857 – Marriott Manchester

LIGHTING EQUIPMENT SPECIFICATION

HOTEL PUBLIC AREAS & GUESTROOM CORRIDORS

DETAIL DESIGN

REVISION 04

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LIGHTING EQUIPMENT SPECIFICATION

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GENERAL LIGHTING SPECIFICATION

PART 1 SYSTEM OBJECTIVES

1.01 PERFORMANCE OBJECTIVES

To provide a functional and decorative accent lighting scheme to suit the particular requirements of the individual areas.

The lighting installation covered by this specification should be read in conjunction with the relevant lighting plans and details for each area.

1.02 DESIGN OBJECTIVES

The installation shall comply with BS 7671 Requirements for Electrical Installations (the IEE Wiring Regulations), and other British Standards as appropriate or local prevailing Codes and Standards if more onerous than the codes and standards given in this specification.

It shall be the responsibility of the Electrical Consultant to ensure that all local prevailing codes and standards are complied with.

1.03 SYSTEM DESCRIPTION

The system shall include but shall not be limited to the following:

- Supply and installation of all luminaires to all areas as indicated on the drawings.
- Supply and installation of all associated control equipment.
- Supply and installation of all supports and fixings associated with the lighting installation.
- Supply and installation of all cables and wire ways associated with the lighting installation.
- Testing and commissioning.

Fixture supply voltage shall be within 230v +10% -6% variant 50Hz and comply with IEE regulations or local prevailing Codes and Standards if more onerous than the codes and standards given in this specification.

-The provision of any emergency lighting system is **not** covered by this specification. It shall be the responsibility of the Electrical Consultant to determine and design an emergency lighting installation complying with all local prevailing codes and standards.

It shall be the responsibility of the Electrical Consultant to determine and design an electrical installation containing all the necessary cables and wire ways required to facilitate the proper installation and operation of the lighting installation covered by this specification. It shall also be the responsibility of the Electrical Consultant to size all necessary supply and control circuit cables associated with the lighting installation.

1.04 CONTROL REQUIREMENTS

House Lighting Control System

- Luminaires within the main building interior public areas shall be controlled by an architectural lighting control system.

- The system shall be managed by a centralised programmable, microprocessor based lighting control panel in which scenes are pre-set by a personal computer. The programmed scenes, to designated areas, will be operated by push button Lighting Control Plates and/or a pre-programmed automatic (astronomical) time clock event system.

The lighting control system shall include but shall not be limited to the following:

- Lighting control panel.
- Wireless control
- Dimming/switching panel(s).
- Push button lighting control plate(s).
- Handheld programmer.
- Programmer jack(s) to be integral within the push panel.
- PC and printer for central monitoring and set-up of the lighting control system.
- PC jack.

Facilities lighting control system

Facilities or stage lighting equipment shall be controlled by a separate lighting control system. Lighting control desks shall be supplied by the manufacturer to control all circuits indicated on the facilities control schedule. The desks shall plug in to local DMX 512 interface sockets located around the function room or for each sub-divided area.

The lighting control system shall include but shall not be limited to the following:

- Lighting control desk(s).
- 19" Flat panel monitor).
- Dimming/switching panel(s).
- DMX 512 interface socket(s) for connecting lighting control desk(s).
- Wireless control

1.05 SYSTEM DRAWINGS

See lighting layout drawings.

Schedules and drawings are intended to convey the salient features, function and any other characteristics of the fitting only, and do not undertake to set forth every item or detail necessary for the work.

Minor details not usually indicated on the drawings nor specified but necessary for the proper execution and completion of the installation, shall be included by the Electrical Contractor the same as if they were herein specified or indicated on the drawings.

Drawings of such additional details shall be submitted by the Electrical Contractor for Design Team approval prior to commencement of manufacture or installation.
No variation from the general arrangements and details indicated on the drawings shall be made by the Electrical Contractor, unless required to suit actual site conditions, and then only with the written acceptance of Maurice Brill Lighting Design Ltd.

The main contractor is to be responsible for the correct luminaire quantity count based on the MBLD drawings. Any discrepancies between the MBLD drawings and the MBLD control schedule the contractor need to verify, when in doubt, the drawings will be used as precedence.

PART 2 GENERAL SPECIFICATIONS

2.01 LUMINAIRES AND LAMPS

2.01.01 Standards

Supply luminaires and lamps to standards as appropriate. It is assumed that the specified luminaires shall be modified to comply with the local standards if more onerous than the codes and standards given in this specification.

2.01.02 Approval

Based on the completion of the final lighting design and documentation stage, the appointed main contractor must submit for approval all of the luminaires specified by MBLD. The luminaires must be a working sample that can be switched on. The contractor should arrange and co-ordinate the client and design team (Lead Architect, Interior Designer, Electrical Consultant and Lighting Designer) to be presented with the specified luminaires for comment and/or approval. This must be carried out prior to installation and in advance of the delivery schedule to allow for any time necessary for alternatives to be presented.

All luminaires must be submitted for approval to Maurice Brill Lighting Design Ltd. Any alternatives must be equal and approved and only one alternative per luminaire specified shall be considered. Alternatives must be accompanied with a sample, photometric data and test certificate. It is assumed that any luminaires submitted by the Tenders as "equal" comply with the specification. If they do not, a note to this effect must be included with the Tender giving details of departures from the specification.

Official written assurance shall be obtained from Maurice Brill Lighting Design Ltd from the contractor so as to ensure that the Electrical Contractor is working to the latest schedule of luminaires prior to placement of order with suppliers/manufacturers. If the Electrical Contractor does not provide a sample of any fitting prior to placement of order, and it is not approved by Maurice Brill Lighting Design Ltd, then the Electrical Contractor shall be responsible for the removal of the fitting plus providing and installing an approved replacement, and making good as necessary at no extra cost to the Client.

The contractor is to obtain written approval for all luminaires from the client or client's representative together with the Architect and/or Interior Designer.

2.01.03 Samples

Submit one working sample, complete with any associated control gear/transformer as necessary, lamp(s) and 3-metre tail terminated in a 13A plug for each type of luminaire specified.

All samples are returnable, and shall not be included within the fixture count required for the project.

2.01.04 Custom Luminaires

Where an MBLD specification calls for a partially modified or completely custom luminaire, the nominated manufacturer shall propose a design and manufacturing program, for the approval of the design team (Lead Architect, Interior Designer, Electrical Consultant and Lighting Designer) and contractor. A prototype, working sample, and finishes review and approval phase must be included in the manufacturing program.

2.01.05 FF&E Luminaire Collaborations

Where an MBLD specification calls for a particular lamping, partial or full modification, or alternative to an FF&E item, the nominated manufacturer or supplier shall submit a

working sample for review by the design team (Lead Architect, Interior Designer, Electrical Consultant and Lighting Designer).

2.02 LUMINAIRES AND LAMPS SCHEDULE

Supply luminaires and lamps in accordance with the schedule, as per Section 2.

2.03 LUMINAIRES

2.03.01 Luminaires - General

All luminaires shall be supplied complete with all associated control equipment, accessories, supports and fixing as applicable. Control gear must be fully encased if not designed as an integral part of the luminaire.

2.03.02 Luminaires - General Purpose

Standards

Supply luminaires with photometric data in accordance with BS 5225.

Supply luminaires in accordance with BS 4533 (EN 60598).

Classification - To BS 4533 Part 101 (EN 60598-1)

Safety Support for Components

Provide secondary support for translucent covers, diffusers and gear trays so they are prevented from falling when their primary fixing is released.

Photometric performance

Ensure luminaires of similar type have same photometric performance as published data within the tolerances defined by BS 5225.

2.03.03 Luminaires - General Purpose with Safety Glass

Standards

Supply luminaires with photometric data in accordance with BS 5225.

Supply luminaires in accordance with BS 4533 (EN 60598).

Classification - To BS 4533 Part 101 (EN 60598-1)

Safety

Fit luminaire with cover glass to protect against ultra-violet emission and risk from explosion of lamps.

Safety Support for Components

Provide secondary support for translucent covers, diffusers and gear trays so they are prevented from falling when their primary fixing is released.

Photometric performance

Ensure luminaires of similar type have same photometric performance as published data within the tolerances defined by BS 5225.

2.03.04 Luminaires - Special Applications

Standards

Supply luminaires with photometric data in accordance with BS 5225.

Supply luminaires in accordance with BS 4533 (EN 60598).

Classification - To BS 4533 Part 101 (EN 60598-1)

2.03.05 Emergency Lighting Luminaires

Comply with BS 4533 Section 102.22 (EN 60598-2-22).

Comply with ICEL: 1001. Ensure emergency lighting luminaires are marked with ICEL certification label.

2.03.06 Exit Signs

Comply with BS 5499 Parts 1 & 3. Any blade sign using LED must be supplied complete with a light blackout frame to prevent light through leak, and the junction of where the blade meets the housing must also be light tight.

2.03.07 Hazardous Area Luminaires

BS 4683 Parts 1 & 2; BS 5345; BS 5501; BS 4533 Section 102.51; BS EN 50014; BS EN 500018 or BS EN 50020 as appropriate.

2.03.08 Signs and High Voltage Installation

Comply with BS 559.

Neon transformers

Supply transformers for tubular discharge lamps with no-load output voltages exceeding 1000 V in accordance with BS EN 61050.

2.04 LAMPHOLDERS

2.04.01 Lampholders - Generally

Lamp caps - BS EN 60061-1.
Lamp holders - BS EN 60061-2.
Bayonet lampholders - BS 5042.
Lampholders for tubular fluorescent lamps and starterholders - BS EN 60400.
Edison screw lampholders - BS EN 60238.
Interchangeability
Ensure lampholders in luminaires of similar type and ratings are identical.
Earthing
Ensure metal lampholders incorporate an earthing terminal.

2.04.02 Lampholders - Tungsten fittings

Use following lampholders for tungsten filament lamps unless indicated otherwise.

Lamp	Lampholder
Up to 150W	Edison screw E27
200W	Edison screw E27
300W and above	Edison screw E40

Shade Rings
Provide a shade carrier ring for separately mounted lampholders for GLS tungsten filament lamps.
Polarity of Edison Screw Lampholders
Ensure phase conductor is connected to centre contact.

2.04.03 Lampholders - Mounting

Securely mount lampholder in luminaire when it is sole support for lamp.
Cord grip
Provide integral cord grip type when lampholders are suspended by cord/Conduit Mounted
When mounted directly to conduit system use backplate lampholder for conduit box.

2.05 CONTROL GEAR AND COMPONENTS

2.05.01 Compatibility

Ensure control gear and components are suitable for lamp type, wattage and starting characteristics. Obtain from manufacturer written confirmation of compatibility.

2.05.02 Transformers - General

All luminaire transformers shall be capable of operating on dimmer controlled circuits unless otherwise specified. The primary input of the transformer should be independently fused. When used in conjunction with a dimmer, this fuse may need a higher rating than if the transformer had been directly fed due to the dimmer output waveform.

All low voltage transformers not operating on dimmer controlled circuits shall have a multi-tap facility to vary the secondary output voltage, ie.12V, 11.5V and 11V.

2.05.03 Fluorescent Lamp Ballasts and Starters

Ballasts

BS EN 60920 and BS EN 60921.

BS EN 60924 and BS EN 60925 for d.c. supplied electronic ballasts.

BS EN 60928 and BS EN 60929 for fluorescent lamps to BS 1853 Part 1 (EN 60081) and BS 6982 (EN 60901).

Supply thermal protectors for ballasts for tubular fluorescent lamps to BS EN 60730-2-3.

Starters - BS EN 60926 and BS EN 60927.

Use low distortion type.

2.05.04 Discharge Lamp Ballasts and Starters

Ballasts - BS EN 60922 and BS EN 60923.

Starters - BS EN 60926 and BS EN 60927.

2.05.05 Capacitors

Use capacitors in accordance with BS EN 61048 and BS EN 61049 in tubular fluorescent, high-pressure mercury and low-pressure sodium vapour discharge lamp circuits.

2.05.06 Supply Terminals

Use screw terminals for supply cables and circuit protective conductors, sized to terminate up to three 2.5mm^2 conductors. Provide separate terminal blocks for each incoming circuit, with marking to identify each circuit.

2.05.07 Fuse

Include a fuse holder and BS 1362 fuse in each incoming circuit phase connection.

2.05.08 Interference

Comply with BS EN 55015 and BS 5394.

2.05.09 Remote Gear

Locate control gear in separate lockable cabinet of sheet steel with same degree of protection and finish specified for luminaire. Comply with manufacturer's recommendation for maximum cable length between gear and lamp.

2.06 LAMPS

2.06.01 Tungsten Filament Lamps

Comply with BS 161 (EN 60064), BS 5971 (EN 60432) and BS 6179.

Supply electronic step-down converters for filament lamps to BS EN 61046 and BS EN 61047.

2.06.02 Fluorescent Lamps

Internationally specified tubular fluorescent lamps to BS EN 60081.

UK tubular fluorescent lamps to BS 1853 Part 2.

Single capped fluorescent lamps to BS EN 60901 and BS EN 61199.

Self ballasted lamps to BS EN 60969 (BS 7199) and BS 7173 (EN 60968).

2.06.03 Tungsten Halogen Lamps

Comply with BS EN 60432-2.

2.06.04 High Pressure Mercury Vapour Lamps

Comply with BS 3677 (EN 60188).

2.06.05 Metal Halide Lamps
Comply with BS EN 61167.

2.06.06 High Pressure Sodium Vapour Lamps
Comply with BS EN 60662.

2.06.07 Low pressure Sodium Vapour Lamps
Comply with BS EN 60192.

2.06.08 LED (Light Emitting Diodes)
Comply with BS EN 62031:2008 LED modules for general lighting. Safety specifications

BSI DDIEC/PAS 62707-1:2011 LED Binning. General Requirements and white grid

BSI DD IEC/PAS 62717:2011 LED module for general lighting. Performance requirements

All LED modules are to be tested within 2 step MacAdam ellipse tolerance unless specified otherwise.

LED modules must achieve no noticeable colour shift across a 5 year installation period and a maximum of a 5% lumen loss over a 5 year installation period unless specified otherwise.

All LED modules must have a minimum guarantee of 5 years

2.06.09 Lamp Manufacturer
Ensure that lamps of each type are from same manufacturer.

2.06.10 Spares
An allocation of 10% or 5 number (which ever is the greater), of each lamp type shall be provided as spares.

2.06.11 Lamp Disposal
From 16 July 2004, fluorescent lamps, which contain mercury, will be classed as hazardous waste under the European Landfill Directive. Every user of fluorescent lamps will have a responsibility under the Environmental Protection (Duty of Care) Regulations 1991 to dispose of them correctly.

Fluorescent lamps and high-pressure discharge lamps contain a small quantity of mercury metal. The disposal of large quantities of these lamps (over 20no) should only be to suitably licensed containment sites, selected in consultation with the Local Environment Agency Waste Regulations Office

MBLD recommend the client/operator should assess the lamp disposal regime prior to project completion and the services provided by accredited lamp recycling contractor.

2.07 SUPPORT SYSTEM

2.07.01 Support System - Conduit
Use not less than 20mm conduit of the same type as main conduit system.
Material - steel.

2.07.02 Support from Conduit
Where luminaire is supported from conduit provide a conduit box forming an integral part of the conduit system at each point of suspension. Ensure suspensions are vertical. Where conduit enters luminaire use back-nuts and washers to secure luminaire body to conduit support. Provide tube with corrosion resistance equal to conduit system. Do not support luminaires directly from conduit from conduit boxes made from non-metal or heat sensitive materials, where the temperature of the material may exceed 60°C or the mass suspended exceeds 3kg.

2.07.03 Suspension
Suspend luminaires at height indicated. Ensure suspensions hang vertically unless otherwise indicated.

2.07.04 Connections to Luminaires

Cable Protection

Use appropriate size of grommet where cables enter through hole in luminaire body.

Earthing

Ensure that the earthing terminal of Class 1 luminaires is connected to the circuit protective conductor of the supply circuit.

Loose Wiring

Clip or tie back with suitable proprietary devices loose wiring within luminaire at 300mm intervals.

2.07.05 Connections to Luminaires - Direct to Conduit - Terminal Box

Terminate circuit wiring in terminal block within supporting conduit box. Use flexible cord from terminal block to luminaire.

2.07.06 Connections to Luminaires - Direct to Conduit - At Luminaire

Terminate circuit wiring in supply terminals of luminaires. Take all conductors through same cable entry into luminaire.

2.07.07 Connections to Luminaires - Conduit Suspension
Terminate circuit wiring in terminal block within supporting conduit box. Use flexible cable from terminal block to luminaire, installed within tube.

2.07.08 Support System - Rod
Use continuously threaded rods with matching washers and nuts.
Diameter - 6mm. Material - Cadmium plated steel.

2.07.09 Suspension
Suspend luminaires at height indicated. Ensure suspensions hang vertically unless otherwise indicated.

2.07.10 Suspension by Rod
Use washers, nut and lock-nut at top and bottom of rod. Paint cut ends with calcium plumbate primer or zinc rich paint.

2.07.11 Connections to Luminaires
Cable Protection
Use appropriate size of grommet where cables enter through hole in luminaire body.
Earthing
Ensure that the earthing terminal of Class 1 luminaires is connected to the circuit protective conductor of the supply circuit. Loose Wiring Clip or tie back with suitable proprietary devices loose wiring within luminaire at 300mm intervals.

2.07.12 Connections to Luminaires - Rod or Chain Suspension
Terminate circuit wiring in terminal block within supporting conduit box. Use flexible cord from terminal block to luminaire and clip cable to one of the rods or chains, do not weave cable through links of chain.

2.07.13 Support System - Chain
Use cadmium plated steel chain with load carrying capacity of not less than twice the weight of the completed luminaire.

2.07.14 Suspension
Suspend luminaires at height indicated. Ensure suspensions hang vertically unless otherwise indicated.

2.07.15 Suspension by Chain
Use hook cover for suspension from circular conduit box. For connection to luminaires use luminaire manufacturer's own chain hook, but if not available use hook with standard screw threaded body to be secured to luminaire body with nuts and washers. Where indicated use captive hooks.

2.07.16 Connections to Luminaires
Cable Protection
Use appropriate size of grommet where cables enter through hole in luminaire body.
Earthing
Ensure that the earthing terminal of Class 1 luminaires is connected to the circuit protective conductor of the supply circuit.
Loose Wiring
Clip or tie back with suitable proprietary devices loose wiring within luminaire at 300mm intervals.

2.07.17 Connections to Luminaires - Rod or Chain Suspension
Terminate circuit wiring in terminal block within supporting conduit box. Use flexible cord from terminal block to luminaire and clip cable to one of the rods or chains, do not weave cable through links of chain.

2.07.18 Support System - Flexible Cord
Use size and type as indicated on the drawings/schedules.
Confirm temperature rating is suitable for operating temperature of luminaire or lampholder. Confirm that cord is adequate for mass to be supported.

2.07.19 Suspension
Suspend luminaires at height indicated. Ensure suspensions hang vertically unless otherwise indicated.

2.07.20 Suspension by Flexible Cord
Suspend cord from ceiling rose.

2.07.21 Support System - Wall Brackets
Provide wall brackets. Confirm wall brackets are suitable for supporting luminaire.

2.07.22 Installation of Wall mounted fittings
Install luminaires at height indicated. Height to be confirmed by Architect/Interior Designer.

2.07.23 Support System - Ball and Socket
Provide ball and socket as top support, complete with cover fixed to circular conduit box.

2.07.24 Suspension
Suspend luminaires at height indicated. Ensure suspensions hang vertically unless otherwise indicated.

2.07.25 Suspension by Ball and Socket
Install cable through ball and socket connected to conduit box.

2.08 EXTERNAL LUMINAIRES

2.08.01 General
All external light fittings shown within the Luminaire Schedule shall meet the stipulated IP standards, and shall withstand any type of atmospheric corrosion to which the fitting may be exposed.

The installation of ground burial fittings shall be as per the manufacturer's published recommendations and instructions. Adequate drainage shall be provided.

2.08.02 Columns and Bollards - Type A
Standards - BS 5649 Parts 2 to 9 and BS EN 40-1.
Material
Steel or Aluminium as shown on drawings/schedules.
Finish - as shown on drawings/schedules.
Bracket - Match column.
Earthing
Include earthing terminal fixed within service compartment.
Column base plate - Standard.

2.08.03 Columns and Bollards - Type B

Standards - BS 5649 Parts 2 to 9 and BS EN 40-1.

Material

Reinforced or pre-stressed concrete.

Bracket - Match column.

Earthing

Include earthing terminal fixed within service compartment.

Column base plate - Standard.

2.08.04 Columns and Bollards

Location - Confirm location before excavation.

Bases - Install bases as indicated.

Mounting

Mount column or bollard on base as recommended by manufacturer.

Ensure columns and bollards are vertical unless otherwise indicated.

Earthing

Install circuit protective conductor to connect luminaire to earthing terminal in service compartment; size circuit protective conductor same as live conductors. Bond accessible metal parts of column or bollard to earthing terminal.

2.09 LUMINAIRES AND LAMPS ACCESSORIES

2.09.01 Air Handling Luminaires

Provide assembly of luminaire and exhaust air device or luminaire and supply air device to meet design requirements for illumination and airflow. Ensure assembly can be integrated into a false ceiling, flush mounted.

Diffuser

Allow for the path of exhaust air in the diffuser.

Exhaust air outlet

Provide an outlet for the air via a series of circular openings in the top of assembly casing.

Supply air diffuser

Supply the air diffuser as a component of the assembly.

Fixing

Ensure the fixing is capable of carrying the weight of the whole assembly.

2.09.02 Track Lighting

Where indicated provide track for fixing fittings in accordance with BS EN 60570.

Class, poles and current rates as indicated on drawings/schedules.

All track, unless otherwise specified, will be recessed mounted and supplied complete with all necessary live ends, connectors, corner sections, cover plates, mounting clips and end caps necessary for the installation of the track.

2.09.03 Integral Photo-cells

Incorporate integral photocell on luminaire where indicated.

2.09.04 Colour Frame Holders

Where colour frame holders are specified they are for use with glass filters unless otherwise specified.

Colour frame holders are to be designed to contain the colour media at high temperatures.

The colour frame must be capable of being attached from below after the luminaire has been focused. Once the colour frame is in position there must be no light leaks, i.e., all the light must pass through the colour frame.

Where motorised colour scroll units are specified, access shall be from above where possible.

2.09.05 Interior Lighting Switches - General Purpose

Standard - BS 3676 Part 1, enclosure box to BS 4662.

Switch type

Rocker bar - moulded plastic, secret key or dimmer as indicated on drawings/schedules.

Rating - 6A or 20A

Gangs - As indicated on drawings/schedules.

Switch mechanism - Snap action microgap.

