

Marple Hall School

Project code: SSL2934
Date: 23-03-2021

Designer: Nick McLaren

Description: LED Lighting Scheme with 4no. 10m High Floodlighting Columns

Tennis Lighting
400lux/avg with 0.7min/ave uniformity PPA
300lux/avg with 0.6min/ave uniformity TPA

Netball
400lux/avg with 0.7 min/ave unifomity

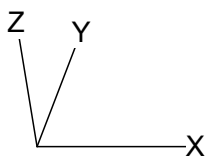
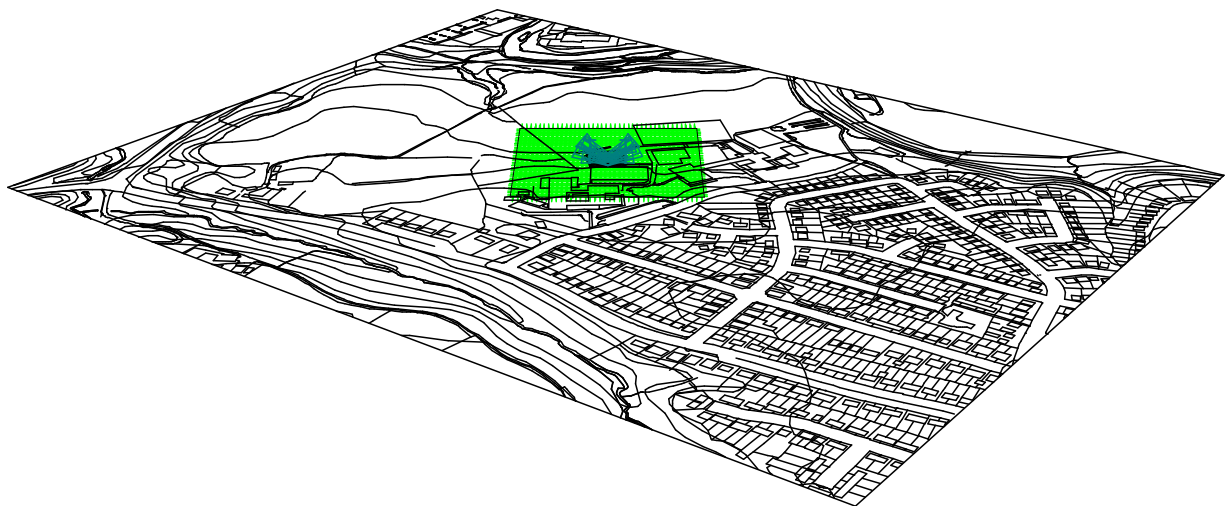
The nominal values shown in this report are the result of precision calculations, based upon precisely positioned luminaires in a fixed relationship to each other and to the area under examination. In practice the values may vary due to tolerances on luminaires, luminaire positioning, reflection properties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

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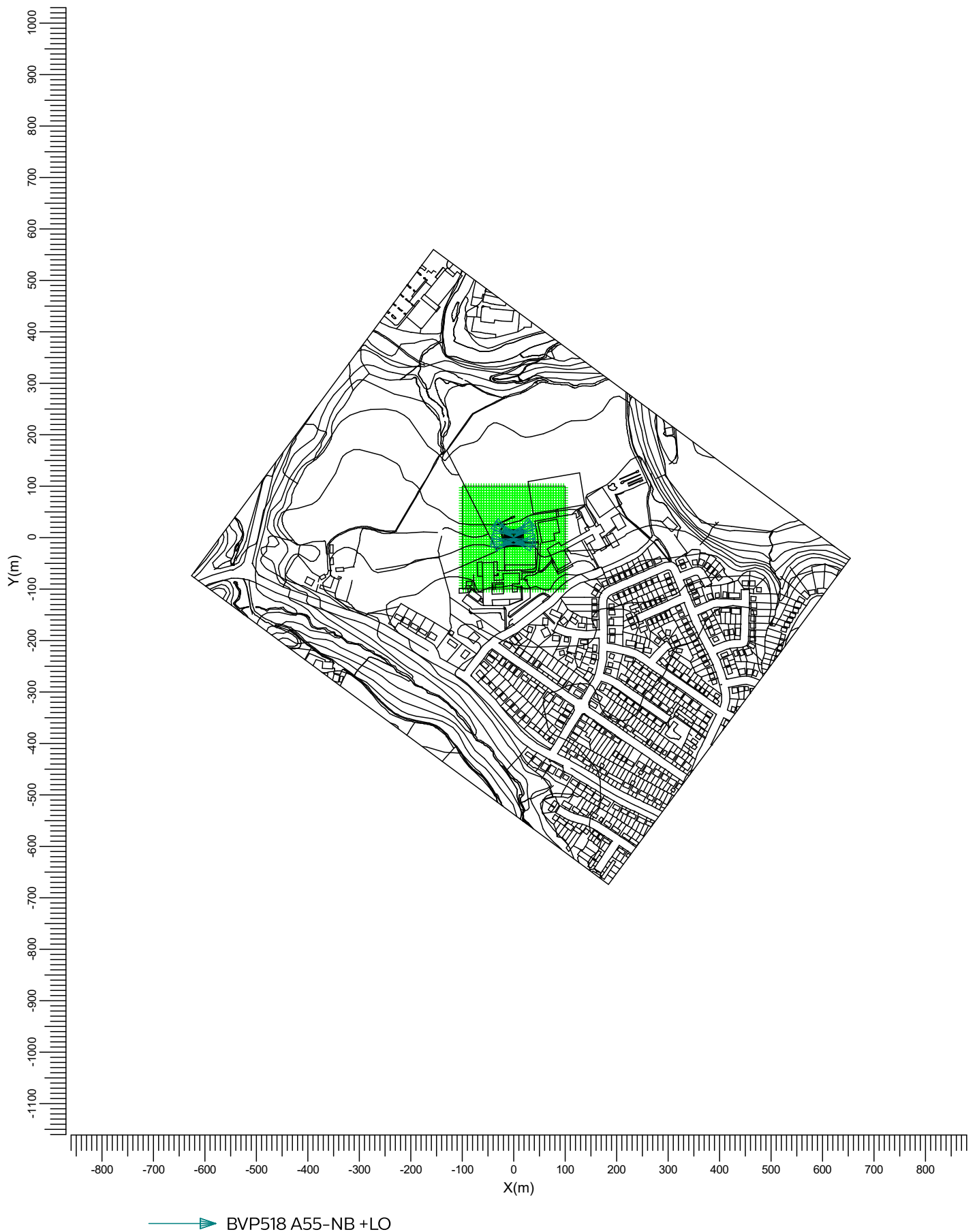
1. Project Description

