

# Aberavon Harlequins RFC

## LED Sports Floodlighting

Project code: 0400874581

Date: 19-05-2023

Designer: Andy Poplett

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

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MF = 0.95

Scheme based on the Philips OptiVisionLED Gen3.5 Asymmetric Floodlight.

Pitch:-

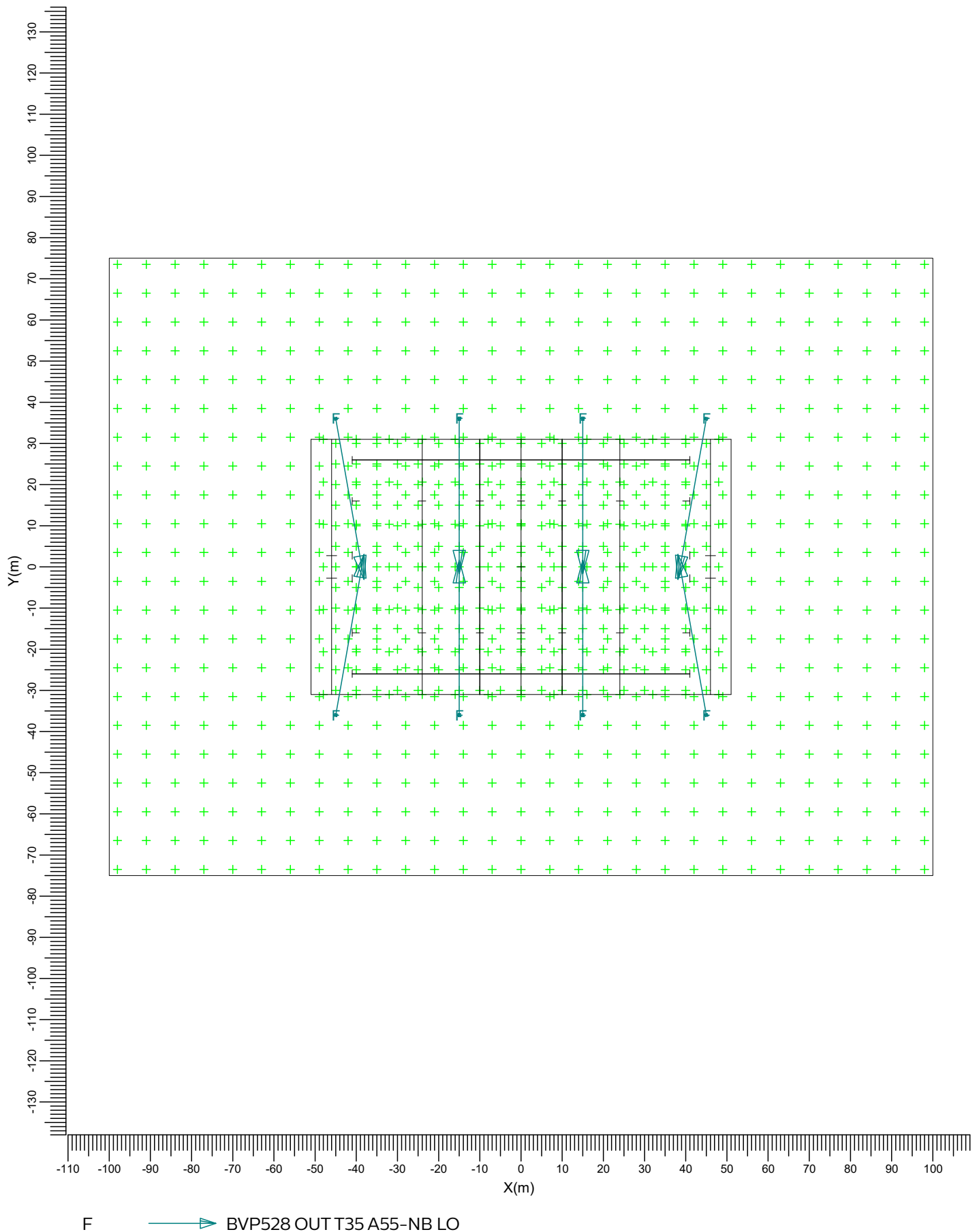
92m x 62m Rugby Pitch + 5m Try Zones

8 x 15m Columns

100 Lux Average / 0.60Uo

8 x BVP528 LED2590-4S 4000k A55-NB + LO

## 1.2 Top Project Overview



Scale  
1:1250

## 2. Summary

### 2.1 Project Luminaires

| Code | Qty | Luminaire Type           | Lamp Type          | Power (W) | Flux (lm)  |
|------|-----|--------------------------|--------------------|-----------|------------|
| F    | 8   | BVP528 OUT T35 A55-NB LO | 1 * LED2590-4S/740 | 1505.9    | 1 * 259000 |

The total installed power: 12.05 (kWatt)

Number of Luminaires Per Switching Mode:

| Switching Mode | Luminaire Code | Power (kWatt) |
|----------------|----------------|---------------|
|                | F              |               |
| Main Pitch     | 8              | 12.05         |
| ALL ON         | 8              | 12.05         |

Number of Luminaires Per Arrangement:

| Arrangement    | Luminaire Code | Power (kWatt) |
|----------------|----------------|---------------|
|                | F              |               |
| Corner Column  | 4              | 6.02          |
| Middle Columns | 4              | 6.02          |

### 2.2 Calculation Results

Switching Modes:

| Code | Switching Mode | Maintenance factor |
|------|----------------|--------------------|
| 1    | Main Pitch     | 0.95               |
| 2    | ALL ON         | 1.00               |

(II)luminance Calculations:

| Calculation              | Switching Mode | Type                | Unit | Ave Min/AveMin/Max |      |      |
|--------------------------|----------------|---------------------|------|--------------------|------|------|
| Main Rugby 5x5m          | 1              | Surface Illuminance | lux  | 151                | 0.65 | 0.40 |
| Main Rugby 13 x 7 points | 1              | Surface Illuminance | lux  | 133                | 0.43 | 0.25 |
| Spill Light              | 2              | Surface Illuminance | lux  | 38.1               | 0.00 | 0.00 |

Obtrusive Light Calculations:

