

ChromaFixtures™

GENERAL INFORMATION

Pulsar Chroma Lighting Fixtures contain state of the art, high brightness, high efficiency Red, Green and Blue LEDs. These three primary colours can be mixed together to make an incredible pallet of 16.7 million colours.

The pure colours produced contain no Ultra Violet or Infra Red light to fade, heat or damage sensitive materials.

Pulsar's totally **flicker free** electronics produce a **continuous, smooth, soothing light**. We do not compromise on this and do not use Pulse Width Modulation (PWM) in any of our LED fixtures. Relax with smooth, constant Pulsar Light! PWM, by its very nature, strobes the LEDs at high frequency, which can produce a stressful, agitating light. Flashing dots and dashes can be seen when you are moving relative to PWM light, and can be seen in panned video camera shots.

The LED's have an **expected life** of 25,000 hours at full power white but this is increased many fold if the fixture is dimmed or producing coloured light as in normal use.

To maximise lifetime, LED light fittings must be allowed to run cool with free air (or water for immersed IP68 fixtures) around the fixture to allow the small amount of heat generated to be dissipated. Do not operate the fixtures in a high ambient temperature environment such as that caused by direct sunlight.

ChromaFixture rated **ambient temperature** range is -20° to 40°C

ChromaFixtures require a **+24VDC supply and three 0 to +10V control signals** to control the level of Red, Green and Blue. These are normally provided by one of our **ChromaZone Controller - Power Supplies**. (For detailed information please see the **ChromaZone** or **ChromaZoneRM/ RMX3** data sheets.)

Choosing a ChromaZone. Each fixture in this instruction leaflet has its power requirement specified in terms of current at 24VDC and corresponding Mains Watts via a ChromaZone. Add up the Mains Watts of the ChromaFixtures you wish to connect. Compare this with the Maximum Mains Watts rating of the ChromaZones - as shown in the table below. Select the ChromaZone or the number of fixtures to not exceed this rating. More than one ChromaFixture may be connected to a ChromaZone output but do not exceed 50 Mains Watts per output.

The **ChromaZones** have numerous chases and effects built in making it possible to achieve fantastic effects without programming. These can be selected in stand alone mode via the DIL switches or the Display and Menu system on the Rack Mounting ChromaZoneRM(X3), or from a controller using a digital PMX (Pulsar MultipleX) or DMX (Digital MultipleX) signal.

For outdoor use the **ChromaZone6/12** can be housed in the **ChromaZoneIP65Enclosure**. This is supplied with an internal mounting plate + fixings for the ChromaZone + 16 Cable glands.

For your safety the ChromaZone **MUST** be earthed. We recommend the use of a Residual Current Circuit Breaker. An RCCB **MUST** be used when powering ChromaFixtures in wet environments.

An alternative, basic power supply is the **ChromaPSU2**. This provides power for up to 2 standard ChromaFixtures and is used in conjunction with any analogue 0-10V controller such as a Pulsar Modulator, Control Desk, Masterpiece or Replay Unit.

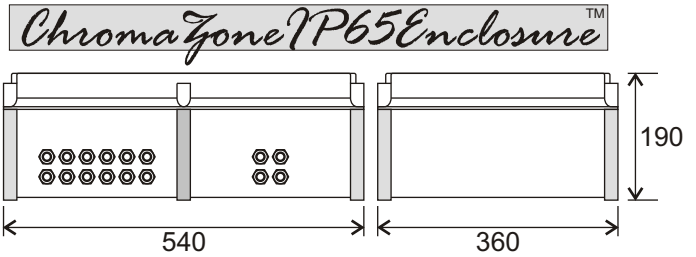
The light output values quoted are averages. We only use the highest luminosity bin LEDs in our products. More luminous LEDs will be used as they become available.

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Part No. / Description / Max Mains Watts

Part No.	Description	Max Mains Watts
CPSU2	ChromaPSU2™ Power Supply	33W
24550NC	ChromaZone6™ Controller	100W
24500	ChromaZone12™ Controller	200W
24500RM	ChromaZoneRM™ 19" Rack Mount	200W
24500RMX3	ChromaZoneRMX3™ 19" Rack Mount	600W
CZIP65E	ChromaZone IP Enclosure	

A ChromaZone IP65 Enclosure showing the 16 Cable glands fitted. To retain the IP rating of the enclosure, only use fixing screws that pass through the external pillars shown in grey.



CHROMARANGE CONNECTIONS

For general connection in a dry environment, the ChromaRange uses the WAGO Cage Clamp range of connectors to provide the necessary low voltage power and signal to drive each ChromaFixture. These connectors have been chosen for their long term reliability and speed of fitting.

The ChromaZone12 controller is supplied with 50m of low smoke and fume, 5 core ChromaFlex, of maximum diameter 8mm.

The maximum recommended run of ChromaFlex is 20m. A very slight interaction between colours may occur with longer runs.

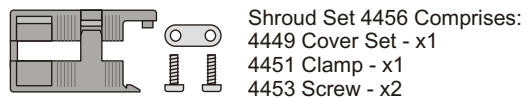
ChromaFlex is used for standard and higher power fixtures. Lower power fixtures use ChromaFlexLite. This is thinner low smoke and fume, 5 core cable with a maximum diameter of 6mm.

Each fixture is supplied with a ChromaConnector Operating Lever which is used as shown below. Alternatively, a flat blade screwdriver may be inserted into the cage clamp connector and pressed down to open the terminal. The stripped wire is then inserted and the screwdriver released to allow the spring loaded cage clamp to hold the wire firmly, ensuring a long term reliable connection. For mass termination of the WAGO plugs and sockets a dedicated pair of Pliers is available to compress the spring and open the cage clamp - see ChromaPliers below.

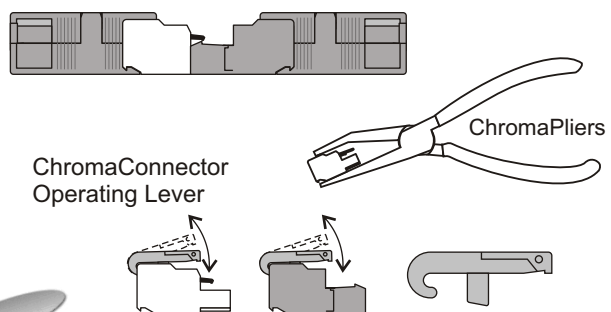
Shrouds are available for all inline plugs and sockets used in the ChromaRange where strain relief is required.

Extra plugs, sockets, shrouds and ChromaFlex are available.

WAGO Plug and Socket



Fully Shrouded WAGO Plug and Socket



Chroma FIXTURES CONTENTS

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- 6) Search / Scoop / WallEllipse
- 7) Tube / CrystalColumn
- 8) Floor / CrystalBall / MR16 Pendant
- 9) WallWash / MR16 Scape
- 10) Dome / Crab / Flush / Fanless Flush
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- 13) Panel 600 / 2' USA Kit / Panel 300
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- 15) Flood & Batten 17 / Light
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- 21) Bank 2 / LightPipe / QuadPipe
- 22) Strip X3 / Batten50 / Batten50 Floor Kit
- 23)
- 24) Powered Fixtures - Connections

CHROMAFIXTURE STANDARDS

F As the heat generated by the ChromaFixtures is relatively low, no special precautions are required with regard to normally flammable surfaces.

Standards - The ChromaFixtures comply with the following International and National standards:

CE **EMC** - EN50081-1, EN55022, EN50082-1
 Marking Directive 93/68/EEC - The ChromaFixtures meet both the EMC directive 89/336/EEC and the Low Voltage Directive 72/23/EEC.

ChromaFixtures are low voltage units operating on 24V d.c. Without direct connection to the mains supply, they are therefore inherently safe as they operate from less than 75V d.c. as specified in the Low Voltage Directive 73/23/EEC.

















Conforms to:
ANSI /UL Standard 6500

Certified to:
CAN / CSA-E60065-00

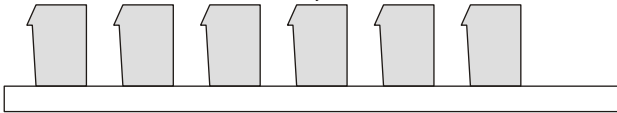
GUARANTEE - 12 months from the date of original purchase. The guarantee is limited to parts and labour. The guarantee is void if the unit is mis-used or repairs are performed by unauthorised persons. In the unlikely event of a faulty occurring, return the unit, with a description of the fault, to your supplier or direct to Pulsar for immediate attention.

I.P. Ratings (Ingress Protection)

EN 60529 outlines an international classification system for the sealing effectiveness of enclosures of electrical equipment against the intrusion into the equipment of foreign bodies (i.e. tools, dust, fingers) and moisture. This classification system utilizes the letters "IP" ("Ingress Protection") followed by two digits. As shown below.

IP56 = IP Letter Code ----- IP			
1st Digit ----- 5		2nd Digit ----- 6	
1st Digit	Protection from solid objects	2nd Digit	Protection from moisture
0	Non protection	0	Non protection
1	 Protected against solid objects greater than 50mm	1	 Protection against dripping water
2	 Protected against solid objects greater than 12mm	2	 Protection against dripping water when tilted up to 15°
3	 Protected against solid objects greater than 2.5mm	3	 Protection against spraying water
4	 Protected against solid objects greater than 1.0mm	4	 Protection against splashing water
5	 Dust protected	5	 Protection against water jets
6	 Dust tight	6	 Protection against heavy seas
NOTE: EN 60529 does not specify sealing effectiveness against mechanical damage of the equipment, certain types of moisture conditions, e.g. Those that are produced by condensation; corrosive vapours; fungus; vermin. See pages: 3 & 18 for wet installation instructions.		7	 Protection against the effects of immersion
		8	 Protection against submersion (see note)

Chroma Splitter™



Used to connect 5x ChromaMR16 (1/5 Unit Load), 4x ChromaPanel 300 (1/4 Unit Load) or 3x ChromaStrip300 (1/3 Unit Load) loads to single ChromaZone output (1 Unit Supply). Do not use with any other ChromaFixtures as this will exceed the ChromaZone's output.

PART NUMBER / DESCRIPTION

8075G	ChromaFlex™ cable Grey per metre
8077G	ChromaFlexLite™ cable Grey per m
5798	ChromaPliers™ Wago tool
9280	Chroma Connector Operating Lever
4447	In-line colour coded socket (F)
4448	In-line colour coded plug (M)
4456	In-line shroud set
CS5	ChromaSplitter5™ (1 in 5 out)
CS3	ChromaSplitter3™ (1 in 3 out)

USE IN WET ENVIRONMENTS

When using ChromaRange products in a wet environment there are some important issues to be addressed.

Chemical Resistance. Is the fixture going to be immersed in chemically treated water or seawater? If so the Stainless Steel ChromaScape or Plastic MR16 ChromaScape should be used.

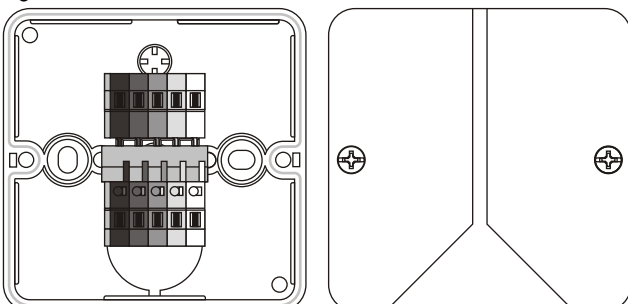
IP Rating. IP20 rated fixtures such as the ChromaHeart should only be used in clean dry environments. If the fixture will not be immersed and is allowed to drain freely for example a wall mounted fixture used outside then an IP65/6 or greater fixture should be used. These include the ChromaFlood, ChromaStrip2, ChromaSphere, ChromaCube and from the MR16 range, the ChromaBump and ChromaSphere 150. If the fixture will be temporarily immersed, for example, ground mounted in heavy rain an IP67 or greater rated fixture should be used. These include the ChromaScape (Aluminium and Stainless Steel) and the MR16 ChromaFloor. If the fixture is to be submerged at up to 2m for any length of time then an IP68 fixture should be used.

During normal operation and when exposed to outdoor conditions the fixtures warm up and cool down. This causes the air in the fixture to expand and contract. In normal operation the fixtures 'breathe' along the ChromaFlex. This can lead to problems if this movement of air can cause water or water vapour to be sucked into the fixture. This must be avoided at all cost.

There are a number of ways of stopping water being drawn into a Chroma fixture. The first is to use a continuous run of cable between the fixture and the ChromaZone which is housed in a dry area.

Alternatively a waterproof connection can be used if any joints in the cable are required. Pulsar recommend three methods of connecting ChromaFlex which differ in application.

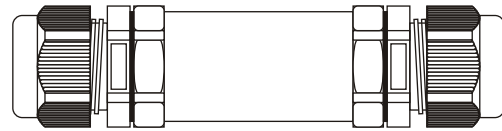
For IP65/66 rated connection it is possible to use the standard ChromaRange Wago connectors mounted within a water resistant enclosure such as the Spelsberg Nautic which allows the passage of air along the cable and in and out of the enclosure. This IP65 enclosure is made of glass filled nylon and has built in seals that reduce installation time. It also has 'pushouts' in the corners that can be removed to allow the exit of water should any get in.



ChromaRange Wago connectors in a Spelsberg Nautic enclosure shown at 50% full size.

An alternative connector that can be used for up to IP68 connection is the Darlec Tee Tube.

Darlec Tee Tube shown at 50% full size.



The Darlec Tee Tube TH400 consists of a plastic tube with IP68 cable glands at each end and contains a circular screw terminal block.

The construction whilst maintaining a waterproof connection allows air to travel along the ChromaFlex in both directions allowing the fixture to breathe across the connection. This prevents the build up of pressure or vacuum within a fixture that can cause water ingress. This is a very important feature when connecting fixtures that **ARE NOT IP68**, as it reduces the pressure / vacuum build up that can cause water ingress.

Please note that the Darlec Tee Tube TH400 can be used with ChromaScapes (Standard ChromaScape and Stainless Steel ChromaScape) but are too big to fit horizontally across the inside of the ChromaScape Ground Mount.

An IP68 connector that does fit within the Ground Mount of the ChromaScape and Stainless Steel ChromaScape is the Bulgin Mini Buccaneer.

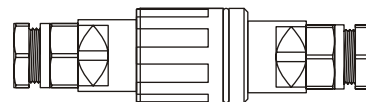
This 6 way IP68 connector has connection pins that are injection moulded into the plastic body of the connector. This means that air does not pass across the connector. This is OK when used with fixtures that can withstand high pressure operation such as the IP68 ChromaScape range (MR16ChromaScape, Standard ChromaScape and Stainless Steel ChromaScape) But, it **MUST NOT BE USED** with any other fixture in the Chroma Range.

These connectors are supplied with a set of sealing glands that must be chosen to suit the cable diameter.

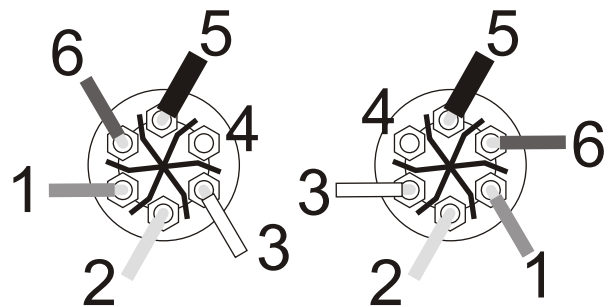
Colour	Cable Dia.	Suits
White	5-7mm	ChromaFlexLite
Yellow	7-9mm	ChromaFlex

A set of these parts can be ordered from Pulsar-part number 4457.

Bulgin Mini Buccaneer 6 way IP68 connector, shown at 50% full size.



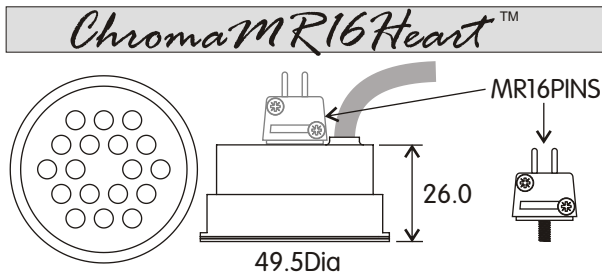
We recommend that the Mini Buccaneer is connected using the following standard to ensure compatibility. Looking into screw connections of MiniBuccaneer connector



Pin / Male End To Light Fixture	Socket / Female End To ChromaZone
1 Green	1 Green
2 Blue	2 Blue
3 White	3 White
4 No connection	4 No connection
5 Black	5 Black
6 Red	6 Red

PART NUMBER — DESCRIPTION

9326	Enclosure Nautic 025L IP65
4469	Tee Tube TH400 IP68
4457	Bulgin Mini Buccaneer IP68 Connector



ChromaMR16 Specification

A versatile RGB MR16 lamp replacement designed to fit into a wide range of MR16 enclosures. It uses 18x 5mm LEDs chosen for their high efficiency and superior colour mixing / optics.

Power: 105mA @ 24V DC. 3.4 Mains Watts via ChromaZone.

Weight: 35g + 132g of ChromaFlexLite cable and connector.

IP Rating: IP20

Beam Angle: 20 deg.

Optics: Integral light diffusion filter. The diffuser may be cleaned with clean water and a mild detergent solution.

