

# Carolan Park

68m x 105m

Project code:

20232311

Date:

13-06-2023

Designer:

Dave Murphy

Description:

Calculation based on Philips BVP528 Optivision Floodlights  
Column Setback is 5m from Sideline  
Floodlights mounted @ 18m

Class I Scheme 500 Lux

Total Floodlights = 30 Floods - 6 per Column

Scheme Achieves 500 Lux Average

Min / Ave on 5m x 5m Grid = 0.76

Min / Max on 5m x 5m Grid = 0.55

Class II Scheme 200 Lux

Total Floodlights = 12 Floods - 2 per Column

Scheme Achieves 200 Lux Average

Min / Ave on 5m x 5m Grid = 0.71

Min / Max on 5m x 5m Grid = 0.51

Spillgrid Calculations included with Day 1 Values

Spillgrid Calculations shown for both Levels

A MF of 0.95 has been applied to this calculation therefore  
the lighting levels on "Day One" will be ~5%  
higher than shown in this document

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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CalcuLuX Area 7.9.0.0

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# 1. Project Description

## 1.1 Description

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Maintenance Factor:-

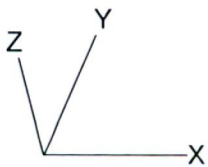
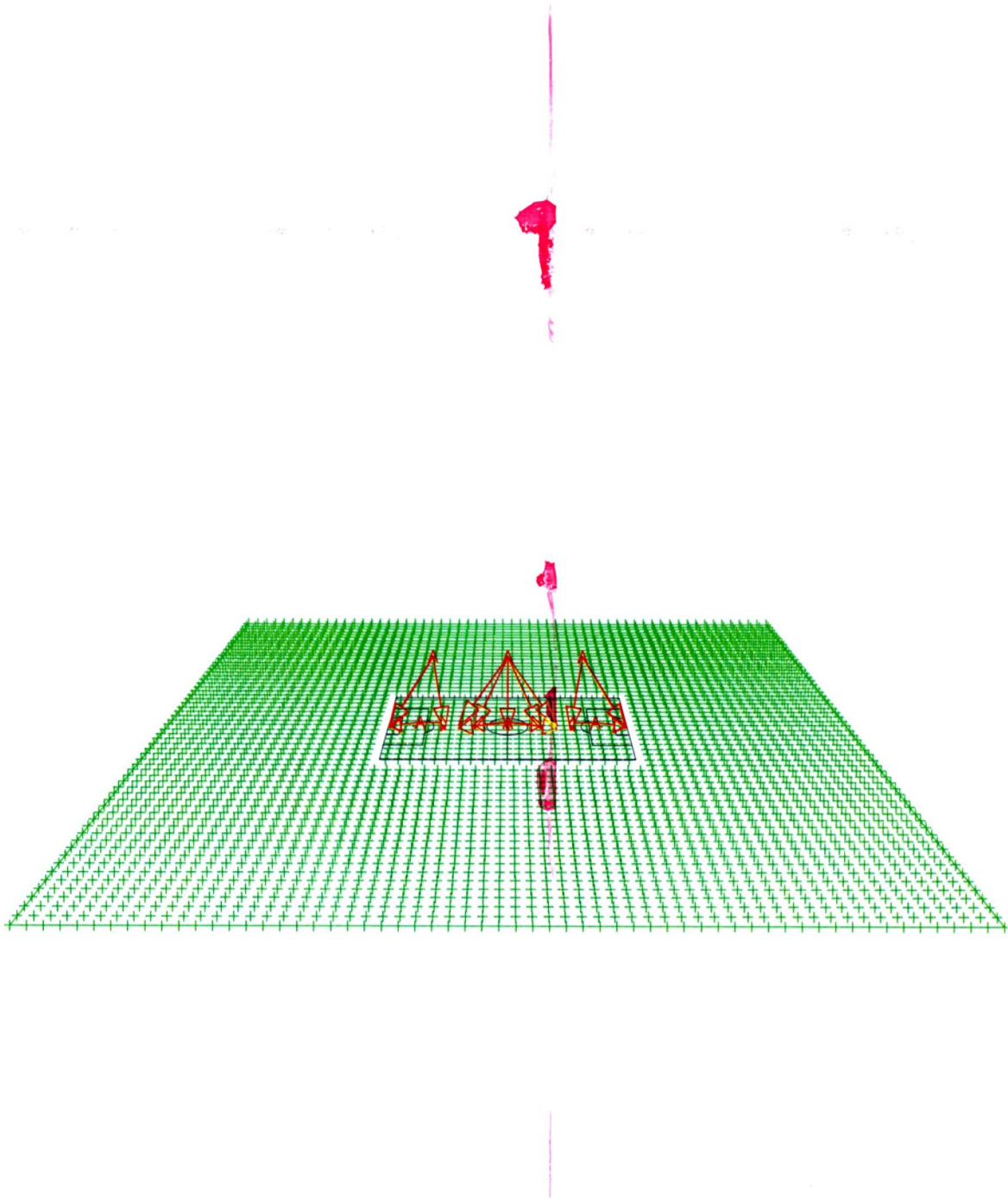
0.95 MF

All luminaires have internal Peak Beam of 5 degrees. This angle is added to the Physical tilt angle of the fitting in these calculations. Therefore a Tilt 90 value shown as 70 deg in these calculations represent a physical fitting tilt of 65 degrees (5 deg peak beam plus 65 deg housing tilt).

Luminaires should be minimum 1.2m apart to avoid light from one hitting the back of another when rotated for aiming.