Pole configurations

Single pole, 1 way, 2 way or intermediate as indicated on drawings/schedules.

2.09.06 Interior Lighting Switches - Grid.

Standard - BS 3676 Part 1, enclosure box to BS 4662.

Switch type

Rocker bar - metal, moulded plastic or secret as indicated on drawings/schedules.

Rating - 6A or 20A

Gangs - As indicated on drawings/schedules.

Switch mechanism - Snap action microgap.

Pole configurations

Single pole, 1 way, 2 way or intermediate as indicated on drawings/schedules.

2.09.07 Interior Lighting Switches - Pull Cord

Standard - BS 3676 Part 1, enclosure box to BS 4662.

Switch type

Cord to BS EN 61058-2-1.

Rating - 5A.

Pole configurations

Single pole.

2.09.08 Exterior Lighting Switches - Sealed rocker Bar

Standard - BS 3676 Part 1, enclosure box to BS 4662.

Switch type

Rocker bar with sealed plastic membrane.

Rating - 6A

Gangs as indicated on drawings/schedules.

Action - Two position.

Pole configurations

Single pole, 1 way, 2 way or intermediate as indicated on drawings/schedules.

2.09.09 Exterior Lighting Switches - Metal Clad Rotary

Standard - BS 3676 Part 1, enclosure box to BS 4662.
Switch type
Rotary disc or lever operating through sealing gland.
Rating - 5A
Gangs as indicated on drawings/schedules.
Action - Two position.
Pole configurations
Single pole, 1 way, 2 way or intermediate as indicated on drawings/schedules.

2.09.10 Time Switches - 24 Hour 7 Day

Wire timer and switch circuits to separate terminals
Standard - BS EN 60730-2-7.
Time switch type
Quartz stabilized solid state 50-hour nickel cadmium battery backup.
Contacts duty - Inductive.
Contacts rating - 15A.
Special programme facilities
Number of "ON" and "OFF" operations - 4.
Programme repeat cycle - 24 hour 7 day.

2.09.11 Luminaire Connectors - General and Emergency Lighting

Rating - 2A.
Connector type
Fixed terminal strip, cord grip and screw on retaining cover to BS 67.
Load carrying capacity
Details of all luminaires and associated equipment weights shall be obtained by the contractor who shall be responsible for ensuring that load carrying capacity of cables is adequate.

2.09.12 Luminaire Connectors - General Lighting

Rating - 2A or 5A.
Connector type
3 pin plug and socket to BS 546.
Load carrying capacity
Details of all luminaires and associated equipment weights shall be obtained by the contractor who shall be responsible for ensuring that load carrying capacity of cables is adequate.

2.09.13 Luminaire Connectors - Cord grip General and Emergency Lighting

Rating - 2A.
Connector type
Cord grip type plug/socket and screw on retaining cover to BS 5733
3 pin or 4 pin.
Luminaire supporting coupler to BS 7001 as shown on drawings / schedules.
Load carrying capacity
Details of all luminaires and associated equipment weights shall be obtained by the contractor who shall be responsible for ensuring that load carrying capacity of cables is adequate.

2.09.14 Lampholders - BC Type

Standard - BS EN 61184.
Lampholder type - Bayonet clip B22.
Fixing
Bracket - straight or angle, or suspension as indicated on drawings/schedules.
Finish - Manufacturer's standard.
Material - Heat resistant moulded plastic.
Ancillaries
Cord grip, lampshade ring or protective lampshade ring as indicated on the drawings/schedules.

2.09.15 Lampholders - ES Type

Standard - BS EN 60238.
Lampholder type - Edison screw - E27.
Fixing
Bracket - straight or angle, or suspension as indicated on drawings/schedules.
Finish - Manufacturer's standard.
Material - Heat resistant moulded plastic.
Ancillaries
Cord grip, lampshade ring or protective lampshade ring as indicated on the drawings/schedules.

2.09.16 Socket outlets - Unswitched

Application
Use for achieving final connections of table/planter luminaires to main conduit/trunking system within internal areas not subject to weather, high humidity, damp or condensation and where indicated on drawings/schedules.
Standard - BS 546, enclosure box to BS 4662.
Rating - 5A or 15A.
Ancillaries
Plug tops to 25% of number of sockets, fused as indicated on drawings/schedules.
Gangs
As indicated on drawings/schedules.

2.10 LUMINAIRES AND LAMPS WORKMANSHIP - GENERAL

2.10.01 General

All materials, accessories and other related luminaire parts shall be new and free of any defects, which may impair the character, strength, durability and function of the fittings. All materials shall be effectively protected from any damage or injury from the time of fabrication, delivery and installation till final handover.

2.10.02 Orientation

Install luminaires as indicated on the drawings/schedules, and in horizontal plane unless otherwise stated. Luminaires shall be installed in accordance with manufacturer's recommendations and instructions.

2.10.03 Cleanliness

Ensure luminaires are clean and grease free on handover. Do not install luminaires, reflector cones, baffles, aperture plates, light controlling and decorative components until all plastering and painting works have been completed.

2.10.04 Material of Supporting Surface

Ensure classification of luminaires is appropriate. Do not mount luminaires on readily flammable surfaces.

2.10.05 Luminaires in areas with Infra-red Control System

Install luminaires in areas with infra-red control systems or data bearers so as to cause minimum disturbance to the infra-red transmission system in accordance with BS 7693.

2.10.06 Installation of Extra Low Voltage Tungsten Halogen Lamps

Use same wattage lamp on luminaires fed from common transformer. Supply each luminaire on common transformer by separate cable of same cross-sectional area and cable length. Wherever possible ELV luminaire transformers shall be accessible via the luminaire ceiling cut-out.

2.10.07 Support

Ensure support is adequate for weight of luminaires.

Number

Provide the following minimum number of supports for each luminaire longer than 600mm.

Luminaire width (mm)	Minimum number of supports
Up to and including 300	2
Over 300	4

2.10.08 Support by Direct Fixing

Refer to fixing method.

Luminaire supporting coupler to BS 7001 or as manufacturers recommendations.

2.10.09 Support in Suspended Ceiling

Support luminaires directly from building fabric.

2.10.10 Connections to Luminaires

Cable Protection

Use appropriate size of grommet where cables enter through hole in luminaire body.

Earthing

Ensure that the earthing terminal of Class 1 luminaires is connected to the circuit protective conductor of the supply circuit.

Loose Wiring

Clip or tie back with suitable proprietary devices loose wiring within luminaire at 300mm intervals.

2.10.11 Connections to Luminaires - MICS Cable

Fix cable gland to luminaire and continue conductors to supply terminals of luminaire.

2.10.12 Separate Lighting Switches on Different Phases

Install lighting switches on different phases at least 2m apart.

2.10.13 Phase Barrier Lighting Switches on Different Phases

When lighting switches on different phases are in a common box, use phase barrier switches.

2.10.14 Earthing

Ensure metal framework of equipment is bonded to main earth point. Ensure that cable CPC's are connected to earth bar. Provide earth CPC between earth lug on metal box and accessory casing except where accessory is encased in plastic.

2.10.15 Protection

Ensure there is no physical or electrical damage to accessories when they are removed from their packaging and during installation. Provide masking covers for surface mounted accessories to protect surface from paint. Where accessories are flush mounted install front plate after painting is finished.

2.10.16 Fixing

Align accessories horizontally and vertically, as indicated. Where accessories are grouped, mount horizontally in line and parallel to each other and equidistant. Fix cover plates to boxes with brass fixing screws.

2.10.17 Measuring Mounting Heights

Take measurement for position of electrical accessories to the centre line of equipment from either finished floor or worktop. Where specified height coincides with top of tiling, leave a clear gap of 50mm above tiling. Mount equipment below a worktop 100mm below underside of worktop.

2.10.18 Mount Electrical Accessories

As indicated on Architect/Interior Designer drawings/schedules.
Or as indicated on Lighting Consultants drawings/schedules.
Or in accordance with the following schedule

Accessory	Location Height AFFL
Lighting switch/control plate	1400mm
Socket outlet	General 200mm

2.11 LUMINAIRES AND LAMPS WORKMANSHIP

2.11.01 Installation of Recessed Fittings

Install luminaires flush with finished ceiling level. Light leaks between ceiling trims of recessed fittings and finished ceiling level will not be accepted.

All necessary fixing brackets, ceiling trims, etc., must be supplied with all recessed fittings to cater for the particular type of ceiling to which they will be installed. It shall be the responsibility of the Electrical Contractor to obtain the relevant ceiling details required to ensure that the appropriate type of accessories have been supplied to cater for the ceiling type to which the fitting is to be installed.

All cut out and recess depth dimensions shall be confirmed by the Electrical Contractor prior to placement of orders. All dimensions shown in the Schedule of Luminaires are from catalogue references and therefore indicative.

2.11.02 Installation of Semi-Recessed Fittings

Install luminaires as manufacturer's detail.

All necessary fixing brackets, ceiling trims, etc., must be supplied with all semi-recessed fittings to cater for the particular type of ceiling to which they will be installed. It shall be the responsibility of the Electrical Contractor to obtain the relevant ceiling details required to ensure that the appropriate type of accessories have been supplied to cater for the ceiling type to which the fitting is to be installed.

All cut out and recess depth dimensions shall be confirmed by the Electrical Contractor prior to placement of orders. All dimensions shown in the Schedule of Luminaires are from catalogue references and therefore indicative.

2.11.03 Installation of Syspended luminaires, including decorative pendants and chandeliers

Install pendants as manufacturer's detail.

All necessary fixing brackets, ceiling trims, etc., must be supplied with all fixings to cater for the particular type of ceiling to which they will be installed. It shall be the responsibility of the Electrical Contractor to obtain the relevant ceiling details required to ensure that the appropriate type of accessories have been supplied to cater for the ceiling type to which the fitting is to be installed.

All details and dimentions shall be confirmed by the Electrical Contractor prior to placement of orders. All dimensions shown in the Schedule of Luminaires are from catalogue references and therefore indicative.

The main and electrical contractor shall ensure that all custom luminaire shop and/or construction drawings shall be obtained for approval prior to manufacture and that all information relating to any necessary additional support mechanism, sub-frame, or slab connection of any kind is the responcibility of the electrical contractor.

2.11.04 Connections to Luminaires

Cable Protection

Use appropriate size of grommet where cables enter through hole in luminaire body.

Earthing

Ensure that the earthing terminal of Class 1 luminaires is connected to the circuit protective conductor of the supply circuit.

Loose Wiring

Clip or tie back with suitable proprietary devices loose wiring within luminaire at 300mm intervals.

2.11.05 Connections to Luminaires - Recessed Fittings - Plug & Socket

Where luminaires are recessed in a suspended ceiling, terminate circuit wiring at plug and socket to BS 546, located not more than 500mm from the access through the ceiling. Use flexible cord from plug of ceiling rose to supply terminals of luminaire.

2.11.05 Connections to Luminaires - Recessed Fittings - Terminal Box

Where luminaires are recessed in a suspended ceiling, terminate circuit wiring in terminal block within conduit box. Install wiring to luminaire as indicated on drawings.

2.12 LUMINAIRES AND LAMPS WORKMANSHIP - ON TRUNKING

2.12.01 Support

Ensure support is adequate for weight of luminaires.

Number

Provide the following minimum number of supports for each luminaire longer than 600mm.

Luminaire width (mm)	Minimum number of supports
Up to and including 300	2
Over 300	4

2.12.02 Support from Trunking

Where luminaire is supported from trunking use proprietary clamps or brackets appropriate to the luminaire and trunking. Do not support luminaires directly from trunking made from non-metal or heat sensitive materials, where the temperature of the material may exceed 60°C or the mass suspended exceeds 3kg.

2.12.03 Connections to Luminaires

Cable Protection

Use appropriate size of grommet where cables enter through hole in luminaire body.

Earthing

Ensure that the earthing terminal of Class 1 luminaires is connected to the circuit protective conductor of the supply circuit.

Loose Wiring

Clip or tie back with suitable proprietary devices loose wiring within luminaire at 300mm intervals.

2.12.04 Connections to Luminaires - Direct to Trunking - Terminal Box

Terminate circuit wiring in terminal block in an adaptable box located on side of trunking. Use flexible cord from terminal block to luminaire.

2.12.05 Connections to Luminaires - Direct to Trunking - At Luminaire

Terminate circuit wiring at supply terminals of luminaire. Take all conductors through same cable entry into luminaire.

2.12.06 Connections to Luminaires - Suspended from Trunking

Where luminaires are suspended from trunking, secure plug and socket to BS 546, adjacent to, or on side of, trunking. Terminate circuit wiring at socket. Take flexible cord from plug of ceiling rose to supply terminals of luminaires.

2.13 FIXING TO BUILDING FABRIC

General

2.13.01 Preparation

Mark-out, set-out and firmly fix all equipment, components and necessary brackets and supports.

2.13.02 Manufacturer's Drawings

Use manufacturer's drawings and templates for purposes of marking and setting out.

2.13.03 Fixings

Ensure structure and fixings are suitable for items to be fixed.

2.13.04 Loading Details

Provide loading details for all fixing types.

2.13.05 Building-in by Others

Provide all necessary assistance to enable any item of building-in type to be built by others.

2.13.06 Size of Fixing

Use largest size of bolt, screw or other fixing permitted by diameter of hole in item to be fixed.

2.13.07 Greasing of Fixings

Ensure all bolts, screws or other fixings used are greased or lubricated in accordance with the manufacturer's instructions.

Products/materials

2.13.08 Standards
Comply with BS 3974 Part 1 for fixings. Ensure that fixings such as expanding anchors are tested for tensile loading in accordance with BS 5080.

2.13.09 Plugs
Use plugs of suitable size and length for fixings. Use plastic fibrous or soft metal non-deteriorating plugs to suit application. Do not use wood plugs. Ensure that when screw is in place, threaded length is in the plug. Ensure plugs used for screw fixing are set-in to correct depth prior to final tightening.

2.13.10 Screws
Use screws to BS 1210. Generally use sherardized steel wood screws for fixing to concrete, brickwork or blockwork.
In damp or exposed situations use greased brass wood screws.

2.13.11 Cast-in Fixings
Where cast-in fixings are permitted, mark out and set fixings in accordance with manufacturer's instructions.

2.13.12 Shot Fired Fixings
Obtain approval prior to using shot fired type fixings.

2.13.13 Self Adhesive Fixings
Obtain approval prior to using self adhesive type fixings.

2.13.14 Proprietary Channel Inserts
Provide proprietary channel inserts for casting in where indicated.

Workmanship

2.13.15 Drilling
Drill holes squarely. Use drills of requisite size and depth, and appropriate to fabric. Do not flame cut holes in metal work.

2.13.16 Proprietary Fixings
Comply with manufacturer's instructions for all fixings.

2.13.17 Fixing to Reinforced Concrete
Take precautions to avoid fixing through reinforcement.

2.13.18 Fixing to Brickwork
Do not fix to unsound material or mortar between brickwork courses.

2.13.19 Fixing to Timber Rails
Fix equipment, brackets and supports by drilling hole through timber rail and fixing with bolt, back plate, washer and loose nut.

2.13.20 Fixing to Concrete, Brickwork or Blockwork
Fix equipment, brackets and supports using wood screws in plugs.
Drill holes and fixing using steel bolts of grouted bolt type or expanding bolt type fixing.

2.13.21 Fixing to Hollow Stud/Tile/Block Walls

Fix equipment, brackets and supports where there is access at rear of wall, by drilling hole through wall and fixing with bolt, back-plate, washer and loose nut. Fix equipment, brackets and supports where there is no access at rear of wall, drill hole and use screw anchor type fixing or gravity type toggle fixing.

2.13.22 Fixing to Metalwork

Fix equipment, brackets and supports by drilling holes and fixing using set screws or bolts complete with washers, shakeproof washers and loose nuts.

2.13.23 Fixing to Structural Steelwork and Concrete Structures

Provide manufacturer's information on recommended fixing. Obtain approval for any fixing to structural steelwork and concrete structures. Generally use proprietary fixings to structural steelwork and concrete structures. Obtain approval to cut holes in structural steelwork or concrete structures or weld to structural steelwork.

2.14 OFF-SITE PAINTING AND ANTI-CORROSION TREATMENTS

General

2.14.01 General Requirements

Where particular methods of finish and painting are not specified, ensure following requirements are met.

Protect all metal work, equipment, ancillaries, brackets and supports against corrosion and oxidization.

Provide ferrous metals, machined or otherwise with a protective coatings at manufacturer's works.

Ensure all items requiring on-site decorative finishes are provided primed to suit base material and required finish.

2.14.02 Damaged Finishes

Following delivery to site, storage on site and installation make good any damage to finishes, by cleaning, degreasing and re-furbishing

Products/materials

2.14.03 Paint materials

Use the following materials as appropriate Solvent borne priming paint to BS 5358 for bare woodwork. Red oxide priming paint for bare iron and steelwork. Zinc Chromate priming paint for bare ferrous and non-ferrous metals. Calcium Plumbate priming paint to BS 3698 for galvanized steel or composite wood/metal components. Undercoating paint for previously primed or painted surfaces before application of finishing coats. Gloss finishing paint for previously primed or painted/undercoated surfaces. Epoxy resin paint for specialist coatings requiring resistance to acids, alkalis, oils, solvents, abrasion or high humidity. Aluminium paint to BS 388 for heated metallic surfaces and similar applications where moisture and heat resistant properties are required. Cold galvanising paint for making good damage to previously galvanised surfaces and protection to galvanised materials modified during installation. Zinc-rich metallic to BS 4652 for bare iron and steelwork where electrical conductivity has to be assured. Black tar-based paint to BS 1070 for moisture resistant protection to metal surfaces where decorating appearance is not important. Bitumen based coatings for cold application to BS 3416 protection to iron and steel, particularly for components in contact with potable water. Bitumen based coatings for cold application to BS 6949 not to be used in contact with potable water.

2.14.04 Paint Quality

Ensure paints used are of quality and type to suit application and that the primers have good adhesion, covering power, rust-inhibiting and grain filling properties; gloss finishing paints are of machine finish grade having high adhesion and high resistance to solvents, mineral oils, cutting oils, detergents, chipping and impact damage.

2.14.05 Heat Resistant Paint

Use heat resistant paints for applications to surfaces over 80°C.

Workmanship

2.14.06 General

Ensure paints are applied in accordance with manufacturer's instructions and to BS 6150.

2.14.07 Weather and Other Conditions

Do not apply paints where weather, temperature, humidity or other conditions may have a damaging effect upon finish or paint.

2.14.08 Cleaning

Ensure metal surfaces are thoroughly cleaned, all mill and weld scale removed and finally degreased. Clean steel surfaces in accordance with BS EN ISO 8503 (BS 7079).

2.14.09 Application Off-site

Wherever possible ensure paint finishes applied by component manufacturers are spray applied.

2.14.10 Application

Apply paint evenly and ensure finish shows no excessive brush marks, grinning, runs, sagging, ropiness or other application defects.

2.14.11 Cold Galvanising

Repair damage to galvanised components due to installation process, i.e., following cutting, drilling or welding, by applying 2 no. substantial coats of cold galvanising paint.

2.14.12 Protection of Bright Machine Parts

Apply a protective coating to all bright machined parts before despatch from works. Do not remove protective coatings unless required for installation, testing or commissioning purposes and in such cases reinstate upon completion. Repair any damaged protective coating or bright machined part, or where necessary replace damaged components. Use and apply metal coatings in accordance with manufacturer's instructions. Complete where possible all welding, drilling, bending and other work before metal coating.

2.15 TESTING AND COMMISSIONING

General

2.15.01 Focusing

All directional luminaires, interior and exterior shall be focused and locked by the Electrical Contractor under the direction of Maurice Brill Lighting Design Ltd. As the focusing and adjustment of the luminaires is completed, locking screws, bolts and nuts shall be securely tightened to fix aiming angles.

The Electrical Contractor shall be required to provide two persons on site to facilitate this operation.

All focusing and adjustments shall be carried out only after the entire installation has been tested and complete. Where possible luminaires shall be focused during normal working hours. However, where daylight interferes with this operation, focusing shall be accomplished during the hours of darkness.

All necessary tools and access equipment shall be furnished by the Electrical Contractor.

Exterior façade lighting – The contractor must confirm the location of all of the façade luminaires with MBLD. The contractor must all for façade focussing where required after all of the building scaffolding is removed. Removal of all scaffolding must be made in order for MBLD have clear views of the façade ensuring even aiming angles to the building where required. This can only be carried out during the evening/after dark hours.

DIMMING CONTROL SYSTEM (See Section 3.04)

Upon completion of the installation, the system shall be completely checked out by a factory trained engineer. Upon completion of system check, the engineer shall demonstrate the operation of the system to the appropriate Client representatives.

The manufacturer shall allow for commissioning which shall include for travel, accommodation, and meals, etc. The commissioning duration shall allow for all pre-commissioning. The pre-commissioning period must be complete prior to the arrival of the Lighting Designer. A minimum of five business days shall be allowed with the Lighting Designer on site. Where area are affected by daylight after dark work will be required, this will involve visiting the same areas multiple times.

Where there are more complex lighting programming requirements, i.e., colour changing, that include for daily and weekly shows, the contractor and nominated supplier must allow enough time to set up and commission separately with the lighting consultant

Manufacturer shall allow for staff training, and full on site programming of the system as per the Clients requirements.

2.15.02 Inspection and Test Procedure

Comply with BS 7671 Requirements for Electrical Installations (the IEE Wiring Regulations), IEE Guidance Notes Number 3 Inspection and Testing and other British Standards as appropriate.

Testing

THE CONTRACTOR SHALL BE RESPONISBLE FOR THE MATTERS CONTAINED IN CLAUSES 2.15.03 TO 2.15.10 INCLUSIVE

2.15.03 Initial Verification

Carry out detailed inspection to verify the requirements of BS 7671 Section 712 in the order given in clause 712-01-03 for New Installation or Altered or Added Installation as appropriate.

2.15.04 Test Equipment and Consumables

Provide test equipment and consumables to complete tests satisfactorily, and to retest any failed installations following corrective measures.

Test equipment quality assurance requirements to BS EN 30012-1.

2.15.05 Testing

Carry out in the same order as published the tests required by BS 7671 Section 713 for New Installation or Altered or Added Installation as appropriate.

2.15.06 Specialist Installations

Carry out site testing and inspection and provide test certificates for emergency lighting installations in accordance with BS 5266.

2.15.07 Calibration

Provide current certificates of calibration for all instruments used during test procedures. Record particular instrument identity on record sheets.

2.15.08 Certification and Reporting

Complete and hand over to the Client a Completion and Inspection Certificate to BS 7671 Appendix 6 for New Installation or Altered or Added Installation as appropriate.

2.15.09 Completion Certificates

Provide completion certificates for electrical installations in accordance with BS 7671. Record details of departures from BS 7671 on certificate.
Provide copies of calculations justifying departure from BS 7671 and attach to certificates.

