Condition 11 of H05-0396-17 – Lighting

matrix planning

External lighting is described below (x21 external lamps positioned at eaves level), a further x3 emergency exit lights will be installed at low level

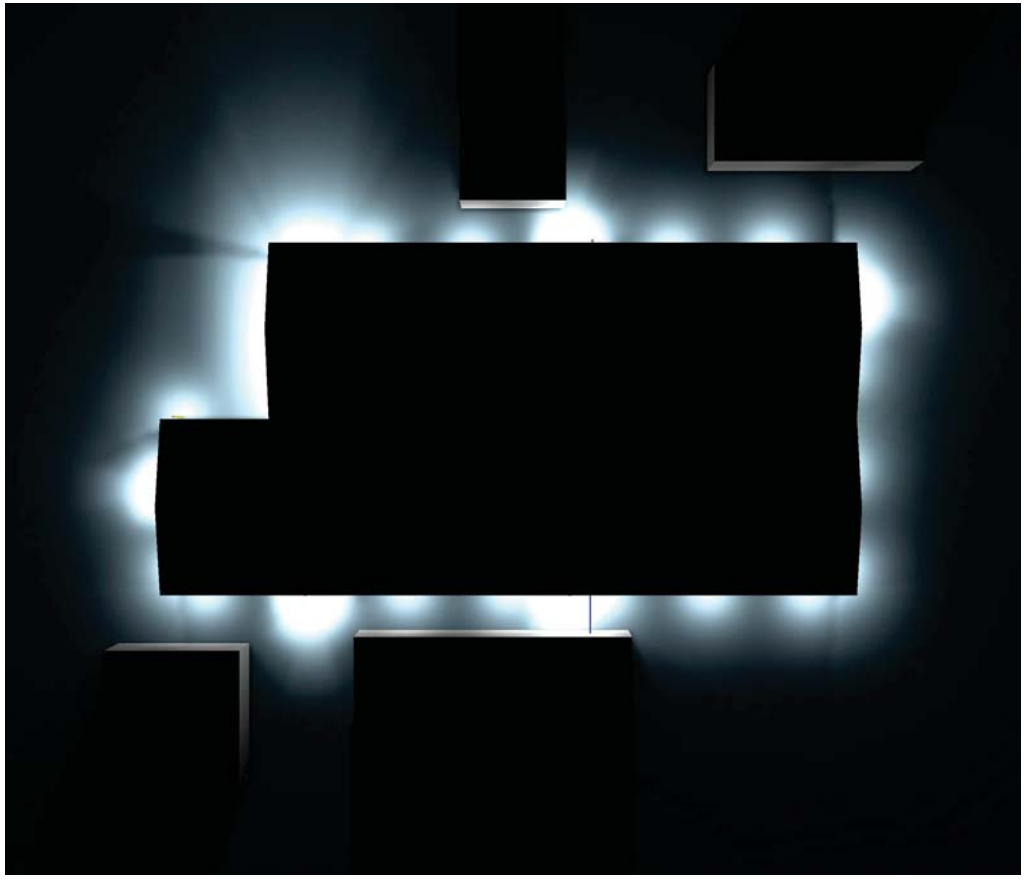
No of lamps	name	number	tot. load [W]	lamp(s)
16	10W Floodlight Elite, 120 degree, 840	FLD083	9.21956	1xLED 4000K 9.22 W
5	60W Floodlight Elite, 120 degree, 840	FLD086	53.2326	1xLED 4000K 53.23 W
3	Emergevac 5W Emergency Bulkhead with Exit Legends	EMG012	4	1x 4 W

In summary and for convenience of casual readers, the following diagrams show the key lighting outcomes graphically.

A full lighting report then follows that demonstrates that the light spread will be limited to the immediate small apron around the building

1.3 Calculation results, External Lighting

1.3.7 3D luminance, View from above

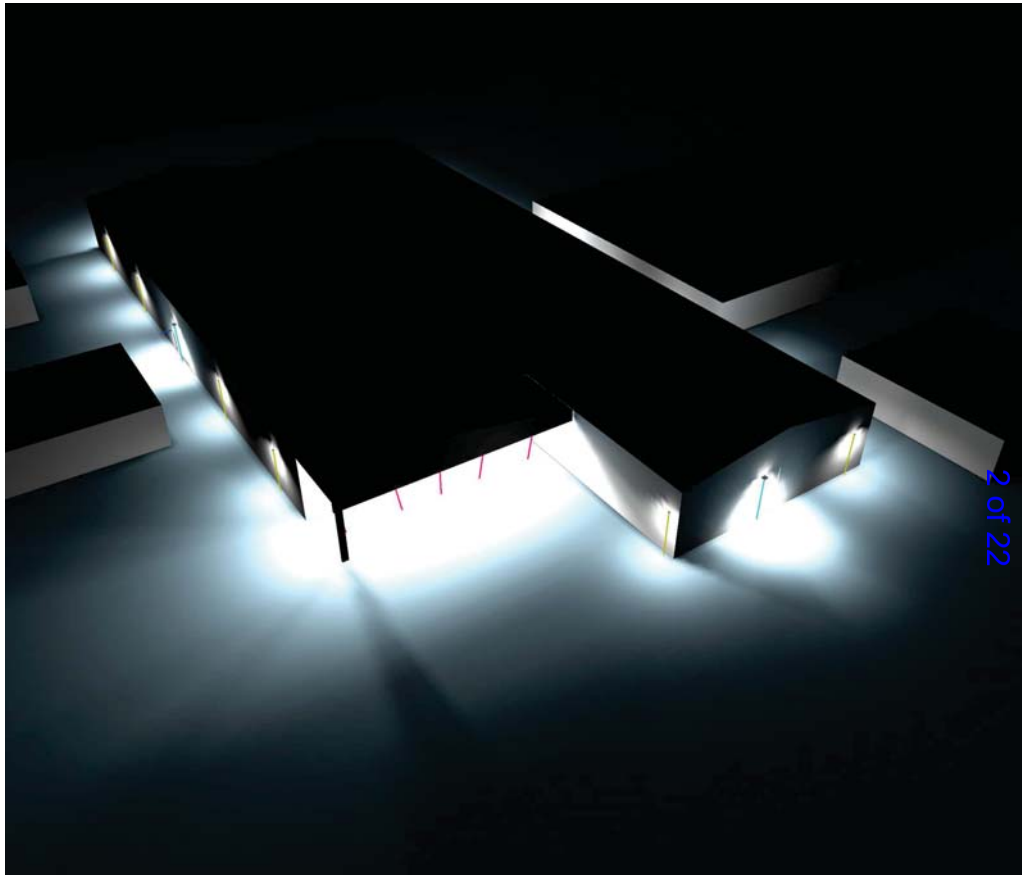


Luminance in the scene
Minimum: : 0 cd/m²
Maximum: : 239 cd/m²

Object : You Garden Ltd - Agricultural Packing House
Installation : Proposed New External Lighting
Project number :
Date : 01.02.2018

1.3 Calculation results, External Lighting

1.3.8 3D luminance, View 2



2 of 22

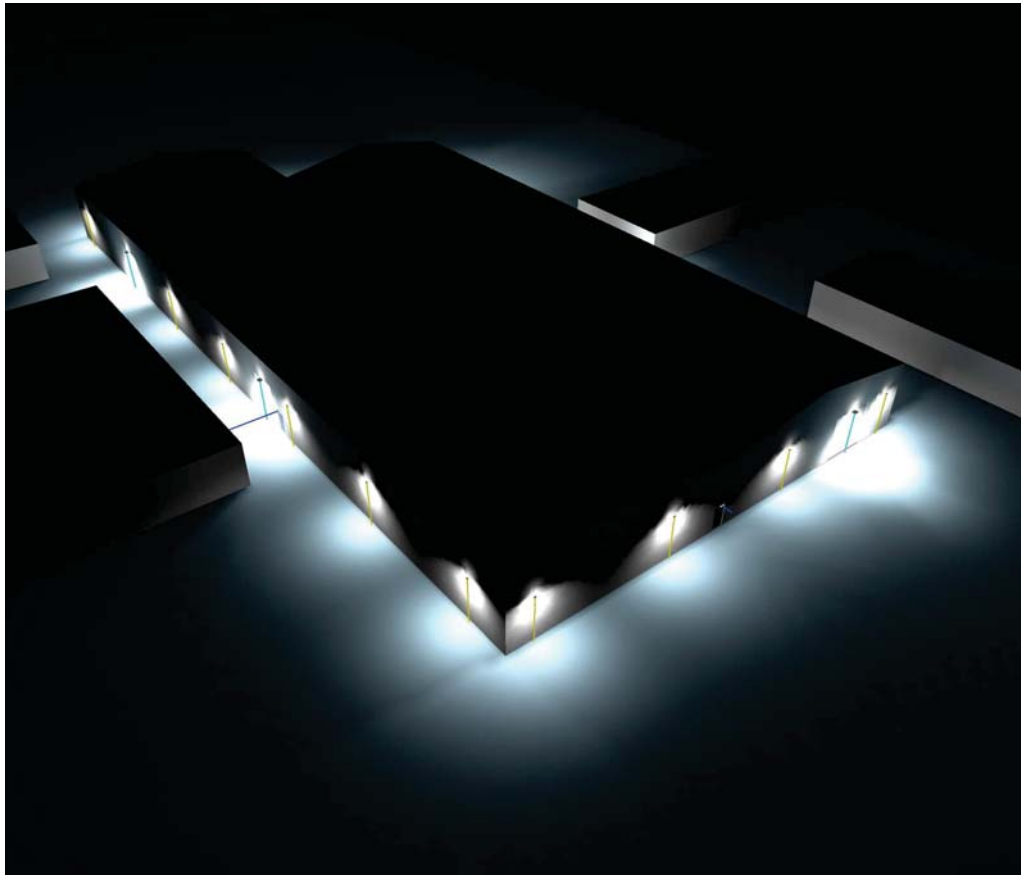
Luminance in the scene
Minimum: : 0 cd/m²
Maximum: : 239 cd/m²

