

# Gunnersbury Park

## 3G Football Pitches & Tennis Courts

Project code: SJB15009  
Date: 17-09-2015  
Customer: The Sports Construction Consultancy  
Customer Representative: Bob Scrivener  
  
Designer: SJB

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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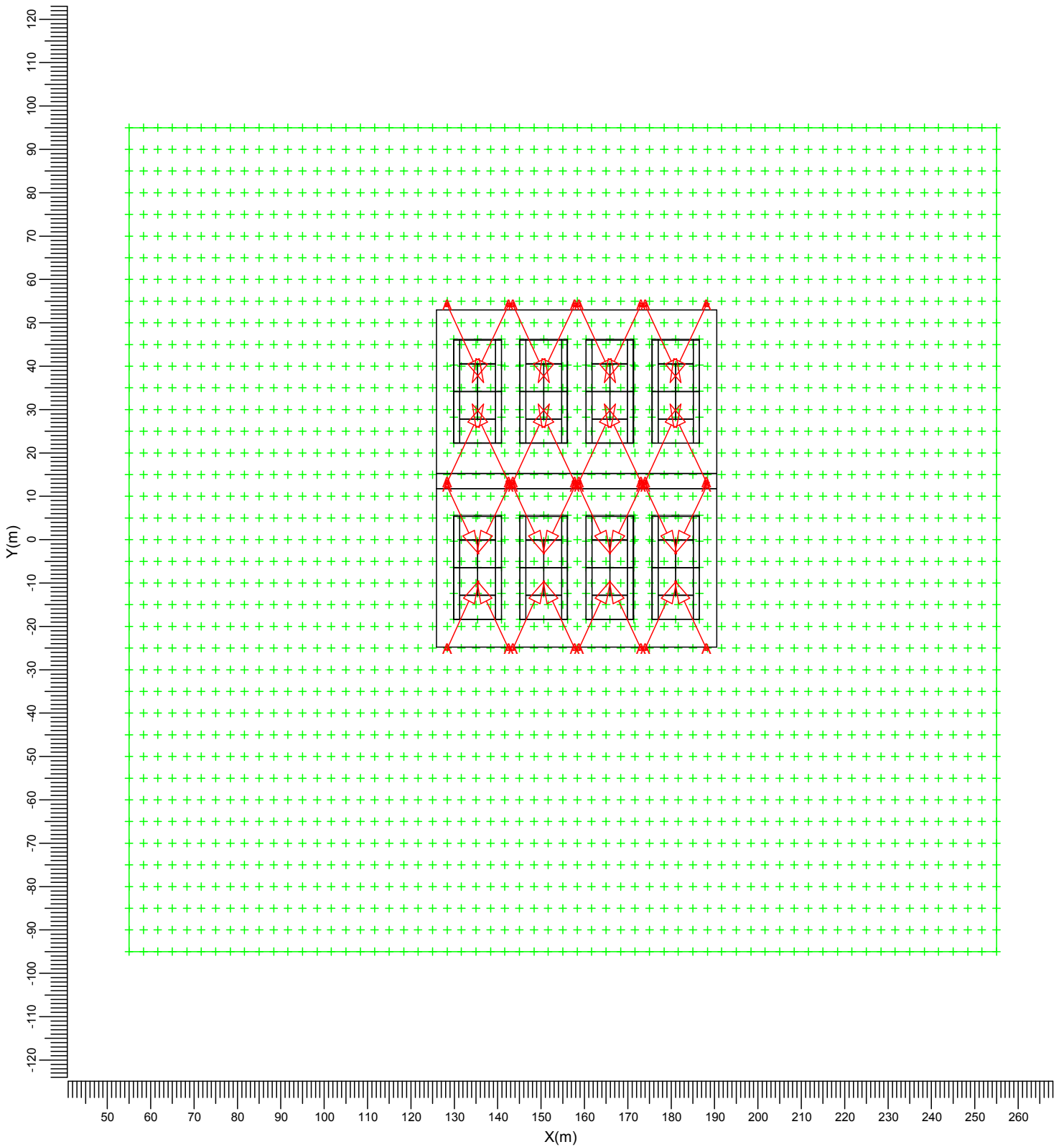
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# 1. Project Description

## 1.1 Top Project Overview



A  MVP507 MB/62

Scale  
1:1250

## 2. Summary

### 2.1 General Information

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The overall maintenance factor used for this project is 0.80.

### 2.2 Project Luminaires

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Code	Qty	Luminaire Type	Lamp Type	Power (W)	Flux (lm)
A	32	MVP507 MB/62	1 * MHN-FC2000W/400V/740	2119.0	1 * 210000

The total installed power: 67.81 (kWatt)

Number of Luminaires Per Switching Mode:

Switching Mode	Luminaire Code	Power (kWatt)
	A	
All On	32	67.81
T/C 1	4	8.48
T/C 2	4	8.48
T/C 3	4	8.48
T/C 4	4	8.48
T/C 5	4	8.48
T/C 6	4	8.48
T/C 7	4	8.48
T/C 8	4	8.48

Number of Luminaires Per Arrangement:

Arrangement	Luminaire Code	Power (kWatt)
	A	
Col 1	0	0.00
Col 2	0	0.00
Col 2a	0	0.00
Col 2b	0	0.00
Col 3	0	0.00
Col 4	0	0.00
Col 5	0	0.00
Col 5a1	0	0.00
Col 5a2	0	0.00
Col 5b1	0	0.00
Col 5b2	0	0.00
Col 6	0	0.00
TC1	4	8.48
TC2	4	8.48
TC3	4	8.48
TC4	4	8.48
TC5	4	8.48
TC6	4	8.48
TC7	4	8.48
TC8	4	8.48

## 2.3 Calculation Results

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### Switching Modes:

Code	Switching Mode
1	All On
2	T/C 1
3	T/C 2
4	T/C 3
5	T/C 4
6	T/C 5
7	T/C 6
8	T/C 7
9	T/C 8

### (II)luminance Calculations:

Calculation	Switching Mode	Type	Unit	Ave	Min/Ave
Tennis 1	2	Surface Illuminance	lux	547	0.83
Tennis 2	3	Surface Illuminance	lux	546	0.83
Tennis 3	4	Surface Illuminance	lux	546	0.83
Tennis 4	5	Surface Illuminance	lux	546	0.83
Tennis 5	6	Surface Illuminance	lux	640	0.82
Tennis 6	7	Surface Illuminance	lux	639	0.82
Tennis 7	8	Surface Illuminance	lux	639	0.82
Tennis 8	9	Surface Illuminance	lux	639	0.82
Spillage	1	Surface Illuminance	lux		

