



· LIGHTING DESIGN · ELECTRICAL · SMART CITIES ·
ENERGY REDUCTION · LIGHTING IMPACT

REGENTS PARK, CALNE

LIGHTING STRATEGY

DFL-UK

17 City Business Centre, Hyde Street, Winchester, SO23 7TA

+44(0)1962 855080 | info@dfi-uk.com | www.dfi-uk.com



PROJECT NUMBER: 4384			DOCUMENT REF: 4384-DFL-ELG-XX-RP-EO-13001			
P01	S3	First Issue	AE	AL	AL	17/12/2025
Revision	Suitability	Purpose Description	Originated	Checked	Approved	Date

Designs for Lighting (DFL) is a business built on successfully collaborating with our clients. We have over 20 years proven experience in our industry, listening to the challenges our clients face, developing the best solutions and being innovators in our specialism. Our role is to find the most effective and sustainable outcome to enhance and support your projects. We proudly work with recognised industry bodies to promote and shape the future of the industry and ensure our staff are trained to exceed the required competency levels of our industries. Above all, we ensure each project delivers against our values.



Quality



Knowledgeable



Dependable



Clear Advice

Table of Contents

Executive Summary.....	5
1. Introduction	6
1.1. General.....	6
2. Local policies.....	7
2.1. Lighting Spec Rev S - Residential Generic (LED and CMS) DRAFT.....	7
3. British Standards.....	7
3.1. BS 5489-1:2020 - Lighting of Roads and Public Amenity Areas - Code of practice.	7
3.2. BS EN 13201-2:2015 - Road lighting. Performance requirements.	7
4. Guidance	8
4.1. Guidance Notes for the Reduction of Obtrusive Light (Institution of Lighting Professionals GN01:2021)	8
4.2. GN08:2023 Bats and Artificial Lighting in the UK – Bat Conservation Trust and Institution of Lighting Professionals.	9
5. Desktop Study	10
5.1. Site Description and Context.....	10
5.2. Environmental Zone Classification	11
6. Identified Receptors.....	11
6.1. Ecological	11
7. Lighting strategy.....	12
7.1. Summary.....	12
7.2. Residential Road	13
7.3. Property Frontages and Rears	15
8. Summary of Results.....	17
8.1. Overview	17
8.2. Summary of Results	17
9. Conclusion.....	18
9.1. General.....	18
Appendix 1 – Light Spill Diagram	19
Appendix 2 – Vertical Light Spill Diagram	19
Technical Descriptions, Definitions and Abbreviations.....	20

Table of Figures

Figure 1: The Application Site Location and Boundary	10
Figure 2: Proposed Development Site Layout Plan	10
Figure 3: Performance Requirements	13

Table of Tables

Table 1: Environmental Zone Descriptions.....	8
Table 2: Obtrusive Light Criteria.....	8
Table 3: Limitations of Identified Environmental Zone.....	11
Table 4: Potentially Sensitive Ecological Receptors (PSER)	11
Table 5: Design Parameters BS EN 13201-2	13
Table 6: Luminaire Performance Requirements.....	14
Table 7: Luminaire Performance Requirements	15
Table 8: Luminaire Performance Requirements	16
Table 9: PSER Results Table, Maximum Illuminance.	17

EXECUTIVE SUMMARY

The proposed lighting design has been developed in direct response to the recommendations set out within the submitted ecology technical note and in accordance with the conditions attached to the outline planning permission. The strategy specifically addresses the requirement to retain dark foraging and commuting corridors for bats along the southern boundary of the site.

The lighting proposals clearly define the location, specification and orientation of all external luminaires, ensuring that light spill onto boundary features is strictly controlled. Through the use of reduced lighting levels, at the turning head, directional fittings and appropriate shielding (including hooded and louvered luminaires where necessary), the design ensures that light levels along the southern boundary do not exceed 0.5 lux, as stated in the Reserved Matters by the Ecologist.