Summary

produced by
Venture Lighting Europe Ltd.
You Gargen New Packing House external lighting plots 180201

1.3 Calculation results, External Lighting

1.3.9 3D luminance, View 3

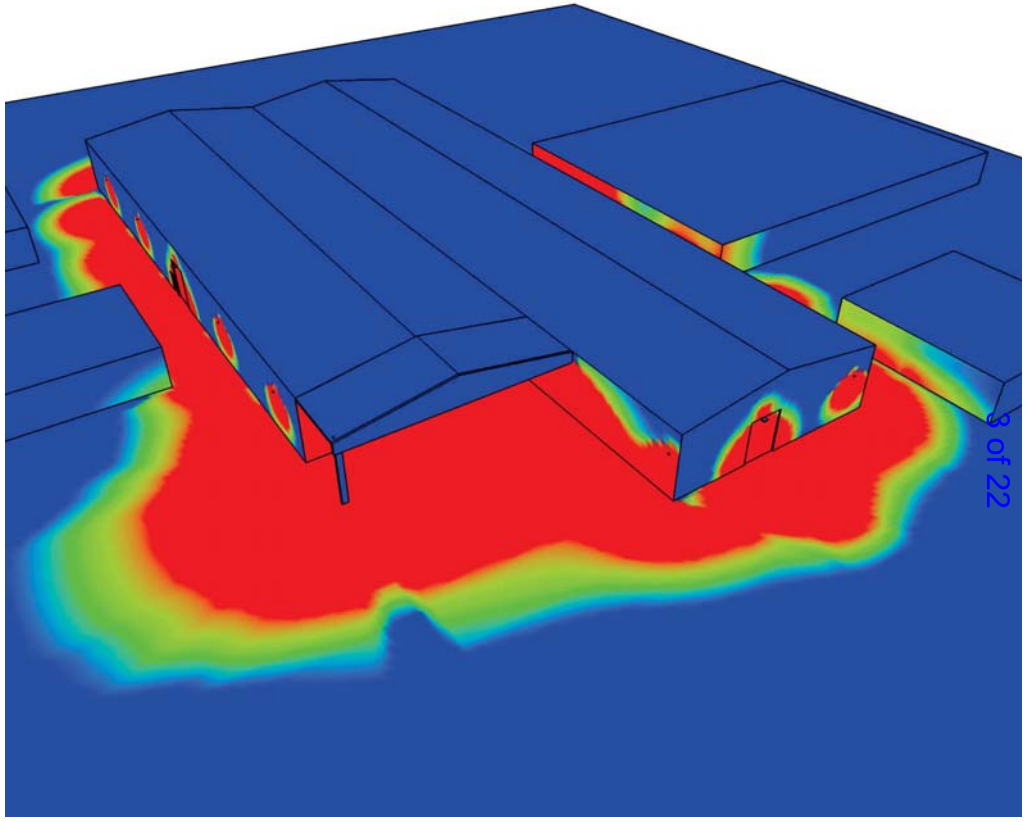


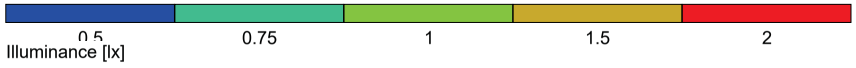
Luminance in the scene
Minimum: : 0 cd/m²
Maximum: : 239 cd/m²

Object : You Garden Ltd - Agricultural Packing House
Installation : Proposed New External Lighting
Project number :
Date : 01.02.2018

1.3 Calculation results, External Lighting

1.3.10 3D pseudo colours, View 2 (E)

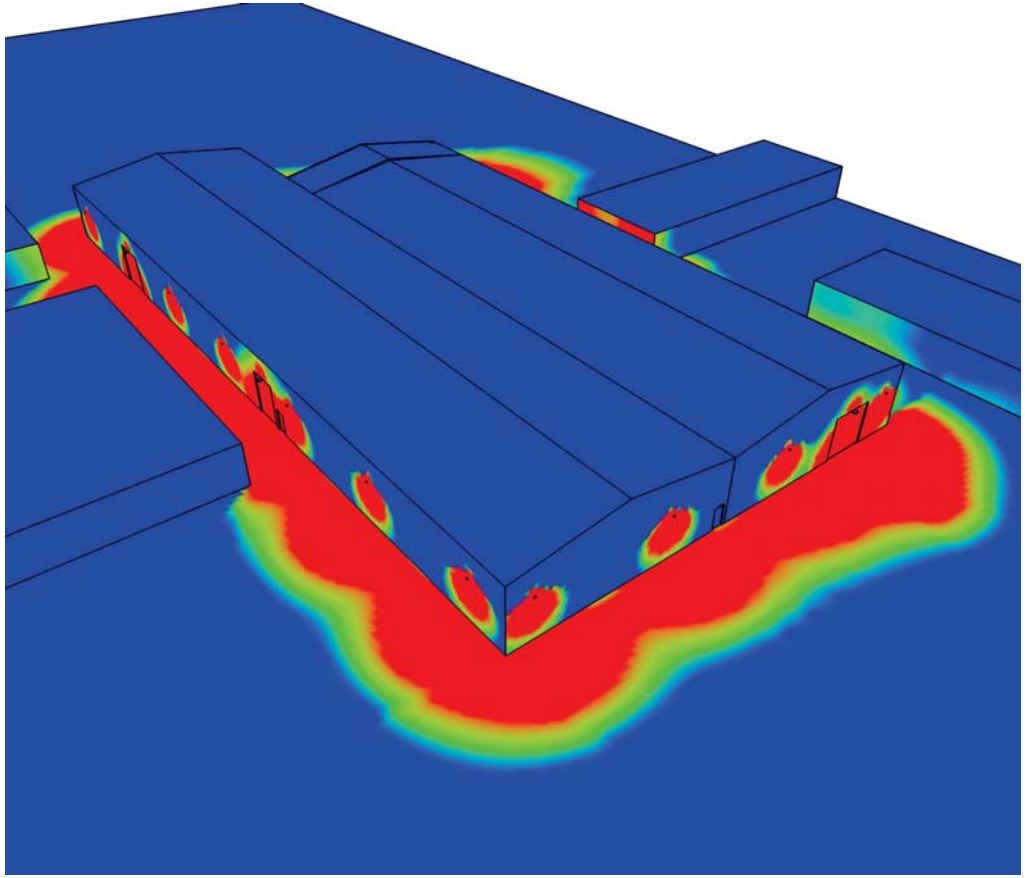


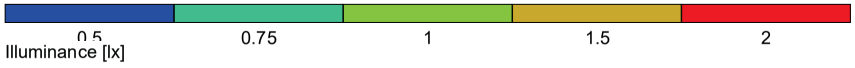


Summary

1.3 Calculation results, External Lighting

1.3.11 3D pseudo colours, View 3 (E)