## 1.2 3-D Project Overview

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A  BVP528 OUT T35 A55-NB

## 2. Summary

### 2.1 Project Luminaires

Code	Qty	Luminaire Type	Lamp Type	Power (W)	Flux (lm)
A	30	BVP528 OUT T35 A55-NB	1 * LED2590-4S/757	1505.9	1 * 259000

The total installed power: 45.18 (kWatt)

Number of Luminaires Per Switching Mode:

Switching Mode	Luminaire Code	Power (kWatt)
	A	
500 Lux	30	45.18
Spillgrid_500Lux	30	45.18
200 Lux	12	18.07
Spillgrid_200Lux	12	18.07

Number of Luminaires Per Arrangement:

Arrangement	Luminaire Code	Power (kWatt)
	A	
Centre Cols	10	15.06
Centre Cols1	20	30.12

### 2.2 Calculation Results

Switching Modes:

Code	Switching Mode	Maintenance factor
1	500 Lux	0.95
2	Spillgrid_500Lux	0.95
3	200 Lux	0.95
4	Spillgrid_200Lux	0.95

(II)luminance Calculations:

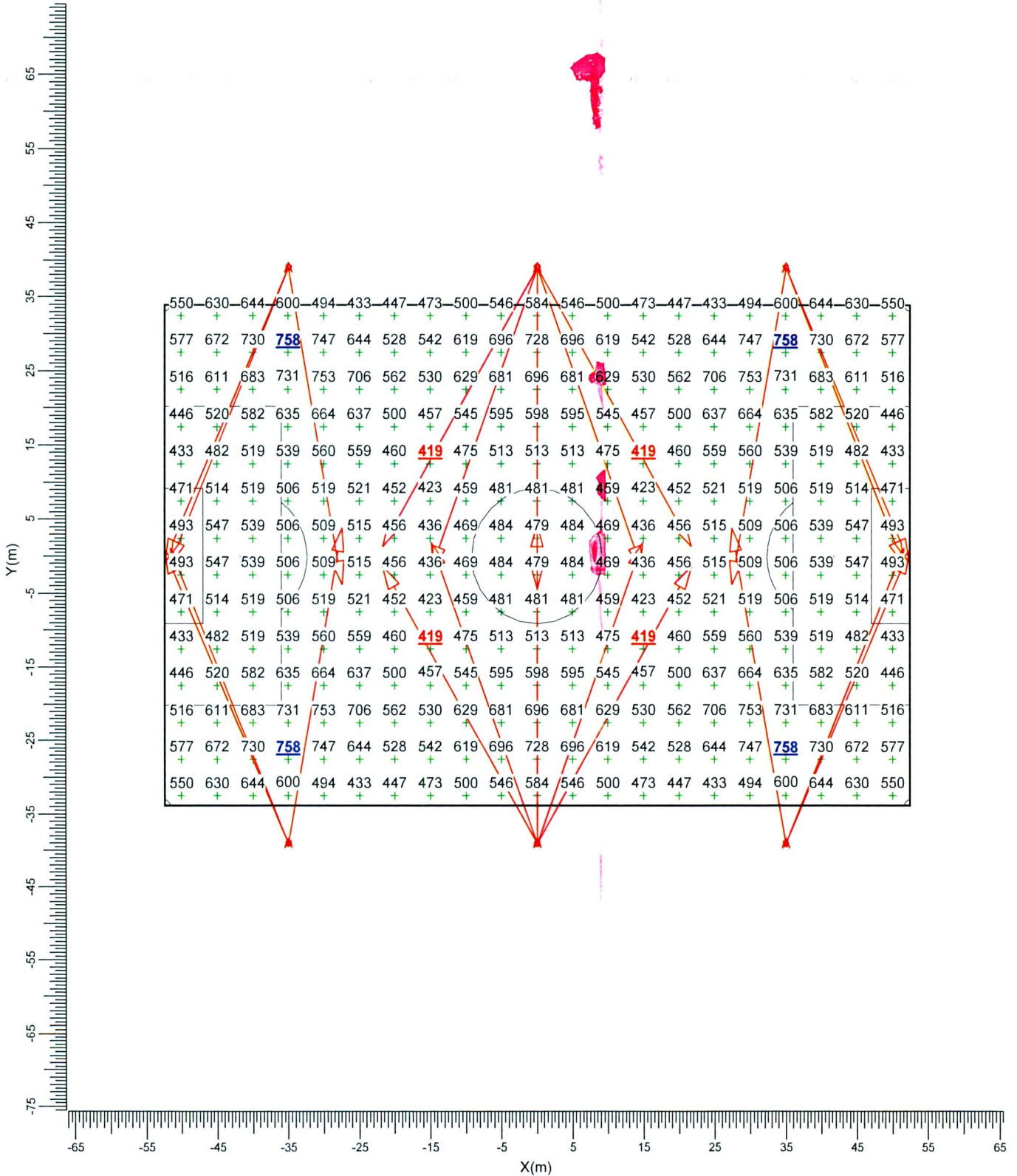
Calculation	Switching Mode	Type	Unit	Ave	Min	Max	Min/Ave	Min/Max
Football_500Lux	1	Surface Illuminance	lux	553	419	758	0.76	0.55
Spillgrid_500Lux	2	Surface Illuminance	lux		0.1	351.4		
Football_250Lux	3	Surface Illuminance	lux	231	166	322	0.72	0.51
Spillgrid_200Lux	4	Surface Illuminance	lux		0.04	125.09		

