

Level 10 Block B Roof

Installation : Mount Pleasant Externals

Project number :
Customer : Caldwell
Processed by : DRT
Date : 05.05.2021

Please note Orlight offer light level calculations as a bespoke complimentary service to valued clients. Orlight only act as a supplier of lighting and as such calculations are provided for informative purposes only.

All information is provided in good faith and is dependent on a multitude of variables including drawing scales and finishes. Adjustment of any such parameters may result in an alteration in light levels. As such Orlight will not be held responsible for and inaccuracies whatsoever.

In some cases photometric data (Eulumdat File) may be altered in the calculation software in an effort to better simulate the environment the luminaire is in, an example being reducing the luminaries height to create a recessed effect in the ceiling.

LDR-01 V1 28/10/19

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.

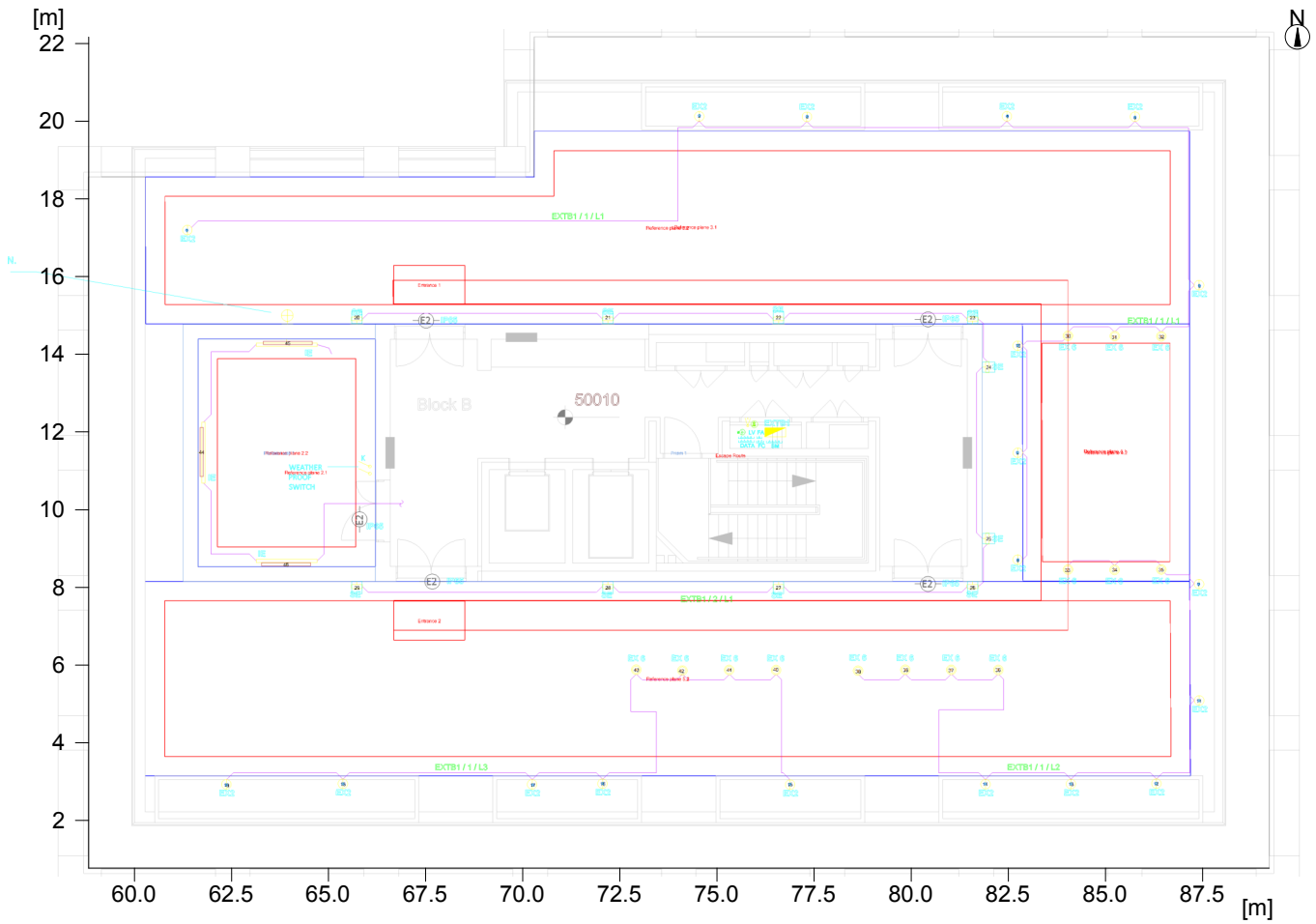
Relux and the luminaire manufacturers accept no liability for consequential damage and damage which is occasioned to the user or to third parties.

