

Installation : Rooms - KW036D & KW032B

Project number : 1059CLN
Customer : Simon Wheeler @ Vickery Holman
Processed by : Chris Norsworthy
Date : 28.04.2017

Project description:

I have carried out calculations as per your instructions and guidance. Please check and confirm all details are correct. All areas have been assumed as being open plan without any obstructions above the working plane. Please be aware of L2 requirements and check that conformity has been met where required. SBEM calculations are the responsibility of the contractor.

If our design has been submitted with emergency lighting coverage, it was designed as a service to provide an overall illuminance in line with current emergency lighting recommendations, but to be strictly in line with guidelines, other factors need to be considered including, but not limited to,

- Any change of direction requires emergency lighting consideration.
- Any change in floor levels (Including a step or ramp) requires additional consideration.
- Any fire-fighting equipment (Hoses or extinguishers) needs additional consideration.
- Any fire assembly areas require additional considerations.
- All fire call points require additional consideration.
- Exit routes need extra considerations.

We have not carried out a risk assessment for emergency lighting on the site. We accept no responsibility for current requirements that under HSE and fire regulations are the responsibilities of the 'Responsible Person' or management of the site owners or operators. The emergency scheme must be checked and confirmed with a local building/fire control officer and ultimately approved by the owner of the building.

We have used common design parameters in order to carry out all our calculations and if any divergences that are not accepted, please contact us in order for re calculations to be carried out prior to an order. Please ensure that this lighting scheme complies with all requirements, and if further details/ calculations are required please contact us on the above number. Final quantities are to be confirmed prior to an order/installation.

Whilst every effort will be made by Fitzgerald to adhere to the written or product specification, it is always the responsibility of the customer to ensure that any scheme, specification or product satisfies the end users requirements.

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.

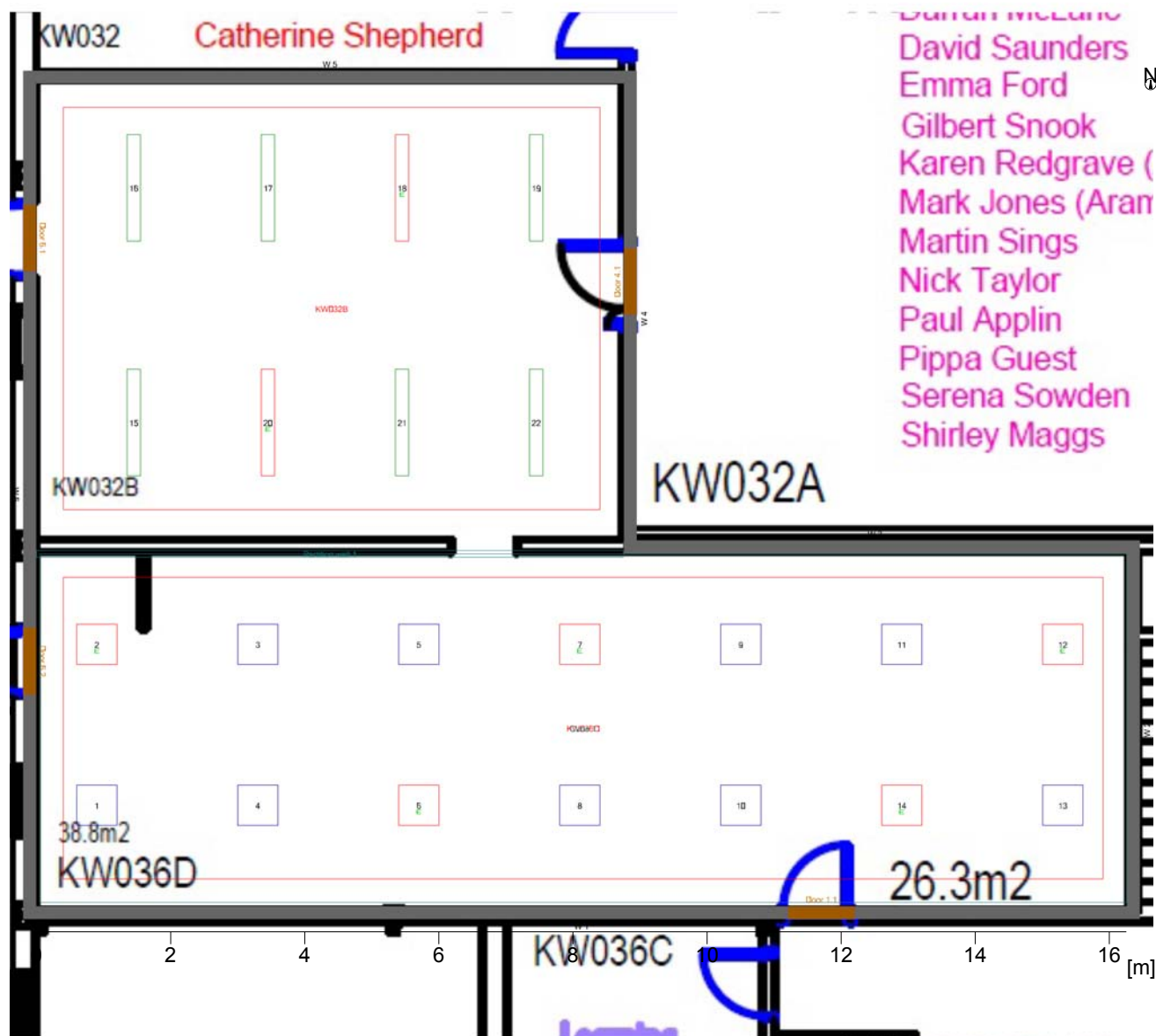
Relux and the luminaire manufacturers accept no liability for consequential damage and damage which is occasioned to the user or to third parties.

