

Birchall Playing Fields, Leek

Full Sized NTP

Project code: NTS138
Date: 17-07-2020

Designer: Wesley Bugg

Description: LED Lighting Design option

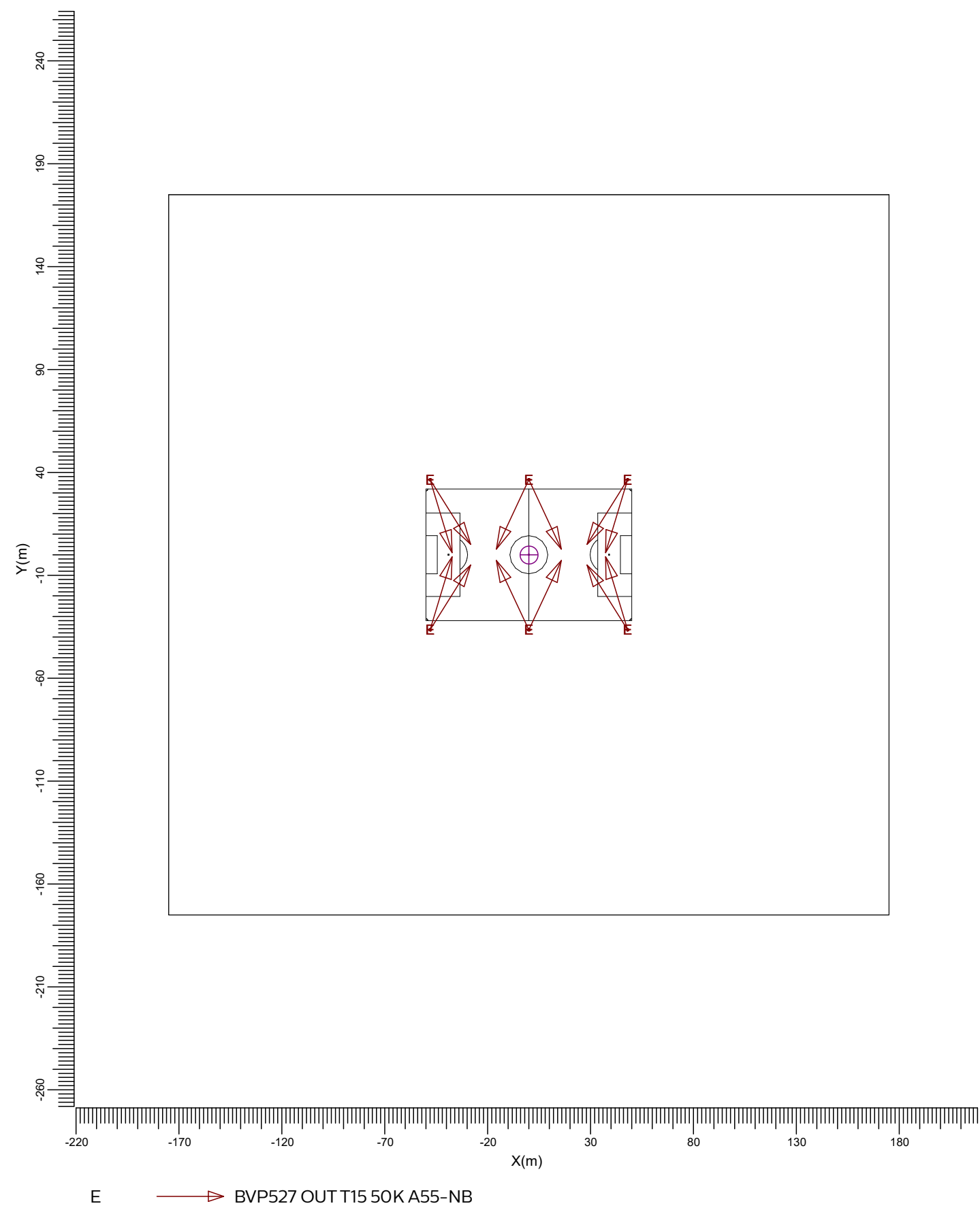
The nominal values shown in this report are the result of precision calculations, based upon precisely positioned luminaires in a fixed relationship to each other and to the area under examination. In practice the values may vary due to tolerances on luminaires, luminaire positioning, reflection properties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

