

Boldon Lawn Tennis Club 6m Masts

Installation : Boldon Lawn Tennis Club 6m Masts

Project number : LSC10719/1

Customer : POWERPLUS GROUP

Processed by : John Telford

Date : 22.03.2022

Project description:
Lighting Equipment

10 x 6m Masts

Each carrying 1 x FLD160-500W-D3 Roker Floodlight, D3 Asymmetric Medium 75x30 Degree, 740

2 x 6m Masts

Each carrying 2 x FLD160-400W-D Roker Floodlight, D1 Asymmetric Narrow Beam, 740

Levels met in the ILP Guidance Notes for the Reduction of Obtrusive light :

E3 Source intensity : Required 10 Kcd, Achieved : 8.76 Kcd

E3 Vertical to properties : Required 10 Lux, Achieved 9.86 Lux

Illuminance levels

Lit to Meet minimum LTA Standards

PPA = 400 Lux, 0.70 min/ave

TPA = 300 Lux, 0.60 min/ave

Court 1 : PPA 417 Lux, 0.77 min/ave, TA PPA 412 Lux, 0.66 min/ave

Court 2 : PPA 551 Lux, 0.75 min/ave, TA PPA 524 Lux, 0.62 min/ave

Court 3 : PPA 437 Lux, 0.71 min/ave, TA PPA 450 Lux, 0.67 min/ave

Scaled from Google Earth, please check dimensions are correct and all mounting locations are suitable before ordering and installing.

The following values are based on precise calculations performed on calibrated lamps and luminaires, and their configurations, whereby gradual, unavoidable deviations can occur in practice. All guarantee claims are excluded for the specified data.

This exclusion of liability applies irrespective of the legal grounds for both damages and consequential damages suffered by users and third parties.

1 Court 1 to 3 Switched Maintained

1.1 Description, Court 1 to 3 Switched Maintained

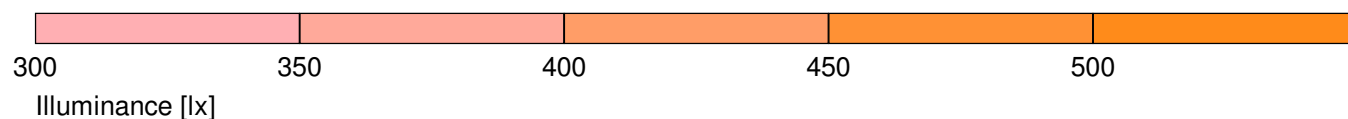
1.1.1 Floor plan



1 Court 1 to 3 Switched Maintained

1.2 Summary, Court 1 to 3 Switched Maintained

1.2.1 Result overview, Court 1 PPA



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.90
Total luminous flux of all lamps	799600 lm
Total power	5800 W
Total power per area (3547.19 m ²)	1.64 W/m ² (0.39 W/m ² /100lx)

Illuminance

Average illuminance	Em	417 lx
Minimum illuminance	Emin	320 lx
Maximum illuminance	Emax	588 lx
Uniformity Uo	Emin/Em	1:1.3 (0.77)
Diversity Ud	Emin/Emax	1:1.84 (0.54)

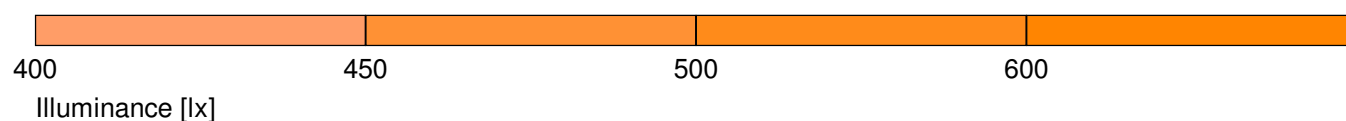
Type No.\Make

Venture Lighting Europe Ltd.

19	2	Order No.	: FLD160-400W-D1
		Luminaire name	: 400W Roker Floodlight, D1 Asymmetric Narrow Beam, 740
		Equipment	: 1 x LED 740 400 W / 54800 lm
21	10	Order No.	: FLD160-500W-D3
		Luminaire name	: 500W Roker Floodlight, D3 Asymmetric Medium 75x30 Degree, 740
		Equipment	: 1 x LED 740 500 W / 69000 lm

1.2 Summary, Court 1 to 3 Switched Maintained

1.2.2 Result overview, Court 2 PPA



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.90
Total luminous flux of all lamps	799600 lm
Total power	5800 W
Total power per area (3547.19 m ²)	1.64 W/m ² (0.30 W/m ² /100lx)

Illuminance

Average illuminance	Em	551 lx
Minimum illuminance	Emin	416 lx
Maximum illuminance	Emax	711 lx
Uniformity Uo	Emin/Em	1:1.33 (0.75)
Diversity Ud	Emin/Emax	1:1.71 (0.58)

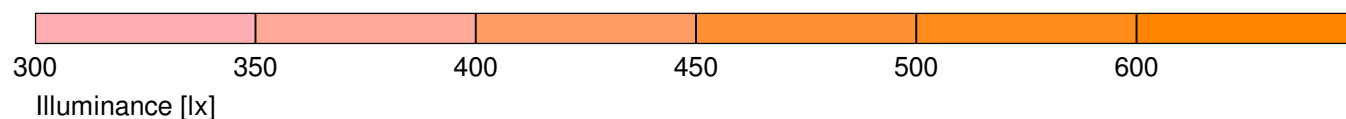
Type No.\Make

Venture Lighting Europe Ltd.

19	2	Order No.	: FLD160-400W-D1
		Luminaire name	: 400W Roker Floodlight, D1 Asymmetric Narrow Beam, 740
		Equipment	: 1 x LED 740 400 W / 54800 lm
21	10	Order No.	: FLD160-500W-D3
		Luminaire name	: 500W Roker Floodlight, D3 Asymmetric Medium 75x30 Degree, 740
		Equipment	: 1 x LED 740 500 W / 69000 lm

1.2 Summary, Court 1 to 3 Switched Maintained

1.2.3 Result overview, Court 3 PPA



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.90
Total luminous flux of all lamps	799600 lm
Total power	5800 W
Total power per area (3547.19 m ²)	1.64 W/m ² (0.37 W/m ² /100lx)

Illuminance

Average illuminance	Em	437 lx
Minimum illuminance	Emin	308 lx
Maximum illuminance	Emax	616 lx
Uniformity Uo	Emin/Em	1:1.42 (0.71)
Diversity Ud	Emin/Emax	1:2 (0.5)

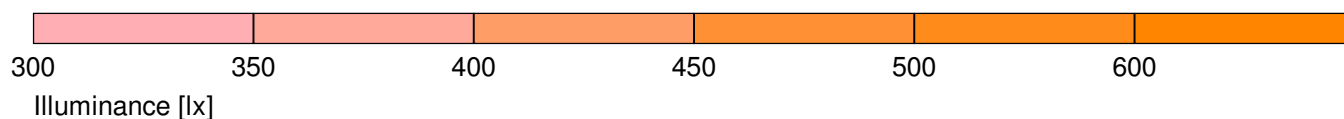
Type No.\Make

Venture Lighting Europe Ltd.