Object :
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1 Room 1

1.1 Description, Room 1

1.1.1 Floor plan



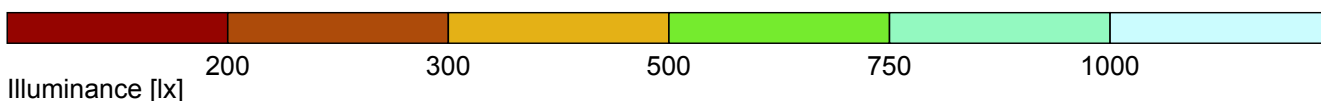
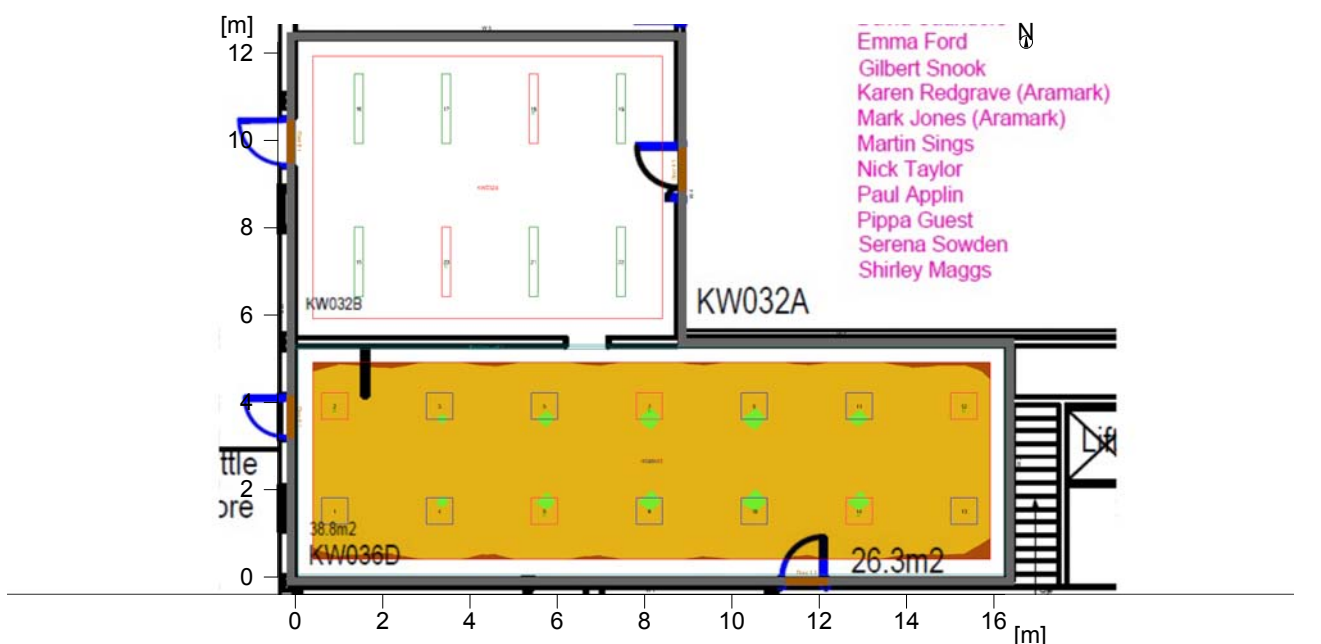
Wall	x	y	Length	Reflectance
1	18.00 m	2.00 m	16.25 m	50.0 %
2	18.00 m	7.25 m	5.25 m	50.0 %
3	10.50 m	7.25 m	7.50 m	50.0 %
4	10.50 m	14.25 m	7.00 m	50.0 %
5	1.75 m	14.25 m	8.75 m	50.0 %
6	1.75 m	2.00 m	12.25 m	50.0 %
Floor				20.0 %
Ceiling				70.0 %
Room height		4.00 m		
Height of reference plane		---		

