

Birch Business Park, Unit B, Heywood

CGG MLI (REIT) Propco 1 Limited c/o
Chancerygate

EXTERNAL LIGHTING ASSESSMENT

BY: Tom O’Gara

REV: P02 · DATE: 30-01-2026



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BIRCH BUSINESS PARK, UNIT B
EXTERNAL LIGHTING ASSESSMENT

RECORD OF REVISIONS		
Date.	Revision.	Description of change.
16.01.2026	P01	Preliminary Issue
30.01.2026	P02	Preliminary Issue

1. INTRODUCTION

This report has been provided on behalf of CGG MLI (REIT) Propco 1 Limited c/o Chancerygate, to review the proposed external lighting scheme at Birch Business Park, Unit B, Heywood, OL10 2SX.

In support of the development Planning Application, the intent of this report is to provide an External Lighting Assessment of the potential obtrusive light impact to surrounding buildings and the environment within the vicinity.

Where applicable, this document will outline the requirements of mitigation measures to be implemented at design and operational stages to reduce or remove any potential impact. The potential impact of obtrusive lighting is categorised below:

- *Light Spill: The spilling of light beyond the boundary of a property which may cause nuisance to others.*
- *Glare: The uncomfortable brightness of the light source against a dark background which results in dazzling the observer, which may cause residents and a hazard to road users.*
- *Sky Glow: The upwards spill of light into the sky which can cause a glowing effect and is often seen above cities when viewed from a dark area.*

A new lighting layout shall be provided, which is in keeping with the proposed development and current British, European, and BREEAM standards.

The luminaires selected will be a combination of column and wall mounted LED fittings, which are to comply with BREEAM requirements; Pol 04 (Reduction of nighttime light pollution), ENE 03 (External lighting) & Part L2A of the building regulations.

The site has been classified as an E3 Environmental zone according to BS EN 12464-2:2014, Lighting of Workplaces, Part 2. The table below is taken from BS 12464-2:2014, Table 2 and summarises the classifications of Environmental Zones.

Table 2 — Maximum obtrusive light permitted for exterior lighting installations

Environmental zone	Light on properties		Luminaire intensity		Upward light ratio	Luminance	
	E_v lx		I cd		R_{UL} %	L_b cd·m ⁻²	L_s cd·m ⁻²
	Pre-curfew ^a	Post-curfew	Pre-curfew	Post-curfew		Building facade	Signs
E1	2	0	2 500	0	0	0	50
E2	5	1	7 500	500	5	5	400
E3	10	2	10 000	1 000	15	10	800
E4	25	5	25 000	2 500	25	25	1 000

where

E1 represents intrinsically dark areas, such as national parks or protected sites;

E2 represents low district brightness areas, such as industrial or residential rural areas;

E3 represents medium district brightness areas, such as industrial or residential suburbs;

E4 represents high district brightness areas, such as town centres and commercial areas;

E_v is the maximum value of vertical illuminance on properties in lx;

I is the light intensity of each source in the potentially obtrusive direction in cd;

R_{UL} is the proportion of the flux of the luminaire(s) that is emitted above the horizontal, when the luminaire(s) is (are) mounted in its (their) installed position and attitude, and given in %;

L_b is the maximum average luminance of the facade of a building in cd·m⁻²;

L_s is the maximum average luminance of signs in cd·m⁻².

^a In case no curfew regulations are available, the higher values shall not be exceeded and the lower values should be taken as preferable limits.

2. TERMINOLOGY

Luminaire

Electrical device used to create artificial light, also known as a light or light fitting.

Luminous intensity

Power emitted by a light source in a particular direction, measured in candelas [cd].

Luminous flux

Measure of the amount of visible light from a source, measured in lumens [lm].

Note: one lumen is defined as the luminous flux produced by a light source that emits one candela of luminous intensity over a solid angle of one steradian [$\text{lm}=\text{cd}\cdot\text{sr}$]

Illuminance

The total luminous flux incident on a surface, per unit area, measured in lux [lx] or lumens per square metre [$\text{lm}\cdot\text{m}^{-2}$] or [$\text{cd}\cdot\text{sr}\cdot\text{m}^{-2}$].

