DFL

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

CHAPTER 16 APPENDIX 16.2

LIGHTING BASELINE ASSESSMENT - LAND AT TOTON WEST

DFL-UK
17 City Business Centre, Hyde Street, Winchester, SO23 7TA
+44(0)1962 855080 | info@dfl-uk.com | www.dfl-uk.com

PROJECT NUMBER: 3698		DOCUMENT REF: 3698-DFL-ELG-XX-RP-EO-13002			
P01	Issue	SP	DS	AS	26/02/2025
Revision	**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

Table of Figures

Table of Tables

1. INTRODUCTION

1.1. Executive Summary

1.1.1. This Lighting Baseline Assessment has been written by DFL (Designs for Lighting Ltd[1]), a lighting design consultancy specialising in Lighting Impact Assessments, obtrusive light mitigation, and detailed lighting design.

1.1.2. This Lighting Baseline Assessment forms an Appendix to **Chapter 16** of the Environmental Statement for "**Land at Toton West**" and must be read in conjunction with this document.

1.1.3. This report outlines the following:

- The desktop assessment of the Application Site and Environmental Zone assessment,
- The existing lighting baseline within and surrounding the Application Site

1.2. The Lit Environment

1.2.1. The area surrounding the Application Site is a broad mixture of commercial uses and suburban settlement interspersed with agricultural land.

1.2.2. There is a large amount of existing artificial lighting in the area for commercial, residential and highway network purposes. This existing lighting is visible across the landscape and is affecting the district brightness of the surrounding area.

1.2.3. Due to the above, the Application Site and the surrounding area has been assessed as an E3 environmental zone

1.2.4. Artificial lighting is prominent in the landscape. However, the direct effects of this lighting are concentrated close to the lit areas. This is shown by the illuminance results detailed in Error! Reference source not found..

1.2.5. Although there is a large presence of existing lighting surrounding the Application Site, there are large areas of relative darkness also within the site.

1.2.6. This indicates that although several of the receptors to lighting identified in **Chapter 16** have direct views of existing lighting, they will not be experiencing significant existing direct effects of lighting. There are likely to be minor direct effects on these receptors by the existing lighting directly adjacent to them, but the further the distance from the existing lighting, the lower the lighting effect will be.

[1] https://www.dfl-uk.com/about/

2. ENVIRONMENTAL ZONE ASSESSMENT

2.1. Introduction

2.1.1. This section details the desktop assessment that has been carried out to gain an understanding of the area surrounding the Application Site, and includes:

- Assessment of the surrounding area and context, including any designated sites and areas that include existing lighting,
- Desktop assessment of the environmental zone relevant to the Application Site, and

2.1.2. The full description of the Application Site can be found in **Chapter 3** of the ES.

2.2. Designations

2.2.1. According to Natural England the Application Site is not located within 2 Km of AONB[2] (National Landscapes), a National Park[3], a designated SAC[4] or SSSI[5].

2.2.2. There are Local Nature Reserves located within 2 km of the Application Site. These being

- Toton Fields (Ref: SK496344)
- Manor Farm, Long Eaton (Ref: SK499341)
- Stoney Clouds (Ref: SK477376)
- Fox Covert (Ref: SK486333)
- King Georges Park (Ref: SK5O6376)

2.2.3. There is also one area of Ancient Woodland within 3 km of the Application Site, this being:

- Bramcote Hill Wood

2.3. Local Character

2.3.1. The local character of the area surrounding the Application Site is broadly suburban or urban, with the Application Site and the fields to the north and west being isolated in their agriculture use compared to the surroundings.

2.3.2. Within a 2km radius surrounding the Application Site the majority of development is residential and suburban in nature, but this is interspersed with commercial development and infrastructure that includes Tram Stations and a Park & Ride car park. This is typical of well inhabited rural and urban settlements, small town centres or suburban locations.

2.4. CPRE Night Blight Mapping[6]

2.4.1. To inform our understanding of the night-time environment, we use CPRE Nightblight mapping to better understand the current baseline light levels surrounding the Application Site. The CPRE Night Blight Mapping indicates that the levels of skyward radiance within the vicinity of the Application Site is between 8 - 32 Nano Watts/cm²/sr (**Figure 1**).