1.1 3-D Project Overview



T  BVP518 A55-NB +LO

1.2 Top Project Overview



Scale
1:10000

2. Summary

2.1 Project Luminaires

Code	Qty	Luminaire Type	Lamp Type	Power (W)	Flux (lm)
T	8	BVP518 A55-NB +LO	1 * LED1480/740 OUT T20 50K	1000.0	1 * 148400

The total installed power: 8.00 (kWatt)

Number of Luminaires Per Switching Mode:

Switching Mode	Luminaire Code	Power (kWatt)
	T	
Tennis / Netball	8	8.00
Spillage	8	8.00

Number of Luminaires Per Arrangement:

Arrangement	Luminaire Code	Power (kWatt)
	T	
Football	0	0.00
Tennis	8	8.00

2.2 Calculation Results

Switching Modes:

Code	Switching Mode	Maintenance factor
1	Tennis / Netball	0.90
2	Spillage	1.00

(Il)luminance Calculations:

Calculation	Switching Mode	Type	Unit	Ave	Min	Max	Min/Ave/Max
Court 1 PPA	1	Surface Illuminance	lux	426	347	444	0.81
Court 1 TPA	1	Surface Illuminance	lux	409	329	470	0.80
Court 2 PPA	1	Surface Illuminance	lux	463	386	503	0.83
Court 2 TPA	1	Surface Illuminance	lux	428	279	513	0.65
Netball	1	Surface Illuminance	lux	440			0.82
OVERSPILL	2	Surface Illuminance	lux				0.71

Obtrusive Light Calculations:

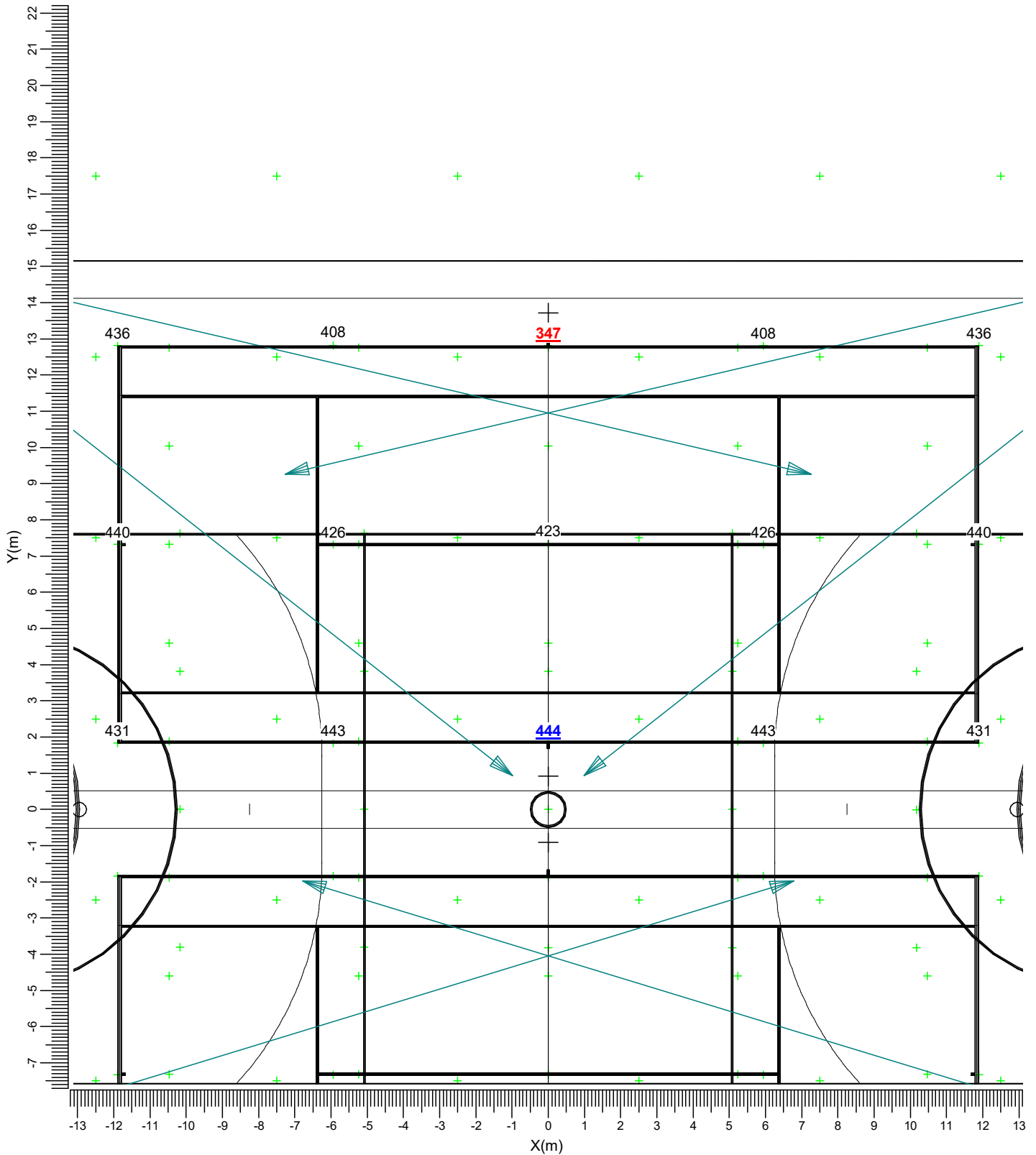
Switching Mode	ULR
1	0.00
2	0.00

3. Calculation Results

3.1 Court 1 PPA: Graphical Table

Tennis / Netball

Grid : Court 1 PPA at Z = -0.00 m
 Calculation : Surface Illuminance (lux)

