



Exterior Lighting

Installation : The Heights Free School

Project number :

Customer :

Processed by : Alan Foster

Date : 15.03.2017

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 Luminaire data

1.1 Abacus Lighting, AL6012_B - Challenger ... (AL6012_B MHN-FC...)

1.1.1 Data sheet

Manufacturer: Abacus Lighting

AL6012_B MHN-FC 1000W_740 230V XW
wide

AL6012_B - Challenger 1 MHN-FC 1000W_740 230V XW

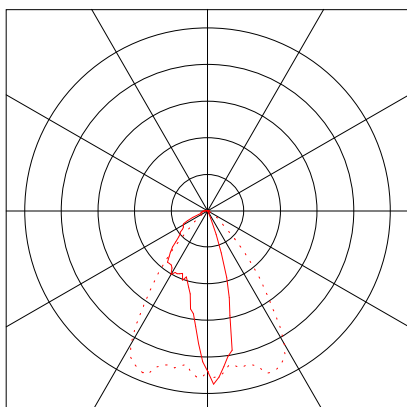
Luminaire data

Luminaire efficiency : 88.12%
Luminaire efficacy : 72.42 lm/W
Classification : A60 ↓99.1% ↑0.9%
CIE Flux Codes : 74 93 99 99 88
UGR 4H 8H : <10.0 / 26.5
Power : 1131.6 W
Luminous flux : 81951.6 lm

Equipped with

Quantity : 1
Designation : 55° IPK -
1131.60 W
Colour :
Luminous flux : 93000 lm
Colour reproduction : 1 B

Dimensions : 580 mm x 440 mm x 0.0 mm



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1 Luminaire data

1.2 Abacus Lighting Ltd, AL5599_165W - Trent 2 LED (AL5599_165W_35deg)

1.2.1 Data sheet

Manufacturer: Abacus Lighting Ltd

AL5599_165W_35deg

AL5599_165W - Trent 2 LED

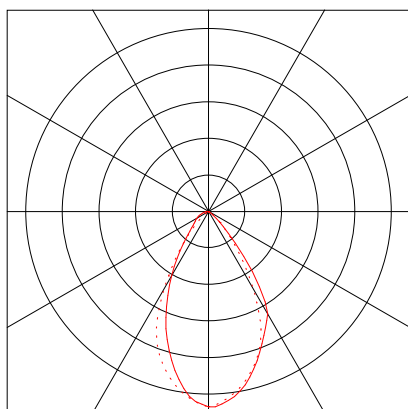
Luminaire data

Absolute Photometry
Luminaire efficacy : 114.94 lm/W
Classification : A70 ↓100.0% ↑0.0%
CIE Flux Codes : 88 98 100 100 100
UGR 4H 8H : 20.8 / 19.5
Power : 165 W
Luminous flux : 18965.3 lm

Equipped with

Quantity : 1
Designation : 4 COB 550mA
Colour :
Colour reproduction : 1 B

Dimensions : 280 mm x 340 mm x 1 mm



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1 Luminaire data

1.3 Holophane Europe Ltd, SEATTLE MEDIUM (SMF.250HTPS.AY)

1.3.1 Data sheet

Manufacturer: Holophane Europe Ltd

SMF.250HTPS.AY SEATTLE MEDIUM

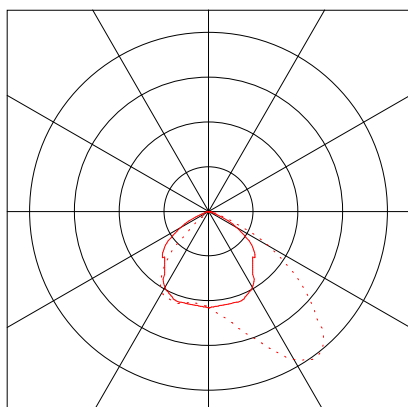
Luminaire data

Luminaire efficiency : 73%
Luminaire efficacy : 64.24 lm/W
Classification : A50 ↓99.9% ↑0.1%
CIE Flux Codes : 54 91 99 100 73
UGR 4H 8H : 29.2 / 19.8
Power : 250 W
Luminous flux : 16060 lm

Equipped with

Quantity : 1
Designation : 250HTPS -
Vmh-250W/TC
Colour : 4000K
Luminous flux : 22000 lm
Colour reproduction : 65

Dimensions : 513 mm x 430 mm x 172 mm



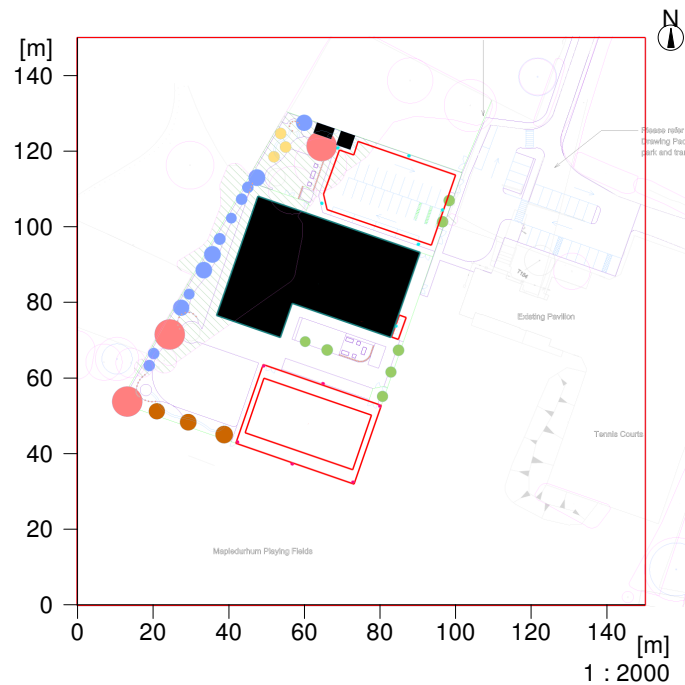
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2 Exterior 1