2.15.10 Records

Record all results and instrument readings on approved Record Sheets and hand over to Client two copies for each inspection and test.

As Built Information

The contractor shall provide a full set of As Built Record Drawings.

2.15.11 Circuit Schedules

The contractor shall provide a full set of As Installed Circuit Schedules.

PART 3 - SPECIFICATION CLAUSES SPECIFIC TO LIGHTING INSTALLATION.

3.01 LIGHTING CONTROL SYSTEM

Contractor to issue this section to the lighting control manufacturer(s) together with associated schedules contained within sections 3 & 4.

3.01.01 System Requirements

- Provide, install and test an architectural lighting dimmer control system as specified herein for the areas indicated on the drawings and associated schedules.
- The entire control system shall be CE marked and comply with local prevailing Codes and Standards if more onerous than the codes and standards given in this specification.
- All lighting control equipment ie. dimming panels, control panels, fluorescent dimming ballasts, and controls shall be manufactured by one manufacturer.
- Manufacturer shall maintain ISO 9001 certification.
- Manufacturer shall be a Company specialising in architectural lighting control systems with a minimum of 10 years continuous experience in manufacturing such equipment.

3.01.02 Installer Selection

Supply lighting control equipment manufactured by one of the specialist companies listed below:

FAÇADE LIGHTING CONTROL

1. DYNAMIC PROGRAMMABLE FAÇADE LED

Artistic Licence
24 Forward Drive
Christchurch Avenue
Harrow, Middlesex
London
HA3 8NT
Tel: 00 44 8863 4515
Contact: Wayne Howel

2. FOR ALL PUBLIC AREA INTERIOR / FAÇADE AND LANDSAPE LIGHTING CONTROL

ILight Ltd
Unit 4 Enterprise Centre
Penshurst
Kent
TN11 8BG
England
Tel: +44 (0) 1892 870072

Mode Lighting Limited
The Maltings,,
63 High Street,
Ware, Herts
SG12 9AD
Tel: +44 (0)1920 462121
M: +44 (0)7860878706
Contact: Paul Burges
Email:paul.burgess@modelighting.com

Lutron EA Ltd. - London

4th Floor, 52 Leadenhall Street, London, EC3A 2EB, UK
www.lutron.com/europe

Contact: Nicolla Farry
Tel: +44 (0) 7776 663 566
Email: nfarry@lutron.com

3. FOR GUESTROOM LIGHTING CONTROL

Lutron EA Ltd. - London

4th Floor, 52 Leadenhall Street, London, EC3A 2EB, UK
www.lutron.com/europe

Contact: Nicolla Farry
Tel: +44 (0) 7776 663 566
Email: nfarry@lutron.com

The listing of a manufacturer as "acceptable" does not imply automatic approval. It is the responsibility of the Electrical Contractor to ensure that any price quotations received and submittals made are for devices that meet or exceed the specifications included herein.

3.01.03 Submittals

The lighting control manufacturer shall be required to provide the following information for review, comment and approval by Maurice Brill Lighting Design Ltd. prior to placement of order by the Electrical Contractor.

- Manufacturer shall provide shop drawings including all mechanical and electrical notes and construction details for all equipment to be supplied.
- Manufacturer shall provide load schedules which indicate a clear understanding of the actual loads per circuit, which circuits are on respective control zones, which circuits are on emergency (if applicable), and the corresponding circuit number (as per the electrical drawings).
- Interconnection diagram showing details of each control, which zones are on that control, the interconnection wiring between controls and dimming panel(s). Provide one diagram per dimming panel location. Block diagrams involving cross-referencing to catalogues specification sheets will not be acceptable.
- Catalogue literature with performance specification which indicate compliance to the specifications herein.
- Manufacturer shall provide any additional information or demonstrations as required by Maurice Brill Lighting Design Ltd. to demonstrate conformance with Clause 3.03 of this specification. All demonstrations to be at a location, time, and in a manner chosen by Maurice Brill Lighting Design Ltd.
- Manufacturer shall provide documentation substantiating conformance with the specification, indicating equipment submitted meets or exceeds each line item in the specification, or exceptions taken.

3.02 LIGHTING CONTROL EQUIPMENT SCHEDULE

Supply lighting control equipment in accordance with the schedule, as per Sections 3 & 4.

3.03 LIGHTING CONTROL EQUIPMENT

3.03.01 Dimming Panels

Dimming panels shall be wall or floor mounted, constructed of sheet steel. Contractor shall reinforce wall as required for wall mounted panels.

Dimming panels shall be supplied completely pre-wired by the lighting control manufacturer. The Electrical Contractor shall be required to provide input feed wiring, load wiring and control wiring. No other wiring or assembly by the Electrical Contractor shall be permitted.

The panel shall contain circuit breakers to provide primary input feeder and outgoing branch circuit protection for each dimming/switching module suitably rated for the load controlled. Branch circuit breakers shall have the following performance characteristics:

- Certified as a miniature circuit breaker to BS EN 60898 for use on lighting circuits.
- Contain a visual trip indicator and shall have Type C characteristics.
- Be thermal-magnetic in construction for both overload and short circuit protection.
- Be switching duty rated so that the loads can be switched off via the breakers.
- The contractor should provide a schedule of loads and corresponding breaker number within a laminated cover and fixed to the dimmer panel cover. Each breaker will be labelled with a corresponding number identifying the circuit use for the operator to identify.

The panel shall contain factory installed brass or copper jumpers to enable power to completely bypass dimming/switching modules for temporary power during installation and any future service work. Bypass jumpers shall be clearly and permanently labelled and shall be reusable at any time. Low voltage control signal methods of bypass shall not be acceptable.

The panels shall be cooled via free-convection, unaided by fans, and capable of continuous operation in an ambient temperature range of 0°C to 40°C.

Panels which normally use cooling fans shall be derated by 50%. A lesser rating shall be allowed providing that the manufacturer can substantiate, via an independent test laboratory, that with no fans operating, and at full-rated dimmer capacity, the temperatures of the main semiconductors are at least 20°C below maximum temperature rating and the temperatures of the filter chokes are within the maximum allowable temperatures of these components at an ambient temperature of 40°C.

Alternatively, fans may be used with the following additional provisions:

- The manufacturer shall provide a service contract beginning from the day the standard warranty ends until 10 years after the date of purchase. The service contract shall provide for biannual replacement of all fans and annual cleaning of all filters by a factory trained engineer. A label not less than 5"x3" shall be affixed to each dimming panel and shall clearly state that the panel is covered by an extended service contract on these items, with appropriate spaces for logging the service work performed.
- Provide a copy of the service contract, as well as a copy of the label described above with the lighting control submittals.
- Cost for the above service contract shall be included in the base bid.
  Panels shall have the following additional performance characteristics:

- Be designed to prevent any foreign objects from coming into contact with any part of the panel which would be at an elevated temperature, such as the dimmer extrusions or heat fins.
- Be designed to provide airflow across the heat sink areas and through the dimmer chassis. Panel sections which would provide airflow only across heat sinks shall not be mounted one above the other in order to allow adequate heat dissipation.

Panel shall provide capability to electronically assign each circuit to any zone in the dimming system. Panels using mechanical switches, rewiring, or EPROMS shall not be acceptable.

Multiple panels shall be capable of operating in one system.

3.03.02 Dimming Modules

A positive air gap relay shall be employed with each dimming module in the panel to ensure that the load circuits are open when the "off" function is selected at a control station. These relays need not be integral to the module but must be integral to the panel. Lighting control manufacturer shall provide and warrant both the relays and the necessary control interface(s) as part of the control system.

All dimmers shall be voltage regulated so that a ±10% variation in line voltage shall cause no more than a ±5% variation in load voltage when dimmer is operating at 40V (5% light output).

Silicon thyristors shall be used to control the power furnished to the loads. The complete load current shall be carried by these devices. Silicon thyristors shall be designed to withstand surges, without impairment to performance, of 6000V, 3000A (equivalent to a near lightning strike). Upon request the manufacturer shall provide a means to demonstrate conformance to the specification using the appropriate surge-generation equipment. Under full-load conditions in a 40°C environment, all silicon thyristors shall operate at a minimum 20°C safety margin below the component temperature rating.

The maximum allowable asymmetry in the load waveform shall be ±1 VDC.

Each dimming module shall incorporate an electronic "soft-start" default at initial turn-on that smoothly ramps the lights up to the appropriate levels within 0.5 seconds.

Filtering shall be provided in each dimming module so that current rise time shall be at least 350μsec at 50% rated dimmer capacity as measured from 10-90% of the load current waveform at a 90° conduction angle, and at no point rise faster than 30μA/msec. Manufacturers should note that additional filters may be required to meet this specification. These filters need not be integral to the dimming module, but must be integral to the dimming panel.

Dimmer output voltages shall be a minimum 95% of input voltage at maximum intensity setting.

3.03.03 Switching Modules

Relays shall be mechanically latching. A positive air gap relay shall be employed with each switching module in the panel to ensure that the load circuits are open when the "off" function is selected at a control station. These relays need not be integral to the module but must be integral to the panel. Lighting control manufacturer shall provide and warrant both the relays and the necessary control interface(s) as part of the control system.

Relays shall be used to control the power furnished to the loads. The complete load current shall be carried by these devices. Relays shall be designed to withstand surges, without impairment to performance, of 6000V, 3000A (equivalent to a near lightning strike). Upon request the manufacturer shall provide a means to demonstrate conformance to the specification using the appropriate surge-generation equipment.

Relays shall be rated for 16 Amps, continuous duty, for the following load types:

- Incandescent/tungsten.
- Electronic and magnetic low voltage.
- Neon/cold-cathode.
- High-intensity discharge.
- High inrush electronic and magnetic fluorescent lamp ballasts.

Load shall be switched in a manner that ensures that no arcing will occur at the mechanical contacts when power is applied to the load circuit.

The voltage drop across the switching module shall not exceed 100mV RMS when in the closed state. Power efficiency shall be in excess of 99% at full load RMS voltage.

3.03.04 Sources

Dimmers shall operate the following sources/load types with a smooth continuous Square Law dimming curve. Dimmers shall also be capable of operating these sources on a non-dim basis. Dimmers shall be electronically assigned to the appropriate load type/dimming curve and can be reassigned at any time. Universal-type dimmers that do not adjust the dimming curve shall not be acceptable.

3.03.05 Incandescent, Tungsten and Magnetic Low Voltage Transformer

- Dimmer shall contain circuitry specifically designed to control and provide a symmetrical AC waveform to the input of magnetic low voltage transformers.
- Dimmer shall not cause a magnetic low voltage transformer to operate above the transformer's rated operating current and temperature.
- Dimmer shall contain circuitry to control dioded lamps.

3.03.06 Electronic Low Voltage Transformer

- No flicker or interaction shall occur at any point in the dimming range.
- For integral dimming, an interface shall be required.

3.03.07 Fluorescent Electronic Dimming Ballasts

Dimmer shall be rated to control T12, T12 high output, T8, T5 and T4 lamps. All lamps on the same circuit must have the same current rating, but may be different lengths. Ballasts for fluorescent fixtures must be approved or manufactured by lighting control manufacturer. Manufacturer shall provide single, two, or three lamp electronic dimming ballasts as required. The dimming performance shall be as follows:

- Ballasts shall withstand 4000V surges.
- Ballasts shall preheat lamp cathodes before applying arc voltage to ensure rated lamp life is not diminished.
- Ballasts shall internally limit inrush current to not exceed three amps at 277V or seven amps at 120V to avoid computer problems, nuisance circuit breaker trips, and control contact malfunctions.
- Light level output shall be continuous, even and flicker-free over the entire dimming range.
- Ballasts shall be inaudible in a 27dB ambient throughout the dimming range.
- Ballasts shall be capable of striking lamps at any light level. This shall be accomplished without first flashing to full light.
- Ballasts shall have a minimum starting temperature of 10°C.
- Ballasts shall not be damaged by miswiring line voltage and control wire inputs.
- Dimming range of ballasts shall be from 100% to 1% light level for T12 and T8 lamps, 100% to 5% light levels for T5 and T4 lamps.
- Ballasts shall have a ballast factor equal to 0.93, throughout the entire dimming range, magnitude of harmonic distortion shall not exceed 10% THD of current at full light output, lamp current crest factor less than or equal to 1.6.

3.03.08 Neon and Cold Cathode Dimmer

Neon and cold cathode dimmers shall provide the ability to dim lamps down to 10% of full light when used with normal low power factor transformers.

- The lamp performance over the range specified shall be continuous and free of flicker and striations.
- Neon/cold cathode lamps shall be manufactured with strict attention paid to proper lamp pressurisation and exclusion of any impurities to ensure best dimming performance.
- For optimum performance, transformers shall be sized per transformer sizing tables developed by the dimming manufacturer.
- The Electrical Contractor is responsible for proper neon or cold cathode lamp and wiring installation.

3.03.09 Control - General

A "scene" or "preset" is a specific look or mood created by different lighting zones set at different intensities. A "zone" is one or more lighting circuits which are controlled together as a group.

Preset dimming control shall provide power failure memory. Should power be interrupted and subsequently returned, the lights will come back on to the same levels set prior to the power interruption. Restoration to some other default level is not acceptable, unless specifically noted elsewhere.

Faceplate shall attach using no visible means of attachment.

Controls shall be engraved with appropriate zone and/or scene descriptions, furnished to the manufacturer prior to fabrication. Size and style of engraving shall be determined by the architect/interior designer. Any silk screen borders, logos, graduations, etc., shall use a graphic process that chemically bonds the graphics to the metal faceplate, resistant to removal by scratching, cleaning, etc.

A handheld programmer must be included within the lighting control manufactures bid.

3.03.11 Multiple Area Centralised Control

Where indicated on the drawings, control shall provide preset lighting scenes for up to 512 zones in any combination of groups or areas. System set up shall be via a personal computer running Windows. System set up shall provide capability to:

- Assign dimmers to specific zones.
- Define the number of areas.
- Define the number of zones and scenes per area.
- Define wallstations functionality.
- Set the astronomic timeclock based on longitude, latitude, and daylight saving schedule.
- Label all areas, zones, scenes, and wallstations.
- Plan exception schedules up to one year in advance.

Operating software shall additionally provide the capability to:

- View the status of all areas.
- Modify scene values.
- Define timeclock schedules.

System shall support printing of the following summaries:

- Area overview (scenes, zones, and wallstations).
- Scene summary by area (light levels of all zones for each scene).
- Wallstation summary by area (specific function for each wallstation).

Control shall allow offsite design of system or modifications after installation. Control shall also be capable of interfacing to other equipment via an integral RS-232 interface and/or modem. Control shall be capable of operating with up to 96 wall controls. Where indicated on drawings, use accessory control (wallstation) as required.

Each area, scene, and zone name shall be designated by an alphanumeric display of up to 32 characters. The intensity for each zone shall be indicated via a bar graph. Lighting levels shall fade smoothly between scenes at time intervals of 0-59 seconds or 1-60 minutes. Fade time and fade delay shall be separately selectable for each zone in each scene. It shall be possible to program a scene to affect any or all zones of an area.

An integral timeclock shall execute any of the following events: select preset scenes, enable/disable control stations, start/stop sequences, and select daylight linked scene banks. Commands can be in either real or astronomic (relating to sunrise/sunset) time. Timeclock shall automatically correct for daylight saving time and leap year when appropriate. There shall be a total of 10 timeclock schedules available per area (one per day of week, plus three special schedules). Schedules shall be capable of being stored in a "calendar" up to one year in advance. Each timeclock schedule shall be capable of executing up to 60 events. The timeclock can be enabled or disabled for any area via either the computer or local accessory controls.

Computer software shall allow on-screen definition of partitionable spaces. Software shall allow user to define if room is independent or combined with adjacent room(s).

In the event that any of the communication lines to any of the dimmer and/or relay panels is interrupted for any reason, the lights controlled by those panels shall remain at the their current levels until the interruption is cleared. In the event of a control station failure or interruption of a communication line to any of the controls, the lights controlled by those stations shall remain at their current levels. The control system shall have non-volatile memory backup that can store all system data for one year minimum. It shall not be necessary to re-boot the system manually nor use any tape or floppy disk/hard drive to restore the system once power has been restored - system shall automatically return to its previous state. The main processor shall be protected by an integral isolation transformer.

3.03.12 Accessory Control Options

Provide the following controls as shown the drawings and schedule.

- Lighting control plate(s).
- Partition control plate(s).
- Facilities control plate(s).

3.03.13 Lighting Control Plate (LCP)

All push button lighting control plates shall be engraved with scene numbers unless otherwise stated. The "off" button shall also be similarly engraved. Lighting control plates shall incorporate a concealed programming socket to facilitate local area programming via a hand held programmer. Meeting rooms LCP's shall provide a manual override to each circuit, fade rate, together with a master raise and lower.

3.03.13 Partition Control Plate (PCP) Ballroom/Function Suite

For spaces that can be sub-divide via sliding partitions i.e., function suites, ballrooms, and meeting rooms, provisions for a partition control plate shall be included. All room partitioning permutations shall be allocated independent blocks of scenes and must not utilise the preset scenes for the "all open" room configuration.

The partition control plate shall include the following features:

- An illustrated line diagram of the room with continuous lines indicating the room and dotted lines representing the sliding partition locations.
- LED push buttons located over each partition line with the LED indicating, when illuminated, that the partition is in position. The lighting control system shall thereby divide the lighting control plates and their associated scenes in conjunction with the room partitioning configuration.
- LED push buttons located on the partition control plate reflecting lighting control plate locations within the partitionable space. Operation of these push buttons shall allow the operator to enable or disable lighting control plates in the space as required with the LED indicating, when illuminated, that the lighting control plate is enabled.

A separate partition control plate shall also be provided where DMX 512 sockets are utilised within a partitionable space. PCPs for facilities lighting shall be engraved "Facilities Lighting Partition Control".

The partition control plate shall include the following features:

- An illustrated line diagram of the room with continuos lines indicating the room and dotted lines representing the sliding partition locations.
- LED push buttons located over each partition line with the LED indicating, when illuminated, that the partition is in position. The lighting control system shall thereby divide the DMX 512 interface sockets in conjunction with the room partitioning configuration.
- LED push buttons located on the partition control plate reflecting facilities control plate locations within the partitionable space. Operation of these push buttons shall allow the operator to enable or disable facilities control plates in the space as required with the LED indicating, when illuminated, that the facilities control plate is enabled.

- See the line diagram in section 4.

- Meeting rooms shall use a conventional switch plate for the 'closed or 'open' condition.

3.03.14 Facilities Control Plate (FP)

DMX 512 interface sockets shall be provided as shown on the drawings. All DMX 512 interface sockets shall be engraved "**Facilities Lighting**".

- See the line diagram in section 4.

3.03.15 Quality Control

The completely assembled dimming system shall be fully tested for proper operation and subsequently operated at full-rated load for a minimum of 5 hours operation prior to shipment from factory.

3.03.16 Execution

Electrical Contractor shall furnish all equipment, labour, system set-up, and other services necessary for the proper installation of the devices as indicated on the drawings and specification. System set-up shall include defining each dimmer's load type, assigning each load to a zone, and setting the control functions.

3.04 COMMISSIONING

Upon completion of the installation, the system shall be completely checked out by a factory trained engineer. Upon completion of system check, the engineer shall demonstrate the operation of the system to the appropriate Client representatives.

The manufacturer shall allow for commissioning which shall include for travel, accommodation, and meals, etc. The commissioning duration shall allow for all pre-commissioning. The pre-commissioning period must be complete prior to the arrival of the Lighting Designer.

A minimum of five business days and five evenings shall be allowed by the contractor with the Lighting Designer on site after all of the connections and testing has been completed. Where areas are affected by daylight after dark work will be required, this will involve visiting the same areas multiple times.

Where there are more complex lighting programming requirements, i.e., colour changing, that include for daily and weekly shows, the contractor and nominated supplier must allow enough time to set up and commission separately with the lighting consultant which will also include for a comment and review period.

Manufacturer shall allow for operator staff training, and full on site programming of the system as per the Clients requirements

3.05 WARRANTY AND SUPPORT SERVICE

Unless otherwise noted, manufacturer shall provide a one year warranty on all equipment supplied. Warranty shall cover 100% of the cost to repair or replace any parts required over the first year which are directly attributable to the manufacturer. Warranty coverage shall begin from date of final system commissioning.

The manufacturer shall also provide upon expiry of warranty period, a one year service support contract on the system. Manufacturer shall be capable of providing on-site service support within three business days anywhere in the world, except where special visas are required.

Warranty and service support contract shall be carried out by a factory trained engineer.

2.0 LUMINAIRE SPECIFICATION

LUMINAIRE SPECIFICATION

Maurice Brill Lighting Design Ltd.

PROJECT:	**MARRIOTT MANCHESTER**		**LUMINAIRE REF**
PROJECT NO:	857	**LUMINAIRE LOCATION:**	
FIRST ISSUE DATE:	02.12.2022		**A**
REVISION:	04	**LOCAL VOLTAGE:**	**STATUS:**
ISSUE DATE:	12.03.2024	230	DETAIL DESIGN

DESCRIPTION:

FF&E Pendant Luminaire as specified by Interior Designer.

ILLUSTRATION, DETAILS, PHOTOMETRIC DATA

REFER TO INTERIOR DESIGNER'S FF&E SCHEDULE

MANUFACTURER:	**LUMINAIRE DATA:**
Refer to FF&E Specifications for the lumunaire specification	**LUMINAIRE REF:**
Refer to MBLD FF+E Lamp schedule for lamp specification	**IP RATING**
	FINISH:
	RECESS DEPTH:
	BEZEL Ø:
	ACCESSORIES:
	DRIVER REF:

SOURCE/LAMP DATA:

SOURCE TYPE:	**LAMP LIFE:**	25,000	HOURS
LAMP LOAD:	**COLOUR:**	2,700	ºK (CCT)
BEAM ANGLE:	**COLOUR RENDERING:**		R_a
LUMEN OUTPUT:	**DRIVE CURRENT:**		mA
LAMP BASE:	**DIMMING TYPE:**		
MANUFACTURER:	**MACADAM ELLIPSE**	2	STEP
MFR REF:			

NOTES:

To be read in conjunction with MBLD drawings, control schedule and preamble documentation. All luminaires / transformers / ballasts / drivers / power supplies to be compatible with the lighting control system where appropriate.

LUMINAIRE SPECIFICATION

Maurice Brill Lighting Design Ltd.

PROJECT:	**MARRIOTT MANCHESTER**		**LUMINAIRE REF**
PROJECT NO:	857	**LUMINAIRE LOCATION:**	
FIRST ISSUE DATE:	02.12.2022		**B**
REVISION:	04	**LOCAL VOLTAGE:**	**STATUS:**
ISSUE DATE:	12.03.2024	230	DETAIL DESIGN

DESCRIPTION:

FF&E Wall Light as specified by Interior Designer.

