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LIGHT YEARS AHEAD

# GALWAY CITY COUNCIL

## GCC - Westside Running Track Floodlighting and Civil Works

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Comhairle Cathrach na Gaillimhe / Galway City Council

electricSkyline™
LIGHTING SPECIALISTS

# Westside Running Track

| | |
|---|---|
| Project code: | 0400897365/D523625 |
| Date: | 26-07-2023 |
| Designer: | Signify |
| Description: | Proposal based on Philips OptiVision Gen3.5 LED<br>20 no. Floodlights used in total.<br>The column positions are fixed and are 12m in height<br><br>Track:<br>276Lux Maintained Avg achieved with Uniformity<br>Min/Ave=>0.71<br>MIn/Max=>0.47<br><br>With the Maintenance Factor of 0.95.<br>Spill light calculated with Maintenance Factor of 1.00. |

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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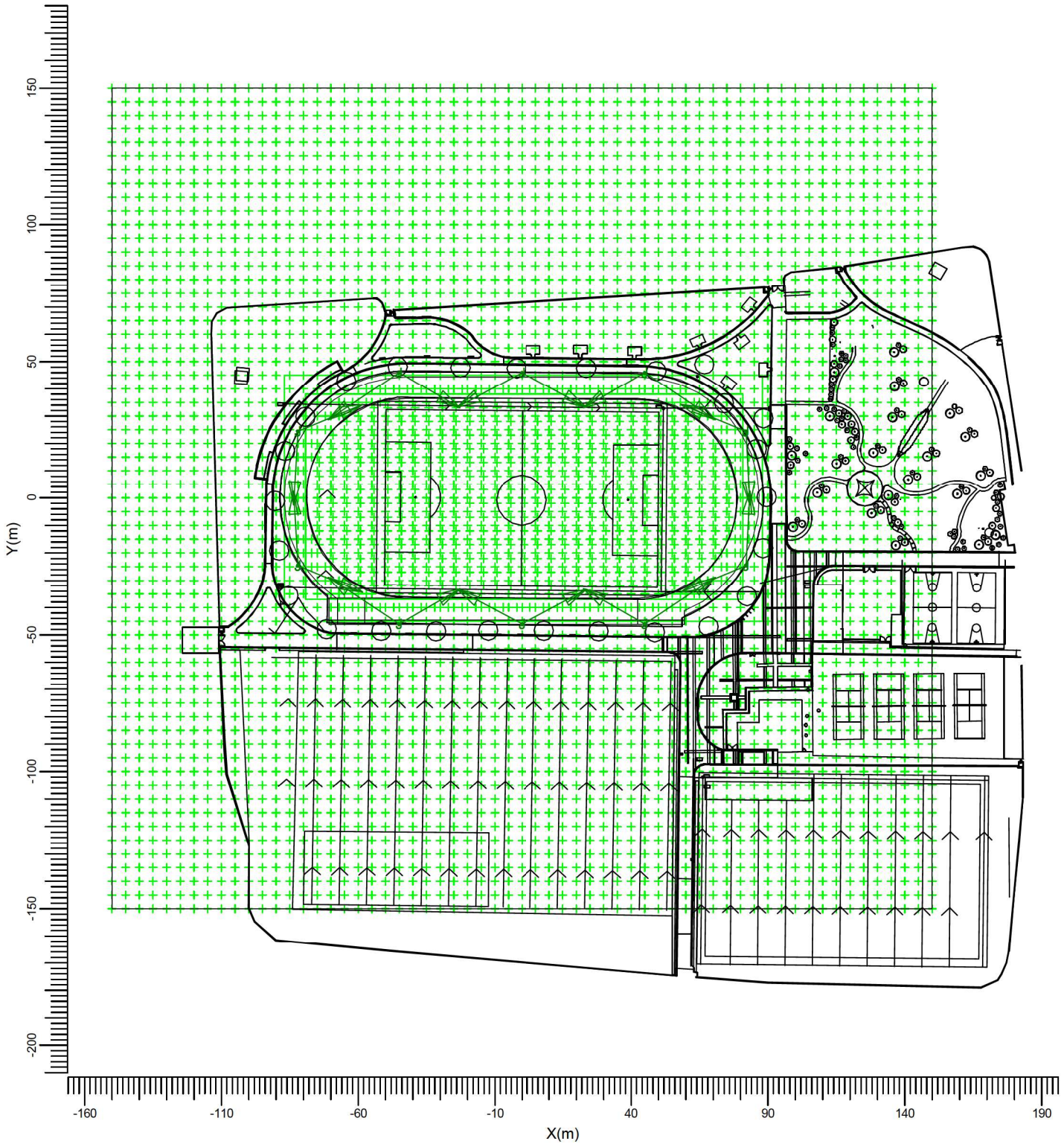
# 1. Project Description

## 1.1 Top Project Overview




Scale
1:2000

# 2. Summary

## 2.1 Project Luminaires

| Code | Qty | Luminaire Type | Lamp Type | Power (W) | Flux (lm) |
|---|---|---|---|---|---|
| J | 20 | BVP528 OUT T35 A55-NB LO | 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) |
|---|---|---|
| | J | |
| Track Only | 20 | 30.12 |
| All-On | 20 | 30.12 |