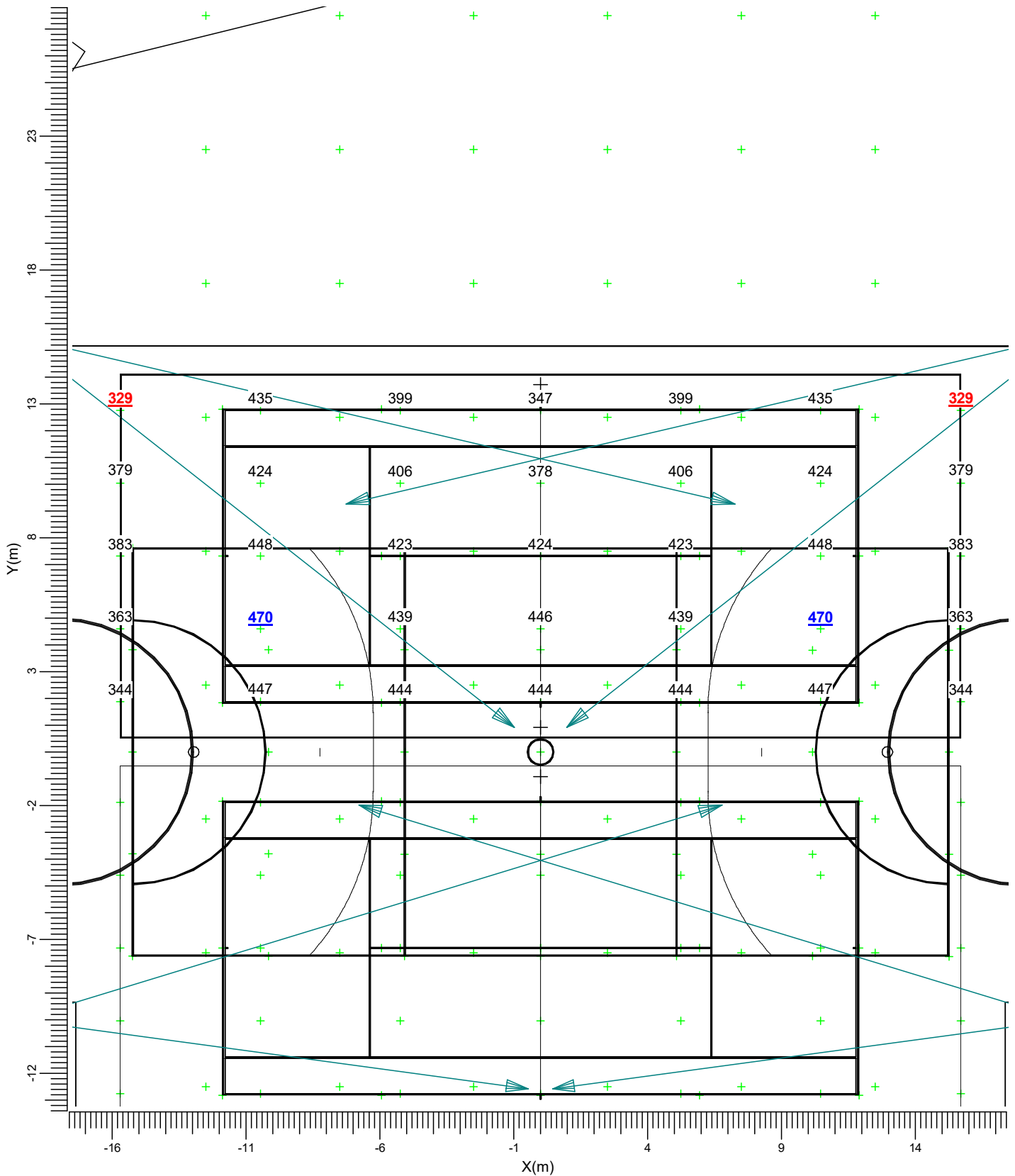


Average 426	Minimum 347	Maximum 444	Min/Ave 0.81	Project maintenance factor 0.90	Scale 1:150
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3.2 Court 1 TPA: Graphical Table

Tennis / Netball

Grid : Court 1 TPA at Z = -0.00 m
 Calculation : Surface Illuminance (lux)



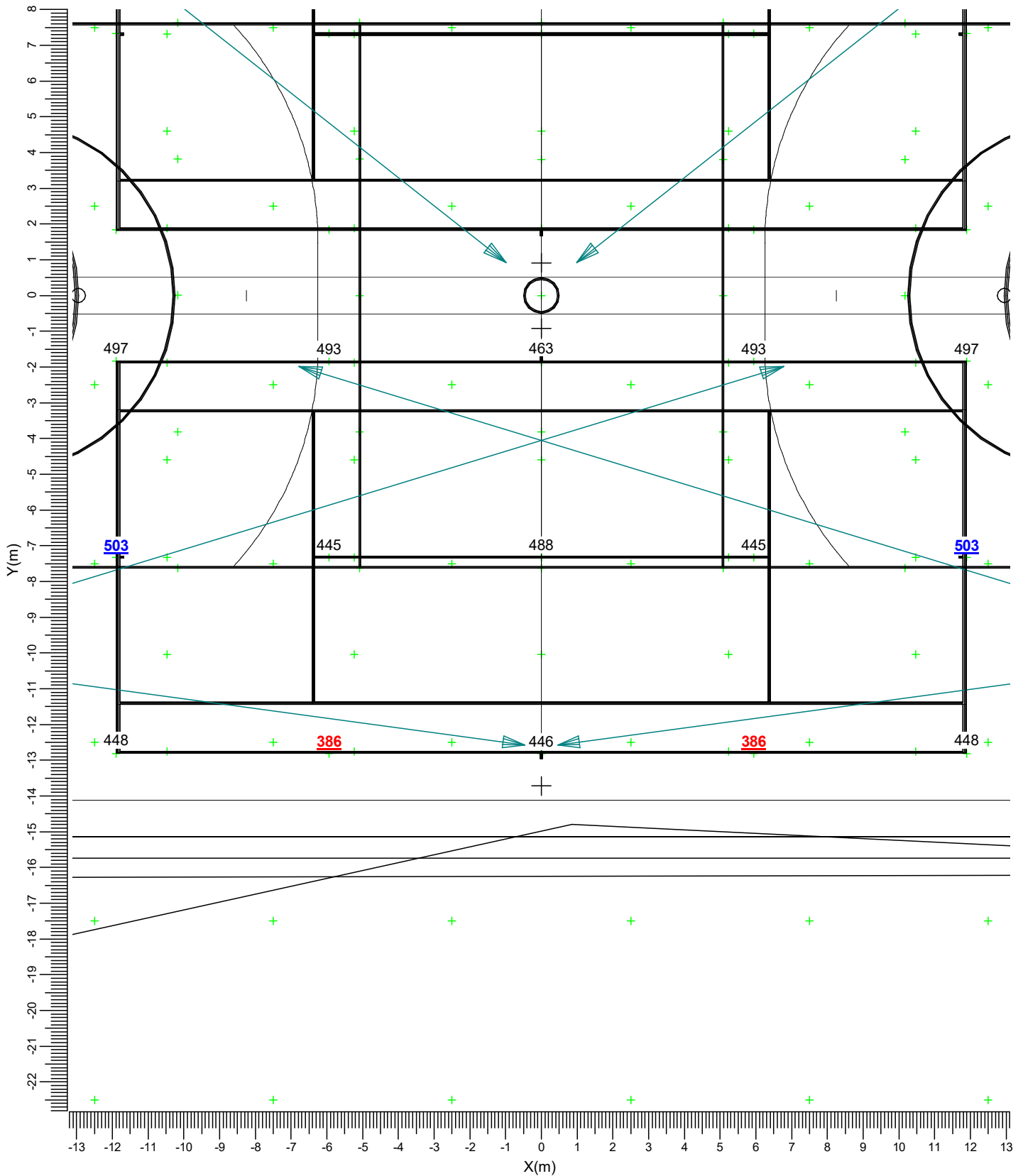
T BVP518 A55-NB +LO

Average 409	Minimum 329	Maximum 470	Min/Ave 0.80	Project maintenance factor 0.90	Scale 1:200
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3.3 Court 2 PPA: Graphical Table