Object :
 Installation : Rooms - KW036D_KW032B
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1 Room 1

1.2 Summary, Room 1

1.2.1 Result overview, KW036D



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.75 m
Maintenance factor	0.85

Total luminous flux of all lamps	97140 lm
Total power	990 W
Total power per area (146.56 m ²)	6.75 W/m ²

Illuminance

Average illuminance	Eav	404 lx
Minimum illuminance	Emin	223 lx
Maximum illuminance	Emax	520 lx
Uniformity Uo	Emin/Em	1:1.81 (0.55)

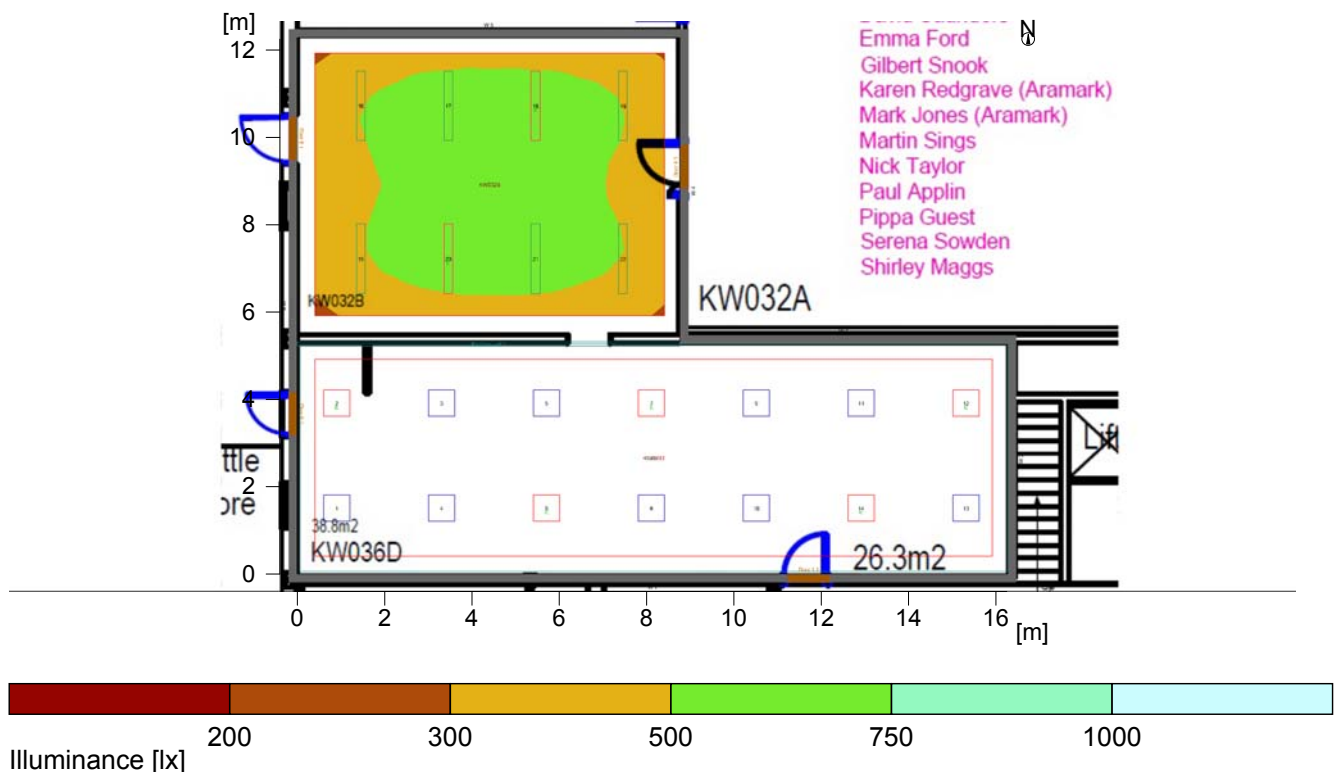
Type No.\Make

Fitzgerald Lighting	
1	9
	Order No. : CE35/B/CO/840 Luminaire name : Celestial LED Equipment : 1 x LED PANEL / 3510 lm
2	5
	Order No. : CE35/B/CO/840/RM3 Luminaire name : Celestial LED Equipment : 1 x LED PANEL / 3510 lm

Object :
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1.2 Summary, Room 1

1.2.2 Result overview, KW032B