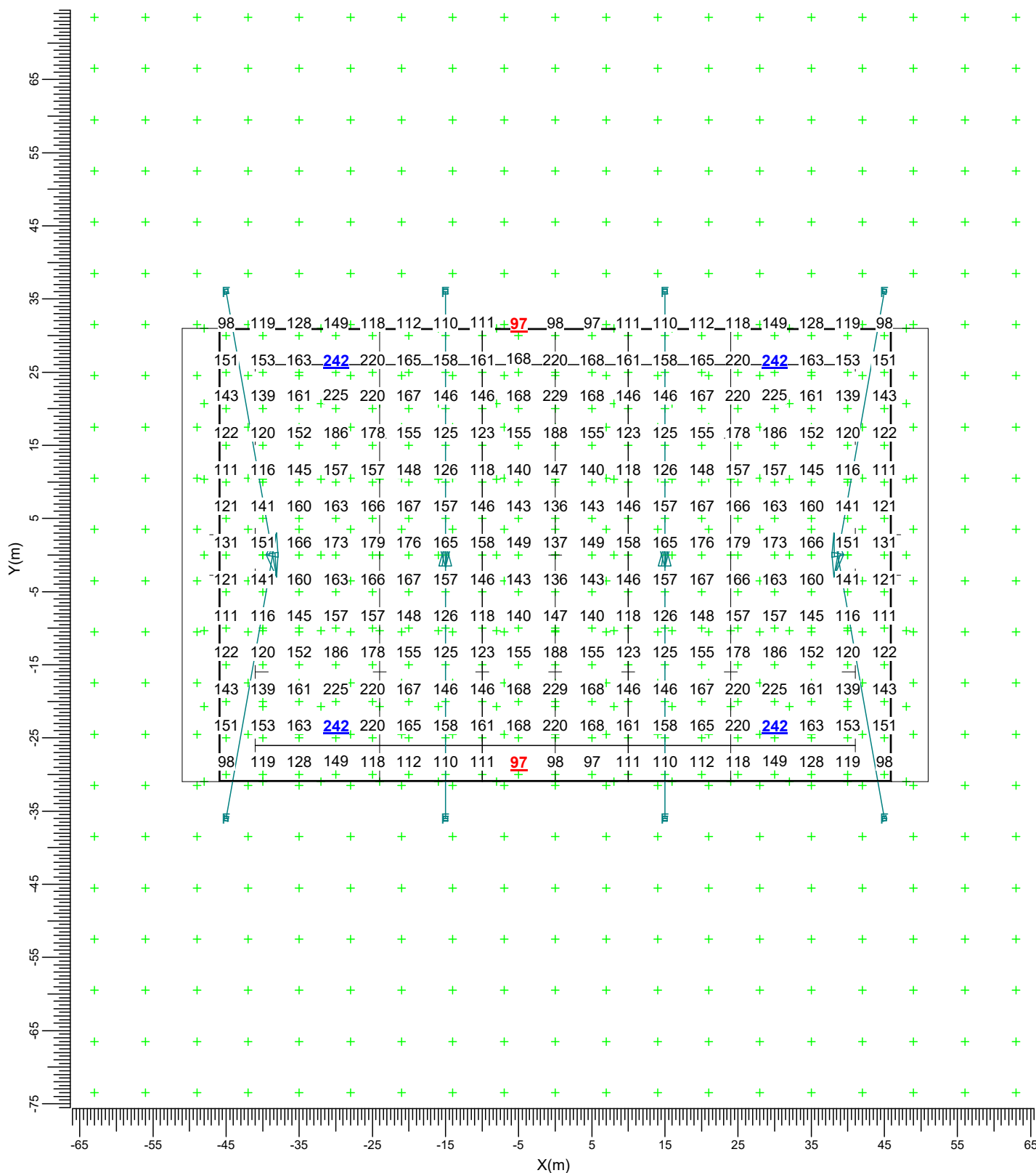
| Switching Mode | ULR  |
|----------------|------|
| 1              | 0.00 |
| 2              | 0.00 |

### 3. Calculation Results

#### 3.1 Main Rugby 5x5m: Graphical Table

Main Pitch

Grid : Rugby 5x5m at Z = -0.00 m  
Calculation : Surface Illuminance (lux)