### 3. Calculation Results

#### 3.1 Football\_500Lux: Graphical Table

500 Lux

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



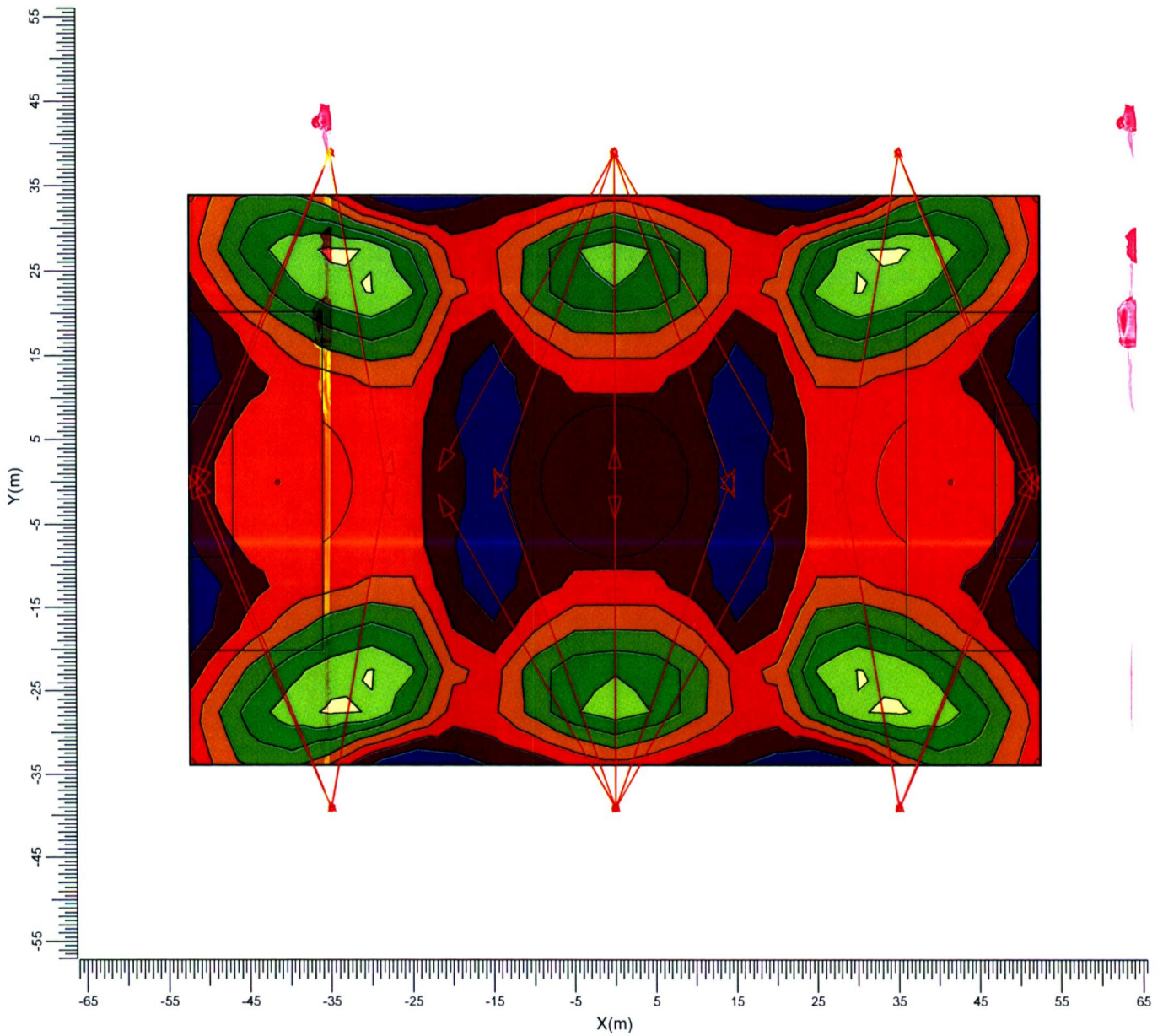
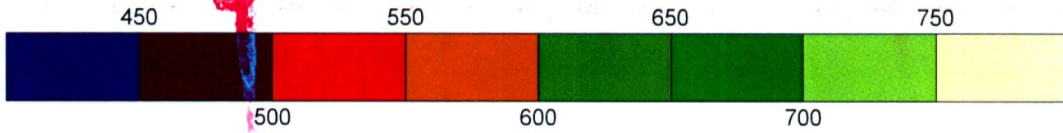
A BVP528 OUT T35 A55-NB

Average	Minimum	Maximum	Min/Ave	Min/Max	Project maintenance factor	Scale
553	419	758	0.76	0.55	0.95	1:750

