

Afan United FC

FOOTBALL LED Upgrade

Date: 15-02-2024

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Description:

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

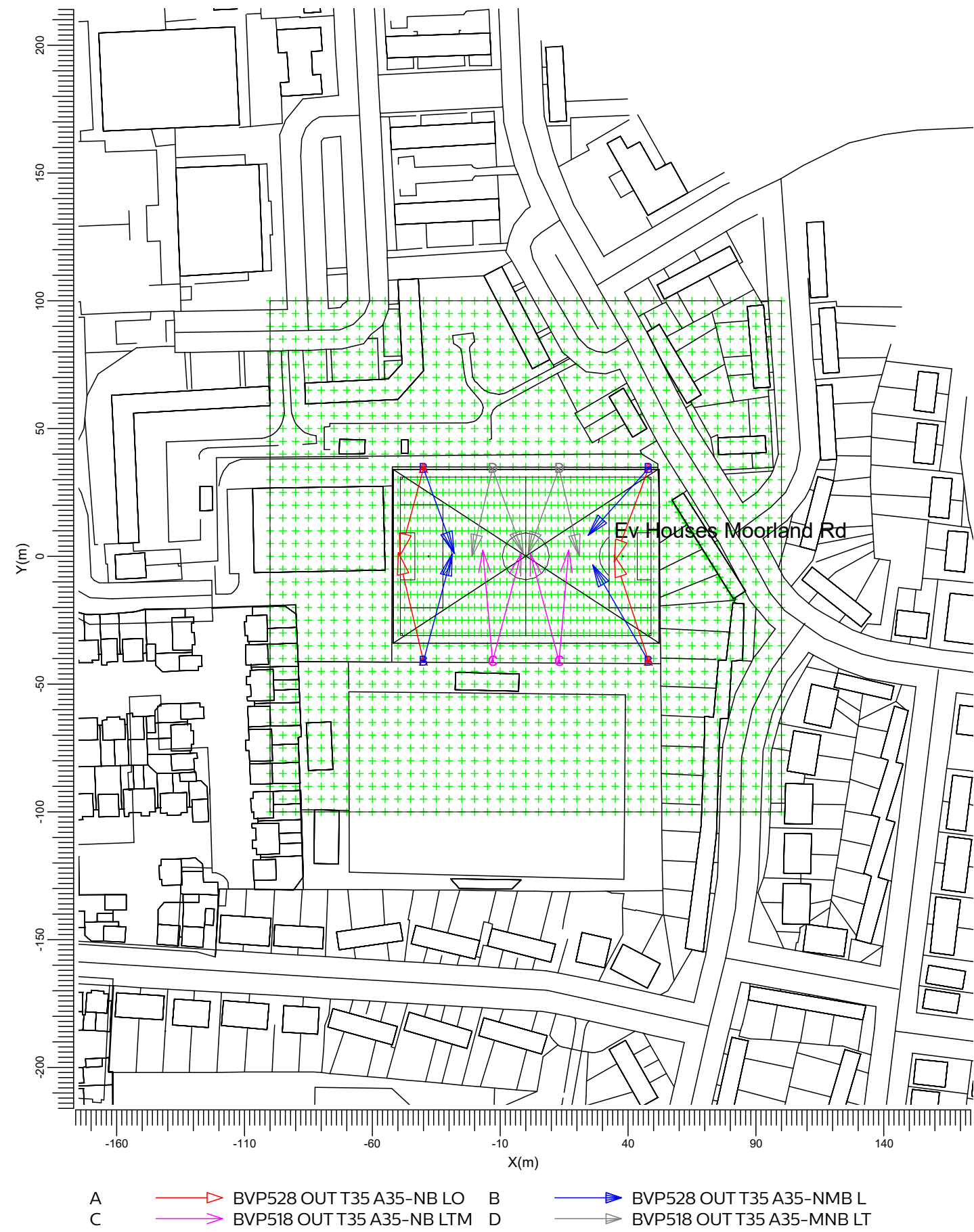
Maintenance Factor:- 0.95

Pitch 98m x 62m (+3 m run offs)

The design has been completed using the Philips Asymmetric OptiVision LED GEN 3.5 Floodlights. A total of 16no have been used to achieve an average of 250lux with a dimmed level of 100lux (via a suitable controls system). Spillage Details are provided for both lighting levels.

Floodlights are mounted on 8 x 15 metre columns (2 x column moved - positioned 48 metres down from half way line)

1.2 Top Project Overview



Scale
1:2000

2. Summary

2.1 Project Luminaires

Code	Qty	Luminaire Type	Lamp Type	Power (W)	Flux (lm)
A	4	BVP528 OUT T35 A35-NB LO	1 * LED2590-4S/757	1505.9	1 * 259000
B	4	BVP528 OUT T35 A35-NMB LO	1 * LED2590-4S/757	1505.9	1 * 259000
C	4	BVP518 OUT T35 A35-NB LTM	1 * LED1720-4S/757	1006.0	1 * 172000
D	4	BVP518 OUT T35 A35-MNB LTM	1 * LED1720-4S/757	1006.0	1 * 172000

The total installed power: 20.10 (kWatt)

Number of Luminaires Per Switching Mode:

Switching Mode	Luminaire Code				Power (kWatt)
	A	B	C	D	
Main Pitch 250lux	4	4	4	4	20.10
Main Pitch 100lux	4	4	4	4	-

Number of Luminaires Per Arrangement:

Arrangement	Luminaire Code				Power (kWatt)
	A	B	C	D	
Point2	0	0	0	4	4.02
Point4	0	0	4	0	4.02
Point5	1	1	0	0	3.01
Point6	1	1	0	0	3.01
Point7	1	1	0	0	3.01
Point8	1	1	0	0	3.01

2.2 Calculation Results

Switching Modes:

Code	Switching Mode	Maintenance factor
1	Main Pitch 250lux	0.95
2	Main Pitch 100lux	0.95

(II)luminance Calculations:

Calculation	Switching Mode	Type	Unit	Ave	Max	Min/Ave	Min/Max
Football 250lux	1	Surface Illuminance	lux	261	0.65	0.47	
Spillage 250lux	1	Surface Illuminance	lux	49.0	0.00	0.00	
Ev Moorland Rd 250lux	1	Surface Illuminance	lux		8.90		
Football 100lux	2	Surface Illuminance	lux	130	0.65	0.47	
Spillage 100lux	2	Surface Illuminance	lux	24.5	0.00	0.00	
Ev Moorland Rd 100lux	2	Surface Illuminance	lux		4.45		

Obtrusive Light Calculations:

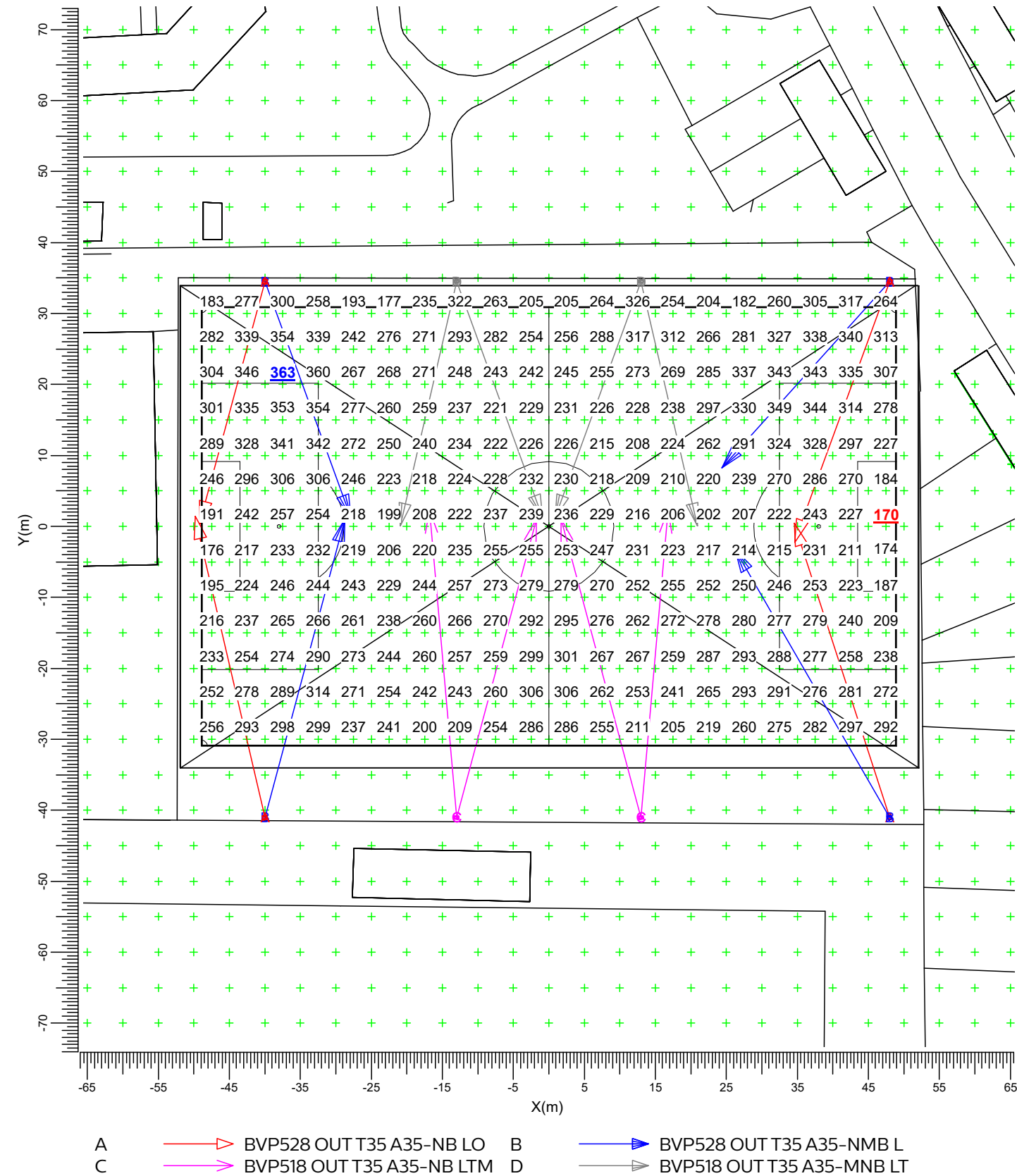
Switching Mode	ULR
1	0.00
2	0.00

3. Calculation Results

3.1 Football 250lux: Graphical Table

Main Pitch 250lux

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



Average
261

Min/Ave
0.65

Min/Max
0.47

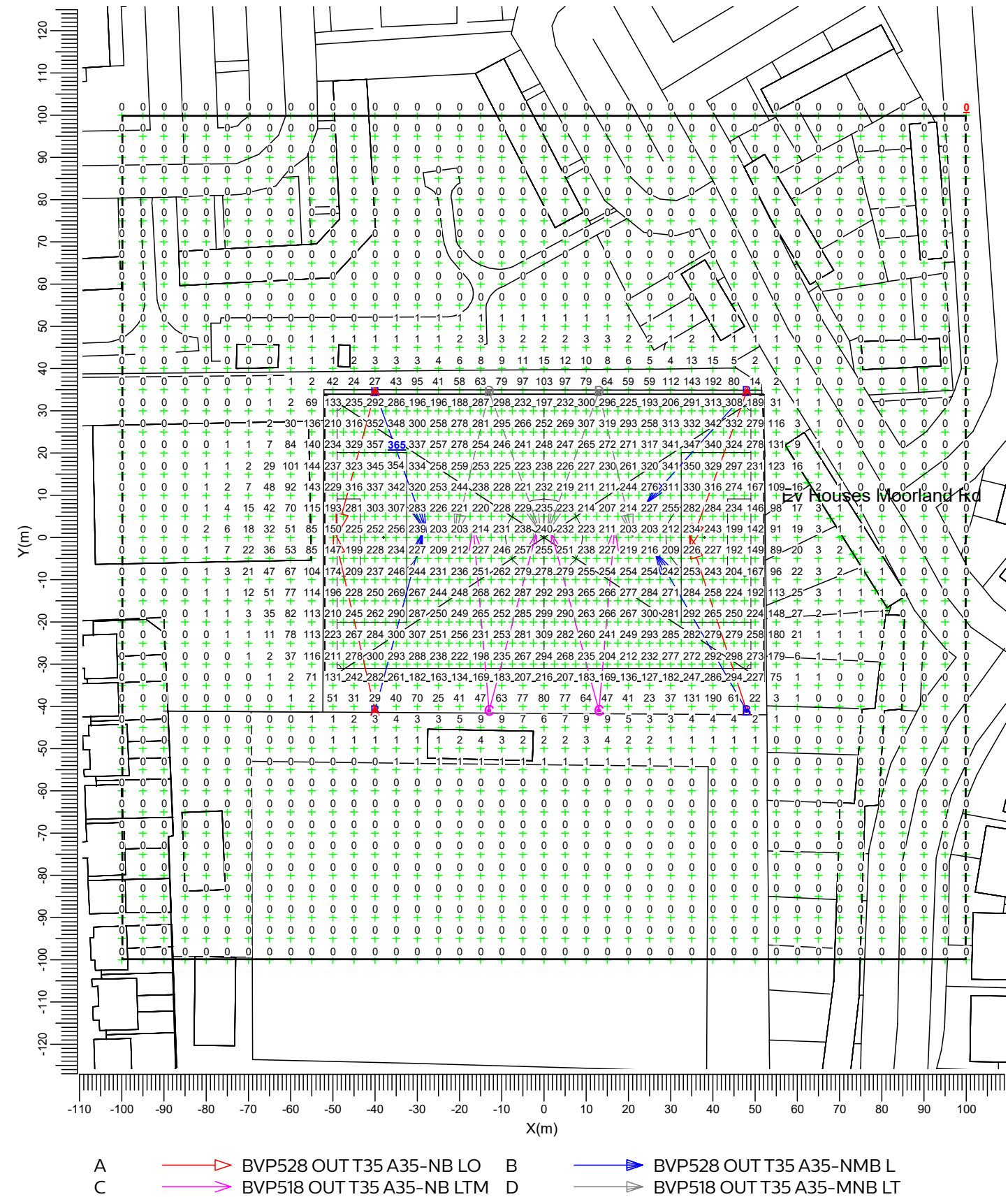
Project maintenance factor
0.95

Scale
1:750

3.2 Spillage 250lux: Graphical Table

Main Pitch 250lux