Number of Luminaires Per Arrangement:

| Arrangement | Luminaire Code | Power (kWatt) |
|---|---|---|
| | J | |
| Corner Columns | 8 | 12.05 |
| Middle Columns | 4 | 6.02 |
| Straight Columns | 8 | 12.05 |

## 2.2 Calculation Results

Switching Modes:

| Code | Switching Mode | Maintenance factor |
|---|---|---|
| 1 | Track Only | 0.95 |
| 2 | All-On | 1.00 |

(Il)luminance Calculations:

| Calculation | Switching Mode | Type | Unit | Ave | Max | Min/Ave | Min/Max |
|---|---|---|---|---|---|---|---|
| Track Only | 1 | Surface Illuminance | lux | 276 | | 0.71 | 0.47 |
| Total Infield Area | 2 | Surface Illuminance | lux | 92.7 | | 0.01 | 0.00 |
| Overspill | 2 | Surface Illuminance | lux | | 404.3 | | |

Obtrusive Light Calculations:

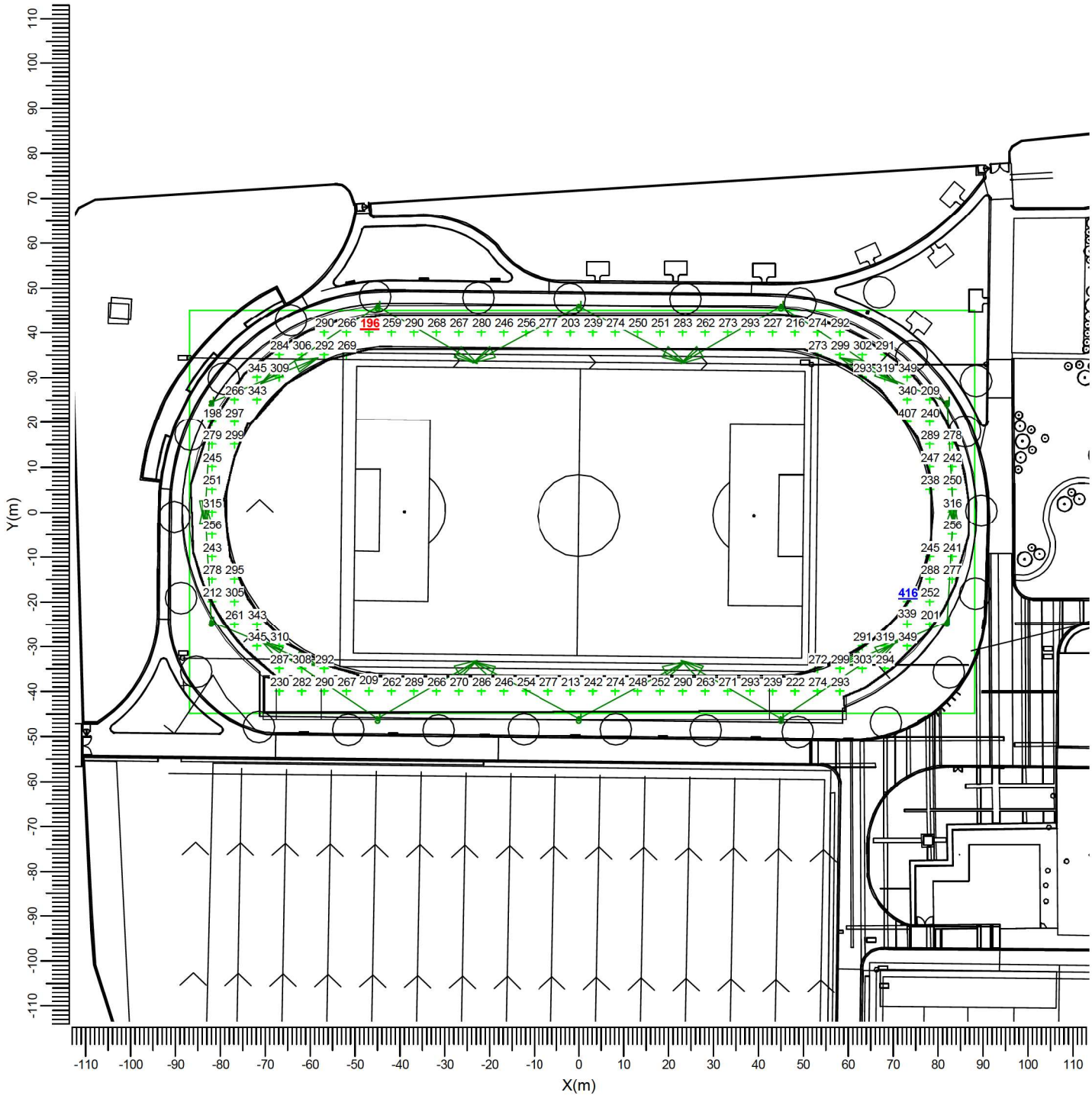
| Switching Mode | ULR |
|---|---|
| 1 | 0.00 |
| 2 | 0.00 |

