to Back)



AL21304 1 Module

OLETTA AL21300 WALL

IP65

Technical Features

- Available in a three light distributions, using 1 - 3 modules
- Number of LEDs and Wattage;
 - 1 module: 18 LEDs, 24W
 - 2 modules: 36 LEDs, 47W
 - 3 modules: 54 LEDs, 67W
- Weight;
 - 1 module: 6.04kg
 - 2 modules: 11.7kg
 - 3 modules: 17.4kg
- Available in 2700K, 3000K, 4000K and 5600K colour temperatures
- Luminous flux (light source flux);
 - 1 module: 2304lm, 2502lm, 2700lm, 2880lm
 - 2 modules: 4608lm, 5004lm, 5400lm, 5760lm
 - 3 modules: 6912lm, 7506lm, 8100lm, 8640lm
- IP65 rated
- Protection Class I (IEC - EN60593)
- CE, ENEC, RoHS certified
- Ra >80
- ADC3 die-cast aluminium alloy body
- 1090 anodized 1.2mm 99.85% purity aluminium reflector
- Transparent polycarbonate light emitting area

- Anti-corrosion pre-treatment then finished in an AKZO-NOBEL UV resistant polyester powder coat
- Water vapour resistant silicone gasket
- Stainless steel fixings
- Voltage;
 - Input Voltage: AC220-240V
 - Input Voltage for 1:10V: AC100-240V
- Surge protection 6kV
- Ambient temperature tested -40°C ~ +50°C
- Withstand wind speed 45m/s
- Service life ≥35000 hours

Applications

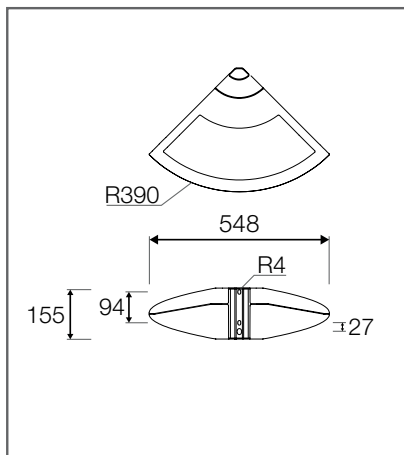
- Amenity
- Architectural

Colours

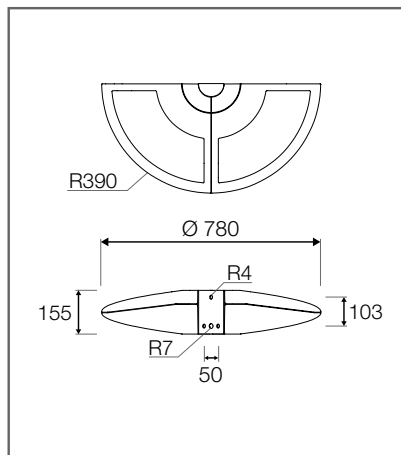
- Anthracite
- Light grey
- Black



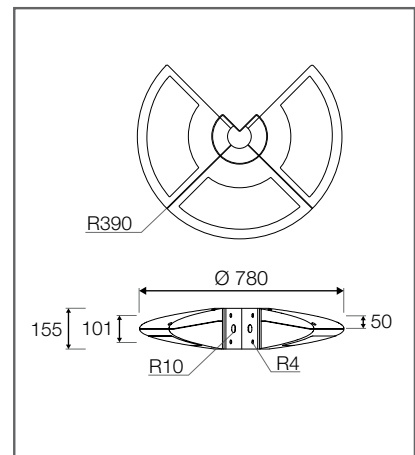
Dimensions



1 Module



2 Modules



3 Modules

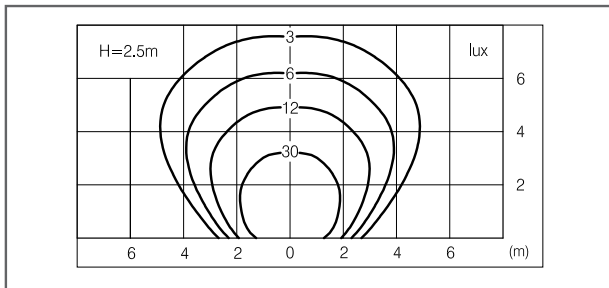
All dimensions are in mm.



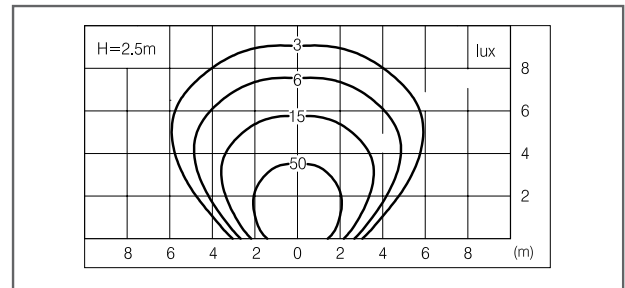
	Wattage (W)	No. of LEDs	Colour Temp. (K) *	Lumen Output (lm)	No. of Segments	Weight (kg)
AL21301	24	18	2700	2304	1	6.04
	24	18	3000	5502	1	6.04
	24	18	4000	2700	1	6.04
	24	18	5600	2880	1	6.04
AL21302	47	36	2700	4608	2	11.7
	47	36	3000	5004	2	11.7
	47	36	4000	5400	2	11.7
	47	36	5600	5760	2	11.7
AL21303	67	54	2700	6911	3	17.4
	67	54	3000	7506	3	17.4
	67	54	4000	8100	3	17.4
	67	54	5600	8640	3	17.4

* Please confirm colour temperature when quoting / ordering

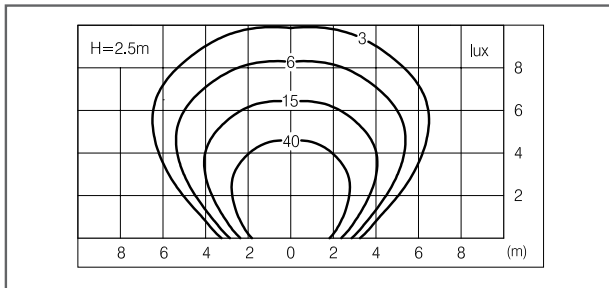
Photometry



AL21301 1 Module



AL21302 2 Modules



AL21303 3 Modules

LENA AL22200

IP65

Benefits

- Internal drivers and electrics protected from the elements by the durable rated IP65 body
- Blends into surroundings with two clean finishing options

Features

- Power: 16.9W
- Colour temperature 5000K as standard
- CRI: 83
- Array lumens: 2089lm
- Delivered lumens: 1384lm
- IP65 rated
- Rated life: 50000 hours
- 5 year warranty

- CE marked
- Electronic dimmable 1:10V (10%-100%)
- Inventronics IP65 driver 18W
- PCB board 15W
- Efficacy lumens per circuit watt: 122 L/CW at LED array, 81 L/CW
- Clear polycarbonate outer lens
- Medium beam spread
- Aluminium cone reflector
- Bollard available in stainless steel or black painted finished
- Cap available as dome or flat top
- Set into concrete and fixed with 8" anchor bolts
- Optional 2.5kV surge protection

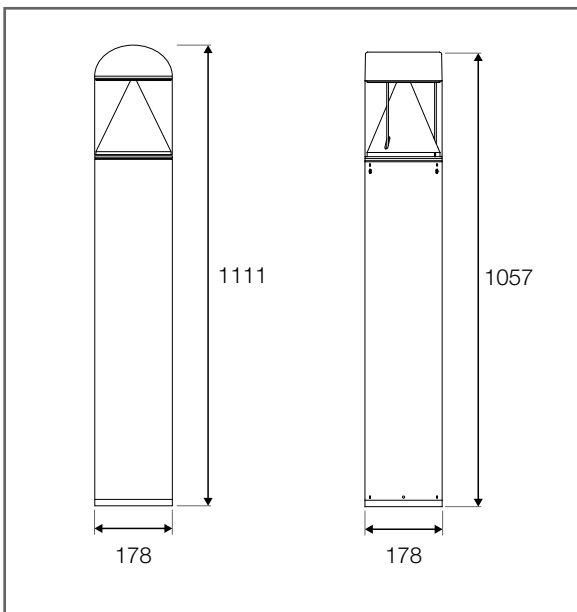
Colours

- Black
- Stainless steel

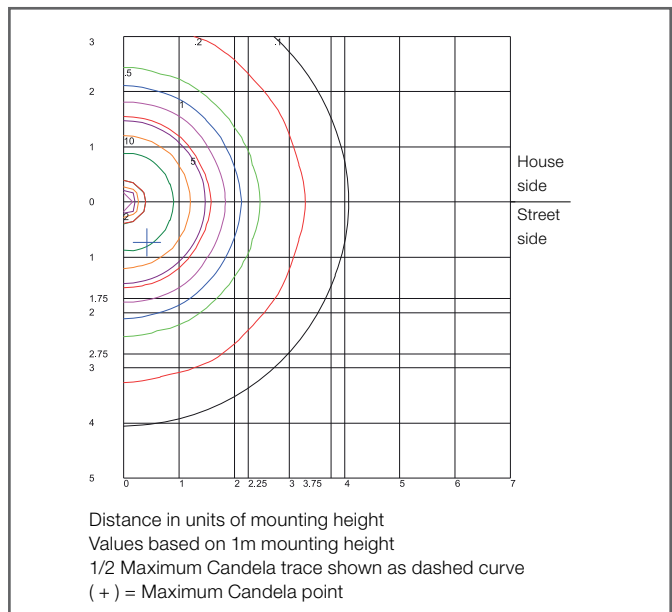


	Wattage (W)	Colour Temp. (K)	Lumen Output (lm)	CRI	Dome / Flat Top	Colour
AL22200 / SS	16.9	5000	1348	83	Dome top	Stainless steel
AL22200 / BLK	16.9	5000	1348	83	Dome top	Black
AL22201 / BLK	16.9	5000	1348	83	Flat top	Black

Key features



Dimensions (L - Lena, dome top. R - Lena, flat top.)



Polar diagram

All dimensions are in mm.



RADA AL22300

IP65

Benefits

- Ease of maintenance and upgrade via internal driver tray
- Internal drivers and electrics protected from the elements by the durable rated IP65 body

Features

- Power: 26W
- Colour temperature 4100K as standard
- CRI: 80+
- Delivered lumens: 2282lm
- IP65 rated
- Rated life: 50000 hours
- 5 year warranty

- Electronic driver 120-277V, 50/60Hz dimmable driver
- Internal driver tray
- Reflective white polycarbonate cone reflector
- Clear polycarbonate lens
- LED: 4 Chip-on-board
- Extruded aluminium housing, finished in a black powdercoat over a chromate conversion coating
- Flush mounting base and flat top
- Vandal-resistant screws
- Mounting kit with 200mm anchor bolts

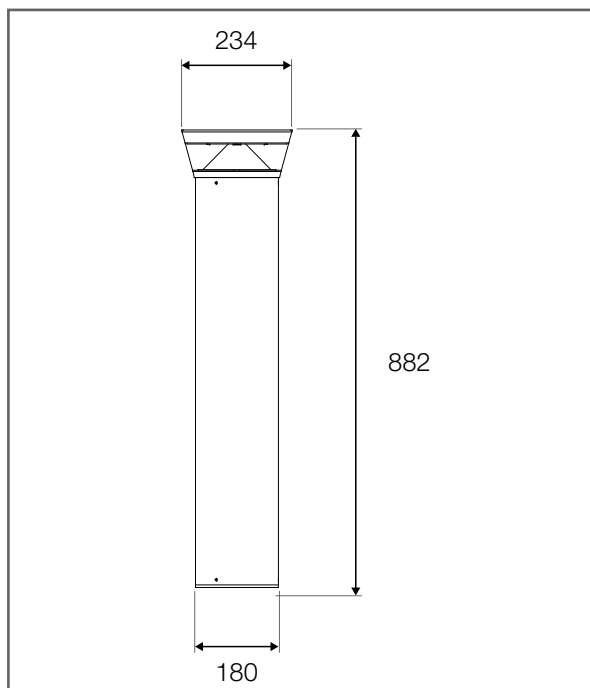
Colour

- Black

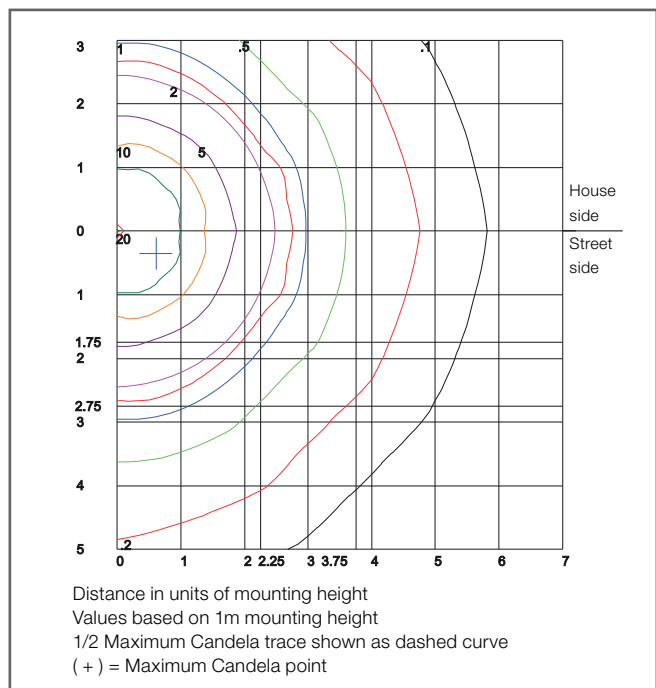


	Wattage (W)	Delivered Lumens (lm)	No. of LED (Chip-on-board)	CRI	Colour Temp. (K)	Colour
AL22300	26	2282	4 COB	80+	4100	Black

Key features



Dimensions



Polar diagram

All dimensions are in mm.

LEVATA AL21800 BOLLARD

IP65

Technical Features

- Three wattage options: 7W, 14W or 25W
- Face shape options: square, round or oval
- Bollard height options: 500mm, 900mm or 1200mm
- Two possible light distributions: one way or two way (as specified in the product table)
- IP65 rated
- Class I protection
- 6063 aluminium alloy post
- ADC3 die-cast aluminium alloy housing
- 1090 high purity aluminium reflector with filter hood light control
- 4mm tempered clear glass
- Water vapour resistant silicone gasket
- Stainless steel fixings, allen headed screws
- Galvanised steel recessed frame
- Mechanical and chemical anti-corrosion pre-treatment, powder coated with 10 year normal UV protection
- Integrated electronic driver with thermal and overload protection
- Surge protection 4kV
- Waterproof cable at maximum \varnothing 10mm insert to luminaire
- Ambient temperature tested: -40°C ~ +50°C
- Matching wall versions available as part of the Levata LED family



AL21801
AL21802



AL21803
AL21804



AL21805
AL21806
AL21807
AL21808



AL21809
AL21810
AL21811
AL21812

Applications

- Amenity

Colours

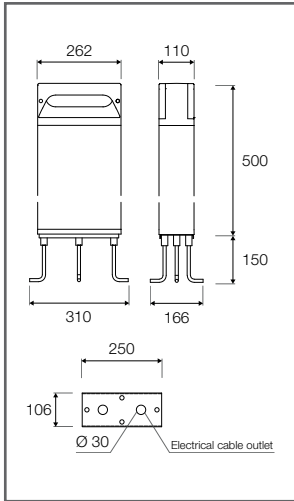
- Anthracite
- Light grey
- Black



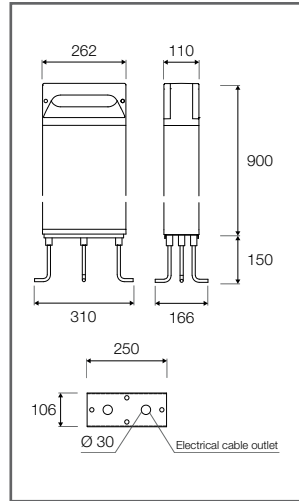
	Wattage (W)	No. of LEDs	Colour Temp. (K) *	Lumen Output (lm)	Input Voltage	Distribution	Face Shape	Total Height (mm)	Weight (kg)
AL21801	14	30	2700	1290	AC220-240V	2 Way	Square	500	6.94
	14	30	3000	1560	AC220-240V	2 Way	Square	500	6.94
	14	30	4000	1860	AC220-240V	2 Way	Square	500	6.94
	14	30	5600	2130	AC220-240V	2 Way	Square	500	6.94
AL21802	14	30	2700	1290	AC220-240V	2 Way	Square	900	TBA
	14	30	3000	1560	AC220-240V	2 Way	Square	900	TBA
	14	30	4000	1860	AC220-240V	2 Way	Square	900	TBA
	14	30	5600	2130	AC220-240V	2 Way	Square	900	TBA
AL21803	25	10	2700	2400	AC100-240V	1 Way	Square	900	16.3
	25	10	3000	2600	AC100-240V	1 Way	Square	900	16.3
	25	10	4000	2800	AC100-240V	1 Way	Square	900	16.3
	25	10	5600	3000	AC100-240V	1 Way	Square	900	16.3
AL21804	25	10	2700	2400	AC100-240V	1 Way	Square	1200	TBA
	25	10	3000	2600	AC100-240V	1 Way	Square	1200	TBA
	25	10	4000	2800	AC100-240V	1 Way	Square	1200	TBA
	25	10	5600	3000	AC100-240V	1 Way	Square	1200	TBA
AL21805	25	10	2700	2400	AC100-240V	1 Way	Round	900	13.3
	25	10	3000	2600	AC100-240V	1 Way	Round	900	13.3
	25	10	4000	2800	AC100-240V	1 Way	Round	900	13.3
	25	10	5600	3000	AC100-240V	1 Way	Round	900	13.3
AL21806	25	10	2700	2400	AC100-240V	1 Way	Round	1200	16.3
	25	10	3000	2600	AC100-240V	1 Way	Round	1200	16.3
	25	10	4000	2800	AC100-240V	1 Way	Round	1200	16.3
	25	10	5600	3000	AC100-240V	1 Way	Round	1200	16.3
AL21807	25	10	2700	2400	AC100-240V	2 Way	Round	900	13.3
	25	10	3000	2600	AC100-240V	2 Way	Round	900	13.3
	25	10	4000	2800	AC100-240V	2 Way	Round	900	13.3
	25	10	5600	3000	AC100-240V	2 Way	Round	900	13.3
AL21808	25	10	2700	2400	AC100-240V	2 Way	Round	1200	16.3
	25	10	3000	2600	AC100-240V	2 Way	Round	1200	16.3
	25	10	4000	2800	AC100-240V	2 Way	Round	1200	16.3
	25	10	5600	3000	AC100-240V	2 Way	Round	1200	16.3
AL21809	7	15	2700	645	AC220-240V	1 Way	Oval	500	TBA
	7	15	3000	780	AC220-240V	1 Way	Oval	500	TBA
	7	15	4000	930	AC220-240V	1 Way	Oval	500	TBA
	7	15	5600	1085	AC220-240V	1 Way	Oval	500	TBA
AL21810	7	15	2700	645	AC220-240V	1 Way	Oval	900	TBA
	7	15	3000	780	AC220-240V	1 Way	Oval	900	TBA
	7	15	4000	930	AC220-240V	1 Way	Oval	900	TBA
	7	15	5600	1065	AC220-240V	1 Way	Oval	900	TBA
AL21811	14	30	2700	1390	AC100-240V	1 Way	Oval	500	TBA
	14	30	3000	1560	AC100-240V	1 Way	Oval	500	TBA
	14	30	4000	1860	AC100-240V	1 Way	Oval	500	TBA
	14	30	5600	2130	AC100-240V	1 Way	Oval	500	TBA
AL21812	14	30	2700	1390	AC100-240V	1 Way	Oval	900	TBA
	14	30	3000	1560	AC100-240V	1 Way	Oval	900	TBA
	14	30	4000	1860	AC100-240V	1 Way	Oval	900	TBA
	14	30	5600	2130	AC100-240V	1 Way	Oval	900	TBA

* Please confirm colour temperature when quoting / ordering

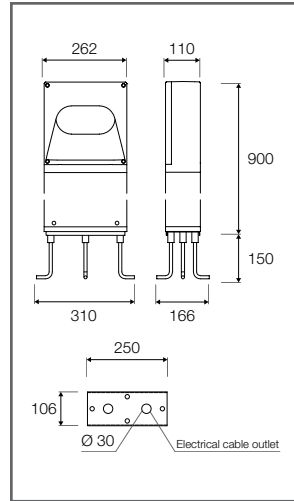
Dimensions



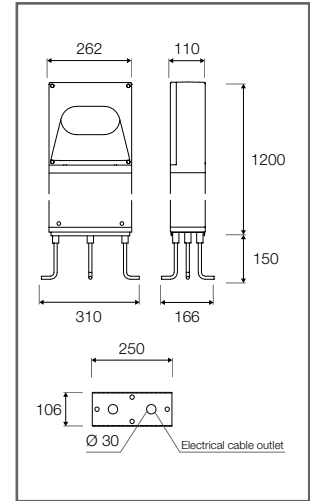
AL21801



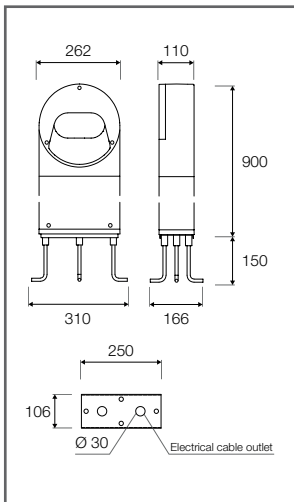
AL21802



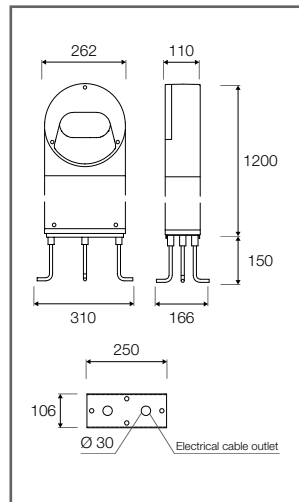
AL21803



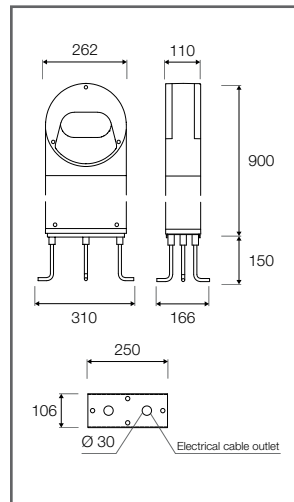
AL21804



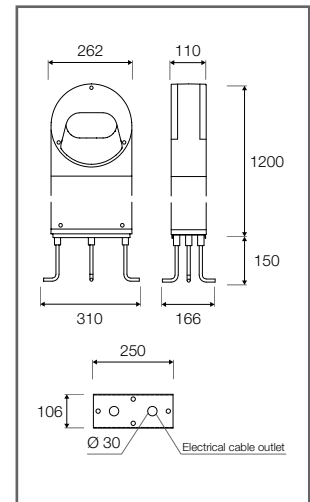
AL21805



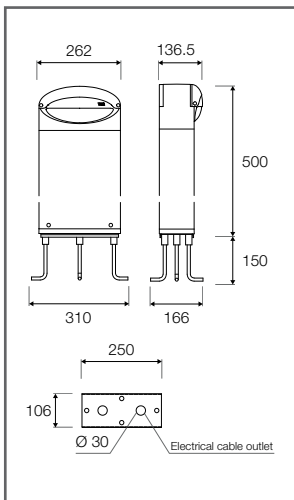
AL21806



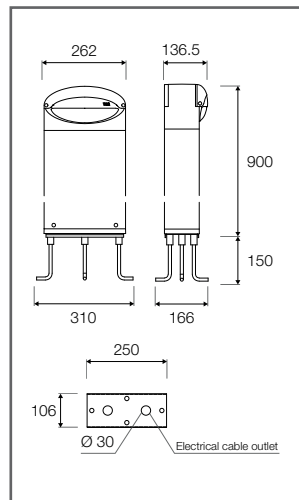
AL21807



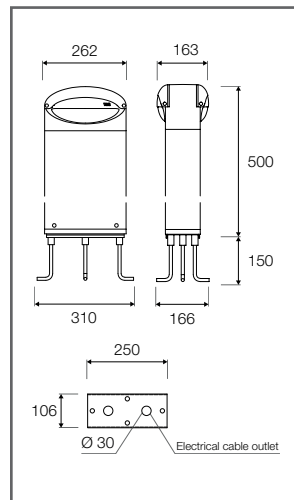
AL21808



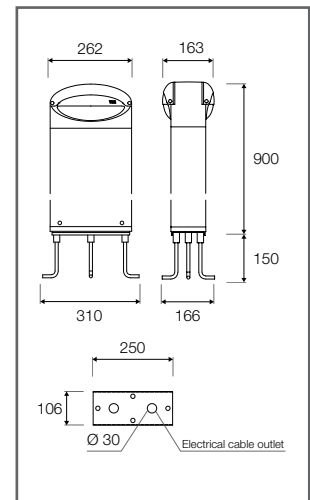
AL21809



AL218010



AL218011

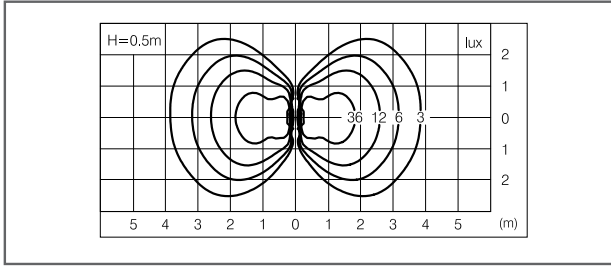


AL218012

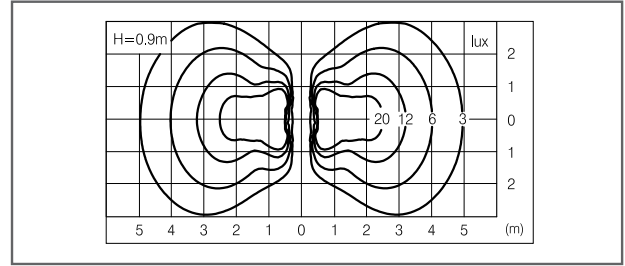
All dimensions are in mm.