3.2 Football\_500Lux: Filled Iso Contour

500 Lux

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



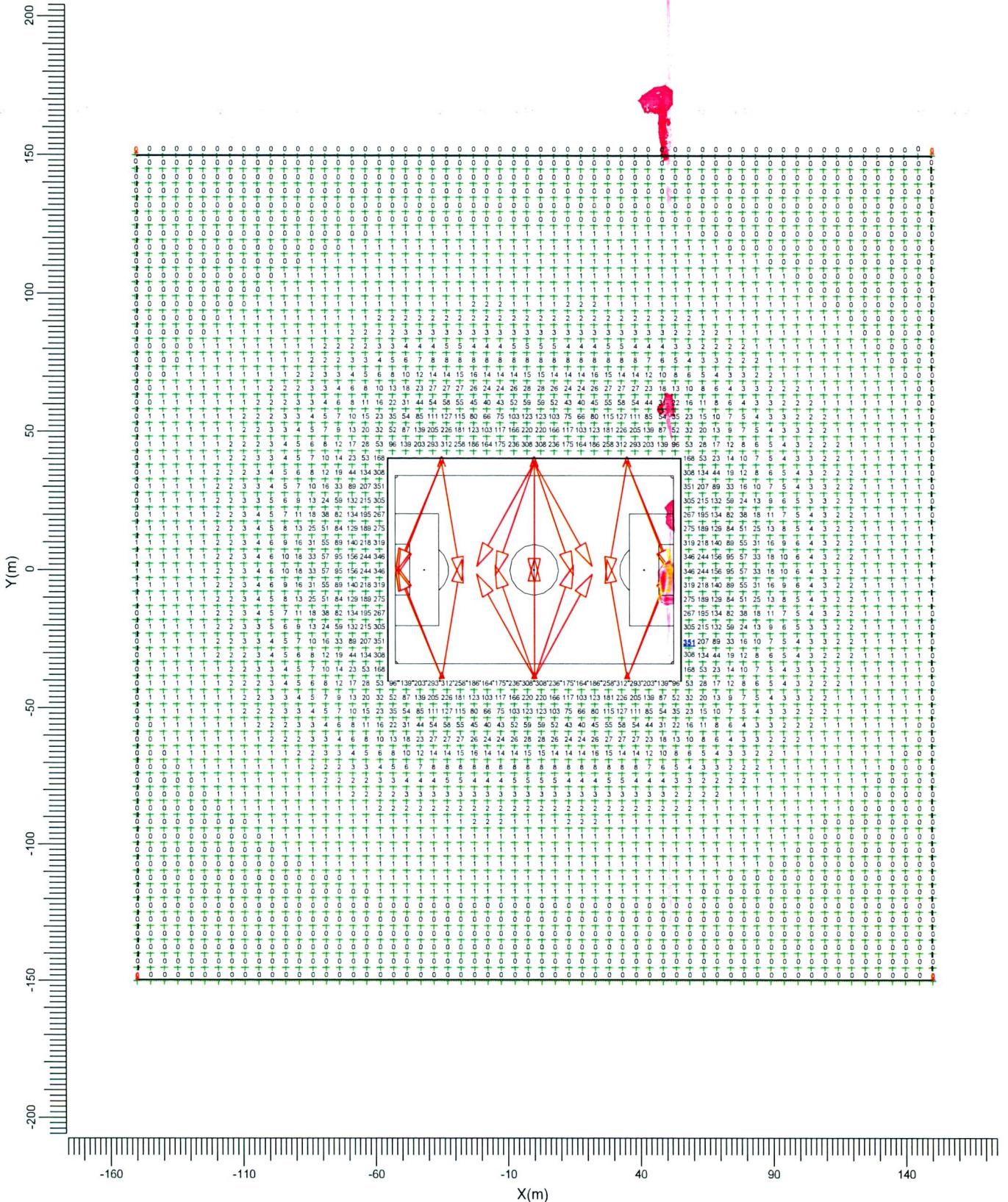
A BVP528 OUT T35 A55-NB

Average	Minimum	Maximum	Min/Ave	Min/Max	Project maintenance factor	Scale
553	419	758	0.76	0.55	0.95	1:750

3.3 Spillgrid\_500Lux: Graphical Table

Spillgrid\_500Lux

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



A BVP528 OUT T35 A55-NB

Minimum  
0.1

Maximum  
351.4

Project maintenance factor  
0.95

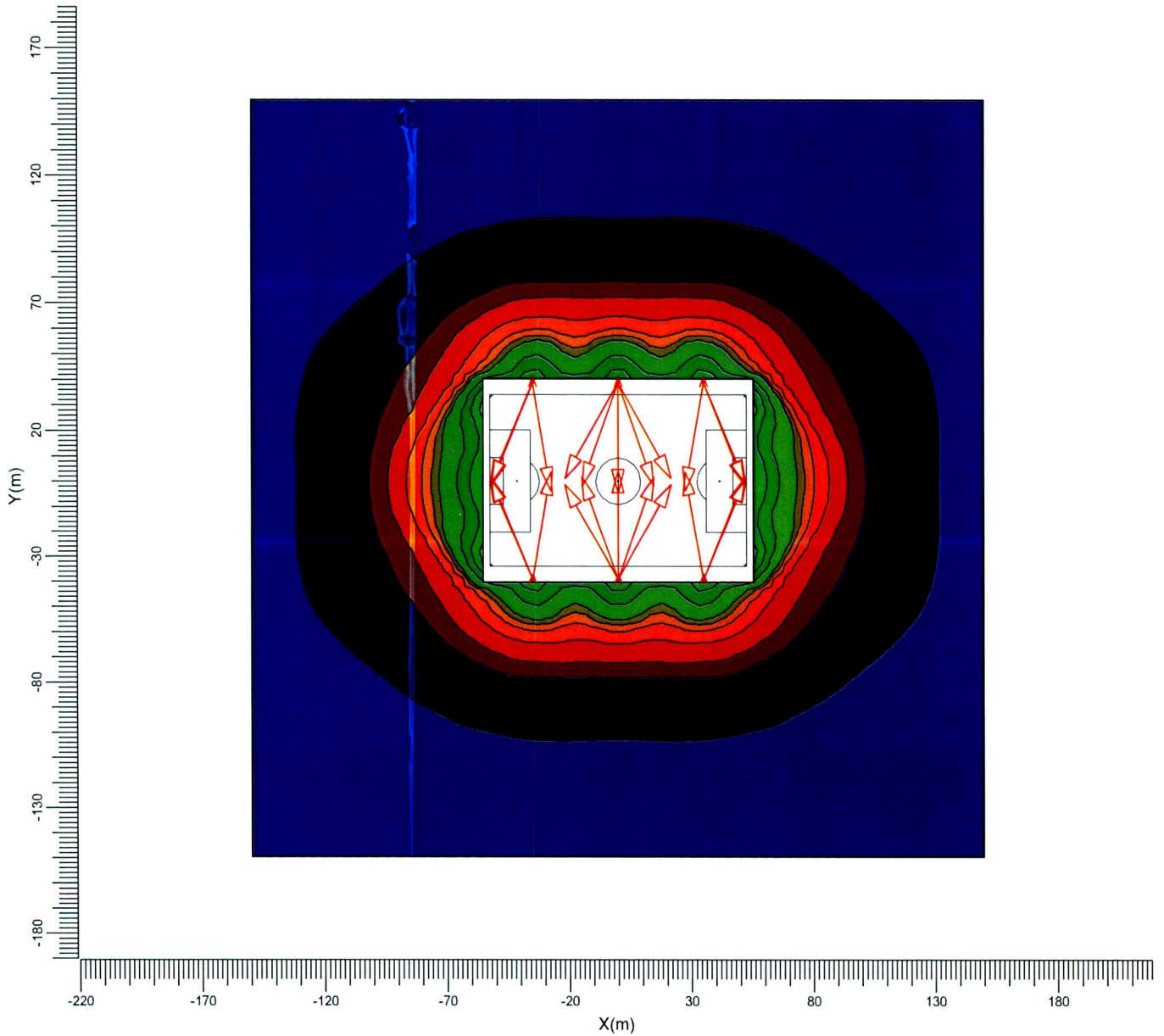
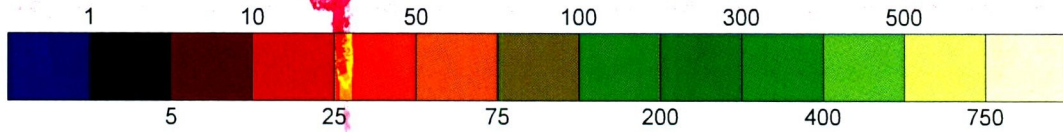
Scale  
1:2000