# 3. Calculation Results

## 3.1 Track Only: Graphical Table

Track Only

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



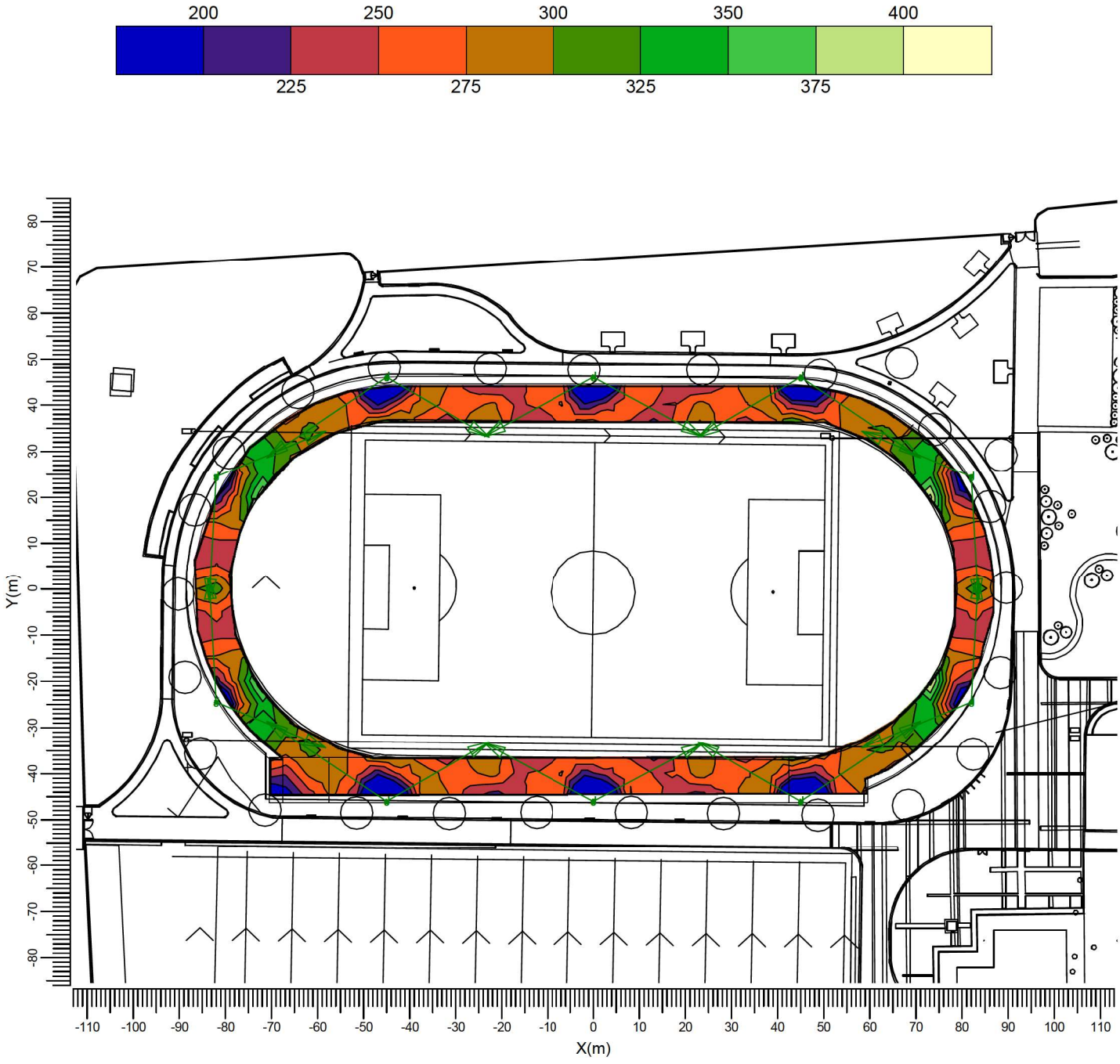

J ⟶ BVP528 OUT T35 A55-NB LO

| Average | Min/Ave | Min/Max | Project maintenance factor | Scale |
|---|---|---|---|---|
| 276 | 0.71 | 0.47 | 0.95 | 1:1250 |

