

Armoury Drive

Installation : External Lighting

Project number : 61-1525
Customer : Longley Group
Processed by : Dave Martin
Date : 04.08.2022

Project description:

Project description:

Calculation based on standard reflectances - Ceiling 0.7, Walls 0.5 and Floor 0.2.

Room/exterior area dimensions and floor to ceiling/mounting heights issued from customer. These lighting calculations have been generated using third party drawings/plans/dimensions and ETS Ltd can accept no responsibility for the accuracy of the information issued by others in order to complete the enclosed.

PLEASE NOTE: IT IS THE RESPONSIBILITY OF THE CONTRACTOR/INSTALLER TO CHECK ALL ROOM/EXTERIOR AREA DIMENSIONS ON-SITE PRIOR TO INSTALLATION. IF IN DOUBT, ASK.

Lighting designed to CIBSE guidelines where applicable and/or client requirements, all stated lux values are for overall averages across the room reference plane.

If dimmable luminaires have been specified, then it is the responsibility of the contractor to establish which dimming ballasts/system is required by the lighting control ethos/specification.

Emergency lighting design conforms to BS5266/EN1838 where applicable, if included as part of this design document.

Please note that 'points of emphasis' such as locations of fire fighting equipment also require emergency lighting, these locations are to be confirmed by contractor.

Please note that the emergency lighting calculation **MUST** be produced using the emergency lighting calculation facility within this program, failure to use the correct method will show false results.

The following values are based on precise calculations performed on calibrated lamps and luminaires, and their configurations, whereby gradual, unavoidable deviations can occur in practice. All guarantee claims are excluded for the specified data.

This exclusion of liability applies irrespective of the legal grounds for both damages and consequential damages suffered by users and third parties.

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1 Luminaire data

1.1 Aurora, ICE™ 5W GU10 Dimmable Lamp (EN-DGU005/30)

1.1.1 Data sheet

Manufacturer: Aurora



EN-DGU005/30 Lamps ICE™ 5W GU10 Dimmable Lamp

Due to popular demand, the market leading ICE™ lamp range has grown. Achieve significant energy savings and light output with ICE™ lamp 4W alongside the already established industry leading 5W 108lm/W GU10 lamps. Featuring ThermoTec™ heat management technology and EnFiniti™ lenses which are also available in 38° beam angle. The ICE™ range has proved to be exceptionally reliable delivering up to 540 lumens in both dimmable and non-dimmable, allowing for direct halogen lamp replacement at a fraction of the energy consumption.

EN-GU005H/27

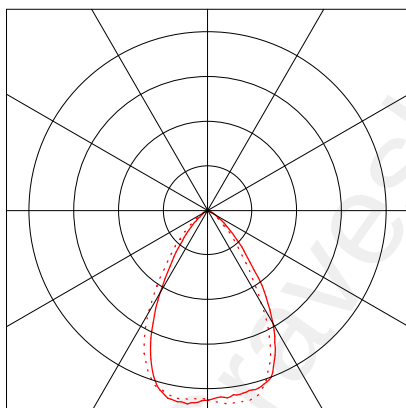
Luminaire data

Absolute Photometry
Luminaire efficacy : 96 lm/W
Classification : A60 ↓100.0% ↑0.0%
CIE Flux Codes : 86 99 100 100 100
UGR 4H 8H : 22.2 / 21.1
Control gear : electronic ballast
Power : 5 W
Luminous flux : 480 lm

Dimensions : Ø50 mm x 56 mm

Equipped with

Quantity : 1
Designation : LED
Colour : 2700K
Colour reproduction : 80



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1.1 Aurora, ICE™ 5W GU10 Dimmable Lamp (EN-DGU005/30)

1.1.2 Glare Rating (UGR)

Reflectance of										
Ceiling	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Floor	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2

Room dimension		Viewed crosswise					Viewed endwise				
x	y										
2H	2H	22.6	23.7	23.0	24.0	24.3	21.8	22.9	22.2	23.2	23.5
	3H	22.4	23.4	22.8	23.7	24.1	21.6	22.6	22.0	22.9	23.3
	4H	22.3	23.2	22.7	23.6	23.9	21.5	22.4	21.9	22.8	23.2
	6H	22.2	23.1	22.7	23.4	23.8	21.5	22.3	21.9	22.7	23.1
	8H	22.2	22.9	22.6	23.3	23.7	21.4	22.2	21.8	22.6	23.0
	12H	22.1	22.8	22.5	23.2	23.7	21.3	22.1	21.7	22.5	22.9
4H	2H	22.4	23.3	22.8	23.6	24.0	21.6	22.5	22.0	22.9	23.2
	3H	22.2	22.9	22.6	23.3	23.7	21.4	22.2	21.8	22.5	23.0
	4H	22.1	22.7	22.5	23.2	23.6	21.4	22.0	21.8	22.4	22.9
	6H	22.2	22.7	22.6	23.2	23.6	21.2	21.8	21.7	22.2	22.7
	8H	22.2	22.7	22.7	23.1	23.6	21.1	21.7	21.6	22.1	22.6
	12H	22.1	22.6	22.6	23.1	23.6	21.1	21.6	21.6	22.0	22.5
8H	4H	21.9	22.4	22.4	22.9	23.4	21.1	21.7	21.6	22.1	22.6
	6H	22.1	22.5	22.6	23.0	23.5	21.0	21.4	21.5	21.9	22.4
	8H	22.2	22.6	22.7	23.1	23.6	21.0	21.3	21.5	21.9	22.4
	12H	22.2	22.5	22.7	23.0	23.5	20.9	21.2	21.4	21.7	22.2
12H	4H	21.9	22.3	22.4	22.8	23.3	21.1	21.6	21.6	22.1	22.6
	6H	22.1	22.4	22.6	23.0	23.4	21.0	21.4	21.5	21.9	22.4
	8H	22.2	22.5	22.7	23.0	23.5	20.9	21.2	21.5	21.7	22.3

Distance between luminaires: 0.25

Manufacturer : Aurora
 Order number : EN-DGU005/30/EN-GU005H/27
 Luminaire name : ICE™ 5W GU10 Dimmable Lamp
 Equipment : 1 x LED 5 W / 480 lm
 Dimensions : D 50 mm x H 56 mm
 File name : EN-DGU005-27.lgt

Luminaire efficacy : 96 lm/W (A60)
 Light distribution : asymmetric
 Beam Angle : 35.0° C0
 31.2° C90
 29.5° C180
 32.9° C270

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2 Exterior 1

2.1 Description, Exterior 1

2.1.1 Luminaire data/Room elements

Product data:

Type No.\Make

1	12 x	Aurora	
		Order No.	: EN-DGU005/30/EN-GU005H/27
		Luminaire name	: ICE™ 5W GU10 Dimmable Lamp
		Equipment	: 1 x LED 5 W / 480 lm



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2 Exterior 1

2.1 Description, Exterior 1

2.1.1 Luminaire data/Room elements

Floor with luminaire and sensor positions:



No.	Centre point			Rotation angle			Target coordinates		
	X [m]	Y [m]	Z [m]	Z [°]	C0 [°]	C90 [°]	Xa [m]	Ya [m]	Za [m]
Aurora ICE™ 5W GU10 Dimmable Lamp EN-DGU005/30									
1xEN-GU005H/27									
1	432.50	124.95	1.77	0.00	0.00	0.00	432.50	124.95	0.00
2	423.39	128.00	1.77	0.00	0.00	0.00	423.39	128.00	0.00
3	412.50	129.00	1.77	0.00	0.00	0.00	412.50	129.00	0.00
4	403.50	131.54	1.77	0.00	0.00	0.00	403.50	131.54	0.00
5	385.92	135.50	1.77	0.00	0.00	0.00	385.92	135.50	0.00
6	383.26	140.87	1.77	0.00	0.00	0.00	383.26	140.87	0.00
7	384.07	145.19	1.77	0.00	0.00	0.00	384.07	145.19	0.00
8	386.01	148.90	1.77	0.00	0.00	0.00	386.01	148.90	0.00
9	373.87	152.47	1.77	0.00	0.00	0.00	373.88	152.47	0.00
10	376.16	147.57	1.77	0.00	0.00	0.00	376.17	147.57	0.00
11	374.94	141.40	1.77	0.00	0.00	0.00	374.93	141.40	0.00
12	373.57	136.93	1.77	0.00	0.00	0.00	373.57	136.93	0.00

