

C121 Units 1 – 7 Stonefield Way Ruislip

External Lighting Report



Dale Nettle 20.03.20

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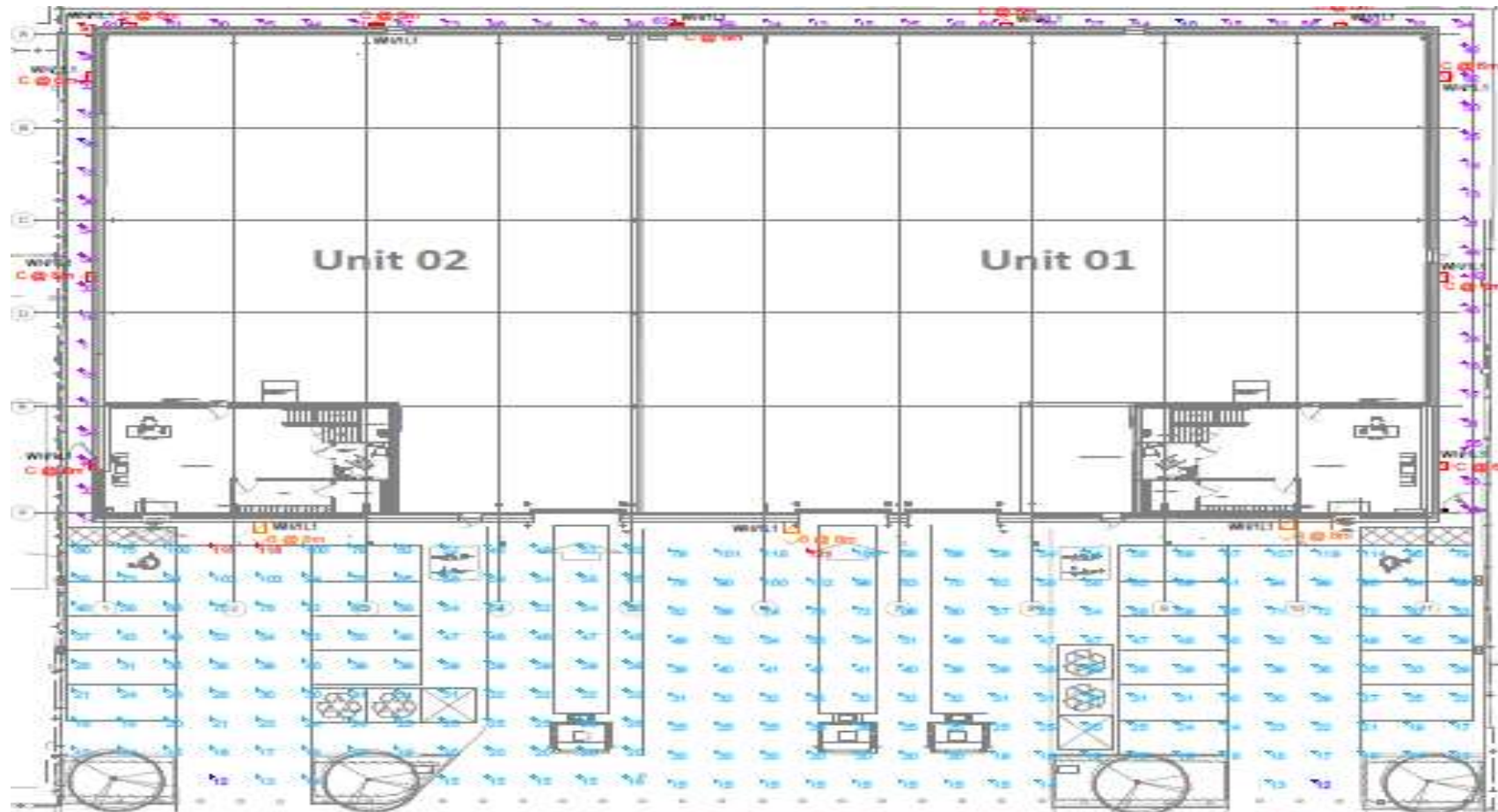
Introduction

1. This report provides a detailed overview of the proposed new external lighting installation for the new warehouse and office development on Stonefield Way, Ruislip, Middlesex HA4 0YH.
2. The total lighting scheme covers all the external areas incorporating the buildings, including all external areas to the dock/entrance doors, car parking spaces, HGV parking spaces, cycle storage areas, loading bays, services yards and access roads.
3. The scheme is based on the use of LED luminaires fixed to the building façades as detailed on the original proposal.