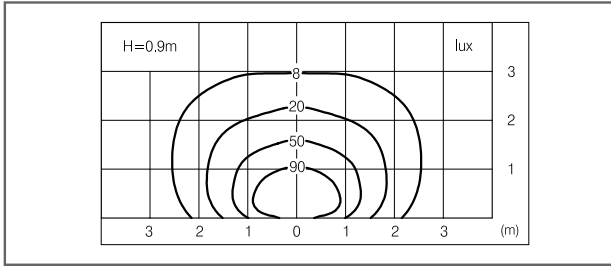
Photometry



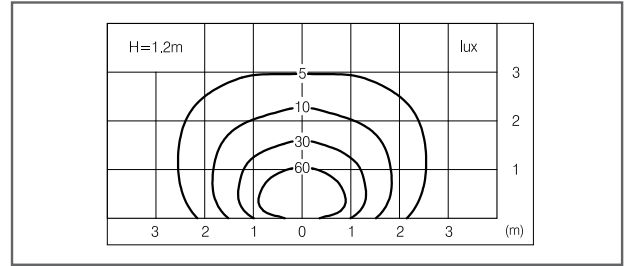
AL21801



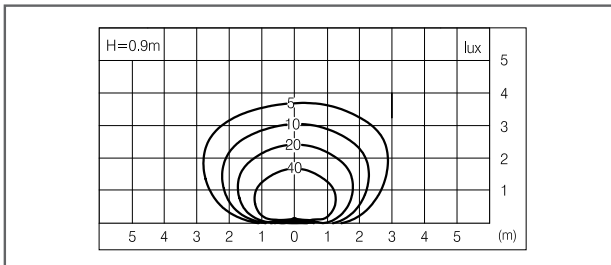
AL21802



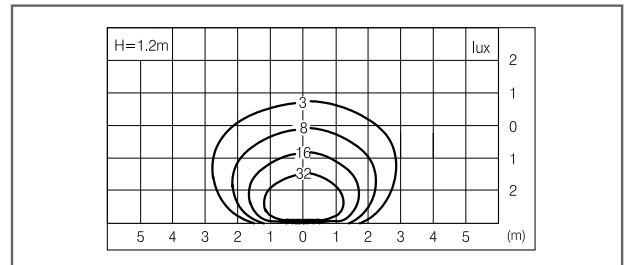
AL21803



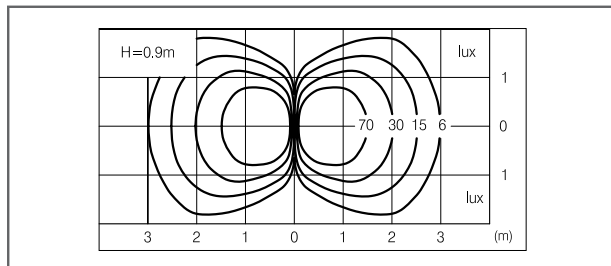
AL21804



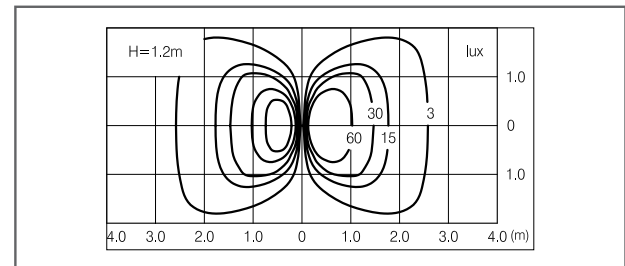
AL21805



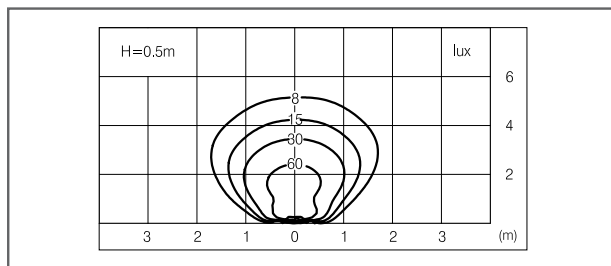
AL21806



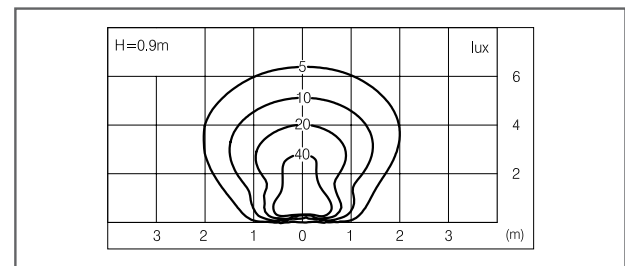
AL21807



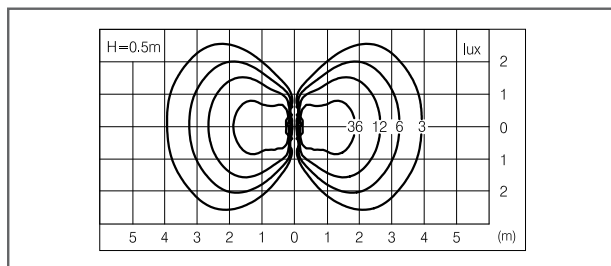
AL21808



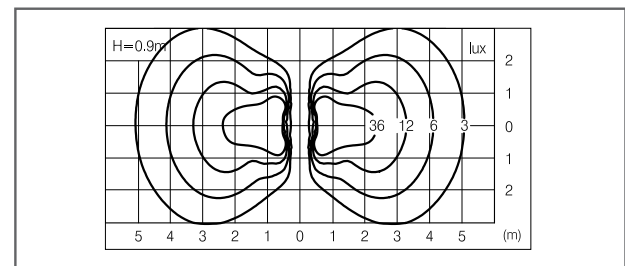
AL21809



AL218010



AL218011



AL218012

LEVATA AL21800 WALL

IP65

Technical Features

- Three wattage options: 7W, 13W or 21W
- Face shape options: rectangular, square, round or oval
- IP65 rated
- Class I protection
- ADC3 die-cast aluminium alloy housing
- 1090 high purity aluminium reflector
- 4mm tempered clear glass
- Stainless steel fixings, allen headed screws
- Mechanical and chemical anti-corrosion pre-treatment, powder coated with 10 year normal UV protection
- Integrated electronic driver with thermal and overload protection
- Surge protection 4kV
- Waterproof cable at maximum $\varnothing 10\text{mm}$ insert to luminaire
- Ambient temperature tested: $-40^{\circ}\text{C} \sim +50^{\circ}\text{C}$



AL21813



AL21814



AL21815



AL21816



AL21817



AL21818

- Matching bollard versions available as part of the Levata LED family
- Mounting position; Wall recessed: AL21813, AL21814, AL21815, AL21816, AL21817
Surface mount: AL21818

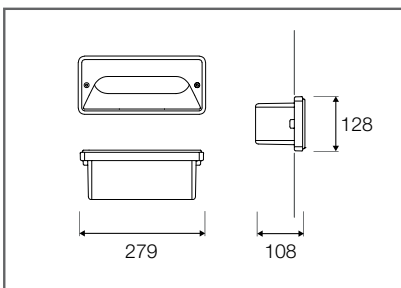
Applications

- Amenity

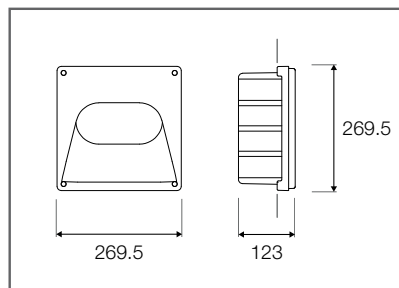
Colours

- Anthracite
- Black
- Light grey

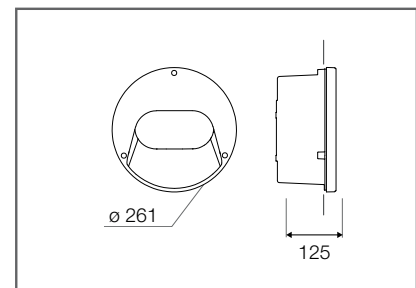
Dimensions



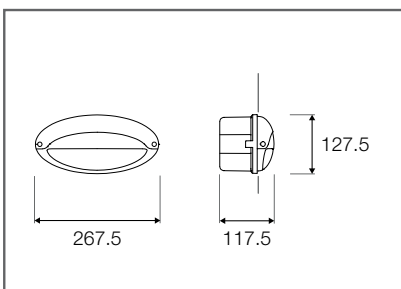
AL21813



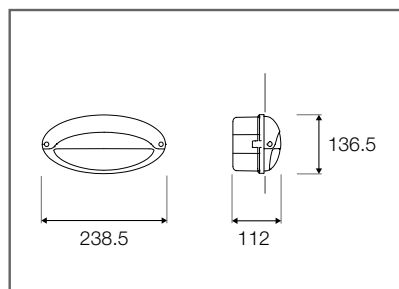
AL21814



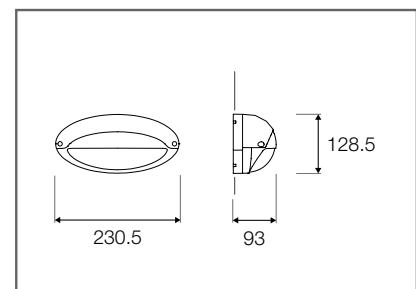
AL21815



AL21816



AL21817

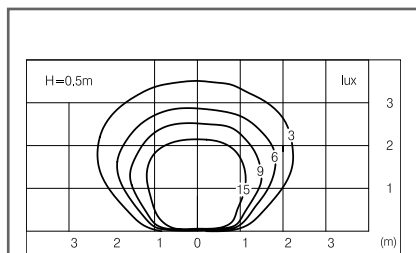


AL21818

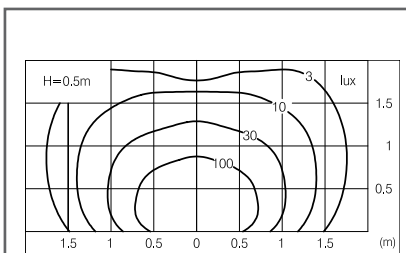


	Wattage (W)	No. of LEDs	Colour Temp. (K) *	Lumen Output (lm)	Input Voltage	Input Voltage for 1:10V	Face Shape	Weight (kg)
AL21813	7	15	2700	645	AC220-240V	N/A	Rectangle	2.38
	7	15	3000	780	AC220-240V	N/A	Rectangle	2.38
	7	15	4000	930	AC220-240V	N/A	Rectangle	2.38
	7	15	5600	1065	AC220-240V	N/A	Rectangle	2.38
AL21814	21	24	2000	1944	AC220-240V	AC100-240V	Square	3.64
	21	24	2400	2208	AC220-240V	AC100-240V	Square	3.64
	21	24	2700	2304	AC220-240V	AC100-240V	Square	3.64
	21	24	3000	2400	AC220-240V	AC100-240V	Square	3.64
	21	24	4000	2496	AC220-240V	AC100-240V	Square	3.64
	21	24	5600	2616	AC220-240V	AC100-240V	Square	3.64
AL21815	21	24	2000	1944	AC220-240V	AC100-240V	Round	3.65
	21	24	2400	2208	AC220-240V	AC100-240V	Round	3.65
	21	24	2700	2304	AC220-240V	AC100-240V	Round	3.65
	21	24	3000	2400	AC220-240V	AC100-240V	Round	3.65
	21	24	4000	2496	AC220-240V	AC100-240V	Round	3.65
	21	24	5600	2616	AC220-240V	AC100-240V	Round	3.65
AL21816	13	15	2700	1440	AC220-240V	AC100-240V	Oval	2.58
	13	15	3000	1560	AC220-240V	AC100-240V	Oval	2.58
	13	15	4000	1860	AC220-240V	AC100-240V	Oval	2.58
	13	15	5600	2130	AC220-240V	AC100-240V	Oval	2.58
AL21817	7	15	2700	645	AC220-240V	AC100-240V	Oval	1.89
	7	15	3000	780	AC220-240V	AC100-240V	Oval	1.89
	7	15	4000	930	AC220-240V	AC100-240V	Oval	1.89
	7	15	5600	1065	AC220-240V	AC100-240V	Oval	1.89
AL21818	7	15	2700	645	AC220-240V	AC100-240V	Oval	1.89
	7	15	3000	780	AC220-240V	AC100-240V	Oval	1.89
	7	15	4000	930	AC220-240V	AC100-240V	Oval	1.89
	7	15	5600	1065	AC220-240V	AC100-240V	Oval	1.89

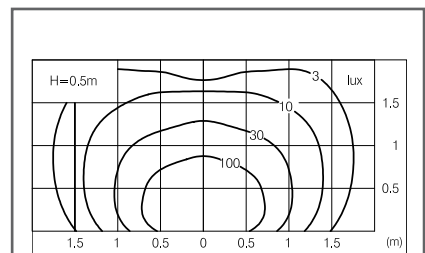
Photometry



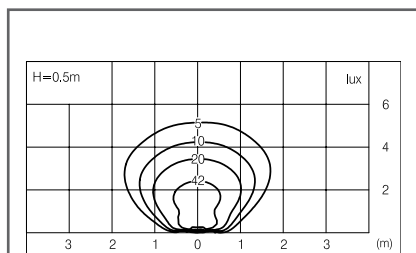
AL21813



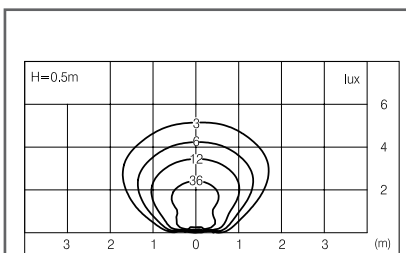
AL21814



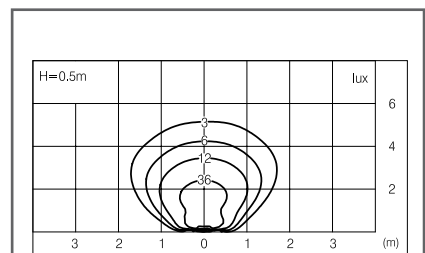
AL21815



AL21816



AL21817



AL21818

LIGO AL11200 ROUND



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
- Powder coated die-cast aluminium EN AB 44100 body with AISI 316L stainless steel trim
- Protective undercoating phosphochromate treatment
- Sealed to IP67
- Techno polymer Rough in Housing 017 / 018 / 019
- Soda-lime tempered glass 12mm
- Silicon sealing gasket
- Supplied with pre-wired cable 0.5m long HO7RN8-F with brass cable gland M20 ø7 / 13mm
- Wire through connection available on request
- Drainage area 300mm
- Maximum static pressure load 2500kg

Technical Features

- In ground recessed uplighter
- Non-integral driver

Applications

- Architectural
- In ground / surface recessed

Beam Types

- 14°
- 29°
- 62°

Colours

-  Stainless

	Wattage (W)	Power Supply	No. of LEDs	Beam	Colour Temp. (K) **	Touch Temp. (°C)	Lumen Output (lm)	Fixture Colour	Rough Inground Casting Box	LED Driver
AL11201	18	Max 500mA 50/60HZ	1	14°	3000	<70	1957	Stainless	017	Non-integral *
AL11202	18	Max 500mA 50/60HZ	1	29°	3000	<70	1957	Stainless	018	Non-integral *
AL11203	18	Max 500mA 50/60HZ	1	62°	3000	<70	1957	Stainless	019	Non-integral *

** Other colour temperatures available on request

Key features

<p>Dimensions</p>	<p>AL11201 Luminaire: 18W 3000K Lamp: 1 LED Power: Max 500mA 50/60HZ</p>	<p>AL11202 Luminaire: 18W 3000K Lamp: 1 LED Power: Max 500mA 50/60HZ</p>	<p>AL11203 Luminaire: 18W 3000K Lamp: 1 LED Power: Max 500mA 50/60HZ</p>
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All dimensions are in mm.

* Please enquire regarding drivers when requesting quotation and ordering.



LIGO AL11200 SQUARE



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

- Powder coated die-cast aluminium EN AB 44100 body with AISI 316L stainless steel trim
- Protective undercoating phosphochromate treatment
- Sealed to IP67
- Techno polymer Rough in Housing 017 / 018 / 019
- Soda-lime tempered glass 12mm
- Silicon sealing gasket
- Supplied with pre-wired cable 0.5m long HO7RN8-F with brass cable gland M20 \varnothing 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°
- 61°

Colours

-  Stainless

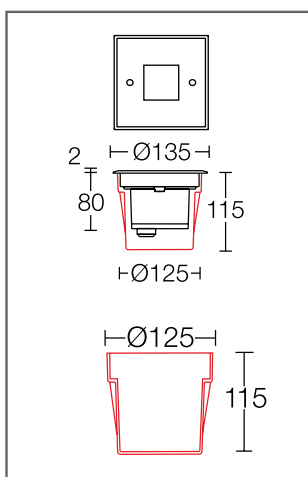
Technical Features

- In ground recessed uplighter
- Non-integral driver

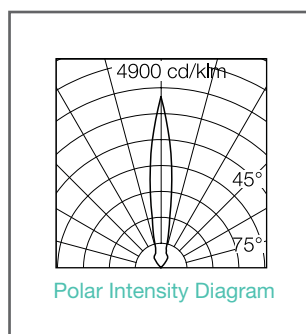
	Wattage (W)	Power Supply	No. of LEDs	Beam	Colour Temp. (K) **	Touch Temp. (°C)	Lumen Output (lm)	Fixture Colour	Rough Inground Casting Box	LED Driver
AL11204	18	Max 500mA 50/60HZ	1	14°	3000	<70	1957	Stainless	017	Non-integral *
AL11205	18	Max 500mA 50/60HZ	1	29°	3000	<70	1957	Stainless	018	Non-integral *
AL11206	18	Max 500mA 50/60HZ	1	61°	3000	<70	1957	Stainless	019	Non-integral *

** Other colour temperatures available on request

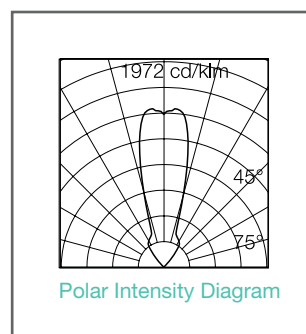
Key features



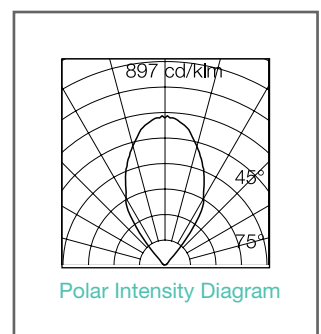
Dimensions



AL11204
 Luminaire: 18W 3000K
 Lamp: 1 LED
 Power: Max 500mA 50/60HZ



AL11205
 Luminaire: 18W 3000K
 Lamp: 1 LED
 Power: Max 500mA 50/60HZ



AL11206
 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.

VOLANS AL11800



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
- Aluminium ring with adjustable bracket for mounting

- Die-cast aluminium body to EN AB 44100 with high resistance to oxidation with 2mm thick AISI316L 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 ø5/10mm
- Driver sold seperately
- IP boxes for driver available upon request

Applications

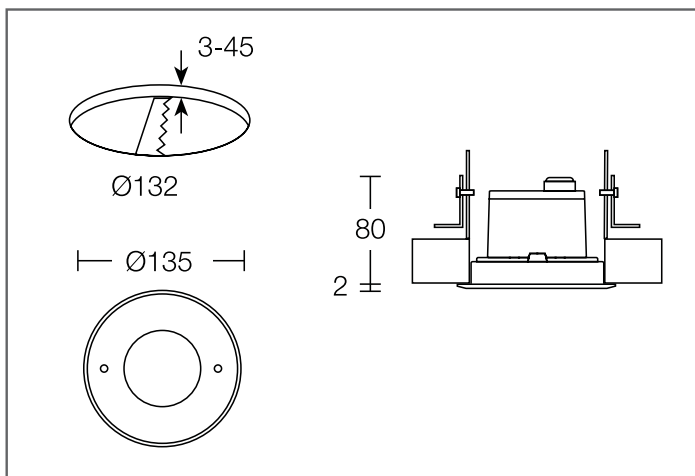
- Architectural
- Ceiling recessed

Colours

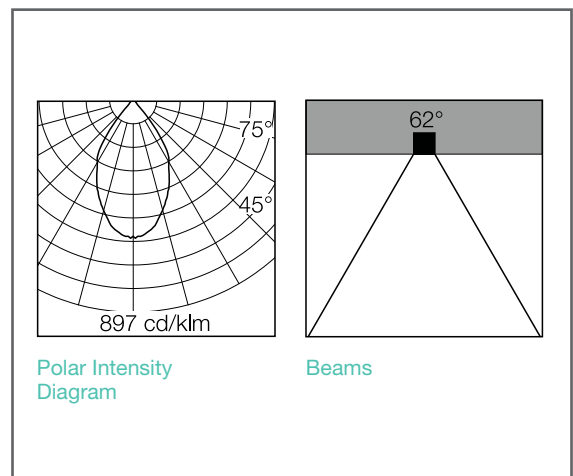
-  Stainless

	Wattage (W)	Power Supply	No. of LEDs	Beam	Colour Temp. (K) **	Lumen Output (lm)	Fixture Colour	LED Driver
AL11801	18	Max 500mA DC	1	62°	4000	2045	Stainless	Sold seperately *
AL11802	18	Max 500mA DC	1	62°	3000	1957	Stainless	Sold seperately *

Key features



Dimensions



All dimensions are in mm.

* Driver and IP boxes sold seperately, please enquire when quoting or ordering.



SPICA AL11100

IP67

IK10



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 3000k standard and RGB LED options to suit a variety of environments
- Design allows for ease of maintenance
- Powder coated die-cast aluminium EN AB 44100 body with AISI 316L stainless steel trim
- Protective undercoating phosphochromate treatment
- Sealed to IP67
- 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 \varnothing 7 / 13mm
- Wire through connection possible with accessory
- Drainage area 300mm

Technical Features

- In-ground recessed uplighter
- Integral driver in AL11101 (3000K)
- Non-integral driver in AL11102 (RGB)

Applications

- Architectural
- In ground / surface recessed

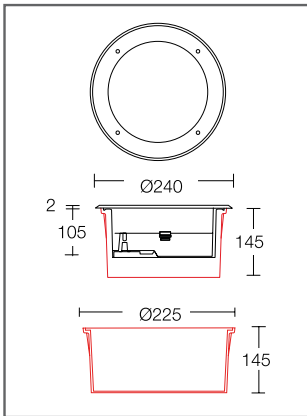
Colours

-  Stainless

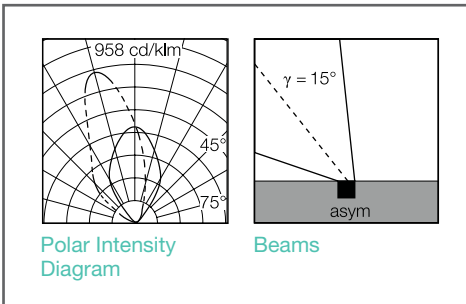
	Wattage (W)	Power Supply	No. of LEDs	Beam	Colour Temp. (K) **	Touch Temp. (°C)	Lumen Output (lm)	Fixture Colour	LED Driver
AL11101	26	220-240V 50/60HZ	1	Flood	3000	<70	2668	Stainless	Integral
AL11102	12	Max 350mA 50/60HZ	4	Flood	RGB	<70	420	Stainless	Non-integral*

** Other colour temperatures available on request

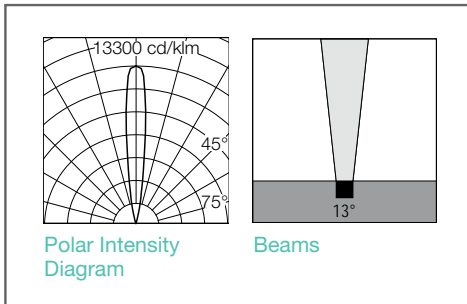
Key features



Dimensions



AL11101
Luminaire: 26W 3000K
Lamp: 1 LED
Power: 220-240V 50/60HZ



AL11102
Luminaire: 12W RGB
Lamp: 4 LED
Power: Max 350mA

All dimensions are in mm.

* For RGB version, please enquire regarding drivers when requesting quotation and ordering.

REGIA AL11300



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 luminaire
- 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 ø7 / 13mm

Applications

- Architectural
- Surface Mounted

Beam Types

- 8°
- 24°
- 62°

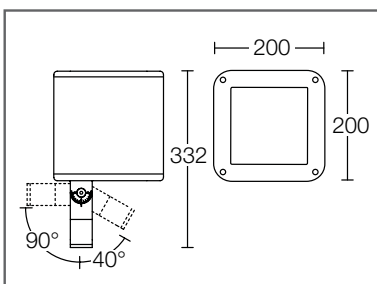
Colours

- Anthracite
- Light grey

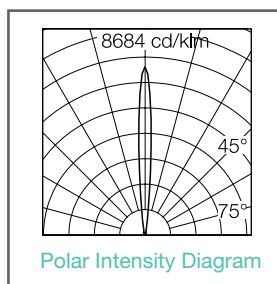
	Wattage (W)	Power Supply	No. of LEDs	Beam	Colour Temp. (K) **	Lumen Output (lm)	LED Driver	Fixture Colour
AL11301	47	220-240V 50/60HZ	1	8°	3000	5197	Integral	Anthracite
AL11303	47	220-240V 50/60HZ	1	24°	3000	5197	Integral	Anthracite
AL11304	47	220-240V 50/60HZ	1	24°	3000	5197	Integral	Light grey
AL11305	47	220-240V 50/60HZ	1	62°	3000	5197	Integral	Anthracite
AL11306	47	220-240V 50/60HZ	1	62°	3000	5197	Integral	Light grey

** Other colour temperatures available on request

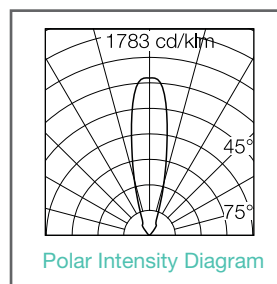
Key features



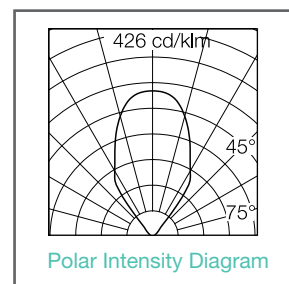
Dimensions



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



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



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

All dimensions are in mm.



