

Sophia Waters Sports Complex



Sophia Waters Sports Complex

Project code: 24-0017
Date: 28-03-2024

Designer: Morgann Le Bars

Description: Luminaire: BVP528 OUT T35 1xLED2590-4S/757
MH: On new 28m columns

REQUIREMENTS
100 lux / 0.50 / 0.30 / G<50% / GR<50

AS4282-2023: Zone A3-L1

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.

Norwich Group Limited

1.1 Top Project Overview



2. Summary

2.1 Project Luminaires

Code	Qty	Luminaire Type	Lamp Type	Power (W)	Flux (lm)
B	8	BVP528 OUT T35 A35-NB LO	1 * LED2590-4S/757	1505.9	1 * 259000
C	12	BVP528 OUT T35 A35-NB LTM	1 * LED2590-4S/757	1505.9	1 * 259000

The total installed power: 30.12 (kWatt)

Number of Luminaires Per Switching Mode:

Switching Mode	Luminaire Code		Power (kWatt)
	B	C	
Field 1	2	8	15.06
Field 2	6	4	15.06
Cricket	8	12	30.12

2.2 Calculation Results

Switching Modes:

Code	Switching Mode	Maintenance factor
1	Field 1	0.89
2	Field 2	0.89
3	Cricket	0.89

(Il)luminance Calculations:

Calculation	Switching Mode	Type	Unit	Ave	Min	Max	Min/Ave	Min/Max
Rugby 1 - Eh	1	Surface Illuminance	lux	118	89	147	0.76	0.61
Rugby 2 - Eh	2	Surface Illuminance	lux	118	86	147	0.73	0.59

Glare Rating for Grid of Observers:

Calculation	Switching Mode	Observer Grid	Reference Grid	Reflectance	GR-Max
Rugby 1 - GR	1	Rugby 1	Rugby 1	0.25	44.9
Rugby 2 - GR	2	Rugby 2	Rugby 2	0.25	46.8