2.1 Description, Exterior 1

2.1.1 Floor plan



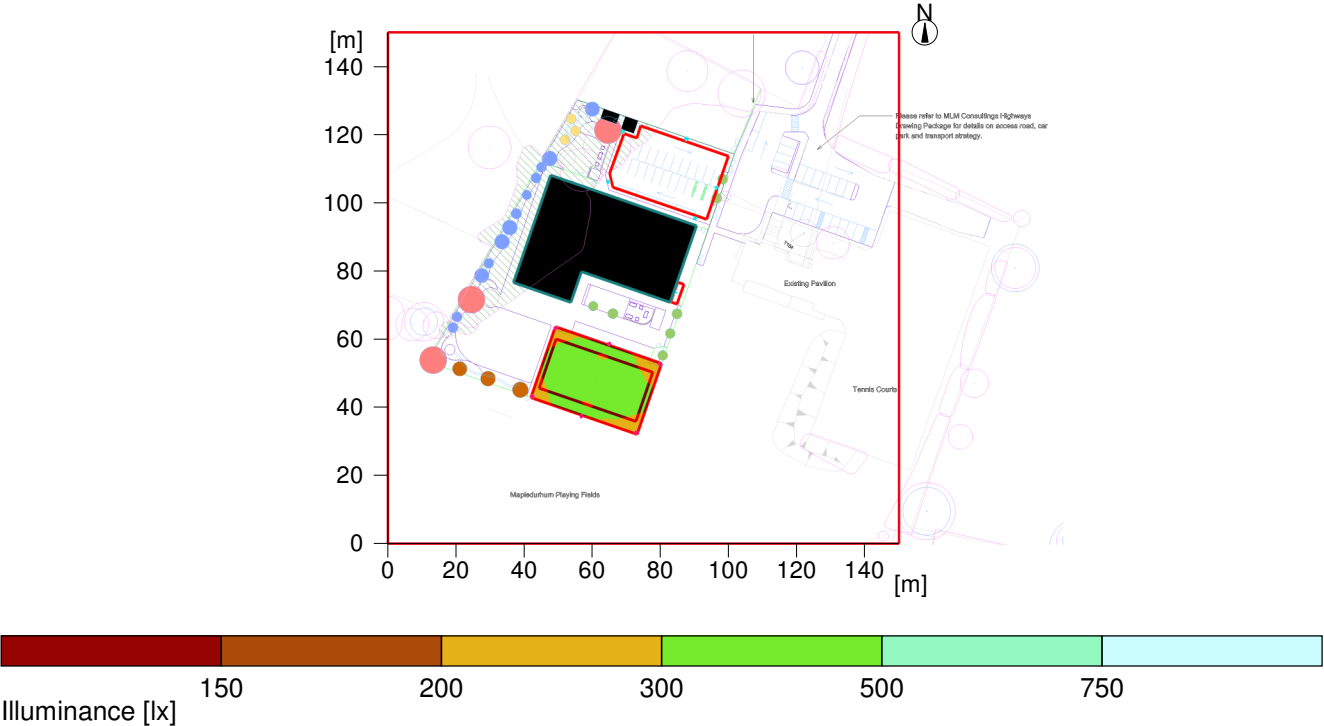
Object : Exterior Lighting
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2 Exterior 1

2.2 Summary, Exterior 1

2.2.1 Result overview, Measuring area 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	690000 lm
Total power	8289.6 W
Total power per area (22500.00 m²)	0.37 W/m²

Illuminance

Average illuminance	Eav	347 lx
Minimum illuminance	Emin	217 lx
Maximum illuminance	Emax	455 lx
Uniformity Uo	Emin/Em	1:1.6 (0.62)
Diversity Ud	Emin/Emax	1:2.1 (0.48)

