DFL

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DITCHLINGS HARBOROUGH HILL
WEST CHILTINGTON

BASELINE SURVEY

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PROJECT NUMBER:2618		DOCUMENT REF: 2618-DFL-ELG-XX-SU-EO-13001			
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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.



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1. INTRODUCTION

1.1. Executive Summary

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

1.1.2. The report comprises of a desktop and on-site surveys to establish the baseline lighting conditions, which have been undertaken by suitably qualified and competent lighting professionals, holding either an Associate Member (AMILP) or Member (MILP) grade of membership with the ILP. Furthermore, they are professionally registered with the Engineering Council, holding either Engineering technician (EngTech), Incorporated Engineer (IEng) or Chartered Engineer (CEng) status on the Engineering Council register.

1.1.3. The purpose of this report is to summarise the results of the baseline lighting survey, including the on-site survey undertaken on the 19th of February 2024

1.1.4. This survey is to support in discharge planning condition 16 which states the following:

'The lighting scheme hereby permitted shall not be first used until a suitably qualified person has validated that the lighting, as installed, conforms to the recommendations for environmental zone E1 in the ILP document "Guidance Notes for the Reduction of Obtrusive Light GN01-21. The lighting scheme shall not be used until a validation report has been submitted to and approved in writing by the Local Planning Authority. The lighting shall thereafter be retained and maintained in accordance with the agreed details.

1.1.5. Lighting appears to have been installed on and around the development in accordance with the Lighting Strategy provided by DFL, see separate file: 2618-DFL-ELG-XX-RP-EO-13001-S3-P01. The luminaire outlined in **Appendix 3** gives evidence of the light fixture installed at the development as well as the relevant photometric data to prove the light is 0% ULR, lighting has been installed no greater than 2 metres from ground level.

2. DESKTOP STUDY

2.1. Site Description and Context

2.1.1. An indicative boundary of the site and proposed layout can be seen in **Figure 1**.

2.1.2. The Application Site sits under the jurisdiction of Horsham District Council within East Sussex County Council.

2.1.3. Application Site sits within a quiet residential area with limited examples of amenity lighting.

2.2. Survey Area

2.2.1. The area surveyed is shown by the blue line in **Figure 1**.

2.2.2. The survey was conducted in line with PLG04 to support the discharge of planning conditions. Details of the conditions of the baseline survey can be found in **Appendix 2**



Figure 1: The Application Site location and boundary.

3. METHODOLOGY

3.1. Relevant Guidance

3.1.1. This baseline survey has been undertaken in accordance with the Institution of Lighting Professional's (ILP) Professional Lighting Guide (PLG04); and with consideration of the limits on obtrusive light set out within the ILP "Guidance Notes for the Reduction of Obtrusive Light" (GN01:2021).

3.1.2. The baseline survey has been carried out by suitably qualified and competent lighting professionals, as detailed in **Section 1**.

3.2. Illuminance Readings

3.2.1. 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 inward to the development to indicate a viewer looking towards the development.

3.2.2. Only the measurements where the probable viewing angle of the potentially affected receptor have been evidenced in order to not skew the perspective of the reader. All readings were taken at the boundary fence line of the development as the ability to access the properties where light maybe considered "obtrusive" were not able to be obtained at the point of the survey. See **Appendix 3** for the vertical base line survey results as well as the estimated distance to the potential receptor.

3.2.3. Measurements were taken using a Konica Minolta T-10A illuminance meter (serial number: 20015648) which has a current calibration certificate (certificate no: STD_137059) and is widely regarded as the standard instrument for providing a consistent level of accuracy at the low illuminance levels associated with site measurements in locations with typically low ambient luminance. A copy of the calibration certificate can be found in **Appendix 5**.

3.2.4. Horizontal illuminance was not submitted in evidence as a light blocking element stops (solid fencing) horizontal light spill from leaving the site boundaries.

4. EXISTING LIGHTING

4.1. Overview

4.1.1. The wider Application Area is limited in its examples of lighting. The adjacent Harborough Hill is not lit with any street lighting and there are limited examples of amenity lighting.

4.1.2. Lighting has been installed onto the site in line with Lighting Strategy provided by DFL see separate file: 2618-DFL-ELG-XX-RP-EO-13001-S3-P01. The lighting strategy was to discharge planning Condition 16 which states the following:

"The lighting scheme hereby permitted shall not be first used until a suitably qualified person has validated that the lighting, as installed, conforms to the recommendations for environmental zone E1 in the ILP document "Guidance Notes for the Reduction of Obtrusive Light GN01-21. The lighting scheme shall not be used until a validation report has been submitted to and approved in writing by the Local Planning Authority. The lighting shall thereafter be retained and maintained in accordance with the agreed details.'

5. SUMMARY OF RESULTS

5.1. Overview

5.1.1. The highest vertical reading on the boundary of the Site was recorded along to the west of the, which reads 0.76 Lux, this measurement was taken approximately 38 metres (line of site) to the nearest receptor. Lighting has been installed at a sensitive correlated colour temperature of 3000K and 0% upward light. Across the application site, all vertical results on the boundary of the site are below 0.8 lux.

