



RODDY NEW HOMES CONSTRUCTION LTD

HILLAND ROAD

BILLINGSHURST

LIGHTING STRATEGY

www.lightable.co.uk



DOCUMENT ISSUE RECORD

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Revision	Date of Issue	Author	Description
P01	25.03.2026	Dan Alasfar MEng IEng MILP	For Information

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EXECUTIVE SUMMARY

This Lighting Strategy has been prepared for Roddy New Homes Construction Ltd (“the Client”) by Dan Alasfar of Lightable Projects Ltd (“Lightable”), an Incorporated Engineer and Registered Member of the Institute of Lighting Professionals (“ILP”) with more than ten years’ experience in technical input for environmental lighting.

The Lighting Strategy is for the erection of 6no. dwellings and associated works at Hilland Road, Billingshurst (“the Site”). The strategy evaluates compliance with relevant lighting standards and guidelines, balancing the need for lighting with potential adverse light impacts (light pollution).

Key Findings

- This Lighting Strategy has been produced in accordance with all relevant national policy and guidance, informed by a review of the project Ecological Appraisal.
- Lux modelling has been undertaken to illustrate how artificial lighting is predicted to be distributed across the Site and to demonstrate that it will be contained within the Site boundary as far as reasonably practicable.
- If external lighting is installed in accordance with this assessment the overall adverse lighting impact is anticipated to be negligible.

Recommendations

- Utilise high quality LED luminaires.
- Adopt a site-wide warm white ($\leq 3000\text{K}$) colour temperature.
- Control external dwelling lighting using PIR detectors to minimise unnecessary operation.

1.0 INTRODUCTION

- 1.1 This Lighting Strategy has been prepared to support the discharge of Planning Condition 9 attached to Horsham District Council Planning Permission Reference DC/24/1999:

“Condition 9

Pre-Occupation Condition: No part of the development shall be first occupied until a lighting design scheme for biodiversity has been submitted to and approved in writing by the local planning authority. The scheme shall identify those features on site that are particularly sensitive for bats and that are likely to cause disturbance along important routes used for foraging; and show how and where external lighting will be installed (through the provision of appropriate lighting contour plans and technical specifications) so that it can be clearly demonstrated that areas to be lit will not disturb or prevent bats using their territory.

All external lighting shall be installed in accordance with the specifications and locations set out in the scheme and maintained thereafter in accordance with the scheme. Under no circumstances should any other external lighting be installed without prior consent from the local planning authority.

Reason: To allow the LPA to discharge its duties under the Conservation of Habitats and Species Regulations 2017 (as amended), the Wildlife & Countryside Act 1981 as amended and s40 of the NERC Act 2006 (as amended) and Policy 31 of the Horsham Development Framework.

- 1.2 This Lighting Strategy sets out to achieve the following:
- Review relevant policy and guidance.
 - Review the project Ecological Appraisal and record the parameters of any constraints.
 - Provide mitigation measures to remove potentially adverse impacts.
 - Provide luminaire specifications.
 - Undertake detailed external lighting modelling, designed to provide a high-quality, low impact proposal for lighting.

2.0 POLICY AND GUIDANCE

Horsham District Planning Framework (2015)

“The Horsham District Planning Framework (HDPF) is the overarching planning document for Horsham district outside the South Downs National Park (SDNP), and replaces the Core Strategy and General Development Control Policies documents which were adopted in 2007.”

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“Development will be supported where it can demonstrate that it maintains or enhances the existing network of green infrastructure. Proposals that would result in the loss of existing green infrastructure will be resisted unless it can be demonstrated that new opportunities will be provided that mitigates or compensates for this loss, and ensures that the ecosystem services of the area are retained. [...]”

National Planning Policy Framework (2024)

- 2.1 The Revised National Planning Policy Framework (NPPF) provides guidance relating to planning and pollution control for new development in England. The purpose of the planning system is to contribute to the achievement of sustainable development. In relation to lighting, Paragraph 198 states:

“Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should: c) limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.”