ADARA AL11400 DOWNLIGHT



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

- Wall mounted luminaire
- 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°

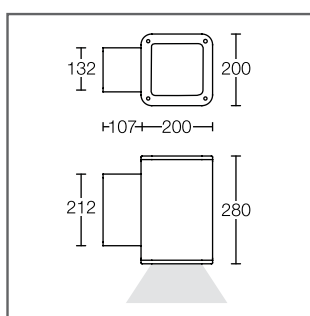
Colours

- Anthracite
- Light grey

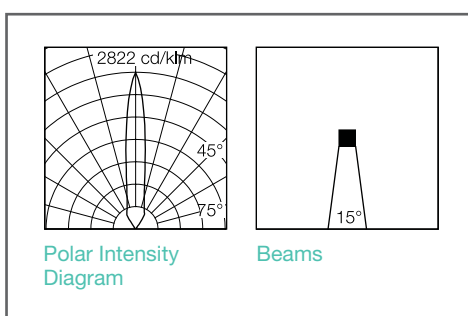
	Wattage (W)	Power Supply	No. of LEDs	Beam	Colour Temp. (K) **	Lumen Output (lm)	LED Driver	Fixture Colour
AL11401	26	220-240V 50/60HZ	1	15°	3000	2760	Integral	Anthracite
AL11402	26	220-240V 50/60HZ	1	15°	3000	2760	Integral	Light grey
AL11403	26	220-240V 50/60HZ	1	50°	3000	2760	Integral	Anthracite
AL11404	26	220-240V 50/60HZ	1	50°	3000	2760	Integral	Light grey

** Other colour temperatures available on request

Key features

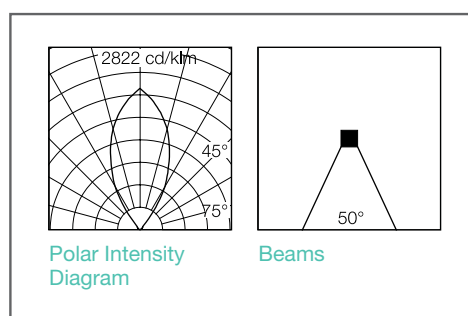


Dimensions



AL11401 & AL11402

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



AL11403 & AL11404

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

All dimensions are in mm.

ADARA AL11400 UP / DOWNLIGHT



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 offer effective and evenly distributed up / downlighting
- Design allows for ease of maintenance

Technical Features

- Wall mounted luminaire
- 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°

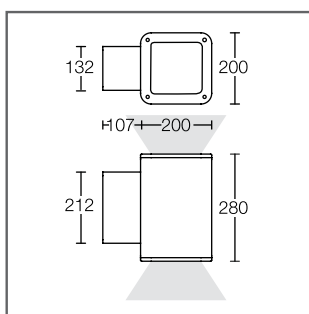
Colours

- Anthracite
- Light grey

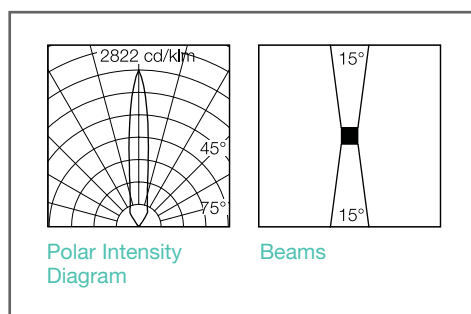
	Wattage (W)	Power Supply	No. of LEDs	Beam	Colour Temp. (K) **	Lumen Output (lm)	LED Driver	Fixture Colour
AL11405	52	220-240V 50/60HZ	2 x 1	15°	3000	2 x 2760	Integral	Anthracite
AL11406	52	220-240V 50/60HZ	2 x 1	15°	3000	2 x 2760	Integral	Light grey
AL11407	52	220-240V 50/60HZ	2 x 1	50°	3000	2 x 2760	Integral	Anthracite
AL11408	52	220-240V 50/60HZ	2 x 1	50°	3000	2 x 2760	Integral	Light grey

** Other colour temperatures available on request

Key features

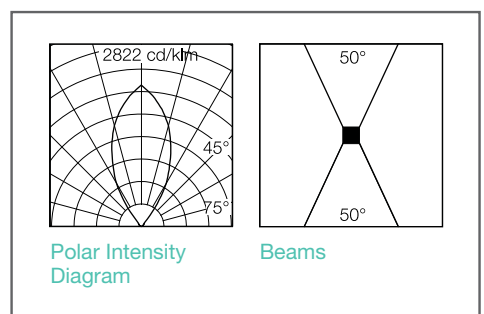


Dimensions



AL11405 & AL11406

Luminaire: 52W 3000K
Lamp: 2 LED
Power: 220-240V 50/60HZ



AL11407 & AL11408

Luminaire: 52W 3000K
Lamp: 2 LED
Power: 220-240V 50/60HZ

All dimensions are in mm.



TURAIS AL11500 DOWNLIGHT



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
- 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 $\varnothing 8 / 12\text{mm}$
- Second cable entry available
- Available in anthracite or light grey for architectural use
- Available in a standard or emergency version



Colours

- Anthracite
- Light grey

Applications

- Architectural
- Surface Mounted

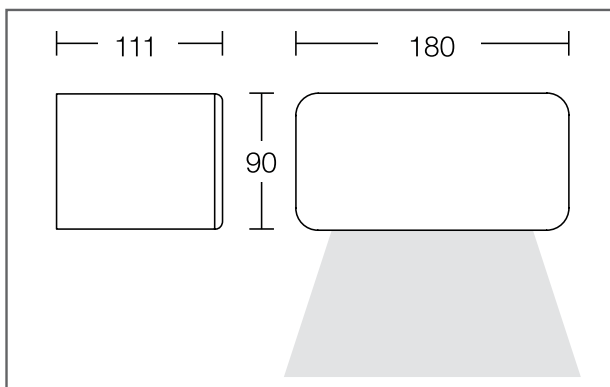
Beam Types

- 38°

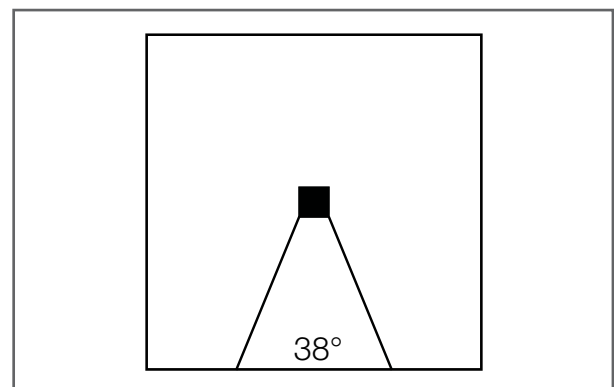
	Wattage (W)	Power Supply	No. of LEDs	Beam	Colour Temp. (K) **	Lumen Output (lm)	LED Driver	Fixture Colour	Emergency Version
AL11501	10	220-240V 50/60HZ	2	38°	3000	1092	Integral	Anthracite	Available *
AL11502	10	220-240V 50/60HZ	2	38°	3000	1092	Integral	Light grey	Available *

** Other colour temperatures available on request

Key features



Dimensions



Beam

All dimensions are in mm.

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

TURAIS AL11500 UP / DOWNLIGHT



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

- 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 ø8 / 12mm
- Second cable entry available
- Available in anthracite or light grey for architectural use

Applications

- Architectural
- Surface Mounted

Technical Features

- Wall mounted up / downlighter
- Integral driver
- Powder coated polyester finish with high resistance to UV and oxidation
- Sealed to IP65 and IK06 rated
- Stainless steel A4-70 treated external fixings

Beam Types

- 38°

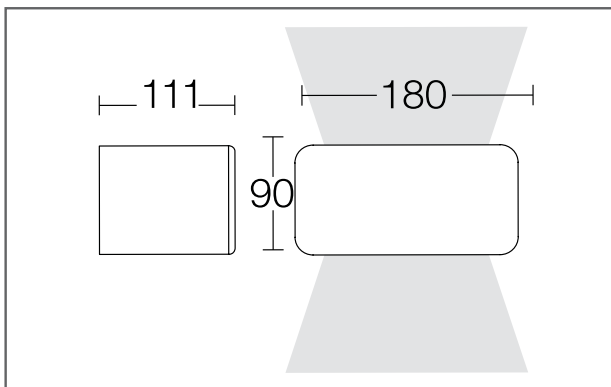
Colours

- Anthracite
- Light grey

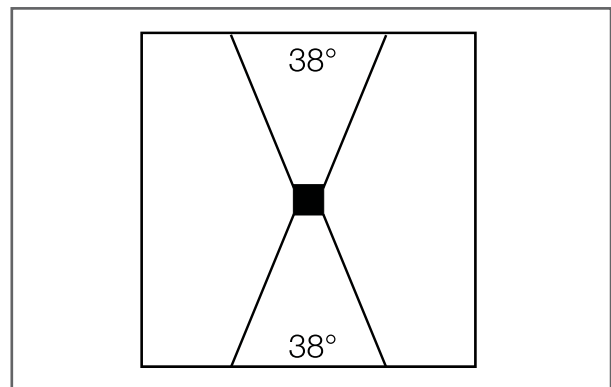
	Wattage (W)	Power Supply	No. of LEDs	Beam	Colour Temp. (K) **	Lumen Output (lm)	LED Driver	Fixture Colour
AL11503	14	220-240V 50/60HZ	2 x 9	38°	3000	2 x 819	Integral	Anthracite
AL11504	14	220-240V 50/60HZ	2 x 9	38°	3000	2 x 819	Integral	Light grey

** Other colour temperatures available on request

Key features



Dimensions



Beams

All dimensions are in mm.



ANELLO AL21400

IP65



Technical Features

- Available as a single or double option;
 - Single: 54W + 7W (7W LED feature ring) = 76W total
 - Double: 54W + 7W (7W LED feature ring) = 136W total
- LED feature ring available in white or coloured LEDs
- Weight for single and double options;
 - Single: 11.63kg
 - Double: 23.26kg
- Available in 3000K, 4000K and 5600K colour temperatures
- Luminous flux (light source flux): 6050lm, 6600lm, 6700lm
- IP65 rated
- Protection Class I (IEC - EN60593)
- CE, ENEC, RoHS certified
- 4mm tempered glass

- ADC3 die-cast aluminium alloy body, anti-corrosion pre-treatment then finished in an AZKO-NOBEL UV resistant polyester powder coating
- 1090 high purity aluminium reflector
- Opalescent polycarbonate diffuser ring and PMMA prismatic optical lens for distribution
- Water vapour resistant silicone gasket
- Stainless steel fixings
- Input Voltage: AC220-240V
- Surge protection 6kV
- Ambient temperature tested -40°C ~ +50°C
- Withstand wind speed 45m/s
- Service life ≥35000 hours
- For best results, use on columns up to 6m

Applications

- Amenity
- Architectural

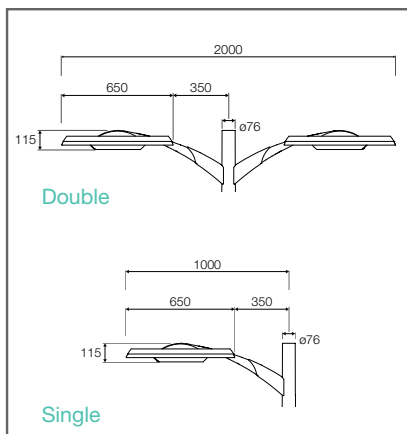
Colours

- Anthracite
- Light grey
- Black

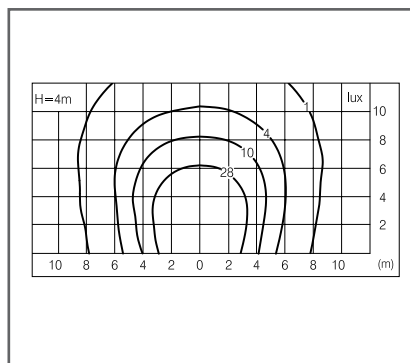
	Wattage (W)	Colour Temp. (K) *	Lumen Output (lm)	Distribution	Weight (kg)
AL21401	67	3000	6050	Asymmetric	11.63
	67	4000	6600	Asymmetric	11.63
	67	5600	6700	Asymmetric	11.63
AL21402	67	3000	6050	Batwing	11.63
	67	4000	6600	Batwing	11.63
	67	5600	6700	Batwing	11.63

* Please confirm colour temperature when quoting / ordering

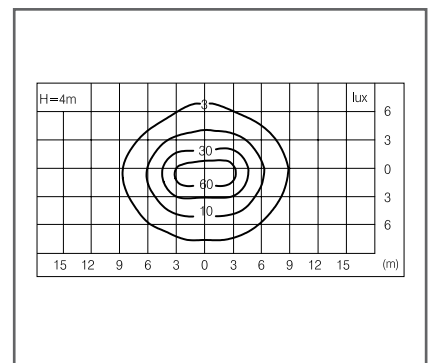
Key features



Dimensions



PHOTOMETRY
Distribution: Asymmetric



PHOTOMETRY
Distribution: Batwing

All dimensions are in mm.

ORIS LED AL3710

IP66

IK08



Benefits

- High performance amenity and road lighting with performance LED module
- Short install and maintenance time via tool-free opening hook
- Maintenance safety risks are reduced as power can be automatically switched off when the fitting is opened (available upon request)

Technical Features

- Weight: 13 - 14kg
- Windage: 0.06m²
- CRI: 80
- Colour temperature: 4000K as standard. Other temperatures available upon request
- Controls: Presence detector or Dali
- Rated life: 50000 hours at 700mA
- Classes I and II available
- Mounting:
Spigot side entry ø60mm
Spigot post top ø60mm or ø76mm
- Five light distribution options available
- IP66 rated with IP68 vent
- IK08 as standard, option for IK10 available
- Incorporated driver
- Thermal regulation by an integrated heat sink
- Surge protector or over/under voltage protection (optional)
- Luminaire made of injected cast aluminium
- Tempered glass
- ULOR 0% (ULOR: Upward Light Output Ratio)
- Extra slim profile fitting with curved design

Applications

- Amenity

Colours

-  Grey

Distribution options

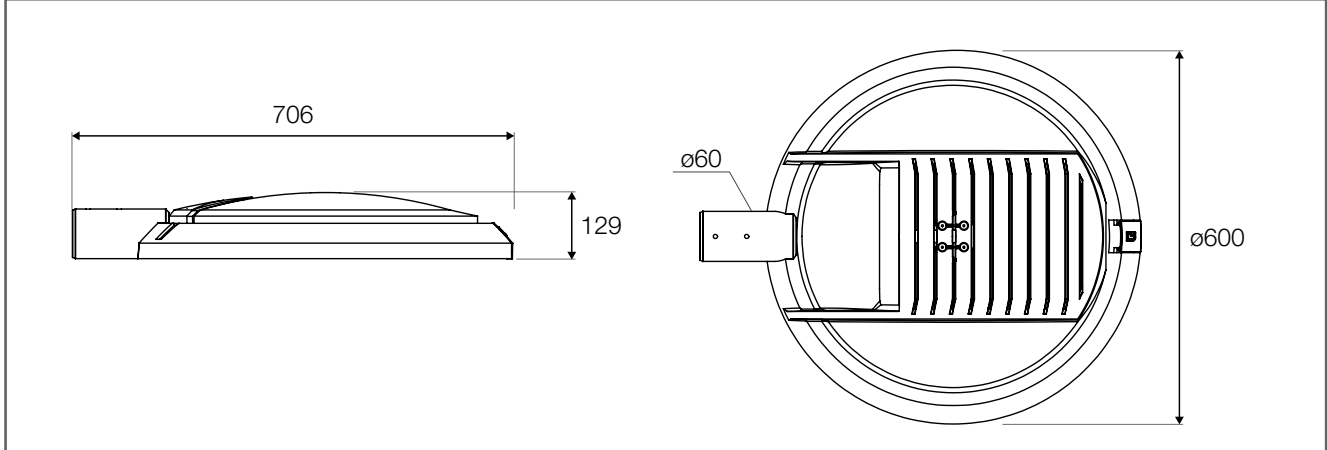
The Oris LED is available in six light distribution options as seen in the following table. Please enquire when quoting / ordering.

Light Distribution	Option	Description	Code
Asymmetrical	ASY01	Main & secondary roads, high visual comfort & almost zero glare (very low TI)	A
	ASY02	Normal to wide roads with adjacent channels (paths), wide spacing between light points	B
	ASY03	Narrow lanes, area to be lit targeted	C
Circular	CIR01	Atmospheric lighting of squares, car parks, town centres, pedestrian areas, parks & gardens	D
Symmetrical	SYM01	Atmospheric lighting of squares, car parks, town centres, pedestrian areas, etc. Axial installations (on median strips, on catenary systems, between pavement and bicycle path)	E
PC01	PC01	Completes lighting on protected crossings	F



	Wattage (W)	No. of LEDs	Lumen Output (lm)	Running Current (mA)	Luminous Efficacy	Windage (m ²)	Weight (kg)
AL3712	48.2	45	5185	350	115	0.06	13
	70	45	6999	500	101	0.06	13
	99.4	45	9273	700	89	0.06	13
	151.3	45	12416	1050	73	0.06	13
AL3713	64.2	60	6913	350	114	0.06	13
	93.3	60	9332	500	99.7	0.06	13
	132.5	60	12363	700	89.4	0.06	13
	201.7	60	16555	1050	71.6	0.06	14
AL3714	96.3	90	10370	350	117.2	0.06	13
	140	90	13998	500	100.3	0.06	13
	198.8	90	18545	700	90.6	0.06	14
	302.5	90	24833	1050	82.1	0.06	14

Dimensions



All dimensions are in mm.

Key features

ASY01 (Asymmetrical)

ASY02 (Asymmetrical)

ASY03 (Asymmetrical)

CIR01 (Circular)

SYM01 (Symmetrical)

PC01 (Pedestrian)

ORIS AL3700



Benefits

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

Features

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

Colours

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



	Lamp Wattage (W)	Lamp Type	Lamp Holder	Description	Windage (m ²) *	Weight (kg) *
AL3701	70	SON-T	E27	Flat glass, integral control gear	7.5	0.05
	70 / 100 / 150	MH	E27	Flat glass, integral control gear	7.5	0.05
AL3702	100 / 150	SON-T	E40	Flat glass, integral control gear	7.5	0.05
AL3703	140 / 90 / 60	Cosmo White **	PGZ12	Flat glass, integral control gear	7.5	0.05
AL3705	150	MH	E27	Flat glass, integral control gear	9	0.06
AL3706	150 / 250	SON-T	E40	Flat glass, integral control gear	9	0.06
AL3707	140	Cosmo White **	PGZ12	Flat glass, integral control gear	9	0.06

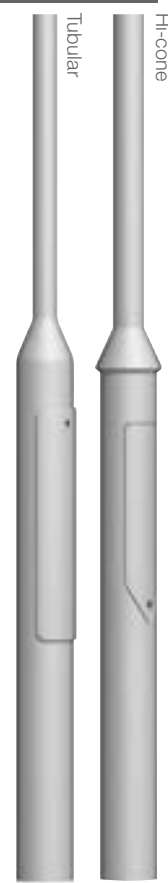
*Max in range. ** Supplied with electronic control gear



Column and bracket options

Choose between fixed and base-hinged

	8m	6m	5m		8m	6m	5m
Fixed				Base diameter (mm) Shaft diameter (mm) Base height (mm) Flange plate (mm) Root length (mm) Door opening (mm) Cable entry (root) (mm)	168 89 1250 Type 1 1200 600 x 115 150 x 50	140 76 1250 Type 0 1000 500 x 100 150 x 50	140 76 1250 Type 0 800 500 x 100 150 x 50
Tubular	TB081/SP	TB060/SP	TB050/SP				
Hi-cone	TB081/HC	TB060/HC	TB050/HC				
Hi-cone (Silver)	TB081/HC/2P9006	TB060/HC/2P9006	TB050/HC/2P9006				
Base							
Light duty	T081RLS/SP	T061RLS/SP	T051RLS/SP				
Light duty (Black)	T041RLS/SP/2P9005	T051RLS/SP/2P9005	T061RLS/SP/2P9005				
Brackets	Silver	Gunmetal	Galv. Finish				
Single (300mm)	CHC/S/300/9006	CHC/S/300/9007	CHC/S/300				
Twin	CON/D/xx/76 or 89	CHC/D/300/9007	CHC/D/300				
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.



Key features

<p>AL3701/02/03 Mounting height: 4m-6m</p>	<p>AL3705/06/07 Mounting height: 6m-10m</p>	<p>Maintenance Tool free access to lamp and integral control gear by opening clasp and lowering door</p>	<p>AL3701/2 150W SON Mounting height: 6m</p>

All dimensions are in mm.

Full photometry available on our website www.abacuslighting.com

HISPAR AL22600

IP67

Benefits

- Ideal retrofit with a traditional style body with energy efficient LED modules

Features

- LED post top fitting available in three versions;
 - AL22601 (Standard, circular)
 - AL22602 (Small, circular)
 - AL22603 (Standard, square)
- Power;
 - AL22601: 176W (System 186W)
 - AL22602: 84W (System 92.7W)
 - AL22603: 176W (System 186W)
- Integral heat sinking
- Photocell adaptable
- LumaFit LEDs on aluminium boards
- Dimmable driver

- Die-cast aluminium back housing, finished in black powdercoating over a chromate conversion coat
- 5 year warranty
- Rated life: 50000 hours
- Voltage 120 - 277V, 50/60Hz
- Ra >80
- CRI 80+
- Operating temperature -40°C ~ +40°C

Colours

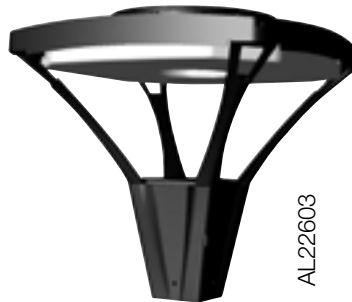
- Black



AL22601



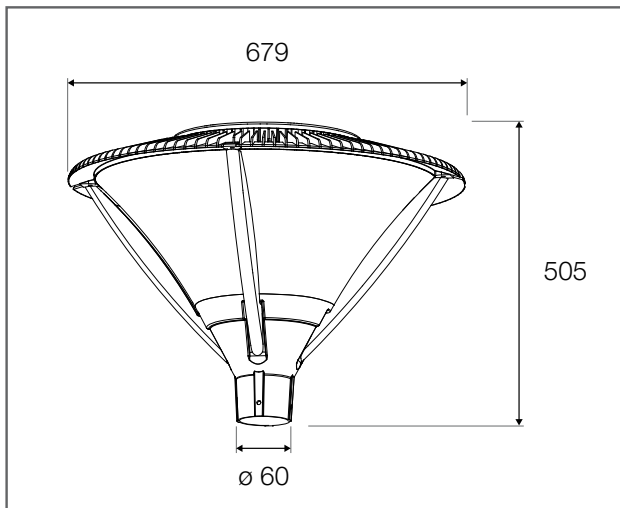
AL22602



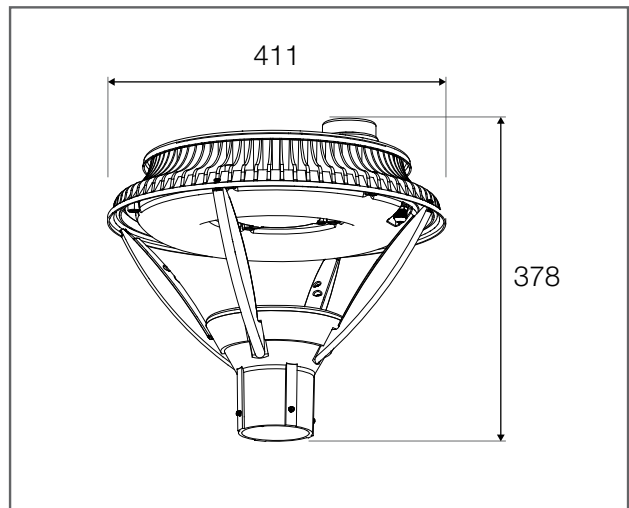
AL22603

	Wattage (W)	Lumen Output (lm)	Colour Temp. (K)	Diameter / Dimension (mm)	Standard / Small	Shape
AL22601	186	17360	5000	679	Standard	Round
AL22602	92.7	5900	4000	400	Small	Round
AL22603	186	18883	5000	700	Standard	Square

Key features



Dimensions (AL22601)



Dimensions (AL22602)

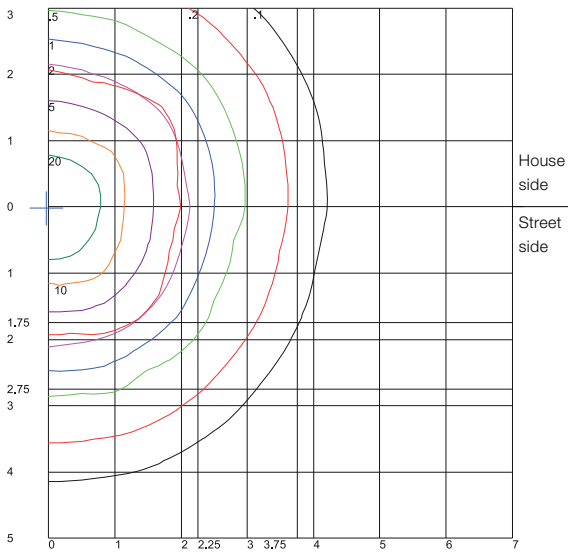
All dimensions are in mm.