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1 Exterior 1

1.1 Description, Exterior 1

1.1.1 Floor plan

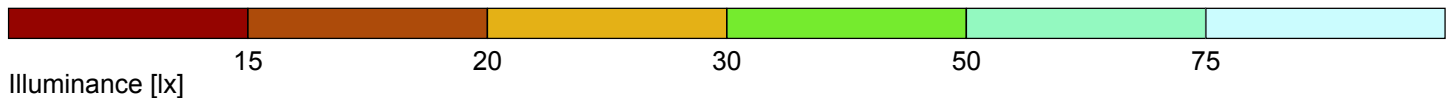
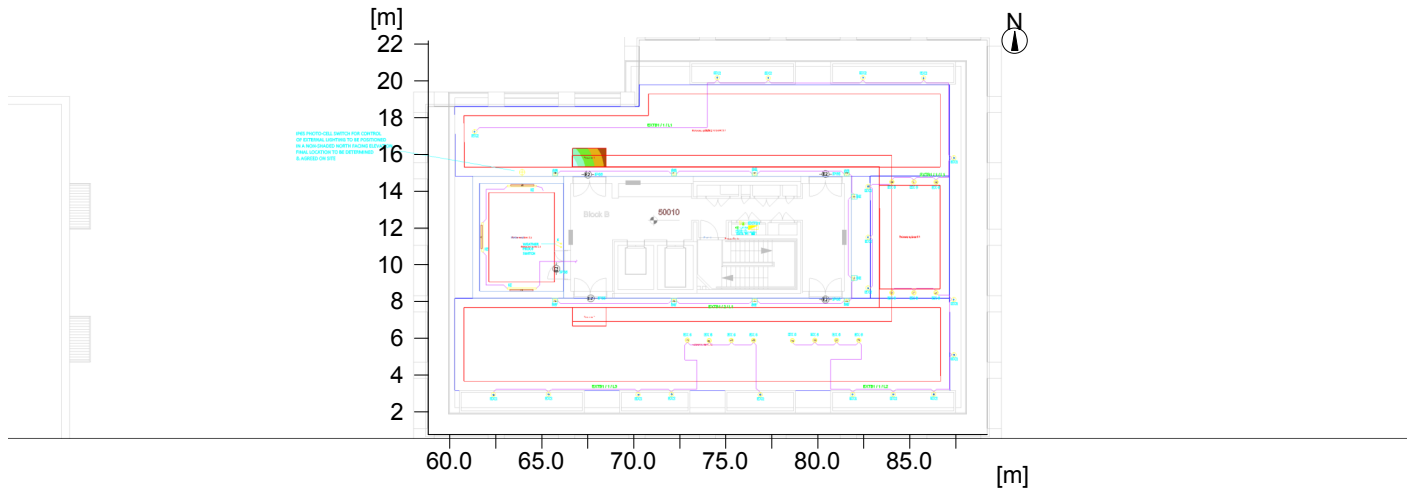


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1 Exterior 1

1.2 Summary, Exterior 1

1.2.1 Result overview, Entrance 1



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.80

Total luminous flux of all lamps	37530 lm
Total power	303 W
Total power per area (608.50 m ²)	0.50 W/m ²

Illuminance

Average illuminance	Eav	36.8 lx
Minimum illuminance	Emin	16.6 lx
Maximum illuminance	E _{max}	77.1 lx
Uniformity U _o	E _{min} /E _m	1:2.21 (0.45)
Diversity U _d	E _{min} /E _{max}	1:4.64 (0.22)

Type No.\Make

1	14	Orlight	
		Order No.	: Ref EX6 - ORLLM44-1-SS-3000K
		Luminaire name	: Ref EX6 - ORLLM44-1-SS-3000K
		Equipment	: 1 x LED 1 W / 35 lm



Object : Level 10 Block B Roof
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FROM SOURCE TO SITE

1 Exterior 1

1.2 Summary, Exterior 1

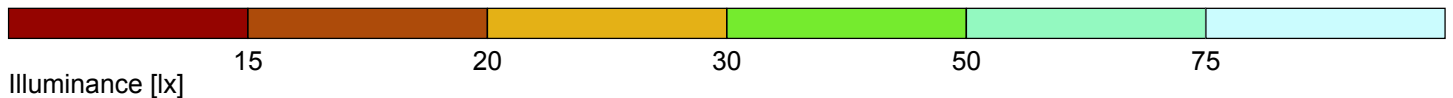
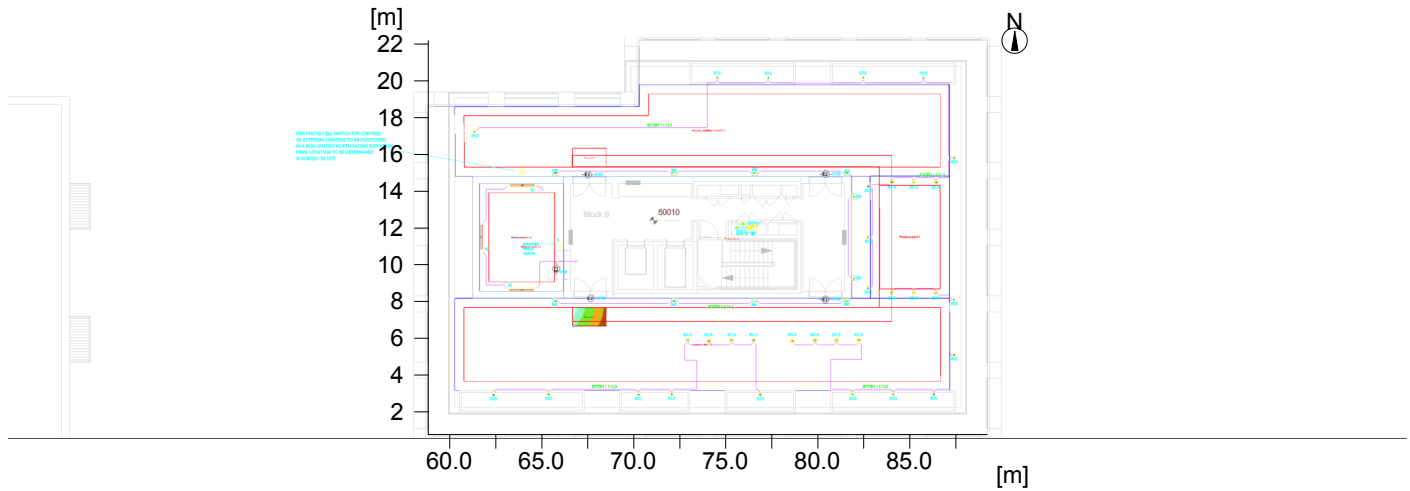
1.2.1 Result overview, Entrance 1