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- 2.2 The CNEA 2005 amended section 79(1) of the Environmental Protection Act 1990, extending the statutory nuisance regime to include light nuisance stating the following:

“(fb) artificial light emitted from premises so as to be prejudicial to health or a nuisance.”

- 2.3 This Act provides the statutory framework for addressing artificial light as a potential statutory nuisance. This Act does not set prescriptive light pollution limits but instead allows local authorities to act where lighting is judged to cause harm to health or a material interference. In practice, ILP GN01/21 is commonly adopted as the benchmark guidance to demonstrate compliance and to assist in the assessment of lighting impacts.

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- 2.4 The ILP has proposed lighting guidance and criteria for local authorities with a recommendation that they are incorporated at the local plan level. The guidance supports planning policy by promoting well-targeted, controlled lighting that meets functional needs while safeguarding sensitive receptors from adverse effects.

- 2.5 ILP GN01/21 recommends that the immediate environment is classified into an environmental zone based on ambient lighting levels in the surrounding area. For each Environmental Zone, the ILP provide recommended obtrusive light limits for exterior lighting installations.

ILP Guidance Note 08 for Bats and artificial lighting at Night (GN08/23)

- 2.6 This document is aimed at lighting professionals, lighting designers, planning officers, developers, bat workers/ecologists and anyone specifying lighting. It is intended to raise awareness of the impacts of artificial lighting on bats, and mitigation is suggested for various scenarios.

SLL Lighting Guide 06 The Exterior Environment

- 2.7 This document provides detailed guidance on the design and assessment of outdoor lighting in public and private spaces. It covers functional requirements for visibility and safety, while also addressing environmental considerations such as obtrusive light, energy efficiency, and the character of the built environment. The document is widely recognised by practitioners and complements ILP GN01/21 by offering practical design advice aligned with planning and environmental objectives.

SLL Lighting Guide 21 Protecting the Night-time Environment

- 2.8 This document focuses on limiting obtrusive light and safeguarding dark skies. It provides practical guidance on reducing glare, sky glow, and spill light, with a strong emphasis on sensitive design in areas with ecological or amenity value. LG21 is frequently cited alongside ILP GN01/21 as complementary guidance to help demonstrate good practice in planning and environmental assessments.

3.0 ECOLOGY

Introduction

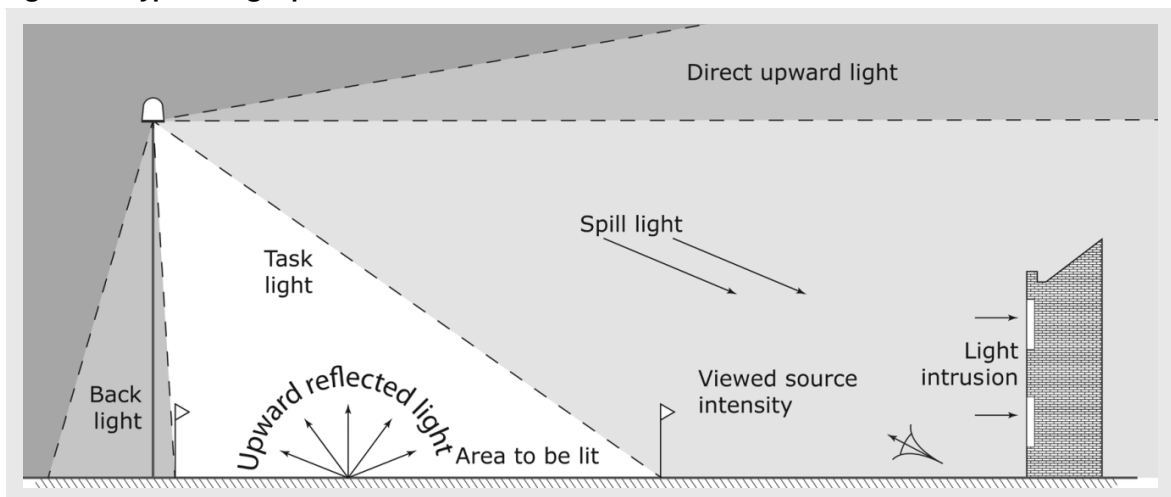
- 3.1 This section describes the existing ecological context of the site and its surrounding area, in order to identify any sensitive receptors and confirm any recommendations for lighting.
- 3.2 An ecological assessment has been undertaken by the project ecologist, Derek Finnie Associates, to inform the proposals.
- 3.3 The Ecological Assessment identifies relevant ecological receptors, assesses the potential impacts associated with the development, and outlines any mitigation, avoidance or enhancement measures required to ensure that local wildlife is appropriately safeguarded.
- 3.4 The lighting strategy will then be developed in accordance with the findings and recommended mitigation measures set out within the Ecological Assessment.
- 3.5 The report confirms that no light-sensitive species are present on or in close proximity to the site.
- 3.6 The report concludes the following:
 - *“The proposed construction of six residential dwellings within the Site would result in the loss of the semi-improved grassland, which has been assessed as being of Negligible ecological value. Therefore, the resulting impact would be Negligible and nonsignificant.”*

