

WESTERN GOODS YARD / P1 Project
KINGS CROSS CENTRAL

Applied Landscape Design
Lighting Tracker to Discharge: Reserved
matter condition 2(g)
Project P1, Kings Cross Central
2012/4741/P

ALD Project Ref:	653 / 14
Document Ref:	ALD653_RP906
Document Revision:	P01
Current Issue Date:	03.07.2015
ALD working date:	25.06.2015
Reason For Issue:	Approval

Prepared By:	Applied Landscape Design Ltd Landscape Architect
Client:	Carillion



INTRODUCTION

This document has been prepared to discharge the following planning conditions as highlighted below:

Under application 2012/4741/P, Project P1, Kings Cross Central

CONDITION	DETAILS OF CONDITION	NOTES
2(a)	Details, including samples panel, of all external materials and finishes (excluding brickwork). The materials as approved under this condition shall be displayed in the form of a samples board to be retained on site for the duration of the relevant works;	Information submitted by others
2(b)	Details, including a sample panel, of the facing brickwork demonstrating the proposed colour, texture, face-bond and pointing. The sample panel shall be retained on site for the duration of the relevant works;	Information submitted by others
2(c)	Details of playground screens enclosing the southern and western boundaries;	Information submitted by others
2(d)	Details, including layout, specification and finishes, of the school playground;	Information submitted by others
2(e)	Details of landscaping features and plant species to be incorporated within the second floor podium garden;	Information submitted by others
2(f)	Details of the type and location of bird and boxes;	Information submitted by others
2(g)	Details of lighting within the public realm, to include location, design, specification, fittings and fixtures; and	Details included in this document in the form of specification documents
2 (h)	Details including samples panel of typical paving, setts and other hard landscape surface treatments. The samples to demonstrate all materials and typical variations of pattern relationships within those materials	Refer to document ALD653_RP905 and related details

NOTE: Refer to drawing ALD653_GA002 for public realm hard landscape and lighting layout

Lighting Equipment Specification

Project: Western Goods Yard
 Public Realm
 King's Cross, London, UK
Project Number: 10213
Document Number: 10213-C-LC-401
Revision: 04

Rev.	Date	By	Notes
00	28/03/14	BR	Initial Release
01	30/05/14	PR	Draft Employer's Requirements
02	30/07/14	PR	Stage E Employer's Requirements
03	21/08/14	PR	Updated Employer's Requirements
04	06/03/15	PR	Updated Employer's Requirements - Type XD updated & YG added

ISSUE FOR PLANNING APPROVAL
 To discharge condition 2(g) of application
 2012/4741/P - Project P1, Kings Cross

**NOTE: ONLY LIGHTING OUTLINED IN RED
 IS RELEVANT FOR THIS APPLICATION**
 Refer to ALD653_GA002 for locations

1.0 General Conditions

- 1.1 A schedule of luminaires and associated equipment is enclosed, and should be read in conjunction with the Lighting Consultant's relevant drawings.
- 1.2 This specification supersedes all previous issues.

2.0 Samples and Prototypes

- 2.1 Should a sample of a standard, or prototype of a special luminaire or variant of a standard luminaire be ordered, its cost shall either be incorporated into a tender price, or shall be invoiced to the Client or his nominated representative separately, as agreed.
- 2.2 Any such sample prototype or variant shall be a sample of the luminaire type specified, and shall be submitted to the Lighting Consultant, together with full photometric and dimensional data if specifically requested, to enable both its accurate assessment and the detailing of any adjustments deemed necessary prior to the commencement of full production.

3.0 Standards of Compliance

- 3.1 For projects in the United Kingdom, all equipment supplied shall comply with the relevant BS and IEC requirements, and be capable of installation in accordance with the manufacturers' instructions, the current edition of the IEE Wiring Regulations and all relevant statutory and local authority requirements.
- 3.2 Notwithstanding the above, the following British Standards (and any which supersede them) in particular should be checked for compliance:
- BS 5266 Part 7/EN 1838 Emergency Lighting (where relevant – check Engineers information).
 - BS EN 60598 Luminaires
- 3.3 For projects outwith the United Kingdom, all equipment supplied shall comply with the relevant standards in force in the project's country of origin.
- 3.4 The cost of obtaining any necessary approvals and testing shall be included in any tender price, detailed as a separate item.

