



**Camden Townhall**

**L10021**

**LIGHTING EQUIPMENT  
PERFORMANCE SPECIFICATION**

**Revision: 01**

**10<sup>th</sup> August 2022**

## 1.0 LIGHTING EQUIPMENT PREAMBLE

### 1.1 Introduction

The following Luminaire Preamble provides further details of the light fixtures and associated equipment specified for this Project. It should be read in conjunction with all relevant **dpa Lighting Consultants London (dpa)** project specifications and drawings.

### 1.2 General Notes

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

Should alternative equipment be offered, 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 (see "Assessment of alternative lighting fixtures", below).

**dpa** lighting consultants cannot accept responsibility for installation of non-approved luminaires, or for luminaires not installed in accordance with manufacturer's instructions, or in a manner other than indicated in the relevant drawings and specifications.

All lighting equipment should be set out from co-ordinated Architectural/Interior Designers/MEP Consultants drawings.

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

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

All cable, conduit and containment shall be to electrical consultants/contractors detail and specification.

All bespoke/semi-bespoke fixings, mounting and bracketry are to architect's detail and specification.

All luminaire quantities, parts and accessories to be confirmed by the electrical contractor prior to order.

The final location of each luminaire and where relevant its integration with the architecture shall be as detailed on the construction issue drawings.

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

All equipment shall be protected from unexpected mains failure, and mains borne interference.

All lighting details marked with 'mock-up required' must be provided before final installation.

### 1.3 Light Emitting Diodes (LEDs)

LEDs will provide long life, energy efficient, low maintenance lighting solutions, provided that the lighting equipment and associated drivers etc. are installed strictly in accordance with the manufacturer's instructions and recommendations.

The installation of LED products will require specific attention by the installing contractor.

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.

All LED systems (luminaires combined with their drivers) shall be fully dimmable between 0.1% and 100% of 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) or through the use of phase dimming as appropriate.

All specified LED systems shall be tested (by the electrical/installing contractor) with **dpa's** specified lighting control system or the proposed/approved project lighting control system prior to the order of equipment to ensure stable flicker free dimming of all luminaires across the full dimming range stated above (also refer to the Lighting Control System Performance Specification).

LED systems shall include 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 appropriate internal temperature. This is particularly important for external fittings which will experience the highest ambient temperatures and accidental operation during the daytime may result in irreversible damage to the LEDs and/or electronics.

Please refer to **dpa** lighting control schedule/s for channel control protocols.

A full compliance report is to be issued by the Electrical Consultant/Contractor prior to order of equipment.

#### 1.4 Lamps/Light-Sources

The importance of colour consistency within ranges and across the full specification is paramount. The light produced by luminaires of the same correlated colour temperature (CCT) should produce light that is indiscernible in appearance from other fittings of the same correlated colour temperature. It is the responsibility of the Party producing the final specification to compare samples of the specified luminaires to ensure this consistency across the project.

The 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 the lighting designer on a case by case basis.

All manufacturers shall be required to record the spectral distribution and output of all luminaires supplied to the project, such that any replacements provided shall have the same light appearance and output as the luminaires previously supplied. Manufacturers shall guarantee supply of replacements on this basis for a period of at least 5 years from the original date of supply.

Only the exact lamps/sources specified including colour temperature and beam angles should be used, or their exact compliant alternatives.

Should alternative lamps or sources be offered, these may 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 when selecting such alternatives.

Incandescent and tungsten halogen lamps (where utilised) shall not be operated other than for initial testing, prior to final inspection.

#### 1.5 Control Gear/LED Drivers

All LED drivers shall either be supplied by the manufacturer of the LED luminaire or shall be in accordance with the Manufacturers/Suppliers recommendations and shall be fully compatible with the luminaire and the LEDs used.

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

All control gear, drivers and transformers shall be mounted within or directly adjacent the luminaire unless shown as being located remotely, in adequately ventilated accessible spaces.

Multiple 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 of the Lighting Consultants design intent, as detailed within their relevant project drawings and specifications.

See manufacturer's data for advice on quantity of LED drivers required per area and the maximum distance drivers can be located from the luminaires.