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1. Project Description

1.1 Top Project Overview



Scale
1:2500

2. Summary

2.1 Observer Information

Code	Observer	Position		
		X (m)	Y (m)	Z (m)
Aa	Evo Spill	-0.00	-0.00	1.50

2.2 Project Luminaires

Code	Qty	Luminaire Type	Lamp Type	Power (W)	Flux (lm)
E	12	BVP527 OUT T15 50K A55-NB	1 * LED2210/757	1580.0	1 * 220880

The total installed power: 18.96 (kWatt)

Number of Luminaires Per Switching Mode:

Switching Mode	Luminaire Code	Power (kWatt)
	E	
Football	12	18.96
Spillage	12	18.96

Number of Luminaires Per Arrangement:

Arrangement	Luminaire Code	Power (kWatt)
	E	
Mast 1	8	12.64
Mast 2	4	6.32

2.3 Calculation Results

Switching Modes:

Code	Switching Mode	Maintenance factor
1	Football	0.90
2	Spillage	1.00

(II)luminance Calculations:

Calculation	Switching Mode	Type	Unit	Ave Min/AveMin/Max		
Football	1	Surface Illuminance	lux	201	0.68	0.44
Spillage	2	Surface Illuminance	lux	16.2	0.00	0.00
Evo Spill	2	Illuminance -> Aa	lux	4.66	0.04	0.00

Glare Rating for Grid of Observers:

Calculation	Switching Mode	Observer Grid	Reference Grid	Reflectance	GR-Max
Glare Rating ATP	1	Football	Football	0.25	44.9

Obtrusive Light Calculations:

Switching Mode	ULR
1	0.00
2	0.00

3. Calculation Results

3.1 Football: Graphical Table

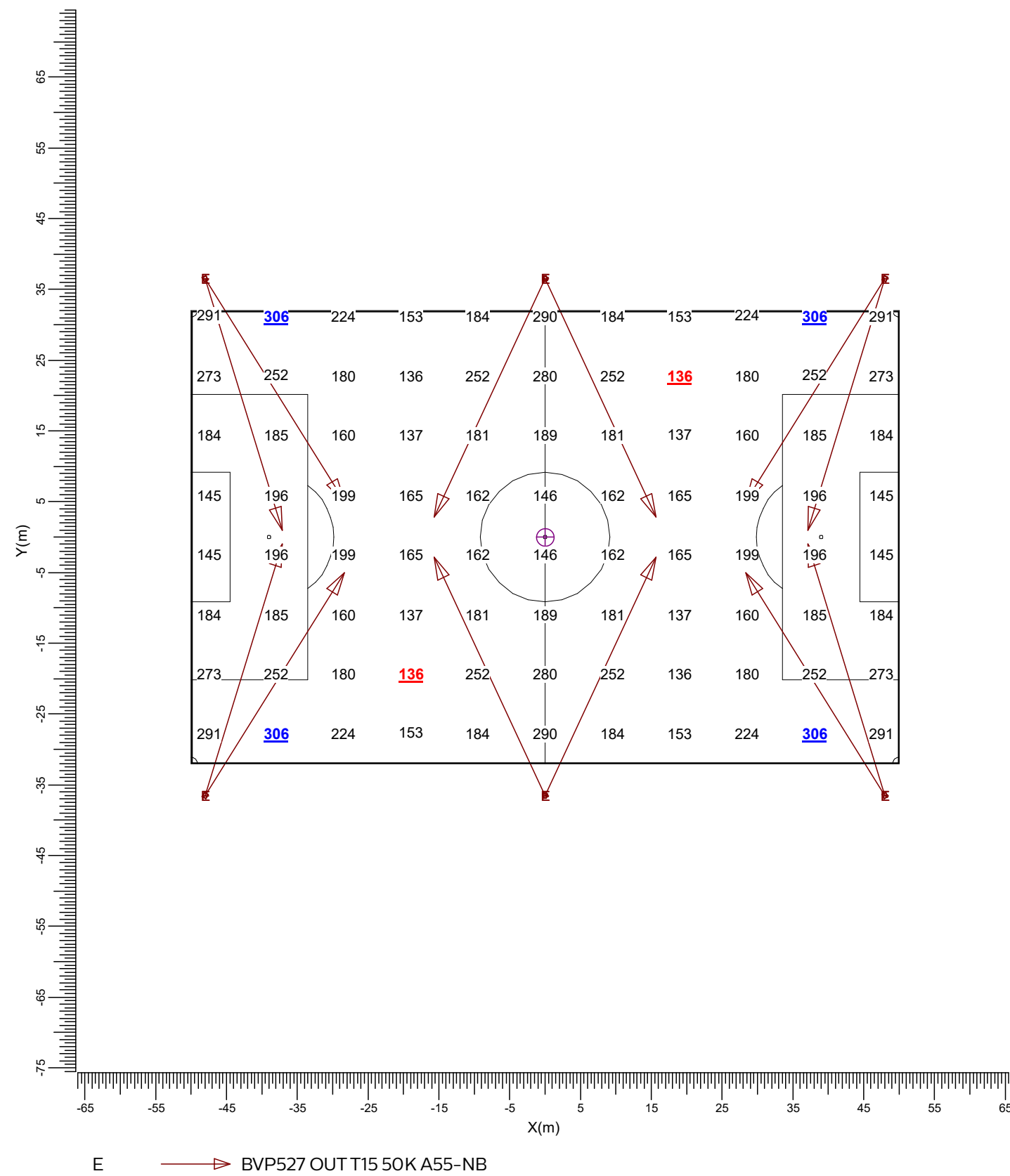
Football

Grid

Calculation

: Football at Z = -0.00 m

: Surface Illuminance (lux)

