Clitheroe Golf Club - Driving Range

Installation : Proposed New Lighting

Project number	:	MH-205
Customer	:	Sunderland and Peacock Architects
Processed by	:	MH
Date	:	21.08.2019

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 Lumenata Lighting Design can accept no responsibility for the accuracy of the information issued by others in order to complete the enclosed.

PLEASE NOTE: IT IS THE RESONSIBILITY 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.

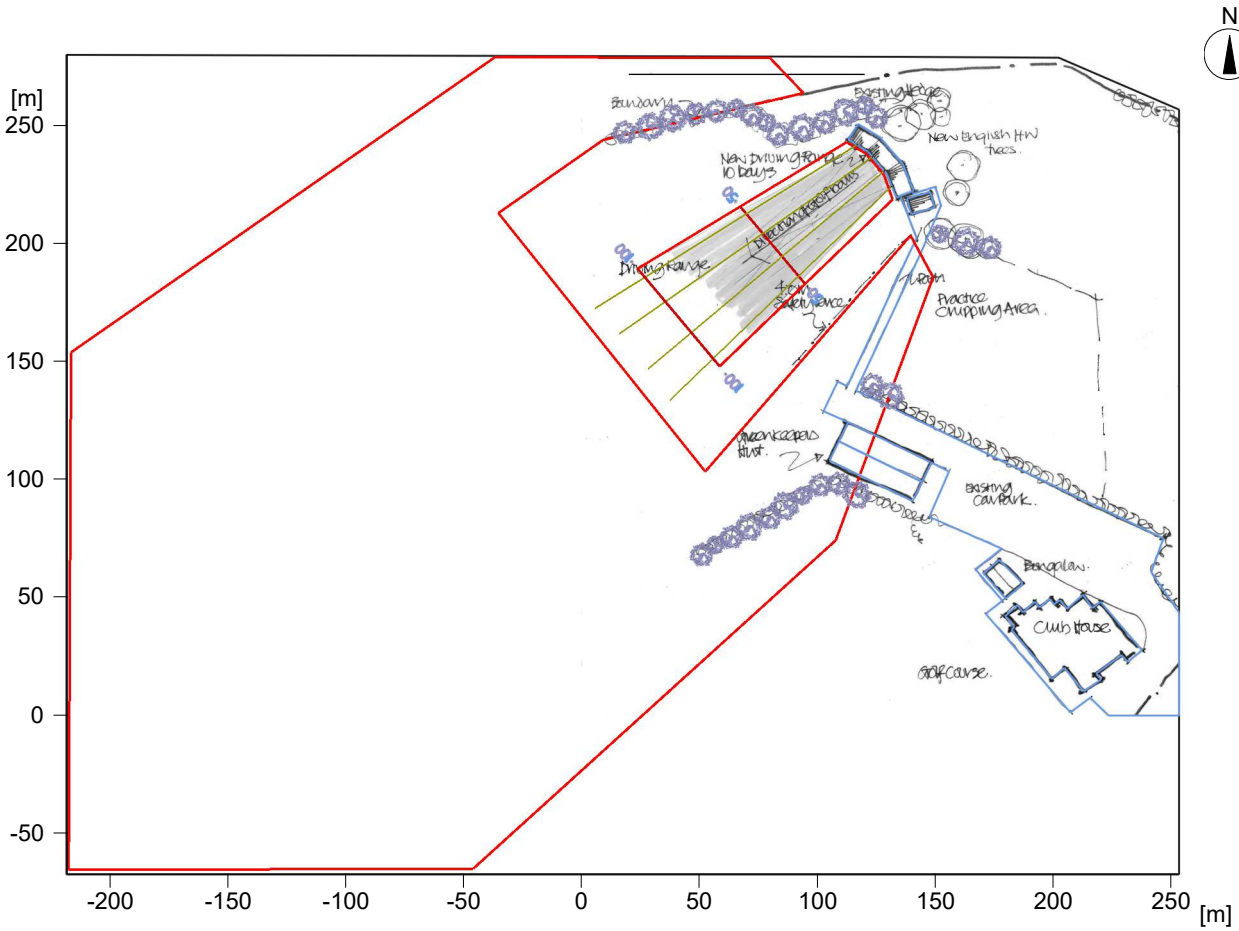
Target lux level; 50lux ave verticall illuminance @ 100m from Dirving Range Tees.

Lighting mounted at 6m from FFL aimed 87 degrees from the horizontal.