Light Output: @1m White (RGB100%) 140 Lux, Red 42 Lux, Green 88 Lux, Blue 10 Lux.

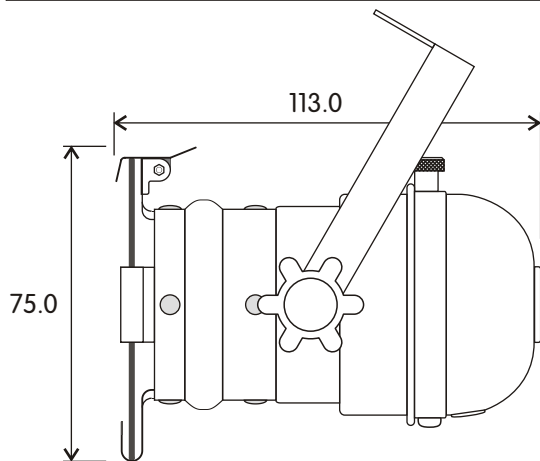
Fixing Detail: Designed to fit in MR16 enclosures. The rear of the unit has an M3 threaded hole (8mm deep max) that may be used to mount the unit. An optional fitting (MR16PINS) is available that will enable the MR16 Heart to be plugged into enclosures that use a steel clip and pins for mounting GU5.3 type fittings. The pins will not power the MR16Heart.

Connection: 3m of ChromaFlexLite terminated by a colour coded In-Line WAGO socket.

Colours and finishes: White Painted.

PART NUMBER — DESCRIPTION	
CHMR16	ChromaMR16 Heart™
MR16PINS	ChromaMR16 Connection Pin Assy.™

ChromaBirdie™



ChromaBirdie Specification

An RGB MR16 Birdie available in black or silver.

Power: 105mA @ 24V DC. 3.4 Mains Watts via ChromaZone.

Weight: 400g.

IP Rating: IP20

Beam Angle: 20 deg.

Optics: Integral light diffusion filter. The diffuser may be cleaned with clean water and a mild detergent solution.

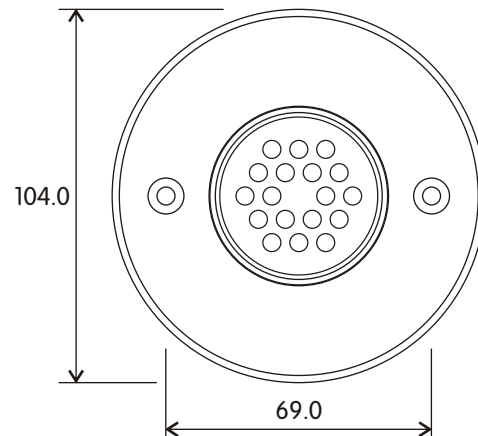
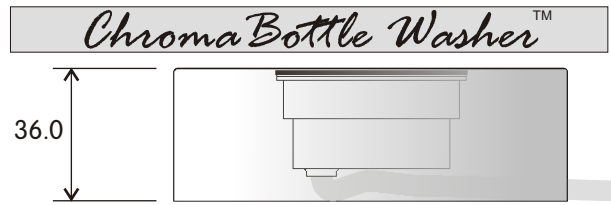
Light Output: @1m White (RGB100%) 140Lux, Red 42 Lux, Green 88 Lux, Blue 10 Lux.

Fixing Detail: A 10mm Dia. hole on the middle of the handle.

Connection: 3m of ChromaFlexLite terminated by a colour coded In-Line WAGO socket.

Colours and finishes: Black and Silver.

PART NUMBER — DESCRIPTION	
CBIRDIEB	ChromaMR16 Birdie™ Black
CBIRDIES	ChromaMR16 Birdie™ Silver



ChromaBottleWasher Specification

An RGB MR16 base for illuminating bottles and other objects d'art.

Power: 105mA @ 24V DC. 3.4 Mains Watts via ChromaZone.

Weight: 250g

IP Rating: IP20

Beam Angle: 20 deg.

Optics: Integral light diffusion filter. The diffuser may be cleaned with clean water and a mild detergent solution.

Light Output: @1m White (RGB100%) 140Lux, Red 42 Lux, Green 88 Lux, Blue 10 Lux.

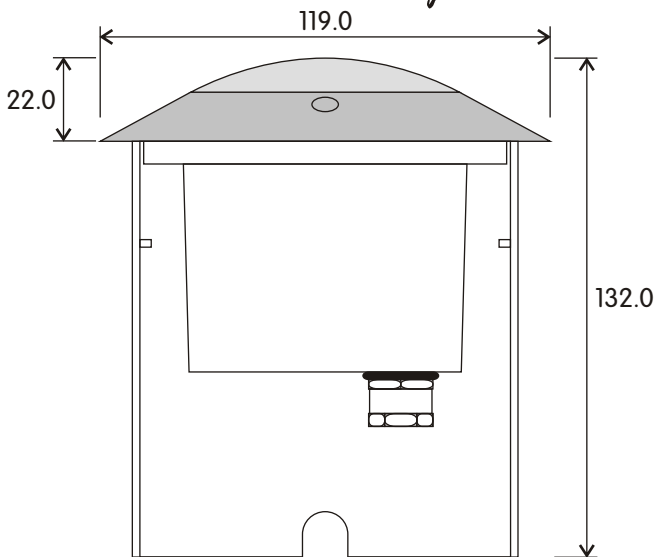
Fixing Detail: Two 6mm Dia. countersunk holes that enable the unit to be screwed to a surface.

Connection: 3m of ChromaFlexLite terminated by a colour coded In-Line WAGO socket.

Colours and finishes: White Painted.

PART NUMBER — DESCRIPTION	
CBWASH	ChromaBottleWasher™

ChromaBump™



ChromaBump Specification

An RGB MR16 wall or floor mounted lamp with a polycarbonate lens and anodised aluminium surround.

Power: 105mA @ 24V DC. 3.4 Mains Watts via ChromaZone.

Weight: 825g

IP Rating: IP65 - See: use in wet environments page 3.

Beam Angle: 20 deg.

Optics: Integral light diffusion filter. The diffuser may be cleaned with clean water and a mild detergent solution.

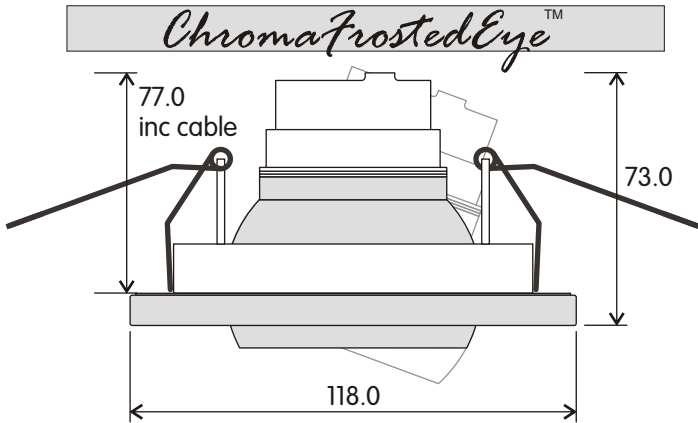
Light Output: @1m White (RGB100%) 140Lux, Red 42 Lux, Green 88 Lux, Blue 10 Lux.

Fixing Detail: The ChromaBump is supplied with a ground mount tube that the lamp clips into.

Connection: 3m of ChromaFlexLite terminated by a colour coded In-Line WAGO socket.

Colour and finish: Anodised aluminium.

PART NUMBER — DESCRIPTION	
CMR16BUMP	ChromaBump™



ChromaFrostedEye Specification

An RGB MR16 frosted glass eyeball lamp with frosted glass surround. As well as producing a beam of light the light fitting glows.

Power: 105mA @ 24V DC. 3.4 Mains Watts via ChromaZone.

Weight: 775g

IP Rating: IP20

Beam Angle: 20 deg.

Optics: Integral light diffusion filter. the frosted glass may be cleaned with clean water and a mild detergent solution.

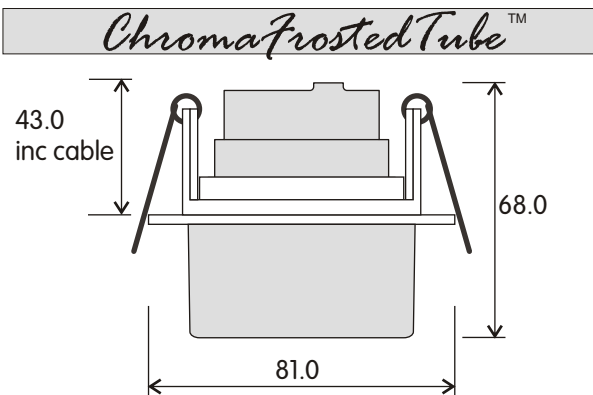
Light Output: @1m White (RGB100%) 140Lux, Red 42 Lux, Green 88 Lux, Blue 10 Lux.

Fixing Detail: The ChromaFrostedEye is mounted using integral spring clips into a 96mm diameter hole.

Connection: 3m of ChromaFlexLite terminated by a colour coded In-Line WAGO socket.

Colour and finish: White painted steel (hidden in normal use) and frosted glass.

PART NUMBER — DESCRIPTION	
CMR16FEYE	ChromaFrostedEye™



ChromaFrostedTube Specification

An RGB MR16 frosted glass lamp. As well as producing a beam of light the frosted tube glows.

Power: 105mA @ 24V DC. 3.4 Mains Watts via ChromaZone.

Weight: 475g

IP Rating: IP20

Beam Angle: 20 deg.

Optics: Integral light diffusion filter. The frosted glass may be cleaned with clean water and a mild detergent solution.

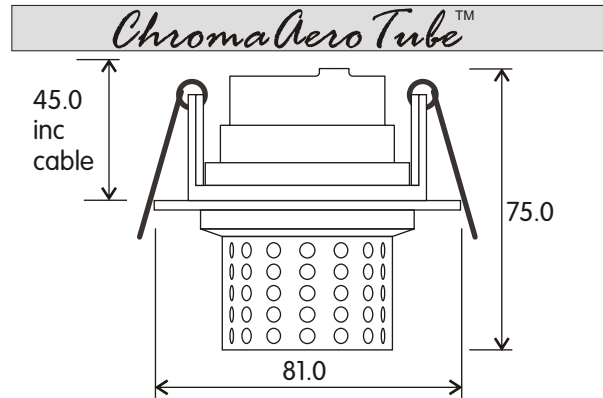
Light Output: @1m White (RGB100%) 140Lux, Red 42 Lux, Green 88 Lux, Blue 10 Lux.

Fixing Detail: The ChromaFrostedTube is mounted using integral spring clips into a 65mm diameter hole.

Connection: 3m of ChromaFlexLite terminated by a colour coded In-Line WAGO socket.

Colour and finish: White painted steel and frosted glass.

PART NUMBER — DESCRIPTION	
CMR16FT	ChromaFrostedTube™



ChromaAeroTube Specification

An RGB MR16 perforated stainless steel light fitting. As well as producing a beam of light, the perforated tube is illuminated internally.

Power: 105mA @ 24V DC. 3.4 Mains Watts via ChromaZone.

Weight: 525g

IP Rating: IP20

Beam Angle: 20 deg.

Optics: Integral light diffusion filter. The stainless steel fitting may be cleaned with clean water and a mild detergent solution.

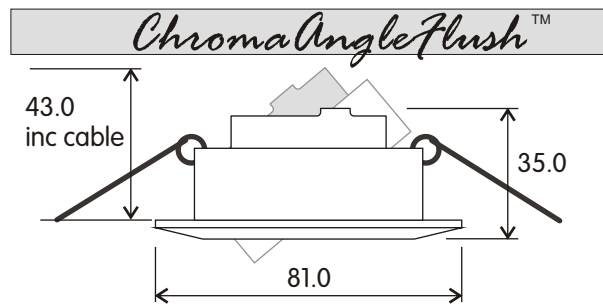
Light Output: @1m White (RGB100%) 140Lux, Red 42 Lux, Green 88 Lux, Blue 10 Lux.

Fixing Detail: The ChromaFrostedEye is mounted using integral spring clips into a 65mm diameter hole.

Connection: 3m of ChromaFlexLite terminated by a colour coded In-Line WAGO socket.

Colour and finish: Stainless steel.

PART NUMBER — DESCRIPTION	
CMR16AT	ChromaAeroTube™



ChromaAngleFlush Specification

An RGB MR16 Adjustable angle Down light.

Power: 105mA @ 24V DC. 3.4 Mains Watts via ChromaZone.

Weight: 450g

IP Rating: IP20

Beam Angle: 20 deg.

Optics: Integral light diffusion filter.

Light Output: @1m White (RGB100%) 140Lux, Red 42 Lux, Green 88 Lux, Blue 10 Lux.

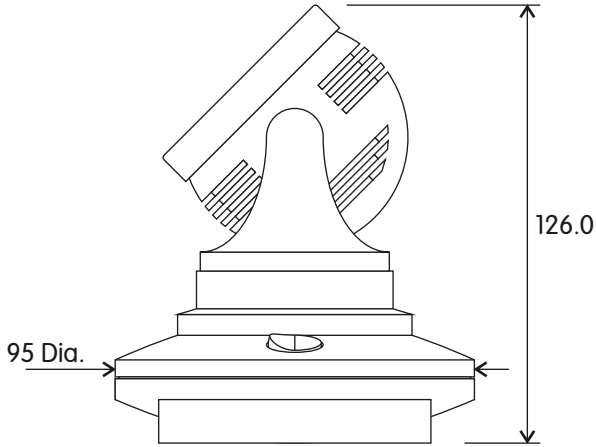
Fixing Detail: The ChromaAngleFlush is mounted using integral spring clips into a 72mm diameter hole.

Connection: 3m of ChromaFlexLite terminated by a colour coded In-Line WAGO socket.

Colour and finish: Chrome and brushed nickel.

PART NUMBER — DESCRIPTION	
CMR16AF	ChromaAngleFlush™

ChromaSearch™



ChromaSearch Specification

An RGB MR16 lamp with pan and tilt

Power: 105mA @ 24V DC. 3.4 Mains Watts via ChromaZone.

Weight: 525g

IP Rating: IP20

Beam Angle: 20 deg.

Optics: Integral light diffusion filter.

Light Output: @1m White (RGB100%) 140Lux, Red 42 Lux, Green 88 Lux, Blue 10 Lux.

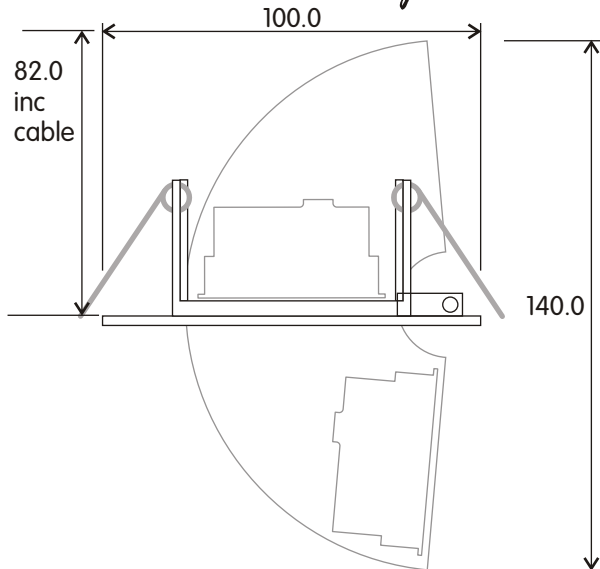
Fixing Detail: The ChromaSearch can be screwed down using two holes in the base.

Connection: 3m of ChromaFlexLite terminated by a colour coded In-Line WAGO socket.

Colour and finish: Silver

PART NUMBER — DESCRIPTION	
CMR16S	ChromaSearch™

ChromaScoop™



ChromaScoop Specification

A gimble mounted RGB MR16 light fitting.

Power: 105mA @ 24V DC. 3.4 Mains Watts via ChromaZone.

Weight: 650g

IP Rating: IP20

Beam Angle: 20 deg.

Optics: Integral light diffusion filter.

Light Output: @1m White (RGB100%) 140Lux, Red 42 Lux, Green 88 Lux, Blue 10 Lux.