3. Calculation Results

3.1 Rugby 1 - Eh: Graphical Table

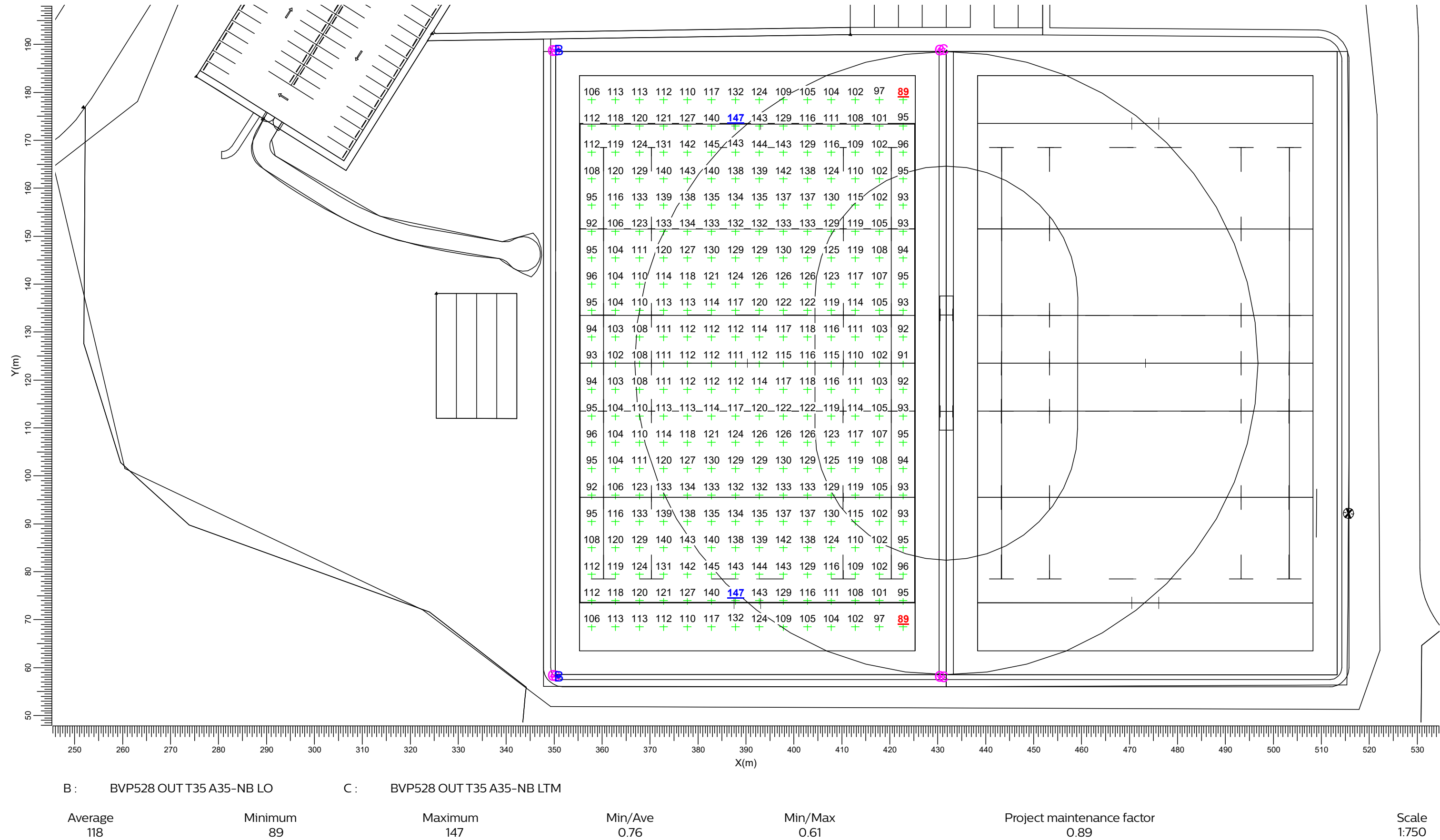
Field 1

Grid

Calculation

: Rugby 1 at Z = -0.00 m

: Surface Illuminance (lux)

