

Blake's Stillorgan



Site Lighting Report

20_D037 Blake's Stillorgan

29th March 2022

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CURRENT ISSUE			
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PREVIOUS ISSUES (Type Names)				
Issue No:	Date:	Originator:	Checker:	Reason For Issue:
P1	12/06/2020	Raul Turcu	Peter Farrell	Issue for Planning
P2	20/09/2021	Raul Turcu	Peter Farrell	Draft Issue for Planning
P3	24/09/2021	Raul Turcu	Peter Farrell	Issue for Planning
P3	06/10/2021	Raul Turcu	Peter Farrell	Pre-Planning

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1. Executive Summary

The document outlines the proposed site lighting infrastructure to the development and is based on developed architectural design drawings produced by O'Mahony Pike Architects (OMP) and discussions at recent meetings with Cairn PLC, Architects, Civil/Structural Engineers, Project Managers, and Cost Consultants.

The development will consist of the construction of a mixed use scheme of 377 no. "Built to Rent" BTR apartments, Community Sports Hall (933 sq. m), along with 5 no. restaurant/cafés (c. 841.2 sq.m), creche (c. 215 sq. m), office hub (195.3 sq. m) and ancillary residents' support facilities/services (1,016 sq. m) laid out in 6 no. blocks ranging in height from 3-9 storeys (over basement) comprising 21 no. studio apartments, 189 no. 1 bedroom apartments, 159 no. 2 bedroom apartments & 8 no. 3 bedroom apartments, and public realm upgrades on a site of c. 1.41 hectares.

This external lighting report is based upon the following requirements;

- Provide adequate illumination to contribute towards the safe use of the site by both vehicles and pedestrians.
- Enhance site security.
- Provide a visually interesting environment.
- Contain the lighting within the site to lighting levels which will not impact on the neighbouring surroundings.
- Safe access to fire assembly points.
- Minimise light pollution, sky glow and visual glare for pedestrians and surrounding areas.

The external lighting is designed using the lighting simulation software DIALux and is in accordance with the following:

- CIBSE Lighting Guide LG – 6
- IS EN 12464-2
- BS5489 – 2020
- BS8300-1
- CIE Guide regarding Illumination levels and "Obtrusive Light" to neighbouring properties
- HSA Regulations for Electricity
- ETCI National Rules for Electrical Installations ET 10101

2. Design Criteria

The design criteria is based upon the following:

Area	Lighting Levels (Lux)
Public Roadways (DLRC Ownership)	1cd/m ² (Average)
Access Routes	5 (Flat) (Average) 30 (Ramp/Steps) (Average) 100 (Ramps/Steps close to Entrance) (Minimum)
Security concern areas	5-15 (Minimum)
Walkways exclusively for pedestrians	5 (Average)
Traffic area with slow moving vehicles (max 10km/h)	10 (Average)
Regular vehicle traffic (max. 40km/h)	20 (Average)
Overspill Areas	5 (Average)