Type No.\Make

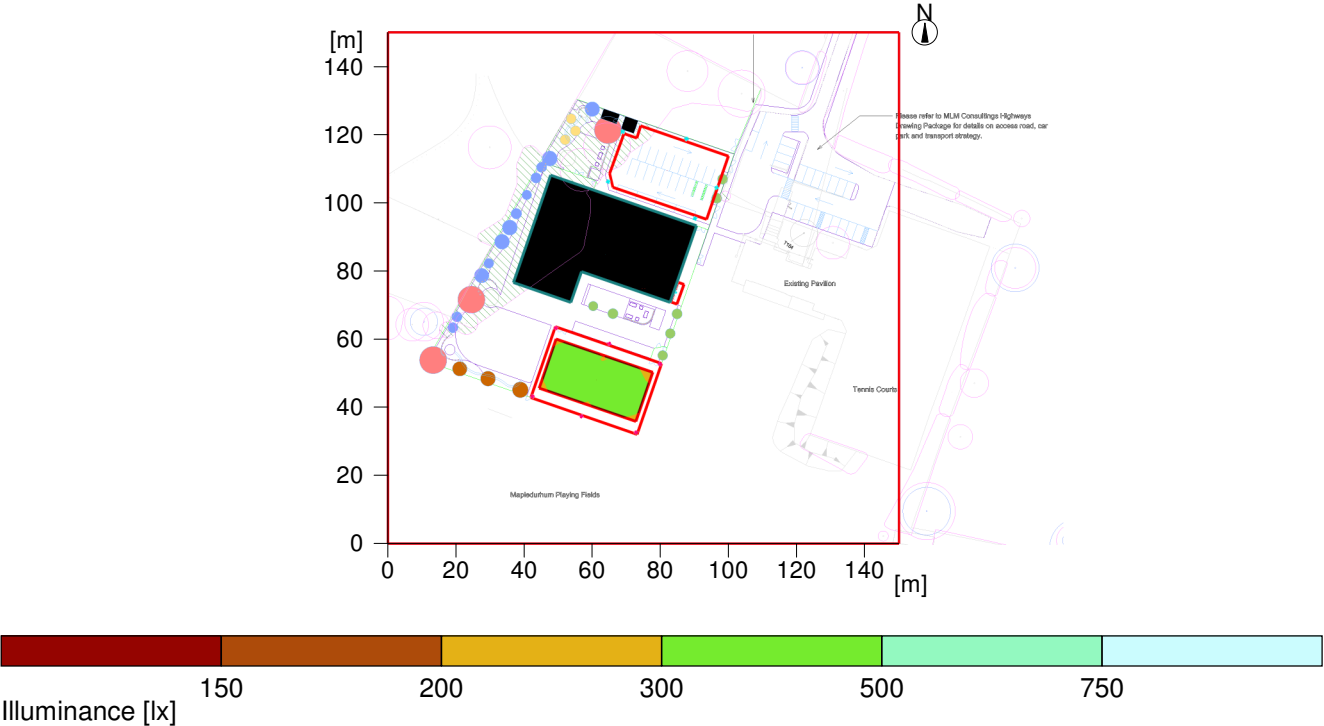
6	6	Holophane Europe Ltd
	Order No.	: SMF.250HTPS.AY
	Luminaire name	: SEATTLE MEDIUM
	Equipment	: 1 x 250HTPS - Vmh-250W/TC 250 W / 22000 lm

4	6	Abacus Lighting
	Order No.	: AL6012_B MHN-FC 1000W_740 230V XW
	Luminaire name	: AL6012_B - Challenger 1 MHN-FC 1000W_740 230V XW wide
	Equipment	: 1 x 55° IPK - 1131.60 W 1131.6 W / 93000 lm



2.2 Summary, Exterior 1

2.2.2 Result overview, Measuring area 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	690000 lm
Total power	8289.6 W
Total power per area (22500.00 m²)	0.37 W/m²

Illuminance

Average illuminance	Eav	357 lx
Minimum illuminance	Emin	264 lx
Maximum illuminance	Emax	453 lx
Uniformity Uo	Emin/Em	1:1.35 (0.74)
Diversity Ud	Emin/Emax	1:1.72 (0.58)

Type No.\Make

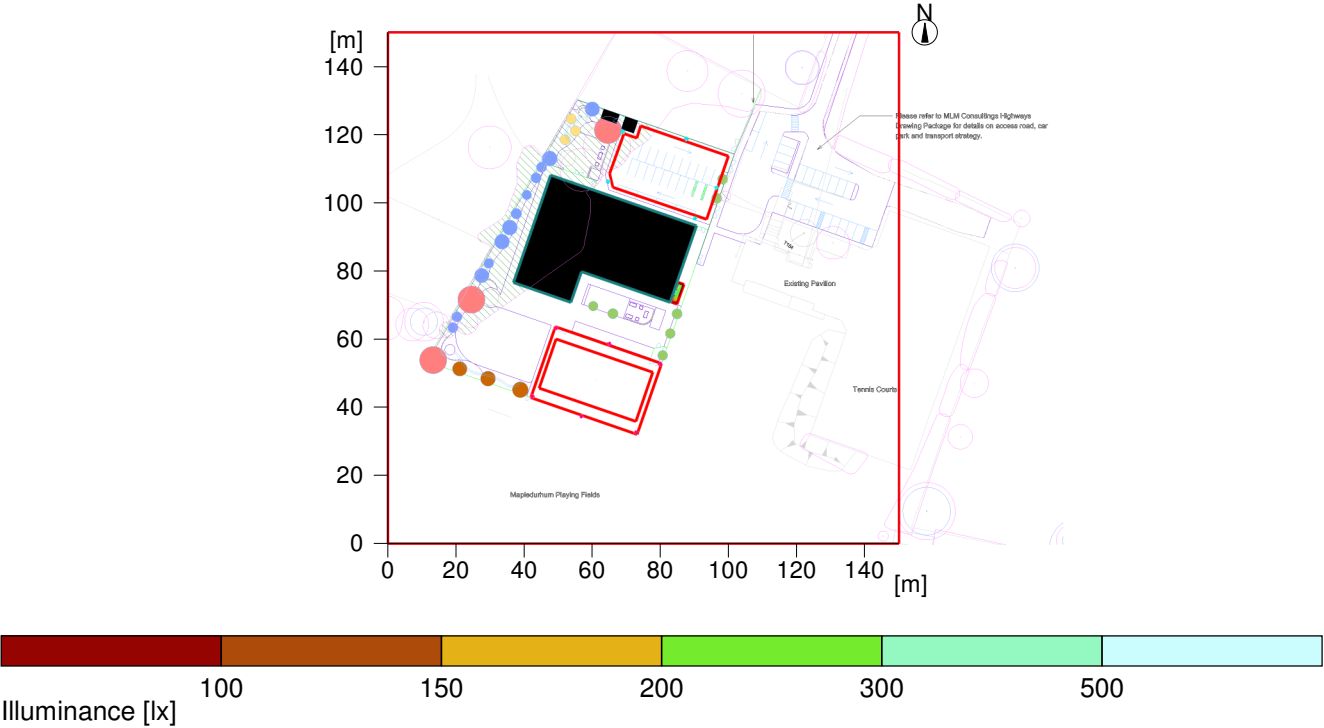
6	6	Holophane Europe Ltd
	Order No.	: SMF.250HTPS.AY
	Luminaire name	: SEATTLE MEDIUM
	Equipment	: 1 x 250HTPS - Vmh-250W/TC 250 W / 22000 lm

