

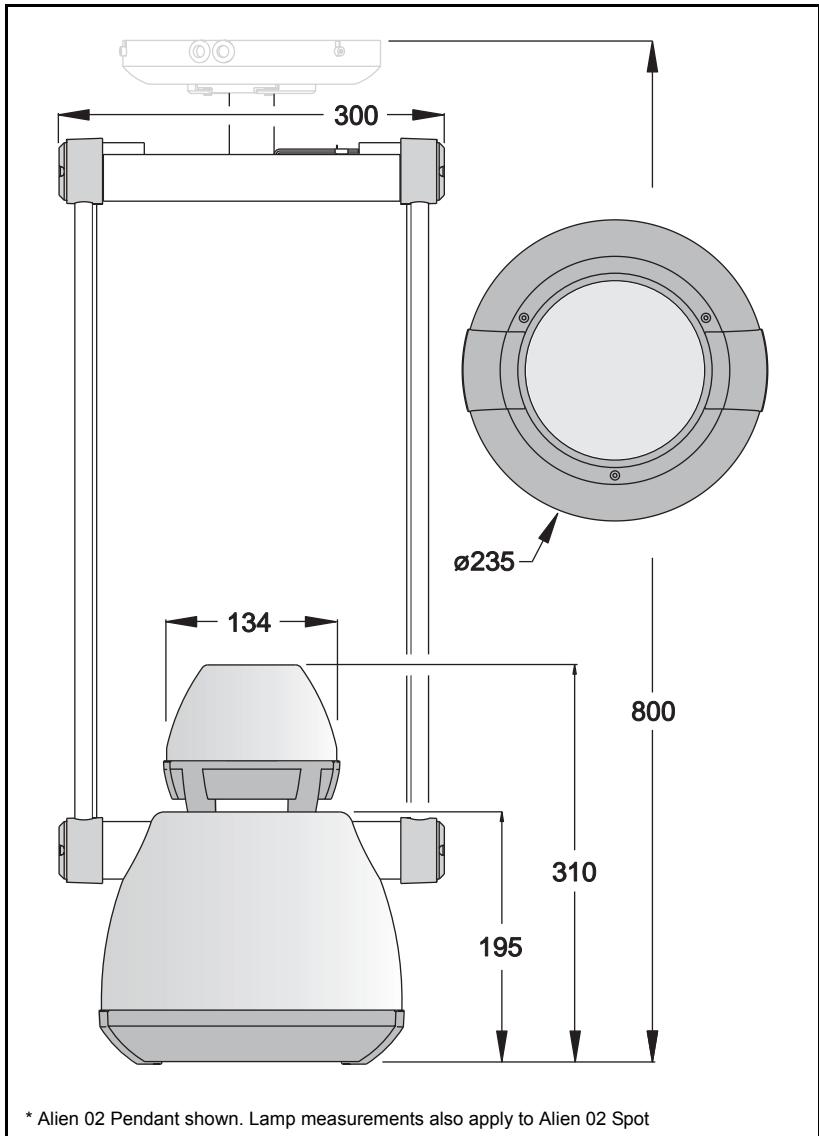


# Alien 02



user manual

Measurements are in millimeters



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Printed in Denmark.

P/N 35000111, Rev F

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# Introduction

Thank you for selecting the Martin Alien 02. The Alien 02 is an automated 150-watt color-changing medium-throw light designed for fixed interior installation. It features seamless CMY color mixing and full-range continuous dimming. The fixture may be operated with DMX control devices.

This manual describes installation, accessories and servicing for the Alien 02 Spot and the Alien 02 Pendant models. For information on operating and controlling these luminaires refer to the *150W Base user manual*.

The Alien 02 product range is made up of a number of luminaires and accessories:

- Alien 02 Spot - a pedestal or arm mounted luminaire
- Alien 02 Pendant - a ceiling hung luminaire
- 150W Base - provides power and intelligent control functions to one or two Alien 02 luminaires (Single or Double models)
- Mounting arm for the Alien 02 Spot
- J-Box for mounting the Alien 02 Pendant
- Cable extension kits for extending the distance between an Alien 02 luminaire and a 150W Base.
- 36° fresnel lens kit
- 90° x 70° beam shaper lens kit
- Micro lens diffuser kit
- Barn doors
- Glare control kit

## Safety information

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**Warning!** *This product is for professional use only. It is not for household use.*

This product presents risks of lethal or severe injury due to fire and heat, electric shock, ultraviolet radiation, lamp explosion, and falls. Read this manual before powering or installing the fixture, follow the safety precautions listed below and observe all warnings in this manual and on the fixture. If you have questions about how to operate the fixture safely, please

contact your Martin dealer or call the Martin 24-hour service hotline at +45 70 200 201.

## **Protection from electric shock**

- Disconnect the fixture from AC power before removing or installing the lamp, fuses, or any part, and when not in use.
- Always ground (earth) the fixture electrically.
- Use only a source of AC power that complies with local building and electrical codes and has both overload and ground-fault protection.
- Do not expose the fixture to rain or moisture.
- Refer all service to a Martin service technician.

## **Protection from UV radiation and lamp explosion**

- Never operate the fixture with missing or damaged lenses and/or covers.
- When replacing the lamp, allow the fixture to cool for at least 5 minutes before opening the fixture or removing the lamp. Protect your hands and eyes with gloves and safety glasses.
- Do not stare directly into the light. Never look at an exposed lamp while it is lit.
- Replace the lamp if it becomes defective or worn out.

## **Protection from burns and fire**

- Never attempt to bypass the thermostatic switch or fuses. Always replace defective fuses with ones of the specified type and rating.
- Keep all combustible materials (for example fabric, wood, paper) at least 1 meters (39 inches) away from the Alien O2 luminaire.
- Do not illuminate surfaces within 0.5 meters (20 inches) of the fixture.
- Provide a minimum clearance of 0.1 meters (4 inches) around fans and air vents.
- Never place filters or other materials over the lens.
- The exterior of the fixture can reach temperatures up to 55° C (194° F) at room temperature (25° C / 77° F). Allow the fixture to cool before handling.
- Do not modify the fixture or install other than genuine Martin parts.
- Do not operate the fixture if the ambient temperature (Ta) exceeds 40° C (104° F).

## **Protection from injury due to falls**

- When suspending the fixture above ground level, verify that the structure can hold at least 10 times the weight of all installed devices.
- Verify that all external covers and rigging hardware are securely fastened
- Block access below the work area whenever installing or removing the fixture.

This section describes in general terms how to mount the fixture and connect it to data and power. These procedures shall be performed by qualified professionals.

Note that all the measurements in the diagrams are expressed in millimeters (mm).

## Unpacking

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The Alien 02 comes with the following items:

- Philips CDM-SA/T 150 W discharge lamp (installed)
- User manual

Alien 02 Pendant luminaires are also supplied with a 3 mm Allen wrench (clipped to the fixture near the cables).

## Fixture orientation and location

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**Note:** *The built-in cables that connect the Alien 02 to a 150W Base are less than 1 metre long. If the distance between the two fixtures is to be greater you can order a cable extension kit to extend the distance up to a total of 16 metres. Keep these relative distances in mind when positioning your fixtures.*

Do not locate the Alien 02 luminaire in an unventilated space. Install the fixture in a location where it is:

- at least 0.5 meters (20 inches) away from the surface to be illuminated,
- at least 1 meter (40 inches) away from any combustible materials, and
- away from accidental public contact.

# Power and data connection

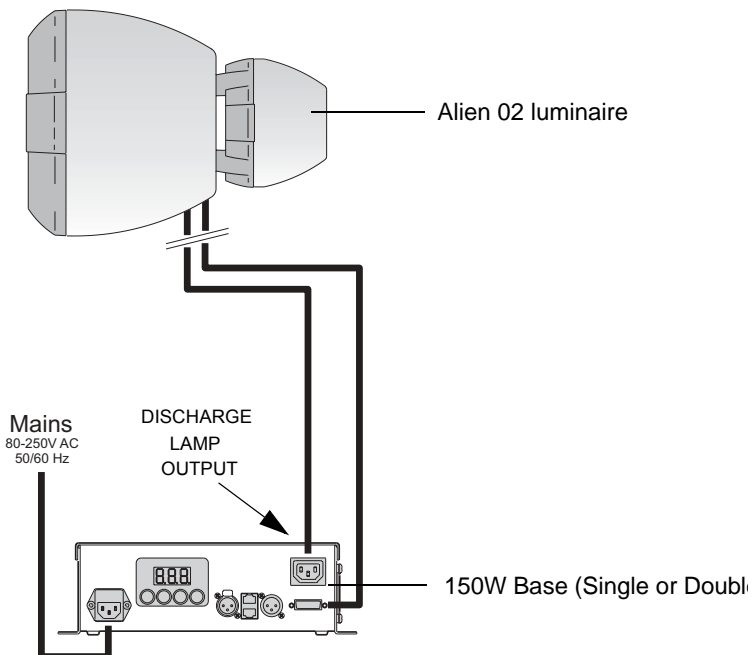
Power and data connection can be performed before or after mounting the luminaire. We recommend that you familiarize your self with this section, and perform as much of the work in advance of mounting the luminaire as is practical.

The Alien O2 luminaire receives its power and data from a 150W Base (Single or Double) and is connected using the attached cables, and if necessary a Cable Extension Kit.

**Warning** *Do not connect the Alien O2 luminaire directly to mains power supply - doing so will result in damage to the lamp and the local power supply.*

**Powering through a dimmer system can damage the fixture.**

- 1 The power-cable on the Alien O2 luminaire is connected to the **DISCHARGE LAMP OUTPUT** socket on the 150W Base.
- 2 The 26-pin plug on the data cable attached to the Alien O2 luminaire is connected to the **DATA OUT** socket on the 150W Base. Screw the connector into place.
- 3 Power is supplied to the 150W Base **MAINS INPUT** socket from the AC mains distribution system. Do not connect the fixture to a dimmer system.