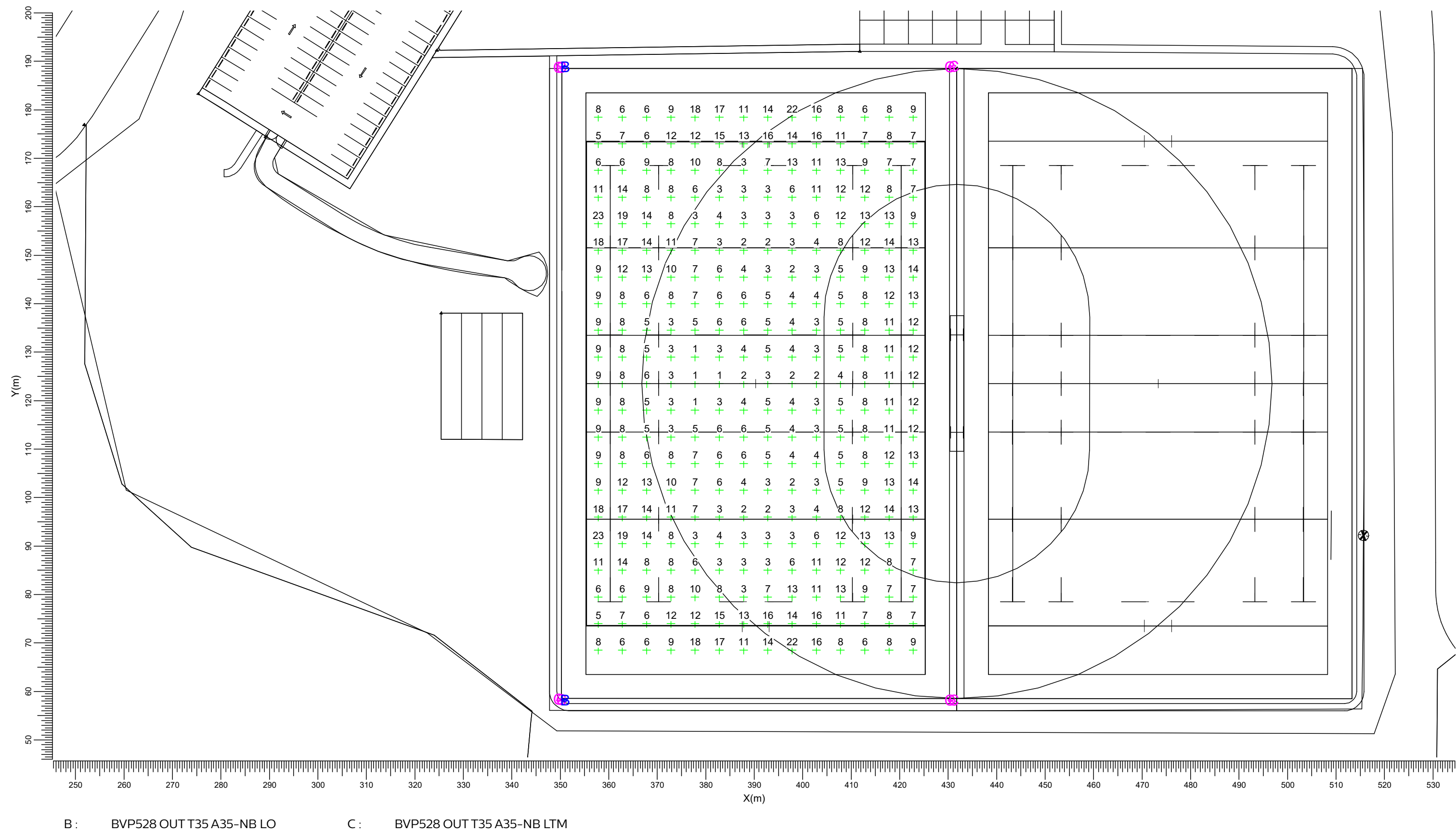


3.2 Rugby 1 - Eh: Gradient Calculation : Graphical Table

Field 1

Grid : Rugby 1 at Z = -0.00 m

Calculation : Gradient for Surface Illuminance (% per 5.00 m)