ILLUSTRATION, DETAILS, PHOTOMETRIC DATA

REFER TO INTERIOR DESIGNER'S FF&E SCHEDULE

MANUFACTURER:	**LUMINAIRE DATA:**
Refer to FF&E Specifications for the lumunaire specification	**LUMINAIRE REF:**
Refer to MBLD FF+E Lamp schedule for lamp specification	**IP RATING**
	FINISH:
	RECESS DEPTH:
	BEZEL Ø:
	ACCESSORIES:
	DRIVER REF:

SOURCE/LAMP DATA:

SOURCE TYPE:	**LAMP LIFE:**	25,000	HOURS
LAMP LOAD:	**COLOUR:**	2,700	ºK (CCT)
BEAM ANGLE:	**COLOUR RENDERING:**		R_a
LUMEN OUTPUT:	**DRIVE CURRENT:**		mA
LAMP BASE:	**DIMMING TYPE:**		
MANUFACTURER:	**MACADAM ELLIPSE**	2	STEP
MFR REF:			

NOTES:

To be read in conjunction with MBLD drawings, control schedule and preamble documentation. All luminaires / transformers / ballasts / drivers / power supplies to be compatible with the lighting control system where appropriate.

LUMINAIRE SPECIFICATION

Maurice Brill Lighting Design Ltd.

PROJECT:	**MARRIOTT MANCHESTER**		**LUMINAIRE REF**
PROJECT NO:	857	**LUMINAIRE LOCATION:**	**C**
FIRST ISSUE DATE:	02.12.2022		
REVISION:	04	**LOCAL VOLTAGE:**	**STATUS:**
ISSUE DATE:	12.03.2024	230	DETAIL DESIGN

DESCRIPTION:

FF&E Table / Floor Lamp as specified by Interior Designer. To be fitted with a 5amp plug (which is a dedicated lighting plug which cant be used by standard 13amp plug and sockets)

ILLUSTRATION, DETAILS, PHOTOMETRIC DATA

REFER TO INTERIOR DESIGNER'S FF&E SCHEDULE

MANUFACTURER:	**LUMINAIRE DATA:**
Refer to FF&E Specifications for the lumunaire specification	**LUMINAIRE REF:**
Refer to MBLD FF+E Lamp schedule for lamp specification	**IP RATING**
	FINISH:
	RECESS DEPTH:
	BEZEL Ø:
	ACCESSORIES:
	DRIVER REF:

SOURCE/LAMP DATA:

SOURCE TYPE:	**LAMP LIFE:**	25,000	HOURS
LAMP LOAD:	**COLOUR:**	2,700	ºK (CCT)
BEAM ANGLE:	**COLOUR RENDERING:**		R_a
LUMEN OUTPUT:	**DRIVE CURRENT:**		mA
LAMP BASE:	**DIMMING TYPE:**		
MANUFACTURER:	**MACADAM ELLIPSE**	2	STEP
MFR REF:			

NOTES:

To be read in conjunction with MBLD drawings, control schedule and preamble documentation. All luminaires / transformers / ballasts / drivers / power supplies to be compatible with the lighting control system where appropriate.

LUMINAIRE SPECIFICATION

Maurice Brill Lighting Design Ltd.

PROJECT:	**MARRIOTT MANCHESTER**		**LUMINAIRE REF**
PROJECT NO:	857	**LUMINAIRE LOCATION:**	**D**
FIRST ISSUE DATE:	02.12.2022		
REVISION:	04	**LOCAL VOLTAGE:**	**STATUS:**
ISSUE DATE:	12.03.2024	230	DETAIL DESIGN

DESCRIPTION:

FF&E Picture Light as specified by Interior Designer.

ILLUSTRATION, DETAILS, PHOTOMETRIC DATA

REFER TO INTERIOR DESIGNER'S FF&E SCHEDULE

MANUFACTURER:	**LUMINAIRE DATA:**
Refer to FF&E Specifications	**LUMINAIRE REF:**
	IP RATING
	FINISH:
	RECESS DEPTH:
	BEZEL Ø:
	ACCESSORIES:
	DRIVER REF:

SOURCE/LAMP DATA:

SOURCE TYPE:	**LAMP LIFE:**		HOURS
LAMP LOAD:	**COLOUR:**		ºK (CCT)
BEAM ANGLE:	**COLOUR RENDERING:**		R_a
LUMEN OUTPUT:	**DRIVE CURRENT:**		mA
LAMP BASE:	**DIMMING TYPE:**		
MANUFACTURER:	**MACADAM ELLIPSE**	2	STEP
MFR REF:			

NOTES:

To be read in conjunction with MBLD drawings, control schedule and preamble documentation. All luminaires / transformers / ballasts / drivers / power supplies to be compatible with the lighting control system where appropriate.

LUMINAIRE SPECIFICATION

Maurice Brill Lighting Design Ltd.

PROJECT:	**MARRIOTT MANCHESTER**		**LUMINAIRE REF**
PROJECT NO:	857	**LUMINAIRE LOCATION:**	
FIRST ISSUE DATE:	02.12.2022		**E**
REVISION:	04	**LOCAL VOLTAGE:**	**STATUS:**
ISSUE DATE:	12.03.2024	230	DETAIL DESIGN

DESCRIPTION:

ILLUSTRATION, DETAILS, PHOTOMETRIC DATA

NOT IN USE

MANUFACTURER:	**LUMINAIRE DATA:**
	LUMINAIRE REF:
	FINISH:
	RECESS DEPTH:
	BEZEL Ø:
	ACCESSORIES:
	DRIVER REF:

SOURCE/LAMP DATA:			
SOURCE TYPE:	**LAMP LIFE:**		HOURS
LAMP LOAD:	**COLOUR:**		ºK (CCT)
BEAM ANGLE:	**COLOUR RENDERING:**		R_a
LUMEN OUTPUT:	**DRIVE CURRENT:**		mA
LAMP BASE:	**DIMMING TYPE:**		
MANUFACTURER:	**MACADAM ELLIPSE**	2	STEP
MFR REF:			

NOTES:

To be read in conjunction with MBLD drawings, control schedule and preamble documentation. All luminaires / transformers / ballasts / drivers / power supplies to be compatible with the lighting control system where appropriate.

LUMINAIRE SPECIFICATION

Maurice Brill Lighting Design Ltd.

PROJECT:	**MARRIOTT MANCHESTER**		**LUMINAIRE REF**
PROJECT NO:	857	**LUMINAIRE LOCATION:**	
FIRST ISSUE DATE:	02.12.2022		**F1**
REVISION:	04	**LOCAL VOLTAGE:**	**STATUS:**
ISSUE DATE:	12.03.2024	230	DETAIL DESIGN

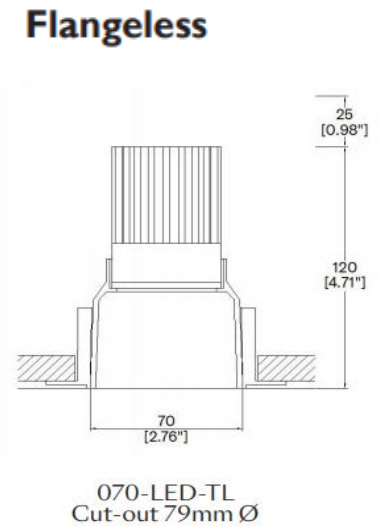
DESCRIPTION:

Ceiling recessed plaster in fixed LED downlight. Deep recessed LED for minimal glare and plaster-in kit for flush installation. IP 20. A minimum of 25mm above fixture to be allowed. Remote accessible LED driver to be provided by manufacturer. Drivers to be locally mounted in the ceiling void accessed via luminaire cut-out.

ILLUSTRATION, DETAILS, PHOTOMETRIC DATA



Aperture	Ø65mm
Adjustable	No
Overall Dimension	Ø070mm
First Fix Requirement	Yes
Ceiling Cut-Out	Ø79mm
Ceiling Thickness	25mm max
Ingress Protection	IP20 or IP44



MANUFACTURER:	**LUMINAIRE DATA:**	
Lucent Lighting UK Ltd	**LUMINAIRE REF:**	**Soft70 Fixed Flangeless**
1345 High Road		LED51/2-927-24-D
London N20 9HR	**FINISH:**	TBC by ID
Tel: +44(0)2084420880	**ACCESSORIES:**	plaster-in kit
Fax: +44(0)2084446998	**RECESS DEPTH:**	120mm + 25 (ventilation)
Contact: John Carey	**BEZEL Ø:**	70mm
Email: john@lucent-lighting.com	**CUT-OUT Ø:**	79mm
	DRIVER REF:	By manufacturer

SOURCE/LAMP DATA:

SOURCE TYPE:	LED - LIGHT EMMITING DIODE	**LAMP LIFE:**	50,000	HOURS
LAMP LOAD:	13.6W (incl. driver)	**COLOUR:**	2,700	ºK (CCT)
BEAM ANGLE:	24 DEGREES	**COLOUR RENDERING:**	90	R_a
LUMEN OUTPUT:	1016 LUMENS	**DRIVE CURRENT:**	350	mA
LAMP BASE:	n/a	**DIMMING TYPE:**		DALI
MANUFACTURER:	Cree	**MACADAM ELLIPSE**	n/a	STEP
MFR REF:	n/a			

NOTES:

To be read in conjunction with MBLD drawings, control schedule and preamble documentation. All luminaires / transformers / ballasts / drivers / power supplies to be compatible with the lighting control system where appropriate.

LUMINAIRE SPECIFICATION

Maurice Brill Lighting Design Ltd.

PROJECT:	**MARRIOTT MANCHESTER**		**LUMINAIRE REF**
PROJECT NO:	857	**LUMINAIRE LOCATION:**	
FIRST ISSUE DATE:	02.12.2022		**F2**
REVISION:	04	**LOCAL VOLTAGE:**	**STATUS:**
ISSUE DATE:	12.03.2024	230	DETAIL DESIGN

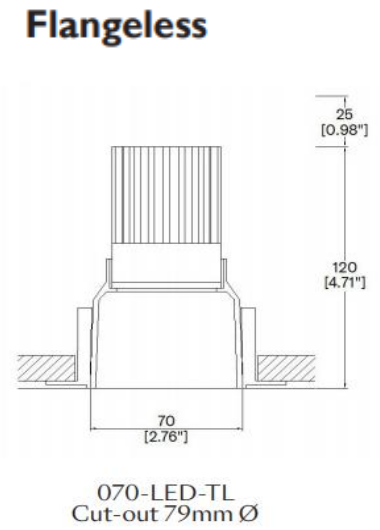
DESCRIPTION:

Ceiling recessed plaster in fixed LED downlight. Deep recessed LED for minimal glare and plaster-in kit for flush installation. IP 20. A minimum of 25mm above fixture to be allowed. Remote accessible LED driver to be provided by manufacturer. Drivers to be locally mounted in the ceiling void accessed via luminaire cut-out.

ILLUSTRATION, DETAILS, PHOTOMETRIC DATA



Aperture	Ø65mm
Adjustable	No
Overall Dimension	Ø070mm
First Fix Requirement	Yes
Ceiling Cut-Out	Ø79mm
Ceiling Thickness	25mm max
Ingress Protection	IP20 or IP44



MANUFACTURER:	**LUMINAIRE DATA:**	
Lucent Lighting UK Ltd	**LUMINAIRE REF:**	**Soft70 Fixed Flangeless**
1345 High Road		LED51/2-927-38-D
London N20 9HR	**FINISH:**	TBC by ID
Tel: +44(0)2084420880	**ACCESSORIES:**	plaster-in kit
Fax: +44(0)2084446998	**RECESS DEPTH:**	120mm + 25 (ventilation)
Contact: John Carey	**BEZEL Ø:**	70mm
Email: john@lucent-lighting.com	**CUT-OUT Ø:**	79mm
	DRIVER REF:	By manufacturer

SOURCE/LAMP DATA:

SOURCE TYPE:	LED - LIGHT EMMITING DIODE	**LAMP LIFE:**	50,000	HOURS
LAMP LOAD:	13.6W (incl. driver)	**COLOUR:**	2,700	ºK (CCT)
BEAM ANGLE:	38 DEGREES	**COLOUR RENDERING:**	90	R_a
LUMEN OUTPUT:	1016 LUMENS	**DRIVE CURRENT:**	350	mA
LAMP BASE:	n/a	**DIMMING TYPE:**		DALI
MANUFACTURER:	Cree	**MACADAM ELLIPSE**	n/a	STEP
MFR REF:	n/a			

NOTES:

To be read in conjunction with MBLD drawings, control schedule and preamble documentation. All luminaires / transformers / ballasts / drivers / power supplies to be compatible with the lighting control system where appropriate.

LUMINAIRE SPECIFICATION

Maurice Brill Lighting Design Ltd.

PROJECT:	MARRIOTT MANCHESTER		
PROJECT NO:	857	LUMINAIRE LOCATION:	
FIRST ISSUE DATE:	02.12.2022		
REVISION:	04	LOCAL VOLTAGE:	STATUS:
ISSUE DATE:	12.03.2024	230	DETAIL DESIGN

LUMINAIRE REF
F3

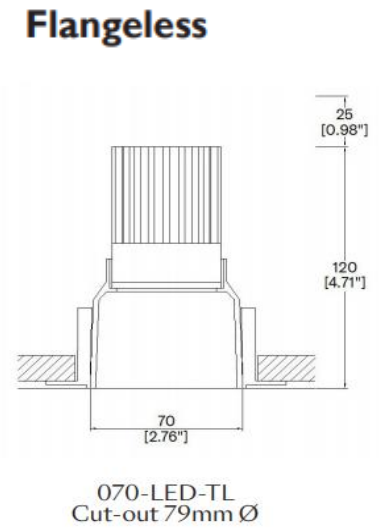
DESCRIPTION:

Ceiling recessed plaster in fixed LED downlight. Deep recessed LED for minimal glare and plaster-in kit for flush installation. IP 20. A minimum of 25mm above fixture to be allowed. Remote accessible LED driver to be provided by manufacturer. Drivers to be locally mounted in the ceiling void accessed via luminaire cut-out.

ILLUSTRATION, DETAILS, PHOTOMETRIC DATA



Aperture	Ø65mm
Adjustable	No
Overall Dimension	Ø070mm
First Fix Requirement	Yes
Ceiling Cut-Out	Ø79mm
Ceiling Thickness	25mm max
Ingress Protection	IP20 or IP44



MANUFACTURER:	LUMINAIRE DATA:	
Lucent Lighting UK Ltd	**LUMINAIRE REF:**	**Soft70 Fixed Flangeless**
1345 High Road		LED51/2-927-55-D
London N20 9HR	**FINISH:**	TBC by ID
Tel: +44(0)2084420880	**ACCESSORIES:**	plaster-in kit
Fax: +44(0)2084446998	**RECESS DEPTH:**	120mm + 25 (ventilation)
Contact: John Carey	**BEZEL Ø:**	70mm
Email: john@lucent-lighting.com	**CUT-OUT Ø:**	79mm
	DRIVER REF:	By manufacturer

SOURCE/LAMP DATA:

SOURCE TYPE:	LED - LIGHT EMMITING DIODE	**LAMP LIFE:**	50,000	HOURS
LAMP LOAD:	13.6W (incl. driver)	**COLOUR:**	2,700	ºK (CCT)
BEAM ANGLE:	55 DEGREES	**COLOUR RENDERING:**	90	R_a
LUMEN OUTPUT:	1016 LUMENS	**DRIVE CURRENT:**	350	mA
LAMP BASE:	n/a	**DIMMING TYPE:**		DALI
MANUFACTURER:	Cree	**MACADAM ELLIPSE**	n/a	STEP
MFR REF:	n/a			

NOTES:

To be read in conjunction with MBLD drawings, control schedule and preamble documentation. All luminaires / transformers / ballasts / drivers / power supplies to be compatible with the lighting control system where appropriate.

LUMINAIRE SPECIFICATION

Maurice Brill Lighting Design Ltd.

PROJECT:	**MARRIOTT MANCHESTER**		**LUMINAIRE REF**
PROJECT NO:	857	**LUMINAIRE LOCATION:**	
FIRST ISSUE DATE:	02.12.2022		**G1**
REVISION:	04	**LOCAL VOLTAGE:**	**STATUS:**
ISSUE DATE:	12.03.2024	230	DETAIL DESIGN

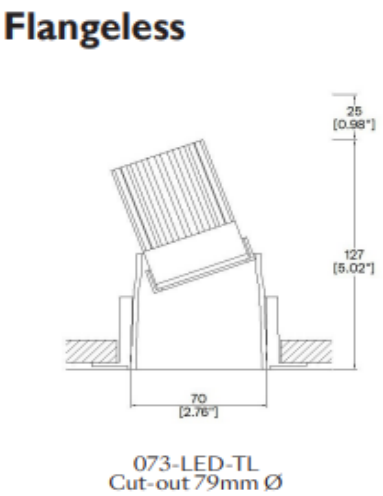
DESCRIPTION:

Ceiling recessed plaster in adjustable LED downlight. Deep recessed LED for minimal glare and plaster-in kit for flush installation. IP 20. A minimum of 25mm above fixture to be allowed. Remote accessible LED driver to be provided by manufacturer. Drivers to be locally mounted in the ceiling void accessed via luminaire cut-out.

ILLUSTRATION, DETAILS, PHOTOMETRIC DATA



Aperture	Ø65mm
Adjustable	No
Overall Dimension	Ø070mm
First Fix Requirement	Yes
Ceiling Cut-Out	Ø79mm
Ceiling Thickness	25mm max
Ingress Protection	IP20 or IP44



MANUFACTURER:	**LUMINAIRE DATA:**	
Lucent Lighting UK Ltd	**LUMINAIRE REF:**	**Soft70 Adjustable Flangeless**
1345 High Road		LED51/2-927-24-D
London N20 9HR	**FINISH:**	TBC by ID
Tel: +44(0)2084420880	**ACCESSORIES:**	plaster-in kit
Fax: +44(0)2084446998	**RECESS DEPTH:**	120mm + 25 (ventilation)
Contact: John Carey	**BEZEL Ø:**	70mm
Email: john@lucent-lighting.com	**CUT-OUT Ø:**	79mm
	DRIVER REF:	By manufacturer

SOURCE/LAMP DATA:

SOURCE TYPE:	LED - LIGHT EMMITING DIODE	**LAMP LIFE:**	50,000	HOURS
LAMP LOAD:	13.6W (incl. driver)	**COLOUR:**	2,700	ºK (CCT)
BEAM ANGLE:	24 DEGREES	**COLOUR RENDERING:**	90	R_a
LUMEN OUTPUT:	1016 LUMENS	**DRIVE CURRENT:**	350	mA
LAMP BASE:	n/a	**DIMMING TYPE:**		DALI
MANUFACTURER:	Cree	**MACADAM ELLIPSE**	n/a	STEP
MFR REF:	n/a			

NOTES:

To be read in conjunction with MBLD drawings, control schedule and preamble documentation. All luminaires / transformers / ballasts / drivers / power supplies to be compatible with the lighting control system where appropriate.

LUMINAIRE SPECIFICATION

Maurice Brill Lighting Design Ltd.

PROJECT:	**MARRIOTT MANCHESTER**		**LUMINAIRE REF**
PROJECT NO:	857	**LUMINAIRE LOCATION:**	
FIRST ISSUE DATE:	02.12.2022		**G2**
REVISION:	04	**LOCAL VOLTAGE:**	**STATUS:**
ISSUE DATE:	12.03.2024	230	DETAIL DESIGN

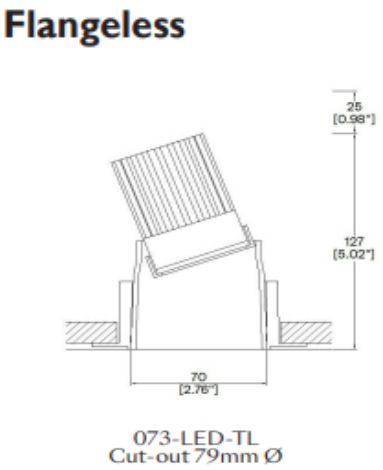
DESCRIPTION:

Ceiling recessed plaster in adjustable LED downlight. Deep recessed LED for minimal glare and plaster-in kit for flush installation. IP 20. A minimum of 25mm above fixture to be allowed. Remote accessible LED driver to be provided by manufacturer. Drivers to be locally mounted in the ceiling void accessed via luminaire cut-out.

ILLUSTRATION, DETAILS, PHOTOMETRIC DATA



Aperture	Ø65mm
Adjustable	No
Overall Dimension	Ø070mm
First Fix Requirement	Yes
Ceiling Cut-Out	Ø79mm
Ceiling Thickness	25mm max
Ingress Protection	IP20 or IP44



MANUFACTURER:	**LUMINAIRE DATA:**	
Lucent Lighting UK Ltd	**LUMINAIRE REF:**	**Soft70 Adjustable Flangeless**
1345 High Road		LED51/2-927-38-D
London N20 9HR	**FINISH:**	TBC by ID
Tel: +44(0)2084420880	**ACCESSORIES:**	plaster-in kit
Fax: +44(0)2084446998	**RECESS DEPTH:**	120mm + 25 (ventilation)
Contact: John Carey	**BEZEL Ø:**	70mm
Email: john@lucent-lighting.com	**CUT-OUT Ø:**	79mm
	DRIVER REF:	By manufacturer

SOURCE/LAMP DATA:

SOURCE TYPE:	LED - LIGHT EMMITING DIODE	**LAMP LIFE:**	50,000	HOURS
LAMP LOAD:	13.6W (incl. driver)	**COLOUR:**	2,700	ºK (CCT)
BEAM ANGLE:	38 DEGREES	**COLOUR RENDERING:**	90	R_a
LUMEN OUTPUT:	1016 LUMENS	**DRIVE CURRENT:**	350	mA
LAMP BASE:	n/a	**DIMMING TYPE:**		DALI
MANUFACTURER:	Cree	**MACADAM ELLIPSE**	n/a	STEP
MFR REF:	n/a			

NOTES:

To be read in conjunction with MBLD drawings, control schedule and preamble documentation. All luminaires / transformers / ballasts / drivers / power supplies to be compatible with the lighting control system where appropriate.

LUMINAIRE SPECIFICATION

Maurice Brill Lighting Design Ltd.

