

WRSC Astro Pitches 1 & 2

9x18m A35-NB LTM 3000k - 350 lux

Project code: 0401010050, D-574897

Date: 17-06-2024

Designer: LiAS UK & I - Steve Johnston

The nominal values shown in this report are the result of precision calculations, based upon precisely positioned luminaires in a fixed relationship to each other and to the area under examination. In practice the values may vary due to tolerances on luminaires, luminaire positioning, reflection properties and electrical supply.

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1. Project Description

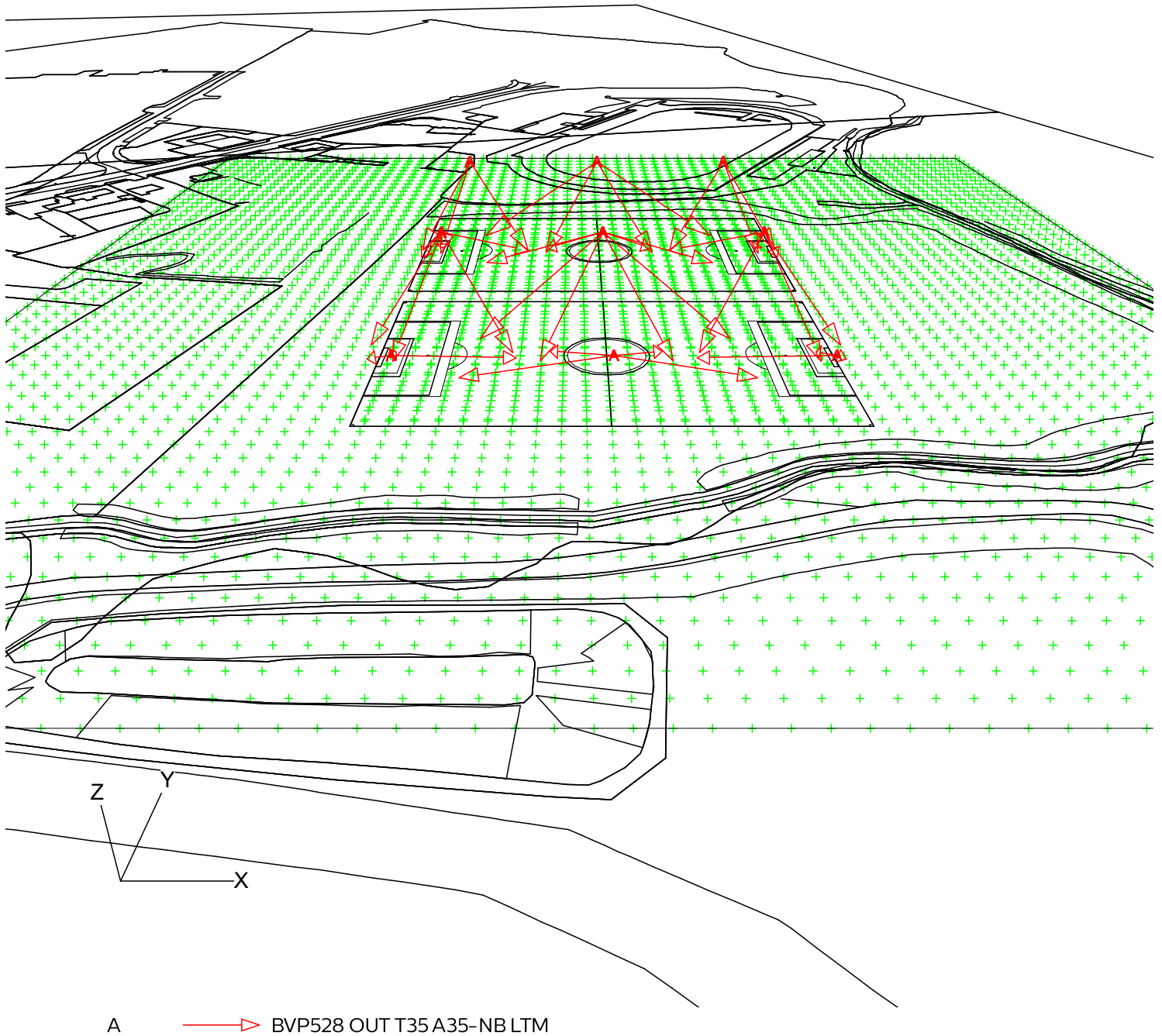
1.1 Description

Design to achieve 350 lux ave, 0.7 Uo using Warm White 3000k
OptiVision BVP528 OUT T35 1xLED2470-4S/730/730 E3/D4I A35-NB LTM
fittings

