

Project 212544-MB

**North Manchester Rugby Club
412 Victoria Ave E
Manchester
M40 5SH**

Light Spill Design 2023

Partner for Contact:
Order No.:
Company:
Customer No.:

Date: 18.10.2023
Operator: Michael Butterill

Project 2

North Manchester RFC Lighting design 2023

Direct Sports Lighting

Unit 3 Ure Bank Maltigns, Ripon, HG4 1AE.

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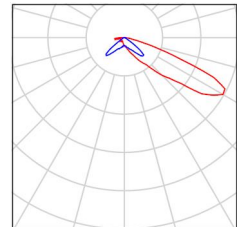
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Project 2 / Luminaire parts list

4 Pieces FL16-1000W-FL2835-5770-NBP60D
Article No.:
Luminous flux (Luminaire): 132670 lm
Luminous flux (Lamps): 132662 lm
Luminaire Wattage: 1003.5 W
Luminaire classification according to CIE: 100
CIE flux code: 22 66 96 100 100
Fitting: 1 x User defined (Correction Factor 1.000).

See our luminaire
catalog for an image of
the luminaire.



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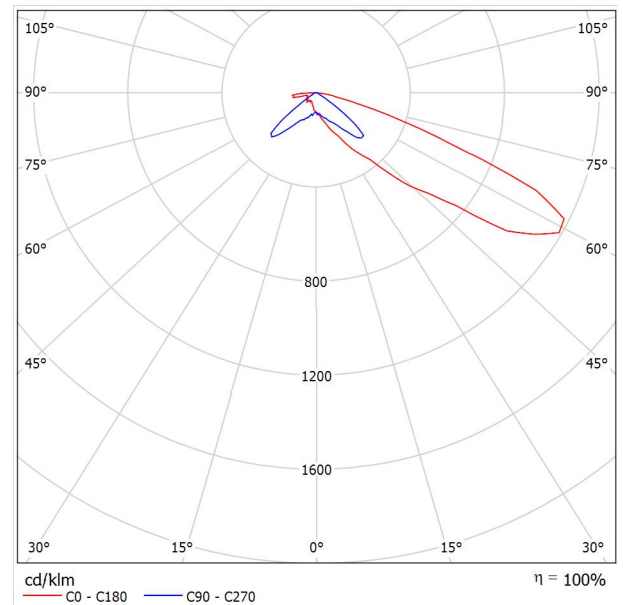
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FL16-1000W-FL2835-5770-NBP60D / Luminaire Data Sheet

Luminous emittance 1:

See our luminaire catalog for an image of the luminaire.



Luminaire classification according to CIE: 100
CIE flux code: 22 66 96 100 100

Due to missing symmetry properties, no UGR table can be displayed for this luminaire.

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Exterior Scene 1 / Planning data



Maintenance factor: 0.90, ULR (Upward Light Ratio): 0.0%

Scale 1:1854

Luminaire Parts List

No.	Pieces	Designation (Correction Factor)	Φ (Luminaire) [lm]	Φ (Lamps) [lm]	P [W]
1	4	FL16-1000W-FL2835-5770-NBP60D (1.000)	132670	132662	1003.5
Total:			530680	530648	4014.0

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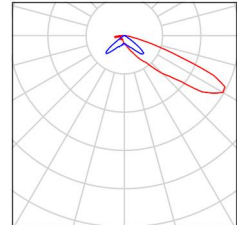
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Exterior Scene 1 / Luminaire parts list

4 Pieces FL16-1000W-FL2835-5770-NBP60D
Article No.:
Luminous flux (Luminaire): 132670 lm
Luminous flux (Lamps): 132662 lm
Luminaire Wattage: 1003.5 W
Luminaire classification according to CIE: 100
CIE flux code: 22 66 96 100 100
Fitting: 1 x User defined (Correction Factor 1.000).

See our luminaire
catalog for an image of
the luminaire.