### Obtrusive Light Calculations:

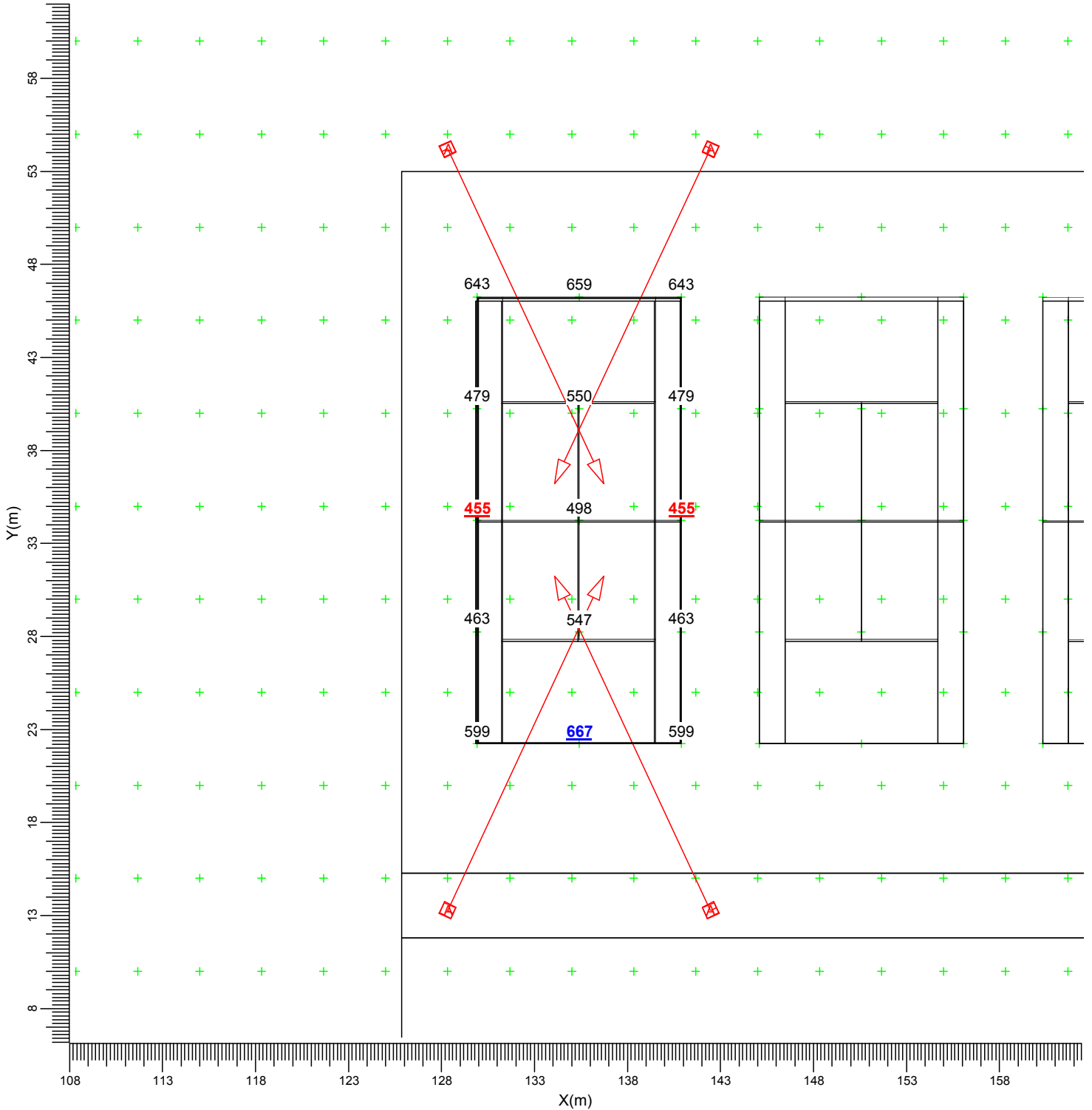
Switching Mode	ULR
1	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00

### 3. Calculation Results

#### 3.1 Tennis 1: Graphical Table

T/C 1

Grid : Tennis 1 at Z = -0.00 m  
Calculation : Surface Illuminance (lux)



