Wrexham Museum Lighting Application Design and Access Statement

The following note has been compiled to ex[plain the design process for the choice and location of the proposed Silka Max and other low level lighting associated with the Wrexham Museum refurbishment project. It is set down across the following headings:

Design Brief

Given by Wrexham County Borough Council to Purcell Architects who in turn asked Ryder Landscape Consultants Ltd (RLC) to select appropriate lighting columns and fixtures for the external realm lighting around the museum. The technical design of connections, controls and lighting plots was to be undertaken by others in the Design Team or by the suppliers offering in-house design services.

The proposed lighting had to be:

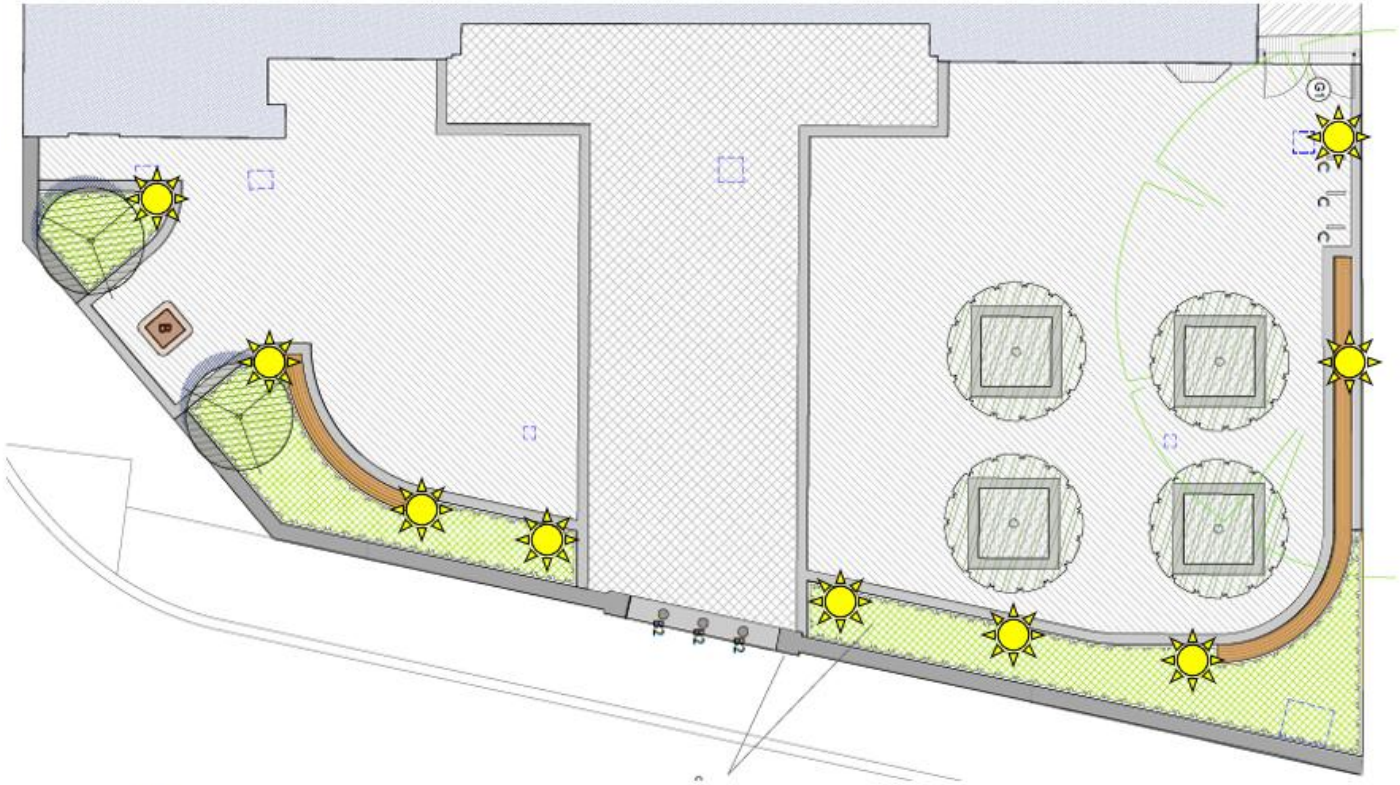
- Fitting to the space;
- Acceptable to the Conservation Area character;
- Provide sufficient luminance to allow the front courtyard and side garden to be safely used in the hours of darkness;
- Not clutter up the front courtyard so it could remain useable for events;
- Not restrict sight to the new frontage of the Museum;
- Minimise the amount of columns used without making them too high to appear as, or compete with neighbouring highway lighting;
- Readily maintainable with access to spare parts;
- Ideally offer up the opportunity for different coloured lighting through the use of RGBW bulb options.

Client Liaison

Given the above brief RLC prepared as part of a wider external realm PowerPoint presentation a number of slides to indicate potential positions and specific styles of lighting columns. The sheets that relate to Area 2 (Front Courtyard) and Area 3 (Side Garden) are set overleaf with the agreed style of column circled in yellow.