## Cable extension kits

Cable extension kits are available that allow the distance between an Alien O2 luminaire and a 150W Base to be extended up to a maximum of 16 meters. The kits contain a power cable extension and a data cable extension. Kits are available in 2, 5, and 10 metre (6.5, 16, and 33 feet) extension lengths.

## Mounting an Alien O2 Pendant

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### Prerequisites

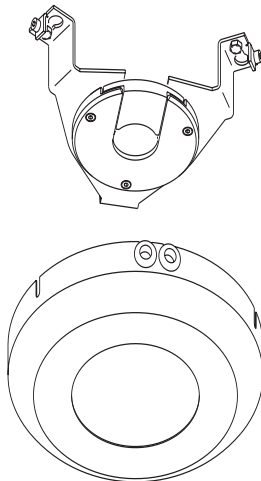
The Alien O2 is designed to be hung from a ceiling using the separately orderable Alien O2 J-Box. This should be installed securely before the Alien O2 is attached.

The 150W Base that supplies power to and controls the luminaire should be installed and be connected to AC power. The power and data cables should be connected to the 150W Base and run out to the J-Box in preparation for connection to the luminaire.

If the luminaire is to be used for upwards projection then some adjustments should be made before it is mounted. See “Upwards projection” on page 11.

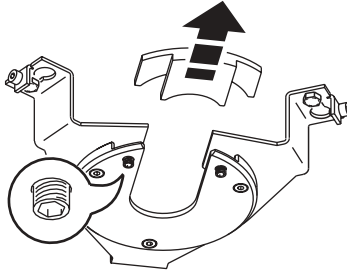
### Mounting procedure

- 1 Remove the J-Box cover by loosening the 3 Allen screws around the rim. You can use the 3 mm Allen wrench that is supplied with the Alien O2 (you can find it clipped to the luminaire support near the cables).

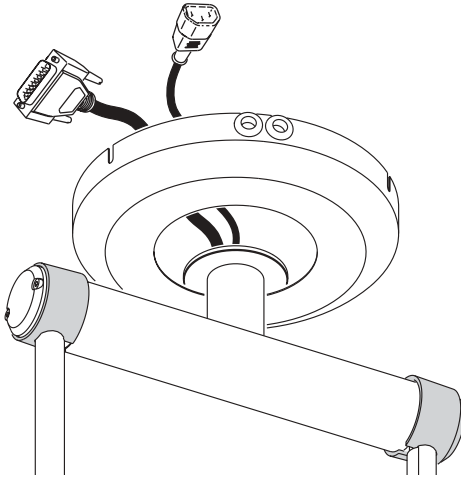




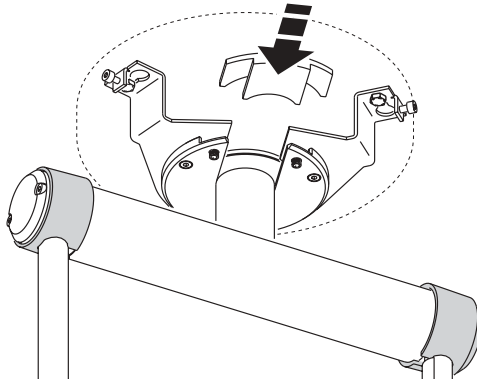
- 2 Using the 3 mm Allen wrench to loose the two locking screws, remove the slotted section of the J-Box.



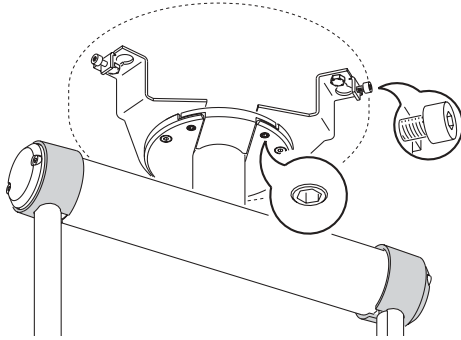
- 3 Pass the cables and mounting flange of the Alien O2 through the center of the J-Box cover.



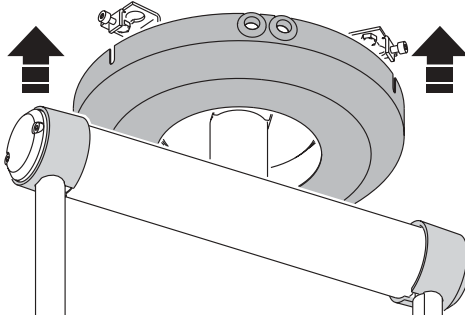
- 4 Slide the flange into the slot on the J-Box. Replace the slotted section (note that the dotted circle represents a cutaway of the J-box cover).



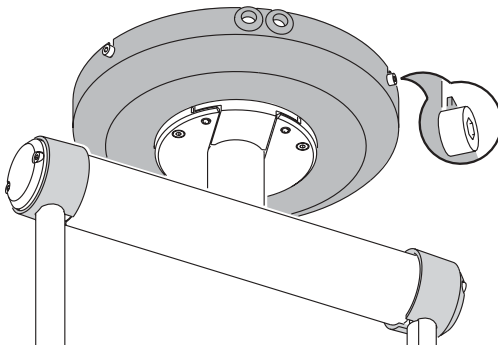
- 5 Move the Alien 02 Pendant to the correct pan position and screw the two pan locking screws in place using the 3 mm Allen wrench. Loosen the three Allen screws on the arms of the J-Box.



- 6 Connect the cables on the Alien 02 to the cables that are connected to the 150W Base. The cables can either be passed into a ceiling space through the J-Box, or passed through the two holes in the J-Box cover (make a cut in each of the rubber washers and slip the cables into the hole through these).
- 7 Push the J-Box cover into place, choosing one of the three possible positions that best suits your cabling configuration.

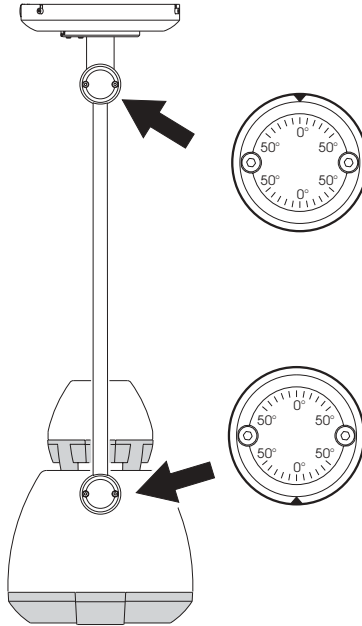


- 8 Using the 3 mm Allen wrench, tighten the three Allen screws that hold the cover in position.

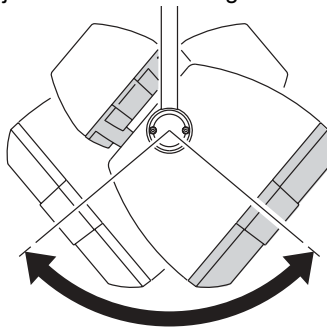


# Adjusting the projection angle

The Alien 02 is shipped in a downwards configuration.



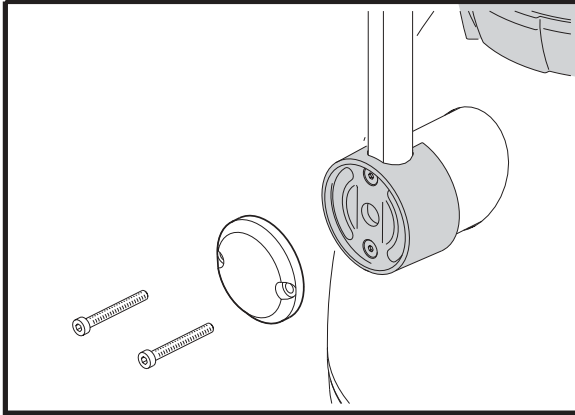
You can adjust the angle of the supporting arms, or the lamp, by making adjustments at the joints at two positions. To adjust a joint, use the 3 mm Allen wrench supplied with the fixture to loosen the joints on either side of the fixture. Adjust to the desired angle - +/- 50 degrees - and re-tighten.



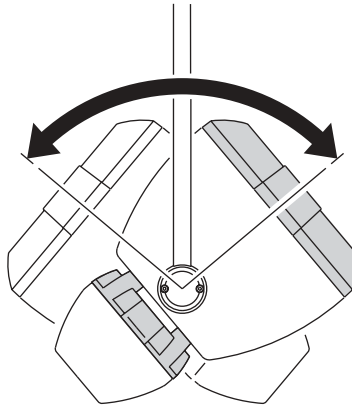
## Upwards projection

The luminaire can be configured to project upwards:

- 1 Using the 3 mm Allen wrench supplied with the luminaire, remove the Allen screws and covers from the joints on each side of the lamp housing.



- 2 Remove the lamp from the two supporting struts, invert it, and place it back into the strut mounts.
- 3 Replace the joint covers and Allen screws.
- 4 Adjust the projection angle and tighten the Allen screw at the joints.



## Mounting an Alien O2 Spot

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### Pre-requisites

The Alien O2 Spot is attached to a separately orderable Alien O2 Mounting Arm.

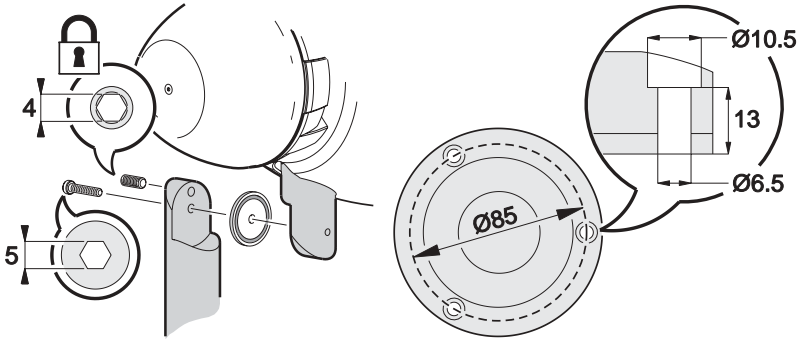
To attach the Mounting Arm to:

- The Alien O2 Spot luminaire you need 4 mm and 5 mm hex wrenches.
- A surface you need 3 units of M6 mounting hardware appropriate to the mounting surface and the weight of the fixture, and associated tools to install the hardware.

