



Victoria House – 8th Floor

L10931

LIGHTING EQUIPMENT SPECIFICATION

Revision: 00

For Information

08th November 2023

1.0 Introduction

1.01 The following notes are intended to highlight various issues in order to help avoid any misunderstandings, errors or omissions relating to the lighting as designed and specified by **dpa** lighting consultants. It must be read in conjunction with all relevant **dpa** project documents, specifications and drawings.

1.02 If anything whatsoever is unclear please submit written requests for clarification.

2.0 General Notes

2.01 Equipment selected as a standard item from a particular manufacturer's range has been specified with a view to performance, optics, maintenance, quality, aesthetics, cost, availability, etc.

2.02 **dpa** lighting consultants cannot accept any responsibility for the resultant lit effect of an installation of non-approved equipment, or for equipment not installed in accordance with manufacturer's instructions or in a manner other than indicated in the relevant drawings and specifications. However, wherever it is of benefit to the project **dpa** lighting consultants are happy to consider any equivalent/alternative fixtures to those specified. Please refer to section 7.00 Assessment of Alternative Lighting Equipment.

2.03 The setting-out/final location of each luminaire and where relevant its integration within the architecture shall be as detailed on the relevant co-ordinated Architectural/Interior-Designer/Landscape-Architect/MEP Consultant's drawings. Subsequent Contractor shop drawings detailing the lighting installation must be submitted with adequate time to **dpa** lighting consultants for approval prior to installation.

2.04 Luminaire recess depths and cut out sizes should be noted. Refer to manufacturer's installation detail for all specific dimensions.

2.05 All DMX/0-10V/1-10V/DALI dimmable fluorescent and LED luminaires etc. require appropriate control cables for dimming, in addition to the power supply cable, Electrical Contractor to provide appropriate wiring.

2.06 All cable, conduit and containment, etc. shall be to Electrical Consultant's/Contractor's detail and specification.

2.07 All secondary fixings, mounting and bracketry are to Architect's/Engineer's detail and specification.

2.08 All lighting equipment quantities, parts and accessories required to form complete working electrical and mechanical systems are to be confirmed by the Electrical Contractor prior to order.

2.09 Refer to Electrical Consultant's drawings and specifications for full details of all emergency lighting requirements.

2.10 All lighting details marked with 'mock up required' must be provided, reviewed and approved by **dpa** lighting consultants before procurement and final installation.

3.0 Lamps / Light Sources

3.01 The importance of colour consistency within ranges and across the full specification is paramount. The light produced by lamps/light sources of the same correlated colour temperature (CCT) should produce light that is indiscernible in appearance from other lamps/light sources of the same CCT. If alternatives are proposed against **dpa** lighting consultant's specification or any approved alternative specifications, then it is the responsibility of the Party producing the final specification to compare samples with **dpa** lighting consultant's specified luminaires to ensure this consistency is achieved across the project.

3.02 The minimum benchmark for acceptable colour consistency within a manufacturer's range shall be a three step MacAdam ellipse. Should a manufacturer have a different method for ensuring colour consistency, this shall be assessed by **dpa** lighting consultants on a case by case basis.

3.03 As with luminaires, lamps or sources must not be substituted without the prior written approval of the employer and **dpa** lighting consultants. Particular attention is to be paid to compliance with the specified requirements for colour rendering, colour temperature, light distribution, life expectancy and general performance.

3.04 LED systems shall include appropriate thermal protection circuits to ensure that the LEDs are operated within their stated thermal ranges; typically these should reduce the output of the LEDs to maintain an appropriate temperature. This is particularly important for external fixtures which will experience the highest ambient temperatures and accidental operation during the daytime may result in irreversible damage to the LEDs and/or electronics.

3.05 Where specified as "dimmable" LED systems (luminaires combined with their drivers) shall be fully dimmable between 1% and 100% and provide flicker free, stable light output. Dimming shall be achieved either through the use of a standard analogue or digital lighting protocol as stated in the specification (0-10V, 1-10V, DMX or DALI, etc.) or through the use of phase dimming as appropriate.