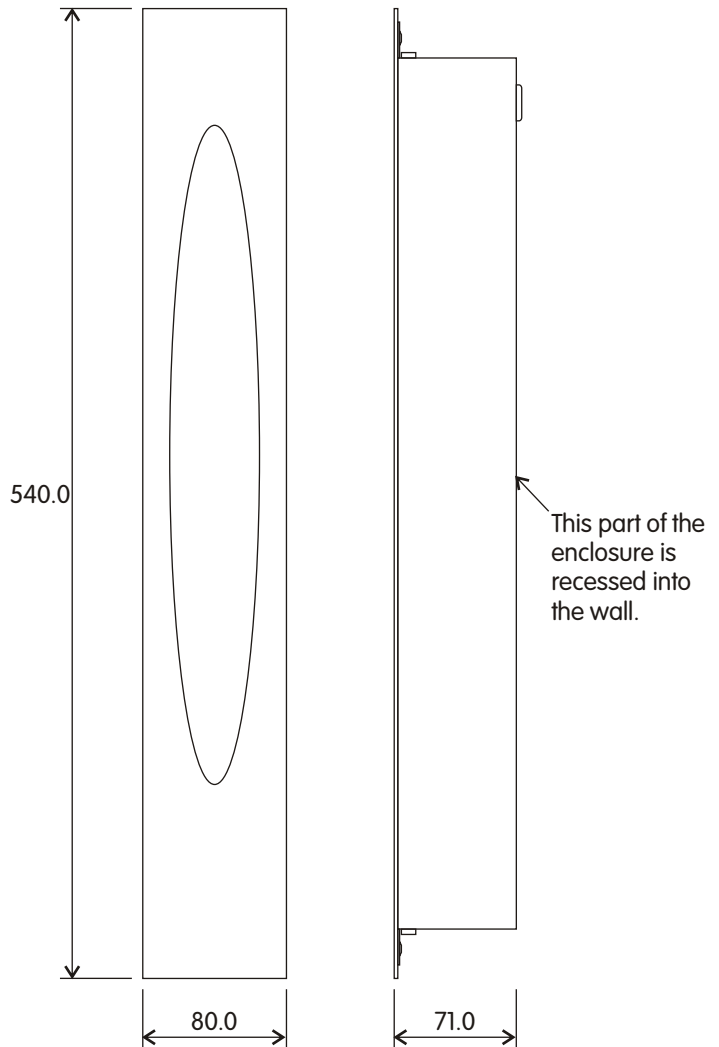
Fixing Detail: The ChromaScoop is mounted using integral spring clips into a 80mm diameter hole.

Connection: 3m of ChromaFlexLite terminated by a colour coded In-Line WAGO socket.

Colour and finish: White paint.

PART NUMBER — DESCRIPTION	
CMR16SC	ChromaScoop™

ChromaWallEllipse™



ChromaWallEllipse Specification

An RGB MR16 wall mounted lamp that illuminates the internal oblique tube and produces a beam of light at an acute angle to the front of the fitting to illuminate the floor / ceiling below.

Power: 105mA @ 24V DC. 3.4 Mains Watts via ChromaZone.

Weight: 2125g

IP Rating: IP20

Beam Angle: 20 deg.

Optics: Integral light diffusion filter.

Light Output: @1m White (RGB100%) 140Lux, Red 42 Lux, Green 88 Lux, Blue 10 Lux.

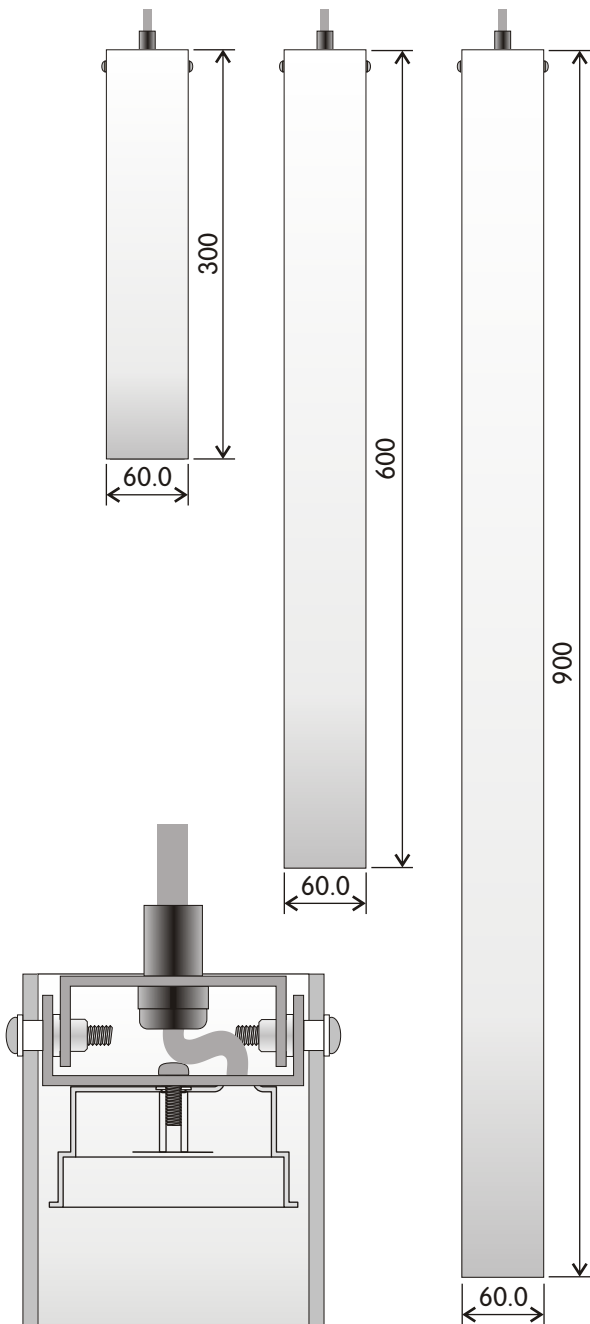
Fixing Detail: The back box of the ChromaWallEllipse is fitted into a 65mm x 485mm x 66mm deep hole and the front clips into place.

Connection: 3m of ChromaFlexLite terminated by a colour coded In-Line WAGO socket.

Colour and finish: Metallic Silver painted steel.

PART NUMBER — DESCRIPTION	
CMR16WE	ChromaWallEllipse™

ChromaTube™



ChromaTube Specification

An RGB MR16 "light sabre" pendent fitting. The frosted tube is open ended, projecting a tight beam onto the surface below. Available in three lengths, 300mm, 600mm and 900mm. Tube diameter 60mm external, 54mm internal.

Power: 105mA @ 24V DC. 3.4 Mains Watts via ChromaZone.

Weight: 300mm - 380g, 600mm - 575g, 900mm - 771g.

IP Rating: IP20

Beam Angle: 360deg viewing + tight beam from the open end.

Optics: Satinice light diffusing acrylic tube. The tube may be cleaned with clean water and a mild detergent solution.

Light Output: @1m White (RGB100%) 140Lux, Red 42 Lux, Green 88Lux, Blue 10 Lux.

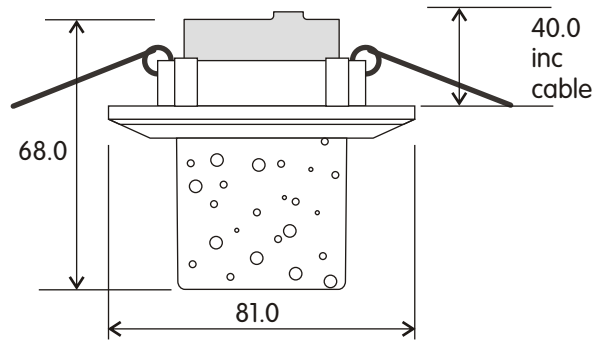
Fixing Detail: The ChromaTube may be suspended by its trailing lead. If the 2 x M4 socket head screws are removed, use thread-lock to secure them when refitting. Do not over tighten them as this could crack the tube.

Connection: 3m of ChromaFlexLite terminated by a colour coded In-Line WAGO socket.

Colour and finish: 3mm wall thickness clear satinice tube.

PART NUMBER — DESCRIPTION	
Ctube300	ChromaTube300™ MR16 RGB LED Fixture
Ctube600	ChromaTube600™ MR16 RGB LED Fixture
Ctube900	ChromaTube900™ MR16 RGB LED Fixture

ChromaCrystalColumn™



ChromaCrystalColumn Specification

An RGB MR16 with a column of glass containing glowing bubbles illuminated by the LED's and scattering the light.

Power: 105mA @ 24V DC. 3.4 Mains Watts via ChromaZone.

Weight: 475g

IP Rating: IP20

Beam Angle: Nominal 20 deg. with some scatter.

Optics: The glass may be cleaned with clean water and a mild detergent solution.

Light Output: @1m White (RGB100%) 140Lux, Red 42 Lux, Green 88 Lux, Blue 10 Lux.

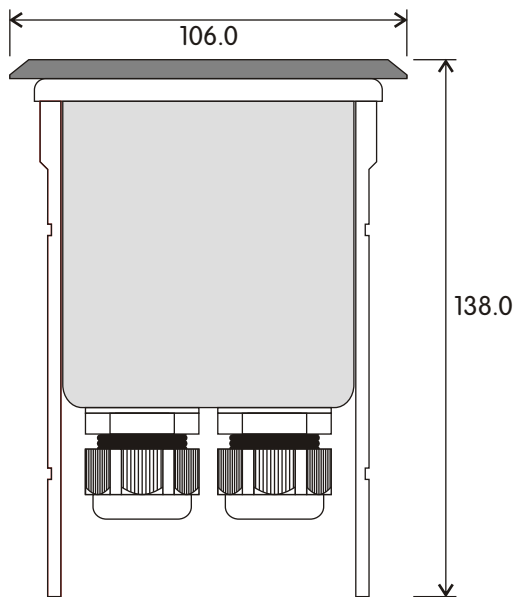
Fixing Detail: The ChromaCrystalColumn is mounted using integral spring clips into a 56mm diameter hole.

Connection: 3m of ChromaFlexLite terminated by a colour coded In-Line WAGO socket.

Colour and finish: Gold and chrome.

PART NUMBER — DESCRIPTION	
CMR16CCOL	ChromaCrystalColumn™

ChromaFloor™



ChromaFloor Specification

An RGB MR16 indoor / outdoor, walkover light fitting supplied with ground mount. This is NOT suitable for use with chlorinated / sea water.

Power: 105mA @ 24V DC. 3.4 Mains Watts via ChromaZone.

Weight: 975g

IP Rating: IP67 - see pages 3 & 18.

Beam Angle: 20 deg.

Optics: Integral light diffusion filter.

Light Output: @1m White (RGB100%) 140Lux, Red 42 Lux, Green 88 Lux, Blue 10 Lux.

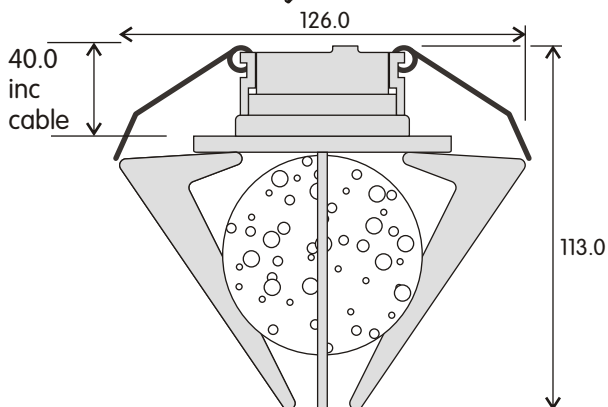
Fixing Detail: The ChromaFloor is supplied with a ground mount tube that the lamp may be bolted into if required.

Connection: 20m of ChromaFlexLite terminated by a colour coded In-Line WAGO socket.

Colour and finish: Stainless Steel 304 / Toughened glass.

PART NUMBER — DESCRIPTION	
CMR16FSS	ChromaFloor™

ChromaCrystalBall™



ChromaCrystalBall Specification

An RGB MR16 light fitting designed by a Sci-Fi aficionado. A glass ball containing bubbles and held in a chrome cage.

Power: 105mA @ 24V DC. 3.4 Mains Watts via ChromaZone.

Weight: 760g

IP Rating: IP20

Light Output: This unit does not produce a beam of light as other MR16 lamps as the glass ball acts as a lens and reproduces the RGB Led pattern. The total light output is similar to that of a standard ChromaMR16 heart.

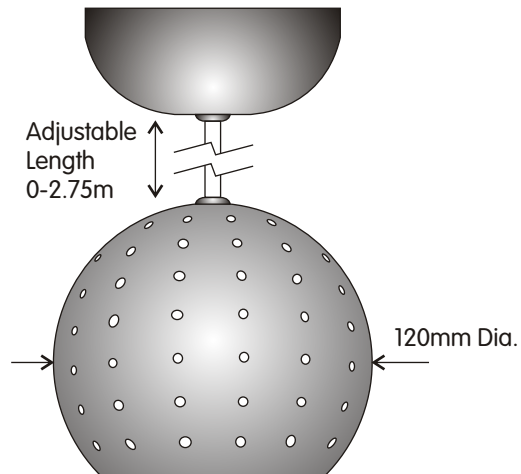
Fixing Detail: The ChromaCrystalBall is mounted using integral spring clips into a 55mm diameter hole.

Connection: 3m of ChromaFlexLite terminated by a colour coded In-Line WAGO socket.

Colour and finish: Chrome

PART NUMBER — DESCRIPTION	
CMR16CBALL	ChromaCrystalBall™

ChromaMR16Pendant™



ChromaPendant Specification

An RGB MR16 lamp housed in a perforated chrome open sphere. As well as producing a beam of light, the inside of the sphere is painted white and glows with the resultant colour. This is visible through the perforations

Power: 105mA @ 24V DC. 3.4 Mains Watts via ChromaZone.

Weight: 685g

IP Rating: IP20

Beam Angle: 20 deg.

Light Output: @1m White (RGB100%) 140Lux, Red 42 Lux, Green 88 Lux, Blue 10 Lux.

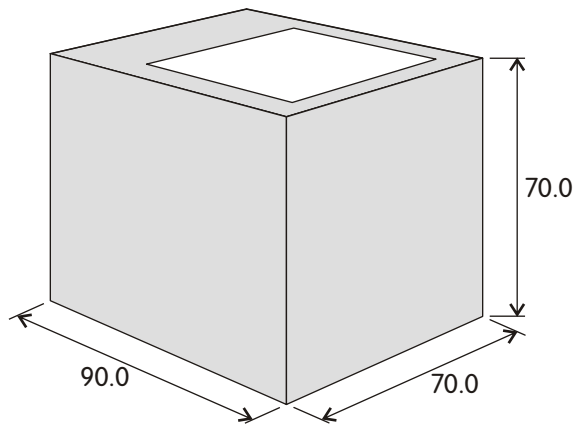
Fixing Detail: The ceiling rose of the ChromaPendant is ceiling mounted. A plastic anchor is used to set the distance of the dome from the ceiling rose.

Connection: 3m of ChromaFlexLite terminated by a colour coded In-Line WAGO socket.

Colour and finish: Chrome.

PART NUMBER — DESCRIPTION	
CMR16PENC	ChromaPendant™

ChromaWallWash™



ChromaWallWash Specification

An RGB MR16 wall mounted block that can be used to illuminate bottles and objects d'art.

Power: 105mA @ 24V DC. 3.4 Mains Watts via ChromaZone.

Weight: 540g

IP Rating: IP20

Beam Angle: 20 deg.

Optics: Integral light diffusion filter.

Light Output: @1m White (RGB100%) 140Lux, Red 42 Lux, Green 88 Lux, Blue 10 Lux.

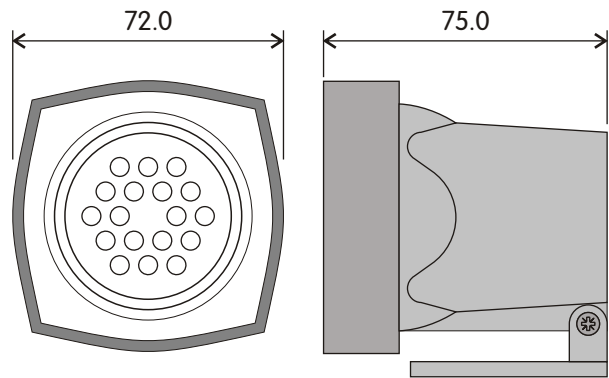
Fixing Detail: The ChromaWallWash has a rear plate that is fixed to the wall and then the fixture screws to the plate.

Connection: 3m of ChromaFlexLite terminated by a colour coded In-Line WAGO socket.

Colour and finish: Metallic silver and frosted glass.

PART NUMBER — DESCRIPTION	
CMR16WW	ChromaWallWash™

ChromaMR16Scape™



ChromaMR16Scape Specification

An RGB MR16 indoor / outdoor, water resistant light fitting.

Power: 105mA @ 24V DC. 3.4 Mains Watts via ChromaZone.

Weight: 150g + 20m cable 1kg

IP Rating: IP67-1m. See pages 3 & 18.

Beam Angle: 20 deg.

Optics: Integral light diffusion filter.

Light Output: @1m White (RGB100%) 140Lux, Red 42 Lux, Green 88 Lux, Blue 10 Lux.

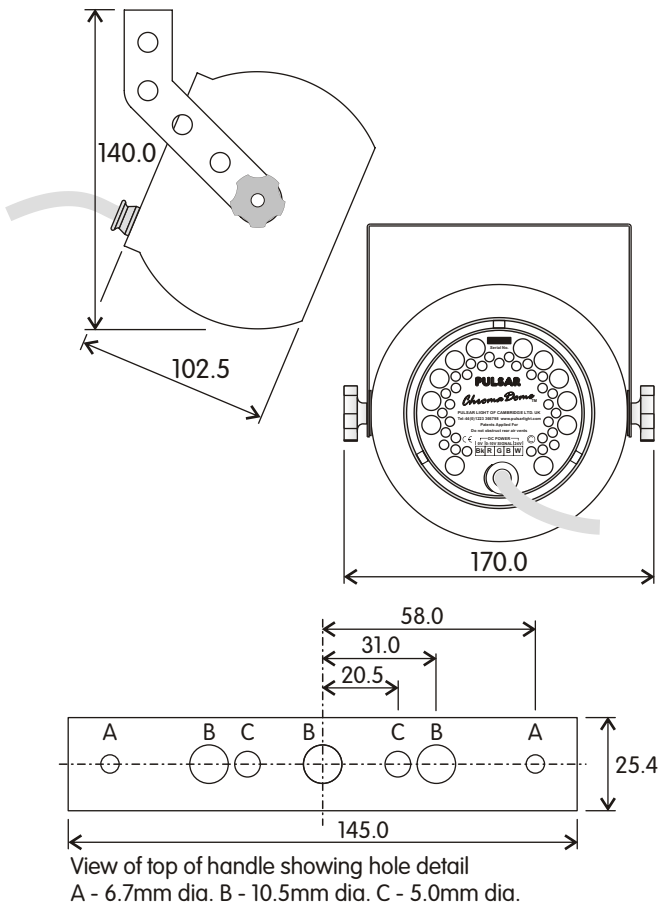
Fixing Detail: Integral tilting bracket.