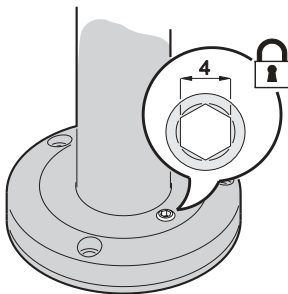
## Mounting procedure

Note that these steps need not necessarily be performed in this order. You may find it easier to attach the mounting arm to the mounting surface before attaching the Alien O2 Spot luminaire.

- 1 Attach the Alien O2 Spot to the mounting arm using the supplied hardware and 4 mm and 5 mm hex wrenches. Do not over tighten the 4 mm locking bolt until the fixture is installed and pointing in the appropriate direction.



- 2 Attach the base of the arm to the required surface using M6 mounting hardware that is appropriate to the mounting surface and to the weight of the fixture.
- 3 Adjust the vertical and horizontal angles of the spot so that it is pointing in the correct direction. Tighten the 4 mm locking screws on the top of the arm (see the first illustration above) and on the base.



This chapter describes the lens options that are available for the Alien O2, as well as the Glare Control Kit (see page 15) and the Barn Door Kit (see page 16).

## Lens options

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The following lenses are available for the Alien O2 luminaire:

**70° diffuser lens:** The 70° diffuser lens is standard. It provides a symmetric 70° field. It installs with the rough side out, away from the lamp.

**36° Fresnel lens:** The optional Fresnel lens provides a symmetric 36° field. It installs with the ridges out, away from the lamp.

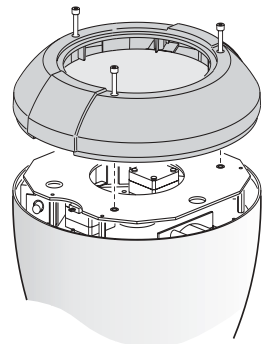
**90° x 70° beam shaper lens:** The optional beam shaper provides an asymmetric 90° by 70° field. It installs with the ridges facing out, and may be turned as desired; the ridges are parallel with the short axis of the field. This lens is lighter and more fragile than the others: be extra careful when installing the beam shaper lens and tighten the rubber washers just enough to exert light pressure.

**Micro lens diffuser:** The Micro lens diffuser provides a very flat field and improved efficiency compared to the standard optical configuration. It can be used in short throw applications where exact evenness is required. The estimated spread angle is 60 degrees.

## Changing the lens

Lens installation requires 2.5 and 3 mm Allen wrenches.

- 1 Remove the front by unscrewing the three 3 mm Allen screws. The screws should not be completely removed as this will damage the push-on fasteners that hold them in place.
- 2 Remove the lens bracket and the existing lens.
- 3 Remove the air filter behind the bracket.

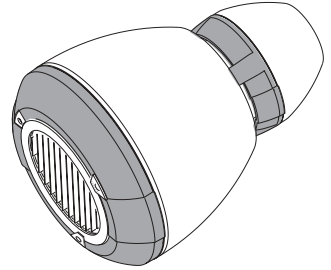


- 4 Using a 2.5 mm Allen wrench, remove the three screws and metal plates that hold the lens in place at the rear of the lens bracket.
- 5 Remove the lens.
- 6 Place the new lens flat against the lens bracket with the rougher side in or out (as described in the previous section). Replace the metal plates and screws that hold the lens in place.
- 7 Replace the air filter.
- 8 Reattach the lens bracket to the fixture.

## Glare control kit

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The Glare Control Kit consists of a rotatable grill that is designed to reduce light leakage.



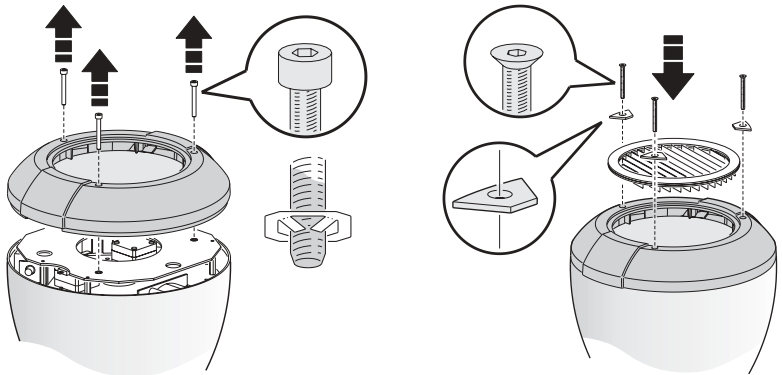
### Requirements

Installing the Glare Control kit requires a 3 mm Allen wrench.

### Installation

To install the Glare Control Kit:

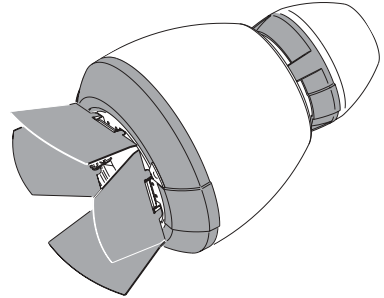
- 1 Remove the three 3 mm Allen screws (and their push-on fasteners) holding the front lens bracket in place.



- 2 Place the Glare Control grill over the lens.
- 3 Screw the grill into place using the longer Allen screws and plates supplied with the kit.

# Barn door kit

A optional barn door kit can be ordered for the Alien 02 luminaire. The barn door kit is easily attached to the Alien 02 and allows for precise beam control. The barn doors can be opened, closed, and rotated. They can be used in situations where you need to shape the beam or prevent light leakage.

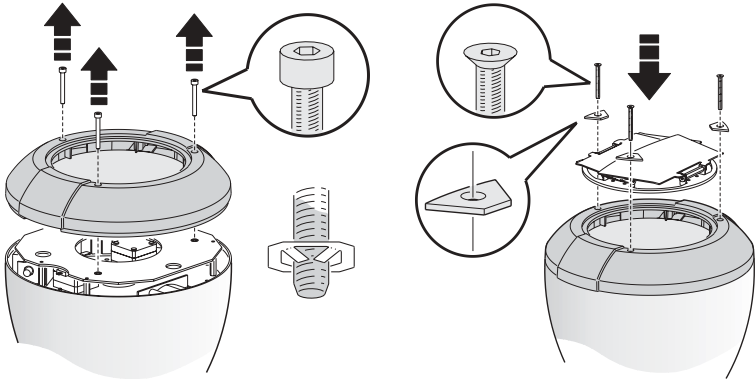


## Installation

Installing the barn door kit requires a 3 mm Allen wrench.

To install the barn door kit:

- 1 Remove the three 3 mm Allen screws (and their push-on fasteners) holding the front lens bracket in place.



- 2 Place the barn door kit over the lens.
- 3 Screw the barn doors into place using the longer Allen screws and plates supplied with the kit.



This section describes service procedures that can be performed by the user. Refer all service not described here to a qualified Martin technician.

**Warning!** *Disconnect the fixture from power before removing any cover.*

## Lamp replacement

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To ensure optimum lamp life:

- Turn off lamp power whenever illumination is not required for extended periods of an hour or more. Fixture power may remain on when not in use.
- Always allow the lamp to warm up fully before turning it off.
- Avoid turning on several lamps at once.

The Alien O2 can use the following discharge lamps. Installing any other lamp type may damage the fixture.

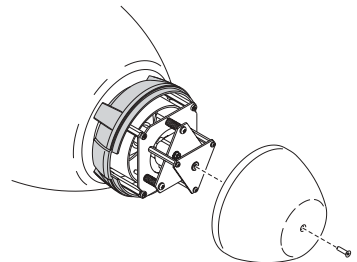
Lamp	Efficiency	Color Temp.	Average Life
Philips CDM-SA/T 150W	85 Lm/W	4000 K	6000 hr.
General Electric CMH150	74 Lm/W	4200 K	12000 hours

Lamp replacement requires 2.5 mm Allen wrench and a Phillips screwdriver.

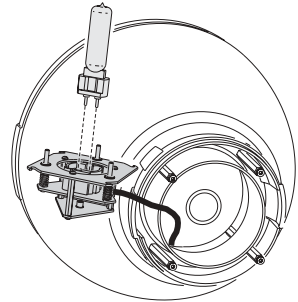
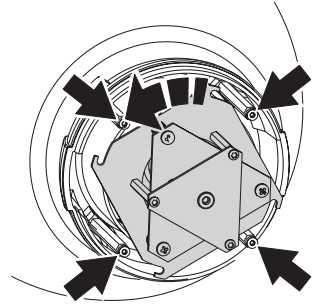
**Warning!** *Allow the lamp to cool for 15 minutes before removing the lamp cover.*

To replace the lamp:

- 4 Disconnect the fixture from power and allow it to cool.
- 5 Remove the lamp cover at the back of the fixture using a 2.5 mm Allen wrench.



- 6 Loosen the four screws holding the lamp holder in place.
- 7 Gently twist the lamp holder and guide it out of the housing.
- 8 Remove the old lamp from the socket.
- 9 Holding the new lamp by its ceramic base - *do not touch the glass bulb* - insert it firmly and squarely into the lamp socket.
- 10 Clean the glass bulb with an alcohol wipe or a clean, lint-free cloth wetted with alcohol.
- 11 Gently insert the lamp and screw the holder into place.
- 12 Replace the cover and set it in place using a 2.5 mm Allen wrench.



- 13 We recommend that you activate the Lamp Hour Warning function on the 150W Base and that you set the expected number of hours of life the lamp has. This is done using the Personality menu on the 150W Base (see the *150W Base user manual*). Remember to also reset the lamp hour counter using the Information menu on the 150W Base. When the lamp hour counter reaches:
  - 100 hours less than the expected life time of the lamp, the display on the 150W Base will start blinking LHr in the display. At this point you should change the lamp to avoid the risk of lamp explosion.
  - The expected life of the lamp, the lamp shuts off and can not be turned on again before the counter in the 150W Base is reset, or the predefined lamp hour warning level has been redefined.

