Lumisphere®
Products Ltd

Delivering Decorative Lighting Festoons
2020 Brochure

www.lumisphere.co.uk

LUMISPHERE® About us

'Providing unique, innovative patented lighting systems for more than 30 years'

Lumisphere® Products Ltd was formed in 1988 by Robert Ernest Myson specifically to provide the decorative lighting industry with a high quality, low maintenance, low voltage, festoon lighting system. The company used state of the art design, materials and technologies to combat the residual problems of traditional mains operated festoon systems, i.e. ingress of water, high operating and maintenance costs.

The company quickly established a worldwide reputation for quality and performance; Lumisphere® Products Ltd was the pioneer in low energy lighting. The energy efficient systems we designed remain in use after more than 25 years and have proven themselves in extreme conditions.

Rosedale Lighting has owned the company since 2008; the owners being in the lighting industry for the last 30 years. We have offices in North Yorkshire and Lincolnshire in the UK, and an agent in the USA.

The Lumisphere Team is on hand to assist you with your lighting project. Pre-installation and design advice is offered at no extra cost, ensuring trouble-free projects with longevity of service. We operate with a small but dedicated team who will work together to ensure a smooth service from your initial enquiry through to production and delivery of your bespoke lighting product.

We have amassed a vast technical knowledge base, with our products being used all over the world. Each project is individually manufactured to create variable systems for unique installations.

'Customer service is unparalleled, with personal one-to-one contact throughout each project'

If you would like to submit a query, please don't hesitate to give us a call.

We are developing new products all the time! Send us an email to marketing@lumisphere.co.uk if you would like to keep in touch or Follow us on Facebook, Twitter and Instagram!

CONTENTS

LUMISPHERE® Large Harness Festoon Systems

Large Harness Orbical, Carnival, Active, Eco LED Systems & X24 Xenon

ADVANTAGES

The Lumisphere® patented Low Voltage Festoon lighting system has been designed to provide a safe multipurpose energy saving system. It offers an attractive alternative to standard mains voltage festoon lighting which normally has inherently high maintenance and power costs.

QUALITY & MAINTENANCE

- Pressure Watertight
- Conforms to IP68
- Used in Adverse Conditions & Humidity
- Complete Saturation in Saline Water
- High Quality
- Non-Corrosive
- Impact Resistant materials
- Festoons are UL2108 compliant
- Other than lamp replacement at long intervals, virtually no maintenance is required.

GENERAL

The Lumisphere® low voltage festoon systems use unique design of cable and lampholders to full UL certification, achieving a clean modern festoon lighting system. The System comprises of specially designed 3mm 2 core cable which compresses into a patented lampholder, together with a tough polycarbonate globe, forming a weatherproof IP68 seal.

Lamp assemblies can be fitted at any spacings (centres) along the HOFR cable and, together with various LED or Xenon light sources, form a highly robust, energy efficient festoon lighting system. It can be used for many decorative applications such as Ships' lighting, Shopping Malls, Restaurants, Seaside Promenades to permanent or seasonal tree lighting. The System can also be supplied in component form for those clients wishing to self-assemble.

The System lends itself ideally to bespoke lighting applications where high illuminance, low energy and longevity are required.

ENERGY

Energy costs are greatly reduced.
For example:
1 kilometre of festoon at 1metre spacing operating for 2000hrs use, expressed in units of electricity (kilowatt/hrs)
240watt Mains system – 50,000 units of electricity.
Lumisphere® Orbical 8 LED system – 1000 units of electricity.

APPLICATIONS

- ✔ Coastal promenades & Piers
- ✔ Marine dressing lights
- ✔ Street & Building decorations
- ✔ Bar & Restaurant interior/exteriors
- ✔ Retail ✔ Signs
- ✔ Trees ✔ Festive Occasions
- ✔ Hotels ✔ Swimming Pool areas
- ✔ Bridges
- ✔ Theatres ✔ Casinos
- ✔ Theme Parks
- ✔ Ornamental Gardens & Lakes
- ✔ Shopping Malls
- ✔ Weddings ✔ Parties
- ✔ Festivals ✔ Glamping
- ✔ Building Sites & Road Works ✔ Tunnels
- ✔ Emergency Lighting

SAFETY

The Lumisphere® festoon system running at extra low voltage is ideally suited for permanent and temporary use in all environments particularly where accessible to the public. All materials used have high electrical and insulating qualities coupled with excellent flame retardant and flammability specifications. Lumisphere® systems may be used where mains voltage festoons would not comply with electrical safety regulation.

LUMISPHERE® LED SYSTEMS

Lumisphere's comprehensive range of high quality LED plug in light modules are designed to meet all applications. Four types of LED are available':

- Lumisphere® Orbical range of LEDs
- Lumisphere® Carnival range of LEDs
- Lumisphere® Eco range of LEDs
- Lumisphere® Active RGB (DMX) LEDs
- Large Harness Lumisphere® system supplied in Black or White

Existing Lumisphere® X24 and X12 systems can be simply converted to LED by using the appropriate LED plug in light module and the fitting of Lumisphere® weatherproof LED power supplies in place of the existing Lumisphere® transformers, thus avoiding the need for costly festoon harness replacement.

GLOBES

The Lumisphere® Globes are manufactured from UV stabilised polycarbonate. Two types are available A type or G type, both are interchangeable with each other.
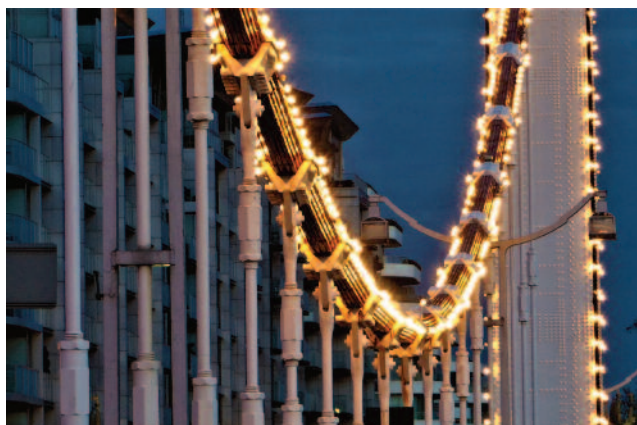
G Type

A Type

'All our festoons are made bespoke to order'

Chelsea Bridge X24 System

Orbical 24 LED festoon with Clear G Type globes

ELECTRICAL, SAFETY & FLAMMABILITY SPECIFICATIONS

LAMPHOLDERS	Material Flammability	Nylon 66 Self Extinguished Grade UV stabilised Flammability rating to ASTN D 635 U.L. V2 UL Listing E170572 UL2108 compliant
GLOBE	Material Flammability Tensile Strength Impact Resistance	Polycarbonate UV stabilised Flame retardant grade U.L. V2 700KKG/CM2 80KG CM/CM
LAMPS	X24 LEDs	Lumisphere Special Xenon Gas Filled Lamps 24v; 5w, 8.5w and 10w LEDs Orbical, Active, Eco and Carnival ranges
CABLE	Material Flammability	Twin conductor stranded tinned copper 60/0.25 3.00mm2 Sheath – heat, oil and flame retardant rubber UV stabilised Conforms to BS4066 Part 1. EIC 332-1. UL. listed No. E168888(M) UL Listing E168888
TRANSFORMERS	Type WP Range Flammability	Lumisphere® Safety Isolating Transformer Comply with BS 3535 1.0 1990/IEC 742/EN 60-742 Clauses 7-26 IP55 Windings – Encapsulated in self-extinguishing grade urethane

LUMISPHERE® Large Harness Festoon Systems

Orbical LEDs

Specifications

Supply	12V AC DC SELV
Light Source	Orbical 8/24/48
Env. Prot.	IP68
Conformity	BS EN 60958 CE
	UL Listed

Lumisphere Orbical 360/24 festoon in Cool White used for decorative harbour lighting

Orbical 24 LED range in colours. Clear G type polycarbonate globes.

ORBICAL LED

The Lumisphere® Orbical LED range is a plug in LED light module which uses a number of SMD LEDS to create a 360^0 light source with similar light appearance to a traditional light bulb. The LED light unit is designed as a simple retro fit LED for any Lumisphere® existing X12 installation.

Colours:- Warm White, Cool White, Red, Blue, Amber, Green, Purple (Orbical 24 and 48 only)

COLOUR TEMP
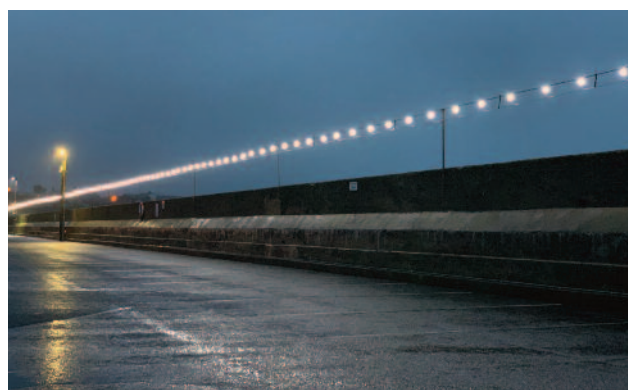Cool White   5500-6800K
Warm White   2800-3200K

LEDS IN THE ORBICAL RANGE
8 SMD module rated at 1watt.
NEW 24 SMD Module rated at 1watt
NEW 48 SMD Module rated at 2watt
(spares also available for Orbical 9 and Orbical 18)

ECO LED

Specifications

Supply	12V DC SELV
Light Source	0.2watts LED
Env. Prot.	IP68
Conformity	BS EN 60958 CE
	UL Listed
Average Life	50,000hrs

ECO LED (LARGE HARNESS)

The Lumisphere® ECO LED is a plug in LED light module which uses 2 x 5mm high brightness light emitting diodes mounted on a gold plated heavy duty PCB with plug in connector, ensuring a highly visible wide angle light source with low power consumption. The units are designed to operate at low temperature and drive currents to achieve maximum performance.

