

LUX LEVEL ISOLINE PLOT

INTRODUCTION

THE LIGHTING CALCULATION HAS BEEN BASED ON THE FOLLOWING DRAWINGS BY SIMPSONHAUGH : DRAWING NUMBER - 1000-SHAZZA-G00-SK-10-131 P01

LIGHTING DESIGN NOTES

- THE EXTERNAL LIGHTING DESIGN HAS BEEN ASSESSED AGAINST ENVIRONMENTAL ZONE E4 WHICH IS DESCRIBED AS HIGH DISTRICT BRIGHTNESS, TOWN/CITY CENTRES WITH HIGH LEVELS OF NIGHT TIME ACTIVITY. THIS INFORMATION IS INDICATED IN TABLE 2 DESIGN GUIDANCE IN THE ILP GUIDANCE NOTES FOR THE REDUCTION OF OBTRUSIVE 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 (WHERE APPROPRIATE) TO REDUCE SPILL ONTO THE SURROUNDING AREA
- UTILISE LED LIGHTING ONLY TO CONTROL THE LIGHT AND MINIMISE UNWANTED LIGHT SPILL

LIGHTING CONTROLS

ALL LUMINAIRES (EXCEPT BATTERY POWERED LUMINAIRES) WILL BE CONTROLLED VIA PHOTOCELL SENSORS. A PHOTOCELL AND TIME-CLOCK BASED LIGHTING CONTROL SYSTEM SHOULD BE CONSIDERED AS MINIMUM PROVISION.

LIGHTING STANDARDS

THE EXTERNAL LIGHTING DESIGN HAS BEEN ASSESSED AGAINST THE FOLLOWING DESIGN STANDARDS

- ILP THE INSTITUTION OF LIGHTING PROFESSIONALS GUIDANCE NOTES FOR THE REDUCTION OF OBTRUSIVE LIGHT GN01.2021

THE EXTERNAL LIGHTING HAS BEEN DESIGNED IN ACCORDANCE WITH:

- BS EN 12464-2:2014 LIGHTING OF OUTDOOR WORKPLACES

DESIGN PARAMETERS

THE SITE HAS BEEN CLASSED AS AN E4 ENVIRONMENTAL ZONE WITHIN THE ILP GUIDANCE NOTES OF THE REDUCTION OF OBTRUSIVE LIGHT, THEREFORE THE FOLLOWING STANDARDS MUST BE MET:

- UPWARDS LIGHT RATIO (ULR) - 15%
- ILLUMINANCE IN THE VERTICAL PLANE (LUX) - 25 (PRE-CURFEW), 5 (POST-CURFEW)
- MAXIMUM LUMINOUS INTENSITY EMITTED BY LUMINAIRES (CD) - 25,000 (PRE-CURFEW), 2,500 (POST-CURFEW)
- BUILDING LUMINANCE (CD/M²) - 25

THE ILP GN01.2021 SUGGESTED CURFEW TIME IS 2300hrs FOR THE EXTERNAL LIGHTING WITHIN THE SITE.

THE PROPOSED PLANTING HAS NOT BEEN INCLUDED WITHIN THE CALCULATIONS.

15NO ADDITIONAL TEMPORARY BATTERY POWERED LUMINAIRES (WHICH HAVEN'T BEEN INCLUDED IN THE CALCULATIONS) WILL PROVIDED. THESE LUMINAIRES ARE DESIGNED TO BE POSITIONED ON TABLES AND WILL BE USED DURING EVENTS. WHEN AN EVENT IS NOT TAKING PLACE THESE WILL BE STORED INDOORS FOR CHARGING.

THE PROPOSED TERRACE IS LOCATED ON THE 10TH FLOOR THEREFORE ONLY SURROUNDING BUILDINGS THAT OVERLOOK THE L10 TERRACE HAVE BEEN IDENTIFIED AS RECEPTORS.

TO THE SOUTH EAST OF THE SITE, AN OFFICE BUILDING WITH GLAZING ON THE 10TH FLOOR HAS BEEN IDENTIFIED AND BOTH VERTICAL PLANES AND SOURCE INTENSITY POINTS HAVE BEEN PLACED TO ASSESS THE SPILL LIGHT. FOLLOWING A DESKTOP REVIEW, THE ILLUMINANCE INTENSITY POINTS AND VERTICAL PLANES HAVE BEEN DETERMINED AT ~0.0M ABOVE THE HEIGHT OF THE PROPOSED TERRACE.