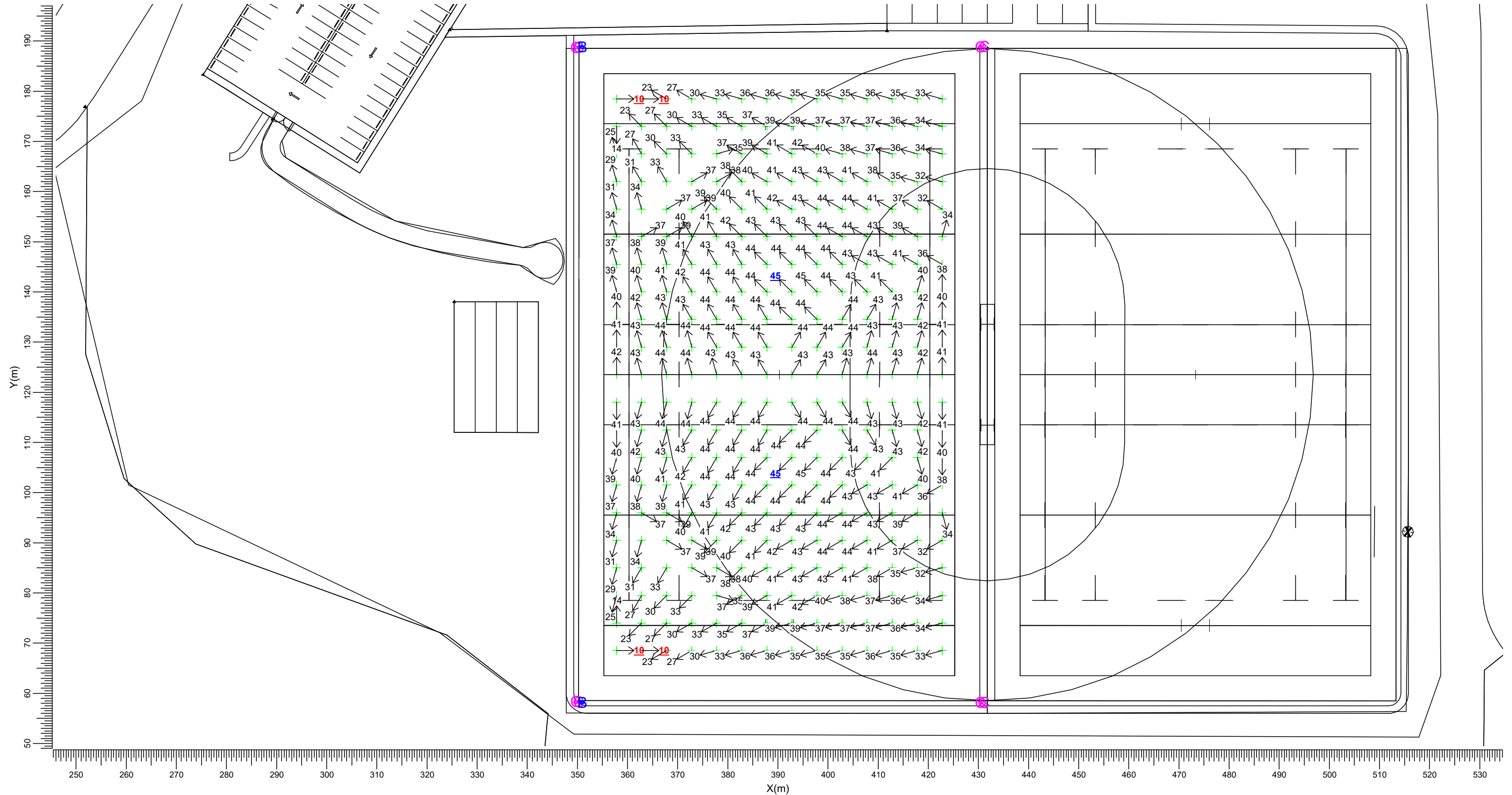


Maximum
23

Scale
1:750

Field 1

Grid of Observers : Rugby 1
Calculation : Glare Rating
Grid for Background Luminance: Rugby 1 (Reflectance: 0.25)
Vertical Viewing Angle : -2.0 deg