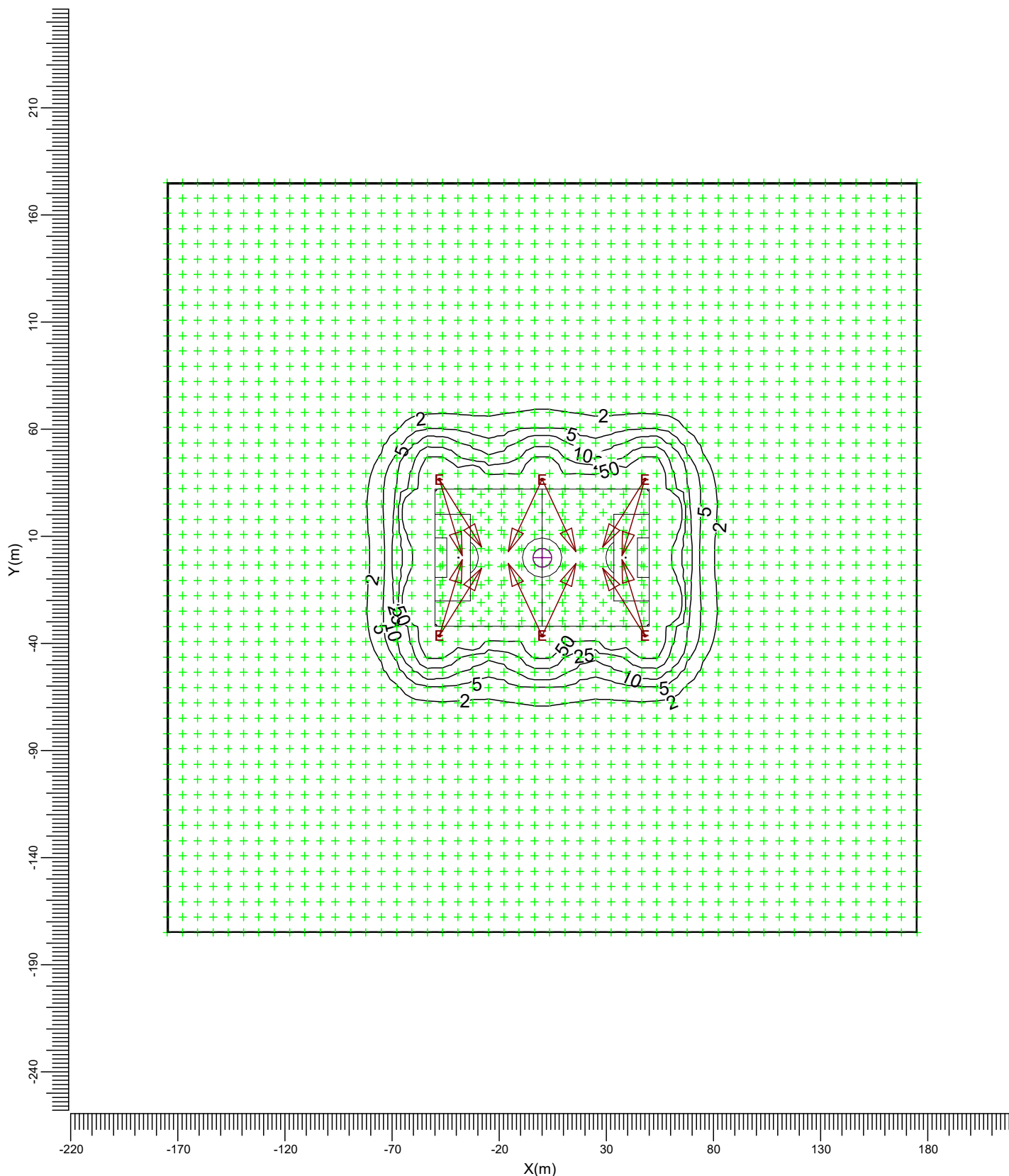


Average	Min/Ave	Min/Max	Project maintenance factor	Scale
201	0.68	0.44	0.90	1:750

3.2 Spillage: Iso Contour

Spillage

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