4.0 LIGHT POLLUTION

4.1 Light pollution describes the unintended or excessive effects of artificial lighting beyond its functional purpose. The main types are below.

- **Sky glow** : the brightening of the night sky caused by upwardly directed or reflected light scattering in the atmosphere. It reduces visibility of stars and undermines the character of dark landscapes.
- **Light intrusion** : unwanted light entering windows or private spaces, which can disturb sleep, affect health and wellbeing, and impact residential amenity.
- **Glare** : excessive brightness or contrast that causes discomfort or impairs vision. Glare can reduce safety for road users and pedestrians by making it difficult to see beyond the light source.
- **Clutter** : the over-concentration or poor arrangement of lights in an area, often seen along busy roads or commercial frontages. This creates visual confusion, can distract drivers, and detracts from the night-time environment.

Figure 4.1 Types of light pollution

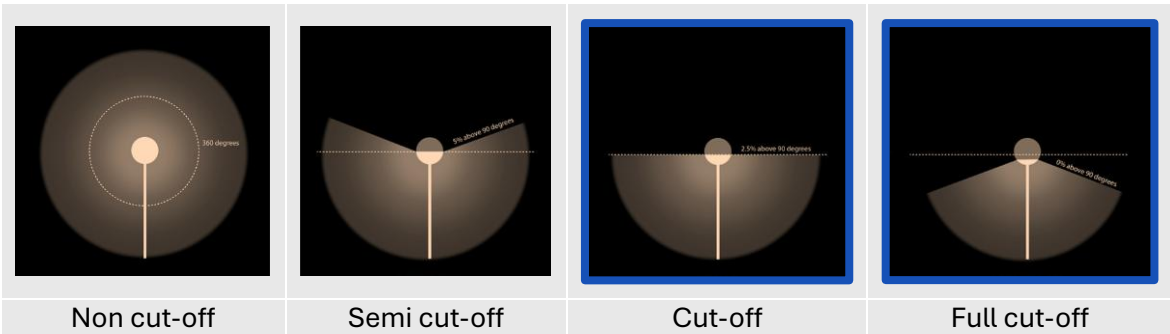


4.2 In practice, light pollution commonly occurs due to poorly specified or installed luminaires, incorrect aiming or tilt, excessive light levels beyond what is required, and the absence of effective controls. It may also arise where lighting has been introduced without consideration of its wider context, including proximity to sensitive ecological habitats, neighbouring properties, or transport systems.