C: BVP528 OUT T35 A35-NB LTM

Project maintenance factor
0.89

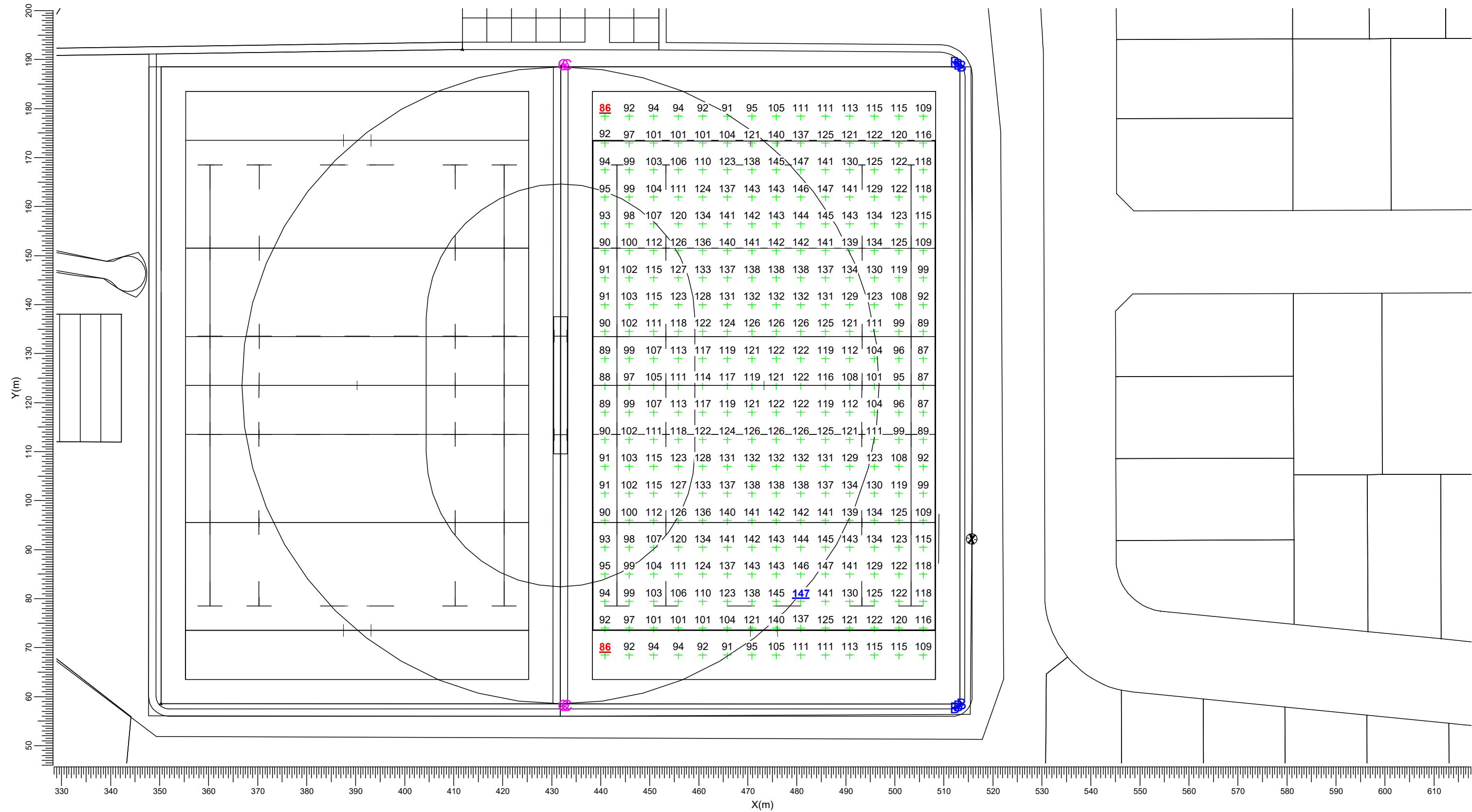
Scale
1:750

3.4 Rugby 2 - Eh: Graphical Table

Field 2

Grid : Rugby 2 at Z = -0.00 m

Calculation : Surface Illuminance (lux)