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



Average
49.0

Min/Ave
0.00

Min/Max
0.00

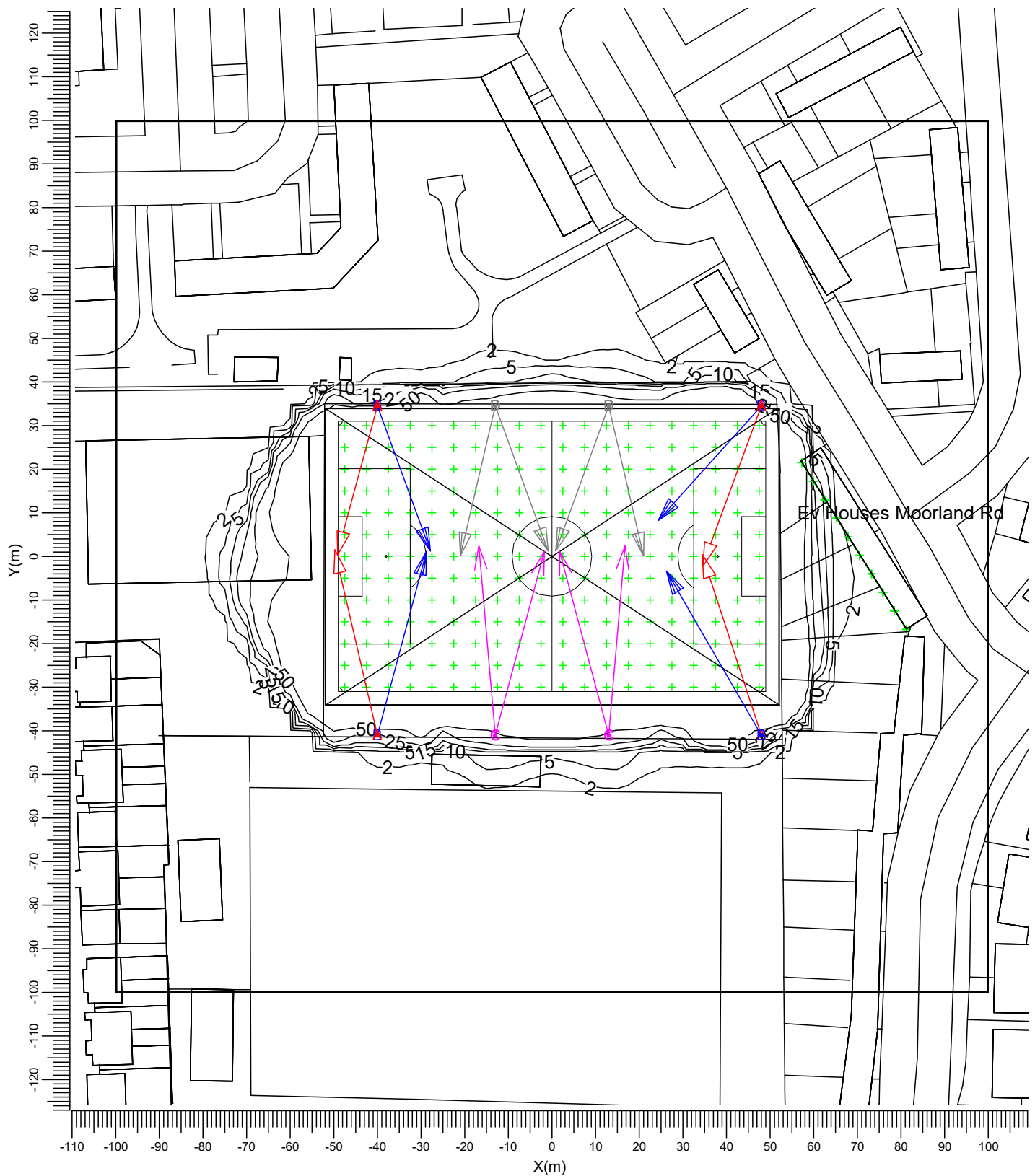
Project maintenance factor
0.95

Scale
1:1250

3.3 Spillage 250lux: Iso Contour

Main Pitch 250lux

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



A		BVP528 OUT T35 A35-NB LO	B		BVP528 OUT T35 A35-NMB L
C		BVP518 OUT T35 A35-NB LTM	D		BVP518 OUT T35 A35-MNB LT

Average
49.0

Min/Ave