Area 2 – Lighting positions

- Set within planting to keep forecourt clutter free
- Not to clash with adjacent highway lighting
- Ideally white LED lighting for good colour definition
- LED lighting for low cost operation / BREEAM points
- UK manufacturer for ease of parts / upkeep
- Pedestrian height in scale 5 to 6m but not bollards
- Sufficient light for CCTV cameras but not glare
- Attractive in form and style of lighting



Indicative lighting position

Area 2 - Lighting styles – possible options



Selux UK – Lif Range



DW Windsor – Silka Max



Thorn Lighting – Plurio Range



Artform UF – Profile Light



DAE Escofet – Wide column



Santa & Cole - LamparaAlta

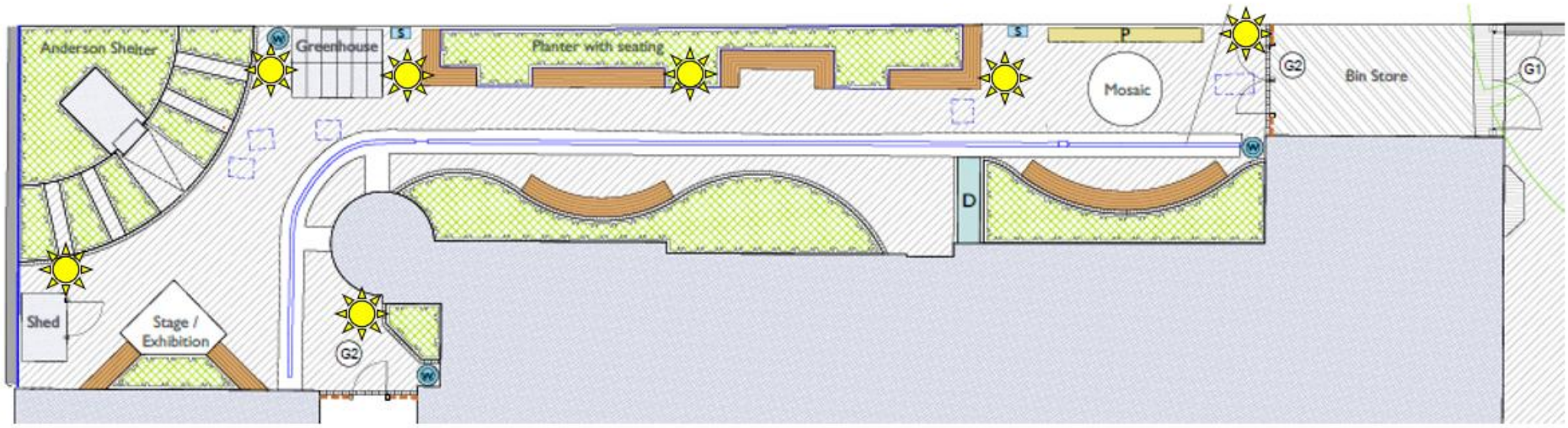


Santa & Cole – Slope Light



Candela – Aston Heritage

Area 3 – Lighting positions



- Low level lighting to illuminate paths
- Tucked out of the way so as not to restrict space
- Near entrances to features
- Set on opposite side of space to building
- Suggested use of lighting bollards as in controlled area
- Possible use of solar lighting as lower lux levels are likely to be acceptable

Indicative lighting position

Area 3 - Lighting styles – possible options



Gwyn Carless – GCC5



Street Furnishings - Solar



Street Furnishings – Pan Solar



SF – Guarded Solar Bollard



Artform UF – Torres Path



Artform UF - Astbury



Candela – Tyburn Bollard



Candela – Arbour Bollard

Product Information

The DW Windsor Silka Max column Technical Information is contained in an Appendix at the end of this note.

Proposed Column Information

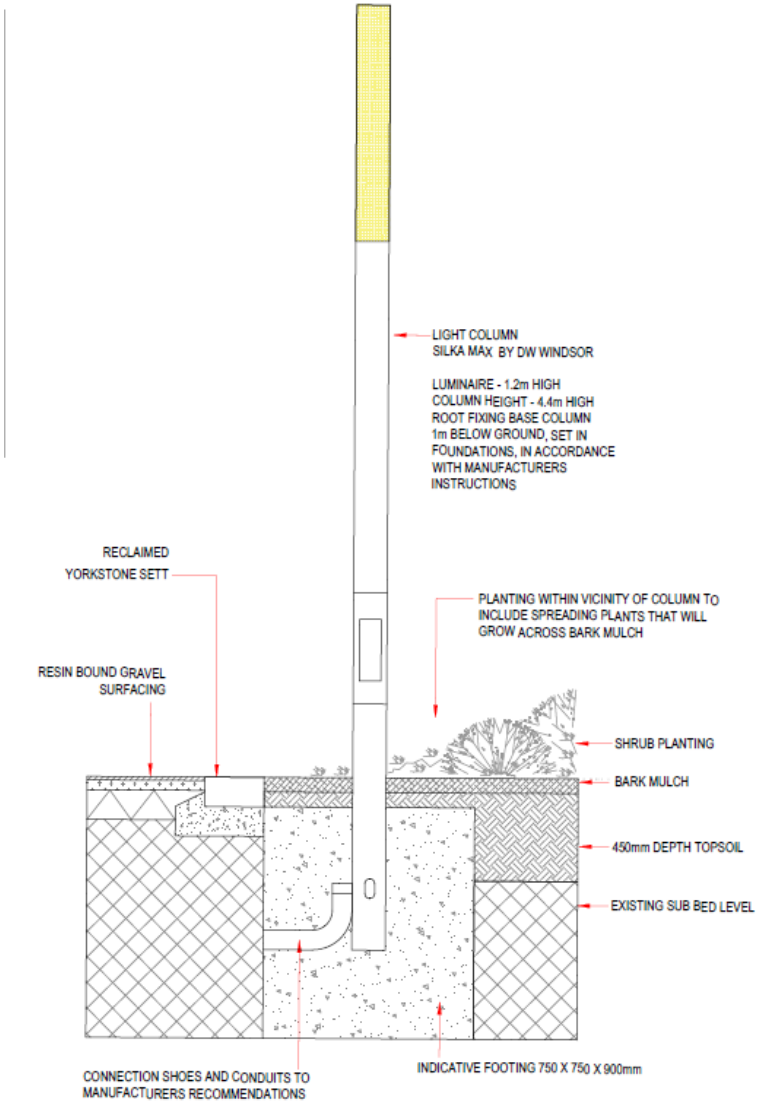
The External Realm Schedule summarised the lighting column details as indicated on the Hard Landscape General Arrangement as;