A detailed technical lighting drawing accompanies the proposal, illustrating predicted lux contours and demonstrating that boundary features are maintained as dark corridors suitable for bat foraging and commuting. The strategy has been prepared in accordance with best practice guidance, including Guidance Note GN08/23 "Bats and artificial lighting at night" issued by the Bat Conservation Trust and the Institution of Lighting Professionals.

On this basis, the proposed lighting design addresses the ecological requirements of the outline consent, ensures that boundary features remain unlit, and confirms that the relevant reserved matters and planning conditions have been fully complied with.

1. INTRODUCTION

1.1. General

- 1.1.1. This Lighting Strategy has been written by DFL (Designs for Lighting Ltd¹), a lighting design consultancy specialising in Lighting Impact Assessments, obtrusive light mitigation, and detailed lighting design.
- 1.1.2. The Lighting Strategy is intended to set out a minimally obtrusive approach to the lighting, whilst ensuring it is necessary and considers the sensitivity of nearby human, environmental and ecological receptors.
- 1.1.3. Lighting associated with the Proposed Development will comply with relevant British Standards and Institution of Lighting Professionals (ILP) guidance to ensure obtrusive light is minimised in accordance with best practice.
- 1.1.4. This report outlines the following:
 - Relevant obtrusive light policies in direct relation to the Proposed Development;
 - Relevant National and Local Policies;
 - Why the Proposed Development requires artificial lighting; and
 - Details as to how lighting will be implemented for the Proposed Development.
- 1.1.5. Through careful design and mitigation, this Lighting Strategy ensures the lighting installation at the Proposed Development will be in accordance with British Standards, Guidance and Local Policy.

¹ <https://www.dfl-uk.com/about/>

2. LOCAL POLICIES

2.1. Lighting Spec Rev S - Residential Generic (LED and CMS) DRAFT

- 2.1.1. Adoptable Lighting associated with the Proposed Development will be designed and installed in accordance with the Wiltshire's adoptable specification for Street Lighting, as per policy document:

3. BRITISH STANDARDS

3.1. BS 5489-1:2020 - Lighting of Roads and Public Amenity Areas - Code of practice.

- 3.1.1. This standard gives recommendations on the general principles of road lighting, its aesthetics, technical aspects and provides guidance on operational maintenance. It also provides guidance on means of minimizing energy consumption and limiting the impacts on the environment and adjacent properties.

3.2. BS EN 13201-2:2015 - Road lighting. Performance requirements.

- 3.2.1. This British and European standard defines the performance requirements specified as lighting classes for road lighting aiming at the visual needs of the road users, as well as the consideration of the environmental aspects of the road lighting to be applied.

4. GUIDANCE

4.1. Guidance Notes for the Reduction of Obtrusive Light (Institution of Lighting Professionals GN01:2021)

- 4.1.1. The Lighting Strategy has been developed in accordance with industry guidance aimed at minimising the risk of obtrusive light, which often results from poorly designed or installed external lighting. It draws specifically on the most relevant sections of GN01:2021, which provides best practice recommendations for reducing obtrusive light across a wide range of outdoor lighting applications

Zone	Surrounding	Lighting Environment	Examples
E0	Protected	Dark (SQM 20.5+)	Astronomical Observable dark skies, UNESCO starlight reserves, IDA Dark Sky Parks.
E1	Natural	Intrinsically dark (SQM 20 to 20.5)	Relatively uninhabited rural areas, National Parks, Areas of Outstanding Natural Beauty, etc.
E2	Rural	Low district brightness (SQM ~ 15 to 20)	Sparsely inhabited rural areas, Village or relatively dark outer suburban locations.
E3	Suburban	Medium district brightness	Well inhabited rural and urban settlements, small town centres or suburban locations.
E4	Urban	High district brightness	Town / City centres with high levels of night-time activity.