4	6	Abacus Lighting
	Order No.	: AL6012_B MHN-FC 1000W_740 230V XW
	Luminaire name	: AL6012_B - Challenger 1 MHN-FC 1000W_740 230V XW wide
	Equipment	: 1 x 55° IPK - 1131.60 W 1131.6 W / 93000 lm



2.2 Summary, Exterior 1

2.2.3 Result overview, Measuring area 3



General

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

Total luminous flux of all lamps	690000 lm
Total power	8289.6 W
Total power per area (22500.00 m²)	0.37 W/m²

Illuminance

Average illuminance	Eav	223 lx
Minimum illuminance	Emin	85 lx
Maximum illuminance	Emax	319 lx
Uniformity Uo	Emin/Em	1:2.63 (0.38)
Diversity Ud	Emin/Emax	1:3.75 (0.27)

Type No.\Make

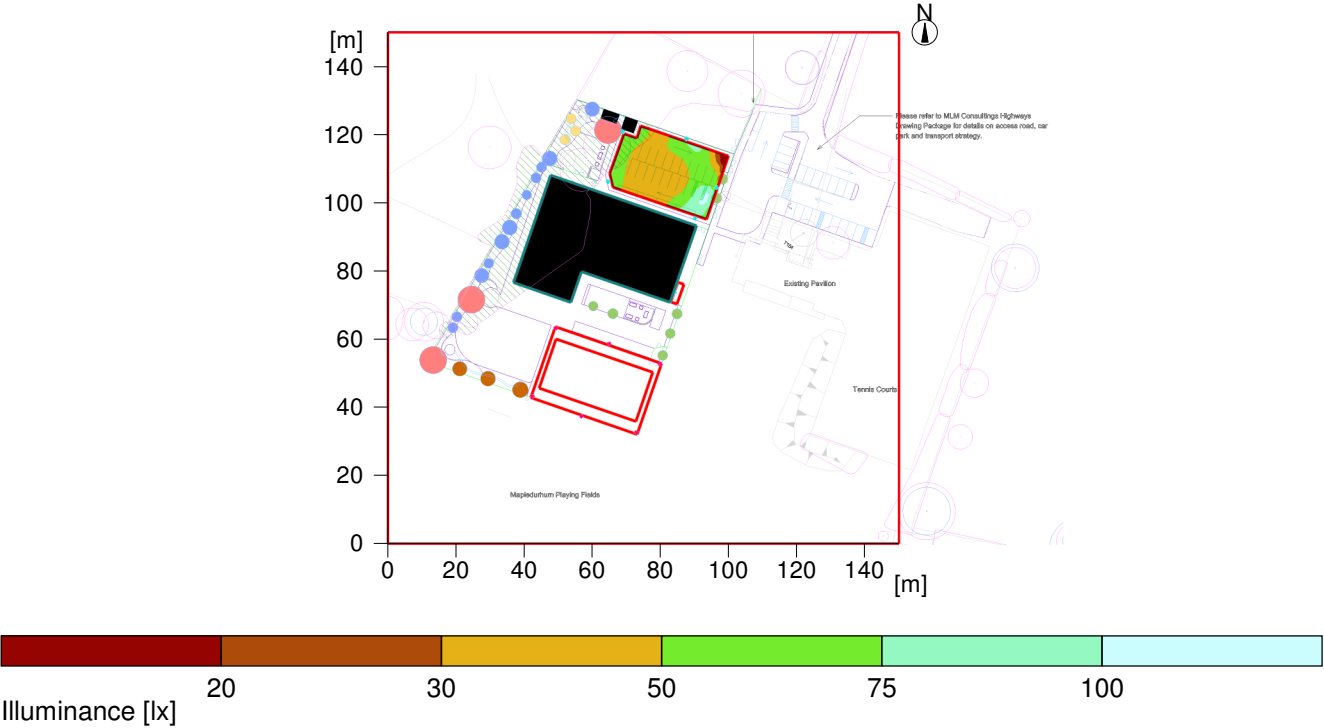
6	6	Holophane Europe Ltd
	Order No.	: SMF.250HTPS.AY
	Luminaire name	: SEATTLE MEDIUM
	Equipment	: 1 x 250HTPS - Vmh-250W/TC 250 W / 22000 lm