Lighting elements					
L	**Light column** Positioned within the forecourt, set predominately at edge of soft landscaping Silka | Cylindrical Street Lights | DW Windsor	DW Windsor Ltd Silka light column and luminaire DW Windsor Pindar Road, Hoddesdon, Hertfordshire, EN11 0DX T: 01992 474600 E: info@dwwindsor.com W: www.dwwindsor.com	Luminaire -Silka Max 1200mm Base Column height – 4400mm Colour Temp – TBC Base Column Fixing – 1000mm root Control - TBC	Base Column Paint – TBC Decorative Shield – TBC	
LC	**Light Column with CCTV Camera** Positioned to north side of side entrance.	DW Windsor Ltd Silka light column and luminaire DW Windsor Pindar Road, Hoddesdon, Hertfordshire, EN11 0DX T: 01992 474600 E: info@dwwindsor.com W: www.dwwindsor.com	Luminaire -Silka Max 1200mm Base Column height – 4400mm Colour Temp – TBC Base Column Fixing – 1000mm root Control - TBC	Base Column Paint – TBC Decorative Shield – TBC	
CK	**Electric Control Kiosk** Positioned next to landscape bed near Courtroom 2 entrance. Control lighting and recessed ground power supplies.	Vandal resistant IP55 rated as minimum GRP lockable cabinet	To be confirmed by electrical engineer	Green Base mounted to concrete foundation	

The final technical information as marked by TBC weas to be completed by the MEICA Consultant and or the supplier when lighting plots of the forecourt area had been completed.

Fixing Detail

The lighting columns are proposed to be set in the forecourt planting beds to keep them out of the hard surfaced area to minimise the clutter in the forecourt and minimise the amount of management issues associated with sweeping around them or fitting paving close up to them. The indicative fitting detail is supplied opposite. This is subject to refinement by the Manufacturer but the principle of a recessed footing and groundcover plants around the columns base is set.



16 1:20 SILKA MAX LIGHT COLUMN SET INTO SOFT LANDSCAPE

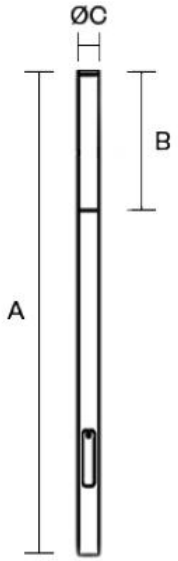
BREEAM Modification

Parker Wilson – Low Carbon Consultants to the project in May 2024 proposed a change to the luminaire to achieve additional BREEAM Credits by limiting light spill to less that 2%. The Area version of the Silka luminaire has only 2% light spill, an improved energy optic and is lit from the top. The full datasheet is attached at Appendix B to this note but an image and basic dimensions are set below. It is the Silka Area Max 5 that is proposed. The higher the column the less that are required in the courtyard.