Luminance

The luminous flux emitted per unit area, also measured in lux [lx] or [$\text{lm}\cdot\text{m}^{-2}$] or [$\text{cd}\cdot\text{sr}\cdot\text{m}^{-2}$].

Photometric diagrams

The diagrams display luminous intensity of the luminaire as a function of direction. An example of a photometric diagram is given in the figure below. The distance from the centre of the diagram to the line corresponds to a luminous intensity value, in this case, measured in candelas per kilo-lumen [$\text{cd}\cdot\text{klm}^{-1}$]. The angles on the diagram are the elevation angle, usually denoted as gamma (γ). This angle is shown graphically in figure 2. The red and blue lines on the photometric diagram refers to the luminous intensity of the luminaire in the $C = 0^\circ$ & 180° planes and the $C = 90^\circ$ & 270° planes respectively. These C planes are also shown graphically in figure 2.

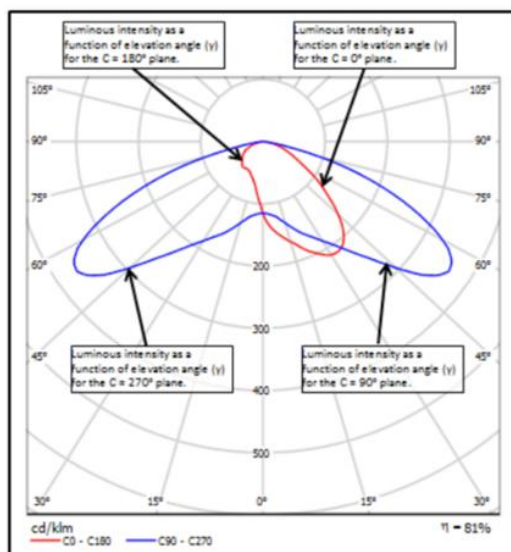


Figure 2

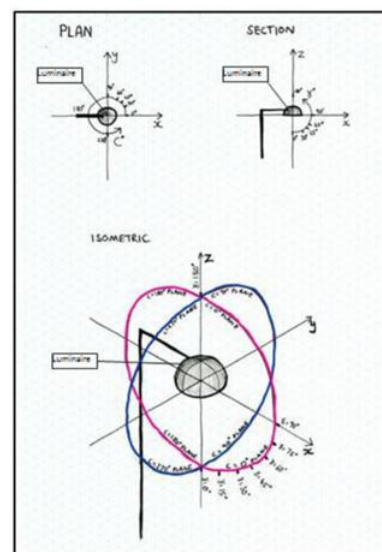


Figure 3

3. RELEVANT POLICY AND GUIDANCE

3.1. LEGISLATIONS

Clean Neighbourhoods and Environment Act (CNEA) 2005

The Clean Neighbourhoods and Environment Act (CNEA) 2005 gives Local Authorities additional powers to deal with artificial lighting by classifying artificial light emitted from defined premises as a statutory nuisance (from April 2006). Guidance produced on Sections 101 to 103 of the CNEA extends the duty on local authorities to ensure their areas are checked periodically for existing and potential sources of statutory nuisances including nuisances arising from artificial lighting. Local authorities must take reasonable steps to investigate complaints of such nuisances from artificial light.

Empowerment to Light Roads - The Highways Act 1980

Section 97 empowers a Highway Authority to provide lighting for any highway or proposed highway for which they are or will be the Highway Authority. District Councils and many Parish or Town Councils also have the power to provide lighting as local lighting authorities.

3.2. NATIONAL PLANNING POLICY

The National Planning Policy Framework 2023

The National Planning Policy Framework (NPPF) encourages good design with planning policies and decisions limiting the effect of light pollution from artificial light on local amenity, intrinsically dark landscapes, and nature conservation.