4	6	Abacus Lighting
	Order No.	: AL6012_B MHN-FC 1000W_740 230V XW
	Luminaire name	: AL6012_B - Challenger 1 MHN-FC 1000W_740 230V XW wide
	Equipment	: 1 x 55° IPK - 1131.60 W 1131.6 W / 93000 lm



2.2 Summary, Exterior 1

2.2.4 Result overview, Measuring area 4



General

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

Total luminous flux of all lamps	690000 lm
Total power	8289.6 W
Total power per area (22500.00 m²)	0.37 W/m²

Illuminance

Average illuminance	Eav	51 lx
Minimum illuminance	Emin	25 lx
Maximum illuminance	Emax	110 lx
Uniformity Uo	Emin/Em	1:2.03 (0.49)
Diversity Ud	Emin/Emax	1:4.37 (0.23)

Type No. \Make

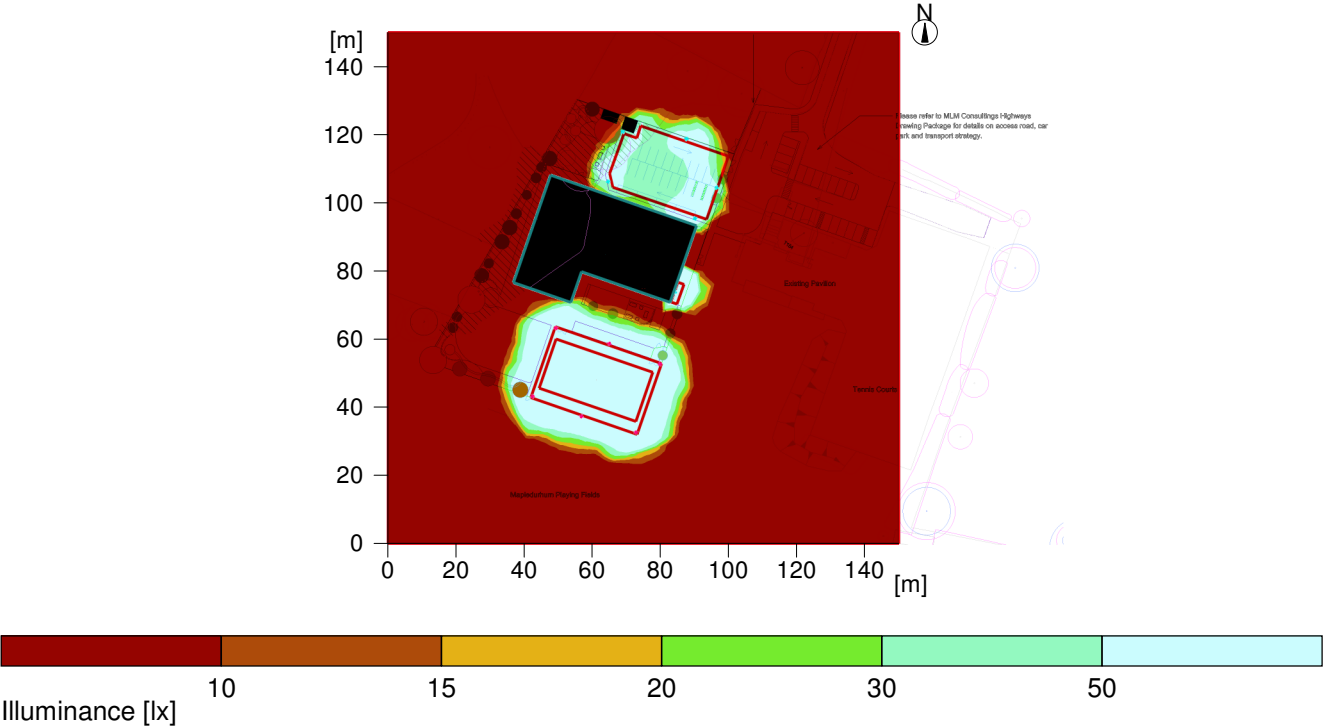
6	6	Holophane Europe Ltd
		Order No. : SMF.250HTPS.AY
		Luminaire name : SEATTLE MEDIUM
		Equipment : 1 x 250HTPS - Vmh-250W/TC 250 W / 22000 lm

4	6	Abacus Lighting
		Order No. : AL6012_B MHN-FC 1000W_740 230V XW
		Luminaire name : AL6012_B - Challenger 1 MHN-FC 1000W_740 230V XW wide
		Equipment : 1 x 55° IPK - 1131.60 W 1131.6 W / 93000 lm



2.2 Summary, Exterior 1

2.2.5 Result overview, Evaluation area 1



General

Calculation algorithm used	Average indirect fraction
Maintenance factor	0.80
Total luminous flux of all lamps	690000 lm
Total power	8289.6 W
Total power per area (22500.00 m²)	0.37 W/m² (1.89 W/m²/100lx)

Evaluation area 1

Reference plane 1.1

	Horizontal
Em	19.5 lx
Emin	0 lx
Emin/Eav (Uo)	---
Emin/Emax (Ud)	---
Position	0.00 m

Type No.\Make

6	6	Holophane Europe Ltd
	Order No.	: SMF.250HTPS.AY
	Luminaire name	: SEATTLE MEDIUM
	Equipment	: 1 x 250HTPS - Vmh-250W/TC 250 W / 22000 lm