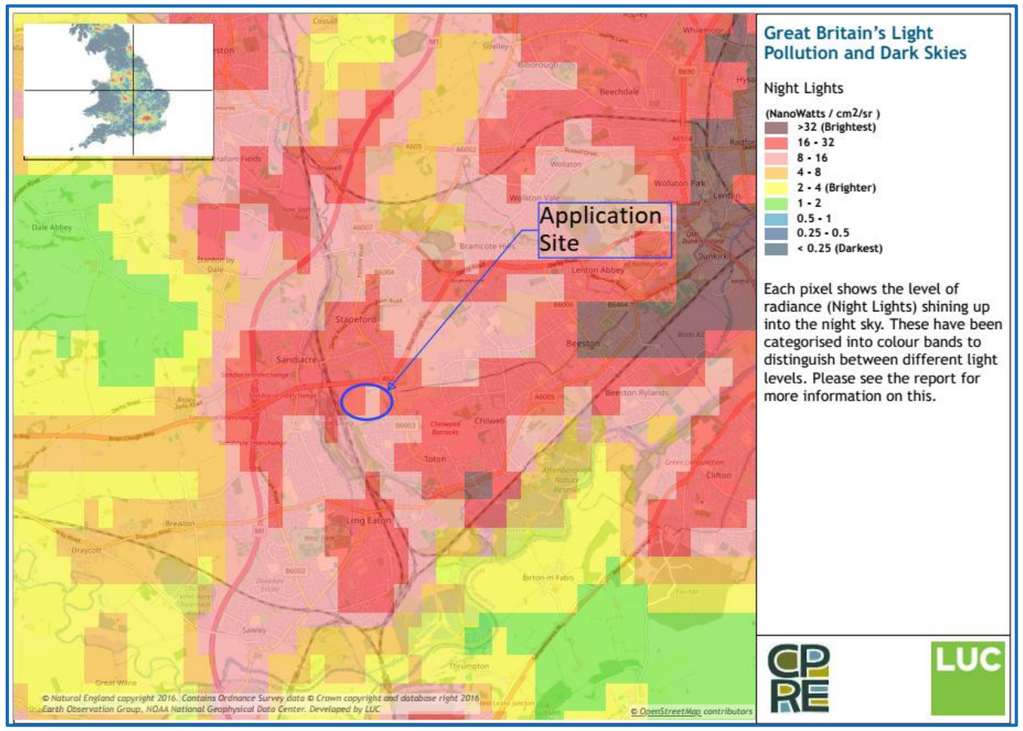


Figure 1: CPRE and LUC Skyward Radiance Mapping for the Wider Area Surrounding the Application Site.

2.4.2. The levels of skyward radiance shown in **Figure 1** indicates that the area surrounding the Application Site contains a large volume of existing artificial lighting, with this likely being most concentrated on the orange to red areas.

2.4.3. These levels of skyward radiance over such a wide area indicates that the Application Site and surrounding area could be classified as an E3 environmental zone (See **Table 1**). This is also typical of well inhabited rural and urban settlements, small town centres or suburban locations.

[2] Natural England: Areas of Outstanding Natural Beauty (England)
[3] Natural England: National Parks (England)
[4] Natural England: Special Areas of Conservation (England)
[5] Natural England: Sites of Special Scientific Interest (England)
[6] NightBlight Map is a visual representation of light pollution as a view from above the earth's atmosphere and indicates upward light spill based on sky glow.

2.5. Environmental Zone Classification

2.5.1. The Application Site and the surrounding areas have been assessed against the environmental zone description detailed within ILP GN01:2021 (**Table 1**).

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

2.5.2. The wider area surrounding the Application Site contains levels of skyward radiance that would typically be associated with town centres or cities, and implies the area is of medium – high district brightness. This indicates an environmental zone of **E3**.

2.5.3. In addition to the medium – high district brightness, the surrounding area also contains a significant density of development which is of a suburban character. This also supports the assessment of the environmental zone of **E3**.

2.5.4. As such the Lighting Impact Assessment for the Application Site will assess the proposed lighting against the requirements of an **E3** environmental zone (**Table 2**).

Zone	Surrounding	Examples	Limitations		Sky Glow ULR (Max)
			Pre-curfew	Post-curfew	
E3	Suburban	Well inhabited rural and urban settlements, small town centres or suburban locations.	10	2	5%

Table 2: Limitations of the environmental zone.

3. LIGHTING BASELINE SURVEY

3.1. Introduction

3.1.1. A Lighting Baseline Survey has been conducted for the Application Site to provide details of the existing lit conditions on and surrounding the Application Site. This focused on the proposed Toton North, East and West areas of the Application Site.