3.06 Unless otherwise stated, all LED luminaires shall have depreciation of not more than 30% of initial lumen output at 50,000 hours of operation (i.e. $L70 \geq 50,000$ hours). All luminaires shall be designed to operate the LEDs within the LED manufacturers stated conditions to achieve the above performance.

4.0 Control Gear/LED Drivers

4.01 All LED drivers shall either be supplied by the manufacturer of the LED luminaire (or as specified by **dpa** lighting consultants) and/or shall be in accordance with the Manufacturers/Suppliers recommendations and shall be fully compatible with the luminaire and the LEDs used, as previously stated in section 3.0.

4.02 All drivers/control gear are to be installed strictly in accordance with the equipment manufacturer's specific installation instructions, details and specifications.

4.03 All control gear, LED drivers and transformers shall be located in adequately ventilated accessible spaces. Contractor to supply appropriate cabling and containment between control gear/LED driver/transformer and luminaire to manufacturers and electrical engineers requirements.

4.04 Multiple LED drivers may be required. The exact quantities, schematics and specifications to be confirmed by Electrical Contractor/Consultant and Manufacturer/Supplier to ensure the correct operation.

4.05 The Electrical Contractor shall ensure compatibility between drivers/control gear and the specified/installed lighting control system.

5.0 Standards & Compliance

5.01 All equipment supplied shall comply with all relevant EN, CE, BS, IEC and all other relevant standards currently in force in region of the project location and be capable of installation in accordance with the manufacturer's instructions, the current edition of the IET wiring regulations and all other statutory and local authority requirements.

6.0 Guarantees

6.01 Unless stated within the main Tender Documentation issued by the Client, all lighting equipment and components supplied shall be guaranteed for a period of not less than 36 months from the date of practical completion, with the exception of lamps, which shall be covered only by their manufacturer's normal assurances as to life expectancy and performance.

7.0 Assessment of Alternative Lighting Equipment

7.01 **dpa** lighting consultants have specified one luminaire and light sources for each fixture type on this project. The selection has been made carefully balancing; size, appearance, photometric performance, cost, availability, maintainability, durability, controllability, local technical and sales support and special criteria for the particular application.

7.02 **dpa** lighting consultants cannot accept responsibility for installation of non **dpa** lighting consultants approved luminaires/lighting equipment.

7.03 Wherever it is of benefit to the project, **dpa** lighting consultants are happy to consider equivalent/alternative fixtures to those specified.

7.04 Should alternative equipment be offered, working samples and full technical information, including photometric data must be submitted for review to the employer who shall forward to **dpa** lighting consultants in time to enable its accurate assessment.

Technical Information of Proposed Equivalent/Alternative Fixtures:

- a. Working samples with the correct lamp (wattage, beam angle, colour temperature, etc.)
- b. Photometric data (plots if applicable for selected areas)
- c. Supply Cost
- d. Delivery times
- e. Details of control gear, driver or transformer as appropriate
- f. Confirmation of compatibility with the Lighting Control System
- g. Details of the local agent
- h. Confirmation of suitability in the local climate
- i. Surface temperatures of luminaires located within hands reach (e.g. floor recessed uplights)
- j. Confirmation that the size does not cause any installation problems or coordination issues with other services
- k. Confirmation of fitness for purpose in the intended application

8.0 Commissioning

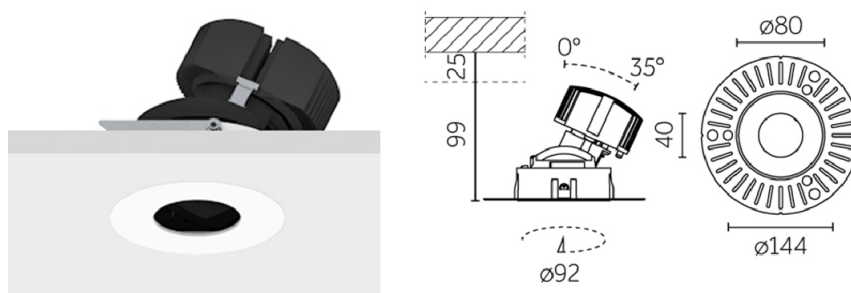
8.01 The final focussing and scene setting of the installation must be undertaken with **dpa** lighting consultants and lighting control technician(s) in attendance.