B : BVP528 OUT T35 A35-NB LO

C : BVP528 OUT T35 A35-NB LTM

Average 118

Minimum 86

Maximum 147

Min/Ave 0.73

Min/Max 0.59

Project maintenance factor 0.89

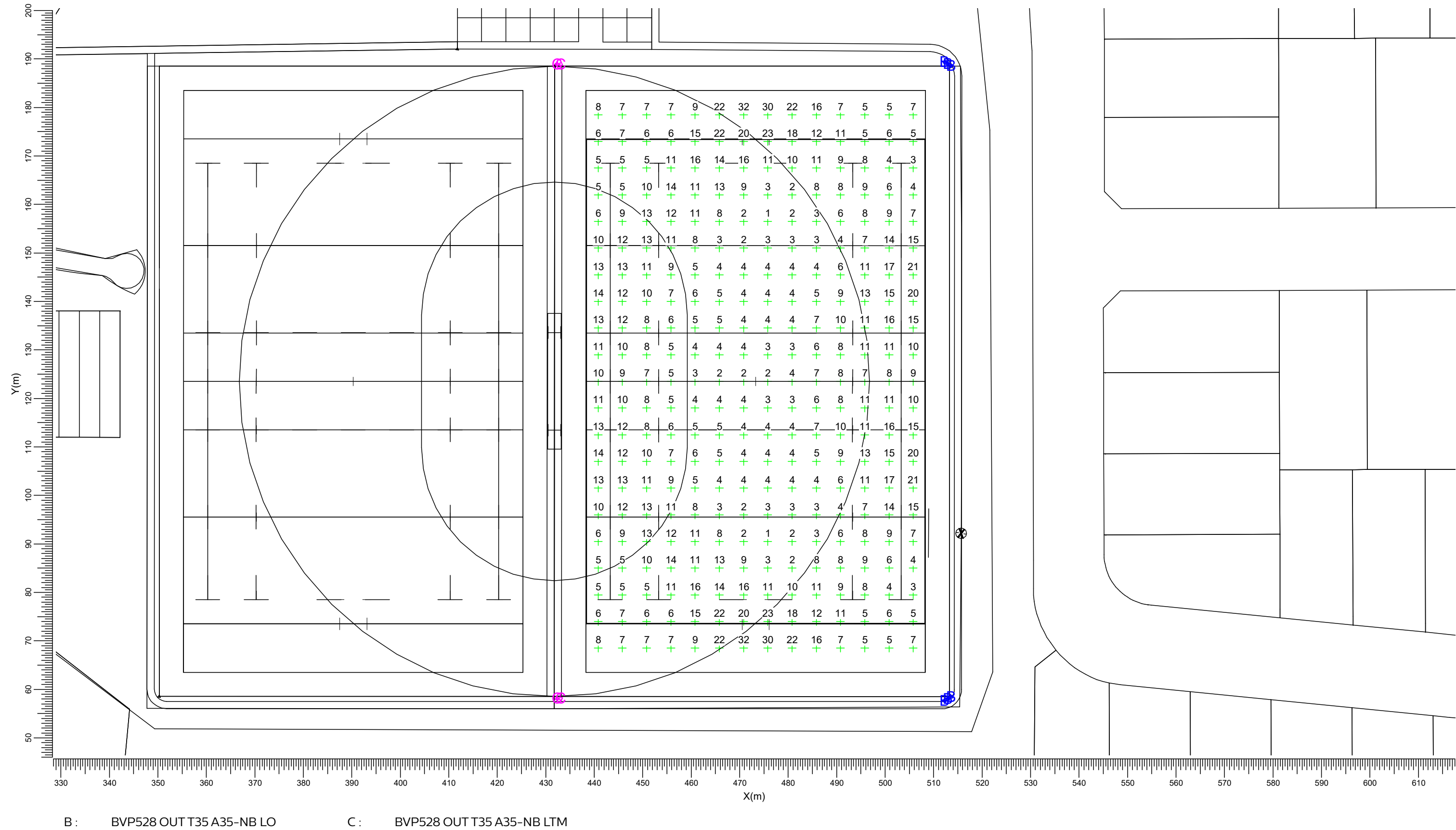
Scale 1:750

3.5 Rugby 2 - Eh: Gradient Calculation : Graphical Table

Field 2

Grid
Calculation

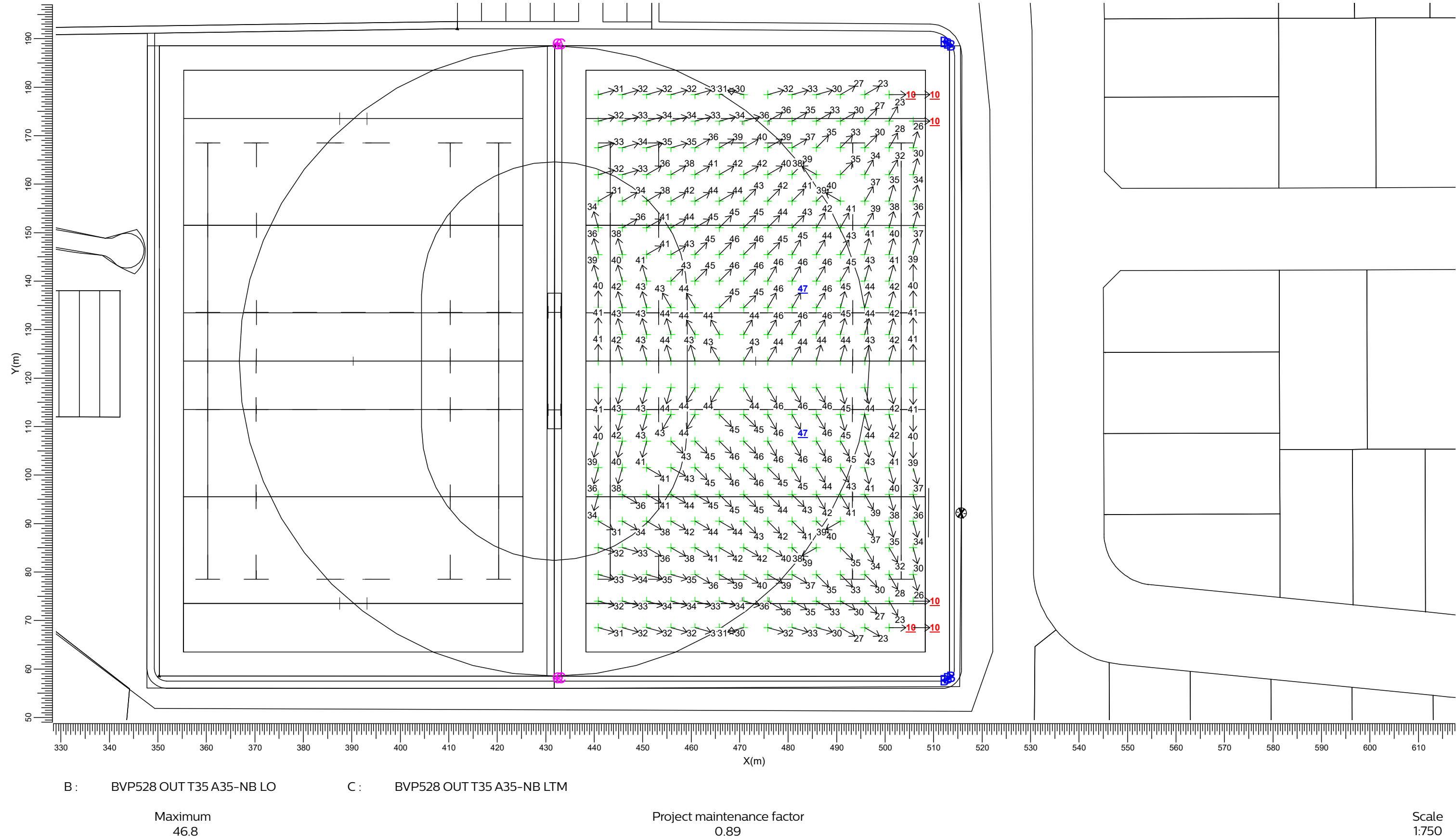
: Rugby 2 at Z = -0.00 m
: Gradient for Surface Illuminance (% per 5.00 m)