F BVP528 OUT T35 A55-NB LO

Average  
151

Min/Ave  
0.65

Min/Max  
0.40

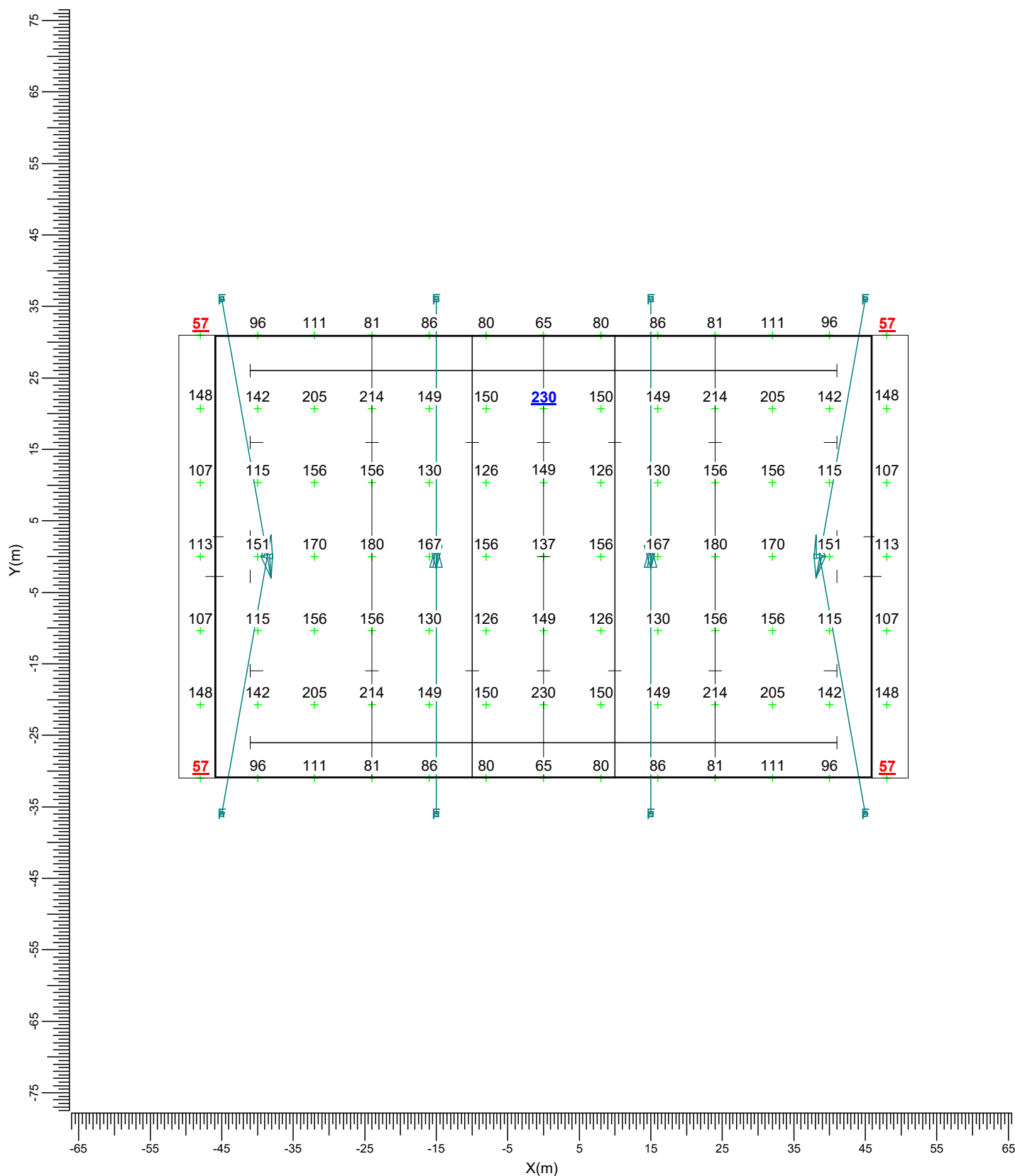
Project maintenance factor  
0.95

Scale  
1:750

### 3.2 Main Rugby 13 x 7 points: Graphical Table

Main Pitch

Grid : Rugby 13 x 7 at Z = -0.00 m  
Calculation : Surface Illuminance (lux)