19	2	Order No.	: FLD160-400W-D1
		Luminaire name	: 400W Roker Floodlight, D1 Asymmetric Narrow Beam, 740
		Equipment	: 1 x LED 740 400 W / 54800 lm
21	10	Order No.	: FLD160-500W-D3
		Luminaire name	: 500W Roker Floodlight, D3 Asymmetric Medium 75x30 Degree, 740
		Equipment	: 1 x LED 740 500 W / 69000 lm

1.2 Summary, Court 1 to 3 Switched Maintained

1.2.4 Result overview, Court 3 TA



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.90

Total luminous flux of all lamps	799600 lm
Total power	5800 W
Total power per area (3547.19 m ²)	1.64 W/m ²

Illuminance

Average illuminance	Em	450 lx
Minimum illuminance	Emin	304 lx
Maximum illuminance	Emax	692 lx
Uniformity Uo	Emin/Em	1:1.48 (0.67)
Diversity Ud	Emin/Emax	1:2.28 (0.44)

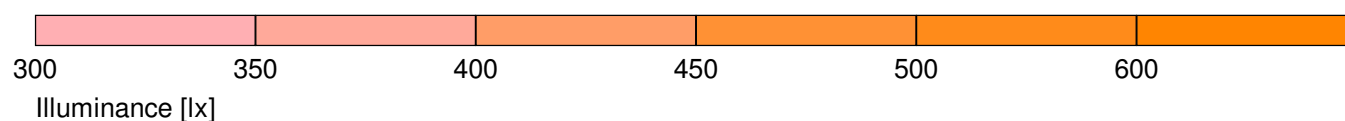
Type No.\Make

Venture Lighting Europe Ltd.

19	2	Order No.	: FLD160-400W-D1
		Luminaire name	: 400W Roker Floodlight, D1 Asymmetric Narrow Beam, 740
		Equipment	: 1 x LED 740 400 W / 54800 lm
21	10	Order No.	: FLD160-500W-D3
		Luminaire name	: 500W Roker Floodlight, D3 Asymmetric Medium 75x30 Degree, 740
		Equipment	: 1 x LED 740 500 W / 69000 lm

1.2 Summary, Court 1 to 3 Switched Maintained

1.2.5 Result overview, Court 2 TA



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.90

Total luminous flux of all lamps	799600 lm
Total power	5800 W
Total power per area (3547.19 m ²)	1.64 W/m ²

Illuminance

Average illuminance	Em	524 lx
Minimum illuminance	Emin	322 lx
Maximum illuminance	Emax	778 lx
Uniformity Uo	Emin/Em	1:1.63 (0.62)
Diversity Ud	Emin/Emax	1:2.42 (0.41)

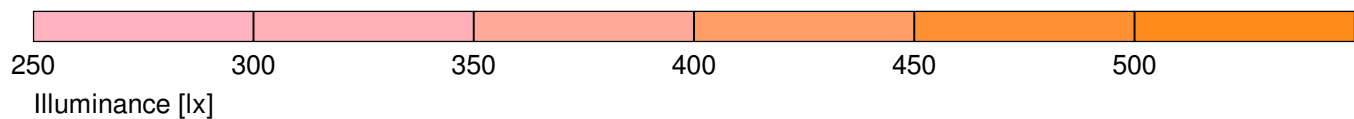
Type No.\Make

Venture Lighting Europe Ltd.

19	2	Order No.	: FLD160-400W-D1
		Luminaire name	: 400W Roker Floodlight, D1 Asymmetric Narrow Beam, 740
		Equipment	: 1 x LED 740 400 W / 54800 lm
21	10	Order No.	: FLD160-500W-D3
		Luminaire name	: 500W Roker Floodlight, D3 Asymmetric Medium 75x30 Degree, 740
		Equipment	: 1 x LED 740 500 W / 69000 lm

1.2 Summary, Court 1 to 3 Switched Maintained

1.2.6 Result overview, Court 1 TA



General

Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Maintenance factor	0.90

Total luminous flux of all lamps	799600 lm
Total power	5800 W
Total power per area (3547.19 m ²)	1.64 W/m ²

Illuminance

Average illuminance	Em	412 lx
Minimum illuminance	Emin	271 lx
Maximum illuminance	Emax	575 lx
Uniformity Uo	Emin/Em	1:1.52 (0.66)
Diversity Ud	Emin/Emax	1:2.13 (0.47)

Type No.\Make

Venture Lighting Europe Ltd.

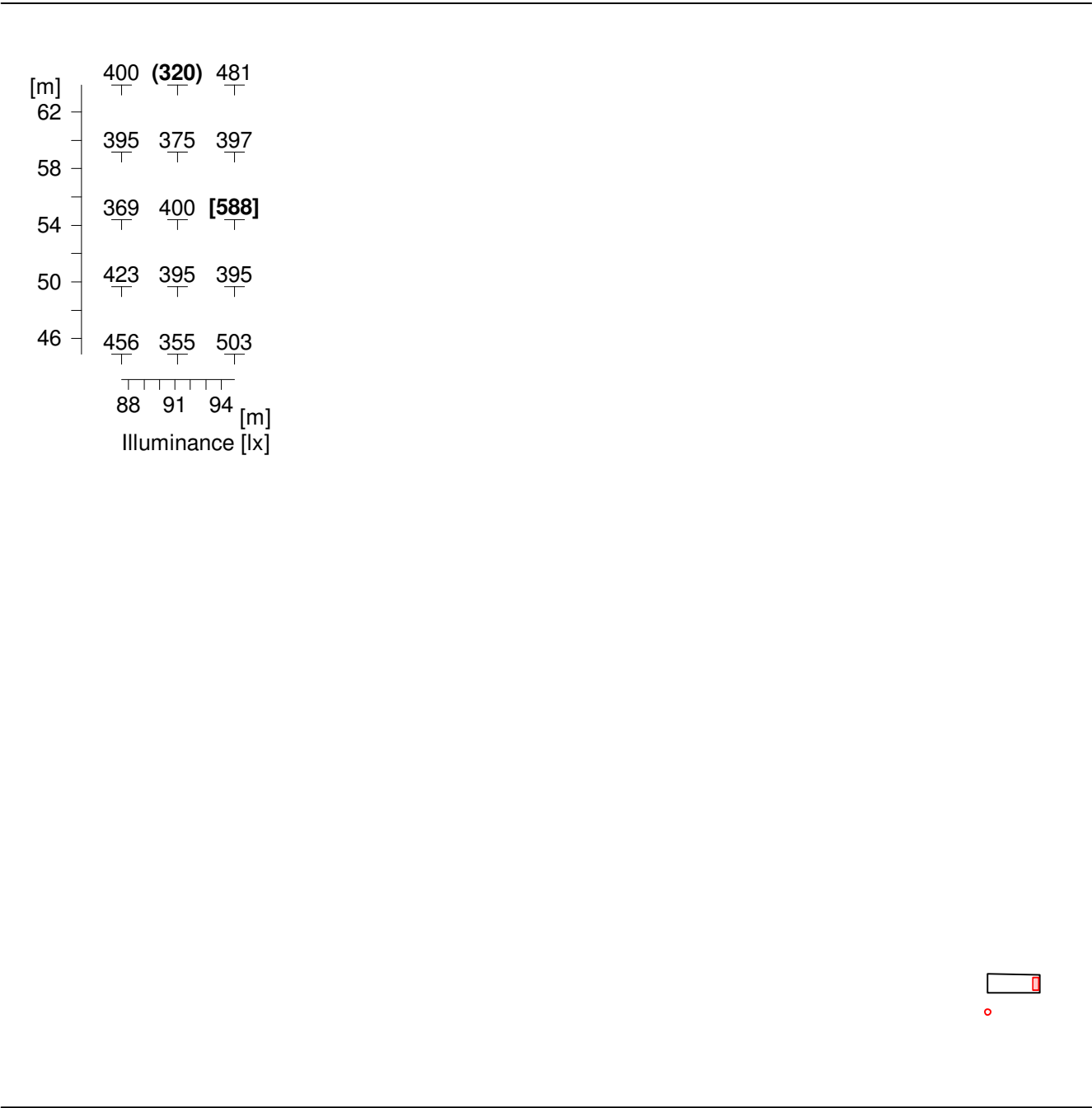
19	2	Order No.	: FLD160-400W-D1
		Luminaire name	: 400W Roker Floodlight, D1 Asymmetric Narrow Beam, 740
		Equipment	: 1 x LED 740 400 W / 54800 lm
21	10	Order No.	: FLD160-500W-D3
		Luminaire name	: 500W Roker Floodlight, D3 Asymmetric Medium 75x30 Degree, 740
		Equipment	: 1 x LED 740 500 W / 69000 lm



