



**Station Hill, Reading – Phase 2 Landscape
L8147**

LIGHTING EQUIPMENT SPECIFICATION

Revision: 04 - Tender Issue

25th November 2020

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 mock-ups must be provided, reviewed and approved by **dpa** lighting consultants before procurement and final installation. Contractor to allow mock-ups of lighting details:

SHR-DPA-S2-ZZ-DR-Y-0003 Integrated Handrail Lighting
SHR-DPA-S2-ZZ-DR-Y-0008 Garrard Street Feature Recessed Reveal Lighting

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 "dimable" 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

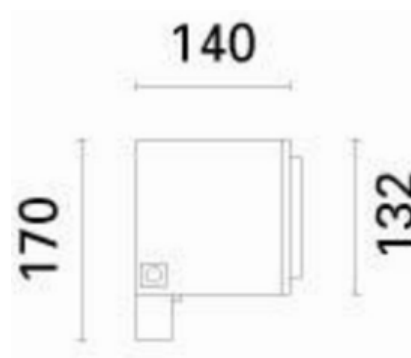
8.01 The final focussing and scene setting of the installation must be undertaken with **dpa** lighting consultants and lighting control technician(s) in attendance.

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.

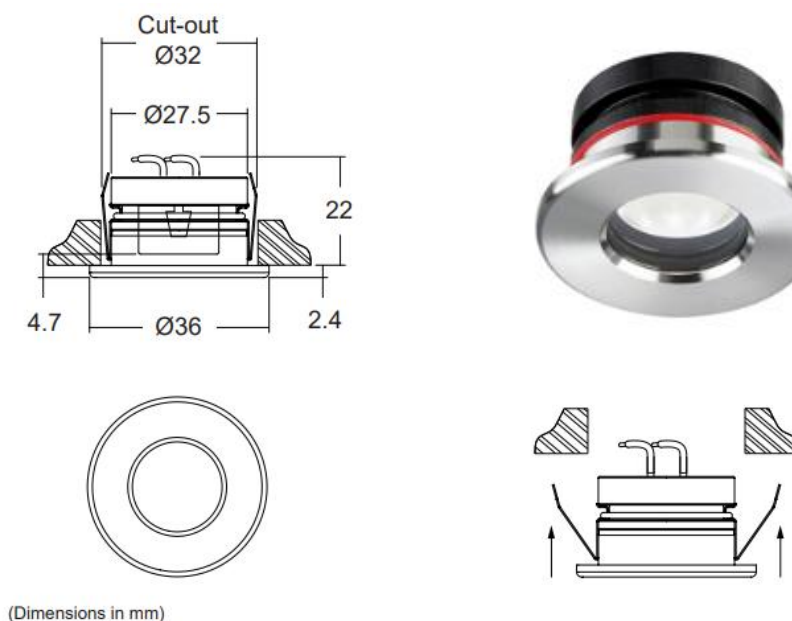
Luminaire Reference:	XD2	
Manufacturer's Ref:	Iguzzini	iPro BD37.S0013
Accessories:	- DALI Driver - Mounting Bracket	
Luminaire Location:	Downlight for ambient lighting to underside of bridge	
Luminaire Description:	Die cast aluminium alloy luminaire with a smooth finish. Adjustable on an extruded aluminium bracket with 20° medium optic. IP66/ IK07 Integral DALI dimmable driver required. To be compatible with control system – Electrical contractor to check this prior to procuring. 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 responsible for verifying site dimensions prior to manufacture.	
Dimensions:	Luminaire: 132mm x 132mm x 140mm	
Finish:	Grey	
Fixing Method:	Surface Mounted with mounting bracket	
Lamps:	17.8 W, Colour temp: 3000 K CCT, Lumen output: 1449 lm; Color rendering: 80 Ra. Beam angle 20°. Rated life 100,000 hours @ L80-B10	

Luminaire Illustration:



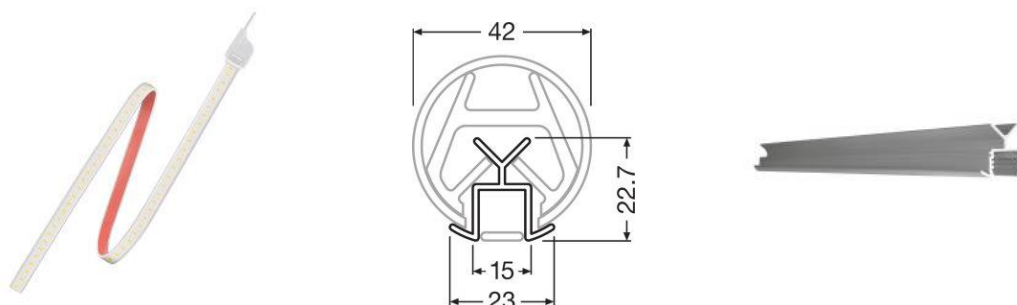
Luminaire Reference:	XD3
Manufacturer's Ref:	LightGraphix LD40
Accessories:	- DALI dimmable driver - Glare Shield
Luminaire Location:	Downlights to accentuate lift doors
Luminaire Description:	Extremely shallow, miniature recessed downlight made from stainless steel with hard anodised aluminium body and fixed via spring clips. IP67 Remote DALI dimmable driver 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. 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 responsible for verifying site dimensions prior to manufacture.
Dimensions:	Diameter: 36 mm, Cut-out Diameter: 32 mm, Recessing Depth: 22 mm
Finish:	Steel Bezel
Fixing Method:	Recessed via spring clips
Lamps:	As supplied with luminaire Wattage: 1.7 W, Beam Angle: 12°, Lamp Base: NA, Correlated Colour Temperature (CCT): 3000K, Colour Rendering Index (CRI): 93 R_a, Lumen Output: 120lm, Rated Life: 50,000 hours @ L70

Luminaire Illustration:



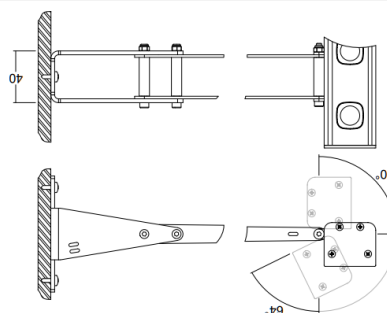
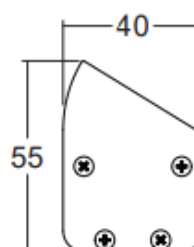
Luminaire Reference:	XL1	
Manufacturer's Ref:	Osram	LINEARlight FLEX Protect Shortpitch LFP800S – G4 - 830 –10
Accessories:	- Handrail Track Profile: TU15H23W4-105 - Slim Cover: CFDB-300 - End caps, mounting brackets, connectors. - Remote DALI drivers	
Luminaire Location:	Handrail Lighting	
Luminaire Description:	Flexible linear 3000K LED strip LEDs are PCB mounted in waterproof silicone casing within special linear aluminium extrusion heat sink for handrail with detachable frosted polycarbonate diffuser. Mounting insert to install profile into handrails with 42mm diameter and wall thickness of 2mm (recommended 2 inserts per meter) IP67 Remote DALI dimmable driver 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. 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 responsible for verifying site dimensions prior to manufacture.	
Dimensions:	Width: 23 mm, Height: 22.7, Length to suit Lengths to be confirmed and measured by contractor before ordering. Refer to manufacturer for maximum run lengths.	
Finish:	N/A	
Fixing Method:	Handrail mounted via mounting inserts	
Lamps:	8.3 Watts per metre warm white LEDs 8.3mm LED pitch Wattage: 8.3 W / m, Beam Angle: 120°, Lamp Base: N/A, Correlated Colour Temperature (CCT): 3000K, Colour Rendering Index (CRI): >80 Ra, Lumen Output: 800lm/m, Rated Life: 50,000 hours @ L70	

Luminaire Illustration:



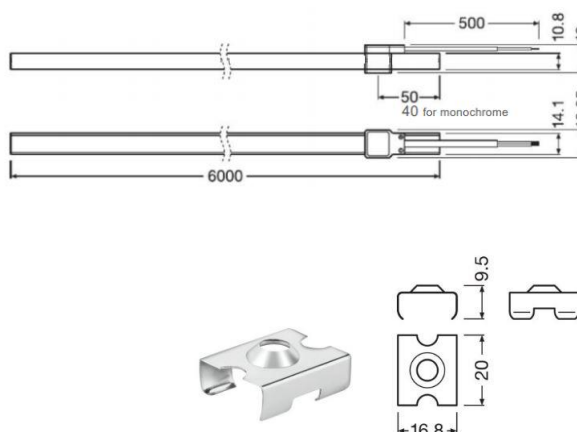
Luminaire Reference:	XL8	
Manufacturer's Ref:	Light Graphix	LD38C Ref.: LD38C-700/LW30/50/OB/RAL/AWB-300/GL/Length TBC
Accessories:	- Adjustable wall bracket (300mm) - Integral anti-Glare Louvre	
Luminaire Location:	Linear grazer to artwork/ green wall/ vertical planting	
Luminaire Description:	Surface mounted high power linear lensed LED wall grazer. Silver anodised finished aluminium body and end caps and pre-wired 2m lead. Custom made lengths available with LED's spaced 50mm apart. IP67 Remote DALI dimmable driver 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.	
Dimensions:	Luminaire head: 40mm x 55mm x Length to suit (incl. bracket: 48mm x 63mm x Length to suit)	
Finish:	TBC	
Fixing Method:	Surface mounted via adjustable bracket.	
Lamps:	Wattage: 20 x LED @ 2.4 W/m, 700mA, Beam Angle: 36° x 12° narrow, Lamp Base: NA, Correlated Colour Temperature (CCT): 3000K, Colour Rendering Index (CRI): 80 Ra, Lumen Output: 3920lm/m, Rated Life: 50,000 hours @ L70	

Luminaire Illustration:



Luminaire Reference:	XL9	
Manufacturer's Ref:	Osram	LINEARlight FLEX DIFFUSE Side LFD400S-G1-830-06
Accessories:	- Mounting brackets - Remote exterior rated DALI Driver - End Caps - Connectors	
Luminaire Location:	Bench/ Planter Lighting	
Luminaire Description:	Flexible, linear, diffused 3000K LED luminaire (Side bend). High performance silicone with UV and salt mist resistance. IP67 Remote DALI driver. 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. 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 responsible for verifying site dimensions prior to manufacture.	
Dimensions:	(W x H x L): 14.1mm x 10.8mm x Length to suit Lengths to be confirmed and measured by contractor before ordering. Refer to manufacturer for maximum run lengths.	
Finish:	N/A	
Fixing Method:	Screw fixed via mounting clip	
Light Source:	As supplied with luminaire Wattage: 7.2 W/m, Beam Angle: 120°, Lamp Base: NA, Correlated Colour Temperature (CCT): 3000 K, Colour Rendering Index (CRI): 80 R_a, Lumen Output: 450 lm/m, Rated Life: 50,000 hours @ L70	

Luminaire Illustration:



Luminaire Reference:	XL10	
Manufacturer's Ref:	Osram	LINEARlight FLEX Protect Shortpitch LFP1200S – G3 – 830 – 09
Accessories:	- Track Profile: LF-LTS-2100 SLIM TRACK - Cover: LF-LTS-COVER-SHORTPITCH - End caps, mounting brackets, connectors. - Remote DALI drivers	
Luminaire Location:	Linear LED to illuminate hoarding. Details TBC subject to hoarding design development.	
Luminaire Description:	Flexible linear 3000K LED strips are PCB mounted in waterproof silicone casing within linear aluminium extrusion heat sink with detachable polycarbonate diffuser. IP67 Remote DALI dimmable driver 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. 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 responsible for verifying site dimensions prior to manufacture.	
Dimensions:	Overall (W x H x L): 21mm x 22mm x Length to suit Lengths to be confirmed and measured by contractor before ordering. Refer to manufacturer for maximum run lengths.	
Finish:	Silicon encapsulated LED tape within extruded aluminium channel and clip-on opal diffuser	
Fixing Method:	Screw fixed via mounting clip	
Lamps:	10.6 Watts per metre warm white LEDs 8.3mm LED pitch Wattage: 10.6 W / m, Beam Angle: 120°, Lamp Base: N/A, Correlated Colour Temperature (CCT): 3000K, Colour Rendering Index (CRI): >80 Ra, Lumen Output: 1200lm/m, Rated Life: 50,000 hours @ L70	