Colours:- Warm White, Cool White, Red, Blue, Amber, Green

Carnival LED (dimmable)

Specifications

Supply	12V AC/DC SELV
Dimmable	
Light Source	0.6watts LED
Env. Prot.	IP68
Conformity	BS EN 60958 CE
	UL Listed
Average Life	50,000hrs

CARNIVAL LED

The Lumisphere® Carnival range of LEDs is a fully Dimmable AC/DC LED plug in light module which uses 4 x 5mm high brightness light emitting diodes mounted onto a conformal coated heavy duty PCB, with plug in connector ensuring a highly visible wide angle light source with low power consumption. The units are designed to operate at low temperature and drive currents to achieve maximum performance.

Standard Colours:- Warm White, Cool White, Red, Blue, Amber, Green

Premium Colours:- Lemon Twist, Ice Blue, Pink Haze, Rose, Purple Mist and Cool Lime, Champagne and Crystal Ice.

LUMISPHERE® Large Harness Festoon Systems

Xenon X24

Specifications

Supply	24VAC SELV
Lamps	24volt rigid loop Xenon lamps available 5, 8.5 and 10watts
Average Lamp life	20,000hrs @ the design voltage
IP rating	IP68
Globes	G type or A type
Conformity	BS EN 60958 CE, UL Listed

X24

The Lumisphere® X24 Low Voltage System incorporates 24 volt Xenon Gas Filled Lamps of wattages of 5, 8.5 and 10w. These lamps have a life expectancy of approximately 20,000 hours at the appropriate circuit design voltage and are also extremely efficient with a colour temperature of 2700K. The X24 system is particulary suitable for permanent installation on buildings and structures where access for lamp changing is difficult. The lamps are multi position burning and resistant to vibration.

Lumisphere X24 system used on the façade at Harrods, London

Flasher Modules

Specifications

LFM Xenon Version

Supply	12 or 24V/AC nominal SELV
Lamps	12V 5watt Xenon
	24V 5watt Xenon
Flashing rates	0.5 1.0 1.5sec

LFM Orbical 8 LED version

Supply	12V AC/DC SELV
Light Source	1.0 watt LED
Env Prot	IP68
STD Flashing Rate	0.5 1.0 1.5sec

FLASHER MODULES

Lumisphere® Flasher Modules are designed to create movement within a static Lumisphere festoon. LFM can be retro fitted into existing X12, X24 and LED Lumisphere® systems. Any number of existing lamps or LEDs can be replaced with LFM which are manufactured to bespoke flash rates. Complete strings of festoons with LFM fitted can create random flashing effects.

CLEAR, FROSTED and WHITE G type globes

X24 Retrofit LED Module

Specifications

Supply	24v AC SELV
Light Source	Orbical/8 1watts Retrofit for Xenon system
Env. Prot.	IP68
Conformity	BS EN 60958 CE
	UL Listed

X24 RETROFIT LED REPLACMENT

Lumisphere® Retrofit modules are designed to be a simple replacement LED module for clients with the existing X24 festoon system. The conversion to LED does not require any replacements of existing transformers.

UV Stablised WHITE lampholders and WHITE cable are available for all our large harness systems

LUMISPHERE® Active Festoon Systems

RGB (DMX) Colour Changing

ADVANTAGES

The Lumisphere Active® System utilises data over voltage technology to provide a DMX controllable RGB system that can be used in our existing X12 large harness festoon system.

The Lumisphere Active® RGB Unit is a plug in LED module which uses 3 RGB SMD LEDS consuming 1.0watts giving a bright and vibrant feel. The system can have up to 4 channels of independent control, and requires a Lumisphere Encoder to interface between controller and festoon. For further information on the Encoder, please see below.

Specifications

Supply	24V DC
Light source	Lumisphere RGB unit (3 chip)
Env. Prot	IP68
Conformity	BS EN 60958 CE Lampholder/Cable UL Listed
Average Life	50,000hrs

Encoder (DMX input)

Specifications

|	
Supply	30V DC
Output	24V DC
Env. Prot	IP66
Control	DMX Input

ADVANTAGES

The Lumisphere® Encoder acts as an interface between the DMX controller and the RGB festoon system. The Encoder is enclosed within an IP66 rated box making it ideal for outdoor applications. Each encoder can drive up to 100 RGB units and can be linked together to increase the number of units.

LUMISPHERE® Active Festoon Systems

Example system layout can be seen in the below diagram:
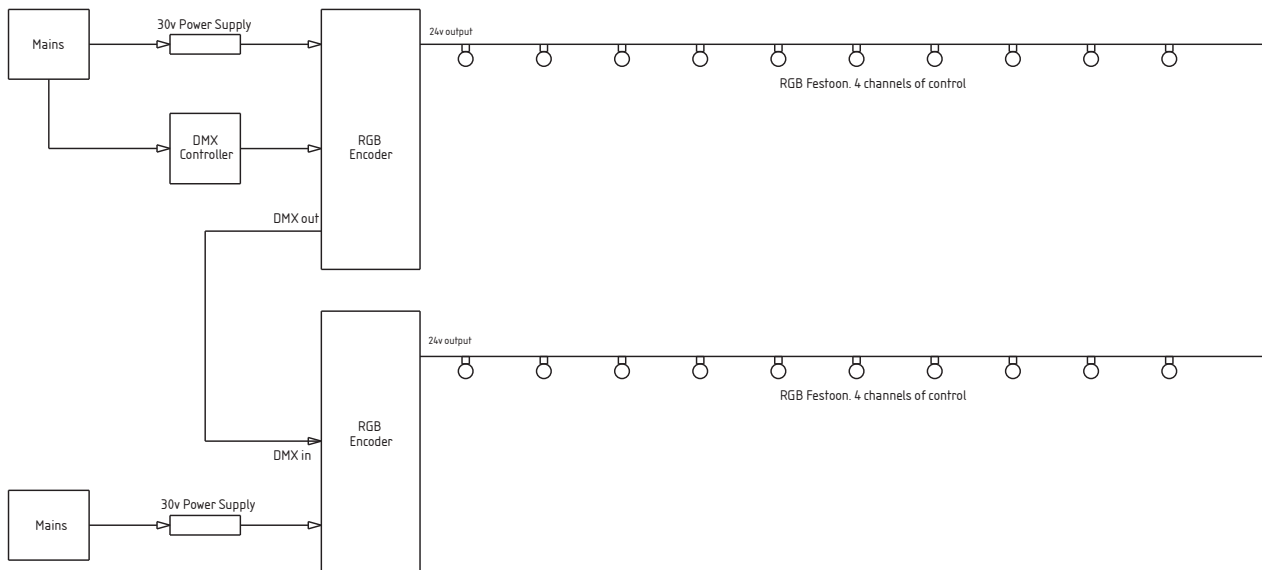
Lumisphere Active® RGB systems look best with Clear, Frosted or White G or A type globes (White globes only available in G type).

The images below show the system in action in the Clear G Type Globes. For more information on the Lumisphere Active systems, please contact our Sales Team to discuss your project.

LUMISPHERE® Small Harness Festoon Systems

ECO LED Systems

ADVANTAGES

The Lumisphere® Small harness ECO LED System is designed for where a smaller more discrete harness is required, ideal for the illumination of young to medium size trees and building profiles. They are high quality fully weatherproof systems (IP68) comprising a flat twin HPN insulated cable with moulded light units attached at specified centres, providing a flexible lighting for a variety of decorative purposes. The Systems are particularly un-obtrusive when not in use.

LUMISPHERE POWER SOURCES

There is an extensive range of Lumisphere® weatherproof LED driver units to provide a correctly matched power source to match the number of lights ensuring exceptionally long lamp life.

APPLICATIONS

Coastal Promenade, Medium to Young Trees, Street and Building Decorations, Signs, Theme Parks, Pub and Restaurant Gardens, Swimming Pool Areas etc

17mm Dia

37mm

Specifications

Supply	**12VDC SELV**
Light source	**Twin chip LED**
	-0.2watts
Env. Prot	**IP68**

GLOBE OPTION

Round 45mm diameter, clear polycarbonate covers available for all small harness Systems.

Electrical, Safety & Flammability Specifications

Lampholder:	**Black UV stabilised Nylon 66**
Lamp cover:	**Dome shape UV Stabilised polycarbonate moulding, screw fit with a silicone rubber gasket. Colours available, Clear, Red, Blue, Green and Amber.**
Cable:	**Flat twin Black UV stabilised UL Style name: HPN UL File No. E94325 Heat resistance: 105 deg. C Voltage**
Rating:	**600V Insulating material: NEOPRENE HYPALON with 1.25mm² copper stranded conductors**
Conformity:	**Lumisphere® small harness system has been tested by BSI and found to comply with the relevant sections of BS EN 60598-2-2 1992 BS EN 60598-1 1003 for the classification IP68 dust/watertight – protected against submersion.**

These units are designed to operate at low temperature and drive currents to ensure maximum performance characteristics with a calculated average 50,000 hour life subject to correct operating conditions.

The ECO LED light modules have been specially designed to plug into any Lumisphere small harness lampholders which are protected by a screw on polycarbonate clear cover to IP68.

