


## Project 1

Partner for Contact:  
Order No.:  
Company:  
Customer No.:

Date: 07.10.2019  
Operator:



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## Table of contents

<b>Project 1</b>	
Project Cover	1
Table of contents	2
Luminaire parts list	3
<b>Exterior Scene 1</b>	
Planning data	4
Luminaires (layout plan)	5
Sport Luminaires (Coordinates List)	6
GR Observer (Results Overview)	9
3D Rendering	11
False Color Rendering	12
<b>Exterior Surfaces</b>	
<b>Ground Element 2</b>	
<b>Surface 1</b>	
Isolines (E)	13
Greyscale (E)	14
Value Chart (E)	15
<b>Calculation Grid 3</b>	
Summary	16
Isolines (E, Perpendicular)	17
Greyscale (E, Perpendicular)	18
Value Chart (E, Perpendicular)	19

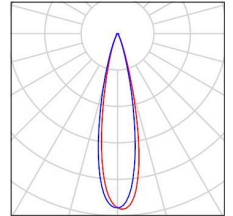


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## Project 1 / Luminaire parts list

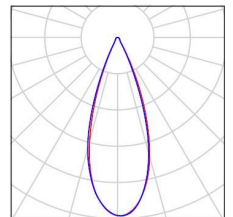
60 Pieces MIC OPTOELECTRONIC CO.,LTD MFL-G480  
Article No.: MFL-G480  
Luminous flux (Luminaire): 74511 lm  
Luminous flux (Lamps): 74521 lm  
Luminaire Wattage: 477.8 W  
Luminaire classification according to DIN: A60  
CIE flux code: 89 95 98 100 100  
Fitting: 1 x 5050 (Correction Factor 1.000).

See our luminaire catalog  
for an image of the  
luminaire.



12 Pieces MIC OPTOELECTRONIC CO.,LTD MFL-G480  
Article No.: MFL-G480  
Luminous flux (Luminaire): 75611 lm  
Luminous flux (Lamps): 75622 lm  
Luminaire Wattage: 479.2 W  
Luminaire classification according to DIN: A30  
CIE flux code: 90 95 99 100 100  
Fitting: 1 x 5050 (Correction Factor 1.000).

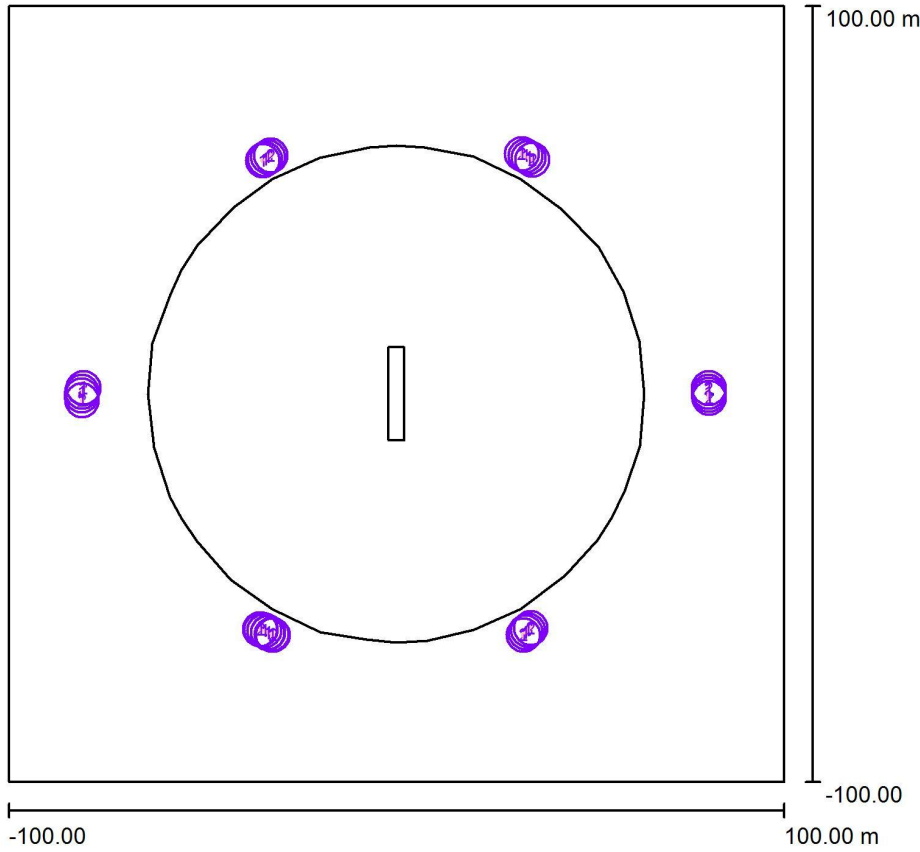
See our luminaire catalog  
for an image of the  
luminaire.