Artificial lighting needs to be considered when a development may increase levels of lighting or would be sensitive to prevailing levels of artificial lighting. Artificial light provides a valuable benefit to society, including opportunities for sport and recreation grounds, and can be essential to a new development. However, for maximum benefit, it is important to get the right light, in the right place and for it to be used at the right time.

Artificial light is not always necessary. It has the potential to produce 'light pollution' or 'obtrusive light', and not all modern lighting is suitable in all locations. It can be a source of annoyance to people, harmful to wildlife and undermine enjoyment of the countryside or the night sky, especially in areas with intrinsically dark landscapes. Intrinsically dark landscapes are those entirely, or largely, uninterrupted by artificial light. National parks and nature reserves can serve as good examples, particularly where they support habitats for native nocturnal animals. The following National Planning Practice Guidance (NPPG) further details the factors relevant to the control of obtrusive light.

Light pollution – (<https://www.gov.uk/guidance/light-pollution>)

The National Planning Guidance (NPPG) advise on how to consider light within the planning systems, focusing mainly on the following:

- *When light pollution is relevant to planning*
- *What factors should be considered when assessing whether a development proposal might have implication for light pollution.*
- *What factors are relevant when considering where, when and how much light shines?*
- *What factors are relevant when considering possible ecological effects.*

3.3. OBTRUSIVE LIGHT AND DESIGN GUIDANCE

Institute of Lighting Professionals – Guidance Notes for the Reduction of Obtrusive Light GN01:2020

This guidance provides measurable design guidance limits and recommendations to ascertain acceptability of obtrusive light levels at nighttime.

The purpose of this guide is to help formulate guidelines for assessing the environmental effects of outdoor lighting. This guide will also recommend limits for relevant lighting parameters to contain the obtrusive effects of outdoor lighting within tolerable levels. Obtrusive effects of outdoor lighting are best controlled initially by appropriate design, the guidance given is primarily applicable to new installations; however, some advice is also provided on remedial measures which may be taken for existing installations. This guide refers to the potential adverse effects of outdoor lighting on both natural and man-made environments for people in most aspects of daily life, from residence, sightseers, transport users to environmentalists and astronomers.

BS5489-1: 2020 – Code of practice for the design of road lighting – Part 1: Lighting of roads and public amenity area

This part of BS 5489 gives recommendations on the general principles of road lighting, and its aesthetic and technical aspects, and advises on operation and maintenance.

BS EN 13201-2: 2015 – Road lighting – Part 2: Performance requirements

This part of this European Standard defines, according to photometric requirements, lighting classes for road lighting aiming at the visual needs of road users, and it considers environmental aspects of road lighting.

BS EN 12464-2: 2014 – Lighting of Workplaces – Part 2: Outdoor Workplaces

This European standard specifies lighting requirements for outdoor workplaces, which meet the needs for visual comfort and performance. All usual visual tasks are considered.