## 3.2 Track Only: Filled Iso Contour

Track Only

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



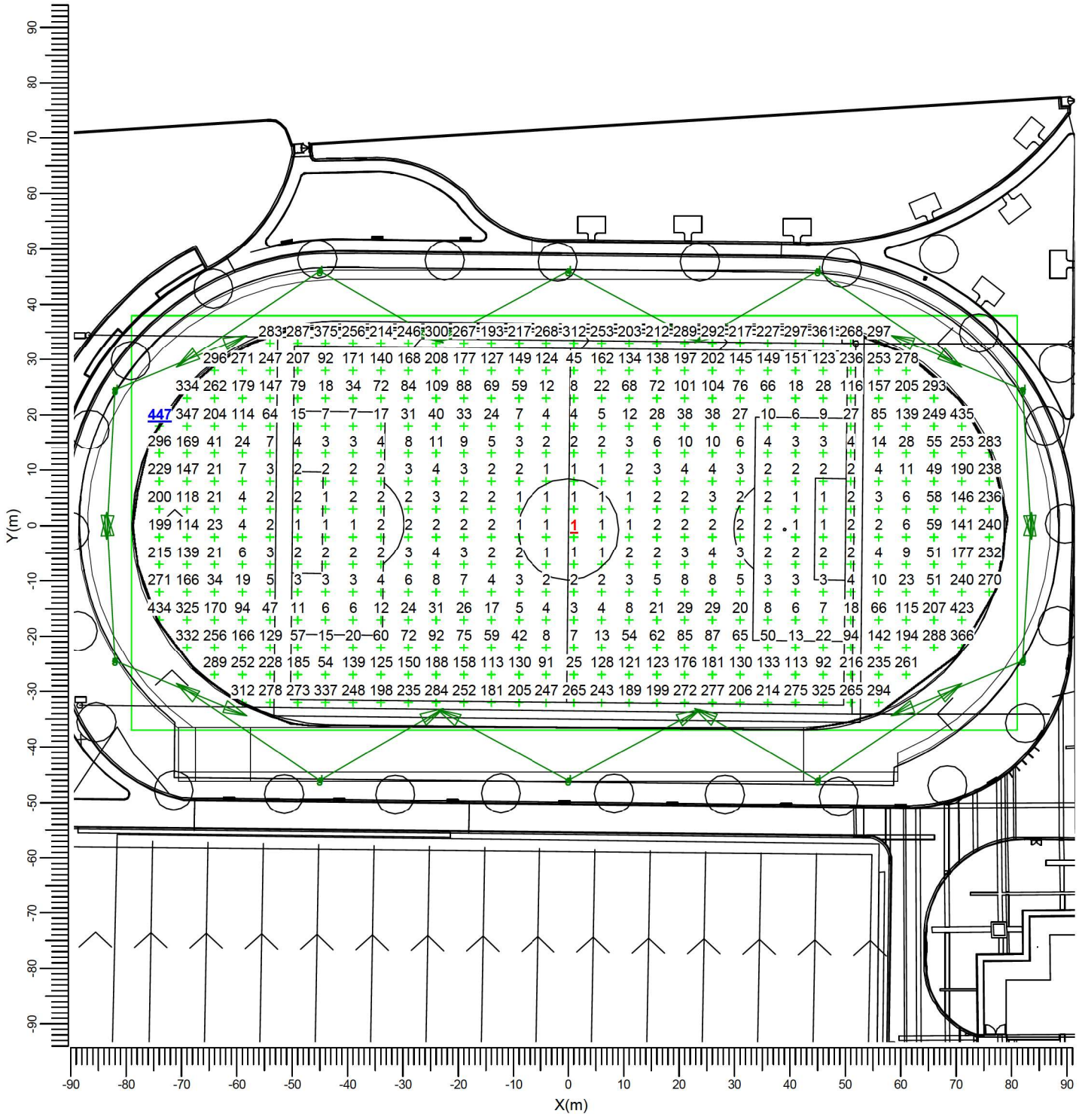

J ⟶ BVP528 OUT T35 A55-NB LO

| Average | Min/Ave | Min/Max | Project maintenance factor | Scale |
|---|---|---|---|---|
| 276 | 0.71 | 0.47 | 0.95 | 1:1250 |

## 3.3 Total Infield Area: Graphical Table

All-On

Grid : Total Infield Area at Z = -0.00 m
Calculation : Surface Illuminance (lux)