5.0 MITIGATION

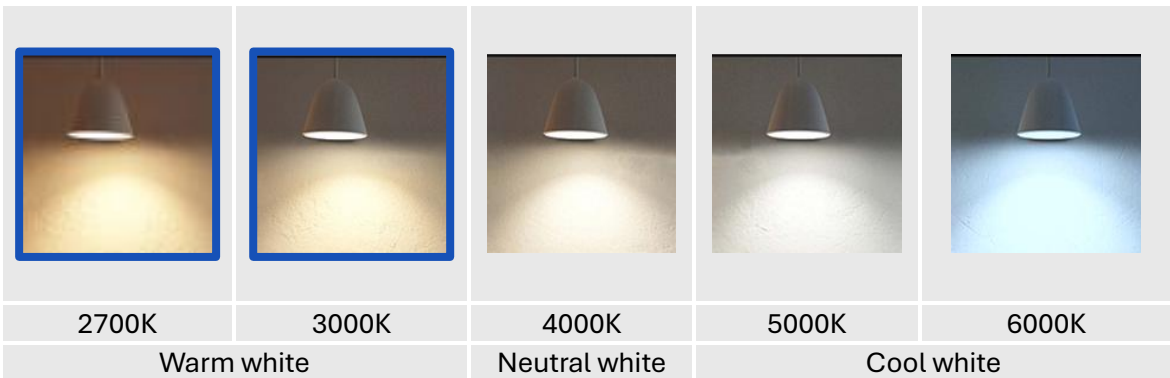
- 5.1 The following mitigation steps have been applied in an effort to reduce adverse impacts to negligible levels.
- 5.2 **Low mounting heights:** Mounting heights shall be restricted to 1.8m, designed to reduce light spill and the overall size and scale of lighting.
- 5.3 **Lighting controls :** External dwelling lighting shall generally be switched off. External lighting shall be controlled using switches and PIR detectors to minimise unnecessary operation.
- 5.4 **Directional light :** All luminaires shall be directional, cut-off or full cut-off type, emitting all their light below the horizontal plane. No tilt angles shall be applied to the lights.

Figure 5.1 Cut-off lighting



- 5.5 **Avoiding over lighting :** Illumination levels across the site shall be designed to provide the minimum illumination for safe access and wayfinding.
- 5.6 **Warm colour temperature :** Luminaires shall be < 3000K warm white colour temperature with reduced blue light component. Warmer white causes reduced light “scatter” which contributes to sky glow.

Figure 5.2 Selected colour temperature



6.0 LUMINAIRE SELECTION

- 6.1 Luminaires shall be selected in accordance with the specification requirements set out below. All luminaires shall be high-quality directional LED units, designed to minimise obtrusive light.

Table 6.1 Luminaire Type A1

Type A1	
Specification	Description
Description	Façade mount downlight
Lamp	GU10 lamp
Lamp Output	< 400 lumens
Colour Temperature	< 3000K warm white
Mounting height	< 1.8m
Controls	Standalone presence detector (grouped)
Luminaire image	

Table 6.2 Luminaire Type A2

Type A2	
Specification	Description
Description	Façade mount downlight
Lamp	GU10 lamp
Lamp Output	< 400 lumens
Colour Temperature	< 3000K warm white
Mounting height	< 1.8m
Controls	Integrated presence detector
Luminaire image	

Table 6.3 Luminaire Type B

Type B	
Specification	Description
Description	Solar bollard
Lamp	Internal
Lamp Output	< 700 lumens
Colour Temperature	< 3000K warm white
Mounting height	< 1.0m
Controls	Integrated
Luminaire image	

7.0 MODELLING

- 7.1 Detailed lighting modelling has been undertaken using RELUX Desktop, an industry standard software package capable of raytraced scene rendering.
- 7.2 The Site and surroundings have been modelled based on the latest available architectural drawings.
- 7.3 Blocking effects caused by external buildings, walls, fences, or vegetation have been excluded from the model, and all lights have been set to operate at maximum output, to represent a worst-case scenario.
- 7.4 A false colour extract from the lighting model is provided in Figure 7.1 to aid in visualising the predicted light distribution.

Figure 7.1 Lighting model false colour view - measurements in lux



- 7.5 An external lighting layout drawing has been prepared indicating anticipated luminaire types, heights, and directions. This drawing is included in Appendix 1.