F ———▶ BVP528 OUT T35 A55-NB LO

Average  
133

Min/Ave  
0.43

Min/Max  
0.25

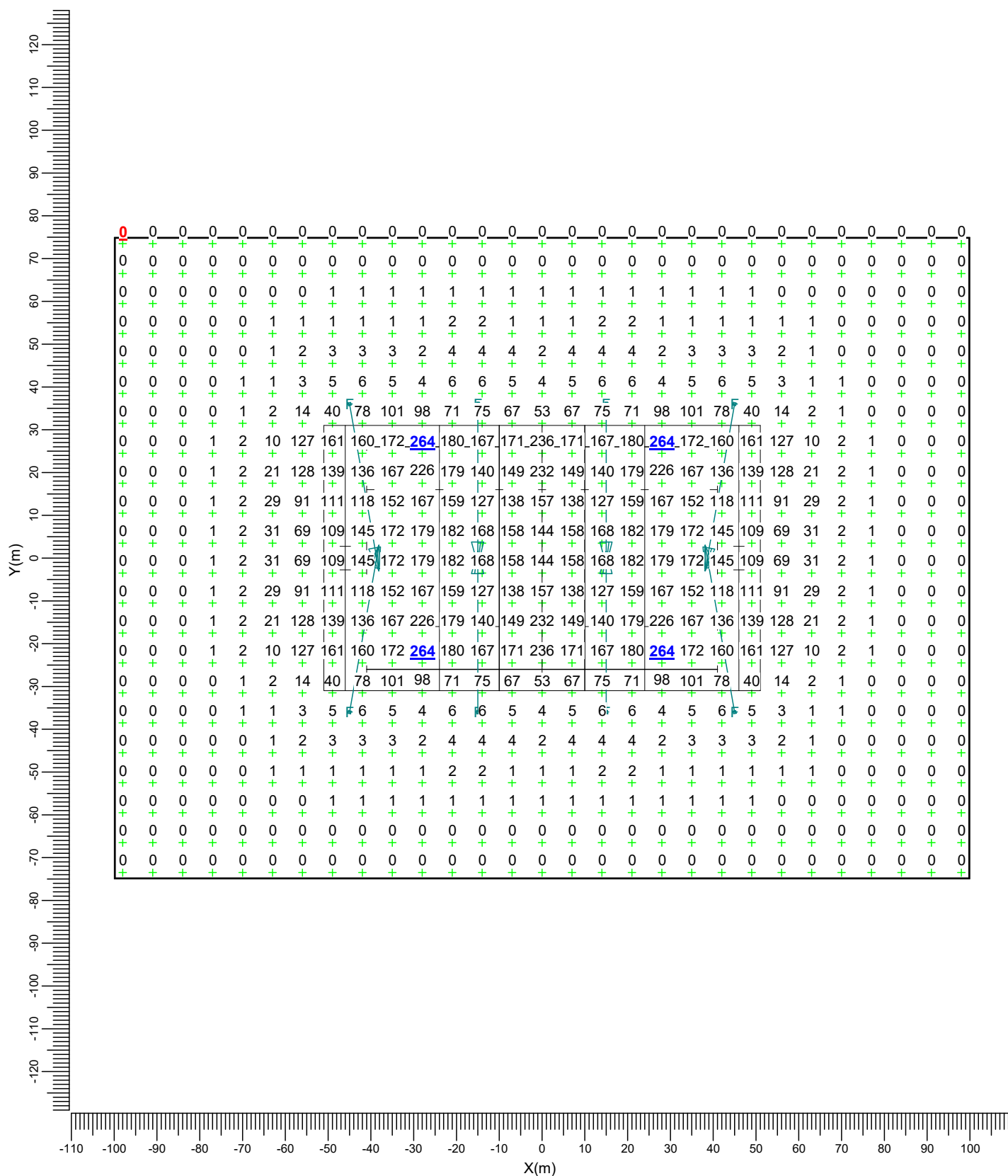
Project maintenance factor  
0.95

Scale  
1:750

### 3.3 Spill Light: Graphical Table

ALL ON

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



Average  
38.1

Min/Ave  
0.00

Min/Max  
0.00

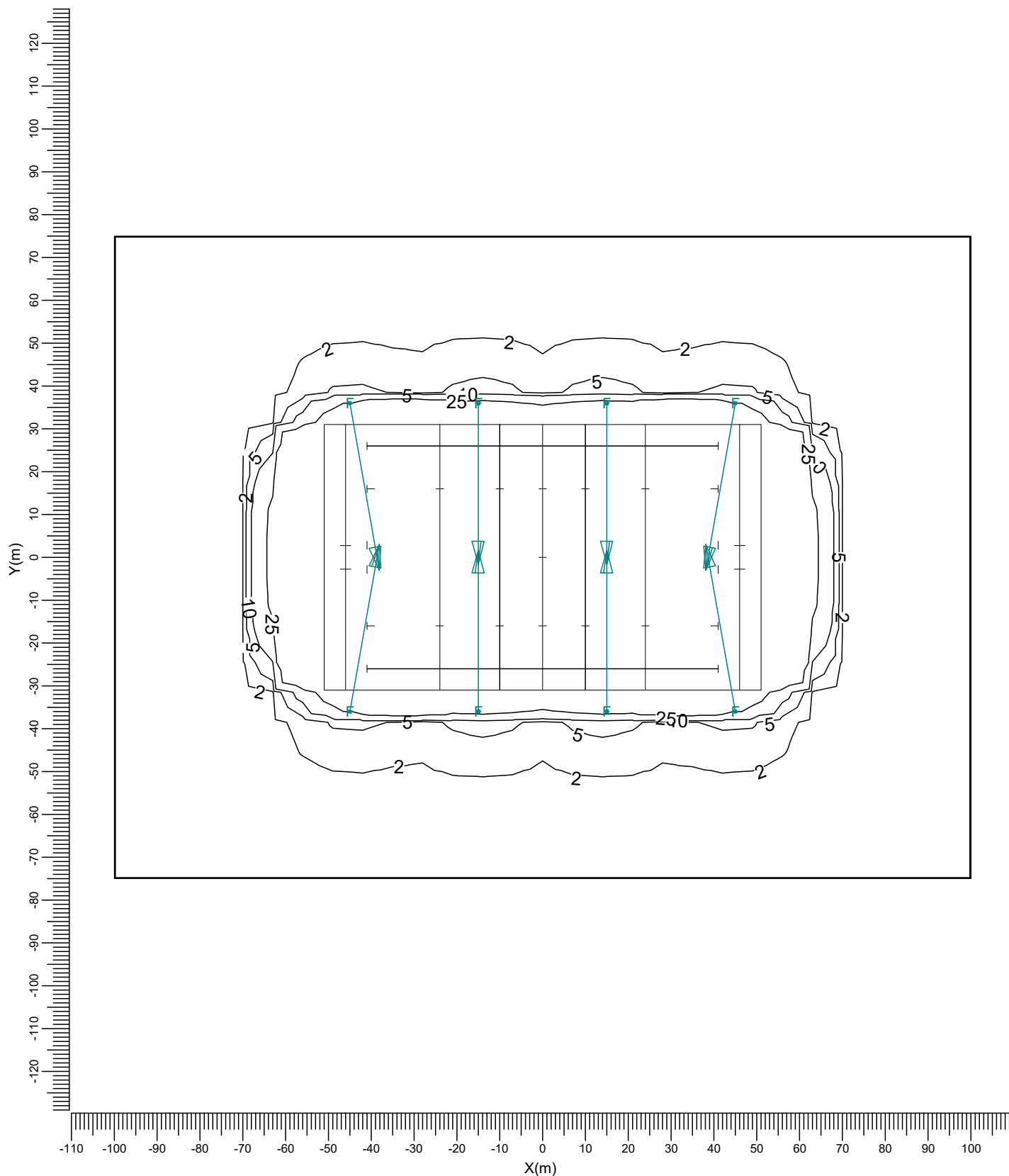
Project maintenance factor  
1.00

Scale  
