



LUX LEVEL ISOLINE PLOT

INTRODUCTION

THE LIGHTING CALCULATION HAS BEEN BASED ON THE FOLLOWING DRAWINGS ISSUED BY AEV ARCHITECTS: DRAWING NUMBER 11302-AEW-XX-SI-DR-A-0610-S2-P01 AND DRAWINGS ISSUED BY CWJ LANDSCAPE ARCHITECTS: 220525_2206-CWJS-XX-GF-DR-L-XXXX

LIGHTING DESIGN NOTES

- THE LIGHTING DESIGN HAS BEEN DEVELOPED AND DETAILED IN ACCORDANCE WITH LUMINAIRE POSITIONS AND LUMINAIRE SELECTIONS OUTLINED.
- THE EXTERNAL LIGHTING DESIGN HAS BEEN ASSESSED AGAINST ENVIRONMENTAL ZONE E3 WHICH IS DESCRIBED AS MEDIUM DISTRICT BRIGHTNESS AREAS (I.E. SUBURBAN LOCATIONS). THIS INFORMATION IS INDICATED IN TABLE 2 DESIGN GUIDANCE IN THE ILP GUIDANCE NOTES FOR THE REDUCTION OF OBTUSIVE LIGHT GN01:2021

THE LIGHTING INSTALLATION SHALL BE CAREFULLY CONSIDERED TO ENSURE PROVISION OF APPROPRIATE PHYSICAL AND SPECTRAL PROPERTIES AS FOLLOWS:

- WARM COLOUR TEMPERATURE <3000K
- MINIMIZE THE SPREAD OF LIGHT ABOVE THE HORIZONTAL
- USE NARROW SPECTRUM LIGHT SOURCES
- LUMINAIRES ON THE SITE TO FACE INWARDS TO THE SITE TO REDUCE SPILL ONTO THE SURROUNDING AREA
- BOLLARD HEIGHTS TO BE KEPT BELOW 0.8M
- UTILISE LED LIGHTING ONLY TO CONTROL THE LIGHT AND MINIMISE UNWANTED LIGHT SPILL.

LIGHTING CONTROLS

ALL EXTERNAL LIGHTING WILL BE CONTROLLED VIA PHOTOCELL/TIMELOCK. NOTE: THE ILP THE INSTITUTION OF LIGHTING ENGINEERS GUIDANCE NOTES FOR THE REDUCTION OF OBTUSIVE LIGHT GN01:2021 SUGGESTED CURFEW TIME IS 2300hrs FOR EXTERNAL LIGHTING.

LIGHTING STANDARDS

THE EXTERNAL LIGHTING DESIGN HAS BEEN DESIGNED IN LINE WITH THE FOLLOWING DESIGN STANDARDS:

- ILP THE INSTITUTION OF LIGHTING ENGINEERS GUIDANCE NOTES FOR THE REDUCTION OF OBTUSIVE LIGHT GN01:2021
- ILP GUIDANCE NOTE GN08:2018: BATS AND ARTIFICIAL LIGHTING IN THE UK
- INSTITUTE OF LIGHTING PROFESSIONALS (ILP FORMALLY THE IES), LIGHTING AGAINST CRIME: A GUIDE FOR CRIME REDUCTION PROFESSIONALS (JANUARY 2011)

ISOLINES

- 0.2 lx
- 0.5 lx
- 1.0 lx
- 2.0 lx
- 5.0 lx
- 10.0 lx
- 15.0 lx
- 20.0 lx
- 30.0 lx
- 40.0 lx
- 50.0 lx

DESIGN PARAMETERS

- THE SITE HAS BEEN LIT TO NON-ADOPTABLE STANDARDS. THEREFORE THERE ARE SECTIONS OF ROADWAY/PEDESTRIAN PATH WHICH ARE UNLIT.
- THE LUMINAIRES ARE POSITIONED IN KEY LOCATIONS FOR EXAMPLE ALONG THE NEW ROAD ON THE SITE AND THE MAIN CAR PARK AREAS. THIS HELPS TO MINIMIZE RISK BUT WITHOUT PROVIDING A UNIFORM LEVEL OF LIGHTING ALONG THE ROADWAY/PEDESTRIAN PATH.

CRITERIA

THE SITE HAS BEEN CLASSED AS AN E3 ENVIRONMENTAL ZONE WITHIN THE ILP GUIDANCE NOTES OF THE REDUCTION OF OBTUSIVE LIGHT. THEREFORE THE FOLLOWING STANDARDS MUST BE MET:

- UPWARDS LIGHT RATIO (ULR) - 5%
- ILLUMINANCE IN THE VERTICAL PLANE (LUX) - 10 (PRE-CURFEW), 2 (POST-CURFEW)
- MAXIMUM LUMINOUS INTENSITY EMITTED BY LUMINAIRES (CD) - 10,000 (PRE-CURFEW), 1000 (POST-CURFEW)
- BUILDING LUMINANCE (CD/M²) - 10

THE ILLUMINANCE IN THE VERTICAL PLANE POSITIONS HAVE BEEN PLACED TO THE NORTH, EAST, SOUTH AND WEST WHERE RESIDENTIAL HOUSES ARE LOCATED. LIGHT INTENSITY POINTS ARE ALSO PLACES TO THE NORTH, EAST, SOUTH AND WEST RESIDENTIAL AREAS, AND WITHIN THE ADJACENT TREE-LINE.

THE MAINTENANCE FACTOR OF THE ISOLINES LUX PLOT HAS BEEN SET TO 1.0 AS PER THE DAY ONE INSTALLATION.