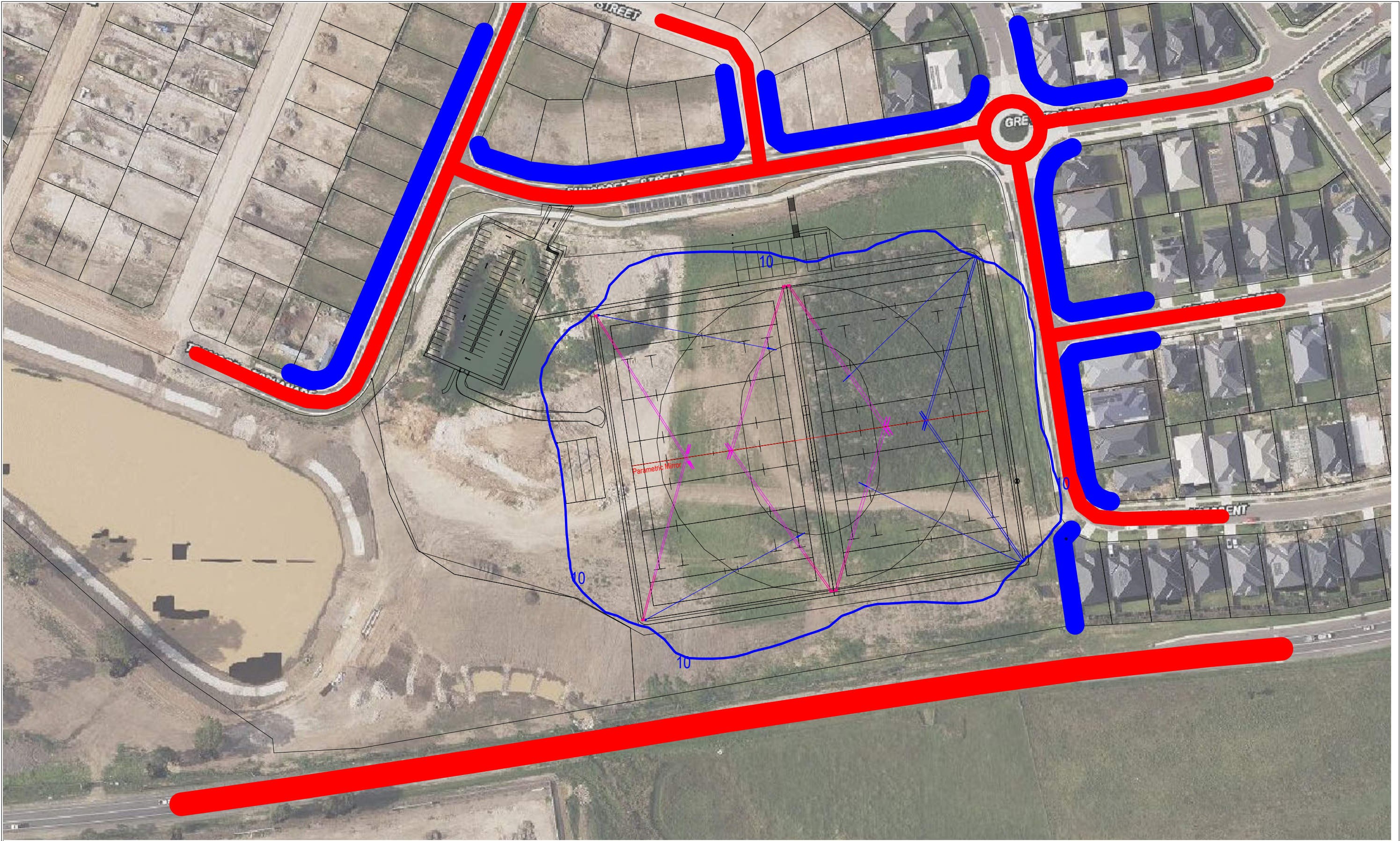


3.6 Rugby 2 - GR: Graphical Table

Field 2

Grid of Observers : Rugby 2
Calculation : Glare Rating
Grid for Background Luminance: Rugby 2 (Reflectance: 0.25)
Vertical Viewing Angle : -2.0 deg