1 Court 1 to 3 Switched Maintained

1.3 Calculation results, Court 1 to 3 Switched Maintained

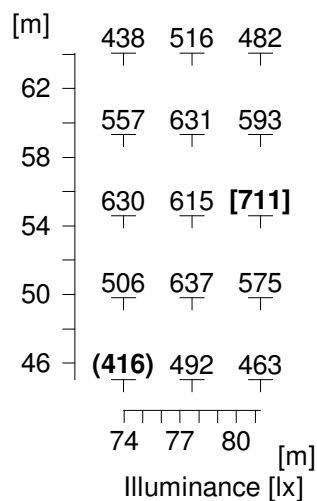
1.3.1 Table, Court 1 PPA (E)



Height reference plane	: 0.00 m
Average illuminance	Em : 417 lx
Minimum illuminance	Emin : 320 lx
Maximum illuminance	Emax : 588 lx
Uniformity Uo	Emin/Em : 1 : 1.30 (0.77)
Diversity Ud	Emin/Emax : 1 : 1.84 (0.54)

1.3 Calculation results, Court 1 to 3 Switched Maintained

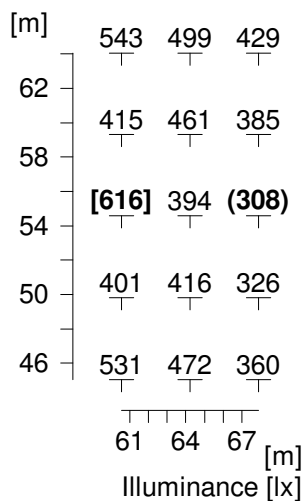
1.3.2 Table, Court 2 PPA (E)



Height reference plane	:	0.00 m
Average illuminance	Em	: 551 lx
Minimum illuminance	Emin	: 416 lx
Maximum illuminance	Emax	: 711 lx
Uniformity Uo	Emin/Em	: 1 : 1.33 (0.75)
Diversity Ud	Emin/Emax	: 1 : 1.71 (0.58)

1.3 Calculation results, Court 1 to 3 Switched Maintained

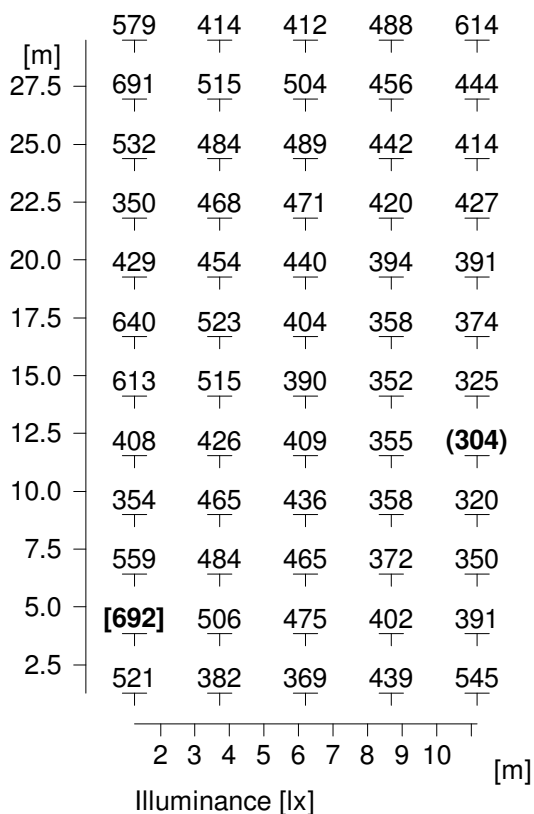
1.3.3 Table, Court 3 PPA (E)



Height reference plane	:	0.00 m
Average illuminance	Em	: 437 lx
Minimum illuminance	Emin	: 308 lx
Maximum illuminance	Emax	: 616 lx
Uniformity Uo	Emin/Em	: 1 : 1.42 (0.71)
Diversity Ud	Emin/Emax	: 1 : 2.00 (0.50)

1.3 Calculation results, Court 1 to 3 Switched Maintained

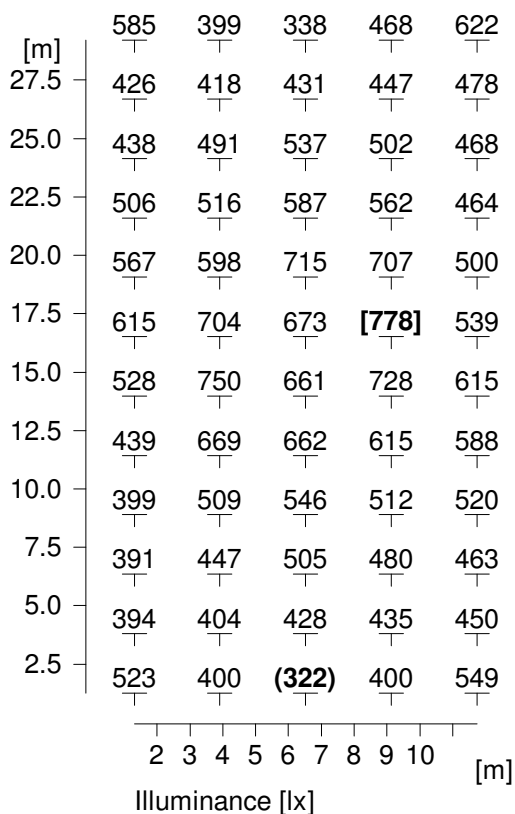
1.3.4 Table, Court 3 TA (E)



Height reference plane	: 0.00 m
Average illuminance	Em : 450 lx
Minimum illuminance	Emin : 304 lx
Maximum illuminance	Emax : 692 lx
Uniformity Uo	Emin/Em : 1 : 1.48 (0.67)
Diversity Ud	Emin/Emax : 1 : 2.28 (0.44)

1.3 Calculation results, Court 1 to 3 Switched Maintained

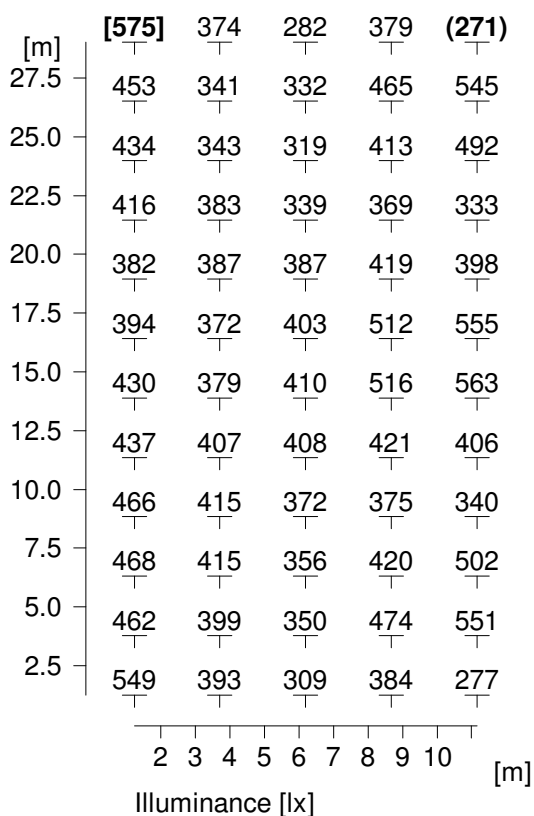
1.3.5 Table, Court 2 TA (E)



Height reference plane	: 0.00 m
Average illuminance	Em : 524 lx
Minimum illuminance	Emin : 322 lx
Maximum illuminance	Emax : 778 lx
Uniformity Uo	Emin/Em : 1 : 1.63 (0.62)
Diversity Ud	Emin/Emax : 1 : 2.42 (0.41)

