

King David School MUGA

4x10m, 8 x BVP518 – 200lux

Project code: 502442871, 6594272

Date: 20-11-2025

Designer: LiAS UK & I – Steve Johnston

Description: All floodlights mounted at 10metres

Design completed using a total of 8no Philips
OptiVision LED 2 Module floodlights.
Floodlight tilt = 14° (above flat glass position)

8 No BVP518 OUT T35 1xLED1720-4S/757/757 E3/D4I A55-NB LO

Min/Max is a little low due to 2 luminaires on centre column
at low mounting height (0.44)

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.

Signify

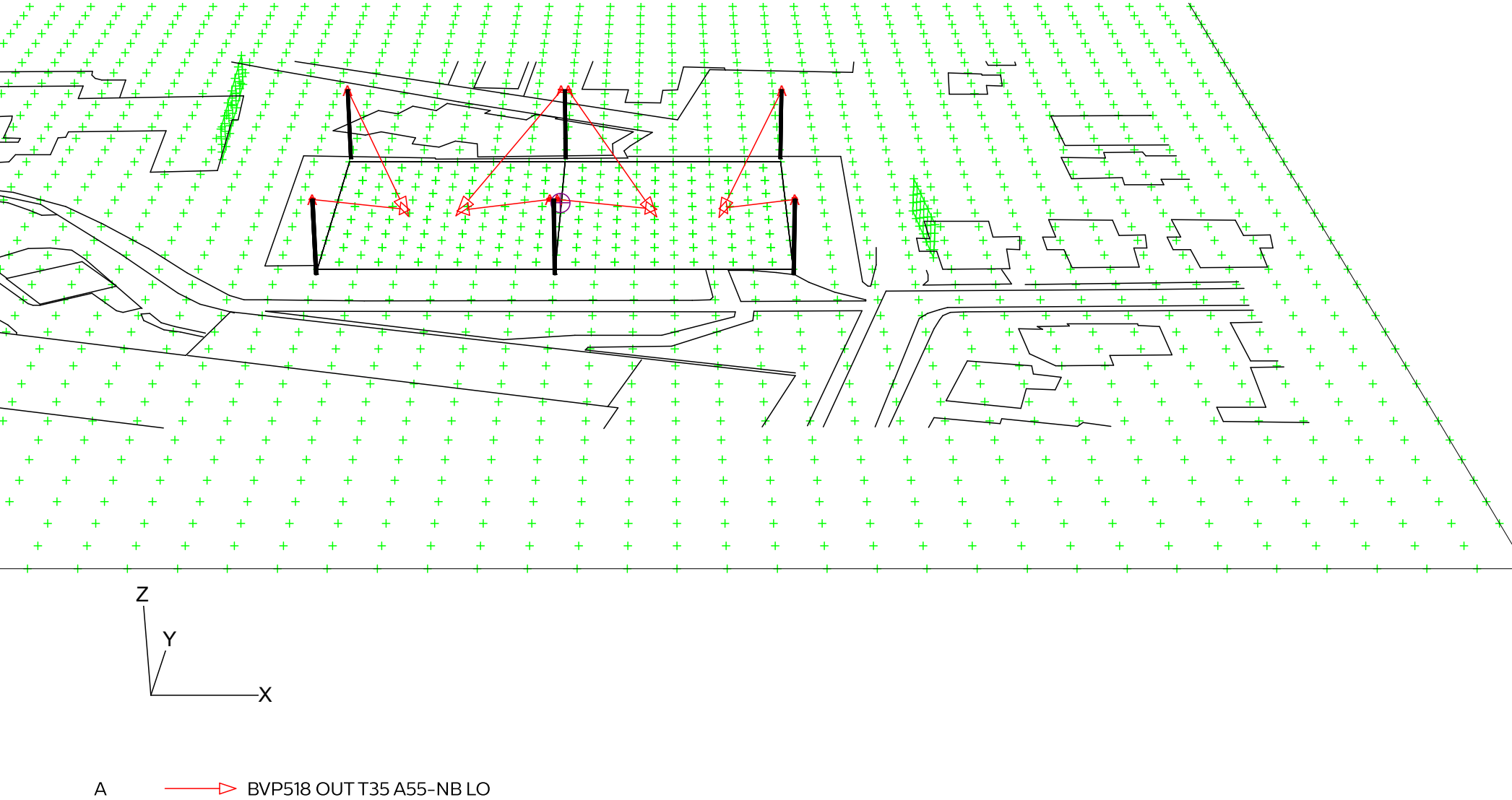
Philips Centre
Guildford Business Park
Guildford
Surrey
GU2 8XG
E-Mail: andrew.poplett@signify.com