Project 2

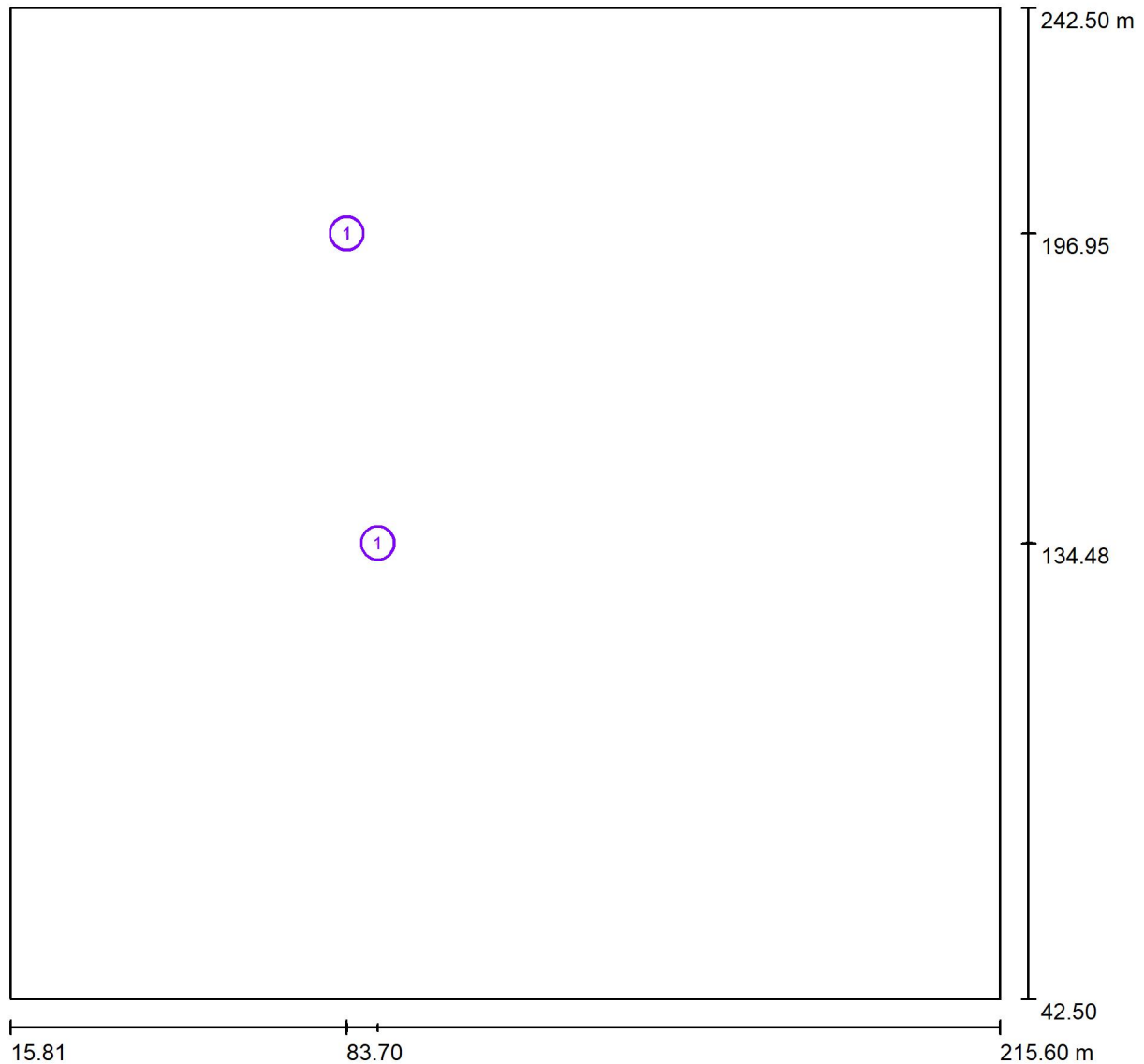
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Exterior Scene 1 / Luminaires (layout plan)



Scale 1 : 1429

Luminaire Parts List

No.	Pieces	Designation
1	4	FL16-1000W-FL2835-5770-NBP60D

Project 2

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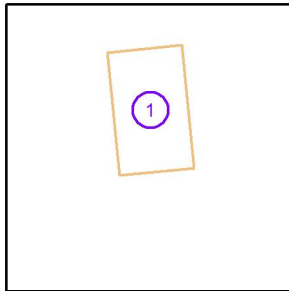
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Exterior Scene 1 / Sport Sites (Coordinates List)

General Sport Area



No.	Position [m]			Size Playing Area [m]		Size Total Area [m]		Rotation [°]		
	X	Y	Z	L	W	L	W	X	Y	Z
1	116.500	168.700	0.000	86.000	52.000	86.000	60.000	0.0	0.0	-84.3