**Note:** *If you are operating two Alien 02 luminaires from a 150W Double Base then we highly recommend that the lamps be replaced in both luminaires at the same time. This is so that the Lamp Hour Warning function has meaning when two lamps are in operation.*

# Optimizing lamp alignment

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The lamp alignment is set at the factory. If, the light distribution is uneven, lamp alignment may be adjusted as follows. A 2.5 mm Allen wrench and a Phillips screwdriver are required.

14 Disconnect the fixture from AC power supply and allow the lamp to cool for 15 minutes.

15 Remove the lamp cover at the back of the fixture using a 2.5 mm Allen wrench.

16 The three sprung screws on the lamp holder are used for lamp adjustment. Switch on the Alien O2 and allow it to reset.

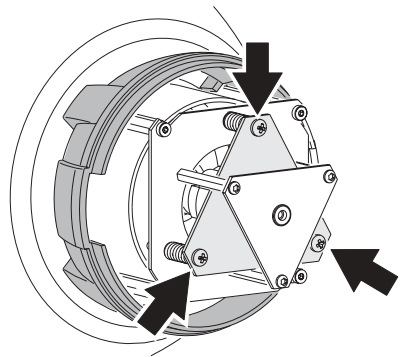
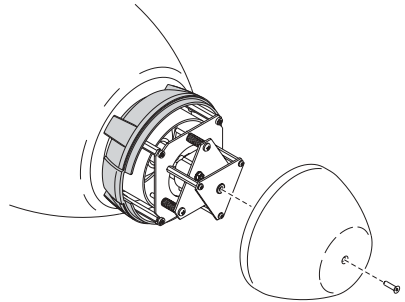
17 Using either a controller or the control panel, strike the lamp and focus the light on a flat surface.

18 Center the hot-spot (the brightest part of the beam) by turning the 3 adjustment screws. Turn one screw at a time to drag the hot-spot diagonally across the projected image. If there is no hot-spot, adjust the lamp until the light is even.

19 To reduce a hot-spot, pull the lamp in by turning all three screws clockwise 1/4-turn at a time until the light is evenly distributed.

20 If the light is brighter around the edge than it is in the center, or if light output is low, the lamp is too far back in the reflector. "Push" the lamp out by turning the screws counterclockwise 1/4-turn at a time until the light is bright and evenly distributed.

21 Replace the lamp cover.



# Cleaning

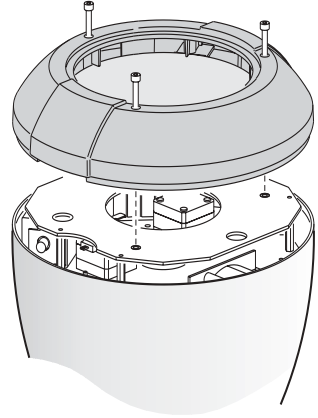
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Wash the aluminum housing of the Alien O2 with a soft brush or sponge and a mild, non-abrasive car washing detergent. Rinse.

## Cleaning the air filter in the Alien O2 luminaire

Accessing the air filter in an Alien O2 requires a 3 mm Allen wrench.

- 1 Remove the front lens bracket by unscrewing the three 3 mm Allen screws. The screws should not be completely removed as this will damage the push-on fasteners that hold them in place.
- 2 Remove the lens bracket from the fixture.
- 3 Remove the air filter from behind the bracket.
- 4 To clean the air filter, use a vacuum or compressed air, or soak it in warm soapy water and blot dry.
- 5 Replace the air filter.
- 6 Reattach the lens bracket to the fixture.



# Specifications - Alien 02 Pendant

## Physical

Length	800 mm (31.5 in.)
Width	300 mm (12 in.)
Diameter of lamp	235 mm (9.3 in.)
Weight	5.4 kg (11.9 lbs)

## Installation

Mounting device	Alien 02 J-Box
Orientation	Ceiling mount
Beam orientation	Full pan, upwards or downwards, 2-position +/- 50° tilt
Minimum distance to combustible materials	1 m (39 in)
Minimum distance to illuminated surfaces	0.5 m (20 in)
Standard cable separation between Alien 02 and 150W Base	1 m (40 in)
Max. cable separation between Alien 02 and 150W Base (with ext. kits)	16 m (52 ft)

## Construction

Alien 02 housing	Aluminum and plastic
150W Base housing	Steel

## Thermal

Maximum ambient temperature (Ta)	40° C (104° F)
Maximum surface temperature, steady state, Ta=40° C	80° C (176° F)

## Maximum heat output

Measurement conditions	Single Alien 02 connected to a 150W Single Base
100 V @ 50 Hz	750 BTU/hour
100 V @ 60 Hz	700 BTU/hour
120 V @ 50 Hz	717 BTU/hour
120 V @ 60 Hz	700 BTU/hour
208 V @ 50 Hz	670 BTU/hour
208 V @ 60 Hz	650 BTU/hour
230 V @ 50 Hz	675 BTU/hour
230 V @ 60 Hz	710 BTU/hour
250 V @ 50 Hz	710 BTU/hour
250 V @ 60 Hz	685 BTU/hour

\* These measurements have a margin of error of +/- 10%

## Power supply (via 150W Base)

AC input to 150W Base . . . . .	3-pin IEC male socket
Power output from 150W Base . . . . .	3-pin IEC female socket
Power connection from 150W Base to Alien 02 . . . . .	via built-in cable
Power supply options on 150W Base . . . . .	100/120/208/230/250 V, 50/60 Hz

## Maximum power and current

Measurement conditions . . . . .	Single Alien 02 connected to a 150W Single Base
100 V @ 50 Hz . . . . .	220 W, 2.8 A
100 V @ 60 Hz . . . . .	205 W, 2.3 A
120 V @ 50 Hz . . . . .	210 W, 2.1 A
120 V @ 60 Hz . . . . .	205 W, 1.8 A
208 V @ 50 Hz . . . . .	196 W, 1.2 A
208 V @ 60 Hz . . . . .	190 W, 1 A
230 V @ 50 Hz . . . . .	198 W, 1 A
230 V @ 60 Hz . . . . .	193 W, 0.9 A
250 V @ 50 Hz . . . . .	208 W, 1 A
250 V @ 60 Hz . . . . .	201 W, 0.9 A

\* These measurements have a margin of error of +/- 10%

Measurement conditions . . . . .	Two Alien 02s connected to a 150W Double Base
100 V @ 50 Hz . . . . .	423 W, 5.1 A
100 V @ 60 Hz . . . . .	408 W, 4.3 A
120 V @ 50 Hz . . . . .	418 W, 3.9 A
120 V @ 60 Hz . . . . .	410 W, 3.5 A
208 V @ 50 Hz . . . . .	386 W, 2.3 A
208 V @ 60 Hz . . . . .	378 W, 2 A
230 V @ 50 Hz . . . . .	393 W, 1.9 A
230 V @ 60 Hz . . . . .	389 W, 1.8 A
250 V @ 50 Hz . . . . .	412 W, 1.9 A
250 V @ 60 Hz . . . . .	409 W, 1.7 A

\* These measurements have a margin of error of +/- 10%

## Source

Lamp . . . . .	150 W discharge
Lamp base type . . . . .	GY 12
Approved models . . . . .	Philips CDM-SA/T, General Electric CMH, Osram HQI-R
Control . . . . .	remote switchable

## Dynamic effects

Cyan filter . . . . .	0 - 100%
Magenta filter . . . . .	0 - 100%
Yellow filter . . . . .	0 - 100%
Dimmer . . . . .	0 - 100%

## Control & Programming (via 150W Base)

Control options . . . . .	DMX-512, Martin remote control, stand-alone, master/slave
Receiver . . . . .	RS-485
Setting and addressing . . . . .	3-digit LCD control panel
Firmware update . . . . .	Serial upload (MUF)
Stand-alone trigger options . . . . .	Real-time clock with timer
Stand-alone memory . . . . .	20 scenes
Data input . . . . .	3-pin XLR male, RJ-45
Data output . . . . .	3-pin XLR female, RJ-45
Data pin out . . . . .	Pin 1 shield, pin 2 cold (-), pin 3 hot (+)
DMX channels . . . . .	7

## Ordering information

Alien O2 Pendant . . . . .	P/N 90345100
J-Box . . . . .	P/N 91611065
150W Single Base . . . . .	P/N 90724000
150W Double Base . . . . .	P/N 90724200

## Included items

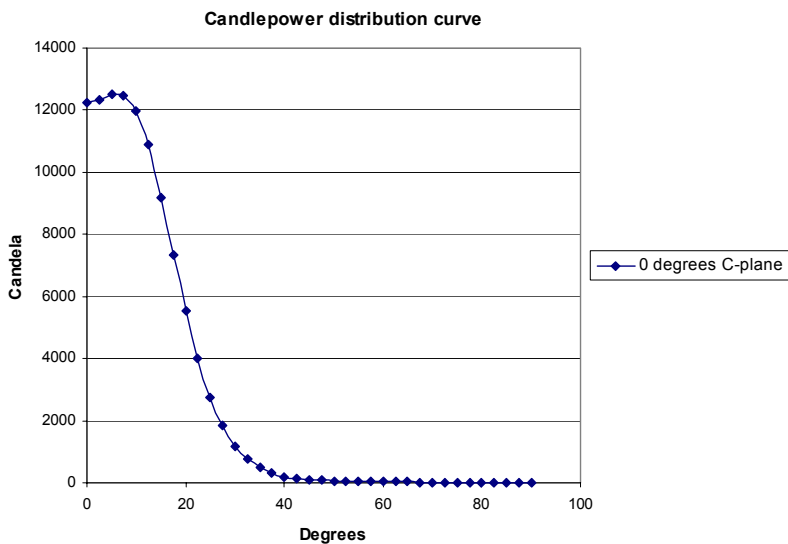
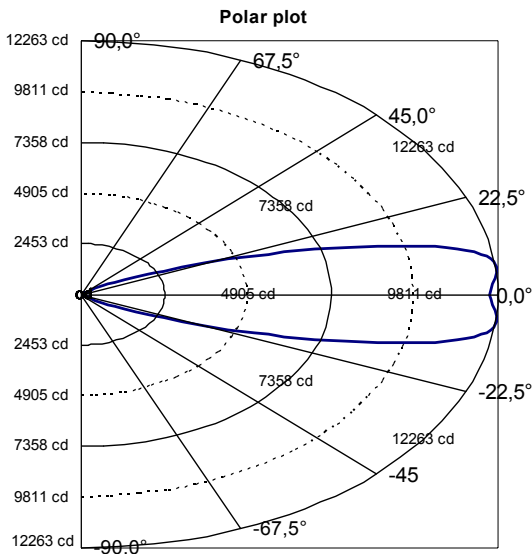
User manual  
Philips CDM-SA/T 150 W discharge lamp  
3 mm Allen wrench