THE BUILDING LUMINANCE HAS BEEN ASSESSED ON EACH FACADE ON THE TERRACE AND THE BUILDING SURFACE WITH THE HIGHEST VALUE HAS BEEN ADDED TO THE RESULTS TABLE.

THE MAINTENANCE FACTOR OF THE ILLUMINANCE LEVEL ASSESSMENT HAS BEEN SET TO 1.0 AS PER THE DAY ONE INSTALLATION.

SUMMARY

THE DESIGN COMPLIES WITH THE ILP GUIDANCE NOTES ON THE REDUCTION OF OBTRUSIVE LIGHT.

ILP GUIDANCE NOTES ON THE REDUCTION OF OBTRUSIVE LIGHT							
	UPWARD S LIGHT RATIO - ULR [MAX %]	ILLUMINANCE IN THE VERTICAL PLANE [LUX] (E _v)		MAXIMUM LUMINOUS INTENSITY EMITTED BY LUMINAIRES [cd] (I in cd) ^a		BUILDING LUMINANCE PRE CURFEW	PASS OR FAIL
		PRE CURFEW	POST CURFEW	PRE CURFEW	POST CURFEW	AVERAGE L [cd/m ²]	
ENVIRONMENTAL ZONE E4	15.0	25	5	25,000	2,500	25	TARGET
ILLUMINANCE LEVEL ASSESSMENT RESULTS							
ULR	6.38						PASS
ILLUMINANCE IN THE VERTICAL PLANE 1		1.07	1.07				PASS
LUMINOUS INTENSITY POINT A				128.00	126.00		PASS
LUMINOUS INTENSITY POINT B				196.00	196.00		PASS
LUMINOUS INTENSITY POINT C				155.00	155.00		PASS
BUILDING LUMINANCE A						2.19	PASS

BUILDING LUMINANCE A

TYPE D TO BE MOUNTED INTO THE BASE PLATE OF THE GLAZED BALLUSTRADE

TYPE E LED STRIP TO BE CONCEALED WITHIN UNDERSIDE OF PLANTER. LUMINAIRE IS TO BE HIDDEN FROM VIEW.

LUMINOUS INTENSITY POINT C

LUMINOUS INTENSITY POINT B

LUMINOUS INTENSITY POINT A

ILLUMINANCE IN THE VERTICAL PLANE A

1043023

A0

Based on:
Architects Drg No. Rev
Structural Drg No. Rev
Survey 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.

LIGHTING LEGEND

LUMINAIRE TYPE A - LINEA LIGHT ; ILAMT WALL LIGHT ; 125LM ; ZW ; 2700K LED ; NARROW OPTIC

MOUNTED AT 3.9M ON EXISTING COLUMN



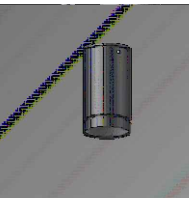
LUMINAIRE TYPE B - LINEA LIGHT ; SHAKER ACCENT SPIKE LIGHT ; 178LM ; 3W ; 2700K LED ; MEDIUM BEAM ANGLE

MOUNTED WITHIN PLANTERS



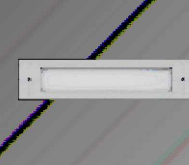
LUMINAIRE TYPE C - WE-EF ; DAC110 SURFACE MOUNTED EXTERNAL DOWNLIGHT ; 817LM ; 14.5W ; 2700K LED, WALL WASH OPTIC

MOUNTED TO UNDERSIDE OF CANOPY 4M



LUMINAIRE TYPE D - WE-EF ; ST0134/VA LOW LEVEL WALL LIGHTS ; 75LM ; 5.8W ; 2700K LED

0.2M MOUNTING HEIGHT.



LUMINAIRE TYPE E - PROLED ; FLEX STRIP IP68 400 HE+ MONO ; 988LM P/M ; 14.4W P/M ; 2700K LED

INTEGRATED UNDER PLANTERS



PO1 10/10/24 ISSUED FOR PLANNING LS ND
Issue Date Description Chkd Verfd

Project
1 HARDMAN BOULEVARD
MANCHESTER

Client
PARTHENA REYS

Title
ILLUMINANCE LEVEL ASSESSMENT

Drawing Status
S4 - ISSUED FOR STAGE APPROVAL

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