Project 2

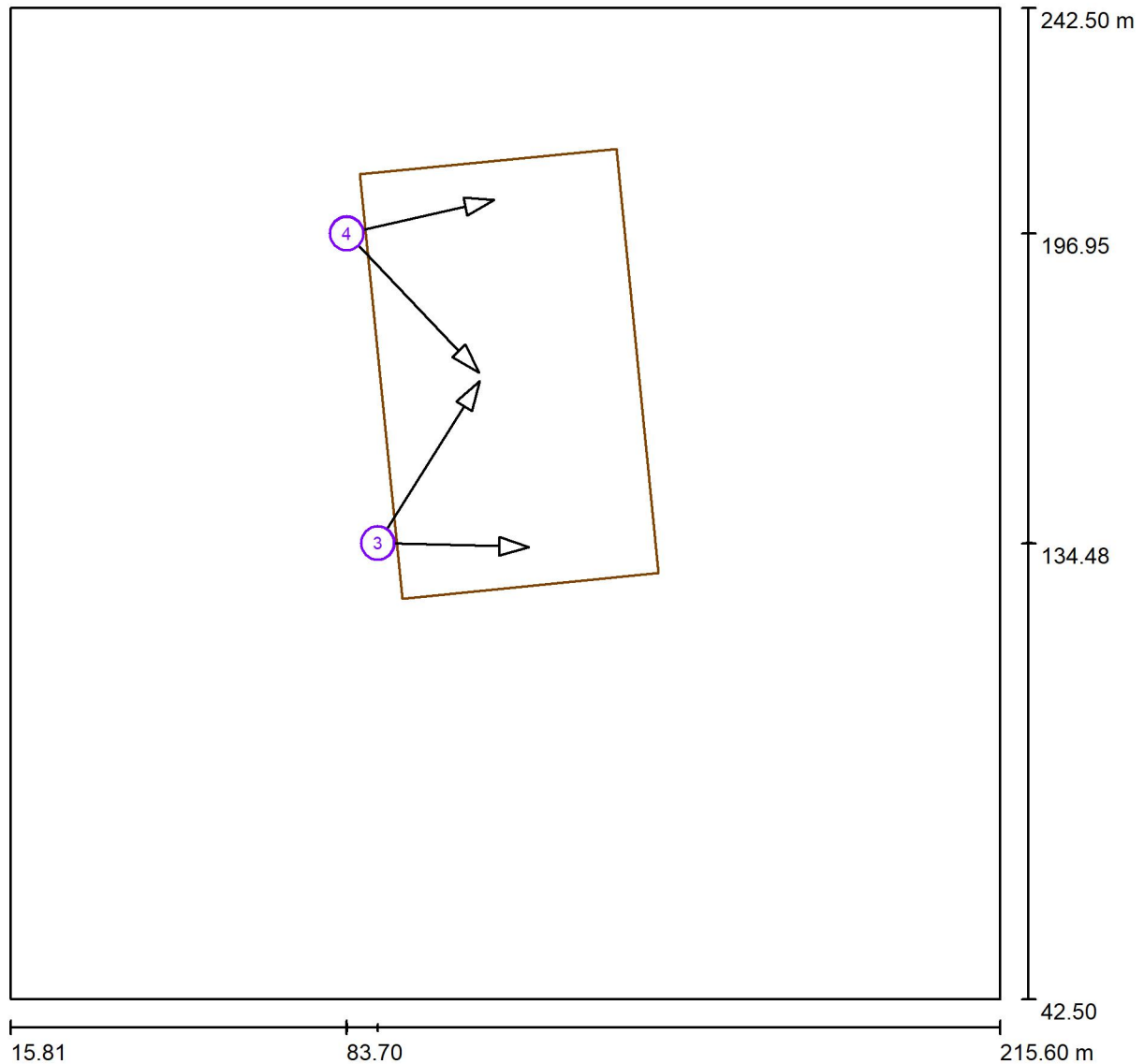
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Exterior Scene 1 / Sport Luminaires (Coordinates List)



Scale 1 : 1429

List of the Sport Luminaires

Luminaire	Index	Position [m]			Aiming Point [m]			Angle [°]	Alignment	Pole
		X	Y	Z	X	Y	Z			
FL16-1000W-FL2835-5770-NBP60D	1	89.990	134.479	15.000	110.539	167.247	0.000	21.2	(C 0, G IMax)	/
FL16-1000W-FL2835-5770-NBP60D	2	83.749	197.006	15.000	110.369	168.946	0.000	21.2	(C 0, G IMax)	/
FL16-1000W-FL2835-5770-NBP60D	3	89.934	134.528	15.000	120.460	133.725	0.000	26.2	(C 0, G IMax)	/
FL16-1000W-FL2835-5770-NBP60D	4	83.703	196.947	15.000	113.468	203.768	0.000	26.2	(C 0, G IMax)	/