Key features

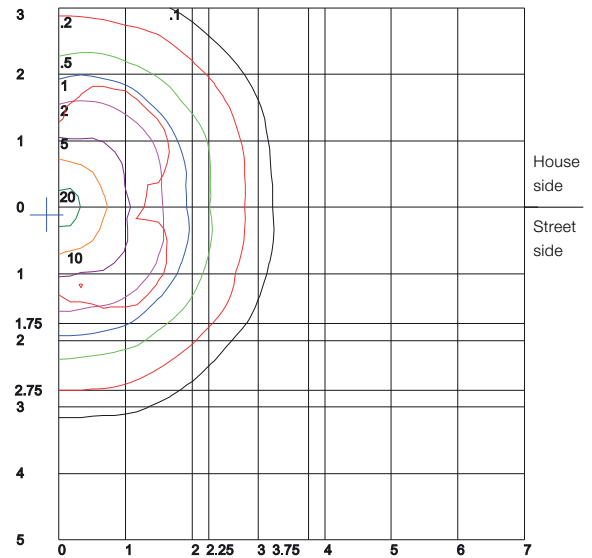
AL22601

Hispar - standard, round



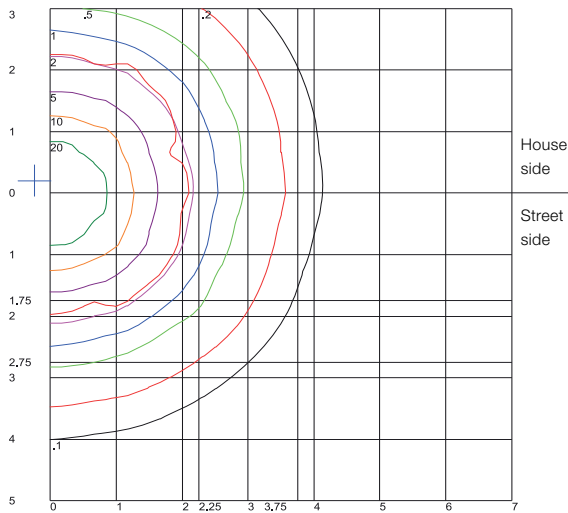
AL22602

Hispar - small, round



AL22603

Hispar - standard, square



Distance in units of mounting height
 Values based on 3m mounting height
 1/2 Maximum Candela trace shown as dashed curve
 (+) = Maximum Candela point

ABACUS – FIRST CHOICE FOR SAFETY

ROAD LIGHTING



APOLLO LED AL6666

IP65

IK10



In Association with:
 KINGSUN

Benefits

- Easy assembly and maintenance
- Modular future-proof design
- Excellent thermal management
- High reliability and performance from Cree or Lumiled LEDs
- LM-80 compliant
- >50000 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

- A number of 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

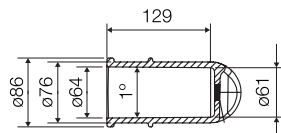
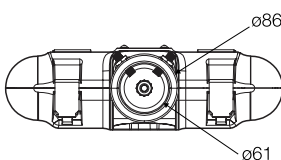
Colour

-  Light grey

	Wattage (W)	No. of LED Modules	No. of LEDs	Power Consumption (W)	Typical Flux at 5000K (lm)	Dimensions L x W x D (mm)	Windage (m ²)	Weight (kg)
AL6666 / 30	30	1	14	33	3300	502 x 346 x 102	0.07	3.4
AL6666 / 60	60	2	28	62	6600	546 x 346 x 102	0.07	4.3
AL6666 / 90	90	3	42	93	9500	626 x 346 x 102	0.07	5.3
AL6666 / 120	120	4	56	123	12500	688 x 346 x 102	0.08	6.3
AL6666 / 150	150	5	70	155	15500	750 x 346 x 102	0.08	7.3
AL6666 / 180	180	6	84	185	18500	812 x 346 x 102	0.08	8.3
AL6666 / 210	210	7	98	216	21500	874 x 346 x 102	0.09	9.3
AL6666 / 240	240	8	112	246	24500	936 x 346 x 102	0.10	10.3
AL6666 / 270	270	9	126	277	27500	998 x 346 x 102	0.10	11.3
AL6666 / 300	300	10	140	308	30500	1060 x 346 x 102	0.11	12.3

Dimensions

Dimensions in mm



Key features

Colour Rendering:	>75
Colour Temperature:	5000K as standard, 3000K, 4000K upon request
Power Factor:	>0.95
Luminaire Efficiency:	>85%
Ambient Environment:	Temperature: -40 ~ +50°C ; Humidity: 10% ~ 95%
Lifespan:	>50000 life time to 70% lumen maintenance
Driver Current:	700mA

INDUS LED AL21000

IP66

IK08



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

- Classification I
- IP66 and IK08 rated
- 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
- Spigot post top mounting and spigot side entry mount 46-76mm
- Extra clear 4mm tempered flat glass
- Replacement of the entire LED module including upper luminaire cover
- Power supply cable access through a PG 13.5 cable gland (IP68)
- Anti-ageing 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



Standard Body

Optional fin body (F)

Applications

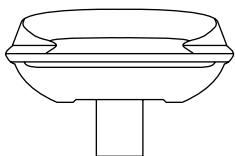
- Road
- Pathways

Colour

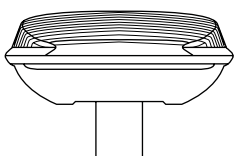
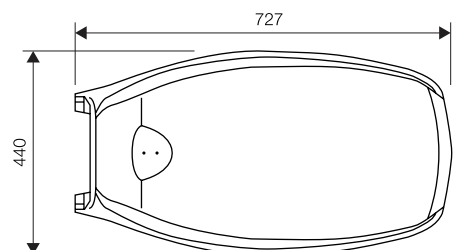
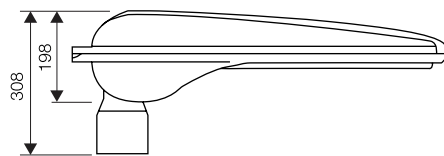
- Silver

Dimensions

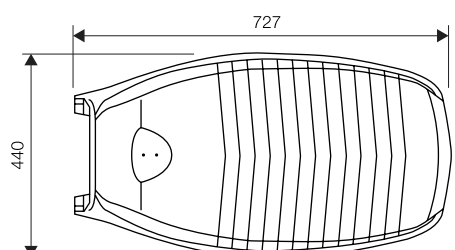
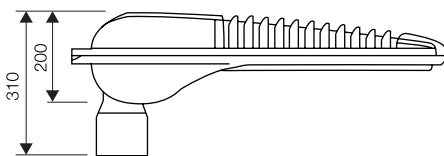
Dimensions in mm



Standard body



Optional fin body (F)



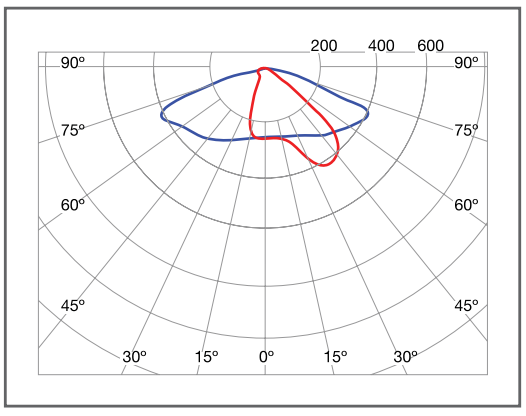


	Wattage (W)	Lumen Output (lm)	Driver Current (mA)	No. of LEDs	Fixed Driver Available	Light Distribution	Optic	Weight Standard Body (kg)	Weight Fin Body f (kg)	Wind Area (m ²)
AL21001	81	9920	530	49	Y	(A) Road width greater than 0.85 x the column height	AB1 / AB1 Optic	16.9	16.0	0.084
	90	11050	530	56	Y			16.9	16.0	0.084
	105	12360	530	63	Y			17.0	16.1	0.084
	117	13480	530	70	Y			17.1	16.2	0.084
	122	14310	530	75	N			17.1	16.2	0.084
AL21011	106	12240	700	49	Y	(A) Road width greater than 0.85 x the column height	AB1 / AB1 Optic	16.0	16.0	0.084
	120	13640	700	56	Y			16.0	16.0	0.084
	135	15250	700	63	Y			17.0	16.1	0.084
	148	16650	700	70	N			17.1	16.2	0.084
	162	17630	700	75	N			17.5	16.6	0.084
AL21002	81	9920	530	49	Y	(B) Road equal or less than 0.85 x the column height - bike/ pedestrian pathways	B1 / B1 Optic	16.9	16.0	0.084
	90	11050	530	56	Y			16.9	16.0	0.084
	105	12360	530	63	Y			17.0	16.1	0.084
	117	13480	530	70	Y			17.1	16.2	0.084
	122	14310	530	75	N			17.1	16.2	0.084
AL21012	106	12240	700	49	Y	(B) Road equal or less than 0.85 x the column height - bike/ pedestrian pathways	B1 / B1 Optic	16.9	16.0	0.084
	120	13640	700	56	Y			16.9	16.0	0.084
	135	15250	700	63	Y			17.0	16.1	0.084
	138	16650	700	70	N			17.1	16.2	0.084
	162	17630	700	75	N			17.5	16.6	0.084

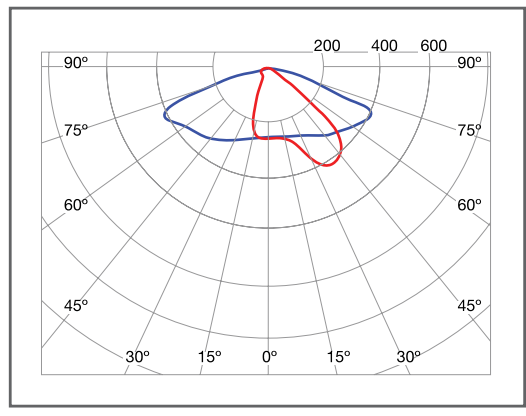
PROGRAMMABLE DRIVER AVAILABLE ON ALL OPTIONS

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

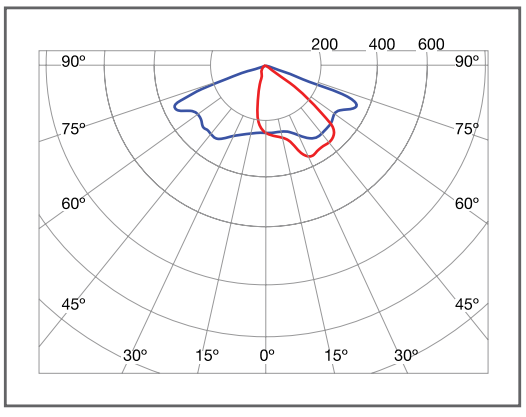
Key features



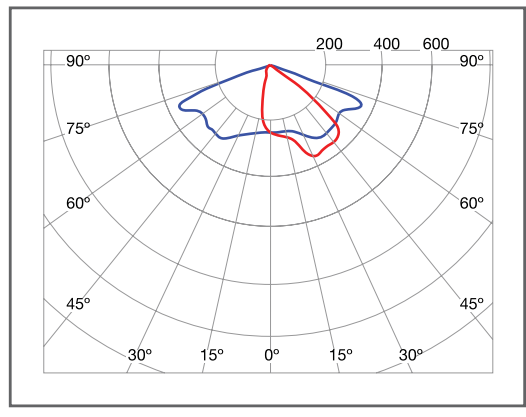
Indus AB1 Vertical — Horizontal



Indus (f) AB1 Vertical — Horizontal



Indus B1 Vertical — Horizontal



Indus (f) B1 Vertical — Horizontal

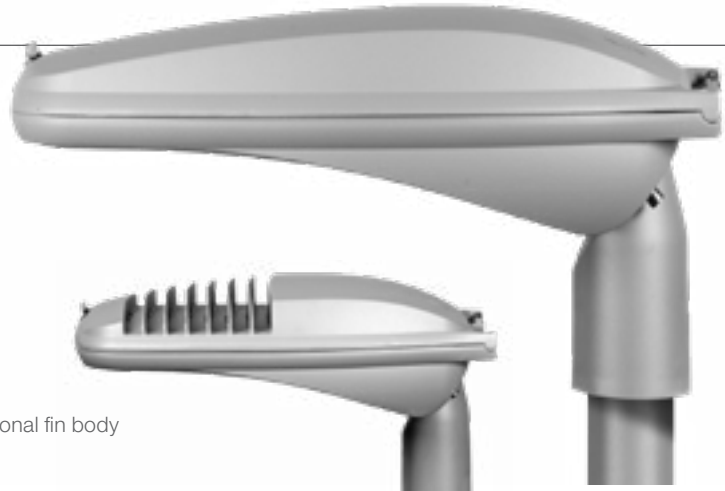
INDUS CITY LED AL21000

IP66

IK09

Technical Features

- IP66 and IK09 rated
- XLP or XHP-70 LEDs
- Colour temperature 5000K
- CRI >70
- Power correction factor >0.9
- Constructed to EN 60598-1, EN 60598-2-3
- Programmable and high efficiency electronic power source and duration, knife switch included
- Power supply cable access through PG16 cable gland (IP68)
- Power supply 220 - 240V / 50 - 60Hz as standard
- Power supply available in 120 - 277V / 50 - 60 Hz VAC
- Insulation class I and II
- Programmable drive available
- Cable plate is complete with easily replaceable electronic unit
- L80 >70000
- L70 >80000



*Optional fin body

- Die-cast aluminium body finished in silver polyester powder (RAL 9006)
- Top cover available as a smooth case as standard, with option to have cross-sectional cooling fin case
- LED module replaceable as one unit including the upper cover
- Extra clear 4mm thick tempered flat glass
- Stainless steel closing clips and anti-ageing rubber gaskets
- Teflon pressure compensation filter
- Automatic anti-closing mechanism to prevent accidental closure during assembly and maintenance
- Post top or side entry with adjustable spigot
- Spigot entry $\varnothing 46 - \varnothing 76$ mm

Applications

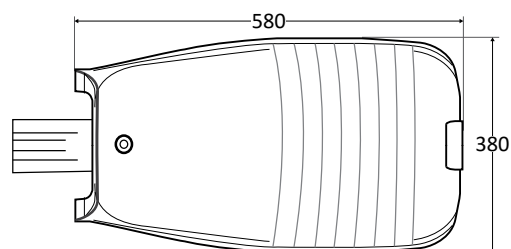
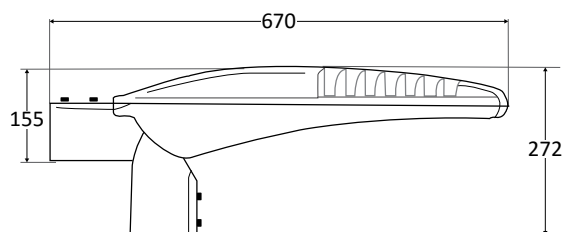
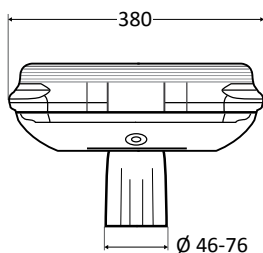
- Commercial
- Rail
- Road
- Amenity

Colour

- Silver

Dimensions

Dimensions in mm

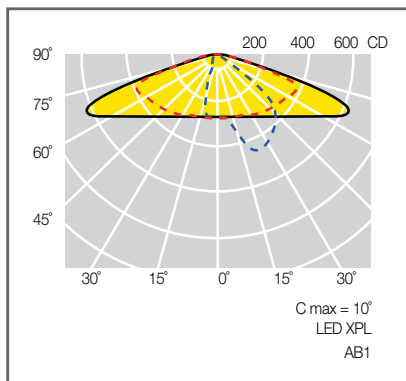




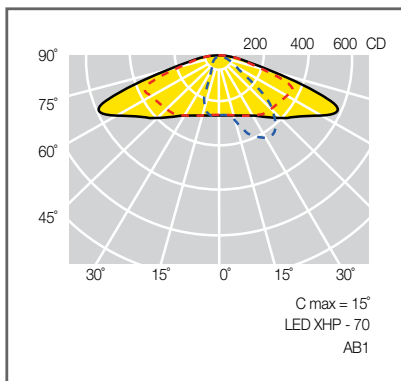
Technical Specifications

	LED Type	Wattage (W)	No. of LEDs	Lumen Output (lm)	Driver Current (mA)	Prog. Driver	Distribution	Optics	Standard body		Fin Body (f)				
									Weight (kg)	Wind Area (m ²)	Weight (kg)	Wind Area (m ²)			
AL21020	XPL	30	12	4430	800	Y	(A) Road width greater than 0.85 x the column height	AB1	10.65	0.091	9.3	0.091			
		44	18	6330	800	Y		/ AB1	10.75	0.091	9.9	0.091			
		60	24	8400	800	Y		Optic	10.85	0.091	10.0	0.091			
AL21022	XPL	38	12	5170	1000	Y		AB1	10.65	0.091	9.3	0.091			
		57	18	7670	1000	Y		/ AB1	10.75	0.091	9.9	0.091			
		76	24	10060	1000	Y		Optic	10.85	0.091	10.0	0.091			
AL21024	XHP-70	103	12	16120	700	Y		AB1	10.65	0.091	9.3	0.091			
		127	15	19500	700	Y		/ AB1	N/A	N/A	9.9	0.091			
		135	26	20530	700	Y		Optic	10.85	0.091	N/A	N/A			
AL21026	XHP-70	60	6	9340	800	Y		(B) Road width equal or less than 0.85 x the column height (pathways)	AB1 / AB1 Optic	10.45	0.091	9.6	0.091		
		88	9	13800	800	Y				10.55	0.091	9.7	0.091		
		156	16	22620	800	Y				10.75	0.091	N/A	N/A		
		165	15	23560	900	Y	N/A			N/A	9.9	0.091			
AL21028	XHP-70	76	6	11150	1000	Y	AB1		10.45	0.091	9.3	0.091			
		113	9	16360	1000	Y	/ AB1		10.55	0.091	9.7	0.091			
		150	12	21000	1000	Y	Optic		10.65	0.091	9.8	0.091			
AL21021	XPL	30	12	4430	800	Y	(B) Road width equal or less than 0.85 x the column height (pathways)		B1 / B1 Optic	10.65	0.091	9.8	0.091		
		44	18	6330	800	Y				10.75	0.091	9.9	0.091		
		60	24	8400	800	Y				10.85	0.091	10.0	0.091		
AL21023	XPL	38	12	5170	1000	Y			(B) Road width equal or less than 0.85 x the column height (pathways)	B1 / B1 Optic	10.65	0.091	9.8	0.091	
		57	18	7670	1000	Y					10.75	0.091	9.9	0.091	
		76	24	10060	1000	Y		10.85			0.091	10.0	0.091		
AL21025	XHP-70	103	12	16120	700	Y		(B) Road width equal or less than 0.85 x the column height (pathways)		B1 / B1 Optic	10.65	0.091	9.8	0.091	
		137	15	19500	700	Y					N/A	N/A	9.9	0.091	
		135	16	20530	700	Y					10.75	0.091	N/A	N/A	
AL21027	XHP-70	60	6	9340	800	Y				(B) Road width equal or less than 0.85 x the column height (pathways)	B1 / B1 Optic	10.45	0.091	9.6	0.091
		88	9	13800	800	Y						10.55	0.091	9.7	0.091
		156	16	22620	800	Y						10.75	0.091	N/A	N/A
		165	15	23560	900	Y	N/A					N/A	9.9	0.091	
AL21029	XHP-70	76	6	11150	1000	Y	(B) Road width equal or less than 0.85 x the column height (pathways)				B1 / B1 Optic	10.45	0.091	9.6	0.091
		113	9	16360	1000	Y						10.55	0.091	9.7	0.091
		150	12	21000	1000	Y			10.65			0.091	9.8	0.091	

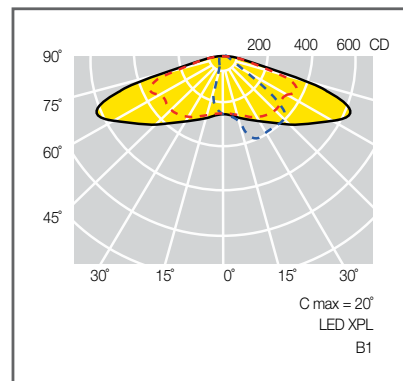
Photometry



All the optics have CUT-OFF emissions with zero-impact when the floodlight is installed with the glass parallel to the ground.



AB1: for carriageway with a width greater than 0.85 times the height of installation; suitable for large & high speed road ways.



(B) Road width equal or less than 0.85 x the column height (pathways)

TRIVIUM EVO LED AL6900

IP66

IK08



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-ageing weather resistant silicone rubber
- Special high powered LEDs (XM-L2) version: run at 900mA
- Standard version: LED run at 700mA



- Flat glass or low profile bowl as standard, deep bowl option also available
- Standard version: LED run at 700mA
- Colour Temperature 4000k CRI >70
- High quality LEDs (Lumileds, Cree, Osram)
- Trivium Evo Mini (AL6921 / AL6922) spigot mounting for post top and side entry $\varnothing 46\text{-}\varnothing 60\text{mm}$
- Trivium Evo Standard (AL6931 / AL6932) spigot mounting for post top and side entry $\varnothing 48\text{-}\varnothing 76\text{mm}$

Applications

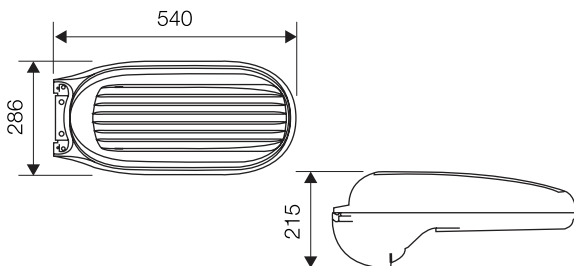
- Road

Colour

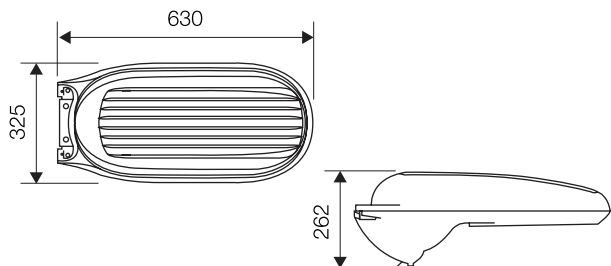
-  Light grey

Dimensions

Dimensions in mm



Trivium Evo Mini
AL6921 / AL6922



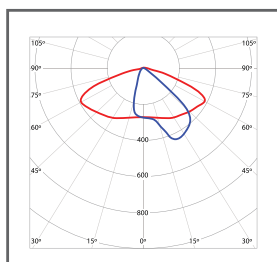
Trivium Evo
AL6931 / AL6932



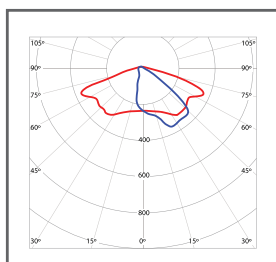
Technical Specifications

LED Type	Wattage (W)	No. of LEDs	Lumen Output (lm)	Driver Current (mA)	Fixed Current Driver	Prog. Driver	Body Type	Distribution	Weight (kg)	Wind Area (m ²)
AL6921	Standard	33	15	3580	700	Y	Y	Trivium Evo Mini (2) (A) Road width greater than 0.85 x column height	8.70	0.087
		45	20	4480	700	Y	N		8.90	0.087
		55	25	5910	700	Y	N		8.90	0.087
		65	30	6930	700	Y	N		9.0	0.087
		75	35	8040	700	Y	N		9.0	0.087
		82	38	8690	700	Y	Y		9.10	0.087
AL6922	Standard	33	15	3580	700	Y	Y	Trivium Evo Mini (2) (B) Road width less than 0.85 x column height	8.70	0.087
		45	20	4480	700	Y	N		8.90	0.087
		55	25	5910	700	Y	N		8.90	0.087
		65	30	6930	700	Y	N		9.0	0.087
		76	35	8040	700	Y	N		9.0	0.087
		82	38	8690	700	Y	Y		9.10	0.087
AL6931	Standard	68	43	7860	530	Y	N	Trivium Evo Standard (3) (A) Road width greater than 0.85 x column height	11.3	0.095
		91	43	9850	700	Y	Y		11.3	0.095
		100	46	10630	700	Y	Y		11.7	0.095
		110	50	11570	700	Y	Y		11.8	0.095
		104	42	12860	800	N	Y		11.7	0.095
	High Output (XL-M-2)	114	46	14150	800	N	Y		11.7	0.095
		123	50	15000	800	N	Y		11.8	0.095
		134	42	15270	1000	N	Y		11.7	0.095
		145	46	16500	1000	N	Y		11.7	0.095
AL6932	Standard	68	42	7860	530	Y	Y	Trivium Evo Standard (3) (B) Road width less than 0.85 x column height	11.3	0.095
		91	42	9850	700	Y	N		11.3	0.095
		100	46	10630	700	Y	Y		11.7	0.095
		110	50	11570	700	Y	Y		11.8	0.095
		104	42	12860	800	N	Y		11.7	0.095
	High Output (XL-M-2)	114	46	14150	800	N	Y		11.7	0.095
		123	50	15000	800	N	Y		11.8	0.095
		134	42	15270	1000	N	Y		11.7	0.095
		145	46	16500	1000	N	Y		11.7	0.095
		157	50	17690	1000	N	Y	11.8	0.095	