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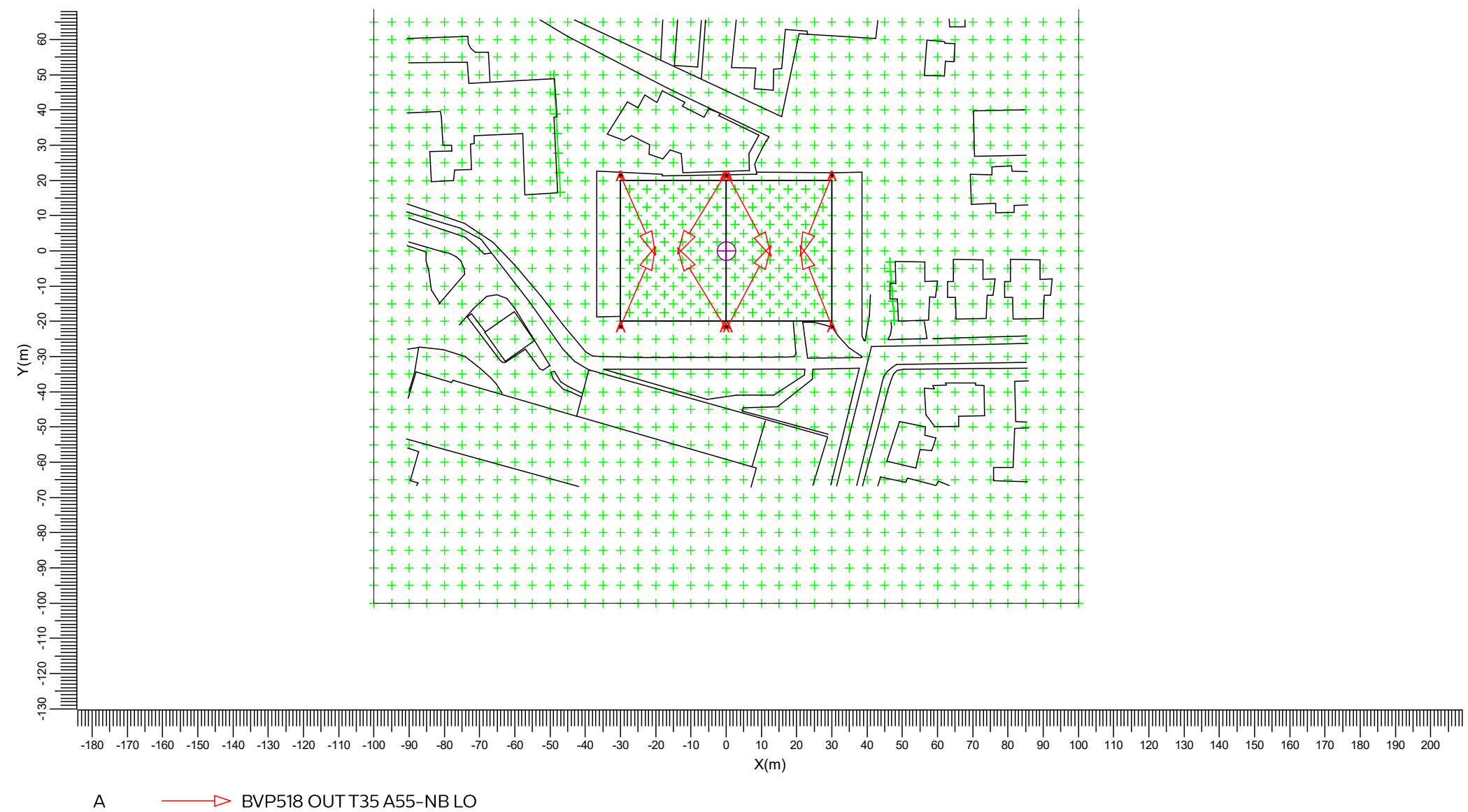
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1. Project Description

1.1 3-D Project Overview



1.2 Top Project Overview



2. Summary

2.1 Obstacle Information

Obstacle	Transparency (%)	Position		
		X (m)	Y (m)	Z (m)
End Col	100	-30.00	-21.50	0.00
		30.00	-21.50	0.00
		-30.00	21.50	0.00
		30.00	21.50	0.00
Centre Cols	100	0.00	-21.50	0.00
		0.00	21.50	0.00

2.2 Project Luminaires

Code	Qty	Luminaire Type	Lamp Type	Power (W)	Flux (lm)
A	8	BVP518 OUT T35 A55-NB LO	1 * LED1720-4S/757	1006.0	1 * 172000

The total installed power: 8.05 (kWatt)

Number of Luminaires Per Switching Mode:

Switching Mode	Luminaire Code	Power (kWatt)
	A	
Whole MUGA	8	8.05
MUGA 1st Half	4	4.02
MUGA 2nd Half	4	4.02
Spill	8	8.05

Number of Luminaires Per Arrangement:

Arrangement	Luminaire Code	Power (kWatt)
	A	
1st MUGA End	2	2.01
1st MUGA Mid	2	2.01
2nd MUGA End	2	2.01

Arrangement	Luminaire	Power (kWatt)
	Code	
	A	
2nd MUGA Mid	2	2.01

2.3 Calculation Results

Switching Modes:

Code	Switching Mode	Maintenance factor
1	Whole MUGA	0.90
2	MUGA 1st Half	0.90
3	MUGA 2nd Half	0.90
4	Spill	1.00

(II)luminance Calculations:

Calculation	Switching Mode	Type	Unit	Ave	Min	Max	Min/Ave	Min/Max
New MUGA Pitch	1	Horizontal Illuminance	lux	246	189	430	0.77	0.44
MUGA 1st Half	2	Surface Illuminance	lux	223	152	301	0.68	0.50
MUGA 2nd Half	3	Surface Illuminance	lux	219	155	291	0.71	0.53
Ev 1 Polygon Rd	4	Surface Illuminance	lux			3.24		
Ev Anchor Court	4	Surface Illuminance	lux			1.79		
Spillage	4	Horizontal Illuminance	lux					

Obtrusive Light Calculations:

Switching Mode	ULR
1	0.00
2	0.00
3	0.00
4	0.00

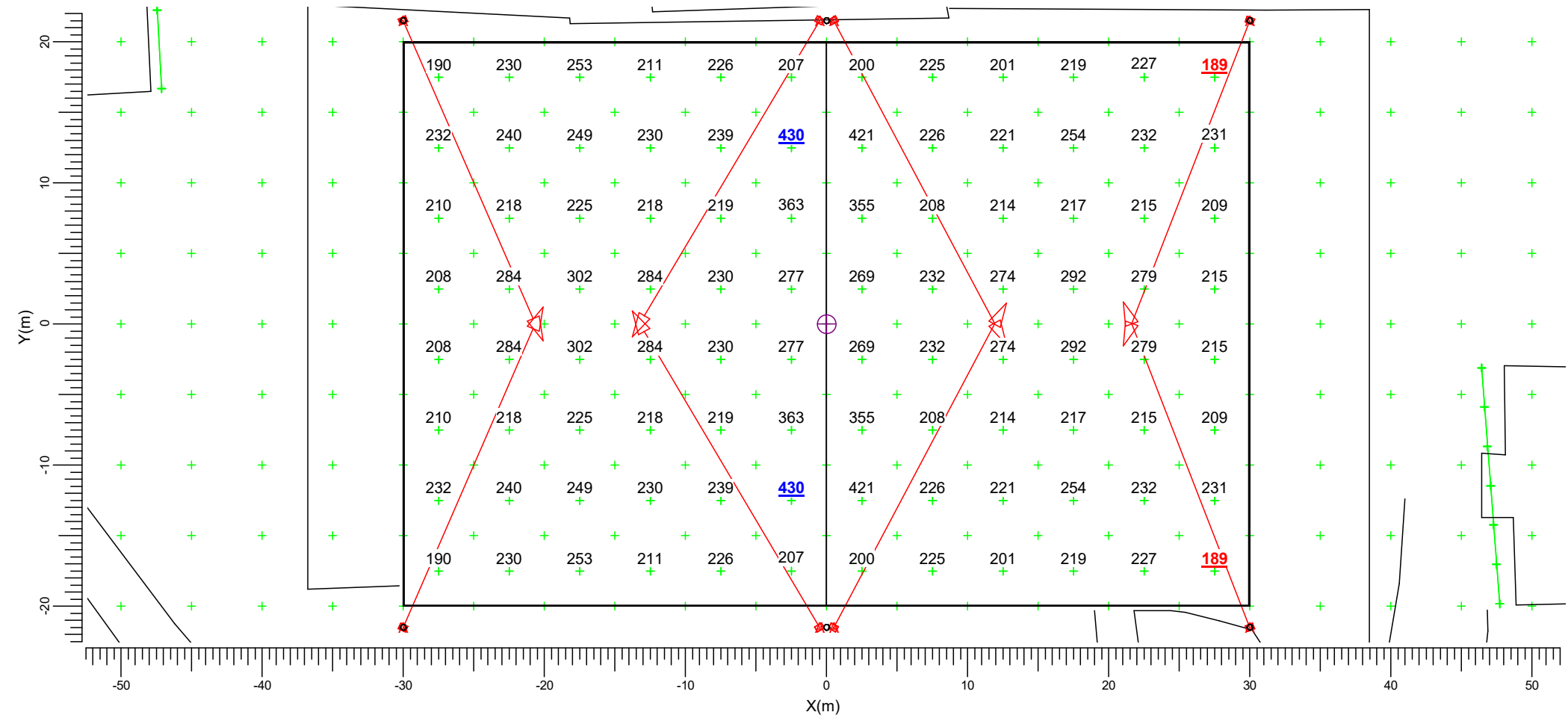
3. Calculation Results

3.1 New MUGA Pitch: Graphical Table

Whole MUGA

Grid
Calculation

: MUGA at Z = -0.00 m
: Horizontal Illuminance (lux)



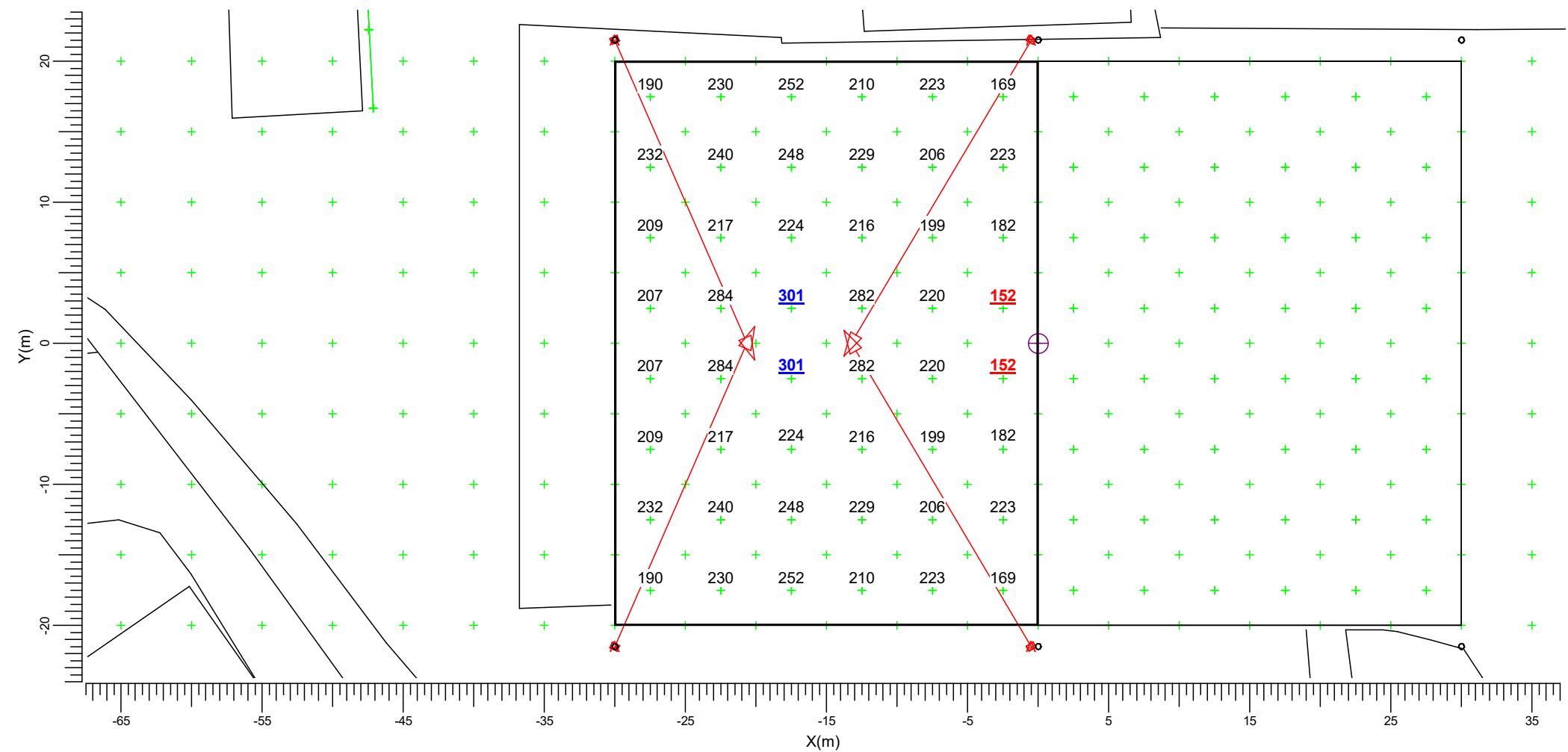
A	→ BVP518 OUT T35 A55-NB LO					
Average 246	Minimum 189	Maximum 430	Min/Ave 0.77	Min/Max 0.44	Project maintenance factor 0.90	Scale 1:400