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2 Exterior 1

2.1 Description, Exterior 1

2.1.1 Luminaire data/Room elements

Face

No.	xm[m]	ym[m]	zm[m]	Length	Width	z axis	Rotation angle		rho[%]
							L axis	Q axis	
Wo 1	381.50	150.80	10.30	6.38	14.73	258.60	-59.00	0.00	50
Wo 2	381.50	150.80	10.30	6.74	14.81	78.60	-55.40	180.00	50
Wo 1.1	373.50	149.10	4.40	12.48	5.92	348.60	59.00	0.00	50
Wo 1.2	374.20	152.40	10.30	12.48	5.92	348.60	-59.00	0.00	50
Wo 1.3	375.30	156.00	4.40	1.43	7.00	0.00	90.00	78.60	50
Wo 1.4	386.50	153.80	4.90	1.43	7.00	0.00	90.00	78.60	50
Wo 2.1	373.30	134.00	4.40	12.48	5.92	348.60	59.00	0.00	50
Wo 2.2	374.00	137.30	10.30	12.48	5.92	348.60	-59.00	0.00	50
Wo 2.3	375.10	140.90	4.40	1.43	7.00	0.00	90.00	78.60	50
Wo 2.4	386.30	138.70	4.90	1.43	7.00	0.00	90.00	78.60	50
Wo 3.1	401.30	127.70	4.10	11.05	5.82	348.60	47.20	0.00	50
Wo 3.2	411.80	127.70	4.10	0.74	3.57	0.00	90.00	78.60	50
Wo 3.3	402.30	129.70	4.10	0.84	4.06	0.00	90.00	78.60	50
Wo 3.4	402.30	131.20	4.10	9.81	2.00	0.00	90.00	-11.40	50
Wo 3.5	403.30	131.20	4.10	9.81	2.00	0.00	90.00	-11.40	50
Wo 3.6	404.00	131.30	7.30	10.00	5.26	348.60	-44.20	0.00	50
Wo 3.7	412.80	128.70	4.10	0.74	3.58	0.00	90.00	78.60	50
Wo 3.8	404.30	130.70	4.10	0.74	3.58	0.00	90.00	78.60	50
Wo 4.1	434.32	129.23	4.10	11.05	5.82	168.60	47.20	0.00	50
Wo 4.2	423.82	129.23	4.10	0.74	3.57	0.00	90.00	-101.40	50
Wo 4.3	433.32	127.23	4.10	0.84	4.06	0.00	90.00	-101.40	50
Wo 4.4	433.32	125.73	4.10	9.81	2.00	0.00	90.00	168.60	50
Wo 4.5	432.32	125.73	4.10	9.81	2.00	0.00	90.00	168.60	50
Wo 4.6	431.62	125.63	7.30	10.00	5.26	168.60	-44.20	0.00	50
Wo 4.7	422.82	128.23	4.10	0.74	3.58	0.00	90.00	-101.40	50
Wo 4.8	431.32	126.23	4.10	0.74	3.58	0.00	90.00	-101.40	50

Measuring surface

							Rotation angle	
No.	xm[m]	ym[m]	zm[m]	Length	Width	z axis	L axis	Q axis
Ref. plane 1.1								
	353.00	127.00	0.00	104.88	60.35	350.80	0.00	0.00

Others

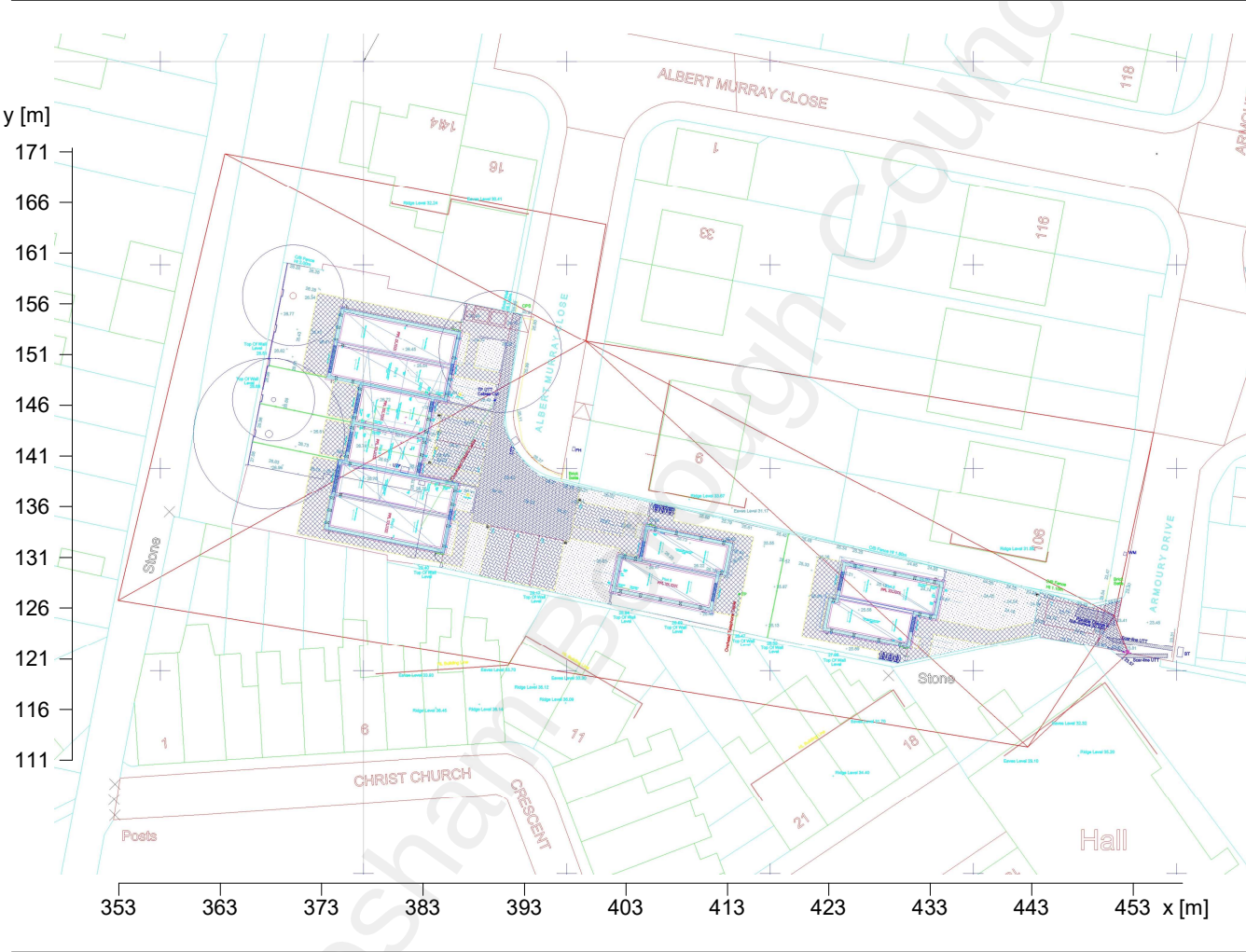
No.	xm[m]	ym[m]	zm[m]	Length	Width	z axis	Rotation angle		rho[%]
							L axis	Q axis	
A 1	373.54	148.88	-0.00	13.17	9.33	348.60	0.00	0.00	50
A 2	373.24	133.98	-0.00	13.17	9.33	348.60	0.00	0.00	50
A 3	375.24	140.48	-0.00	8.95	9.42	348.60	0.00	0.00	50
A 3.1	401.74	127.98	-0.00	10.38	5.29	348.60	0.00	0.00	50
A 3.2	404.24	130.98	-0.00	9.40	5.09	348.60	0.00	0.00	50
A 4.1	433.88	128.95	-0.00	10.38	5.29	168.60	0.00	0.00	50
A 4.2	431.38	125.95	-0.00	9.40	5.09	168.60	0.00	0.00	50

Object : Armoury Drive
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2.1 Description, Exterior 1