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.75 m
Maintenance factor	0.85
Total luminous flux of all lamps	97140 lm
Total power	990 W
Total power per area (146.56 m²)	6.75 W/m²

Illuminance

Average illuminance	Eav	463 lx
Minimum illuminance	Emin	252 lx
Maximum illuminance	Emax	595 lx
Uniformity Uo	Emin/Em	1:1.84 (0.54)

Type No.\Make

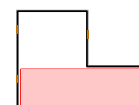
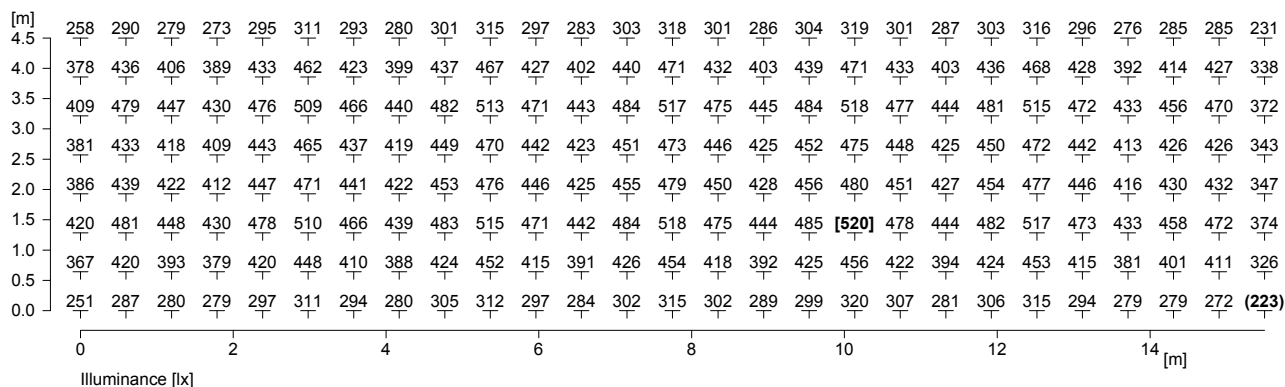
Fitzgerald Lighting		
1	6	Order No. : SPE66/5T/CO/840/1.5SK
		Luminaire name : Spectrum LED
		Equipment : 1 x LED PANEL / 6000 lm
2	2	Order No. : SPE66/5T/CO/840/1.5SK
		Luminaire name : Spectrum LED
		Equipment : 1 x LED PANEL / 6000 lm

Object :
 Installation : Rooms - KW036D_KW032B
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1 Room 1

1.3 Calculation results, Room 1

1.3.1 Table, KW036D (E)

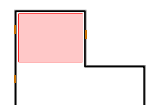
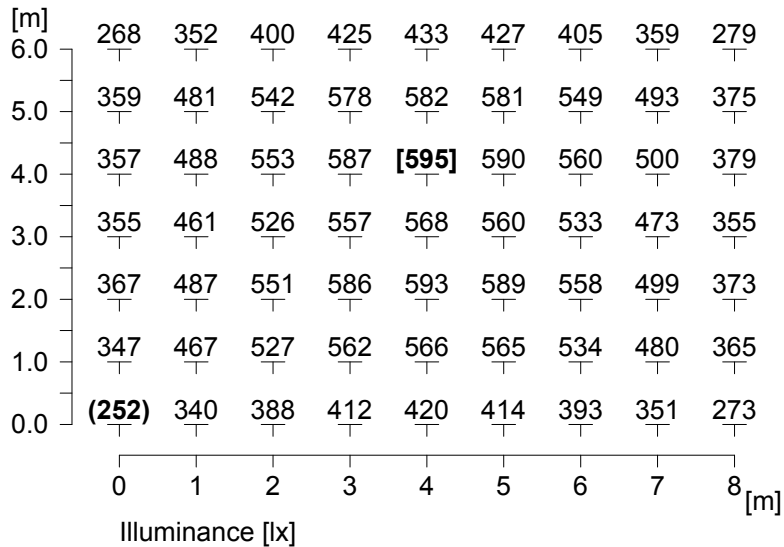