2	3	Orlight Ltd.	Order No.	: Ref IE - ORLWP4-34W-LED
			Luminaire name	: Ref IE - ORLWP4-34W-LED
			Equipment	: 1 x 34 W / 4575 lm
3	10	Orlight Ltd	Order No.	: Ref SE - FALCON-BL-3K-13W
			Luminaire name	: Ref SE - FALCON-BL-3K-13W
			Equipment	: 1 x 13 W / 1885 lm
4	19	ORLIGHT	Order No.	: Ref EX2 - ORLLM66-SS-3000K
			Luminaire name	: Ref EX2 - ORLLM66-SS-3000K
			Equipment	: 1 x 3 W / 235 lm

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1.2 Summary, Exterior 1

1.2.2 Result overview, Entrance 2



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.80

Total luminous flux of all lamps	37530 lm
Total power	303 W
Total power per area (608.50 m ²)	0.50 W/m ²

Illuminance

Average illuminance	Eav	36.9 lx
Minimum illuminance	Emin	16.9 lx
Maximum illuminance	Emax	76.8 lx
Uniformity U _o	Emin/Em	1:2.18 (0.46)
Diversity U _d	Emin/Emax	1:4.54 (0.22)

Type No.\Make

1	14	Orlight	
		Order No.	: Ref EX6 - ORLLM44-1-SS-3000K
		Luminaire name	: Ref EX6 - ORLLM44-1-SS-3000K
		Equipment	: 1 x LED 1 W / 35 lm






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FROM SOURCE TO SITE

1.2 Summary, Exterior 1

1.2.2 Result overview, Entrance 2

2	3	Orlight Ltd.	Order No.	: Ref IE - ORLWP4-34W-LED
			Luminaire name	: Ref IE - ORLWP4-34W-LED
			Equipment	: 1 x 34 W / 4575 lm
3	10	Orlight Ltd	Order No.	: Ref SE - FALCON-BL-3K-13W
			Luminaire name	: Ref SE - FALCON-BL-3K-13W
			Equipment	: 1 x 13 W / 1885 lm
4	19	ORLIGHT	Order No.	: Ref EX2 - ORLLM66-SS-3000K
			Luminaire name	: Ref EX2 - ORLLM66-SS-3000K
			Equipment	: 1 x 3 W / 235 lm

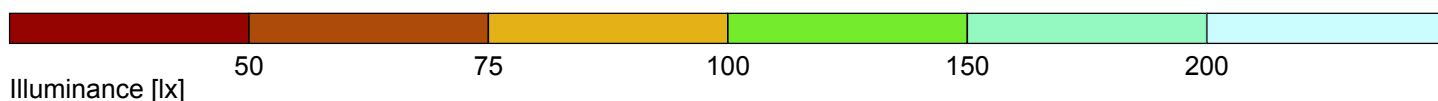
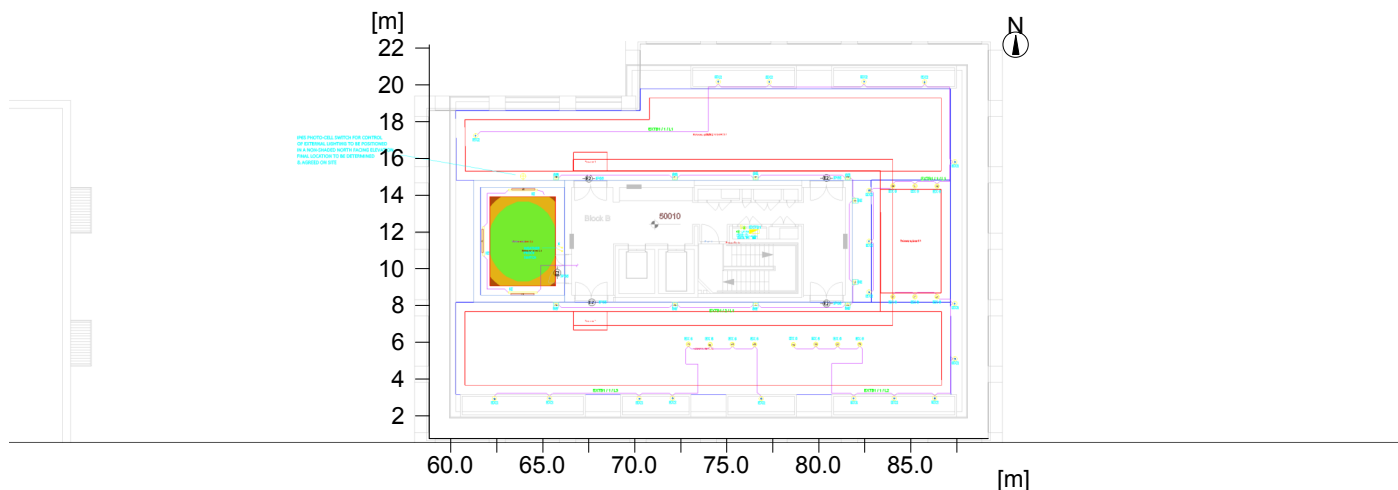
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FROM SOURCE TO SITE

1.2 Summary, Exterior 1

1.2.3 Result overview, Evaluation area 2



General

Calculation algorithm used	Average indirect fraction
Maintenance factor	0.80
Total luminous flux of all lamps	13725.00 lm
Total power	102.0 W
Total power per area (26.66 m ²)	3.83 W/m ² (3.59 W/m ² /100lx)

Evaluation area 2

Reference plane 2.1

	Horizontal
Em	106 lx
Emin	73 lx
Emin/Eav (Uo)	0.69
Emin/Emax (Ud)	0.55
Position	0.00 m