Campaign to Protect Rural England (CPRE) – Night Blight 2017

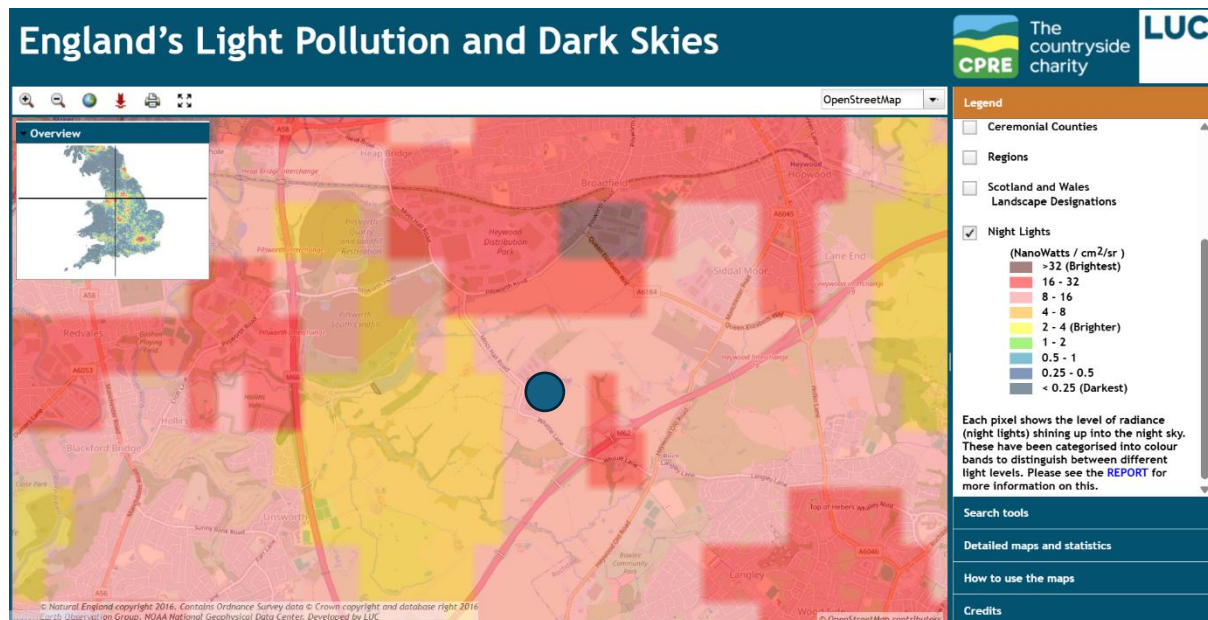
CPRE – Night Blight data (2017) gives a broad-brush indication of upwards light (sky glow) experienced within the UK. The interactive mapping tool allows specific areas and locations to be assessed with regards to a baseline condition.

4. DARK SKY

The image below shows the satellite Sky Glow overview of Heywood (<https://www.cpre.org.uk/light-pollution-dark-skies-map/>). The blue circle on the image below is the approximate location of the existing site. As shown below the yellow and red shading around the blue circle identifies the current level of Sky Glow within the development areas.

Current levels are at the upper end of the indicated Night Light levels. The external lighting strategy to be employed will ensure recommended Sky Glow limits are not exceeded.

The external lighting strategy to be employed will ensure recommended Sky Glow limits are not exceeded, or where existing local area Sky Glow levels already exceed recommended limits, then the proposed lighting solution will not produce an exacerbation or worsening of these levels.



5. LUMINAIRE SELECTION AND TYPE

The following luminaires have been selected:

Qty	Range	Mounting Height (m)	Mounting Type	Lamp	Lm/W	LOR %	RA	L2A Compliant	BREEAM Compliant
1	Mini Martin	6m	Column	80W	114	100%	70	Yes	Yes
2	Mini Martin	7m	Wall	80W	114	100%	70	Yes	Yes
2	Mini Martin	6m	Column	2x80W	114	100%	70	Yes	Yes
5	Stork	8m	Column	280W	115	100%	70	Yes	Yes
6	Stork	8m	Wall	280W	115	100%	70	Yes	Yes
20	Finn	2.8m	Wall	8W	107	100%	70	Yes	Yes

6. LUMINAIRE CONTROL PHILOSOPHY

A combination of photocells & timeclocks shall be installed to control all external lighting. The time clocks will act as a master control and be set to switch off at times when the development is not in operation. Outside of these hours photocells will control the site external lighting according to day light levels. This will prevent nighttime lighting pollution and to comply with POL 04/L2A.

7. ASSESSMENT SUMMARY MATRIX

Effect/Description	Mitigation	Calculation Results
Light Intrusion: Light intrusion from the site to surrounding residential areas.	All luminaires will be fitted with suitable optics to limit excessive emissions on the horizontal plane.	The Light Trespass at the site has been calculated * This is below the maximum permitted level of Light Intrusion for an Environmental Zone deemed to be E3.
Sky Glow: Brightening of the night sky	All Luminaires will be fitted with horizontal cut off optics to minimise upward light spill.	The sky glow achieved at the site is 0%. This is below the maximum permitted level of sky glow for an Environmental Zone deemed to be E3.
Luminaire Intensity: Glare, the uncomfortable brightness of light against a dark background	Lighting design will comply with the relevant limits on lighting intensity.	Luminaire Intensity (Pre and Post curfew) at the site has been assessed but not calculated. * This is below the maximum permitted level of luminaire intensity for an Environmental Zone deemed to be E3.