DW Windsor

Silka Area Max





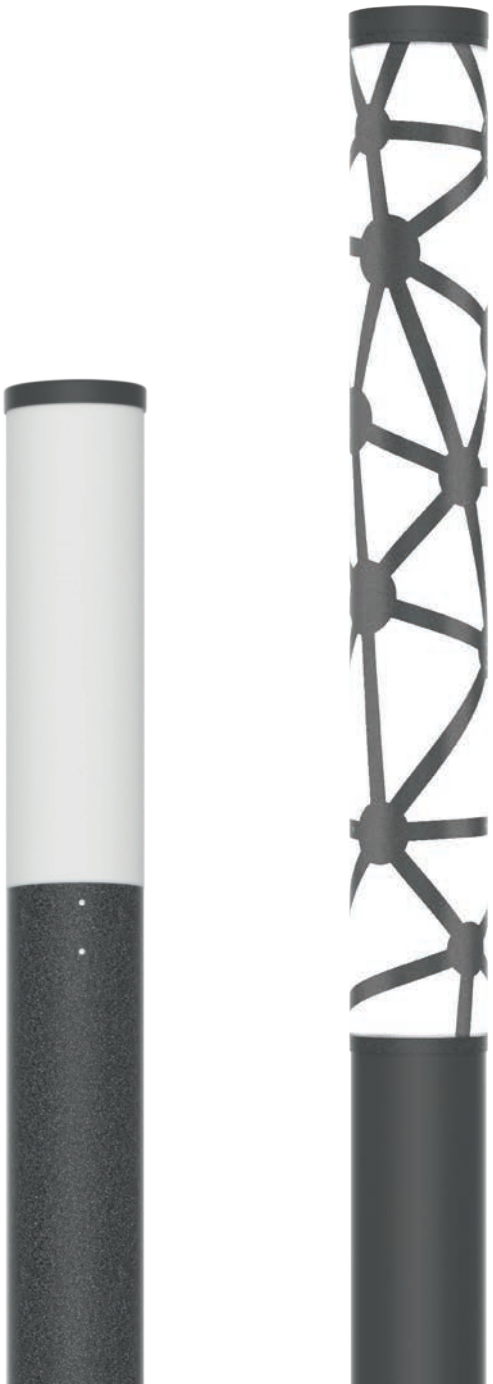
	Dimensions (mm):	Weight (kg):	Windage (m^2):
Silka Area Max 3	**ØC** 170 **A** 3600 **B** 1200	**25.5 (Flange plate), 30.3 (Root)**	**0.615**
Silka Area Max 4	**ØC** 170 **A** 4600 **B** 1200	**32.5 (Flange plate), 37.3 (Root)**	**0.785**
Silka Area Max 5	**ØC** 170 **A** 5600 **B** 1200	**39.5 (Flange plate), 45.7 (Root)**	**0.955**

APPENDIX A – DW WINDSOR SILKA LIGHTING COLUMN GENERAL BROCHURE

DW Windsor

Silka

Lighting beyond illumination



Light. Stacked.

Silka's elegant design, which is configurable to your architectural environment, is available in multiple column and glazing configurations, providing decorative public realm illumination, orientation and waymarking.

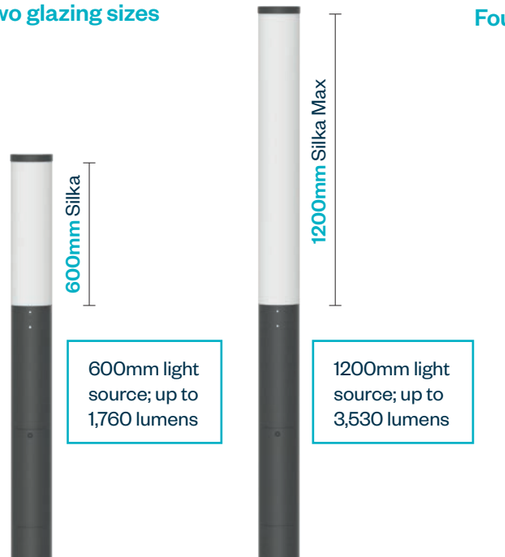
Key Features - Benefits

- Available in 2 light source heights - Silka or Silka Max - to proportionately mix and match to desired base column height with the surrounding environment
- UV-stabilised opal PMMA diffuser offering higher light transmission and scratch resistance compared to polycarbonate
- High-quality aluminium column providing seamless transition lines between diffuser and column, complete with flush maintenance access door
- RGBW light engine available to dynamically enhance your environment with colour
- Basic or professional smart control solutions available with wireless capability
- Further personalistion available with bespoke laser-cut glazing attachments or aviation-grade diffuser graphics

Applications:

- High streets
- Educational campuses
- Plazas
- Pathways
- Airport or stadium surrounds
- Parks
- Retail and commercial