4.0 Protection

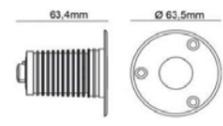
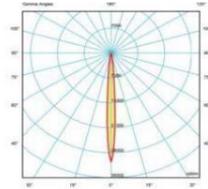
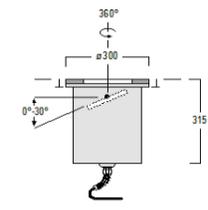
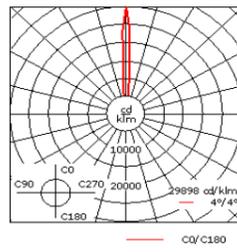
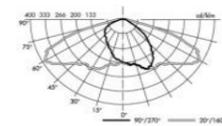
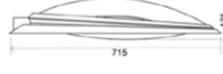
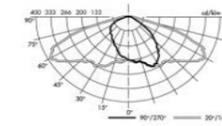
- 4.1 All equipment shall be supplied with adequate means of protection to ensure its preservation during transport to site and any subsequent storage prior to installation.
- 4.2 All vulnerable finished parts liable to scratching or other abrasion during handling and installation shall be further protected by a removable film applied prior to dispatch.

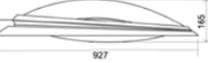
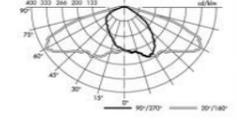
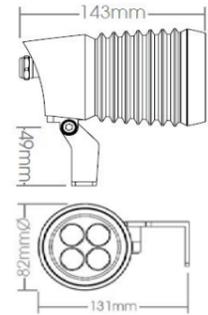
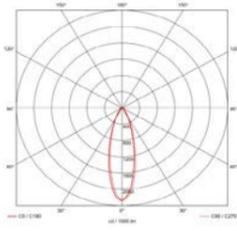
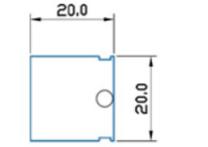
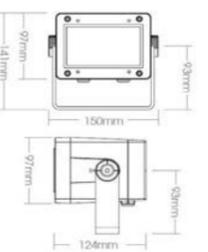
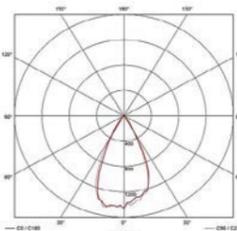
5.0 Guarantees

- 5.1 All equipment and components supplied shall be guaranteed against failure due to poor workmanship, materials, or luminaire design, for a period of not less than 18 months from the date of delivery to site or 12 months from the date of practical completion, whichever is the sooner, with the exception of lamps which shall be covered only by their manufacturer's normal assurances as to life expectancy and performance.

6.0 Technical Requirements

- 6.1 Luminaires
- 6.1.1 Equipment selected as a standard item from a particular manufacturer's range has been specified with a view to performance, optics, maintenance, quality, aesthetics, etc.
- 6.1.2 Should alternative equipment be offered, full technical and photometric data shall be supplied to Speirs and Major Associates in time to enable its accurate assessment. No substitutions or alterations to the specifications will be allowed without the written approval of the lighting consultant.
- 6.1.3 If any variants of standard luminaires are required, these shall be developed by the manufacturer of the standard luminaire, unless otherwise specifically stated, and shall be manufactured to the same quality as the equivalent standard luminaire.
- 6.1.4 Two copies of all working drawings of proposed variants, dimensioned in mm, shall be supplied to Speirs + Major for approval prior to fabrication.
- 6.1.5 Notwithstanding the above, the manufacturers shall remain responsible for ensuring compliance with relevant standards, the accuracy of the information shown on his drawings at all times