1 Exterior 1

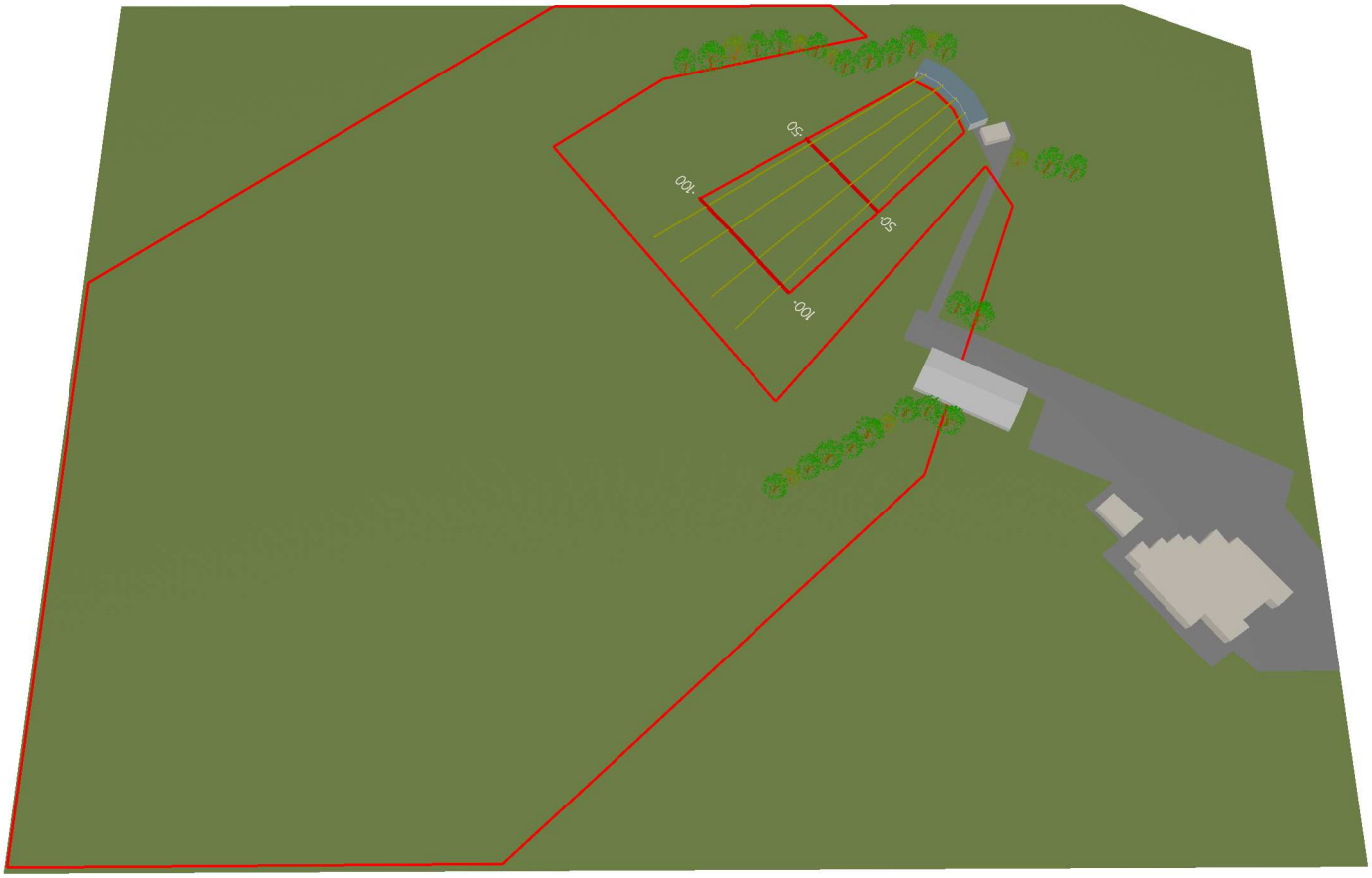
1.1 Description, Exterior 1

1.1.1 Floor plan



1.1 Description, Exterior 1

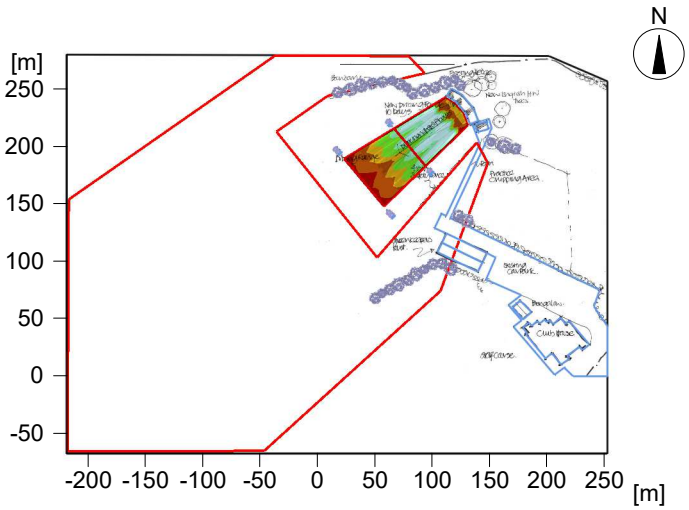
1.1.2 3D view, View 1

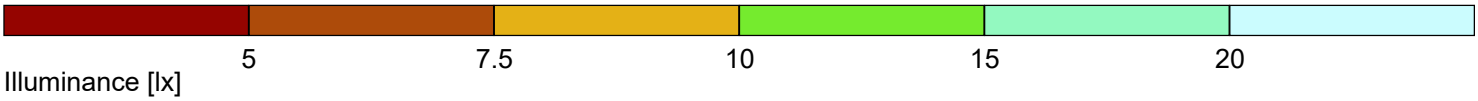


1 Exterior 1

1.2 Summary, Exterior 1

1.2.1 Result overview, 100m Driving Range





Illuminance [lx]

General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	-0.00 m
Height (phot.centre) [m]:	5.99 m
Maintenance factor	0.80
Total luminous flux of all lamps	139216 lm
Total power	1760 W
Total power per area (162866.44 m²)	0.01 W/m²

Illuminance

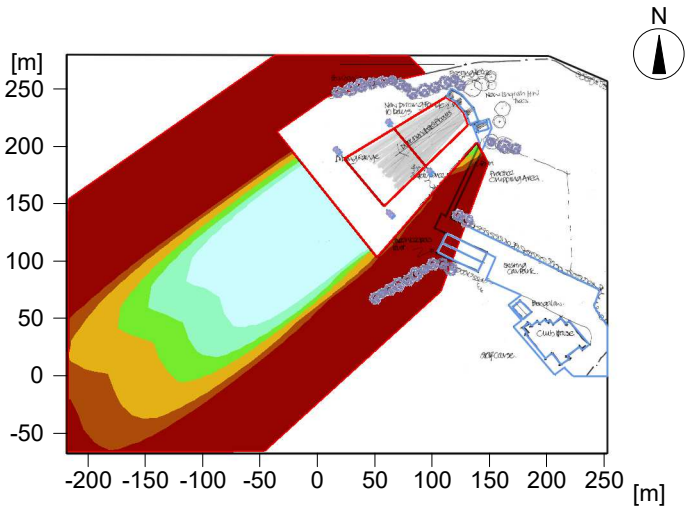
Average illuminance	Em	12.1 lx
Minimum illuminance	Emin	3.8 lx
Maximum illuminance	Emax	27.2 lx
Uniformity Uo	Emin/Em	1:3.21 (0.31)
Diversity Ud	Emin/Emax	1:7.25 (0.14)

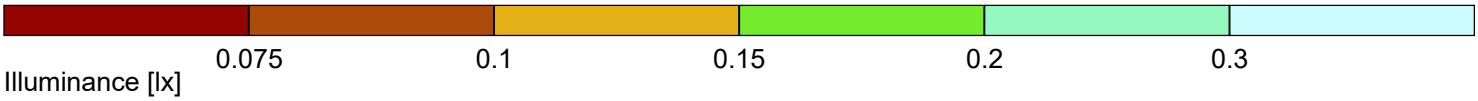
Type No.\Make

		LUX	
1	4	Order No.	: PLS
		Luminaire name	: PLS-400-PLUS-8x8
		Equipment	: 1 x 440 W / 34804 lm

1.2 Summary, Exterior 1

1.2.2 Result overview, Lightspill area





Illuminance [lx]

General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.10 m
Height (phot.centre) [m]:	5.99 m
Maintenance factor	0.80
Total luminous flux of all lamps	139216 lm
Total power	1760 W
Total power per area (162866.44 m²)	0.01 W/m²

Illuminance

Average illuminance	Em	0.17 lx
Minimum illuminance	Emin	0 lx
Maximum illuminance	Emax	2.13 lx
Uniformity Uo	Emin/Em	1:--- (---)
Diversity Ud	Emin/Emax	1:--- (---)