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2.2 Summary, Exterior 1

2.2.5 Result overview, Evaluation area 1

		Abacus Lighting
4	6	Order No. : AL6012_B MHN-FC 1000W_740 230V XW
		Luminaire name : AL6012_B - Challenger 1 MHN-FC 1000W_740 230V XW wide
		Equipment : 1 x 55° IPK - 1131.60 W 1131.6 W / 93000 lm

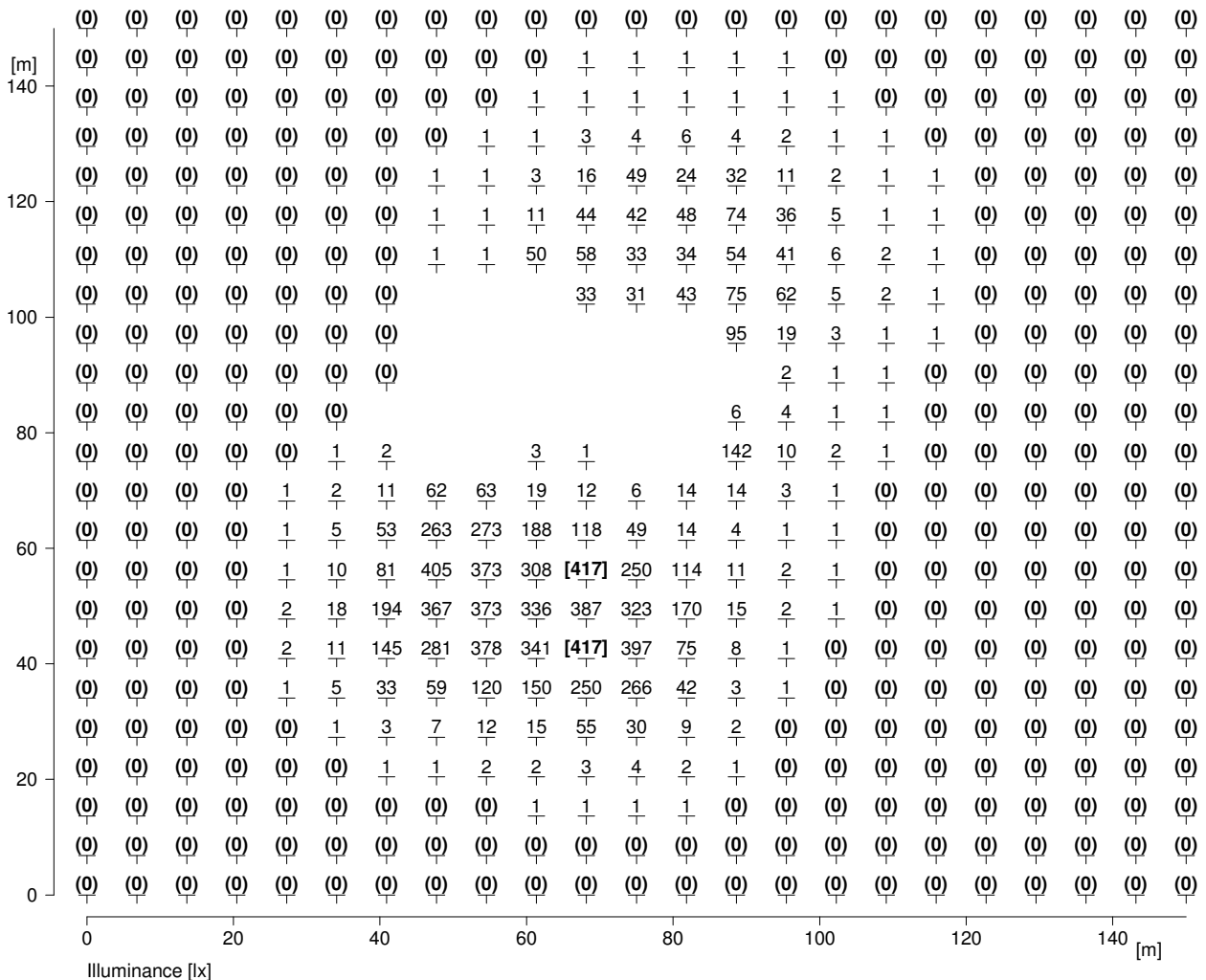
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2 Exterior 1

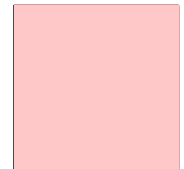
2.3 Calculation results, Exterior 1

2.3.1 Table, Reference plane 1.1 (E)



Height of the reference plane

Average illuminance : 19 lx
 Minimum illuminance : 0 lx
 Maximum illuminance : 417 lx
 Uniformity U₀ : ---
 Diversity U_d : ---