1:1250

### 3.4 Spill Light: Iso Contour

ALL ON

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



F ———▶ BVP528 OUT T35 A55-NB LO

Average  
38.1

Min/Ave  
0.00

Min/Max  
0.00

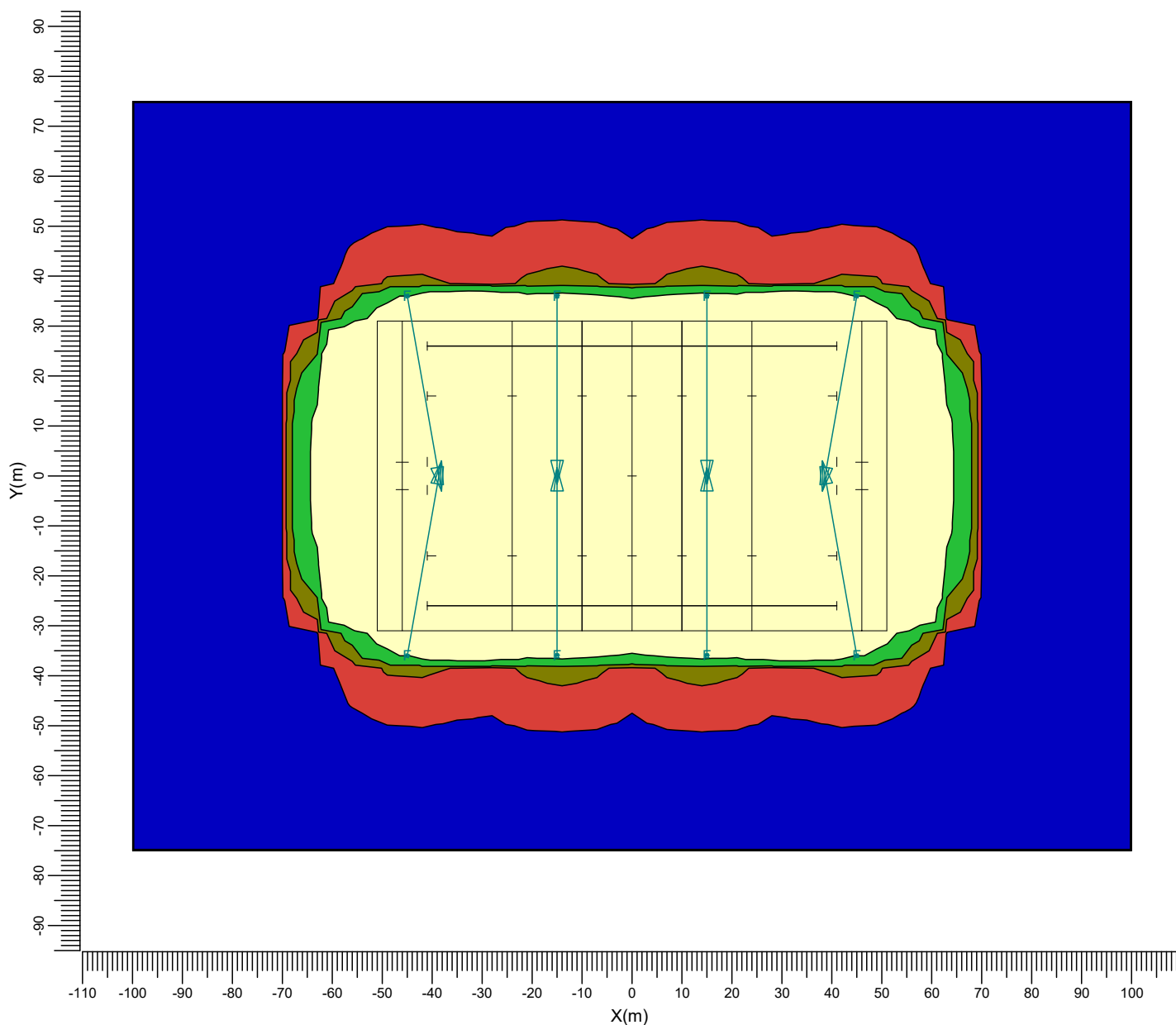
Project maintenance factor  
1.00

Scale  
1:1250

### 3.5 Spill Light: Filled Iso Contour

ALL ON

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