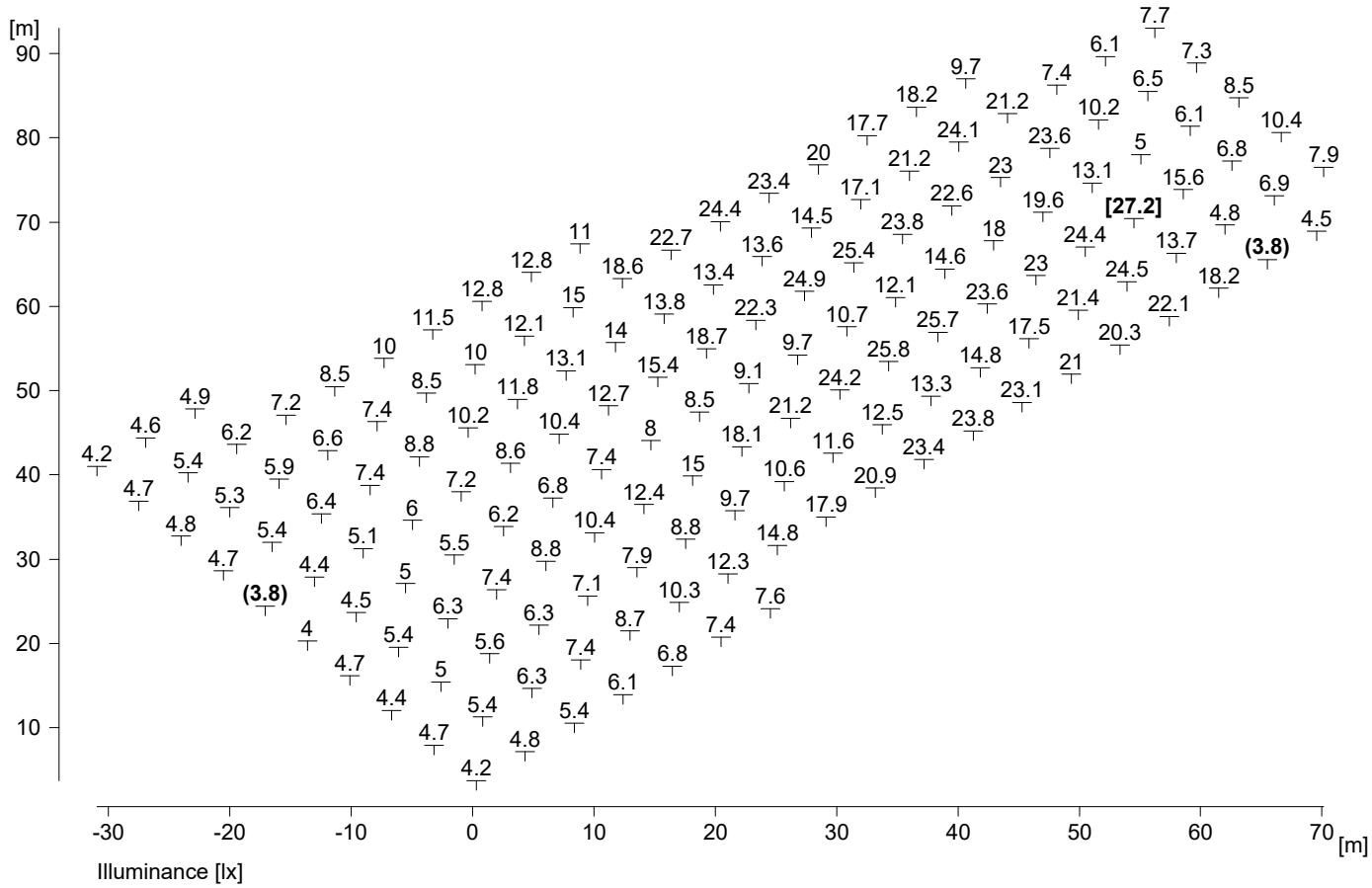
Type No.\Make

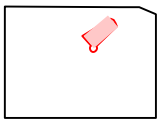
		LUX	
1	4	Order No.	: PLS
		Luminaire name	: PLS-400-PLUS-8x8
		Equipment	: 1 x 440 W / 34804 lm