Table 1: Environmental Zone Descriptions

Environmental Zones	Sky Glow ULR ² (Max %)	Light Trespass (Into Windows) E _v (lux)		Building Luminance Average, Pre-curfew
		Pre- Curfew	Post-Curfew ³	Average L (cd/m ²)
E0	0	0	0	0
E1	0	2	0 (1 ⁴)	0
E2	2.5	5	1	5
E3	5	10	2	10
E4	15	25	5	25

Table 2: Obtrusive Light Criteria

² ULR (Upward Light Ratio) is the maximum permitted percentage of luminaire flux that goes directly into the sky.

³ Curfew refers to a time when the local planning authority has agreed that the lighting installation should be switched off; this typically refers to 23h00 – 07h00

⁴ If the installation is for public (road) lighting, then this may be up to 1 lx

4.2. GN08:2023 Bats and Artificial Lighting in the UK – Bat Conservation Trust and Institution of Lighting Professionals.

- 4.2.1. 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. However, it is not meant to replace site-specific ecological and lighting assessments, which states the following.

"It is acknowledged that, especially for vertical calculation planes, very low levels of light (<0.5 lux) may occur even at considerable distances from the source if there is little intervening attenuation. It is therefore very difficult to demonstrate 'complete darkness' or a 'complete absence of illumination' on vertical planes where some form of lighting is proposed on site despite efforts to reduce them as far as possible and where horizontal plane illuminance levels are zero. Consequently, where 'complete darkness' on a feature or buffer is required, it may be appropriate to consider this to be where illuminance is below 0.2 lux on the horizontal plane and below 0.4 lux on the vertical plane. These figures are still lower than what may be expected on a moonlit night and are in line with research findings for the illuminance found at hedgerows used by lesser horseshoe bats, a species well known for its light adverse behaviour (Stone, 2012)."

"A warm white light source (2700Kelvin or lower) should be adopted to reduce blue light component."

5. DESKTOP STUDY

5.1. Site Description and Context

- 5.1.1. A desktop assessment was completed to understand its position within the current lit environment.
- 5.1.2. The Application Site is Land off James Avenue, Regents Park, Calne. An indicative boundary of the site and proposed layout can be seen in **Figure 1**.



Figure 1: The Application Site Location and Boundary

- 5.1.3. The Proposed Development is for the development of 17 dwellings. The Site Layout Plan is shown in **Figure 2**.



Figure 2: Proposed Development Site Layout Plan

5.2. Environmental Zone Classification

- 5.2.1. The Environmental Zone criteria detailed within **Table 1** and **Table 2** informs the basis of the Lighting Strategy. The Application Site is considered to be located within an E2 Environmental Zone, being located in a relatively dark outer suburban location.

Zone	Surrounding	Examples	Limitations		Sky Glow ULR (Max)
			Pre-curfew	Post-curfew	
E2	Rural	Sparsely inhabited rural areas, Village or relatively dark outer suburban locations	5	1	2.5%

Table 3: Limitations of Identified Environmental Zone.

6. IDENTIFIED RECEPTORS

6.1. Ecological

- 6.1.1. The southern boundary of the Application Site has been identified in ecology report -ACD Environmental – Ecology Technical Note [10/09/2025] - as areas where potentially sensitive ecological receptors maybe present. Therefore, this Lighting Strategy has been written in accordance with GN08:2023.
- 6.1.2. A description of the potential ecological receptors can be seen in **Table 4**. A map of the receptor location can be found in **Appendix 2 – Vertical Light Spill Diagram**.

Receptor Type	Receptor No. (Appendix 3)	Description
Ecology	PSER 001	Southern Boundary

Table 4: Potentially Sensitive Ecological Receptors (PSER)