E ———▶ BVP527 OUT T15 50K A55-NB

Average
16.2

Min/Ave
0.00

Min/Max
0.00

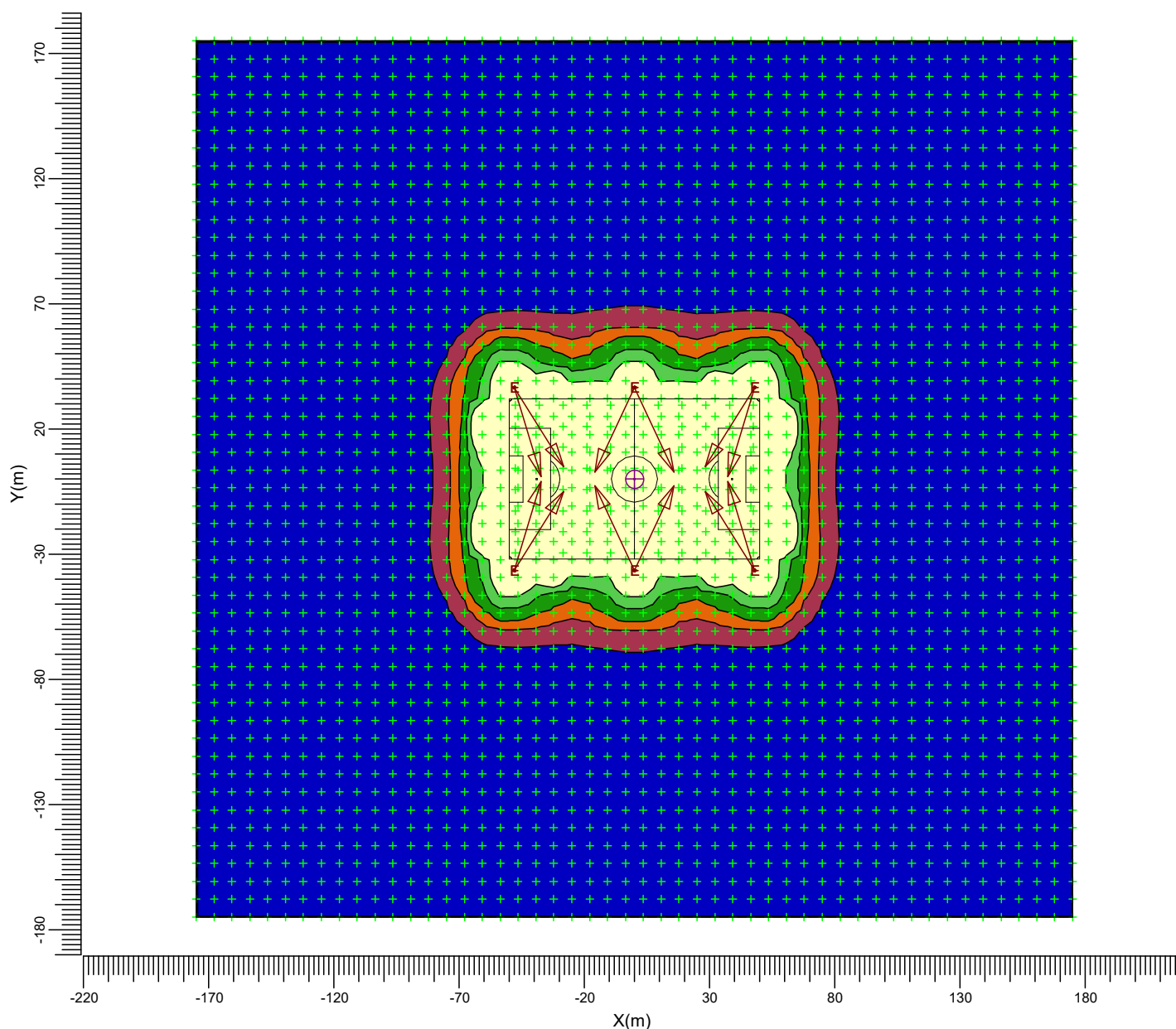
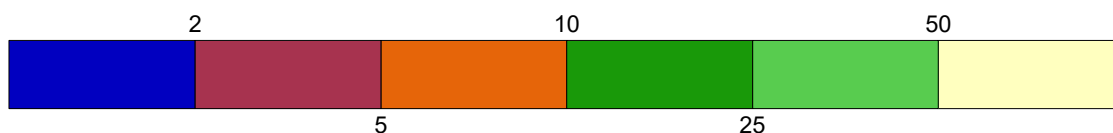
Project maintenance factor
1.00