8.02 The Electrical Contractor is to ensure that adequate personnel and all necessary access equipment are provided for such focussing and scene setting as are required to commission the installation.

8.03 The programming of a lighting control system with a written lighting scene schedule shall not constitute completion. Refer to the Lighting Controls System Performance Specification for further details on the Commissioning Process.

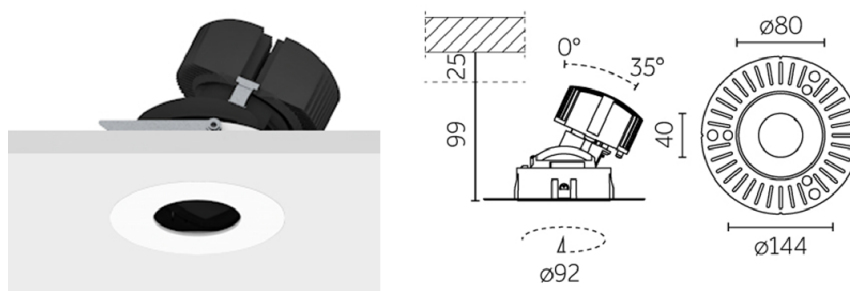
Luminaire Reference:	D1	
Manufacturer's Ref:	Reggiani	Mood Pro Adjustable Round, M - Trimless - Ø80mm Ref.: X.LP1DH.DT12
Accessories:	Remote driver Honeycomb Louvre	
Luminaire Location:	Throughout	
Luminaire Description:	<p>Low voltage, 12 watts, ceiling recessed, adjustable pinhole LED downlight. Lamp has 35° tilt and 358° rotation within luminaire housing. Deep regressed lamp position for minimal glare. Die cast aluminium construction.</p> <p>Tuneable white technology, from 1800 K up to 3000K. Medium beam angle, 30 degrees.</p> <p>IP20</p> <p>Remote DALI dimmable drivers to be located in dry, accessible and ventilated location. To be compatible with dimming system – Supplier and contractor to check this before delivering to site.</p>	
Dimensions:	<p>Visible Front Bezel: Ø80 mm – Recessing depth: 124 mm – Cut-out: Ø 92 mm</p> <p>Ceiling thickness needs to be confirmed to Reggiani prior to placing an order.</p>	
Finish:	<p>To be supplied with primer and to be painted on site with same paint used for the ceiling.</p> <p>All internal parts to be black powder coated.</p>	
Fixing Method:	Ceiling recessed	
Lamps:	<p>12 W LEDs supplied with luminaire.</p> <p>12 Watts warm white LED, Colour Temperature: 1800 K – 3000 K, Colour Rendering: 90 Ra, Beam Angle: 30°, Lumen output LED Engine: 1150 lm. Average rated Life: 50,000 hours to L70 (to 70% light output).</p>	

Luminaire Illustration:



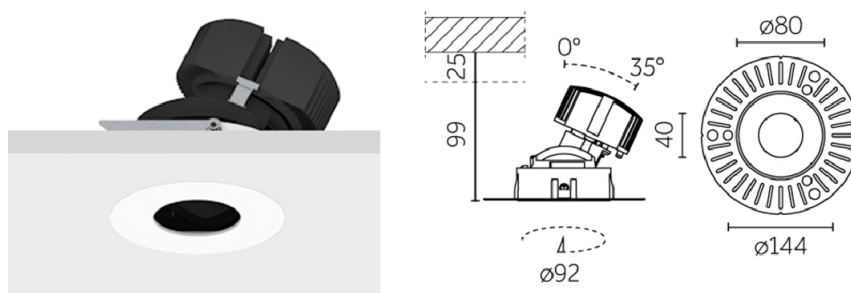
Luminaire Reference:	D2	
Manufacturer's Ref:	Reggiani	Mood Pro Adjustable Round, M - Trimless - Ø80mm Ref.: X.LP1DH.DT12
Accessories:	Remote driver Diffusive lens (lens to be attached to the LED engine)	
Luminaire Location:	Throughout	
Luminaire Description:	Low voltage, 12 watts, ceiling recessed, adjustable pinhole LED downlight. Lamp has 35° tilt and 358° rotation within luminaire housing. Deep regressed lamp position for minimal glare. Die cast aluminium construction. Tuneable white technology, from 1800 K up to 3000K. Medium beam angle, 30 degrees.	
	IP20	
	Remote DALI dimmable drivers to be located in dry, accessible and ventilated location. To be compatible with dimming system – Supplier and contractor to check this before delivering to site.	
Dimensions:	Visible Front Bezel: Ø80 mm – Recessing depth: 124 mm – Cut-out: Ø 92 mm Ceiling thickness needs to be confirmed to Reggiani prior to placing an order.	
Finish:	To be supplied with primer and to be painted on site with same paint used for the ceiling. All internal parts to be black powder coated.	
Fixing Method:	Ceiling recessed	
Lamps:	12 W LEDs supplied with luminaire. 12 Watts warm white LED, Colour Temperature: 1800 K – 3000 K, Colour Rendering: 90 Ra, Beam Angle: 30°, Lumen output LED Engine: 1150 lm. Average rated Life: 50,000 hours to L70 (to 70% light output).	

Luminaire Illustration:



Luminaire Reference:	D3	
Manufacturer's Ref:	Reggiani	Mood Pro Adjustable Round, M - Trimless - Ø80mm Ref.: X.LP1DH.DT12
Accessories:	Remote driver IP44 accessory	
Luminaire Location:	Restroom	
Luminaire Description:	<p>Low voltage, 12 watts, ceiling recessed, adjustable pinhole LED downlight. Lamp has 35° tilt and 358° rotation within luminaire housing. Deep regressed lamp position for minimal glare. Die cast aluminium construction.</p> <p>Tuneable white technology, from 1800 K up to 3000K. Medium beam angle, 30 degrees.</p> <p>IP44</p> <p>Remote DALI dimmable drivers to be located in dry, accessible and ventilated location. To be compatible with dimming system – Supplier and contractor to check this before delivering to site.</p>	
Dimensions:	<p>Visible Front Bezel: Ø80 mm – Recessing depth: 124 mm – Cut-out: Ø 92 mm</p> <p>Ceiling thickness needs to be confirmed to Reggiani prior to placing an order.</p>	
Finish:	<p>To be supplied with primer and to be painted on site with same paint used for the ceiling.</p> <p>All internal parts to be black powder coated.</p>	
Fixing Method:	Ceiling recessed	
Lamps:	<p>12 W LEDs supplied with luminaire.</p> <p>12 Watts warm white LED, Colour Temperature: 1800 K – 3000 K, Colour Rendering: 90 Ra, Beam Angle: 30°, Lumen output LED Engine: 1150 lm. Average rated Life: 50,000 hours to L70 (to 70% light output).</p>	

Luminaire Illustration:



Luminaire Reference: ID2

Manufacturer's Ref:

Accessories:

Luminaire Location:

Luminaire Description: Decorative wall mounted luminaires – All details to be confirmed

Dimensions:

Finish:

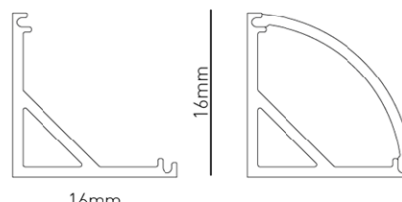
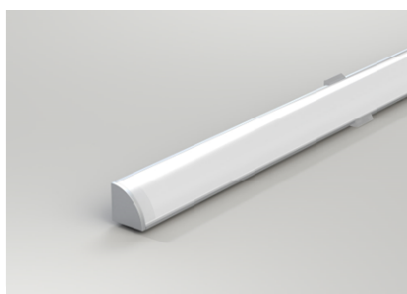
Fixing Method:

Lamps:

Luminaire Illustration:

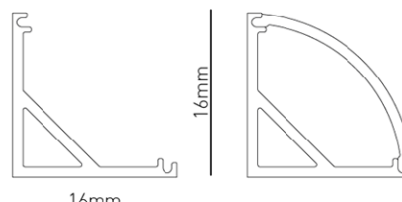
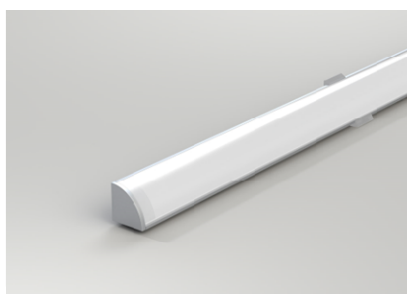
Luminaire Reference:	L1
Manufacturer's Ref:	IBL Lighting Cove Curved 16x16mm + Warm Dim 20 W/m LED Tape
Accessories:	Installation clips and connectors as required. DALI drivers as required
Luminaire Location:	Coffers
Luminaire Description:	<p>Low voltage, 20 watts per linear meter surface mounted linear LED luminaire. Luminaire consists of a high-power LED tape encapsulated between a linear aluminium extrusion and a polycarbonate frosted diffuser. Warm Dim technology, from 1800 K up to 3000 K.</p> <p>Note: Supplier to include for all necessary components for correct installation and operation. Please refer to lighting consultant to verify details if required prior to quotation. Contractor to be responsible for verifying site dimensions prior to manufacture.</p> <p>IP20</p> <p>Prior order contractor to confirm required length of luminaire subject to site conditions.</p> <p>Remote DALI dimmable drivers. Drivers to be located in a dry, accessible, and ventilated location. To be compatible with lighting control system – contractor to check this before delivering to site. Maximum wiring distance between driver and luminaire not to exceed manufacturer's recommendations, to be confirmed by manufacturer and electrical contractor.</p>
Dimensions:	Width: 16 mm, Height: 16 mm, length to suit site conditions.
Finish:	Brushed aluminium and opaline diffuser
Fixing Method:	Surface mounted via installation clips
Lamp:	<p>LEDs supplied with fitting.</p> <p>Wattage: 20 W/m, Beam Angle: 120°, Lamp Base: N.A., Correlated Colour Temperature (CCT):1800 K – 3000 K, Colour Rendering Index of white LEDs: 90+ R_a, Lumen Output: 1155 (at 3000 K), Rated Life: TBC</p>

Luminaire Illustration:



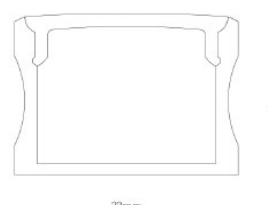
Luminaire Reference:	L2
Manufacturer's Ref:	IBL Lighting Cove Curved 16x16mm + Warm Dim 20 W/m LED Tape
Accessories:	Installation clips and connectors as required. DALI drivers as required
Luminaire Location:	Restroom
Luminaire Description:	<p>Low voltage, 20 watts per linear meter surface mounted linear LED luminaire. Luminaire consists of a high-power LED tape encapsulated between a linear aluminium extrusion and a polycarbonate frosted diffuser. Warm Dim technology, from 1800 K up to 3000 K.</p> <p>Note: Supplier to include for all necessary components for correct installation and operation. Please refer to lighting consultant to verify details if required prior to quotation. Contractor to be responsible for verifying site dimensions prior to manufacture.</p> <p>IP20</p> <p>Prior order contractor to confirm required length of luminaire subject to site conditions.</p> <p>Remote DALI dimmable drivers. Drivers to be located in a dry, accessible, and ventilated location. To be compatible with lighting control system – contractor to check this before delivering to site. Maximum wiring distance between driver and luminaire not to exceed manufacturer's recommendations, to be confirmed by manufacturer and electrical contractor.</p>
Dimensions:	Width: 16 mm, Height: 16 mm, length to suit site conditions.
Finish:	Brushed aluminium and opaline diffuser
Fixing Method:	Surface mounted via installation clips
Lamp:	<p>LEDs supplied with fitting.</p> <p>Wattage: 20 W/m, Beam Angle: 120°, Lamp Base: N.A., Correlated Colour Temperature (CCT):1800 K – 3000 K, Colour Rendering Index of white LEDs: 90+ R_a, Lumen Output: 1155 (at 3000 K), Rated Life: TBC</p>