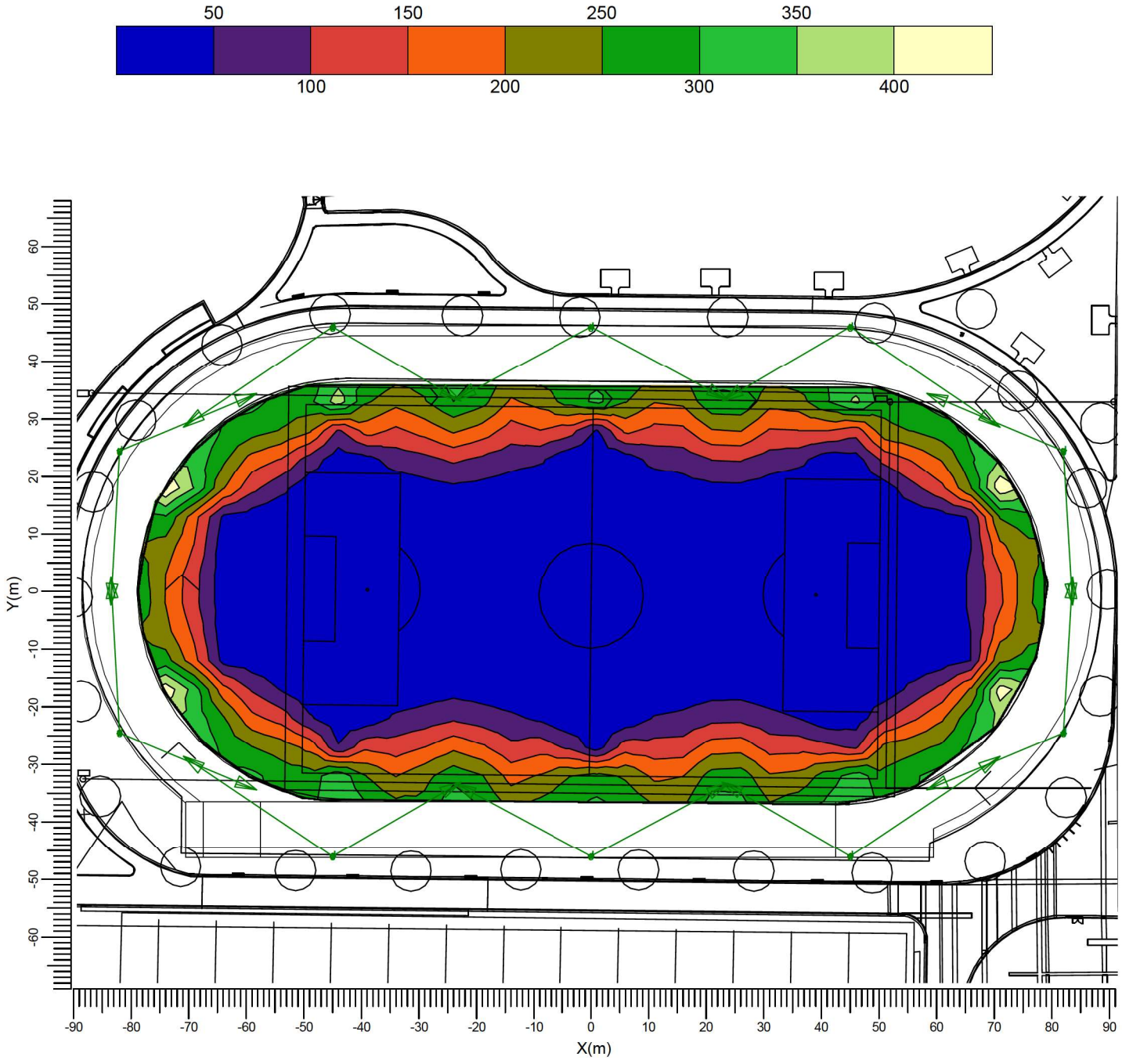

J → BVP528 OUT T35 A55-NB LO

| Average | Min/Ave | Min/Max | Project maintenance factor | Scale |
|---|---|---|---|---|
| 92.7 | 0.01 | 0.00 | 1.00 | 1:1000 |

## 3.4 Total Infield Area: Filled Iso Contour

All-On

Grid : Total Infield Area at Z = -0.00 m
Calculation : Surface Illuminance (lux)