1 Exterior 1

1.3 Calculation results, Exterior 1

1.3.1 Table, 100m Driving Range (E)

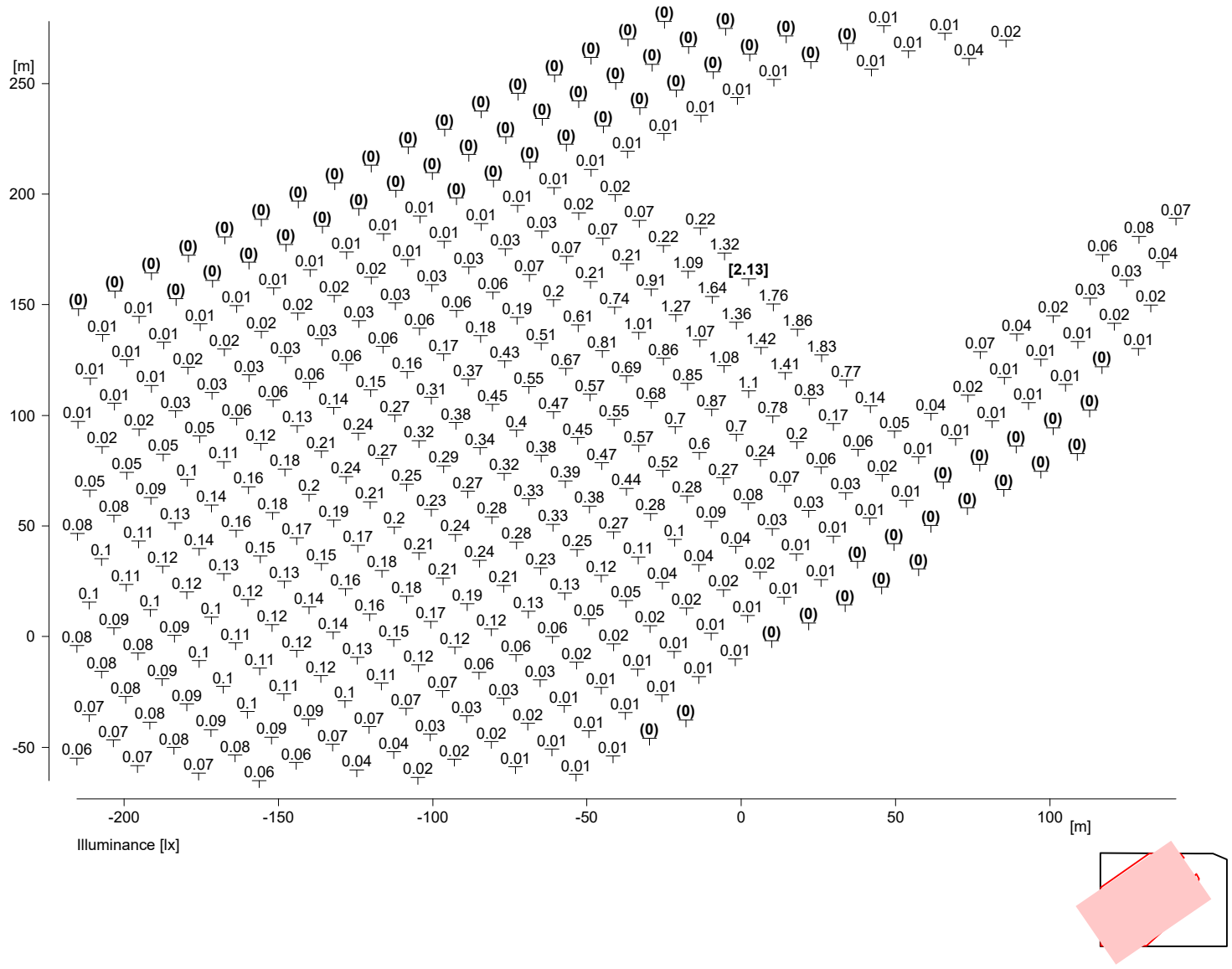




Height reference plane		: 0.00 m
Average illuminance	Em	: 12.1 lx
Minimum illuminance	Emin	: 3.8 lx
Maximum illuminance	Emax	: 27.2 lx
Uniformity Uo	Emin/Em	: 1 : 3.21 (0.31)
Diversity Ud	Emin/Emax	: 1 : 7.25 (0.14)

1.3 Calculation results, Exterior 1

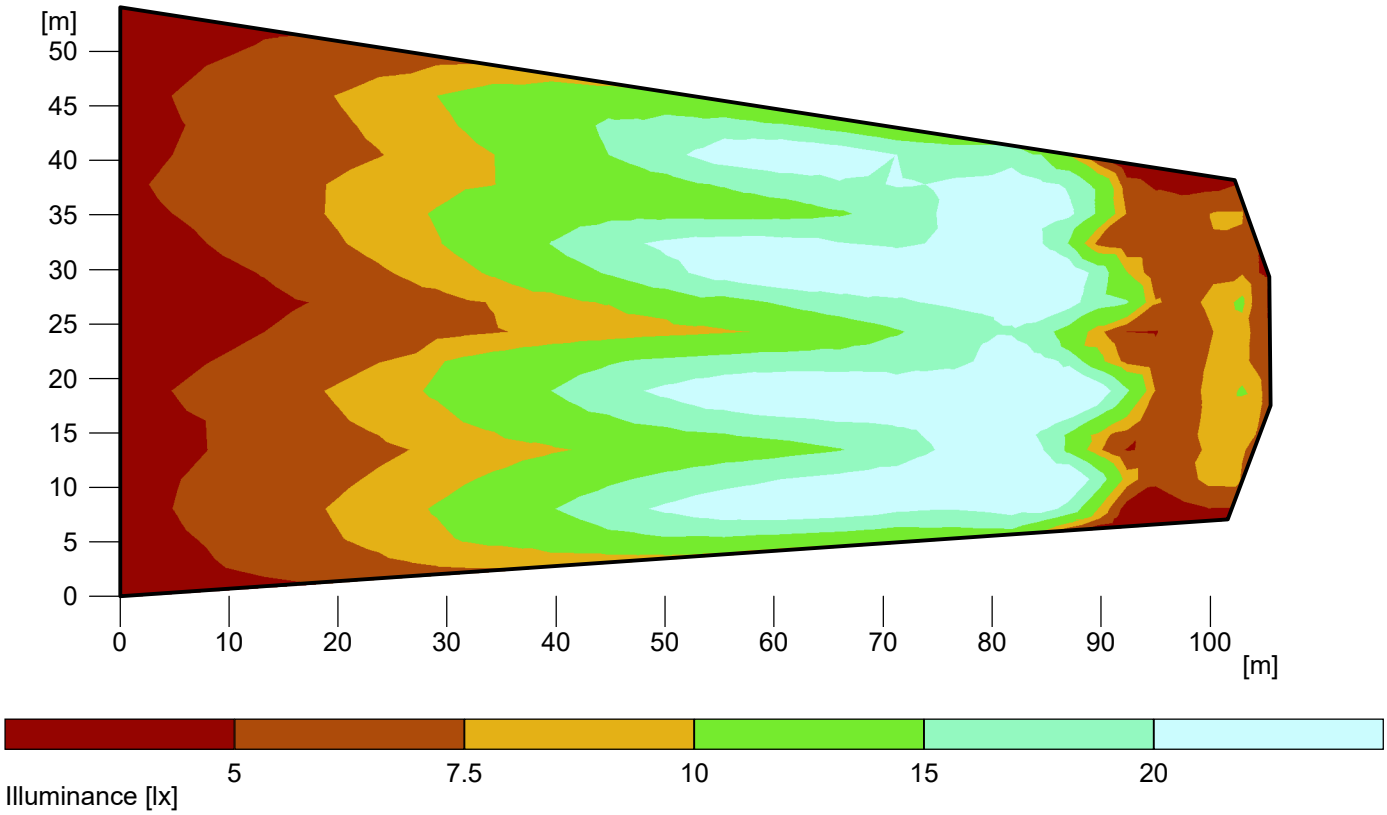
1.3.2 Table, Lightspill area (E)



Height reference plane		: 0.10 m
Average illuminance	Em	: 0.17 lx
Minimum illuminance	Emin	: 0 lx
Maximum illuminance	Emax	: 2.13 lx
Uniformity Uo	Emin/Em	: ---
Diversity Ud	Emin/Emax	: ---

1.3 Calculation results, Exterior 1

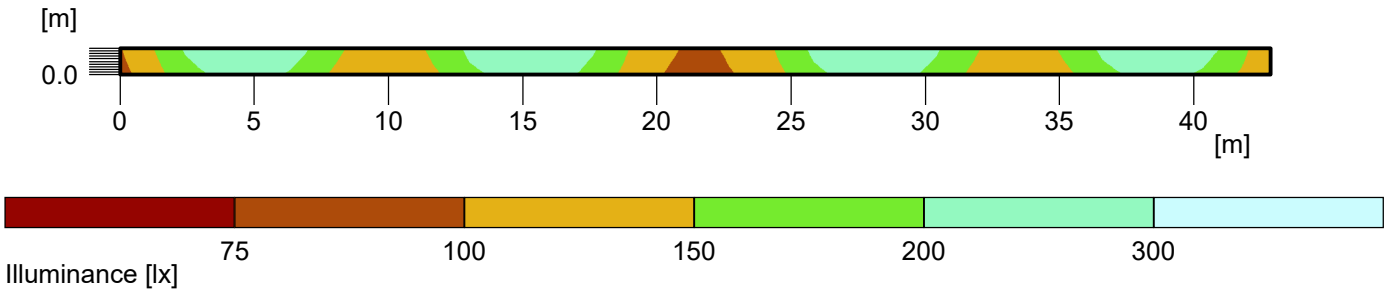
1.3.3 Pseudo colours, 100m Driving Range (E)



Height reference plane		: 0.00 m
Average illuminance	Em	: 12.1 lx
Minimum illuminance	Emin	: 3.8 lx
Maximum illuminance	Emax	: 27.2 lx
Uniformity Uo	Emin/Em	: 1 : 3.21 (0.31)
Diversity Ud	Emin/Emax	: 1 : 7.25 (0.14)