1.3 Calculation results, Court 1 to 3 Switched Maintained

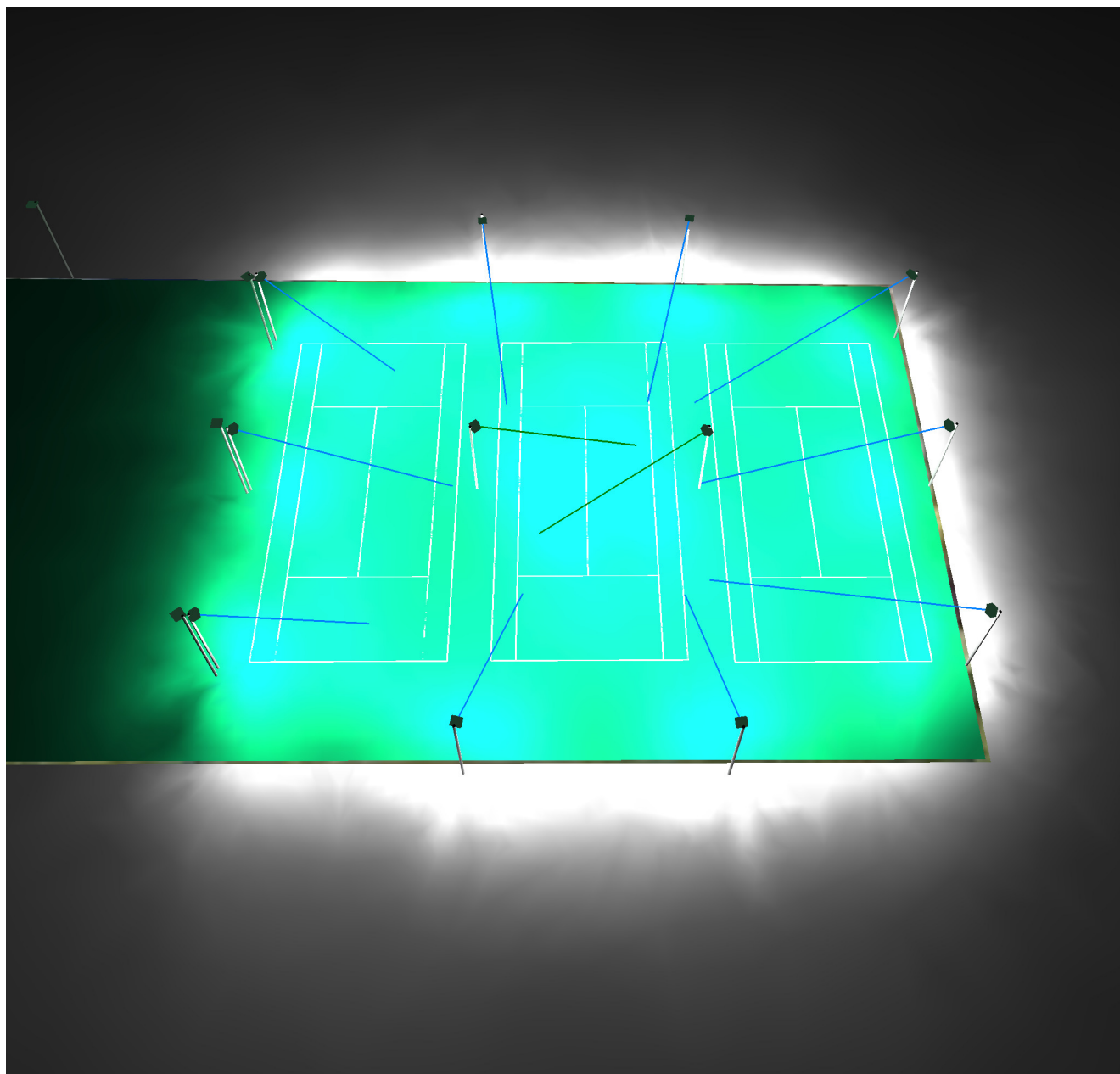
1.3.6 Table, Court 1 TA (E)



Height reference plane		: 0.00 m
Average illuminance	Em	: 412 lx
Minimum illuminance	Emin	: 271 lx
Maximum illuminance	Emax	: 575 lx
Uniformity Uo	Emin/Em	: 1 : 1.52 (0.66)
Diversity Ud	Emin/Emax	: 1 : 2.13 (0.47)

1.3 Calculation results, Court 1 to 3 Switched Maintained

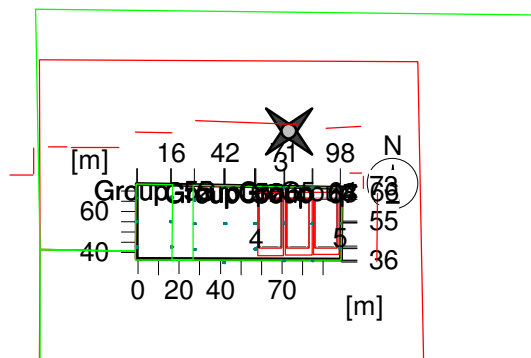
1.3.7 3D luminance, View 1



2 Court 1 to 3 Switched Initial

2.1 Calculation results, Court 1 to 3 Switched Initial

2.1.1 Luminous intensity - I(p) 3



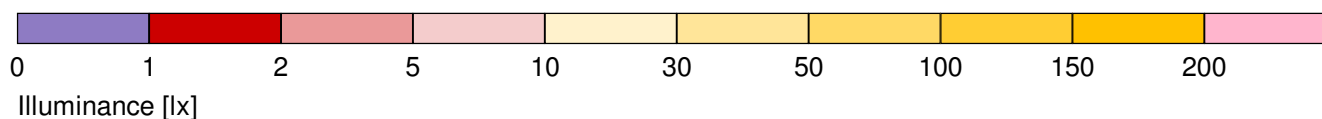
Measuring point for luminous intensity: I(p) 3