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## Exterior Scene 1 / Planning data



Light loss factor: 1.00, ULR (Upward Light Ratio): 7.0%

Scale 1:1854

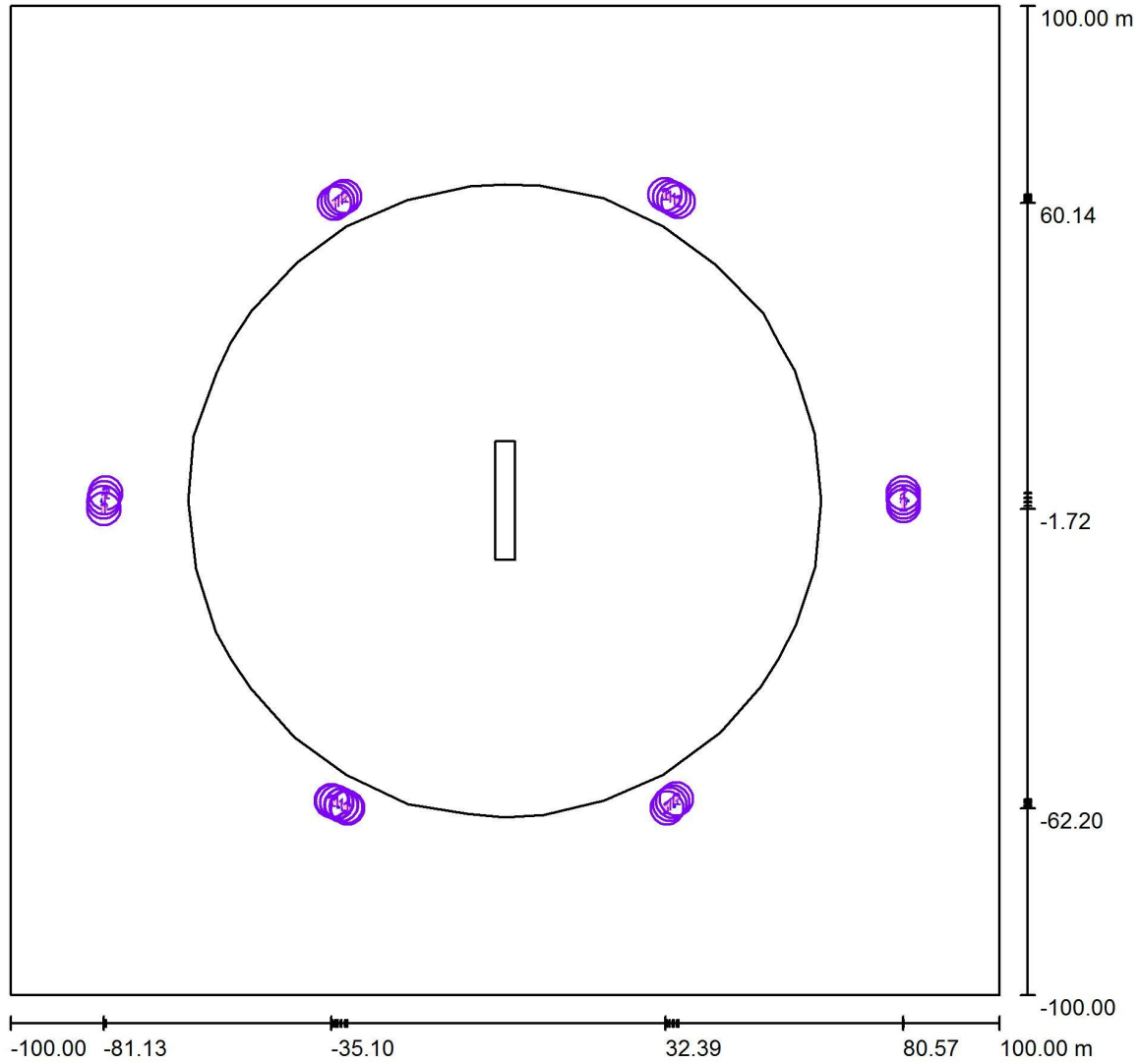
### Luminaire Parts List

No.	Pieces	Designation (Correction Factor)	$\Phi$ (Luminaire) [lm]	$\Phi$ (Lamps) [lm]	P [W]
1	60	MIC OPTOELECTRONIC CO.,LTD MFL-G480 (1.000)	74511	74521	477.8
2	12	MIC OPTOELECTRONIC CO.,LTD MFL-G480 (1.000)	75611	75622	479.2
Total:			5377961	Total: 5378724	34415.5