Height of the reference plane

Average illuminance	Eav	: 0.75 m
Minimum illuminance	Emin	: 404 lx
Maximum illuminance	Emax	: 223 lx
Uniformity Uo	Emin/Eav	: 520 lx
		: 1 : 1.81 (0.55)

1.3 Calculation results, Room 1

1.3.2 Table, KW032B (E)



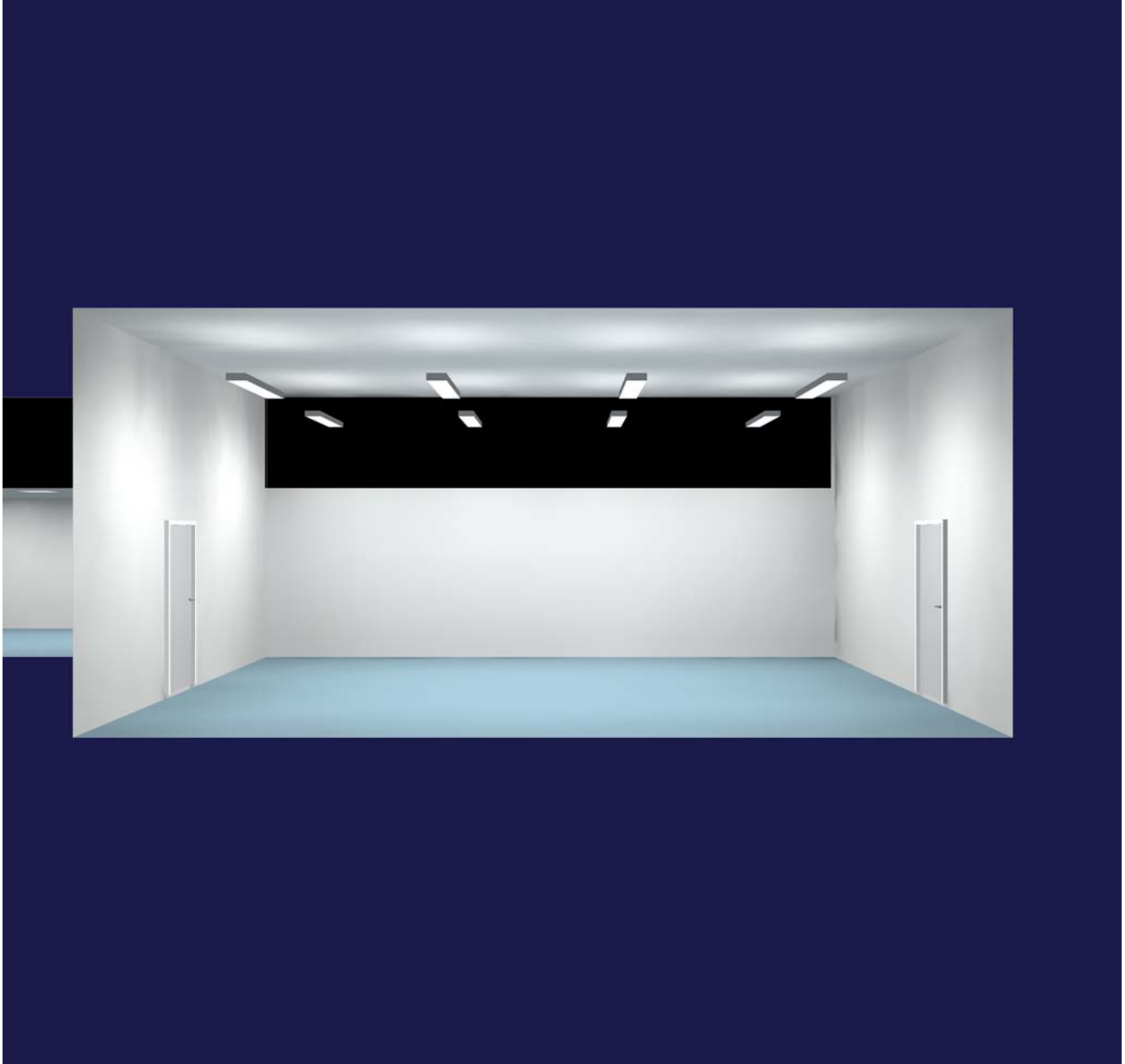
Height of the reference plane

Average illuminance	Eav	: 0.75 m
Minimum illuminance	Emin	: 463 lx
Maximum illuminance	Emax	: 252 lx