Luminaire Illustration:



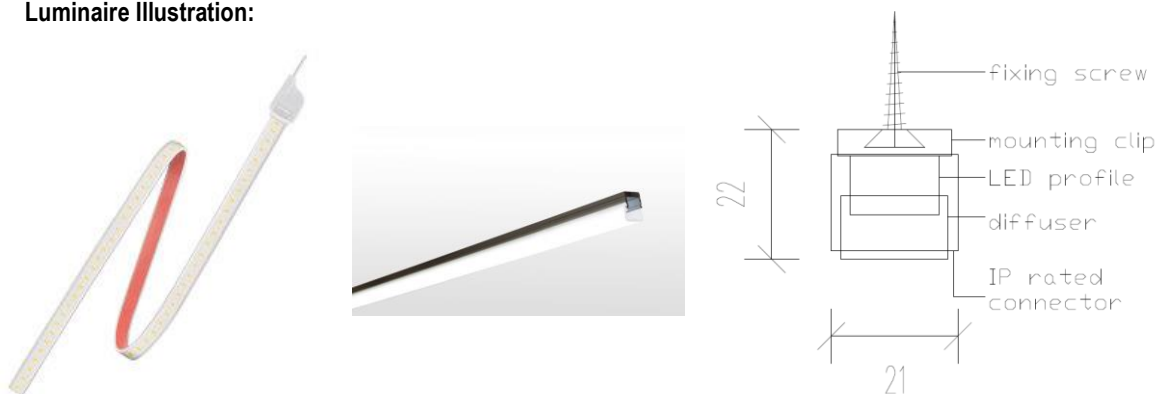
Luminaire Reference:	XL11	
Manufacturer's Ref:	Encapsulite	MT50-LED F-5-HE-1495-830-DALI
Accessories:	- End caps - Mounting Bracket - Through Wiring - Satin Diffuser	
Luminaire Location:	Lift Shaft	
Luminaire Description:	Mains voltage surface mounted linear, warm white LED luminaire, with polycarbonate satin diffuser and black end caps. Luminaire has through wiring to aid installation. Note: Exact luminaire locations to be coordinated with lift shaft equipment and specification to be agreed with lift engineer, architect, and lighting consultant prior to procurement. IP67 Integral DALI dimmable driver. To be compatible with control system – Electrical contractor to check this prior to procuring. 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 responsible for verifying site dimensions prior to manufacture.	
Dimensions:	Length: 1495mm x Diameter: 52mm	
Finish:	Satin Diffuser	
Fixing Method:	Surface mounted via mounting bracket	
Lamps:	Wattage: 23W, Beam Angle: N/A, Lamp Base: NA, Correlated Colour Temperature (CCT): 3000K, Colour Rendering Index (CRI): 80 Ra, Lumen Output: 3640lm	

Luminaire Illustration:



Luminaire Reference:	XL12
Manufacturer's Ref:	Osram LINEARlight FLEX Protect Shortpitch LFP800S – G4 – 830 – 10
Accessories:	- Track Profile: LF-LTS-2100 SLIM TRACK - Cover: LF-LTS-COVER-SHORTPITCH - End caps, mounting brackets, connectors. - Remote DALI drivers
Luminaire Location:	Linear grazer to bridge
Luminaire Description:	Flexible linear 3000K LED strips are PCB mounted in waterproof silicone casing within linear aluminium extrusion heat sink with detachable polycarbonate diffuser. IP67 Remote DALI dimmable driver 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. 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 responsible for verifying site dimensions prior to manufacture.
Dimensions:	Overall (W x H x L): 21mm x 22mm x Length to suit Lengths to be confirmed and measured by contractor before ordering. Refer to manufacturer for maximum run lengths.
Finish:	Silicon encapsulated LED tape within extruded aluminium channel and clip-on opal diffuser
Fixing Method:	Screw fixed via mounting clip
Lamps:	8.3 Watts per metre warm white LEDs 8.3mm LED pitch Wattage: 8.3 W / m, Beam Angle: 120°, Lamp Base: N/A, Correlated Colour Temperature (CCT): 3000K, Colour Rendering Index (CRI): >80 Ra, Lumen Output: 800lm/m, Rated Life: 50,000 hours @ L70