3.2 MUGA 1st Half: Graphical Table

MUGA 1st Half

Grid : MUGA 1st Half at Z = -0.00 m

Calculation : Surface Illuminance (lux)



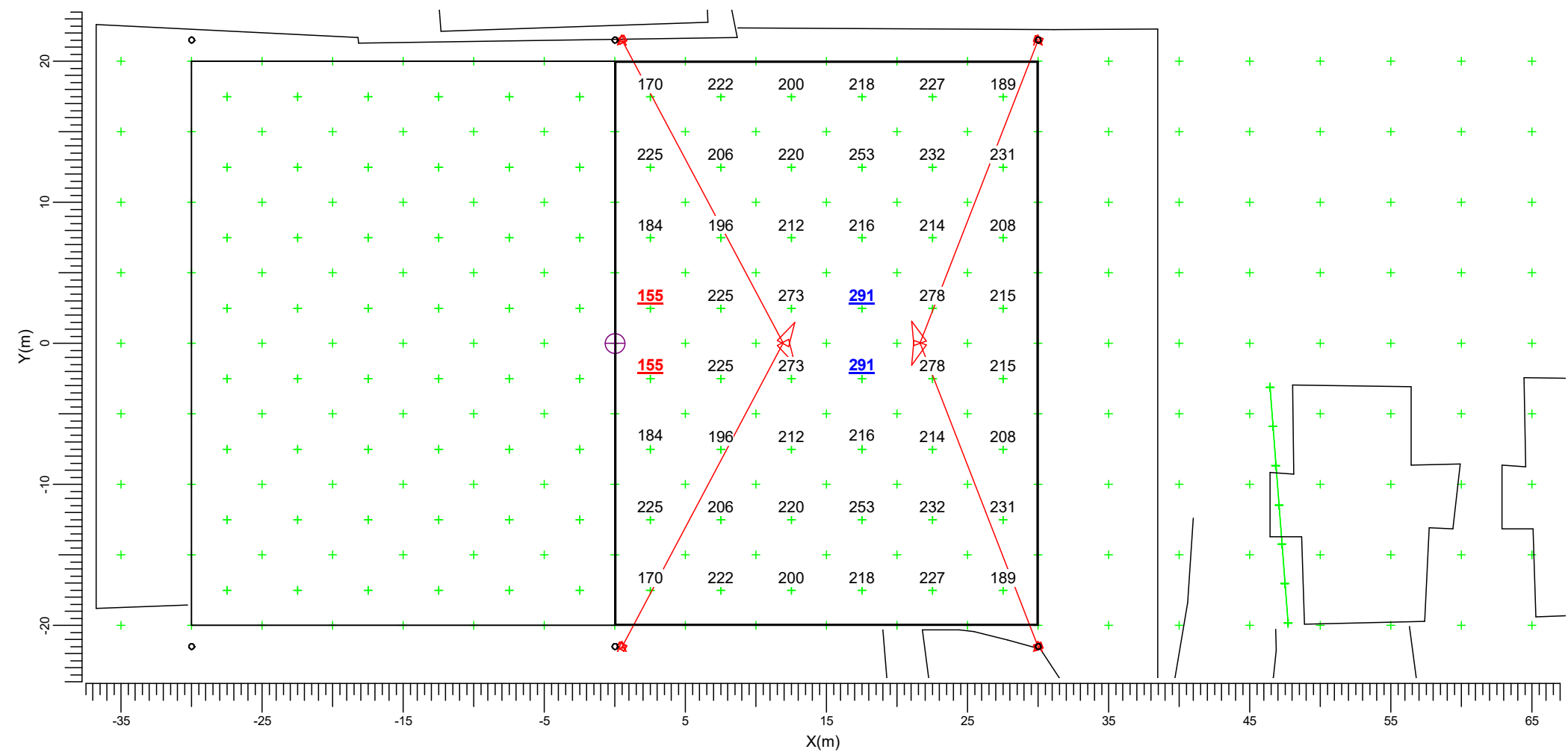
A		BVP518 OUT T35 A55-NB LO
Average	223	
Minimum	152	
Maximum	301	
Min/Ave	0.68	
Min/Max	0.50	
Project maintenance factor	0.90	
Scale	1:400	

3.3 MUGA 2nd Half: Graphical Table

MUGA 2nd Half

Grid : MUGA 2nd Half at Z = -0.00 m

Calculation : Surface Illuminance (lux)