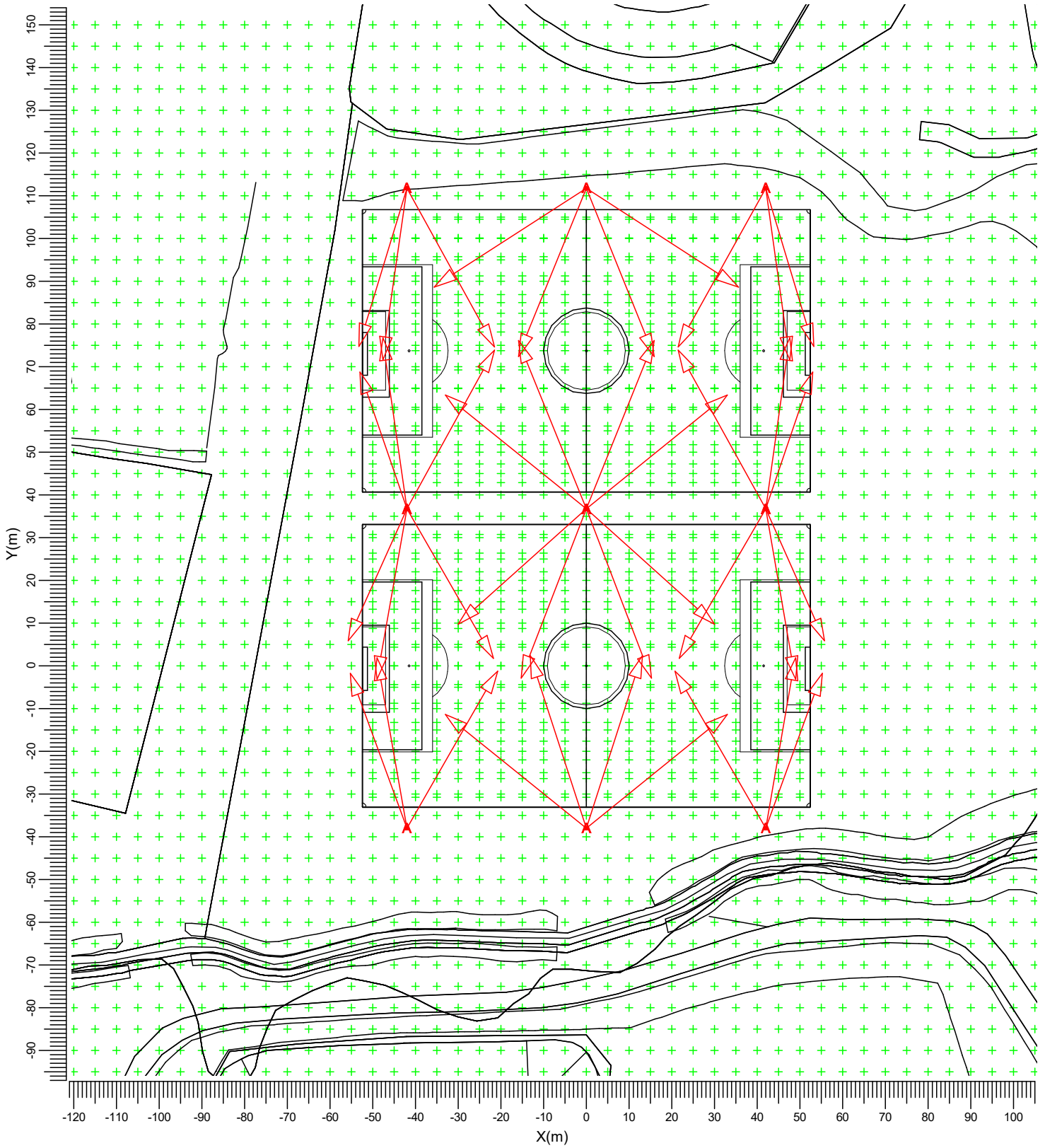
20 No per pitch with 3 No on end columns and 4 No on centre


Middle columns in centre are only set back 3.75m from each touchline of pitches
1 & 2 so recommend these centre columns are padded as a precaution, as normally
set back 4-5m.