The Lumisphere ECO LED system is designed to provide a cost effective, highly efficient LED lighting system for decorative lighting applications. The quality of the light and saturation of available colour makes the product ideally suited to trees, high profile buildings and structures. Particularly suited to use in applications where low running costs, low maintenance levels and reduced electrical loads are required.

LUMISPHERE® Mini Light Systems

MINI LIGHTS

The Lumisphere® Mini Light system is a high quality weatherproof system comprising of a flat twin insulated cable on which a number of small moulded light units are attached at predetermined centres.

LUMISPHERE POWER SOURCES

The extensive range of Lumisphere® weatherproof transformers and drivers enable the power to be correctly matched to the number of lights ensuring a long-life span.

APPLICATIONS

There are many applications where it is desirable to have high numbers of miniature low output lights, such as the illumination of boughs and branches of deciduous trees in winter when no heavy foliage is present, highlighting the individual shape and formation of the tree.
Other applications include structures and features which have complex designs and shapes such as motifs, signs, architectural focal points etc. where profiles are easily followed by the flexibility of closely spaced lights.

'RGB colour changing available'

12mm Dia

30mm
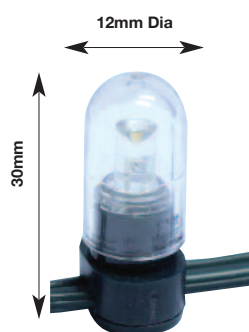
Specifications

Supply	12v DC SELV
Light Source	Sub miniature 0.2w LEDs
Average Lamp Life	Life expectancy 50,000hrs
Env. Prot.	IP65 rated
Lampholder	Black moulded.
Cable	Flat twin core copper conductors. Dark green insulated sheath.
Lamp cover	Hemispherical polycarbonate clear cover.

Ordering Information

Standard Set

22.5m length of mini light system complete with 150No Lights @ 150mm centres. 5m lead to first light. Total wattage = 30w
Warm White or Cool White LEDs are standard, however different coloured LEDs are available, including an RGB version.

Lumisphere® Mini light festoons can be supplied in varying lengths and lights spaced at different centres. Lead time may vary. For further details contact our sales team.

LUMISPHERE® Pendant Festoon

Lumisphere® patented systems, can be incorporated into bespoke designs to create unique durable lighting solutions

Lumisphere® Pendant Festoon

Pendant lighting is a popular choice for many settings including restaurants, bars, outside seating and entertainment areas, as well as for a different look for tree lighting.

Lumisphere's patented lighting system has been incorporated into these attractive but robost Pendant festoons.

Our Pendants can be customised to your requirements, with drop length and loom length made to order. In addition, there are many colour options and combinations to choose from to create your bespoke product.
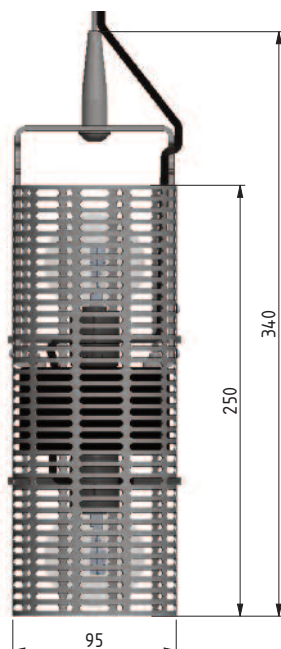
Specification/features

- Light source – Any of our large harness LEDs/lamps can be used (see page 6/7)
- Environment Protection IP68
- Can be Dimmable if Carnival LED chosen
- Made to order
- A or G Type Globe available
- Globe Colour and LED colour can be specified
- Lampholder colour can be specified at additional cost

LUMISPHERE® Lanterns
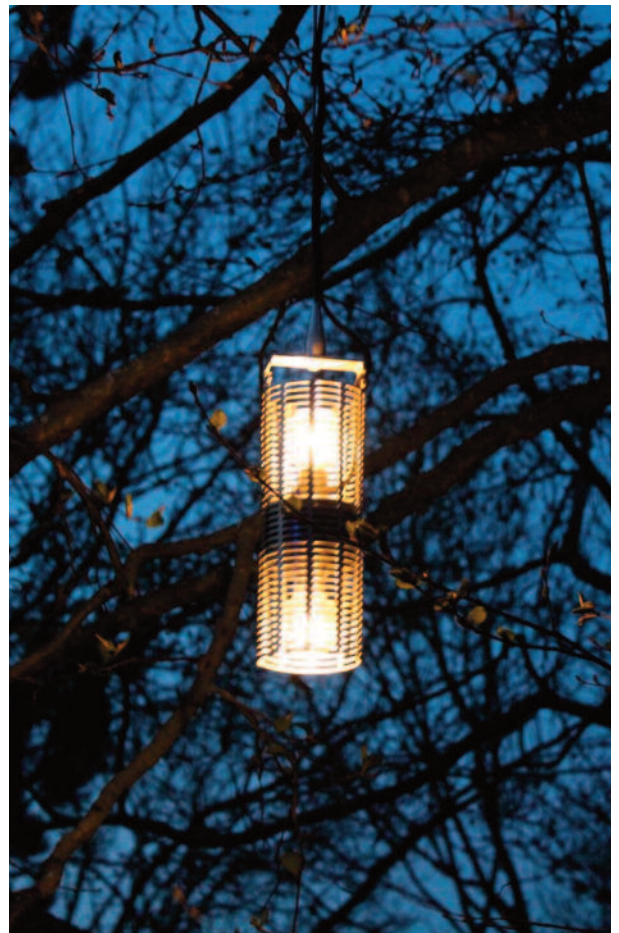
Lumisphere® Lanterns

Lumisphere® Lanterns utilise two of our low voltage LEDs/lamps, enclosed in a Stainless-Steel mesh and suspended from a marine grade wire.

These are a great option for industrial themed interiors eg: bars, restaurants, retail displays etc.

Our Lanterns are made to order with a choice of Globe and LED colours available.

Contact us if you have a lighting idea we can help bring to life with Lumisphere products!

340

250

95

Specification/features

- Light source – Any of our large harness LEDs/lamps can be used (see page 6/7)
- Environment Protection IP68
- Can be Dimmable if Carnival LED chosen
- Made to order
- Globe Colour and LED colour can be specified

LUMISPHERE® Lighting Both Sides of The River Thames

Lumisphere® Festoon Lighting, can be seen throughout some of London's most iconic areas and structures
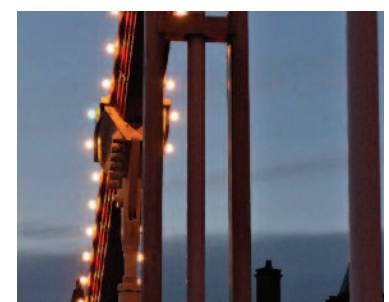
LUMISPHERE® Lighting the World's Oceans

Lumisphere's dressing lights shining bright onboard some of the world's largest cruise liners

LUMISPHERE® Low Voltage
# Safety Isolating Lighting Transformers

Specifications

Voltage	Input voltage 230-250v, 50/60hz	
	Output voltage:	
	12v Nominal for WP12 range	
	24v Nominal for WP24 range	
	10% under or overvoltage may appear in the supply, and the rated output of the transformer shall be selected accordingly – see chart.	
Case	Manufactured from polyimide PA6 glass filled Nylon, complete with marine grade 316 stainless steel brackets. Post clamps available for column mounting.	
Winding	High quality toroid winding is fully encapsulated in self-extinguishing grade rigid urethane resin with high electrical and mechanical properties and good resistance to thermal and mechanical shock. Insulation class B 130°C	
Protection	Isolation class 2, double insulated	
	Low voltage protection – self resetting thermal cut out (120°C) incorporated into winding	

Mains voltage protection – Replaceable 20mm x 5mm cartridge fuse to IEC 60127-2 – 250VAC-300VDC. See transformer chart on page 17 for correct rating.

Terminal Box — Standard 90mm x 90mm terminal box rated at IP55, can be upgraded to IP66. Entry Gland 6-12mm diameter cables or multiple Lumisphere cables. Input and output terminal separated by insulating divider.

Mains fused connector terminal block with wire protectors and replaceable fuse carrier.

Low voltage output terminals 6mm x 25mm brass studs with copper clamping washer. See drawing on page 17.

Environmental Working Conditions — Lumisphere® transformers are suitable for use in adverse environmental conditions, i.e. damp, saline, or dusty conditions and can be mounted in exposed positions where severe weather conditions may occur.

Temperature — Ambient temperature range -25°C to 40°C with free air circulation around the transformer.
Maximum temperature rise 50°C – maximum case temperature 90°C.
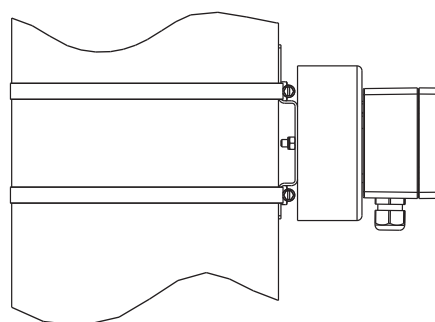
LIGHTING TRANSFORMERS

The Lumisphere® range of patented weatherproof low voltage lighting transformers have been designed especially for use with the Lumisphere® festoon system. The high quality of construction and combination of many unique features make it an ideal choice for most low voltage single or multi-light applications, especially for use in adverse environmental conditions.
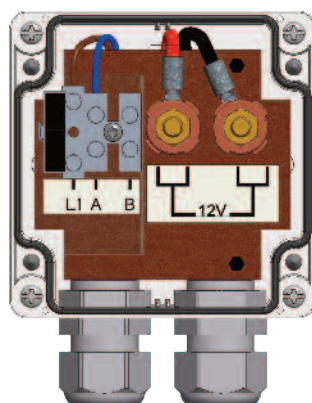
STANDARD TERMINAL
ENCLOSURE 80VA TO 750VA

SPECIAL FEATURES

- Fully weatherproof compact design suitable for exposed exterior mounting complete with wall mounting bracket.