* Light intrusion has been taken into consideration but not calculated. This assumes that no luminaire fittings will be left on, post curfew.

8. CONCLUSION

Relevant policies have highlighted that it is necessary to both ensure sufficient lighting is provided for security and working purposes, and to ensure that light spillage from the site is minimised. Guidance from relevant institutions has been used to set design lux levels at the levels for the scheme. As the site is classified as an E3 environmental zone, external lighting calculations have been carried out to achieve the correct lux levels for this site, taking into consideration, light pollution, surrounding the premises and other aspects.

The proposed lighting will be switched via a combination of photocells & timeclocks. The time clocks will act as a master control and be set to set off at times when the development is not in operation. In addition, for security purposes, some lighting may be required to stay on throughout the night although this would be kept to a minimum.

The proposed luminaires used to carry out external lighting calculations are LED. Utilising LED luminaires helps reduce light pollution and can reduce the overall power consumption by 40-60%. Criteria set by the Institute of Lighting Professionals regarding limiting obtrusive light will be met, these criteria are:

	ILP Guideline	Calculated Achieved
Sky Glow	< 15%	0%
Light Intrusion	< 5 Lux	Not calculated due to no habitable area shown on site plan.
Luminaire Intensity	< 2,500 candelas.	Not calculated due to no habitable area shown on site plan.

In summary, it has been ensured that the entire proposed lighting scheme meets the minimum levels for security and working purposes while also meeting the post curfew requirements for a relatively dark urban area.

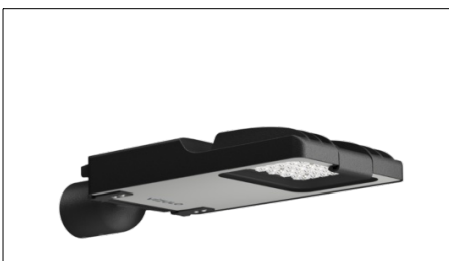
9. APPENDICES

10.1. LIGHTING DESIGN

1. THIS DRAWING IS THE COPYRIGHT OF CUDD BENTLEY AND MUST NOT BE RETAINED, COPIED OR USED WITHOUT CUDD BENTLEY'S CONSULTING CONSENT.
2. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL CUDD BENTLEY DRAWINGS, SCHEDULES AND SPECIFICATIONS.
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4. ALL DIMENSIONS AND LEVELS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
5. ALL PLANT, MATERIALS AND EQUIPMENT TO BE INSTALLED STRICTLY IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.
6. ANY DISCREPANCY IS TO BE REFERRED TO CUDD BENTLEY CONSULTING.
7. ALL DIMENSIONS TO BE CHECKED AND VERIFIED ON SITE PRIOR TO THE COMMENCEMENT OF WORKS.
8. ALL PART NUMBERS SHALL BE VERIFIED BY THE CONTRACTOR.
9. THIS DRAWING IS TO BE READ IN CONJUNCTION AND COORDINATE WITH ALL CUDD BENTLEY DRAWINGS, PROJECT DRAWINGS, SCHEDULES AND SPECIFICATIONS.