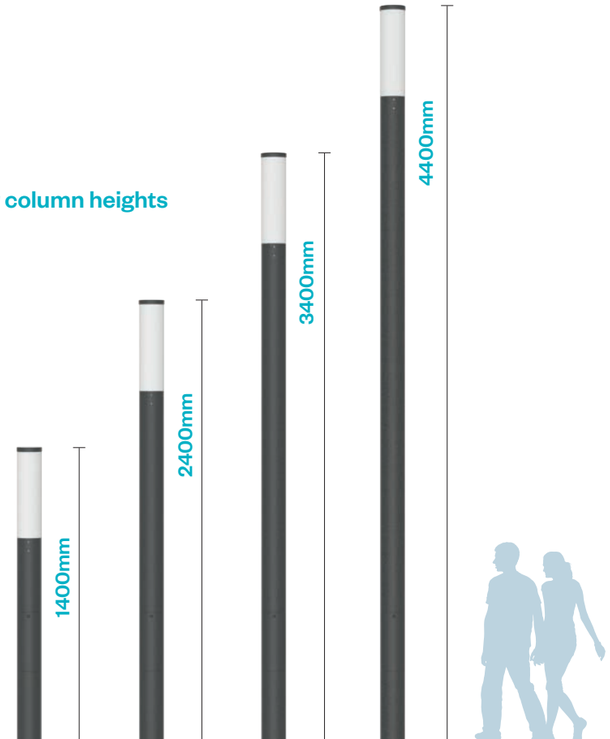
Two glazing sizes



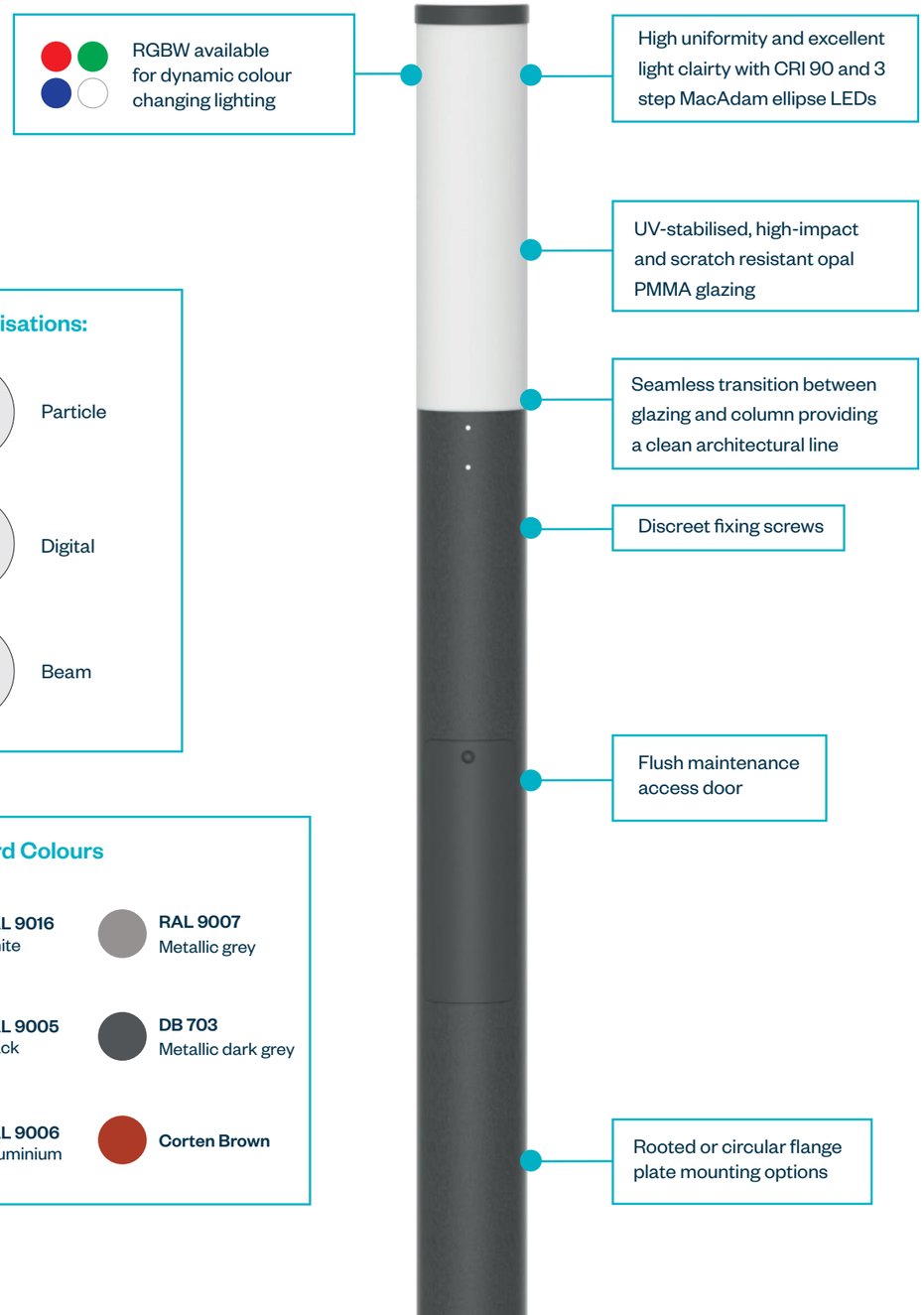
600mm light source; up to 1,760 lumens

1200mm light source; up to 3,530 lumens

Four column heights



Design features



Customisations:



- Particle
- Digital
- Beam

Standard Colours

- **RAL 9016** White
- **RAL 9007** Metallic grey
- **RAL 9005** Black
- **DB 703** Metallic dark grey
- **RAL 9006** Alluminium
- **Corten Brown**

Transforming public spaces

Limitless possibilities

More designers than ever before are using luminaires as an art form, transforming spaces through colour or people-centred design that informs or guides.

As a professional lightstack Silka provides dynamic architectural illumination. It also provides opportunities beyond just illumination. Consider Silka to aid night-time navigation or provide illuminated signage. Customisable with precise laser cut light shields or aviation-grade graphics over the glazing; guide to water stations outside train stations, flag the location of electric vehicle charging points within car parks or first-aid posts at arenas - the opportunities are limitless.