1.3 Calculation results, Exterior 1

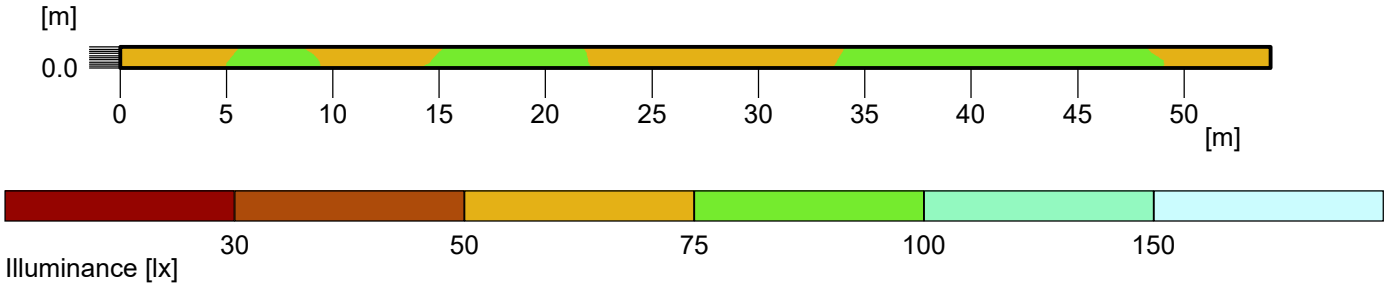
1.3.4 Pseudo colours, Vertical reference plane @ 50m (E)



Average illuminance	Em	: 174 lx
Minimum illuminance	Emin	: 89 lx
Maximum illuminance	Emax	: 241 lx
Uniformity Uo	Emin/Em	: 1 : 1.96 (0.51)
Diversity Ud	Emin/Emax	: 1 : 2.71 (0.37)

1.3 Calculation results, Exterior 1

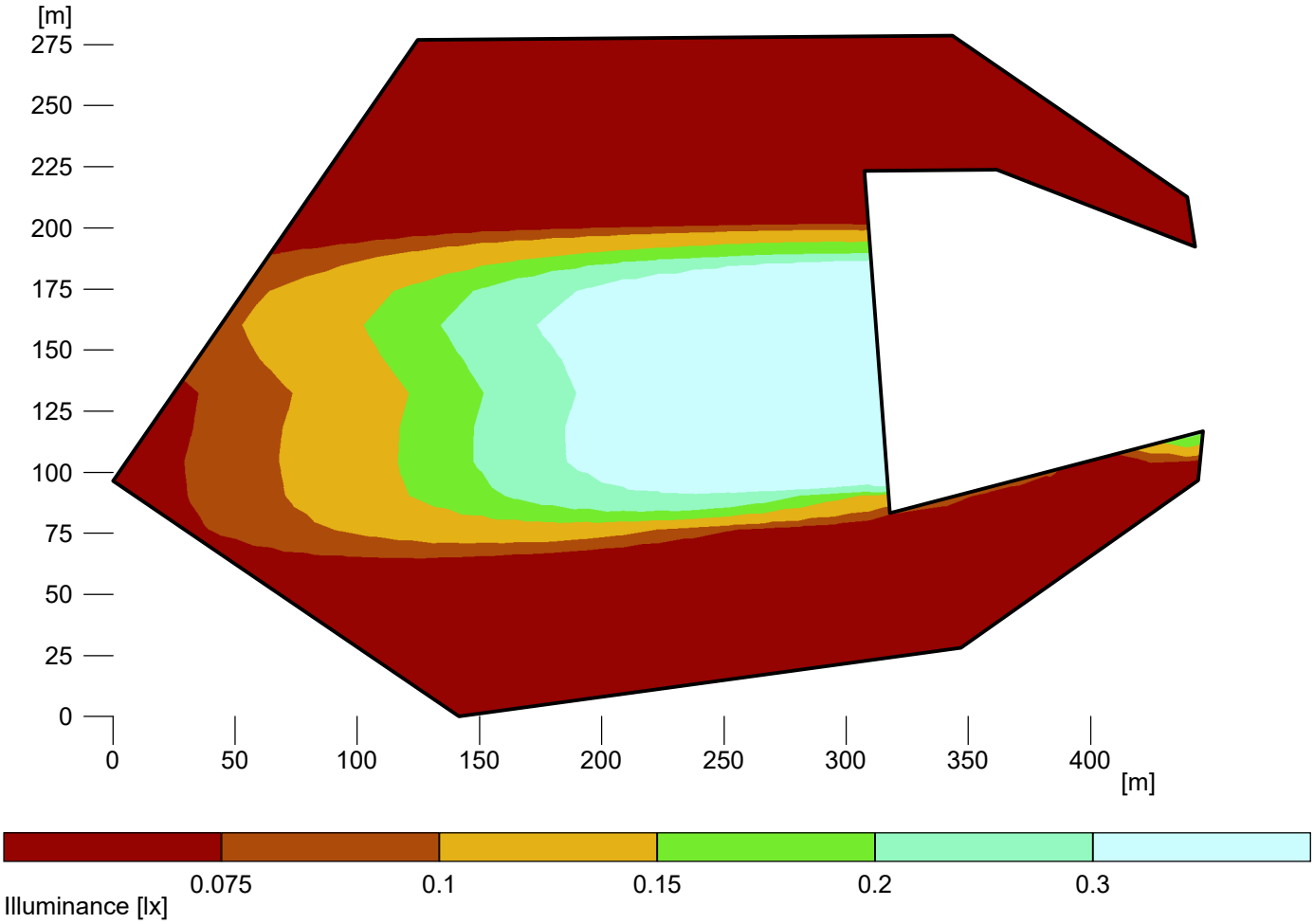
1.3.5 Pseudo colours, Vertical reference plane @ 100m (E)



Average illuminance	Em	: 72.6 lx
Minimum illuminance	Emin	: 56.6 lx
Maximum illuminance	Emax	: 81 lx
Uniformity Uo	Emin/Em	: 1 : 1.28 (0.78)
Diversity Ud	Emin/Emax	: 1 : 1.43 (0.70)