- 7.6 An external lighting lux plot layout drawing has been prepared to illustrate the anticipated on and off-site illumination distribution, presented as lux contour lines with an overlaid calculation grid. This drawing is included in Appendix 2.
- 7.7 As demonstrated by Figure 7.1, light spill is predicted to be contained within the Site boundary as far as reasonably practicable. The anticipated impact is therefore concluded to be negligible.

8.0 CONSTRUCTION PHASE LIGHTING

8.1 While construction phase lighting is expected to be short term and reversible it is important to minimise disruption as far as practicable. To reduce the effects of lighting during the construction phase the following measures should be put in place:

- Construction lighting should operate during hours of darkness in the agreed construction hours only and shall otherwise remain switched off.
 - 08:00 to 18:00 Monday to Friday ; and,
 - 08:00 to 13:00 Saturdays, only.
- Lighting will operate in all external areas used by construction workers after dark in order to provide a safe and secure working environment without over lighting. High quality LED light sources with high colour rendering index (CRI) shall be utilised to maximise visibility with efficient light output;
- Lighting shall be provided to meet the target lux level as set out in BS 12464-2 Lighting of outdoor workplaces without over lighting. Luminaires shall be mounted at the lowest practical mounting height, providing lighting only where lighting is required;
- Lighting controls should be employed to dim or switch off any lighting that is not needed;
- Lighting that needs to be sited close to the perimeter or sensitive areas should be fitted with shielding or be switched off or dimmed when not in use;
- Lighting should be controlled in such a way to illuminate high activity, hazardous or high security areas while reducing lighting levels at less pertinent areas; and
- The contractor should act responsibly to adjust any temporary lighting reported as causing nuisance.

APPENDICES

Appendix 1 : External Lighting Layout



NOTES

1. THIS IS NOT A CONSTRUCTION DRAWING.

2. DO NOT SCALE FROM THIS DRAWING.

3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER PROJECT DOCUMENTS.

KEY

LUMINAIRE SCHEDULE		
SYMBOL	DESCRIPTION	IMAGE
A1	FACADE MOUNT DOWNLIGHT C/W INTEGRATED PIR C/W GU10 LAMP < 400 LUMENS < 3000K WARM WHITE FACADE MOUNT @ < 1.8M	
A2	FACADE MOUNT DOWNLIGHT C/W GU10 LAMP < 400 LUMENS < 3000K WARM WHITE FACADE MOUNT @ < 1.8M	
B	SOLAR BOLLARD < 700 LUMENS < 3000K WARM WHITE BOLLARD MOUNT @ < 1.0M	
PIR	ML ACCESSORIES MINI PIR SENSOR	

P1	25.03.26	FOR INFORMATION
REV	DATE	DESCRIPTION

Lightable

PROJECT
HILLAND ROAD
BILLINGSHURST

DRAWING TITLE
EXTERNAL LIGHTING
LAYOUT

DRAWING NUMBER
L0208-LTBL-DWG-001

DAN ALASFAR MEng IEng MILP dan@lightable.co.uk 07877 912379	SCALE 1:150 @ A1	DATE 25.03.2026	REV P1
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Appendix 2 : External Lighting Lux Plot Layout



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PIR	ML ACCESSORIES MINI PIR SENSOR	

HORIZONTAL ILLUMINANCE (LUX)				
ISOLUX CONTOURS		ISOLUX GRID		
	10	0	0	1
	5	0	1	1
	2	0	1	1
	0.5	0	1	3

P1	25.03.26	FOR INFORMATION
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Lightable