3.4 Spillgrid\_500Lux: Filled Iso Contour

Spillgrid\_500Lux

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



A BVP528 OUT T35 A55-NB

Minimum  
0.1

Maximum  
351.4

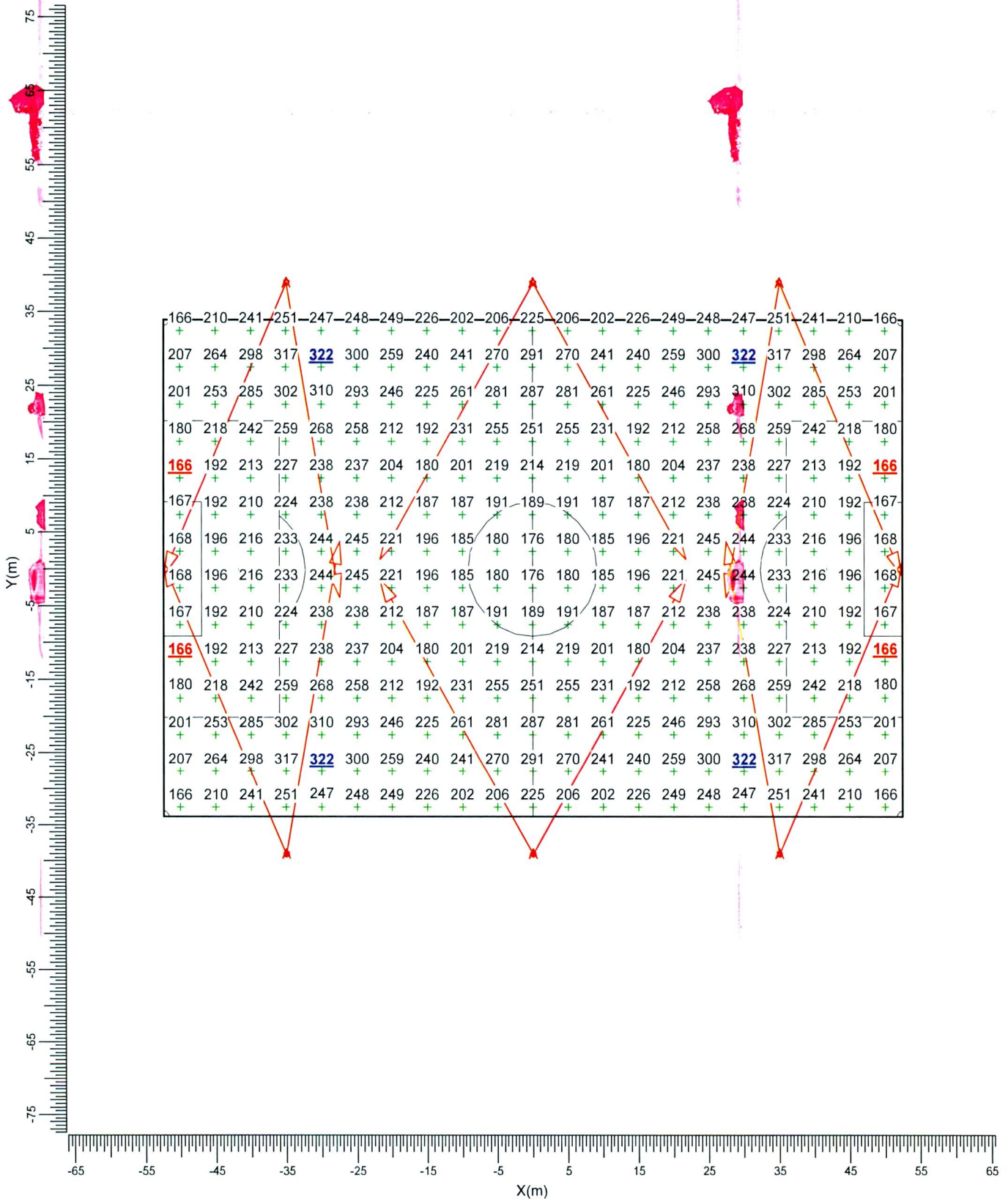
Project maintenance factor  
0.95

Scale  
1:2500

3.5 Football\_250Lux: Graphical Table

200 Lux

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



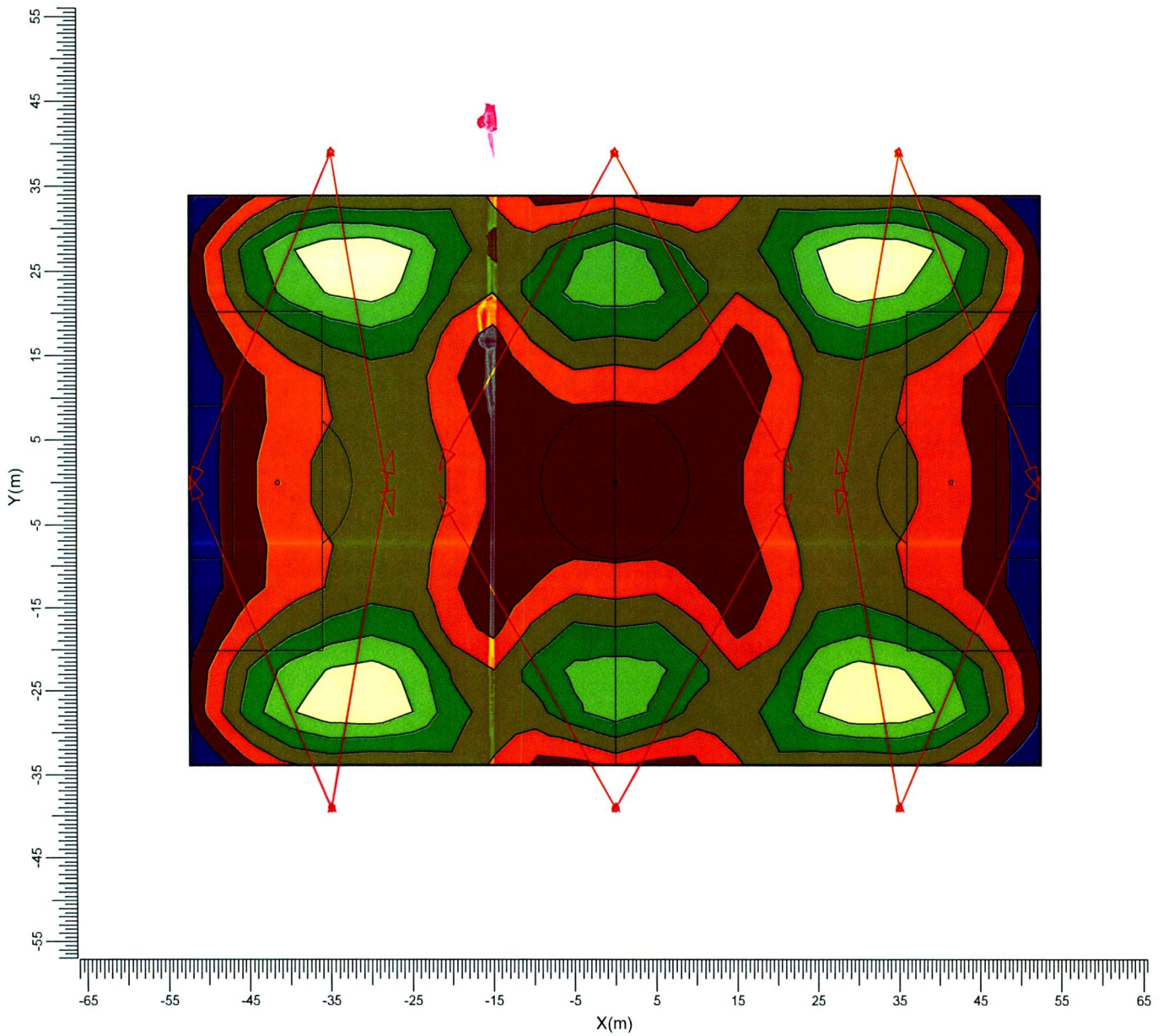
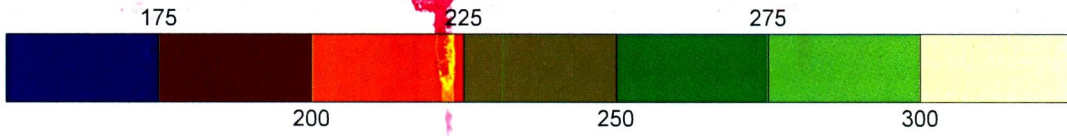
A BVP528 OUT T35 A55-NB

Average	Minimum	Maximum	Min/Ave	Min/Max	Project maintenance factor	Scale
231	166	322	0.72	0.51	0.95	1:750