Scale
1:2500

3.3 Spillage: Filled Iso Contour

Spillage

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



E BVP527 OUT T15 50K A55-NB

Average
16.2

Min/Ave
0.00

Min/Max
0.00

Project maintenance factor
1.00

Scale
1:2500

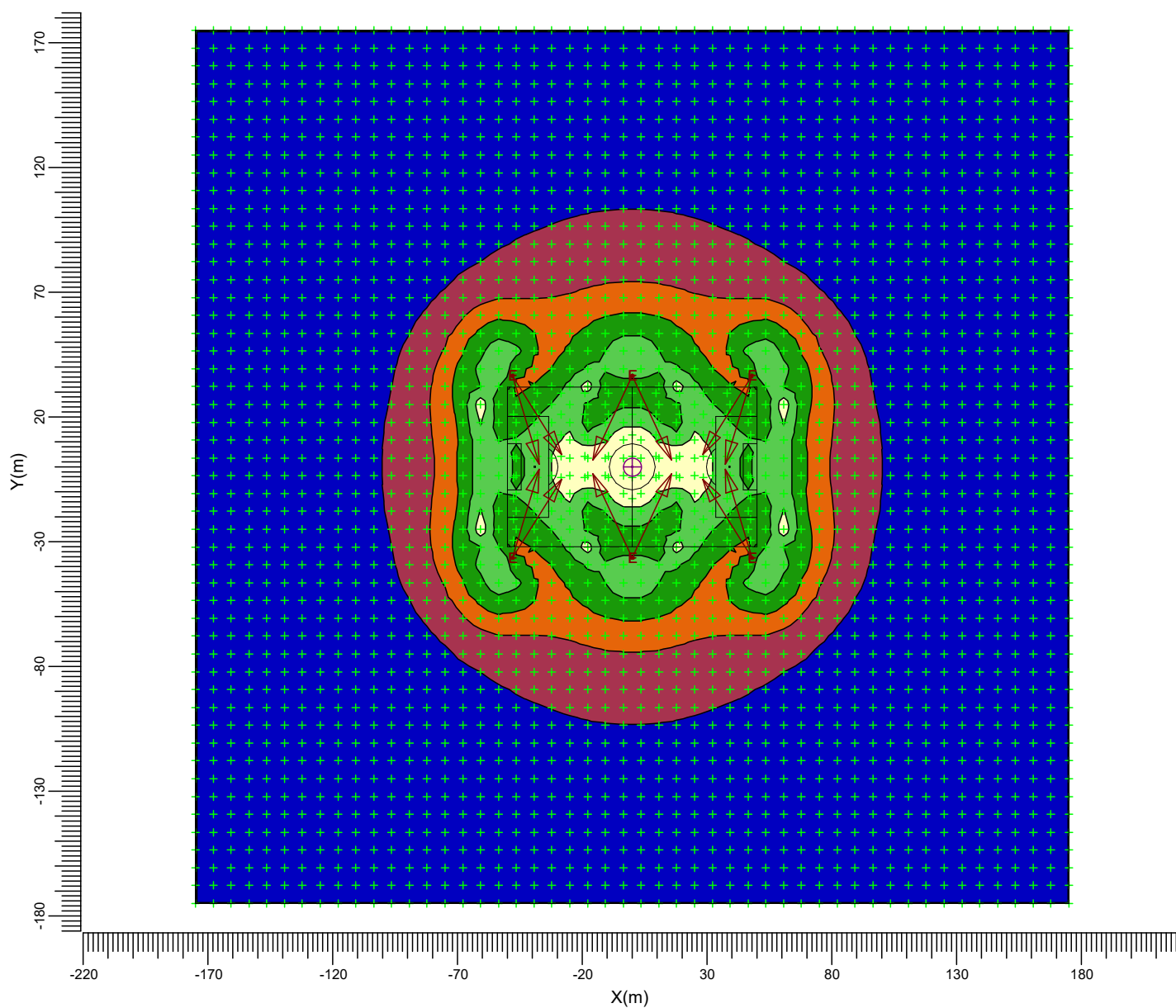
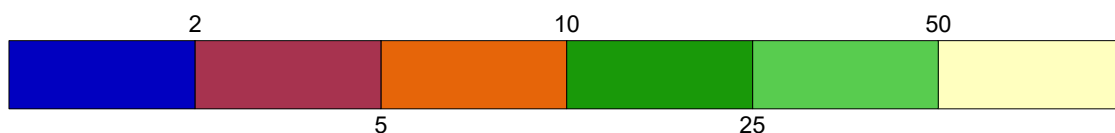
Spillage

Scale
1:2500

3.5 Evo Spill: Filled Iso Contour

Spillage

Grid : Evo Spill at Z = -0.00 m
Calculation : Illuminance towards Evo Spill (lux)
Height above grid : 1.80 m