Tennis / Netball

Grid : Court 2 PPA at Z = -0.00 m
 Calculation : Surface Illuminance (lux)

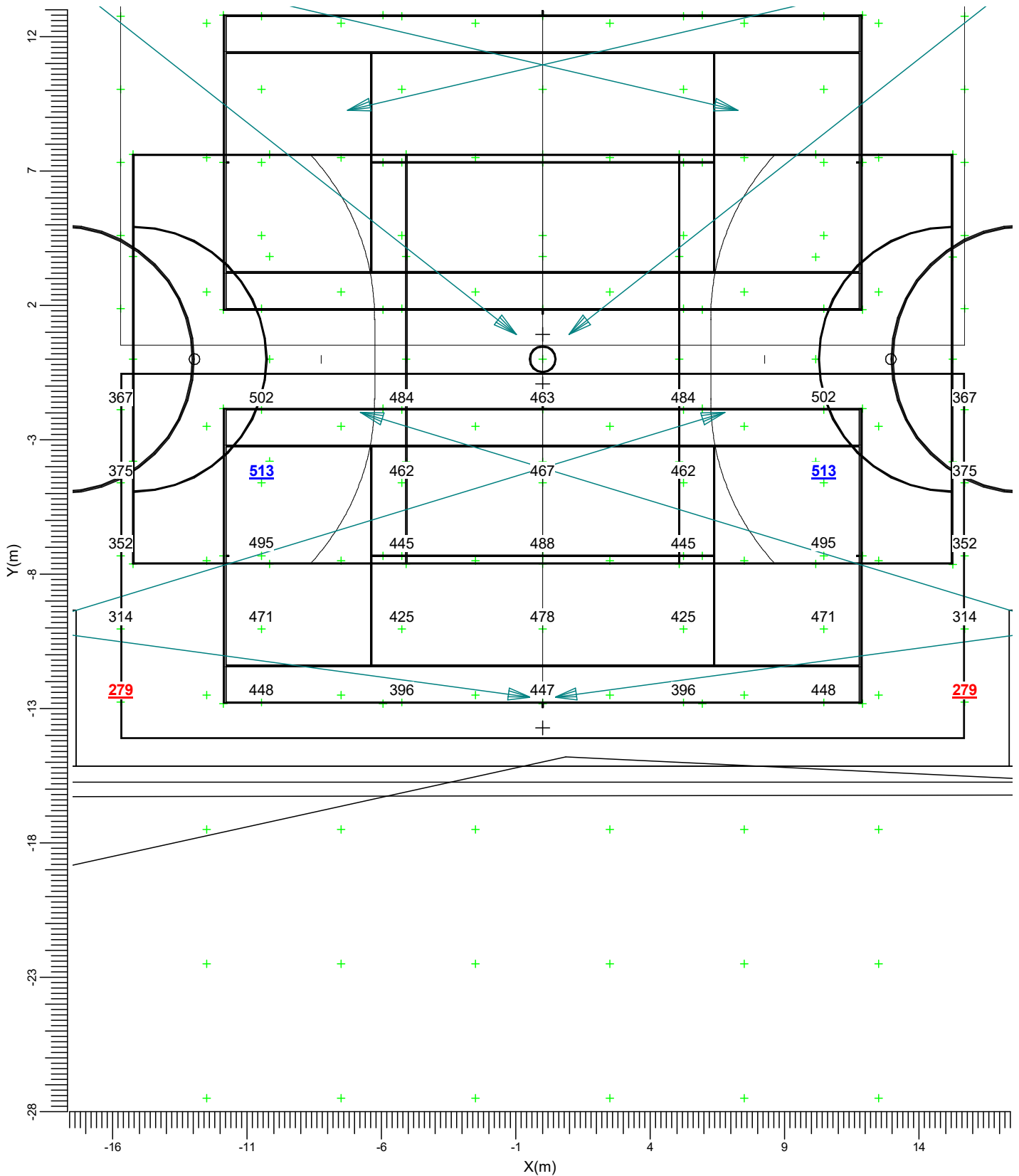


Average 463	Minimum 386	Maximum 503	Min/Ave 0.83	Project maintenance factor 0.90	Scale 1:150
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3.4 Court 2 TPA: Graphical Table

Tennis / Netball

Grid : Court 2 TPA at Z = -0.00 m
 Calculation : Surface Illuminance (lux)