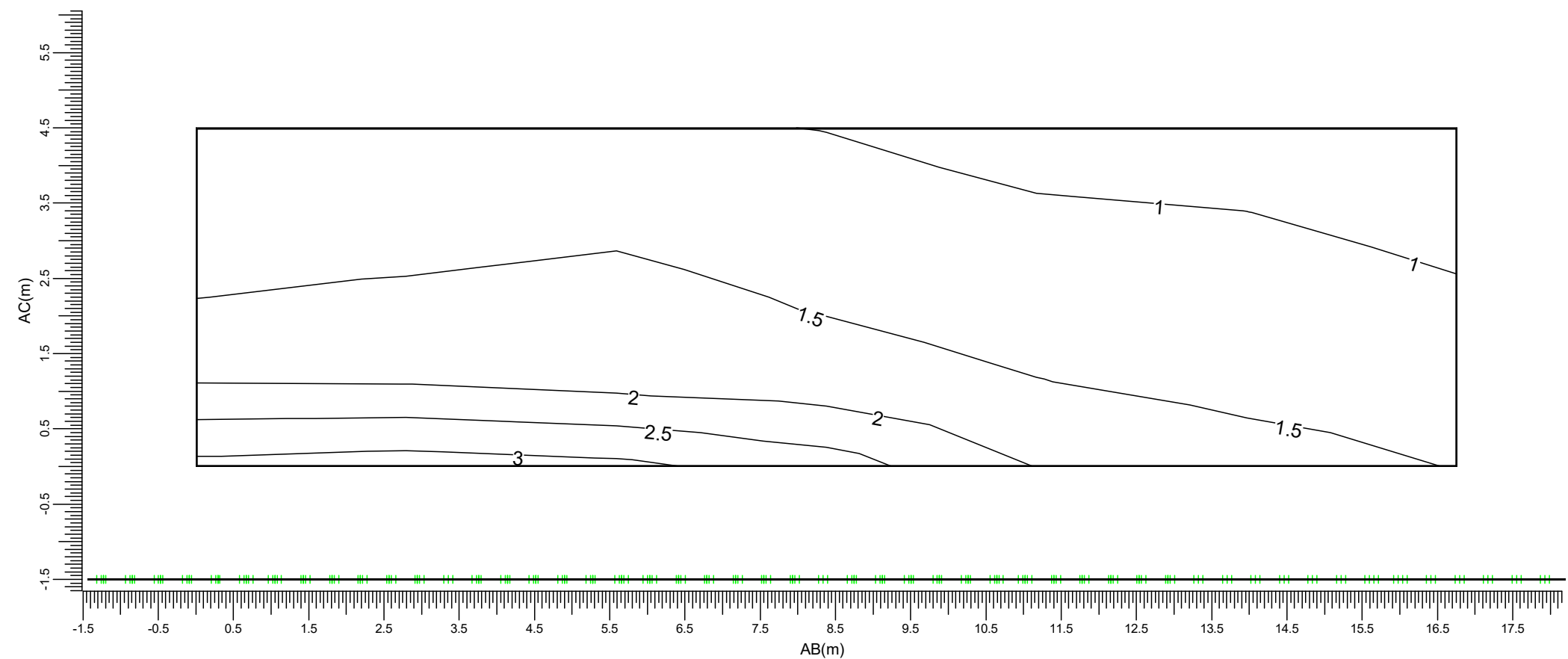
A		BVP518 OUT T35 A55-NB LO				
Average	Minimum	Maximum	Min/Ave	Min/Max	Project maintenance factor	Scale
219	155	291	0.71	0.53	0.90	1:400

3.4 Ev 1 Polygon Rd: Iso Contour

Spill

Grid
Calculation

: Ev 1 Polygon Rd
: Surface Illuminance (lux)



(46.43, -3.11, 6.00) C-----D (47.70, -19.82, 6.00)
| |
(46.43, -3.11, 1.50) A-----B (47.70, -19.82, 1.50)