Connection: 20m of ChromaFlexLite terminated by a colour coded In-Line WAGO socket.

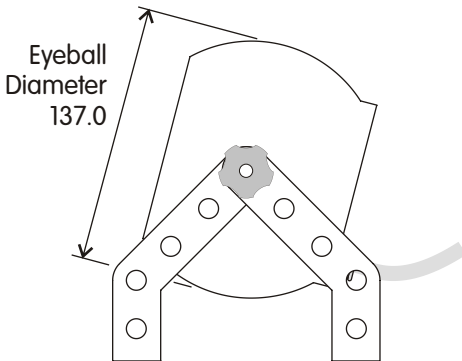
Colour and finish: Black plastic.

PART NUMBER — DESCRIPTION	
CMR16SCAPE	ChromaMR16Scape™

ChromaDome™



ChromaCrab™

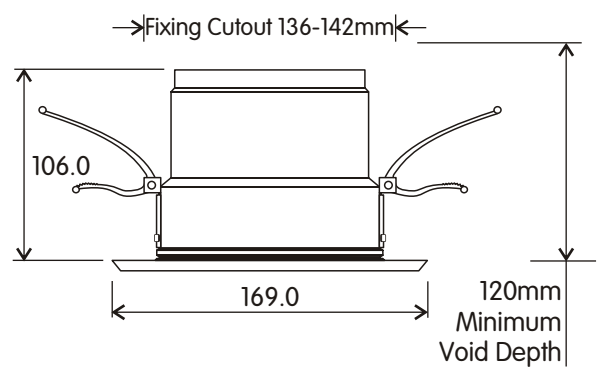


ChromaDome Specification

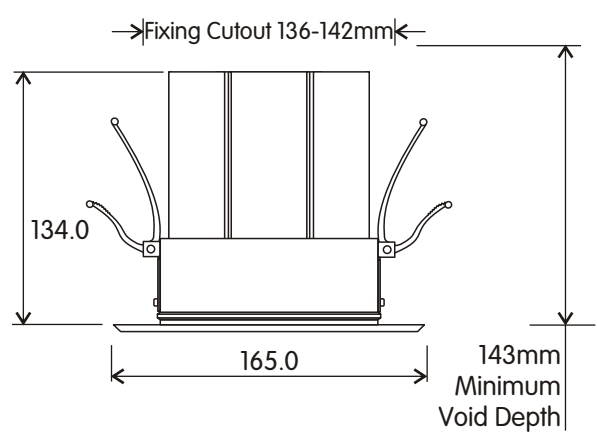
A surface mounted RGB LED lighting fixture.
Power: 520mA @ 24V DC. 17 Mains Watts via ChromaZone.
Weight: 475g
IP Rating: IP20
Beam Angle: 20 deg.
Optics: Light diffusion filter supplied, part number 5778. Rotatable beam shaping optics also available. The diffuser may be cleaned with clean water and a mild detergent solution.
Light Output: @1m White (RGB100%) 1000 Lux, Red 350 Lux, Green 750 Lux, Blue 85 Lux.
Fixing Detail: A fixing handle is supplied with holes as shown. A second fixing handle is also available to produce a free standing unit known as the ChromaCrab, as shown above.
Connection: 5m of ChromaFlex terminated by a shrouded colour coded In-Line WAGO socket. Each ChromaDome is also supplied with a colour coded WAGO socket and plug to make an extension lead. An extra shroud set is also supplied for strain relief of the extension lead joint.
Colours and finishes: White paint (W), Black paint (B), Silver Paint (S), Self paint (to be painted by customer) (SP), Gold Plated (G), Chrome Plated (C). (Letter denotes suffix to part number i.e. W = White). Other colours may become available - please check with Pulsar if required.
 Care must be taken not to obstruct the air flow from the rear vents.

PART NUMBER — DESCRIPTION	
24502	ChromaDome™
5652	Extra handle to make ChromaCrab™
C99WIDE	Wide angle beam shaper (28°)
C99OVAL	Oval beam shaper (17° x 55°)
C99SPLIT	Beam splitter - 2 beams 55° apart
5778	ChromaFilter™ Standard Diffuser 20°

ChromaFlush™



Chroma Fanless Flush™

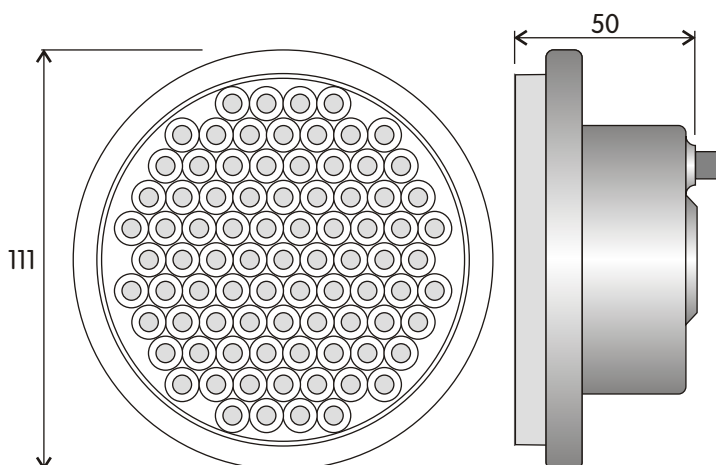


ChromaFlush / Fanless Flush Specification

A fixed down lighter. The Fanless Flush is for use in applications where total silence is required
Power: 520mA @ 24V DC. 17 Mains Watts via ChromaZone.
Weight: Flush 420g Fanless Flush 500g
IP Rating: Flush IP20, Fanless Flush IP10.
Beam Angle: 20 deg.
Optics: Light diffusion filter supplied. The diffuser may be cleaned with clean water and a mild detergent solution.
Light Output: @1m White (RGB100%) 1000 Lux, Red 350 Lux, Green 750 Lux, Blue 85 Lux.
Fixing Detail: Cutout diameter: 136-142mm
Connection: Rear mounted WAGO plug.
 Each ChromaFlush / Fanless Flush is supplied with a colour coded WAGO socket and plug to make an extension lead.
Colours and finishes: White paint (W), Black paint (B), Silver Paint (S), Self paint (to be painted by customer) (SP), Gold Plated (G), Chrome Plated (C). (Letter denotes suffix to part number i.e. W = White). Other colours may become available - please check with Pulsar if required.
 Care must be taken not to obstruct the air flow from the rear vents on the ChromaFlush.

PART NUMBER — DESCRIPTION	
24503	ChromaFlush™
24513	Chroma Fanless Flush™

ChromaAR111/PAR36Heart™



Specification

The ChromaAR111/PAR36Heart is designed to be used in AR111 and PAR36 light fittings.

Power: 520mA @ 24V DC. 17 Mains Watts via ChromaZone.

Weight: 150g. IP Rating: IP20

Beam Angle: 20 deg.

Optics: Integral light diffusion filter supplied, part number 5778.

Light Output: @1m White (RGB100%) 1025 Lux, Red 350 Lux, Green 750 Lux, Blue 112 Lux.

Fixing Detail: When used in AR111 light fittings the unit clips onto 3 spring clips that locate in the rear of the 111mm diameter rim. PAR36 fittings clamp on the 111mm diameter front rim.

Connection: In-Line WAGO socket terminating 5m of ChromaFlex. Each ChromaAR111/PAR36Heart is supplied with a colour coded inline WAGO male / female connector for an extension lead.

Each ChromaAR111/PAR36Heart is supplied with two colour coded WAGO sockets.

Colour and finish: Black paint only.

Care must be taken not to obstruct the air flow from the rear vents.

PART NUMBER — DESCRIPTION	
CAR111	ChromaAR111/PAR36Heart™

ChromaStrip 2 & 12™

Specifications in common:

Lengths: The ChromaStrip 2 and 12 are available in 300mm, 600mm, 900mm and 1200mm long polycarbonate tubes respectively. The tube and endcaps have a special coating to protect them from UV light, making them suitable for exterior use.

Beam Angle: The tube has the two beam angles - 20 degrees and 90 degrees, built into the same unit. To change between the two angles, remove the cable end cap, slide out the PCB assembly, turn it over and replace it into the tube. Then replace the end cap taking care to keep the O ring in position.

IP Rating: IP65. The end caps are fitted with silicone grease. If the tube is opened the surfaces must be kept clean. If contamination takes place all of the parts must be cleaned and the silicone grease reapplied. See: Use in wet environments pg 3.

Supply Voltages:

ChromaStrip2: 24VDC supply and 3 x 0-10V control signals e.g. from a ChromaZone. See table below for the current and wattage requirements of the different lengths.

ChromaStrip12: 12V AC/DC. Designed for use with e.g. 12VAC Halogen Lamp transformers or for battery operation. The mains supply to the transformer may be dimmed. We recommend you use magnetic (wound copper/iron) transformers to ensure correct operation. (The characteristics of electronic transformers vary greatly in this application and dimming results are unpredictable.)

Colours:

ChromaStrip2: RGB colour mixing is standard. Single colour versions can be made to order.

ChromaStrip12: Single colour, using any available LED colour. These units are made to order.

Light Output: The total light output of the 900mm RGB ChromaStrip2 is the same as the ChromaHeart but distributed over the linear strip at 20° or 90°.

At a distance of 1m the light levels for the 20° strip are White 290 Lux, Red 85 Lux, Green 190 Lux, Blue 15 Lux.

Single colour ChromaStrip 2s or 12s give three times the light level of their particular colour.

Connections:

ChromaStrip2 - In-Line WAGO socket terminating 5m of ChromaFlex. Each ChromaStrip is also supplied with a colour coded WAGO socket and plug to make an extension lead.

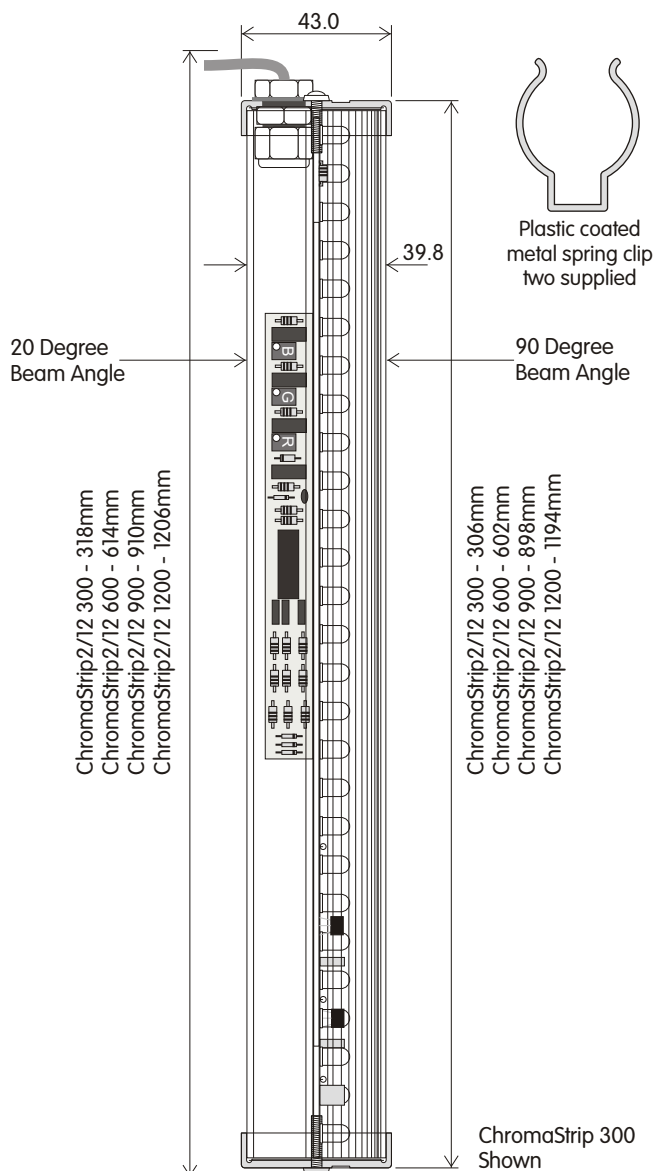
ChromaStrip12 - Two core cable for connection to a 12V AC or DC supply.

Fixings: Two translucent cable ties with saddles and two alternative, plastic coated, metal spring clips are supplied with each ChromaStrip.

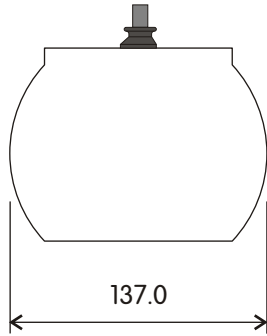
Patents Applied For.

Product Code	Current mA	Volts DC	Mains Watts via ChromaZone	Weight Inc Cable
CS2-300	160	24	5.6	0.45kg
CS2-600	320	24	11.1	0.60kg
CS2-900	480	24	17.0	0.75kg
CS2-1200	520	24	17.0	0.90kg

Product Code	Current mA	Volts AC/DC	Mains Watts via ChromaZone	Weight Inc Cable
CS12-300	270	12	6.0	0.45kg
CS12-600	540	12	12.0	0.60kg
CS12-900	810	12	18.0	0.75kg
CS12-1200	1080	12	24.0	0.90kg



ChromaPendant™



ChromaPendant Specification

Power: 520mA @ 24V DC. 17 Mains Watts via ChromaZone.

Weight: 460g

IP Rating: IP20

Beam Angle: 20 deg.

Optics: Light diffusion filter supplied, part number 5778. Rotatable beam shaping optics also available. The diffuser may be cleaned with clean water and a mild detergent solution.

Light Output: @1m White (RGB100%) 1000 Lux, Red 350 Lux, Green 750 Lux, Blue 85 Lux.

Fixing Detail: Suspended on ChromaFlex

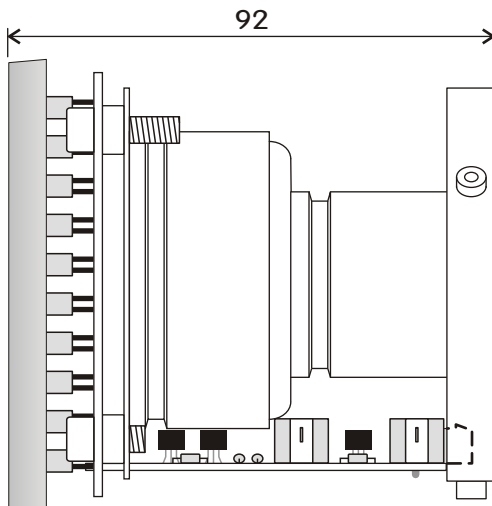
Connection: 5m of ChromaFlex terminated colour coded In-Line WAGO socket. Each ChromaPendant is also supplied with a colour coded WAGO socket and plug to make an extension lead. An extra shroud set is also supplied to increase the strain relief of the extension lead joint.

Colour and finish: Chrome plated only.

Care must be taken not to obstruct the air flow from the rear vents.

PART NUMBER — DESCRIPTION	
24507C	ChromaPendant™ Chrome
C99WIDE	Wide angle beam (28°) shaper square
C99OVAL	Oval beam (17° x 55°) shaper
C99SPLIT	Beam splitter - 2 beams 55° apart
5778	ChromaFilter™ Standard Diffuser 20°

ChromaHeart™



Specification

The ChromaHeart is the light source in the ChromaLight / Dome / Flush and ChromaBank. It is made available for customers who wish to use this versatile light source in their own equipment.

Size 92 x 105 x 105mm. Will fit in a 111mm dia. Tube.

See data sheet 7576 for detail of use.

Power: 520mA @ 24V DC. 17 Mains Watts via ChromaZone.

Weight: 230g.

IP Rating: IP00

Beam Angle: 20 deg.

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BNR 31.05.07

Optics: Light diffusion filter supplied, part number 5778. Beam shaping optics also available but as with the diffuser, they will need to be held in place by the user.

Light Output: @1m White (RGB100%) 1000 Lux, Red 350 Lux, Green 750 Lux, Blue 85 Lux.

Fixing Detail: See detail specification sheet for the ChromaHeart part number 7576 available from Pulsar.

Connection: Rear panel mounting WAGO plug.

Each ChromaHeart is supplied with two colour coded WAGO sockets.

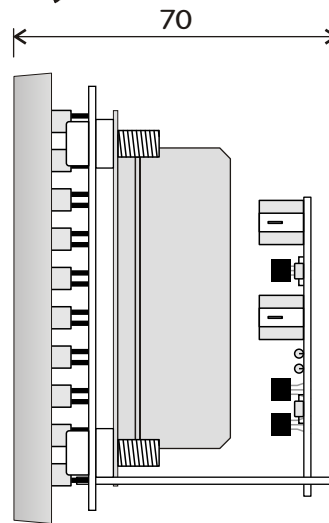
Colours and finishes: Black paint B only.