2.1.2 Floor plan

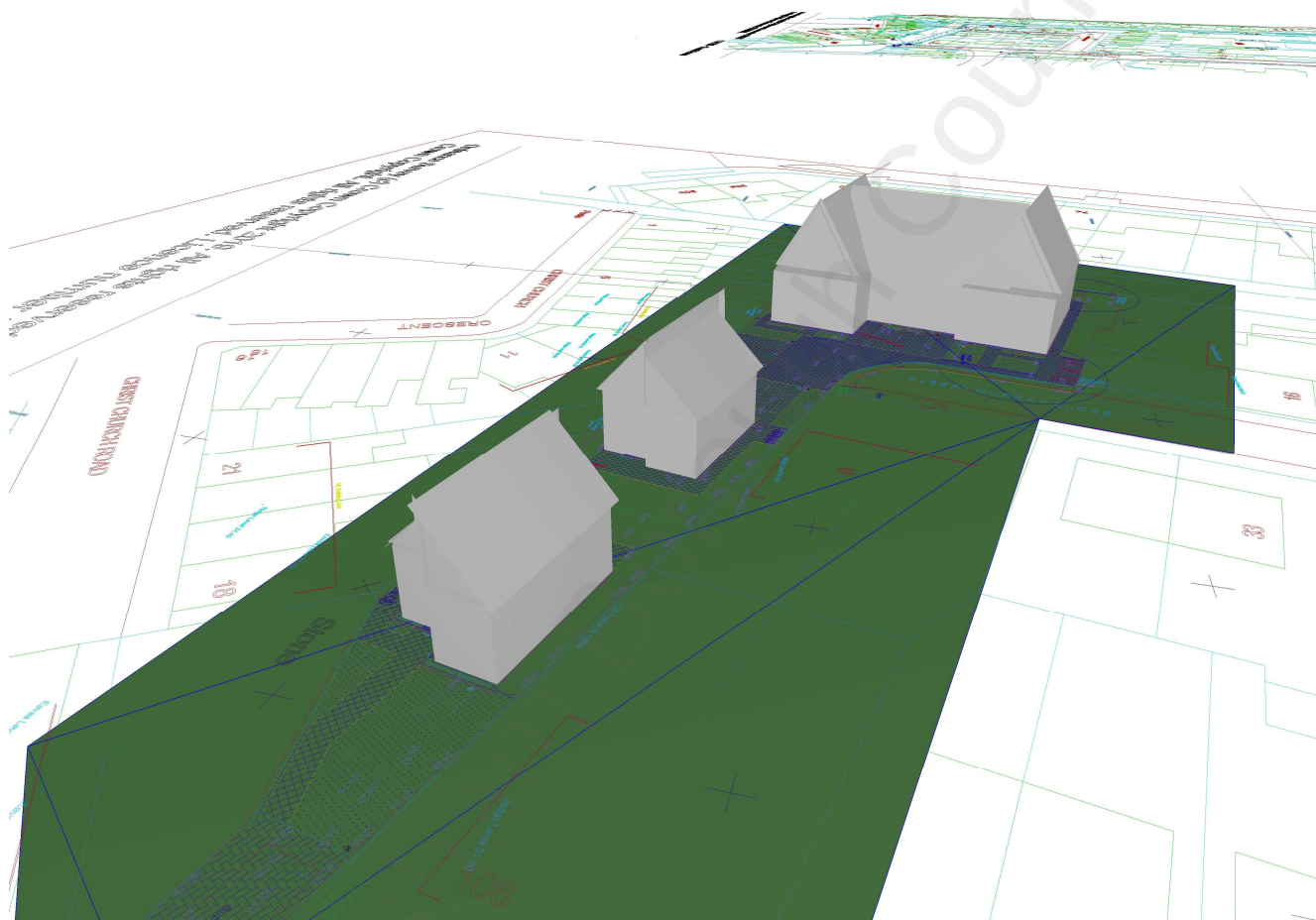


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2.1 Description, Exterior 1

2.1.3 3D view, View 1

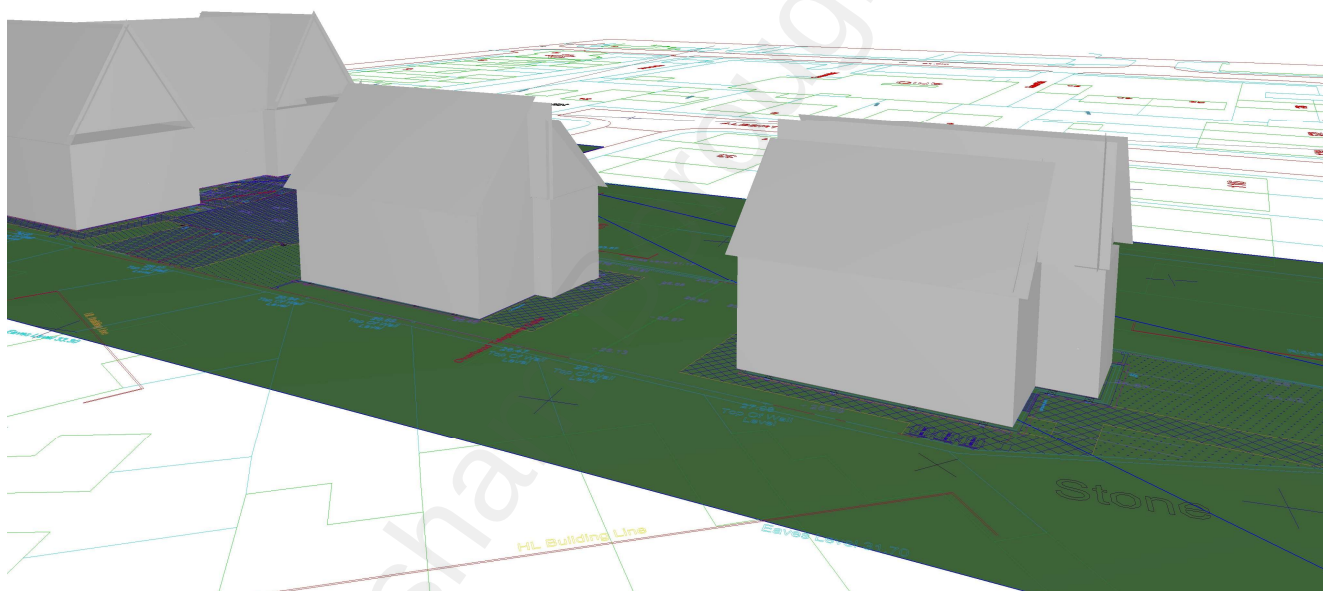


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2.1 Description, Exterior 1

2.1.4 3D view, View 2

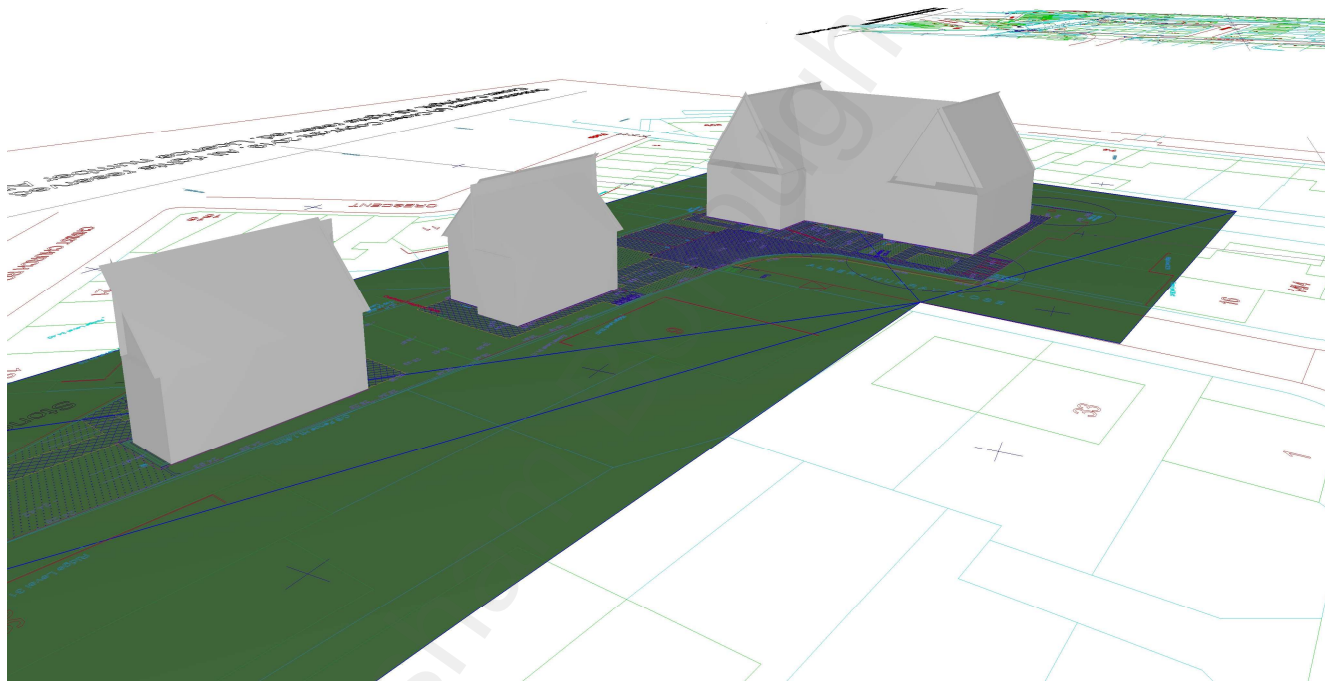


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2.1 Description, Exterior 1

2.1.5 3D view, View 3

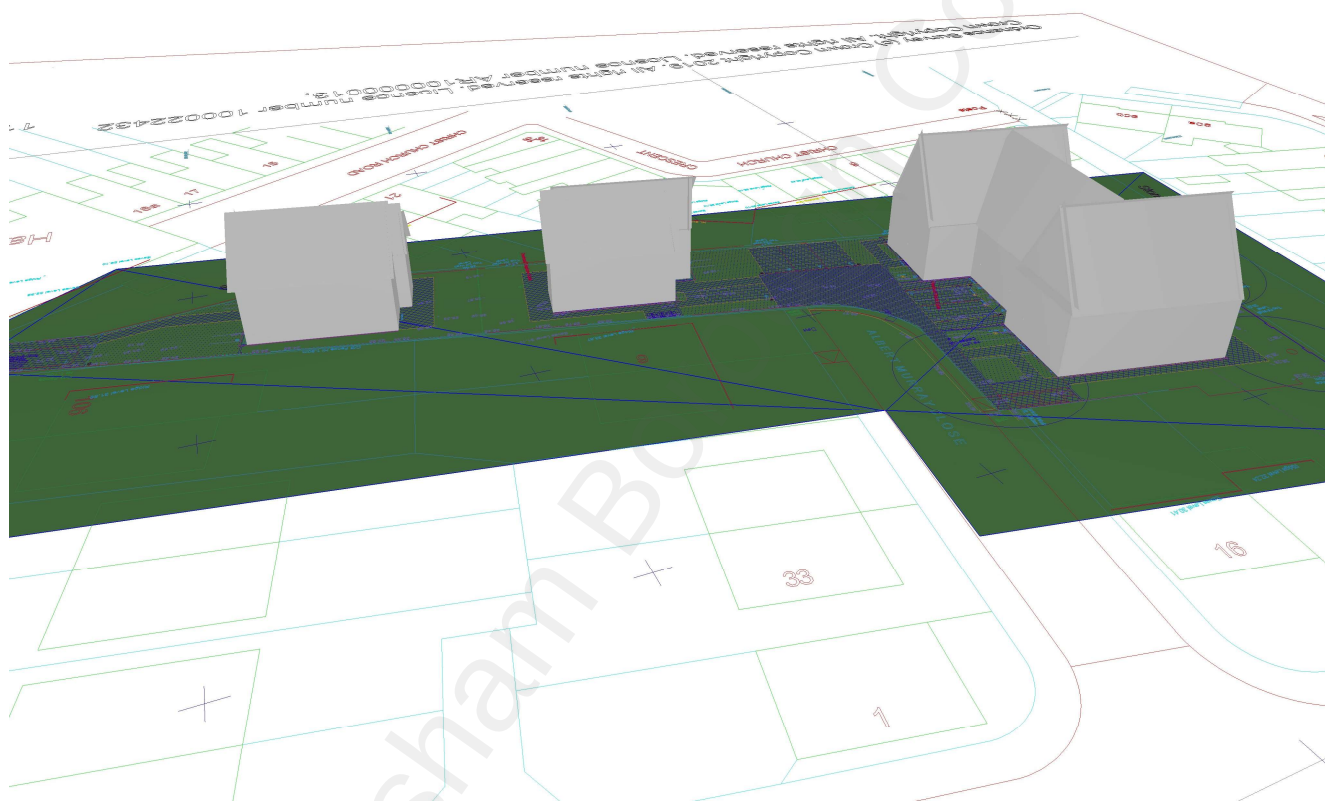


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2.1 Description, Exterior 1

2.1.6 3D view, View 4

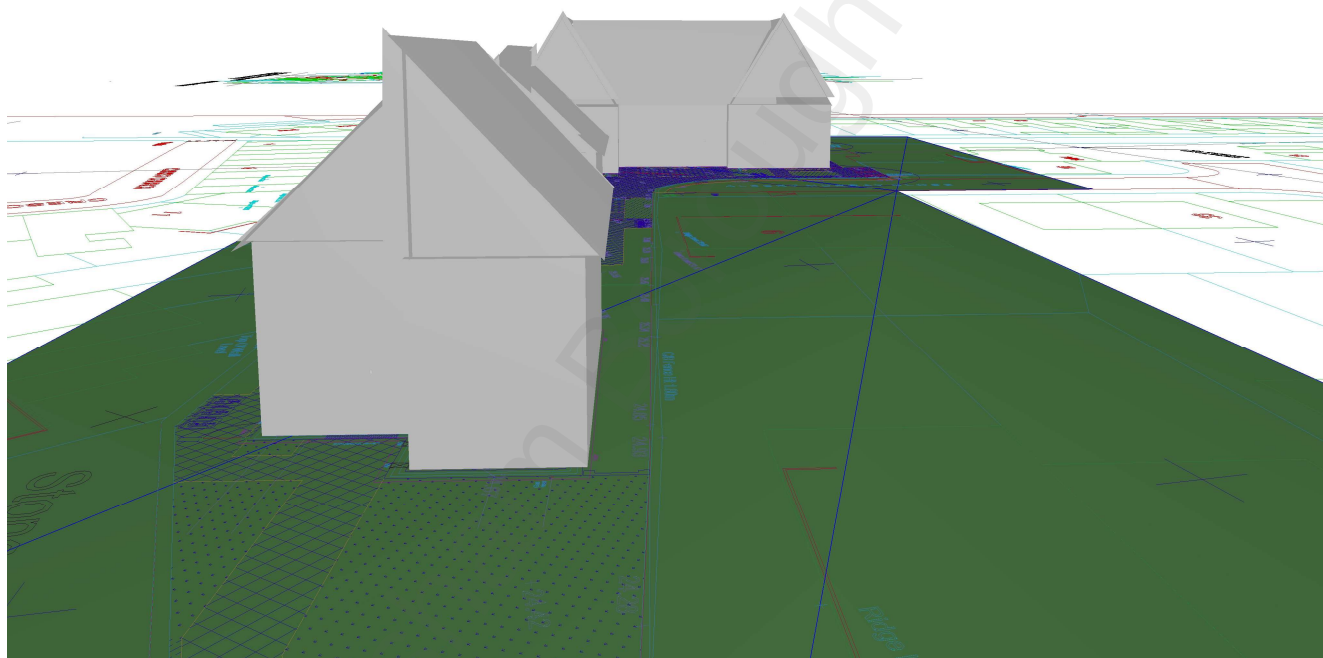


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2.1 Description, Exterior 1

2.1.7 3D view, View 5



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2.2 Summary, Exterior 1