Project 2

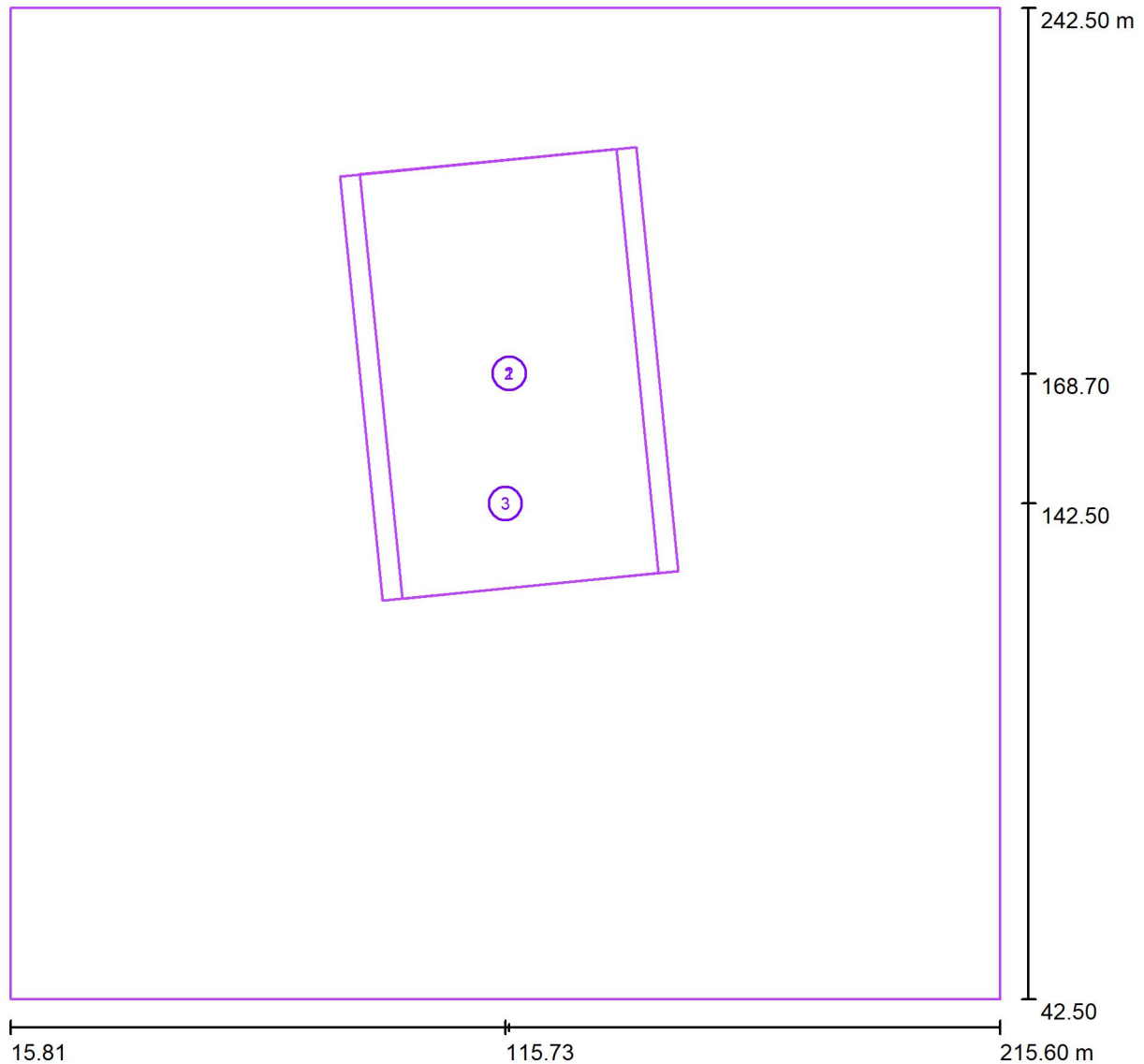
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Exterior Scene 1 / Calculation Grid (Coordinates List)



Scale 1 : 1429

List of the Calculation Grids

No.	Designation	Position [m]			Size [m]		Rotation [°]		
		X	Y	Z	L	W	X	Y	Z
1	General Sport Area 1 Calculation Grid (PA)	116.500	168.700	0.000	86.000	52.000	0.0	0.0	-84.3
2	General Sport Area 1 Calculation Grid (TA)	116.500	168.700	0.000	86.000	60.000	0.0	0.0	-84.3
3	Calculation Grid 1	115.731	142.500	0.000	199.738	200.000	0.0	0.0	0.0

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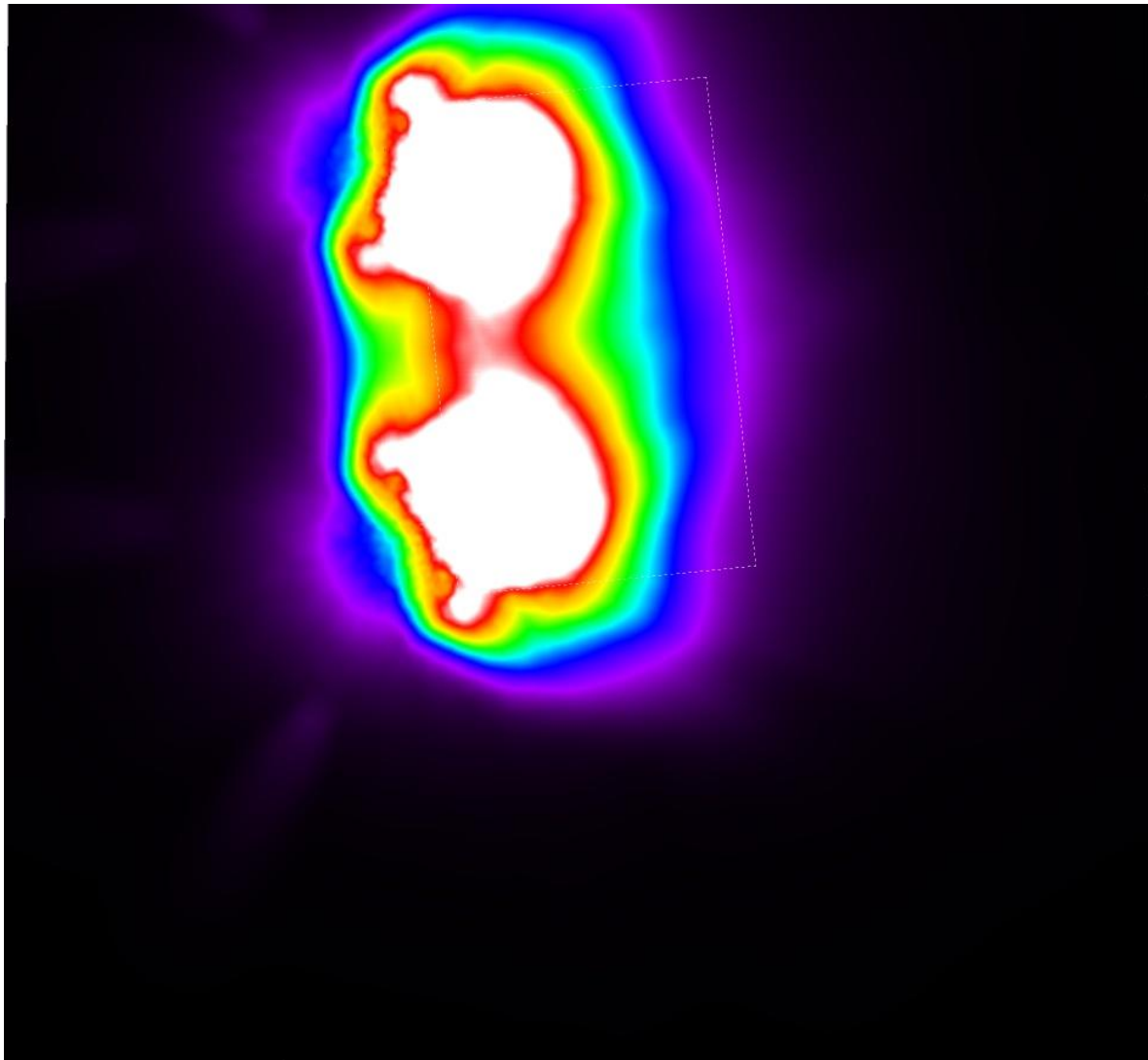
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Exterior Scene 1 / False Colour Rendering