0.00

Min/Max
0.00

Project maintenance factor
0.95

Scale
1:1250

3.4 Spillage 250lux: Filled Iso Contour

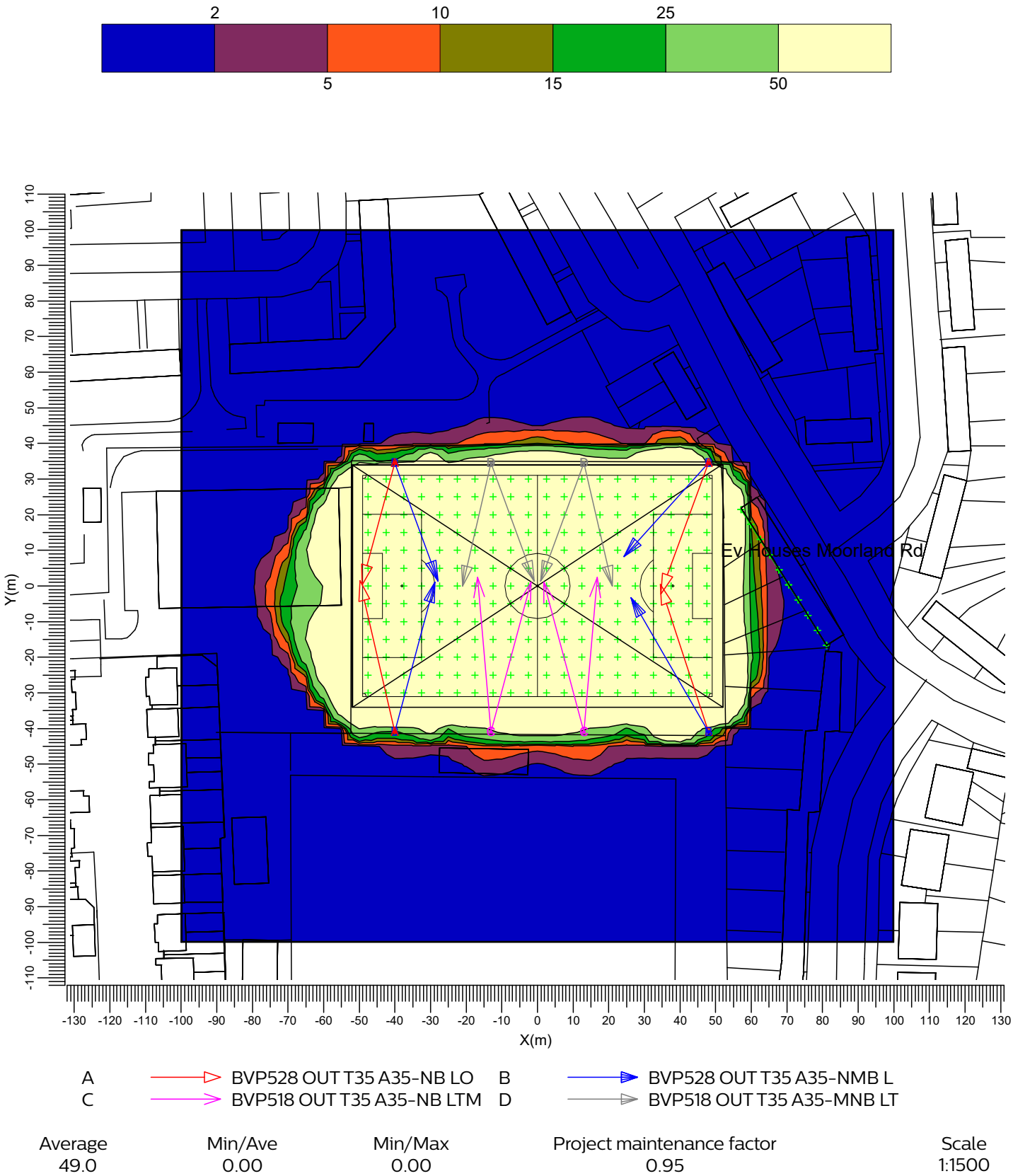
Main Pitch 250lux

Grid

Calculation

: Spillage at Z = -0.00 m

: Surface Illuminance (lux)



3.5 Ev Moorland Rd 250lux: Iso Contour

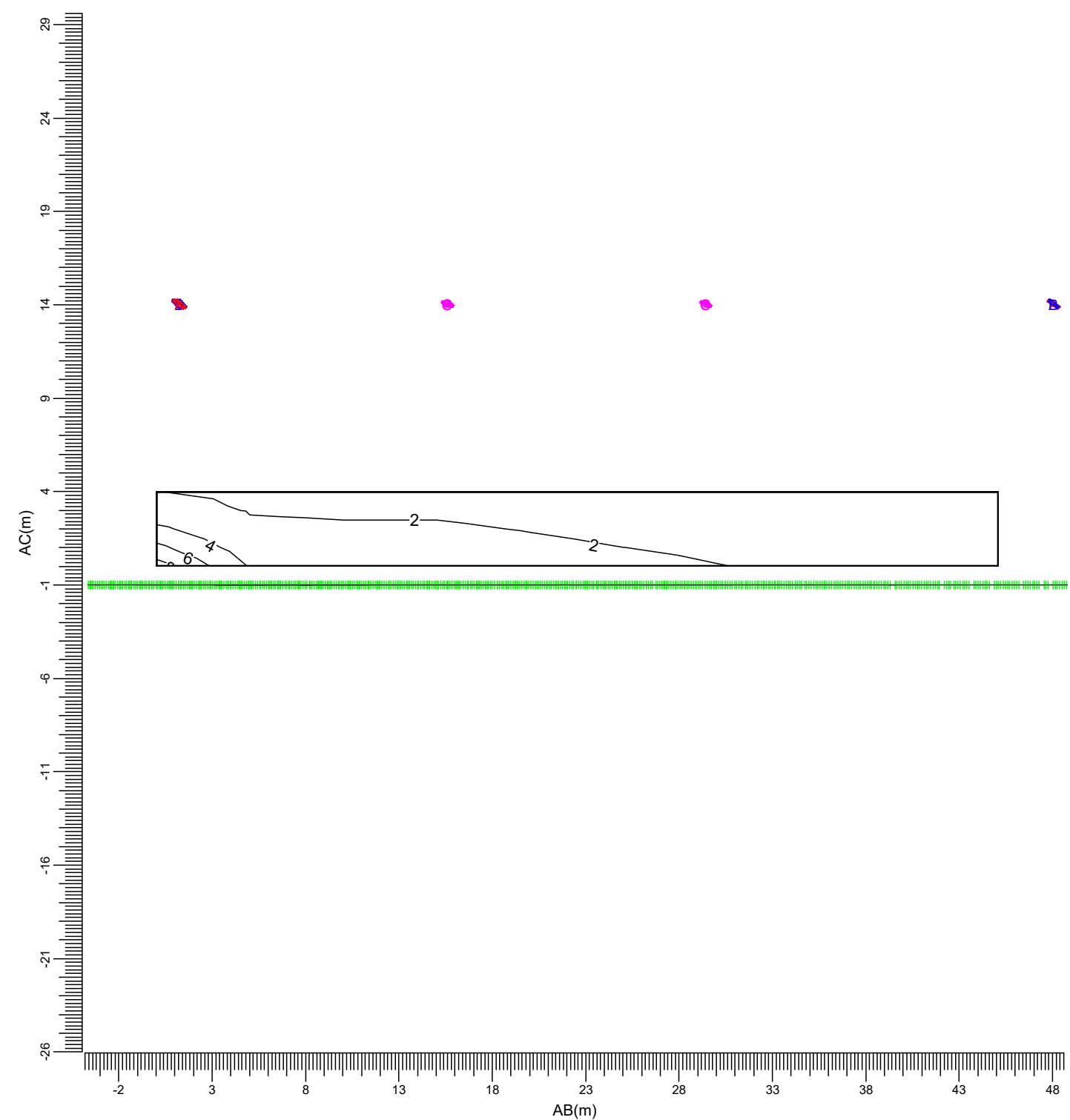
Main Pitch 250lux

Grid

Calculation

: Ev House Moorland Rd

: Surface Illuminance (lux)