2.2.1 Result overview, Evaluation area 1



Average indirect fraction
1.77 m
0.80

5760.00 lm
60.0 W
0.02 W/m² (1.84 W/m²/100lx)

Reference plane 1.1

Horizontal
0.91 lx
0 lx

0.00 m

Aurora

Order No. : EN-DGU005/30/EN-GU005H/27
Luminaire name : ICE™ 5W GU10 Dimmable Lamp
Equipment : 1 x LED 5 W / 480 lm



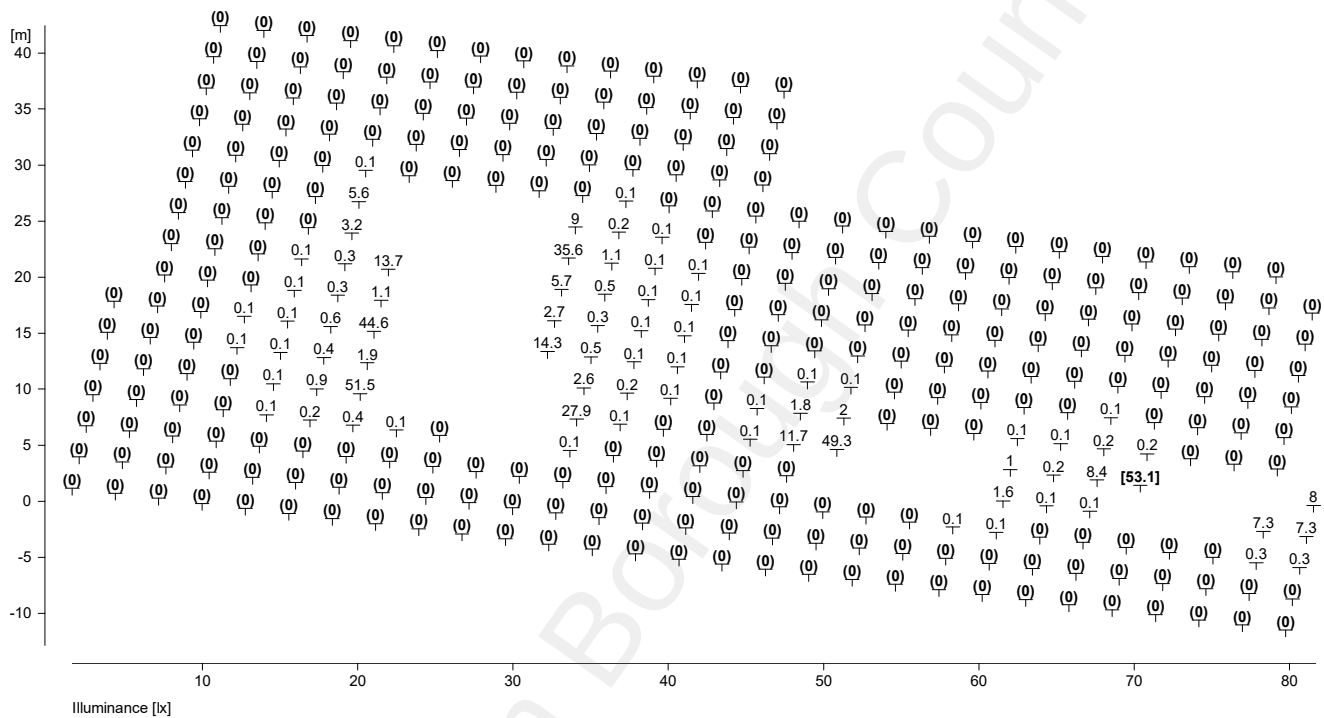
Object : Armoury Drive
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2 Exterior 1

2.3 Calculation results, Exterior 1

2.3.1 Table, Reference plane 1.1 (E)



Part1

Height reference plane	: 0.00 m
Average illuminance	Em : 0.9 lx
Minimum illuminance	Emin : 0 lx
Maximum illuminance	Emax : 53.1 lx
Uniformity Uo	Emin/Em : ---
Diversity Ud	Emin/Emax : ---

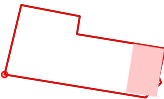
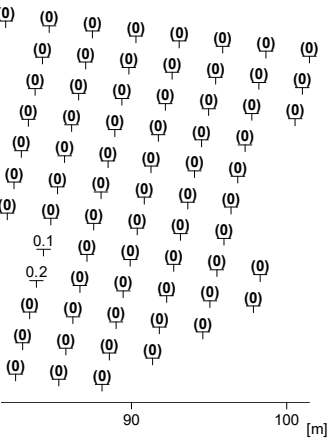
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2 Exterior 1