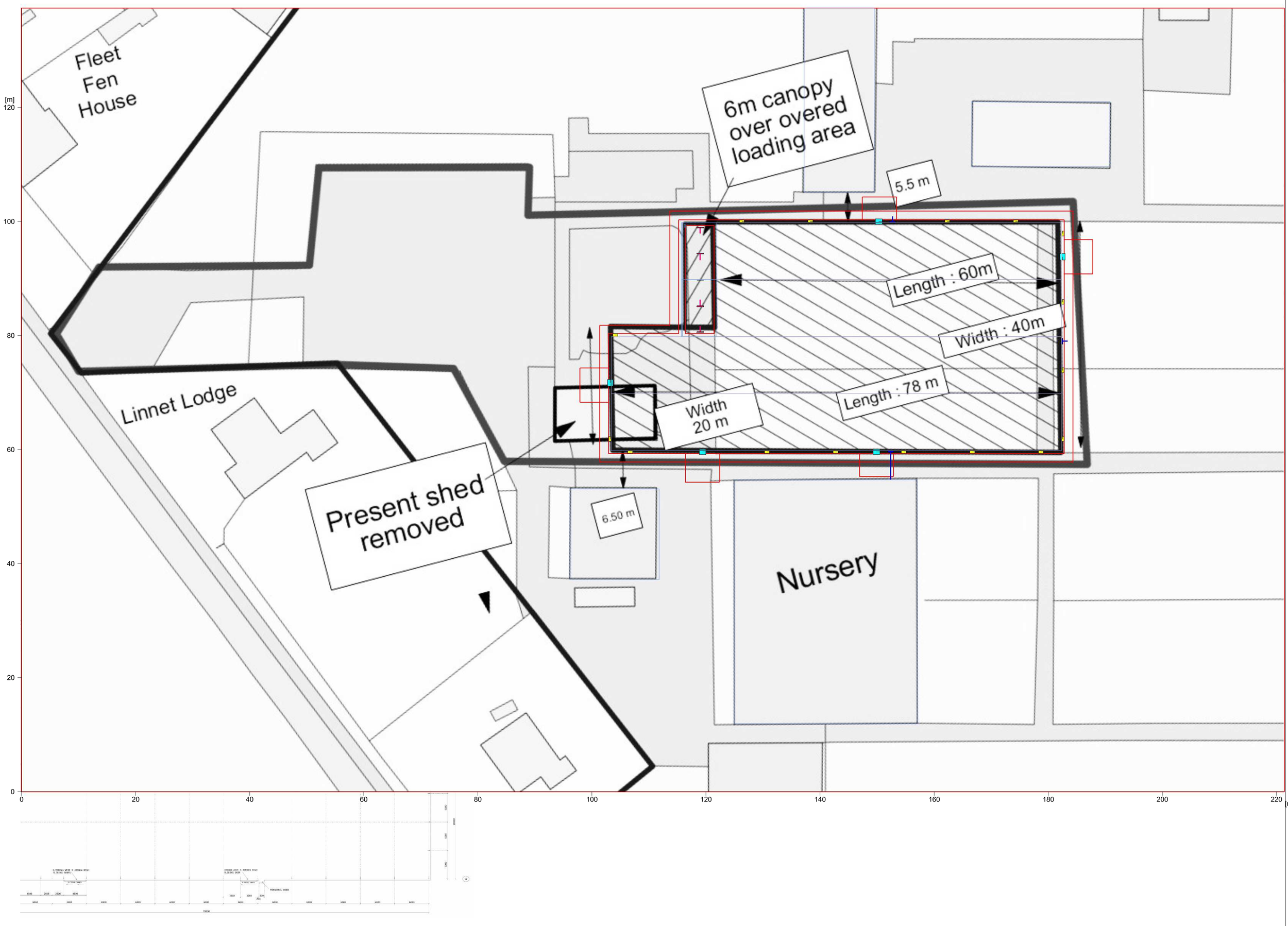


1 External Lighting

1.1 Description, External Lighting

1.1.1 Floor plan

This A1 size plan shows precise location of lamps



Full report by Venture Lighting

You Garden Ltd - Agricultural Packing House

Installation : Proposed New External Lighting

Project number :
Customer : Rexel, Peterborough
Processed by : MDUK
Date : 01.02.2018

Project description:
Calculation based on standard reflectances.

Room/exterior area dimensions and floor to ceiling/mounting heights issued from customer.

PLEASE NOTE: All room/exterior area dimensions to be checked on-site prior to installation.

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.

Lighting designed to the following target lux levels, with floodlighting mounted at 4m from FFL and Bulkheads mounted 300mm above fire exits;
Perimeter; 10lux,
Door Areas including Loading Canopy Area; 50lux.

The following values are based on exact calculations on calibrated lamps, luminaires and their arrangement. In practice, gradual divergences can occur.

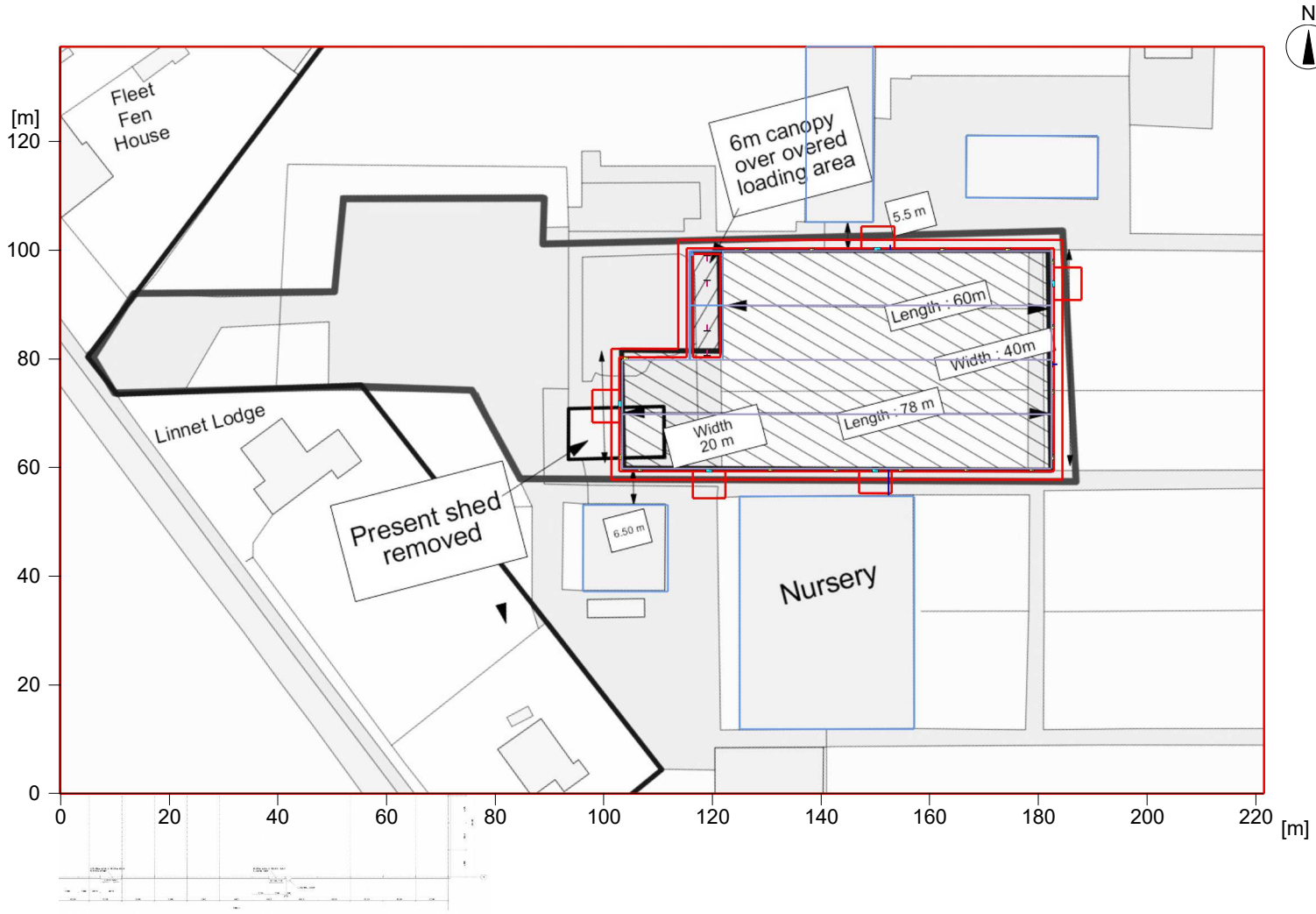
Guarantee claims for luminaire data are excluded.

Relux and the luminaire manufacturers accept no liability for consequential damage and damage which is occasioned to the user or to third parties.