THRESHOLD INCREMENT
ILLUMINANCE & INTENSITY

PROJECT SOPHIA WATERS SPORTS COMPLEX		
DRAWING OBTRUSIVE LIGHT AND SPILL LIGHTING		
SCALE @ A3 1:1500 @ A3	DESIGNED BY MLB	CHECKED BY RM
PROJECT NUMBER 24-0017	DRAWING NUMBER E001	REV B

THE VALUES SHOWN IN THIS REPORT ARE THE RESULT OF PRECISION CALCULATIONS. IN PRACTICE THE VALUES MAY VARY DUE TO TOLERANCE ON LUMINAIRES, LUMINAIRE POSITIONING, SURFACE FINISHES AND ELECTRICAL SUPPLY. THE INFORMATION CONTAINED IN THIS DOCUMENT IS PROPRIETARY TO NORWICH GROUP LTD.

CLIENT
stramac lighting

DESIGN BY
NORWICH GROUP

REV	NOTES	DATE
A	FOR TENDER	28-02-2024
B	FOR TENDER - 28m COLUMNS	28-03-2024

ISOLINES AT MF=1.0

AS/NZS 4282:2019, A3 - Medium District Brightness, Non-Curfew L1
Filename: Sophia Waters Sports Complex - Lighting Design - 28.02.24
28/03/2024 1:37:45 pm

Maximum Allowable Value: 10 Lux

Calculation Label	Test Results	Max. Illum.
Eastern Properties_III_Seg1	PASS	1.9
Eastern Properties_III_Seg2	PASS	0.9
Eastern Properties_III_Seg3	PASS	0.7
Eastern Properties_III_Seg4	PASS	0.7
Eastern Properties_III_Seg5	PASS	0.8
Northern Properties_III_Seg1	PASS	0.3
Northern Properties_III_Seg2	PASS	0.3
Northern Properties_III_Seg3	PASS	0.4
Northern Properties_III_Seg4	PASS	0.5
Northern Properties_III_Seg5	PASS	0.4
Northern Properties_III_Seg6	PASS	0.3
Northern Properties_III_Seg7	PASS	0.2
Western Properties_III_Seg1	PASS	0.1
Western Properties_III_Seg2	PASS	0.2
Western Properties_III_Seg3	PASS	0.2

Maximum Allowable Value: 12500 Cd

Calculation Label	Test Results
Eastern Properties_Cd_Seg1	PASS
Eastern Properties_Cd_Seg2	PASS
Eastern Properties_Cd_Seg3	PASS
Eastern Properties_Cd_Seg4	PASS
Eastern Properties_Cd_Seg5	PASS
Northern Properties_Cd_Seg1	PASS
Northern Properties_Cd_Seg2	PASS
Northern Properties_Cd_Seg3	PASS
Northern Properties_Cd_Seg4	PASS
Northern Properties_Cd_Seg5	PASS
Northern Properties_Cd_Seg6	PASS
Northern Properties_Cd_Seg7	PASS
Western Properties_Cd_Seg1	PASS
Western Properties_Cd_Seg2	PASS
Western Properties_Cd_Seg3	PASS

Maximum Allowable Value: 20 %

Calculation Label	Adaptation Luminance	Test Results
Suncroft Street	1	PASS
Greystone Drive	1	PASS
Meath Street	1	PASS
Mayo Crescent	1	PASS
Tramore Esplanade	1	PASS
Newbridge Street	1	PASS
Raymond Terrace Road	1	PASS

Maximum Allowable Value: 2.0 %

Test Results: **PASS**

PROJECT SOPHIA WATERS SPORTS COMPLEX			THE VALUES SHOWN IN THIS REPORT ARE THE RESULT OF PRECISION CALCULATIONS. IN PRACTICE THE VALUES MAY VARY DUE TO TOLERANCE ON LUMINAIRES, LUMINAIRE POSITIONING, SURFACE FINISHES AND ELECTRICAL SUPPLY. THE INFORMATION CONTAINED IN THIS DOCUMENT IS PROPRIETARY TO NORWICH GROUP LTD.	CLIENT stramac lighting	DESIGN BY NORWICH GROUP	REV	NOTES	DATE
DRAWING AS4282-2023 REPORT						A	FOR TENDER	28-02-2024
SCALE @ A3 N.T.S.						B	FOR TENDER - 28m COLUMNS	28-03-2024
DESIGNED BY MLB								
CHECKED BY RM								
PROJECT NUMBER 24-0017		DRAWING NUMBER E002	REV B					