A MVP507 MB/62

Average  
547

Min/Ave  
0.83

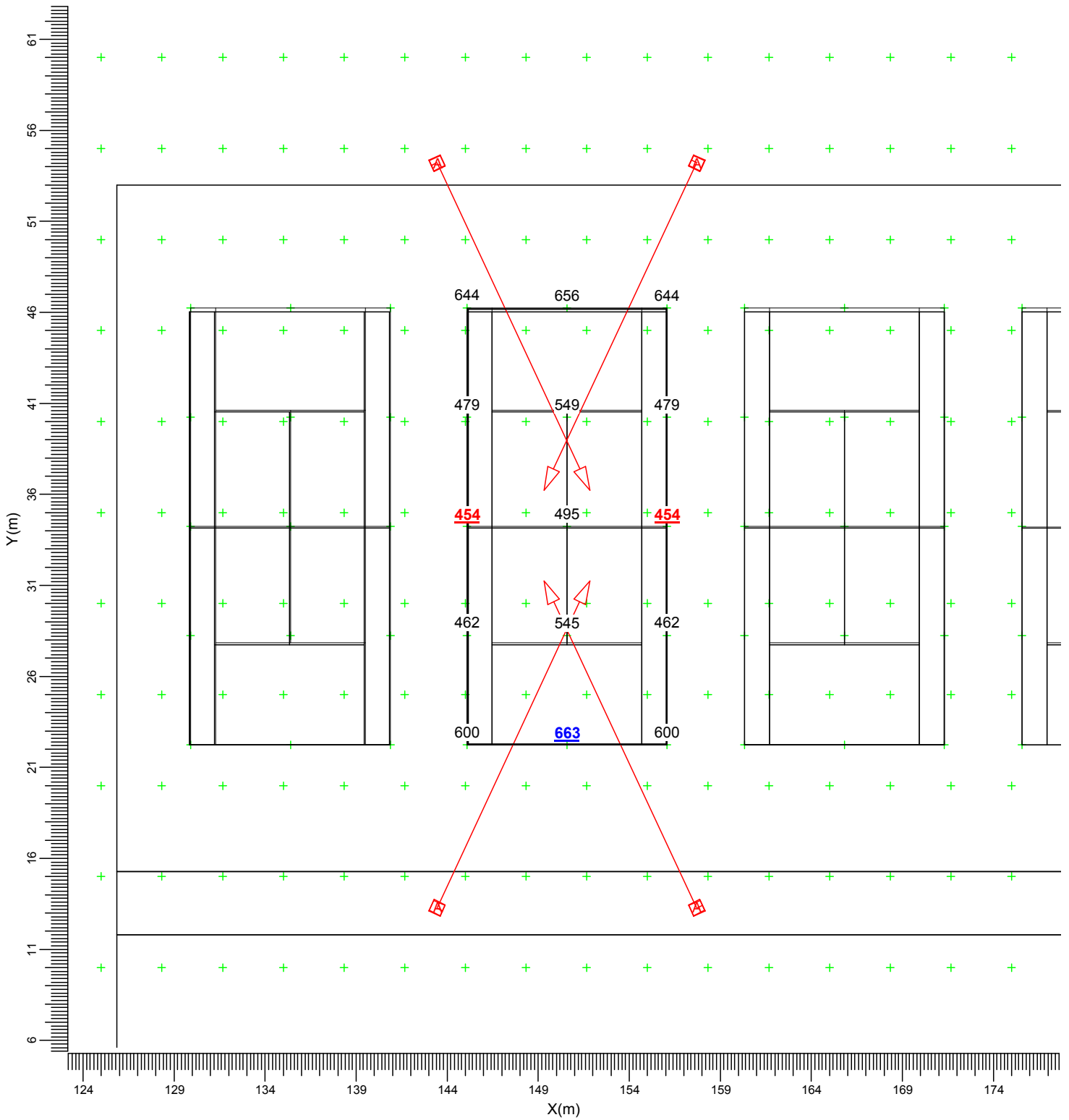
Project maintenance factor  
0.80


Scale  
1:300

3.2 Tennis 2: Graphical Table

T/C 2

Grid : Tennis 2 at Z = -0.00 m  
Calculation : Surface Illuminance (lux)

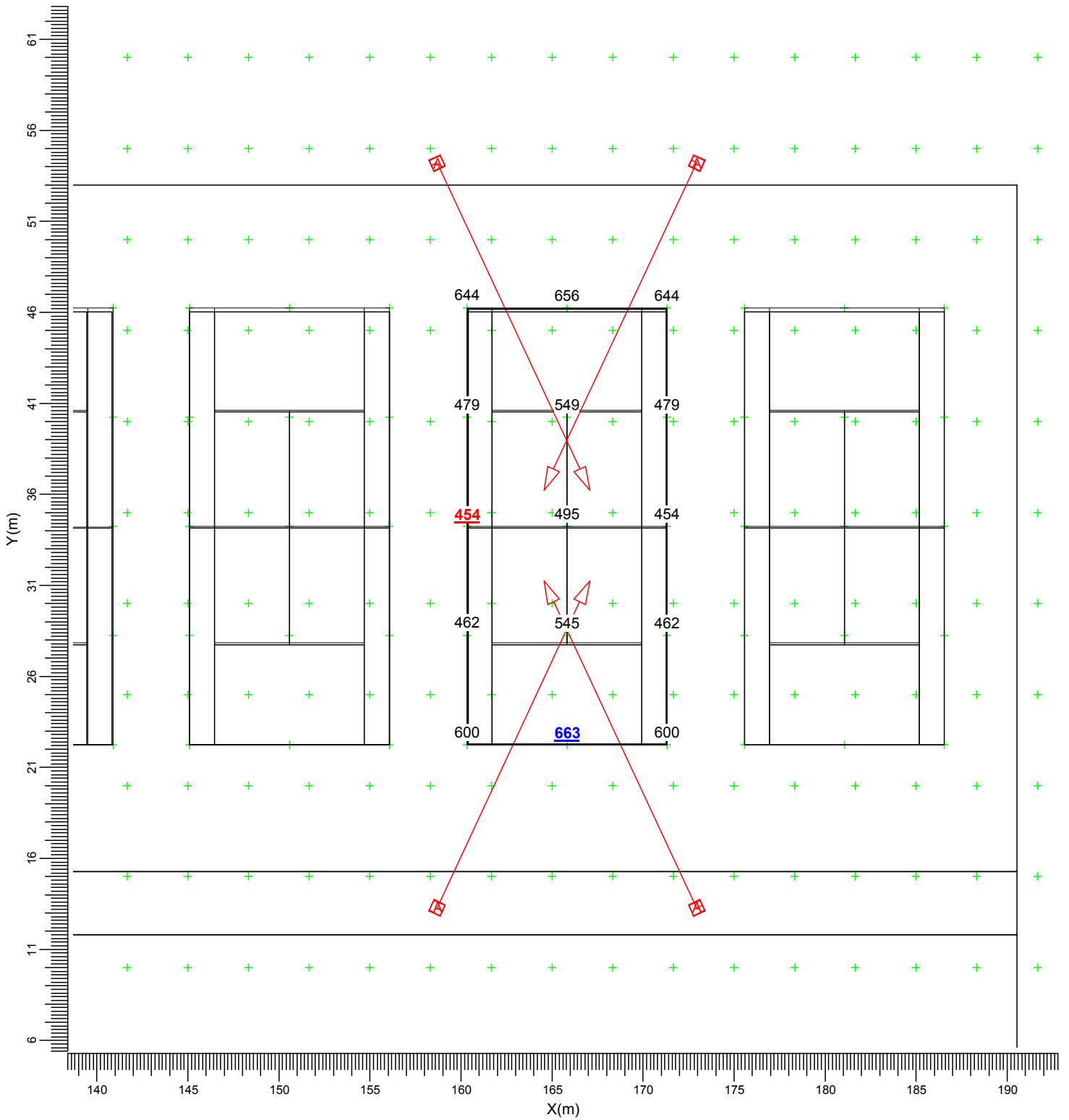


A		MVP507 MB/62		
Average	Min/Ave	Project maintenance factor	Scale	
546	0.83	0.80	1:300	

3.3 Tennis 3: Graphical Table

T/C 3

Grid : Tennis 3 at Z = -0.00 m  
Calculation : Surface Illuminance (lux)