- Integral terminal box conforming to IP55 or IP66 with special cable glands to accept cables 6mm - 12mm diameter.

- Double Protection with self-resetting thermal fuse incorporated in windings and replaceable anti-surge fuse housed in terminal block.

- Alternative mains connections are provided to regulate output voltage.

- Optional stainless-steel post clamp bands available for column mounting.

TRANSFORMER MOUNTING

80-350VA TRANSFORMERS FITTED AS STANDARD WITH STRAIGHT BRACKET FOR WALL OR POST MOUNTING.

425-750VA TRANSFORMERS FITTED AS STANDARD WITH 'T' BRACKETS FOR WALLMOUNTING ONLY. WHEN POST MOUNTING PLEASE SPECIFY STRAIGHT BRACKET

POST MOUNTED
(SPECIFY STRAIGHT BRACKET & STAINLESS STEEL BAND CLAMPS)

122

116

STRAIGHT BRACKET   'T' BRACKET
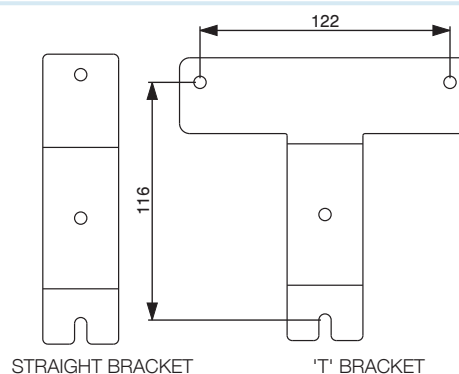
TRANSFORMER DIMENSIONS AND MOUNTINGS OPTIONS

STANDARD WP12 & WP24 TRANSFORMERS

Note:
Dimensions in mm
All fuse ratings are 'T' type (anti-surge)
DO NOT SCALE DRAWINGS
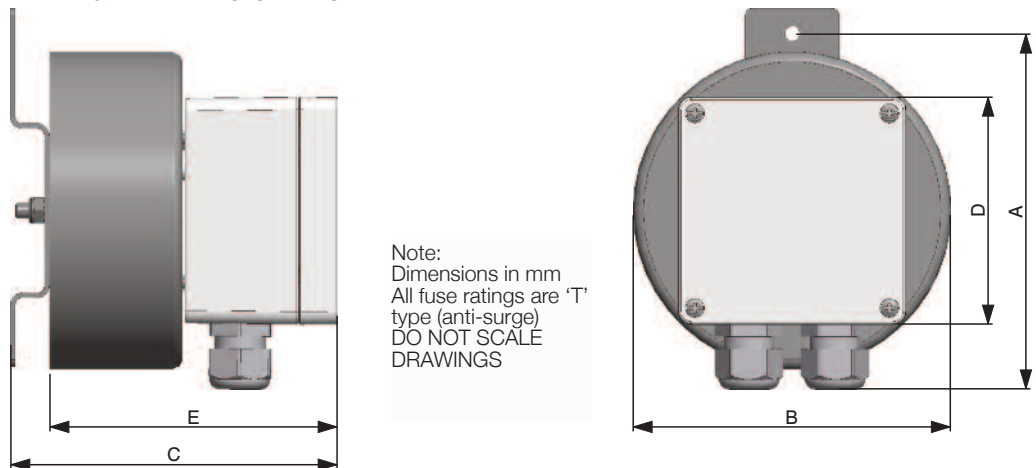
| 12V/24 RANGE (IP55 or IP66)							
VA	Dimensions					Fuse	Weight
	A	B	C	D	E		
80	150	125	130	90	52	1.0A	2.1
120	150	125	130	90	52	1.6A	2.5
160	150	125	130	90	52	1.6A	2.6
200	150	125	145	90	65	2.5A	3.4
250	150	125	145	90	65	2.5A	3.4
300	150	125	145	90	65	3.1A	3.9
350	150	125	145	90	65	5.0A	4
425	135	143	135	90	65	6.3A	5.6
500	150	150	145	90	80	6.3A	6.5
600	150	150	145	90	80	8.0A	6.5
750	150	150	160	90	80	10.0A	7.2

'On Load' Output Voltage Table

Example - Transformer 120VA. Load 110W. Mains 240V Load is 10W under the rated load. - Go to Minus - 10W column. Read across to 240V Primary Voltage. Output Voltage will be shown i.e. 12.4V using 'A' tapping, 11.9V using 'B' tapping.

		WP12 RANGE								WP24 RANGE							
Actual Load Vs. Rated Load		Rated Load Minus -20W		Rated Load Minus -10W		at Rated Load		Rated Load Plus +10W		Rated Load Minus -20W		Rated Load Minus -10W		at Rated Load		Rated Load Plus +10W	
Primary Voltage	230	12	11.5	11.9	11.4	11.8	11.3	11.7	11.2	23.2	22.2	23.1	22.1	23	22	22.9	21.9
	240	12.5	12.0	12.4	11.9	12.3	11.8	12.2	11.7	24.2	23.2	24.1	23.1	24	23	23.9	22.9
	250	13.0	12.5	12.9	12.3	12.7	12.3	12.7	12.2	24.2	24.2	25.1	24.1	25	24	24.9	23.9
Primary Tap		A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
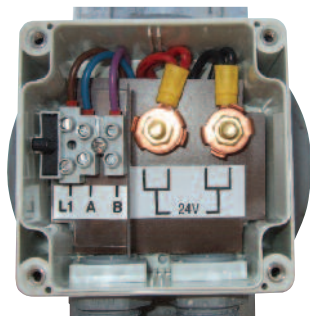
STANDARD TERMINAL ENCLOSURE
(80VA TO 750VA inclusive)
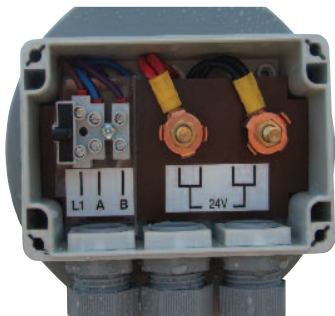
OPTIONAL 3 GLAND BOX
(MF BOX)
(500VA TO 750VA inclusive)

LUMISPHERE® WP CV LED Driver Units

LED DRIVER UNITS

The Lumisphere® range of weatherproof constant voltage driver units have been designed to complement the full range of Lumisphere® LED lighting systems. The constant voltage driver units have an IP55 rated enclosure (when mounted in the vertical position) and are suitable for column or wall mounting.

**75Watt & 35Watt LED driver enclosures**

Specifications

|			
Input Voltage	100-240volts	Dimensions	35 watt - L180mm x W120mm x D80mm
Frequency	50/60Hz		50 watt - L180mm x W120mm x D85mm
Output Voltage	12 volts DC		75 watt - L180mm x W120mm x D65mm
Output Power	35,50,75,100,150watt available		100watt – L202mm x W162mm x D82mm
Protection	Short circuit and overload protection		150watt – L240mm x W160mm x D90mm
Environmental Working Conditions	Saline or dusty conditions, can be mounted in exposed positions where severe weather conditions may occur	CE conformity Order ref	ICE 60950-1 : 2001 WPLED35 for 35 watt driver WPLED50 for 50watt driver WPLED75 for 75watt driver WPLED100 for 100watt driver WPLED150 for 150watt driver

LUMISPHERE® Dimming Systems

Lumisphere Carnival and ECO LED systems are most suitable for dimming via any of the below options

1) 1-10volt electronic LED drivers 20watt,100watt and 180watt, which can be supplied fully enclosed in weatherproof enclosures or in skeleton form, complete with rotary dimmer.

2) Triac leading edge LED Electronic Drivers - 25watt, 40watt and 100watt electronic drivers for internal use, Dimmer supplied by others

3) PFC phase control dimmers (supplied by others) to dim our Lumisphere Toroidal Transformers

4) Dali Control using our Electronic 180 LED Drivers which can be supplied fully enclosed in weather proof enclosures or in skeleton form. Dali control by others.
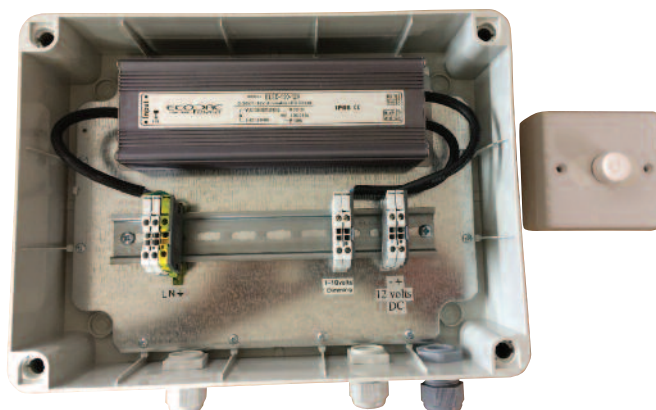
LUMISPHERE® Simultaneous Switching Unit (SSUs)