5.1.2. The results of the vertical illuminance measurements area presented in **Appendix 3**.

6. CONCLUSION

6.1. General

6.1.1. This report is provided to outline the baseline lighting conditions found at Ditchlings & Wickets, Harborough Hill, West Chiltington, RH20 2PW.

6.1.2. A desktop assessment and on-site survey were undertaken to determine the nature of the site and its surrounds, and to build a picture of lighting within the site and in the immediate vicinity.

6.1.3. Lighting has been installed onto the site in line with Lighting Strategy provided by DFL see separate file: 2618-DFL-ELG-XX-RP-EO-13001-S3, Appendix 4. The lighting strategy was to discharge planning condition 16 which states the following:

"The lighting scheme hereby permitted shall not be first used until a suitably qualified person has validated that the lighting, as installed, conforms to the recommendations for environmental zone E1 in the ILP document "Guidance Notes for the Reduction of Obtrusive Light GN01-21. The lighting scheme shall not be used until a validation report has been submitted to and approved in writing by the Local Planning Authority. The lighting shall thereafter be retained and maintained in accordance with the agreed details."

6.1.4. Due to the mounting heights of the fittings, distance and viewing angle of the nearest receptor, the light falling on the windows generated by the site, to the residence nearest to the site, is likely to be within limitations of the GN01:2021 guidance for an E1 Environmental Zone.

6.1.5. Observations taken during the survey, indicate that the application site is intrinsically dark, with minimal street lighting and floodlighting present in the immediate vicinity.

6.1.6. During the site survey it was noticed, and evidenced, that the lighting has been installed in line with the Lighting Strategy 2618-DFL-ELG-XX-RP-EO-13001-S3, in combination with the solid close board fencing, this should achieve results compliant with GN01:2021.

APPENDIX 1 – MEASUREMENT POINTS



Figure 2: Survey Measurement Points

APPENDIX 2 – SURVEY INFORMATION

Survey Information	
Site Address	Ditchlings & Wickets Harborough Hill West Chiltington RH20 2PW
Survey Start	6:16pm
Survey Finish	7.16pm
Astronomical Twilight	5.00pm
Weather	Clear
Moon Phase	Moon visible (0.04) 78% Waxing Gibbous

Table 1: Survey Information

https://moonphases.co.uk.

APPENDIX 3 – SURVEY RESULTS

Location	Reading Number	Vertical
Plot 1	02	0.52
	03	0.10
	04	0.73
	08	0.18
	09	0.28
	10	0.20
	18	0.31
	19	0.18
0.07 (BH tree)	20	0.71
	21	0.69
	22	0.76
	23	0.35
	24	0.03

Table 2: Survey Results

APPENDIX 4 – SURVEY PHOTOS & FIXTURE SPECIFICATION

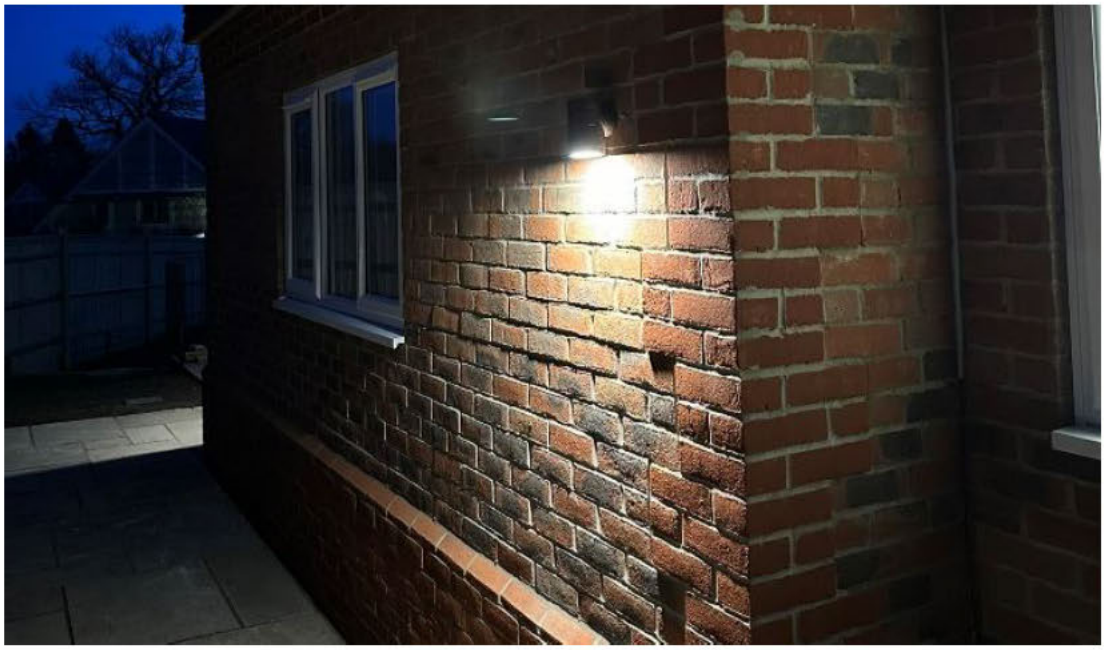


Figure 3: Example of fitting on Dwellings



Figure 4: Whole view of the Dwelling (Plot 1) worst case scenario



Figure 5: luminaires installed



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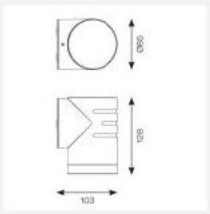
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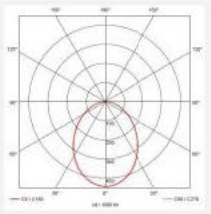
Reef Directional