(57.20, 21.50, 5.00) C-----D (81.20, -16.70, 5.00)

(57.20, 21.50, 1.00) A-----B (81.20, -16.70, 1.00)

A : BVP528 OUT T35 A35-NB LO

C : BVP518 OUT T35 A35-NB LTM

B : BVP528 OUT T35 A35-NMB LO

D : BVP518 OUT T35 A35-MNB LTM

Maximum
8.90

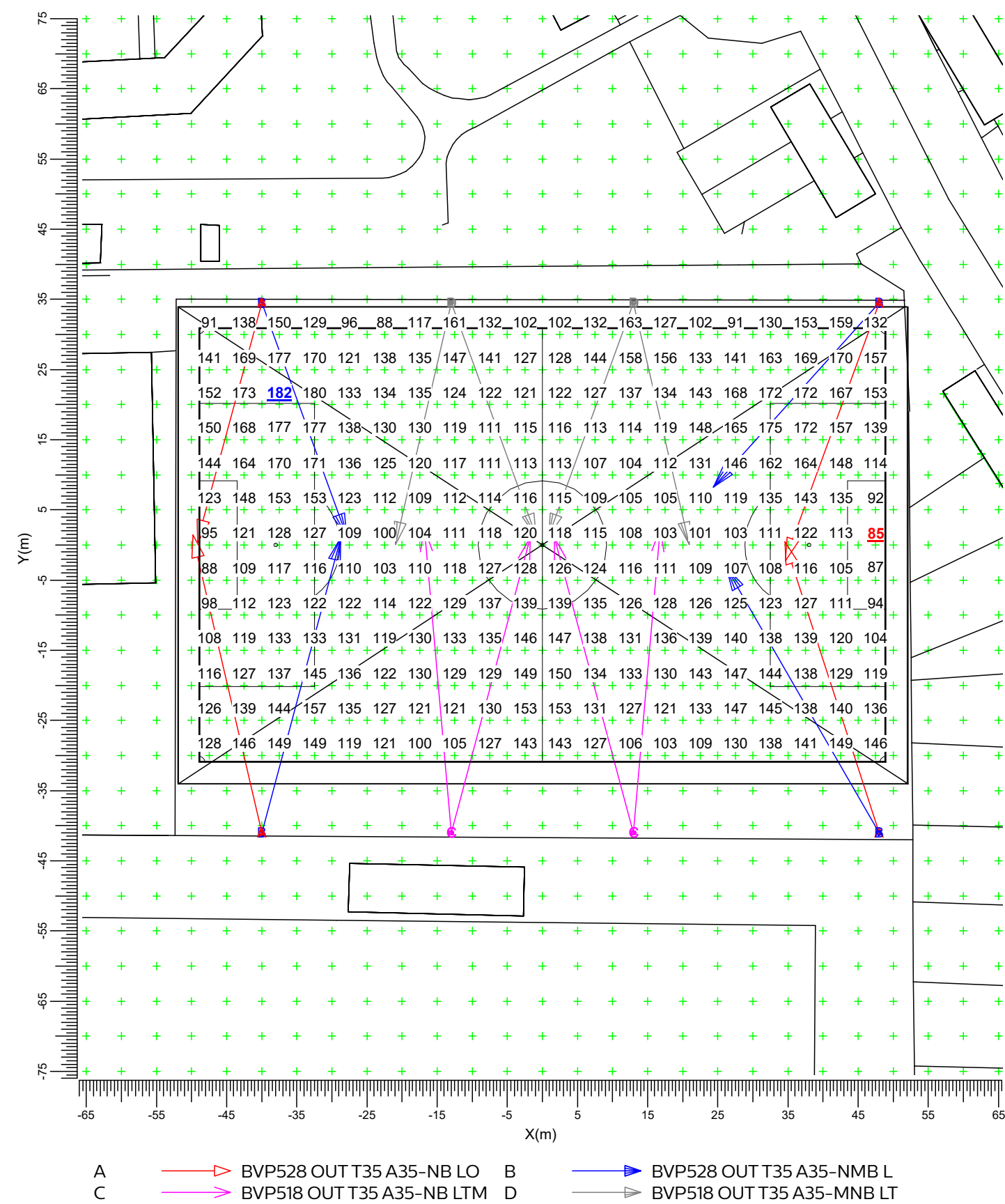
Project maintenance factor
0.95

Scale
1:300

3.6 Football 100lux: Graphical Table

Main Pitch 100lux

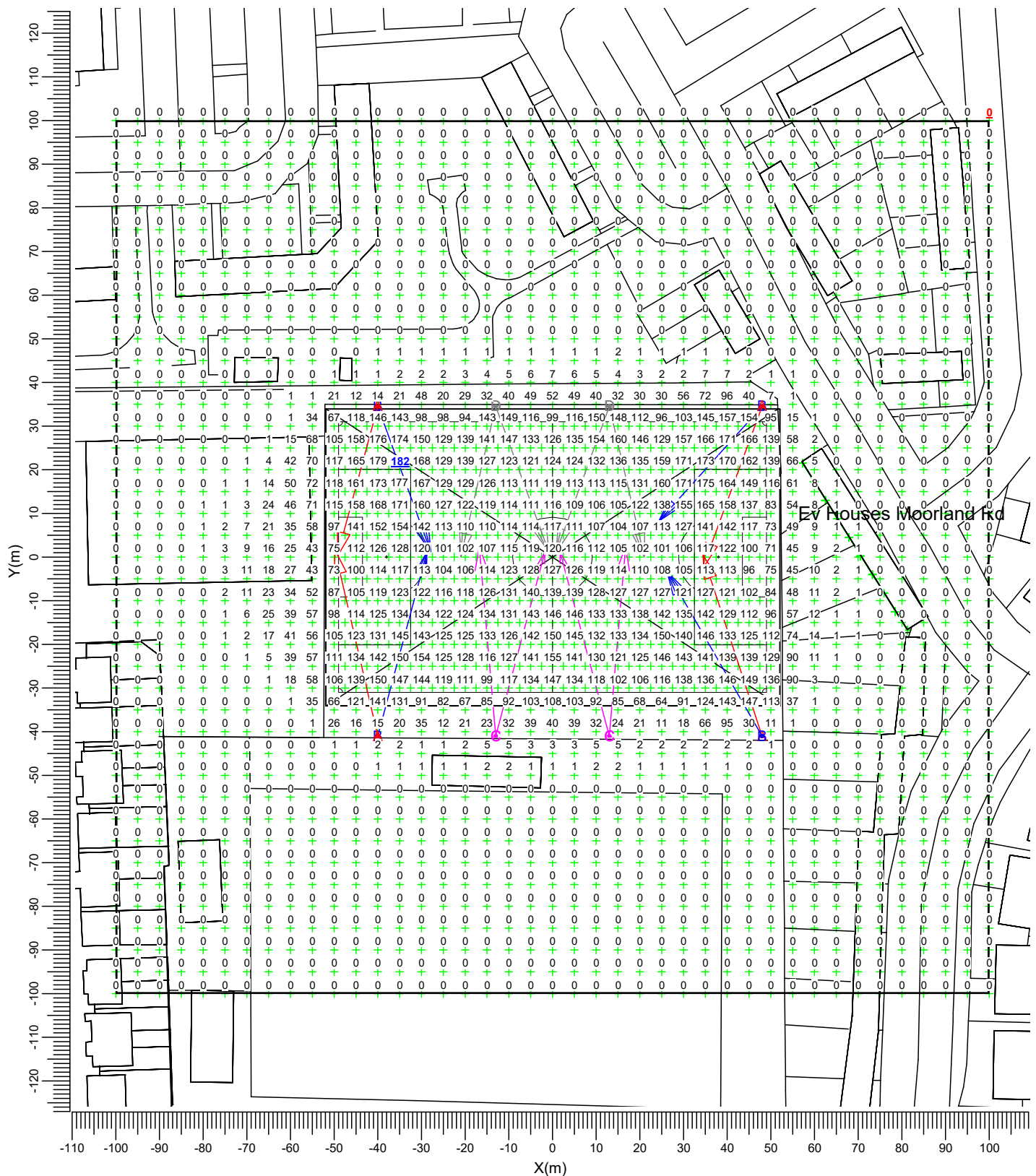
Grid : Football at Z = -0.00 m
Calculation : Surface Illuminance (lux)