Type No.\Make

2	3	Orlight Ltd.
		Order No. : Ref IE - ORLWP4-34W-LED
		Luminaire name : Ref IE - ORLWP4-34W-LED
		Equipment : 1 x 34 W / 4575 lm

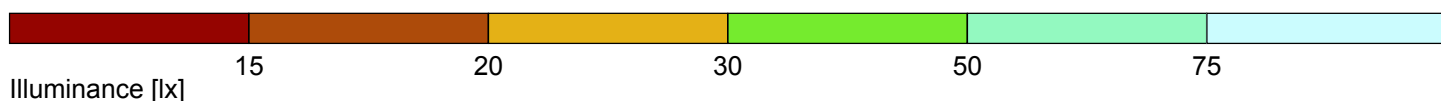
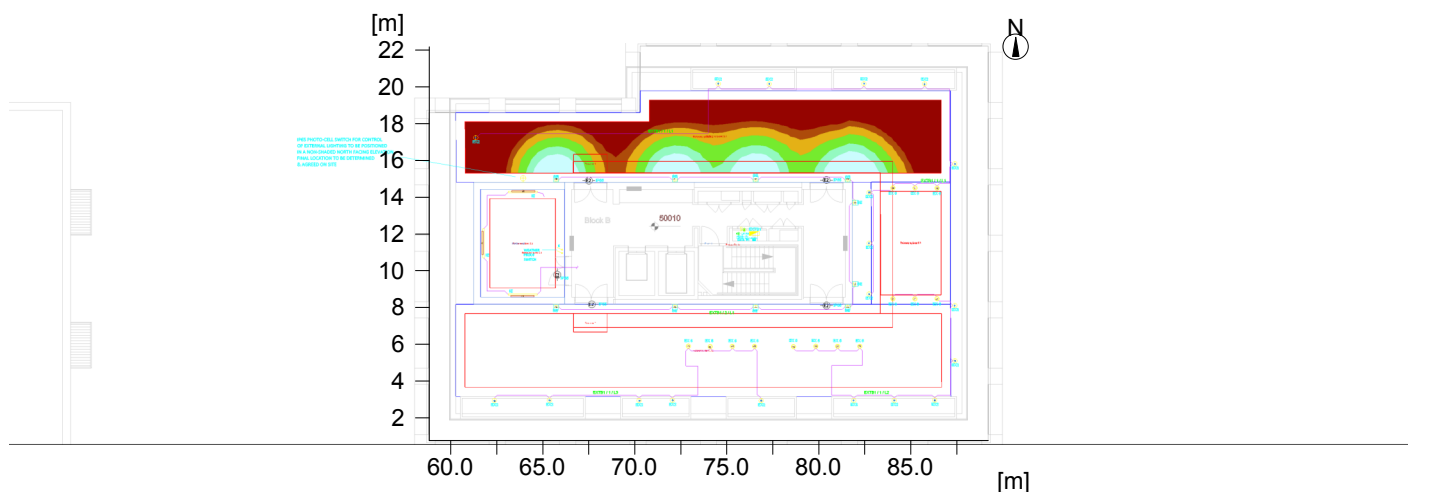
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FROM SOURCE TO SITE

1.2 Summary, Exterior 1

1.2.4 Result overview, Evaluation area 3



General


Calculation algorithm used	Average indirect fraction
Maintenance factor	0.80
Total luminous flux of all lamps	7775.00 lm
Total power	55.0 W
Total power per area (121.35 m ²)	0.45 W/m ² (1.64 W/m ² /100lx)

Evaluation area 3

Reference plane 3.1

	Horizontal
Em	27.6 lx
Emin	2.1 lx
Emin/Eav (Uo)	0.08
Emin/Emax (Ud)	0.01
Position	0.00 m (rot: 0°/0°)

Type No.\Make

3	4	Orlight Ltd
		Order No. : Ref SE - FALCON-BL-3K-13W
		Luminaire name : Ref SE - FALCON-BL-3K-13W
		Equipment : 1 x 13 W / 1885 lm


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FROM SOURCE TO SITE

1.2 Summary, Exterior 1

1.2.4 Result overview, Evaluation area 3

4	1	ORLIGHT	
		Order No.	: Ref EX2 - ORLLM66-SS-3000K
		Luminaire name	: Ref EX2 - ORLLM66-SS-3000K
		Equipment	: 1 x 3 W / 235 lm