A MVP507 MB/62

Average  
546

Min/Ave  
0.83

Project maintenance factor  
0.80

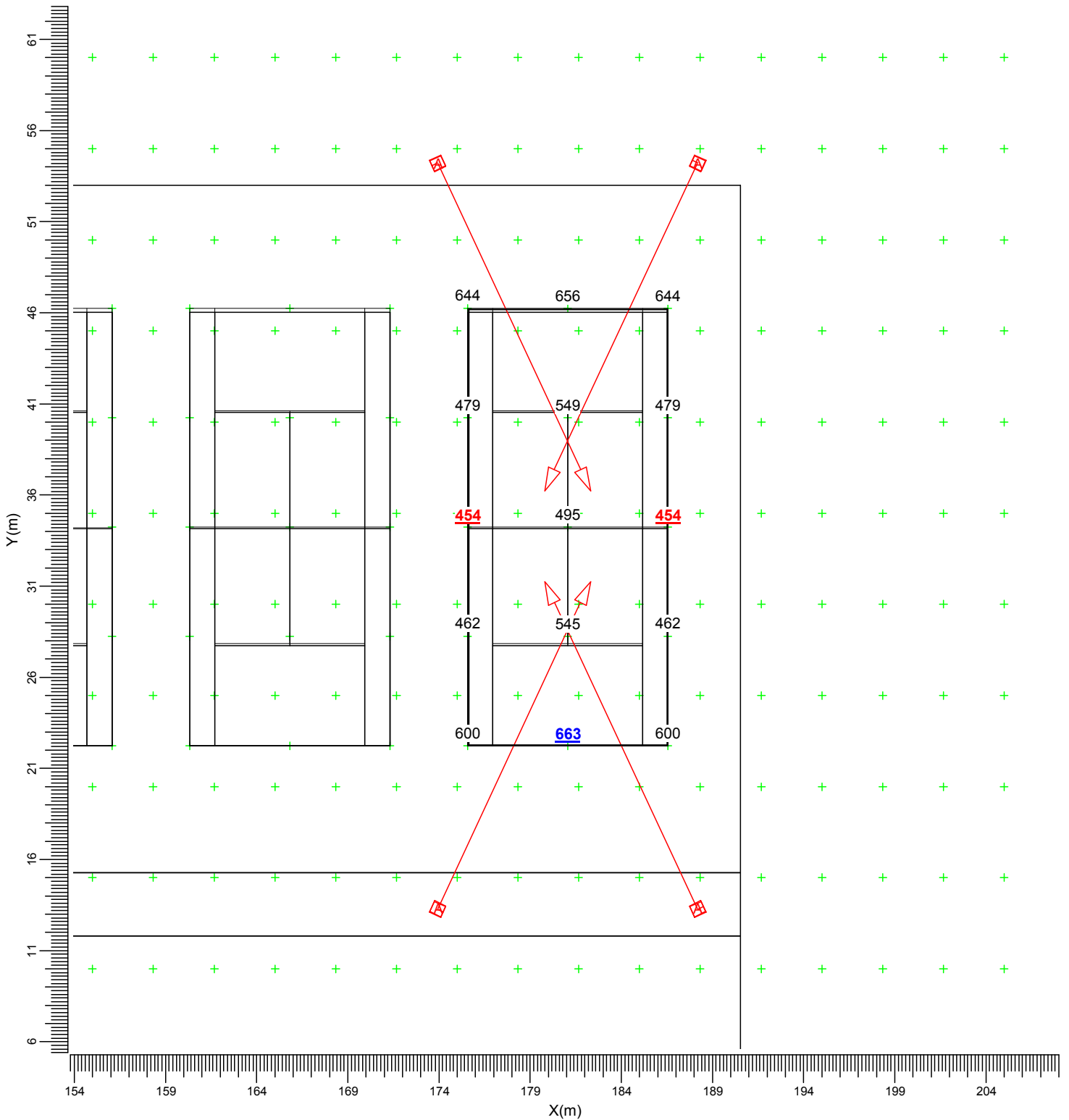
Scale  
1:300



3.4 Tennis 4: Graphical Table

T/C 4

Grid : Tennis 4 at Z = -0.00 m  
Calculation : Surface Illuminance (lux)