Care must be taken not to obstruct the air flow from the rear vents. Air filter provided.

PART NUMBER — DESCRIPTION

24505B	ChromaHeart™
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Low Profile ChromaHeart™



Specification

The Low Profile ChromaHeart is similar to the ChromaHeart but has a shallower depth. It is made available for customers who wish to use this versatile light source in their own equipment. Size 70 x 105 x 105mm. Will fit in a 111mm dia. tube. See data sheet 7576 for detail of use.

Power: 520mA @ 24V DC. 17 Mains Watts via ChromaZone.

Weight: 160g. IP Rating: IP00

Beam Angle: 20 deg.

Optics: Light diffusion filter supplied, part number 5778. Beam shaping optics also available but as with the diffuser, they will need to be held in place by the user.

Light Output: @1m White (RGB100%) 1000 Lux, Red 350 Lux, Green 750 Lux, Blue 85 Lux.

Fixing Detail: See detail specification sheet for the ChromaHeart part number 7576 available from Pulsar.

Connection: A right angle PCB mounted plug is provided but wires can be soldered to the PCB pads if there is not enough space for the plug in connector.

Each Low Profile ChromaHeart is also supplied with two colour coded WAGO sockets.

Care must be taken not to obstruct the air flow around the unit.

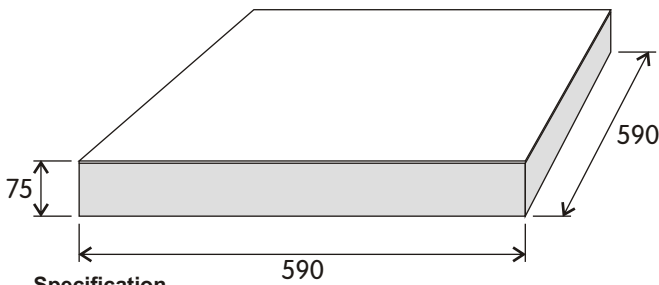
This unit can be used in a sealed enclosure, provided that the enclosure has sufficient surface area to keep it below 40°C in normal use.

The Low Profile ChromaHeart does not have an incoming air filter like the ChromaHeart. If the air is recirculating no filter is needed. If however air is being drawn into an enclosure, use of an air filter is recommended.

PART NUMBER — DESCRIPTION

24506	Low Profile ChromaHeart™
4445	PCB Term. 5 Pole 90 Deg. Plug Grey
4447	In-line colour coded socket

ChromaPanel600™



Specification

The ChromaPanel600 is designed for use in a 600mm / 2' (USA) grid suspended ceiling. It can also be wall mounted or used as a light source under an illuminated dance floor.

The ChromaPanel600 is not designed to be load bearing. To be used as part of an illuminated dance floor it needs to be under an appropriate structure - such as the ChromaDeck modular dance floor.

Power: 520mA @ 24V DC. 17 Mains Watts via ChromaZone.

Connection: In-Line WAGO socket terminating 5m of ChromaFlex. Each ChromaPanel is also supplied with a colour coded WAGO socket and plug to make an extension lead. Four cable storage clips are supplied for transit / tidying.

Weight: 4.65kg+0.55kg cable, 6.4kg inc. packaging.

IP Rating: IP30 May be used in a sheltered location outdoors using the CP600 Top Cover see page 14.

The front of the unit is easily removed for cleaning using the reclosable fastener strip. (This must be pressed firmly back all round when closing). The ChromaPanel is supplied with corner fixings to give extra security of fixing to the front panel when mounted vertically or suspended.

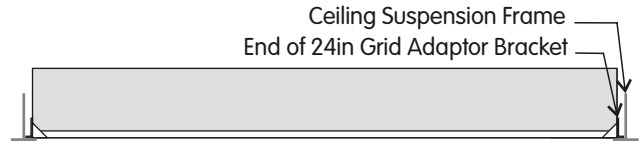
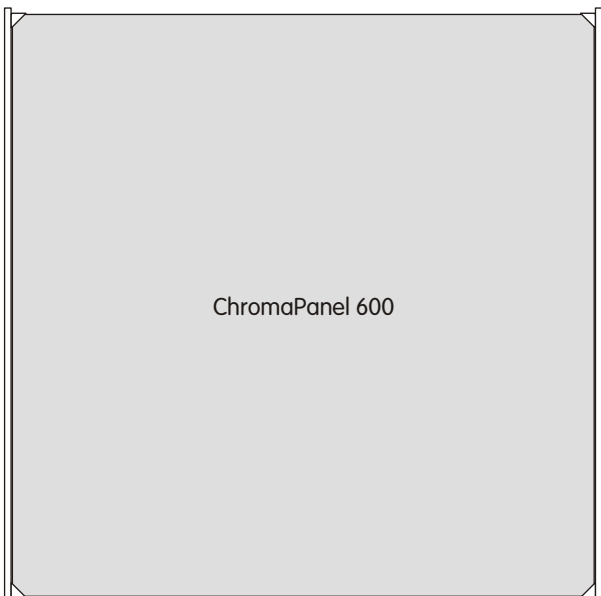
Fixing: Suitable for use in suspended ceilings. An adaptor kit is available to convert the CP600 ChromaPanel for use in 2' USA suspended ceilings.

This can be bolted on to the rear with 4 x M6 bolts into threaded hexserts or wood screws can be put through the M6 hexserts on 440mm square centres. M6 Eyebolt's are available to anchor safety chains and to suspend the Chroma Panel.

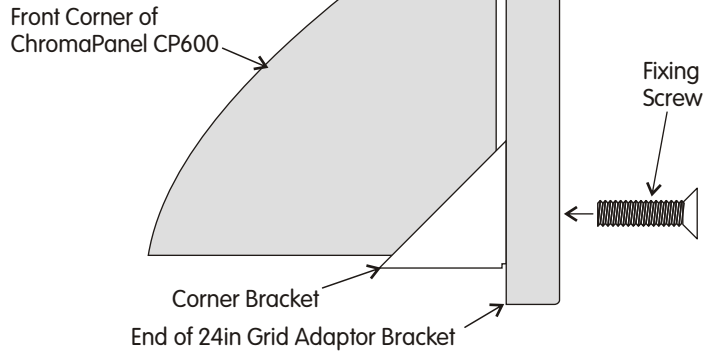
PART NUMBER — DESCRIPTION	
CP600	- ChromaPanel600™
CDECK4	- ChromaDeck™
8987SS	- M6 Eyebolt
5998	- CP600 Top Cover
CP600RS	- CP600 Rigging Kit™

2' USA Kit™

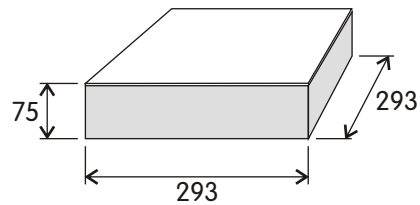
For description see above.



Enlarged corner detail



ChromaPanel300™



Specification

The ChromaPanel300 is a quarter sized version of the ChromaPanel600, four may be used within the ChromaDeck.

The ChromaPanel300 is not designed to be load bearing.

Power: 130mA @ 24V DC. 4.2 Mains Watts via ChromaZone.

Connection: In-Line WAGO socket terminating 5m of ChromaFlexLite. Each ChromaPanel is also supplied with a colour coded WAGO socket and plug. Four cable storage clips are supplied for transit / tidying.

Weight: 1.4kg+0.3kg cable.

IP Rating: IP30 May be used in a sheltered location outdoors.

The front of the unit is easily removed for cleaning using the reclosable fastener strip. (This must be pressed firmly back all round when closing). The ChromaPanel is supplied with corner fixings to give extra security of fixing to the front panel when mounted vertically.

Fixing: Suitable for use in suspended ceilings. Can be bolted to on the rear with 4 x M6 bolts into threaded hexserts or wood screws can be put through the M6 hexserts on 143mm square centres. The fixings are arranged so that when four units are put together 2x2 the outside four fixing centres are the same as the ChromaPanel600 i.e. 440mm apart.

PART NUMBER — DESCRIPTION	
CP300	- ChromaPanel300™

ChromaDeck™

Specification

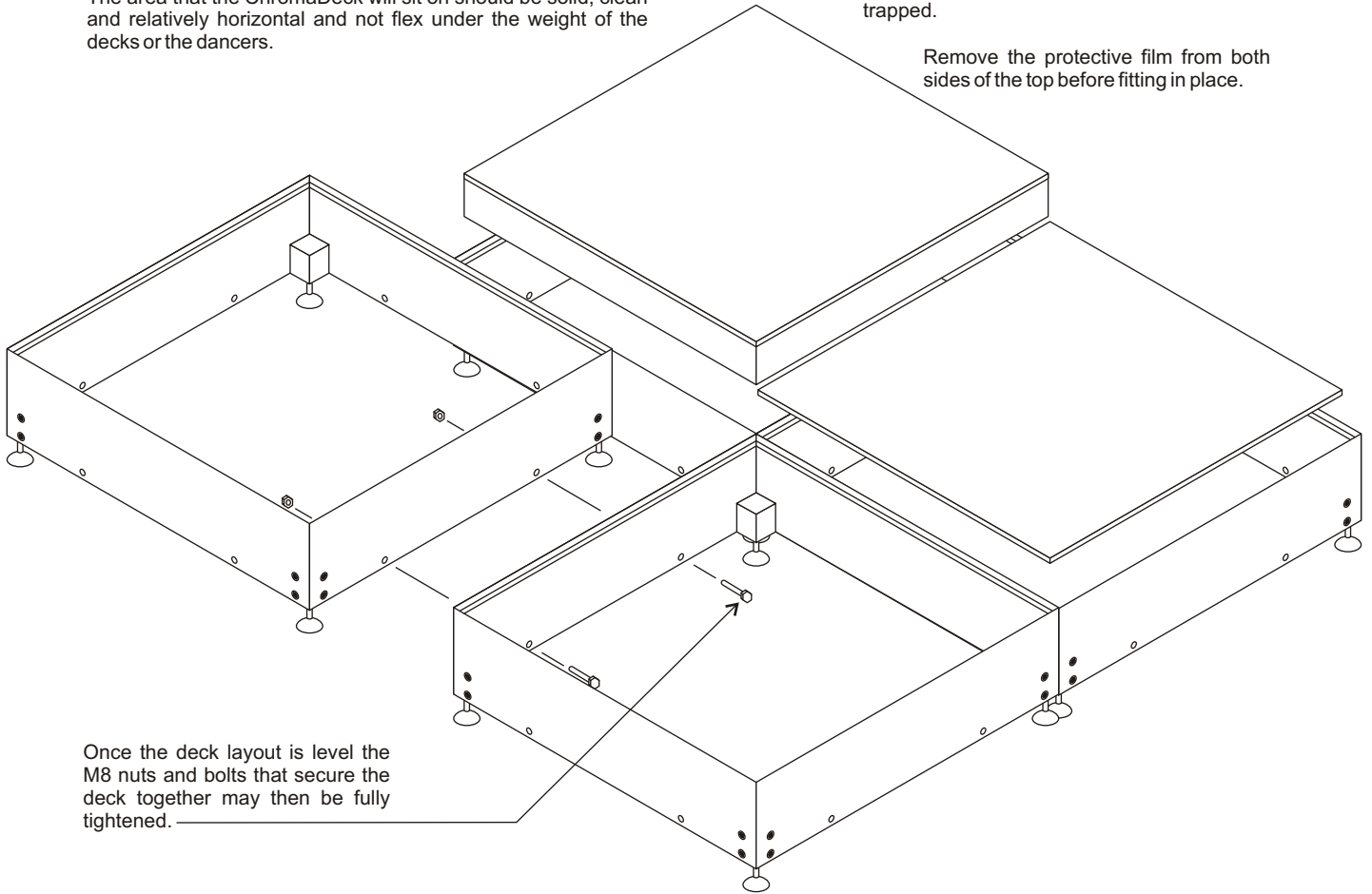
ChromaDeck is a 610mm square modular dance floor that uses either a ChromaPanel600 or 4 ChromaPanel300's as the light source.

The area that the ChromaDeck will sit on should be solid, clean and relatively horizontal and not flex under the weight of the decks or the dancers.

PART NUMBER — DESCRIPTION	
CP600	- ChromaPanel600™
CDECK4	- ChromaDeck™

The ChromaPanels should be carefully fitted into the deck ensuring that the wires are not trapped.

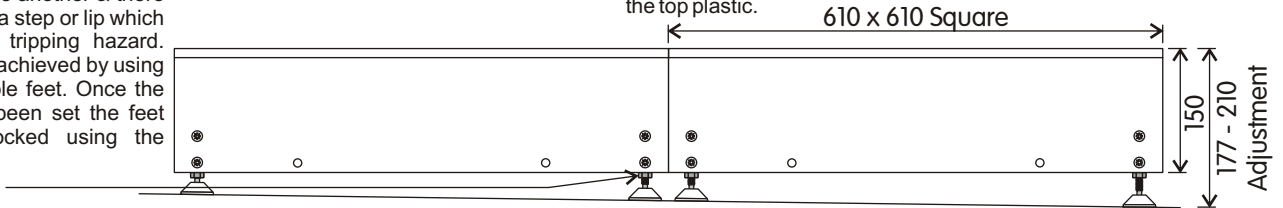
Remove the protective film from both sides of the top before fitting in place.



Once the deck layout is level the M8 nuts and bolts that secure the deck together may then be fully tightened.

The ChromaDecks must all be level with one another & there must not be a step or lip which could be a tripping hazard. This can be achieved by using the adjustable feet. Once the height has been set the feet must be locked using the locking nut.

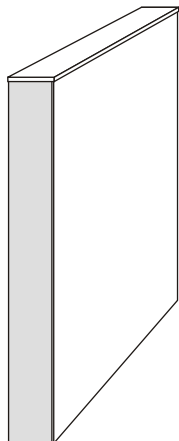
The top should be held in place by a bead of silicone between the deck and the top plastic.



CP600 Top Cover™

Specification

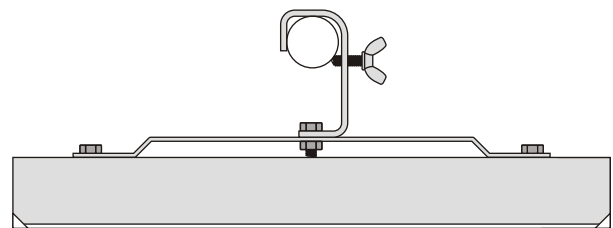
A powder coated aluminium cover for the top of a ChromaPanel600 to increase water resistance for light outdoor use. This is held in place using the existing corner clip screws which locate in the nutserts in the tray.



CP600 Rigging Strap™

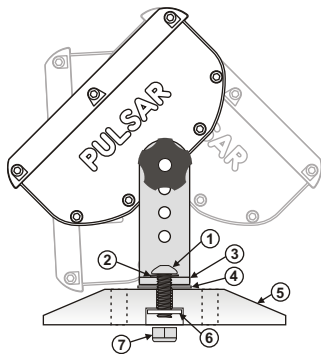
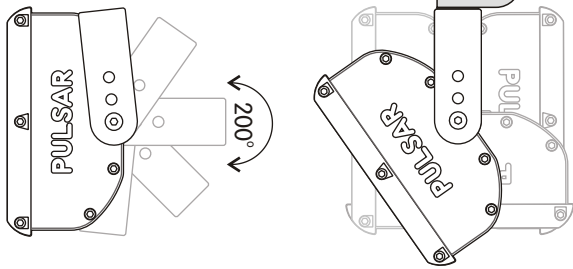
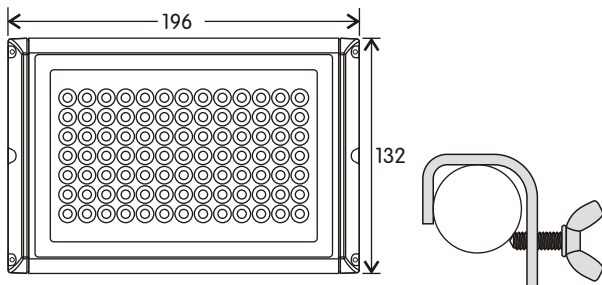
Specification

A kit consisting of 2 x 4mm thick, Powder Coated Straps and associated fixings to enable the CP600 to be 'Flown' using G Clamps, Half Couplers, etc. The kit includes an M6 stainless steel eye bolt for use as a safety chain fixing point.



PART NUMBER — DESCRIPTION	
5998	- CP600 Top Cover™
CP600RS	- CP600 Rigging Kit™

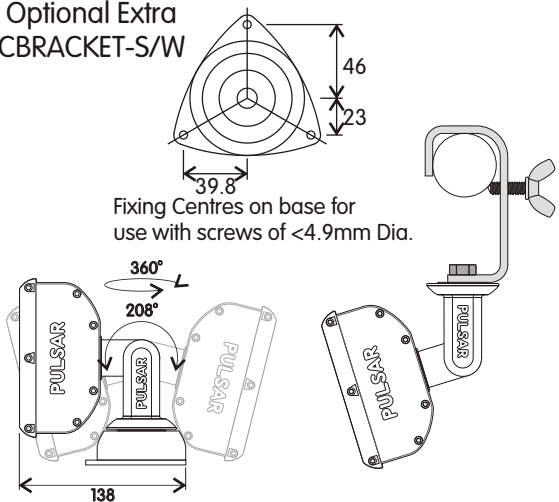
ChromaFlood/Batten17™



CBAT FLOOR KIT ASSEMBLY INSTRUCTIONS (Pulsar Part - CBAT-SFK)

- 1) M8x25mm Button Head
- 2) M8 Crinkle washer
- 3) Handle
- 4) 1mm Thick Washer
- 5) Foot
- 6) M8 Nylon Washer
- 7) M8 Nyloc

Optional Extra C Bracket-S/W



Fixing Centres on base for use with screws of <4.9mm Dia.