## Accessories

36° Fresnel lens . . . . .	P/N 91610022
90° x 70° beam shaper lens: . . . . .	P/N 91610023
Micro lens diffuser . . . . .	P/N 91610024
Barndoor kit . . . . .	P/N 91611057
Glare control kit . . . . .	P/N 91611066
MP-2 uploader: . . . . .	P/N 90758420
MC-X Controller, 220 - 245 V / 50 Hz . . . . .	P/N 90718200
MC-X Controller, 110 - 120 V / 60 Hz . . . . .	P/N 90718300
Philips CDM-SA/T 150 W lamp . . . . .	P/N 97010111
Osram HQI-R 150W . . . . .	P/N 97010101
2-meter cable extension kit . . . . .	P/N 91611051
5-meter cable extension kit . . . . .	P/N 91611060
10-meter cable extension kit . . . . .	P/N 91611061

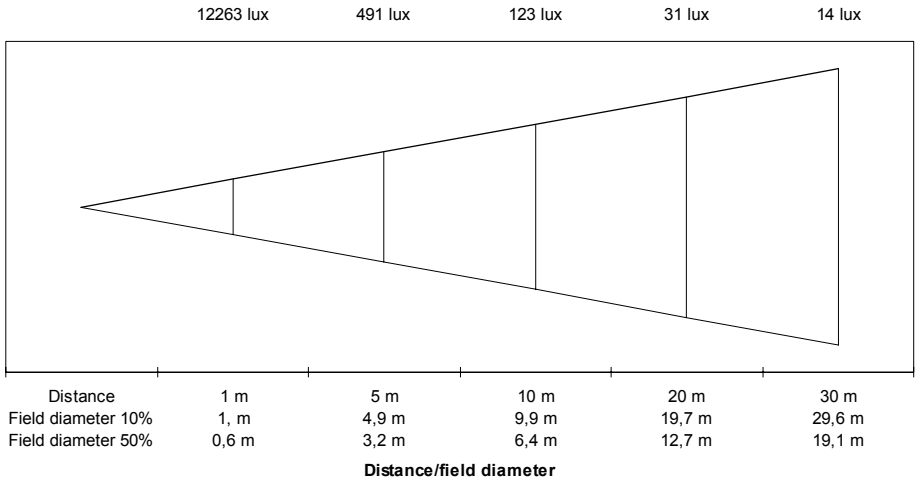
## Photometrics - Diffuser lens (fitted as standard)

Efficiency	39%
Half peak angle	38°
One-tenth-peak angle	60°
Illuminance	12263/distance <sup>2</sup> lux
Half-peak diameter	0.64 x distance m
One-tenth-peak diameter	0.99 x distance m
Measurement conditions	230V, 50Hz, no color applied
Measurement source	Philips CDM-SA/T 150W





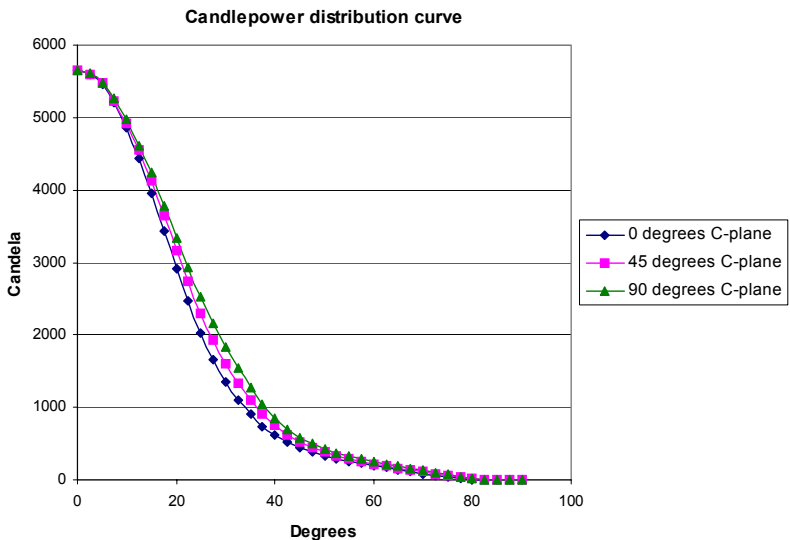
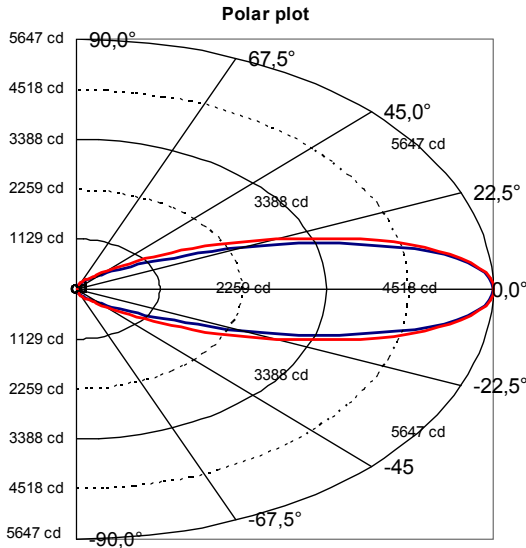
### Illumination



*\* For conversion to imperial units, multiply meters by 3.28 to get feet, and Lux by 0.093 for get footcandles.*

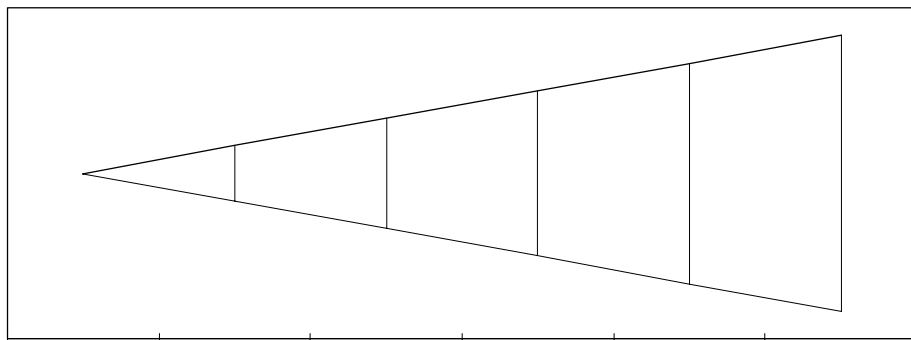
# Photometrics - Beam shaper lens

Efficiency	31%
Half peak angle	41° / 46° 0/90 degrees
One-tenth-peak angle	83° / 91° 0/90 degrees
Illuminance	5647/distance <sup>2</sup> lux
Half-peak diameter	0.75 x distance m
One-tenth-peak diameter	1.38 x distance m
Measurement conditions	230V, 50Hz, no color applied
Measurement source	Philips CDM-SA/T 150W



### Illumination

5647 lux      226 lux      56 lux      14 lux      6 lux



Distance	1 m	5 m	10 m	20 m	30 m
Field diameter 10%	1,4 m	6,9 m	13,8 m	27,6 m	41,4 m
Field diameter 50%	0,7 m	3,7 m	7,5 m	14,9 m	22,4 m

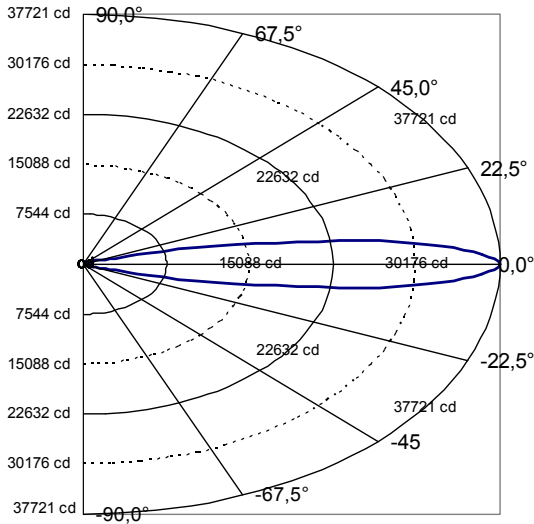
#### Distance/field diameter

*\* For conversion to imperial units, multiply meters by 3.28 to get feet, and Lux by 0.093 for get footcandles.*