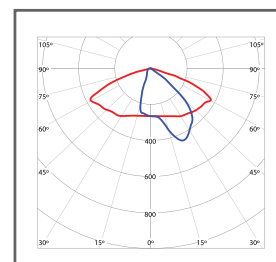
Key features



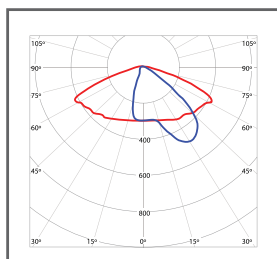
AL6921 cd/klm
Standard LEDs
C0 - C180 —
C90 - 270 —



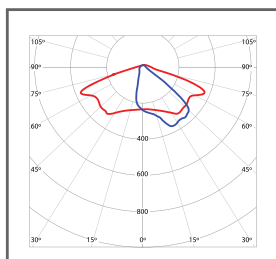
AL6922 cd/klm
Standard LEDs
C0 - C180 —
C90 - 270 —



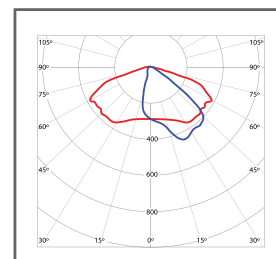
AL6931 cd/klm
Standard LEDs
C0 - C180 —
C90 - 270 —



AL6931 cd/klm
XL-M-2 High Output LEDs
C0 - C180 —
C90 - 270 —



AL6932 cd/klm
Standard LEDs
C0 - C180 —
C90 - 270 —



AL6932 cd/klm
XL-M-2 High Output LEDs
C0 - C180 —
C90 - 270 —

TRIVIUM EVO AL6300

IP66

IK08



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
- 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
- Die-cast aluminium body and top cover, degreased and phosphor chromate treated with surface protection coat and polyester powder coating



- Adjustable porcelain lamp holder
- Multiple light source options available
- Flat glass or low profile bowl as standard, deep bowl option also available

Applications

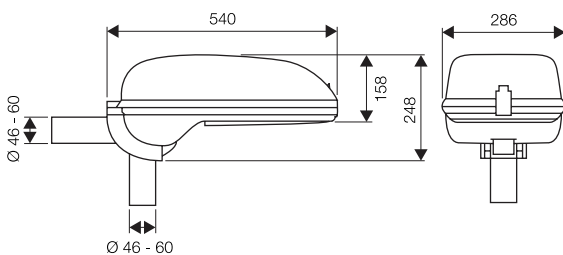
- Road

Colour

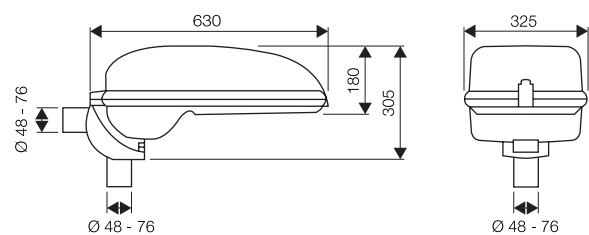
- Light grey

Dimensions

Dimensions in mm



Trivium Evo Mini
AL6321 / AL6322

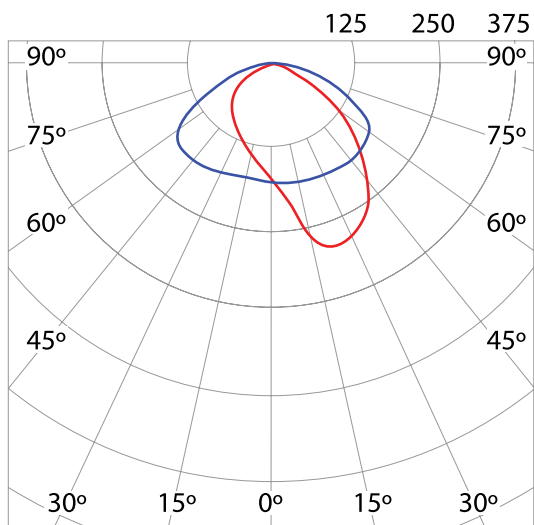


Trivium Evo
AL6331 / AL6332



Key features

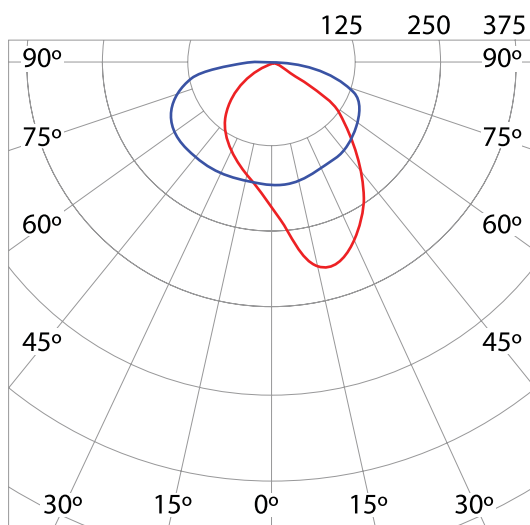
AL6321 / Trivium Evo Mini / Flat Glass



SONP-T 70W E27

cd/klm C0 - C180 — C90 - 270 —

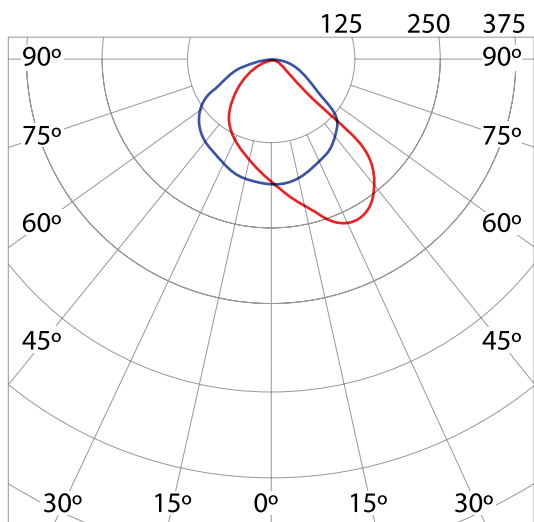
AL6322 / Trivium Evo Mini / Low Profile Bowl



SONP-T 70W E27

cd/klm C0 - C180 — C90 - 270 —

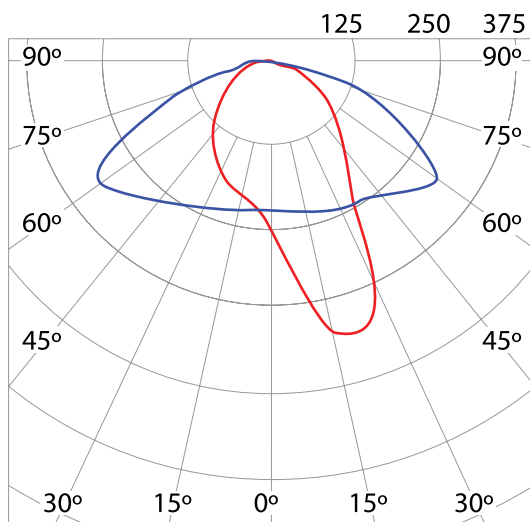
AL6331 / Trivium Evo / Flat Glass



SONP-T 150W E40

cd/klm C0 - C180 — C90 - 270 —

AL6332 / Trivium Evo / Low Profile Bowl



SONP-T 150W E40

cd/klm C0 - C180 — C90 - 270 —

Technical Specifications

	Lamp Wattage (W)	Light Source	Lamp Holder	Conventional Ballast	Bipower Available (B)	Nighttime 6h-Dim (N)	Electronic Ballast (A)	Body Type / Bowl or Flat Glass	Weight (kg)	Wind Area (m ²)	
AL6321	50	SONP-T	E27	Y	N	N	N	Trivium Evo Mini (2)	7.44	0.087	
	70	SONP-T	E27	Y	70W > 50W	N	N		7.74	0.087	
	70	MBI	E27	Y	N	N	N		7.74	0.087	
	100	SONP-T	E40	Y	100W > 70W	N	N		7.89	0.087	
	150	SONP-T	E40	Y	150W > 100W	N	N		8.71	0.087	
	100	MBI	E40	Y	N	N	N		7.89	0.087	
	150	MBI	E40	Y	N	N	N	8.71	0.087		
	45	Cosmo White	PGZ12	N	N	N	Y	Y	Flat Glass	6.97	0.087
	60	Cosmo White	PGZ12	N	N	N	Y	Y		6.97	0.087
	90	Cosmo White	PGZ12	N	N	N	Y	Y		6.97	0.087
	140	Cosmo White	PGZ12	N	N	N	Y	Y		6.97	0.087
	70	CDM-T	G12	N	N	N	N	Y	7.74	0.087	
	150	CDM-T	G12	N	N	N	N	Y	8.61	0.087	
	AL6322	50	SONP-T	E27	Y	N	N	N	Trivium Evo Mini (2)	7.64	0.098
70		SONP-T	E27	Y	N	N	N	7.94		0.098	
70		MBI	E27	Y	N	N	N	7.94		0.098	
100		SONP-T	E40	Y	N	N	N	8.09		0.098	
150		SONP-T	E40	Y	N	N	N	8.91		0.098	
100		MBI	E40	Y	N	N	N	8.09		0.098	
150		MBI	E40	Y	N	N	N	8.91	0.098		
45		Cosmo White	PGZ12	N	N	N	Y	Y	Low Profile Bowl	7.17	0.098
60		Cosmo White	PGZ12	N	N	N	Y	Y		7.17	0.098
90		Cosmo White	PGZ12	N	N	N	Y	Y		7.17	0.098
140		Cosmo White	PGZ12	N	N	N	Y	Y		7.17	0.098
70		CDM-T	G12	N	N	N	N	Y	7.94	0.098	
150		CDM-T	G12	N	N	N	N	Y	8.81	0.098	
AL6331		100	SONP-T	E40	Y	100W > 70W *	N/A	N/A	Trivium Evo Standard (2)	10.0	0.095
	150	SONP-T	E40	Y	150W > 100W **	N/A	N/A	10.9		0.095	
	250	SONP-T	E40	Y	250W > 150W ***	N/A	N/A	12.0		0.095	
	400	SONP-T	E40	Y	N/A	N/A	N/A	13.3	0.095		
	100	MBI	E40	Y	N/A	N/A	N/A	Flat Glass	10.0	0.095	
	150	MBI	E40	Y	N/A	N/A	N/A		10.9	0.095	
	250	MBI	E40	Y	N/A	N/A	N/A		12.0	0.095	
	400	MBI	E40	Y	N/A	N/A	N/A		13.3	0.095	
	600	SONP-T	E40	Y	N/A	N/A	N/A	16.2	0.095		
AL6332	100	SONP-T	E40	Y	N/A	N/A	N/A	Trivium Evo Standard (2)	10.5	0.1080	
	150	SONP-T	E40	Y	N/A	N/A	N/A		11.4	0.1080	
	250	SONP-T	E40	Y	N/A	N/A	N/A		12.5	0.1080	
	100	MBI	E40	Y	N/A	N/A	N/A	Low Profile Bowl	10.5	0.1080	
	150	MBI	E40	Y	N/A	N/A	N/A		11.4	0.1080	
	250	MBI	E40	Y	N/A	N/A	N/A		12.5	0.1080	

AL6300 SERIES LIGHT DISTRIBUTION TYPE: Road

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

MOUNTING: Spigot post top and side entry: AL6321, AL6322 = ø46-60mm
AL6331, AL6332 = ø48-76mm



INDUSTRIAL LIGHTING

ARDUO AL22700

IP65



Benefits

- Continuity without changing fitting with covers to suit lighting requirements

Technical Features

- Power: 17W (System power 19.5W)
- Colour temperature 5000K as standard
- Available in two sizes
- Available with half eyelid cover
- Heavy-duty die-cast aluminium housing and top frame with powdercoat finish
- Can be tapped for side conduit entry
- LumaLens clear or opal polycarbonate vandal-resistant lens

- LumaFit LEDs on aluminium boards
- Surface mount with included brackets (optional adjustable brackets available)
- Dimmable driver
- 5 year warranty
- Rated life: 50000 hours
- Voltage 120 - 277V, 50/60Hz
- Operating temperature -40°C ~ + 40°C

Colour

- Black
- White
- Bronze
- Grey



	Wattage (W)	Lumen Output (lm)	Length (mm)	Style	Colour Temp. (K)	Colour (As Standard) ***	Lens
AL22701 *	43	5538	308	Horizontal, full lens	5000	Black	Clear
	26.2	2940	308	Horizontal, full lens	5000	Black	Opal
AL22702	43	4879	308	Horizontal, eyelid	5000	Black	Clear
	26.5	2369	308	Horizontal, eyelid	5000	Black	Opal
AL22703	43	5294	308	Vertical, eyelid	5000	Black	Clear
	26.5	2369	308	Vertical, eyelid	5000	Black	Opal
AL22704 **	81.4	9183	613	Horizontal, full lens	5000	Black	Clear
	52	6632	613	Horizontal, full lens	5000	Black	Opal

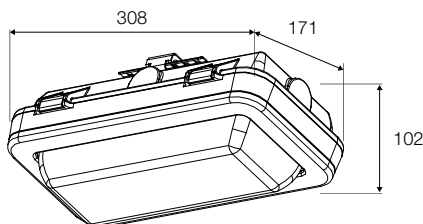
STIRRUP AND COLOUR OPTIONS:

* Stirrup option available, add code: LV1BR

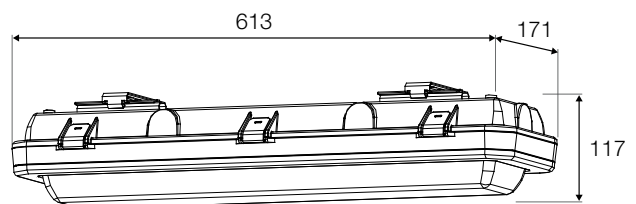
** Stirrup option available, add code: LV2BR

*** Please specify if other colour when quoting / ordering: Z = Bronze / W = White / G = Grey

Key features



Dimensions (AL22701 - AL22703)



Dimensions (AL22704)

All dimensions are in mm.

ABACUS – FIRST CHOICE FOR SPORTS LIGHTING

FLOODLIGHTING



Trent Bridge, Nottingham (Challenger® 3)



AAA-LUX RANGE

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.



AAA-LUX®
TRIPLE A LIGHTING

AL Series

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



AAA-LUX®
TRIPLE A LIGHTING

AL360 Series

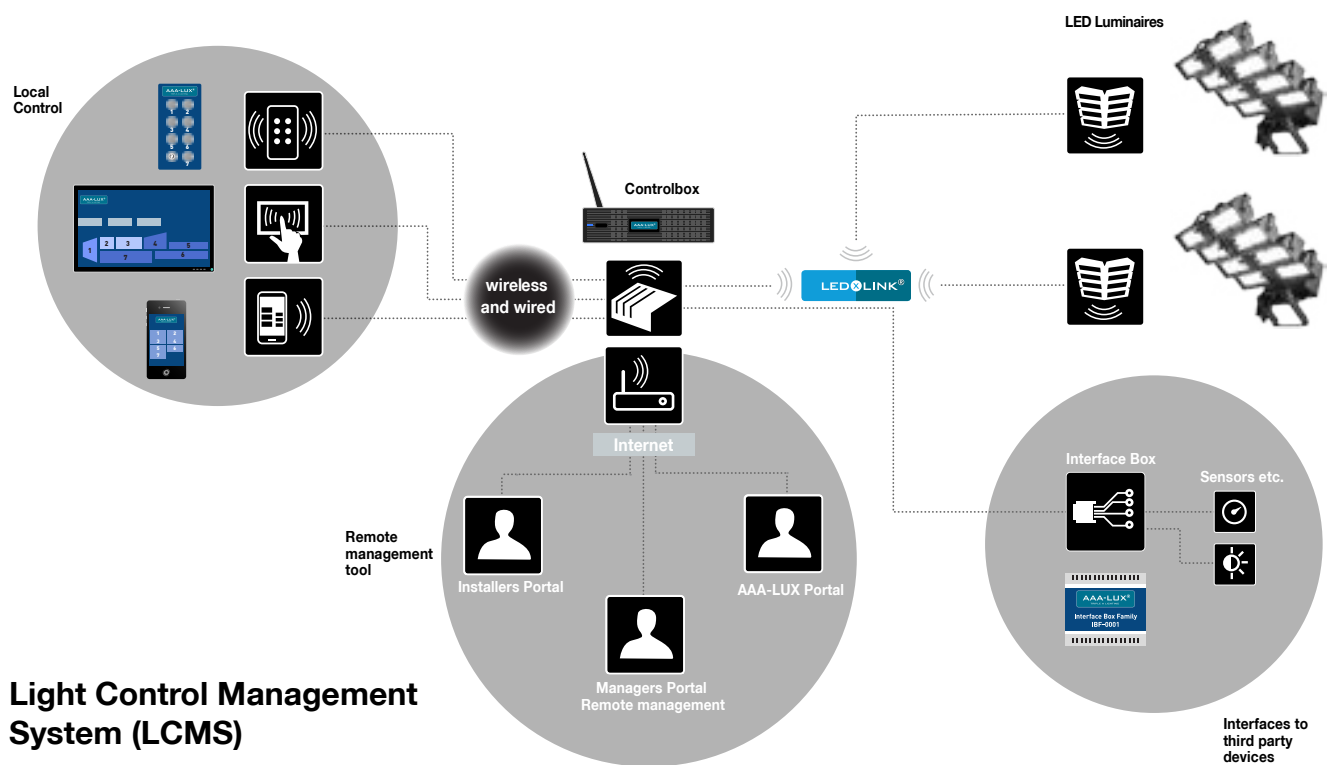
- Large area lighting: ports, airports, car parks
- Mounting height upto 25m
- Illumination distribution: 360°



AAA-LUX®
TRIPLE A LIGHTING

WS Series

- Sports floodlighting
- Six variations to suit



Light Control Management System (LCMS)

Control, switching and dimming of AAA-LUX floodlights is made possible by the use of a number of user friendly interfaces all connected to the LCMS via LEDxLINK protocol, either locally or remotely. Switchboxes, touchscreens and smart devices provide fingertip control to enable the selection of a number of pre-programmed lighting configurations. In addition, third party devices such as sensors, timers and software interfaces can be seamlessly integrated into the system, providing further functionality and security benefits.

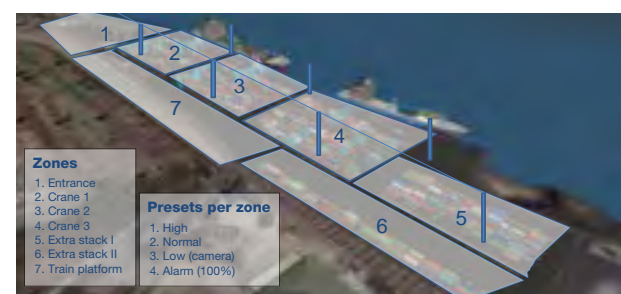
Easy replacement

- Direct 400VAC or 240VAC connection
- Wireless control
- No complicated bracketry required

Electrically the luminaire will be connected to existing 400VAC / 200VAC electrical installations. Even the existing light switches can remain in place. However, in the case of new installations, 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 lighting 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.

AL SERIES LED AL60, AL90, AL180, AL700

IP65



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, touchscreen or wireless switch box
- Mounting height 12-45m
- 3 phase as standard
- Single phase 230V option available
- Marine grade as standard
- 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 1.375kW luminaire (AL60, AL90, AL180)
- High powered 0.690kW luminaire (AL700)
- Dimmable in accordance with EN 12193
- Highly efficient optics

Lighting Distribution

- 60°
- 90°
- 180°

Applications

- Large area
- Ports & terminals
- Airports
- Car parks

Colour

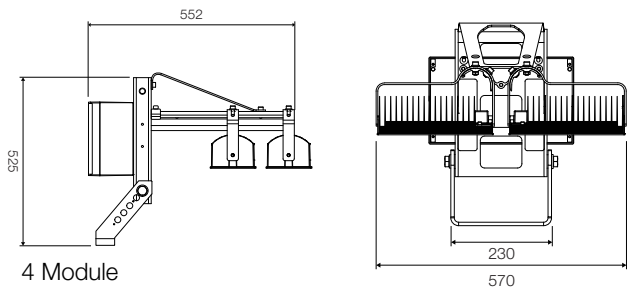
- Black

Lighting Control & AL Series

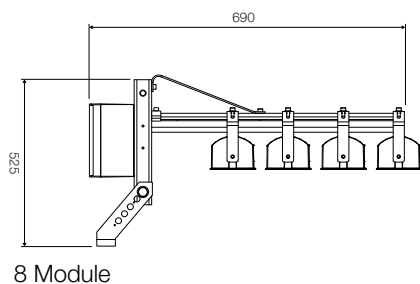
When different zones of a site require full lighting levels and others need to be dimmed at different times through the dark hours, the dimmed zones can be brought back up to full lighting levels instantly for emergencies or to allow maximum dimming duration between working time of the zones. This saves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

Dimensions

Dimensions in mm

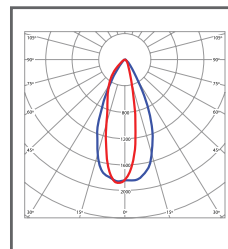


4 Module

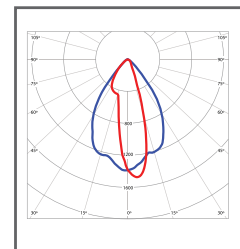


8 Module

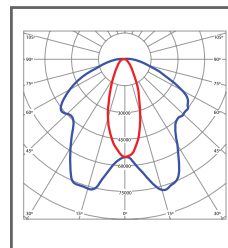
Key features



AL60
Lamp: 8 LED Modules



AL90
Lamp: 8 LED Modules



AL180
Lamp: 8 LED Modules

cd/klm
C0 - C180 —
C90 - 270 —



Technical Specifications

AL60, AL90, AL180	Minimum	Typical	Maximum
Voltage input (VAC)	370	400	430
Power factor at 20%-100%	0.90	0.98	
Frequency (Hz)	45		60
Standby power (W)		5	
Colour temperature (K)		5200	
Colour rendering index	70	80	
Weight (kg)		28	
Ingress protection		IP65	
Electrical insulation class		I	
Frontal surface		0.26 C _w = 1	
Expected lifetime at Tamb = 25°C		60000hrs	100000hrs
Power consumption at 100%			
Standard - Heavy Duty (W)		1375	1425
High Temperature (W)		1200	1250
Current			
		(At 400VAC)	(At 375VAC)
Standard - Heavy Duty (A)		3.5	3.9
High Temperature (A)		3.2	3.5
Operating temperature			
Standard - Heavy Duty (°C)	-20		40
High Temperature (°C)	-20		50
Luminous efficacy*			
Standard - Heavy Duty (lm / W)	103.3	113.1	140
High Temperature (lm / W)	114.1	117.2	140

* Based on the AL90

AL700	Minimum	Typical	Maximum
Voltage input (VAC)	370	400	430
Power factor at 20%-100%	0.90	0.98	
Frequency (Hz)	45		60
Standby power (W)		5	
Colour temperature (K)		5200	
Colour rendering index	70	80	
Weight (kg)		17	
Ingress protection		IP65	
Electrical insulation class		I	
Frontal surface		0.26 C _w = 1	
Expected lifetime at Tamb = 25°C		60000hrs	100000hrs
Power consumption at 100%			
Standard - Heavy Duty (W)		700	725
High Temperature (W)		600	625
Current			
		(At 400VAC)	(At 375VAC)
Standard - Heavy Duty (A)		1.7	1.8
High Temperature (A)		1.5	1.6
Operating temperature			
Standard - Heavy Duty (°C)	-20		40
High Temperature (°C)	-20		50
Luminous efficacy*			
Standard - Heavy Duty (lm / W)	109.7	113.8	140
High Temperature (lm / W)	114.8	117.9	140

* Based on the AL710

AL SERIES LED AL360

IP65



AAA-LUX®
TRIPLE A LIGHTING

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, touchscreen or wireless switch box
- Mounting height 12-25m
- Mounted and pre-aimed onto a 360° bracket

- 3 phase as standard
- Single phase 230V option available
- Marine grade as standard
- 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 1.375kW luminaire
- Dimmable in accordance with EN 12193
- Highly efficient optics

Lighting Distribution

- 360° distribution with beam options 45° / 50° / 55° / 60°

Applications

- Large area
- Ports & terminals
- Airports
- Car parks

Colours

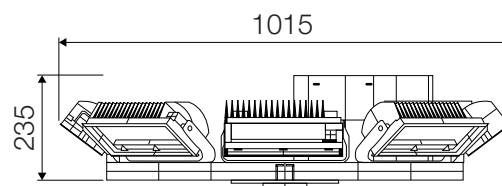
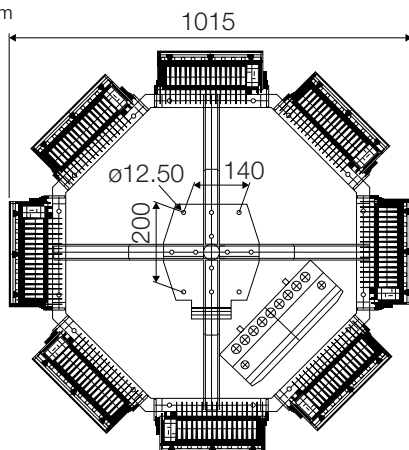
- Black

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.