1.2 3-D Project Overview



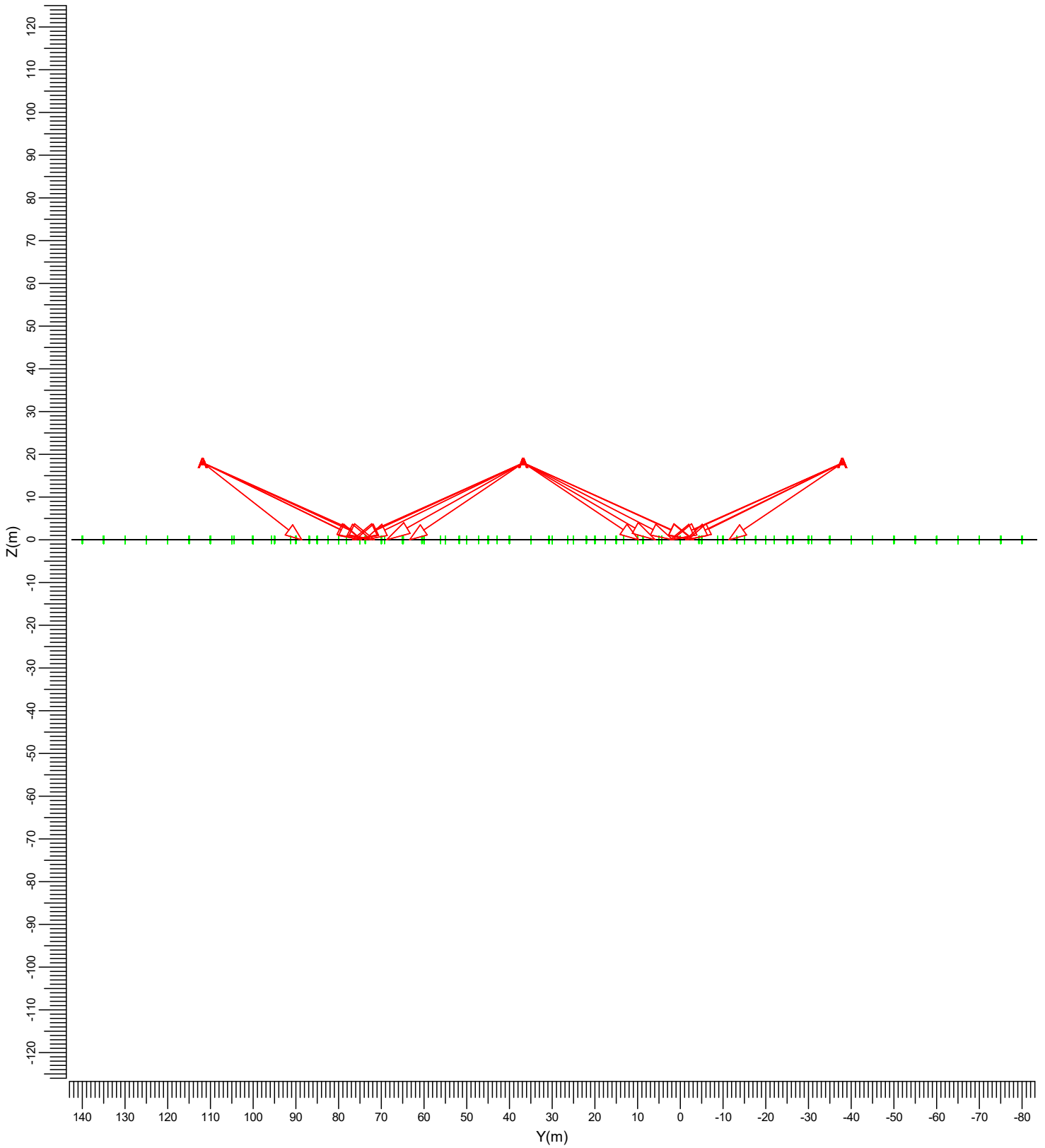
1.3 Top Project Overview




A  BVP528 OUT T35 A35-NB LTM

Scale
1:1250

1.4 Left Project Overview



A  BVP528 OUT T35 A35-NB LTM

Scale
1:1250

2. Summary

2.1 Project Luminaires

Code	Qty	Luminaire Type	Lamp Type	Power (W)	Flux (lm)
A	40	BVP528 OUT T35 A35-NB LTM	1 * LED2470-4S/730	1498.6	1 * 247000

The total installed power: 59.94 (kWatt)

Number of Luminaires Per Switching Mode:

Switching Mode	Luminaire Code	Power (kWatt)
	A	
Astro Pitch 1	20	29.97
Astro Pitch 2	20	29.97
SpillLighting All On	40	59.94

Number of Luminaires Per Arrangement:

Arrangement	Luminaire Code	Power (kWatt)
	A	
Astro Pitch 1 Centr Cols	4	5.99
Astro Pitch 1 End Cols	6	8.99
Astro Pitch 1/2 Cent Col	8	11.99
Astro Pitch 1/2 End Cols	12	17.98
Astro Pitch 2 Centr Col	4	5.99
Astro Pitch 2 End Col Nt	6	8.99

2.2 Calculation Results

Switching Modes:

Code	Switching Mode	Maintenance factor
1	Astro Pitch 1	0.95
2	Astro Pitch 2	0.95
3	SpillLighting All On	1.00

(II)luminance Calculations:

Calculation	Switching Mode	Type	Unit	Ave	Min	Max	Min/Ave	Min/Max
Astro Pitch 1	1	Surface Illuminance	lux	351	256	443	0.73	0.58
Astro Pitch 2	2	Surface Illuminance	lux	352	259	456	0.74	0.57
Eh Spill	3	Surface Illuminance	lux					

Obtrusive Light Calculations:

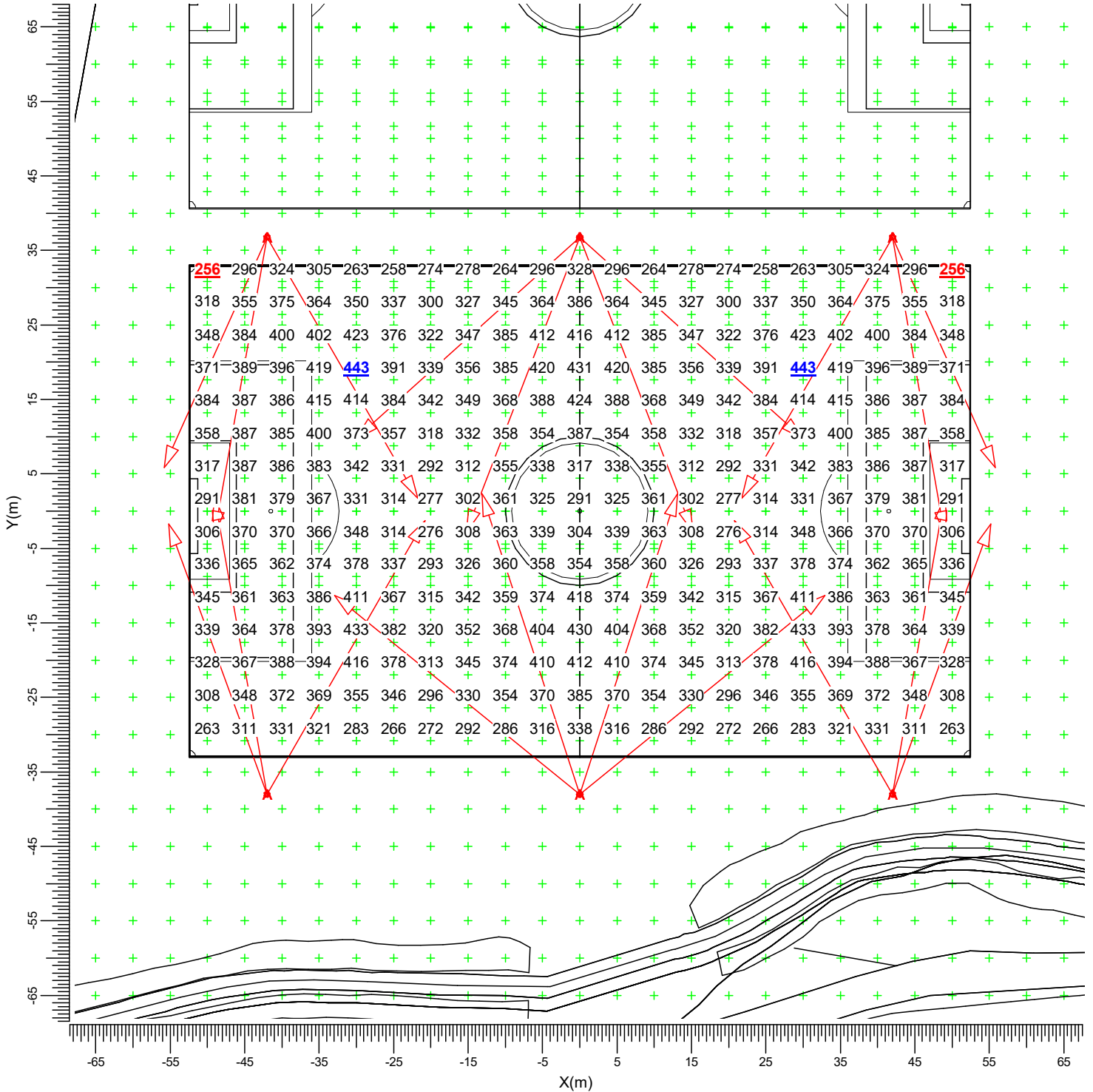
Switching Mode	ULR
1	0.00
2	0.00
3	0.00

3. Calculation Results

3.1 Astro Pitch 1: Graphical Table

Astro Pitch 1

Grid : Astro Pitch 1 at Z = -0.00 m
Calculation : Surface Illuminance (lux)