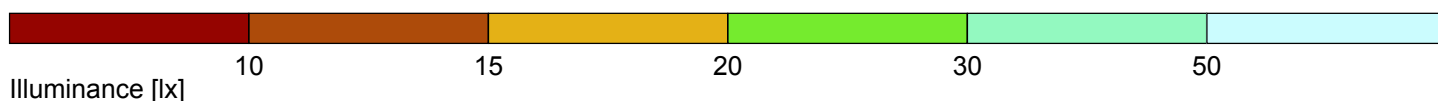
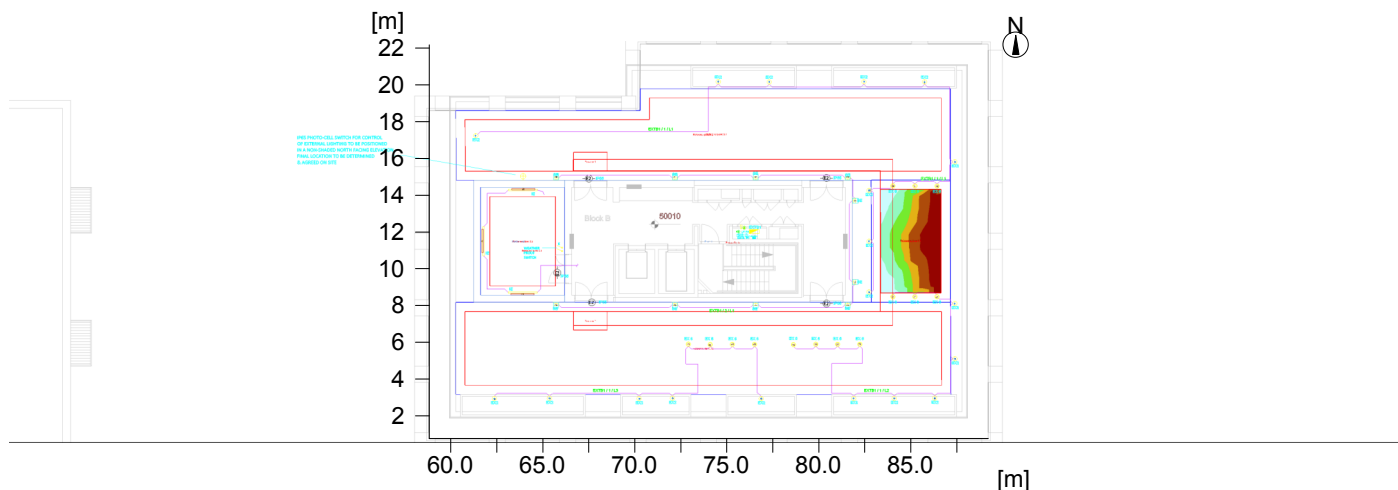
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FROM SOURCE TO SITE

1.2 Summary, Exterior 1

1.2.5 Result overview, Evaluation area 4



General


Calculation algorithm used	Average indirect fraction
Maintenance factor	0.80
Total luminous flux of all lamps	210.00 lm
Total power	6.0 W
Total power per area (28.40 m ²)	0.21 W/m ² (0.95 W/m ² /100lx)

Evaluation area 4

Reference plane 4.1

	Horizontal
Em	22.3 lx
Emin	5.6 lx
Emin/Eav (Uo)	0.25
Emin/Emax (Ud)	0.08
Position	0.00 m

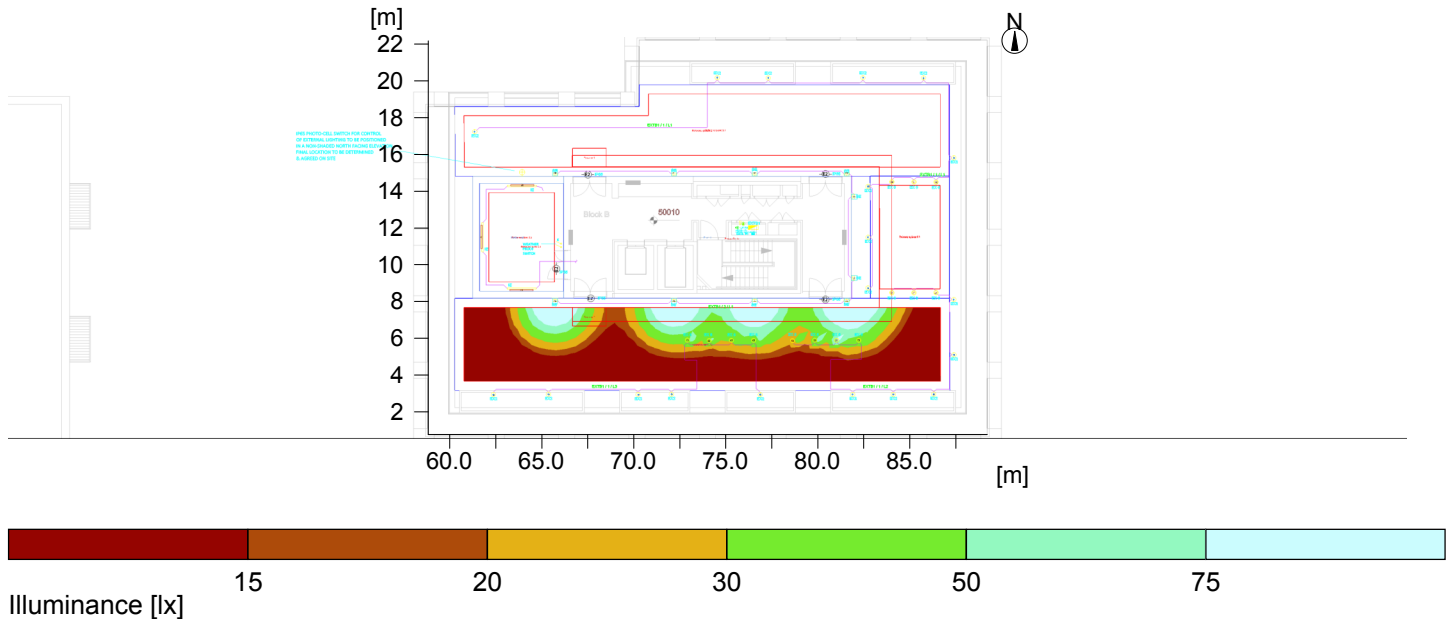
Type No.\Make

1	6	Orlight	
		Order No.	: Ref EX6 - ORLLM44-1-SS-3000K
		Luminaire name	: Ref EX6 - ORLLM44-1-SS-3000K
		Equipment	: 1 x LED 1 W / 35 lm

Object : Level 10 Block B Roof
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1.2 Summary, Exterior 1

1.2.6 Result overview, Evaluation area 5



General


Calculation algorithm used	Average indirect fraction
Maintenance factor	0.80
Total luminous flux of all lamps	7820.00 lm
Total power	60.0 W
Total power per area (134.45 m ²)	0.45 W/m ² (1.74 W/m ² /100lx)