1 External Lighting

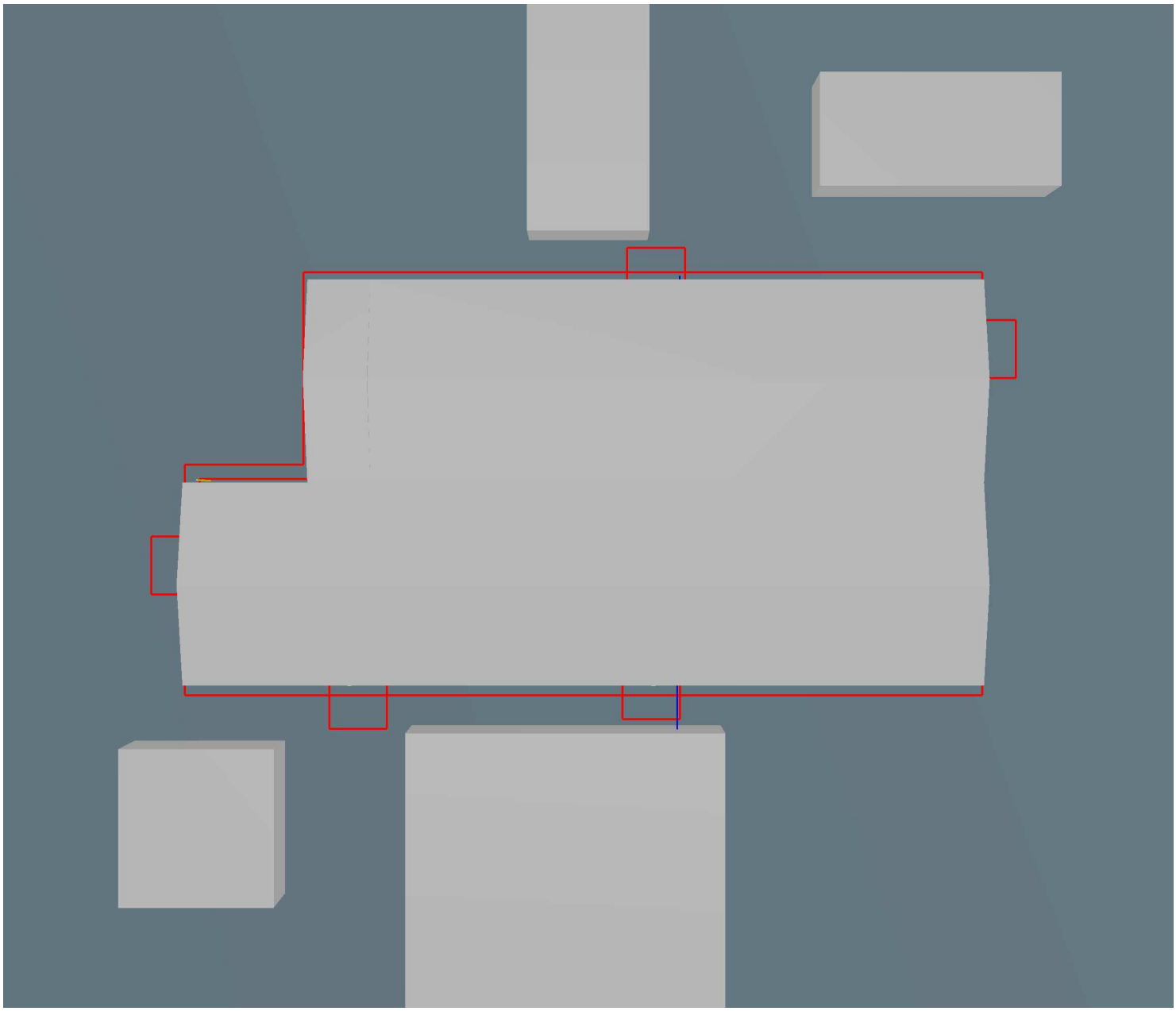
1.1 Description, External Lighting

1.1.1 Floor plan



1.1 Description, External Lighting

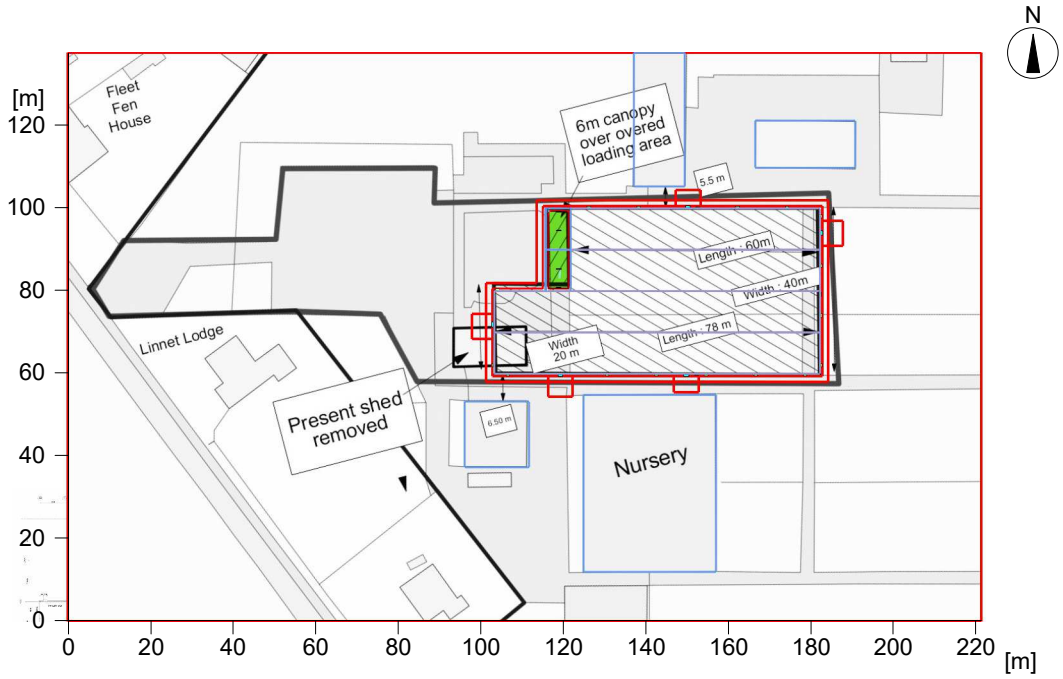
1.1.2 3D view, View from above

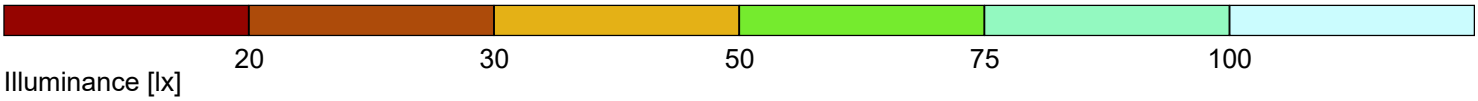


1 External Lighting

1.2 Summary, External Lighting

1.2.1 Result overview, 6x20m Loading Bay





Illuminance [lx]

General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.80
Total luminous flux of all lamps	70093 lm
Total power	691.7 W
Total power per area (30420.36 m²)	0.02 W/m²

Illuminance

Average illuminance	Eav	63.1 lx
Minimum illuminance	Emin	44.7 lx
Maximum illuminance	Emax	71.6 lx
Uniformity Uo	Emin/Em	1:1.41 (0.71)
Diversity Ud	Emin/Emax	1:1.6 (0.62)

Type No.\Make

Venture Lighting Europe Ltd.

1 5
Order No. : NCR011
Luminaire name : 52W Non-Corrosive, Twin 4ft LED 850
Equipment : 1 x LED 5000K 53.2 W / 5235 lm

2 16
Order No. : FLD083
Luminaire name : 10W Floodlight Elite, 120 degree, 840
Equipment : 1 x LED 4000K 9.22 W / 962 lm

3 5
Order No. : FLD086
Luminaire name : 60W Floodlight Elite, 120 degree, 840
Equipment : 1 x LED 4000K 53.23 W / 5632 lm

1 External Lighting

1.2 Summary, External Lighting

1.2.1 Result overview, 6x20m Loading Bay

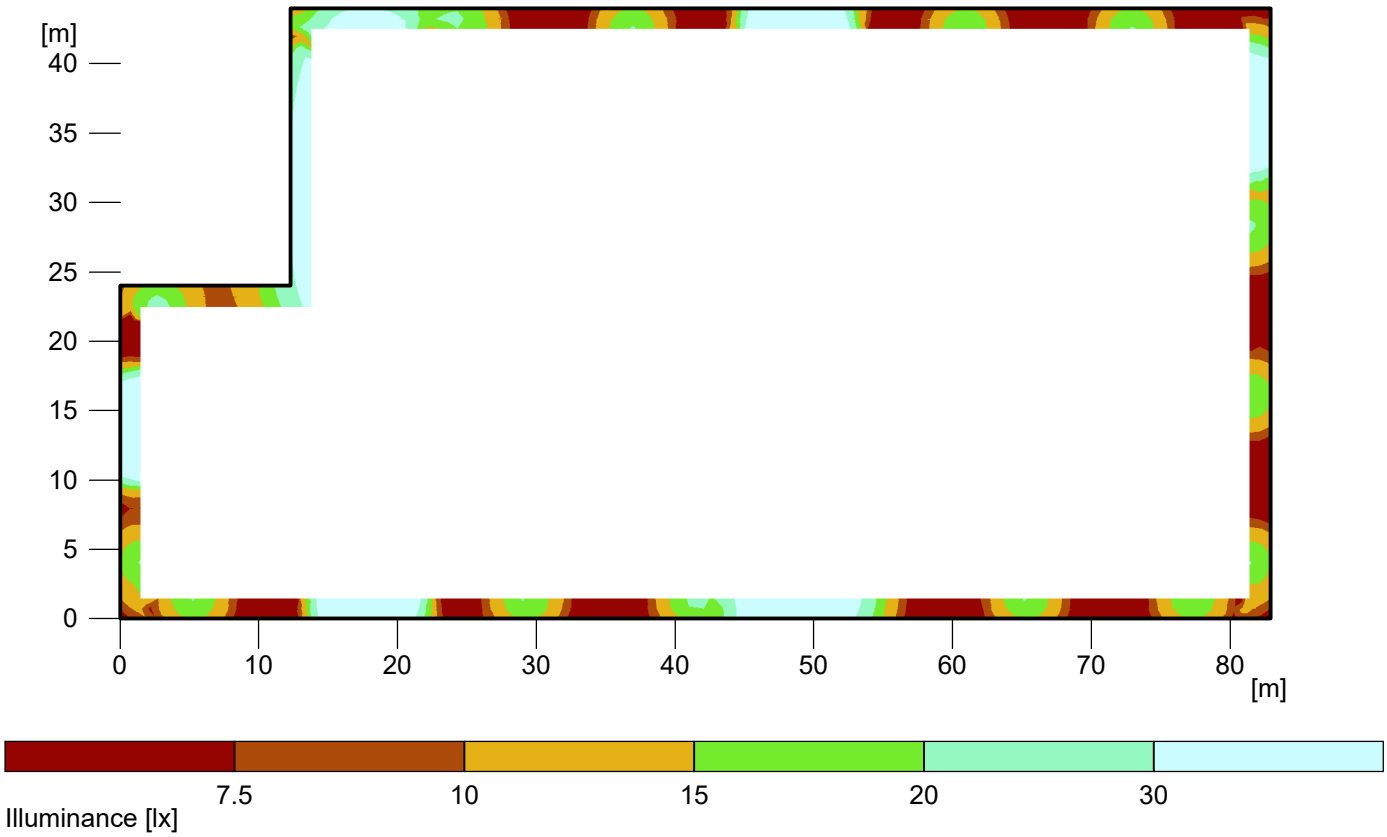


Venture Lighting Europe Ltd
Order No. : EMG012
Luminaire name : Emergevac 5W Emergency Bulkhead with Exit Legends
Equipment : 1 x 4 W / 122 lm