120.0

71.0
55.0

180.0

80.0

120.0
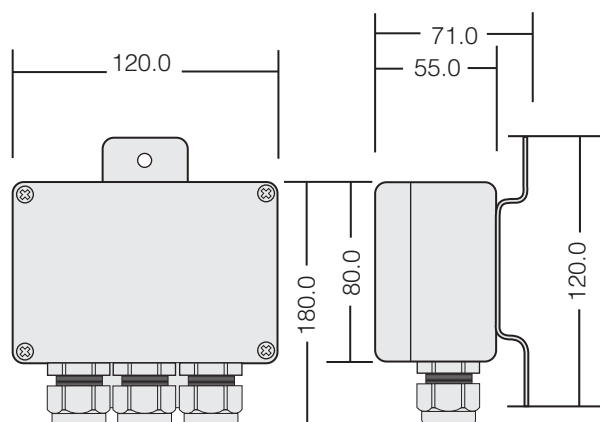
Specifications

Supply	220/240V AC (50Hz)
Load	8A inductive max. (1900W)
Switch Sense	9 to 27V AC, 20mA load
Zero Switching	±34V max.
Ambient Temp.	40°C max.
Isolation	Maintains BS3535 (4kV) isolation. Switch line to mains supply.
Enclosure	Impact/temperature resistant polycarbonate
Environmental Protection	IP65
Mounting bracket	Column and wall

SSU-8A SIMULTANEOUS SWITCH UNIT

The SSU-8A is a high quality, solid state switching device that can be used to control multiple loads simultaneously from one switching point. The device operates using the low voltage signal from the end of a lighting loom to switch the mains power to the next transformer in turn. The advanced electronic control utilises zero-volt switching techniques to minimise the surge load on mains feed at switch, maintaining complete isolation from the low voltage supply. The major advantage of using the SSU units in place of multiple time-clocks is that all interconnected circuits, irrespective of phase will be switched simultaneously from one time / photocell control, eliminating the need for multiple clock adjustments and manual synchronisation. The unit is housed in a tough, impact resistant polycarbonate enclosure with high quality cable glands and environmental protection to IP65, complete with post/wall mounting bracket for strap fixing to columns.

TYPICAL APPLICATION - SCHEMATIC DIAGRAM - SSU UNIT
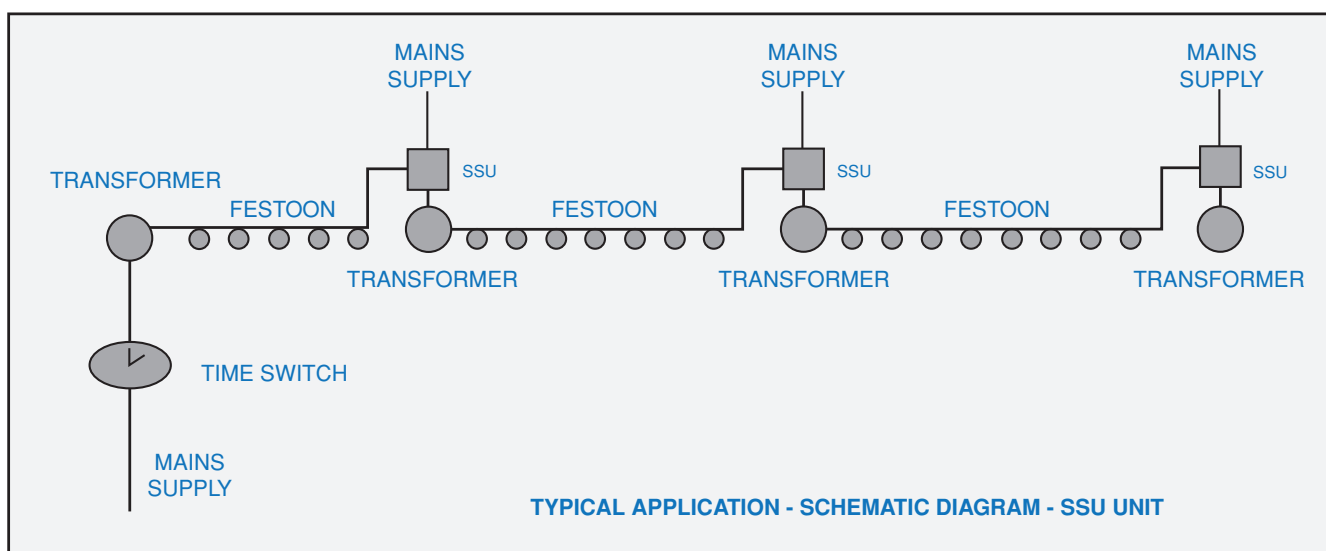
LUMISPHERE® Selection and Installation Guide

Lumisphere® Low Voltage Lighting Systems operate at a nominal 12 volts (X12) and a nominal 24 volts (X24). Due to the characteristic of a low voltage system a voltage drop occurs in the system which creates some limitations on the number of lamps that can be used on one string. The variables that effect the system voltage are the - number of lights and rating - spacing of lights - transformer rating - mains voltage - and the choice of supply tapping on the transformer. These variables must be taken into account in circuit designs. The following general rules may be applied with regard to the number and spacing of lamps.

X24 - 24V SYSTEM

Maximum number of lamps with 2 metres to first light

SPACING	5w	8.5w	10w
100cm	50	35	25
50cm	72	51	36
33cm	86	60	43
25cm	100	70	50

LARGE HARNESS LED SYSTEMS

Maximum number of lamps with 2 metres to first light

SPACING	0.6w	1w	1.5w	2w
100cm	310	125	85	60
50cm	450	180	120	90
33cm	450	215	140	100
25cm	450	250	165	125

Note: Total load on cable fed from one end should not exceed 275 watts for the 12v system and 550 watts for the 24v system (23 Amperes max).

Select transformer required by multiplying lamp wattage by the number of lamps used ie. 100x5w lamps = 500VA transformer. For further information on the above, contact Lumisphere Products Ltd. Technical Department who can provide full circuit designs and advice for given projects.

GENERAL NOTES ON INSTALLATION

Where it is required that the transformers and mains supply are to be some distance from the festoons ie. transformers located in pit adjacent to large Christmas tree, 6mm2 csa. low voltage supply cables and distribution boxes are available.
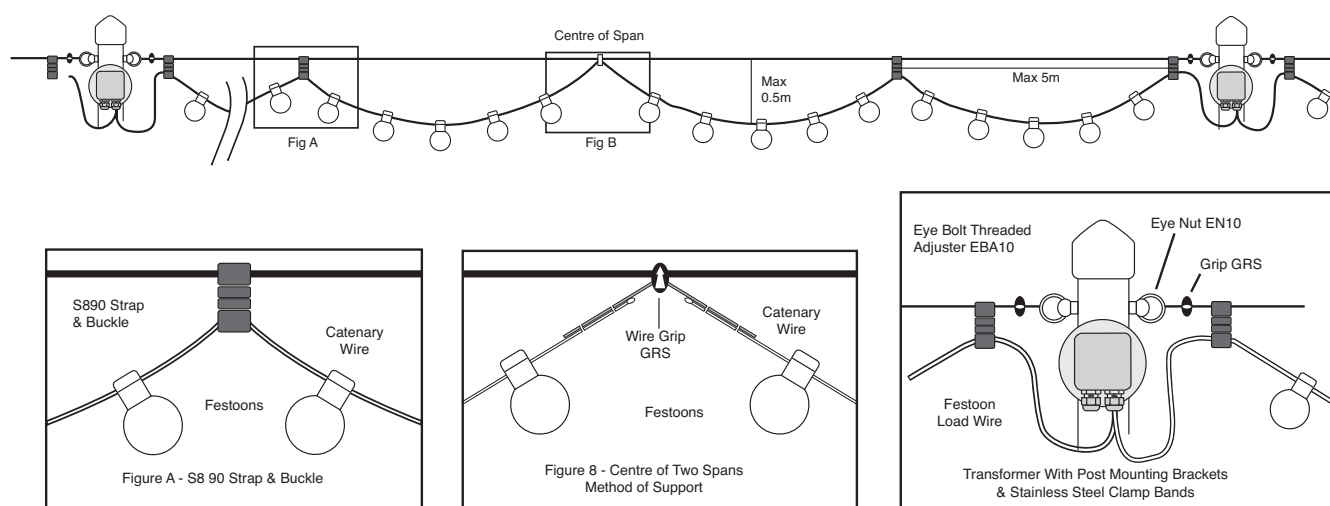
The end of the Lumisphere® cable should be sealed with end cap EC1 and silicone rubber sealant.

The Lumisphere® system may also be used for illuminating trees and other structures. Methods of fixing will be dependant upon conditions and expected duration of installation. See straps & buckles section.

LOOPS

The Lumisphere® system may be used as a freely suspended festoon between fixed points at not more than 5metre centres to form loops not exceeding 30cm in depth. If spans of greater distance are required a catenary wire should be used and the Lumisphere® cable firmly strapped to it either to form shallow loops not longer than 5 metres using strap and buckle fixing SB90, or strapped tightly to the straining wire at approximately 50cm centres using nylon tie NT100; see figures A, B below. Care should be taken to ensure chaffing does not occur.