Ref.	Lighting Function	Luminaire Description	Lamp Type	Control Gear Type	Accessories (to be ordered seperately)	Image	Typical Dimensions	Typical Light Distribution	Fitting code/contact details
			see note 3.0	see note 4.0					
Gasholder No.8									
XA	Cool white uplight to canopy	Exterior quality IP68 rated ground recessed LED uplight with recessed 8 degree collimated lens for narrow beam lighting distribution. Utilising a single low voltage 24V/1W high output cold white LED with a colour temperature of 5500K CCT. Marine Grade 316L Stainless steel construction and bezel with a clear safety glass lens and integral DMX driver onboard. Fitting supplied with anti-vandal screws and IP68 rated glands. To be supplied with 4no. IP67 rated LED 100W DC 24V LED power supply manufacturer's detail and specification and IP67 rated DMX splitter.	LED	LED	To be supplied with 4no. IP67 rated LED 100W DC 24V LED power supplies ALI.0137.99 and 2no. IP67 rated DMX splitter to manufacturer's detail and specification.				Aldabra - Alcor Product code - ALC.024.28 / Aldabra Lighting Ltd Anova House, Wickhurst Lane Broadbridge Heath, Horsham West Sussex RH12 3LZ www.aldabra.co.uk Contact: Neil Partridge n.partridge@aldabra.co.uk +44 (0)7972 043103
XC	Uplighting to historic gasholder structure	Exterior quality IP68, IK10+ rated ground recessed adjustable LED uplight with 8 degree collimated lenses for narrow beam lighting distribution. Utilising a 230V/24W high out cool white LEDs (24no. in array) with a colour temperature of 4000K CCT (exact colour temperature to be determined during lighting mock-up to historic gasholder structure). Stainless steel construction with clear safety glass lens with max load of 5 tonnes. Gimbal mounted adjustable reflector tray with 360 degree rotation and 30 degree tilt. Housing supplied with factory sealed gland and 1.5m flexible cable. To be supplied with integral LED dimmable driver, exact dimming protocol to be determined. Exact dimming protocol to be determined	LED	LED	Installation blackout 185-0322 Sealable junction box SJB				We-ef - ETC-140-GB-LED Product code - 185-2727 We-ef Lighting Suite 2c, East Bridgford Business Park Kneeton Road, East Bridgford Nottingham NG13 8PJ www.we-ef.com Contact: Charles Dunbar c.dunbar@we-ef.com +44 (0)7768-766-119
XD	Handrail lighting to steps and ramps	Exterior quality IP66 rated surface mounted micro linear accent luminaire, with diffuse lighting distribution. Utilising an array of double density (5.5mm pitch) high brightness warm white 3000K CCT LEDs. 18W per linear metre. Constructed of anodized aluminium extruded profile with encapsulated acrylic diffuser and fitted with integral micro-louvre and asymmetrical shield to be ordered seperately.. To be supplied with remote IP65 rated electronic DMX LED dimmable drivers to suit.	LED	LED	Integral micro-louvre Asymmetrical shield To be supplied with remote IP65 rated electronic LED dimmable drivers to suit.				Mike Stoane Lighting - Exterior LED Channel Product code - LED Channel.Ext.high.3000K.TBC.ano.MICRO-LOURVE, ASYMMETRIC SHIELD Mike Stoane Lighting Ltd 20 Dryden Road Bilston Glen Industrial Estate Loanhead Midlothian, EH20 9LZ www.mikestoanelighting.com contact: sales@mikestoanelighting.com +44 (0)131 440 1313
Public Realm									
YA	Street Lighting Handyside Street	Exterior rated IP66 column-mounted streetlight, with a forward throw asymmetrical beam distribution, utilising 1 no. 240V/140W CPO-TW Cosmopolis lamp. Die-cast aluminium housing with flat glass finish and colour to match existing hestia luminaires on site. Luminaire to have a 5° inclination of the horizontal plane. Integral IP-44 dimm switch electronic ballast.	HID	EB	8m Column and bracketry to be specified by others to match existing columns on Handyside Street.				Urbis Schreder - Hestia Product code: Hes Mid/FG/1627/090/-25/26237A Finish/Colour to match hestia luminaires already on site Urbis Lighting Ltd Telford Road, Houndsmills Basingstoke Hampshire, RG21 6YW www.urbislighting.com Contact: sales@urbislighting.com +44 (0) 1256 354446
YB	Street Lighting to Handyside Street	Exterior rated IP66 column-mounted streetlight, with a forward throw asymmetrical beam distribution, utilising 1 no. 240V/45W CPO-TW Cosmopolis lamp. Die-cast aluminium housing with flat glass finish and colour to match existing hestia luminaires on site. Luminaire to have a 5° inclination of the horizontal plane. Integral IP-44 dimm switch electronic ballast.	HID	EB	8m Column and bracketry to be specified by others to match existing columns on Handyside Street.				Urbis Schreder - Hestia Product code: Hes Mini/FG/1914/080/-24/253881 Finish/Colour to match hestia luminaires already on site Urbis Lighting Ltd Telford Road, Houndsmills Basingstoke Hampshire, RG21 6YW www.urbislighting.com Contact: sales@urbislighting.com +44 (0) 1256 354446