A MVP507 MB/62

Average  
546

Min/Ave  
0.83

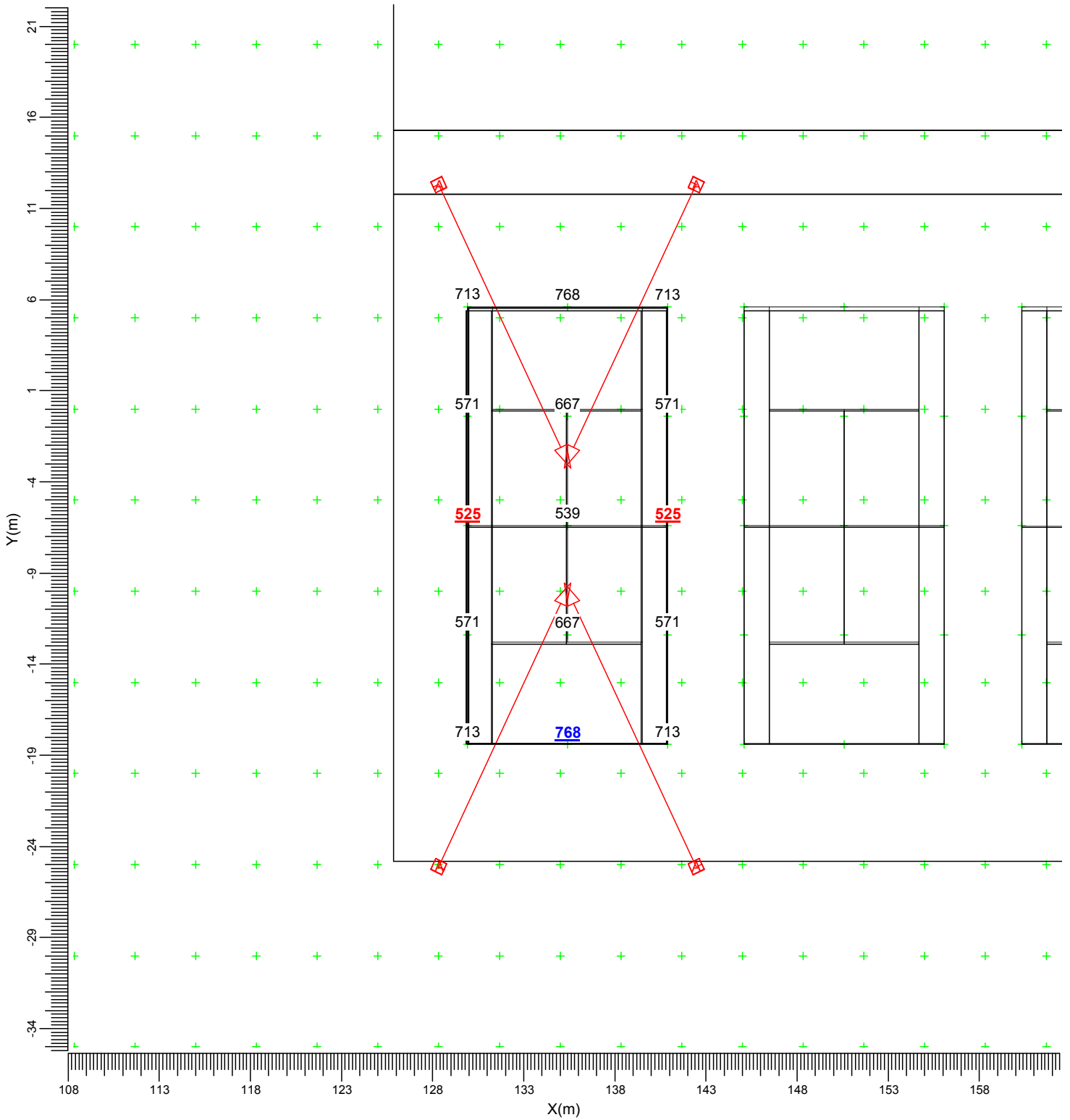
Project maintenance factor  
0.80

Scale  
1:300

3.5 Tennis 5: Graphical Table

T/C 5

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



A MVP507 MB/62

Average  
640

Min/Ave  
0.82

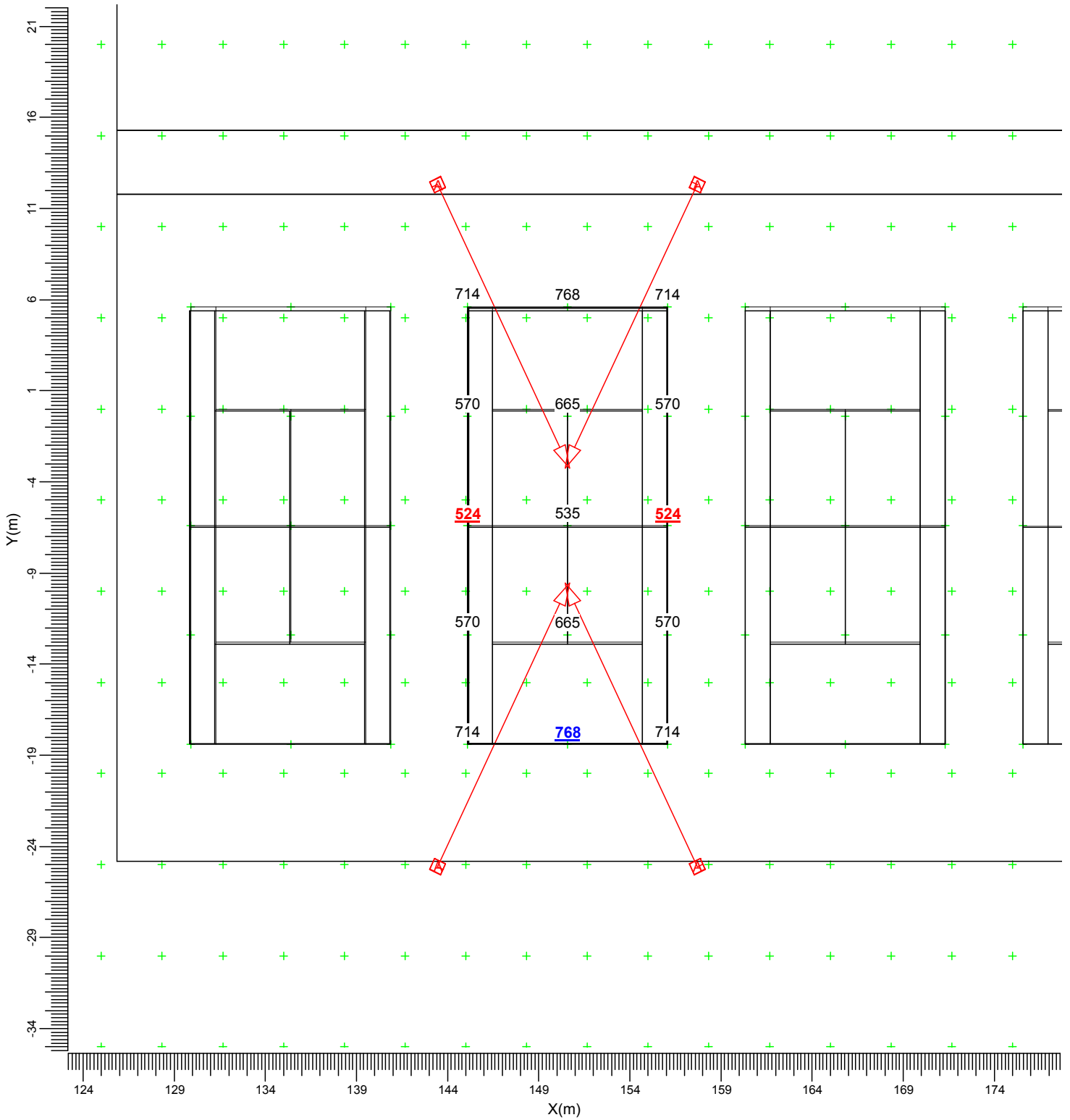
Project maintenance factor  
0.80

Scale  
1:300

3.6 Tennis 6: Graphical Table

T/C 6

Grid : Tennis 6 at Z = -0.00 m  
Calculation : Surface Illuminance (lux)