E ———▶ BVP527 OUT T15 50K A55-NB

Average
4.66

Min/Ave
0.04

Min/Max
0.00

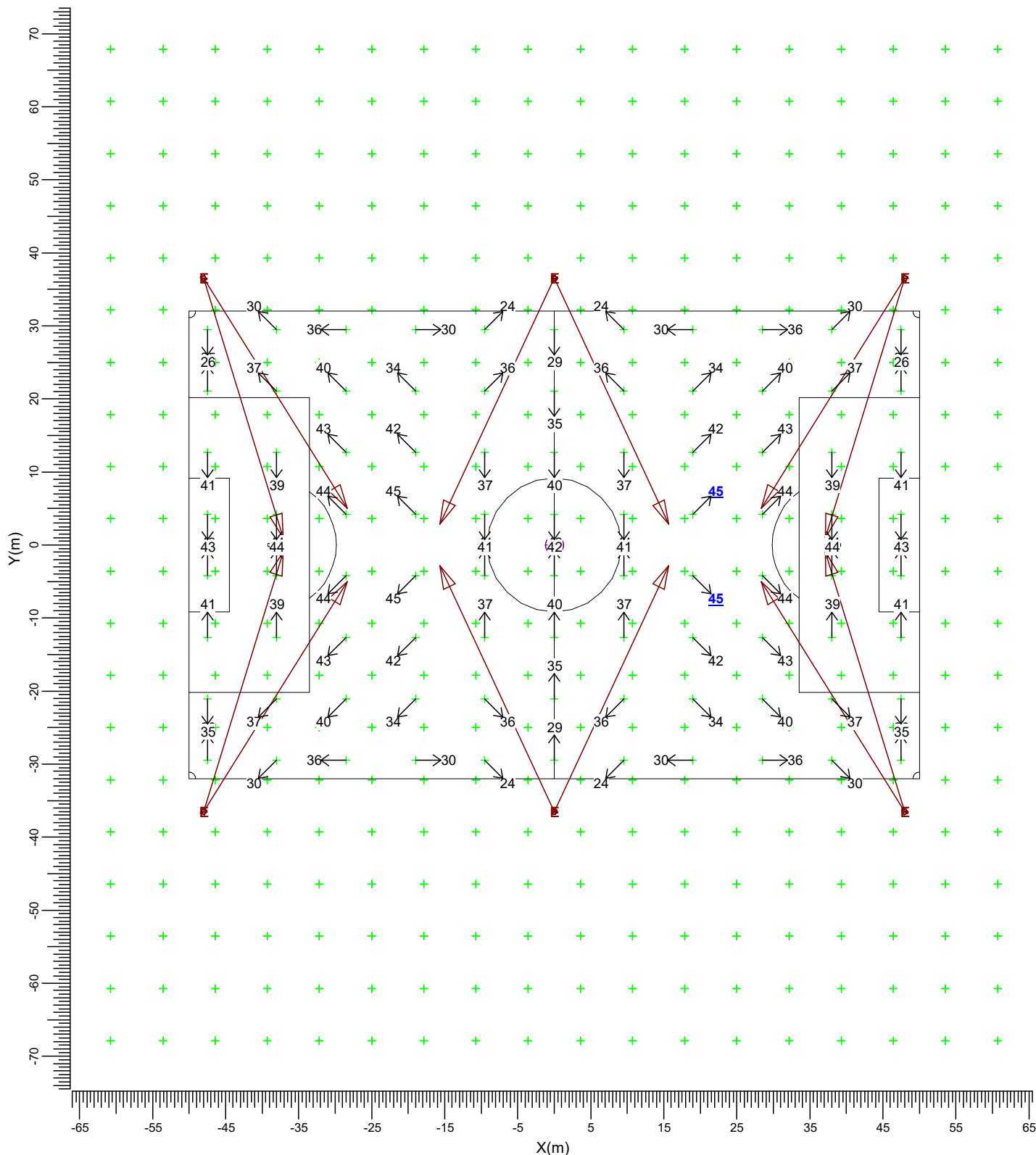
Project maintenance factor
1.00

Scale
1:2500

3.6 Glare Rating ATP: Graphical Table

Football

Grid of Observers : Football
Calculation : Glare Rating
Grid for Background Luminance: Football (Reflectance: 0.25)
Vertical Viewing Angle : -2.0 deg



E  BVP527 OUT T15 50K A55-NB

Project maintenance factor
0.90

Scale
1:750

5. Installation Data

5.1 Legends

Project Luminaires:

Code	Qty	Luminaire Type	Lamp Type	Flux (lm)
E	12	BVP527 OUT T15 50K A55-NB	1 * LED2210/757	1 * 220880

Switching Modes:

Code	Switching Mode
1	Football
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 * E	-48.00	-36.50	15.00	73.0	68.0	-0.0	+	+
1 * E	-48.00	-36.50	15.00	58.0	68.0	-0.0	+	+
1 * E	-48.00	36.50	15.00	-73.0	68.0	0.0	+	+
1 * E	-48.00	36.50	15.00	-58.0	68.0	0.0	+	+
1 * E	-0.00	-36.50	15.00	65.0	68.0	-0.0	+	+
1 * E	-0.00	-36.50	15.00	115.0	68.0	0.0	+	+
1 * E	-0.00	36.50	15.00	-65.0	68.0	0.0	+	+
1 * E	-0.00	36.50	15.00	-115.0	68.0	-0.0	+	+
1 * E	48.00	-36.50	15.00	107.0	68.0	0.0	+	+
1 * E	48.00	-36.50	15.00	122.0	68.0	0.0	+	+
1 * E	48.00	36.50	15.00	-107.0	68.0	-0.0	+	+
1 * E	48.00	36.50	15.00	-122.0	68.0	-0.0	+	+