F — BVP528 OUT T35 A55-NB LO

Average  
38.1

Min/Ave  
0.00

Min/Max  
0.00

Project maintenance factor  
1.00

Scale  
1:1250

## 4. Luminaire Details

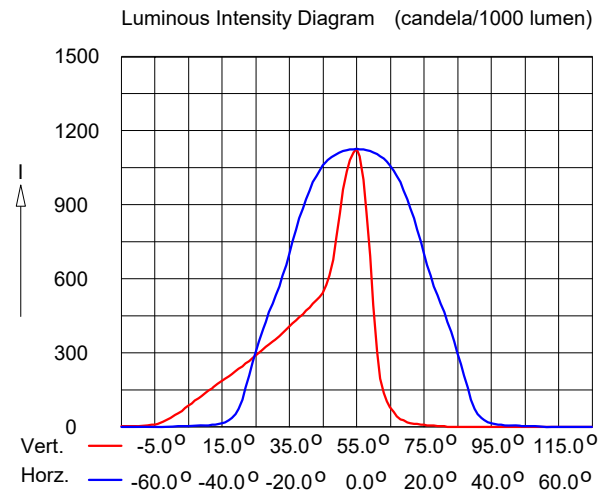
### 4.1 Project Luminaires

OptiVision LED gen3.5 2022  
BVP528 OUT T35 1xLED2590-4S/740/740 E3/D4I A55-NB 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  | : LVM20482U1 |

Note: Luminaire data not from database.