A MVP507 MB/62

Average  
639

Min/Ave  
0.82

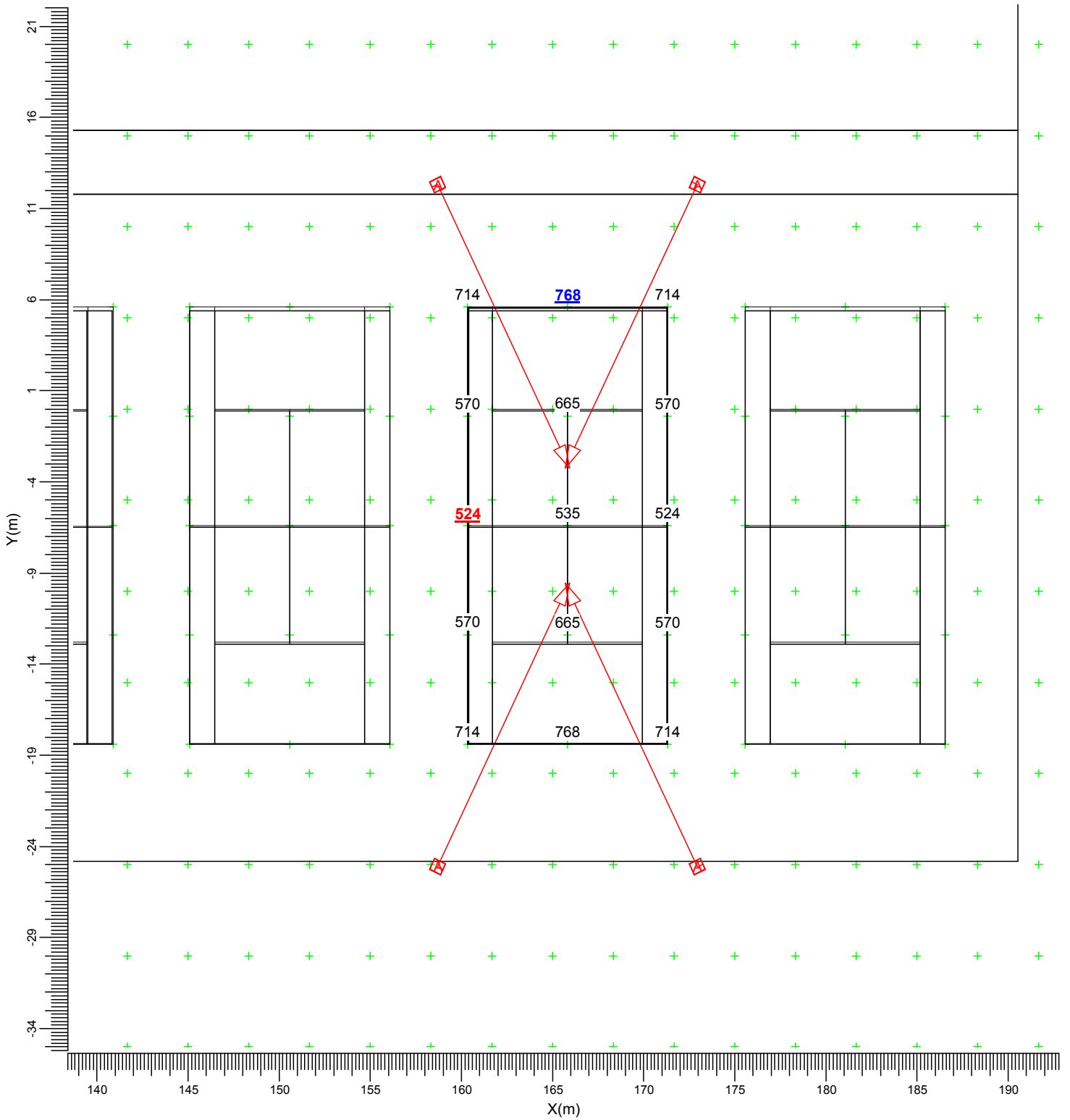
Project maintenance factor  
0.80

Scale  
1:300

3.7 Tennis 7: Graphical Table

T/C 7

Grid : Tennis 7 at Z = -0.00 m  
Calculation : Surface Illuminance (lux)