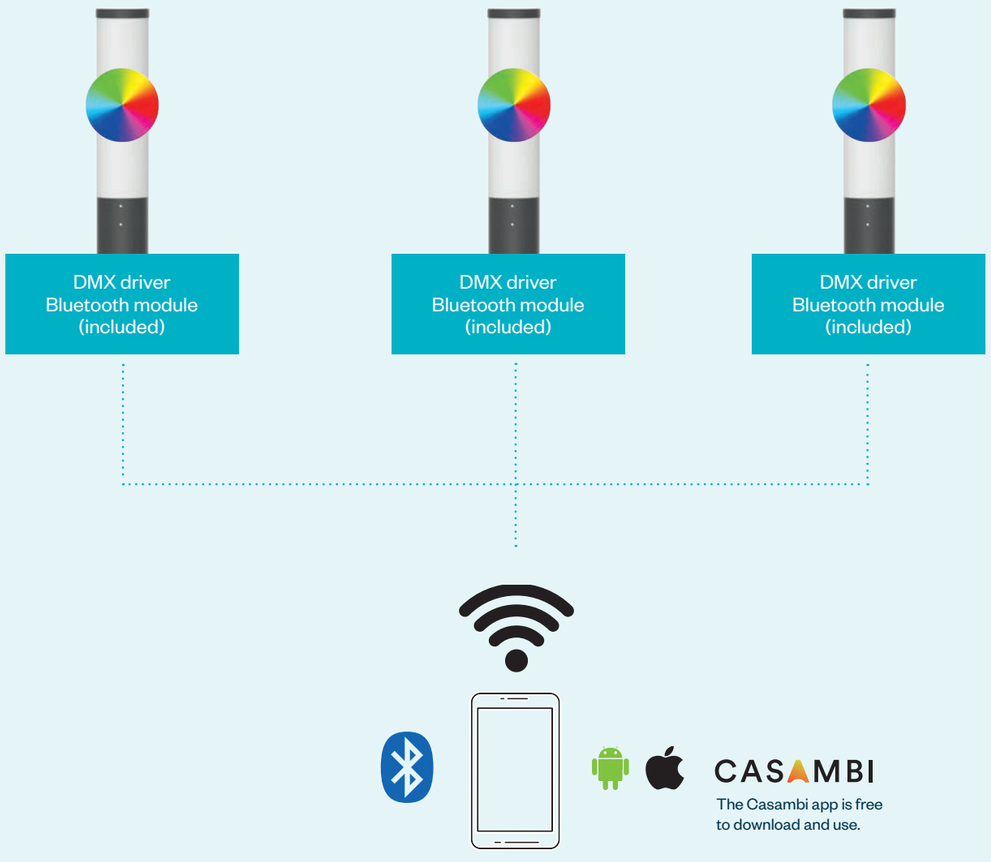
Contact us to discuss your unique project requirements: **info@dwwindsor.com**



Greater control

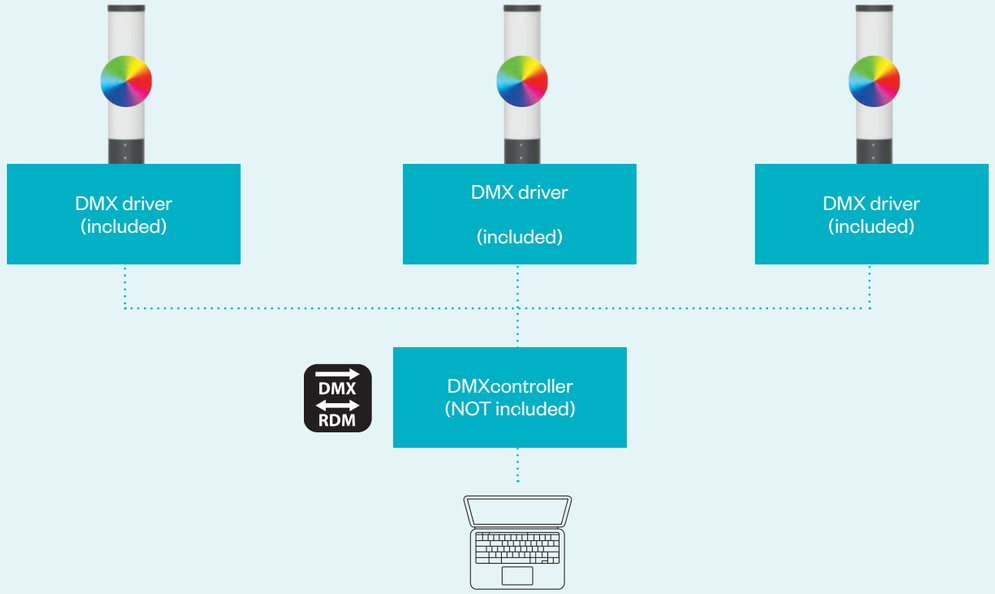
Enhance Silka further with an intelligent, connected control system.
Offering both wired or wireless options with basic or professional functionality, Silka can be customised depending on the level of complexity needed.