Luminaire Illustration:



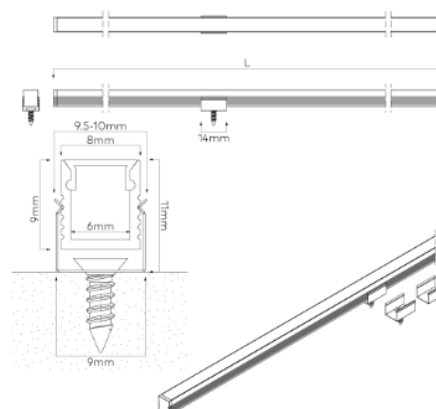
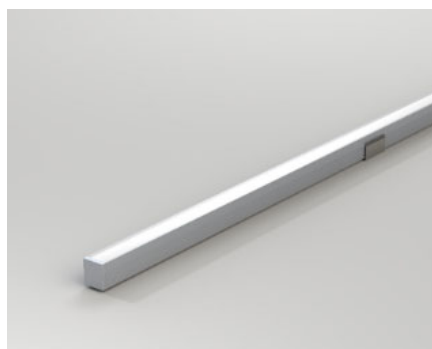
Luminaire Reference:	L3
Manufacturer's Ref:	IBL Lighting Ridge Tall 23 X 16 mm + Warm Dim 20 W/m tape
Accessories:	Installation clips and connectors as required. DALI drivers as required
Luminaire Location:	Banquette Seating
Luminaire Description:	<p>Low voltage, 20 watts per linear meter surface mounted linear LED luminaire. Luminaire consists of a high-power LED tape encapsulated between a linear aluminium extrusion and a polycarbonate frosted diffuser. Warm-dim technology, colour temperature can vary from 3000 K to 1800 K.</p> <p>Note: Supplier to include for all necessary components for correct installation and operation. Please refer to lighting consultant to verify details if required prior to quotation. Contractor to be responsible for verifying site dimensions prior to manufacture.</p> <p>IP20</p> <p>Prior order contractor to confirm required length of luminaire subject to site conditions.</p> <p>Remote DALI dimmable driver. Driver to be located in a dry, accessible, and ventilated location. To be compatible with lighting control system – contractor to check this before delivering to site. Maximum wiring distance between driver and luminaire not to exceed manufacturer's recommendations, to be confirmed by manufacturer and electrical contractor.</p>
Dimensions:	Width: 23 mm, Height: 16 mm, length to suit site conditions.
Finish:	Brushed aluminium and opaline diffuser
Fixing Method:	Surface mounted via installation clips
Lamp:	<p>LEDs supplied with fitting.</p> <p>Wattage: 20 W/m, Beam Angle: 120°, Lamp Base: N.A., Correlated Colour Temperature (CCT): 3000 K – 1800 K, Colour Rendering Index (CRI): 90+ Ra, Lumen Output: 940 lm; 47lm/W, Rated Life: TBC</p>

Luminaire Illustration:



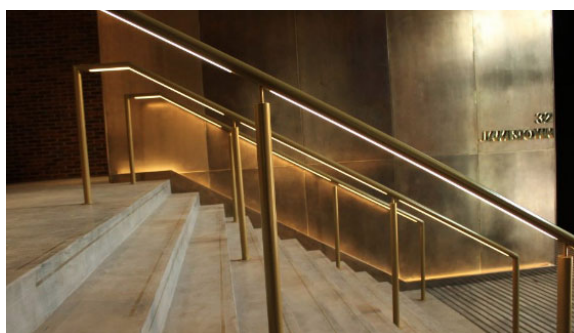
Luminaire Reference:	L4
Manufacturer's Ref:	IBL Lighting Ridge Nano 8x9mm + Warm Dim 14 W/m tape
Accessories:	Installation clips and connectors as required. DALI drivers as required.
Luminaire Location:	Shelves
Luminaire Description:	<p>Low voltage, 14.4 watts per linear meter surface mounted linear LED luminaire. Luminaire consists of a high-power LED tape encapsulated between a linear aluminium extrusion and a polycarbonate frosted diffuser. Warm-dim technology, colour temperature can vary from 3000 K to 1800 K.</p> <p>Note: Supplier to include for all necessary components for correct installation and operation. Please refer to lighting consultant to verify details if required prior to quotation. Contractor to be responsible for verifying site dimensions prior to manufacture.</p> <p>IP20</p> <p>Prior order contractor to confirm required length of luminaire subject to site conditions.</p> <p>Remote DALI dimmable driver. Driver to be in a dry, accessible, and ventilated location. To be compatible with lighting control system – contractor to check this before delivering to site. Maximum wiring distance between driver and luminaire not to exceed manufacturer's recommendations, to be confirmed by manufacturer and electrical contractor.</p>
Dimensions:	Width: 10 mm, 11 mm, length to suit site conditions.
Finish:	Brushed aluminium and opaline diffuser
Fixing Method:	Surface mounted via installation clips
Lamp:	<p>LEDs supplied with fitting.</p> <p>Wattage: 14.4 W/m, Beam Angle: 120°, Lamp Base: N.A., Correlated Colour Temperature (CCT): 3000 K – 1800 K, Colour Rendering Index (CRI): 90+ R_a, Lumen Output: 498 lm (at 3000 K) 35lm/W, Rated Life: TBC</p>

Luminaire Illustration:



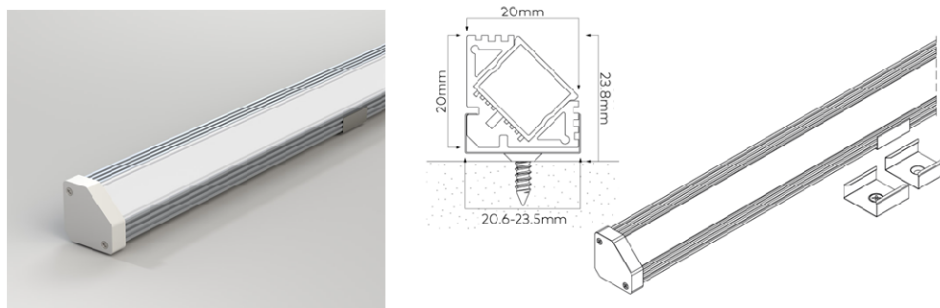
Luminaire Reference:	L5
Manufacturer's Ref:	The Light Lab Glowrail + GL25 Bespoke for free standing balustrade High Output - 2700K – Flush – IP65
Accessories:	DALI dimmable drivers Mounting clips
Luminaire Location:	Handrail
Luminaire Description:	<p>Stainless steel, tubular handrail with invisible fixings plate bracket and linear LED strip with completely diffused / homogeneous lit effect. supplied by the handrail manufacturer as a complete system with mounting channel, diffuser, mounting clips, cabling and IP rated terminations.</p> <p>IP65</p> <p>Note: Supplier to include for all necessary components for correct installation and operation. Please refer to lighting consultant to verify details if required prior to quotation. Contractor to be responsible for verifying site dimensions prior to manufacturer.</p> <p>Remote DALI dimmable drivers required. To be located in a dry, accessible and well ventilated location. To be compatible with control system – Electrical contractor to check this prior to procuring.</p>
Dimensions:	<p>Cross section: Ø48.3 mm</p> <p>Note: final length to be confirmed by installing contractor.</p>
Finish:	Stainless steel – to be confirmed by architect.
Fixing Method:	Surface mounting
Lamps:	<p>Built-in LEDs</p> <p>24 V, 14 W/m. Colour Temperature: 2700 K, Colour Rendering: >85 Ra, Beam Angle: 120°,</p> <p>Lumen output: 1092 lm/m</p> <p>Average Rated Life: 50,000 hours L 70 (to 70% light output).</p> <p>LEDs supplied with luminaire.</p>
Notes:	

Luminaire Illustration:



Luminaire Reference:	L6
Manufacturer's Ref:	IBL Lighting Cove Angle 20x20mm IP65+ Warm Dim 9.6 W/m tape
Accessories:	Installation clips and connectors as required. DALI drivers as required
Luminaire Location:	Outdoor Skirting
Luminaire Description:	<p>Low voltage, 10 watts per linear meter surface mounted linear LED luminaire. Luminaire consists of a high-power LED tape encapsulated between a linear aluminium corner profile extrusion and a polycarbonate frosted diffuser. Warm-dim technology, colour temperature can vary from 3000 K to 1800 K.</p> <p>Note: Supplier to include for all necessary components for correct installation and operation. Please refer to lighting consultant to verify details if required prior to quotation. Contractor to be responsible for verifying site dimensions prior to manufacture.</p> <p>IP20</p> <p>Prior order contractor to confirm required length of luminaire subject to site conditions.</p> <p>Remote DALI dimmable driver. Driver to be located in a dry, accessible, and ventilated location. To be compatible with lighting control system – contractor to check this before delivering to site. Maximum wiring distance between driver and luminaire not to exceed manufacturer's recommendations, to be confirmed by manufacturer and electrical contractor.</p>
Dimensions:	Width: 20 mm, Height: 20 mm, length to suit site conditions.
Finish:	Brushed aluminium and opaline diffuser
Fixing Method:	Surface mounted via installation clips
Lamp:	<p>LEDs supplied with fitting.</p> <p>Wattage: 10 W/m, Beam Angle: 120°, Lamp Base: N.A., Correlated Colour Temperature (CCT): 3000 K – 1800 K, Colour Rendering Index (CRI): 90+ Ra, Lumen Output: 940 lm; 47lm/W, Rated Life: TBC</p>

Luminaire Illustration:



Luminaire Reference: M1

Manufacturer's Ref:

Accessories:

Luminaire Location:

Luminaire Description: Self-illuminated decorative mirror. All details to be confirmed

Dimensions:

Finish:

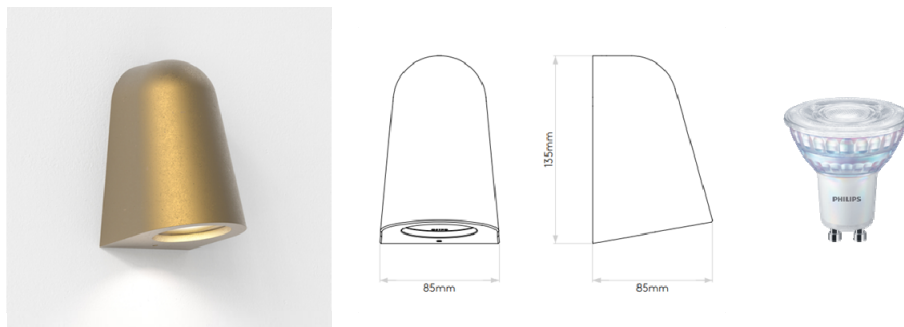
Fixing Method:

Lamps:

Luminaire Illustration:

Luminaire Reference:	XW1
Manufacturer's Ref:	Astro Lighting Mast Light – Antique Brass. Ref.: 1317003
Accessories:	
Luminaire Location:	Terrace
Luminaire Description:	Mains voltage, surface mounted, decorative LED luminaire. Luminaire fabricated from die cast aluminium.
	IP65
	Lamp feature integral phase dimmable driver.
Dimensions:	Width: 85 mm, Height: 135 mm, Depth: 85 mm.
Finish:	Antique Brass, to be confirmed by architect
Fixing Method:	Surface mounted
Lamp:	Philips GU10 Warm Glow Ref.: 8718696721674 Wattage: 4 W, Beam Angle: 36°, Lamp Base: GU10, Correlated Colour Temperature (CCT): 2200 K – 2700 K, Colour Rendering Index (CRI): 90+ Ra, Lumen Output: 345 lm; Rated Life: 15,000 hours

Luminaire Illustration:



LIGHTING MANUFACTURERS / SUPPLIER CONTACT SCHEDULE

Manufacturer / Supplier	Contact Details
	Contact: Tel: Mob: Fax: Email:

REVISIONS

Rev	Description	By	Date
00	For information	TG	08.11.2023