PROJECT:	**MARRIOTT MANCHESTER**		**LUMINAIRE REF**
PROJECT NO:	857	**LUMINAIRE LOCATION:**	
FIRST ISSUE DATE:	02.12.2022		**G3**
REVISION:	04	**LOCAL VOLTAGE:**	**STATUS:**
ISSUE DATE:	12.03.2024	230	DETAIL DESIGN

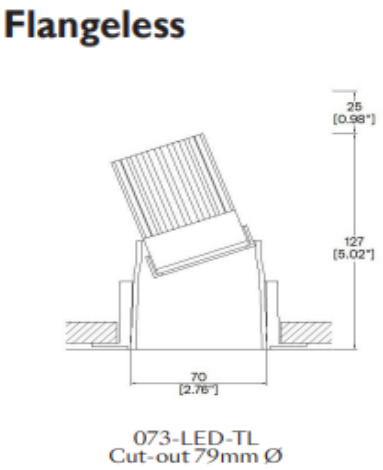
DESCRIPTION:

Ceiling recessed plaster in adjustable LED downlight. Deep recessed LED for minimal glare and plaster-in kit for flush installation. IP 20. A minimum of 25mm above fixture to be allowed. Remote accessible LED driver to be provided by manufacturer. Drivers to be locally mounted in the ceiling void accessed via luminaire cut-out.

ILLUSTRATION, DETAILS, PHOTOMETRIC DATA



Aperture	Ø65mm
Adjustable	No
Overall Dimension	Ø070mm
First Fix Requirement	Yes
Ceiling Cut-Out	Ø79mm
Ceiling Thickness	25mm max
Ingress Protection	IP20 or IP44



MANUFACTURER:	**LUMINAIRE DATA:**	
Lucent Lighting UK Ltd	**LUMINAIRE REF:**	**Soft70 Adjustable Flangeless**
1345 High Road		LED51/2-927-55-D
London N20 9HR	**FINISH:**	TBC by ID
Tel: +44(0)2084420880	**ACCESSORIES:**	plaster-in kit
Fax: +44(0)2084446998	**RECESS DEPTH:**	120mm + 25 (ventilation)
Contact: John Carey	**BEZEL Ø:**	70mm
Email: john@lucent-lighting.com	**CUT-OUT Ø:**	79mm
	DRIVER REF:	By manufacturer

SOURCE/LAMP DATA:

SOURCE TYPE:	LED - LIGHT EMMITING DIODE	**LAMP LIFE:**	50,000	HOURS
LAMP LOAD:	13.6W (incl. driver)	**COLOUR:**	2,700	ºK (CCT)
BEAM ANGLE:	55 DEGREES	**COLOUR RENDERING:**	90	R_a
LUMEN OUTPUT:	1016 LUMENS	**DRIVE CURRENT:**	350	mA
LAMP BASE:	n/a	**DIMMING TYPE:**		DALI
MANUFACTURER:	Cree	**MACADAM ELLIPSE**	n/a	STEP
MFR REF:	n/a			

NOTES:

To be read in conjunction with MBLD drawings, control schedule and preamble documentation. All luminaires / transformers / ballasts / drivers / power supplies to be compatible with the lighting control system where appropriate.

LUMINAIRE SPECIFICATION

Maurice Brill Lighting Design Ltd.

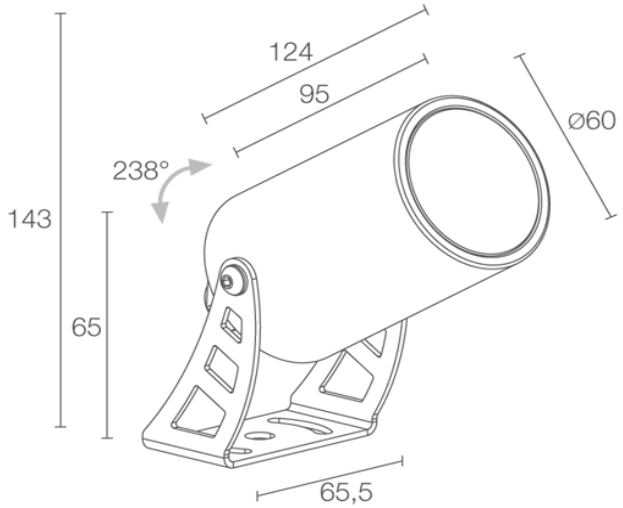
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PROJECT NO:	857	LUMINAIRE LOCATION:	
FIRST ISSUE DATE:	02.12.2022		
REVISION:	04	LOCAL VOLTAGE:	STATUS:
ISSUE DATE:	12.03.2024	230	DETAIL DESIGN

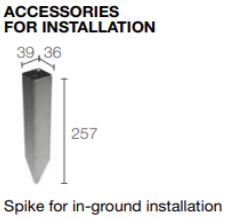
LUMINAIRE REF
H

DESCRIPTION:

Spike mounted planter uplight utilising a snoot. Wide beam angle. Dali driver / power supply in remote accessible location by contractor.

ILLUSTRATION, DETAILS, PHOTOMETRIC DATA







MANUFACTURER:	LUMINAIRE DATA:	
Luce & Light	**LUMINAIRE REF:**	**CF24100000F0LH**
Mesh Lighting		IP66 / IK07
201 Borough High Street	**FINISH:**	Anthracite
SE1 1JA	**DIMENSIONS:**	60 x 124mm
	BODY DIAMETER Ø:	60mm
	ACCESSORIES:	Standard snoot; WP0100 Spike
	DRIVER REF:	Remotely placed power supply

SOURCE/LAMP DATA:				
SOURCE TYPE:	LED - LIGHT EMMITING DIODE	**LAMP LIFE:**	50,000	HOURS
LAMP LOAD:	8 WATTS	**COLOUR:**	2,700	ºK (CCT)
BEAM ANGLE:	58 DEGREES	**COLOUR RENDERING:**	80	R_a
LUMEN OUTPUT:	586 LUMENS	**DRIVE CURRENT:**		mA
LAMP BASE:	n/a	**DIMMING TYPE:**		DALI
MANUFACTURER:		**MACADAM ELLIPSE**	3	STEP
MFR REF:				

NOTES:

To be read in conjunction with MBLD drawings, control schedule and preamble documentation. All luminaires / transformers / ballasts / drivers / power supplies to be compatible with the lighting control system where appropriate.

LUMINAIRE SPECIFICATION

Maurice Brill Lighting Design Ltd.

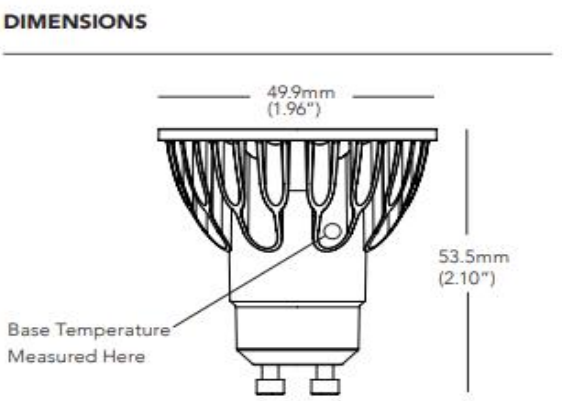
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PROJECT NO:	857	**LUMINAIRE LOCATION:**	
FIRST ISSUE DATE:	02.12.2022		**J**
REVISION:	04	**LOCAL VOLTAGE:**	**STATUS:**
ISSUE DATE:	12.03.2024	230	DETAIL DESIGN

DESCRIPTION:

Existing downlights using GU10 lamps. Luminaire body to be retained, lamp to be exchanged. Control manufacturer to confirm that lamp can be dimmed without flicker to a low point of 0.1% without problems.

ILLUSTRATION, DETAILS, PHOTOMETRIC DATA





MANUFACTURER:	**LUMINAIRE DATA:**	
Soraa lamps	**LUMINAIRE REF:**	**SM16GW-09-60D-827-H1-S3**
		Code: 11307
https://www.soraa.com		
	ACCESSORIES:	As required for fitting
	DRIVER REF:	

SOURCE/LAMP DATA:

SOURCE TYPE:	LED - LIGHT EMMITING DIODE	**LAMP LIFE:**	25,000	HOURS
LAMP LOAD:	9.5 WATTS	**COLOUR:**	**2,700**	ºK (CCT)
BEAM ANGLE:	60 DEGREES	**COLOUR RENDERING:**	>90	R_a
LUMEN OUTPUT:	720 LUMENS	**DRIVE CURRENT:**		mA
LAMP BASE:	GU10	**DIMMING TYPE:**		PHASE DIMMED
MANUFACTURER:		**MACADAM ELLIPSE**	2	STEP
MFR REF:				

NOTES:

To be read in conjunction with MBLD drawings, control schedule and preamble documentation. All luminaires / transformers / ballasts / drivers / power supplies to be compatible with the lighting control system where appropriate.

LUMINAIRE SPECIFICATION

Maurice Brill Lighting Design Ltd.

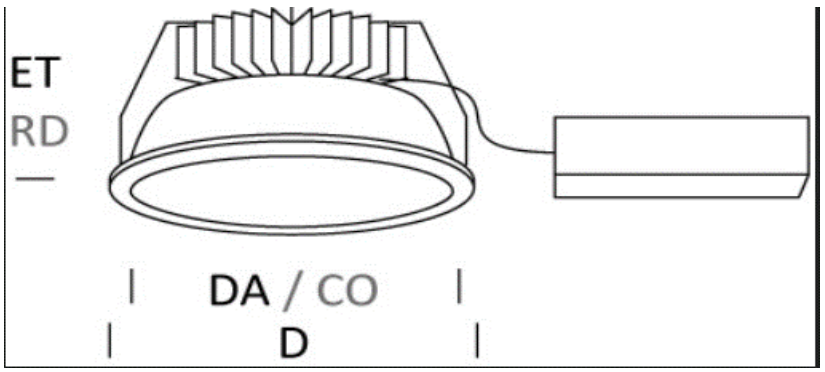
PROJECT:	**MARRIOTT MANCHESTER**		**LUMINAIRE REF**
PROJECT NO:	857	**LUMINAIRE LOCATION:**	
FIRST ISSUE DATE:	02.12.2022		**K**
REVISION:	04	**LOCAL VOLTAGE:**	**STATUS:**
ISSUE DATE:	12.03.2024	230	DETAIL DESIGN

DESCRIPTION:

Ceiling recessed high output LED downlight replacing existing compact fluorescend downlights. IP20. Utilising Dali protocol (to be confirmed by client).

ILLUSTRATION, DETAILS, PHOTOMETRIC DATA





MANUFACTURER:	**LUMINAIRE DATA:**	
Wila Lighting	**LUMINAIRE REF:**	**504-1 4 6 6 -1-2-27**
	FINISH:	
	RECESS DEPTH:	140mm
Kerry Holdstock	**BEZEL Ø:**	202mm
'07525 950591	**CUT-OUT Ø:**	195mm
Kerry.Holdstock@wila.co.uk	**ACCESSORIES:**	Diffusing Screen; Dali Driver
	DRIVER REF:	Dali Driver by manufacturer

SOURCE/LAMP DATA:

SOURCE TYPE:	LED - LIGHT EMMITING DIODE	**LAMP LIFE:**	50,000	HOURS
LAMP LOAD:	42 WATTS	**COLOUR:**	**2,700**	ºK (CCT)
BEAM ANGLE:	Diffused	**COLOUR RENDERING:**		R_a
LUMINAIRE LUMEN :	3600 lm (Wila confirmed)	**DRIVE CURRENT:**		mA
LAMP BASE:	n/a	**DIMMING TYPE:**		DALI
MANUFACTURER:		**MACADAM ELLIPSE**	2	STEP
MFR REF:				

NOTES:

To be read in conjunction with MBLD drawings, control schedule and preamble documentation. All luminaires / transformers / ballasts / drivers / power supplies to be compatible with the lighting control system where appropriate.

LUMINAIRE SPECIFICATION

Maurice Brill Lighting Design Ltd.

PROJECT:	MARRIOTT MANCHESTER		
PROJECT NO:	857	LUMINAIRE LOCATION:	
FIRST ISSUE DATE:	02.12.2022		
REVISION:	04	LOCAL VOLTAGE:	STATUS:
ISSUE DATE:	12.03.2024	230	DETAIL DESIGN

LUMINAIRE REF
L

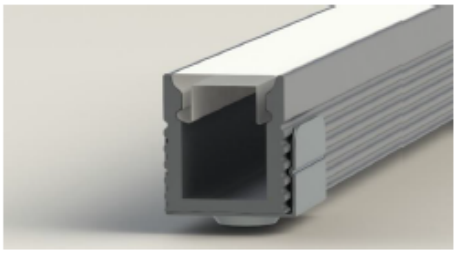
DESCRIPTION:

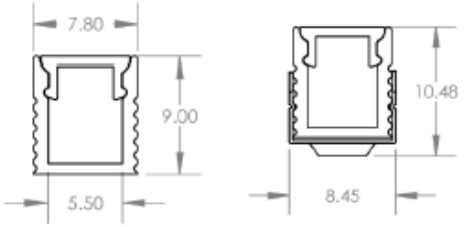
Surface mounted linear LED Strip light within aluminium channel with diffuser Cover.. Fixed mounting clips to be ordered separately as required to suit detail. Manufacturer to supply dali dimmable driver. Remote driver to be positioned in a suitable accessible location by contractor. Max series lenght: 3m.

ILLUSTRATION, DETAILS, PHOTOMETRIC DATA

General Information

- Anodized Aluminum Profile with opal diffuser.
- Custom RAL Colours available upon request
- 24v DC Constant Voltage
- Input Current 0.362A/m
- Beam angle: 120°
- CRI >90
- Max Series Length 5m
- Lifespan L70 ≥ 50,000 hours
- Dimmable – DALI, DMX, 0-10v





MANUFACTURER TO CONFIRM CONTINUOUSLY LIT EFFECT. DOT FREE

MANUFACTURER:	LUMINAIRE DATA:	
Architectural FX	LUMINAIRE REF:	**Integrate 8x9 FC LO EC IP40**
Unit 10 Longshot Lane Industrial Estate		
Bracknell, Berkshire RG12 1RL	FINISH:	Aluminium extrusion
T: +44 (0)1344 291536	LENGTH:	Custom. Site dims required
E: jamesh@afx.lighting	DIMENSIONS:	9mm x 11mm including clips
W: www.afx.lighting	LENGTH:	To be confirmed on site
	ACCESSORIES:	Mounting clips to suit detail
	DRIVER REF:	Meanwll HLG & DALI Interface 210D EldoLED

SOURCE/LAMP DATA:				
SOURCE TYPE:	LED - LIGHT EMMITING DIODE	LAMP LIFE:	50,000	HOURS
LAMP LOAD:	9 Watts/Meter	COLOUR:	2,700	ºK (CCT)
BEAM ANGLE:	Opal Diffuser	COLOUR RENDERING:	90	R_a
LUMEN OUTPUT:	406 Lumens/Meter	VOLTAGE:	24	V
LAMP BASE:	n/a	DIMMING TYPE:		DALI
MANUFACTURER:	Bridgelux	MACADAM ELLIPSE	2	STEP
MFR REF:	n/a	IP RATING:	40	

NOTES:

To be read in conjunction with MBLD drawings, control schedule and preamble documentation. All luminaires / transformers / ballasts / drivers / power supplies to be compatible with the lighting control system where appropriate.

LUMINAIRE SPECIFICATION

Maurice Brill Lighting Design Ltd.

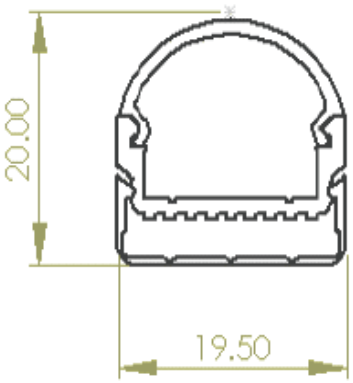
PROJECT:	MARRIOTT MANCHESTER		
PROJECT NO:	857	LUMINAIRE LOCATION:	
FIRST ISSUE DATE:	02.12.2022		
REVISION:	04	LOCAL VOLTAGE:	STATUS:
ISSUE DATE:	12.03.2024	230	DETAIL DESIGN

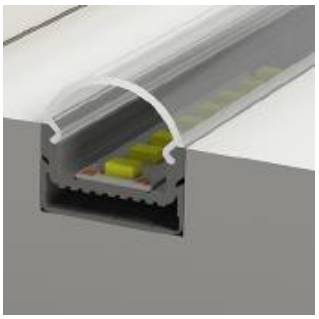
LUMINAIRE REF
L1

DESCRIPTION:

Coffer surface mounted linear LED fitting utilising domed frosted cover. IP40. Max series length: 4m.

ILLUSTRATION, DETAILS, PHOTOMETRIC DATA





MANUFACTURER:	LUMINAIRE DATA:	
Architectural FX	LUMINAIRE REF:	**Integrate 5 Pro 90 112 2700k**
Unit 10 Longshot Lane Industrial Estate		**W927 14W FC RD EC IP40**
Bracknell, Berkshire RG12 1RL	FINISH:	Extruded aluminium & Acrylic
T: +44 (0)1344 291536	DIMENSIONS:	19.5 X 22MM
E: jamesh@afx.lighting		
W: www.afx.lighting	ACCESSORIES:	Frosted cover
		Mounting clips to suit detail
	DRIVER REF:	Meanwll HLG & DALI Interface 210D EldoLED

SOURCE/LAMP DATA:				
SOURCE TYPE:	LED - LIGHT EMMITING DIODE	LAMP LIFE:	60,000	HOURS
LAMP LOAD:	14 WATTS	COLOUR:	2,700	ºK (CCT)
BEAM ANGLE:	120 DEGREES	COLOUR RENDERING:	>90	R_a
LUMEN OUTPUT:	1092 LUMENS	DRIVE CURRENT:		mA
LAMP BASE:	n/a	DIMMING TYPE:		DALI
MANUFACTURER:	Osram	MACADAM ELLIPSE	2	STEP
MFR REF:				

NOTES:

To be read in conjunction with MBLD drawings, control schedule and preamble documentation. All luminaires / transformers / ballasts / drivers / power supplies to be compatible with the lighting control system where appropriate.

LUMINAIRE SPECIFICATION

Maurice Brill Lighting Design Ltd.

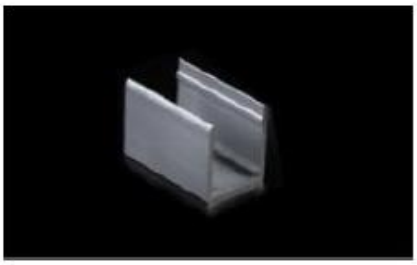
PROJECT:	**MARRIOTT MANCHESTER**		**LUMINAIRE REF**
PROJECT NO:	857	**LUMINAIRE LOCATION:**	**L2**
FIRST ISSUE DATE:	02.12.2022		
REVISION:	04	**LOCAL VOLTAGE:**	**STATUS:**
ISSUE DATE:	12.03.2024	230	DETAIL DESIGN

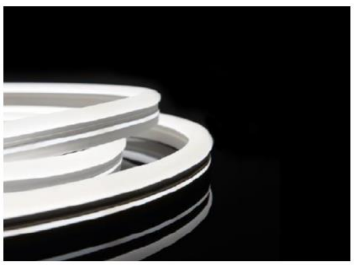
DESCRIPTION:

Linear (2700K) flexible LED strip with a diffused cover - top view. The luminaire is surface mounted via concealed clips and is available in 41.66mm increments with a maximum length of 5000mm. Contractor to measure the exact dimensions on site and order accordingly. Remote accessible driver to be supplied by manufacturer. Location of driver to be confirmed by contractor. Max series length: 5m.

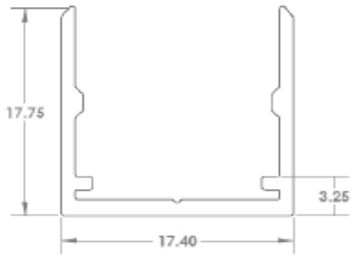
ILLUSTRATION, DETAILS, PHOTOMETRIC DATA











MANUFACTURER:	**LUMINAIRE DATA:**	
Architectural FX	LUMINAIRE REF:	**Neon 3D White IP67**
Unit 10 Longshot Lane Industrial Estate	IP RATING:	67
Bracknell, Berkshire RG12 1RL	FINISH:	
T: +44 (0)1344 291536	HEIGHT:	15mm (without clips)
E: jamesh@afx.lighting	WIDTH:	15mm (without clips)
W: www.afx.lighting	LENGTH:	To be confirmed on site
	ACCESSORIES:	mounting clips
	DRIVER REF:	Meanwll HLG & DALI Interface 210D EldoLED
		Driver to dim down to 0.01% of the outpu

SOURCE/LAMP DATA:				
SOURCE TYPE:	LED - LIGHT EMMITING DIODE	**LAMP LIFE:**	36000	HOURS
LAMP LOAD:	7.2W/m	**COLOUR:**	2700	ºK (CCT)
BEAM ANGLE:	Diffused	**COLOUR RENDERING:**	>90	R_a
LUMEN OUTPUT:	450lm/m	**DRIVE CURRENT:**	24	VDC
LAMP BASE:	n/a	**DIMMING TYPE:**		DALI
MANUFACTURER:	Bridgelux	**MACADAM ELLIPSE**	2	STEP
MFR REF:	n/a			

NOTES:

To be read in conjunction with MBLD drawings, control schedule and preamble documentation. All luminaires / transformers / ballasts / drivers / power supplies to be compatible with the lighting control system where appropriate.

LUMINAIRE SPECIFICATION

Maurice Brill Lighting Design Ltd.

PROJECT:	MARRIOTT MANCHESTER		
PROJECT NO:	857	LUMINAIRE LOCATION:	
FIRST ISSUE DATE:	02.12.2022		
REVISION:	04	LOCAL VOLTAGE:	STATUS:
ISSUE DATE:	12.03.2024	230	DETAIL DESIGN

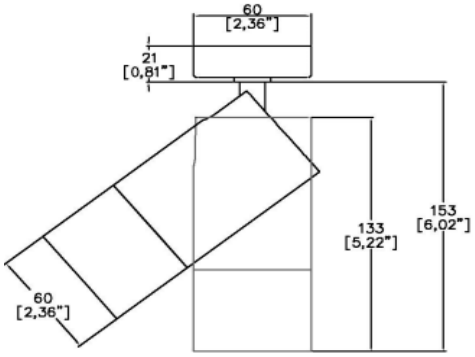
LUMINAIRE REF
M

DESCRIPTION:

Surface mounted LED spotlight. Utilising Dali control protocol

ILLUSTRATION, DETAILS, PHOTOMETRIC DATA





7100/2-LED-SMP
Cut out Ø15mm

MANUFACTURER:	LUMINAIRE DATA:	
Lucent Lighting UK Ltd	**LUMINAIRE REF:**	**7100/2-LED-927-24-D-BK-SMP**
1345 High Road		
London N20 9HR	**FINISH:**	Black (tbc by ID)
Tel: +44(0)2084420880	**DIMENSIONS:**	153 x 60mm
Fax: +44(0)2084446998	**BEZEL Ø:**	60mm
Contact: John Carey		
Email: john@lucent-lighting.com	**ACCESSORIES:**	
	DRIVER REF:	tbc by manufacturer

SOURCE/LAMP DATA:				
SOURCE TYPE:	LED - LIGHT EMMITING DIODE	**LAMP LIFE:**	50,000	HOURS
LAMP LOAD:	14 WATTS	**COLOUR:**	2,700	ºK (CCT)
BEAM ANGLE:	24 DEGREES	**COLOUR RENDERING:**	>90	R_a
LUMEN OUTPUT:	852 LUMENS	**DRIVE CURRENT:**	350	mA
LAMP BASE:	N/A	**DIMMING TYPE:**		DALI
MANUFACTURER:		**MACADAM ELLIPSE**	2	STEP
MFR REF:				

NOTES:

To be read in conjunction with MBLD drawings, control schedule and preamble documentation. All luminaires / transformers / ballasts / drivers / power supplies to be compatible with the lighting control system where appropriate.