Position : x = 73.48 m, y = 98.76 m, z = 0.00 m

No.	Luminaire	Position			Lumin. intensity
		x[m]	y[m]	z[m]	
1	500W Roker Floodlight, D3 Asymmetric Medi..., FLD160-500W-D3	98.14	42.45	5.87	8.762
2	500W Roker Floodlight, D3 Asymmetric Medi..., FLD160-500W-D3	84.78	36.31	5.86	4.439
3	500W Roker Floodlight, D3 Asymmetric Medi..., FLD160-500W-D3	70.98	36.41	5.86	4.054
4	500W Roker Floodlight, D3 Asymmetric Medi..., FLD160-500W-D3	98.23	54.58	5.87	1.538
5	500W Roker Floodlight, D3 Asymmetric Medi..., FLD160-500W-D3	57.27	42.41	5.85	1.429
6	400W Roker Floodlight, D1 Asymmetric Narr..., FLD160-400W-D1	71.18	54.67	5.85	0.928
7	500W Roker Floodlight, D3 Asymmetric Medi..., FLD160-500W-D3	57.41	54.52	5.86	0.895
8	500W Roker Floodlight, D3 Asymmetric Medi..., FLD160-500W-D3	98.14	66.69	5.87	0.850
9	500W Roker Floodlight, D3 Asymmetric Medi..., FLD160-500W-D3	57.27	66.73	5.85	0.509
10	400W Roker Floodlight, D1 Asymmetric Narr..., FLD160-400W-D1	84.38	54.30	5.85	0.096
11	Skyline Elite+ 600W LED 4000K Type3 Floodlight IP66, 08874	27.35	41.96	6.65	0.000
12	Skyline Elite+ 600W LED 4000K Type3 Floodlight IP66, 08874	41.81	35.31	6.65	0.000
13	Skyline Elite+ 600W LED 4000K Type4 Floodlight IP66, 08875	56.71	54.31	6.65	0.000
14	Skyline Elite+ 600W LED 4000K Type3 Floodlight IP66, 08874	41.88	54.35	6.65	0.000
15	Skyline Elite+ 600W LED 4000K Type3 Floodlight IP66, 08874	42.19	54.35	6.65	0.000
16	Skyline Elite+ 600W LED 4000K Type3 Floodlight IP66, 08874	41.81	72.56	6.65	0.000
17	Skyline Elite+ 600W LED 4000K Type3 Floodlight IP66, 08874	16.23	67.19	6.65	0.000
18	Skyline Elite+ 600W LED 4000K Type3 Floodlight IP66, 08874	27.35	65.89	6.65	0.000
19	Skyline Elite+ 600W LED 4000K Type4 Floodlight IP66, 08875	15.99	55.40	6.65	0.000
20	Skyline Elite+ 600W LED 4000K Type4 Floodlight IP66, 08875	-0.84	55.40	6.65	0.000
21	Skyline Elite+ 600W LED 4000K Type4 Floodlight IP66, 08875	27.22	54.31	6.65	0.000
22	Skyline Elite+ 600W LED 4000K Type3 Floodlight IP66, 08874	56.75	65.89	6.65	0.000
23	Skyline Elite+ 600W LED 4000K Type3 Floodlight IP66, 08874	16.23	43.12	6.65	0.000
24	Skyline Elite+ 600W LED 4000K Type3 Floodlight IP66, 08874	-0.73	43.12	6.65	0.000
25	500W Roker Floodlight, D3 Asymmetric Medi..., FLD160-500W-D3	70.99	71.77	5.86	0.000
26	Skyline Elite+ 600W LED 4000K Type3 Floodlight IP66, 08874	56.75	41.96	6.65	0.000
27	Skyline Elite+ 600W LED 4000K Type3 Floodlight IP66, 08874	-0.73	67.19	6.65	0.000
28	500W Roker Floodlight, D3 Asymmetric Medi..., FLD160-500W-D3	84.50	71.94	5.86	0.000

2.1 Summary, Court 1 to 3 Switched Initial

2.1.2 Result overview, Light Overspill



General

Calculation algorithm used
 Maintenance factor

Average indirect fraction
 1.00

Total luminous flux of all lamps
 Total power
 Total power per area (3547.19 m²)

799600 lm
 5800 W
 1.64 W/m²

Illuminance

Average illuminance	Em	2 lx
Minimum illuminance	Emin	0 lx
Maximum illuminance	Emax	234 lx
Uniformity Uo	Emin/Em	1:88.9 (0.01)
Diversity Ud	Emin/Emax	1:8660 (0)

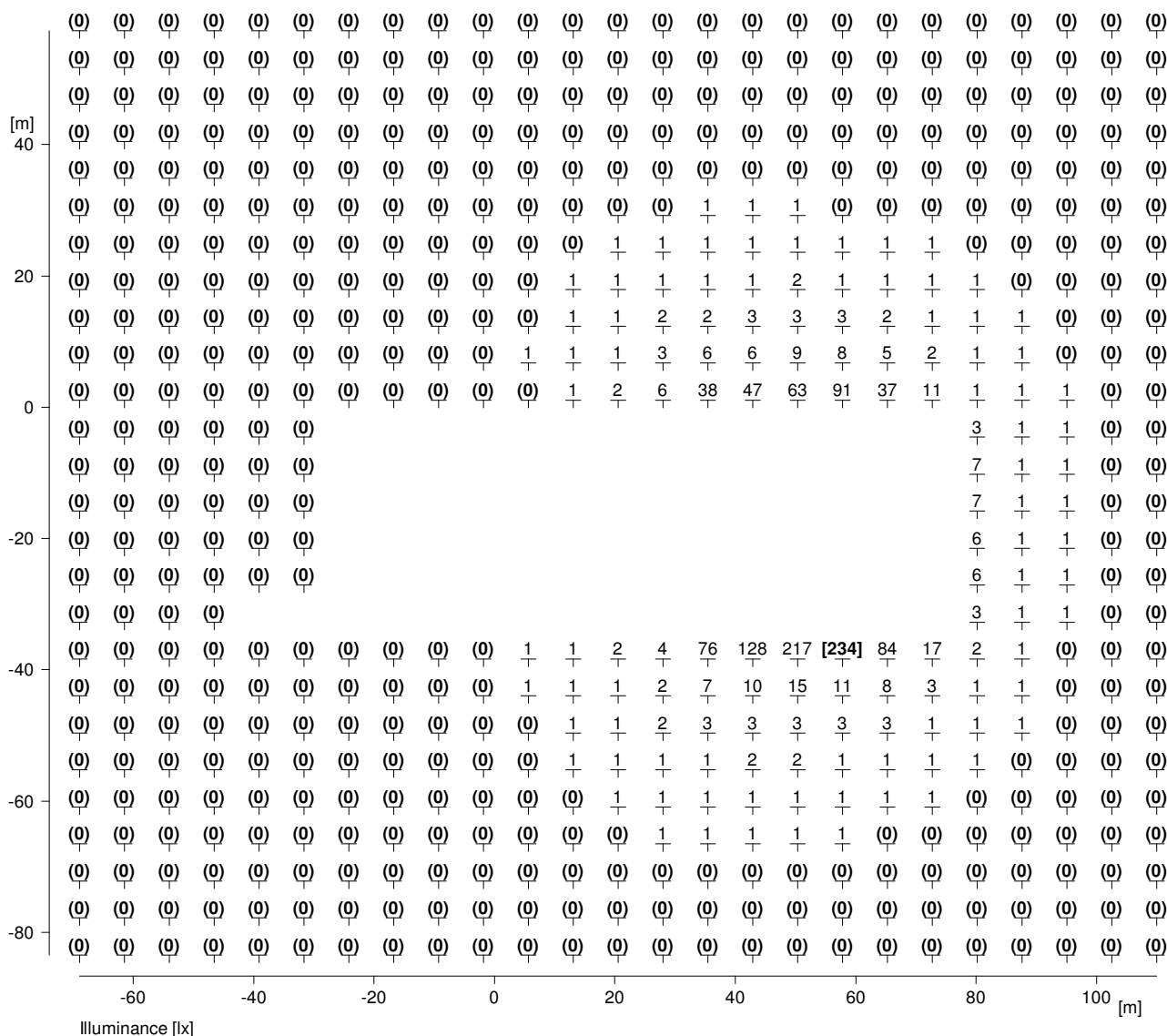
Type No.\Make

Venture Lighting Europe Ltd.	
19 2	Order No. : FLD160-400W-D1
	Luminaire name : 400W Roker Floodlight, D1 Asymmetric Narrow Beam, 740
	Equipment : 1 x LED 740 400 W / 54800 lm
21 10	Order No. : FLD160-500W-D3
	Luminaire name : 500W Roker Floodlight, D3 Asymmetric Medium 75x30 Degree, 740
	Equipment : 1 x LED 740 500 W / 69000 lm

2 Court 1 to 3 Switched Initial

2.2 Calculation results, Court 1 to 3 Switched Initial

2.2.1 Table, Light Overspill (E)



Average illuminance	Em	: 2 lx
Minimum illuminance	Emin	: 0 lx
Maximum illuminance	Emax	: 234 lx
Uniformity Uo	Emin/Em	: 1 : 88.87 (0.01)
Diversity Ud	Emin/Emax	: 1 : 8658.42 (0.00)