2.3 Calculation results, Exterior 1

2.3.1 Table, Reference plane 1.1 (E)



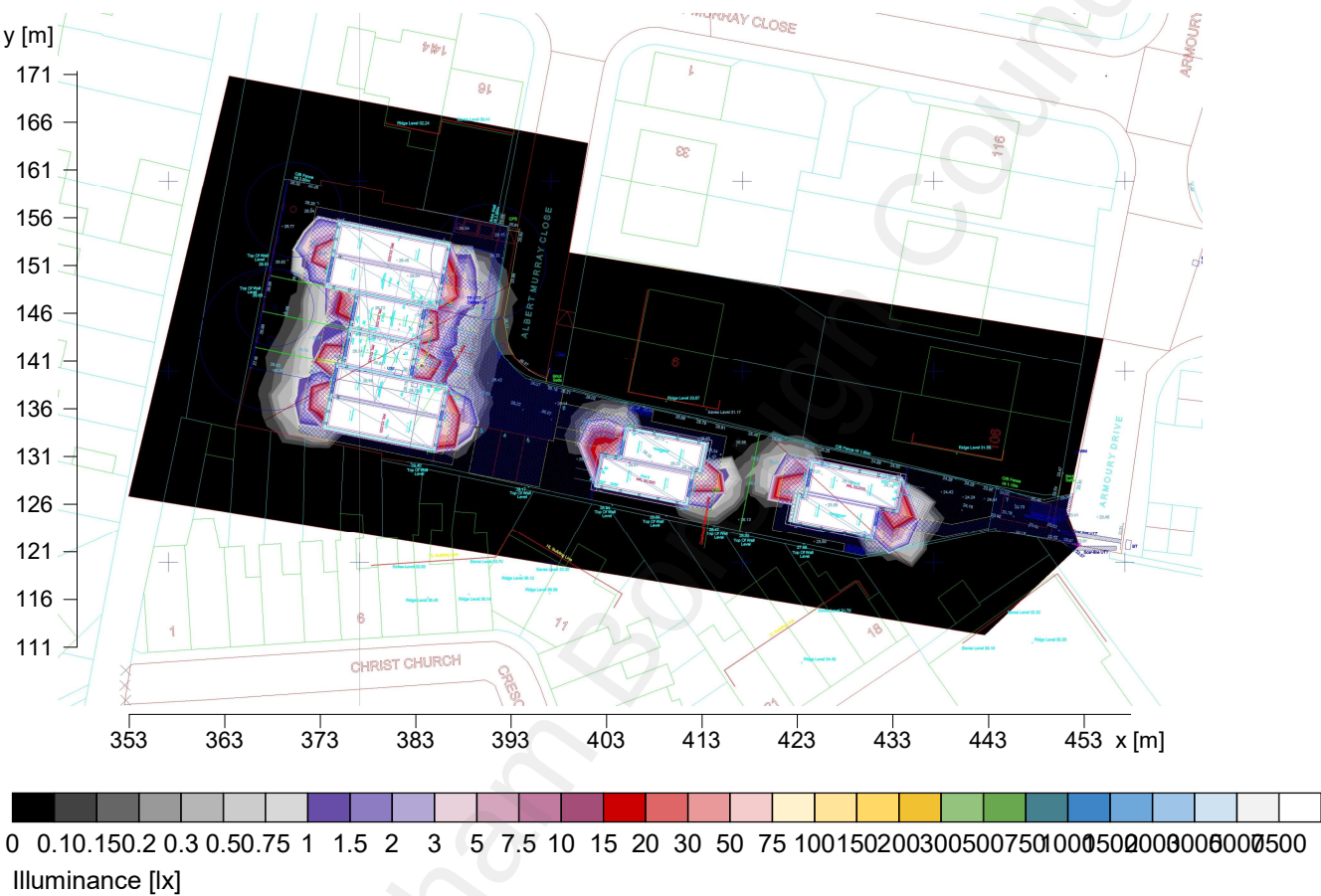
Part2

Object : Armoury Drive
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2.3 Calculation results, Exterior 1

2.3.2 Pseudo colours, Reference plane 1.1 (E)



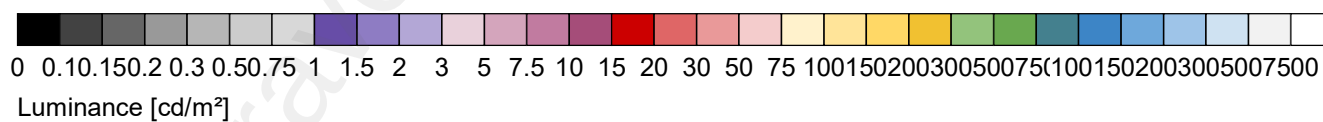
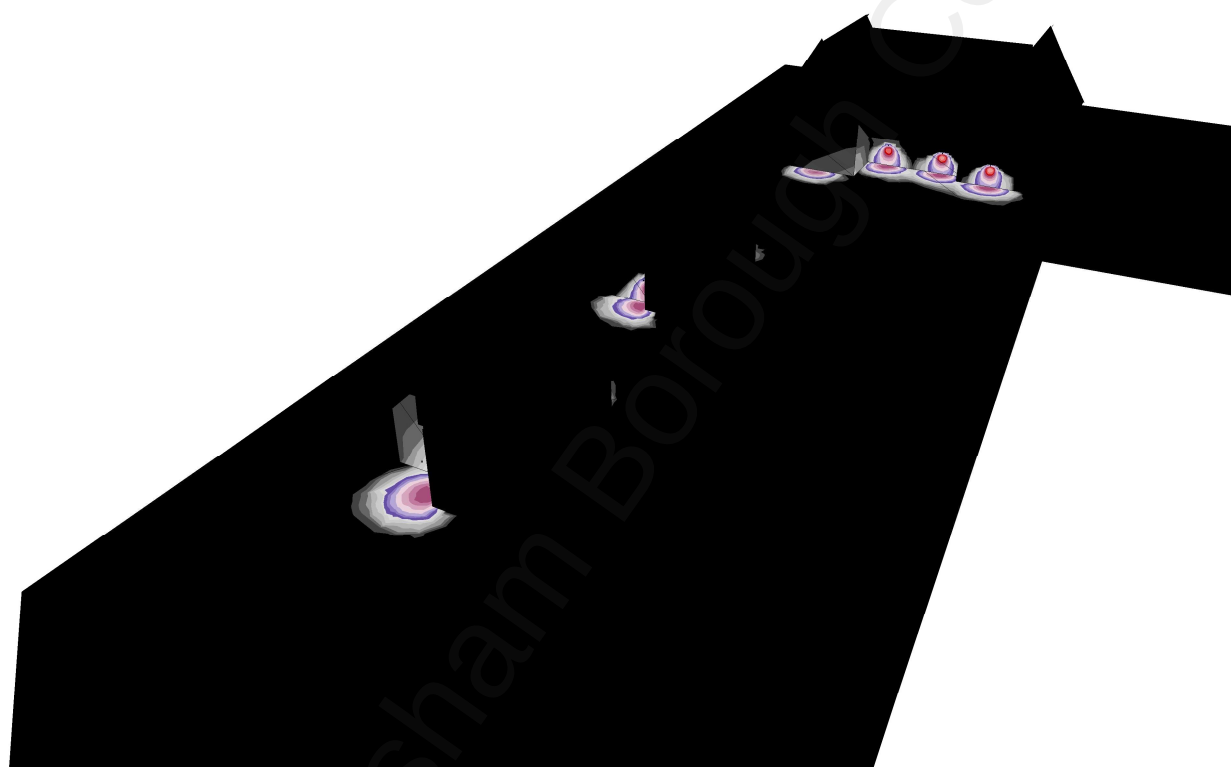
Height reference plane	:	0.00 m
Average illuminance	Em	: 0.9 lx
Minimum illuminance	Emin	: 0 lx
Maximum illuminance	Emax	: 53.1 lx
Uniformity Uo	Emin/Em	: ---
Diversity Ud	Emin/Emax	: ---

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2.3 Calculation results, Exterior 1

2.3.3 3D pseudo colours, View 1 (L)

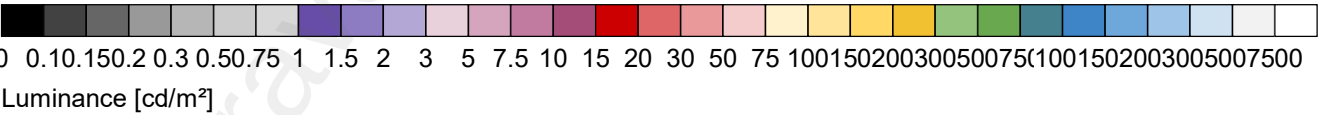
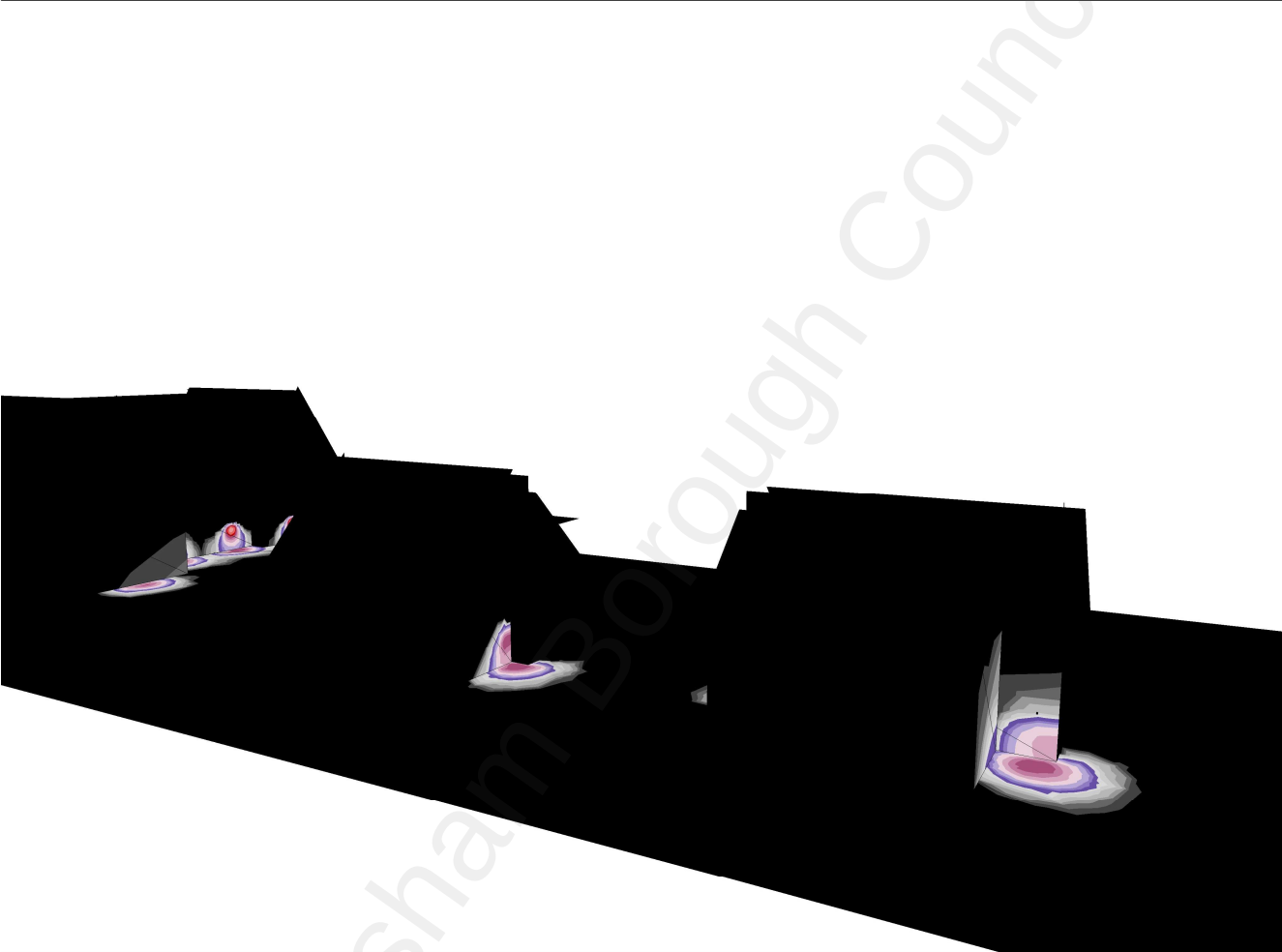