Ref.	Lighting Function	Luminaire Description	Lamp Type	Control Gear Type	Accessories (to be ordered seperately)	Image	Typical Dimensions	Typical Light Distribution	Fitting code/contact details
YC	Street Lighting to Hodder Street	Exterior rated IP66 column-mounted streetlight, with a forward throw asymmetrical beam distribution, utilising 1 no. 240V/60W CPO-TW Cosmopolis lamp. Die-cast aluminium housing with flat glass finish and colour to match existing hestia luminaires on site. Luminaire to have a 5° inclination of the horizontal plane. Integral IP-44 dimm switch electronic ballast.	HID	EB	8m Column and bracketry to be specified by others to match existing columns on Handyside Street.				Urbis Schreder - Hestia Product code Hes-Midi/FG/1627/065/-16/27055C Finish/Colour to match hestia luminaires already on site Urbis Lighting Ltd Telford Road, Houndsmills Basingstoke Hampshire, RG21 6YW www.urbislighting.com Contact: sales@urbislighting.com +44 (0) 1256 354446
YD	Amenity Lighting to Canal Reach	Exterior rated IP676 bracket mounted adjustable spotlight with a symmetrical medium beam (30 degree) distribution, utilising a 700mA/10W 3000K warm white LED array (4no.) module with a minimum light output of 560lm. Die cast aluminium alloy housing with clear safety glass lens and supplied with integral 1-10V dimmable LED driver. Colour of finish to be standard aluminium to Landscape architect's detail and specification. Spotlights to be mounted on 6m high column timber column to Landscape Architects' detail and specification.	LED	LED	Honeycomb Louvre - HCl 6m high column to Landscape Architect's detail and specification				ACDC Lighting - Accento II Product code acdc1131/AAS/30/30R/DIM/HCl ACDC lighting Innovation Works Gisburn Road, Barrowford Lancashire BB9 8NB www.acdcighting.co.uk Contact: Liam Deards ldeards@acdcighting.co.uk 07730-522-636
YE	Under bench lighting	Exterior rated IP67 surface-mounted linear LED luminaire, with a wide symmetrical beam (60 degree) distribution utilising a 24V(constant voltage)/13.2W warm white 2900K linear LED array(50no.) per meter with a minimum light output of 880lm. Remote DMX dimmable LED-driver - exact distance between driver and luminaire to be confirmed by manufacturer.	LED	LED	Anti-tamper mounting clips				Lumino - Vector V20V20.2 Product code V20.3.IP67.2900K.LENGTH Lumino Limited Lumino House Lovet Road, Harlow Essex, CM19 5TB www.lumino.co.uk Contact: info@lumino.co.uk +44 (0) 1279 626101
YF	Lighting to specimen trees	Exterior rated IP66 surface mounted adjustable and lockable LED uplight with medium beam (30 degree) symmetrical light distribution utilising a 700mA/16W 4200K cool white LED array (8no.) with a minimum total light output of 1148lm and CRI of Ra >85. Colour temperature consistency of LEDs is within 2 MacAdam ellipses. Black powdercoated steel housing with silicone rubber gasket and toughened safety glass. All exposed screw fixings to be anti-tamper. Integral 1-10V dimmable driver.	LED	LED	Louvre - LVR Garden Spike 280mm - GAS				ACDC Lighting - Plaza 20 Product code acdc1185/20/TBL/42/30R/DIM/STD/LVR/GAS ACDC lighting Innovation Works Gisburn Road, Barrowford Lancashire BB9 8NB www.acdcighting.co.uk Contact: Liam Deards ldeards@acdcighting.co.uk 07730-522-636
YG	Handrail lighting to steps and ramps	Exterior qualaty IP66 rated surface mounted mioc linear accent luminaire, with diffuse lighting distribution. Utilising an array of double desnity (5.5mm pitch) high brightness warm white 3000K CCT LEDES. 18W per linear metre. Constructed of anodized aluminium extruded profile with encapsulated acrylic diffuser and fitted with integral mirco-louvre to be ordered seperately.. To be supplied with remote IP65 rated electronic DMX LED dimmable drivers to suit.	LED	LED	Integrated Micro-louvre To be supplied with remote IP65 rated electronic LED dimmable drivers to suit.				Mike Stoane Lighting - Exterior LED Channel Product code - LED Channel.Ext.high.3000K.TBC.ano.MICRO-LOURVE Mike Stoane Lighting Ltd 20 Dryden Road Bilston Glen Industrial Estate Loanhead Midlothian, EH20 9LZ www.mikestoanelighting.com contact: sales@mikestoanelighting.com +44 (0)131 440 1313