Evaluation area 5

Reference plane 5.1

	Horizontal
Em	25.7 lx
Emin	1.3 lx
Emin/Eav (Uo)	0.05
Emin/Emax (Ud)	0.01
Position	0.00 m

Type No.\Make

1	8	Orlight
	Order No.	: Ref EX6 - ORLLM44-1-SS-3000K
	Luminaire name	: Ref EX6 - ORLLM44-1-SS-3000K
	Equipment	: 1 x LED 1 W / 35 lm


Object : Level 10 Block B Roof
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FROM SOURCE TO SITE

1.2 Summary, Exterior 1

1.2.6 Result overview, Evaluation area 5

3	4	Orlight Ltd	
		Order No.	: Ref SE - FALCON-BL-3K-13W
		Luminaire name	: Ref SE - FALCON-BL-3K-13W
		Equipment	: 1 x 13 W / 1885 lm

Object : Level 10 Block B Roof
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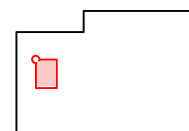
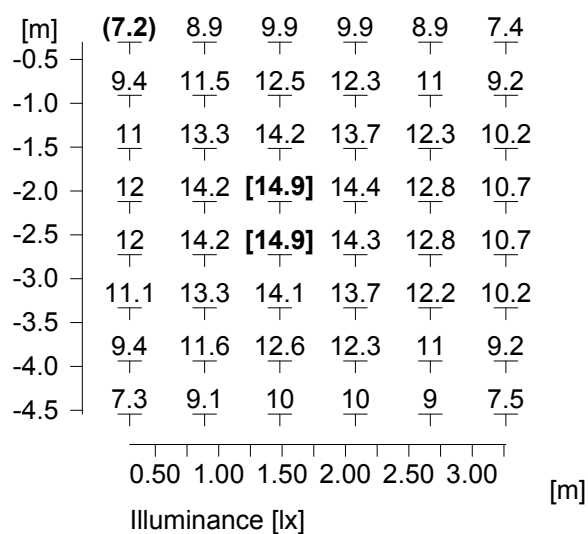


FROM SOURCE TO SITE

1 Exterior 1

1.3 Calculation results, Exterior 1

1.3.1 Table, Emergency area 2.2 (E)



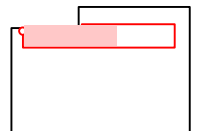
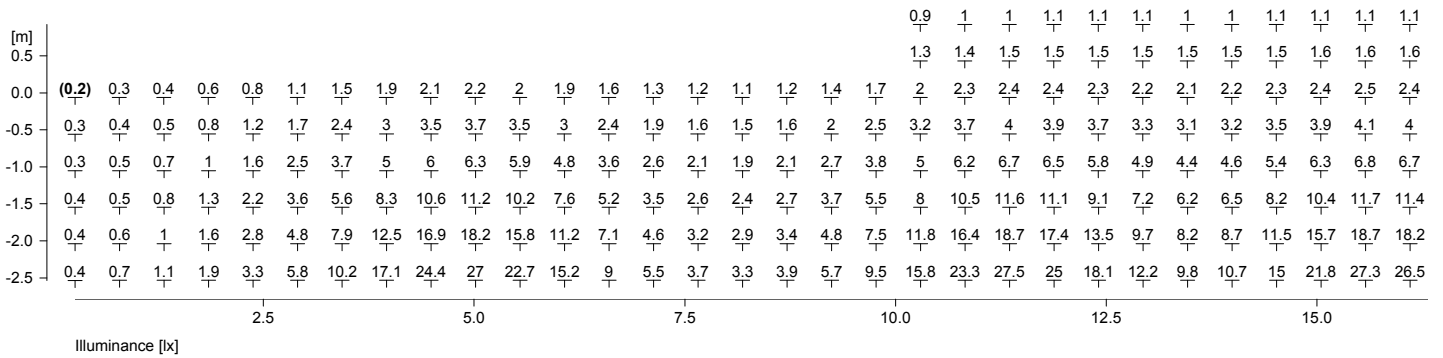
Required minimum illuminance	:	1 lx
Minimum illuminance	Emin	: 7.2 lx (* 5.2 lx)
Maximum illuminance	E _{max}	: 15 lx (* 15 lx)
Diversity	E _{min} /E _{max}	: 1 : 2.09 (0.48) (Threshold value 1:40) (* 1:2.10)
Height	:	0 m
Calculation algorithm used	:	Direct component
Maintenance factor	:	0.8

*: Values on fine measuring grid (0.1m - 0.5m)!

Object : Level 10 Block B Roof
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1.3 Calculation results, Exterior 1

1.3.2 Table, Emergency area 3.2 (E)



Part1

Required minimum illuminance	: 1 lx		
Minimum illuminance	Emin	: 0.2 lx (* 0.2 lx)	
Maximum illuminance	Emax	: 31 lx (* 41 lx)	
Diversity	Emin/Emax	: 1 : 132.00 (0.01) (Threshold value 1:40) (* 1:130.00)	
Height	: 0 m		
Calculation algorithm used	: Direct component		
Maintenance factor	: 0.8		

*: Values on fine measuring grid (0.1m - 0.5m)!