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2.3 Calculation results, Exterior 1

2.3.4 3D pseudo colours, View 2 (L)

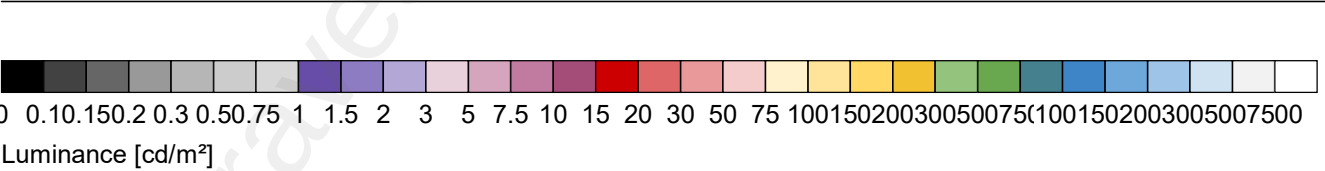


Object : Armoury Drive
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2.3 Calculation results, Exterior 1

2.3.5 3D pseudo colours, View 3 (L)

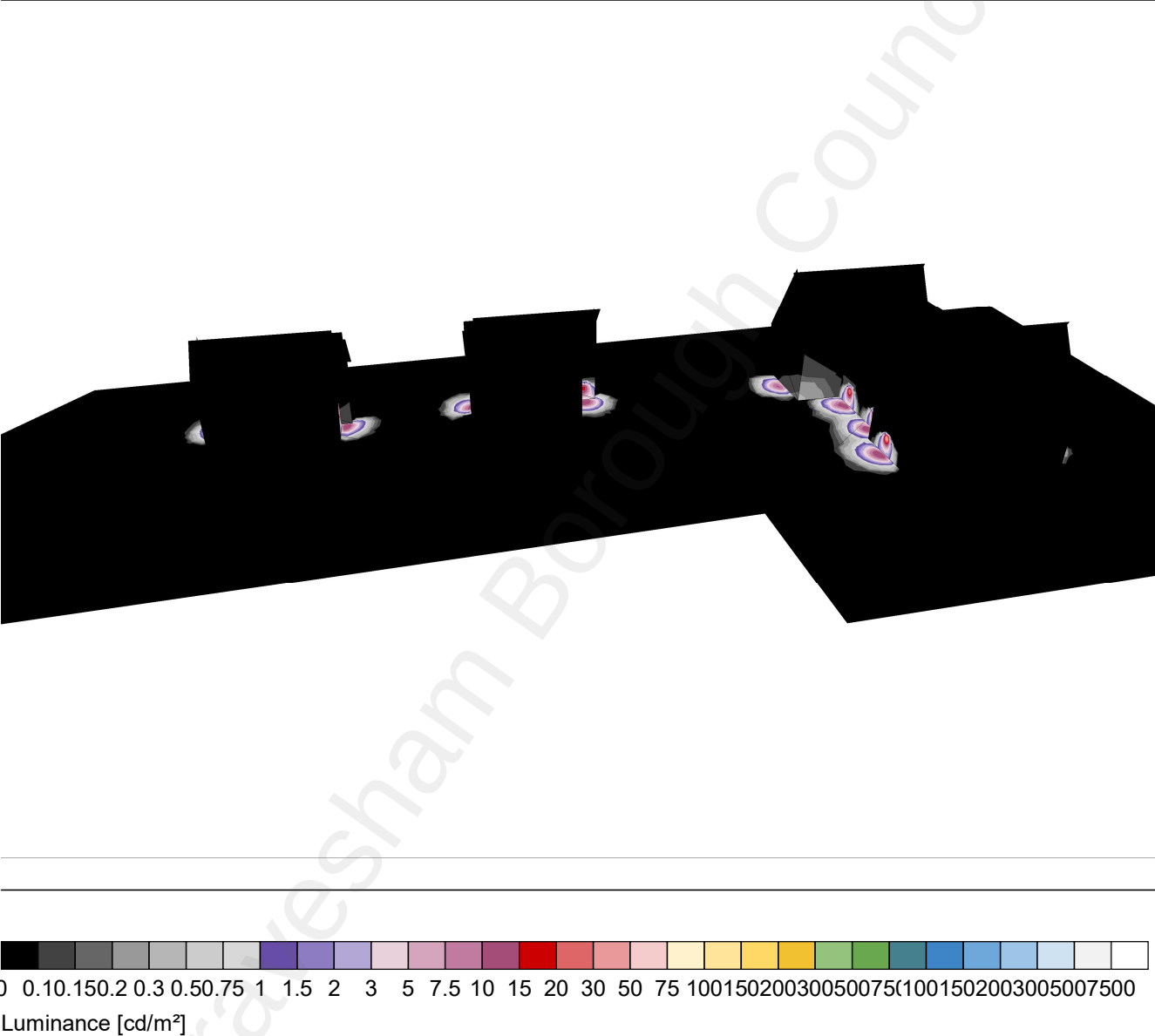


Object : Armoury Drive
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2.3 Calculation results, Exterior 1

2.3.6 3D pseudo colours, View 4 (L)

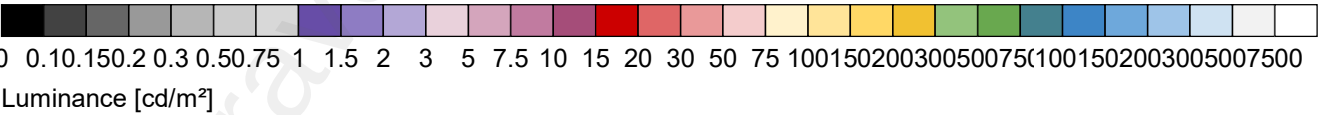
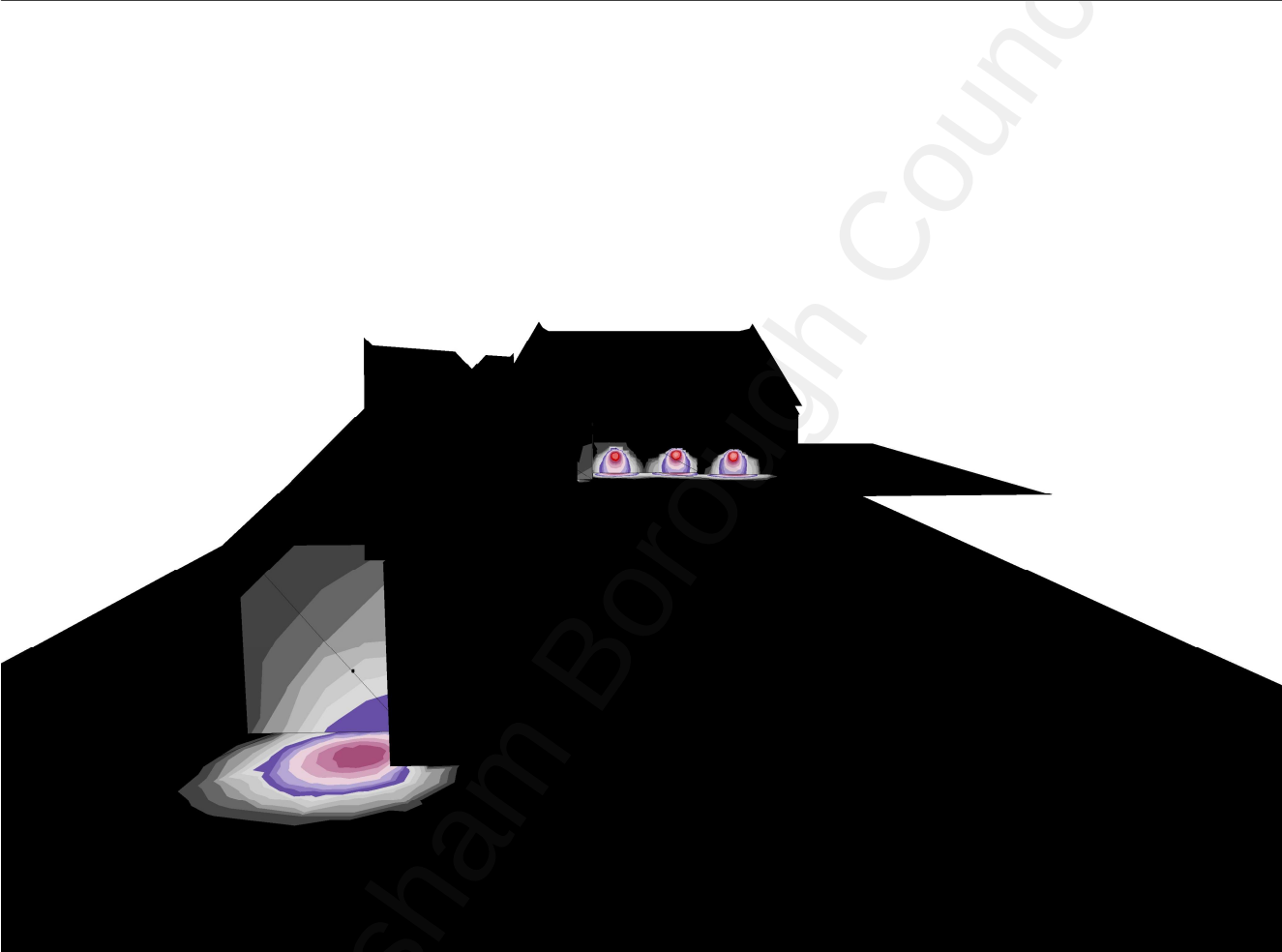