New Proposal

1. The lighting solution has been prepared in accordance with the current Design Standard for Exterior Lighting in conjunction with BS5489 and CIBSE LG6, The Outdoor Environment.
2. Care has been taken when selecting the luminaires that ensures the appropriate products will greatly reduce spill light and glare to and around site boundaries and prevent sky glow.
3. Full cut-off luminaires, horizontal, “flat” floodlights and lamps that are housed in the luminaires canopy have been selected.
4. Best lighting practice design guidelines have been followed in order to achieve the criteria outlined in The Institution of Lighting Professionals: Guidance Notes for the Reduction of Obtrusive Light, 2011, covering Environmental Zones E0 to E4.
5. With the proposed luminaires not having an upward light ratio (ULR) of more than 0% and strategically placed the proposed design solution meets the criteria of environmental zone E2, Lighting Environment classification of Low District Brightness

Lighting Design Units 1&2



Lighting Design Units 1&2



C121 STONEFIELD WAY RUISLIP



Statistics					
Description	Symbol	Avg	Max	Min	Min/Avg
Unit 1 & 2 Rear Perimeter	+	10 lux	19 lux	5 lux	0.50
Unit 3-7 Rear Perimeter	+	11 lux	25 lux	5 lux	0.45
Units 1 & 2 Car Park & Service	+	42 lux	89 lux	13 lux	0.31
Units 3-7 Car Park & Service	+	46 lux	102 lux	13 lux	0.28

Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lumens per Lamp	LLF	Wattage
△	A	5	Lighting Project Solutions	KN1154T4	Keno low profile area luminaire. 115W, 18975lm, 4K, type 4 optic	19327	0.9	116.32
△	B	3	Lighting Project Solutions	KN1804KT4	Keno low profile area luminaire. 180W, 30600lm, 4K, type 4 optic	30683	0.9	180.36
△	C	20	Lighting Project Solutions	RV2104KAY	Riva 2 Wall luminaire 10w LED 4K Asymmetric	3675	0.9	10



Luminaire Details

The proposed LED Luminaires are highly efficient and flat to ground meaning that spill will be minimal whilst still attaining the performance to achieve adequate light levels. LED luminaires have the ability for instant on/off operation and do not require any restart time.

Due to the nature of LED being a solid-state technology less maintenance is required negating the need for lamp changes etc. All proposed luminaires have 0% upward light and consist of an LED chip with a lens on each chip which enables a specific distribution pattern.



Breeam



BREEAM New Construction 2018 (UK)

Stonefield Close, South Ruislip, Middlesex

Qty	Range	Light Source	Lamp Lumens	Circuit Watts	Lm/W	LOR	Total Luminaire Lumens	ULOR	Upward Lmns	RA	ART Hour Per Day	CO ₂ Calculation for year	
												CO ₂ (Tonnes)	Kw/hour
5	Keno	LED	19327	115	168.06	100.0%	96635	0.0%	0	70	12	1.31	2487.45
3	Keno	LED	30683	180	170.46	100.0%	92049	0.0%	0	70	12	1.23	2336.04
19	Keno	LED	1225	10	122.50	100.0%	23275	0.0%	0	70	12	0.43	821.94

Electricity cost per kWh	£0.11
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Burning hours		4326
hrs/day	days/week	weeks
12	7	51.5

Total Installation Lumens	211959.00
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0

Total ULR	0.00%
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Table 1 compliance

Environmental zone	E2
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Sky Glow	Target	Achieved	Status
	2.50%	0.00%	Pass

Source Intensity (candelas)				
Pre curfew		7,500	0	Pass
Post curfew		500	0	Pass

Light Trespass into windows (Lux)				
Pre curfew		5	0	Pass
Post curfew		1	0	Pass

Building Luminance (cd/m ²)	5		
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Compliance Status:				
Pol 04			Reduction of night time light pollution	Pass
Ene 03			Energy efficient external lighting	Pass
Hea 01			Internal and external lighting levels	Pass

Note - HEA01 In this report only applies to exterior lighting

Total CO ₂ per year (Tonnes)	2.98
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Total Electrical consumption (Kw)	1.31
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Total Electrical consumption per year (Kwh)	5,645.43
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Average luminaire lumens per circuit Watt	162.42
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Summary

1. The solution has been carefully considered to ensure the immediate environment has been protected including the adjoining property areas that border the development.
2. The spill light from the site has been minimized to reduce the impact on surrounding areas and mitigate the potential impact within any ecology zones.
3. Careful consideration has also been taken to ensure no loss of amenity due to glare through the choice of luminaires and efficient mounting heights.