## 5. Installation Data

### 5.1 Legends

#### Project Luminaires:

| Code | Qty | Luminaire Type           | Lamp Type          | Flux (lm)  |
|------|-----|--------------------------|--------------------|------------|
| F    | 8   | BVP528 OUT T35 A55-NB LO | 1 * LED2590-4S/740 | 1 * 259000 |

#### Arrangements:

| Code | Arrangement    |
|------|----------------|
| 1    | Corner Column  |
| 2    | Middle Columns |

#### Switching Modes:

| Code | Switching Mode |
|------|----------------|
| 1    | Main Pitch     |
| 2    | ALL ON         |

### 5.2 Luminaire Positioning and Orientation

#### Including Aiming Points:

| Qty and Code | Position |        |       | Aiming Points |       |       | ULR  | Arr. | Switching Modes |   |
|--------------|----------|--------|-------|---------------|-------|-------|------|------|-----------------|---|
|              | X (m)    | Y (m)  | Z (m) | X (m)         | Y (m) | Z (m) |      |      | 1               | 2 |
| 1 * F        | -45.00   | -36.00 | 15.20 | -38.12        | 3.00  | 0.00  | 0.00 | 1    | +               | + |
| 1 * F        | -45.00   | 36.00  | 15.20 | -38.12        | -3.00 | 0.00  | 0.00 | 1    | +               | + |
| 1 * F        | 45.00    | -36.00 | 15.20 | 38.12         | 3.00  | 0.00  | 0.00 | 1    | +               | + |
| 1 * F        | 45.00    | 36.00  | 15.20 | 38.12         | -3.00 | 0.00  | 0.00 | 1    | +               | + |
| 1 * F        | -15.00   | -36.00 | 15.20 | -15.00        | 1.62  | -0.00 | 0.00 | 2    | +               | + |
| 1 * F        | -15.00   | 36.00  | 15.20 | -15.00        | -1.62 | -0.00 | 0.00 | 2    | +               | + |
| 1 * F        | 15.00    | -36.00 | 15.20 | 15.00         | 1.62  | -0.00 | 0.00 | 2    | +               | + |
| 1 * F        | 15.00    | 36.00  | 15.20 | 15.00         | -1.62 | -0.00 | 0.00 | 2    | +               | + |

#### Including Aiming Angles:

| Qty and Code | Position |        |       | Aiming Angles |        |       | ULR  | Arr. | Switching Modes |   |
|--------------|----------|--------|-------|---------------|--------|-------|------|------|-----------------|---|
|              | X (m)    | Y (m)  | Z (m) | Rot.          | Tilt90 | Tilt0 |      |      | 1               | 2 |
| 1 * F        | -45.00   | -36.00 | 15.20 | 80.0          | 69.0   | 0.0   | 0.00 | 1    | +               | + |
| 1 * F        | -45.00   | 36.00  | 15.20 | -80.0         | 69.0   | -0.0  | 0.00 | 1    | +               | + |
| 1 * F        | 45.00    | -36.00 | 15.20 | 100.0         | 69.0   | -0.0  | 0.00 | 1    | +               | + |
| 1 * F        | 45.00    | 36.00  | 15.20 | -100.0        | 69.0   | 0.0   | 0.00 | 1    | +               | + |
| 1 * F        | -15.00   | -36.00 | 15.20 | 90.0          | 68.0   | 0.0   | 0.00 | 2    | +               | + |
| 1 * F        | -15.00   | 36.00  | 15.20 | -90.0         | 68.0   | -0.0  | 0.00 | 2    | +               | + |
| 1 * F        | 15.00    | -36.00 | 15.20 | 90.0          | 68.0   | -0.0  | 0.00 | 2    | +               | + |
| 1 * F        | 15.00    | 36.00  | 15.20 | -90.0         | 68.0   | 0.0   | 0.00 | 2    | +               | + |