A: BVP518 OUT T35 A55-NB LO

Maximum
3.24

Project maintenance factor
1.00

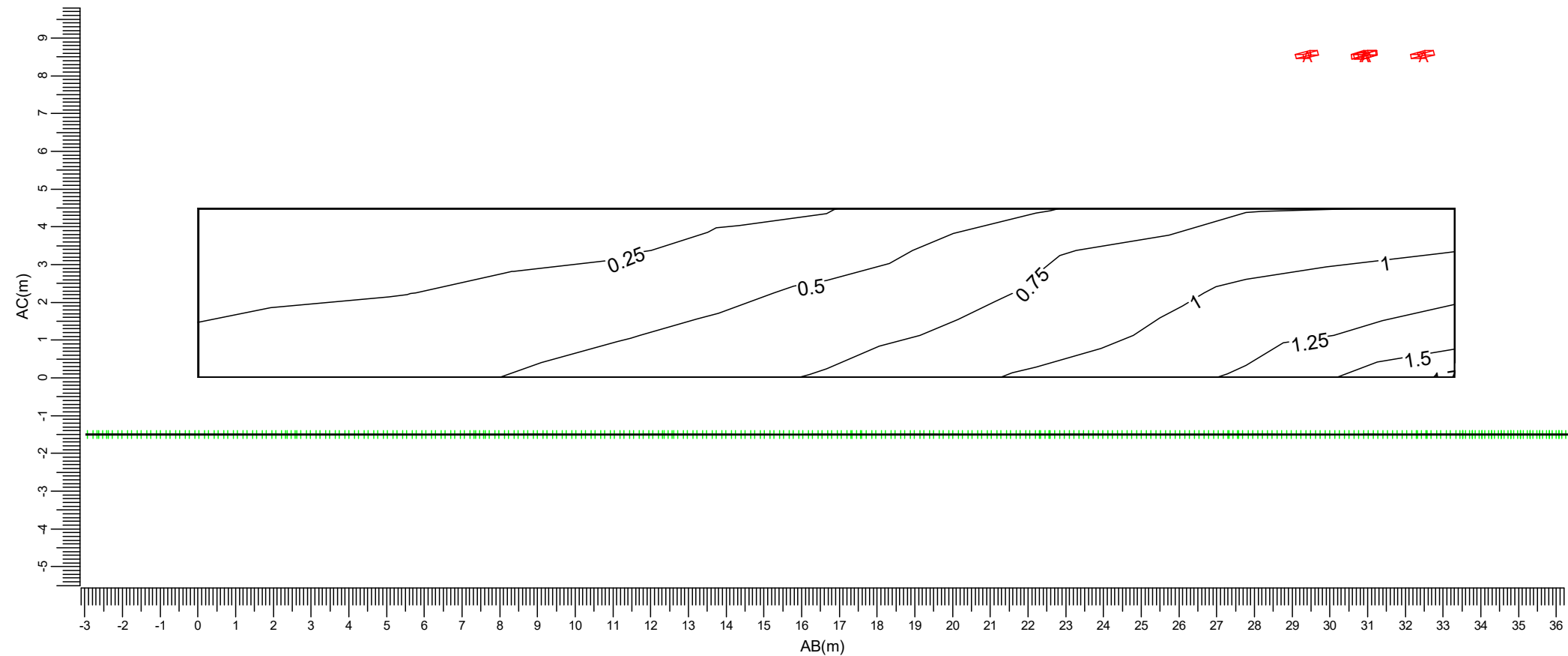
Scale
1:75

3.5 Ev Anchor Court: Iso Contour

Spill

Grid : Ev Anchor Court

Calculation : Surface Illuminance (lux)



(-48.84, 49.98, 6.00)

C-----D (-47.14, 16.70, 6.00)

| |

(-48.84, 49.98, 1.50)

A-----B (-47.14, 16.70, 1.50)

A : BVP518 OUT T35 A55-NB LO

Maximum
1.79

Project maintenance factor
1.00

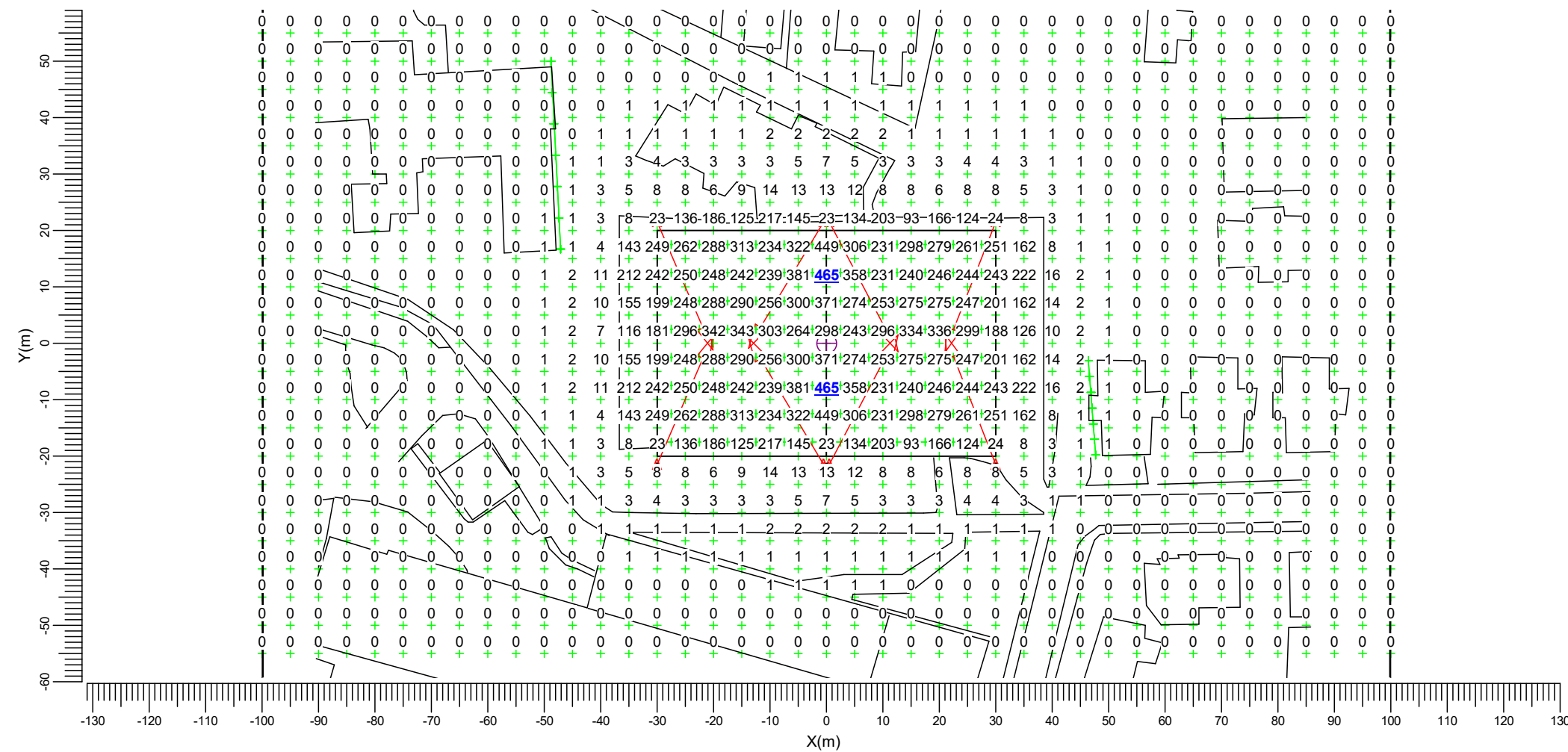
Scale
1:150

3.6 Spillage: Graphical Table

Spill

Grid : Overspill at Z = -0.00 m

Calculation : Horizontal Illuminance (lux)