Object : Armoury Drive
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2.3 Calculation results, Exterior 1

2.3.7 3D pseudo colours, View 5 (L)

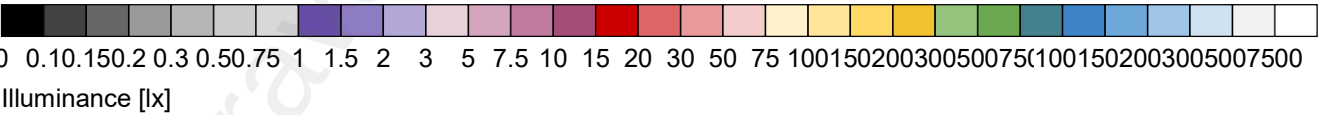
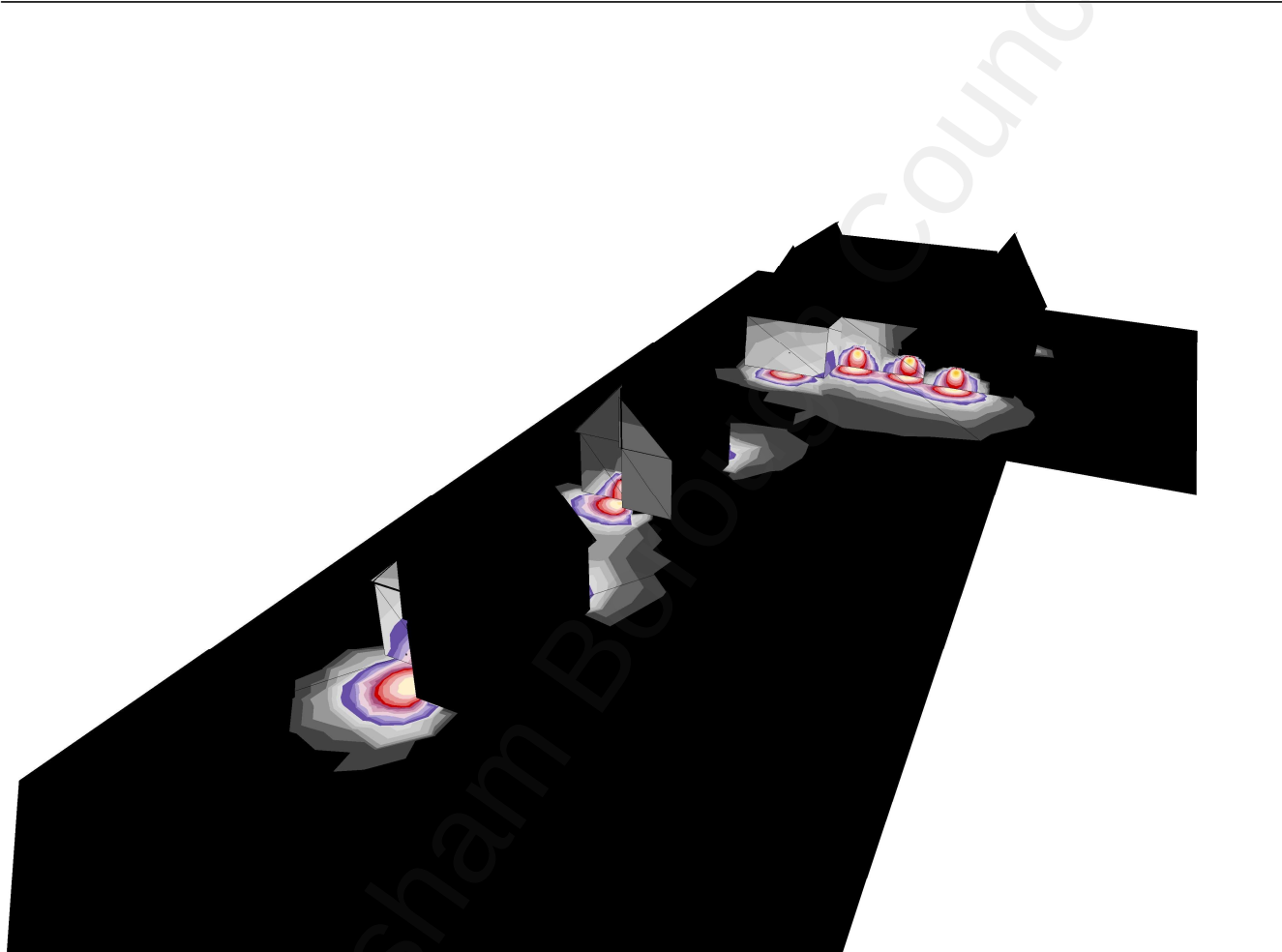


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2.3 Calculation results, Exterior 1

2.3.8 3D pseudo colours, View 1 (E)

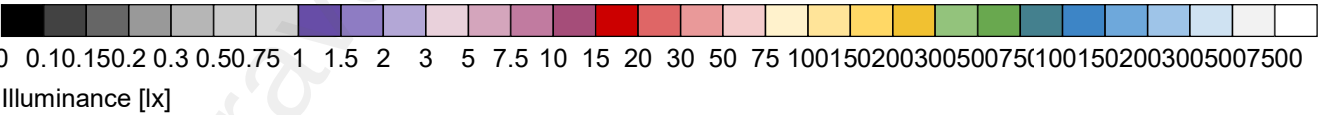
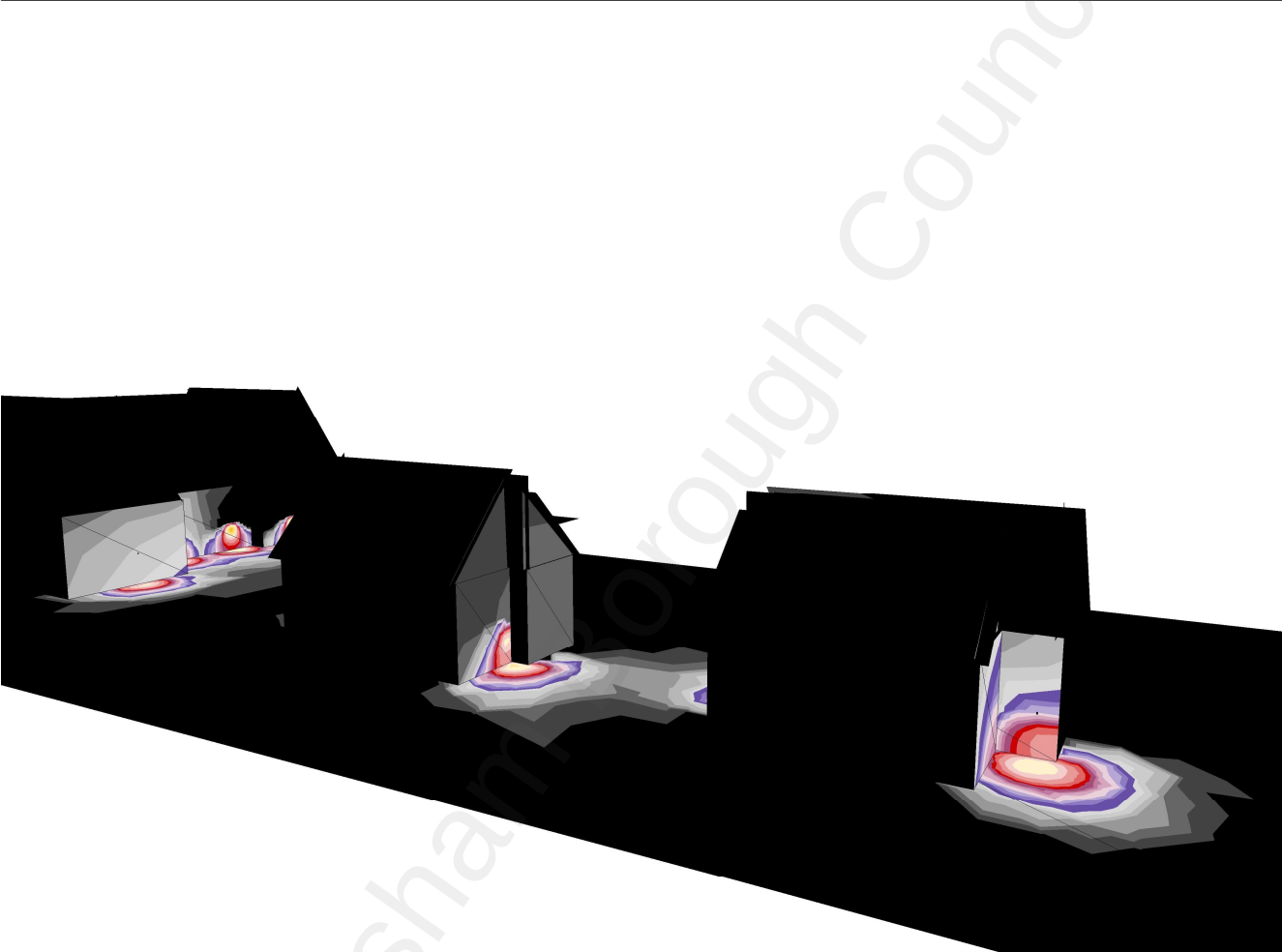