1.3 Calculation results, Exterior 1

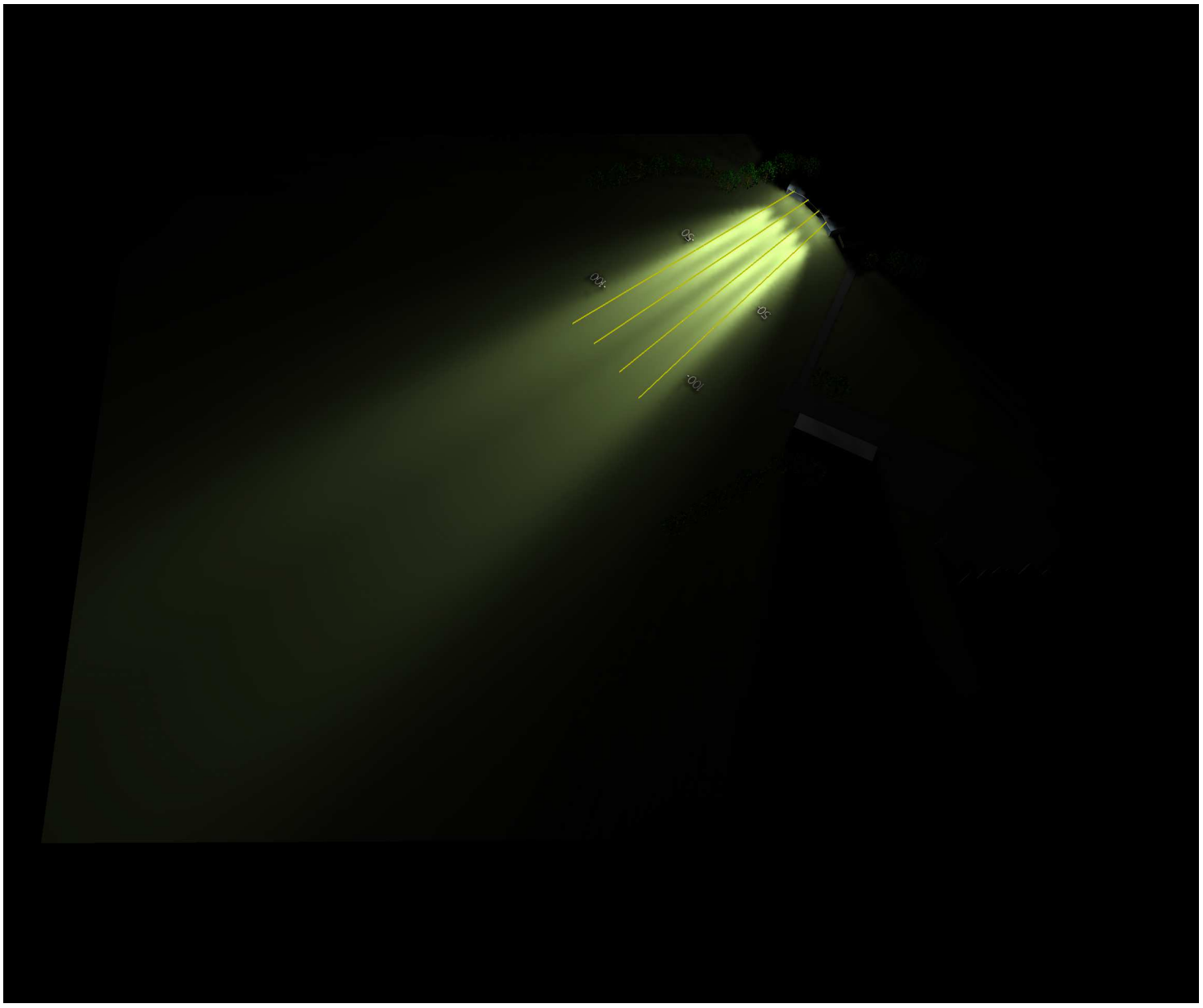
1.3.6 Pseudo colours, Lightspill area (E)



Height reference plane		: 0.10 m
Average illuminance	Em	: 0.17 lx
Minimum illuminance	Emin	: 0 lx
Maximum illuminance	Emax	: 2.13 lx
Uniformity Uo	Emin/Em	: ---
Diversity Ud	Emin/Emax	: ---