ChromaFlood/ChromaBatten17 Specification

Power: 520mA @ 24V DC. 17 Mains Watts via ChromaZone.

Weight: 1.4kg + 455g (5m) ChromaFlex

IP Rating: IP65 - See: Use in wet environments page 3.

Beam Angle: CFLOOD-S 45deg. x 25deg. CFLOOD-S20 20deg.

Optics: CFLOOD-S Holographic diffuser fitted giving an oval beam shape. CFLOOD-S20 Polycarbonate diffuser.

Light Output: @1m:

CFLOOD-S White (RGB100%) 300 Lux, Red 80 Lux, Green 212 Lux, Blue 17 Lux. **CFLOOD-S20** White (RGB100%) 1025 Lux, Red 350 Lux, Green 750 Lux, Blue 112 Lux.

Fixing Detail: See above. For surface mounting there are four corner holes that can be used to screw the ChromaFlood to a surface. Aperture size 125mm x 185mm.

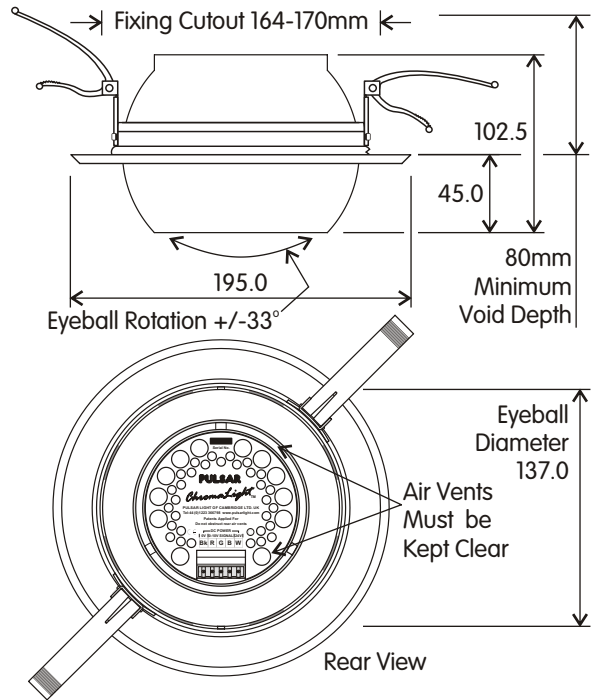
Connection: 5m of ChromaFlex terminated by a colour coded In-Line WAGO socket. Each ChromaFlood is also supplied with a colour coded WAGO socket and plug to make an extension lead.

Colour and finish: Silver Paint S, White W.

PART NUMBER — DESCRIPTION

CBAT17-S45x25	ChromaBatten17™ RGB Fixture-Silver 91x55MM LEDs 45x25°
CBAT17-W45x25	ChromaBatten17™ RGB Fixture-White 91x55MM LEDs 45x25°
CBAT17-S20	ChromaBatten17™ RGB Fixture-Silver 91x55MM LEDs 20x20°
CBAT17-W20	ChromaBatten17™ RGB Fixture-White 91x55MM LEDs 20x20°
CBRACKET-S/W	ChromaBracket Full Articulating - Available in Silver & White
CBAT-SFK	ChromaBatten Silver Floor Kit - Optional Extra
CBAT-BKT	ChromaBatten Fixing Bracket Kit - Optional Extra

ChromaLight™



ChromaLight Specification

Power: 520mA @ 24V DC. 17 Mains Watts via ChromaZone.

Weight: 460g

IP Rating: IP20

Beam Angle: 20 deg.

Optics: Light diffusion filter supplied, part number 5778. Rotatable beam shaping optics also available. The diffuser may be cleaned with clean water and a mild detergent solution.

Light Output: @1m White (RGB100%) 1000 Lux, Red 350 Lux, Green 750 Lux, Blue 85 Lux.

Fixing Detail: Cutout diameter: 164-170mm.

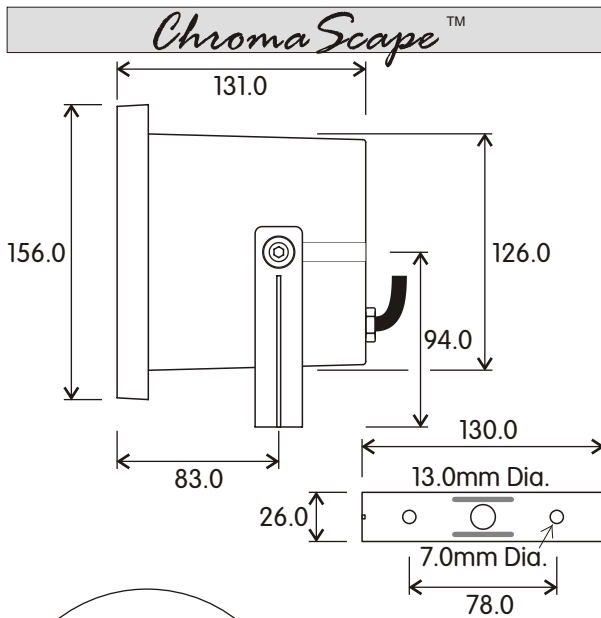
Connection: Rear panel mounted WAGO plug. Each ChromaLight is supplied with a colour coded WAGO socket and plug to make an extension lead.

Colours and finishes: White paint (W), Black paint (B), Silver paint (S), Self Paint (undercoat only - to be painted by customer) (SP), Gold Plated (G), Chrome Plated (C). (Letter denotes suffix to part number ie W = White). Other colours may become available - please check with Pulsar if required.

Care must be taken not to obstruct the air flow from the rear vents.

PART NUMBER — DESCRIPTION

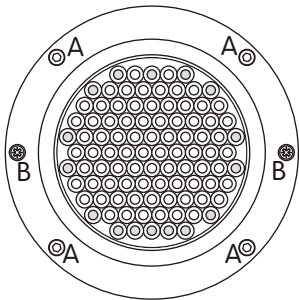
24501B	-	ChromaLight™ Black
24501C	-	ChromaLight™ Chrome
24501G	-	ChromaLight™ Gold
24501SP	-	ChromaLight™ Self Paint
24501S	-	ChromaLight™ Silver
24501W	-	ChromaLight™ White
C99WIDE	-	Wide angle beam (28°) shaper
C99OVAL	-	Oval beam (17° x 55°) shaper
C99SPLIT	-	Beam splitter - 2 beams 55° apart
5778	-	ChromaFilter™ Standard Diffuser 20°



Front view showing:

A bolts that are used to clamp the bezel to the body of the unit.

B bolts that are used to bolt the complete unit into the ground mount.



Do not disturb front bezel fixings (A). Each unit is factory sealed and tested for leaks. Removing the front bezel invalidates the guarantee.

ChromaScape / Ground Mounting Specification

A Painted aluminium surface / in-ground mounted LED lighting fixture for indoor / outdoor / underwater use.

Power: 520mA @ 24V DC. 17 Mains Watts via ChromaZone.

Weight: ChromaScape 1.1kg+0.55kg cable, Ground Mount 0.65kg

IP Rating: IP68 2m. The standard painted ChromaScape is for use in fresh water only. See pages 3 & 18.

Cleaning: The unit may be cleaned with clean water and a mild detergent solution.

Light Output: @1m White (RGB100%) 1000 Lux, Red 350 Lux, Green 750 Lux, Blue 85 Lux.

An optional ground mounting kit is available for the ChromaScape. The ground mount may be cemented into position and then have the ChromaScape fixed to the mounting ring. This can now be done without disturbing the front Bezel as the mounting screws that hold the ChromaScape into the GroundMount are accessible through holes in the front bezel of The ChromaScape See B holes above.

Units must be checked after initial installation and periodically for water ingress.

Connection: 20m of 8mm diameter ChromaFlex 5 core cable terminated with an In-Line WAGO socket (The ChromaScape rear cable gland requires cable of between 7mm and 8mm diameter to be used). For in-ground burial the cable must be sleeved.

For waterproof installation, use a continuous run of cable as water can travel along the cable from joints. If a continuous run is not possible use an IP68 >2m depth connector.

For waterproof connection Pulsar recommend IP68 Mini Buccaneer connectors from Bulgin. These can be ordered from Pulsar part number 4457.

Although this connector may be used behind the ChromaScape in the ground mount, it is preferable to have a conduit to the Ground Mount to allow the cable from the rear of the ChromaScape to be threaded through to allow the joint to be made above water level to increase the reliability of the system.

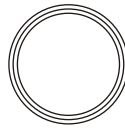
For non waterproof use, each ChromaScape is supplied with a colour coded WAGO socket and plug for making extension leads.

Colours and finishes: White paint (W) and Black paint (B).

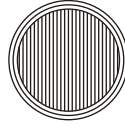
Optics: The standard ChromaScape is supplied with a clear glass lens that is used with an internal light diffusion filter.

The glass is stepped to bring the front level with the front bezel. Beam shaping versions of the raised glass lens are also available.

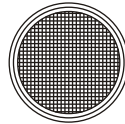
The following lenses are available factory fitted to order. This is done to avoid the customer having to open the unit after leak testing.



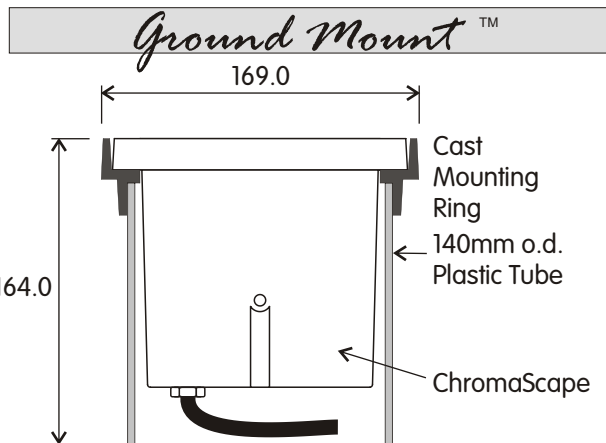
C120CLEAR - 20 deg clear raised lens.



C120OVAL - 74 deg x 20 deg reeded raised lens. Note - brighter at the ends than at the middle.

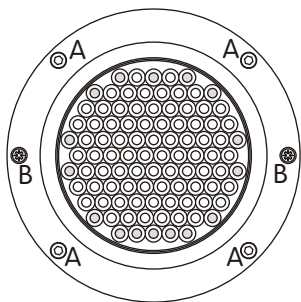
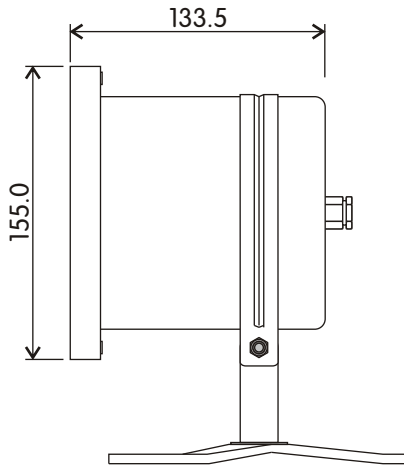


C120WIDE- 36 deg x 36 square pattern raised lens. Pushes light into the corners to make a square image.



PART NUMBER — DESCRIPTION	
CScape120B	ChromaScape™ Black
CScape120W	ChromaScape™ White
CScape120GM	ChromaScape™ Ground Mount
C120CLEAR	Clear raised lens
C120OVAL	Reeded raised lens
C120WIDE	Square pattern raised lens
4457	Mini Buccaneer connector set M+F

ChromaScape Stainless Steel™



Front view showing:

A bolts that are used to clamp the bezel to the body of the unit.

B bolts that are used to bolt the complete unit into the ground mount.

Do not disturb front bezel fixings (A). Each unit is factory sealed and tested for leaks. Removing the front bezel invalidates the guarantee.

ChromaScapeStainlessSteel / Ground MountSS Specification

A stainless steel surface / in-ground mounted LED lighting fixture for indoor/outdoor / underwater use.

Power: 520mA @ 24V DC. 17 Mains Watts via ChromaZone.

Weight: StainlessSteel ChromaScape 1.1kg+0.55kg cable. Ground Mount 0.65kg

IP Rating: IP68 2m. The Stainless Steel version of the ChromaScape (CScape120SS) is for use in salt water or chemically treated water. See pages 3 & 18.

Beam Adjustment: The beam alignment is adjustable +/- 7 deg. in both x and y axis within the Stainless Steel ChromaScape enclosure. When the unit is ground mounted this enables the beam placement to be adjusted.

Cleaning: The unit may be cleaned with clean water and a mild detergent solution.

Light Output: @1m White (RGB100%) 1000 Lux, Red 350 Lux, Green 750 Lux, Blue 85 Lux.

An optional ground mounting kit is available for the stainless steel ChromaScape. The ground mount may be cemented into position and then have the ChromaScape fixed to the mounting ring. This can now be done without disturbing the front Bezel as the mounting screws that hold the StainlessSteel ChromaScape into the GroundMountSS are accessible through holes in the front bezel of the StainlessSteel ChromaScape.

The ChromaScape is pressure tested to detect leaks at Pulsar before shipping and the front bezel should only be disturbed if access is required into the unit to adjust the beam alignment.

When the unit is reassembled great care is needed to make sure that sealing surfaces and gasket are clean, dry and centrally located.

Allowing ingress of water into the StainlessSteelChromaScape invalidates the guarantee. Units must be checked after initial installation and periodically for water ingress.

Connection: 5m of 8mm diameter ChromaFlex 5 core cable terminated with an In-Line WAGO socket (The Stainless Steel ChromaScape rear cable gland requires cable of between 7mm and 8mm to be used). For in-ground burial the cable must be sleeved.

For waterproof connection Pulsar recommend IP68 Mini Buccaneer connectors from Bulgin. These can be ordered from Pulsar part number 4457.

Although this connector may be used behind the Stainless Steel ChromaScape in the GroundmountSS, it is preferable to have a

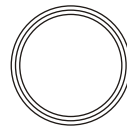
conduit to the GroundmountSS to allow the cable from the rear of the Stainless Steel ChromaScape to be threaded through to allow the joint to be made above water level to increase the reliability of the system.

For non waterproof use, each Stainless Steel ChromaScape is supplied with a colour coded WAGO socket and plug for making extension leads.

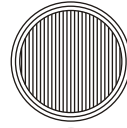
Optics: The standard ChromaScape is supplied with a clear glass lens that is used with an internal light diffusion filter.

The glass is stepped to bring the front level with the front bezel.

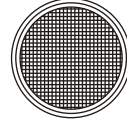
Beam shaping versions of the raised glass lens are also available as factory fitted items - please specify on order.



C120CLEAR - 20 deg clear raised lens.

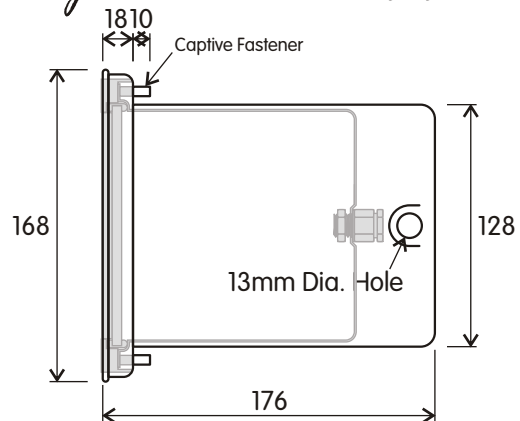


C120OVAL - 74 deg x 20 deg reeded raised lens. Note - brighter at the ends than at the middle.



C120WIDE- 36 deg x 36 square pattern raised lens. Pushes light into the corners to make a square image.