Basic control

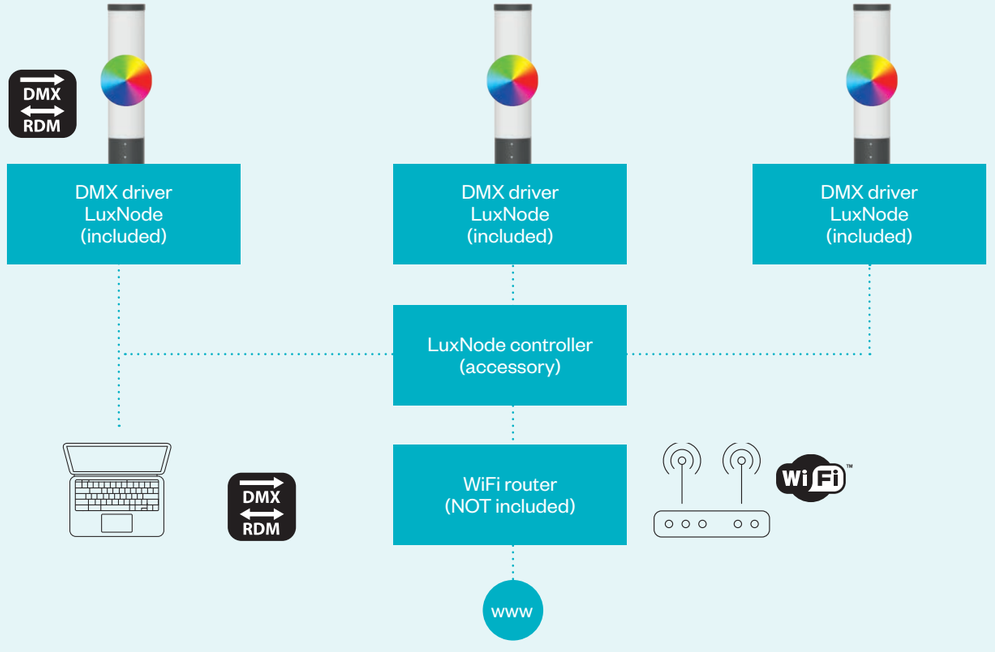


- ✓ Dimming
- ✓ Colour change
- ✓ Scene setting
- ✓ Wireless control and commissioning on-site

Professional control (Standard DMX)



Professional control (LuxNode)



- ✓ Dimming
- ✓ Colour change
- ✓ Scene setting
- ✓ Wireless control and commissioning from any location with an internet connection (using LuxNode)
- ✓ Wired control and commissioning
- ✓ Remote Device Management (RDM) ready - enhanced two-way DMX communication for important information such as fault monitoring, operating temperature and predicted lifetime (RDM features depend on transport networks and product feature sets)



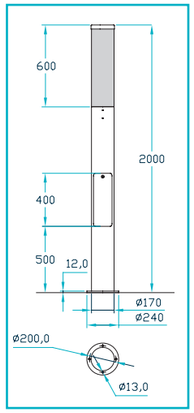
Skate Park Plaza, Stoke on Trent

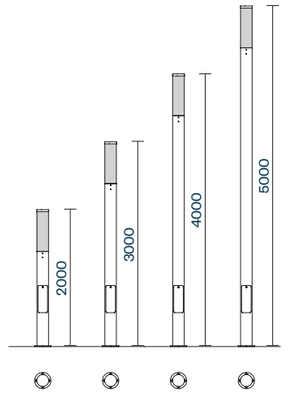
Special stainless steel RGBW Silka Max

Ordering details

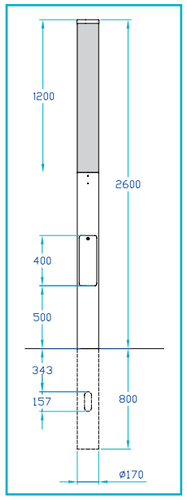
	Codes	Example
Luminaire		
Silka (600mm)	SIL	**SIL**
Silka Max (1200mm)	SILM	
Base Column Height		
1400mm	14	**24**
2400mm	24	
3400mm	34	
4400mm	44	
Colour temperature		
2700K	27	**RGBW40**
3000K	30	
4000K	40	
RGBW (2700K)	RGB27	
RGBW (4000K)	RGB40	
Product colours		
RAL 9005 Black	10	**DB**
RAL 9006 Aluminium	26	
RAL 9007 Metallic grey	27	
RAL 7035 Light grey	29	
RAL 9016 White	40	
RAL 7046 Mid grey	CF	
DB 703 Metallic dark grey	DB	
Corten brown	CB	
Mounting		
Root mounted	R	**R**
Flange mounted	F	
Decorative shield (optional)		
Particle	PA	**PA**
Digital	DI	
Beam	BE	
Control (2700K/3000K/4000K only)		
Integral CMS - Urban Control	IUC	**IUC**
Integral CMS - Telensa	ITE	
Integral CMS - Mayflower	IMA	
Example code = SILM 34 RGBW40 DB PA IUC		

Dimensions and installation

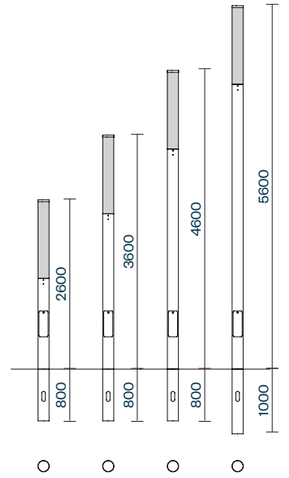




Silka Flange



Silka Max Rooted



Royal Terrace Gardens, Torquay

A key site on the English Riviera Global Geopark, Royal Terrace Gardens, also known as Rock Walk, has undergone a major facelift by Torbay Council. In this beautiful setting, Silka really helps define the space and highlight the redevelopment's brand new viewing platform along with its spectacular sea views.