- 1.0 The attached are preliminary estimated types and lamp loads only.
- 2.0 Electrical loads are nominal lamp loads only, and do not include ballast and transformer losses, motors, fans or any other loads which may exist within a luminaire. Detailed information on these loads cannot be provided until detailed specification is undertaken.
- 3.0 Lamp Types
- | | |
|------|---|
| T | Tungsten (Mains Voltage) |
| LV | Low-Voltage $\leq 24V$ (Tungsten Halogen/Xenon) |
| TH | Tungsten Halogen (Mains Voltage) |
| FLU | Linear Fluorescent |
| CFLU | Compact Fluorescent |
| HID | High Intensity Discharge |
| LED | Light Emitting Diode |
| C/C | Cold Cathode |
| NONE | None |
- 4.0 Gear Types
- | | |
|------|------------------------|
| MTX | Magnetic transformer |
| MB | Magnetic ballast |
| ETX | Electronic transformer |
| EB | Electronic ballast |
| LED | Electronic LED driver |
| NONE | None |
- 5.0 All electrical loads should be checked by Electrical Engineer.
- 6.0 Speirs + Major will not be held responsible for the content of electronic versions of this document if they are in any way changed by any other party.

Preliminary Lighting Equipment Schedule

Project: Western Goods Yard, P1
King's Cross, London, UK
Project Number: 10213-A
Document Number: 10213-A-LC-200
Revision: 01

Rev.	Date	By	Notes
00	07/02/14	BR	Initial Release
01	04/09/14	PR	Stage D Employers Requirements

ISSUE FOR PLANNING APPROVAL
To discharge condition 2(g) of application
2012/4741/P - Project P1, Kings Cross