7. LIGHTING STRATEGY

7.1. Summary

- 7.1.1. The Proposed Development will require lighting for safety and amenity at limited times during the hours of darkness. Lighting will be fit for purpose and sensitive to nearby human and ecological receptors.
- 7.1.2. Lighting will be of an appropriate specification and designed in accordance with British Standards.
- 7.1.3. Amenity lighting for the Proposed Development will be applied sensitively to account for the receptors identified bounding the Application Site and within the Proposed Development.
- 7.1.4. Luminaires will be used with integral LEDs and only where the luminaire photometry is available from the manufacturer. This is to ensure the photometric footprint of the luminaires can be modelled to ensure the potential effects of light spill are minimised or mitigated.
- 7.1.5. The following criteria seeks to ensure that the lighting is not outside of the obtrusive light limits for the Environmental Zone in which the Application Site is located, is sensitive to the area, and provides a recognised standard level of lighting for all adoptable areas requiring illumination. Luminaires will distribute light downwards only to reduce the potential for light spill onto the boundaries surrounding the buildings and upwards towards the sky.
- 7.1.6. All lighting unless otherwise stated is to emit a warm white colour temperature light (2700 Kelvin or less) to reduce the potential for adverse effects onto potentially sensitive receptors.
- 7.1.7. Lighting in adopted areas will be required in the following application areas:
 - Residential Road
- 7.1.8. Lighting in unadopted areas will be required in the following task areas:
 - Property Frontages and Rears

7.2. Residential Road

- 7.2.1. The Residential Road will be illuminated in accordance with BS 5489-1:2020 and BS EN 13201-2:2015 for amenity and safety purposes. The lowest possible lighting levels are proposed within this Lighting Strategy.
- 7.2.2. Performance requirements for the Residential Road are outlined in **Figure 34**.
- 7.2.3. Following a risk assessment, the lighting class will remain as recommended in BS 5489-1:2020.

<i>Lighting classes for subsidiary roads</i>			
Traffic flow	Lighting class		
	E1 to E4 ^{A)}	E1 to E2 ^{A)}	E3 to E4 ^{A)}
	Pedestrian and cyclists only	Speed limit $v \leq 30$ mph	Speed limit $v \leq 30$ mph
Busy ^{B)}	P5	P4	P3
Normal ^{C)}	P5	P5	P4
Quiet ^{D)}	P6	P5	P4

Figure 3: Performance Requirements

Area	Class	BS5489-1 Requirements		MF used
		Eav Lux	Min ⁵	
Residential Road	P5	3-4.5	0.6	0.87

Table 5: Design Parameters BS EN 13201-2

⁵ Minimum required lux level

Equipment Specification	
Application Area	Residential Road
Correlated Colour Temperature (Kelvin)	≤3000 (As per Wiltshire Spec)
Lumen Output (lm)	≤ 2010
Height (m)	≤ 5
Mounting Arrangement	Post Top
Luminaire Tilt (°)	0
Upward Light Output Ratio (%) E2 < 2.5%	0% (G3 Class - As per Wiltshire Spec)
Luminaire Manufacturer	Urbis (Or Similar Approved)
Luminaire family	Axia 3.1
Light Spill Diagram reference	A
Controls⁶	Central Management System (CMS) 100% output – Dusk to 8pm 75% output – 8pm to 11pm 50% output 11pm to 6am 100% output – 6am to Dawn

Table 67: Luminaire Performance Requirements

⁶ Dimming: when dimming is applied it is announced as a percentage still in use of the total percentage output (dimmed too, not dimmed by).

7.3. Property Frontages and Rears

7.3.1. The Property Frontages and Rears will be illuminated for safety, security and wayfinding purposes and not in accordance with any British Standard. The lowest possible lighting levels are proposed within this Lighting Strategy.

Equipment Specification	
Application Area	Property Frontages
Correlated Colour Temperature (Kelvin)	$\leq 2700K^7$
Luminaire Manufacturer	Ligman (Or Similar Approved)
Luminaire Model	JET Downlight only (Or Similar Approved)
Light Source	LED ≤ 550 lumen
Reference	Type E
Height	≤ 2 metres
Mounting Arrangement	Wall mounted
Luminaire Tilt	0%
Upward Light Output Ratio E2 < 2.5%	0%
Example Luminaire Image	
Controls	Motion detector on for 1 minutes when motion is detected.