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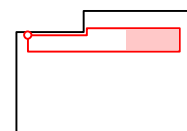


FROM SOURCE TO SITE

1.3 Calculation results, Exterior 1

1.3.2 Table, Emergency area 3.2 (E)

1.1	1	1	0.9	0.9	0.9	0.9	1	1.2	1.2	1.1	0.9	0.8	0.6	0.5	0.4	0.3	0.3
1.5	1.4	1.3	1.2	1.2	1.3	1.4	1.4	1.8	1.7	1.6	1.3	1.1	0.9	0.7	0.5	0.4	0.3
2.3	2.1	1.9	1.8	1.8	2	2.2	2.2	2.8	2.7	2.4	2	1.6	1.2	0.9	0.7	0.5	0.4
3.7	3.1	2.7	2.5	2.6	2.9	3.4	3.7	4.7	4.5	3.8	3	2.2	1.6	1.2	0.9	0.7	0.5
5.9	4.8	3.8	3.5	3.7	4.4	5.5	6.3	8	7.5	6.2	4.6	3.2	2.3	1.6	1.1	0.8	0.6
9.6	7.1	5.3	4.6	5.1	6.5	8.8	10.8	13.3	12.8	9.9	7	4.6	3.1	2	1.4	1	0.7
14.4	9.9	7.1	5.9	6.6	8.9	13.1	17.2	21.7	20.3	15.2	10.2	6.5	4.1	2.6	1.7	1.1	0.8
20	12.9	8.6	7	7.9	11.4	17.8	24.7	27.1	30.8	21.9	14	8.6	5.3	3.2	2	1.3	0.9
	17.5				20.0					22.5						25.0	[m]



Part2

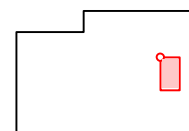
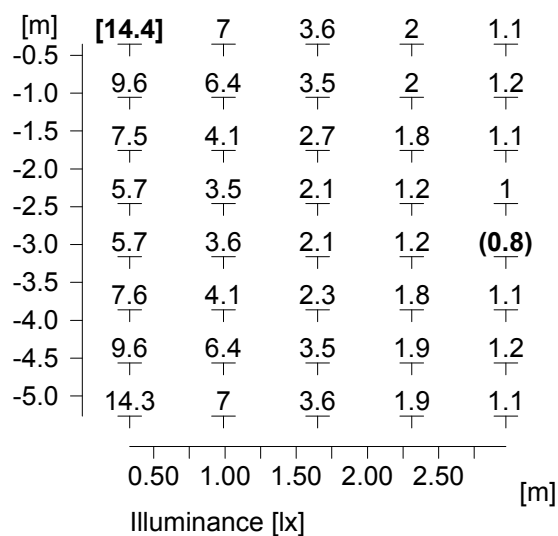
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FROM SOURCE TO SITE

1.3 Calculation results, Exterior 1

1.3.3 Table, Emergency area 4.2 (E)



Required minimum illuminance : 1 lx

Minimum illuminance Emin : 0.8 lx (* 0.6 lx)
 Maximum illuminance Emax : 14 lx (* 21 lx)
 Diversity Emin/Emax : 1 : 18.60 (0.05) (Threshold value 1:40) (* 1:19.00)
 Height : 0 m
 Calculation algorithm used : Direct component
 Maintenance factor : 0.8

*: Values on fine measuring grid (0.1m - 0.5m)!

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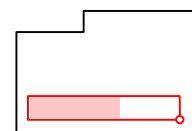


FROM SOURCE TO SITE

1.3 Calculation results, Exterior 1

1.3.4 Table, Emergency area 5.2 (E)

[m]	0.4	0.7	1.1	1.8	3.2	5.7	10	16.9	24.2	26.7	22.4	15.1	9	5.5	3.7	3.2	3.8	5.7	9.3	15.6	23.3	27.2	24.6	17.9	12.2	9.8	10.6	14.9	21.7	27		
3.5	0.4	0.6	1	1.6	2.7	4.6	7.7	12.2	16.5	17.9	15.5	11.1	7.1	4.6	3.3	2.9	3.3	4.7	7.3	11.5	16	18.3	17.1	13.3	9.6	8	8.6	11.3	15.4	18.3		
3.0	0.4	0.5	0.8	1.3	2.1	3.4	5.4	8	10.3	10.8	9.9	7.5	5.1	3.5	2.6	2.4	2.7	3.6	5.3	7.7	10.2	11.3	10.8	9	7	6.1	6.4	7.9	10.1	11.4		
2.5	0.3	0.5	0.7	1	1.6	2.4	3.6	4.8	5.7	6.1	5.7	4.6	3.5	2.6	2	1.8	2.1	2.6	3.6	4.9	5.9	6.5	6.3	5.6	4.8	4.3	4.5	5.2	6.1	6.6		
2.0	0.3	0.4	0.5	0.8	1.1	1.6	2.3	2.9	3.4	3.5	3.3	2.9	2.3	1.9	1.5	1.4	1.6	1.9	2.4	3.1	3.6	3.8	3.8	3.5	3.2	3	3	3.4	3.8	3.9		
1.5	(0.2)	0.3	0.4	0.6	0.8	1.1	1.4	1.7	1.9	2	2	1.8	1.6	1.3	1.1	1.1	1.2	1.4	1.6	1.9	2.1	2.3	2.3	2.3	2.1	2	2.1	2.2	2.3	2.4		
1.0	(0.2)	0.3	0.3	0.4	0.6	0.8	0.9	1.1	1.2	1.3	1.2	1.1	1	0.9	0.8	0.8	0.9	1	1.1	1.3	1.4	1.5	1.5	1.5	1.4	1.4	1.4	1.5	1.5	1.5		
0.5	(0.2)	(0.2)	0.3	0.3	0.4	0.5	0.6	0.7	0.8	0.8	0.8	0.8	0.7	0.7	0.6	0.6	0.7	0.7	0.8	0.9	1	1	1	1	1	1	1	1	1	1		
	-25.0						-22.5					-20.0																				
	Illuminance [lx]																															



Part1

Required minimum illuminance : 1 lx

Minimum illuminance Emin : 0.2 lx (* 0.1 lx)
 Maximum illuminance Emax : 30 lx (* 41 lx)
 Diversity Emin/Emax : 1 : 190.00 (0.01) (Threshold value 1:40) (* 1:190.00)
 Height : 0 m
 Calculation algorithm used : Direct component
 Maintenance factor : 0.8

*: Values on fine measuring grid (0.1m - 0.5m)!