It is recommended that the Lumisphere® cable be firmly attached to buildings and structures by means of backplate BP60 or cable clips or ties on either side of the lampholder at not more than 50cm spacings. For fixings to fascias and boards see diagrams figures C, D, E.
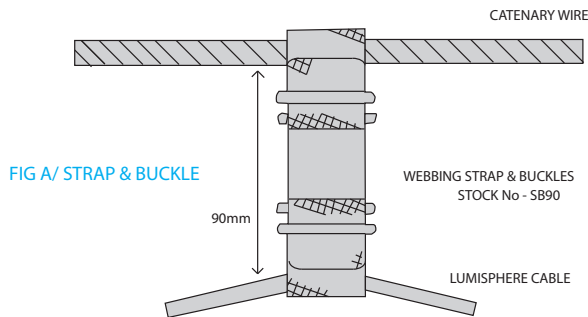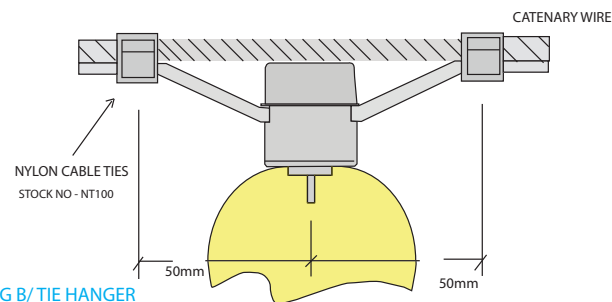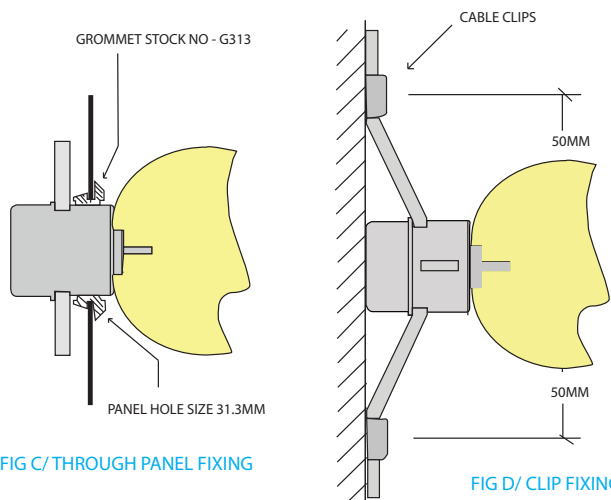

Fig A

Centre of Span

Fig B

Max 0.5m

Max 5m

Figure A - S8 90 Strap & Buckle

S890 Strap & Buckle

Catenary Wire

Festoons

Figure 8 - Centre of Two Spans Method of Support

Wire Grip GRS

Catenary Wire

Festoons

Transformer With Post Mounting Brackets & Stainless Steel Clamp Bands

Eye Bolt Threaded Adjuster EBA10

Eye Nut EN10

Grip GRS

Festoon Load Wire

FIG A/ STRAP & BUCKLE

CATENARY WIRE

WEBBING STRAP & BUCKLES
STOCK No - SB90

90mm

LUMISPHERE CABLE

FIG B/ TIE HANGER

CATENARY WIRE

NYLON CABLE TIES
STOCK NO - NT100

50mm   50mm

FIG C/ THROUGH PANEL FIXING

GROMMET STOCK NO - G313

PANEL HOLE SIZE 31.3MM

FIG D/ CLIP FIXING

CABLE CLIPS

50MM

50MM

FIG E/ BACKPLATE FIXING

CLEAR POLYCARBONATE
BLACKPLATE & SCREW - STOCK No: BP60

NOTE - BACKPLATE MAY BE ROTATED THROUGH 360º

45MM

60MM

M5 X 12MM SCREW   5MM FIXING HOLES

Snap on hangers

FIG F/ SNAP ON HANGER

Catenary Wire

Stainless Steel
Spring Clip

Fixing Screw

Lumisphere Lampholder
& Globe

30.00

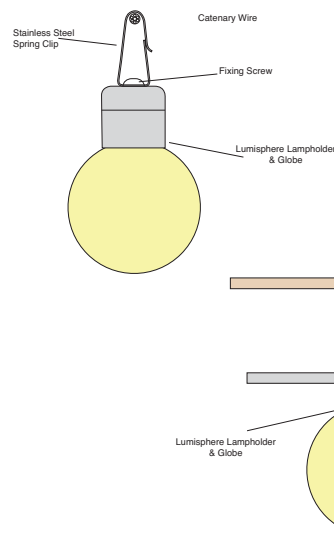Lumisphere Lampholder
& Globe
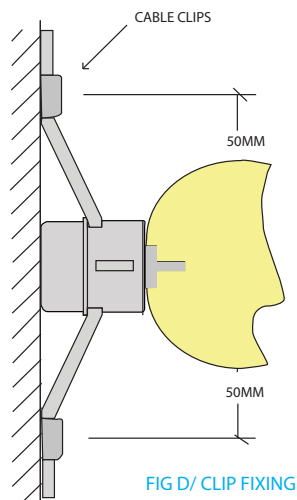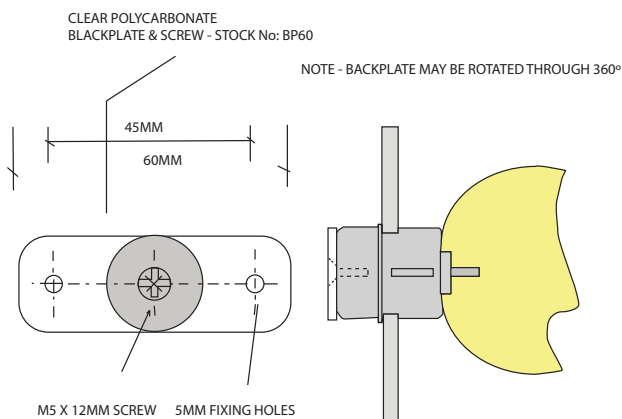
MOUNTING OPTIONS

Figure A: The strap type hanger is manufactured of nylon webbing and hard nylon buckles to provide a flexible mounting to a taut catenary wire where drapes are made with the festoon. It prevents damage to the festoon cable from abrasion and twisting. For use at a maximum of 5m centres. Stock No: SB 90

Figure B: The festoon may be attached to the catenary wire with nylon ties both sides of the lampholder where it is held tight against it. Where lamp spacing exceeds 0.5m additional fixings are required. Stock No: NT100

Figure C: The lamp holders may be mounted through a panel sign board or trunking using a special grommet to enclose the lampholder and cable. Stock No: G 313

Figure D: The festoon may be held tight against a flat surface such as a fascia using standard cable clips 50 mm either side of the lampholder.

Figure E: Backplate may be used to attach the lampholders to surfaces such as brick & board. The plate is manufactured in clear polycarbonate to reduce its visibility and is supplied complete with a nickel plated brass lampholder screw. Stock No: BP 60

Figure F: The Lumisphere Snap on Hangers are designed for installations where the lamp assembly is required to hang from a pre fixed wire rope installation. The Hanger is constructed from 1mm Marine Grade stainless Steel and comes in 3 options

Standard Snap on Hanger: for 6mm Wire Rope installations where the lamp assembly can be clipped onto the Wire Rope

Premium Snap on Hanger: For 10mm Wire Rope Installations

Super Premium Snap on Hanger and Pinch Bolt: – For 10mm Wire Rope Installations where a Draw wire is to be fitted.

In all installations the festoon lighting cable should be secured to the wire rope at either end of each section of lighting to prevent concertinaing of the festoon in any environmental conditions.
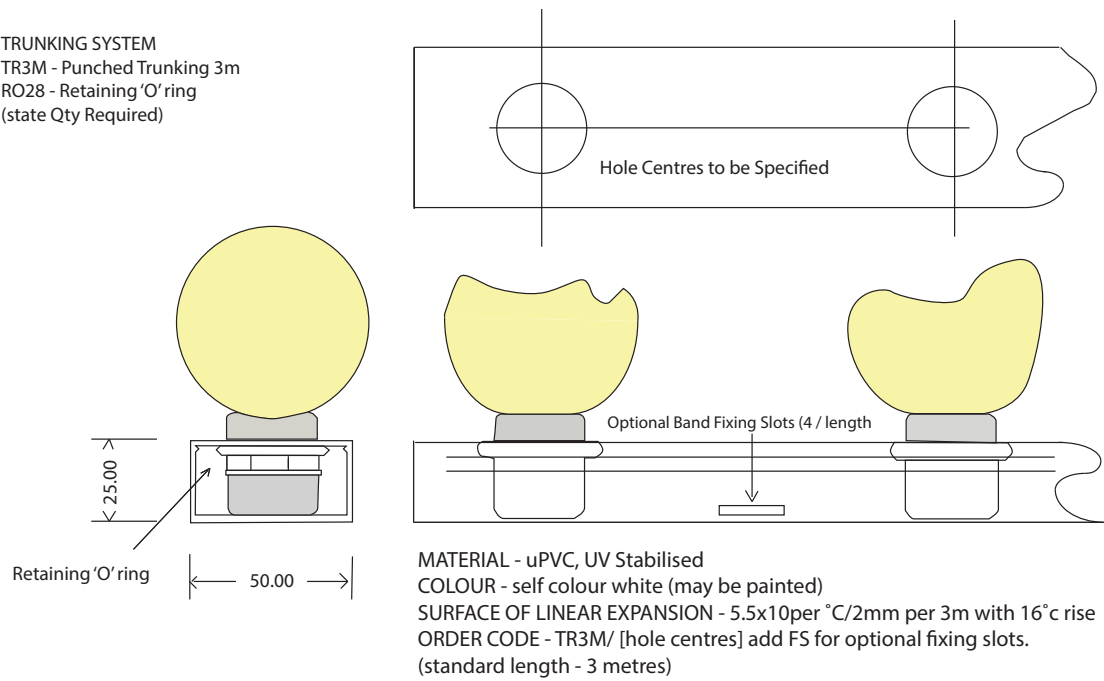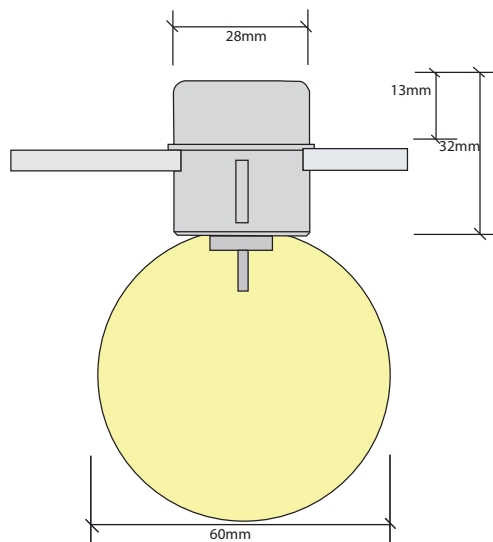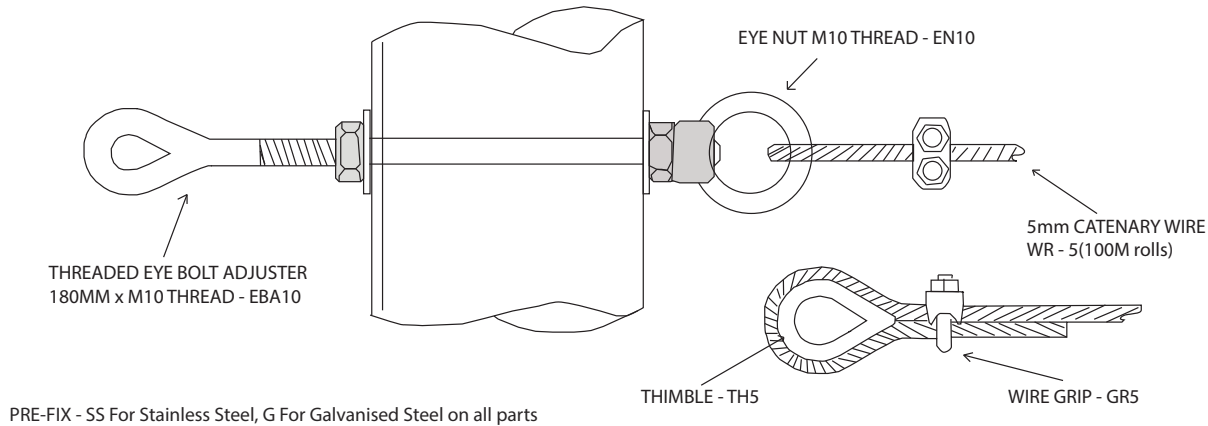
General notes on installation continued