3.7 Spillage 100lux: Graphical Table

Main Pitch 100lux

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



A BVP528 OUT T35 A35-NB LO B BVP528 OUT T35 A35-NMB L
C BVP518 OUT T35 A35-NB LTM D BVP518 OUT T35 A35-MNB LT

Average
24.5

Min/Ave
0.00

Min/Max
0.00

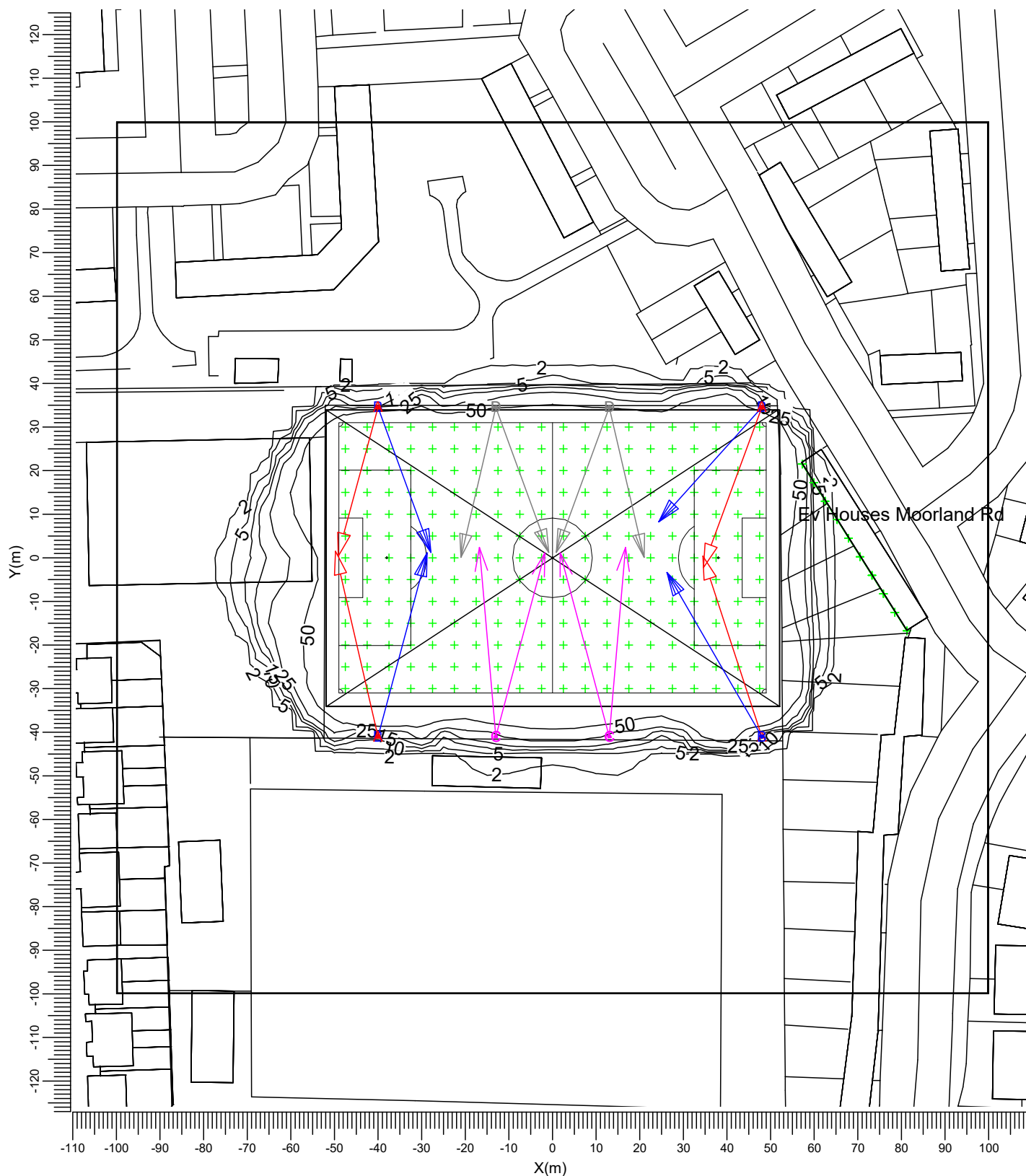
Project maintenance factor
0.95

Scale
1:1250

3.8 Spillage 100lux: Iso Contour

Main Pitch 100lux

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



A		BVP528 OUT T35 A35-NB LO	B		BVP528 OUT T35 A35-NMB L
C		BVP518 OUT T35 A35-NB LTM	D		BVP518 OUT T35 A35-MNB LT

Average
24.5

Min/Ave
0.00

Min/Max
0.00

Project maintenance factor
0.95

Scale
1:1250

3.9 Spillage 100lux: Filled Iso Contour

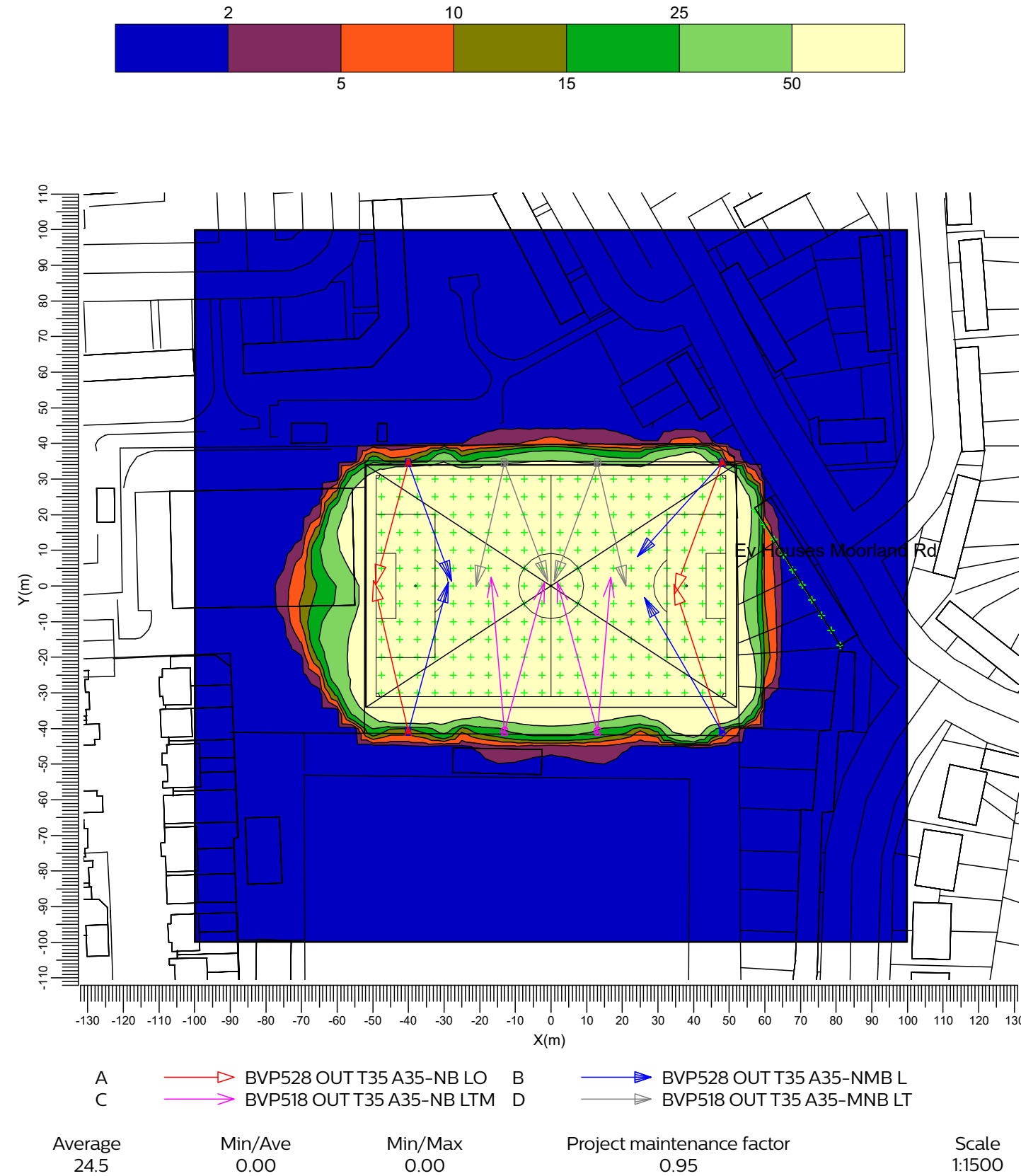
Main Pitch 100lux

Grid

Calculation

: Spillage at Z = -0.00 m

: Surface Illuminance (lux)