Luminaire Schedule									
Symbol	Qty	Label	Arrangement	Description	LED	Luminaire Watts	Mounting Height	[MORFAC]	
	1	A	Single	80w LED 2700K Mini Martin 14 LED with L35 Optic column mounted	0.900	80	6	VIRBLO by Lighting Project Solutions	
	2	AK	Single	80w LED 2700K Mini Martin 14 LED with L35 Optic well mounted	0.900	80	7	VIRBLO by Lighting Project Solutions	
	2	A2	Back-Back	2x 80w LED 2700K Mini Martin 14 LED with L35 Optic column mounted on twin bracket	0.900	80	6	VIRBLO by Lighting Project Solutions	
	5	D	Single	280w LED 2700K 40x4 LED with L35 Optic column mounted	0.900	280	8	VIRBLO by Lighting Project Solutions	
	6	FW	Single	280w LED 2700K 64LED with L35 Optic wall mounted	0.900	280	8	VIRBLO by Lighting Project Solutions	
	20	QHE	Single	8w LED 2700K Slim Emergency Bulkhead with Pathway Optic wall mounted	0.900	7.5	2.5	Lighting Project Solutions	

Label	CalcType	Units	Avg	Max	Min	Min/Avg	Min/Max	Description
Access	Illuminance	50x	20	44	5	0.25	0.11	
Building Perimeter	Illuminance	50x	13	79	1	0.08	0.01	
Car Park	Illuminance	50x	20	69	5	0.25	0.07	
Cycle Stores	Illuminance	50x	28	38	23	0.81	0.61	
Loading Bays	Illuminance	50x	67	136	30	0.44	0.22	
Service Yard	Illuminance	50x	84	140	25	0.46	0.18	



REF A, AW, A2



REF D, FW



REF GW

[illegible]

P02	UPDATED ARCHITECTURAL BACKGROUND	HC	TOG	RD	29-01-13
P01	PRELIMINARY ISSUE	HC	TOG	RD	16-01-13
Revision	Description	Drawn By	Engineer	Approved	Date



Cudd Bentley Consulting Ltd. Ashurst Manor Church Lane Ascot Berkshire SL5 7DD	Cudd Bentley Consulting Ltd. Regus, Central Boulevard Elythe Valley Business Park Solihull, West Midlands, B60 8AG	Cudd Bentley Consulting Ltd. 12 Devonshire Street London W1G 7AB
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PRELIMINARY

Client _____

CHANCERYGATE

Project/Site Location

BIRCH BUSINESS PARK
UNIT B

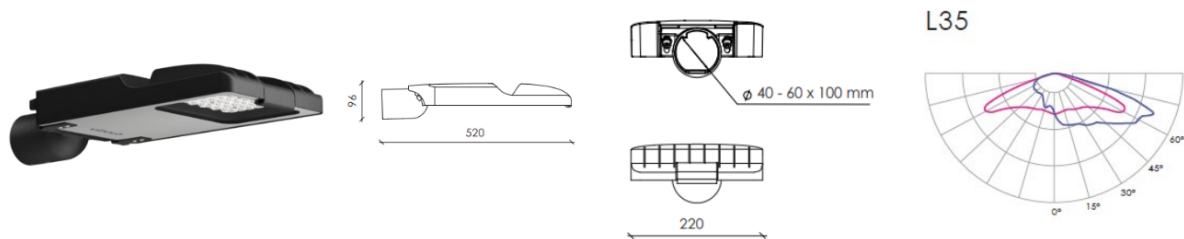
Drawing Title

PROPOSED EXTERNAL LIGHTING LAYOUT

Scale	Size	Drawn By	Engineer	Approved	Date
1:250	A0	HC	TOG	RD	16/01/25

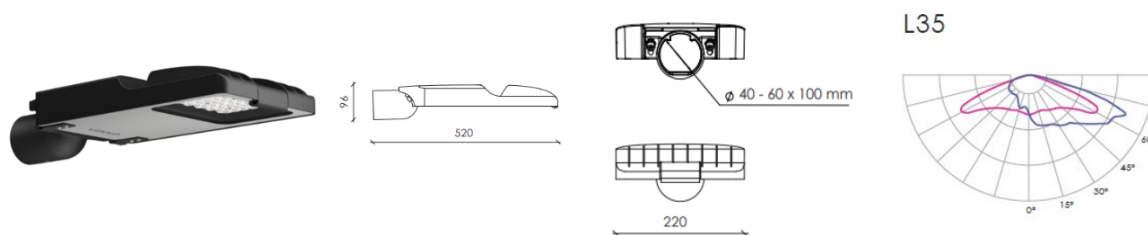
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10.2. LUMIANIRE TYPE 1 – MINI MARTIN (COLUMN 1X80W)