All such gear shall be of good quality construction, shall comply with all relevant statutory regulations, shall be compatible with the lamps/sources specified and with the control systems, mounted and wired in accordance with the manufacturers' instructions.

The electrical trade contractor shall liaise with the selected lighting control system manufacturer (refer to the Electrical Consultant) to test and ensure compatibility between drivers/control gear/transformers and the lighting control system.

## 1.6 Standards and Compliance

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 IEE/IET wiring regulations and all other statutory and local authority requirements.

## 1.7 Guarantees

All equipment and components supplied shall be guaranteed against failure due to poor workmanship, materials, or luminaire design, 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.

## 1.8 Assessment of Alternative Lighting Fixtures

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

Where ever it is of benefit to the project, **dpa** are happy to consider any equivalent/alternative fixture to those specified. If contractors or others wish to propose alternative luminaires, we will assume that all such alternatives are of appropriate quality and fit for purpose in their intended locations.

The following must be provided for **dpa** to carry out our assessment:

- a. Working sample 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

**dpa** cannot accept responsibility for the installation of non-approved luminaires.

## 1.9 Commissioning

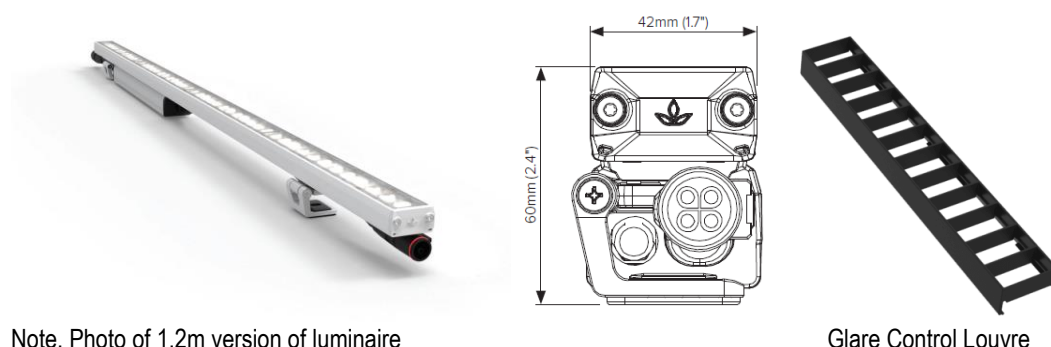
The final focussing and scene setting of the installation must be undertaken with **dpa** lighting consultants and a lighting control technician in attendance.

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.

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.

<b>Luminaire Reference:</b>	<b>XL1</b>
<b>Manufacturer's Ref:</b>	<b>Architainment Lumascape – Linealux L3 Linear Façade</b> <b>Reference: LS9030-12D-4BW-73-MH-2-A-01-PS-SL-000</b>
<b>Accessories:</b>	<b>PowerSync Data Injector (DMX512 data controller): LS6540 (supplier to advise number required to suit installation)</b> <b>Glare Control Louvre: LS6237-1</b> <b>Electrical cable tails without connectors, 600 mm length</b>
<b>Luminaire Location:</b>	<b>Façade</b>
<b>Luminaire Description:</b>	Lensed linear LED luminaire, surface mounted. Red-Green-Blue-White (RGBW) colour change luminaire. With colour mixing optics, adjustable brackets, glare control louvre and 600 mm electrical cable tails.  IP66 / IP67  Integral DMX512 dimmable driver. PowerSync data controller 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.
<b>Dimensions:</b>	Length: 610 mm (2ft), Width: 42 mm, Height: 60 mm (approx.) including mounting bracket and glare control louvre
<b>Finish:</b>	Custom RAL Finish
<b>Fixing Method:</b>	Surface mounted on to column
<b>Lamp:</b>	<b>Integral RGBW LEDs</b> Wattage: 24 W LED / 30.2 W Luminaire, Beam Angle: 20° x 40°, Lamp Base: NA, Colour Temperature: RGBW, Colour Rendering Index (CRI): NA, Luminaire Lumen Output: 6,740lm, Rated Life: 60,000 hours @ L70 / B10

**Luminaire Illustration:**



## REVISIONS

Rev	Description	By	Date
00	For Information	NJB	25.07.2022
01	Luminaire change – XL1	JB	10.08.2022