LUMINAIRE SPECIFICATION

Maurice Brill Lighting Design Ltd.

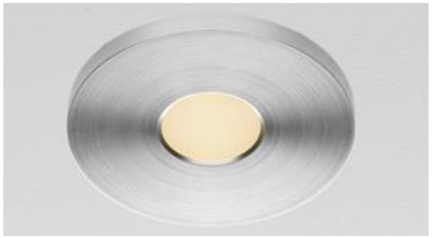
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PROJECT NO:	857	LUMINAIRE LOCATION:	
FIRST ISSUE DATE:	02.12.2022		
REVISION:	04	LOCAL VOLTAGE:	STATUS:
ISSUE DATE:	12.03.2024	230	DETAIL DESIGN

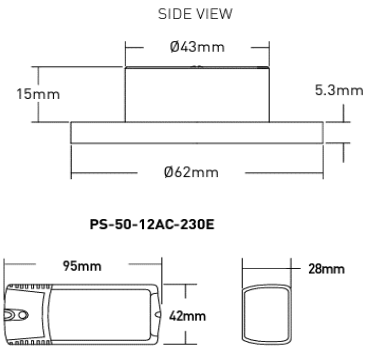
LUMINAIRE REF
N

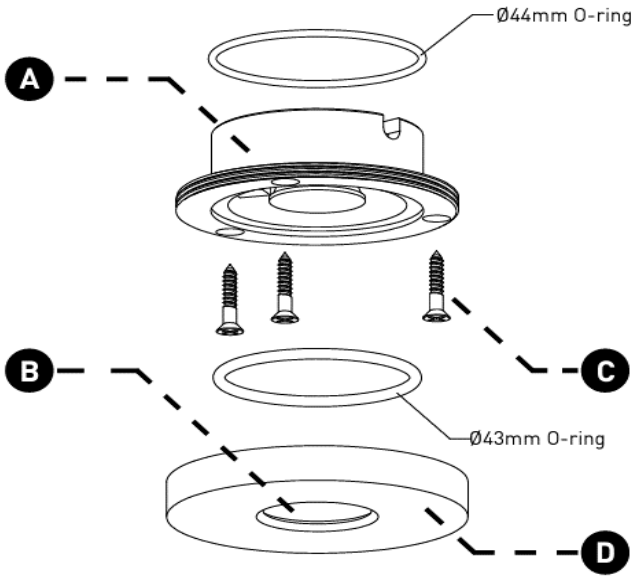
DESCRIPTION:

Recessed dimmable puk light to replace existing puk light.IP10. Utilising remote accessible power supply, located by contractor.

ILLUSTRATION, DETAILS, PHOTOMETRIC DATA







MANUFACTURER:	LUMINAIRE DATA:	
Lucifer Lighitng	**LUMINAIRE REF:**	**LPK-1-80L02A-27-TBC-SGL**
Eulum Design Ltd		
Unit 4 Zone A	**FINISH:**	To be confirmed by ID
Chelmsford Rd Ind Est	**RECESS DEPTH:**	15mm
Great Dunmow	**BEZEL Ø:**	62mm
CM6 1HD		
Phone 01371 238523	**ACCESSORIES:**	Spread lense
vic@eulum.com	**DRIVER REF:**	PS-50-12AC-230E

SOURCE/LAMP DATA:

SOURCE TYPE:	LED - LIGHT EMMITING DIODE	**LAMP LIFE:**	50,000	HOURS
LAMP LOAD:	2 WATTS	**COLOUR:**	2,700	ºK (CCT)
BEAM ANGLE:	Spread	**COLOUR RENDERING:**	>80	R_a
LUMEN OUTPUT:	200 LUMENS	**DRIVE CURRENT:**		mA
LAMP BASE:		**DIMMING TYPE:**		PHASE DIMMED
MANUFACTURER:		**MACADAM ELLIPSE**	2	STEP
MFR REF:				

NOTES:

To be read in conjunction with MBLD drawings, control schedule and preamble documentation. All luminaires / transformers / ballasts / drivers / power supplies to be compatible with the lighting control system where appropriate.

LUMINAIRE SPECIFICATION

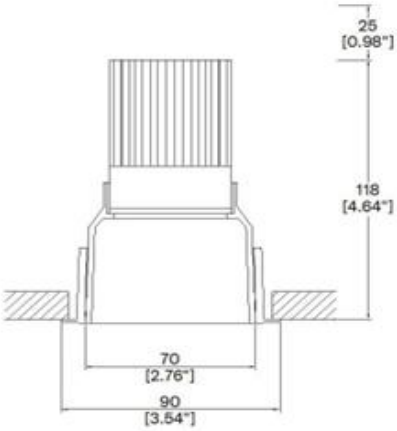
Maurice Brill Lighting Design Ltd.

PROJECT:	**MARRIOTT MANCHESTER**		**LUMINAIRE REF**
PROJECT NO:	857	**LUMINAIRE LOCATION:**	
FIRST ISSUE DATE:	02.12.2022		**P**
REVISION:	04	**LOCAL VOLTAGE:**	**STATUS:**
ISSUE DATE:	12.03.2024	230	DETAIL DESIGN

DESCRIPTION:

Ceiling recessed fixed LED downlight. Trim version . Remote accessible driver, located above ceiling. **IP65. Contractor to ensure that fitting is fully protected from water ingress from above. All connections to be water proof IP rated.**

ILLUSTRATION, DETAILS, PHOTOMETRIC DATA



070-LED-TR
Cut-out 79mm Ø





Frosted Lens



Honeycomb Louvre

MANUFACTURER:	**LUMINAIRE DATA:**	
Lucent Lighting UK Ltd	**LUMINAIRE REF:**	**070-LED-TR-TBC-65**
1345 High Road		LED51/2-27-24-D
London N20 9HR	**FINISH:**	By ID
Tel: +44(0)2084420880	**RECESS DEPTH:**	120mm + 25mm ventilation
Fax: +44(0)2084446998	**BEZEL Ø:**	70mm
Contact: John Carey		
Email: john@lucent-lighting.com	**ACCESSORIES:**	Honeycomb Louvre (LL45); LLDF
	DRIVER REF:	Remote accessible driver by manufacturer

SOURCE/LAMP DATA:				
SOURCE TYPE:	LED - LIGHT EMMITING DIODE	**LAMP LIFE:**	50,000	HOURS
LAMP LOAD:	13.6 WATTS	**COLOUR:**	2,700	ºK (CCT)
BEAM ANGLE:	**24 DEGREES**	**COLOUR RENDERING:**	>90	R_a
DELIVERED LUMEN:	978lm	**DRIVE CURRENT:**	350	mA
LAMP BASE:	n/a	**DIMMING TYPE:**		DALI
MANUFACTURER:		**MACADAM ELLIPSE**	2	STEP
MFR REF:				

NOTES:

To be read in conjunction with MBLD drawings, control schedule and preamble documentation. All luminaires / transformers / ballasts / drivers / power supplies to be compatible with the lighting control system where appropriate.

LUMINAIRE SPECIFICATION

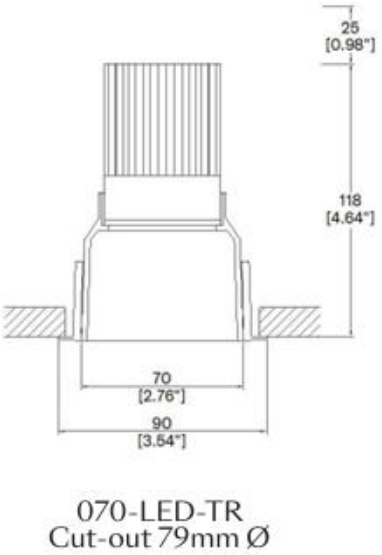
Maurice Brill Lighting Design Ltd.

PROJECT:	**MARRIOTT MANCHESTER**		**LUMINAIRE REF**
PROJECT NO:	857	**LUMINAIRE LOCATION:**	**P1**
FIRST ISSUE DATE:	02.12.2022		
REVISION:	04	**LOCAL VOLTAGE:**	**STATUS:**
ISSUE DATE:	12.03.2024	230	DETAIL DESIGN

DESCRIPTION:

Ceiling recessed fixed LED downlight. Trim version . Remote accessible driver, located above ceiling. **IP65**. **Contractor to ensure that fitting is fully protected from water ingress from above. All connections to be water proof IP rated.**

ILLUSTRATION, DETAILS, PHOTOMETRIC DATA



070-LED-TR
Cut-out 79mm Ø





Frosted Lens



Honeycomb Louvre

MANUFACTURER:	**LUMINAIRE DATA:**	
Lucent Lighting UK Ltd	**LUMINAIRE REF:**	**070-LED-TR-TBC-65**
1345 High Road		LED51/2-27-38-D
London N20 9HR	**FINISH:**	By ID
Tel: +44(0)2084420880	**RECESS DEPTH:**	120mm + 25mm ventilation
Fax: +44(0)2084446998	**BEZEL Ø:**	70mm
Contact: John Carey		
Email: john@lucent-lighting.com	**ACCESSORIES:**	Honeycomb Louvre (LL45); LLDF
	DRIVER REF:	Remote accessible driver by manufacturer

SOURCE/LAMP DATA:				
SOURCE TYPE:	LED - LIGHT EMMITING DIODE	**LAMP LIFE:**	50,000	HOURS
LAMP LOAD:	13.6 WATTS	**COLOUR:**	2,700	ºK (CCT)
BEAM ANGLE:	**38 DEGREES**	**COLOUR RENDERING:**	>90	R_a
DELIVERED LUMEN:	905lm	**DRIVE CURRENT:**	350	mA
LAMP BASE:	n/a	**DIMMING TYPE:**		DALI
MANUFACTURER:		**MACADAM ELLIPSE**	2	STEP
MFR REF:				

NOTES:

To be read in conjunction with MBLD drawings, control schedule and preamble documentation. All luminaires / transformers / ballasts / drivers / power supplies to be compatible with the lighting control system where appropriate.

LUMINAIRE SPECIFICATION

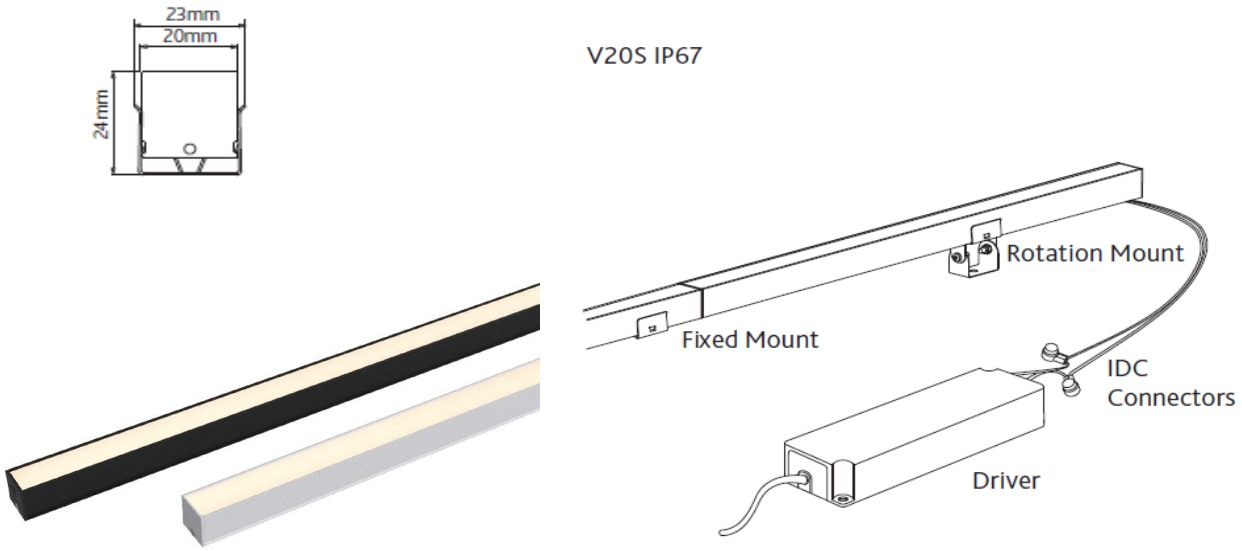
Maurice Brill Lighting Design Ltd.

PROJECT:	**MARRIOTT MANCHESTER**		**LUMINAIRE REF**
PROJECT NO:	857	**LUMINAIRE LOCATION:**	
FIRST ISSUE DATE:	02.12.2022		**Q**
REVISION:	04	**LOCAL VOLTAGE:**	**STATUS:**
ISSUE DATE:	12.03.2024	230	DETAIL DESIGN

DESCRIPTION:

Surface mounted linear diffused LED fitting. Mounted via clips. Appearance to be aas continuous as possible, using long length of fittings. Remote located driver in accessible dry location by contractor. All connections ot be IP rated and suitable for exterior.

ILLUSTRATION, DETAILS, PHOTOMETRIC DATA



MANUFACTURER:	**LUMINAIRE DATA:**	
Lumino	**LUMINAIRE REF:**	**V20S-I-TBC-D-TBC-71-TBC**
Lumino House		
Lovet Rd	**FINISH:**	TBC BY ARCHITECT
harlow	**RECESS DEPTH:**	
Essex CM19 5TB	**DIMENSIONS:**	20x20mm (incl. clips 23 x 24mm
UK	**IP RATING:**	IP67
c.small@lumino.lighting	**ACCESSORIES:**	
	DRIVER REF:	

SOURCE/LAMP DATA:

SOURCE TYPE:	LED - LIGHT EMMITING DIODE	**LAMP LIFE:**	50,000	HOURS
LAMP LOAD:	6W/m	**COLOUR:**	2,700	ºK (CCT)
BEAM ANGLE:	Diffused	**COLOUR RENDERING:**	93	R_a
LUMEN OUTPUT:	650lm/m	**DRIVE CURRENT:**		mA
LAMP BASE:		**DIMMING TYPE:**		DALI
MANUFACTURER:		**MACADAM ELLIPSE**	2	STEP
MFR REF:				

NOTES:

To be read in conjunction with MBLD drawings, control schedule and preamble documentation. All luminaires / transformers / ballasts / drivers / power supplies to be compatible with the lighting control system where appropriate.

LUMINAIRE SPECIFICATION

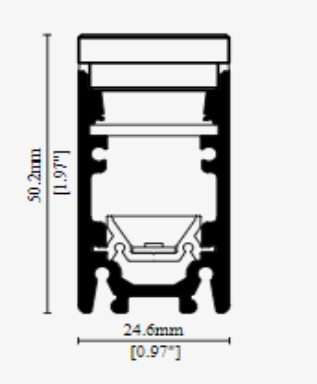
Maurice Brill Lighting Design Ltd.

PROJECT:	**MARRIOTT MANCHESTER**		**LUMINAIRE REF**
PROJECT NO:	857	**LUMINAIRE LOCATION:**	
FIRST ISSUE DATE:	02.12.2022		**R**
REVISION:	04	**LOCAL VOLTAGE:**	**STATUS:**
ISSUE DATE:	12.03.2024	230	DETAIL DESIGN

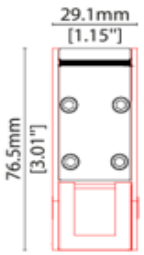
DESCRIPTION:

Floor recessed lienar LED diffused fittings. IP rated. IK08. IP67.

ILLUSTRATION, DETAILS, PHOTOMETRIC DATA









KKBG-03 Ground box

KKBG-01 (MOMO-BLOC)

- Ground box 01
- Stainless steel finish
- Specify length according to the fixture (MoMo-BLOC)
- W79.1/H76.5mm

MANUFACTURER:	**LUMINAIRE DATA:**	
KKDC Lighting	**LUMINAIRE REF:**	**Momo Bloc R007**
Unit 9G1, The Leather Market, Weston St		BL-HA-M-S-007-30-TBC-67-TBC
London	**FINISH:**	TBC BY ARCHITECT
SE1 3ER	**DIMENSIONS:**	50.2 X 24.6MM (plus sleeve)
England		Incl. sleeve 29.1 x 76.5mm
Tel +44 (0) 7739345969	**IP RATING:**	IP67
Mathew Barnes	**ACCESSORIES:**	Sleeve, IP Power feed, drivers
Mathew@kkdc.global	**DRIVER REF:**	

SOURCE/LAMP DATA:				
SOURCE TYPE:	LED - LIGHT EMMITING DIODE	**LAMP LIFE:**	50,000	HOURS
LAMP LOAD:	7W/m	**COLOUR:**	3,000	ºK (CCT)
BEAM ANGLE:	Frosted - 78 degree	**COLOUR RENDERING:**	90	R_a
LUMEN OUTPUT:	145lm/m	**DRIVE CURRENT:**		mA
LAMP BASE:		**DIMMING TYPE:**		DALI
MANUFACTURER:		**MACADAM ELLIPSE**	2	STEP
MFR REF:				

NOTES:

To be read in conjunction with MBLD drawings, control schedule and preamble documentation. All luminaires / transformers / ballasts / drivers / power supplies to be compatible with the lighting control system where appropriate.

LUMINAIRE SPECIFICATION

Maurice Brill Lighting Design Ltd.

PROJECT:	**MARRIOTT MANCHESTER**		**LUMINAIRE REF**
PROJECT NO:	857	**LUMINAIRE LOCATION:**	**S**
FIRST ISSUE DATE:	02.12.2022		
REVISION:	04	**LOCAL VOLTAGE:**	**STATUS:**
ISSUE DATE:	12.03.2024	230	DETAIL DESIGN

DESCRIPTION:

Floor recessed marker lights. Exterior rated

ILLUSTRATION, DETAILS, PHOTOMETRIC DATA

DIMENSIONS REQUIRED OF EXISTING FITTING TO PROVIDE REPLACMENT

MANUFACTURER:	**LUMINAIRE DATA:**
	LUMINAIRE REF:
	FINISH:
	RECESS DEPTH:
	BEZEL Ø:
	ACCESSORIES:
	DRIVER REF:

SOURCE/LAMP DATA:

SOURCE TYPE:	**LAMP LIFE:**		HOURS
LAMP LOAD:	**COLOUR:**		ºK (CCT)
BEAM ANGLE:	**COLOUR RENDERING:**		R_a
LUMEN OUTPUT:	**DRIVE CURRENT:**		mA
LAMP BASE:	**DIMMING TYPE:**		
MANUFACTURER:	**MACADAM ELLIPSE**	2	STEP
MFR REF:			

NOTES:

To be read in conjunction with MBLD drawings, control schedule and preamble documentation. All luminaires / transformers / ballasts / drivers / power supplies to be compatible with the lighting control system where appropriate.

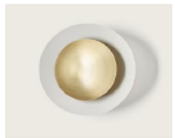
PROJECT:	**MARRIOTT MANCHESTER**
PROJECT No:	**857**
REPORT:	**FF&E PA SCHEDULE**
PREPARED BY:	CW
CHECKED BY:	CW
1st ISSUE DATE:	12/03/2024
REVISION:	
REVISION DATE:	

MBLD

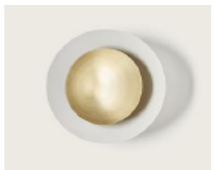
MBLD REF	LOCATION	QUANTITY	FF&E MANUFACTURER	FF&E IMAGE	LAMP CHARACTERISTICS	LAMP IMAGE	LAMP DIMENSIONS	LED WATTAGE	MANUFACTURER	COMMENTS
PUBLIC AREAS										
GROUND FLOOR										
GF-700-L MBLD REF 'A'	GF		CHELSOM		**SEGULA VINTAGE LINE** Ref:**55314**, Clear Finish, 270lm Output, 2700K Colour Temperature, CRI90, Dimmable		Lamp Holder: E27 Height: 100mm Diameter: 35mm	3.2	**SEGULA (UK) LTD** **mob**:+44 (0) 7774 42245 mike@segula.lighting	Lamp type & dimensions are specified based on interior designer's document. FF&E manufacturer to ensure that the lamp specified by MBLD fits within the luminaire.
GF-701-L MBLD REF 'A'	GF		CHELSOM		**SEGULA VINTAGE LINE** Ref:**55314**, Clear Finish, 270lm Output, 2700K Colour Temperature, CRI90, Dimmable		Lamp Holder: E27 Height: 100mm Diameter: 35mm	3.2	**SEGULA (UK) LTD** **mob**:+44 (0) 7774 42245 mike@segula.lighting	Lamp type & dimensions are specified based on interior designer's document. FF&E manufacturer to ensure that the lamp specified by MBLD fits within the luminaire.
GF-702-L MBLD REF 'A'	GF		Hay		**SEGULA VINTAGE LINE** Ref:**55337**, Clear Finish, 650lm Output, 2700K Colour Temperature, CRI90, Dimmable		Lamp Holder: E27 Height: 110mm Diameter: 60mm	6.5W	**SEGULA (UK) LTD** **mob**:+44 (0) 7774 42245 mike@segula.lighting	Lamp type & dimensions are specified based on interior designer's document. FF&E manufacturer to ensure that the lamp specified by MBLD fits within the luminaire.
GF-703-L MBLD REF 'C'	GF		New Works		**SEGULA VINTAGE LINE** Ref:**55314**, Clear Finish, 270lm Output, 2700K Colour Temperature, CRI90, Dimmable		Lamp Holder: E27 Height: 100mm Diameter: 35mm	3.2	**SEGULA (UK) LTD** **mob**:+44 (0) 7774 42245 mike@segula.lighting	Lamp type & dimensions are specified based on interior designer's document. FF&E manufacturer to ensure that the lamp specified by MBLD fits within the luminaire.