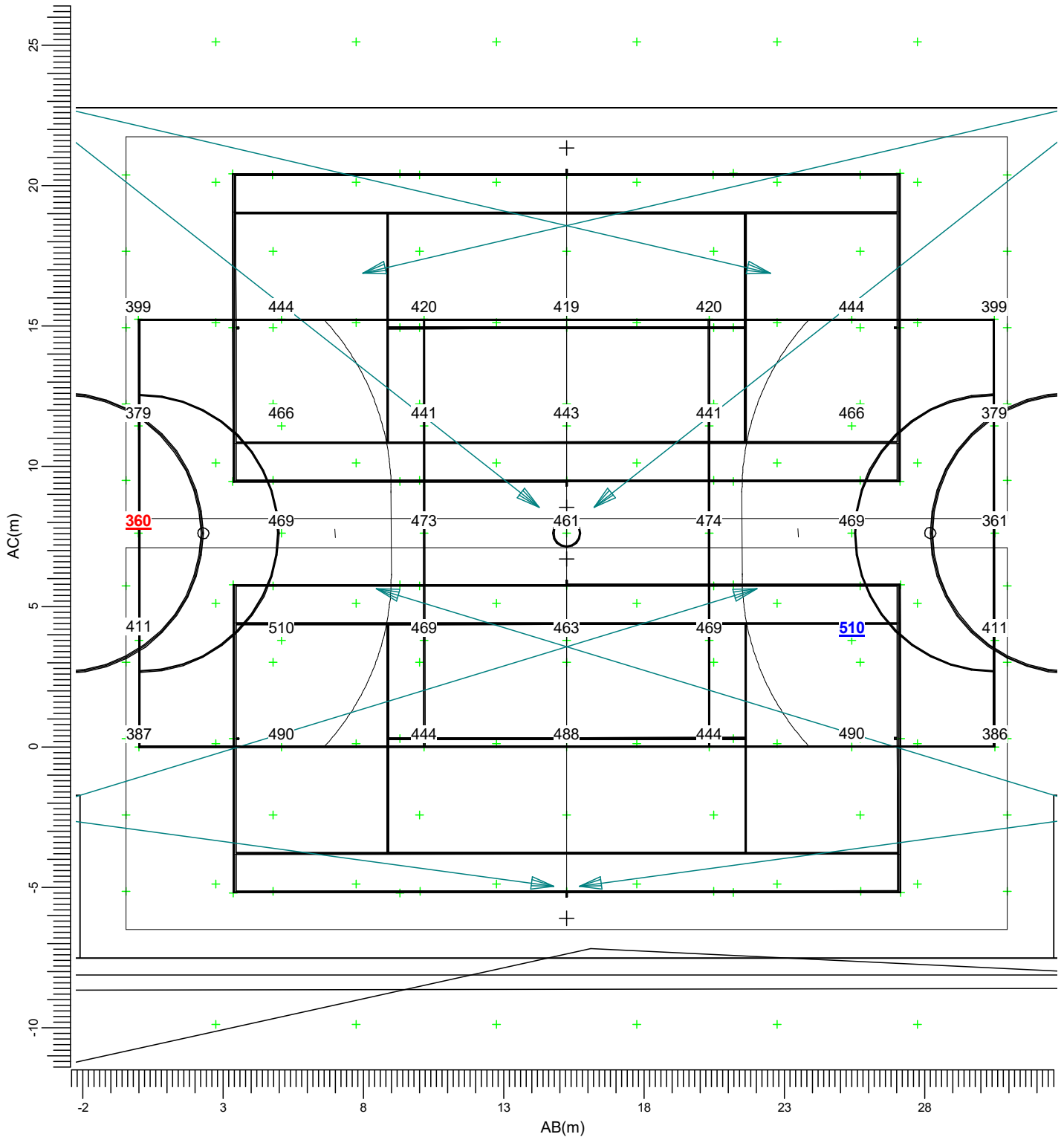


Average 428	Minimum 279	Maximum 513	Min/Ave 0.65	Project maintenance factor 0.90	Scale 1:200
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3.5 Netball: Graphical Table

Tennis / Netball

Grid : Netball
Calculation : Surface Illuminance (lux)



(-15.25, 7.63, -0.00) C-----D (15.25, 7.62, 0.00)
 | |
 (-15.25, -7.62, -0.00) A-----B (15.25, -7.63, -0.00)