Luminaire Illustration:



Luminaire Reference: XL13 - OMITTED

Manufacturer's Ref:

Accessories:

Luminaire Location:

Luminaire Description:

Dimensions:

Finish:

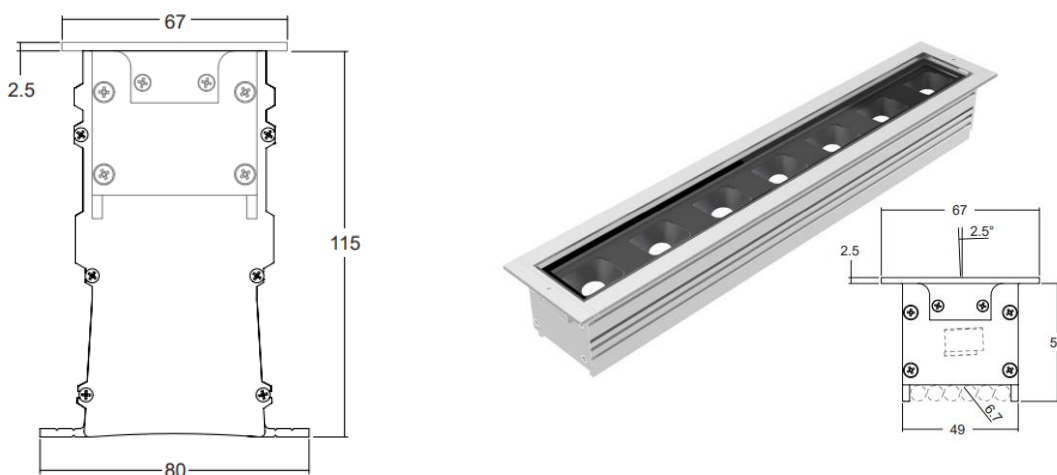
Fixing Method:

Lamps:

Luminaire Illustration:

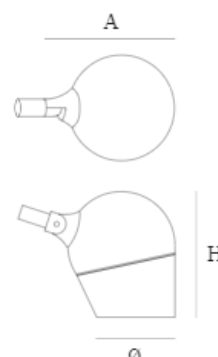
Luminaire Reference:	XL14
Manufacturer's Ref:	Light Graphix LD34 LD34-700/50/NB/CH/GS50
Accessories:	- Half Glare Shield - Concrete Housing - DALI Driver
Luminaire Location:	Linear grazer to up light external lift walls.
Luminaire Description:	Floor recessed high power linear lensed LED wall grazer. Silver anodised finished aluminium body and end caps and pre-wired 2m lead. Custom made lengths available with LED's spaced 50mm apart. IP67 Remote DALI dimmable driver 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.
Dimensions:	Luminaire: W: 67mm x H: 52.5mm x Length to suit (incl. concrete housing: W: 80mm x H: 117.5mm x Length to suit)
Finish:	TBC
Fixing Method:	Floor recessed via concrete housing
Lamps:	Wattage: 20 x LED @ 2.4 W – 48W/m, 700mA, Beam Angle: 12° narrow, Lamp Base: NA, Correlated Colour Temperature (CCT): Dynamic White, Colour Rendering Index (CRI): 80 Ra, Lumen Output: 3920lm/m, Rated Life: 50,000 hours @ L70

Luminaire Illustration:



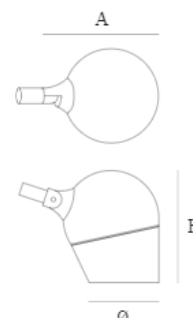
Luminaire Reference:	XP5	
Manufacturer's Ref:	Selux	Olivio Grande, ref: SX 960 11-9 (Refer to dpa drawing for number of luminaires per column)
Accessories:	OLIVIO CCTV, ref: SX 960 85-9 (Refer to Security Consultant CCTV specification and drawings for quantity per column and details of CCTV equipment to be integrated) OLIVIO Sistema 7m tall Column with twin 16A commando socket concealed in base, refer to MEP consultant specification and drawings	
Luminaire Location:	Totems throughout open areas	
Luminaire Description:	Die cast aluminium heads mounted to feature totems with a combination of integrated lights and CCTV. Heads mounted on a hinge to allow for 20° to 195° pivoting range and 180° rotation. Complete with twin 16A commando socket located in base with lockable access. IP67 Manufacturer/Supplier to provide windage/sway calculations and drawings showing configuration of luminaire heads and CCTV heads for approval from Structural, Security, MEP, Landscape Architect, Architect, Lighting consultant and Client prior to procurement by contractor DALI dimmable driver required, to be compatible with control system – Electrical contractor to check this prior to procuring. 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 responsible for verifying site dimensions prior to manufacture.	
Dimensions:	Luminaire Head: Height:324mm x ø205mm Column Height: 7000mm	
Finish:	Graphite finish TBC by Architect / Landscape Architect	
Fixing Method:	Column: Plate mounted to structural engineer's requirements	
Lamps:	Wattage: 27W, Beam Angle: 30°, Correlated Colour Temperature (CCT): 3000K, Colour Rendering Index (CRI): >80 Ra, Lumen Output: 3000lm.	

Luminaire Illustration:



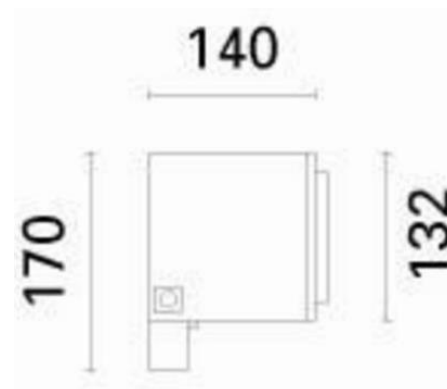
Luminaire Reference:	XP5a	
Manufacturer's Ref:	Selux	Olivio Grande, ref: SX 960 11-9 (Refer to dpa drawing for number of luminaires per column)
Accessories:	OLIVIO CCTV, ref: SX 960 85-9 (Refer to Security Consultant CCTV specification and drawings for quantity per column and details of CCTV equipment to be integrated) OLIVIO Sistema 9m tall Column with twin 16A commando socket concealed in base, refer to MEP consultant specification and drawings Banner fixings for 2 number banners (Refer to Landscape Architect specification)	
Luminaire Location:	Totem adjacent NW corner of One Station Hill	
Luminaire Description:	Die cast aluminium heads mounted to feature totems with a combination of integrated lights and CCTV. Heads mounted on a hinge to allow for 20° to 195° pivoting range and 180° rotation. Complete with twin 16A commando socket located in base with lockable access. Allowance for fixings for two number banners approx. 1 m x 4 m each. Underside of banner mounted at 2.7 m AFFL. Olivio heads to be coordinated with banner positions. IP67 Manufacturer/Supplier to provide windage/sway calculations and drawings showing configuration of luminaire heads, banners and CCTV heads for approval from Structural, Security, MEP, Landscape Architect, Architect, Lighting consultant and Client prior to procurement by contractor DALI dimmable driver required, to be compatible with control system – Electrical contractor to check this prior to procuring. 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 responsible for verifying site dimensions prior to manufacture.	
Dimensions:	Luminaire Head: Height:324mm x ø205mm Column Height: 7000mm	
Finish:	Graphite finish TBC by Architect / Landscape Architect	
Fixing Method:	Column: Plate mounted to structural engineer's requirements	
Lamps:	LEDs supplied integral to luminaires Wattage: 27W, Beam Angle: 30°, Correlated Colour Temperature (CCT): 3000K, Colour Rendering Index (CRI): >80 Ra, Lumen Output: 3000 lm.	