A  BVP518 OUT T35 A55-NB LO

Project maintenance factor
1.00

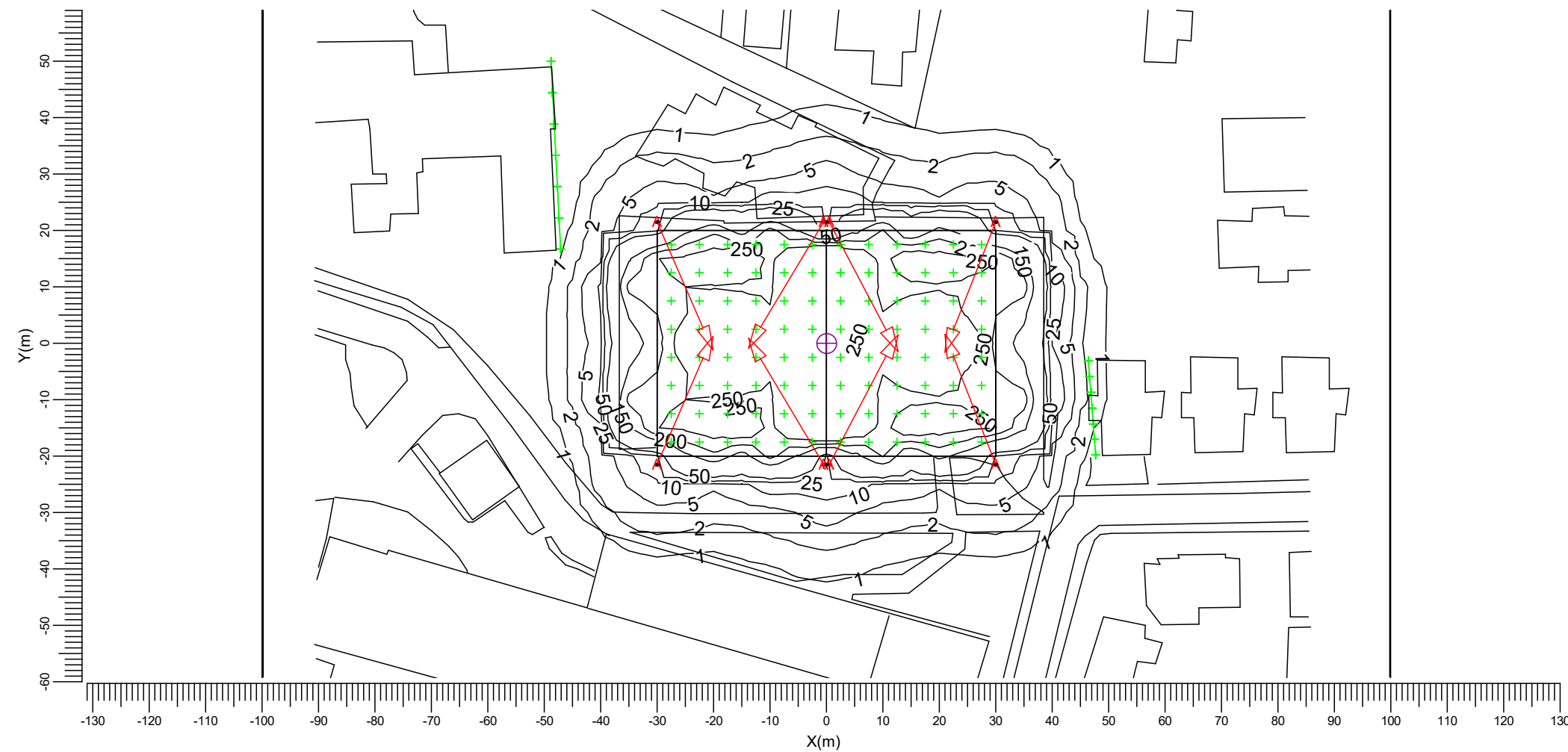
Scale
1:1000

3.7 Spillage: Iso Contour

Spill

Grid
Calculation

: Overspill at Z = -0.00 m
: Horizontal Illuminance (lux)