0 10 20 30 40 50 60 70 80 lx

Project 2

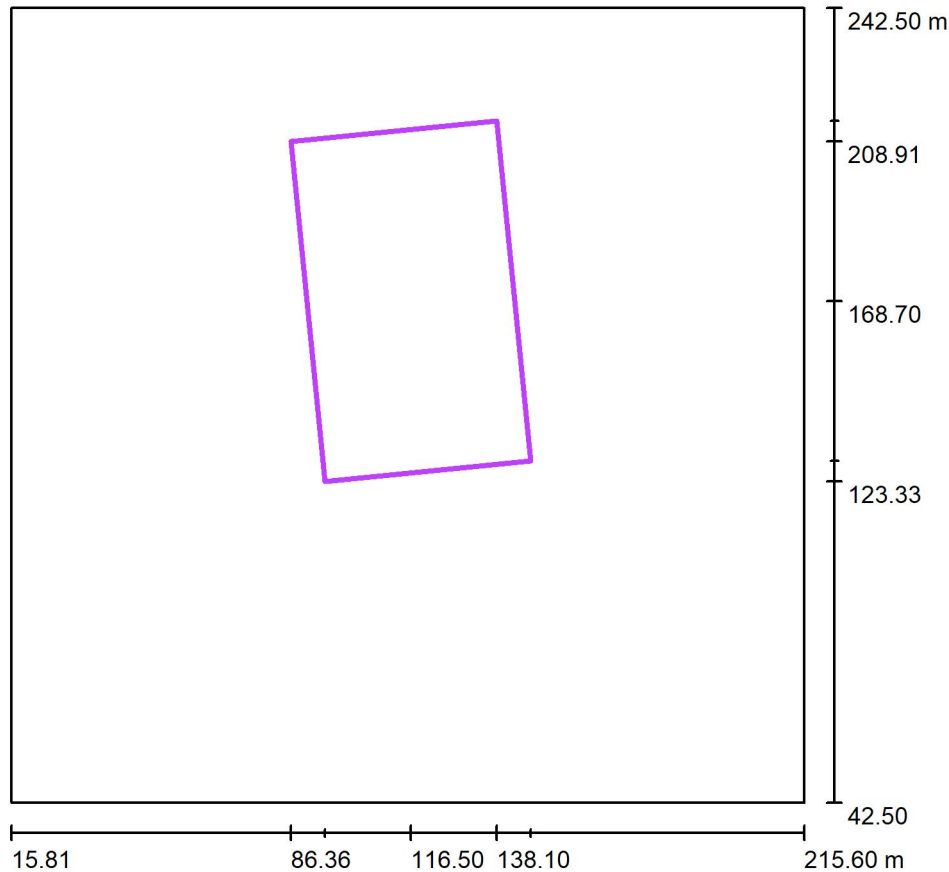
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Exterior Scene 1 / General Sport Area 1 Calculation Grid (PA) / Summary



Scale 1 : 1907

Position: (116.500 m, 168.700 m, 0.000 m)

Size: (86.000 m, 52.000 m)

Rotation: (0.0°, 0.0°, -84.3°)

Type: Normal, Grid: 19 x 11 Points

Belongs to the following sport arena: General Sport Area 1

Results overview

No.	Type	E_{av} [lx]	E_{min} [lx]	E_{max} [lx]	$u0$	E_{min} / E_{max}	$E_{h\ m} / E_m$	H [m]	Camera
1	perpendicular	65	6.08	160	0.09	0.04	/	0.000	/

$E_{h\ m} / E_m$ = Relationship between middle horizontal and vertical illuminance, H = Measuring Height