Table 7: Luminaire Performance Requirements

⁷ Special order item

Equipment Specification	
Application Area	Property Rears
Correlated Colour Temperature (Kelvin)	$\leq 2700K^8$
Luminaire Manufacturer	Ligman (Or Similar Approved)
Luminaire Model	GINO 4 Downlight only EW Optic (Or Similar Approved)
Light Source	LED ≤ 1140 lumen
Reference	Type F
Height	≤ 2 metres
Mounting Arrangement	Wall mounted
Luminaire Tilt	0%
Upward Light Output Ratio E2 < 2.5%	0%
Example Luminaire Image	
Controls	Motion detector on for 1 minutes when motion is detected.

Table 8: Luminaire Performance Requirements

⁸ Special order item

8. SUMMARY OF RESULTS

8.1. Overview

8.1.1. The Light Spill Diagram shown in

- 8.1.2. **Appendix 1 – Light Spill Diagram** and **Appendix 2 – Vertical Light Spill Diagram**, demonstrates that the Light Spill Levels associated with the proposed lighting would comply with the Reserved Matters, at sensitive receptors.
- 8.1.3. To ensure the worst-case scenario has been modelled, the highest potential light levels have been modelled / presented in the light spill diagram, with the project maintenance factors set at MF = 1.0⁹. This demonstrates the light levels at their highest (initial light levels at the start of luminaire life).

8.2. Summary of Results

- 8.2.1. The proposed lighting within the task area is compliant to the relevant policies, standards and guidance, except for where engineering judgment has been used.
- Residential Road – Has been purposefully left dark at the turning head to avoid spill light onto the southern boundary, as required by the Reserved Matters – 23/07/25
- 8.2.2. Where ecological receptors are potentially sensitive to vertical light spill, a vertical illumination grid has been modelled, as shown in **Appendix 2 – Vertical Light Spill Diagram**. The light levels based on the modelling do not exceed 0.5 Lux.

Receptor No	Maximum vertical Illuminance (Lux)	Notes
PSER 001	0.50 Lux	Compliant To Reserved Matters limits

Table 9: PSER Results Table, Maximum Illuminance.

⁹ <https://www.dfl-uk.com/knowledge-hub/faqs/>

9. CONCLUSION

9.1. General

- 9.1.1. Lighting associated with the Proposed Development shall be designed in accordance with the Lighting Strategy for the Application Site outlined in **Section 7**.
- 9.1.2. This Lighting Strategy has been written in accordance with the relevant British Standards, industry guidance and local policies and demonstrates that light spill at boundary features will not exceed 0.5 lux, as shown in

- 9.1.3. **Appendix 1 – Light Spill Diagram and Appendix 2 – Vertical Light Spill Diagram.**
- 9.1.4. On this basis, no adverse impacts on bats are anticipated. Through careful design and mitigation, this Lighting Strategy ensures the lighting installation at the proposed development addresses the comments of the County Ecologist in the Reserved Matters.

APPENDIX 1 – LIGHT SPILL DIAGRAM

See accompanying document 4384-DFL-ELG-XX-LD-EO-13001-S3

APPENDIX 2 – VERTICAL LIGHT SPILL DIAGRAM

See accompanying document 4384-DFL-ELG-XX-CA-EO-13001-S3

APPENDIX 3 – RECEPTOR DIAGRAM



TECHNICAL DESCRIPTIONS, DEFINITIONS AND ABBREVIATIONS

PHAR: is an abbreviation for a potential human amenity receptor, a location where an observer could have the potential to be affected by the proposed lighting to be installed [Abbreviation used by DFL LI and P.](#)

PSER: is an abbreviation for an area identified as or treated as a location that may host a potentially sensitive ecological receptor. This is generally used where light sensitive bats have the potential to live, forage or use as a flight path, other ecologically sensitive receptors such as (but not limited to) the Great Crested Newt may also be identified by this term. [Abbreviation used by DFL LI and P.](#)