3.6 Football\_250Lux: Filled Iso Contour

200 Lux

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



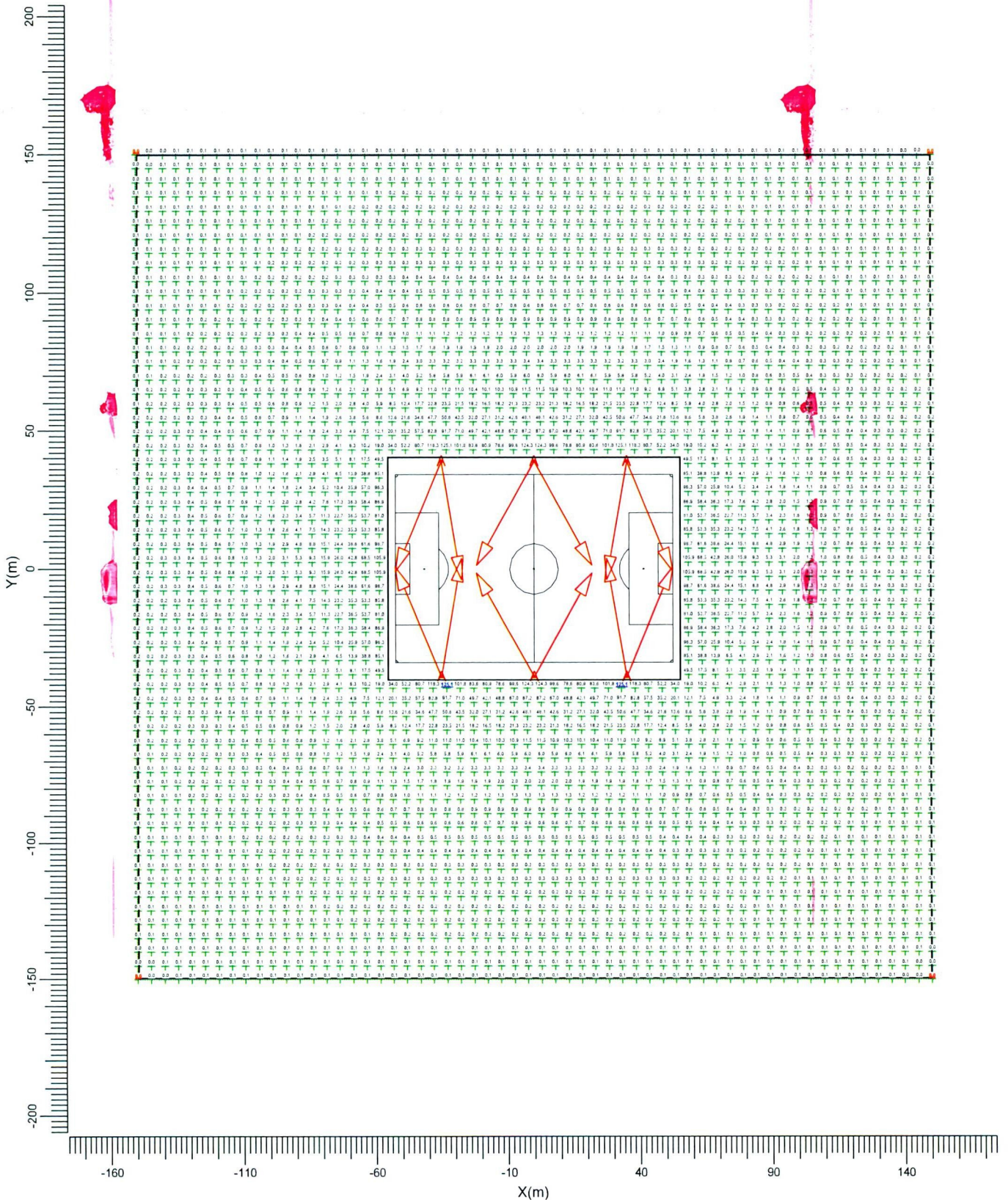
A BVP528 OUT T35 A55-NB

Average	Minimum	Maximum	Min/Ave	Min/Max	Project maintenance factor	Scale
231	166	322	0.72	0.51	0.95	1:750