3.1.2. The dates and conditions during the Lighting Baseline Survey are detailed in **Table 3**.

Date	Astronomical Twilight	Moon Phase	Weather Conditions (night)	Survey Start Time
28/11/2024	17:59	Third Quarter (57% visible)	Weather conditions were dry and the sky was partially overcast. Temperature: 1° Moonlight penetration through the clouds was moderate and intermittent.	19:30

Table 3: Lighting Baseline Survey Date and Weather Conditions

3.2. Methodology

3.2.1. The Baseline Lighting Survey consisted of illuminance recordings surrounding and within the Application Site, as well as contextual photography that was taken both within and surrounding the Application Site.

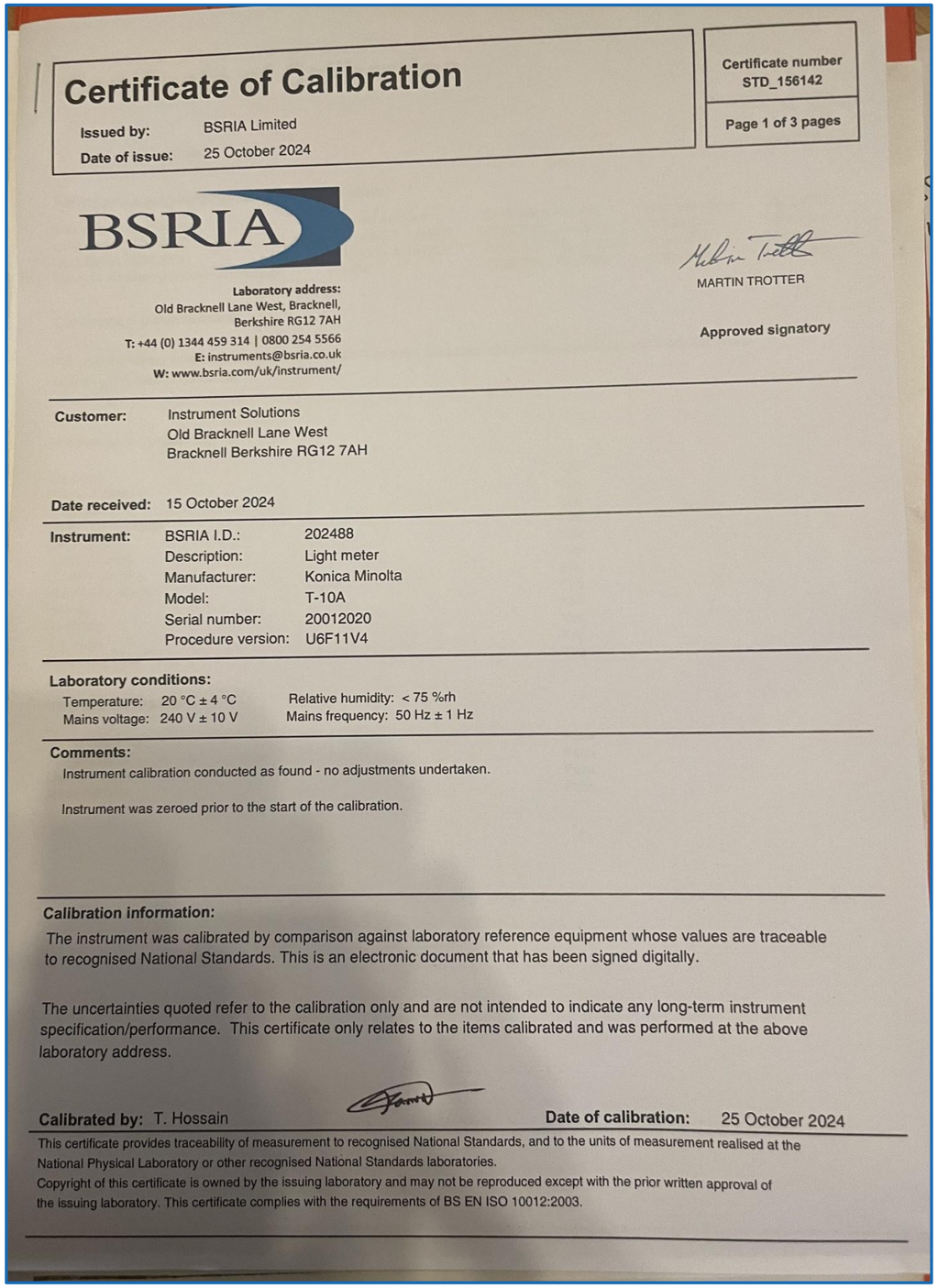
3.2.2. This was done to build an understanding of the existing lit conditions of the Application Site, and what lighting is present in the surrounding area.