PSR: is an abbreviation for an area where an individual maybe susceptible to light brightness (Light intensity) which may have the potential to cause a hazardous situation. [Abbreviation used by DFL LI and P.](#)

Obtrusive Light: refers to excessive or bothersome artificial light that goes where it shouldn't, causing discomfort and disruption. *Spill light which because of quantitative, directional or spectral attributes in a given context gives rise to annoyance, discomfort, distraction or reduction in the ability to see essential information.* [CIBSE LG21 Lighting Guide 21: Protecting the night-time environment.](#)

Sky glow: When lights are directed upwards or light is scattered by particles in the air, like dust or water droplets, it creates a glow that makes it hard to see stars. *The increase in diffuse illuminance of the night sky above that produced by natural sources such as the moon and visible star.* [CIBSE LG21 Lighting Guide 21: Protecting the night-time environment.](#)

Vertical Illuminance: is how much light lands on upright surfaces like walls. It's measured in lux or footcandles and matters for places where the view from a vertical angle is important. *Lighting of vertical surfaces such as walls, windows, statues, sculptures and people's faces.* [CIBSE LG21 Lighting Guide 21: Protecting the night-time environment.](#)

Correlated colour temperature (CCT): the appearance of light emitted by a light source measured in Kelvin (K), Lower CCT values such as 2700K represent warmer, more yellowish light, *similar to the light from older incandescent lamps. (Tcp)The temperature of the Planckian radiator whose perceived colour most closely resembles that of a given stimulus at the same brightness and under specified viewing conditions, measured in absolute temperature on the kelvin (K) scale.* [CIBSE LG21 Lighting Guide 21: Protecting the night-time environment.](#)

Lux: measures the brightness of light as perceived by the human eye at a specific point on a surface. *The SI derived unit of illuminance, measuring luminous flux per unit area (1 lux =1 lumen/m2).* [CIBSE LG21 Lighting Guide 21: Protecting the night-time environment.](#)

Lumens: measure how bright a light appears to our eyes. The SI derived unit of luminous flux; a measure of the total quantity of visible light emitted by a source or received by a surface (unit: lumen). [CIBSE LG21 Lighting Guide 21: Protecting the night-time environment.](#)

Glare: refers to an excess of bright light that makes you uncomfortable or hinders your vision. It happens when there's a big difference between a bright light and the rest of the surroundings. *Glare: condition of vision in which there is discomfort or a reduction in the ability to see details or objects, caused by an unsuitable distribution or range of luminance, or by extreme contrasts.* [BS EN 12665-2018, Light and lighting - Basic terms and criteria for specifying lighting requirements, Section 3.1.8](#)

Luminous intensity: is light brightness or how intense the light source is. light intensity is how intense a light source is emitted or received in a particular direction, this is measured candelas and is termed as luminous intensity I_v <of a source, in a given direction> quotient of the luminous flux, $d\Phi_v$, leaving the source and propagated in the element of solid angle $d\Omega$ containing the given direction, by the element of solid angle (unit: $cd = lm \cdot sr^{-1}$). [BS EN 12665-2018, Light and lighting - Basic terms and criteria for specifying lighting requirements, Section 3.2.2.](#)

Candela: is a measurement for the brightness of a light source, taking into account the direction in which the light is emitted. *Base unit of luminous intensity in the International System of Units (SI); the luminous power per unit solid angle emitted by a point light source in a particular direction.* [CIBSE LG21 Lighting Guide 21: Protecting the night-time environment.](#)

Uniformity (Uo): is an explanation for the even distribution of light across an area or surface. The overall uniformity shall be calculated as the ratio of the lowest luminance, occurring at any grid point in the field of calculation, to the average luminance. [BS EN 13201-3-2015, Calculation of Performance Section 8.3.](#)