1 External Lighting

1.3 Calculation results, External Lighting

1.3.1 Pseudo colours, 2m Wide Building Perimeter (E)

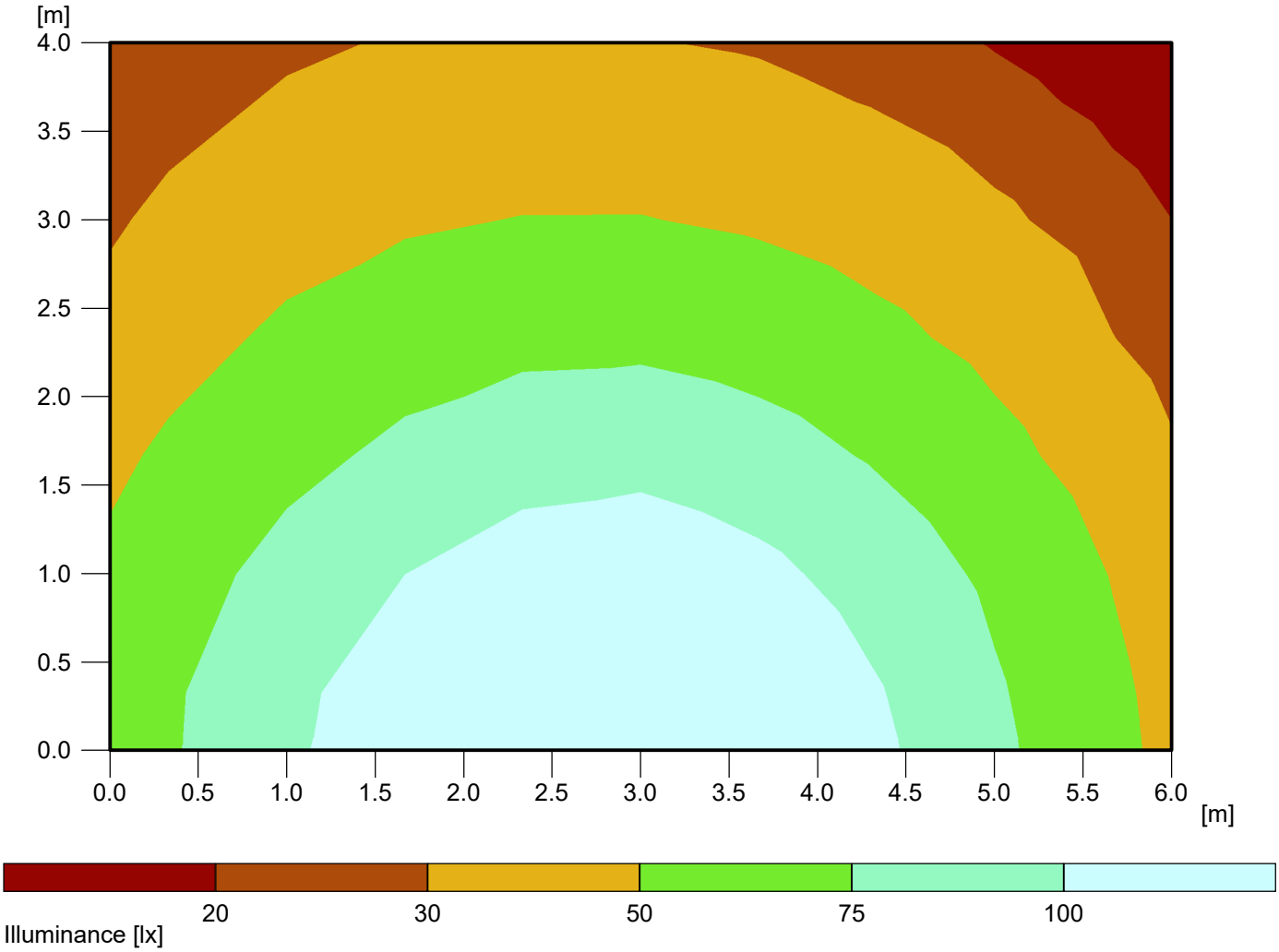


Height of the reference plane : 0.00 m

Average illuminance	Eav	: 24 lx
Minimum illuminance	Emin	: 1 lx
Maximum illuminance	Emax	: 139 lx
Uniformity Uo	Emin/Eav	: 1 : 34.28 (0.03)
Diversity Ud	Emin/Emax	: 1 : 200.29 (0.00)

1.3 Calculation results, External Lighting

1.3.2 Pseudo colours, 6x4m area for door on N elev (E)

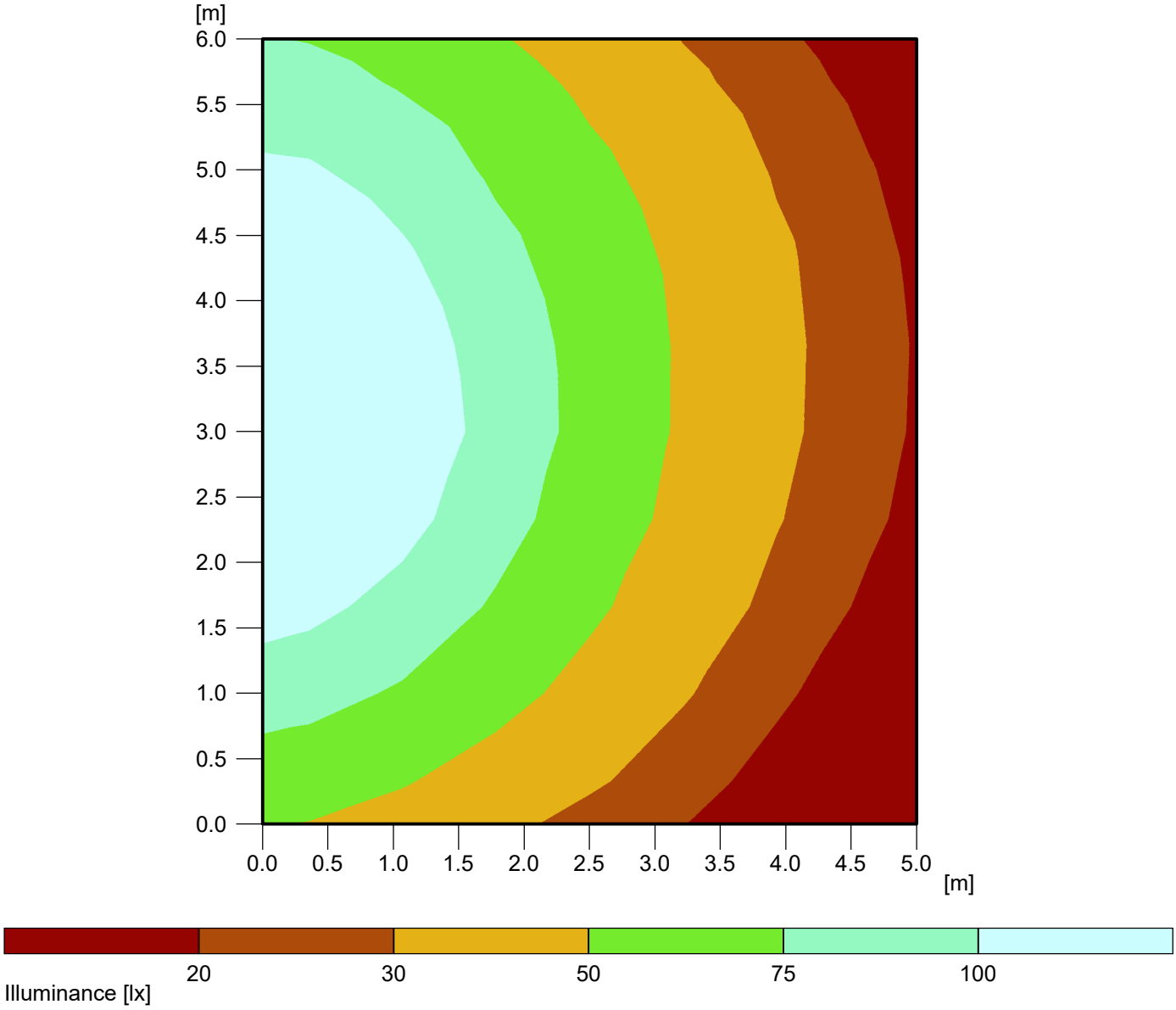


Height of the reference plane : 0.00 m

Average illuminance	Eav	: 64 lx
Minimum illuminance	Emin	: 17 lx
Maximum illuminance	Emax	: 133 lx
Uniformity Uo	Emin/Eav	: 1 : 3.67 (0.27)
Diversity Ud	Emin/Emax	: 1 : 7.64 (0.13)