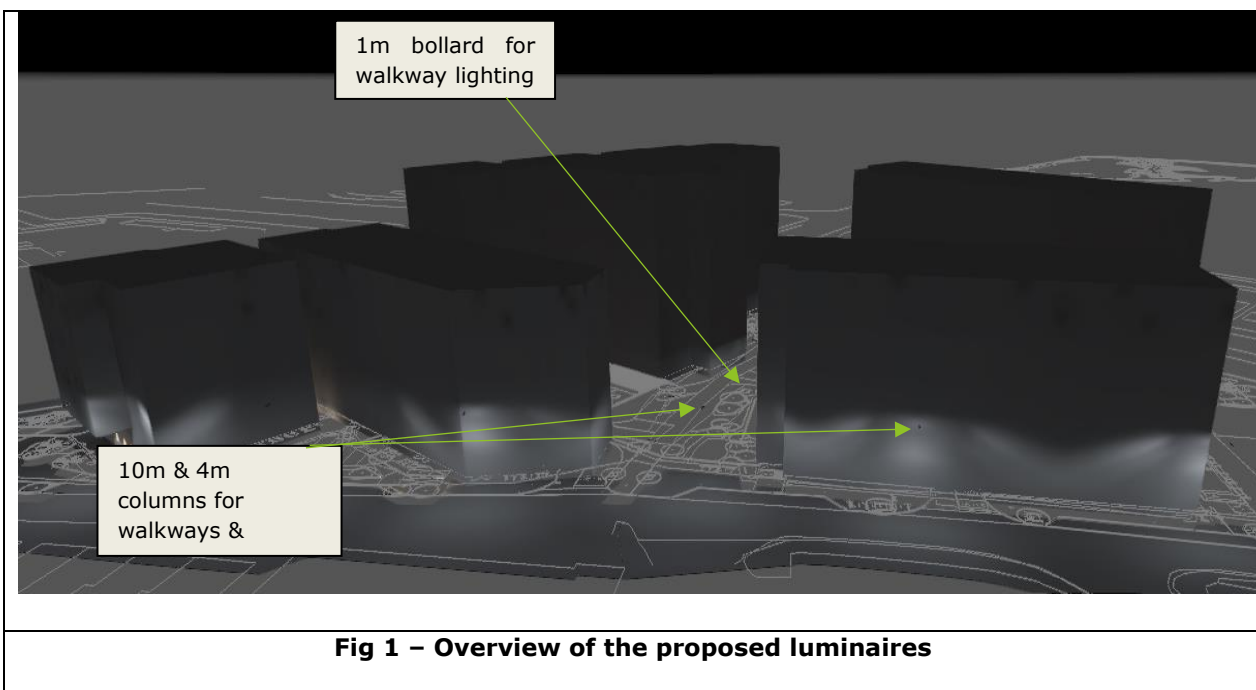
3. Proposed Site Lighting Installation

The proposed site lighting installation comprises of 10 meter high post top column lighting for public roadways and a combination of 4 meter columns, wall mounted fittings, handrails and bollards to light the pedestrian access routes.

The proposed 4 meter column with post top luminaires will illuminate the access route to achieve an average illumination level of 5 lux. The photometric curve for the proposed LED luminaire indicates how the light output is directed downwards with no risk of "Sky Glow".

The proposed 1 meter bollards will illuminate the access routed between the buildings to achieve an average illumination level of 5 lux.

It is proposed to provide handrail luminaires to the stairs and ramps to achieve the 30 lux to comply with BS8300-1 requirements.



Refer to Appendix 2 for location of all luminaires.

4. Results

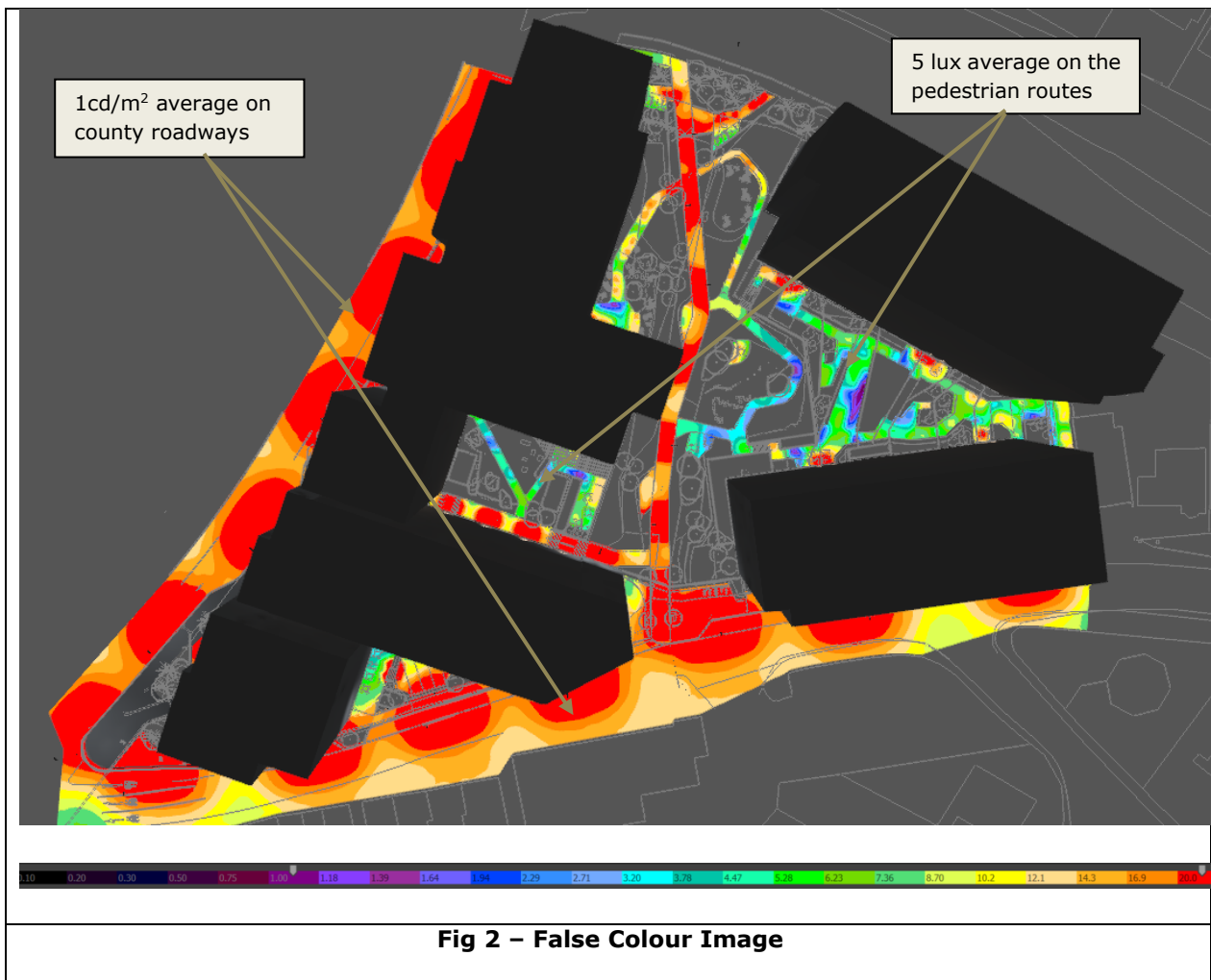
Figure 2 below indicates the illumination lighting levels on walkways and road area. Illumination is indicated using a colour scale.