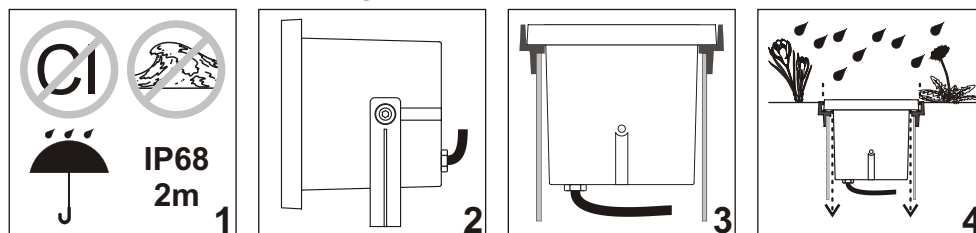
Ground MountSS™



PART NUMBER — DESCRIPTION	
CScape120SS	ChromaScape™ Stainless Steel
CScape120GMSS	ChromaScape™ Ground Mount SS
C120CLEAR	Clear raised lens
C120OVAL	Reeded raised lens
C120WIDE	Square pattern raised lens
4457	Mini Buccaneer connector set M+F

ChromaScape™ / SS WET installation instruction leaflet

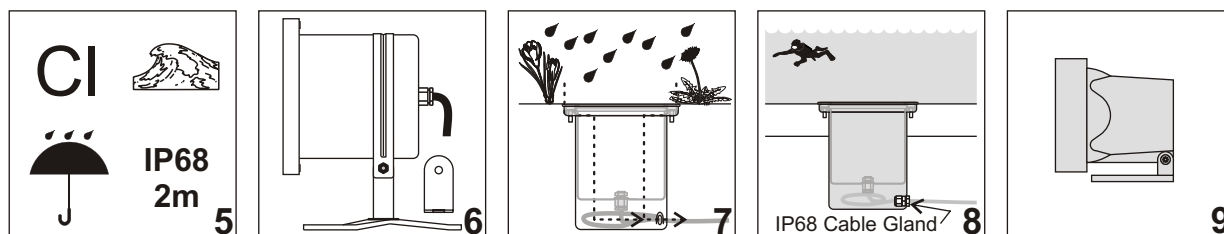
Aluminium ChromaScape / Ground Mount - For Fresh Water use only



Wet Installation Instructions

- 1 The aluminium ChromaScape is IP68 2m rated. It is not suitable for use either immersed in, or near, chemically treated swimming pool water, fountain water or seawater.
- 2 The aluminium ChromaScape can be used with the fixing handle as supplied or...
- 3 Ground mounted using the optional Ground Mount Kit.
- 4 The Ground Mount is open for drainage at the bottom.

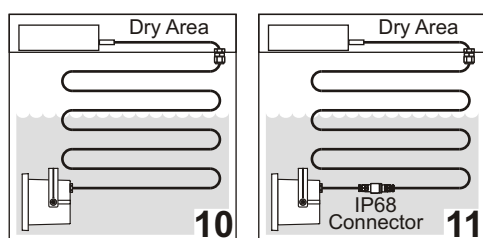
Stainless Steel ChromaScape / Ground Mount



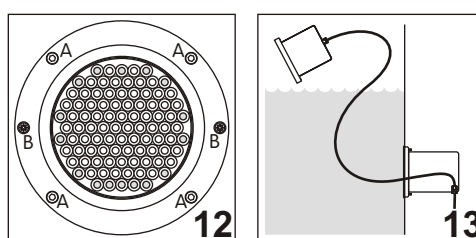
ChromaMR16Scape

- 5 The stainless steel ChromaScape is IP68 2m depth rated and is suitable for use either immersed in, or near, chemically treated swimming pool water, fountain water or seawater.
- 6 The stainless steel ChromaScape can be used with its mounting foot or right-angled bracket (supplied) or....
- 7 Ground mounted using the optional Ground Mount Kit. The ground mount can be used in two modes, ground mount open to allow drainage or....
- 8 Ground mount sealed, using cable gland supplied, to prevent loss of water. In this mode the ground mount must seal on its outside surface to the wall of the pool.
- 9 The MR16 ChromaScape is IP67 1m depth rated and is suitable for use either immersed in, or near chemically treated swimming pool water, fountain water or seawater.

Connection



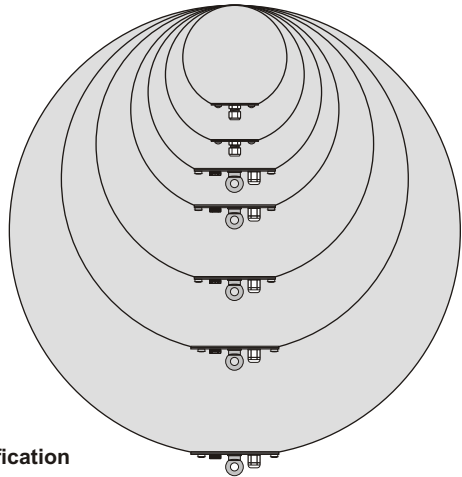
Fixings



- 9 For waterproof installation, use a continuous run of cable to a dry place, 20m is provided to assist with this, as water will travel along the cable from joints in high humidity or wet areas. If a continuous run is not possible....
- 10 Use an IP68 >2m depth connector, such as the Pulsar Part No. 4457 Mini Buccaneer.
- 11 Do not disturb front bezel fixings (A). Each unit is factory sealed and tested for leaks. Removing the front bezel invalidates the guarantee. The fixings shown with a tick (B) are the fixings which hold the aluminium and stainless steel ChromaScares into their respective ground mounts.
- 12 It is advisable to keep some spare cable coiled in the ground mount to enable servicing to be done above water level if ever required.
- 13 General Information. To maximize lifetime, LED light fittings must be allowed to run cool with either free air or water around the fixture to allow the small amount of heat generated to dissipate. Do not operate the fixtures in a high ambient temperature environment such as that caused by direct sunlight.

ChromaSphere

150/200/250/300/400/500/650



Specification

A range of LED lighting fixture for indoor / outdoor use.

Power Requirements:

Sphere Diameter	Weight Inc Cable	Current mA	Volts DC	Mains Watts via ChromaZone
150	440g	105	24	3.4
200	520g	105	24	3.4
250	1.1kg	520	24	17
300	1.5kg	520	24	17
400	1.9kg	520	24	17
500	3.0kg	1560	24	50
650	5.1kg	1560	24	50

IP Rating: IP65 - See: Use in wet environments page 3.

If the base of any ChromaSphere is removed, the sealing surfaces and gasket must be clean and dry before re-assembly.

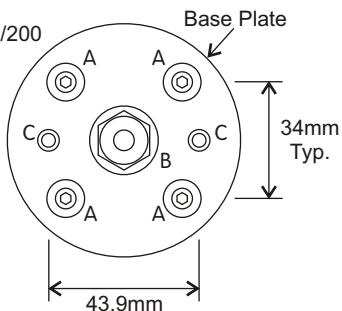
Cleaning: The unit may be cleaned with clean water and a mild detergent solution.

Fixing Details: 250/300/400/500/650 Spheres are fitted with an M6 eye bolt.

For outdoor use, a ground mounting spike (Pulsar product description - CSpike) including fixing bolt, is available as an optional extra (not compatible with 150/200 Sphere models).

Fixing Details: 150/200 Spheres see diagram. Two M4 bolts (maximum inserted thread length 10mm) may be used.

The ChromaSphere 150/200 may be surface mounted if the following holes are made in the surface.
 A - 12mm dia clearance
 B - 20mm dia clearance
 C - 4.5mm dia to allow M4 fixing screw into fixing plate on Sphere.
 Maximum screw length 10mm.



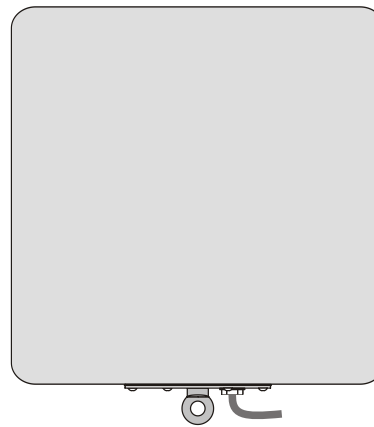
Connection: 3m of 6mm diameter ChromaFlexLite 5 core cable on the 150 and 200 mm Spheres and 5m of 8mm diameter ChromaFlex 5 core cable, terminated by a colour coded in-Line WAGO socket.

Each ChromaSphere is also supplied with a colour coded WAGO socket and plug for making extension leads. Waterproof connectors are available from Pulsar - See: Use in wet environments page 3.

Colour and finish: White opal sphere only.

PART NUMBER — DESCRIPTION	
CSphere150	ChromaSphere 150™
CSphere200	ChromaSphere 200™
CSphere250	ChromaSphere 250™
CSphere300	ChromaSphere 300™
CSphere400	ChromaSphere 400™
CSphere500	ChromaSphere 500™
CSphere650	ChromaSphere 650™
CSpike	Chroma Ground Spike (inc fixing bolt)™

ChromaCube™



ChromaCube Specification

A 300mm Cube LED lighting fixture for indoor / outdoor use.

Power: 520mA @ 24V DC. 17 Mains Watts via ChromaZone.

Weight: ChromaCube 2kg + 455g (5m) of ChromaFlex cable.

IP Rating: IP65 - See: Use in wet environments page 3.

If the base of the ChromaCube is removed, the sealing surfaces and gasket must be clean and dry before re-assembly.

Cleaning: The unit may be cleaned with clean water and a mild detergent solution.

Fixing Detail: Each unit is fitted with an M6 eye bolt and also supplied with a ground mounting spike for outdoor use.

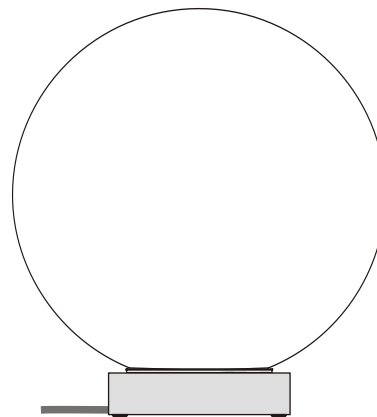
Connection: 5m of 8mm diameter ChromaFlex 5 core cable terminated with an In-Line WAGO socket.

Each ChromaCube is also supplied with a colour coded WAGO socket and plug for making extension leads. Waterproof connectors are available from Pulsar - See: Use in wet environments page 3.

Colours and finish: White opal cube only.

PART NUMBER — DESCRIPTION	
CCube300	ChromaCube 300™

ChromaPlinth™



ChromaPlinth Specification

A 146mm square x 35mm tall plinth to mount a ChromaSphere or ChromaCube. The Plinth stands on four rubber feet.

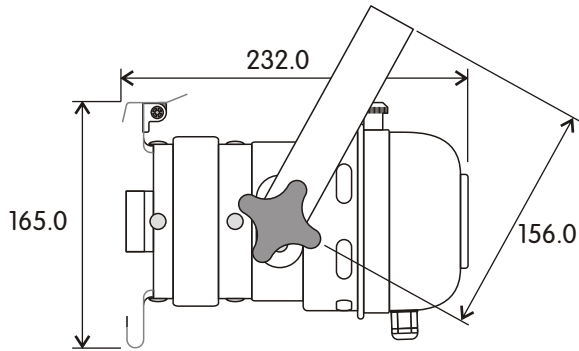
Fixing Detail: The Plinth is fixed to the ChromaSphere or ChromaCube with the stainless steel M6 eye bolt that is supplied with each ChromaSphere or ChromaCube.

Cleaning: The unit may be cleaned with clean water and a mild detergent solution.

Colour and finish: White Painted.

PART NUMBER — DESCRIPTION	
CSplinth	ChromaPlinth™

ChromaPar36Can™



ChromaPar36Can

An Aluminium PAR36 Can containing a ChromaHeart.

Fixing Detail: The fixing strap has a 13mm diameter hole for use with up to an M12 bolt.

Power: 520mA @ 24V DC. 12.5 Mains Watts via ChromaZone.

Weight: ChromaParCan 1.03kg + 0.55kg (5m) of cable.

IP Rating: IP20.

Cleaning: The unit may be cleaned with clean water and a mild detergent solution.

Light Output: @1m White (RGB100%) 1000 Lux, Red 350 Lux, Green 750 Lux, Blue 85 Lux.

Connection: 2.5m of 8mm diameter ChromaFlex 5 core cable terminated with an In-Line WAGO socket.

The ChromaPar36 Can is also supplied with a colour coded WAGO socket and plug for making extension leads and a shroud set (Pulsar part - 4456).

Colours and finishes: Natural Aluminium and Black Painted.

PART NUMBER — DESCRIPTION	
CPAR36CanS	ChromaPAR36Can™ Silver
CPAR36CanB	ChromaPAR36Can™ Black

ChromaBank2™

Pulsar's ChromaBank Mk2 is an LED lighting bar which contains 12 ChromaHearts™ (the LED lighting module as used in the ChromaLight, ChromaDome and ChromaFlush) and has a built in ChromaZone to power and control the unity, offering numerous internal effects and chases that can operate in stand-alone mode or with an external DMX/PMX controller.

ChromaBanks are ideal for TV, Theatre and Stage applications providing incredible illumination and flexibility and a flicker-free LED based fixture. The colour wash effect is flawless on sets and cyccs, and very effective when installed beneath glass floors or walls. It is also very impressive when hung from trusses allowing numerous strobing and chasing effects to be produced.

For further details refer to the ChromaZone data sheet.

Power: 100-240VAC 50-60Hz - 200W Max.

The ChromaBank Mk2 is fitted with CEE17 socket to enable daisy chaining of the mains lead.

Weight: 10.5kg

IP Rating: IP20

Optics: The ChromaBank Mk2 is supplied with four lens options to give the designer the ultimate flexibility for ChromaBank applications.

1. Clear: A fire rated polycarbonate providing a beam angle of 15x15 deg. this option is ideal for long distance use and daytime open air shows.

2. Frosted: A Lightly frosted Fire rated polycarbonate to give a homogenous mix of the RGB resultant colour. This new diffuser which gives a 30% increase in Light Output over the original ChromaBank. 20 deg. x 20 deg.

3. Reeded: An Acrylic lens producing a 20 deg. horizontal and 90 deg. vertical beam for wide angle use.

4. QuadLightPipe: This is a compact, fire rated opal polycarbonate tube that combines the 12 ChromaHeart light sources together to produce a solid block of stunning colour and an endless array of beautiful rainbow effects.

All four lenses are rapidly interchangeable in a matter of seconds by use of the newly designed special quick release end plates.

These are supplied with 2 off M4 screws to lock the plates in position or alternatively these screws can be removed which leaves the end plate secured by two quick release, quarter turn Dzus fasteners.

The ChromaBank Light Pipe is another effects option. It is a 150mm dia. opal acrylic tube that is mounted with the fixing kit on to the front of a ChromaBank. The pipe mixes Red, Green and Blue light together to produce the resultant colour with a wide viewing angle. If the knobs at the end of the ChromaBank are replaced with M10 bolts the light pipes are end stackable.

LightPipe Fixing: Two M4 Posipan screws near the front on the end of the ChromaBank are removed and replaced with the M4x20mm posidrive pan head screws from the fixing kit and used to hold the brackets - with the tabs inwards in position. The Tube is laid on to the fixing brackets and the M6 screw and cup is used with the M6 Nylock to hold the tube in position. Do not over tighten the nut. Remove protective film from tube before use.

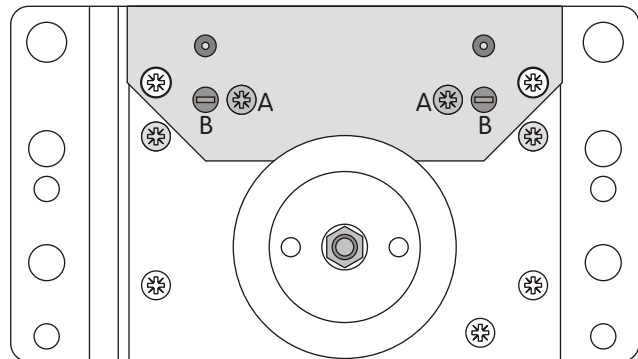
Fixing Detail: The ChromaBank Mk2 has a variety of fixings available including M6 eyebolts and a row of 12.7mm diameter fixing holes on a 307mm pitch in the bar across its base. The end plates provide a variety of fixing options including stacking that allow a stack of ChromaBanks to be flown.

Colour and finish: Black and White painted options are available.

Quick Release End Plate:

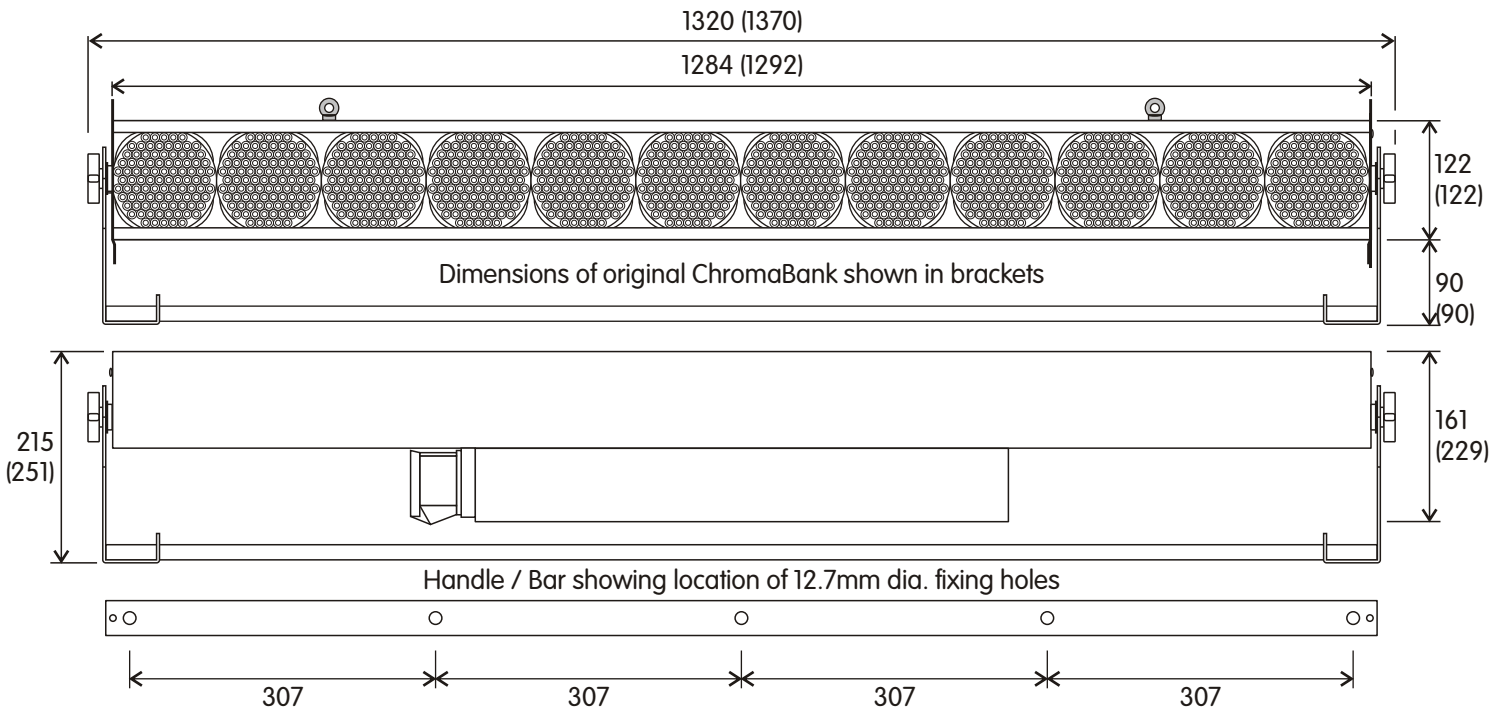
All four ChromaBank Mk2 lenses are rapidly interchangeable in a matter of seconds by use of the newly designed special quick release end plates.