1.3 Calculation results, External Lighting

1.3.3 Pseudo colours, 5x6m area for door on E elev (E)

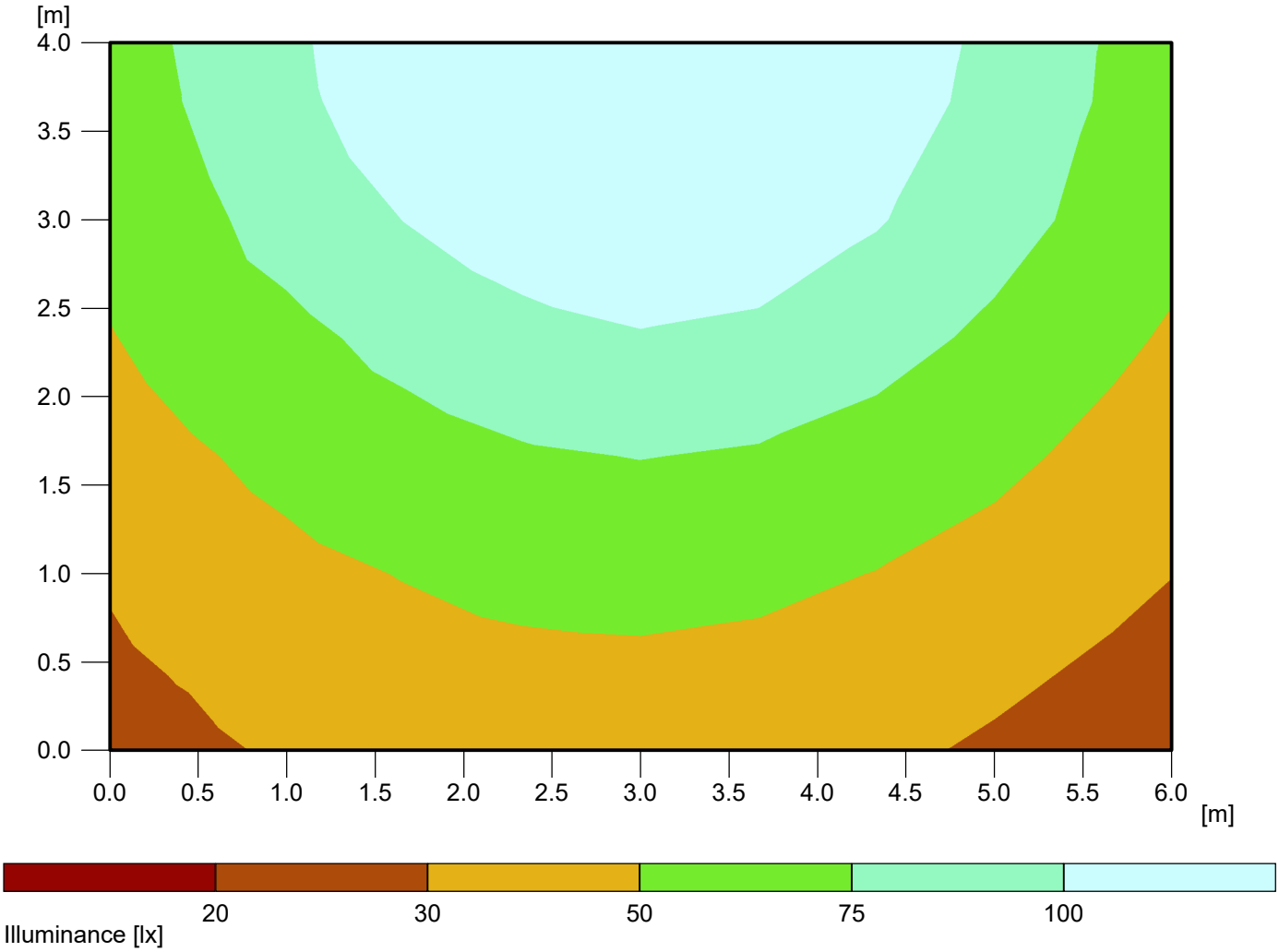


Height of the reference plane : 0.00 m

Average illuminance	Eav	: 58 lx
Minimum illuminance	Emin	: 11 lx
Maximum illuminance	Emax	: 138 lx
Uniformity Uo	Emin/Eav	: 1 : 5.21 (0.19)
Diversity Ud	Emin/Emax	: 1 : 12.28 (0.08)

1.3 Calculation results, External Lighting

1.3.4 Pseudo colours, 6x4m area for door on S elev (RHS) (E)

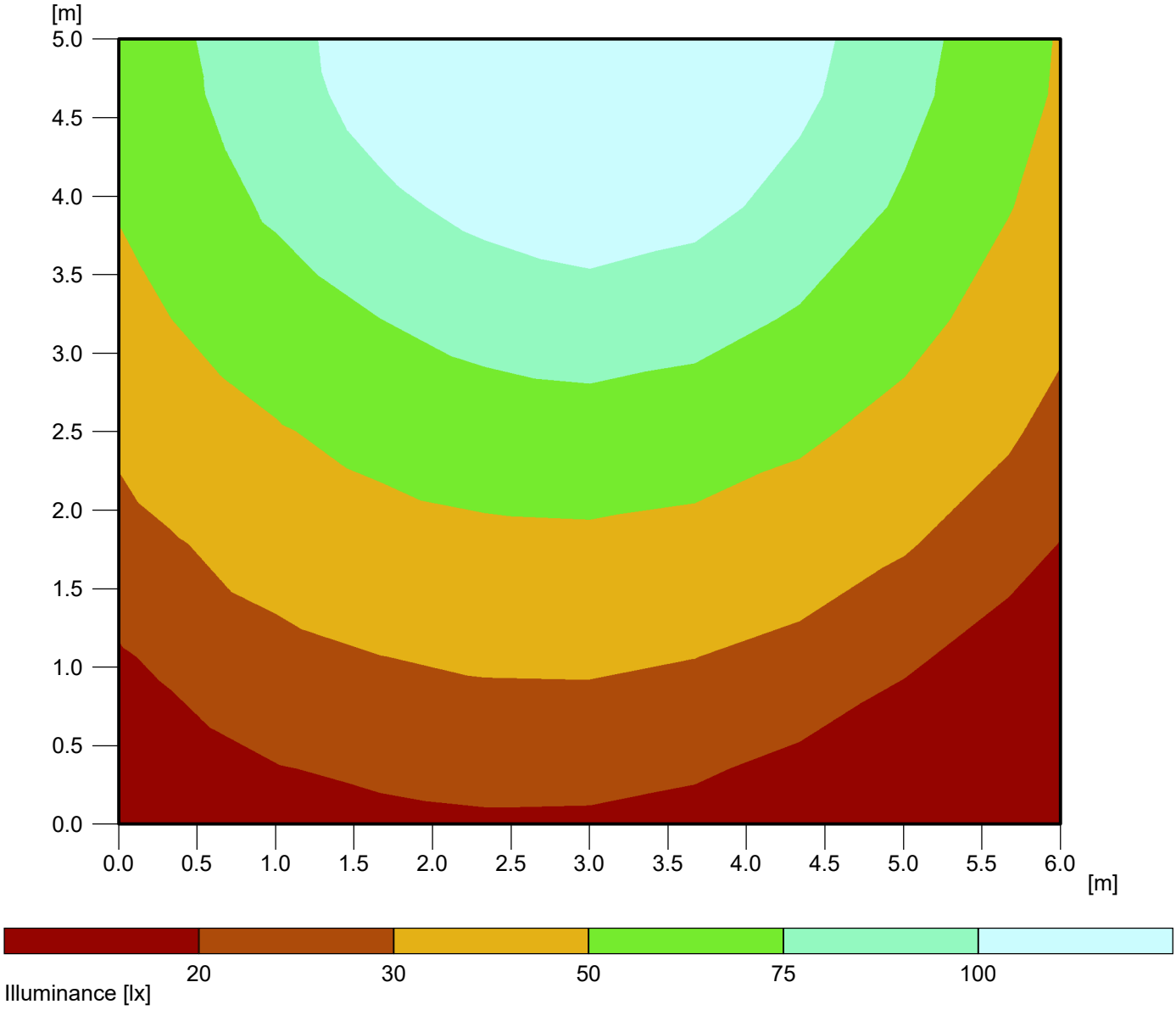


Height of the reference plane : 0.00 m

Average illuminance	Eav	: 71 lx
Minimum illuminance	Emin	: 26 lx
Maximum illuminance	Emax	: 139 lx
Uniformity Uo	Emin/Eav	: 1 : 2.73 (0.37)
Diversity Ud	Emin/Emax	: 1 : 5.37 (0.19)