3.10 Ev Moorland Rd 100lux: Iso Contour

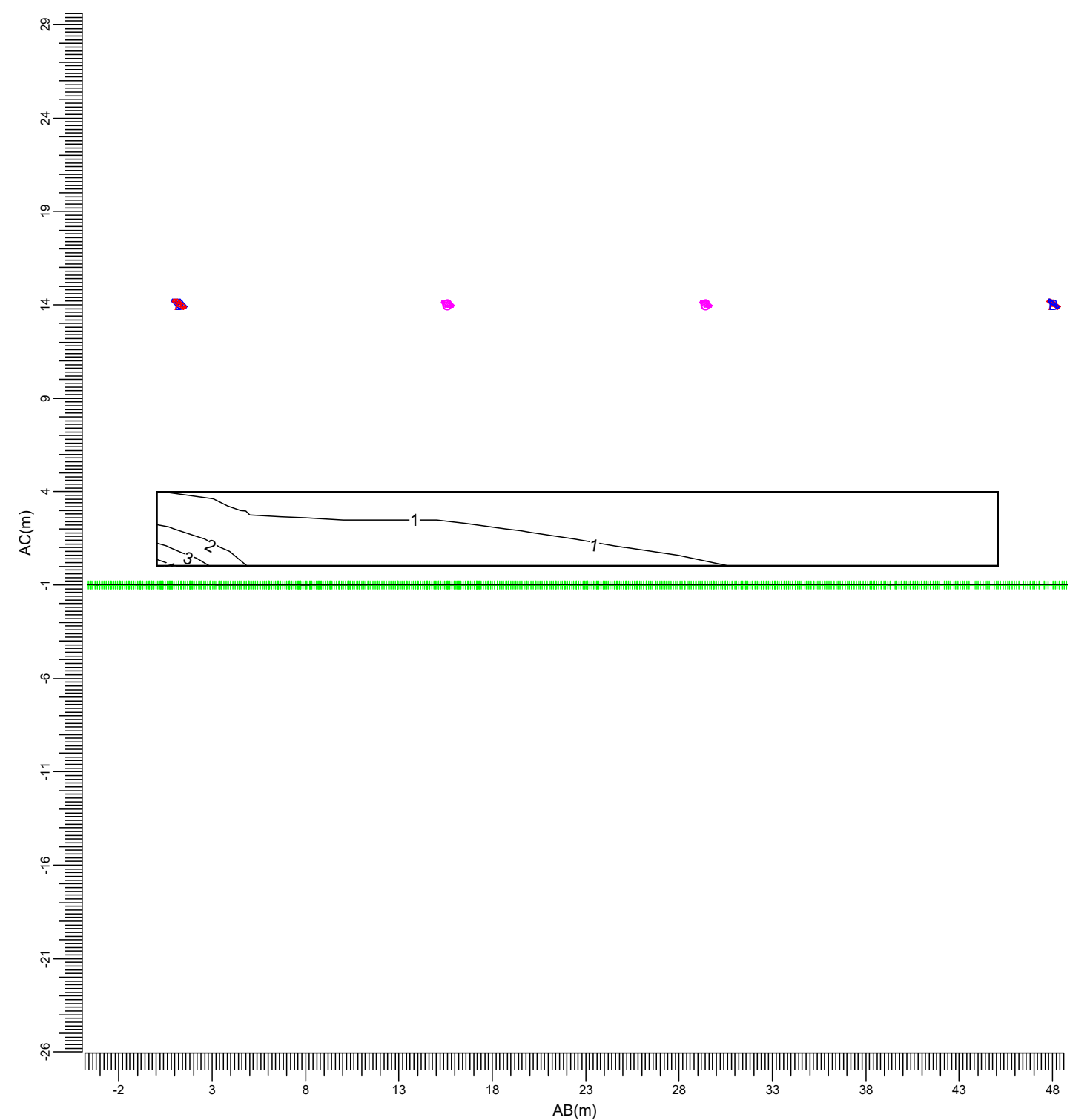
Main Pitch 100lux

Grid

Calculation

: Ev House Moorland Rd

: Surface Illuminance (lux)



(57.20, 21.50, 5.00)

C-----D (81.20, -16.70, 5.00)

(57.20, 21.50, 1.00)

A-----B (81.20, -16.70, 1.00)

A : BVP528 OUT T35 A35-NB LO

B : BVP528 OUT T35 A35-NMB LO

C : BVP518 OUT T35 A35-NB LTM

D : BVP518 OUT T35 A35-MNB LTM

Maximum
4.45

Project maintenance factor
0.95

Scale
1:300

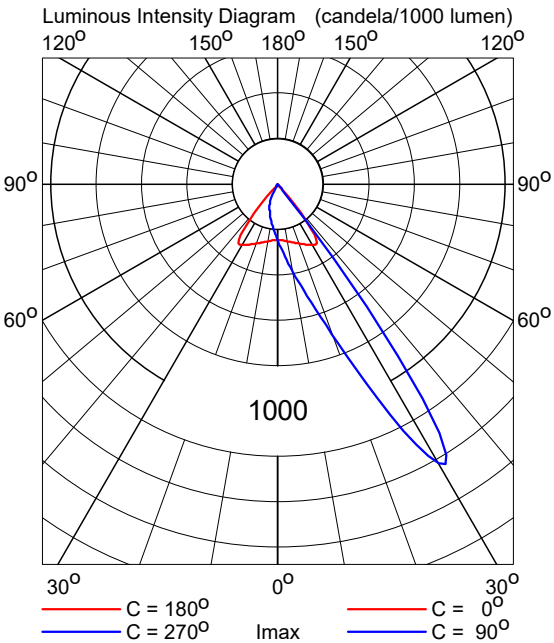
4. Luminaire Details

4.1 Project Luminaires

OptiVision LED gen3.5 2022
BVP528 OUT T35 1xLED2590-4S/757/757 E3/D4I A35-NB LO

Light output ratios	
DLOR	: 0.59
ULOR	: 0.00
TLOR	: 0.59
Ballast	: E3/D4I
Lamp flux	: 259000 lm
Luminaire wattage	: 1505.9 W
Measurement code	: LVM2047300

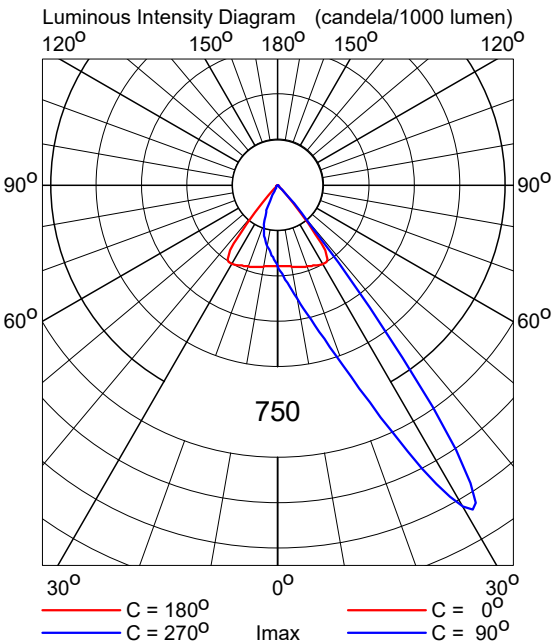
Note: Luminaire data not from database.