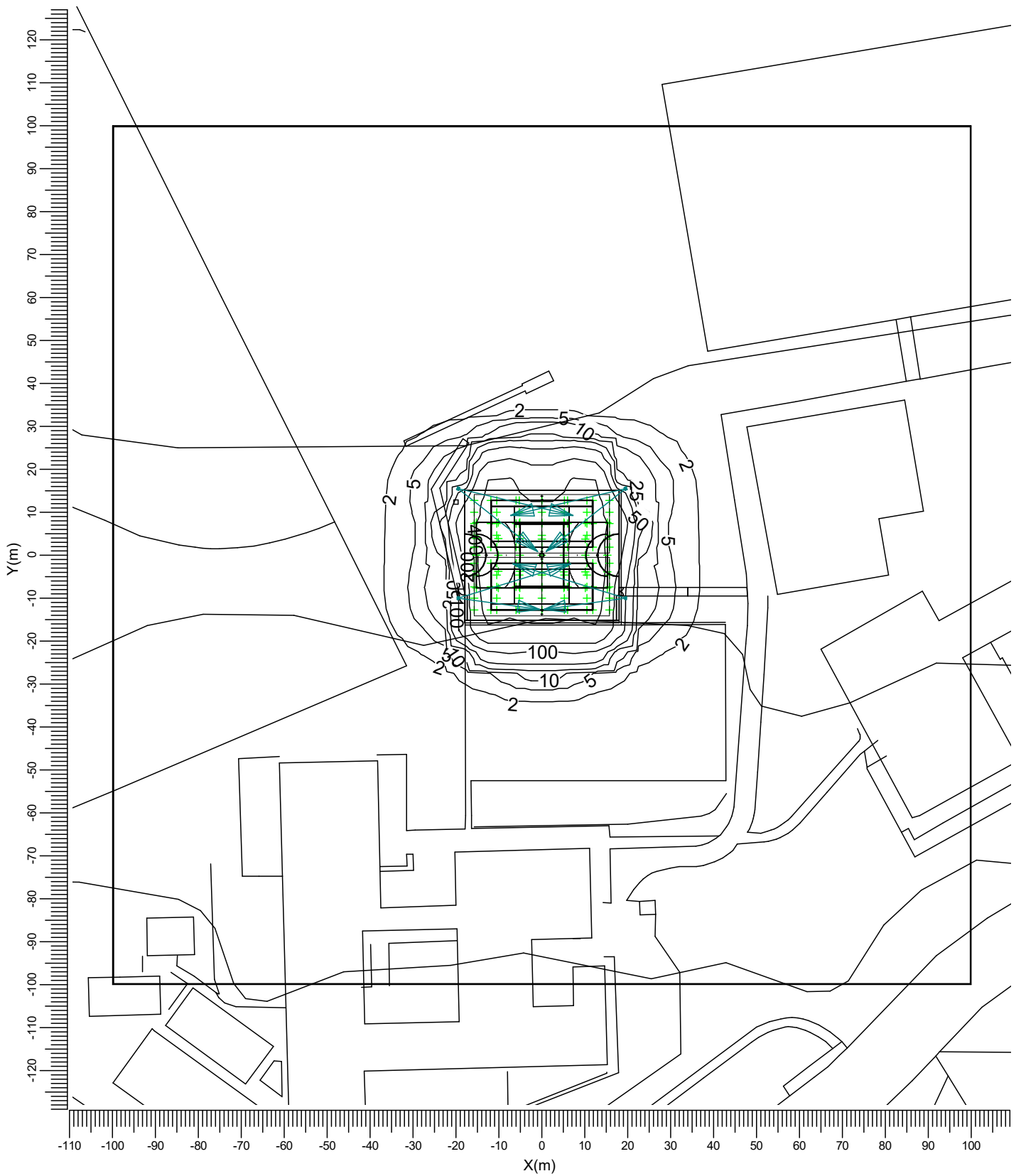
T BVP518 A55-NB +LO

Average 440	Min/Ave 0.82	Min/Max 0.71	Project maintenance factor 0.90	Scale 1:200
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3.6 OVERSPILL: Iso Contour

Spillage

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



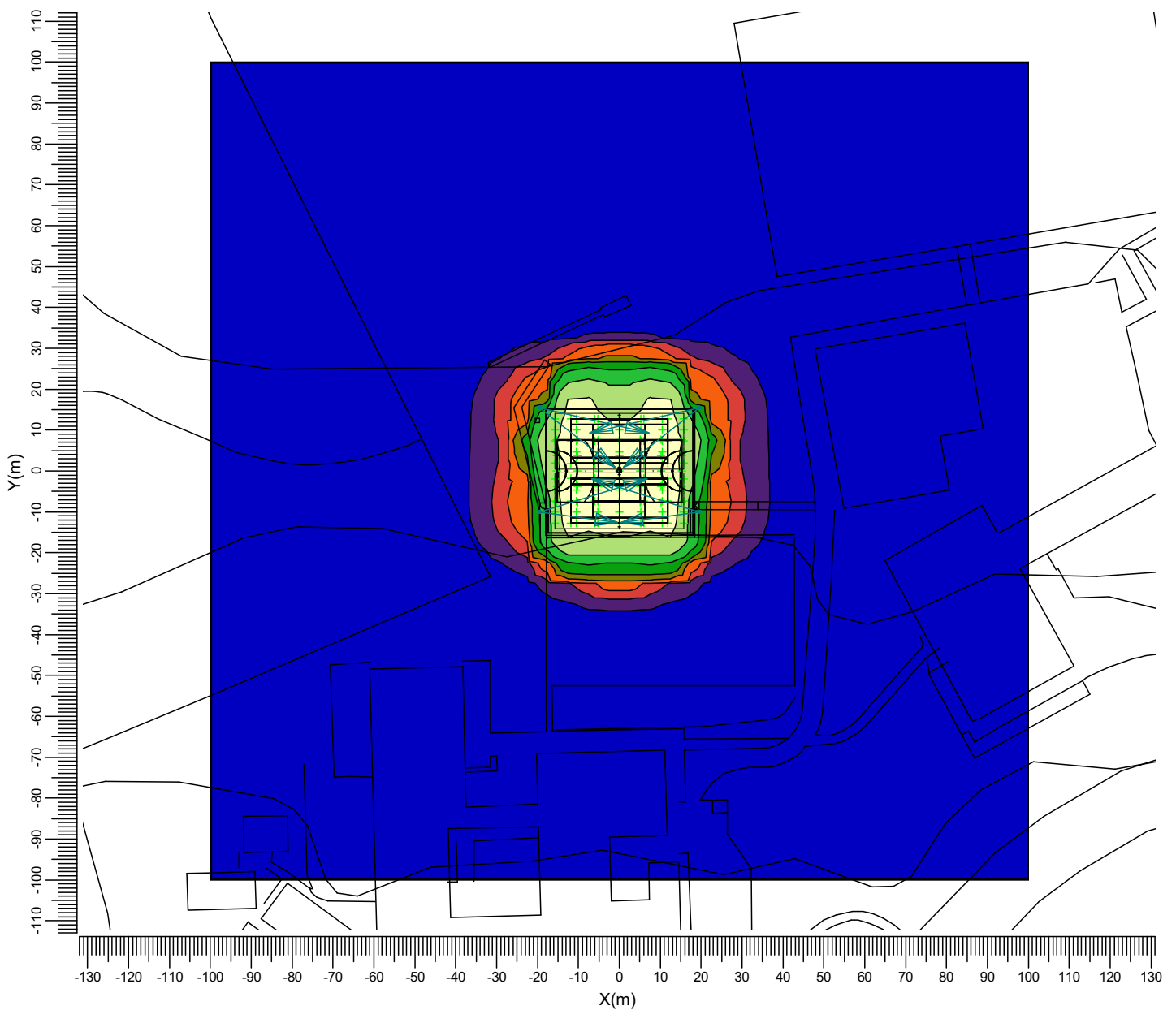
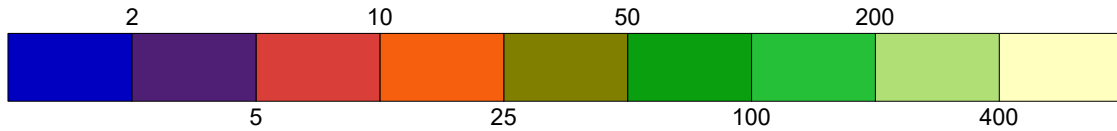
Project maintenance factor
1.00