Project 2

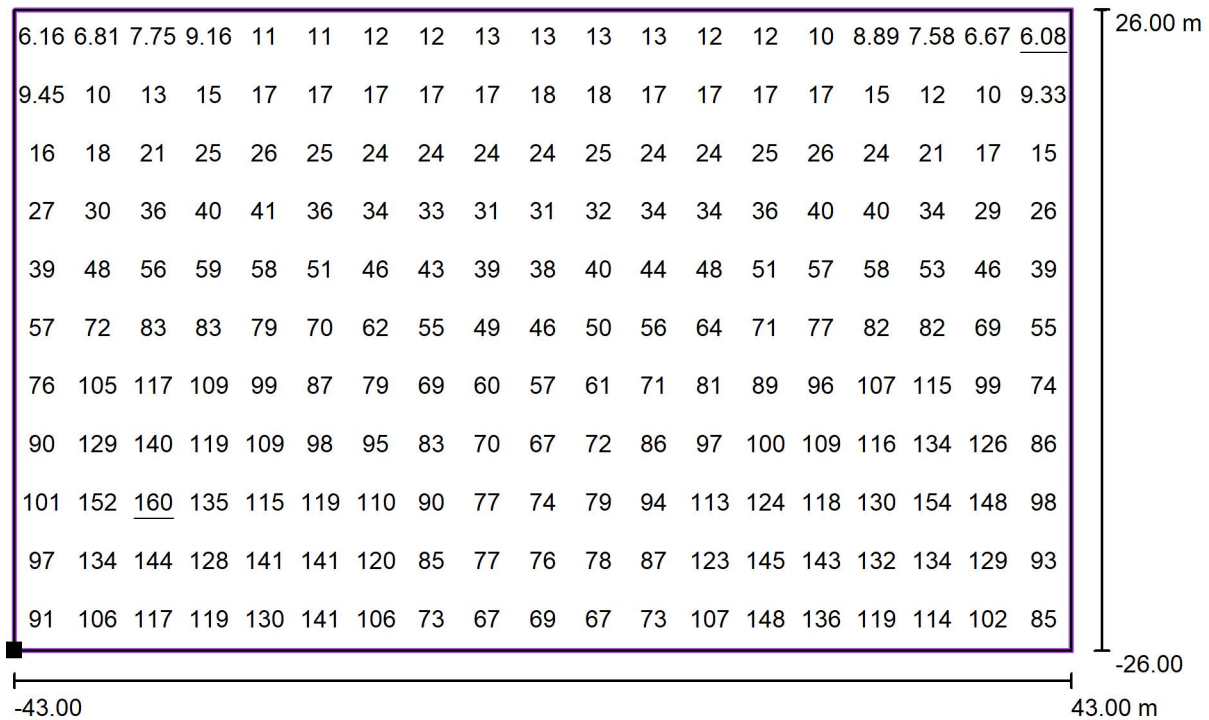
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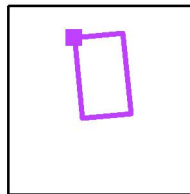
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Exterior Scene 1 / General Sport Area 1 Calculation Grid (PA) / Value Chart (E, Perpendicular)



Values in Lux, Scale 1 : 615

Position of surface in external scene:
Marked point: (86.358 m, 208.905 m,
0.000 m)



Grid: 19 x 11 Points

E_{av} [lx]
65

E_{min} [lx]
6.08

E_{max} [lx]
160

u_0
0.09

E_{min} / E_{max}
0.04

Project 2

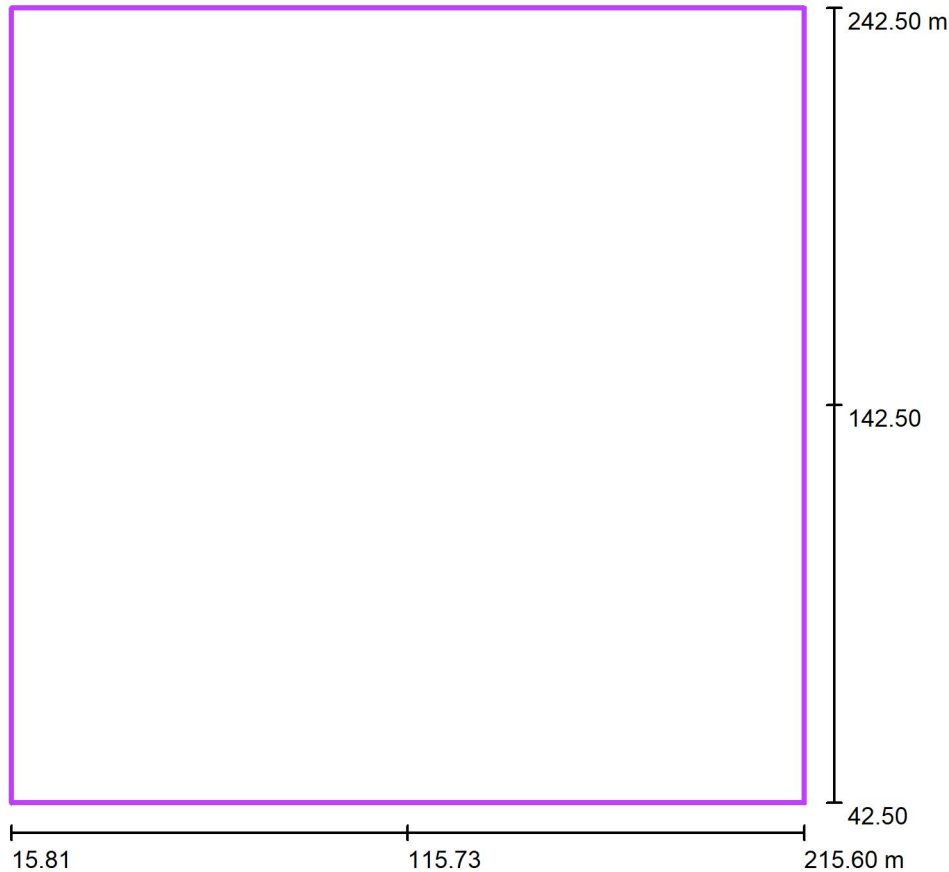
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Exterior Scene 1 / Calculation Grid 1 / Summary