Dimensions

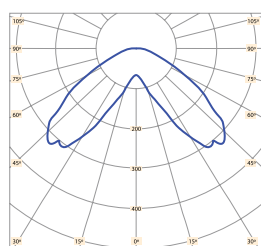
Dimensions in mm



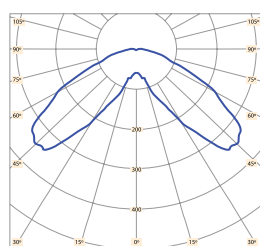
Technical Specifications

AL360	Minimum	Typical	Maximum
Voltage input (VAC)	370	400	430
Power factor at 20%-100%	0.90	0.98	
Frequency (Hz)	45		60
Standby power (W)		5	
Colour temperature (K)		5200	
Colour rendering index	70	80	
Weight (kg)		28	
Ingress protection		IP65	
Electrical insulation class		I	
Frontal surface		$0.26 C_w = 1$	
Expected lifetime at Tamb = 25°C		60000hrs	100000hrs
Power consumption at 100% (W)		1375	1425
Current (A)		(At 400VAC) 3.5	(At 375VAC) 3.9
Operating temperature (°C)	-20		+40
Luminous efficacy (lm / W)	103.3	113.1	140

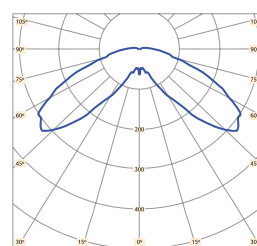
Key features



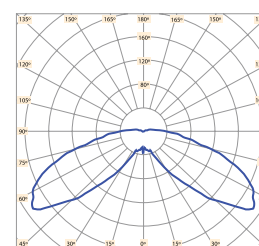
AL360 / 45°
Lamp: 8 LED Modules



AL360 / 50°
Lamp: 8 LED Modules



AL360 / 55°
Lamp: 8 LED Modules



AL360 / 60°
Lamp: 8 LED Modules

WS SERIES LED

WS100-WS600

IP65

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, touchscreen or wireless switch box
- Mounting height 12-45m
- 3 phase as standard
- Single phase 230V option available
- Marine grade as standard
- 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 - WS600)
- High powered 0.775kW luminaire (WS400)
- Dimmable in accordance with EN 12193
- Highly efficient optics

Lighting Distribution

The AAA-LUX WS Series of LED Luminaires offers a variety distribution options to suit individual requirements

Applications

- Sports

Colours

- 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.





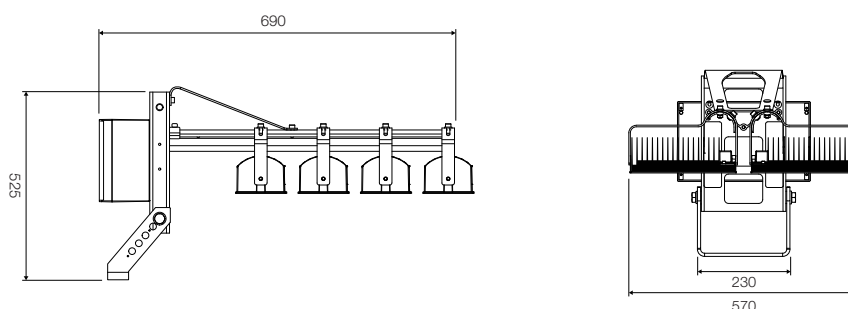
Technical Specifications

WS100 - WS600	Minimum	Typical	Maximum
Voltage input (VAC)	370	400	430
Power factor at 20%-100%	0.90	0.98	
Frequency (Hz)	45		60
Standby power (W)		5	
Colour temperature (K)		5200	
Colour rendering index	70	80	
Weight (kg)		28	
Ingress protection		IP65	
Electrical insulation class		I	
Frontal surface		0.26 C _w = 1	
Expected lifetime at Tamb = 25°C		35000hrs	60000hrs
Power consumption at 100%			
Standard - Heavy Duty (W)		1550	1600
Maximum Power (W)		1700	1750
High Temperature (W)		1375	1425
Current		(At 400VAC)	(At 375VAC)
Standard - Heavy Duty (A)		3.9	4.3
Maximum Power (A)		4.3	4.8
High Temperature (A)		2.5	3.9
Operating temperature			
Standard - Heavy Duty (°C)	-20		+40
Maximum Power (°C)	-20		+50
High Temperature (°C)	-20		+50
Luminous efficacy*			
Standard - Heavy Duty (lm / W)	103.3	113.1	140
Maximum Power (lm / W)	98.7	109.0	140
High Temperature (lm / W)	114.1	117.2	140

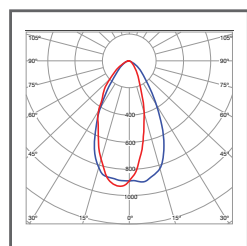
* Based on the WS2005

Dimensions

Dimensions in mm

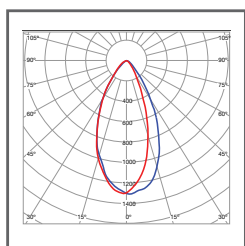


Key features



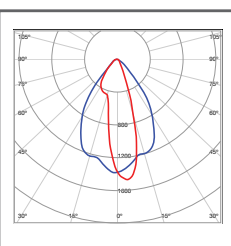
WS100

Lamp: 8 LED Modules



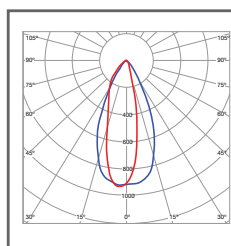
WS150

Lamp: 8 LED Modules



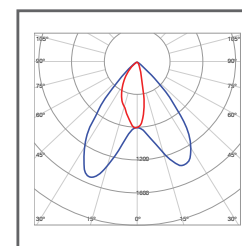
WS200

Lamp: 8 LED Modules



WS250

Lamp: 8 LED Modules



WS301

Lamp: 8 LED Modules

cd/klm C0 - C180 — C90 - 270 —

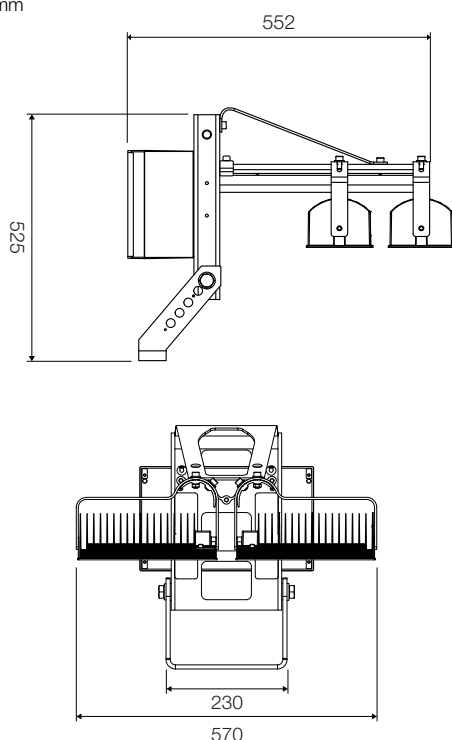
Technical Specifications

WS400	Minimum	Typical	Maximum
Voltage input (VAC)	370	400	430
Power factor	0.95	0.98	
Frequency (Hz)	45		60
Standby power (W)		7.6	8
Colour temperature (K)		5200	
Colour rendering index	70	80	
Weight (kg)		19	
Ingress protection		IP65	
Electrical insulation class		I	
Frontal surface		0.26 C _w = 1	
Expected lifetime at Tamb = 25°C		35000hrs	60000hrs
Power consumption at 100%			
Standard - Heavy Duty (W)		775	800
Maximum Power (W)		850	875
High Temperature (W)		700	735
Current		(At 400VAC)	(At 370VAC)
Standard - Heavy Duty (A)		2.0	2.2
Maximum Power (A)		2.1	2.4
High Temperature (A)		1.8	2.0
Operating temperature**			
Standard - Heavy Duty (°C)	-20		40
Maximum Power (°C)	-20		30
High Temperature (°C)	-20		50
Luminous efficacy*			
Standard - Heavy Duty (lm / W)	103.3	113.1	140
Maximum Power (lm / W)	98.7	109.0	140
High Temperature (lm / W)	114.1	117.2	140

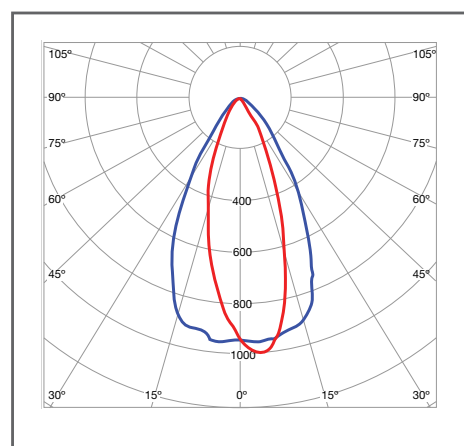
*Luminous efficacy WS400 **Absolute maximum temperature 60°C; auto dimming may occur at high temperatures

Dimensions

Dimensions in mm



Key features



WS400

Lamp: 4 LED Modules

cd/klm C0 - C180 — C90 - 270 —



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, AAA-LUX, Vela, Trent and Mura are sure to perform.

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



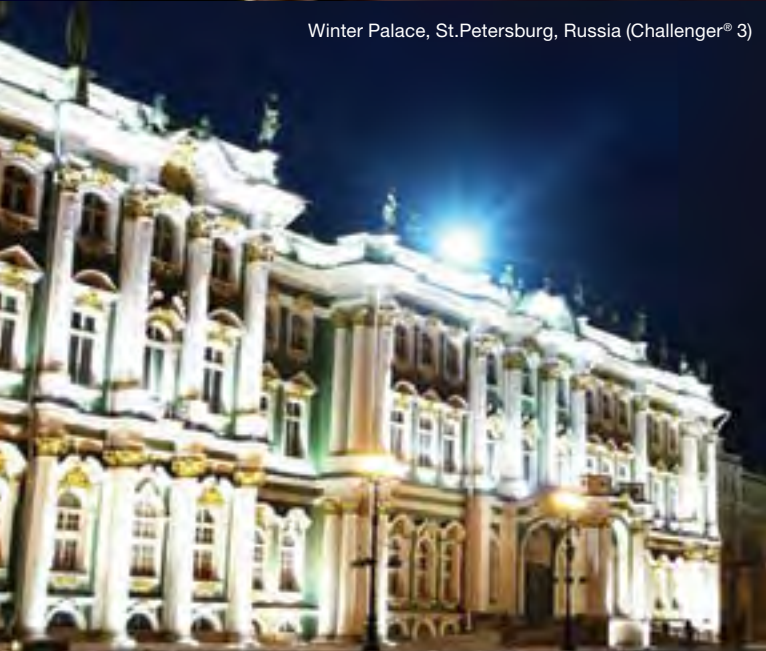
Hyderabad Stadium, India (Challenger® 3)



Edgbaston Cricket Ground, UK (Challenger® 3)



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



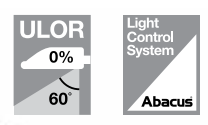
Vantovy Bridge (Challenger® 3)





FLOODLIGHTING

CHALLENGER® 1 AL6000



Benefits

- Reduced light overspill and glare with excellent forward throw of light
- Multiple options for effective light distribution as the adjustable lamp holder offers three variations of peak beam elevation
- Dark skies friendly fitting ideal for projects nearby residential areas with specific light regulations, with low light pollution ULOR 0%
- Ease of maintenance via two rear doors with no requirement for tools

Technical Features

- High powered lamp capabilities 1kW / 2kW metal halide
- 1000W and 2000W MHN-LA & MHN-FC 2200W, MH-TS2000W/XL, HQI-TS2000WNL
- High pressure die-cast aluminium type EN AC 43400
- Stainless steel clamps and fixings
- 6mm galvanised steel mounting bracket with M20 bolt hole

- 4mm tempered, low iron, high transmission glass
- IP66, IK08 ratings, CE
- Available in double asymmetric: narrow, medium and wide beam distributions
- 60° peak beam elevation as standard on all beam widths
- High purity, polished and anodised aluminium reflector system
- Lamp holder support can be adjusted for 55° and 65° peak beam elevation capabilities as standard
- Upward Light Output Ratio (ULOR): < 0% at 60° peak beam elevation

- Low light pollution resulting in a dark skies friendly lantern
- Front, rear and side cowl available
- Electrical connection box : (IP66) housing containing the ignitor and the power connection, located on the side of the stirrup
- Fitted with 2 x GORE™ membrane breathers for floodlight air pressure regulation
- Toolless lamp access via two rear doors, secured with hand operated latches

Applications

- Sport



Fells Point Tennis Club, Ireland

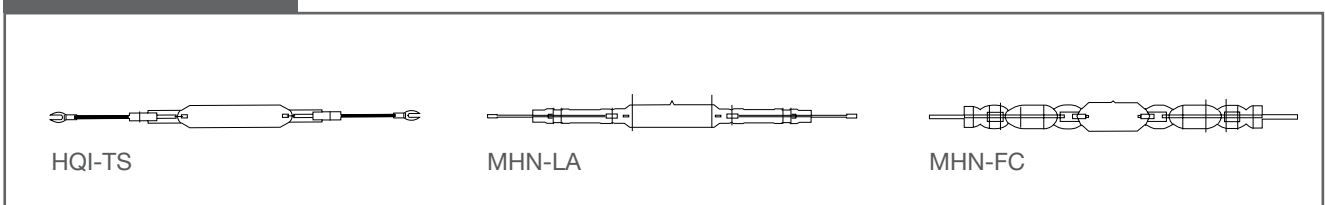
Technical Specifications

	Wattage (kW)	Beam Type	Lamp	Lamp Manufacturer	Lamp Reference	Weight (kg)
AL6001	2.2	Narrow	MHN-FC/B	Philips	MHN-FC2.2KW400V/640	21.4
AL6002	2.2	Medium	MHN-FC/B	Philips	MHN-FC2.2KW400V/640	21.4
AL6003	2.2	Wide	MHN-FC/B	Philips	MHN-FC2.2KW400V/640	21.4
AL6004	2	Narrow	MHN-LA	Philips	MHN-LA2KW400V/842	21.4
AL6005	2	Medium	MHN-LA	Philips	MHN-LA2KW400V/842	21.4
AL6006	2	Wide	MHN-LA	Philips	MHN-LA2KW400V/842	21.4
AL6007	2	Narrow	HQI-TS/N/L	Osram	HQI-TS2000WNL	21.4
AL6008	2	Medium	HQI-TS/N/L	Osram	HQI-TS2000WNL	21.4
AL6009	2	Wide	HQI-TS/N/L	Osram	HQI-TS2000WNL	21.4
AL6010	1	Narrow	MHN-FC	Philips	MHN-FC1KW230V/740	21.4
AL6011	1	Medium	MHN-FC	Philips	MHN-FC1KW230V/740	21.4
AL6012	1	Wide	MHN-FC	Philips	MHN-FC1KW230V/740	21.4
AL6013	2	Narrow	MH-TS 2kW/XL	Venture	MH-TS2000W/XL/K12/745	21.4
AL6014	2	Medium	MH-TS 2kW/XL	Venture	MH-TS2000W/XL/K12/745	21.4
AL6015	2	Wide	MH-TS 2kW/XL	Venture	MH-TS2000W/XL/K12/745	21.4
AL6016	1	Narrow	MHN-LA 842	Philips	MHN-LA1KW230V/842	21.4
AL6017	1	Medium	MHN-LA 842	Philips	MHN-LA1KW230V/842	21.4
AL6018	1	Wide	MHN-LA 842	Philips	MHN-LA1KW230V/842	21.4
AL6019	1	Narrow	MHN-LA 956	Philips	MHN-LA1KW230V/956	21.4
AL6020	1	Medium	MHN-LA 956	Philips	MHN-LA1KW230V/956	21.4
AL6021	1	Wide	MHN-LA 956	Philips	MHN-LA1KW230V/956	21.4
AL6022	2	Narrow	MHN-LA 956	Philips	MHN-LA2KW400V/956	21.4
AL6023	2	Medium	MHN-LA 956	Philips	MHN-LA2KW400V/956	21.4
AL6024	2	Wide	MHN-LA 956	Philips	MHN-LA2KW400V/956	21.4

Lamp Manufacturer & Lamp Reference	Wattage (kW)	Colour Temp. (K)	RA	Lamp Lumen Output (Initial lm)	Current (A)	Supply Voltage (V)	Total Circuit Power (W)
Venture							
MH-TS2000W/XL/K12/745	2	4500	65	240000	10.3	380/400/415	2280
Philips							
MHN-FC2.2kW400V/640	2.2	4100	60	232000	11.0	380/400/415	2370
MHN-LA2KW400V/842	2	4100	80	220000	9.6	380/400/415	2310
MHN-LA2KW400V/956	2	5600	90	190000	10.3	380/400/415	2310
MHN-LA1KW230V/842	1	4200	70	95800	9.3	230/240	1140
MHN-LA1KW230V/956	1	5600	80	87000	9.3	230/240	1140
MHN-FC2KW400V/740	2	4200	60	210000	19.11	380/400/415	2105
MHN-FC1KW230V/740	1	4100	65	93000	8.9	230/240	1140
Osram							
HQI-TS2000WNL	2	4100	65	230000	10.4	380/400/415	2280

Technical information may alter dependent on control gear used

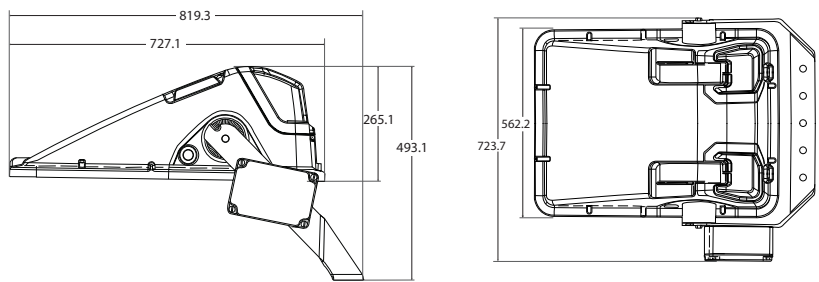
Lamp references





Dimensions

Dimensions in mm



Mounting:
Stirrup mounted using M20 fixing.
Stirrup adjustment +/- 140°
Weight: 21.4kg.

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

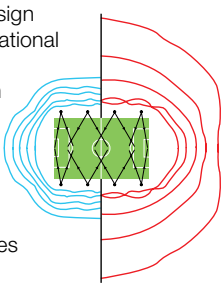
Maintenance



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

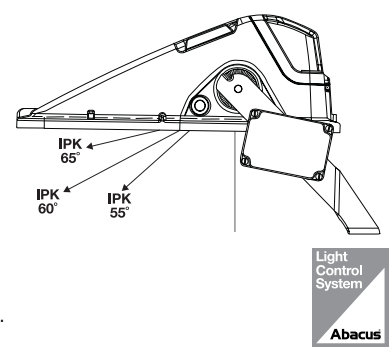
Key features

Abacus Light Control System
Efficient, careful lighting design has given Abacus an international reputation for combining powerful, sharp illumination with low light pollution. Abacus' Lighting Control System – exclusive to the Challenger® 1 – features a series of complementary technologies to help achieve this.

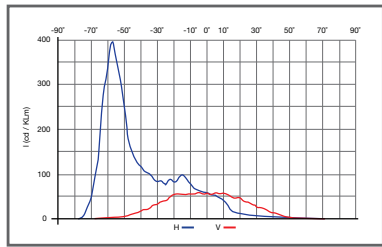


Double Asymmetric Reflector

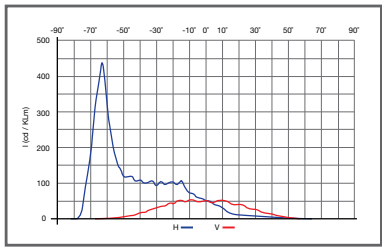
The double asymmetric reflector is designed to better concentrate and focus the light produced by each lantern. By emitting the main beam at an angle of 55, 60 or 65 degrees from the normal to the front glass, it results in a flat appearance (right), making less of the reflector visible to spectators as well minimising glare.



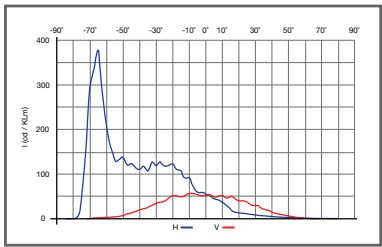
Photometry



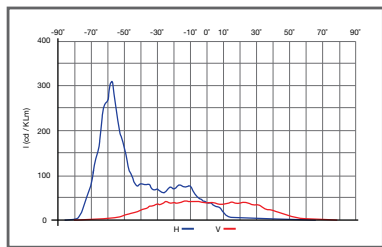
Narrow 55°



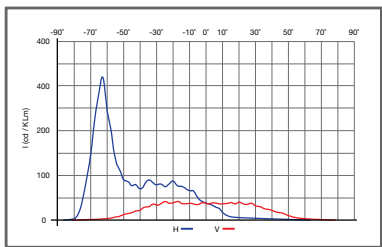
Narrow 60°



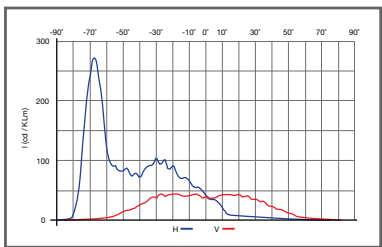
Narrow 65°



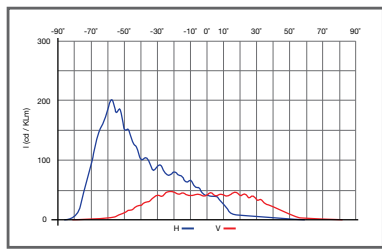
Medium 55°



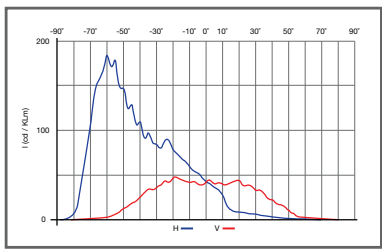
Medium 60°



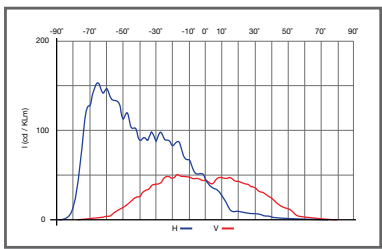
Medium 65°



Wide 55°



Wide 60°



Wide 65°

CHALLENGER® 2 AL5800

IP66

Benefits

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

Technical Features

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



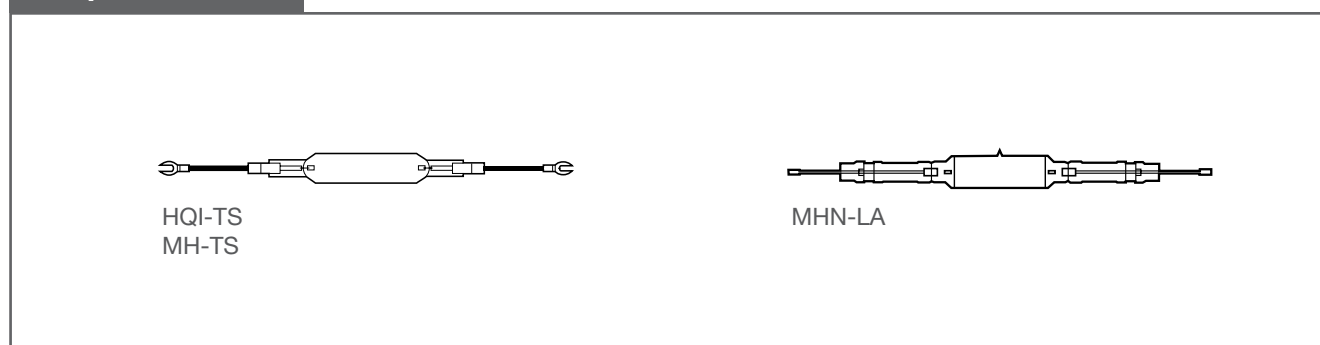
Colorline Stadium, Norway



Technical Specifications

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

Lamp references

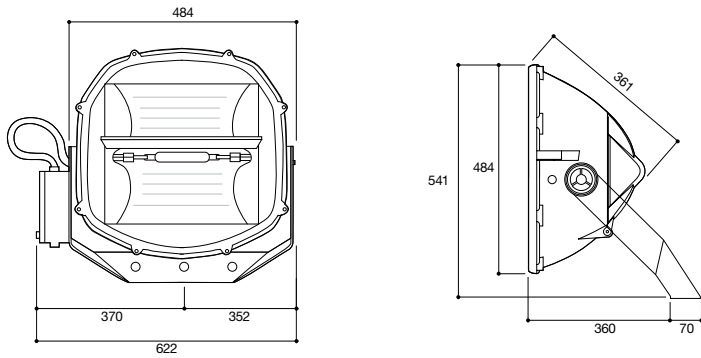


Lamp Manufacturer & Lamp Reference	Lamp Wattage (kW)	Colour Temp. (K)	RA	Lamp Lumen Output (Initial lm)	Lamp Current (A)	Supply Voltage (V)	Total Circuit Power (W)
Venture							
MH-TS2000W/L/K12/4K	2	4500	65	240000	10.3	380/400/415	2280
MH-TS2000W/XL/k12/745	2	4500	65	240000	10.3	380/400/415	2280
Philips							
MHN-LA2KW400V/842	2	4200	80	220000	9.6	380/400/415	2310
MHN-LA2K400V/956	2	5600	90	190000	10.3	380/400/415	2310
MHN-LA1KW230V/842	1	4200	80	100000	9.3	230/240	1140
Osram							
HQI-TS2000WNL	2	4400	65	230000	10.7	380/400/415	2280
HQI-TS2000WDL	2	5400	85	205000	10.3	380/400/415	2280

Technical information may alter dependent on control gear used

Dimensions

Dimensions in mm



Mounting:

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

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

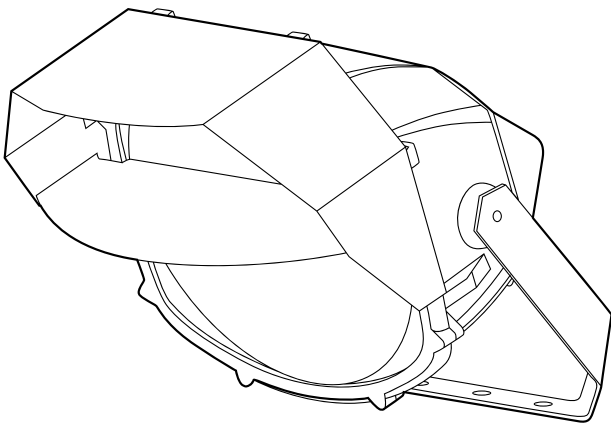
Maintenance



Easy Maintenance:

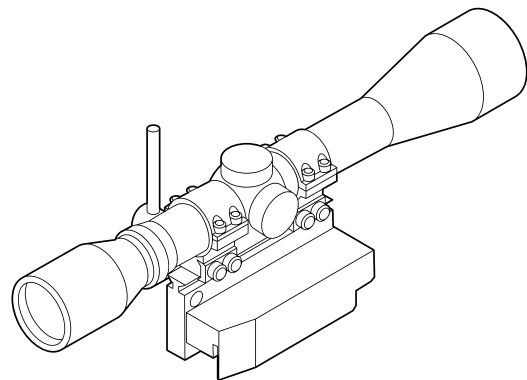
Access to the lamp by means
of opening the rear door

Accessories



Single blade louvre – AL5922

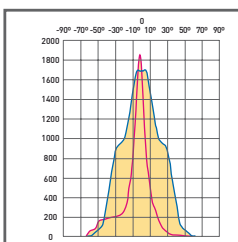
This accessory for the Challenger[®] 2 & 3 minimises upward
light while maintaining good vertical lighting levels on the
playing field



Aiming tool kit – AL5931

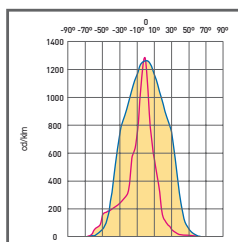
Set of equipment and instructions to enable the
Challenger[®] 2 & 3 to be aimed with pinpoint accuracy
to a specific point on the design area. Allows the highest
level of control over the aiming and commissioning part of
a floodlighting project

Key features



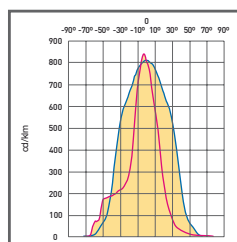
AL5804

2kW MHN-LA2KW
Narrow beam



AL5805

2kW MHN-LA2KW
Medium beam



AL5806

2kW MHN-LA2KW
Wide beam



FLOODLIGHTING

CHALLENGER® 3 AL5900

IP66



Benefits

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

Technical Features

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

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

Options

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



Lord's, London

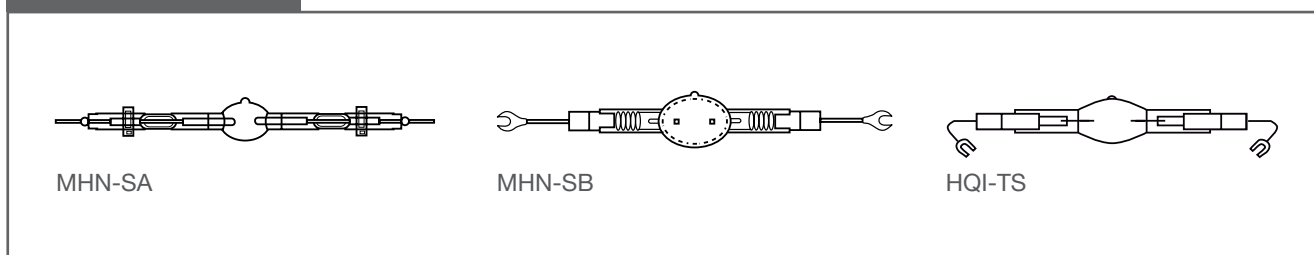
Technical Specifications

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

ELECTRONIC CONTROL GEAR AVAILABLE

Please request when quoting and ordering.