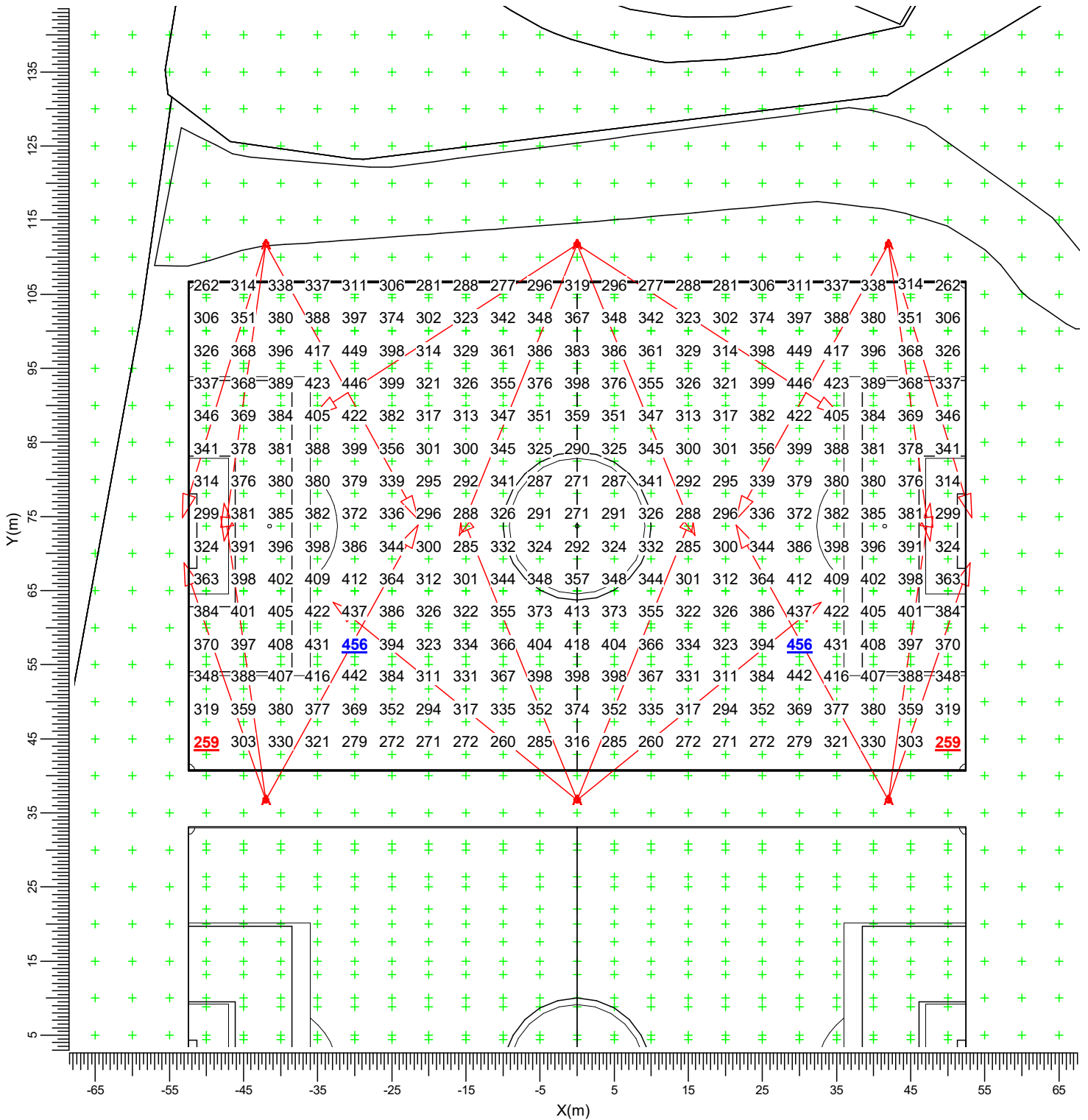
A BVP528 OUT T35 A35-NB LTM

Average	Minimum	Maximum	Min/Ave	Min/Max	Project maintenance factor	Scale
351	256	443	0.73	0.58	0.95	1:750

3.2 Astro Pitch 2: Graphical Table

Astro Pitch 2

Grid : Astro Pitch 2 at Z = -0.00 m
Calculation : Surface Illuminance (lux)



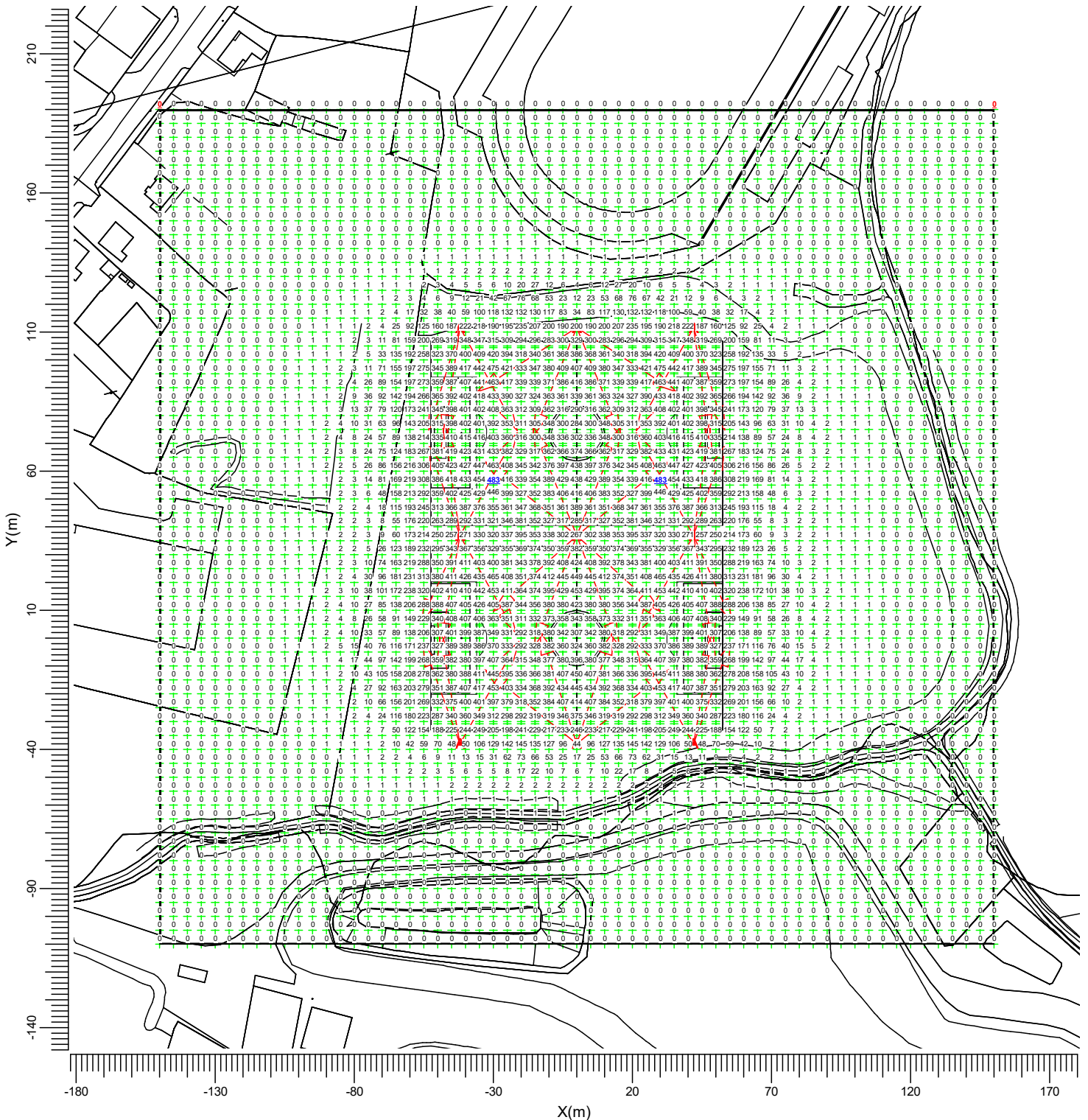
A BVP528 OUT T35 A35-NB LTM

Average	Minimum	Maximum	Min/Ave	Min/Max	Project maintenance factor	Scale
352	259	456	0.74	0.57	0.95	1:750