Scale 1 : 1907

Position: (115.731 m, 142.500 m, 0.000 m)

Size: (199.738 m, 200.000 m)

Rotation: (0.0°, 0.0°, 0.0°)

Type: Normal, Grid: 25 x 25 Points

Results overview

No.	Type	E_{av} [lx]	E_{min} [lx]	E_{max} [lx]	u0	E_{min} / E_{max}	$E_{h\ m} / E_m$	H [m]	Camera
1	perpendicular	12	0.03	159	0.00	0.00	/	0.000	/

$E_{h\ m} / E_m$ = Relationship between middle horizontal and vertical illuminance, H = Measuring Height

Project 2

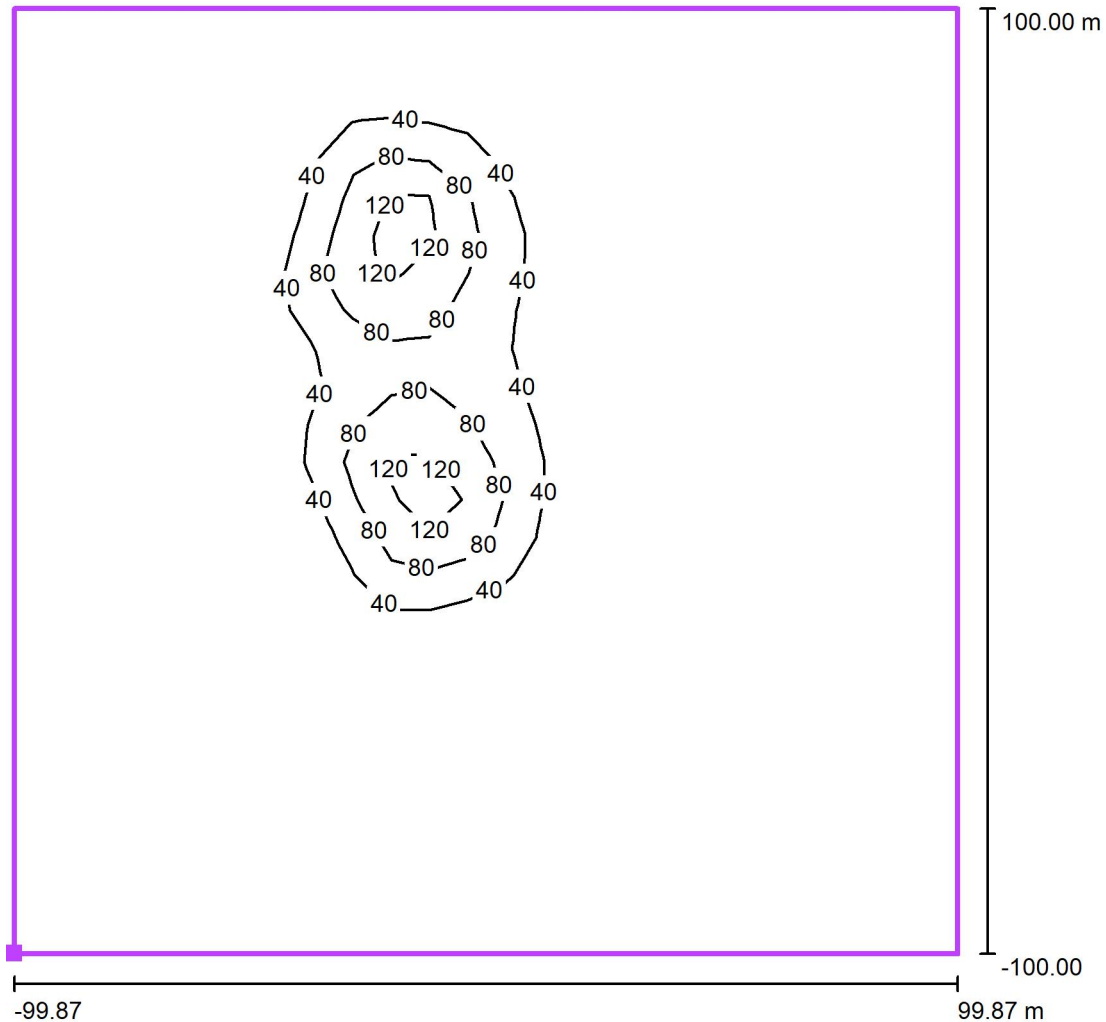
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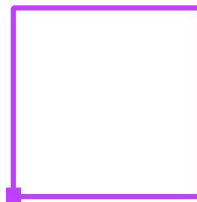
Exterior Scene 1 / Calculation Grid 1 / Isolines (E, Perpendicular)