2.2 Calculation results, Court 1 to 3 Switched Initial

2.2.2 Table, N 2 Vert to properties (E)

3.41	3.48	3.55	3.63	3.72	3.77	3.86	3.93	3.98	4.04	4.11	4.15	4.2	4.24	4.34	4.43	4.47	4.2	4.53	4.56	4.64	4.66	4.78	4.88	4.98	5.06	5.16	5.27	5.37	
3.42	3.49	3.56	3.64	3.73	3.79	3.87	3.93	3.96	4.02	4.09	4.12	4.17	4.23	4.34	4.44	4.46	4.18	4.49	4.52	4.6	4.63	4.74	4.84	4.96	5.04	5.15	5.26	5.36	
3.43	3.5	3.59	3.67	3.77	3.82	3.89	3.93	3.97	4.01	4.05	4.07	4.13	4.18	4.3	4.42	4.44	4.18	4.51	4.51	4.57	4.6	4.72	4.82	4.89	4.99	5.11	5.23	5.4	
3.44	3.52	3.61	3.7	3.79	3.86	3.93	3.97	4.01	4.05	4.08	4.07	4.09	4.12	4.24	4.35	4.41	4.18	4.52	4.56	4.61	4.63	4.7	4.78	4.88	4.95	5.06	5.22	5.37	
3.46	3.54	3.64	3.71	3.79	3.87	3.96	4.03	4.08	4.11	4.15	4.13	4.13	4.12	4.19	4.31	4.37	4.15	4.52	4.58	4.63	4.66	4.75	4.79	4.88	4.94	5.06	5.22	5.3	
3.49	3.58	3.67	3.75	3.82	3.89	3.97	4.05	4.12	4.18	4.22	4.2	4.21	4.19	4.25	4.34	4.4	4.14	4.5	4.06	4.49	4.69	4.77	4.85	4.89	5	5.11	5.23	5.34	
3.55	3.63	3.71	3.79	3.86	3.93	4.01	4.07	4.14	4.2	4.27	4.27	4.28	4.26	4.35	4.46	4.49	4.18	4.53	4.06	4.45	4.68	4.78	4.86	4.94	5.01	5.15	5.28	5.37	
3.62	3.7	3.8	3.85	3.91	3.97	4.05	4.11	4.18	4.23	4.29	4.27	4.29	4.32	4.43	4.57	4.61	4.28	4.6	4.05	4.47	4.7	4.79	4.84	4.9	5.06	5.16	5.27	5.35	
3.67	3.75	3.84	3.9	3.95	4.03	4.04	4.1	4.22	4.26	4.3	4.27	4.28	4.32	4.47	4.63	4.68	4.32	4.67	4.06	4.5	4.73	4.8	4.87	4.94	5.04	5.1	5.23	5.34	
20					25					30					35														



2.2 Calculation results, Court 1 to 3 Switched Initial

2.2.2 Table, N 2 Vert to properties (E)

5.52	5.65	5.73	5.85	5.91	5.57	5.69	6.06	6.11	6.17	6.16	6.2	6.17	[6.23]	6.21
5.49	5.63	5.7	5.77	5.87	5.52	5.63	6.04	6.1	6.13	6.14	6.16	6.08	6.12	6.14
5.5	5.6	5.66	5.75	5.79	5.42	5.59	6.01	6.06	6.13	6.13	6.12	6.06	6.05	6.05
5.46	5.59	5.65	5.7	5.78	5.38	5.52	5.96	6.06	6.1	6.1	6.1	6.03	6.05	5.98
5.44	5.55	5.64	5.72	5.76	4.34	5.48	5.96	5.99	6.03	6.07	6.1	6.04	6.03	5.97
5.42	5.53	5.63	5.68	5.74	4.22	5.43	5.86	5.93	6	6.02	6.04	5.97	6.01	5.98
5.44	5.53	5.58	5.67	5.74	4.11	5.4	5.82	5.85	5.88	5.91	5.97	5.94	5.92	5.89
5.43	5.54	5.6	5.68	5.71	3.98	5.4	5.84	5.78	5.76	5.78	5.81	5.81	5.82	5.76
5.38	5.48	5.51	5.58	5.66	3.85	5.35	5.75	5.69	5.69	5.67	5.65	5.62	5.62	5.6
								40						
									45 [m]					

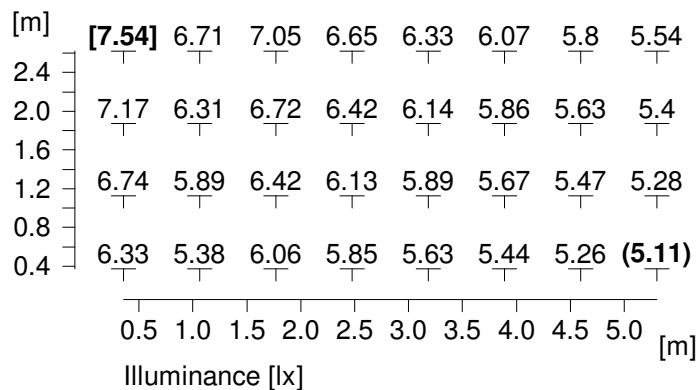


Part3



2.2 Calculation results, Court 1 to 3 Switched Initial

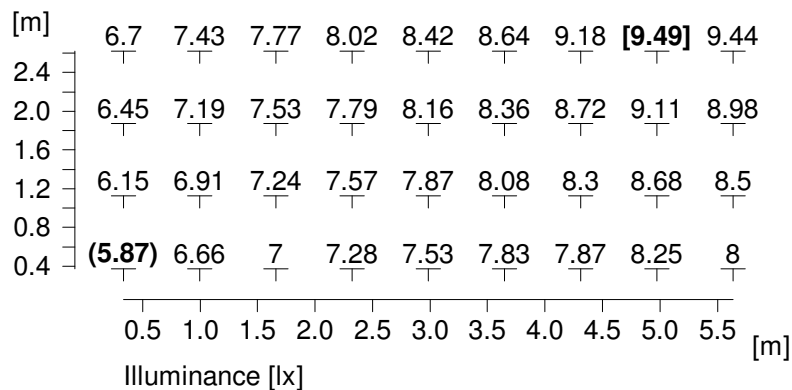
2.2.4 Table, E 1 Vert to properties (E)



Average illuminance	Em	: 6.06 lx
Minimum illuminance	Emin	: 5.11 lx
Maximum illuminance	Emax	: 7.54 lx
Uniformity Uo	Emin/Em	: 1 : 1.19 (0.84)
Diversity Ud	Emin/Emax	: 1 : 1.48 (0.68)

2.2 Calculation results, Court 1 to 3 Switched Initial

2.2.5 Table, E 2 Vert to properties (E)



Average illuminance	Em	: 7.86 lx
Minimum illuminance	Emin	: 5.87 lx
Maximum illuminance	Emax	: 9.49 lx
Uniformity Uo	Emin/Em	: 1 : 1.34 (0.75)
Diversity Ud	Emin/Emax	: 1 : 1.62 (0.62)