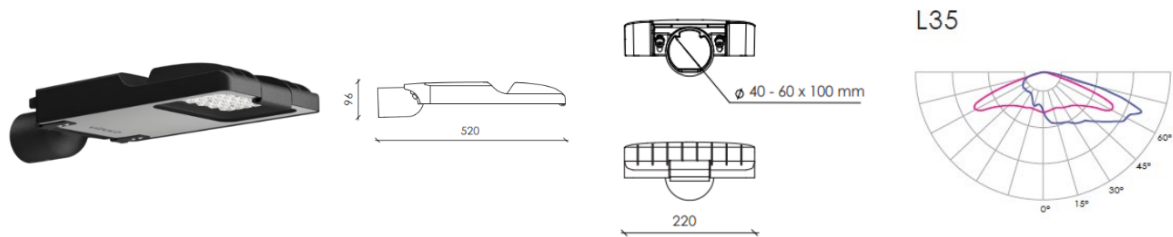
Manufacturer	Vizulo Lighting UK Supplier Lighting Project Solutions 01623 855320	Product Code	MRSTE080727L35AA016CANDH1
Product Name	Mini Martin	Dimensions – Width	220mm
Product Description	Post Top Lantern	Dimension – Depth	520mm
Mounting Type	Column Mounted (6M)	Dimension – Height	96mm
Lamp type	LED, 2700K, 70CRI	Emergency	NA
Optic	L35 Optic	Accessory	-
Luminaire performance	Connected Load: 80W Lumen output: 9105lm		
Finish	DB703 Graphite Grey	Notes	
Control Gear			
IP/IK	IP66 / IK08		

10.3. LUMINAIRE TYPE 2 – MINI MARTIN (WALL)



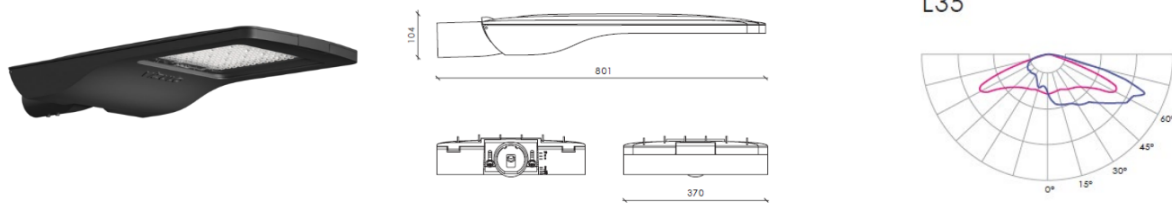
Manufacturer	Vizulo Lighting UK Supplier Lighting Project Solutions 01623 855320	Product Code	MRSTE080727L35AA016CANDH1
Product Name	Mini Martin	Dimensions – Width	220mm
Product Description	Floodlight	Dimension – Depth	520mm
Mounting Type	Building Mounted (7M)	Dimension – Height	96mm
Lamp type	LED, 2700K, 70CRI	Emergency	NA
Optic	L35 Optic	Accessory	-
Luminaire performance	Connected Load: 80W Lumen output: 9105lm		
Finish	DB703 Graphite Grey	Notes	
Control Gear			
IP/IK	IP66 / IK08		