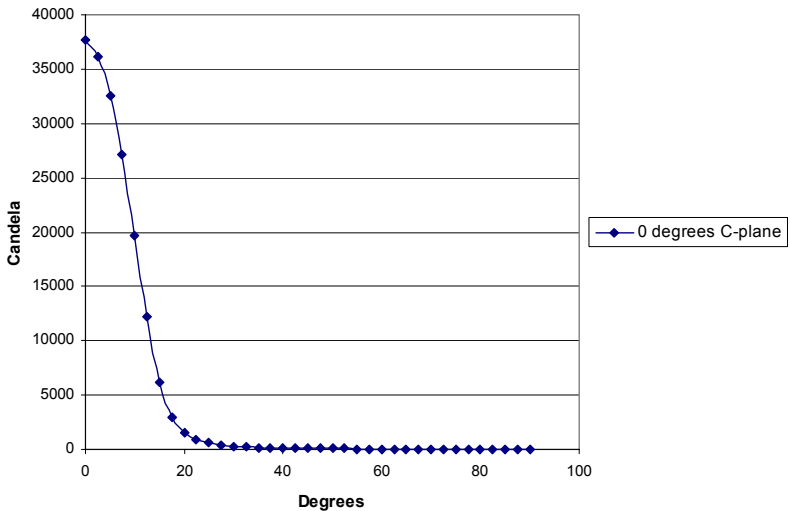
# Photometrics - Fresnel lens

Efficiency	38%
Half peak angle	21°
One-tenth-peak angle	34°
Illuminance	$.37721/\text{distance}^2$ lux
Half-peak diameter	$0.35 \times \text{distance m}$
One-tenth-peak diameter	$0.58 \times \text{distance m}$
Measurement conditions	230V, 50Hz, no color applied
Measurement source	Philips CDM-SA/T 150W

**Polar plot**

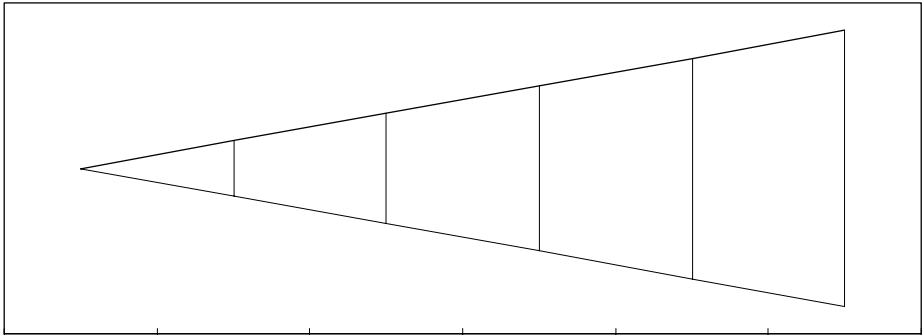


**Candlepower distribution curve**



### Illumination

37721 lux      1509 lux      377 lux      94 lux      42 lux



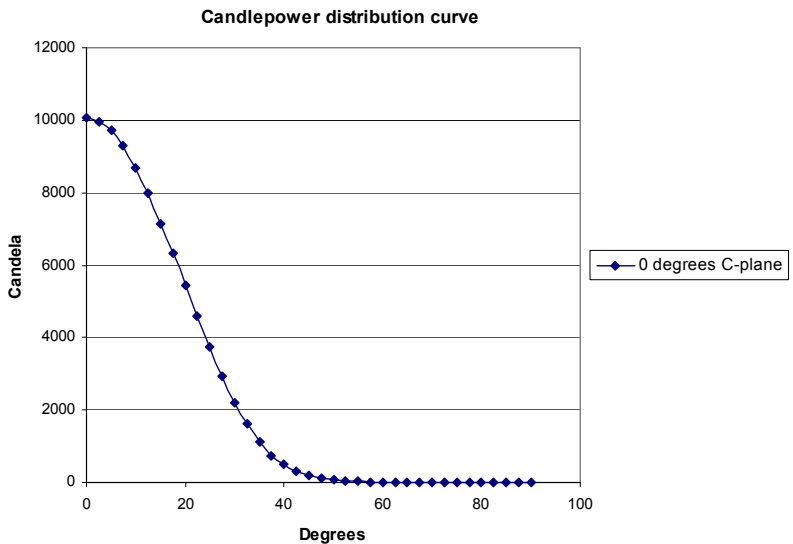
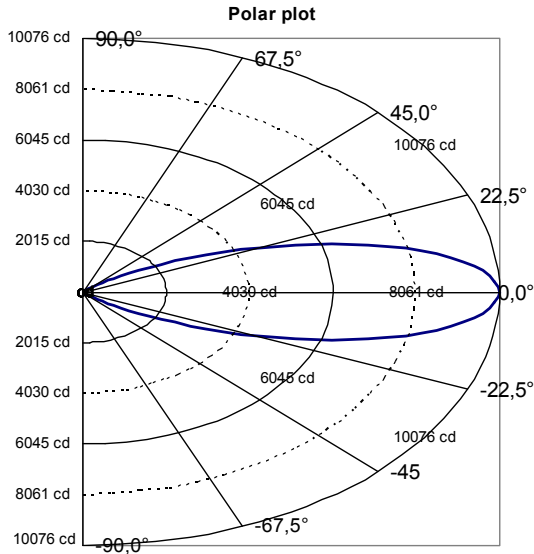
Distance	1 m	5 m	10 m	20 m	30 m
Field diameter 10%	0,6 m	2,9 m	5,8 m	11,6 m	17,3 m
Field diameter 50%	0,4 m	1,8 m	3,5 m	7,1 m	10,6 m

#### Distance/field diameter

*\* For conversion to imperial units, multiply meters by 3.28 to get feet, and Lux by 0.093 for get footcandles.*

# Photometrics - Super-wide lens

Efficiency	40%
Half peak angle	42°
One-tenth-peak angle	71°
Illuminance	$10076/\text{distance}^2$ lux
Half-peak diameter	$0.72 \times \text{distance m}$
One-tenth-peak diameter	$1.17 \times \text{distance m}$
Measurement conditions	230V, 50Hz, no color applied
Measurement source	Philips CDM-SA/T 150W



### Illumination

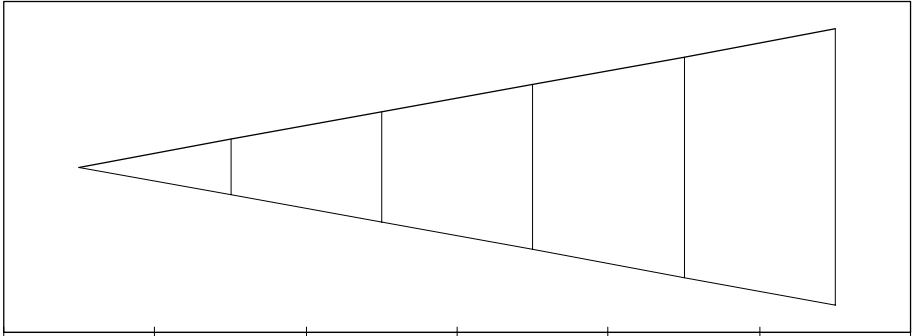
10076 lux

403 lux

101 lux

25 lux

11 lux



Distance	1 m	5 m	10 m	20 m	30 m
Field diameter 10%	1,2 m	5,9 m	11,7 m	23,4 m	35,1 m
Field diameter 50%	0,7 m	3,6 m	7,2 m	14,4 m	21,6 m

#### Distance/field diameter

*\* For conversion to imperial units, multiply meters by 3.28 to get feet, and Lux by 0.093 for get footcandles.*

# Specifications - Alien 02

## Spot

### Physical

Length	312 mm (12.3 in)
Width	235 mm (9.3 in)
Weight	3.3 kg (7.3 lbs)
Mounting arm - length	135 mm (5.3 in)
Mounting arm - weight	0.7 kg (1.5 lbs)

### Installation

Mounting device	Alien 02 Mounting Arm
Orientation	Any
Beam orientation	+/-50° tilt, full pan
Minimum distance to combustible materials	1 m (39 in)
Minimum distance to illuminated surfaces	0.5 m (20 in)
Standard cable separation between Alien 02 and 150W Base	1 m (40 in)
Max. cable separation between Alien 02 and 150W Base (with ext. kits)	16 m (52 ft)

### Construction

Alien 02 housing	Aluminum and plastic
150W Base housing	Steel

### Thermal

Maximum ambient temperature (Ta)	40° C (104° F)
Maximum surface temperature, steady state, Ta=40° C	80° C (176° F)

### Maximum heat output

Measurement conditions	Single Alien 02 connected to a 150W Single Base
100 V @ 50 Hz	750 BTU/hour
100 V @ 60 Hz	700 BTU/hour
120 V @ 50 Hz	717 BTU/hour
120 V @ 60 Hz	700 BTU/hour
208 V @ 50 Hz	670 BTU/hour
208 V @ 60 Hz	650 BTU/hour
230 V @ 50 Hz	675 BTU/hour
230 V @ 60 Hz	710 BTU/hour
250 V @ 50 Hz	710 BTU/hour
250 V @ 60 Hz	685 BTU/hour

\* These measurements have a margin of error of +/- 10%



## Power supply (via 150W Base)

AC input to 150W Base	3-pin IEC male socket
Power output from 150W Base	3-pin IEC female socket
Power connection from 150W Base to Alien O2	via built-in cable
Power supply options on 150W Base	100/120/208/230/250 V, 50/60 Hz

## Maximum power and current

Measurement conditions	Single Alien O2 connected to a 150W Single Base
100 V @ 50 Hz	220 W, 2.8 A
100 V @ 60 Hz	205 W, 2.3 A
120 V @ 50 Hz	210 W, 2.1 A
120 V @ 60 Hz	205 W, 1.8 A
208 V @ 50 Hz	196 W, 1.2 A
208 V @ 60 Hz	190 W, 1 A
230 V @ 50 Hz	198 W, 1 A
230 V @ 60 Hz	193 W, 0.9 A
250 V @ 50 Hz	208 W, 1 A
250 V @ 60 Hz	201 W, 0.9 A

\* These measurements have a margin of error of +/- 10%

Measurement conditions	Two Alien O2s connected to a 150W Double Base
100 V @ 50 Hz	423 W, 5.1 A
100 V @ 60 Hz	408 W, 4.3 A
120 V @ 50 Hz	418 W, 3.9 A
120 V @ 60 Hz	410 W, 3.5 A
208 V @ 50 Hz	386 W, 2.3 A
208 V @ 60 Hz	378 W, 2 A
230 V @ 50 Hz	393 W, 1.9 A
230 V @ 60 Hz	389 W, 1.8 A
250 V @ 50 Hz	412 W, 1.9 A
250 V @ 60 Hz	409 W, 1.7 A