Values in Lux, Scale 1 : 1602

Position of surface in external scene:

Marked point: (15.862 m, 42.500 m, 0.000 m)



Grid: 25 x 25 Points

E_{av} [lx]	E_{min} [lx]	E_{max} [lx]	u_0	E_{min} / E_{max}
12	0.03	159	0.00	0.00

Project 2

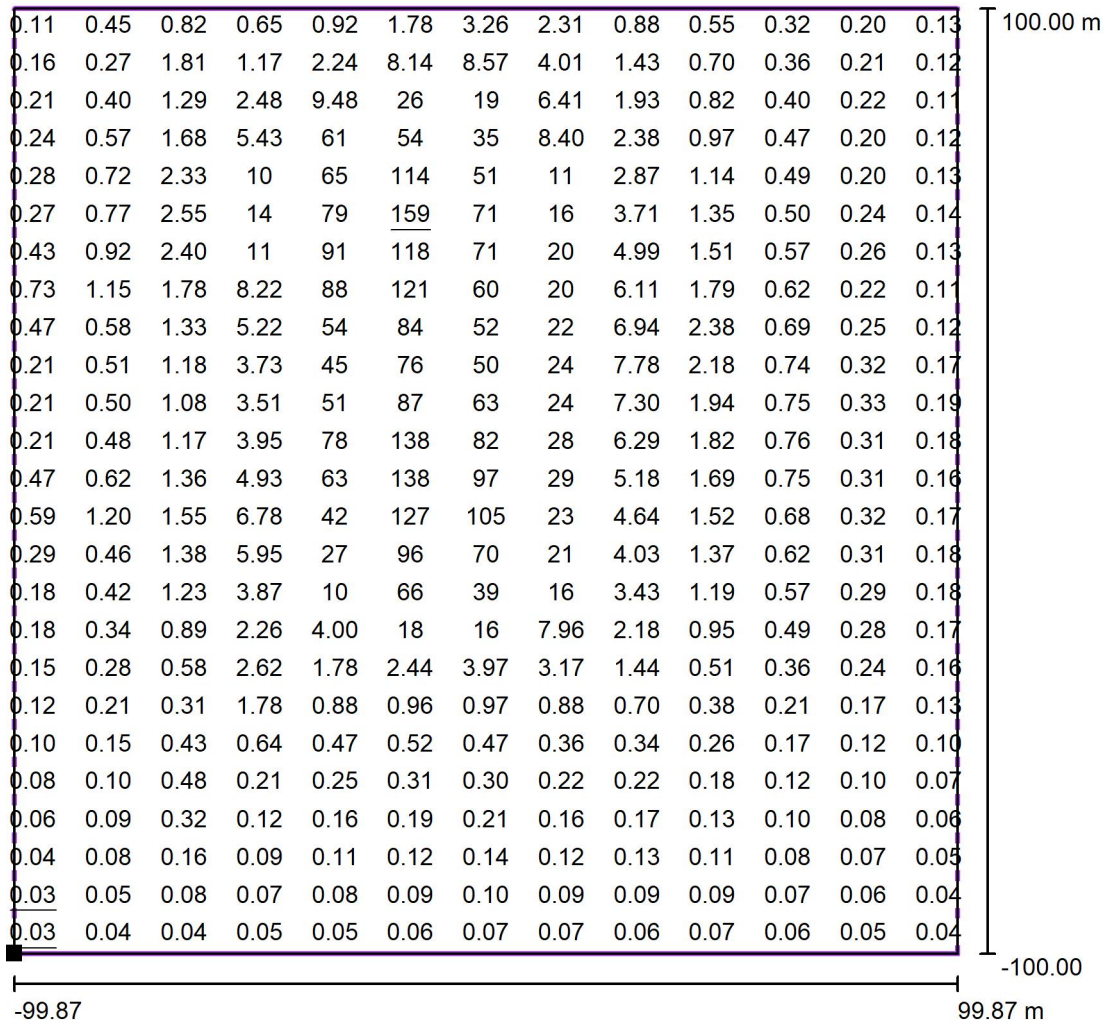
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Exterior Scene 1 / Calculation Grid 1 / Value Chart (E, Perpendicular)



Values in Lux, Scale 1 : 1602

Not all calculated values could be displayed.

Position of surface in external scene:

Marked point: (15.862 m, 42.500 m, 0.000 m)



Grid: 25 x 25 Points

E_{av} [lx]
12

E_{min} [lx]
0.03

E_{max} [lx]
159

u_0
0.00

E_{min} / E_{max}
0.00