3.2.3. Illuminance measurements were taken in the horizontal plane with the illuminance meter being placed on the ground above the measurement point, and in the vertical plane at approximately 1.5m in height facing north, east, south, and west. This totalled 5 illuminance readings per measurement location.

3.2.4. Measurements were taken using a Konica Minolta T-10A illuminance meter (serial number: 20012020) which had a current calibration certificate at the time of the survey (**Figure 2**).

3.2.5. Night-time photography was recorded using the guidance document ILP GN010:2019. This was done at locations across the Application Site and in key locations outside the Application Site.

3.2.6. A DSLR camera was used, and this was mounted on a tripod.



Certificate of Calibration

Certificate number STD_156142

Page 1 of 3 pages

Issued by: BSRIA Limited
Date of issue: 25 October 2024

BSRIA

Laboratory address:
Old Bracknell Lane West, Bracknell,
Berkshire RG12 7AH
T: +44 (0) 1344 459 314 | 0800 254 5566
E: instruments@bsria.co.uk
W: www.bsria.com/uk/instrument/

MARTIN TROTTER
Approved signatory

Customer: Instrument Solutions
Old Bracknell Lane West
Bracknell Berkshire RG12 7AH

Date received: 15 October 2024

Instrument:
BSRIA I.D.: 202488
Description: Light meter
Manufacturer: Konica Minolta
Model: T-10A
Serial number: 20012020
Procedure version: U6F11V4

Laboratory conditions:
Temperature: 20 °C ± 4 °C
Relative humidity: < 75 %rh
Mains voltage: 240 V ± 10 V
Mains frequency: 50 Hz ± 1 Hz

Comments:
Instrument calibration conducted as found - no adjustments undertaken.

Instrument was zeroed prior to the start of the calibration.

Calibration information:
The instrument was calibrated by comparison against laboratory reference equipment whose values are traceable to recognised National Standards. This is an electronic document that has been signed digitally.

The uncertainties quoted refer to the calibration only and are not intended to indicate any long-term instrument specification/performance. This certificate only relates to the items calibrated and was performed at the above laboratory address.

Calibrated by: T. Hossain
Date of calibration: 25 October 2024

This certificate provides traceability of measurement to recognised National Standards, and to the units of measurement realised at the National Physical Laboratory or other recognised National Standards laboratories.
Copyright of this certificate is owned by the issuing laboratory and may not be reproduced except with the prior written approval of the issuing laboratory. This certificate complies with the requirements of BS EN ISO 10012:2003.