Luminaire Illustration:



Luminaire Reference:	XP6
Manufacturer's Ref:	iGuzzini iPro EP47.S0002
Accessories:	- DALI Driver
Luminaire Location:	Projectors to underside of bridge
Luminaire Description:	Die cast aluminium alloy luminaire with a smooth finish. Adjustable on an extruded aluminium bracket with 10° super spot optic. IP66/ IK07 Integral DALI dimmable driver required. To be compatible with control system – Electrical contractor to check this prior to procuring. 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 responsible for verifying site dimensions prior to manufacture.
Dimensions:	Luminaire: 132mm x 132mm x 140mm
Finish:	Grey
Fixing Method:	Surface Mounted via screw anchors
Lamps:	11 W, Colour temp: 3000 K CCT, Lumen output: 746 lm; Color rendering: 80 Ra. Beam angle 10°. Rated life 50,000 hours @ L70

Luminaire Illustration:



Luminaire Reference: XSP1 - OMITTED

Manufacturer's Ref:

Accessories:

Luminaire Location:

Luminaire Description:

Dimensions:

Finish:

Fixing Method:

Lamps:

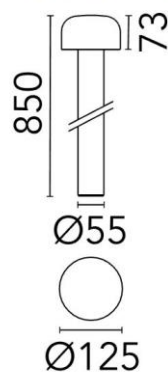
Luminaire Illustration:

Luminaire Reference:	XS1	
Manufacturer's Ref:	Flos Lighting	Bellhop DALI Black Ref. F003B31D030
Accessories:	- Remote Power Supply - Custom ground spike	
Luminaire Location:	Floor mounted plant lights to planting	
Luminaire Description:	8-Watt LED extruded aluminium bollard to create a disused light within planting. Note: IP65 Supplied complete with remote DALI dimmable driver(s) to be located in accessible and ventilated location. To be compatible with control system – contractor to check this prior to order.	
Dimensions:	Luminaire Base: 55mm wide x 850mm high Luminaire Head: 125mm wide x 73mm high	
Finish:	Black	
Fixing Method:	Ground mounted.	
Lamps:	8 Watts @ 24V warm white LED, Colour Temperature: 3000K, Colour Rendering: >80 Ra, Beam Angle: 85°, Lumen output: 580lm.	

Luminaire Illustration:

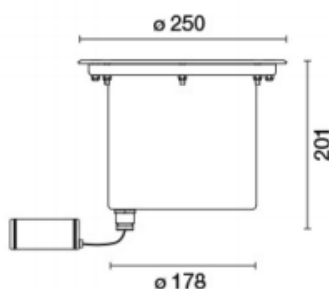


Technical drawing



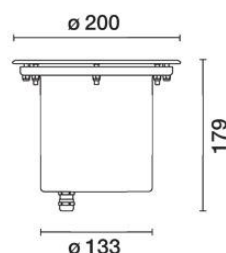
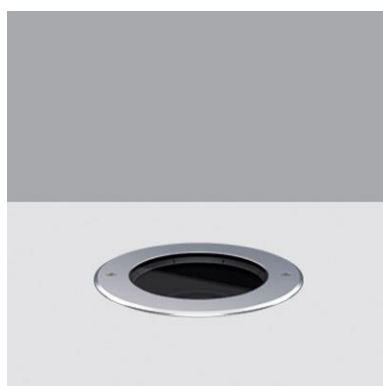
Luminaire Reference:	XU1	
Manufacturer's Ref:	iGuzzini	Light up Earth TG3.E163.713.0
Accessories:	- All required connectors - Outer casing TG3.X209.004.0 - DALI dimmable driver	
Luminaire Location:	Larger Trees	
Luminaire Description:	Ground recessed fixed, medium beam, LED uplighter with deep recessed light source, an aluminium OPTIBEAM reflector and a black plastic cover. Body and frame are made of AISI 304 stainless steel with sodium-calcium extra clear glass, thickness 15 mm construction. Stainless steel body coated with black paint. Black plastic (PPS) external box containing the power supply unit. IP68, IK10 DALI dimmable electronic driver included. (220-240 VAC positioned in a separate box from the optical assembly and with outgoing cable 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.	
Dimensions:	Diameter: 250 mm, Cut-out Diameter: 178 mm, Recessing Depth: 201 mm etc.	
Finish:	Steel Bezel	
Fixing Method:	Ground recessed and secured to the outer casing by means of two TORX-type screws.	
Lamps:	As supplied with luminaire Wattage: 27 W, Beam Angle: 18°, Lamp Base: N/A, Correlated Colour Temperature (CCT): 3000K, Colour Rendering Index (CRI): 80 Ra, Lumen Output: 3473lm, Rated Life: 100,000 hours @ L80 / B10	