GF-704-L MBLD REF 'B'	GF		Aromas							
GF-705-L MBLD REF 'C'	GF				**SEGULA VINTAGE LINE** Ref:**55337**, Clear Finish, 650lm Output, 2700K Colour Temperature, CRI90, Dimmable		Lamp Holder: E27 Height: 110mm Diameter: 60mm	6.5W	**SEGULA (UK) LTD** **mob**:+44 (0) 7774 42245 mike@segula.lighting	Lamp type & dimensions are specified based on interior designer's document. FF&E manufacturer to ensure that the lamp specified by MBLD fits within the luminaire.
GF-706-L MBLD REF 'C'	GF				**SEGULA VINTAGE LINE** Ref:**55314**, Clear Finish, 270lm Output, 2700K Colour Temperature, CRI90, Dimmable		Lamp Holder: E27 Height: 100mm Diameter: 35mm	3.2	**SEGULA (UK) LTD** **mob**:+44 (0) 7774 42245 mike@segula.lighting	Lamp type & dimensions are specified based on interior designer's document. FF&E manufacturer to ensure that the lamp specified by MBLD fits within the luminaire.

ALL DAY DINNING

RE-700-L MBLD REF 'A'	ADD				**SEGULA VINTAGE LINE** Ref:**55314**, Clear Finish, 270lm Output, 2700K Colour Temperature, CRI90, Dimmable		Lamp Holder: E27 Height: 100mm Diameter: 35mm	3.2	**SEGULA (UK) LTD** **mob**:+44 (0) 7774 42245 mike@segula.lighting	Lamp type & dimensions are specified based on interior designer's document. FF&E manufacturer to ensure that the lamp specified by MBLD fits within the luminaire.
RE-701-L MBLD REF 'A'	ADD									

M CLUB

CL-700-L MBLD REF 'A'	M CLUB		AROMAS		**SEGULA VINTAGE LINE** Ref:**55314**, Clear Finish, 270lm Output, 2700K Colour Temperature, CRI90, Dimmable		Lamp Holder: E27 Height: 100mm Diameter: 35mm	3.2	**SEGULA (UK) LTD** **mob**:+44 (0) 7774 42245 mike@segula.lighting	Lamp type & dimensions are specified based on interior designer's document. FF&E manufacturer to ensure that the lamp specified by MBLD fits within the luminaire.
CL-701-L MBLD REF 'C'	M CLUB		ORTA		**SEGULA VINTAGE LINE** Ref:**55337**, Clear Finish, 650lm Output, 2700K Colour Temperature, CRI90, Dimmable		Lamp Holder: E27 Height: 110mm Diameter: 60mm	6.5W	**SEGULA (UK) LTD** **mob**:+44 (0) 7774 42245 mike@segula.lighting	Lamp type & dimensions are specified based on interior designer's document. FF&E manufacturer to ensure that the lamp specified by MBLD fits within the luminaire.
CL-702-L MBLD REF 'B'	M CLUB		AROMAS							
CL-702-L MBLD REF 'C'	M CLUB		DENARI		**SEGULA VINTAGE LINE** Ref:**55337**, Clear Finish, 650lm Output, 2700K Colour Temperature, CRI90, Dimmable		Lamp Holder: E27 Height: 110mm Diameter: 60mm	6.5W	**SEGULA (UK) LTD** **mob**:+44 (0) 7774 42245 mike@segula.lighting	Lamp type & dimensions are specified based on interior designer's document. FF&E manufacturer to ensure that the lamp specified by MBLD fits within the luminaire.

CONFERENCING

CF-700-L MBLD REF 'C'	CON		ORTA		**SEGULA VINTAGE LINE** Ref:**55337**, Clear Finish, 650lm Output, 2700K Colour Temperature, CRI90, Dimmable		Lamp Holder: E27 Height: 110mm Diameter: 60mm	6.5W	**SEGULA (UK) LTD** **mob**:+44 (0) 7774 42245 mike@segula.lighting	Lamp type & dimensions are specified based on interior designer's document. FF&E manufacturer to ensure that the lamp specified by MBLD fits within the luminaire.
CF-701-L MBLD REF 'A'	CON		CHELSO		**SEGULA VINTAGE LINE** Ref:**55314**, Clear Finish, 270lm Output, 2700K Colour Temperature, CRI90, Dimmable		Lamp Holder: E27 Height: 100mm Diameter: 35mm	3.2	**SEGULA (UK) LTD** **mob**:+44 (0) 7774 42245 mike@segula.lighting	Lamp type & dimensions are specified based on interior designer's document. FF&E manufacturer to ensure that the lamp specified by MBLD fits within the luminaire.
CF-702-L MBLD REF 'A'	CON		CHELSOM		**SEGULA VINTAGE LINE** Ref:**55314**, Clear Finish, 270lm Output, 2700K Colour Temperature, CRI90, Dimmable		Lamp Holder: E27 Height: 100mm Diameter: 35mm	3.2	**SEGULA (UK) LTD** **mob**:+44 (0) 7774 42245 mike@segula.lighting	Lamp type & dimensions are specified based on interior designer's document. FF&E manufacturer to ensure that the lamp specified by MBLD fits within the luminaire.

3.0 LIGHTING CONTROL SCHEDULE

CONTROL SCHEDULE

Maurice Brill Lighting Design Ltd.

MBLD

PROJECT:	**Marriott Manchester**				
PROJECT NO:	857	**CONTROL ZONE:**	Lobby Reception & Lounge	**STATUS:**	DETAIL DESIGN
FIRST ISSUE DATE:	02.12.2022				
REVISION:	05	**ZONE REF:**	A	**LOCAL VOLTAGE:**	240
ISSUE DATE:	12.03.2024				

CONTROL CHANNEL	FITTING REF	LAMP LOAD (W)*	QTY	LENGTH	TOTAL LOAD (W)*	AMPS (A)*	DESCRIPTION	LOCATION	LAMP TYPE	CONTROL SYSTEM SIGNAL TYPE
1	C	60	3		180	0.75	FF&E Floor / Table Lamp	Various	LED	PHASE DIM
2	C	60	11		660	2.75	FF&E Floor / Table Lamp	Various	LED	PHASE DIM
3	B	60	10		600	2.50	FF&E Wall Light	Various	LED	PHASE DIM
4	L	9	2.3	M	20.7	0.09	Linear LED Rigid - Low output	Hanging units	LED	DALI
5	L	9	4	M	36	0.15	Linear LED Rigid - Low output	screens	LED	DALI
6	L2	9.6	11.3	M	108.48	0.45	Linear LED Flexible - IP 67 Rated	Oval table & Reception desks	LED	DALI
7	L	9	13.5	M	121.5	0.51	Linear LED Rigid - Low output	Bar	LED	DALI
8	L	9	9.7	M	87.3	0.36	Linear LED Rigid - Low output	Bar tasklight	LED	DALI
9	L	9	10.1	M	90.9	0.38	Linear LED Rigid - Low output	Bar counter	LED	DALI
10	L	9	3	M	27	0.11	Linear LED Rigid - Low output	Wine display	LED	DALI
11	L2	9.6	3	M	28.8	0.12	Linear LED Flexible - IP 67 Rated	Reception task lighitng	LED	DALI
12	L	9	5.6	M	50.4	0.21	Linear LED Rigid - Low output	Display shelves	LED	DALI
13	H	8	25		200	0.83	Spike mounted uplight	Planters	LED	DALI
14	J	9.5	10		95	0.40	GU10 lamp - 2700k	Revolving doors	LED	DALI
15	N	13.6	3		40.8	0.17	Surface mounted LED Spotlight	Backbar	LED	DALI
16	F3	13.6	17		231.2	0.96	Recessed Fixed Downlight -WIDE BEAM - IP66	Ceiling	LED	DALI
17	F3	13.6	13		176.8	0.74	Recessed Fixed Downlight -WIDE BEAM - IP66	Ceiling	LED	DALI
18	F2	13.6	2		27.2	0.11	Recessed Fixed Downlight -WIDE BEAM	Ceiling	LED	DALI
19	G2	13.6	2		27.2	0.11	Recessed Adjustable Downlight - WIDE BEAM	Ceiling	LED	DALI
20	F1	13.6	20		272	1.13	Recessed Fixed Downlight - MEDIUM BEAM	Ceiling	LED	DALI
21	G2	13.6	3		40.8	0.17	Recessed Adjustable Downlight - WIDE BEAM	Ceiling	LED	DALI
22	G2	13.6	3		40.8	0.17	Recessed Adjustable Downlight - WIDE BEAM	Ceiling	LED	DALI
23	G2	13.6	2		27.2	0.11	Recessed Adjustable Downlight - WIDE BEAM	Ceiling	LED	DALI
24	G2	13.6	6		81.6	0.34	Recessed Adjustable Downlight - WIDE BEAM	Ceiling	LED	DALI
25	L1	14	40	M	560	2.33	Linear LED Rigid - High output	Cove	LED	DALI
26	G1	13.6	2		27.2	0.11	Recessed Adjustable Downlight - MEDIUM BEAM	Ceiling	LED	DALI
27	G2	13.6	4		54.4	0.23	Recessed Adjustable Downlight - WIDE BEAM	Ceiling	LED	DALI
28	G1	13.6	10		136	0.57	Recessed Adjustable Downlight - MEDIUM BEAM	Ceiling	LED	DALI
29	F1	13.6	6		81.6	0.34	Recessed Fixed Downlight - MEDIUM BEAM	Ceiling	LED	DALI
30	F2	13.6	6		81.6	0.34	Recessed Fixed Downlight -WIDE BEAM	Bar ceiling	LED	DALI
31	A	60	6		360	1.50	FF&E Pendant	Bar	LED	PHASE DIM
32	L1	14	5.3	M	74.2	0.31	Linear LED Rigid - High output	Bar	LED	DALI
33	L1	14	18	M	252	1.05	Linear LED Rigid - High output	Columns	LED	DALI
34	A	60	1		60	0.25	FF&E Pendant	Oval table	LED	PHASE DIM
35	F2	13.6	2		27.2	0.11	Recessed Fixed Downlight -WIDE BEAM	Ceiling	LED	DALI
36	A	60	4		240	1.00	FF&E Pendant	Various	LED	PHASE DIM
37	G1	13.6	3		40.8	0.17	Recessed Adjustable Downlight - MEDIUM BEAM	Ceiling	LED	DALI
38	L	9	2.5	M	22.5	0.09	Linear LED Rigid - Low output	Conciege	LED	DALI

LOAD TOTALS:	LOAD (W)*	AMPS (A)*	
	5289.18	22	

NOTES:

*All luminaires/transforers/ballasts/drivers/power supplies to be compatible with the lighting control system where appropriate.
*Load information is a guidline only and does not take into account power factor or start up current of control gear.
*This information is supplied to indicate control intent only. Actual dimmer/fuse loadings to be confirmed by contractor.

T=TUNGSTEN LV=LOW VOLTAGE TH=TUNGSTEN HALOGEN MH=METAL HALIDE MV=MERCURY VAPOUR CC=COLD CATHODE
CF=COMPACT FLUORESCENT FL=LINEAR FLUORESCENT LED=LIGHTING EMITTING DIODES

CONTROL SCHEDULE

Maurice Brill Lighting Design Ltd.

MBLD

PROJECT:	**Marriott Manchester**				
PROJECT NO:	857	**CONTROL ZONE:**	Restaurant - Upper Ground Floor	**STATUS:**	DETAIL DESIGN
FIRST ISSUE DATE:	02.12.2022				
REVISION:	05	**ZONE REF:**	B	**LOCAL VOLTAGE:**	240
ISSUE DATE:	12.03.2024				

CONTROL CHANNEL	FITTING REF	LAMP LOAD (W)*	QTY	LENGTH	TOTAL LOAD (W)*	AMPS (A)*	DESCRIPTION	LOCATION	LAMP TYPE	CONTROL SYSTEM SIGNAL TYPE
1	B	60	10		600	2.50	FF&E Wall Light	Columns	LED	PHASE DIM
2	J	9.5	9		85.5	0.36	GU10 lamp - 2700k	Ceiling	LED	DALI
3	L	9	4.5	M	40.5	0.17	Linear LED Rigid - Low output	Bar	LED	DALI
4	A	60	4		240	1.00	FF&E Pendant	Banquets	LED	PHASE DIM
5	K	42	6		252	1.05	High ouput downlight	Ceiling	LED	DALI
6	J	9.5	38		361	1.50	GU10 lamp - 2700k	Window perimeter	LED	DALI
7	J	9.5	20		190	0.79	GU10 lamp - 2700k	Ceiling	LED	DALI
8	J	9.5	3		28.5	0.12	GU10 lamp - 2700k	Ceiling	LED	DALI
9	J	9.5	6		57	0.24	GU10 lamp - 2700k	Ceiling	LED	DALI
10	K	42	4		168	0.70	High ouput downlight	Ceiling	LED	DALI
11	J	9.5	8		76	0.32	GU10 lamp - 2700k	Ceiling	LED	DALI
12	K	42	5		210	0.88	High ouput downlight	Ceiling	LED	DALI
13	J	9.5	4		38	0.16	GU10 lamp - 2700k	Ceiling	LED	DALI
14	J	9.5	4		38	0.16	GU10 lamp - 2700k	Ceiling	LED	DALI
15	K	42	3		126	0.53	High ouput downlight	Ceiling	LED	DALI
16	J	9.5	2		19	0.08	GU10 lamp - 2700k	Ceiling	LED	DALI
17	J	9.5	4		38	0.16	GU10 lamp - 2700k	Ceiling	LED	DALI
18	K	42	1		42	0.18	High ouput downlight	Ceiling	LED	DALI
19	G3	13.6	4		54.4	0.23	Recessed Adjustable Downlight - WIDE BEAM	Artwork	LED	DALI

LOAD TOTALS:	LOAD (W)*	AMPS (A)*	
	2663.9	11	

NOTES:

*All luminaires/transforers/ballasts/drivers/power supplies to be compatible with the lighting control system where appropriate.
*Load information is a guidline only and does not take into account power factor or start up current of control gear.
*This information is supplied to indicate control intent only. Actual dimmer/fuse loadings to be confirmed by contractor.

T=TUNGSTEN LV=LOW VOLTAGE TH=TUNGSTEN HALOGEN MH=METAL HALIDE MV=MERCURY VAPOUR CC=COLD CATHODE
CF=COMPACT FLUORESCENT FL=LINEAR FLUORESCENT LED=LIGHTING EMITTING DIODES

CONTROL SCHEDULE

Maurice Brill Lighting Design Ltd.

MBLD

PROJECT:	**Marriott Manchester**				Page 1 of 2
PROJECT NO:	857	**CONTROL ZONE:**	Conference Area 1	**STATUS:**	DETAIL DESIGN
FIRST ISSUE DATE:	02.12.2022				
REVISION:	05	**ZONE REF:**	C	**LOCAL VOLTAGE:**	240
ISSUE DATE:	12.03.2024				

CONTROL CHANNEL	FITTING REF	LAMP LOAD (W)*	QTY	LENGTH	TOTAL LOAD (W)*	AMPS (A)*	DESCRIPTION	LOCATION	LAMP TYPE	CONTROL SYSTEM SIGNAL TYPE
1	K	42	23		966	4.03	High ouput downlight	Ceiling	LED	DALI
2	J	9.5	8		76	0.32	GU10 lamp - 2700k	Ceiling	LED	DALI
3	J	9.5	11		104.5	0.44	GU10 lamp - 2700k	Ceiling	LED	DALI
4	J	9.5	2		19	0.08	GU10 lamp - 2700k	Ceiling	LED	DALI
5	J	9.5	11		104.5	0.44	GU10 lamp - 2700k	Ceiling	LED	DALI

LOAD TOTALS:	LOAD (W)*	AMPS (A)*	
	1270	5	

NOTES:

*All luminaires/transforers/ballasts/drivers/power supplies to be compatible with the lighting control system where appropriate.
*Load information is a guidline only and does not take into account power factor or start up current of control gear.
*This information is supplied to indicate control intent only. Actual dimmer/fuse loadings to be confirmed by contractor.

T=TUNGSTEN LV=LOW VOLTAGE TH=TUNGSTEN HALOGEN MH=METAL HALIDE MV=MERCURY VAPOUR CC=COLD CATHODE
CF=COMPACT FLUORESCENT FL=LINEAR FLUORESCENT LED=LIGHTING EMITTING DIODES

CONTROL SCHEDULE

Maurice Brill Lighting Design Ltd.

MBLD

PROJECT:	**Marriott Manchester**				Page 1 of 2
PROJECT NO:	857	**CONTROL ZONE:**	Conference Area2	**STATUS:**	DETAIL DESIGN
FIRST ISSUE DATE:	02.12.2022				
REVISION:	05	**ZONE REF:**	C1	**LOCAL VOLTAGE:**	240
ISSUE DATE:	12.03.2024				

CONTROL CHANNEL	FITTING REF	LAMP LOAD (W)*	QTY	LENGTH	TOTAL LOAD (W)*	AMPS (A)*	DESCRIPTION	LOCATION	LAMP TYPE	CONTROL SYSTEM SIGNAL TYPE
1	K	42	8		336	1.40	High ouput downlight	Ceiling	LED	DALI
2	J	9.5	9		85.5	0.36	GU10 lamp - 2700k	Ceiling	LED	DALI
3	J	9.5	23		218.5	0.91	GU10 lamp - 2700k	Ceiling	LED	DALI
4	K	42	17		714	2.98	High ouput downlight	Ceiling	LED	DALI
5	K	42	4		168	0.70	High ouput downlight	Ceiling	LED	DALI
6	J	9.5	6		57	0.24	GU10 lamp - 2700k	Ceiling	LED	DALI
7	J	9.5	22		209	0.87	GU10 lamp - 2700k	Ceiling	LED	DALI

LOAD TOTALS:	LOAD (W)*	AMPS (A)*	
	1788	7	

NOTES:

*All luminaires/transforers/ballasts/drivers/power supplies to be compatible with the lighting control system where appropriate.
*Load information is a guidline only and does not take into account power factor or start up current of control gear.
*This information is supplied to indicate control intent only. Actual dimmer/fuse loadings to be confirmed by contractor.

T=TUNGSTEN LV=LOW VOLTAGE TH=TUNGSTEN HALOGEN MH=METAL HALIDE MV=MERCURY VAPOUR CC=COLD CATHODE
CF=COMPACT FLUORESCENT FL=LINEAR FLUORESCENT LED=LIGHTING EMITTING DIODES

CONTROL SCHEDULE

Maurice Brill Lighting Design Ltd.

MBLD

PROJECT:	**Marriott Manchester**				Page 1 of 2
PROJECT NO:	857	**CONTROL ZONE:**	M Club Lounge	**STATUS:**	DETAIL DESIGN
FIRST ISSUE DATE:	02.12.2022				
REVISION:	05	**ZONE REF:**	D	**LOCAL VOLTAGE:**	240
ISSUE DATE:	12.03.2024				

CONTROL CHANNEL	FITTING REF	LAMP LOAD (W)*	QTY	LENGTH	TOTAL LOAD (W)*	AMPS (A)*	DESCRIPTION	LOCATION	LAMP TYPE	CONTROL SYSTEM SIGNAL TYPE
1	C	60	4		240	1.00	FF&E Floor / Table Lamp	Various	LED	PHASE DIM
2	B	60	2		120	0.50	FF&E Wall Light	Various	LED	PHASE DIM
3	F1	13.6	9		122.4	0.51	Recessed Fixed Downlight - MEDIUM BEAM	Various	LED	DALI
4	L	9	4	M	36	0.15	Linear LED Rigid - Low output	Various	LED	DALI
5	L	9	3	M	27	0.11	Linear LED Rigid - Low output	Various	LED	DALI
6	H	8	1		8	0.03	Spike mounted uplight	Various	LED	DALI
7	J	9.5	19		180.5	0.75	GU10 lamp - 2700k	Various	LED	DALI
8	K	42	8		336	1.40	High ouput downlight	Various	LED	DALI
9	M	13.6	5		68	0.28	Surface mounted LED Spotlight	Various	LED	DALI
10	A	60	1		60	0.25	FF&E Pendant	Various	LED	PHASE DIM
11	F1	13.6	1		13.6	0.06	Recessed Fixed Downlight - MEDIUM BEAM	Various	LED	DALI

LOAD TOTALS:	LOAD (W)*	AMPS (A)*	
	1211.5	5	

NOTES:

*All luminaires/transforers/ballasts/drivers/power supplies to be compatible with the lighting control system where appropriate.
*Load information is a guidline only and does not take into account power factor or start up current of control gear.
*This information is supplied to indicate control intent only. Actual dimmer/fuse loadings to be confirmed by contractor.

T=TUNGSTEN LV=LOW VOLTAGE TH=TUNGSTEN HALOGEN MH=METAL HALIDE MV=MERCURY VAPOUR CC=COLD CATHODE
CF=COMPACT FLUORESCENT FL=LINEAR FLUORESCENT LED=LIGHTING EMITTING DIODES

CONTROL SCHEDULE

Maurice Brill Lighting Design Ltd.

MBLD

PROJECT:	**Marriott Manchester**				Page 1 of 2
PROJECT NO:	857	**CONTROL ZONE:**	Meeting Room 01	**STATUS:**	DETAIL DESIGN
FIRST ISSUE DATE:	02.12.2022				
REVISION:	05	**ZONE REF:**	E	**LOCAL VOLTAGE:**	240
ISSUE DATE:	12.03.2024				

CONTROL CHANNEL	FITTING REF	LAMP LOAD (W)*	QTY	LENGTH	TOTAL LOAD (W)*	AMPS (A)*	DESCRIPTION	LOCATION	LAMP TYPE	CONTROL SYSTEM SIGNAL TYPE
1	K	42	4		168	0.70	High ouput downlight	Various	LED	DALI
2	A	60	1		60	0.25	FF&E Pendant	Various	LED	PHASE DIM
3	J	9.5	6		57	0.24	GU10 lamp - 2700k	Various	LED	DALI
4	L	9	2.4	M	21.6	0.09	Linear LED Rigid - Low output	Various	LED	SWITCHED

LOAD TOTALS:	LOAD (W)*	AMPS (A)*	
	306.6	1	

NOTES:

*All luminaires/transforers/ballasts/drivers/power supplies to be compatible with the lighting control system where appropriate.
*Load information is a guidline only and does not take into account power factor or start up current of control gear.
*This information is supplied to indicate control intent only. Actual dimmer/fuse loadings to be confirmed by contractor.

T=TUNGSTEN LV=LOW VOLTAGE TH=TUNGSTEN HALOGEN MH=METAL HALIDE MV=MERCURY VAPOUR CC=COLD CATHODE
CF=COMPACT FLUORESCENT FL=LINEAR FLUORESCENT LED=LIGHTING EMITTING DIODES

CONTROL SCHEDULE

Maurice Brill Lighting Design Ltd.