Figure 2: Illuminance Meter Certificate of Calibration

3.3. Illuminance Results

3.3.1. Illuminance measurements have been recorded in the locations shown in **Figure 3**.

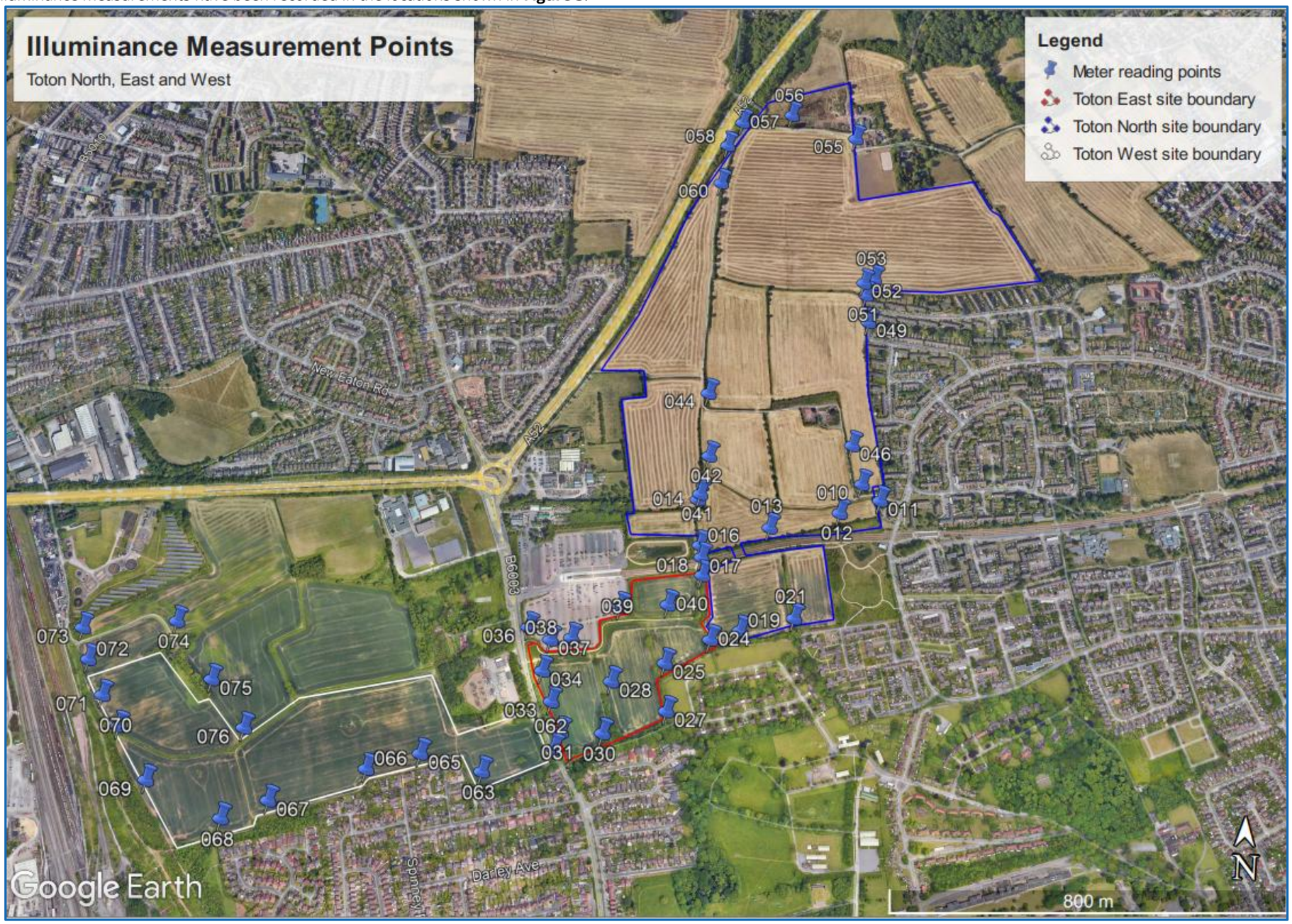


Figure 3: Illuminance Measurement Locations

3.3.2. The full set of illuminance results can be seen in Error! Reference source not found..

Illuminance Measurement Results					
Reading number	**Eh**	**E_v North**	**E_v East**	**E_v South**	**E_v West**
10	0.09	0.08	0.06	0.08	0.08
11	0.06	0.05	0.06	0.04	0.06
12	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00
14	0.03	0.02	0.03	0.04	0.14
16	1.11	0.08	0.09	2.18	1.60
17	0.14	0.38	0.19	0.03	0.07
18	0.04	0.13	0.02	0.04	0.23
19	0.05	0.10	0.04	0.00	0.08
21	0.05	0.08	0.07	0.01	0.07
24	0.05	0.20	0.03	0.03	0.15
25	0.06	0.18	0.07	0.03	0.09
27	6.77	0.33	4.77	7.63	0.30
28	0.06	0.24	0.12	0.03	0.04
30	0.06	0.25	0.06	1.60	0.64
31	2.75	0.46	0.26	2.02	4.20
33	0.55	0.48	0.21	0.22	1.72
34	1.66	0.99	0.36	1.26	5.42
36	4.17	1.58	0.28	4.77	7.20
37	15.31	20.15	4.90	0.66	18.72
39	1.53	3.73	0.31	0.23	1.32
40	0.06	0.15	0.04	0.04	0.24
41	0.08	0.06	0.03	0.09	0.18
42	0.04	0.02	0.04	0.04	0.03
44	0.06	0.10	0.03	0.04	0.10
46	0.05	0.04	0.02	0.03	0.07
49	0.06	0.05	0.01	0.05	0.08
51	0.05	0.06	0.02	0.04	0.08
52	0.05	0.04	0.02	0.04	0.08
53	0.05	0.05	0.04	0.03	0.05
55	0.05	0.09	0.28	0.05	0.06
56	0.04	0.02	0.03	0.05	0.06
57	0.03	0.02	0.02	0.02	0.02
58	0.04	0.03	0.03	0.04	0.03
60	0.04	0.05	0.03	0.14	0.27
62	0.07	0.45	0.42	0.02	0.03
63	0.02	0.02	0.01	0.00	0.02
65	0.02	0.03	0.02	0.00	0.03
66	0.02	0.04	0.02	0.00	0.06
67	0.02	0.03	0.02	0.01	0.06
68	0.02	0.03	0.02	0.02	0.04
69	0.02	0.03	0.02	0.01	0.04
70	0.04	0.02	0.01	0.03	0.06
71	0.23	0.04	0.09	1.11	1.05
72	0.23	0.04	0.49	0.84	0.16
73	0.15	0.03	0.23	0.35	0.37
74	0.02	0.05	0.28	0.46	0.40
75	0.02	0.02	0.02	0.03	0.03
76	0.02	0.02	0.02	0.12	0.11