3.3 Eh Spill: Graphical Table

SpillLighting All On

Grid : Eh Spill at Z = -0.00 m
Calculation : Surface Illuminance (lux)



A → BVP528 OUT T35 A35-NB LTM

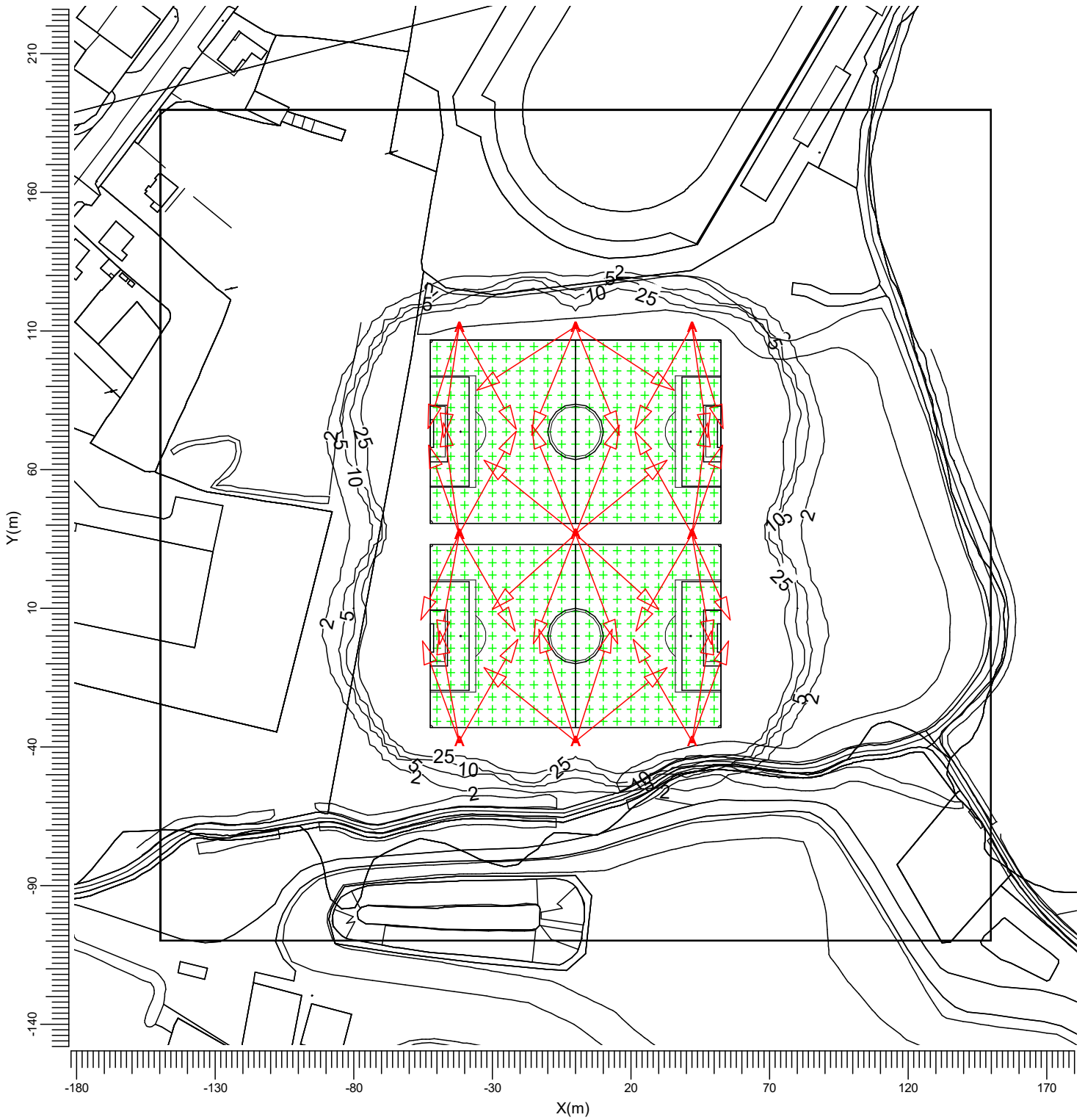
Project maintenance factor
1.00


Scale
1:2000

3.4 Eh Spill: Iso Contour

SpillLighting All On

Grid : Eh Spill at Z = -0.00 m
Calculation : Surface Illuminance (lux)



A  BVP528 OUT T35 A35-NB LTM

Project maintenance factor
1.00

Scale
1:2000

4. Luminaire Details

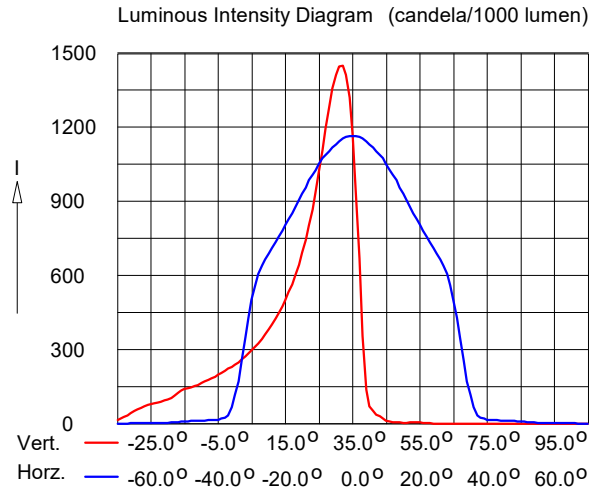
4.1 Project Luminaires

OptiVision LED gen3.5 2022
BVP528 OUT T35 1xLED2470-4S/730/730 E3/D4I A35-NB LTM

Light output ratios

DLOR	: 0.69
ULOR	: 0.00
TLOR	: 0.69
Ballast	: E3/D4I
Lamp flux	: 247000 lm
Luminaire wattage	: 1498.6 W
Measurement code	: LVM2047600

Note: Luminaire data not from database.