**NOTE: ONLY LIGHTING OUTLINED IN RED
IS RELEVANT FOR THIS APPLICATION**
Refer to drawing ALD653_GA002

Ref.	Lighting Function	Luminaire Description	Lamp Type	Control Gear Type	Accessories (to be ordered seperately)	Image	Benchmark luminaire/contact details
PD	Uplighting to entrance - P1	<p>Exterior rated IP67 ground-recessed linear LED luminaire, with a 18° medium symmetrical beam distribution utilising a 350mA/15.6W warm white 3000K linear LED array (12no.) with a minimum light output of 846lm. Extruded aluminium housing black anodised aluminium finish, clear safety glass lens, colimated lensed optics to LEDs and integral linear mirco louvre to minimise glare. Fitting to be supplied with IP67 rated LED driver.</p> <p>Fitting to be supplied with installation sleeve to be ordered separately.</p>	LED	LED	Installation sleeve		<p>ACDC Lighting - Iglu Product code acdc1120/AAB/30/18R/NON-DIM/400/0ADJ/IP67</p> <p>ACDC lighting Innovation Works Gisburn Road, Barrowford Lancashire BB9 8NB www.acdclighting.co.uk</p> <p>Contact: Liam Deards ldeards@acdclighting.co.uk 07730-522-636</p>
PE	School fence - lighting to upper deck	<p>Exterior rated IP67 bracket mounted adjustable spotlight with a asymmetrical elliptical beam (50x20 degree) distribution, utilising a 700mA/10W 3000K warm white LED array (4no.) module with a minimum light output of 560lm. Die cast aluminium alloy housing with clear safety glass lens and supplied with integral 1-10V dimmable LED driver. Colour of finish to be standard black anodised aluminium to Architect's detail and specification.</p> <p>Type PG provides the lighting upper deck walkway and is required to meet the following lighting design criteria - minimum average maintained horizontal illuminance of 30 lux</p>	LED	LED			<p>ACDC Lighting - Accento II Product code acdc1131/AAB/30/50x20R/DIM</p> <p>ACDC lighting Innovation Works Gisburn Road, Barrowford Lancashire BB9 8NB www.acdclighting.co.uk</p> <p>Contact: Liam Deards ldeards@acdclighting.co.uk 07730-522-636</p>
PF	School fence uplighting mesh panels	<p>Exterior rated IP66 surface mounted linear luminaire with narrow beam asymmetrical wall wash distribution, utilising 48V DC/13W warm white 3000K linear LED array with a minimum lighting output of 1060lm. Extruded and die-cast aluminium housing with standard silver finish, clear safety glass lens and collimated lesed optics to LEDs.</p> <p>To be supplied with remote IP rated DALI dimmable LED power supply and mounting plate accessory</p>	LED	LED	DALI dimmable LED driver Mounting plate		<p>iGuzzini - Lineluce Mini Product code - BL.33.715.0</p> <p>iGuzzini Illuminazione UK Ltd Astolat Way, Astolat Business Park off Old Portsmouth Road Guildford Surrey, GU3 1NE www.iguzzini.co.uk</p> <p>Contact: Terence Goode Terence.Goode@iGuzzini.co.uk +44 (0)7710 824 429</p>

Ref.	Lighting Function	Luminaire Description	Lamp Type	Control Gear Type	Accessories (to be ordered seperately)	Image	Benchmark luminaire/contact details
			see note 3.0	see note 4.0			
PF1	School fence uplighting mesh panels	Exterior rated IP66 surface mounted linear luminaire with narrow beam asymmetrical wall wash distribution, utilising 48V DC/10.7W warm white 3000K linear LED array with a minimum lighting output of 430lm. Extruded and die-cast aluminium housing with standard silver finishe, clear safety glass lens and collimated lesed optics to LEDs. To be supplied with remote IP rated DALI dimmable LED power supply and mounting plate accessory	LED	LED	DALI dimmable LED driver Mounting plate		iGuzzini - Lineluce Mini Product code - BL33.715.0 iGuzzini Illuminazione UK Ltd Astolat Way, Astolat Business Park off Old Portsmouth Road Guildford Surrey, GU3 1NE www.iguzzini.co.uk Contact: Terence Goode Terence.Goode@iGuzzini.co.uk +44 (0)7710 824 429
PF2	School fence uplighting mesh panels	Exterior rated IP66 surface mounted linear luminaire with narrow beam asymmetrical wall wash distribution, utilising 48V DC/20W warm white 3000K linear LED array with a minimum lighting output of 1590lm. Extruded and die-cast aluminium housing with standard silver finishe, clear safety glass lens and collimated lesed optics to LEDs. To be supplied with remote IP rated DALI dimmable LED power supply and mounting plate accessory	LED	LED	DALI dimmable LED driver Mounting plate		iGuzzini - Lineluce Mini Product code - BL35.715.0 iGuzzini Illuminazione UK Ltd Astolat Way, Astolat Business Park off Old Portsmouth Road Guildford Surrey, GU3 1NE www.iguzzini.co.uk Contact: Terence Goode Terence.Goode@iGuzzini.co.uk +44 (0)7710 824 429
PF3	School fence uplighting mesh panels (gates)	Exterior rated IP67 ground recessed burial linear uplight luminaire with narrow beam asymmetrical wall wash distribution, utilising 48V DC/13W warm white 3000K linear LED array with a minimum lighting output of 1080lm. Extruded and die-cast aluminium housing with standard silver finishe, clear safety glass lens and collimated lesed optics to LEDs. To be supplied with remote IP rated DALI dimmable LED power supply and ground recessing installation sleeve (outer casing).	LED	LED	DALI dimmable LED driver Ground recessing installation sleeve (outer casing)		iGuzzini - Lineluce Mini Recessed Product code - BW33.15 iGuzzini Illuminazione UK Ltd Astolat Way, Astolat Business Park off Old Portsmouth Road Guildford Surrey, GU3 1NE www.iguzzini.co.uk Contact: Terence Goode Terence.Goode@iGuzzini.co.uk +44 (0)7710 824 429