10.4. LUMINAIRE TYPE 3 – MINI MARTIN (COLUMN 2X80W)



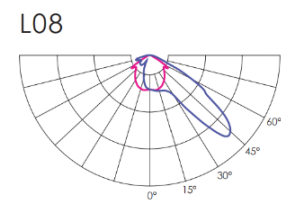
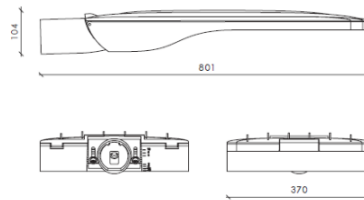
Manufacturer	Vizulo Lighting UK Supplier Lighting Project Solutions 01623 855320	Product Code	MRSTE080727L35AA016CANDH1
Product Name	Mini Martin	Dimensions – Width	220mm
Product Description	Post Top Lantern	Dimension – Depth	520mm
Mounting Type	Column Mounted (6M) twin bracket	Dimension – Height	96mm
Lamp type	LED, 2700K, 70CRI	Emergency	NA
Optic	L35 Optic	Accessory	-
Luminaire performance	Connected Load: 80W x2 Lumen output: 9105lm x2		
Finish	DB703 Graphite Grey	Notes	
Control Gear			
IP/IK	IP66 / IK08		

10.5. LUMINAIRE TYPE 4 – STORK (COLUMN)



Manufacturer	Vizulo Lighting UK Supplier Lighting Project Solutions 01623 855320	Product Code	SRSFE280727L35B064CAFDH1
Product Name	Stork	Dimensions – Width	370mm
Product Description	Floodlight	Dimension – Depth	801mm
Mounting Type	Column Mounted (8M)	Dimension – Height	104mm
Lamp type	LED, 2700K, 70CRI	Emergency	NA
Optic	L35 Optic	Accessory	-
Luminaire performance	Connected Load: 280W Lumen output: 32150lm	Notes	
Finish	DB703 Graphite Grey		
Control Gear			
IP/IK	IP66 / IK08		

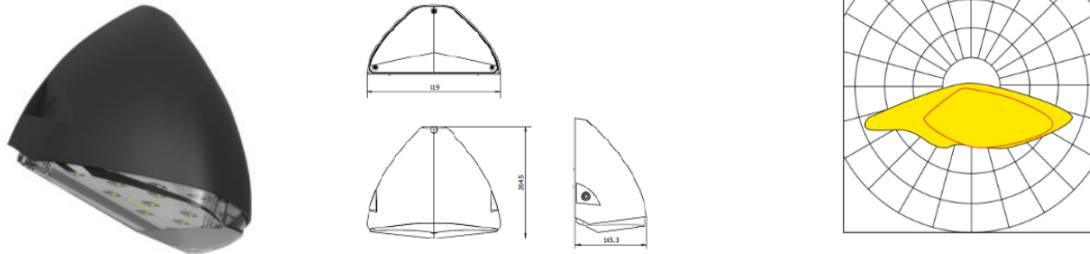
10.6. LUMINAIRE TYPE 5 – STORK (WALL)



Manufacturer	Vizulo Lighting UK Supplier Lighting Project Solutions 01623 855320	Product Code	SRSFE280727L08B064CAFDH1
Product Name	Stork	Dimensions – Width	370mm
Product Description	Floodlight	Dimension – Depth	801mm
Mounting Type	Building Mounted (8M)	Dimension – Height	104mm
Lamp type	LED, 2700K, 70CRI	Emergency	NA
Optic	L08 Optic	Accessory	-
Luminaire performance	Connected Load: 280W Lumen output: 34317lm		
Finish	DB703 Graphite Grey	Notes	
Control Gear			
IP/IK	IP66 / IK08		

10.7. LUMINAIRE TYPE 6 – FINN

Luminaire Reference: GWE, Finn Wall mount from LPS



Manufacturer	Lighting Project Solutions 01623 855320	Product Code	FN/8W/2.7K/PW/A/EM
Product Name	Finn	Dimensions – Width	319mm
Product Description	Wall Pack	Dimension – Depth	165mm
Mounting Type	Wall Mounted(2.8M)	Dimension – Height	264mm
Lamp type	LED, 2700K, 70CRI	Emergency	NA
Optic	Pathway Optic	Accessory	-
Luminaire performance	Connected Load: 8W Lumen output: 859lm		
Finish	RAL7016 Anthracite	Notes	
Control Gear			
IP/IK	IP65 / IK10		



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