TRUNKING SYSTEM
TR3M - Punched Trunking 3m
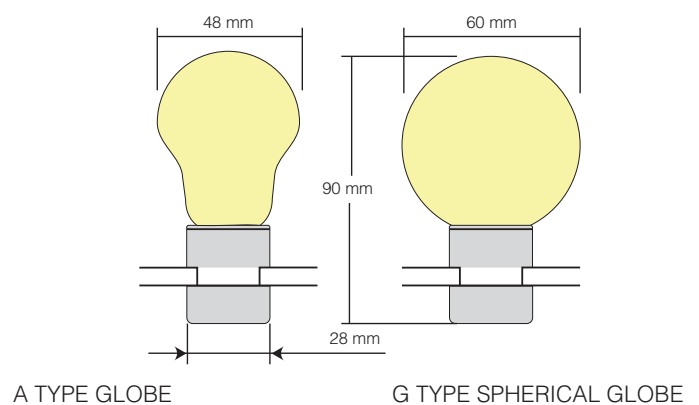RO28 - Retaining 'O' ring
(state Qty Required)

Hole Centres to be Specified

Optional Band Fixing Slots (4 / length

25.00

Retaining 'O' ring

50.00

MATERIAL - uPVC, UV Stabilised
COLOUR - self colour white (may be painted)
SURFACE OF LINEAR EXPANSION - 5.5x10per ˚C/2mm per 3m with 16˚c rise
ORDER CODE - TR3M/ [hole centres] add FS for optional fixing slots.
(standard length - 3 metres)

CATENARY WIRE & ACCESSORIES

EYE NUT M10 THREAD - EN10

5mm CATENARY WIRE
WR - 5(100M rolls)

THREADED EYE BOLT ADJUSTER
180MM x M10 THREAD - EBA10

THIMBLE - TH5

WIRE GRIP - GR5

PRE-FIX - SS For Stainless Steel, G For Galvanised Steel on all parts

28mm

13mm

32mm

GENERAL DIMENSIONS

48 mm

60 mm

90 mm

28 mm

60mm

LIGHT ASSEMBLY DIMENSIONS

A TYPE GLOBE

G TYPE SPHERICAL GLOBE

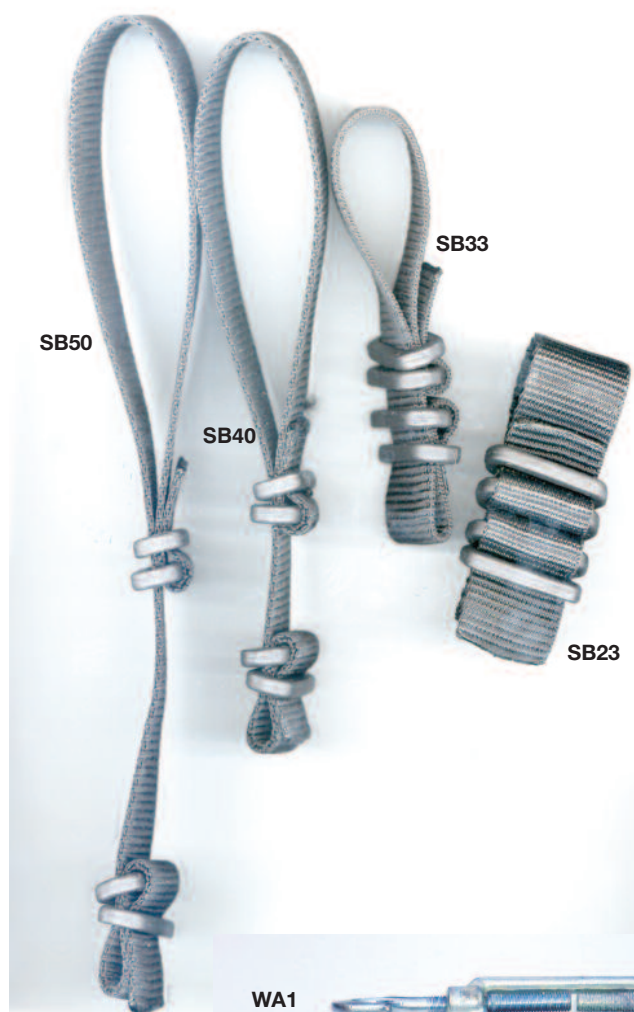# LUMISPHERE® Fixing Accessories

STRAPS & BUCKLES

SB Straps & Buckles are manufactured from 25mm nylon webbing with nylon 66 black buckles. When configured as per the image, they are adjustable for installations such as tree boughs and branches, and are expandable with tree growth.

The SB hangers are also most suitable for suspending festoons from tensioned catenary wire especially when loops are required in the festoons. The correct use of SB hangers will prevent fatigue in the festoon.

SB hangers are supplied in 4 standard sizes each with 4 nylon buckles.

The nylon strap can also be supplied in 50m rolls with 400 buckles for cutting on site.

SB23   For wire or branch 5mm-20mm
SB33   For wire or branch 20mm-30mm
SB40   For wire or branch 30mm-70mm
SB50   For wire or branch 60mm-100mm
           50m Roll webbing and 400 Buckles

CATENARY WIRE ACCESSORIES

Lumisphere® supply a range of catenary wire fixing accessories to support our products. Accessories are available either Marine grade Stainless Steel or Galvanised Steel.
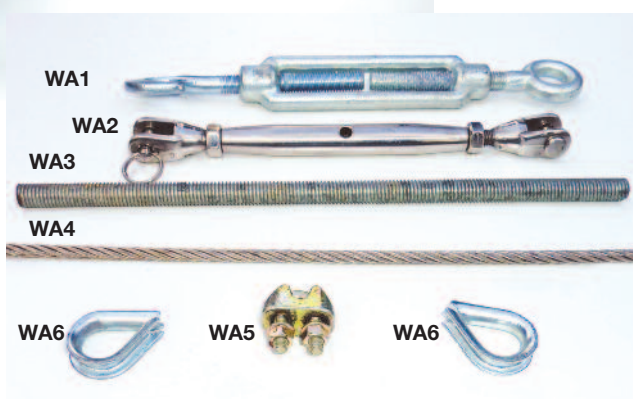
WA1 Hook & Eye Tensioner
WA2 Jaw Jaw Tensioner
WA3 All Thread
WA4 Wire Rope
WA5 Wire Grip
WA6 Thimble

CABLE TIES

Cable Ties are available at various different lengths. Contact us to find out about our full range.