Uniformity Uo	Emin/Eav	: 595 lx
		: 1 : 1.84 (0.54)

Object :
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1.3 Calculation results, Room 1

1.3.3 3D luminance, View from the back



Luminance in the scene

Minimum: : 0 cd/m²
Maximum: : 78.2 cd/m²

1.3 Calculation results, Room 1

1.3.4 3D luminance, View from the left

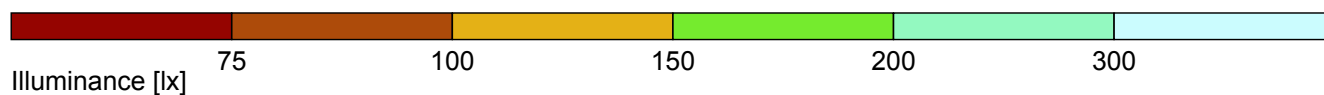
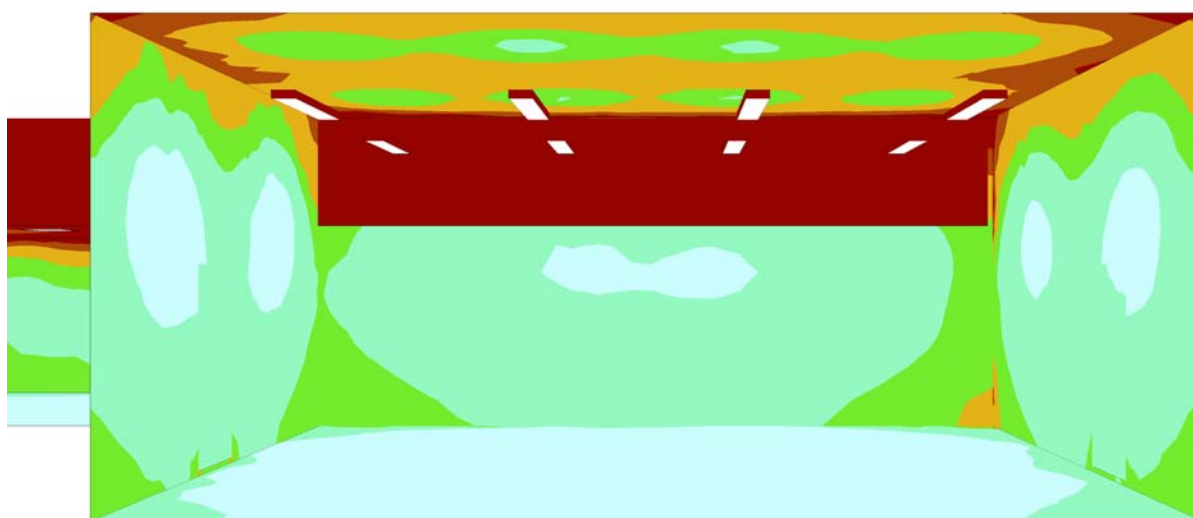