PROJECT
HILLAND ROAD
BILLINGSHURST

DRAWING TITLE
EXTERNAL LIGHTING
LUX PLOT LAYOUT

DRAWING NUMBER
L0208-LTBL-DWG-002

DAN ALASFAR MEng iEng MILP dan@lightable.co.uk 07877 912379	SCALE 1:150 @ A1	DATE 25.03.2026	REV P1
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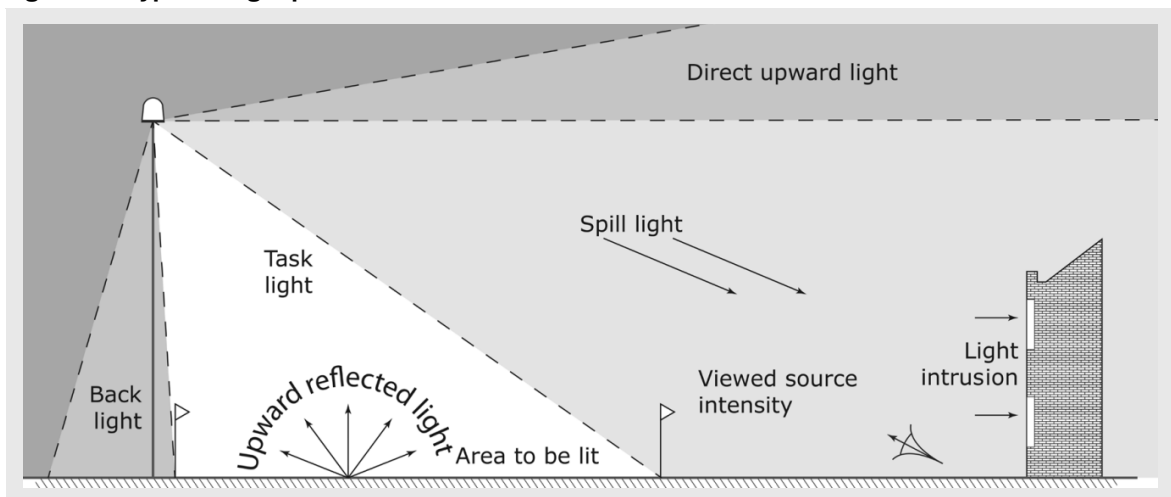
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Figure 4.1 Types of light pollution

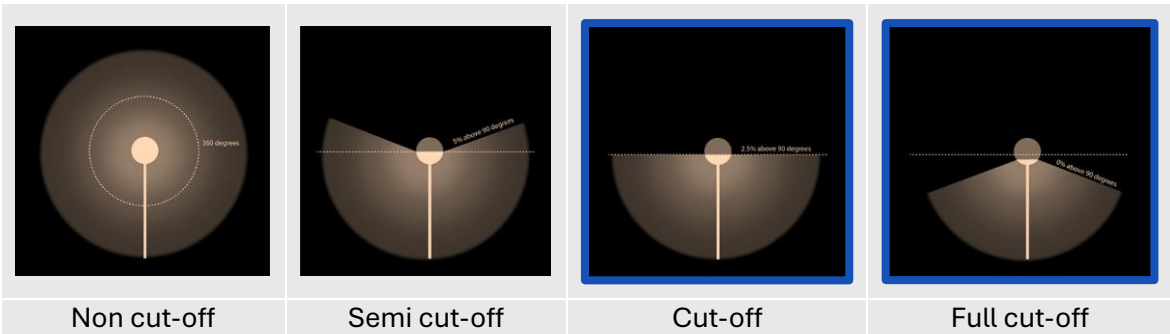


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5.0 MITIGATION

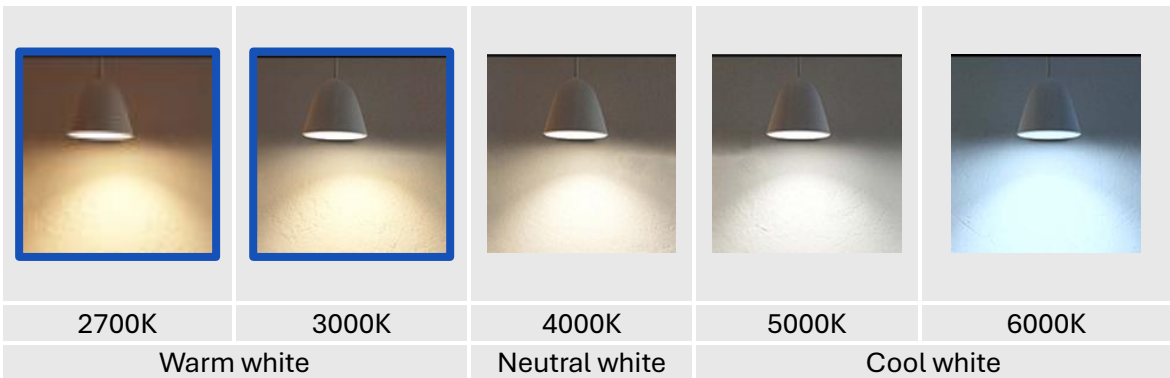
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Figure 5.2 Selected colour temperature