Silka

IP66 | IK09 | CLASS I or II

Features

Available in 2 light source heights - Silka or Silka Max - to proportionately mix and match to desired base column height with the surrounding environment

UV-stabilised opal PMMA diffuser offering higher light transmission and scratch resistance compared to polycarbonate

High-quality aluminium column providing seamless transition lines between diffuser and column, complete with flush maintenance access door

RGBW light engine available to dynamically enhance your environment with colour

Basic or professional smart control solutions available with wireless capability

Further personalistion available with bespoke laser-cut glazing attachments or aviation-grade diffuser graphics

Options

Silka 600mm height light source

Silka Max 1200mm height light source

Both Silka and Silka Max are available to be placed on 1400mm / 2400mm / 3400mm / 4400mm column heights

Column colours

DB 703 textured metallic dark grey

RAL 9005 fine textured black

RAL 9006 textured aluminium

RAL 9007 textured metallic grey

RAL 9016 fine textured white

Corten brown

Stainless steel and other RAL colours on request

Light source

High power LED (3 step MacAdam ellipse)

L70 lifetime prediction

50,000 hours

Total luminaire lumens

Silka: up to 1,760lm

Silka Max: up to 3,530lm

Colour temperature

2700K / 3000K / 4000K

RGBW (2700K) / RGBW (4000K)

Colour rendering index

90Ra

Luminaire efficacy

Up to 61lm/W

Driver

24V constant voltage

Control & connectivity

Basic: wireless control via Bluetooth for local dimming or changing

RGBW colours

Professional: using either a wired or wireless remote connection (LuxNode), allows for enhanced colour sequencing and fault monitoring via remote device management (RDM)

CMS: compatible with all available CMS systems via internal node

Materials

Diffuser: impact-resistant and UV-stabilised opal PMMA

Base column: extruded aluminium (stainless steel on request)

Top cap: die-cast aluminium (stainless steel on request)

Seals: silicone

Finish: textured polyester powder coat

Mounting

Flange plate

Root mounted

Installation and maintenance

Operational temperature range: -40°C to +50°C

bsi. ISO 9001 Quality Management FM 53278 | ISO 14001 Environmental Management EMS 562929 | ISO 45001 Occupational Health & Safety Management OHS 562930

Luceco plc DW Windsor is part of the Luceco Group

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MADE IN BRITAIN

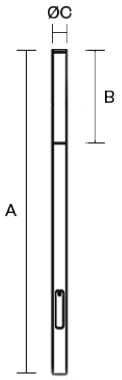
AUG-2023-C

Due to continuous product development the details within this document are subject to change at any time. For the more up-to-date information please visit **dwwindsor.com.**

APPENDIX B – DW WINDSOR SILKA AREA MAX TECHNICAL DATA SHEET

Silka Area Max





	Dimensions (mm):	Weight (kg):	Windage (m^2):
Silka Area Max 3	Ø C 170 A 3600 B 1200	25.5 (Flange plate), 30.3 (Root)	0.615
Silka Area Max 4	Ø C 170 A 4600 B 1200	32.5 (Flange plate), 37.3 (Root)	0.785
Silka Area Max 5	Ø C 170 A 5600 B 1200	39.5 (Flange plate), 45.7 (Root)	0.955

Sample Specification Text

Silka Area Max 5 light stack with 1,200mm clear reinforced polycarbonate glazing and a seamless transition to a 4,400mm aluminium body. Root mounted. 16 LED light engine with a 3,000K colour temperature using Diamond+ lens optic® technology with a C3 symmetrical area light distribution. DALI driver operating at 700mA. DB 703 metallic dark grey with a textured polyester powder coat finish. IP66 and IK09 protection. 100,000 hour (L90 B10) lifetime. For -40˚C to +40˚C ambient operating temperatures. Class I.

Performance

Output (luminaire flux)	7,007lm (max)
Power	53W (max)
Efficacy	143lm/W (max)
Number of LEDs	16
Colour Temperatures	2,700K
	3,000K
	4,000K
Colour Rendering Index (CRI)	70 (5 SDCM)
Distributions	Diamond+ A1®
	Diamond+ B1®
	Diamond+ C2®
	Diamond+ C3®
Certifications	UKCA
	CE

Mechanical

Mounting Options	Root mounted
	Flange plate (circular)
Glazing	Clear polycarbonate
Housing	Aluminium
Colours	RAL 9005 Black
	RAL 9006 Aluminium
	RAL 9007 Metallic grey
	RAL 9016 White
	DB 703 Metallic dark grey
	Corten brown
	Other RAL colours on request
Finish	Polyester powder coat
IP Rating	IP66
IK Rating	IK09
Weight	25.5 – 45.7kg
Windage (CxS)	0.615 – 0.955m^2

Electrical

Driver Options	DALI
Drive Current Range	350 / 500 / 700 / 1050mA
Operating Voltage	220-240V
Electrical Class	Class I
	Class II (on request)
Operating Temperature Limit	-40˚C to +40˚C (specifications rated up to 50°C available on request)
Rated Lifetime	100,000 hours (L90 B10)

Controls

Control Options	Bluetooth
	Integral CMS

Due to continuous product development, the specification details are subject to change at any time. Please contact us for the most up-to-date information or visit www.dwwindsor.com
Tested at an ambient temperature of 25°C. Tolerance of +/- 7% on luminous flux and +/- 5% on power.

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