MBLD

PROJECT:	**Marriott Manchester**				Page 1 of 2
PROJECT NO:	857	**CONTROL ZONE:**	Meeting Room 02	**STATUS:**	DETAIL DESIGN
FIRST ISSUE DATE:	02.12.2022				
REVISION:	05	**ZONE REF:**	E1	**LOCAL VOLTAGE:**	240
ISSUE DATE:	12.03.2024				

CONTROL CHANNEL	FITTING REF	LAMP LOAD (W)*	QTY	LENGTH	TOTAL LOAD (W)*	AMPS (A)*	DESCRIPTION	LOCATION	LAMP TYPE	CONTROL SYSTEM SIGNAL TYPE
1	H	8	1		8	0.03	Spike mounted uplight	Various	LED	DALI
2	A	60	3		180	0.75	FF&E Pendant	Various	LED	PHASE DIM
3	K	42	12		504	2.10	High ouput downlight	Various	LED	DALI
4	F1	13.6	2		27.2	0.11	Recessed Fixed Downlight - MEDIUM BEAM	Various	LED	DALI
5	M	13.6	3		40.8	0.17	Surface mounted LED Spotlight	Various	LED	DALI
6	F1	13.6	6		81.6	0.34	Recessed Fixed Downlight - MEDIUM BEAM	Various	LED	DALI
7	J	9.5	8		76	0.32	GU10 lamp - 2700k	Various	LED	DALI
8	L	9	2.4	M	21.6	0.09	Linear LED Rigid - Low output	Various	LED	SWITCHED

LOAD TOTALS:	LOAD (W)*	AMPS (A)*	
	939.2	4	

NOTES:

*All luminaires/transforers/ballasts/drivers/power supplies to be compatible with the lighting control system where appropriate.
*Load information is a guidline only and does not take into account power factor or start up current of control gear.
*This information is supplied to indicate control intent only. Actual dimmer/fuse loadings to be confirmed by contractor.

T=TUNGSTEN LV=LOW VOLTAGE TH=TUNGSTEN HALOGEN MH=METAL HALIDE MV=MERCURY VAPOUR CC=COLD CATHODE
CF=COMPACT FLUORESCENT FL=LINEAR FLUORESCENT LED=LIGHTING EMITTING DIODES

CONTROL SCHEDULE

Maurice Brill Lighting Design Ltd.

MBLD

PROJECT:	**Marriott Manchester**				Page 1 of 2
PROJECT NO:	857	**CONTROL ZONE:**	Meeting Room 03	**STATUS:**	DETAIL DESIGN
FIRST ISSUE DATE:	02.12.2022				
REVISION:	05	**ZONE REF:**	E2	**LOCAL VOLTAGE:**	240
ISSUE DATE:	12.03.2024				

CONTROL CHANNEL	FITTING REF	LAMP LOAD (W)*	QTY	LENGTH	TOTAL LOAD (W)*	AMPS (A)*	DESCRIPTION	LOCATION	LAMP TYPE	CONTROL SYSTEM SIGNAL TYPE
1	C	60	2		120	0.50	FF&E Floor / Table Lamp	Various	LED	PHASE DIM
2	M	13.6	1		13.6	0.06	Surface mounted LED Spotlight	Various	LED	DALI
3	A	60	1		60	0.25	FF&E Pendant	Various	LED	PHASE DIM
4	K	42	6		252	1.05	High ouput downlight	Various	LED	DALI
5	J	9.5	10		95	0.40	GU10 lamp - 2700k	Various	LED	DALI
6	K	42	6		252	1.05	High ouput downlight	Various	LED	DALI
7	J	9.5	8		76	0.32	GU10 lamp - 2700k	Various	LED	DALI
8	L	9	2.4	M	21.6	0.09	Linear LED Rigid - Low output	Various	LED	SWITCHED

LOAD TOTALS:	LOAD (W)*	AMPS (A)*	
	890.2	4	

NOTES:

*All luminaires/transforers/ballasts/drivers/power supplies to be compatible with the lighting control system where appropriate.
*Load information is a guidline only and does not take into account power factor or start up current of control gear.
*This information is supplied to indicate control intent only. Actual dimmer/fuse loadings to be confirmed by contractor.

T=TUNGSTEN LV=LOW VOLTAGE TH=TUNGSTEN HALOGEN MH=METAL HALIDE MV=MERCURY VAPOUR CC=COLD CATHODE
CF=COMPACT FLUORESCENT FL=LINEAR FLUORESCENT LED=LIGHTING EMITTING DIODES

CONTROL SCHEDULE

Maurice Brill Lighting Design Ltd.

MBLD

PROJECT:	**Marriott Manchester**				Page 1 of 2
PROJECT NO:	857	**CONTROL ZONE:**	Meeting Room 04	**STATUS:**	DETAIL DESIGN
FIRST ISSUE DATE:	02.12.2022				
REVISION:	05	**ZONE REF:**	E3	**LOCAL VOLTAGE:**	240
ISSUE DATE:	12.03.2024				

CONTROL CHANNEL	FITTING REF	LAMP LOAD (W)*	QTY	LENGTH	TOTAL LOAD (W)*	AMPS (A)*	DESCRIPTION	LOCATION	LAMP TYPE	CONTROL SYSTEM SIGNAL TYPE
1	H	8	1		8	0.03	Spike mounted uplight	Various	LED	DALI
2	K	42	14		588	2.45	High ouput downlight	Various	LED	DALI
3	A	60	3		180	0.75	FF&E Pendant	Various	LED	PHASE DIM
4	F1	13.6	2		27.2	0.11	Recessed Fixed Downlight - MEDIUM BEAM	Various	LED	DALI
5	M	13.6	3		40.8	0.17	Surface mounted LED Spotlight	Various	LED	DALI
6	F1	13.6	6		81.6	0.34	Recessed Fixed Downlight - MEDIUM BEAM	Various	LED	DALI
7	J	9.5	8		76	0.32	GU10 lamp - 2700k	Various	LED	DALI
8	L	9	2.4	M	21.6	0.09	Linear LED Rigid - Low output	Various	LED	SWITCHED

LOAD TOTALS:	LOAD (W)*	AMPS (A)*	
	1023.2	4	

NOTES:

*All luminaires/transforers/ballasts/drivers/power supplies to be compatible with the lighting control system where appropriate.
*Load information is a guidline only and does not take into account power factor or start up current of control gear.
*This information is supplied to indicate control intent only. Actual dimmer/fuse loadings to be confirmed by contractor.

T=TUNGSTEN LV=LOW VOLTAGE TH=TUNGSTEN HALOGEN MH=METAL HALIDE MV=MERCURY VAPOUR CC=COLD CATHODE
CF=COMPACT FLUORESCENT FL=LINEAR FLUORESCENT LED=LIGHTING EMITTING DIODES

CONTROL SCHEDULE

Maurice Brill Lighting Design Ltd.

MBLD

PROJECT:	**Marriott Manchester**				Page 1 of 2
PROJECT NO:	857	**CONTROL ZONE:**	Meeting Room 05	**STATUS:**	DETAIL DESIGN
FIRST ISSUE DATE:	02.12.2022				
REVISION:	05	**ZONE REF:**	E4	**LOCAL VOLTAGE:**	240
ISSUE DATE:	12.03.2024				

CONTROL CHANNEL	FITTING REF	LAMP LOAD (W)*	QTY	LENGTH	TOTAL LOAD (W)*	AMPS (A)*	DESCRIPTION	LOCATION	LAMP TYPE	CONTROL SYSTEM SIGNAL TYPE
1	H	8	1		8	0.03	Spike mounted uplight	Various	LED	DALI
2	K	42	12		504	2.10	High ouput downlight	Various	LED	DALI
3	A	60	3		180	0.75	FF&E Pendant	Various	LED	PHASE DIM
4	F1	13.6	2		27.2	0.11	Recessed Fixed Downlight - MEDIUM BEAM	Various	LED	DALI
5	M	13.6	3		40.8	0.17	Surface mounted LED Spotlight	Various	LED	DALI
6	F1	13.6	6		81.6	0.34	Recessed Fixed Downlight - MEDIUM BEAM	Various	LED	DALI
7	J	9.5	8		76	0.32	GU10 lamp - 2700k	Various	LED	DALI
8	L	9	2.4	M	21.6	0.09	Linear LED Rigid - Low output	Various	LED	SWITCHED

LOAD TOTALS:	LOAD (W)*	AMPS (A)*	
	939.2	4	

NOTES:

*All luminaires/transforers/ballasts/drivers/power supplies to be compatible with the lighting control system where appropriate.
*Load information is a guidline only and does not take into account power factor or start up current of control gear.
*This information is supplied to indicate control intent only. Actual dimmer/fuse loadings to be confirmed by contractor.

T=TUNGSTEN LV=LOW VOLTAGE TH=TUNGSTEN HALOGEN MH=METAL HALIDE MV=MERCURY VAPOUR CC=COLD CATHODE
CF=COMPACT FLUORESCENT FL=LINEAR FLUORESCENT LED=LIGHTING EMITTING DIODES

CONTROL SCHEDULE

Maurice Brill Lighting Design Ltd.

MBLD

PROJECT:	**Marriott Manchester**				Page 1 of 2
PROJECT NO:	857	**CONTROL ZONE:**	Meeting Room 06	**STATUS:**	DETAIL DESIGN
FIRST ISSUE DATE:	02.12.2022				
REVISION:	05	**ZONE REF:**	E5	**LOCAL VOLTAGE:**	240
ISSUE DATE:	12.03.2024				

CONTROL CHANNEL	FITTING REF	LAMP LOAD (W)*	QTY	LENGTH	TOTAL LOAD (W)*	AMPS (A)*	DESCRIPTION	LOCATION	LAMP TYPE	CONTROL SYSTEM SIGNAL TYPE
1	J	9.5	6		57	0.24	GU10 lamp - 2700k	Various	LED	DALI
2	K	42	6		252	1.05	High ouput downlight	Various	LED	DALI
3	A	60	1		60	0.25	FF&E Pendant	Various	LED	PHASE DIM
4	F1	13.6	3		40.8	0.17	Recessed Fixed Downlight - MEDIUM BEAM	Various	LED	DALI
5	M	13.6	2		27.2	0.11	Surface mounted LED Spotlight	Various	LED	DALI

LOAD TOTALS:	LOAD (W)*	AMPS (A)*	
	437	2	

NOTES:

*All luminaires/transforers/ballasts/drivers/power supplies to be compatible with the lighting control system where appropriate.
*Load information is a guidline only and does not take into account power factor or start up current of control gear.
*This information is supplied to indicate control intent only. Actual dimmer/fuse loadings to be confirmed by contractor.

T=TUNGSTEN LV=LOW VOLTAGE TH=TUNGSTEN HALOGEN MH=METAL HALIDE MV=MERCURY VAPOUR CC=COLD CATHODE
CF=COMPACT FLUORESCENT FL=LINEAR FLUORESCENT LED=LIGHTING EMITTING DIODES

CONTROL SCHEDULE

Maurice Brill Lighting Design Ltd.

MBLD

PROJECT:	**Marriott Manchester**				Page 1 of 2
PROJECT NO:	857	**CONTROL ZONE:**	Meeting Room 07	**STATUS:**	DETAIL DESIGN
FIRST ISSUE DATE:	02.12.2022				
REVISION:	05	**ZONE REF:**	E6	**LOCAL VOLTAGE:**	240
ISSUE DATE:	12.03.2024				

CONTROL CHANNEL	FITTING REF	LAMP LOAD (W)*	QTY	LENGTH	TOTAL LOAD (W)*	AMPS (A)*	DESCRIPTION	LOCATION	LAMP TYPE	CONTROL SYSTEM SIGNAL TYPE
1	C	60	2		120	0.50	FF&E Floor / Table Lamp	Various	LED	PHASE DIM
2	H	8	1		8	0.03	Spike mounted uplight	Various	LED	DALI
3	A	60	1		60	0.25	FF&E Pendant	Various	LED	PHASE DIM
4	K	42	4		168	0.70	High ouput downlight	Various	LED	DALI
5	M	13.6	1		13.6	0.06	Surface mounted LED Spotlight	Various	LED	DALI
6	L	9	2.4	M	21.6	0.09	Linear LED Rigid - Low output	Various	LED	DALI

LOAD TOTALS:	LOAD (W)*	AMPS (A)*	
	391.2	2	

NOTES:

*All luminaires/transforers/ballasts/drivers/power supplies to be compatible with the lighting control system where appropriate.
*Load information is a guidline only and does not take into account power factor or start up current of control gear.
*This information is supplied to indicate control intent only. Actual dimmer/fuse loadings to be confirmed by contractor.

T=TUNGSTEN LV=LOW VOLTAGE TH=TUNGSTEN HALOGEN MH=METAL HALIDE MV=MERCURY VAPOUR CC=COLD CATHODE
CF=COMPACT FLUORESCENT FL=LINEAR FLUORESCENT LED=LIGHTING EMITTING DIODES

CONTROL SCHEDULE

Maurice Brill Lighting Design Ltd.

MBLD

PROJECT:	**Marriott Manchester**				Page 1 of 2
PROJECT NO:	857	**CONTROL ZONE:**	Meeting Room 08	**STATUS:**	DETAIL DESIGN
FIRST ISSUE DATE:	02.12.2022				
REVISION:	05	**ZONE REF:**	E7	**LOCAL VOLTAGE:**	240
ISSUE DATE:	12.03.2024				

CONTROL CHANNEL	FITTING REF	LAMP LOAD (W)*	QTY	LENGTH	TOTAL LOAD (W)*	AMPS (A)*	DESCRIPTION	LOCATION	LAMP TYPE	CONTROL SYSTEM SIGNAL TYPE
1	K	42	6		252	1.05	High ouput downlight	Various	LED	DALI
2	J	9.5	6		57	0.24	GU10 lamp - 2700k	Various	LED	DALI
3	A	60	1		60	0.25	FF&E Pendant	Various	LED	PHASE DIM
5	M	13.6	2		27.2	0.11	Surface mounted LED Spotlight	Various	LED	DALI
6	F1	13.6	3		40.8	0.17	Recessed Fixed Downlight - MEDIUM BEAM	Various	LED	DALI

LOAD TOTALS:	LOAD (W)*	AMPS (A)*	
	437	2	

NOTES:

*All luminaires/transforers/ballasts/drivers/power supplies to be compatible with the lighting control system where appropriate.
*Load information is a guidline only and does not take into account power factor or start up current of control gear.
*This information is supplied to indicate control intent only. Actual dimmer/fuse loadings to be confirmed by contractor.

T=TUNGSTEN LV=LOW VOLTAGE TH=TUNGSTEN HALOGEN MH=METAL HALIDE MV=MERCURY VAPOUR CC=COLD CATHODE
CF=COMPACT FLUORESCENT FL=LINEAR FLUORESCENT LED=LIGHTING EMITTING DIODES

CONTROL SCHEDULE

Maurice Brill Lighting Design Ltd.

MBLD

PROJECT:	**Marriott Manchester**				Page 1 of 2
PROJECT NO:	857	**CONTROL ZONE:**	Meeting Room 09	**STATUS:**	DETAIL DESIGN
FIRST ISSUE DATE:	02.12.2022				
REVISION:	05	**ZONE REF:**	E8	**LOCAL VOLTAGE:**	240
ISSUE DATE:	12.03.2024				

CONTROL CHANNEL	FITTING REF	LAMP LOAD (W)*	QTY	LENGTH	TOTAL LOAD (W)*	AMPS (A)*	DESCRIPTION	LOCATION	LAMP TYPE	CONTROL SYSTEM SIGNAL TYPE
1	K	42	6		252	1.05	High ouput downlight	Various	LED	DALI
2	J	9.5	9		85.5	0.36	GU10 lamp - 2700k	Various	LED	DALI
3	A	60	1		60	0.25	FF&E Pendant	Various	LED	PHASE DIM
4	M	13.6	2		27.2	0.11	Surface mounted LED Spotlight	Various	LED	DALI

LOAD TOTALS:	LOAD (W)*	AMPS (A)*	
	424.7	2	

NOTES:

*All luminaires/transforers/ballasts/drivers/power supplies to be compatible with the lighting control system where appropriate.
*Load information is a guidline only and does not take into account power factor or start up current of control gear.
*This information is supplied to indicate control intent only. Actual dimmer/fuse loadings to be confirmed by contractor.

T=TUNGSTEN LV=LOW VOLTAGE TH=TUNGSTEN HALOGEN MH=METAL HALIDE MV=MERCURY VAPOUR CC=COLD CATHODE
CF=COMPACT FLUORESCENT FL=LINEAR FLUORESCENT LED=LIGHTING EMITTING DIODES

CONTROL SCHEDULE

Maurice Brill Lighting Design Ltd.

MBLD

PROJECT:	**Marriott Manchester**				Page 1 of 2
PROJECT NO:	857	**CONTROL ZONE:**	Meeting Room 10	**STATUS:**	DETAIL DESIGN
FIRST ISSUE DATE:	02.12.2022				
REVISION:	05	**ZONE REF:**	E9	**LOCAL VOLTAGE:**	240
ISSUE DATE:	12.03.2024				

CONTROL CHANNEL	FITTING REF	LAMP LOAD (W)*	QTY	LENGTH	TOTAL LOAD (W)*	AMPS (A)*	DESCRIPTION	LOCATION	LAMP TYPE	CONTROL SYSTEM SIGNAL TYPE
1	A	60	4		240	1.00	FF&E Pendant	Various	LED	PHASE DIM
2	J	9.5	20		190	0.79	GU10 lamp - 2700k	Various	LED	DALI
3	L	9	2.4	M	21.6	0.09	Linear LED Rigid - Low output	Various	LED	SWITCHED
4	M	13.6	4		54.4	0.23	Surface mounted LED Spotlight	Various	LED	DALI

LOAD TOTALS:	LOAD (W)*	AMPS (A)*	
	506	2	

NOTES:

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CF=COMPACT FLUORESCENT FL=LINEAR FLUORESCENT LED=LIGHTING EMITTING DIODES

CONTROL SCHEDULE

Maurice Brill Lighting Design Ltd.

MBLD

PROJECT:	**Marriott Manchester**				Page 1 of 2
PROJECT NO:	857	**CONTROL ZONE:**	Meeting Room 11	**STATUS:**	DETAIL DESIGN
FIRST ISSUE DATE:	02.12.2022				
REVISION:	05	**ZONE REF:**	E10	**LOCAL VOLTAGE:**	240
ISSUE DATE:	12.03.2024				

CONTROL CHANNEL	FITTING REF	LAMP LOAD (W)*	QTY	LENGTH	TOTAL LOAD (W)*	AMPS (A)*	DESCRIPTION	LOCATION	LAMP TYPE	CONTROL SYSTEM SIGNAL TYPE
1	J	9.5	6		57	0.24	GU10 lamp - 2700k	Various	LED	DALI
2	A	60	1		60	0.25	FF&E Pendant	Various	LED	PHASE DIM
3	K	42	6		252	1.05	High ouput downlight	Various	LED	DALI
4	M	13.6	2		27.2	0.11	Surface mounted LED Spotlight	Various	LED	DALI

LOAD TOTALS:	LOAD (W)*	AMPS (A)*	
	396.2	2	

NOTES:

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CONTROL SCHEDULE

Maurice Brill Lighting Design Ltd.

MBLD

PROJECT:	**Marriott Manchester**				Page 1 of 2
PROJECT NO:	857	**CONTROL ZONE:**	Meeting Room 12	**STATUS:**	DETAIL DESIGN
FIRST ISSUE DATE:	02.12.2022				
REVISION:	05	**ZONE REF:**	E11	**LOCAL VOLTAGE:**	240
ISSUE DATE:	12.03.2024				

CONTROL CHANNEL	FITTING REF	LAMP LOAD (W)*	QTY	LENGTH	TOTAL LOAD (W)*	AMPS (A)*	DESCRIPTION	LOCATION	LAMP TYPE	CONTROL SYSTEM SIGNAL TYPE
1	J	9.5	6		57	0.24	GU10 lamp - 2700k	Various	LED	DALI
2	J	9.5	12		114	0.48	GU10 lamp - 2700k	Various	LED	DALI
3	K	42	17		714	2.98	High ouput downlight	Various	LED	DALI
4	L	9	4	M	36	0.15	Linear LED Rigid - Low output	Various	LED	SWITCHED

LOAD TOTALS:	LOAD (W)*	AMPS (A)*	
	921	4	

NOTES:

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CONTROL SCHEDULE

Maurice Brill Lighting Design Ltd.

MBLD

PROJECT:	**Marriott Manchester**				Page 1 of 2
PROJECT NO:	857	**CONTROL ZONE:**	Meeting Room 13	**STATUS:**	DETAIL DESIGN
FIRST ISSUE DATE:	02.12.2022				
REVISION:	05	**ZONE REF:**	E12	**LOCAL VOLTAGE:**	240
ISSUE DATE:	12.03.2024				

CONTROL CHANNEL	FITTING REF	LAMP LOAD (W)*	QTY	LENGTH	TOTAL LOAD (W)*	AMPS (A)*	DESCRIPTION	LOCATION	LAMP TYPE	CONTROL SYSTEM SIGNAL TYPE
1	A	60	1		60	0.25	FF&E Pendant	Various	LED	PHASE DIM
2	J	9.5	6		57	0.24	GU10 lamp - 2700k	Various	LED	DALI
3	K	42	4		168	0.70	High ouput downlight	Various	LED	DALI
4	J	9.5	3		28.5	0.12	GU10 lamp - 2700k	Various	LED	DALI

LOAD TOTALS:	LOAD (W)*	AMPS (A)*	
	313.5	1	

NOTES:

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CONTROL SCHEDULE

Maurice Brill Lighting Design Ltd.

MBLD

PROJECT:	**Marriott Manchester**				Page 1 of 2
PROJECT NO:	857	**CONTROL ZONE:**	Entrance Canopy	**STATUS:**	DETAIL DESIGN
FIRST ISSUE DATE:	02.12.2022				
REVISION:	05	**ZONE REF:**	F	**LOCAL VOLTAGE:**	240
ISSUE DATE:	12.03.2024				

CONTROL CHANNEL	FITTING REF	LAMP LOAD (W)*	QTY	LENGTH	TOTAL LOAD (W)*	AMPS (A)*	DESCRIPTION	LOCATION	LAMP TYPE	CONTROL SYSTEM SIGNAL TYPE
1	P	13.6	2		27.2	0.11	Exterior recessed downlight IP65 24 degree	Entrance Canopy	LED	DALI
2	P1	13.6	6		81.6	0.34	Exterior recessed downlight IP65 38 degree	Entrance Canopy	LED	DALI
3	Q	6	14	m	84	0.35	Linear diffused IP67	Entrance Canopy	LED	DALI
4	R	7	22.5	m	157.5	0.66	Linear recessed IP rated steps	Entrance steps	LED	DALI
5	S	1	6		6	0.03	Ingorund fitting	Entrance floor	LED	DALI

LOAD TOTALS:	LOAD (W)*	AMPS (A)*	
	356.3	1	

NOTES:

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