\* These measurements have a margin of error of +/- 10%

## Source

Lamp	150 W discharge
Lamp base type	GY 12
Approved models	Philips CDM-SA/T, General Electric CMH, Osram HQI-R
Control	remote switchable

## Dynamic effects

Cyan filter	0 - 100%
Magenta filter	0 - 100%
Yellow filter	0 - 100%
Dimmer	0 - 100%

## Control & Programming (via 150W Base)

Control options . . . . .	DMX-512, Martin remote control, stand-alone, master/slave
Receiver . . . . .	RS-485
Setting and addressing . . . . .	3-digit LCD control panel
Firmware update . . . . .	Serial upload (MUF)
Stand-alone trigger options . . . . .	Real-time clock with timer
Stand-alone memory . . . . .	20 scenes
Data input . . . . .	3-pin XLR male, RJ-45
Data output . . . . .	3-pin XLR female, RJ-45
Data pin out . . . . .	Pin 1 shield, pin 2 cold (-), pin 3 hot (+)
DMX channels . . . . .	7

## Ordering information

Alien O2 Spot . . . . .	P/N 90345000
Alien O2 Spot 135 mm (5.3 in) mounting arm . . . . .	P/N 91611048
150W Single Base . . . . .	P/N 90724000
150W Double Base . . . . .	P/N 90724200

## Included items

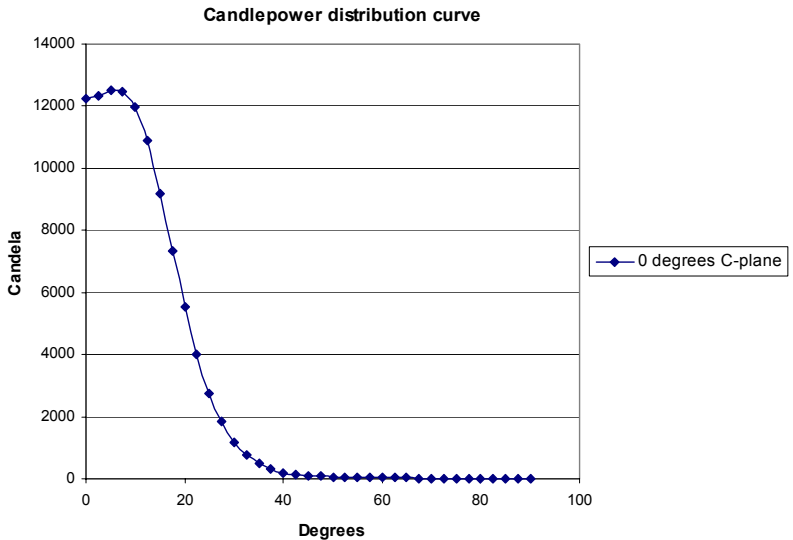
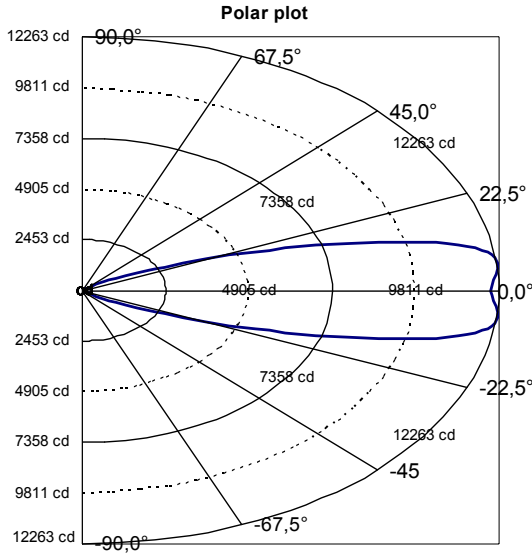
User manual  
Philips CDM-SA/T 150 W discharge lamp

## Accessories

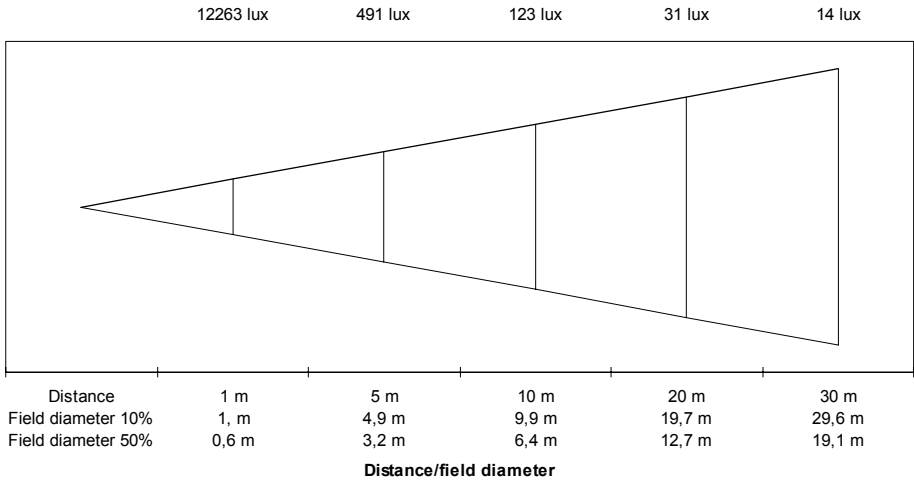
36° Fresnel lens . . . . .	P/N 91610022
90° x 70° beam shaper lens: . . . . .	P/N 91610023
Micro lens diffuser . . . . .	P/N 91610024
Barndoor kit . . . . .	P/N 91611057
Glare control kit . . . . .	P/N 91611066
MP-2 uploader: . . . . .	P/N 90758420
MC-X Controller, 220 - 245 V / 50 Hz . . . . .	P/N 90718200
MC-X Controller, 110 - 120 V / 60 Hz . . . . .	P/N 90718300
Philips CDM-SA/T 150 W lamp . . . . .	P/N 97010111
Osram HQI-R 150W . . . . .	P/N 97010101
2-meter cable extension kit . . . . .	P/N 91611051
5-meter cable extension kit . . . . .	P/N 91611060
10-meter cable extension kit . . . . .	P/N 91611061

## Photometrics - Diffuser lens (fitted as standard)

Efficiency	39%
Half peak angle	38°
One-tenth-peak angle	60°
Illuminance	$12263/\text{distance}^2$ lux
Half-peak diameter	$0.64 \times \text{distance m}$
One-tenth-peak diameter	$0.99 \times \text{distance m}$
Measurement conditions	230V, 50Hz, no color applied
Measurement source	Philips CDM-SA/T 150W



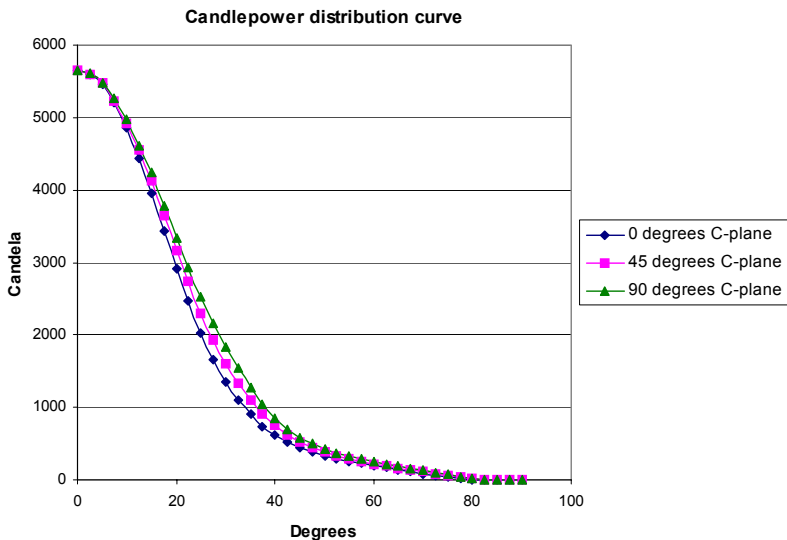
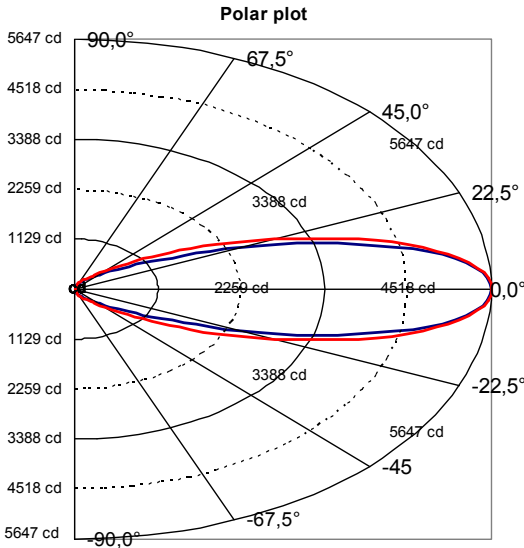
### Illumination



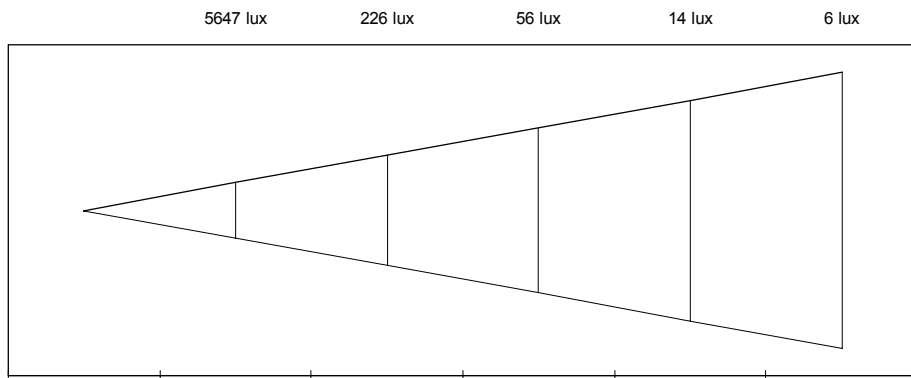
*\* For conversion to imperial units, multiply meters by 3.28 to get feet, and Lux by 0.093 for get footcandles.*