5. Installation Data

5.1 Legends

Project Luminaires:

Code	Qty	Luminaire Type	Lamp Type	Flux (lm)
A	40	BVP528 OUT T35 A35-NB LTM	1 * LED2470-4S/730	1 * 247000

Arrangements:

Code	Arrangement
1	Astro Pitch 1 End Cols
2	Astro Pitch 1 Centr Cols
3	Astro Pitch 2 End Col Nt
4	Astro Pitch 2 Centr Col
5	Astro Pitch 1/2 End Cols
6	Astro Pitch 1/2 Cent Col

Switching Modes:

Code	Switching Mode
1	Astro Pitch 1
2	Astro Pitch 2
3	SpillLighting All On

5.2 Luminaire Positioning and Orientation

Including Aiming Points:

Qty and Code	Position			Aiming Points			ULR	Arr.	Switching Modes		
	X (m)	Y (m)	Z (m)	X (m)	Y (m)	Z (m)			1	2	3
1 * A	-42.00	-38.00	18.00	-55.20	-1.73	0.00	0.00	1	+	-	+
1 * A	-42.00	-38.00	18.00	-20.80	-1.28	0.00	0.00	1	+	-	+
1 * A	-42.00	-38.00	18.00	-49.02	1.81	0.00	0.00	1	+	-	+
1 * A	42.00	-38.00	18.00	55.20	-1.73	0.00	0.00	1	+	-	+
1 * A	42.00	-38.00	18.00	20.80	-1.28	0.00	0.00	1	+	-	+
1 * A	42.00	-38.00	18.00	49.02	1.81	0.00	0.00	1	+	-	+
1 * A	-0.00	-38.00	18.00	-32.96	-11.31	0.00	0.00	2	+	-	+
1 * A	-0.00	-38.00	18.00	32.96	-11.31	0.00	0.00	2	+	-	+
1 * A	-0.00	-38.00	18.00	-13.10	2.33	0.00	0.00	2	+	-	+
1 * A	-0.00	-38.00	18.00	13.10	2.33	0.00	0.00	2	+	-	+
1 * A	-42.00	111.70	18.00	-21.44	74.61	0.00	0.00	3	-	+	+
1 * A	-42.00	111.70	18.00	-47.63	71.66	0.00	0.00	3	-	+	+
1 * A	-42.00	111.70	18.00	-53.29	74.79	0.00	0.00	3	-	+	+
1 * A	42.00	111.70	18.00	21.44	74.61	0.00	0.00	3	-	+	+
1 * A	42.00	111.70	18.00	47.63	71.66	0.00	0.00	3	-	+	+
1 * A	42.00	111.70	18.00	53.29	74.79	0.00	0.00	3	-	+	+
1 * A	-0.00	111.70	18.00	-15.89	72.38	0.00	0.00	4	-	+	+
1 * A	-0.00	111.70	18.00	15.89	72.38	0.00	0.00	4	-	+	+

Qty and Code	Position			Aiming Points			ULR	Arr.	Switching Modes		
	X (m)	Y (m)	Z (m)	X (m)	Y (m)	Z (m)			1	2	3
1 * A	-0.00	111.70	18.00	-35.56	88.60	0.00	0.00	4	-	+	+
1 * A	-0.00	111.70	18.00	35.56	88.60	0.00	0.00	4	-	+	+
1 * A	-42.00	36.75	18.00	-21.44	73.84	0.00	0.00	5	-	+	+
1 * A	-42.00	36.75	18.00	-47.63	76.79	0.00	0.00	5	-	+	+
1 * A	-42.00	36.75	18.00	-53.02	68.76	0.00	0.00	5	-	+	+
1 * A	-42.00	36.75	18.00	-55.77	5.82	0.00	0.00	5	+	-	+
1 * A	-42.00	36.75	18.00	-21.79	1.74	0.00	0.00	5	+	-	+
1 * A	-42.00	36.75	18.00	-49.02	-3.06	0.00	0.00	5	+	-	+
1 * A	42.00	36.75	18.00	21.44	73.84	0.00	0.00	5	-	+	+
1 * A	42.00	36.75	18.00	47.63	76.79	0.00	0.00	5	-	+	+
1 * A	42.00	36.75	18.00	53.02	68.76	0.00	0.00	5	-	+	+
1 * A	42.00	36.75	18.00	55.77	5.82	0.00	0.00	5	+	-	+
1 * A	42.00	36.75	18.00	21.79	1.74	0.00	0.00	5	+	-	+
1 * A	42.00	36.75	18.00	49.02	-3.06	0.00	0.00	5	+	-	+
1 * A	-0.00	36.75	18.00	-15.89	76.07	0.00	0.00	6	-	+	+
1 * A	-0.00	36.75	18.00	15.89	76.07	0.00	0.00	6	-	+	+
1 * A	-0.00	36.75	18.00	-32.96	63.44	0.00	0.00	6	-	+	+
1 * A	-0.00	36.75	18.00	32.96	63.44	0.00	0.00	6	-	+	+
1 * A	-0.00	36.75	18.00	-30.04	9.70	0.00	0.00	6	+	-	+
1 * A	-0.00	36.75	18.00	30.04	9.70	0.00	0.00	6	+	-	+
1 * A	-0.00	36.75	18.00	-15.22	-2.83	0.00	0.00	6	+	-	+
1 * A	-0.00	36.75	18.00	15.22	-2.83	0.00	0.00	6	+	-	+