The roadway illumination achieves over $1\text{cd}/\text{m}^2$ average in accordance with DLRC lighting specification and BS 5489.

The pedestrian illumination achieves over 5 lux average on flat areas and 30 lux average on ramps and steps as per the lighting standards and lighting standards for access areas.

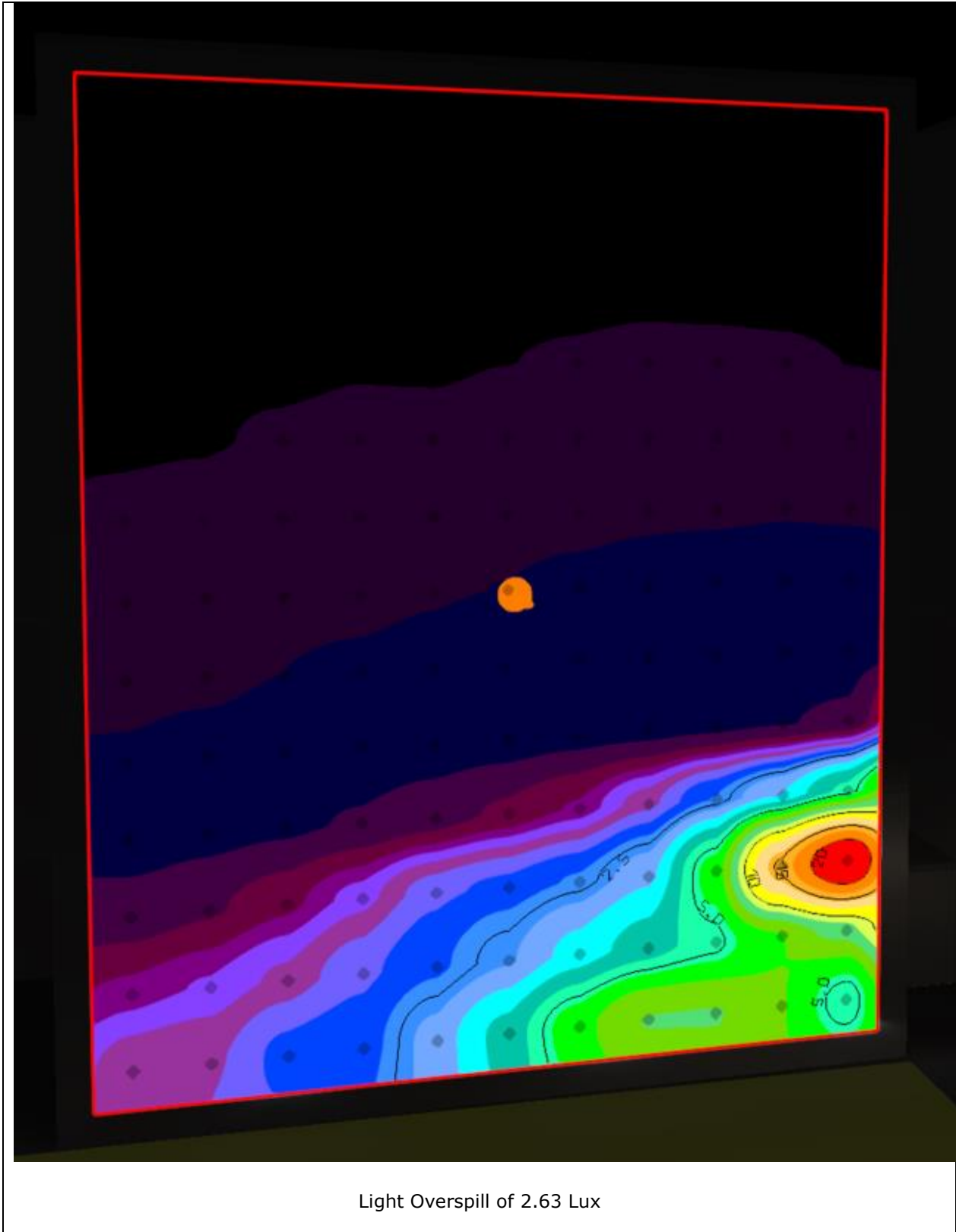
The internal walkway through the site has been designed to achieve higher lux levels such as 20 lux average and 2 lux minimum as it links the N11 and The Hill so the difference in lighting to be no more than 2 lighting classes below.