Category	Wall Lights
Application	Hospitality, Outdoor, Residential, Retail
Specification	Architectural

Reef CCT Directional Wall Light Black
Code: AREELEDWLD







PRODUCT FEATURES

- Durable outdoor directional wall light suitable for residential and hospitality applications
- Choice of matt white or black finishes
- CCT selectable between 3000K, 4000K and 6000K
- Non-dimmable
- Installation in either upward or downward orientation
- Polycarbonate construction ideal for coastal applications
- Unique lockable installation base plate with push fit loop-in loop-out terminals for ease of installation

GENERAL INFORMATION	
Wattage	5W
Lumens Delivered	430lm - 410lm (3000K - 6000K)
Lm/W	85lm/W - 82lm/W (3000K - 6000K)
Beam Angle	90
CRI	80
CCT	3000/4000/6000K
Input	220/240V
Operating Temp	-20°C - 40°C
SDCM	6
Product Weight without Packaging	0.215 kg

TECHNICAL INFORMATION	
Light Source	LED
Colour / Finish	Black
IP Rating	IP65
Class Protection	2
Internal / External	Internal / External
Surface / Recessed / Suspended	Wall
Lumen Depreciation	L80 54,000h
Warranty (Years)	3
CE Mark	Yes
Diameter	85 mm
Height	128 mm

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Figure 6: Reef Datasheet

APPENDIX 5 – CALIBRATION CERTIFICATE

Certificate of Calibration

Issued by: BSRIA Instrument Solutions - A division of BSRIA Limited

Date of issue: 18 August 2023

Certificate number
STD_145652

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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/

[redacted]
MATT NEWLAND
Approved signatory

Customer: Designs for Lighting UK Ltd
Fao Fran Goodyear 17 City Business Centre Hyde Street
Winchester Hampshire SO23 7TA

Date received: 02 August 2023

Instrument:

BSRIA I.D.:	129521
Description:	Light meter
Manufacturer:	Konica Minolta
Model:	T-10A
Serial number:	36621008
Procedure version:	BLT264V1

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.
This certificate only relates to the range shown within.
At time of calibration the instrument was fitted with the measurement head serial number 55611050.

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.

[redacted]

Calibrated by: D. M. Tovey **Date of calibration:** 18 August 2023

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.

Certificate of Calibration

As Found Results

Certificate number
STD_145652

Reference equipment used in the calibration:

Instrument description	Serial number	Certificate number	Last cal. date	Cal. period
Light Bench (ZZMLB02)	18425/2 & 18426/1	ZZMLB02 - 2023	02/03/2023	12 Months
Light Bench (ZZMLB03)	18425/1 & 18427/1	ZZMLB03 - 2023	02/03/2023	12 Months
Distance Measuring System (ZZMLB04)	4816	ZZMLB04 - FEB 2023	08/02/2023	12 Months

Calibration uncertainties:

Illuminance : 0 to 2000 lux ±5 % of applied value or 0.1 lux whichever is greatest.
Measurement uncertainty equals the above plus the devices resolution as reported in the results section, added in quadrature.

Calibration procedure, Illuminance:

The instrument was calibrated against laboratory standards which are themselves traceable back to National Standards.

The illuminance measurements were conducted in accordance with the methodology contained in BS 667 using a tungsten filament lamp with a colour temperature of 2856 k. Illuminance levels were calculated using an inverse square law with respect to distance away from a tungsten filament lamp source.

The light meters reference plane was taken to be the front face of the diffuser.

The illuminance meter was zeroed prior to calibration.

Calibration results, Illuminance:

Range	Applied	Indicated	Correction	Specification	% of Spec.	Comment
Auto	0.00 lux	0.00 lux	0.00 lux	±0.01 lux	0.0 %	
	50.0 lux	50.6 lux	-0.6 lux	±1.1 lux	54.5 %	
	100.0 lux	100.6 lux	-0.6 lux	±2.1 lux	28.6 %	
	250.0 lux	248.8 lux	1.2 lux	±5.1 lux	23.5 %	
	500.0 lux	494 lux	6.0 lux	±11.0 lux	54.5 %	
	1000.0 lux	987 lux	13.0 lux	±21.0 lux	61.9 %	
	2000.0 lux	1966 lux	34.0 lux	±41.0 lux	82.9 %	

Any test points marked with a * do not comply with instrument specification.

End.

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



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