Average  
639

Min/Ave  
0.82

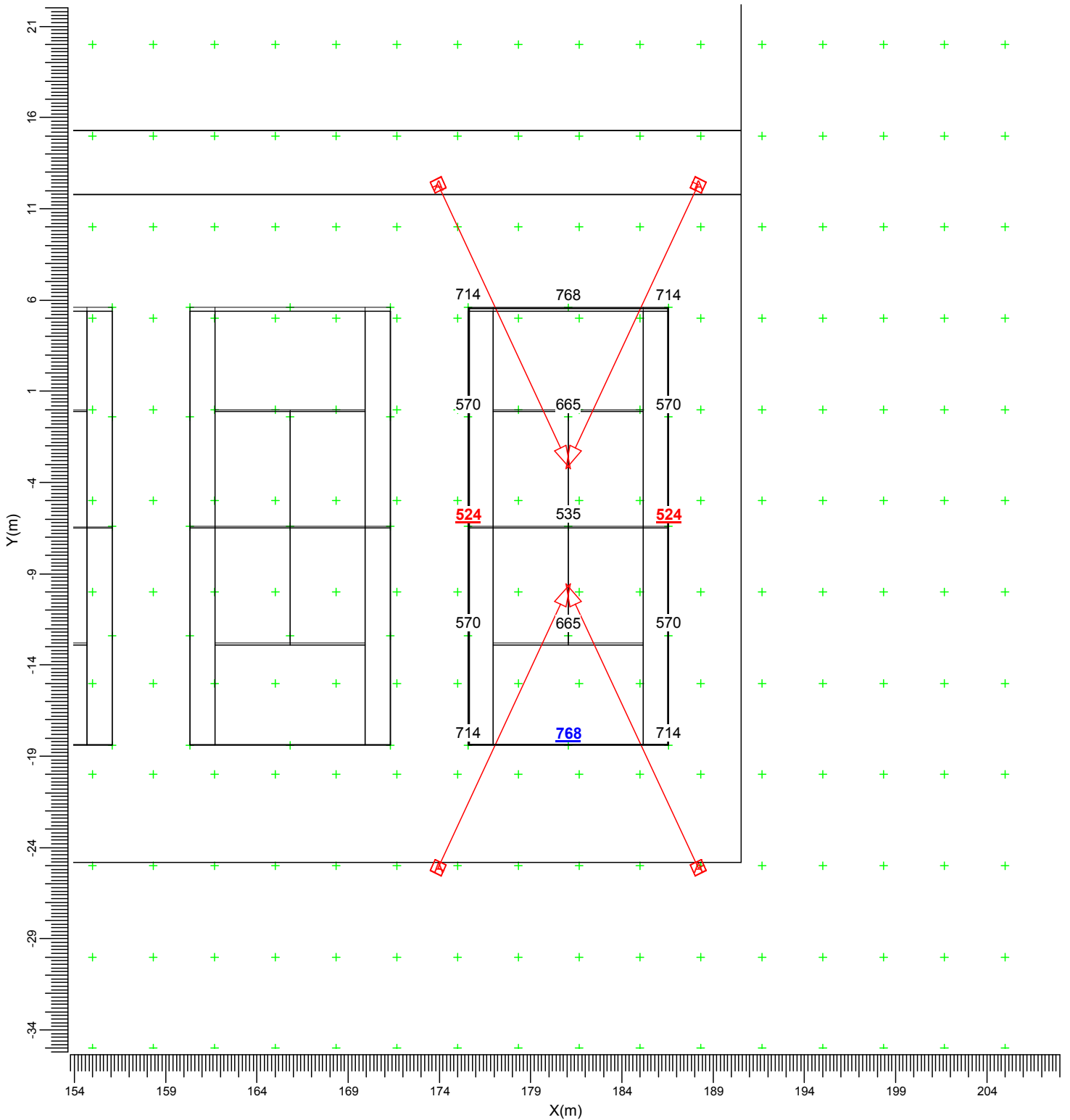
Project maintenance factor  
0.80

Scale  
1:300

3.8 Tennis 8: Graphical Table

T/C 8

Grid : Tennis 8 at Z = -0.00 m  
Calculation : Surface Illuminance (lux)



Average  
639

Min/Ave  
0.82

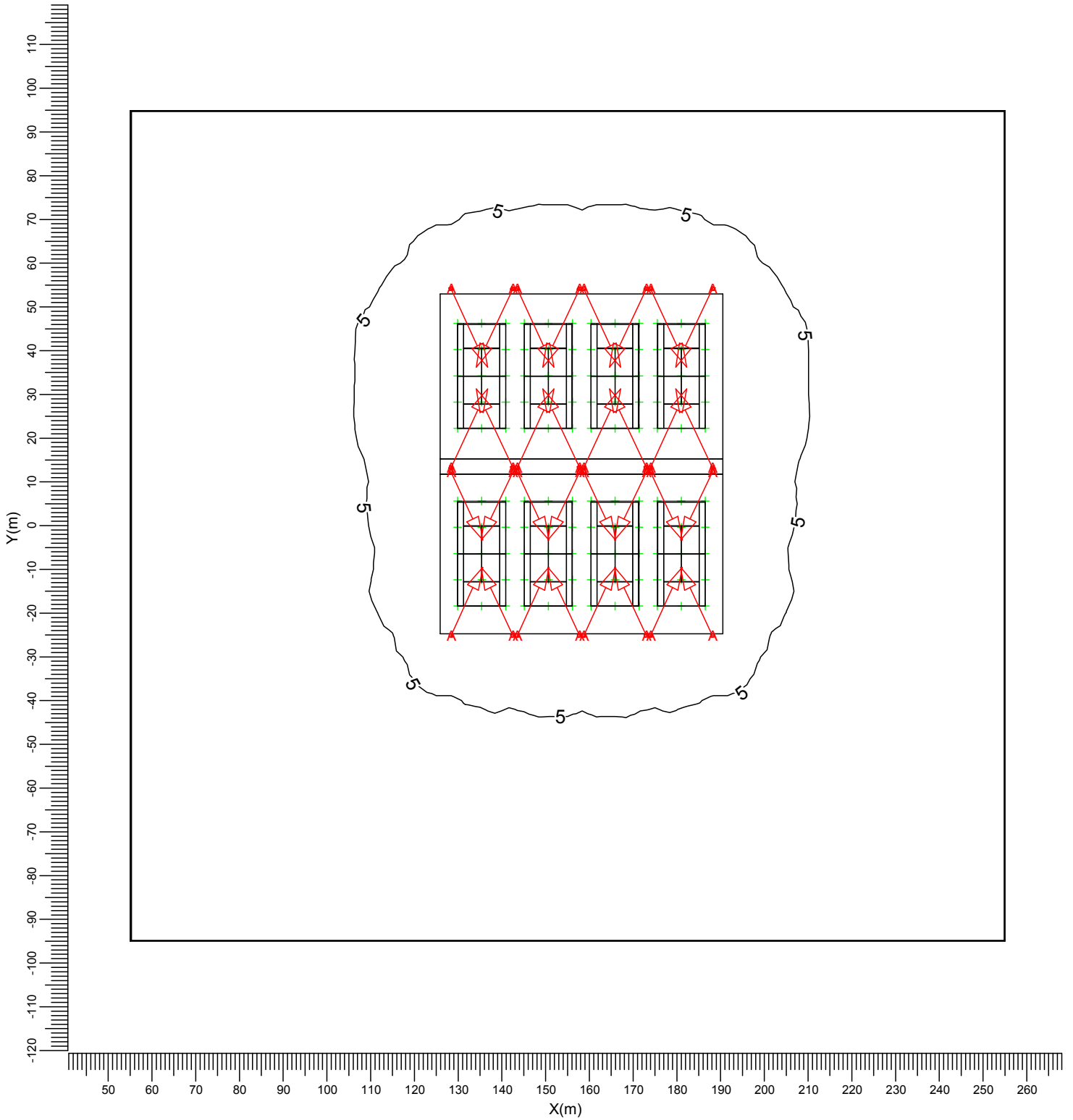
Project maintenance factor  
0.80

Scale  
1:300

### 3.9 Spillage: Iso Contour

All On

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



A  MVP507 MB/62

Project maintenance factor  
0.80

Scale  
1:1250

## 4. Luminaire Details

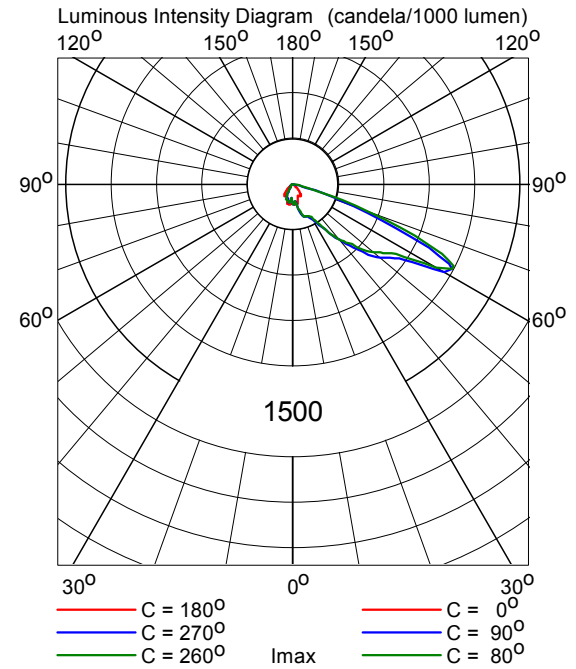
### 4.1 Project Luminaires

OptiVision MVP507  
MVP507 1xMHN-FC2000W/400V/740 MB/62



Light output ratios  
DLOR : 0.85  
ULOR : 0.00  
TLOR : 0.85  
Ballast : Conventional  
Lamp flux : 210000 lm  
Luminaire wattage : 2119.0 W  
Measurement code : LVMA700001

Note: This luminaire is a special version of the mentioned measurement code.