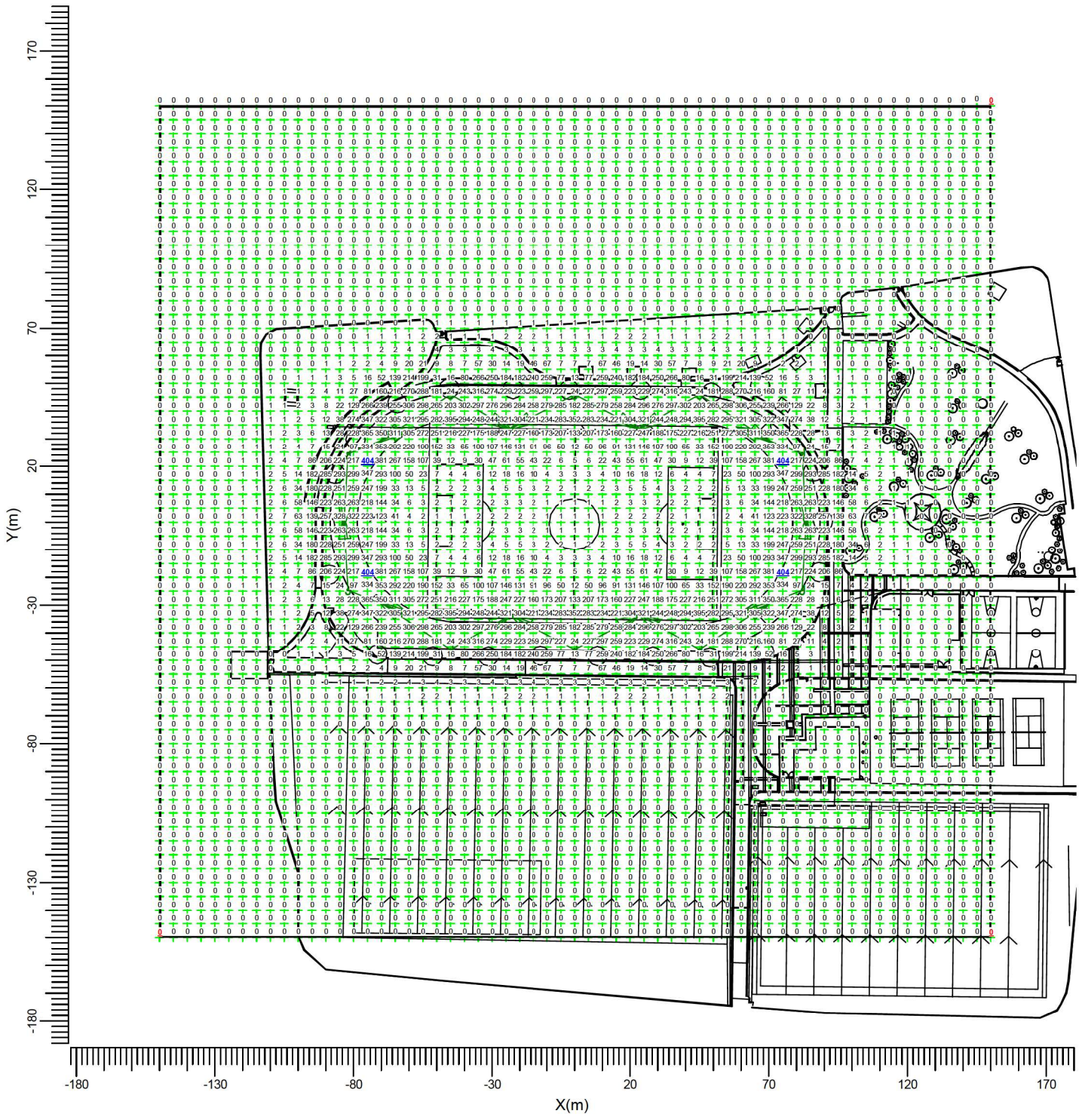

J BVP528 OUT T35 A55-NB LO

| Average | Min/Ave | Min/Max | Project maintenance factor | Scale |
|---|---|---|---|---|
| 92.7 | 0.01 | 0.00 | 1.00 | 1:1000 |

## 3.5 Overspill: Graphical Table

All-On

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



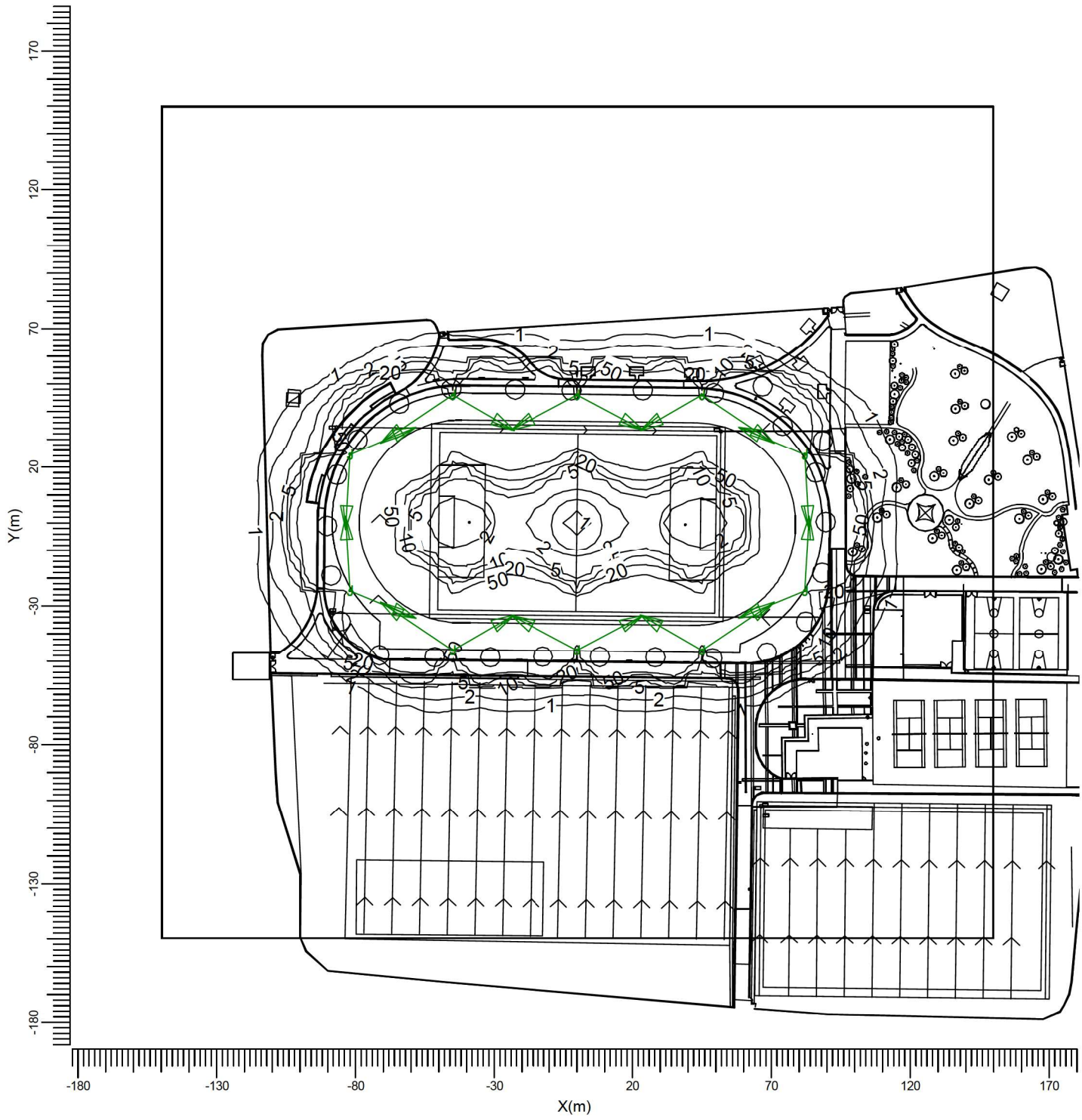

J → BVP528 OUT T35 A55-NB LO

| Maximum | Project maintenance factor | Scale |
|---|---|---|
| 404.3 | 1.00 | 1:2000 |