1.3 Calculation results, External Lighting

1.3.5 Pseudo colours, 5x6m area for door on S elev (LHS) (E)

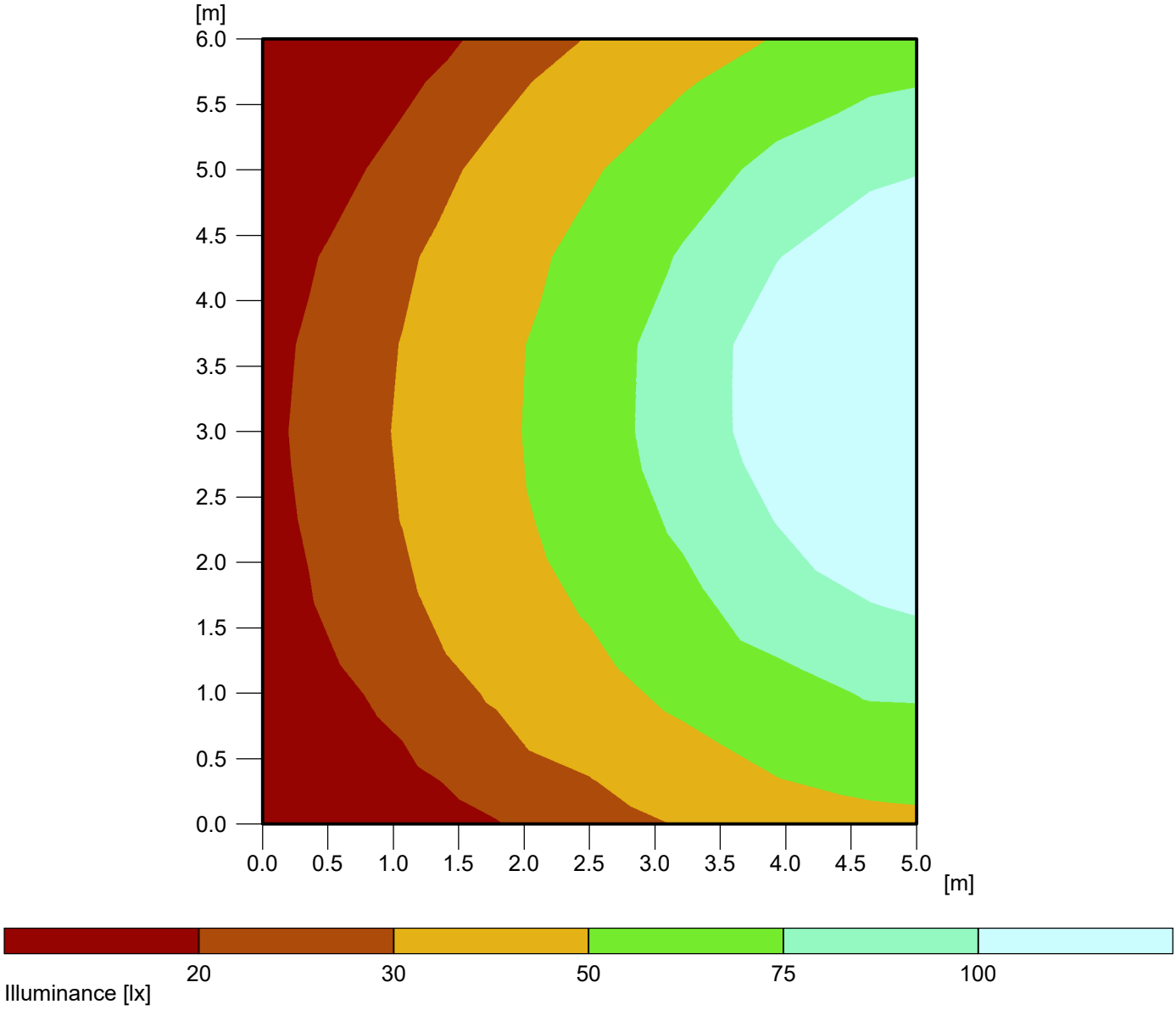


Height of the reference plane : 0.00 m

Average illuminance	Eav	: 55 lx
Minimum illuminance	Emin	: 11 lx
Maximum illuminance	Emax	: 134 lx
Uniformity Uo	Emin/Eav	: 1 : 5.03 (0.20)
Diversity Ud	Emin/Emax	: 1 : 12.16 (0.08)

1.3 Calculation results, External Lighting

1.3.6 Pseudo colours, 5x6m area for door on W elev (E)

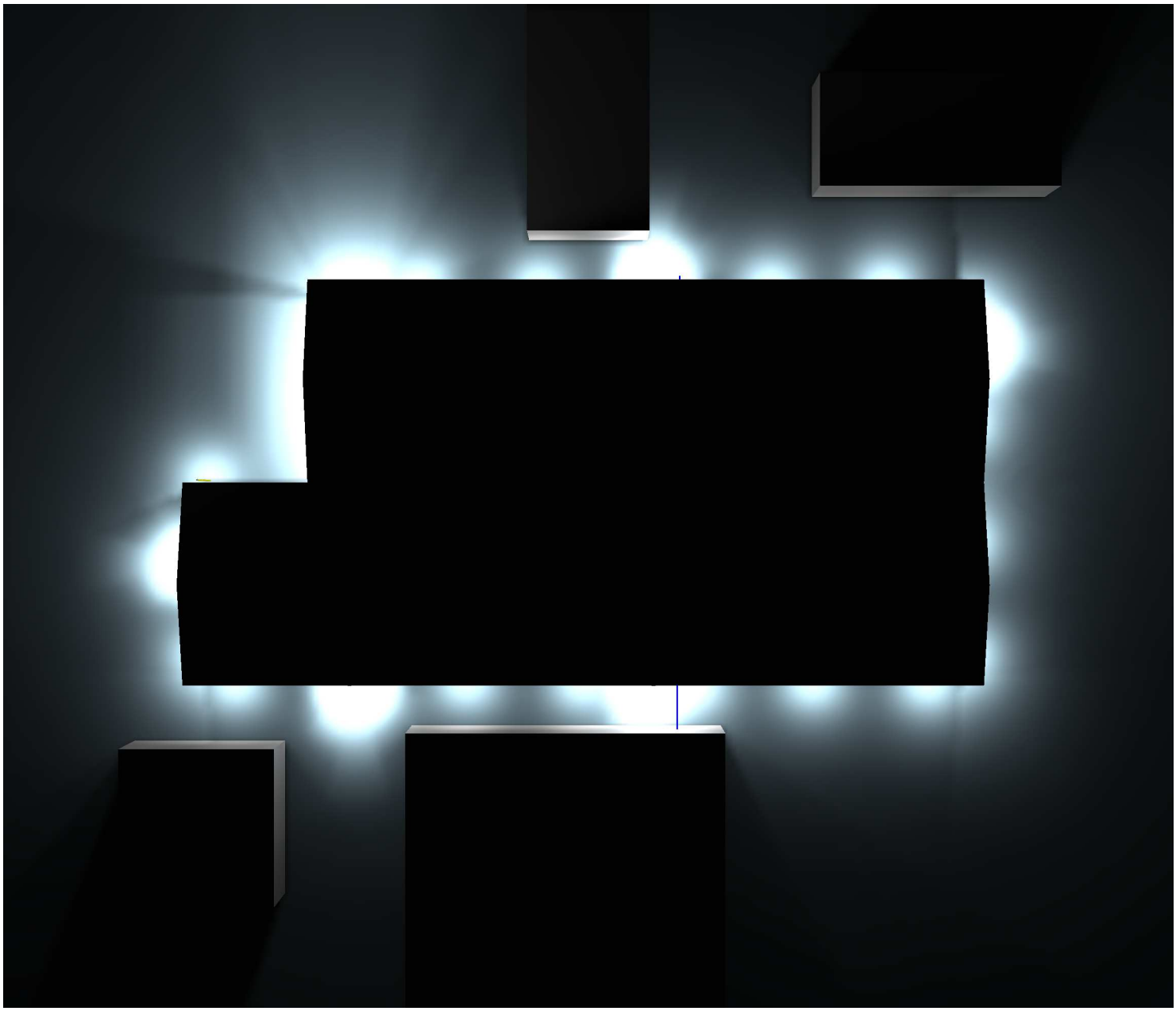


Height of the reference plane : 0.00 m

Average illuminance	Eav	: 54 lx
Minimum illuminance	Emin	: 12 lx
Maximum illuminance	Emax	: 130 lx
Uniformity Uo	Emin/Eav	: 1 : 4.61 (0.22)
Diversity Ud	Emin/Emax	: 1 : 11.03 (0.09)