Lamp references



Lamp Manufacturer & Lamp Reference	Lamp Wattage (kW)	Colour Temp. (K)	RA	Lamp Lumen Output (Initial lm)	Lamp Current (A)	Supply Voltage (V)	Total Circuit Power (W)
Philips MHN-SB 2000W/956	2	5600	90	200000	11.5	380/400/415	2136
Philips MHN-SB/HO 2000W/956	2	5600	90	220000	11.5	380/400/415	2136
MHN-SA 2000W/956	2	5600	90	200000	11.3	380/400/415	2136
Osram HQI-TS2000/D/S	2	5900	93	200000	11.5*	380/400/415	2105
HQI-TS1000/D/S	1	5900	90	90000	9.4	380/400/415	1140

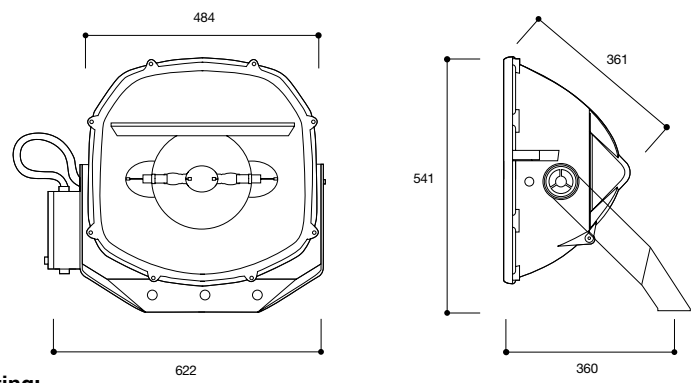
*Measured on a 10.3A ballast.

Technical information may alter dependent on control gear used



Dimensions

Dimensions in mm



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

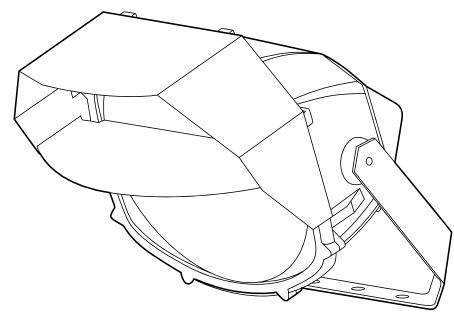
Weight: 15kg. **Front wind area:** 0.196m²
 at 70° elevation

Maintenance

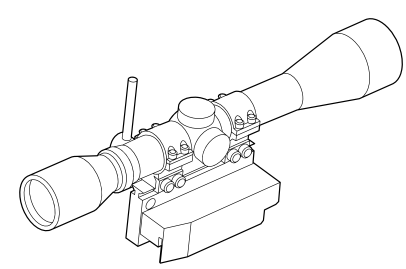


Easy Maintenance:
 Access to the lamp by means of opening the rear door

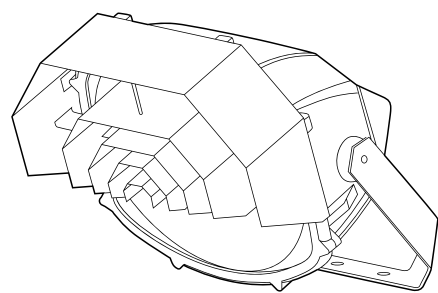
Accessories



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



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

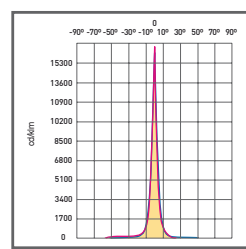


Half concentric louvre – AL5921
 This accessory for the Challenger® 3 provides the highest level of upward light and overspill control

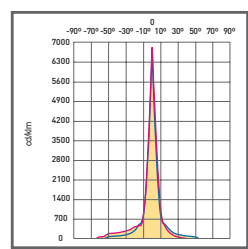


Challenger® 3 with louvres

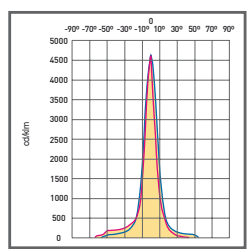
Key features



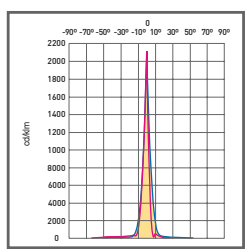
AL5911
 MHN-SA Pro 2kW
 Narrow beam



AL5912
 MHN-SB Pro 2kW
 Medium beam



AL5913
 MHN-SB Pro 2kW
 Wide beam



AL5914
 MHN-SB Pro 2kW
 Extra narrow beam

VELA LED AL7000

IP66



Benefits

- Ease of maintenance and replacement of parts due to the modular construction
- Effective light control and low light output ratio (ULOR) with the design of the outer body and canopy

Technical Features


- Various wattages available: 200W, 400W, 600W
- 250W driver (IP67)
- Colour temperature: 5000K
- CRI: 70
- Cree / Philips Lumileds
- Single phase 230V
- Single plug and play high quality connector for power and controls
- Running current: 700mA
- Lumens per watt circa 102.5+lm / W
- 1-10V dimming available as standard
- Five distribution types available: narrow, medium, wide, extra narrow and extra wide

- Low upward light output ratio (ULOR)
- Die-cast aluminium black LED modules
- 3mm sheet aluminium outer body
- Polyester power coated body as standard, finished silver (RAL 9006)
- Mounting bracket options: under slung or over slung
- Modular construction

Applications

- Area
- Sport

Colour

-  Silver (RAL 9006)

Technical Specifications

	Wattage (W)	Lumen Output (lm)	No. of LED Modules	No. of LEDs	Beam Distribution	Efficacy	Drivers (W)	Effective Projection Area	Weight (kg)
AL7001	396	42059	2	48	Narrow	106.2	2 x 250 (On the fitting)	0.328	27
AL7002	396	41428	2	48	Medium	104.6	2 x 250 (On the fitting)	0.328	27
AL7003	394	40787	2	48	Wide	103.5	2 x 250 (On the fitting)	0.328	27
AL7004	609	64957	3	72	Narrow	106.7	3 x 250 (Remote)	0.23	31.4
AL7005	609	63008	3	72	Medium	103.5	3 x 250 (Remote)	0.23	31.4
AL7006	609	61118	3	72	Wide	100.4	3 x 250 (Remote)	0.23	31.4
AL7007	196	20516	1	24	Wide	104.6	1 x 250 (On the fitting)	0.246	16
AL7008	396	44036	2	48	Extra Narrow	111.2	2 x 250 (On the fitting)	0.328	27
AL7009	332	33567	2	48	Extra Wide	103.9	2 x 250 (On the fitting)	0.328	27



FLOODLIGHTING

TRENT 2 LED AL5500



Symmetrical Small body 4
Low-medium lumen output



Symmetrical Large body 5
Medium-high lumen output

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 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



Cosmo Option - Asymmetric



Cosmo Option - Symmetric



Street Optic Large body 9
Medium-high lumen output



Street Optic Small body 8
Low-medium lumen output

- Mounted on a pressed aluminium circuit, highly heat dissipating Metal Core Printed Circuit Board
- Photobiological Risk Group exempt based on EN 62471

Applications

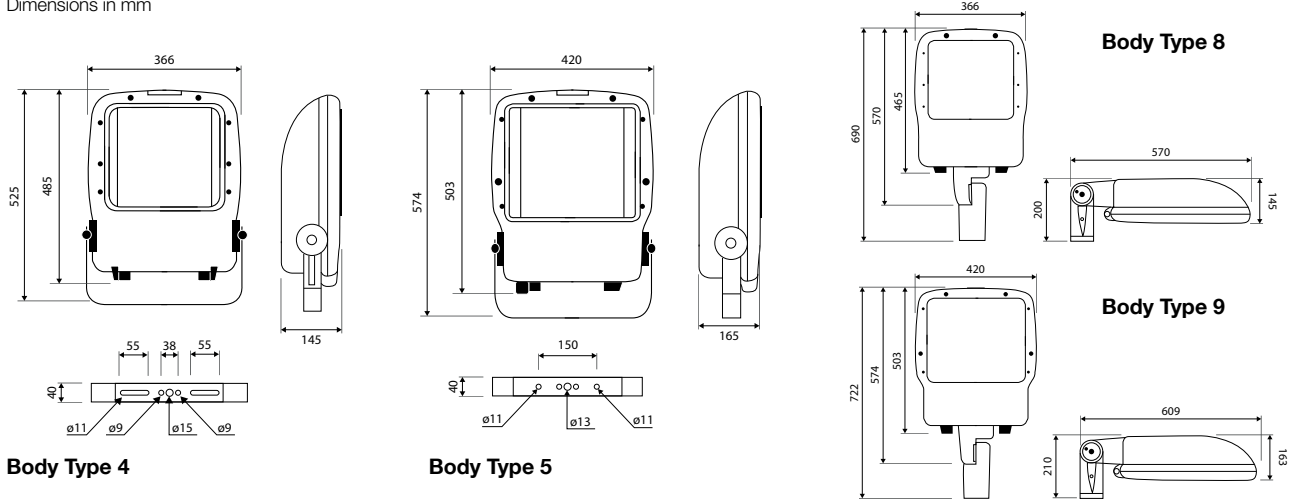
- Area
- Sport

Colour

- Light grey

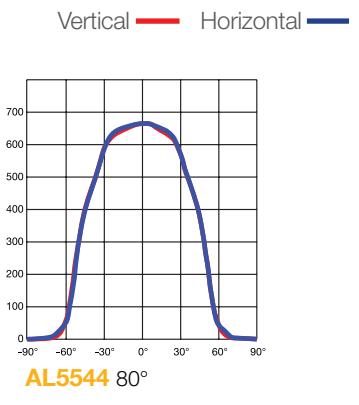
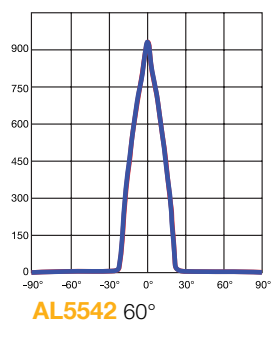
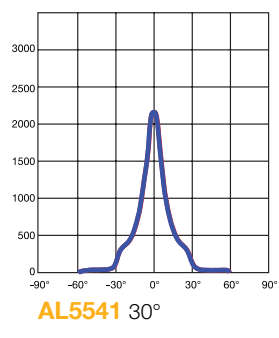
Dimensions

Dimensions in mm

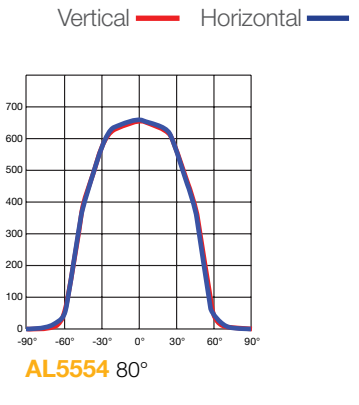
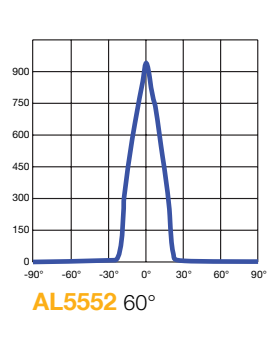
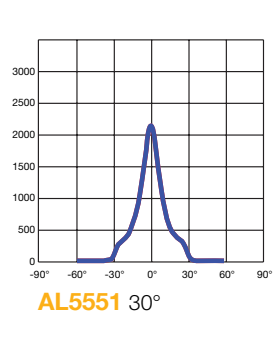


Key features

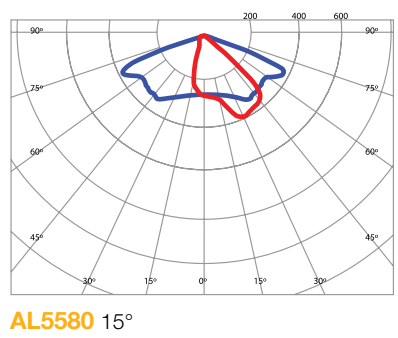
Symmetric Body 4



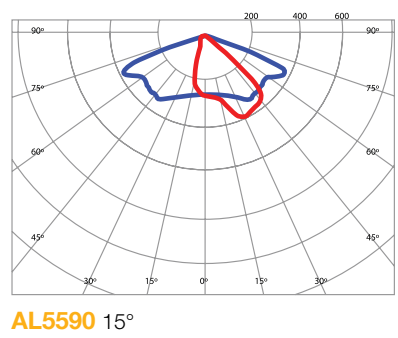
Symmetric Body 5



Street Optic Body 8



Street Optic Body 9





Technical Specifications

	Wattage (W) <i>Includes Driver</i>	No. of LEDs	Nominal Lumen Output (lm)	Lumen Output (lm)	L80 Hours (TA=25°)	CCT & CRI	Fixed Current Driver	Prog. Driver	Running Current (mA)	Beam Width	Body Type	Weight (kg)	Wind Area (m ²)
AL5541	60	9	8350	7390	>70000	4000K / >70 CRI	Y	N	530	30°	4	11.3	0.077
	78	12	10930	9670	>70000		Y	N	530	30°	4	11.3	0.077
	100	16	14200	12600	>65000		Y	N	530	30°	4	11.3	0.077
AL5542	60	9	8350	7390	>70000	4000K / >70 CRI	Y	N	530	60°	4	11.3	0.077
	78	12	10930	9670	>70000		Y	N	530	60°	4	11.3	0.077
	100	16	14200	12600	>65000		Y	N	530	60°	4	11.3	0.077
AL5544	60	9	8350	7390	>70000	4000K / >70 CRI	Y	N	530	80°	4	11.3	0.077
	78	12	10930	9670	>70000		Y	N	530	80°	4	11.3	0.077
	100	16	14200	12600	>65000		Y	N	530	80°	4	11.3	0.077
AL5551	134	16	17740	15700	>60000	4000K / >70 CRI	Y	N	700	30°	5	11.4	0.087
	144	20	19430	17200	>60000		N	Y	600	30°	5	11.4	0.087
AL5552	134	16	17740	15700	>60000	4000K / >70 CRI	Y	N	700	60°	5	11.4	0.087
	144	20	19430	17200	>60000		N	Y	600	60°	5	11.4	0.087
AL5554	134	16	17740	15700	>60000	4000K / >70 CRI	Y	N	700	80°	5	11.4	0.087
	144	20	19430	17200	>60000		N	Y	600	80°	5	11.4	0.087

LIGHT DISTRIBUTION TYPE: Symmetric
MOUNT: Stirrup

	Wattage (W) <i>Includes Driver</i>	No. of LEDs	Nominal Lumen Output (lm)	Lumen Output (lm)	L80 Hours (TA=25°)	CCT & CRI	Fixed Current Driver	Prog. Driver	Running Current (mA)	Body Type	Weight Spigot (kg)	Weight Wall Mount (kg)	Wind Area (m ²)
AL5580	52	24	6540	5500	>70000	4000K / >70 CRI	Y	N	700	8	9.68	10.83	0.083
	65	30	8150	6850	>70000		Y	N	700	8	9.68	10.83	0.083
	79	36	9460	7950	>65000		Y	N	700	8	10.68	11.83	0.083
	91	42	10980	9230	>65000		Y	N	700	8	10.68	11.83	0.083
AL5590	106	49	13200	11100	>70000	4000K / >70 CRI	Y	N	700	9	13.0	14.25	0.112
	120	56	14850	12480	>70000		Y	N	700	9	13.0	14.25	0.112
	134	42	17500	15650	>70000		N	Y	1000	9	13.0	14.25	0.112

LIGHT DISTRIBUTION TYPE: Street Optic
MOUNT: Spigot or wall mount

	Wattage (W) <i>Includes Driver</i>	No. of LED COB	Nominal Lumen Output (lm)	Lumen Output (lm)	CCT & CRI	Prog. Driver	Optic	Distribution	Body Type	Weight (kg)	Wind Area (m ²)
AL5591	107	2	17000	12700	5000K / >70 CRI	Y	Wide 2 x 34°	Symmetric	4	13.35	0.135
AL5592	107	2	17000	12700		Y	Spot 2 x 20°		4	13.35	0.135
AL5593	160	3	27000	20000		Y	Wide 2 x 34°		5	13.35	0.135
AL5594	160	3	27000	20000		Y	Spot 2 x 20°		5	13.35	0.135
AL5595	192	4	31000	23200		N	Wide 2 x 34°		5	13.35	0.135
AL5596	192	4	31000	23200		N	Spot 2 x 20°	5	13.35	0.135	
AL5597	100	2	16000	12000		Y	Maximum intensity 36°	Asymmetric	4	13.35	0.135
AL5598	144	3	22000	16500		Y	Maximum intensity 36°		5	13.35	0.135
AL5599	165	4	25300	19000		N	Maximum intensity 36°		5	13.35	0.135

LIGHT DISTRIBUTION TYPE: Cosmo Optic
MOUNT: Stirrup

TRENT 2 LED AL5500 DOUBLE ASYMMETRIC



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
- 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 upto 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



Body 4
12 LED

Body 5
16 LED



Body 5
20 LED

- 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 EN 62471

Applications

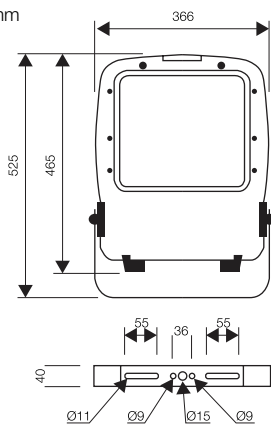
- Area
- Sport

Colour

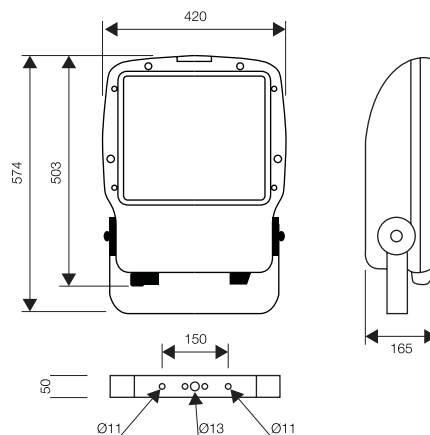
- Light grey

Dimensions

Dimensions in mm



Body Type 4



Body Type 5

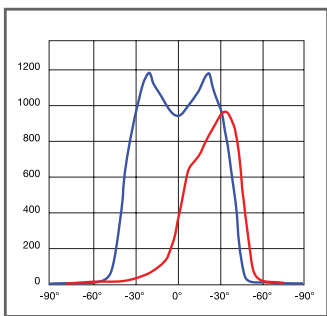


Technical Specifications

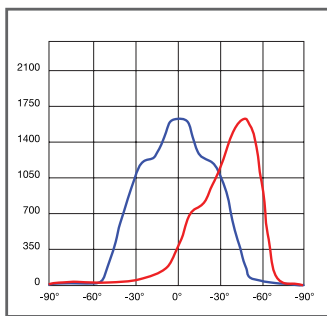
	Wattage (W) <i>Includes Driver</i>	No. of LEDs	Nominal Lumen Output (lm)	Lumen Output (lm)	L80 Hours (TA=25°)	CCT & CRI	Fixed Current Driver	Prog. Driver	Running Current (mA)	Beam Elevation	Body Type	Weight (kg)	Wind Area (m ²)
AL5545	78	12	10900	8800	>70000		N	Y	530	35°	4	11.3	0.077
AL5546	78	12	10900	8800	>70000	4000K / >70 CRI	N	Y	530	45°	4	11.3	0.077
AL5547	78	12	10900	8600	>70000		N	Y	530	55°	4	11.3	0.077
AL5548	78	12	10900	8600	>70000		N	Y	530	60°	4	11.3	0.077
AL5555	100	16	13900	11300	>60000	4000K / >70 CRI	N	Y	530	35°	5	14.4	0.087
	127	20	17200	14000	>60000		Y	N	530	35°	5	14.4	0.087
AL5556	100	16	13900	11300	>60000	4000K / >70 CRI	N	Y	530	45°	5	14.4	0.087
	127	20	17200	14000	>60000		Y	N	530	45°	5	14.4	0.087
AL5557	100	16	13900	11050	>60000	4000K / >70 CRI	N	Y	530	55°	5	14.4	0.087
	127	20	17200	13690	>60000		Y	N	530	55°	5	14.4	0.087
AL5558	100	16	13900	11050	>60000	4000K / >70 CRI	N	Y	530	60°	5	14.4	0.087
	127	20	17200	13690	>60000		Y	N	530	60°	5	14.4	0.087

LIGHT DISTRIBUTION TYPE: Double Asymmetric
MOUNT: Stirrup

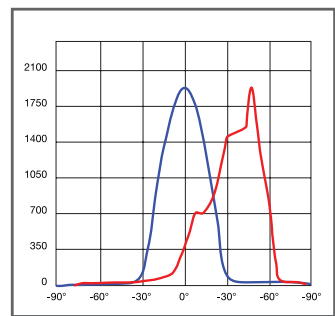
Key features



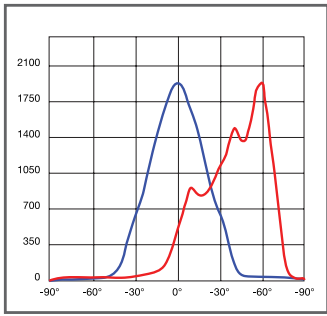
Body 4 35°



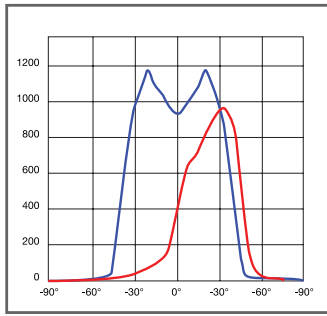
Body 4 45°



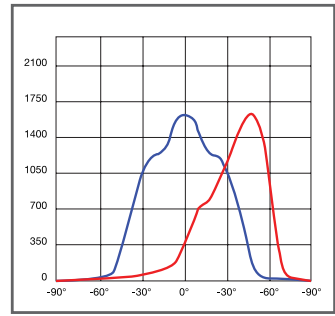
Body 4 55°



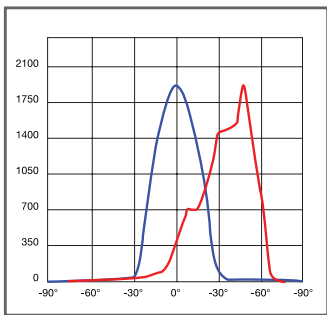
Body 4 60°



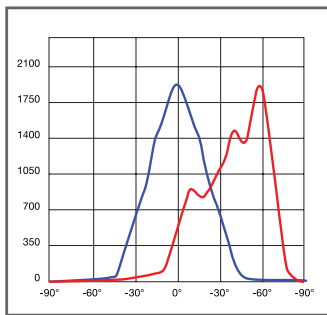
Body 5 35°



Body 5 45°



Body 5 55°



Body 5 60°

Vertical — Horizontal —

TRENT 2 AL5000



Asymmetric



Double Asymmetric



Symmetric



Street Lighting

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-ageing silicon rubber gasket
- Stirrup mounting or 60mm diameter post mount