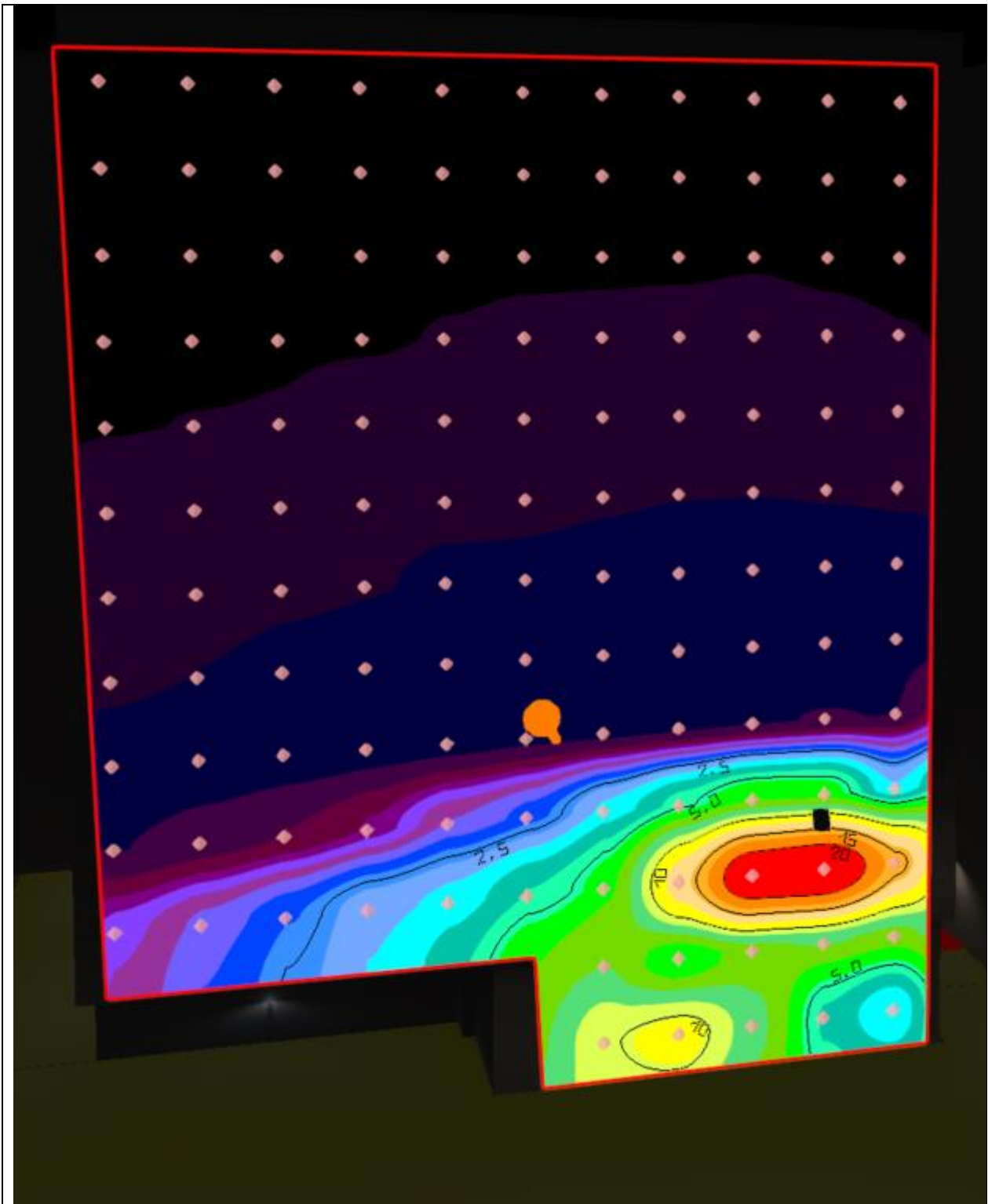
The lighting on N11 has not been updated, additional landlord owned lighting has been provided to accommodate for the additional footpaths tying in with the footpath on N11.