A  BVP518 OUT T35 A55-NB LO

Project maintenance factor
1.00

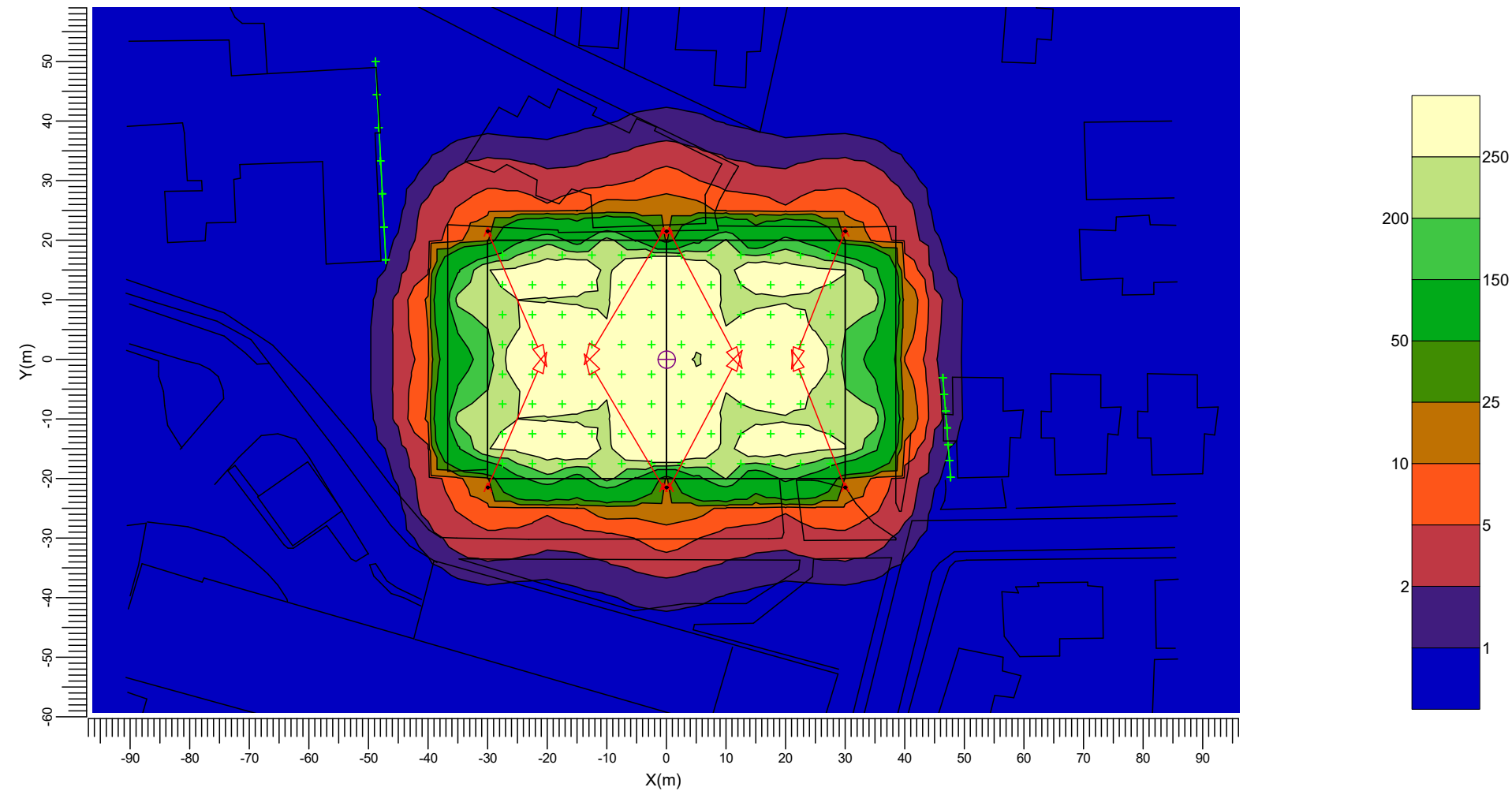
Scale
1:1000

3.8 Spillage: Filled Iso Contour

Spill

Grid : Overspill at Z = -0.00 m

Calculation : Horizontal Illuminance (lux)



A  BVP518 OUT T35 A55-NB LO

Project maintenance factor
1.00

Scale
1:1000

4. Luminaire Details

4.1 Project Luminaires

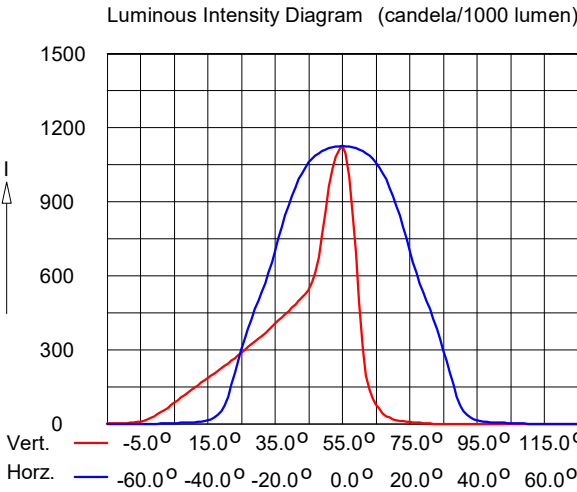
OptiVision LED gen3.5 2022
BVP518 OUT T35 1xLED1720-4S/757/757 E3/D4I A55-NB LO

Light output ratios

DLOR	: 0.58
ULOR	: 0.00
TLOR	: 0.58

Ballast : E3/D4I
Lamp flux : 172000 lm
Luminaire wattage : 1006.0 W
Measurement code : LVM20482U1

Note: Luminaire data not from database.



5. Installation Data

5.1 Legends

Project Luminaires:

Code	Qty	Luminaire Type	Lamp Type	Flux (lm)
A	8	BVP518 OUT T35 A55-NB LO	1 * LED1720-4S/757	1 * 172000

Arrangements:

Code	Arrangement
1	2nd MUGA Mid
2	1st MUGA End
3	1st MUGA Mid
4	2nd MUGA End

Switching Modes:

Code	Switching Mode
1	Whole MUGA
2	MUGA 1st Half
3	MUGA 2nd Half
4	Spill

5.2 Luminaire Positioning and Orientation

Qty and Code	Position			Aiming Points			Aiming Angles			ULR	Arr.	Switching Modes			
	X (m)	Y (m)	Z (m)	X (m)	Y (m)	Z (m)	Rot.	Tilt90	Tilt0			1	2	3	4
1 * A	0.50	-21.50	10.00	12.75	1.49	0.00	62.0	69.0	0.0	0.00	1	+	-	+	+
1 * A	0.50	21.50	10.00	12.75	-1.49	0.00	-62.0	69.0	-0.0	0.00	1	+	-	+	+
1 * A	-30.00	-21.50	10.00	-20.10	1.18	0.00	66.4	68.0	0.0	0.00	2	+	+	-	+
1 * A	-30.00	21.50	10.00	-20.10	-1.18	0.00	-66.4	68.0	-0.0	0.00	2	+	+	-	+
1 * A	-0.50	-21.50	10.00	-13.77	0.91	0.00	120.6	69.0	0.0	0.00	3	+	+	-	+
1 * A	-0.50	21.50	10.00	-13.77	-0.91	0.00	-120.6	69.0	-0.0	0.00	3	+	+	-	+

Qty and Code	Position			Aiming Points			Aiming Angles			ULR	Arr.	Switching Modes			
	X (m)	Y (m)	Z (m)	X (m)	Y (m)	Z (m)	Rot.	Tilt90	Tilt0			1	2	3	4
1 * A	30.00	-21.50	10.00	21.03	1.57	0.00	111.3	68.0	0.0	0.00	4	+	-	+	+
1 * A	30.00	21.50	10.00	21.03	-1.57	0.00	-111.3	68.0	-0.0	0.00	4	+	-	+	+