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Installation : External Lighting
Project number : 61-1525
Date : 04.08.2022



2.3 Calculation results, Exterior 1

2.3.9 3D pseudo colours, View 2 (E)

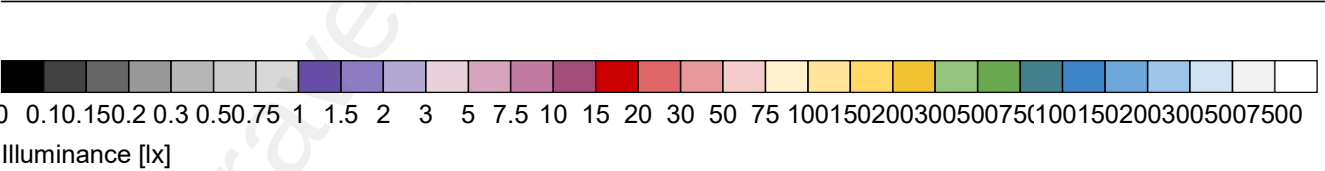
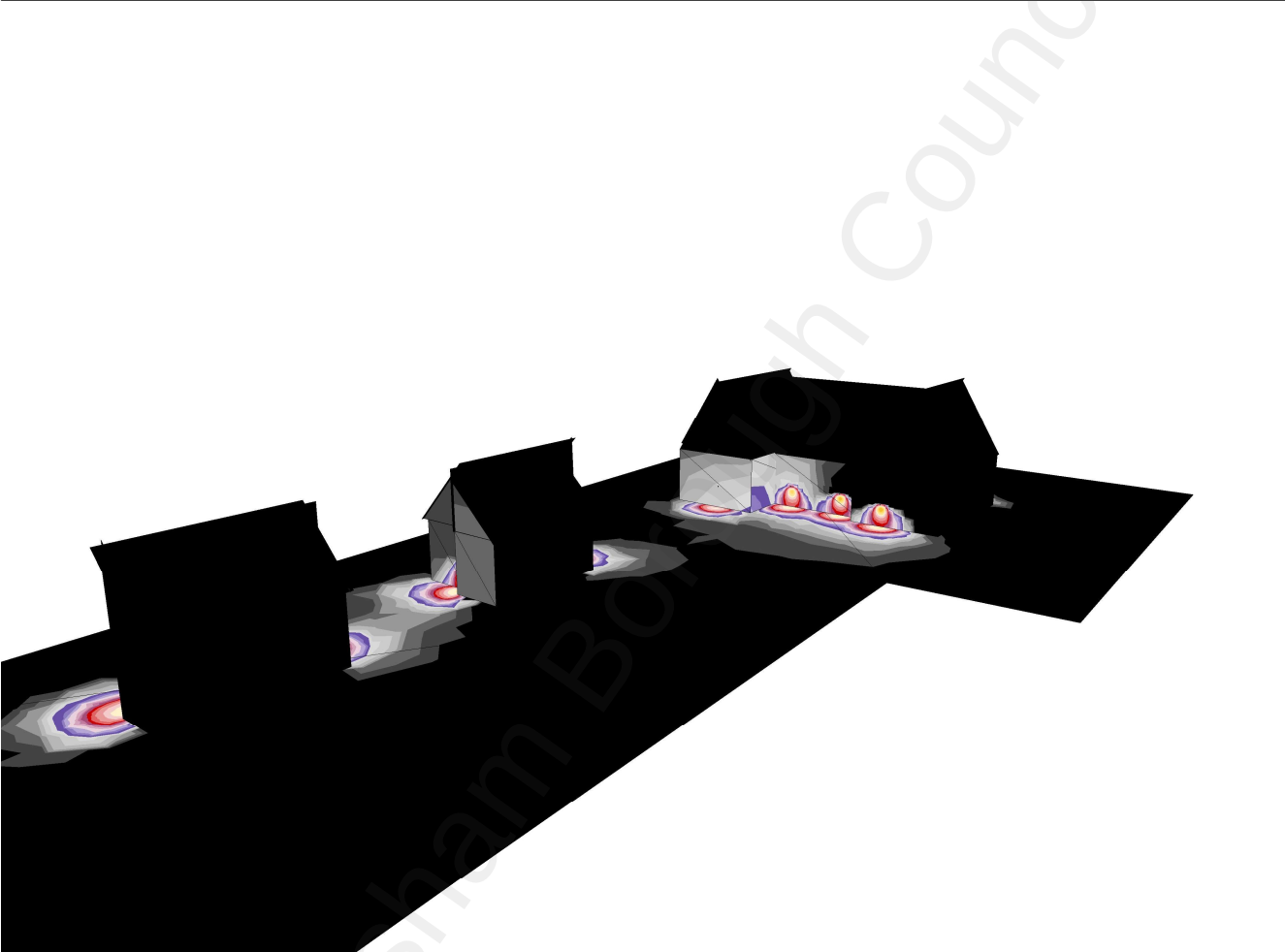


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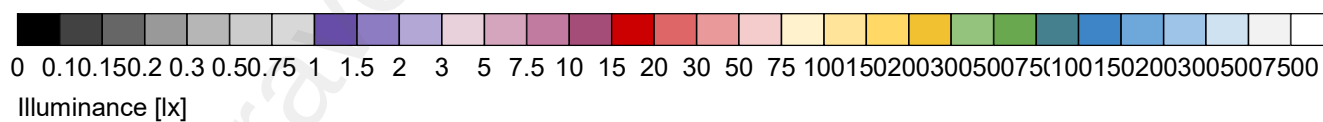
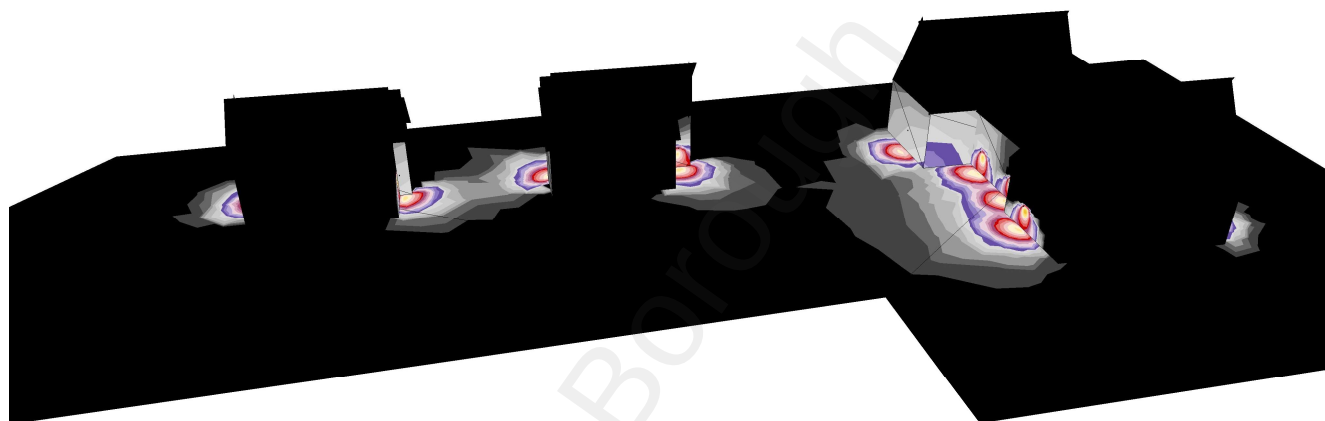
2.3 Calculation results, Exterior 1

2.3.10 3D pseudo colours, View 3 (E)



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2.3.11 3D pseudo colours, View 4 (E)



Object : Armoury Drive
Installation : External Lighting
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2.3 Calculation results, Exterior 1

2.3.12 3D pseudo colours, View 5 (E)