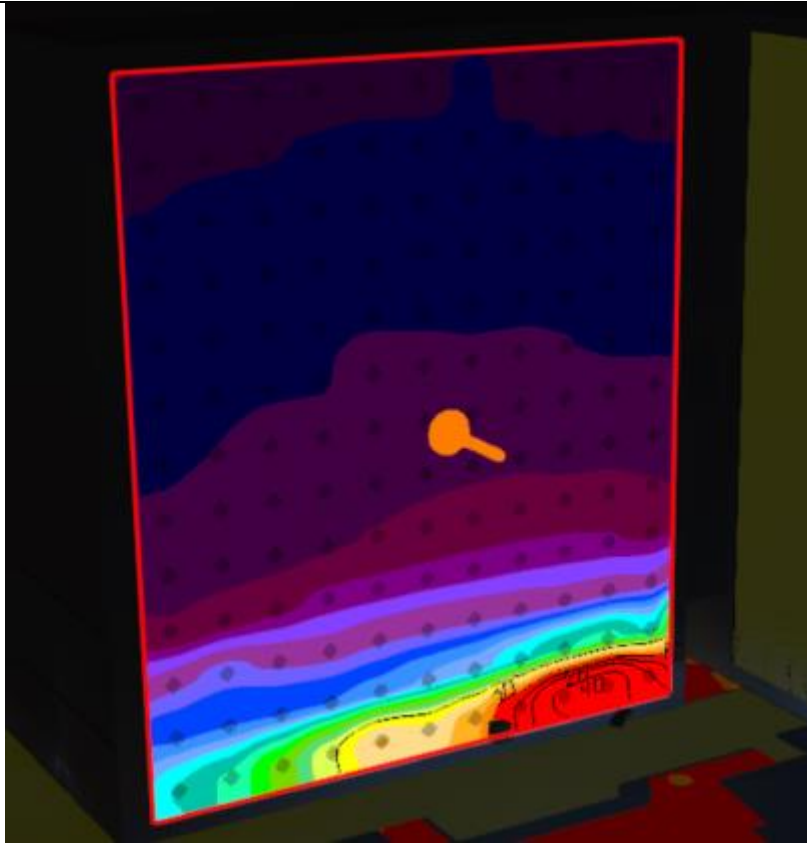
5. External Site Light Overspill

Figure 3 indicates the illumination levels on the neighbouring properties from the proposed luminaires. From the analysis the maximum illumination achieved is 5 lux which is within the design guidelines, CIE Guide regarding Illumination levels and "Obtrusive Light" to neighbouring properties.