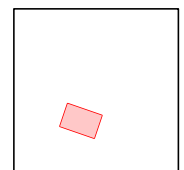
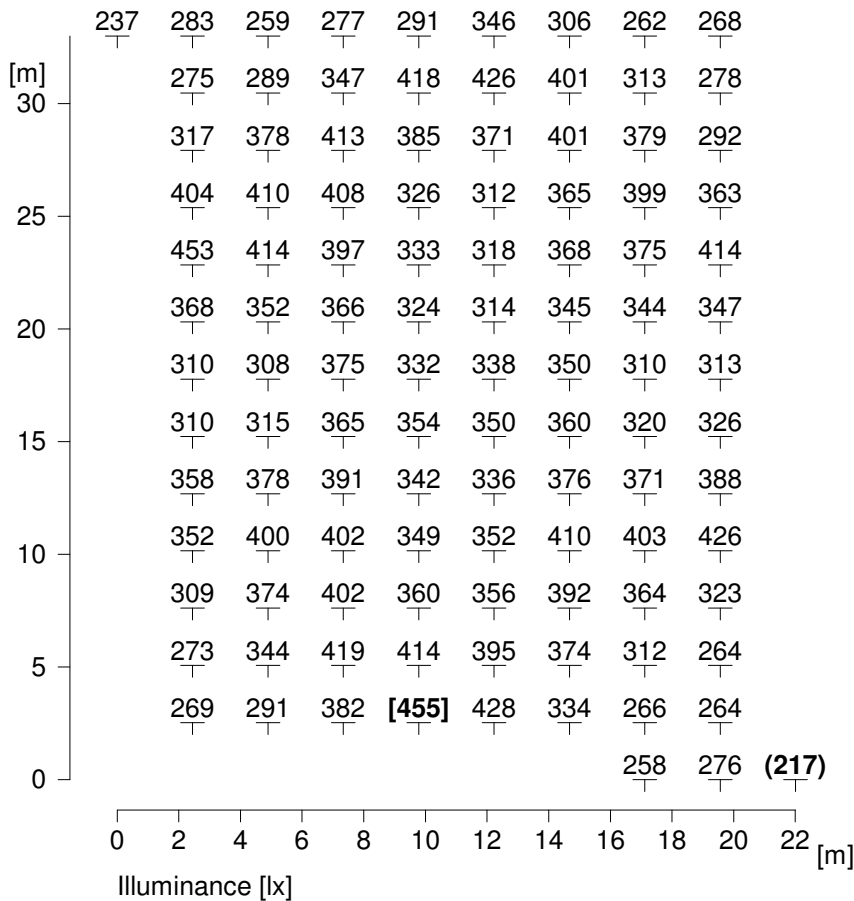


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2.3 Calculation results, Exterior 1

2.3.2 Table, Measuring area 1 (E)



Height of the reference plane

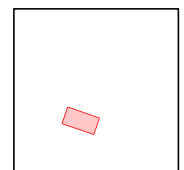
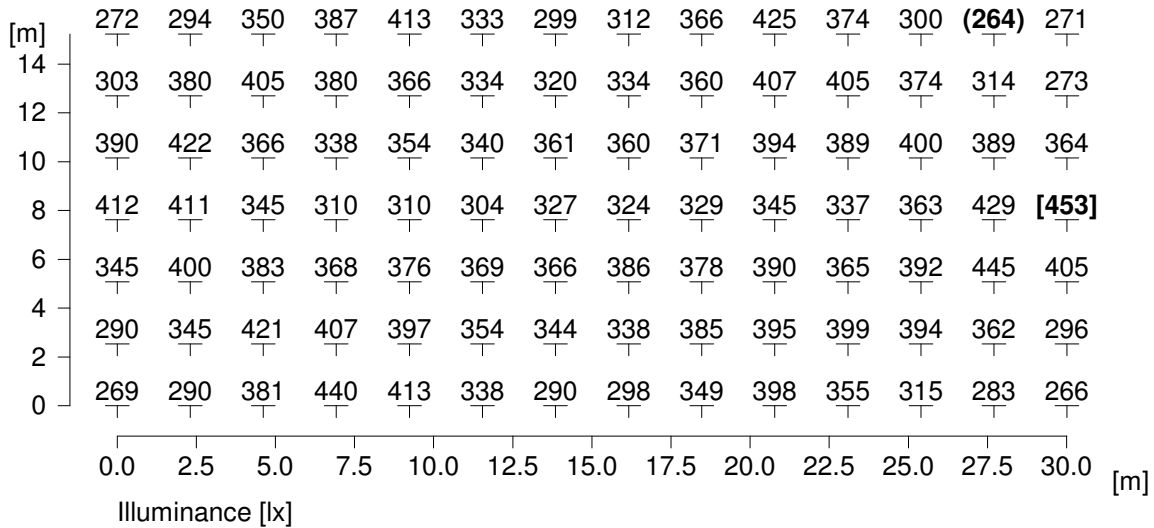
Average illuminance	Eav	: 0.00 m
Minimum illuminance	Emin	: 347 lx
Maximum illuminance	Emax	: 217 lx
Uniformity Uo	Emin/Eav	: 455 lx
Diversity Ud	Emin/Emax	: 1 : 1.60 (0.62)
		: 1 : 2.10 (0.48)

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2.3 Calculation results, Exterior 1