Ref.	Lighting Function	Luminaire Description	Lamp Type	Control Gear Type	Accessories (to be ordered seperately)	Image	Benchmark luminaire/contact details
PG	School fence - amenity lighting to public realm	<p>Exterior rated IP67 bracket mounted adjustable spotlight with a symmetrical medium beam (30 degree) distribution, utilising a 700mA/10W 3000K warm white LED array (4no.) module with a minimum light output of 560lm. Die cast aluminium alloy housing with clear safety glass lens and supplied with integral 1-10V dimmable LED driver. Colour of finish to be standard Black anodised aluminium to Architect's detail and specification.</p> <p>Type PG provides the lighting to adjacent public realm in Canal Reach and South of the P1 Building and is required to meet the following lighting design criteria of lighting class S1 - minimum average maintained horizontal illuminance of 15 lux and minimum maintained horizontal illuminance of 5 lux</p>	LED	LED	Honeycomb Louve		<p>ACDC Lighting - Accento II Product code acdc1131/AAB/30/30R/DIM/HCI</p> <p>ACDC lighting Innovation Works Gisburn Road, Barrowford Lancashire BB9 8NB www.acdclighting.co.uk</p> <p>Contact: Liam Deards ldeards@acdclighting.co.uk 07730-522-636</p>
PH	Lighting to routes (column-mounted)	<p>Exterior rated IP66 wall-mounted street lighting lantern, with a side throw asymmetrical beam (S70) distribution, utilising a 700mA/48W 3000K warm white LED array (24no.) module with a minimum initial light output of 5530lm. Die cast aluminium housing with clear lens. Fitting to be supplied with custom integral DALI dimmable LED driver.</p> <p>Type PH provides the lighting to adjacent public realm in Canal Reach and South of the P1 Building and is required to meet the following lighting design criteria of lighting class S1 - minimum average maintained horizontal illuminance of 15 lux and minimum maintained horizontal illuminance of 5 lux</p>	LED	LED	Wall mounted bracket		<p>We-ef - 108-1171 DALI Finish/Colour of luminaire tbc to be confirmed by Architect</p> <p>We-ef lighting Suite 2c, East Bridgford Business Park Kneeton Road, East Bridgford Nottingham NG13 8PJ</p> <p>www.we-ef.com</p> <p>Contact person: Charles Dunbar c.dunbar@we-ef.com 07768-766-119</p>
PJ	LED beacon to scenic lift car	<p>Exterior rated IP65 surface mounted beacon luminaire with diffuse lighting distribution, utilising a 700mA/2.1W 3000K warm white LED array (1no.) module with a minimum light output of 75lm. Anodized aluminium housing with diffuse frosted polycarbonate domed lens. and supplied with remote LED driver.</p>	LED	LED	LED driver		<p>ACDC Lighting - Taurus Product code acdc1033/AAS/30/U/DGF</p> <p>ACDC lighting Innovation Works Gisburn Road, Barrowford Lancashire BB9 8NB www.acdclighting.co.uk</p> <p>Contact: Liam Deards ldeards@acdclighting.co.uk 07730-522-636</p>

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- 3.0 Lamp Types

T	Tungsten (Mains Voltage)
LV	Low-Voltage $\leq 24V$ (Tungsten Halogen/Xenon)
TH	Tungsten Halogen (Mains Voltage)
FLU	Linear Fluorescent
CFLU	Compact Fluorescent
HID	High Intensity Discharge
LED	Light Emitting Diode
C/C	Cold Cathode
NONE	None
- 4.0 Gear Types

MTX	Magnetic transformer
MB	Magnetic ballast
ETX	Electronic transformer
EB	Electronic ballast
LED	Electronic LED driver
NONE	None
- 5.0 All electrical loads should be checked by Electrical Engineer.
- 6.0 Speirs + Major will not be held responsible for the content of electronic versions of this document if they are in any way changed by any other party.