Light Overspill of 3.71 Lux



Light Overspill of 4.55 Lux

Fig 3 - Areas with the highest light overspill

APPENDIX 1: External Luminaire Schedule

Product Name	ISARO PRO	
Manufacturer	Thorn	
Product Number	N/A	
Reference	Type A	
Wattage/Life Time	125W / 100,000 H	
Lumens	18595lm	
IP Rating	IP66	
Dimensions (mm)	L:718mm W:225mm H:114mm	
CRI	>80 & 4000K	
Area	Street lighting	
Notes	Mounted on 10m column	

Product Name	Lumline	
Manufacturer	Soneres	
Product Number	Lumiline 16	
Reference	Type A1	
Wattage/Life Time	21W / 60,000 H	
Lumens	2841lm	
IP Rating	IP66	
Dimensions (mm)	L:1000mm W:210mm H:110mm	
CRI	>80 & 4000K	
Area	Walkway lighting	
Notes	Mounted on 4m column	

Product Name	Linea	
Manufacturer	Hess	
Product Number	19.10200.0V005	
Reference	Type B	
Wattage/Life Time	10W / 50,000 H	
Lumens	290lm	
IP Rating	IP65	
Dimensions (mm)	L:264mm W:180mm H:1000mm	
CRI	Not available & 4000K	
Area	Walkways	
Notes		

Product Name	iPro	
Manufacturer	iGuzzini	
Product Number	BU39	
Reference	Type C	
Wattage/Life Time	7.7W / 100,000 H	
Lumens	810lm	
IP Rating	IP66	
Dimensions (mm)	L:106mm W:98mm H:81mm	
CRI	80 & 3000K	
Area	Walkways	
Notes	Wall mounted on buildings to light up the entrance	

Product Name	iPro
Manufacturer	iGuzzini
Product Number	EP55
Reference	Type C1
Wattage/Life Time	13.9W / 100,000 H
Lumens	1750lm
IP Rating	IP66
Dimensions (mm)	L:170mm W:140mm H:132mm
CRI	80 & 3000K
Area	Walkways
Notes	Wall mounted on buildings to light up the entrance



Product Name	iPro
Manufacturer	iGuzzini
Product Number	BK25
Reference	Type C2
Wattage/Life Time	7.7W / 100,000 H
Lumens	810lm
IP Rating	IP66
Dimensions (mm)	L:111mm W:86mm H:81mm
CRI	80 & 3000K
Area	Walkways
Notes	Ground mounted to light up trees



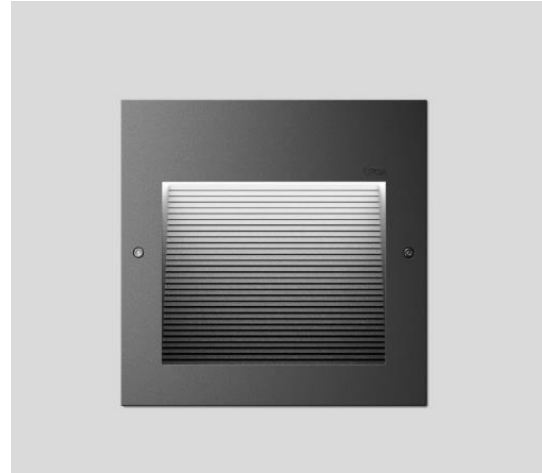
Product Name	Lander
Manufacturer	iGuzzini
Product Number	ALW3
Reference	Type D
Wattage/Life Time	13.8W / 100,000 H
Lumens	1800lm
IP Rating	IP66
Dimensions (mm)	L:290mm W:126mm H:50mm
CRI	80 & 3000K
Area	Walkways
Notes	Wall mounted on buildings to light up passageways



Product Name	Handrail
Manufacturer	liniLED
Product Number	Not Available
Reference	Type F
Wattage/Life Time	3.7W / 50,000 H
Lumens	346lm
IP Rating	Not Available
Dimensions (mm)	Not Available
CRI	Not Available
Area	Steps/Ramps
Notes	Mounted within the handrail



Product Name	Recessed Wall Luminaire
Manufacturer	Bega
Product Number	24203
Reference	Type G
Wattage/Life Time	4.8W / 50,000 H
Lumens	965lm
IP Rating	IP65
Dimensions (mm)	L:190mm W:190mm H:125mm
CRI	>80 & 4000K
Area	Steps
Notes	Recessed into the steps sidewalls



Product Name	LED Strip Superior 500 Protected
Manufacturer	LEDVANCE
Product Number	LS SUP-500/940/5/IP67
Reference	Type H
Wattage/Life Time	28W / 60,000 H
Lumens	500lm
IP Rating	IP67
Dimensions (mm)	Not Available
CRI	Not Available & 4000K
Area	Planters/Seating
Notes	Recessed into the planter/seating sidewalls



APPENDIX 2: Site Lighting Drawing (A1)

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