# Photometrics - Beam shaper lens

Efficiency .....	31%
Half peak angle.....	.41° / 46° 0/90 degrees
One-tenth-peak angle.....	.83° / 91° 0/90 degrees
Illuminance .....	5647/distance <sup>2</sup> lux
Half-peak diameter .....	0.75 x distance m
One-tenth-peak diameter .....	1.38 x distance m
Measurement conditions.....	230V, 50Hz, no color applied
Measurement source .....	Philips CDM-SA/T 150W



### Illumination



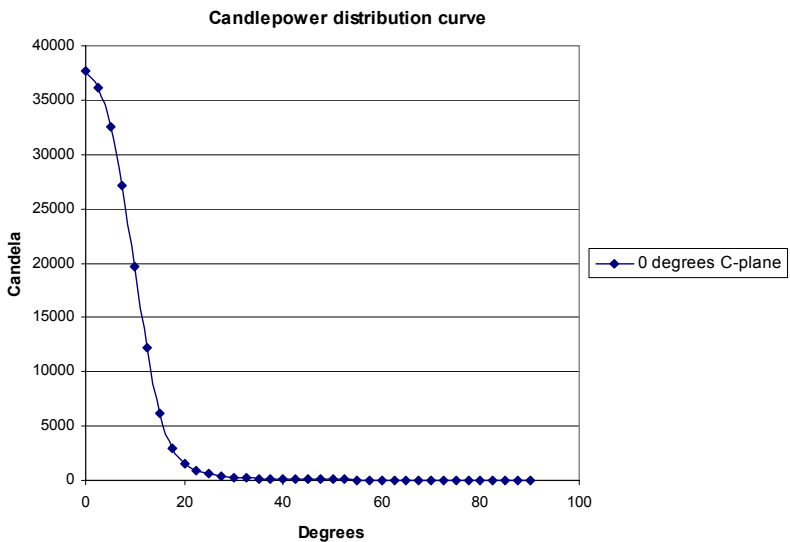
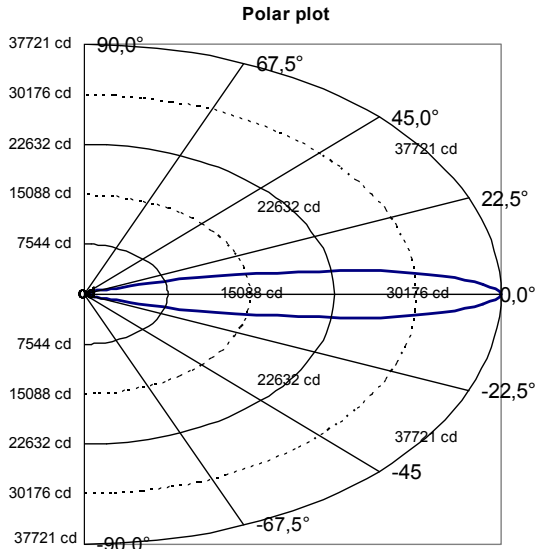
Distance	1 m	5 m	10 m	20 m	30 m
Field diameter 10%	1,4 m	6,9 m	13,8 m	27,6 m	41,4 m
Field diameter 50%	0,7 m	3,7 m	7,5 m	14,9 m	22,4 m

#### Distance/field diameter

*\* For conversion to imperial units, multiply meters by 3.28 to get feet, and Lux by 0.093 for get footcandles.*

# Photometrics - Fresnel lens

Efficiency .....	38%
Half peak angle.....	21°
One-tenth-peak angle.....	34°
Illuminance .....	$37721/\text{distance}^2$ lux
Half-peak diameter .....	$0.35 \times \text{distance m}$
One-tenth-peak diameter .....	$0.58 \times \text{distance m}$
Measurement conditions.....	230V, 50Hz, no color applied
Measurement source .....	Philips CDM-SA/T 150W



### Illumination

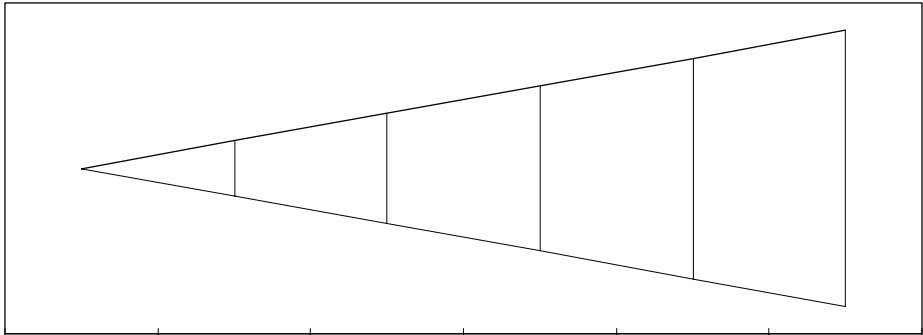
37721 lux

1509 lux

377 lux

94 lux

42 lux



Distance	1 m	5 m	10 m	20 m	30 m
Field diameter 10%	0,6 m	2,9 m	5,8 m	11,6 m	17,3 m
Field diameter 50%	0,4 m	1,8 m	3,5 m	7,1 m	10,6 m

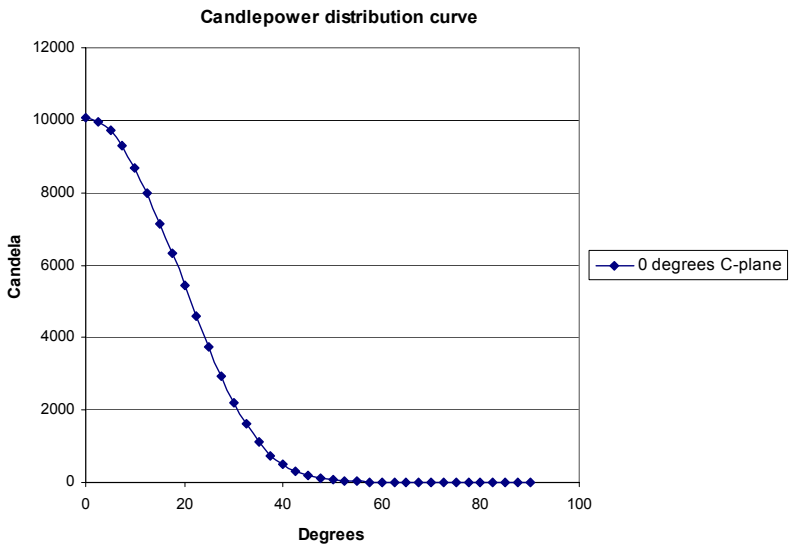
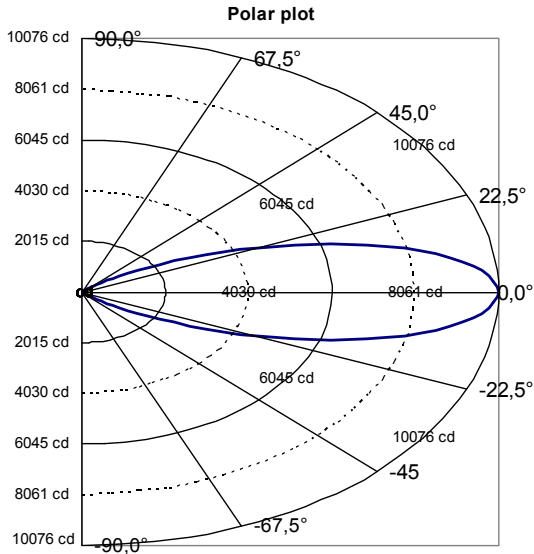
#### Distance/field diameter

*\* For conversion to imperial units, multiply meters by 3.28 to get feet, and Lux by 0.093 for get footcandles.*



# Photometrics - Super-wide lens

Efficiency	.....	40%
Half peak angle	.....	42°
One-tenth-peak angle	.....	71°
Illuminance	.....	10076/distance <sup>2</sup> lux
Half-peak diameter	.....	0.72 x distance m
One-tenth-peak diameter	.....	1.17 x distance m
Measurement conditions	.....	230V, 50Hz, no color applied
Measurement source	.....	Philips CDM-SA/T 150W



### Illumination

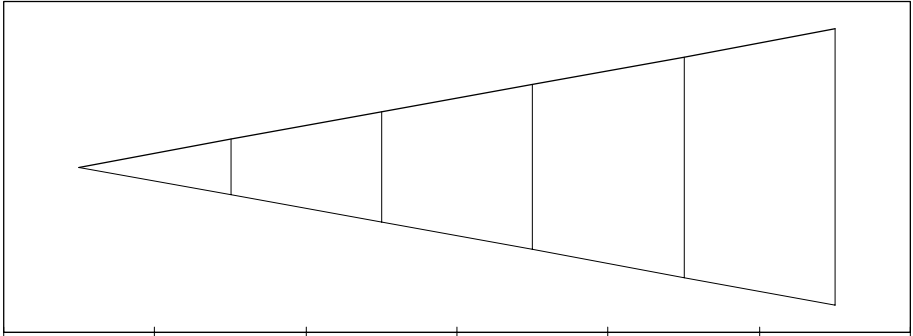
10076 lux

403 lux

101 lux

25 lux

11 lux



Distance	1 m	5 m	10 m	20 m	30 m
Field diameter 10%	1,2 m	5,9 m	11,7 m	23,4 m	35,1 m
Field diameter 50%	0,7 m	3,6 m	7,2 m	14,4 m	21,6 m

#### Distance/field diameter

*\* For conversion to imperial units, multiply meters by 3.28 to get feet, and Lux by 0.093 for get footcandles.*





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