Including Aiming Angles:

Qty and Code	Position			Aiming Angles			ULR	Arr.	Switching Modes		
	X (m)	Y (m)	Z (m)	Rot.	Tilt90	Tilt0			1	2	3
1 * A	-42.00	-38.00	18.00	110.0	65.0	0.0	0.00	1	+	-	+
1 * A	-42.00	-38.00	18.00	60.0	67.0	0.0	0.00	1	+	-	+
1 * A	-42.00	-38.00	18.00	100.0	66.0	0.0	0.00	1	+	-	+
1 * A	42.00	-38.00	18.00	70.0	65.0	-0.0	0.00	1	+	-	+
1 * A	42.00	-38.00	18.00	120.0	67.0	-0.0	0.00	1	+	-	+
1 * A	42.00	-38.00	18.00	80.0	66.0	-0.0	0.00	1	+	-	+
1 * A	-0.00	-38.00	18.00	141.0	67.0	0.0	0.00	2	+	-	+
1 * A	-0.00	-38.00	18.00	39.0	67.0	-0.0	0.00	2	+	-	+
1 * A	-0.00	-38.00	18.00	108.0	67.0	0.0	0.00	2	+	-	+
1 * A	-0.00	-38.00	18.00	72.0	67.0	-0.0	0.00	2	+	-	+
1 * A	-42.00	111.70	18.00	-61.0	67.0	0.0	0.00	3	-	+	+
1 * A	-42.00	111.70	18.00	-98.0	66.0	0.0	0.00	3	-	+	+
1 * A	-42.00	111.70	18.00	-107.0	65.0	0.0	0.00	3	-	+	+
1 * A	42.00	111.70	18.00	-119.0	67.0	-0.0	0.00	3	-	+	+
1 * A	42.00	111.70	18.00	-82.0	66.0	-0.0	0.00	3	-	+	+
1 * A	42.00	111.70	18.00	-73.0	65.0	-0.0	0.00	3	-	+	+
1 * A	-0.00	111.70	18.00	-112.0	67.0	0.0	0.00	4	-	+	+
1 * A	-0.00	111.70	18.00	-68.0	67.0	-0.0	0.00	4	-	+	+
1 * A	-0.00	111.70	18.00	-147.0	67.0	0.0	0.00	4	-	+	+

Qty and Code	Position			Aiming Angles			ULR	Arr.	Switching Modes		
	X (m)	Y (m)	Z (m)	Rot.	Tilt90	Tilt0			1	2	3
1 * A	-0.00	111.70	18.00	-33.0	67.0	-0.0	0.00	4	-	+	+
1 * A	-42.00	36.75	18.00	61.0	67.0	0.0	0.00	5	-	+	+
1 * A	-42.00	36.75	18.00	98.0	66.0	0.0	0.00	5	-	+	+
1 * A	-42.00	36.75	18.00	109.0	62.0	0.0	0.00	5	-	+	+
1 * A	-42.00	36.75	18.00	-114.0	62.0	0.0	0.00	5	+	-	+
1 * A	-42.00	36.75	18.00	-60.0	66.0	0.0	0.00	5	+	-	+
1 * A	-42.00	36.75	18.00	-100.0	66.0	0.0	0.00	5	+	-	+
1 * A	42.00	36.75	18.00	119.0	67.0	-0.0	0.00	5	-	+	+
1 * A	42.00	36.75	18.00	82.0	66.0	-0.0	0.00	5	-	+	+
1 * A	42.00	36.75	18.00	71.0	62.0	-0.0	0.00	5	-	+	+
1 * A	42.00	36.75	18.00	-66.0	62.0	-0.0	0.00	5	+	-	+
1 * A	42.00	36.75	18.00	-120.0	66.0	-0.0	0.00	5	+	-	+
1 * A	42.00	36.75	18.00	-80.0	66.0	-0.0	0.00	5	+	-	+
1 * A	-0.00	36.75	18.00	112.0	67.0	0.0	0.00	6	-	+	+
1 * A	-0.00	36.75	18.00	68.0	67.0	-0.0	0.00	6	-	+	+
1 * A	-0.00	36.75	18.00	141.0	67.0	0.0	0.00	6	-	+	+
1 * A	-0.00	36.75	18.00	39.0	67.0	-0.0	0.00	6	-	+	+
1 * A	-0.00	36.75	18.00	-138.0	66.0	0.0	0.00	6	+	-	+
1 * A	-0.00	36.75	18.00	-42.0	66.0	-0.0	0.00	6	+	-	+
1 * A	-0.00	36.75	18.00	-111.0	67.0	0.0	0.00	6	+	-	+
1 * A	-0.00	36.75	18.00	-69.0	67.0	-0.0	0.00	6	+	-	+