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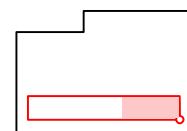


FROM SOURCE TO SITE

1.3 Calculation results, Exterior 1

1.3.4 Table, Emergency area 5.2 (E)

26.1	19.7	12.8	8.5	7	7.9	11.3	17.7	24.7	26.9	30.1	21.6	13.8	8.4	5.2	3.2	2	1.3	0.9
17.9	14.2	9.8	7	5.9	6.5	8.8	13	16.9	21.5	20	14.9	9.9	6.4	4.1	2.6	1.7	1.1	0.8
11.1	9.4	7	5.3	4.6	4.9	6.4	8.6	10.6	13.5	12.5	9.7	6.8	4.6	3	2	1.4	0.9	0.7
6.4	5.7	4.6	3.8	3.4	3.6	4.3	5.3	6	7.7	7.2	5.9	4.5	3.2	2.2	1.5	1.1	0.8	0.6
3.9	3.5	3.1	2.6	2.4	2.5	2.8	3.3	3.6	4.6	4.3	3.7	2.9	2.2	1.6	1.1	0.8	0.6	0.5
2.4	2.2	2	1.8	1.7	1.7	1.9	2	2.1	2.7	2.6	2.3	1.9	1.5	1.1	0.9	0.7	0.5	0.4
1.5	1.4	1.3	1.2	1.2	1.2	1.3	1.3	1.4	1.7	1.7	1.5	1.3	1	0.8	0.7	0.5	0.4	0.3
1	1	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.2	1.1	1	0.9	0.7	0.6	0.5	0.4	0.3	0.3
0																		
				-7.5				-5.0				-2.5				[m]		

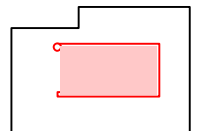
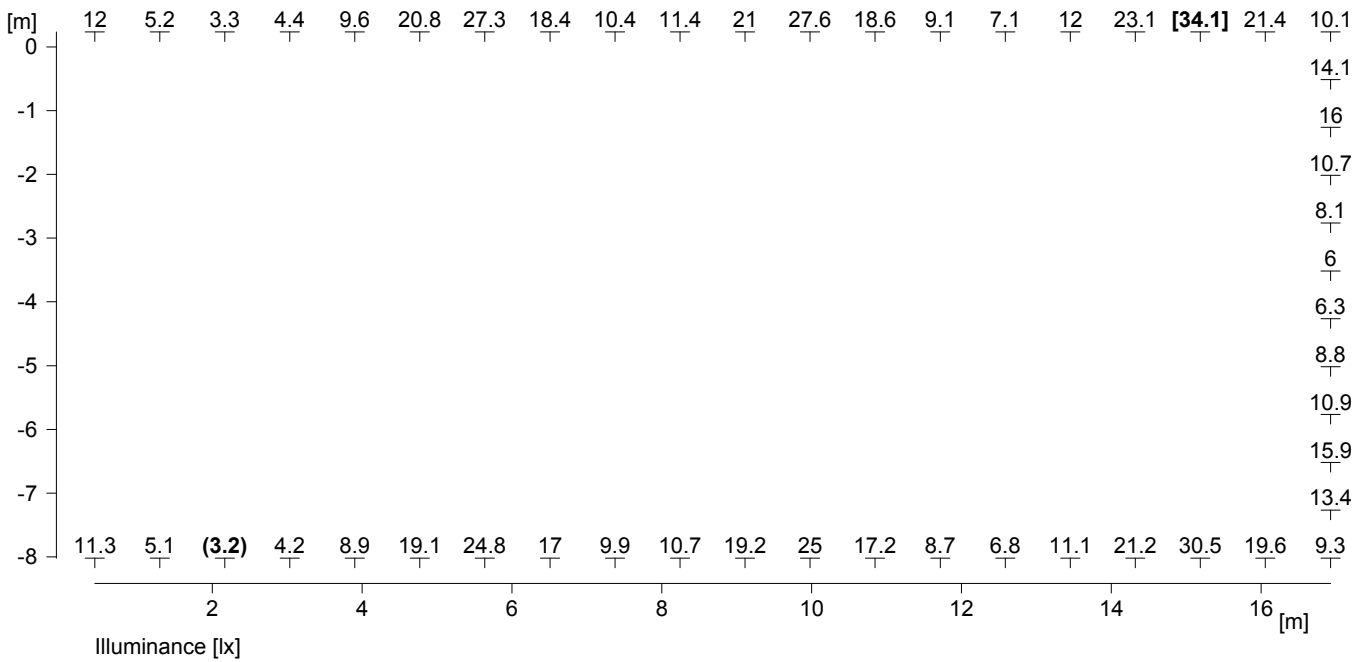


Part2

Object : Level 10 Block B Roof
 Installation : Mount Pleasant Externals
 Project number :
 Date : 05.05.2021

1.3 Calculation results, Exterior 1

1.3.5 Table, Escape Route (E)



Required minimum illuminance	: 1 lx		
Minimum illuminance	Emin	: 3.2 lx (* 2.8 lx)	
Maximum illuminance	Emax	: 34 lx (* 41 lx)	
Diversity	Emin/Emax	: 1 : 10.70 (0.09) (Threshold value 1:40) (* 1:11.00)	
Height		: 0 m	
Calculation algorithm used		: Direct component	
Maintenance factor		: 0.8	

*: Values on fine measuring grid (0.1m - 0.5m)!