Table 4: Illuminance Results

3.3.3. The maximum, minimum and average illuminance recorded in the lighting survey can be seen in Error! Reference source not found..

Maximum, Minimum and Average Illuminance Recorded during the Lighting Baseline Survey	
	Illuminance
Maximum	20.15
Minimum	0.00
Average	0.62

Table 5: Summary of Maximum, Minimum and Average Illuminance Results

3.3.4. The majority of the survey area is considered dark, with the majority of illuminance readings taken not exceeding 0.40Lux.

3.3.5. Some parts of the survey area are significantly brighter, particularly in the vicinity of the Toton Lane Tram Stop Park and Ride B6003 – Stapleford Lane, where readings exceed 20 lux in places. This car park dominates the western side of the Toton North site and the northern boundary of the Toton East site. The car park lighting can be seen from most viewpoints within the site boundary, as seen in **Figures 6** and **8** for example. Street lighting along the B6003 Stapleford Lane as seen in **Figures 15** and **16** also create light spill into the adjacent site boundary, along with footpath lighting on the southern boundary of the Toton East site.

3.3.6. The results shown in Error! Reference source not found. and Error! Reference source not found. are typical of suburban locations that contain extensive areas of artificial lighting. This supports the assessment of the environmental zone as E3.

3.3.7. The illuminance results are supported by contextual photography that was recorded across the survey area. These are shown in **Section 0**.

3.4. Day and Night Time Photography

3.4.1. Photographs have been taken in the locations shown in **Figure 4**.

Figure 4: Photography points

Figure 5: Daytime view from photo point 01 facing west towards Toton Lane Park and Ride