## 3.6 Overspill: Iso Contour

All-On

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



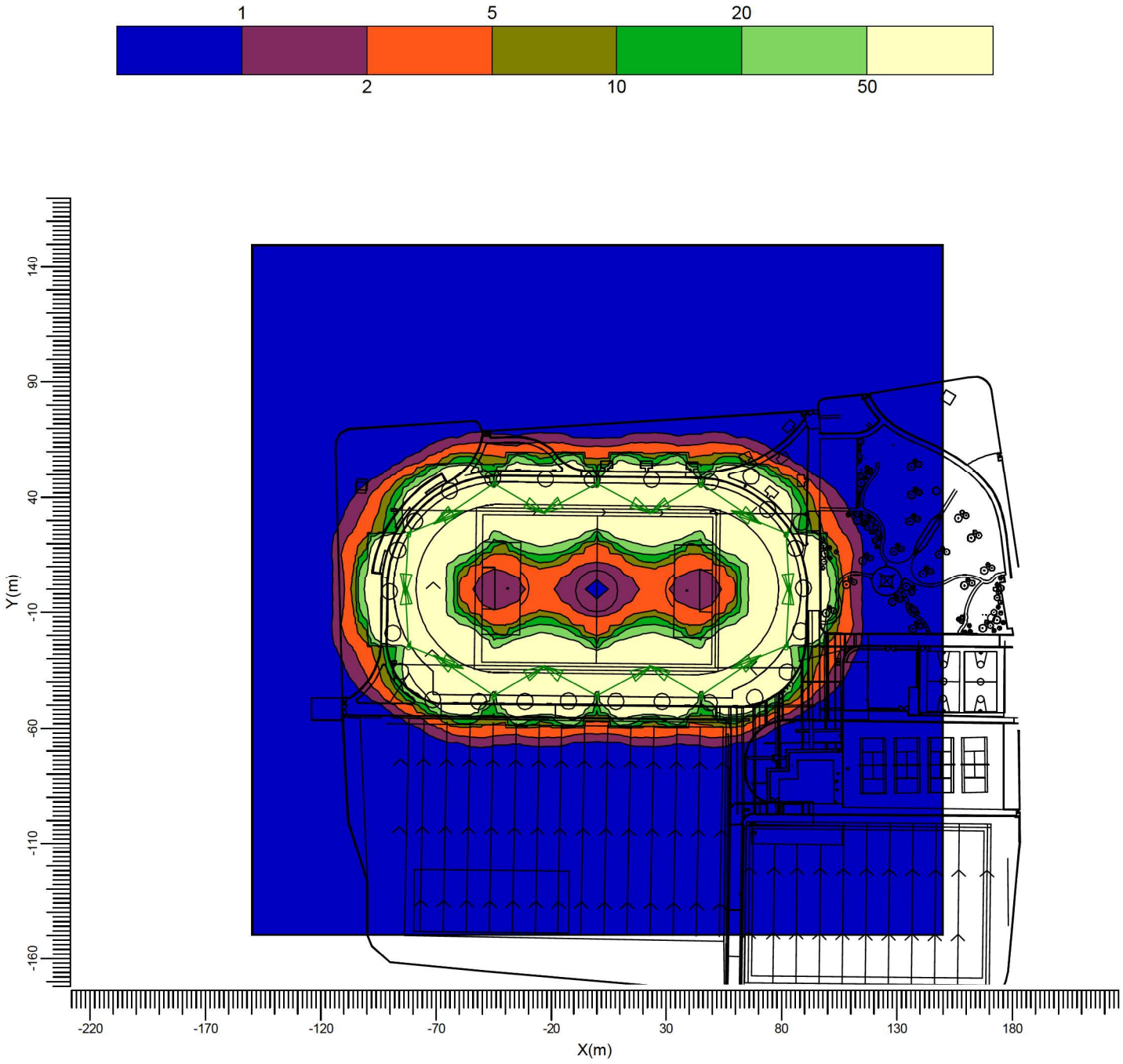

J ⟶ BVP528 OUT T35 A55-NB LO

| Maximum | Project maintenance factor | Scale |
|---|---|---|
| 404.3 | 1.00 | 1:2000 |

## 3.7 Overspill: Filled Iso Contour

All-On

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




J → BVP528 OUT T35 A55-NB LO

| Maximum | Project maintenance factor | Scale |
|---|---|---|
| 404.3 | 1.00 | 1:2500 |