- Pressure compensation filter on the body
- Tempered glass with high temperature thermal shock, mechanically fixed into the frame
- Access options: Hexagon stainless steel screws, or tool-less access by stainless steel securing clip. State on order

- LED version available

Applications

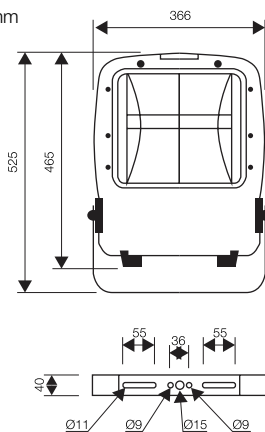
- Area
- Sport

Colour

- Light grey

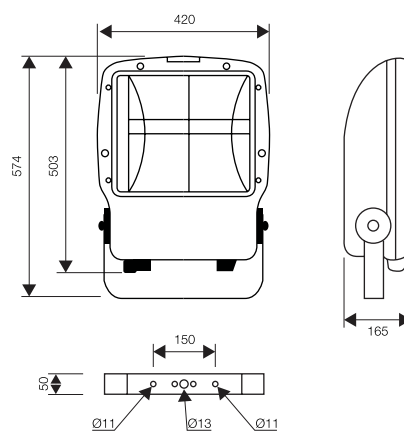
Dimensions

Dimensions in mm



Body Type 4

AL5047, AL5042, AL5045, AL5043, AL5046, AL5086/P, AL5080/S

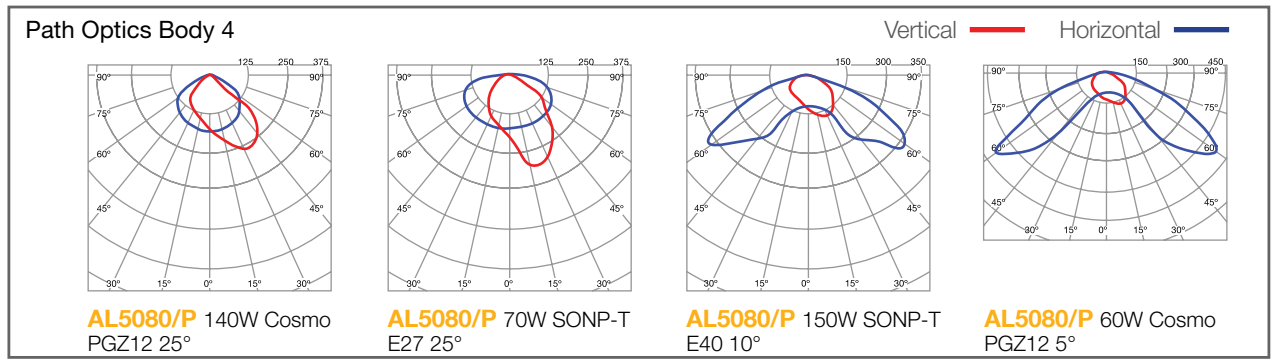
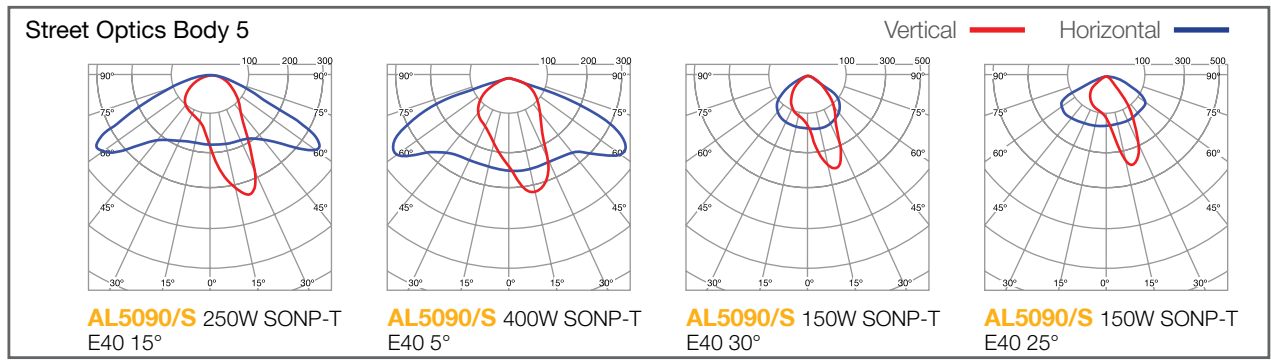
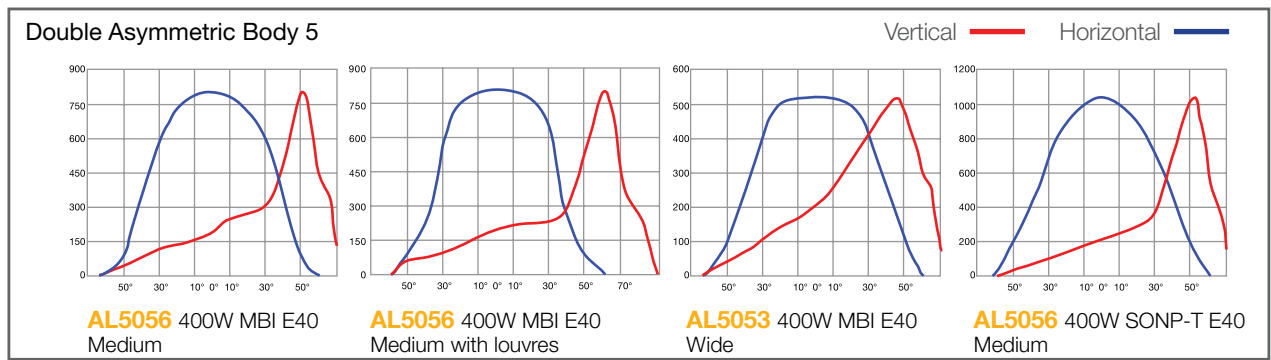
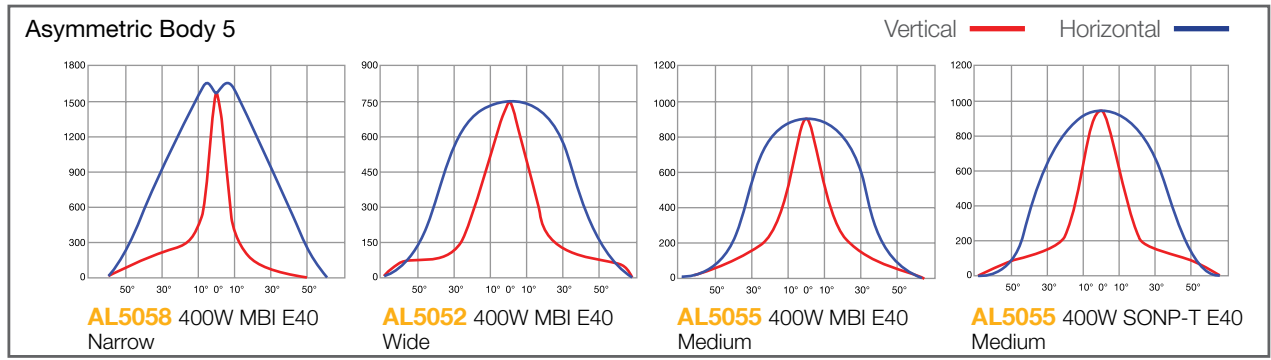
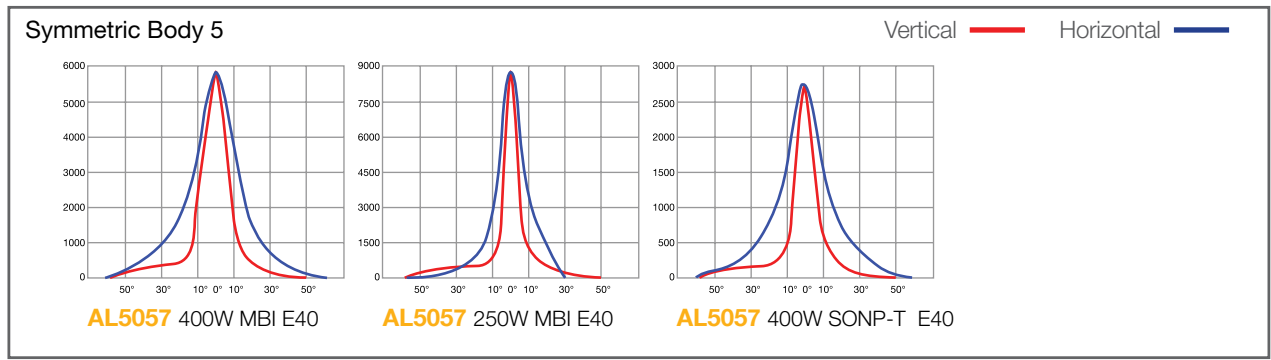


Body Type 5

AL5057, AL5052, AL5055, AL5058, AL5053, AL5066/P, AL5090/S



Key features



Technical Specifications

	Lamp Wattage (W)	Light Source	Lamp Holder	Conventional Ballast	Electronic Ballast Available (E)	Body Type	Distribution	Weight (kg)	Wind Area (m ²)
AL5047	100	MBI, SONP-T	E40	Y	Y	4	Symmetric Narrow	8.71	0.14
	150	MBI, SONP-T	E40	Y	Y	4		9.58	0.14
	250	MBI, SONP-T	E40	Y	N	4		10.76	0.14
	210	CDM-T	PGZ18	N	Y	4		8.70	0.14
AL5042	100	MBI, SONP-T	E40	Y	Y	4	Asymmetric Wide	8.71	0.14
	150	MBI, SONP-T	E40	Y	Y	4		9.58	0.14
	250	MBI, SONP-T	E40	Y	N	4		10.76	0.14
	210	CDM-T	PGZ18	N	Y	4		8.70	0.14
AL5045	100	MBI, SONP-T	E40	Y	Y	4	Asymmetric Medium	8.71	0.14
	150	MBI, SONP-T	E40	Y	Y	4		9.58	0.14
	250	MBI, SONP-T	E40	Y	N	4		10.76	0.14
	210	CDM-T	PGZ18	N	Y	4		8.70	0.14
AL5043	100	MBI, SONP-T	E40	Y	Y	4	Double Asymmetric Wide	8.71	0.12
	150	MBI, SONP-T	E40	Y	Y	4		9.58	0.12
	250	MBI, SONP-T	E40	Y	N	4		10.76	0.12
	210	CDM-T	PGZ18	N	Y	4		8.70	0.12
AL5046	100	MBI, SONP-T	E40	Y	Y	4	Double Asymmetric Medium	8.71	0.12
	150	MBI, SONP-T	E40	Y	Y	4		9.58	0.12
	250	MBI, SONP-T	E40	Y	N	4		10.75	0.12
	210	CDM-T	PGZ18	N	Y	4		8.70	0.12
AL5057	150	MBI, SONP-T	E40	Y	N	5	Symmetric Narrow	12.05	0.17
	250	MBI, SONP-T	E40	Y	N	5		13.35	0.17
	400	MBI, SONP-T	E40	Y	N	5		14.55	0.17
	315	CDM-T	PGZ18	N	Y	5		12.0	0.17
AL5052	150	MBI, SONP-T	E40	Y	N	5	Asymmetric Wide	12.05	0.17
	250	MBI, SONP-T	E40	Y	N	5		13.35	0.17
	400	MBI, SONP-T	E40	Y	N	5		14.55	0.17
	600	SONP-T	E40	Y	N	5		16.40	0.17
	315	CDM-T	PGZ18	N	Y	5		12.0	0.17
AL5055	150	MBI, SONP-T	E40	Y	N	5	Asymmetric Medium	12.05	0.17
	250	MBI, SONP-T	E40	Y	N	5		13.35	0.17
	400	MBI, SONP-T	E40	Y	N	5		14.55	0.17
	315	CDM-T	PGZ18	N	Y	5		12.0	0.17
AL5058	150	MBI, SONP-T	E40	Y	N	5	Asymmetric Narrow	12.05	0.17
	250	MBI, SONP-T	E40	Y	N	5		13.35	0.17
	400	MBI, SONP-T	E40	Y	N	5		14.55	0.17
	600	SONP-T	E40	Y	N	5		16.50	0.17
	315	CDM-T	PGZ18	N	Y	5		12.0	0.17
AL5053	150	MBI, SONP-T	E40	Y	N	5	Double Asymmetric Wide	12.05	0.13
	250	MBI, SONP-T	E40	Y	N	5		13.35	0.13
	400	MBI, SONP-T	E40	Y	N	5		14.55	0.13
	600	SONP-T	E40	Y	N	5		16.50	0.13
	315	CDM-T	PGZ18	N	Y	5		12.0	0.13
AL5056	150	MBI, SONP-T	E40	Y	N	5	Double Asymmetric Medium	12.05	0.13
	250	MBI, SONP-T	E40	Y	N	5		13.35	0.13
	400	MBI, SONP-T	E40	Y	N	5		14.55	0.13
	600	SONP-T	E40	Y	N	5		16.50	0.13
	315	CDM-T	PGZ18	N	Y	5		12.0	0.13
AL5080/S	50, 70, 100, 150	MBI, SONP-T	E27 - 40	Y	N	4	Street Optic	9.2 - 10.45	0.083
	45, 60, 90, 140	CPO-TW	PGZ12	N	Y	4		9.55	0.083
	150	CDM-T	G12	N	Y	4		10.45	0.083
AL5080/P	50, 70	SONP-T	E27	Y	N	4	Cycle Path	9.2	0.083
	45, 60	CPO-TW	PGZ12	N	Y	4	Optic	9.55	0.083
AL5090/S	250, 400	MBI, SONP-T	E40	Y	N	5	Street Optic	13.15	0.112
	315	CDM-T	PGZ18	N	Y	5		11.0	0.112



MURA 2 LED AL5300

IP67

IK08



Body Type 6 Standard LED



Body Type 7 Standard LED



Body Type 7 RGB LED Symmetric

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 four pre-programmed light scenes with 12 variations available and 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
- Power correction factor >0.90
- Anti-ageing 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
- Available in symmetrical or asymmetrical light distributions
- 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 EN 62471

Applications

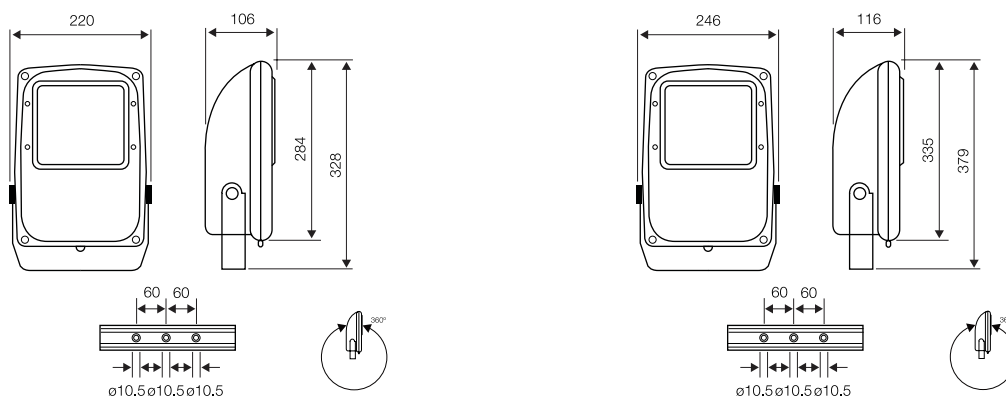
- Area

Colour

-  Light grey

Dimensions

Dimensions in mm



Body Type 6
AL5380

Body Type 7
AL5381

	Wattage (W) <i>Includes Driver</i>	No. of LEDs	Nominal Lumen Output (lm)	Lumen Output (lm)	L80 Hours (TA=25°)	CCT & CRI	Fixed Current Driver	Prog. Driver	Running Current (mA)	Beam Width	Body Type	Weight (kg)	Wind Area (m²)
AL5380	27	12	3300	2570	>65000	4000K /	N	Y	700	2 x 40°	6	3.95	0.056
	36	16	4420	3380	>65000	>70 CRI	N	Y	700	Symmetrical	6	3.95	0.056
AL5381	42	25	5330	4150	>65000	4000K /	Y	N	530	2 x 40°	7	4.75	0.075
	54	25	6700	5200	>65000	>70 CRI	Y	N	700	Symmetrical	7	4.75	0.075
	42	36	Dependent on Colour Configuration		>50000	RGB	N	Y	530	2 x 30° Symmetrical	7	4.75	0.075
	42	36			>50000		N	Y	530	2 x 40° Symmetrical	7	4.75	0.075
AL5382	27	12	3380	2640	>65000		Y	N	700		6	3.95	0.056
AL5383	36	16	4520	3520	>65000	4000K /	Y	N	700	30°	7	4.75	0.075
	45	20	5500	4300	>65000	>70 CRI	Y	N	700	Asymmetrical	7	4.75	0.075
LIGHT DISTRIBUTION TYPE: Symmetrical (AL5380, AL5381), Asymmetrical (AL5382, AL5383)													
MOUNT: Stirrup													



FLOODLIGHTING

MURA 2 AL5300



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

- Tempered front glass sealed to the front cover
- LED version available

Applications

- Area

Colours

- Black
- Titanium
- Silver

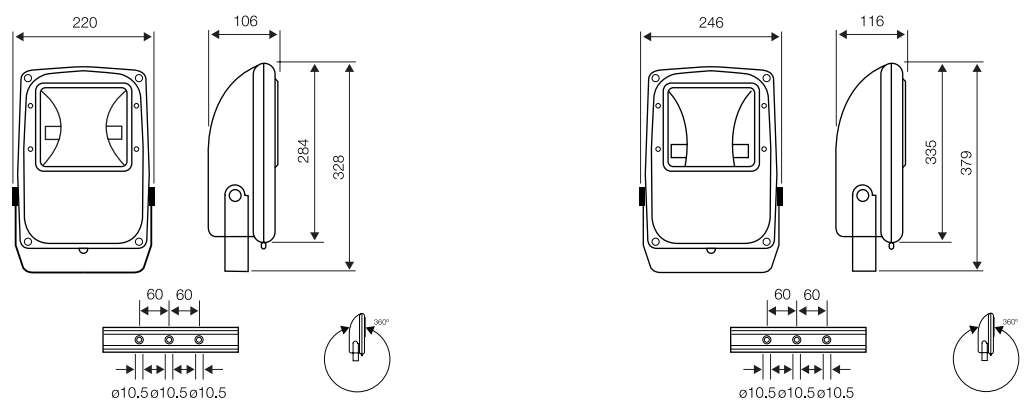
Technical Features

- IP67 and IK08 rated
- Class I as standard, Class II available on select ranges of body type 7 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-ageing silicon rubber gasket



Dimensions

Dimensions in mm



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

Body Type 7
AL5377, AL5372, AL5375, AL5373, AL5376

Technical Specifications

	Lamp Wattage (W)	Light Source	Lamp Holder	Colour Temp. (K)	Conventional Ballast	Electronic Ballast Available (E)	Body Type	Distribution	Weight (kg)	Wind Area (m ²)
AL5364	70	MBI-D	RX7s	3000	Y	Y	6	Symmetric Medium	4.10	0.056
	70	MBI	G12	3000	Y	Y	6		3.90	0.056
	35	MBI	G12	3000	Y	N	6		3.90	0.056
AL5367	70	MBI-D	RX7s	3000	Y	Y	6	Symmetric Narrow	4.10	0.056
	70	MBI	G12	3000	Y	Y	6		3.90	0.056
	35	MBI	G12	3000	Y	N	6		3.90	0.056
AL5362	70	MBI-D	RX7s	3000	Y	Y	6	Asymmetric Wide	4.10	0.056
	70	MBI	G12	3000	Y	Y	6		4.10	0.056
	35	MBI	G12	3000	Y	N	6		3.90	0.056
AL5365	70	MBI-D	RX7s	3000	Y	Y	6	Asymmetric Medium	4.10	0.056
	70	MBI	G12	3000	N	Y	6		3.05	0.056
AL5363	70	MBI-D	RX7s	3000	Y	Y	6	Double Asymmetric Wide	4.10	0.056
	70	MBI	G12	3000	Y	Y	6		3.90	0.056
	35	MBI	G12	3000	Y	N	6		3.90	0.056
AL5366	70	SONT-D	RX7s	2000	Y	N	6	Double Asymmetric Medium	4.03	0.056
	70	MBI-D	RX7s	3000	Y	Y	6		4.10	0.056
	70	MBI	G12	3000	N	Y	6		3.90	0.056
AL5377	35	MBI	G12	3000	Y	N	6	Double Asymmetric Medium	3.90	0.056
	150	MBI-D	RX7s	3000	Y	Y	7		5.60	0.075
	150	MBI	G12	3000	Y	Y	7		4.28	0.075
AL5372	150	MBI-D	RX7s	3000	Y	Y	7	Asymmetric Wide	5.60	0.075
	150	SONP-TD	RX7s	2000	Y	N	7		5.60	0.075
	150	MBI	G12	3000	Y	Y	7		4.28	0.075
AL5375	150	MBI-D	RX7s	3000	Y	Y	7	Asymmetric Medium	5.60	0.075
	150	MBI	G12	3000	N	Y	7		4.28	0.075
AL5373	150	MBI-D	RX7s	3000	Y	Y	7	Double Asymmetric Wide	5.60	0.075
	150	SONP-TD	RX7s	2000	Y	N	7		5.60	0.075
	150	MBI	G12	3000	Y	Y	7		4.28	0.075
AL5376	150	MBI-D	RX7s	3000	Y	N	7	Double Asymmetric Medium	5.60	0.075
	150	MBI-D	RX7s	3000	N	Y	7		4.28	0.075
	150	MBI	G12	3000	N	Y	7		4.28	0.075

MOUNT: Stirrup or wall mount

LIGHTING GUIDELINES

AMENITY LIGHTING

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

It covers a wide range of general applications and purposes:

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

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

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

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

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

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

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

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

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

U_o=E_{min}/E_{ave}. These are guidelines only



FLOODLIGHTING

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

Some typical categories are:

- General lighting
- Working areas
- Security
- Sports

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

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

These are guidelines only

General and working areas

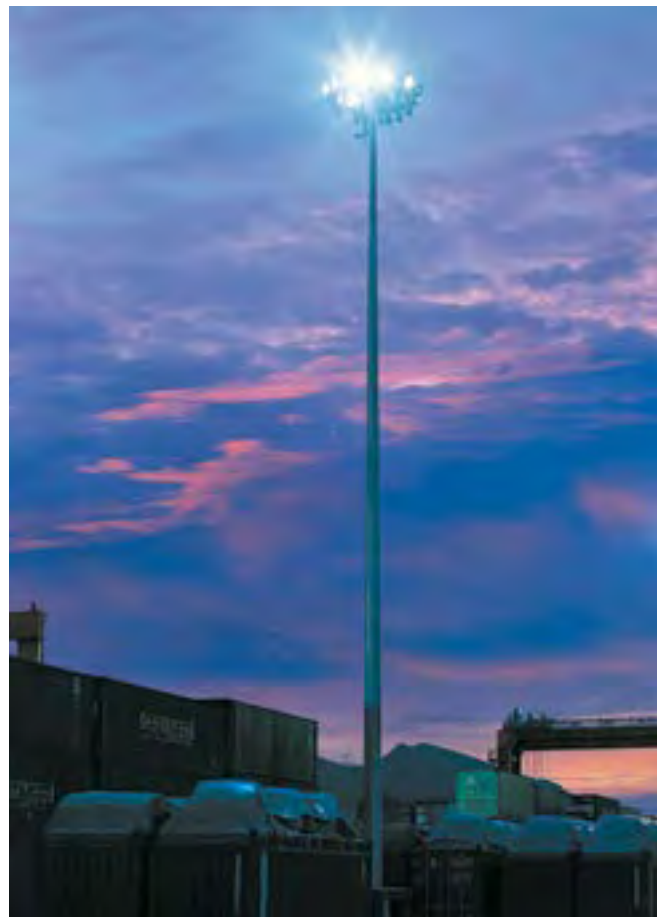
Most general and working areas are illuminated by floodlights mounted on masts or buildings. The type of floodlight, lamp selection and mounting height are dependent upon the overall size of the area, illuminance level, visual task, site restrictions and the cost effectiveness of the overall design.

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.





BASE-HINGED COLUMNS

PRODUCT

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

BENEFITS:

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

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





COLUMNS & MASTS

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

Standard columns

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

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

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



High mast systems

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

Telescopic masts

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

PAINT SHOP FACILITY

COLUMN FINISHING & PROTECTION OPTIONS

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



INSTALLATION & MAINTENANCE FROM THE PROFESSIONALS



We also offer maintenance for non-Abacus products

Installation

We are proud to offer a professional turnkey 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 subcontractor 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



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**



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Conditions of sale

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

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Oddicroft Lane, Sutton-in-Ashfield, Nottinghamshire,
NG17 5FT, United Kingdom.
Registered in England No. 8494722

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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