## 5. Installation Data

### 5.1 Legends

Project Luminaires:

Code	Qty	Luminaire Type	Lamp Type	Flux (lm)
A	32	MVP507 MB/62	1 * MHN-FC2000W/400V/740	1 * 210000

Switching Modes:

Code	Switching Mode
1	All On
2	T/C 1
3	T/C 2
4	T/C 3
5	T/C 4
6	T/C 5
7	T/C 6
8	T/C 7
9	T/C 8

### 5.2 Luminaire Positioning and Orientation

Qty and Code	Position			Aiming Angles			ULR	ULOR <sub>i</sub>	Switching Modes								
	X (m)	Y (m)	Z (m)	Rot.	Tilt90	Tilt0			1	2	3	4	5	6	7	8	9
1 * A	128.34	-25.10	8.00	65.0	65.0	0.0	0.00	0.00	+	-	-	-	-	+	-	-	-
1 * A	128.34	12.30	8.00	-65.0	65.0	-0.0	0.00	0.00	+	-	-	-	-	+	-	-	-
1 * A	128.34	13.30	8.00	65.0	68.0	-0.0	0.00	0.00	+	+	-	-	-	-	-	-	-
1 * A	128.34	54.18	8.00	-65.0	68.0	0.0	0.00	0.00	+	+	-	-	-	-	-	-	-
1 * A	142.46	-25.10	8.00	115.0	65.0	-0.0	0.00	0.00	+	-	-	-	-	+	-	-	-
1 * A	142.46	12.30	8.00	-115.0	65.0	0.0	0.00	0.00	+	-	-	-	-	+	-	-	-
1 * A	142.46	13.30	8.00	115.0	68.0	0.0	0.00	0.00	+	+	-	-	-	-	-	-	-
1 * A	142.46	54.18	8.00	-115.0	68.0	-0.0	0.00	0.00	+	+	-	-	-	-	-	-	-
1 * A	143.46	-25.10	8.00	65.0	65.0	0.0	0.00	0.00	+	-	-	-	-	-	+	-	-
1 * A	143.46	12.30	8.00	-65.0	65.0	-0.0	0.00	0.00	+	-	-	-	-	-	+	-	-
1 * A	143.46	13.30	8.00	65.0	68.0	-0.0	0.00	0.00	+	-	+	-	-	-	-	-	-
1 * A	143.46	54.18	8.00	-65.0	68.0	0.0	0.00	0.00	+	-	+	-	-	-	-	-	-
1 * A	157.70	-25.10	8.00	115.0	65.0	-0.0	0.00	0.00	+	-	-	-	-	-	+	-	-
1 * A	157.70	12.30	8.00	-115.0	65.0	0.0	0.00	0.00	+	-	-	-	-	-	+	-	-
1 * A	157.70	13.30	8.00	115.0	68.0	0.0	0.00	0.00	+	-	+	-	-	-	-	-	-
1 * A	157.70	54.18	8.00	-115.0	68.0	-0.0	0.00	0.00	+	-	+	-	-	-	-	-	-
1 * A	158.70	-25.10	8.00	65.0	65.0	0.0	0.00	0.00	+	-	-	-	-	-	-	+	-
1 * A	158.70	12.30	8.00	-65.0	65.0	-0.0	0.00	0.00	+	-	-	-	-	-	-	+	-
1 * A	158.70	13.30	8.00	65.0	68.0	-0.0	0.00	0.00	+	-	-	+	-	-	-	-	-
1 * A	158.70	54.18	8.00	-65.0	68.0	0.0	0.00	0.00	+	-	-	+	-	-	-	-	-
1 * A	172.94	-25.10	8.00	115.0	65.0	-0.0	0.00	0.00	+	-	-	-	-	-	-	+	-
1 * A	172.94	12.30	8.00	-115.0	65.0	0.0	0.00	0.00	+	-	-	-	-	-	-	+	-
1 * A	172.94	13.30	8.00	115.0	68.0	0.0	0.00	0.00	+	-	-	+	-	-	-	-	-
1 * A	172.94	54.18	8.00	-115.0	68.0	-0.0	0.00	0.00	+	-	-	+	-	-	-	-	-
1 * A	173.94	-25.10	8.00	65.0	65.0	0.0	0.00	0.00	+	-	-	-	-	-	-	-	+
1 * A	173.94	12.30	8.00	-65.0	65.0	-0.0	0.00	0.00	+	-	-	-	-	-	-	-	+
1 * A	173.94	13.30	8.00	65.0	68.0	-0.0	0.00	0.00	+	-	-	-	+	-	-	-	-



Qty and Code	Position			Aiming Angles			ULR	ULOR_i	Switching Modes								
	X (m)	Y (m)	Z (m)	Rot.	Tilt90	Tilt0			1	2	3	4	5	6	7	8	9
1 * A	173.94	54.18	8.00	-65.0	68.0	0.0	0.00	0.00	+	-	-	-	+	-	-	-	-
1 * A	188.18	-25.10	8.00	115.0	65.0	-0.0	0.00	0.00	+	-	-	-	-	-	-	-	+
1 * A	188.18	12.30	8.00	-115.0	65.0	0.0	0.00	0.00	+	-	-	-	-	-	-	-	+
1 * A	188.18	13.30	8.00	115.0	68.0	0.0	0.00	0.00	+	-	-	-	+	-	-	-	-
1 * A	188.18	54.18	8.00	-115.0	68.0	-0.0	0.00	0.00	+	-	-	-	+	-	-	-	-