# 4. Luminaire Details

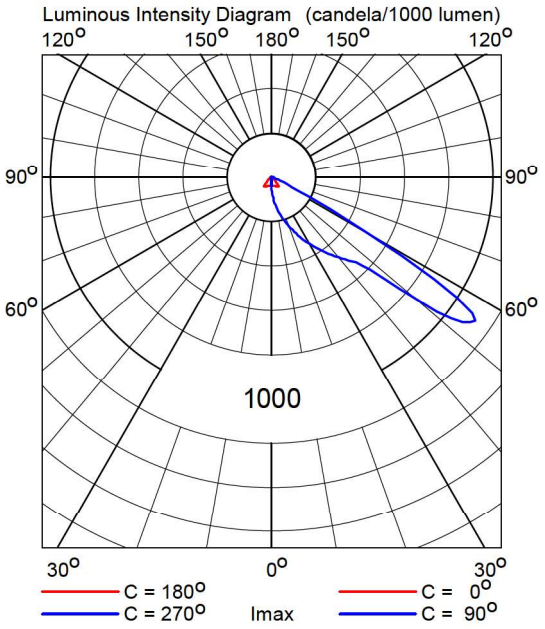
## 4.1 Project Luminaires

OptiVision LED gen3.5 2022
BVP528 OUT T35 1xLED2590-4S/757/757 E3/D4I A55-NB LO

Light output ratios

| | | |
|---|---|---|
| DLOR | : | 0.58 |
| ULOR | : | 0.00 |
| TLOR | : | 0.58 |
| Ballast | : | E3/D4I |
| Lamp flux | : | 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) |
|---|---|---|---|---|
| J | 20 | BVP528 OUT T35 A55-NB LO | 1 * LED2590-4S/757 | 1 * 259000 |

Arrangements:

| Code | Arrangement |
|---|---|
| 1 | Straight Columns |
| 2 | Corner Columns |
| 3 | Middle Columns |

Switching Modes:

| Code | Switching Mode |
|---|---|
| 1 | Track Only |
| 2 | All-On |

## 5.2 Luminaire Positioning and Orientation

| Qty and Code | Position | | | Aiming Angles | | | ULR | ULOR_i | Arr. | Switching Modes | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | X (m) | Y (m) | Z (m) | Rot. | Tilt90 | Tilt0 | | | | 1 | 2 |
| 1 * J | -45.00 | -46.00 | 12.00 | 30.1 | 65.0 | 0.0 | 0.00 | 0.00 | 1 | + | + |
| 1 * J | -45.00 | -46.00 | 12.00 | 146.2 | 69.0 | 0.0 | 0.00 | 0.00 | 1 | + | + |
| 1 * J | -45.00 | 46.00 | 12.00 | -30.1 | 65.0 | -0.0 | 0.00 | 0.00 | 1 | + | + |
| 1 * J | -45.00 | 46.00 | 12.00 | -146.2 | 69.0 | -0.0 | 0.00 | 0.00 | 1 | + | + |
| 1 * J | 45.00 | -46.00 | 12.00 | 149.9 | 65.0 | -0.0 | 0.00 | 0.00 | 1 | + | + |
| 1 * J | 45.00 | -46.00 | 12.00 | 33.8 | 69.0 | -0.0 | 0.00 | 0.00 | 1 | + | + |
| 1 * J | 45.00 | 46.00 | 12.00 | -149.9 | 65.0 | 0.0 | 0.00 | 0.00 | 1 | + | + |
| 1 * J | 45.00 | 46.00 | 12.00 | -33.8 | 69.0 | 0.0 | 0.00 | 0.00 | 1 | + | + |
| 1 * J | -82.00 | -24.50 | 12.00 | -22.5 | 65.0 | -0.0 | 0.00 | 0.00 | 2 | + | + |
| 1 * J | -82.00 | -24.50 | 12.00 | 93.2 | 66.0 | -0.0 | 0.00 | 0.00 | 2 | + | + |
| 1 * J | -82.00 | 24.50 | 12.00 | 22.5 | 65.0 | 0.0 | 0.00 | 0.00 | 2 | + | + |
| 1 * J | -82.00 | 24.50 | 12.00 | -93.2 | 66.0 | 0.0 | 0.00 | 0.00 | 2 | + | + |
| 1 * J | 82.00 | -24.50 | 12.00 | -157.5 | 65.0 | 0.0 | 0.00 | 0.00 | 2 | + | + |
| 1 * J | 82.00 | -24.50 | 12.00 | 86.8 | 66.0 | 0.0 | 0.00 | 0.00 | 2 | + | + |
| 1 * J | 82.00 | 24.50 | 12.00 | 157.5 | 65.0 | -0.0 | 0.00 | 0.00 | 2 | + | + |
| 1 * J | 82.00 | 24.50 | 12.00 | -86.8 | 66.0 | -0.0 | 0.00 | 0.00 | 2 | + | + |
| 1 * J | -0.00 | -46.00 | 12.00 | 151.9 | 66.0 | -0.0 | 0.00 | 0.00 | 3 | + | + |
| 1 * J | -0.00 | -46.00 | 12.00 | 28.1 | 66.0 | 0.0 | 0.00 | 0.00 | 3 | + | + |
| 1 * J | -0.00 | 46.00 | 12.00 | -151.9 | 66.0 | 0.0 | 0.00 | 0.00 | 3 | + | + |
| 1 * J | -0.00 | 46.00 | 12.00 | -28.1 | 66.0 | -0.0 | 0.00 | 0.00 | 3 | + | + |