OptiVision LED gen3.5 2022
BVP528 OUT T35 1xLED2590-4S/757/757 E3/D4I A35-NMB LO

Light output ratios	
DLOR	: 0.58
ULOR	: 0.00
TLOR	: 0.58
Ballast	: E3/D4I
Lamp flux	: 259000 lm
Luminaire wattage	: 1505.9 W
Measurement code	: LVM2L47600

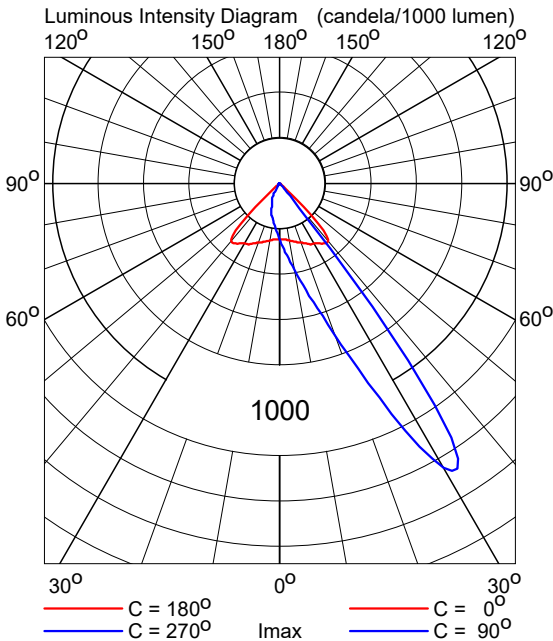
Note: Luminaire data not from database.



OptiVision LED gen3.5 2022
BVP518 OUT T35 1xLED1720-4S/757/757 E3/D4I A35-NB LTM

Light output ratios	
DLOR	: 0.71
ULOR	: 0.00
TLOR	: 0.71
Ballast	: E3/D4I
Lamp flux	: 172000 lm
Luminaire wattage	: 1006.0 W
Measurement code	: LVM2047600

Note: Luminaire data not from database.



OptiVision LED gen3.5 2022
BVP518 OUT T35 1xLED1720-4S/757/757 E3/D4I A35-MNB LTM

Light output ratios	
DLOR	: 0.70
ULOR	: 0.00
TLOR	: 0.70
Ballast	: E3/D4I
Lamp flux	: 172000 lm
Luminaire wattage	: 1006.0 W
Measurement code	: LVM2146900

Note: Luminaire data not from database.