These are supplied with 2 off M4 screws (A) to lock the plates in position or alternatively these screws can be removed which leaves the end plate secured by two quick release, quarter turn Dzus fasteners (B).

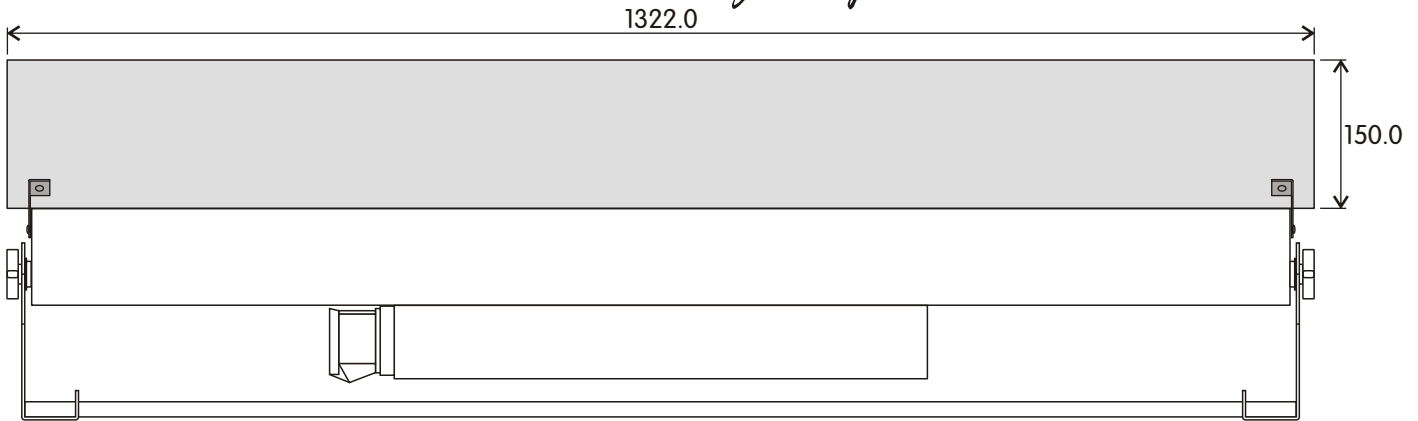


PART NUMBER — DESCRIPTION		
CBANK2	ChromaBank Mk2™	(Black)
CBANK2W	ChromaBank Mk2™	(White)
CB-LP	ChromaBank™ Light Pipe	
5810.2	ChromaBank™ Clear Filter	
5811.2	ChromaBank™ Frosted Filter	
5779.2	ChromaBank™ Reeded Filter	

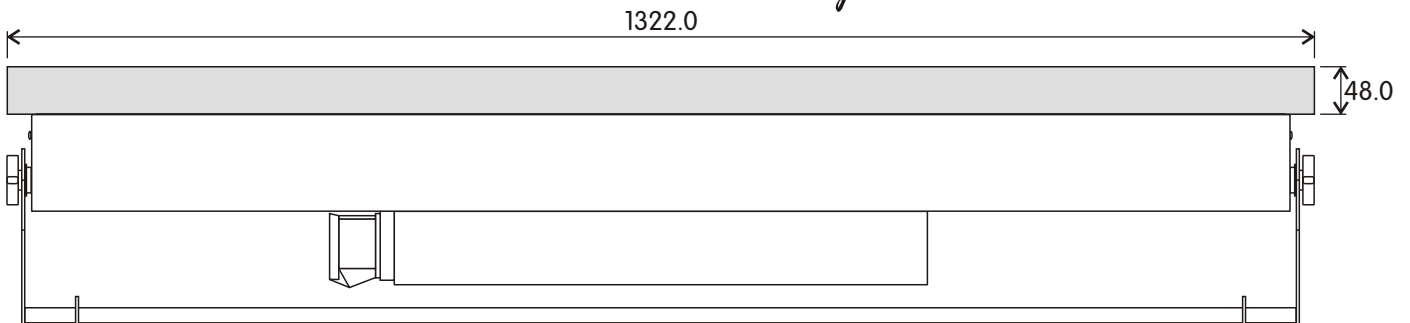
ChromaBank Mk2™



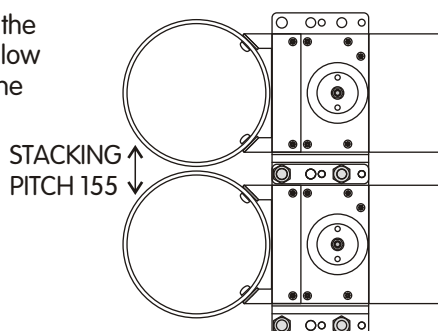
ChromaBank Light Pipe™



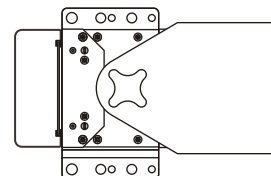
ChromaBank Quad Pipe™



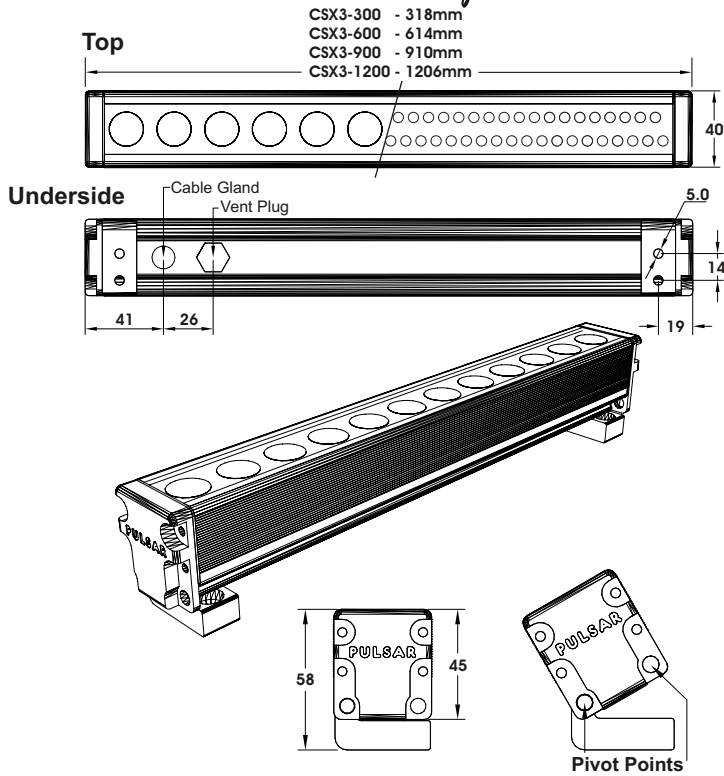
The end plate of the ChromaBanks allow stacking, using the holes as shown.



ChromaBank2 Showing end view of Quad Pipe.



ChromaStrip X3™



ChromaStripX3™ High Power Specification

A high power version of the popular ChromaStrip2 with three times the light output. In a compact and elegant design using silver powder coated aluminium diecastings and extrusions. Available in 300mm, 600mm, 900mm and 1200mm lengths.

Beam Angles:

10 degree using 1W Red, 3W Green and 3W Blue LEDs with lenses for long throw and

20 degree using 5mm LEDs for wider angle and better close range colour mixing, and economy.

Light Output 10 degree:@ 1m

White 1740 Lux, Red 510 Lux, Green 1140 Lux, Blue 90 Lux.

Light Output 20 degree:@ 1m

White 870 Lux, Red 255 Lux, Green 570 Lux, Blue 45 Lux.

Power Requirements:

Product Code	Current mA	Volts DC	Mains Watts via ChromaZone	MAX Per ChromaZone12
CSX3-300	520	24	17.0	12
CSX3-600	1040	24	33.0	6
CSX3-900	1560	24	50.0	4
CSX3-1200	1560	24	50.0	4

Weight:

CSX3-300 - 1.0kg inc. ChromaFlex

CSX3-600 - 1.5kg inc. ChromaFlex

CSX3-900 - 2.0kg inc. ChromaFlex

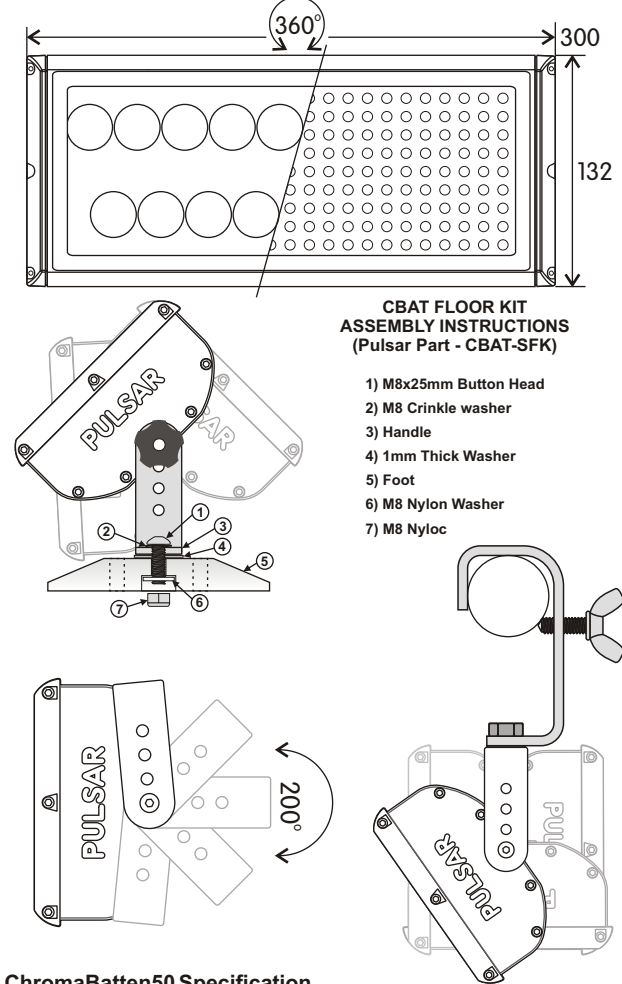
CSX3-1200 - 2.5kg inc. ChromaFlex

IP Rating: IP65. See: Use in wet environments page 3.

Connection: In-Line WAGO socket terminating 5m of ChromaFlex. Each ChromaStrip is also supplied with a colour coded WAGO socket and plug to make an extension lead.

PART NUMBER	DESCRIPTION
CSX3-300-1W	ChromaStripX3™ 300 RGB 12x1&3W LEDs 10°
CSX3-600-1W	ChromaStripX3™ 600 RGB 24x1&3W LEDs 10°
CSX3-900-1W	ChromaStripX3™ 900 RGB 36x1&3W LEDs 10°
CSX3-1200-1W	ChromaStripX3™ 1200 RGB 48x1&3W LEDs 10°
CSX3-300-5MM	ChromaStripX3™ 300 RGB 72x5mm LEDs 20°
CSX3-600-5MM	ChromaStripX3™ 600 RGB 144x5mm LEDs 20°
CSX3-900-5MM	ChromaStripX3™ 900 RGB 216x5mm LEDs 20°
CSX3-1200-5MM	ChromaStripX3™ 1200 RGB 288x5mm LEDs 20°

ChromaBatten50™



ChromaBatten50 Specification

A high power version of the ChromaBatten17 with three times the light output. In a compact and elegant design using silver powder coated aluminium diecastings and extrusions.

Beam Angles

8, 12x25, 25, 45 using 1W Red, 3W Green and 3W Blue LEDs with lenses.

20 degree using 5mm LEDs for better close range colour mixing, and economy.

Light Output @1m:

LIGHT OUTPUT @ 1M				
Product	White	Red	Green	Blue
CBAT50-S8	4500	1107	3180	63
CBAT50-S12x25	2305	918	1208	35
CBAT50-S5MM	1830	495	1257	80
CBAT50-S25	1650	391	1155	28
CBAT50-S45	835	231	592	11

Power (all CBAT50s the same): 1560mA @ 24V DC. 50 Mains Watts via ChromaZone.

Weight - All models: 2.4kg inc. ChromaFlex

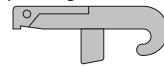
IP Rating: IP65. See: Use in wet environments page 3.

Connection: In-Line WAGO socket terminating 5m of ChromaFlex. Each ChromaBatten50 is also supplied with a colour coded WAGO socket and plug to make an extension lead.

PART NUMBER	DESCRIPTION
CBAT50-S8	ChromaBatten50™ High Power RGB 18x1&3W LEDs 8°
CBAT50-S12x25	ChromaBatten50™ High Power RGB 18x1&3W LEDs 12x25°
CBAT50-S5MM	ChromaBatten50™ High Power RGB 243x5mm LEDs 20°
CBAT50-S25	ChromaBatten50™ High Power RGB 18x1&3W LEDs 25°
CBAT50-S45	ChromaBatten50™ High Power RGB 18x1&3W LEDs 45°
CBAT-SFK	ChromaBatten Silver Floor Kit - Optional Extra
CBAT-BKT	ChromaBatten Fixing Bracket Kit - Optional Extra

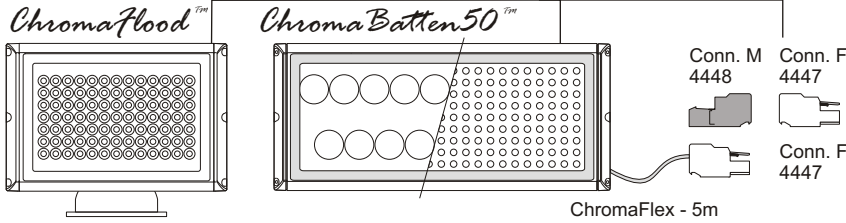
ChromaZone Powered Fixtures-Connections

Chroma Connector
Operating Lever - 9280



ChromaMR16 Heart Fixtures

All Have 3m of ChromaFlex Lite and a female connector apart from ChromaMR16 Scape* and the ChromaFloor* which has 20m



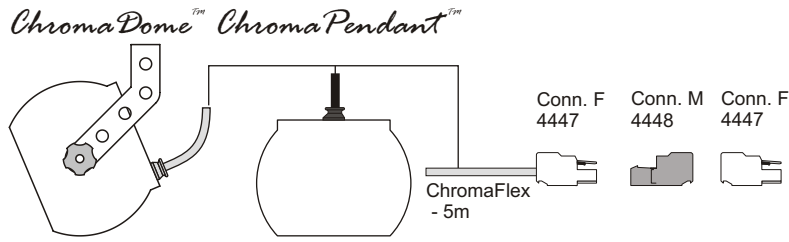
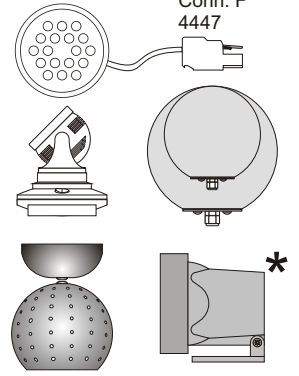
Shroud Set 4456 - Use this number to order spares

1x 4449 Cover set

1x 4451 Clamp

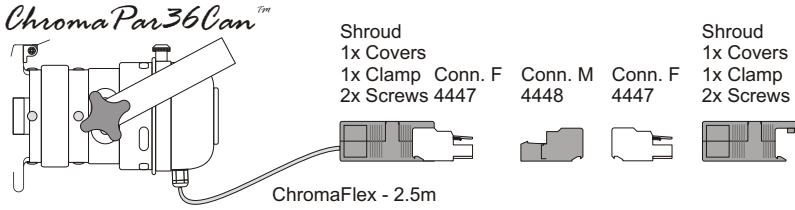
2x 4453 Screws

In a medium clip bag 4236.



ChromaFlex Grey 8075G

ChromaFlexLite Grey 8077G



Chroma Splitter™

For connecting multiple fixtures to a PSU2 or ChromaZone output

For example:
5 x CMR16 (3.4W)
4 x CP300 (4.2W)
3 x CS300 (5.6W)