Luminance: is how bright a surface appears to our eyes. It considers the light coming from or reflected by an object. L_v <in a given direction, at a given point of a real or imaginary surface> quantity defined by the formula (unit: $cd \cdot m^{-2} = lm \cdot m^{-2} \cdot sr^{-1}$) [BS EN 12665-2018, Light and lighting - Basic terms and criteria for specifying lighting requirements, Section 3.2.3.](#)

Illuminance is how much light lands on a surface per square meter. It's measured in lux. More lux means a brighter area. E_v (unit: $lx = lm \cdot m^{-2}$) 1. <at a point of a surface> quotient of the luminous flux $d\Phi_v$ incident on an element of the surface containing the point, by the area dA of that element 2. <at a point of a surface> equivalent definition: integral, taken over the hemisphere visible from the given point, of the expression. [BS EN 12665-2018, Light and lighting - Basic terms and criteria for specifying lighting requirements, Section 3.2.10.](#)

Luminaire: a light fixture, this is also sometimes referred to as a lantern or a light fitting, is a product that produces artificial light. *apparatus which distributes, filters or transforms the light transmitted from one or more lamps and which includes, except the lamps themselves, all the parts necessary for fixing and protecting the lamps and, where necessary, circuit auxiliaries together with the means for connecting them to the electric supply* [BS EN 12665-2018, Light and lighting - Basic terms and criteria for specifying lighting requirements, Section 3.3.3](#)

ULOR: upward light output ratio or ULOR refers to the amount of light the light fixture will produce upwards as a percentage of its total light output. *RULO <of a luminaire> ratio of the upward luminous flux of the luminaire, measured under specified practical conditions with its own lamp(s) and equipment, to the sum of the individual luminous fluxes of the same lamp(s) when operated outside the luminaire with the same equipment, under specified conditions* [BS EN 12665-2018, Light and lighting - Basic terms and criteria for specifying lighting requirements, Section 3.3.12.](#)

Maintenance factor (MF): is an allowance for how well the lights keep working overtime. It considers things like dirt on the light fittings and "wear and tear". *DEPRECATED: light loss factor ratio of illuminance produced by the lighting installation after a certain period to the illuminance produced by the installation when new* Note 1 to entry: The term depreciation factor has been formerly used to designate the reciprocal of the above ratio. Note 2 to entry: The maintenance factor takes into account light losses caused by dirt accumulation on luminaires and room surfaces (in interiors) or other relevant surfaces (in exteriors, where appropriate), and the decrease of the luminous flux of lamps. [BS EN 12665-2018, Light and lighting - Basic terms and criteria for specifying lighting requirements, Section 3.5.18.](#)

Tilt: is how much the luminaire is lifted based on the fitting facing flat to the ground.

Outreach: how far away the fitting is from the column/wall its mounted on to the light source.

This isn't the end...

We don't just have the solution for what you need today. We also have the solutions you might need for the future. We have dedicated teams that deliver.

- **Lighting Impact and Planning** teams that focus on delivering the most effective and sensitive lighting solutions to support planning.
- **Residential** teams that cover all aspects of new development and redevelopment spanning private, section 38 and section 278 design packages.
- **Public Realm** teams that are experts in enhancing night-time public spaces to create inviting spaces and opportunity for local economies to thrive during the hours of darkness.
- **Electrical** teams – we don't just put a light in the ground, we can help you get power to it as well! Additionally, we also offer design services for EV charging. As this market rapidly expands, make sure you have the experts managing the load, otherwise your EV charging solutions might not live up to expectations.
- **Strategic Infrastructure** teams that offer Lighting and Electrical expertise for complex transport networks and interchanges.
- **Consultancy Services** teams that help when you know what you want but you need someone to help you turn the idea into a project.

Finally, as innovators, you might be facing something bespoke or niche. Don't worry – we might have the answer you need. Feel free to get in touch!

THE POWER TO MAKE LIGHT WORK



Alex Elliott

Principal Engineer



+44 (0)1962 855080



Alex.Elliott@dfi-uk.com



www.dfi-uk.com/



17/18 City Business Centre, Hyde
Street, Winchester, Hampshire,
SO23 7TA