Luminance in the scene

Minimum: : 0 cd/m²
Maximum: : 78.2 cd/m²

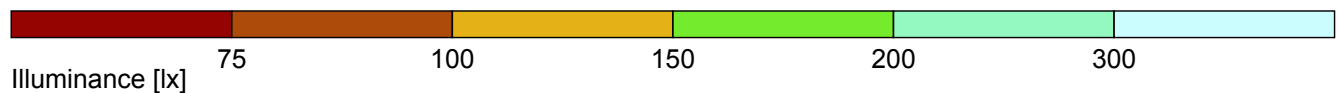
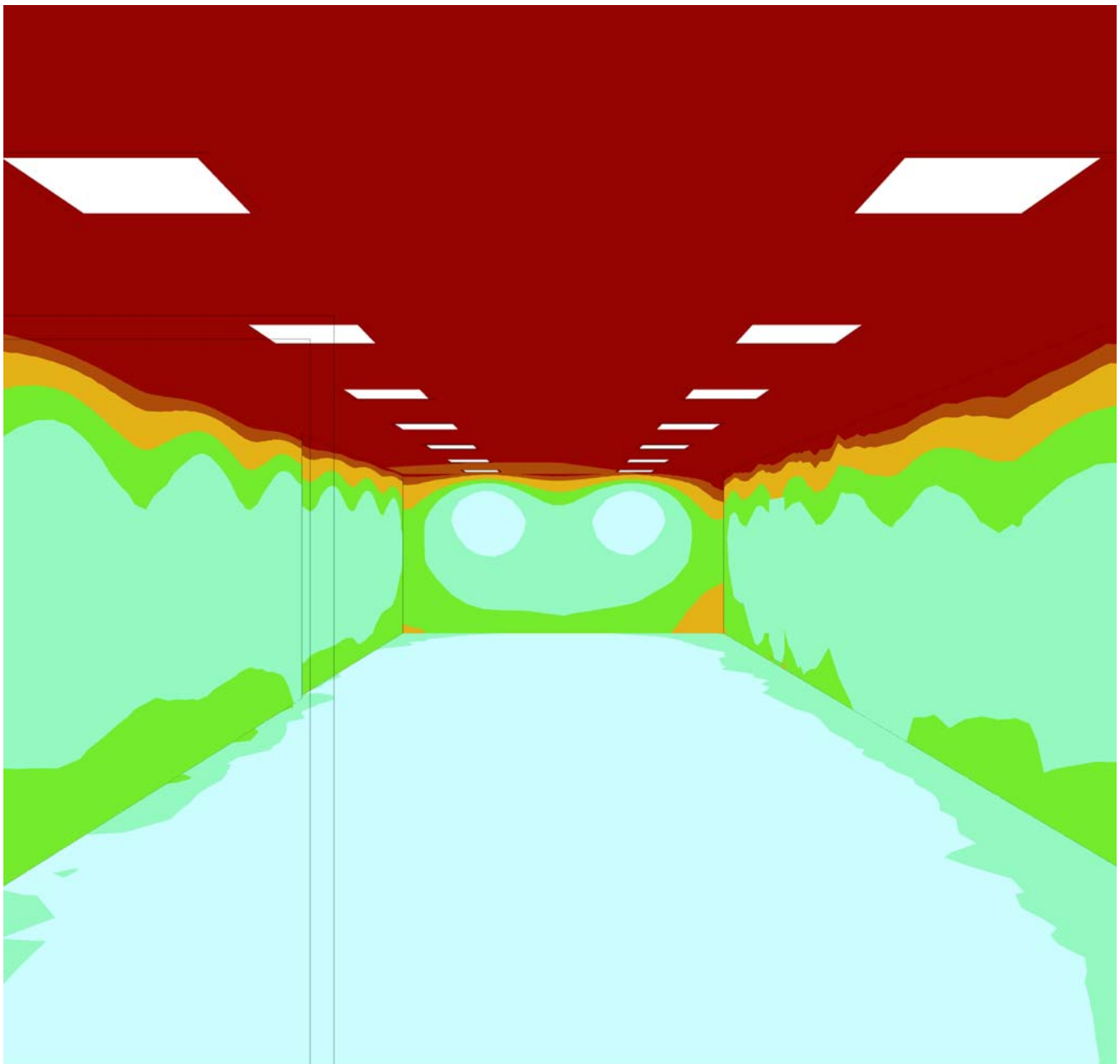
1.3 Calculation results, Room 1

1.3.5 3D pseudo colours, View from the back (E)