3.7 Spillgrid\_200Lux: Graphical Table

Spillgrid\_200Lux

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



A BVP528 OUT T35A55-NB

Minimum  
0.04

Maximum  
125.09

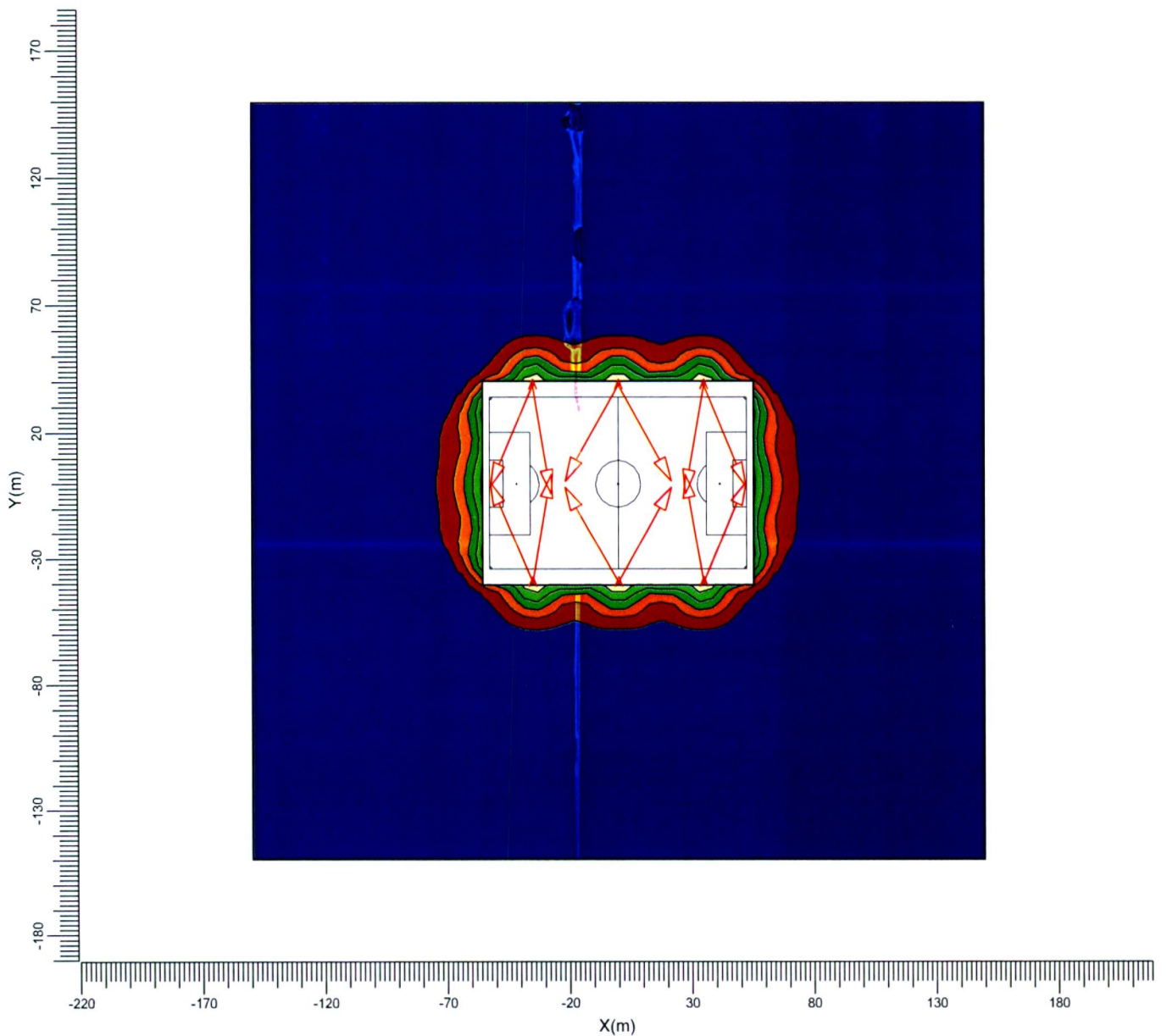
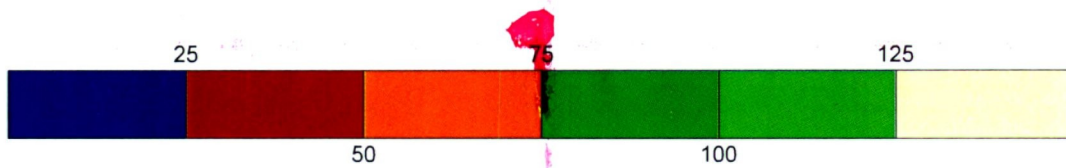
Project maintenance factor  
0.95