1.3 Calculation results, Exterior 1

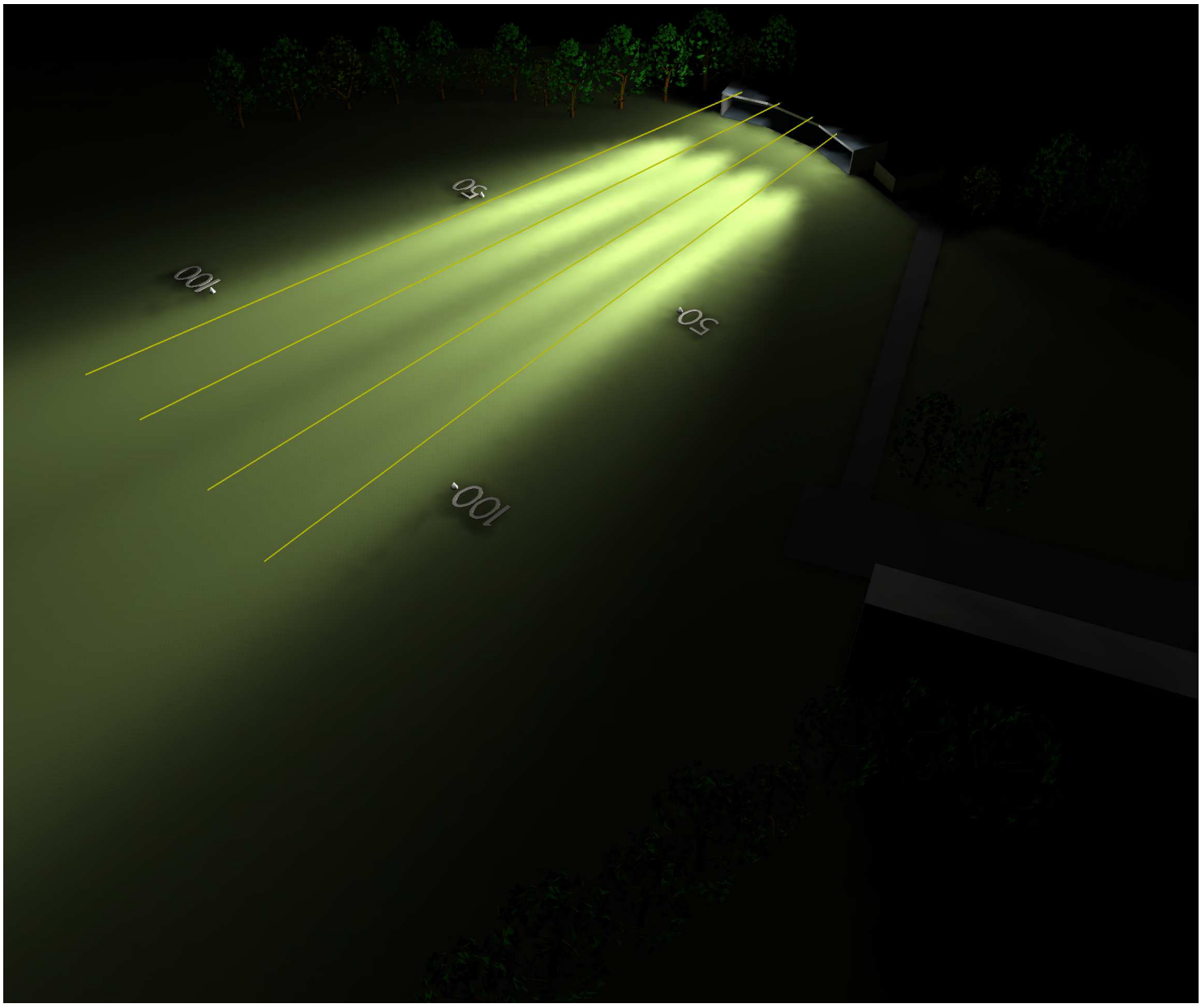
1.3.7 3D luminance, View 1



Luminance in the scene
Minimum: : 0 cd/m²
Maximum: : 8.08 cd/m²

1.3 Calculation results, Exterior 1

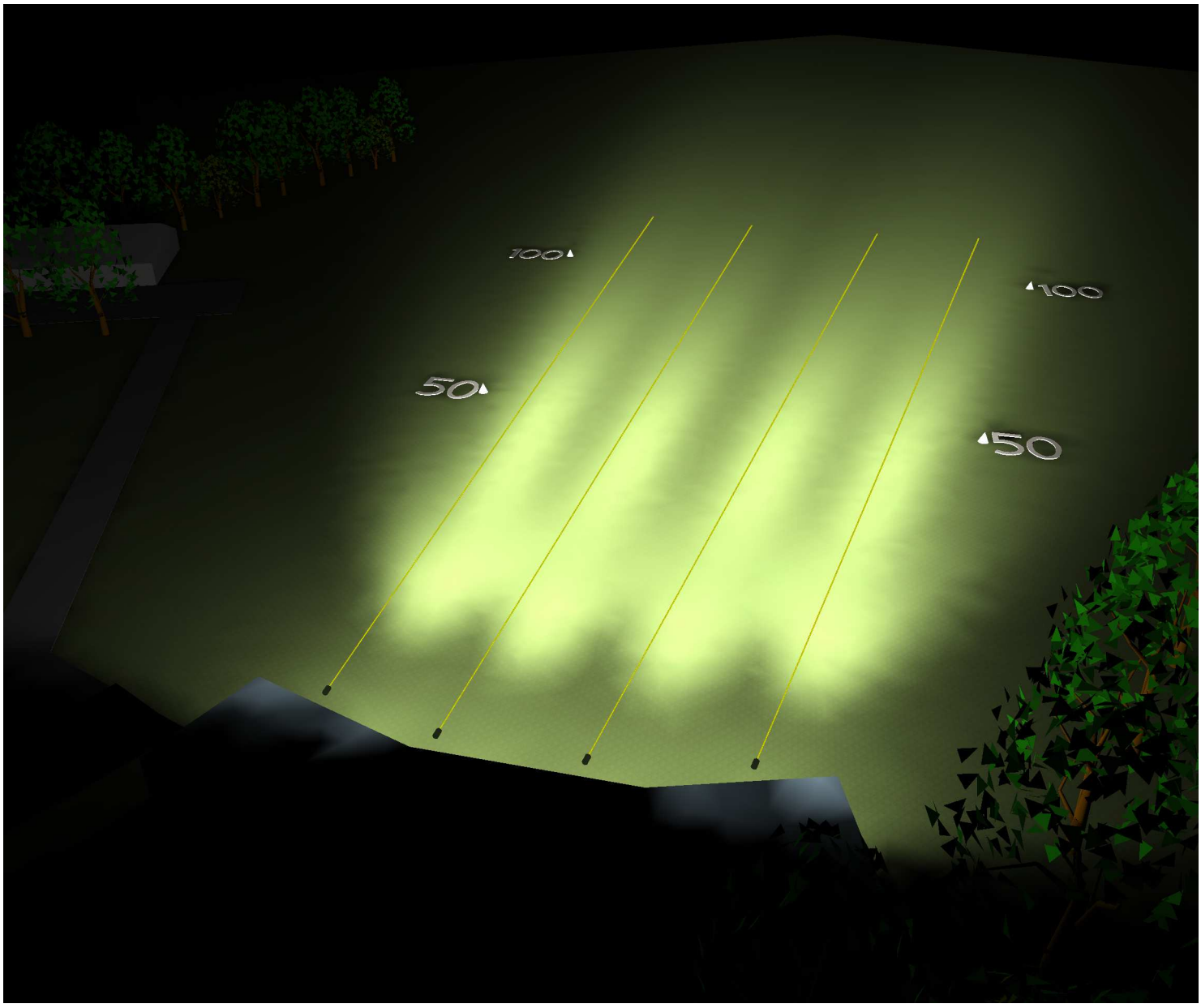
1.3.8 3D luminance, View 2



Luminance in the scene
Minimum: : 0 cd/m²
Maximum: : 8.08 cd/m²

1.3 Calculation results, Exterior 1

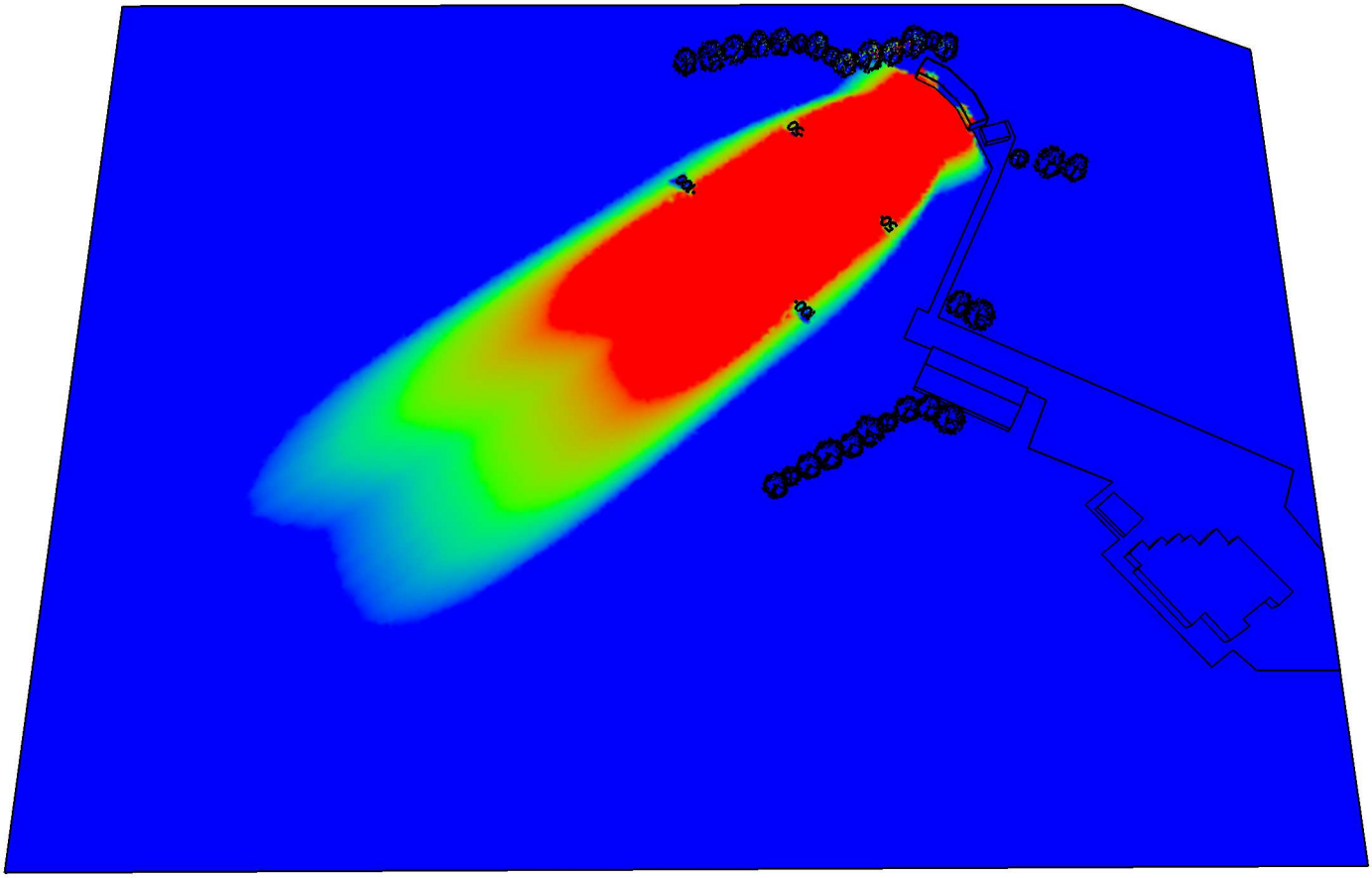