1.3 Calculation results, Room 1

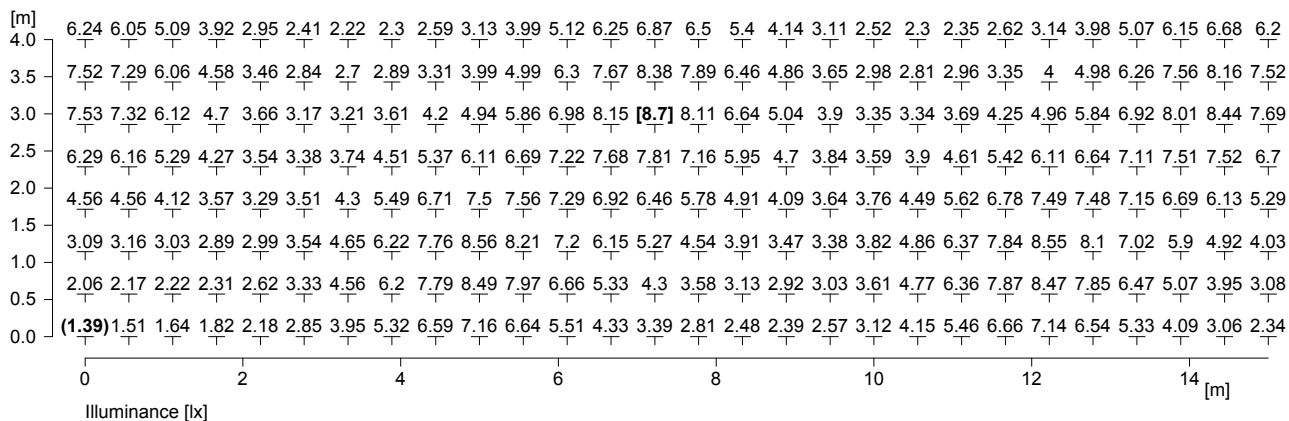
1.3.6 3D pseudo colours, View from the left (E)



1 Room 1

1.4 Calculation results, Room 1 KW036D

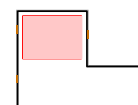
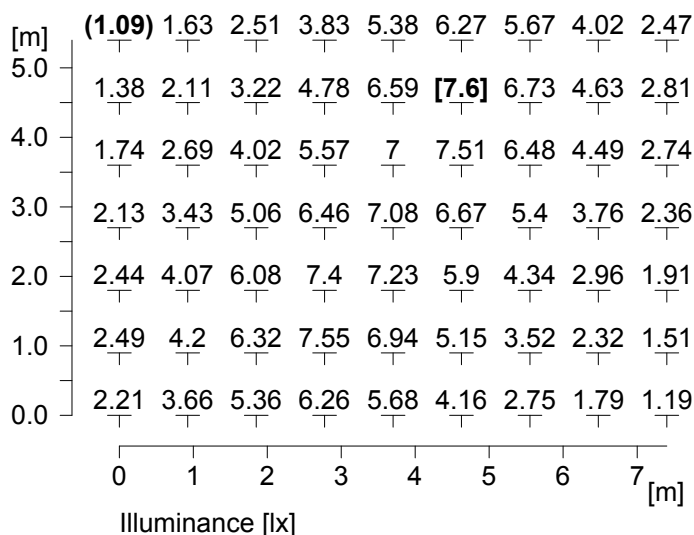
1.4.1 Table, Reference plane for emergency lighting 1 (E)



Required minimum illuminance		: 1 lx
Minimum illuminance	Emin	: 1.4 lx
Maximum illuminance	Emax	: 8.7 lx
Uniformity	Emin/Emax	: 1 : 6.25 (0.16) (Threshold value 1:40)
Height		: 0 m
Calculation algorithm used		: Direct component
Maintenance factor		: 0.8

1.4 Calculation results, Room 1 KW032B

1.4.2 Table, Reference plane for emergency lighting 2 (E)



Required minimum illuminance		: 1 lx
Minimum illuminance	Emin	: 1.1 lx
Maximum illuminance	Emax	: 7.6 lx
Uniformity	Emin/Emax	: 1 : 6.99 (0.14) (Threshold value 1:40)
Height		: 0 m
Calculation algorithm used		: Direct component
Maintenance factor		: 0.8

Object :
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1.4 Summary

1.4.3 Result overview (emergency lighting)

Type No.\Make

2 5 **Fitzgerald Lighting**
 Order No. : CE35/B/CO/840/RM3
 Luminaire name : Celestial LED
 Equipment : 1 x LED PANEL / 3510 lm

4 2 **Fitzgerald Lighting**
 Order No. : SPE66/5T/CO/840/1.5SK/M3
 Luminaire name : Spectrum LED
 Equipment : 1 x LED MODULES / 6000 lm

Result evaluation area

Calculation algorithm used: Direct component
 Maintenance factor: 0.8

Reference planes for emergency lighting:

No.	Default[lx]	Emin[lx]	Surface Emax[lx]	Uniformity	Height
Reference plane for emergency lighting 1					
1	1.0	1.4	8.8	1: 6.29	0.00
Reference plane for emergency lighting 2					
2	1.0	1.1	7.7	1: 7.11	0.00