Scale  
1:2000

3.8 Spillgrid\_200Lux: Filled Iso Contour

Spillgrid\_200Lux

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



A  BVP528 OUT T35 A55-NB

Minimum  
0.04

Maximum  
125.09

Project maintenance factor  
0.95

Scale  
1:2500

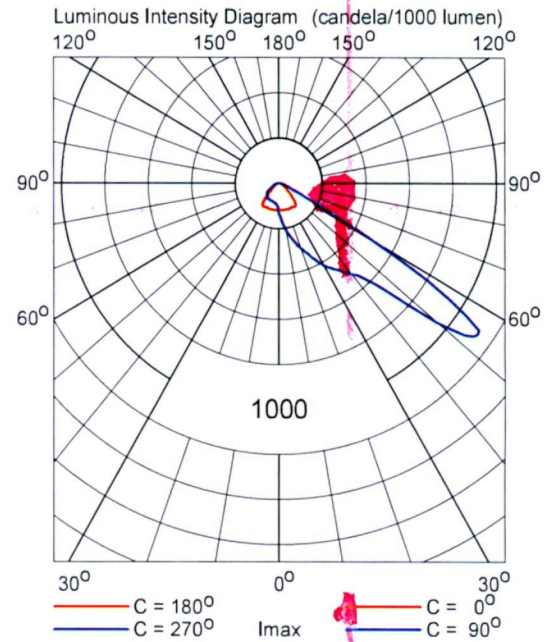
## 4. Luminaire Details

### 4.1 Project Luminaires

OptiVision LED gen3.5 2022  
BVP528 OUT T35 1xLED2590-4S/757/757 E3/D4I A55-NB

Light output ratios  
DLOR : 0.82  
ULOR : 0.00  
TLOR : 0.82  
Ballast : E3/D4I  
Lamp flux : 259000 lm  
Luminaire wattage : 1505.9 W  
Measurement code : LVA2111038

Note: Luminaire data not from database.



## 5. Installation Data

### 5.1 Legends

Project Luminaires:

Code	Qty	Luminaire Type	Lamp Type	Flux (lm)
A	30	BVP528 OUT T35 A55-NB	1 * LED2590-4S/757	1 * 259000

Switching Modes:

Code	Switching Mode
1	500 Lux
2	Spillgrid_500Lux
3	200 Lux
4	Spillgrid_200Lux

### 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	3	4
1* A	-35.00	-39.00	18.00	113.5	67.5	0.0	+	+	+	+
1* A	-35.00	-39.00	18.00	80.0	67.5	0.0	+	+	+	+
1* A	-35.00	-39.00	18.00	113.5	67.5	0.0	+	+	-	-
1* A	-35.00	-39.00	18.00	112.5	67.5	0.0	+	+	-	-
1* A	-35.00	-39.00	18.00	112.5	67.5	0.0	+	+	-	-
1* A	-35.00	39.00	18.00	-113.5	67.5	-0.0	+	+	+	+
1* A	-35.00	39.00	18.00	-80.0	67.5	-0.0	+	+	+	+
1* A	-35.00	39.00	18.00	-113.5	67.5	-0.0	+	+	-	-
1* A	-35.00	39.00	18.00	-112.5	67.5	-0.0	+	+	-	-
1* A	-35.00	39.00	18.00	-112.5	67.5	-0.0	+	+	-	-
1* A	-0.00	-39.00	18.00	60.0	67.5	0.0	+	+	+	+
1* A	-0.00	-39.00	18.00	120.0	67.5	-0.0	+	+	+	+
1* A	-0.00	-39.00	18.00	90.0	67.5	0.0	+	+	-	-
1* A	-0.00	-39.00	18.00	70.0	67.5	0.0	+	+	-	-
1* A	-0.00	-39.00	18.00	110.0	67.5	-0.0	+	+	-	-
1* A	-0.00	39.00	18.00	-60.0	67.5	-0.0	+	+	+	+
1* A	-0.00	39.00	18.00	-120.0	67.5	0.0	+	+	+	+
1* A	-0.00	39.00	18.00	-90.0	67.5	-0.0	+	+	-	-
1* A	-0.00	39.00	18.00	-70.0	67.5	-0.0	+	+	-	-
1* A	-0.00	39.00	18.00	-110.0	67.5	0.0	+	+	-	-
1* A	35.00	-39.00	18.00	66.5	67.5	-0.0	+	+	+	+
1* A	35.00	-39.00	18.00	100.0	67.5	-0.0	+	+	+	+
1* A	35.00	-39.00	18.00	66.5	67.5	-0.0	+	+	-	-
1* A	35.00	-39.00	18.00	67.5	67.5	-0.0	+	+	-	-
1* A	35.00	-39.00	18.00	67.5	67.5	-0.0	+	+	-	-
1* A	35.00	39.00	18.00	-66.5	67.5	0.0	+	+	+	+
1* A	35.00	39.00	18.00	-100.0	67.5	0.0	+	+	+	+
1* A	35.00	39.00	18.00	-66.5	67.5	0.0	+	+	-	-
1* A	35.00	39.00	18.00	-67.5	67.5	0.0	+	+	-	-
1* A	35.00	39.00	18.00	-67.5	67.5	0.0	+	+	-	-