2.2 Calculation results, Court 1 to 3 Switched Initial

2.2.6 Table, E 3 Vert to properties (E)

[m]	7.46	7.91	8.05	8.13	8.26	7.72	8.6	8.7	8.82	8.95	9.04	9.07	9.26	9.34	9.4	9.49	9.5	9.12	9.54	9.67	9.69	9.75	9.8	[9.86]	[9.86]	9.65	8.85			
3.5	7.34	7.82	7.93	8.03	8.18	7.55	8.46	8.55	8.68	8.79	8.86	8.89	9.08	9.19	9.27	9.37	9.35	8.96	9.41	9.51	9.52	9.57	9.53	9.57	9.6	9.43	8.68			
3.0	7.17	7.65	7.81	7.92	8.08	7.37	8.35	8.46	8.57	8.66	8.71	8.74	8.89	8.98	9.06	9.17	9.14	8.79	9.25	9.37	9.34	9.35	9.33	9.33	9.29	9.13	8.39			
2.5	6.98	7.48	7.63	7.72	7.91	7.15	8.22	8.32	8.41	8.53	8.61	8.63	8.73	8.78	8.83	8.92	8.88	8.56	9.04	9.13	9.12	9.16	9.12	9.09	9.04	8.85	8.09			
2.0	6.84	7.32	7.42	7.53	7.74	6.89	7.99	8.09	8.22	8.35	8.43	8.48	8.56	8.61	8.65	8.69	8.61	8.28	8.76	8.86	8.88	8.89	8.87	8.82	8.8	8.64	7.87			
1.5	6.72	7.19	7.29	7.42	7.56	6.63	7.79	7.91	7.99	8.12	8.19	8.28	8.37	8.45	8.49	8.48	8.33	7.95	8.44	8.53	8.56	8.61	8.6	8.56	8.5	8.35	7.6			
1.0	6.62	7.09	7.18	7.3	7.42	6.4	7.66	7.75	7.83	7.9	7.99	8.06	8.21	8.25	8.25	8.28	8.1	7.71	8.16	8.18	8.22	8.29	8.25	8.21	8.14	8	7.32			
0.5	6.44	6.9	7.06	7.12	7.27	6.15	7.54	7.57	7.62	7.65	7.76	7.86	8	7.96	8.03	8.11	7.86	7.46	7.91	7.87	7.83	7.79	7.81	7.79	7.73	7.65	6.98			
	5										10																			
	Illuminance [lx]																													



Part1

Average illuminance	Em	: 7.9 lx
Minimum illuminance	Emin	: 5.72 lx
Maximum illuminance	Emax	: 9.86 lx
Uniformity Uo	Emin/Em	: 1 : 1.38 (0.72)
Diversity Ud	Emin/Emax	: 1 : 1.72 (0.58)

2.2 Calculation results, Court 1 to 3 Switched Initial

2.2.6 Table, E 3 Vert to properties (E)

8.3	8.76	9.77	9.73	9.67	9.67	9.58	9.52	9.21	9.02	9.41	9.33	9.21	9.11	8.91	8.92	8.65	8.69	8.54	8.42	7.73	8.26	8.14	7.72	7.93	7.77	7.25	7.14	7.29
8.08	8.5	9.5	9.49	9.45	9.42	9.28	9.25	8.98	8.78	9.16	9.09	8.97	8.84	8.7	8.68	8.46	8.5	8.33	8.23	7.48	8.1	7.98	7.54	7.73	7.57	7.07	6.97	7.15
7.76	8.25	9.28	9.25	9.19	9.17	9.06	9	8.68	8.47	8.86	8.78	8.7	8.59	8.45	8.46	8.23	8.27	8.17	8.04	7.22	7.89	7.77	7.33	7.55	7.39	6.9	6.81	7.03
7.41	7.92	8.99	8.98	8.92	8.88	8.79	8.73	8.37	8.13	8.53	8.5	8.43	8.36	8.22	8.17	7.97	8.08	7.96	7.84	6.99	7.67	7.54	7.1	7.36	7.22	6.73	6.67	6.9
7.08	7.55	8.61	8.61	8.58	8.53	8.43	8.37	8.08	7.89	8.28	8.21	8.12	8.07	8	7.97	7.73	7.78	7.71	7.6	6.73	7.45	7.34	6.88	7.17	7.06	6.59	6.49	6.75
6.76	7.24	8.28	8.23	8.16	8.13	8.07	8.04	7.74	7.56	8.01	7.97	7.88	7.82	7.73	7.68	7.48	7.52	7.41	7.3	6.43	7.24	7.16	6.72	7.01	6.89	6.4	6.33	6.61
6.44	6.92	7.95	7.86	7.79	7.74	7.71	7.7	7.37	7.18	7.65	7.64	7.59	7.51	7.42	7.35	7.13	7.18	7.1	7.03	6.1	7.05	7	6.55	6.87	6.73	6.19	6.14	6.45
6.07	6.51	7.55	7.5	7.47	7.4	7.32	7.27	6.92	6.74	7.19	7.19	7.21	7.07	7.01	6.94	6.75	6.84	6.8	6.76	(5.72)	6.8	6.78	6.29	6.65	6.46	5.95	5.9	6.24
15										20										25								





2.2 Calculation results, Court 1 to 3 Switched Initial

2.2.6 Table, E 3 Vert to properties (E)

7.19	7.04	6.84	6.78	6.72	6.61
7.05	6.9	6.75	6.69	6.59	6.48
6.93	6.78	6.61	6.55	6.48	6.34
6.79	6.65	6.48	6.4	6.33	6.22
6.65	6.52	6.37	6.29	6.2	6.1
6.5	6.38	6.26	6.2	6.11	6.02
6.37	6.24	6.13	6.05	6.01	5.92
6.17	6.07	5.99	5.9	5.82	5.76
30 [m]					





2.2 Calculation results, Court 1 to 3 Switched Initial

2.2.7 Table, N 1 Vert to properties (E)

1,36
└
1,36
└
1,36
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1,38
└
1,41
└
1,45
└
1,48
└
[1,51]
└



Part2

2.2 Calculation results, Court 1 to 3 Switched Initial

2.2.8 Table, NW 1 Vert to properties (E)

[m]	0.29	0.29	0.29	0.3	0.29	0.29	0.29	0.27	0.28	0.3	0.29	0.31	0.34	0.33	0.36	0.38	0.39	0.39	0.4	0.41	0.42	0.43	0.4	0.41	0.44	0.47	0.42
5.5	0.29	0.29	0.29	0.3	0.29	0.29	0.29	0.27	0.28	0.3	0.29	0.31	0.34	0.33	0.36	0.38	0.39	0.39	0.4	0.41	0.42	0.43	0.4	0.41	0.44	0.47	0.42
5.0	0.29	0.29	0.29	0.3	0.29	0.29	0.29	0.27	0.28	0.29	0.28	0.31	0.34	0.33	0.36	0.38	0.39	0.39	0.4	0.41	0.42	0.43	0.39	0.41	0.44	0.47	0.42
4.5	0.29	0.29	0.29	0.3	0.29	0.29	0.29	0.27	0.28	0.29	0.28	0.31	0.34	0.33	0.36	0.38	0.39	0.39	0.4	0.41	0.42	0.43	0.39	0.41	0.44	0.47	0.42
4.0	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.27	0.28	0.29	0.28	0.31	0.34	0.32	0.36	0.38	0.39	0.39	0.4	0.41	0.42	0.43	0.39	0.4	0.44	0.47	0.42
3.5	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.27	0.28	0.29	0.28	0.31	0.34	0.32	0.36	0.38	0.39	0.39	0.4	0.41	0.42	0.43	0.39	0.4	0.44	0.47	0.42
3.0	0.29	0.28	0.29	0.29	0.29	0.29	0.29	(0.26)	0.27	0.29	0.28	0.31	0.34	0.32	0.36	0.38	0.39	0.39	0.4	0.41	0.43	0.43	0.4	0.41	0.44	0.47	0.42
2.5	0.29	0.28	0.29	0.29	0.28	0.29	0.29	(0.26)	0.27	0.29	0.28	0.31	0.34	0.32	0.36	0.39	0.39	0.39	0.4	0.41	0.43	0.44	0.4	0.41	0.44	0.47	0.42
2.0	0.29	0.28	0.29	0.29	0.28	0.29	0.29	(0.26)	0.27	0.29	0.28	0.3	0.34	0.32	0.36	0.39	0.4	0.39	0.4	0.42	0.43	0.44	0.4	0.41	0.44	0.47	0.42
1.5	0.29	0.28	0.29	0.3	0.29	0.29	0.29	(0.26)	0.27	0.29	0.28	0.31	0.34	0.32	0.37	0.39	0.4	0.4	0.41	0.42	0.44	0.44	0.4	0.41	0.45	0.48	0.43
1.0	0.29	0.28	0.29	0.3	0.29	0.29	0.29	(0.26)	0.27	0.29	0.28	0.31	0.34	0.32	0.37	0.39	0.4	0.4	0.41	0.42	0.44	0.44	0.4	0.41	0.45	0.48	0.43
0.5	0.3	0.29	0.3	0.3	0.29	0.3	0.3	0.27	0.28	0.3	0.29	0.31	0.35	0.33	0.37	0.4	0.41	0.41	0.41	0.43	0.44	0.45	0.41	0.42	0.45	0.49	0.44
	2		4		6		8		10		12		14		16		18										
	Illuminance [lx]																										