Luminaires Legend					
Index	Manufacturer	Article name	Luminous flux	Connected load	Quantity
B1	BEGA	24372K3	616 lm	7 W	11
C1	Cooledge	TILE Exterior 300 lm/sf	300 lm	2.8 W	100
A1a	Selux	Line M6 asym wide, Louvre, Gold	1600 lm	15 W	6
A1b	Selux	Line M6 asym wide, Louvre, Gold & Line M3 asym wide, Louvre, Gold	1600 lm + 800lm	27 W	26

ILP GUIDANCE NOTES ON THE REDUCTION OF OBTUSIVE LIGHT 2

BASED ON MAINTENANCE FACTOR OF 1.0	UPWARDS LIGHT RATIO - ULR [MAX %]	ILLUMINANCE IN THE VERTICAL PLANE [LUX] (E _v)		MAXIMUM LUMINOUS INTENSITY EMITTED BY LUMINAIRES [CD] (I _v in cd)		BUILDING LUMINANCE PRE CURFEW	PASS OR FAIL
		PRE CURFEW	POST CURFEW	PRE CURFEW	POST CURFEW	AVERAGE L [cd/m²]	
ENVIRONMENTAL ZONE E3	5%	10	2	10,000	1,000	10	TARGET
ULR	2.84						PASS
WINDOW A (NORTH)		0.020	0.020				PASS
WINDOW B (SOUTH-EAST)		0.058	0.058				PASS
WINDOW C (SOUTH-WEST)		0.060	0.060				PASS
WINDOW D (WEST 1)		0.2	0.2				PASS
VIEW A (NORTH)				2.53	2.53		PASS
VIEW B (SOUTH-EAST)				1.03	1.03		PASS
VIEW C (SOUTH-WEST)				11.49	11.49		PASS
VIEW D (NORTH-EAST)				4.84	4.84		PASS
VIEW E (NORTH)				216	216		PASS
BUILDING LUMINANCE A						1.92	PASS

BASED ON MAINTENANCE FACTOR OF 0.75	ILLUMINANCE LEVEL (LUX)		UNIFORMITY (UO)		TARGET
AREA	REQUIREMENT	RESULT	REQUIREMENT	RESULT	TARGET
Road	10	12.4	Emin 1	1.87	PASS

1022906

A0

Based on:	Rev
Architect	Rev
Structural Drg No.	Rev
Survey Drg No.	Rev
Other Drg No.	Rev
Other Drg No.	Rev

THIS DRAWING MAY INDICATE ELEMENTS RELATED TO FIRE SYSTEMS. THESE ARE INDICATIVE ONLY AND FINAL NUMBER, POSITIONING AND PERFORMANCE MUST BE ESTABLISHED AS PART OF THE CDP WORKS TO MAINTAIN THE INTENT OF THE DESIGN FIRE STRATEGY.

NOTES:

- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTURAL, STRUCTURAL AND ENGINEERING SERVICES DRAWINGS, SPECIFICATIONS, SCHEDULES AND PROJECT SPECIFIC DOCUMENTS.
- ALL PLANT AND EQUIPMENT IS TO BE INSTALLED TO MANUFACTURER'S RECOMMENDATIONS, ALLOWING FULL ACCESS FOR COMMISSIONING, MAINTENANCE AND REMOVAL/REPLACEMENT.
- ALL DIMENSIONS IN mm UNLESS OTHERWISE STATED.
- DO NOT SCALE FROM THIS DRAWING.
- FOR SYMBOLS SEE DRAWING XXXX(XX)XXXX.

SYSTEM DESCRIPTION

- CHECK THE LIGHTING INSTALLATION CO-ORDINATION AND POSITIONS WITH THE ARCHITECT'S DESIGN DETAILS. CHECK THE CO-ORDINATION OF ANY MEP SERVICES, SUCH AS FIRE ALARM, SECURITY DEVICES ETC. CHECK THE CO-ORDINATION WITH ANY CIVIL/ENGINEERING SERVICES SUCH AS DUCTING ETC.
- REFER TO MANUFACTURER'S INSTALLATION GUIDES TO ENSURE CORRECT INSTALLATION METHOD FOR EACH TYPE OF LUMINAIRE.
- ALL LUMINAIRES ARE TO BE LED.
- INCLUDE ALL ANCILLARY EQUIPMENT SUCH AS DRIVERS, FLOOR BOXES, MOUNTING BRACKETS, OUTER CASINGS, CONNECTORS, INSTALLATION CLIPS ETC.
- ALL LUMINAIRES ARE TO BE LEFT IN A CLEAN CONDITION ON COMPLETION AND CARE SHALL BE TAKEN TO ENSURE ALL GLASS COVERS, FILTERS ETC ARE DUST FREE.

LIGHTING CONTROL

- ALL LUMINAIRES ARE TO BE CONTROLLED VIA PHOTOCELL SENSORS WITH ON/OFF.
- ALLOW FOR SET CURFEW TIME TO BE AGREED WITH THE COUNCIL.
- THE CONTRACTOR SHALL CHECK PRIOR TO ORDERING THAT ALL LIGHTING CONTROL EQUIPMENT AND ALL LUMINAIRES ARE COMPATIBLE AND WILL DELIVER A COMPLETE SYSTEM.

PO1	27/05/22	ISSUED FOR STAGE	KC	MT	-
Issue	Date	Description	By	Chkd	Verd

Project
JD SPORTS HQ BURY

Client
JD SPORTS

Title
LIGHT POLLUTION ASSESSMENT
EXTERNAL LIGHTING

Drawing Status
S4 - ISSUED FOR STAGE APPROVAL

Project No.
1022986

Scale
1:250

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