2.3.3 Table, Measuring area 2 (E)



Height of the reference plane

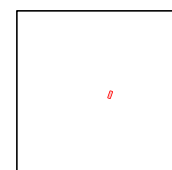
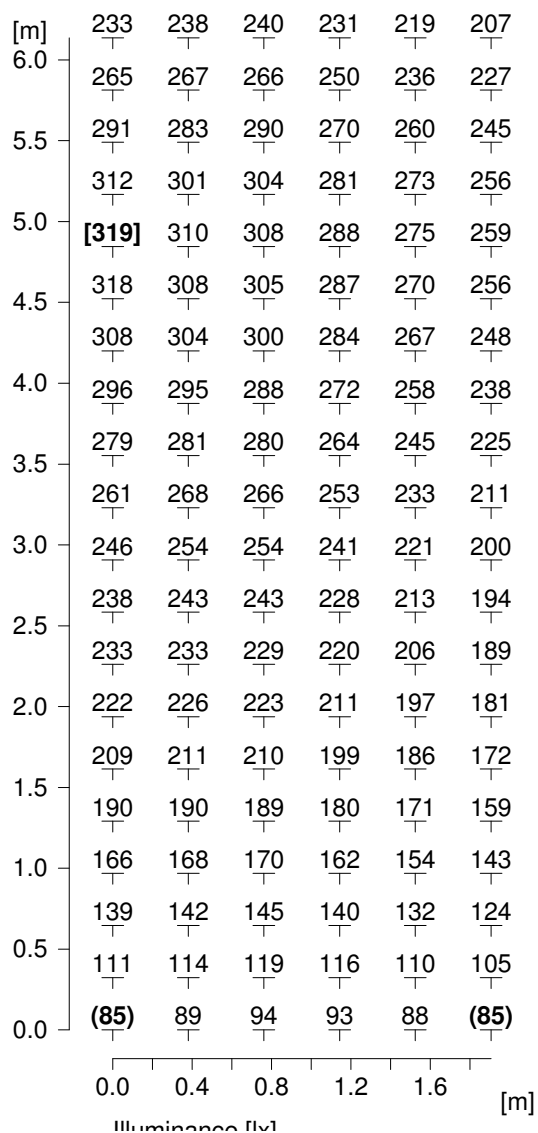
Average illuminance	Eav	: 0.00 m
Minimum illuminance	Emin	: 357 lx
Maximum illuminance	Emax	: 264 lx
Uniformity Uo	Emin/Eav	: 453 lx
Diversity Ud	Emin/Emax	: 1 : 1.35 (0.74)
		: 1 : 1.72 (0.58)

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2.3 Calculation results, Exterior 1

2.3.4 Table, Measuring area 3 (E)



Height of the reference plane

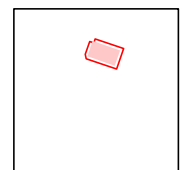
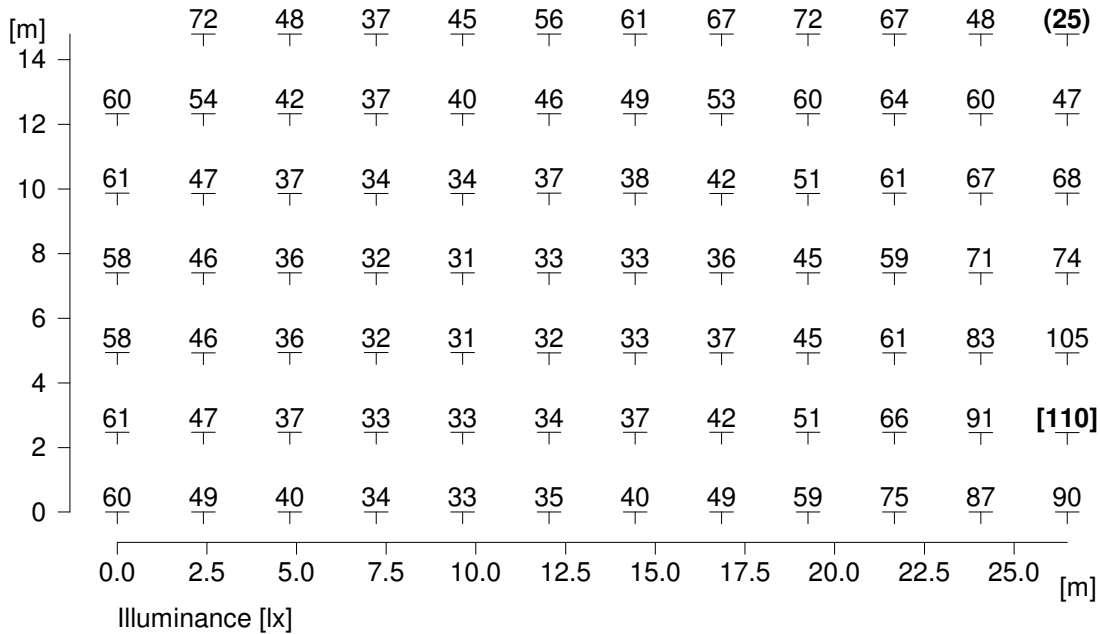
Average illuminance	Eav	: 0.00 m
Minimum illuminance	Emin	: 223 lx
Maximum illuminance	Emax	: 85 lx
Uniformity Uo	Emin/Eav	: 319 lx
Diversity Ud	Emin/Emax	: 1 : 2.63 (0.38)
		: 1 : 3.75 (0.27)

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2.3 Calculation results, Exterior 1

2.3.5 Table, Measuring area 4 (E)



Height of the reference plane

Average illuminance	Eav	: 0.00 m
Minimum illuminance	Emin	: 51 lx
Maximum illuminance	Emax	: 25 lx
Uniformity Uo	Emin/Eav	: 1 : 2.03 (0.49)
Diversity Ud	Emin/Emax	: 1 : 4.37 (0.23)