LUMISPHERE® CP Linear Flood Light System

Specifications

Body	316 grade, mirror polished stainless steel pressing	**Globe**	Precision moulding UV stabilised Polycarbonate.
Brackets	Galvanised steel 100mm wall mounting bracket as standard. Other bracket options available on request.		Available in clear, red, blue, green, purple, pink, or amber.
		Cable	HOFR Rubber, Tinned copper stranded conductors 3mm2 csa.
Lampholder	Precision moulding UV stabilised Nylon 66, Black	**Lamp**	24V Xenon 8.5W, or 10W
			LED - Orbical 24 or 48 model

LINEAR FLOOD LIGHT SYSTEM

The Lumisphere® Close Proximity Linear Flood Light system has been specifically designed to provide unobtrusive flood lighting for buildings & structures. The low intensity light units in close proximity to the building provide optimum flood lighting without light pollution usually associated with 'stand-off' flood lights. Units can be tailored to the exact structural dimensions and intensity can be varied by spacing and wattage of light units. Unique colour washing effects can be obtained by the use of coloured polycarbonate globes on the light units. Utilising the patented Lumisphere® low voltage systems the modules are low maintenance, high efficiency and totally weatherproof giving exceptionally long service intervals.
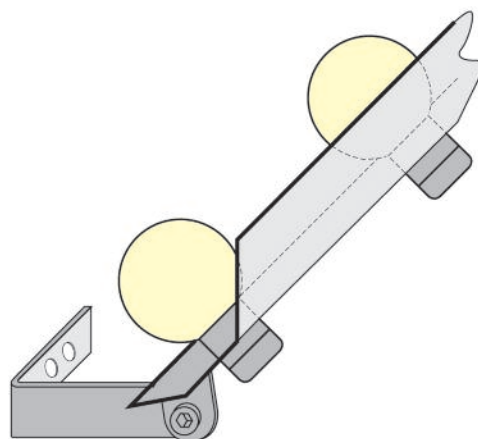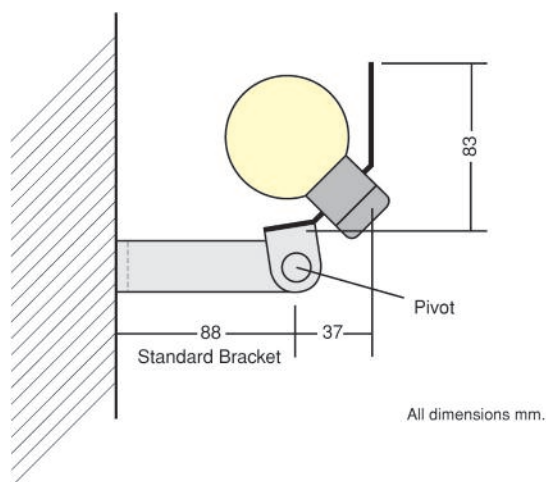
APPLICATIONS

Particularly suited for use on buildings, structures, bridges, parks & gardens and especially where low maintenance is a priority, for example, inaccessable areas on bridges or tall structures.

ORDERING

Standard Lengths - 2 metres
Standard Lamp centres - 5 per metre (200mm)

lamps per metre	8.5w light units	Lumen output / metre	10w lights units	8.5w light units
5	42.5w	485 lm	50w	625 lm
10	85w	970 lm	100w	1250 lm

HEAD OFFICE: +44 (0)1751 411942

THE LUMISPHERE® ECUB
(Electronic Conversion Unit for Belisha Beacons)

Specifications (All models)

Supply	230-250V 50Hz	Circuit	Switched mode power supply derivative with inbuilt oscillation frequency of 32KHz, high voltage selected output devices.
Output	11.8V 32KHz, 60VA max		
Lamp Type	LAMP M32L, 12V 50W		
	LED 32SMD LEDS 50MA Warm White		
Enclosure	Impact resistant uPVC		
Bracket	2mm pressed, galvanised steel		

Voltage transient suppression, AC filter networks. The unit in non-inherently short circuit protected by incorporation of electronic devices as defined by BS3535-2)xi). There is no electrical connection between input and output as defined by BS3535-2(ii).

FS1 and FAV3 models include internal flasher electronics.

BELISHA BEACONS

The Lumisphere® electronic conversion unit for belisha beacons (ECUB) represents a major technological advance to improve road safety with a sustainable long life light unit with a luminious output in excess of 850lumens'.

INSTALLATION

The installation of these units can be achieved in a few minutes and are designed to fit the standard or the Anti-vandal Galleries manufactured by Charles Endirect.

NON FLASHING (NF MODELS)

Non flashing units are available.

REFLECTOR

An integrated reflector is incorporated into the ECUB which gives the beacon enhanced visibility orientated towards the flow of traffic, or can be used as an aid screen to reduce light pollution to local residential properties.

TYPES AVAILABLE

FLASHING
FSI-LED (Standard galleries)
FAV3-LED (anti vandal gallery)
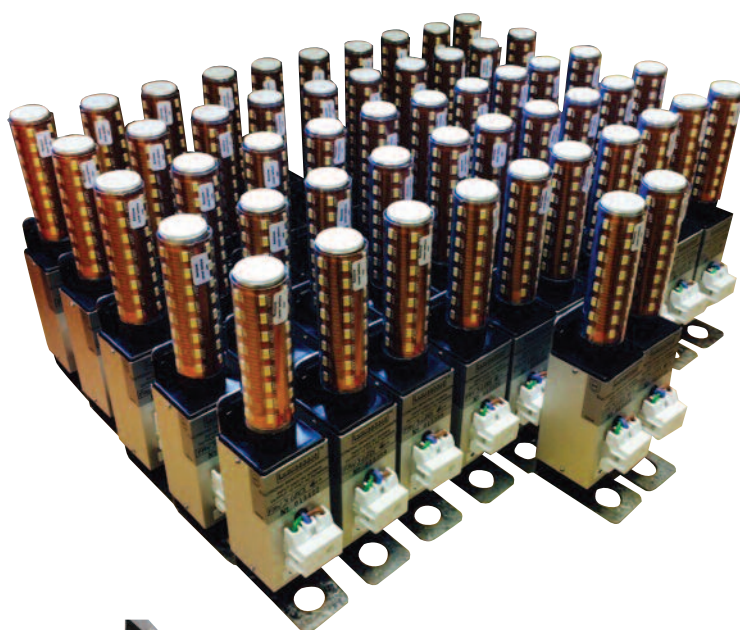UMS CODE 79-46-018-00-100

M32L-12v 50W LAMP
UMS CODE 79-46-050-00-100

NON-FLASHING
NFS1 - Standard Gallery
NFAV3 - Anti vandal gallery
M32L12v 50W Lamp

UMSUG code 16 0050 1000 100

Standard Gallery   *Anti-Vandal Gallery*

LUMISPHERE Lumi-Flex® Xenon and LED Systems

Lumisphere® Lumi-Flex system complete with Cool White and Warm White LED modules

Specifications

Lampholder	White UV stabilised Polycarbonate with a unique convex metalised Reflector on the base plane which enhances the forward illumination intensity. A range of further reflectors give further control of the light spread.		markings for self assembly
		Lamp Cover	Clear or coloured Polycarbonate. Can only be used with track or Lampholder clip system.
Light Sources	Xenon - 12 or 24 volt loop ended lamps clear or frosted, colours are available 5watt, 8.5watt and 10watt in 24volt (20.000r life)	**Transformers**	Lumisphere safety isolating steel cased toroidal transformers (See transformer literature for specifications)
	LED - loop ended 0.6watt Cool and Warm white only (50,00hr life)	**Power Supply**	Xenon systems 12 or 24 volt Lumisphere range of safety isolating Electronic or toroidal transformers LED System 12 volt DC constant voltage LED drivers.
Cable	White Flat twin 2.0mm core PVC sheathed 105 degree with distance		

LUMI-FLEX SYSTEM

The Lumisphere Lumi-Flex® is a high quality, linear lighting system comprising a flat twin PVC insulated cable on which moulded light units are attached at specified centres providing flexible lighting for a variety of decorative purposes. The highly efficient xenon lamps operate at extra low-voltage for safety and efficiency. Lampholders may be fixed using track sections, clips or self adhesive tape as required.

The extensive range of Lumisphere® transformers and LED drivers provide a wide variety of power sources, enabling the power to be matched to the number of lights thus ensuring long lamp lifes.

APPLICATIONS

Bar, counter and reception desk edge illumination. Cove and vaulted ceiling side illumination. Recessed into product displays and point of sale equipment. Edge lighting of wall features, signs and unusual shaped voids. Retro-fit installation to replace indirect cold cathode, fluorescent and neon applications.

CONFIGURATION

The system can be assembled with lamps at varying centres to suit the application. The end results will depend greatly on the material surface, positioning and angle at which lampholders are placed, lamp wattage and any obstructions in place. We recommend the use of trial sections in the actual application for a true assessment of a particular lamp spacing.
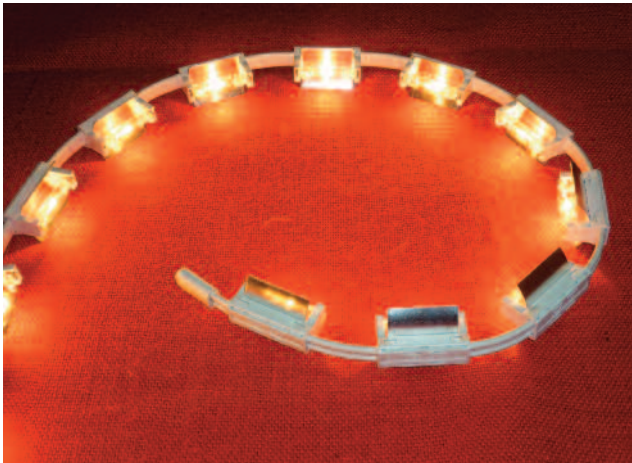
LUMISPHERE® Gallery

Lumisphere's versatile lighting systems are used in many spectacular architectural lighting projects worldwide.

We are proud to see our lights used in many festive lighting displays year after year with very little or no maintenance required.

EFFECTIVE
LIGHTING
SOLUTIONS

DESIGN AND
TECHNICAL
ASSISTANCE

EXCEPTIONAL
AFTER CARE
SERVICE

SALES:
Lumisphere Products Ltd
Enterprise House
Priory Road
Freiston
Lincs PE22 0JZ

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Fax: **+44 (0)1245 322600**
Email: **sales@lumisphere.co.uk**

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Lumisphere®   www.Lumisphere.co.uk