Luminaire Illustration:



Luminaire Reference:	XU2	
Manufacturer's Ref:	iGuzzini	Light up Earth E129
Accessories:	- All required connectors - Outer casing X203, - DALI dimmable driver	
Luminaire Location:	Smaller Trees	
Luminaire Description:	Ground recessed fixed, medium beam, LED uplighter with deep recessed light source. Body and frame are made of AISI 304 stainless steel with sodium-calcium extra clear glass, thickness 15 mm construction. Stainless steel body coated with black paint. Black plastic (PPS) external box containing the power supply unit. IP68, IK10 DALI dimmable electronic driver included. (220-240 VAC positioned in a separate box from the optical assembly and with outgoing cable 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.	
Dimensions:	Diameter: 200 mm, Cut-out Diameter: 133 mm, Recessing Depth: 179 mm etc.	
Finish:	Steel Bezel	
Fixing Method:	Ground recessed and secured to the outer casing by means of two TORX-type screws.	
Lamps:	As supplied with luminaire Wattage: 12 W, Beam Angle: 20°, Lamp Base: NA, Correlated Colour Temperature (CCT): 3000K, Colour Rendering Index (CRI): 80 R_a, Lumen Output: 1388lm, Rated Life: 100,000 hours @ L80 / B10	

Luminaire Illustration:



Luminaire Reference: XU4 - OMITTED

Manufacturer's Ref:

Accessories:

Luminaire Location:

Luminaire Description:

Dimensions:

Finish:

Fixing Method:

Lamps:

Luminaire Illustration:

Luminaire Reference:	XU5
Manufacturer's Ref:	LightGraphix LD56
Accessories:	- DALI dimmable driver - Glare Shield
Luminaire Location:	Feature brick recessed reveals
Luminaire Description:	Low glare, exterior inground uplighter with integral anti wicking barrier to increase protection against moisture. Black anodised aluminium body with machine finish 316 stainless steel bezel. IP68 Remote DALI dimmable driver 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. 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 responsible for verifying site dimensions prior to manufacture.
Dimensions:	Diameter: 52 mm, Cut-out Diameter: 44 mm, Recessing Depth: 52 mm
Finish:	Steel Bezel
Fixing Method:	Ground recessed via O-Rings & Sleeve
Lamps:	As supplied with luminaire Wattage: 2.4 W, Beam Angle: 12°, Lamp Base: NA, Correlated Colour Temperature (CCT): 3000K, Colour Rendering Index (CRI): 80 Ra, Lumen Output: 164lm, Rated Life: 50,000 hours @ L70

Luminaire Illustration:



LIGHTING MANUFACTURERS / SUPPLIER CONTACT SCHEDULE

Manufacturer / Supplier	Contact Details		
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REVISIONS

Rev	Description	By	Date
00	First Issue – Stage 3 Preliminary	HR	15/11/19
01	Revision 01 – Stage 3 Developed Design	HR	27/11/19
02	Stage 4 – Detailed Design	HR	15/05/20
03	Stage 4a Issue	HR	05/06/20
04	Stage 4a Update – XP5a column height increased to accommodate banner List of lighting mock-ups required added to Preamble section 2.10	IC	26/06/20
T01	Issue for Tender	IC	25/11/2020