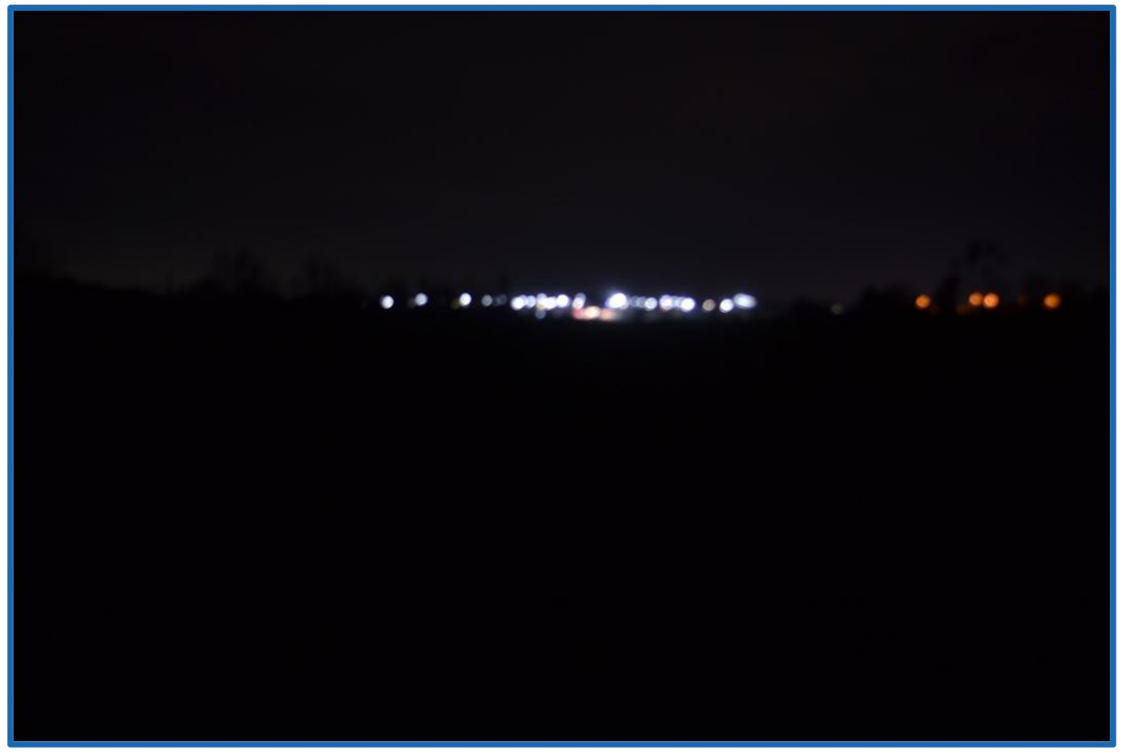


Figure 6: Nighttime view from photo point 01 facing west towards Toton Lane Park and Ride

Figure 7: Daytime view from photo point 05 facing west towards Toton Lane Park and Ride

Figure 8: Nighttime view from photo point 05 facing west towards Toton Lane Park and Ride

Figure 9: Daytime view from photo point 08 facing west towards Toton Lane Park and Ride

Figure 10: Nighttime view from photo point 08 facing west towards Toton Lane Park and Ride

Figure 11: Daytime view from photo point 03 facing west towards Toton Lane Park and Ride

Figure 12: Nighttime view from photo point 03 facing west towards Toton Lane Park and Ride

Figure 13: Nighttime view from photo point 26 facing southwest in the direction of Stapleford Lane

Figure 14: Nighttime view from photo point 32 facing southwest towards Stapleford Lane

Figure 15: Nighttime view from photo point 35 facing north up Stapleford Lane towards the entrance to Toton Lane Park and Ride

Figure 16: Nighttime view from photo point 35 facing south down Stapleford Lane towards residential area

Figure 17: View from photo point 43 facing northwest towards the A52

Figure 18: View from photo point 64 facing west towards the Rail Freight Depot

4. SUMMARY

4.1. Environmental Zone

4.1.1. The area surrounding the Application Site is a broad mixture of commercial uses and suburban settlement interspersed with agricultural land.

4.1.2. There is a large volume of existing artificial lighting in the area for commercial, residential and highway network purposes. This existing lighting is visible across the landscape and is affecting the district brightness of the surrounding area.

4.1.3. Due to the above, the Application Site and the surrounding area has been assessed as an E3 environmental zone based on the descriptions from ILP GN01:2021 (**Table 1**).

4.2. Lighting Baseline

4.2.1. As evidenced in **Section 3**, artificial lighting is prominent in the landscape. However, the direct effects of this lighting are concentrated close to the lit areas. This is shown by the illuminance results detailed in Error! Reference source not found. which were recorded in the proposed location of Toton North, East and West.

4.2.2. This shows that although there is a large presence of existing lighting surrounding the Application Site, there are large areas of relative darkness also within the site.

4.2.3. This indicates that although several of the receptors to lighting identified in **Chapter 16** have direct views of existing lighting, they will not be experiencing significant existing direct effects of lighting. There are likely to be minor direct effects on these receptors by the existing lighting directly adjacent to them, but the further the distance from the existing lighting, the lower the lighting effect will be.

TECHNICAL DESCRPTIONS, DEFINITIONS & ABBREVIATIONS

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 *Iv <of a source, in a given direction> quotient of the luminous flux, dΦv, leaving the source and propagated in the element of solid angle dΩ containing the given direction, by the element of solid angle (unit: cd =lm · 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. *Lv <in a given direction, at a given point of a real or imaginary surface> quantity defined by the formula (unit: cd · m-2 = lm · m-2 · 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. *Ev (unit: lx = lm · m-2) 1. <at a point of a surface> quotient of the luminous flux dΦv 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

Daniel Spreadborough
Senior Engineer

+44 (0)1962 855080

daniel.spreadborough@dfl-uk.com

www.dfl-uk.com/

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