Scale
1:1250

3.7 OVERSPILL: Filled Iso Contour

Spillage

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



Project maintenance factor
1.00

Scale
1:1500

4. Luminaire Details

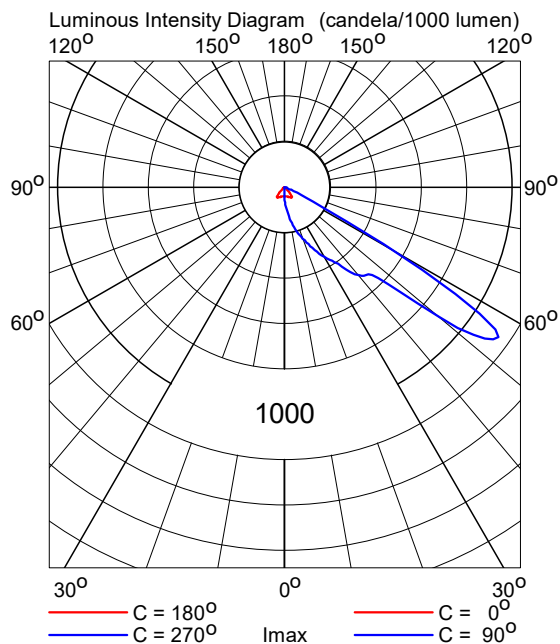
4.1 Project Luminaires

OptiVision LED
BVP518 1xLED1480/740 OUT T20 50K A55-NB +LO

Light output ratios

DLOR	: 0.59
ULOR	: 0.00
TLOR	: 0.59
Ballast	: N/A
Lamp flux	: 148400 lm
Luminaire wattage	: 1000.0 W
Measurement code	: LVM2048200

Note: Luminaire data not from database.



5. Installation Data

5.1 Legends

Project Luminaires:

Code	Qty	Luminaire Type	Lamp Type	Flux (lm)
T	8	BVP518 A55-NB +LO	1 * LED1480/740 OUT T20 50K	1 * 148400

Switching Modes:

Code	Switching Mode
1	Tennis / Netball
2	Spillage

5.2 Luminaire Positioning and Orientation

Qty and Code	Position			Aiming Angles			Switching Modes	
	X (m)	Y (m)	Z (m)	Rot.	Tilt90	Tilt0	1	2
1 * T	-19.50	-10.00	10.00	17.0	70.0	-0.0	+	+
1 * T	-19.50	-10.00	10.00	-7.7	62.5	-0.0	+	+
1 * T	-19.50	15.50	10.00	-13.1	70.0	-0.0	+	+
1 * T	-19.50	15.50	10.00	-38.2	67.0	-0.0	+	+
1 * T	19.50	-10.00	10.00	163.0	70.0	0.0	+	+
1 * T	19.50	-10.00	10.00	-172.3	62.5	0.0	+	+
1 * T	19.50	15.50	10.00	-166.9	70.0	0.0	+	+
1 * T	19.50	15.50	10.00	-141.8	67.0	0.0	+	+