6.0 LUMINAIRE SELECTION

- 6.1 Luminaires shall be selected in accordance with the specification requirements set out below. All luminaires shall be high-quality directional LED units, designed to minimise obtrusive light.

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Lamp Output	< 400 lumens
Colour Temperature	< 3000K warm white
Mounting height	< 1.8m
Controls	Standalone presence detector (grouped)
Luminaire image	

Table 6.2 Luminaire Type A2

Type A2	
Specification	Description
Description	Façade mount downlight
Lamp	GU10 lamp
Lamp Output	< 400 lumens
Colour Temperature	< 3000K warm white
Mounting height	< 1.8m
Controls	Integrated presence detector
Luminaire image	

Table 6.3 Luminaire Type B

Type B	
Specification	Description
Description	Solar bollard
Lamp	Internal
Lamp Output	< 700 lumens
Colour Temperature	< 3000K warm white
Mounting height	< 1.0m
Controls	Integrated
Luminaire image	

7.0 MODELLING

- 7.1 Detailed lighting modelling has been undertaken using RELUX Desktop, an industry standard software package capable of raytraced scene rendering.
- 7.2 The Site and surroundings have been modelled based on the latest available architectural drawings.
- 7.3 Blocking effects caused by external buildings, walls, fences, or vegetation have been excluded from the model, and all lights have been set to operate at maximum output, to represent a worst-case scenario.
- 7.4 A false colour extract from the lighting model is provided in Figure 7.1 to aid in visualising the predicted light distribution.

Figure 7.1 Lighting model false colour view - measurements in lux



- 7.5 An external lighting layout drawing has been prepared indicating anticipated luminaire types, heights, and directions. This drawing is included in Appendix 1.

- 7.6 An external lighting lux plot layout drawing has been prepared to illustrate the anticipated on and off-site illumination distribution, presented as lux contour lines with an overlaid calculation grid. This drawing is included in Appendix 2.
- 7.7 As demonstrated by Figure 7.1, light spill is predicted to be contained within the Site boundary as far as reasonably practicable. The anticipated impact is therefore concluded to be negligible.

8.0 CONSTRUCTION PHASE LIGHTING

8.1 While construction phase lighting is expected to be short term and reversible it is important to minimise disruption as far as practicable. To reduce the effects of lighting during the construction phase the following measures should be put in place:

- Construction lighting should operate during hours of darkness in the agreed construction hours only and shall otherwise remain switched off.
 - 08:00 to 18:00 Monday to Friday ; and,
 - 08:00 to 13:00 Saturdays, only.
- Lighting will operate in all external areas used by construction workers after dark in order to provide a safe and secure working environment without over lighting. High quality LED light sources with high colour rendering index (CRI) shall be utilised to maximise visibility with efficient light output;
- Lighting shall be provided to meet the target lux level as set out in BS 12464-2 Lighting of outdoor workplaces without over lighting. Luminaires shall be mounted at the lowest practical mounting height, providing lighting only where lighting is required;
- Lighting controls should be employed to dim or switch off any lighting that is not needed;
- Lighting that needs to be sited close to the perimeter or sensitive areas should be fitted with shielding or be switched off or dimmed when not in use;
- Lighting should be controlled in such a way to illuminate high activity, hazardous or high security areas while reducing lighting levels at less pertinent areas; and
- The contractor should act responsibly to adjust any temporary lighting reported as causing nuisance.

APPENDICES

Appendix 1 : External Lighting Layout

Appendix 2 : External Lighting Lux Plot Layout

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