Part1

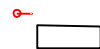
Average illuminance	Em	: 0.38 lx
Minimum illuminance	Emin	: 0.26 lx
Maximum illuminance	Emax	: 0.58 lx
Uniformity Uo	Emin/Em	: 1 : 1.43 (0.70)
Diversity Ud	Emin/Emax	: 1 : 2.21 (0.45)



2.2 Calculation results, Court 1 to 3 Switched Initial

2.2.8 Table, NW 1 Vert to properties (E)

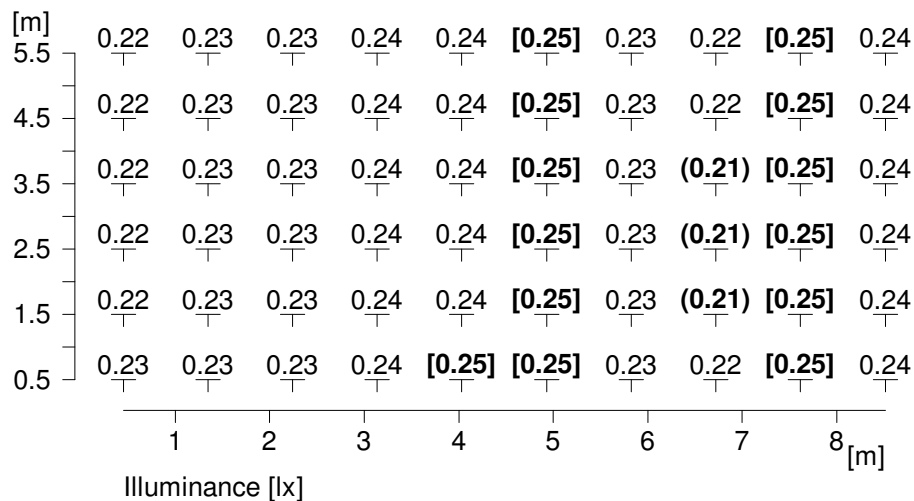
0.43	0.49	0.44	0.44	0.53	0.55
0.43	0.5	0.44	0.44	0.54	0.55
0.43	0.5	0.44	0.45	0.54	0.55
0.43	0.5	0.44	0.44	0.54	0.55
0.43	0.5	0.44	0.44	0.54	0.55
0.43	0.5	0.44	0.44	0.54	0.55
0.43	0.5	0.44	0.45	0.54	0.56
0.44	0.51	0.45	0.46	0.56	0.57
0.45	0.53	0.46	0.47	0.57	0.58
20		22 [m]			



Part2

2.2 Calculation results, Court 1 to 3 Switched Initial

2.2.9 Table, NW 2 Vert to properties (E)

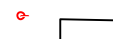


Average illuminance	Em	: 0.23 lx
Minimum illuminance	Emin	: 0.21 lx
Maximum illuminance	Emax	: 0.25 lx
Uniformity Uo	Emin/Em	: 1 : 1.10 (0.91)
Diversity Ud	Emin/Emax	: 1 : 1.18 (0.85)

2.2 Calculation results, Court 1 to 3 Switched Initial

2.2.10 Table, NW 4 Vert to properties (E)

[m]	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	0.1	0.1	0.1	(0.09)	0.1	0.1	(0.09)	[0.11]	[0.11]	
2.75	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	0.1	0.1	0.1	(0.09)	0.1	0.1	(0.09)	[0.11]	[0.11]	
2.25	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	0.1	0.1	0.1	(0.09)	0.1	0.1	(0.09)	0.1	[0.11]	
1.75	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	0.1	0.1	0.1	(0.09)	0.1	0.1	(0.09)	0.1	[0.11]	
1.25	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	0.1	0.1	0.1	(0.09)	0.1	0.1	(0.09)	0.1	[0.11]	
0.75	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	0.1	0.1	0.1	(0.09)	0.1	0.1	(0.09)	0.1	[0.11]	
0.25	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	[0.11]	0.1	0.1	0.1	(0.09)	0.1	0.1	(0.09)	0.1	[0.11]	
										1	2	3	4	5	6	7	8	9	10									
	Illuminance [lx]																											

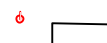


Average illuminance	Em	: 0.1 lx
Minimum illuminance	Emin	: 0.09 lx
Maximum illuminance	Emax	: 0.11 lx
Uniformity Uo	Emin/Em	: 1 : 1.16 (0.86)
Diversity Ud	Emin/Emax	: 1 : 1.27 (0.79)

2.2 Calculation results, Court 1 to 3 Switched Initial

2.2.11 Table, NW 3 Vert to properties (E)

[m]	0.74	0.74	0.63	0.71	0.74	0.72	0.7	0.74	0.64	0.64	0.73	0.73	0.73	0.64	0.68	(0.58)	0.64	0.64	0.68	0.73	0.64	0.73	0.72	0.72	0.72	0.72	0.72	0.71
2.75	0.74	0.74	0.63	0.71	0.74	0.72	0.69	0.74	0.64	0.64	0.73	0.73	0.73	0.64	0.68	(0.58)	0.64	0.64	0.69	0.73	0.64	0.73	0.72	0.72	0.72	0.72	0.72	0.72
2.25	0.74	0.74	0.63	0.71	0.74	0.72	0.69	0.73	0.63	0.63	0.73	0.73	0.73	0.64	0.68	(0.58)	0.64	0.64	0.69	0.73	0.64	0.73	0.72	0.72	0.72	0.72	0.72	0.72
1.75	0.74	0.74	0.63	0.71	0.74	0.72	0.69	0.73	0.63	0.63	0.73	0.73	0.73	0.64	0.68	(0.58)	0.64	0.64	0.69	0.73	0.64	0.73	0.72	0.72	0.72	0.72	0.72	0.72
1.25	0.75	0.75	0.63	0.71	0.74	0.72	0.69	0.73	0.63	0.63	0.73	0.73	0.73	0.64	0.68	(0.58)	0.63	0.64	0.69	0.73	0.64	0.73	0.73	0.73	0.72	0.73	0.73	0.73
0.75	0.75	0.75	0.64	0.71	0.74	0.73	0.69	0.74	0.63	0.63	0.73	0.73	0.73	0.64	0.68	(0.58)	0.63	0.64	0.69	0.73	0.64	0.74	0.73	0.73	0.73	0.73	0.73	0.73
0.25	[0.76]	[0.76]	0.65	0.73	[0.76]	0.74	0.71	[0.76]	0.64	0.64	0.75	0.75	0.75	0.65	0.69	0.59	0.64	0.64	0.69	0.74	0.65	0.74	0.74	0.74	0.74	0.74	0.75	0.74
	1	2	3	4	5	6	7	8	9	10	11																	
	Illuminance [lx]																											



Part1

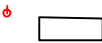
Average illuminance	Em	: 0.7 lx
Minimum illuminance	Emin	: 0.58 lx
Maximum illuminance	Emax	: 0.76 lx
Uniformity Uo	Emin/Em	: 1 : 1.20 (0.83)
Diversity Ud	Emin/Emax	: 1 : 1.31 (0.77)



2.2 Calculation results, Court 1 to 3 Switched Initial

2.2.11 Table, NW 3 Vert to properties (E)

0.71
0.72
0.72
0.72
0.73
0.74
0.74
12 [m]



Part2