1.3 Calculation results, External Lighting

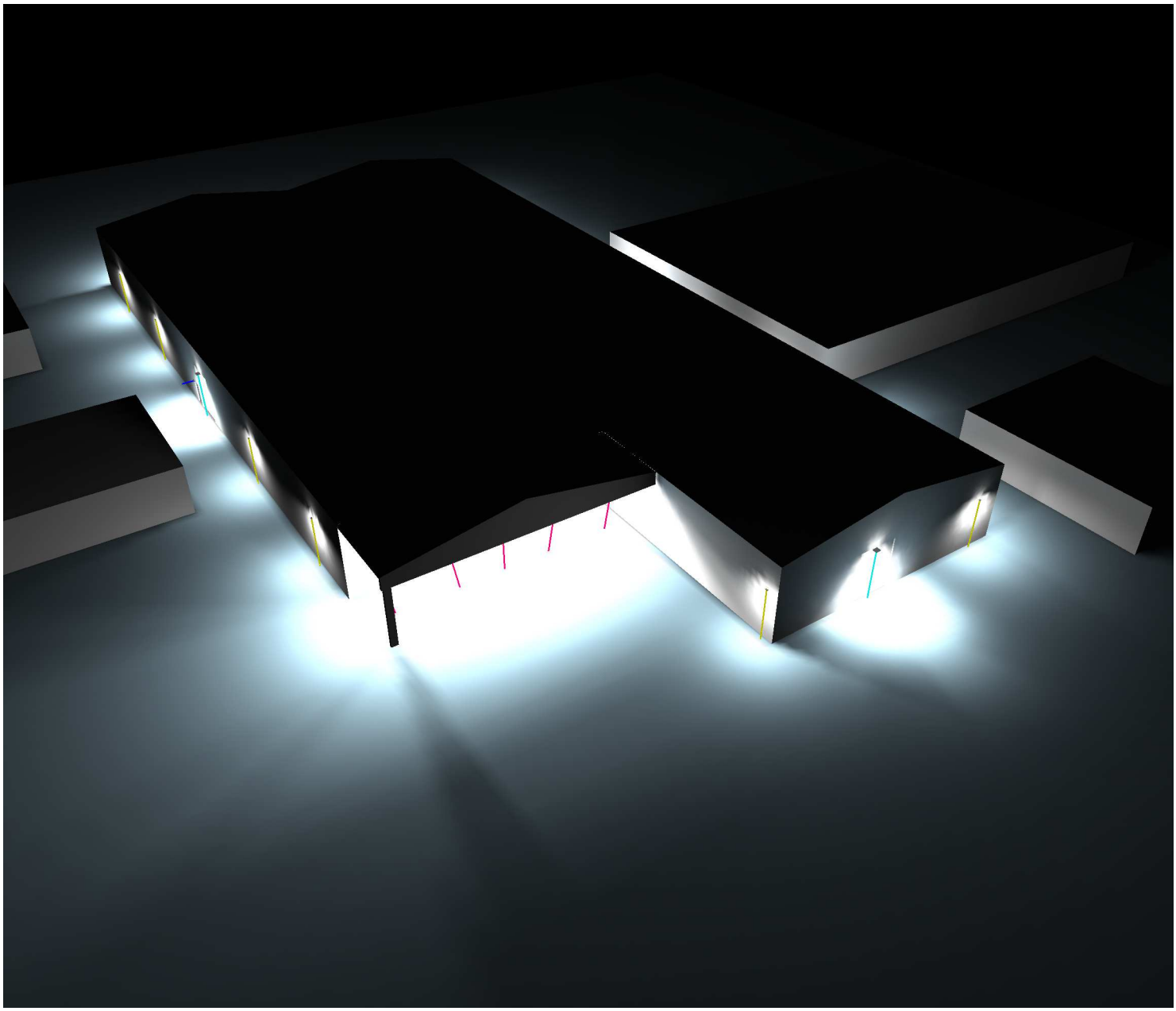
1.3.7 3D luminance, View from above



Luminance in the scene
Minimum: : 0 cd/m²
Maximum: : 239 cd/m²

1.3 Calculation results, External Lighting

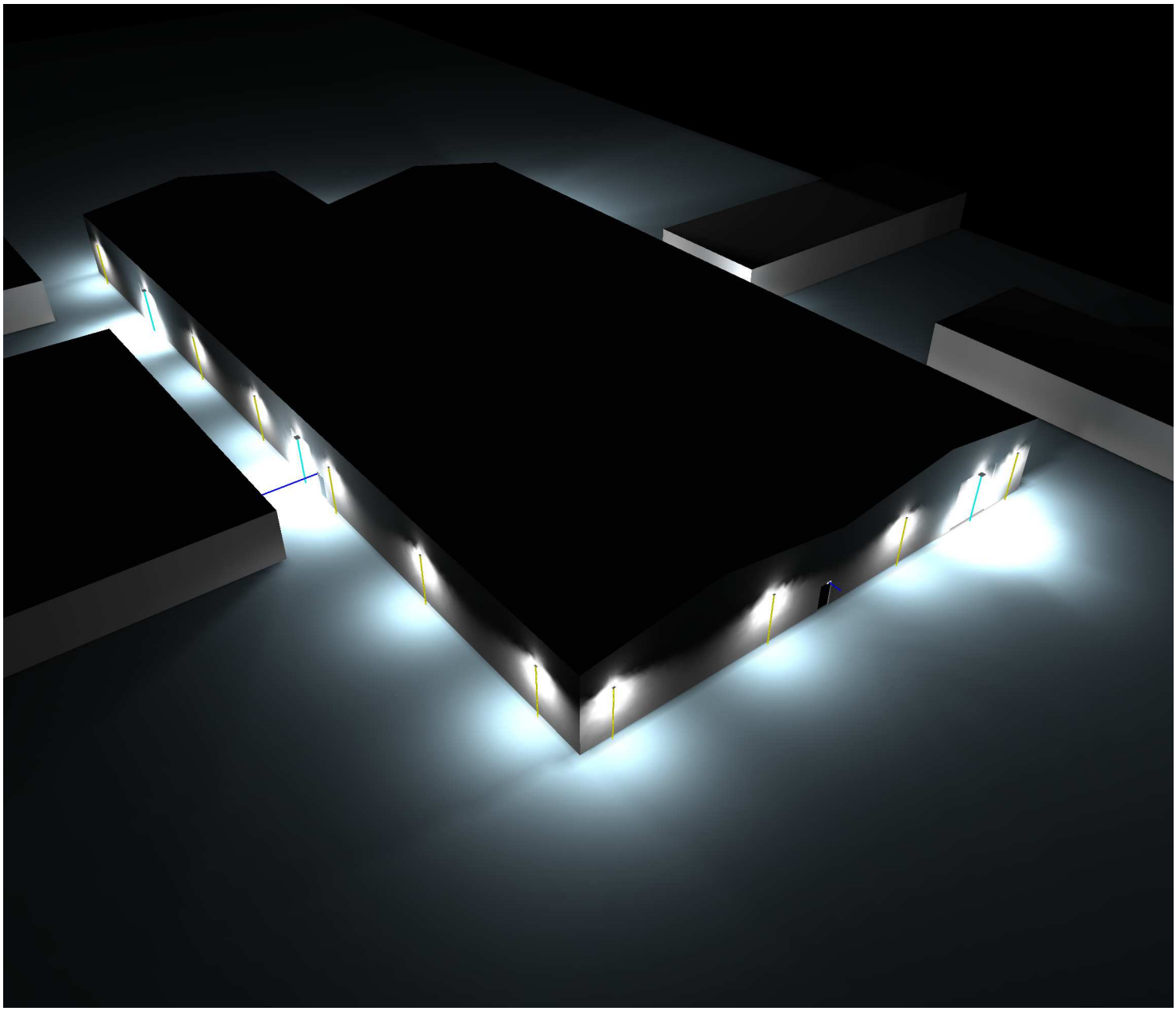
1.3.8 3D luminance, View 2



Luminance in the scene
Minimum: : 0 cd/m²
Maximum: : 239 cd/m²

1.3 Calculation results, External Lighting

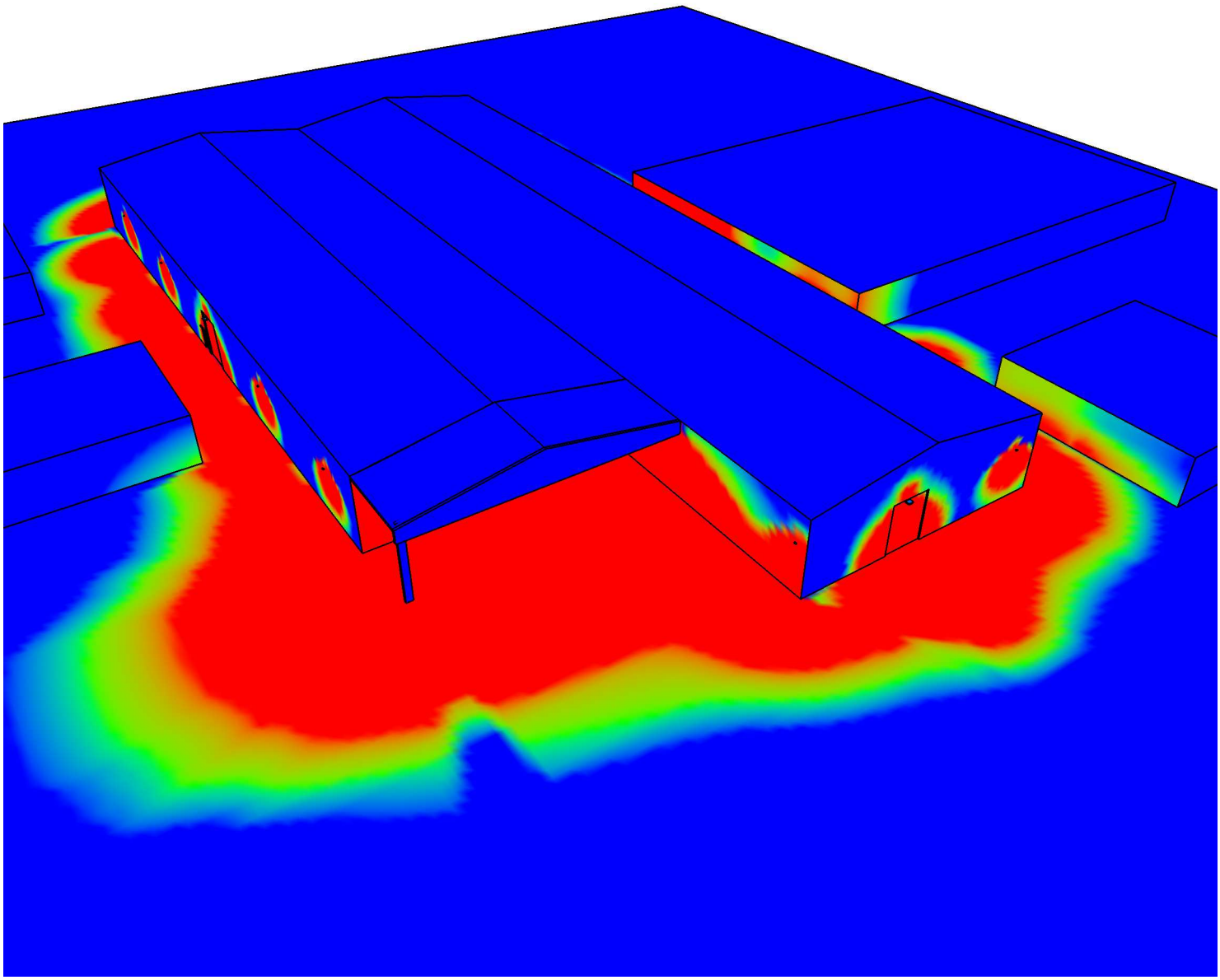
1.3.9 3D luminance, View 3

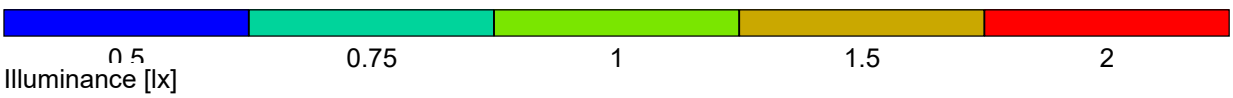


Luminance in the scene
Minimum: : 0 cd/m²
Maximum: : 239 cd/m²

1.3 Calculation results, External Lighting

1.3.10 3D pseudo colours, View 2 (E)





1.3 Calculation results, External Lighting

1.3.11 3D pseudo colours, View 3 (E)