1.3.9 3D luminance, View 3

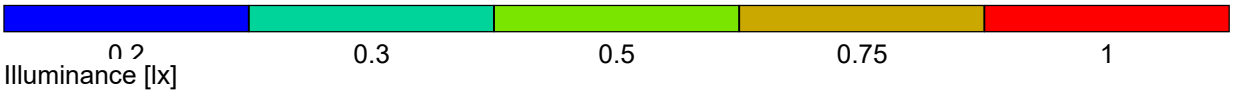


Luminance in the scene
Minimum: : 0 cd/m²
Maximum: : 8.08 cd/m²

1.3 Calculation results, Exterior 1

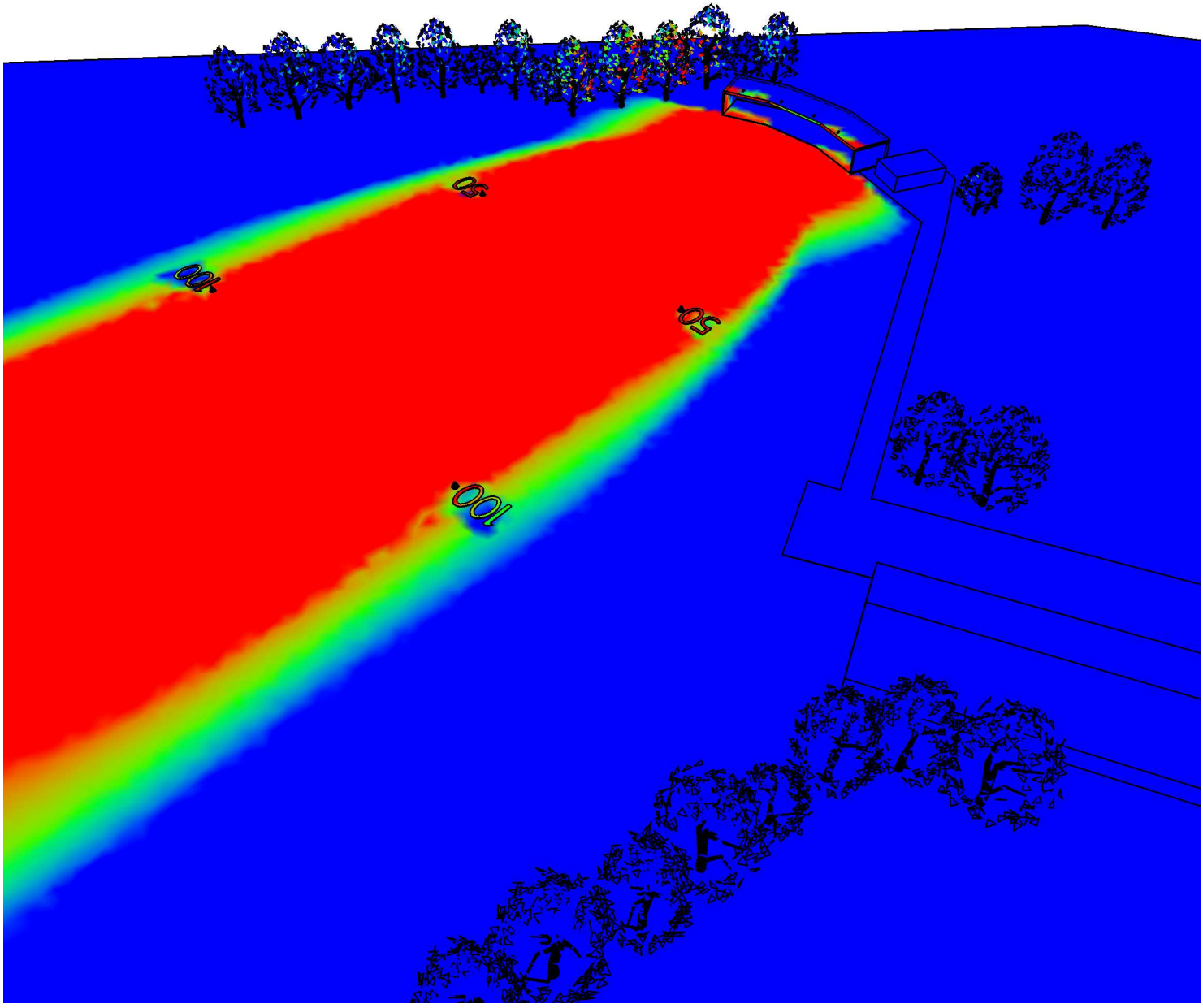
1.3.10 3D pseudo colours, View 1 (E)

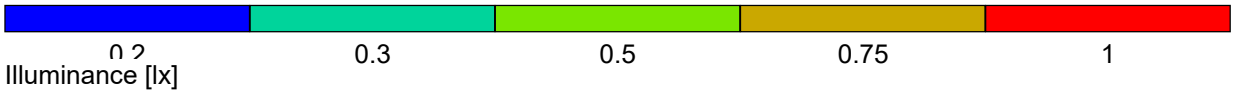




1.3 Calculation results, Exterior 1

1.3.11 3D pseudo colours, View 2 (E)





1.3 Calculation results, Exterior 1

1.3.12 3D pseudo colours, View 3 (E)