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**Exterior Scene 1 / Luminaires (layout plan)**



Scale 1 : 1430

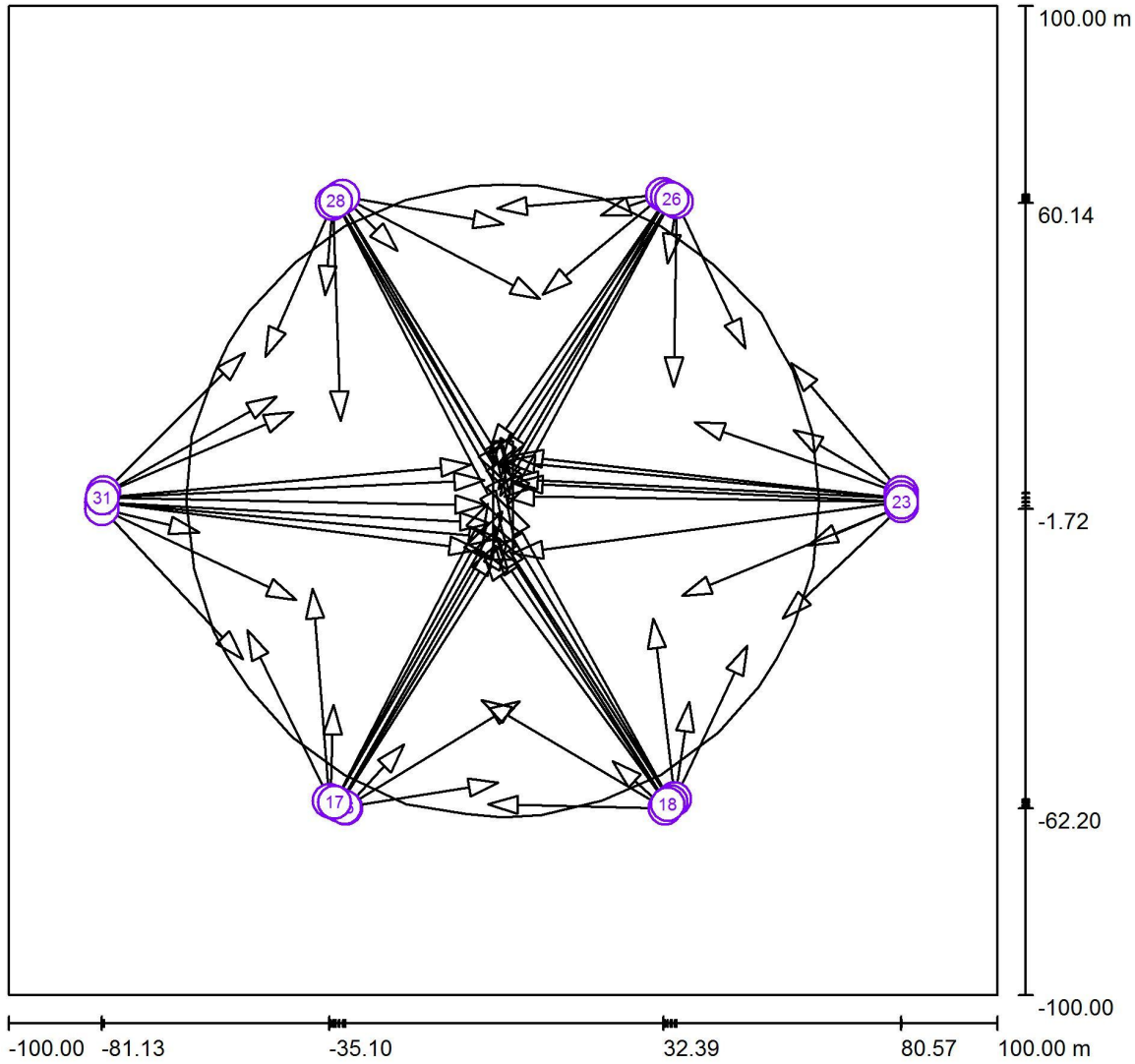
**Luminaire Parts List**

No.	Pieces	Designation
1	60	MIC OPTOELECTRONIC CO.,LTD MFL-G480
2	12	MIC OPTOELECTRONIC CO.,LTD MFL-G480



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**Exterior Scene 1 / Sport Luminaires (Coordinates List)**



Scale 1 : 1430

**List of the Sport Luminaires**

Luminaire	Index	Position [m]			Aiming Point [m]			Angle [°]	Alignment	Pole
		X	Y	Z	X	Y	Z			
MIC OPTOELECTRONIC CO.,LTD MFL-G480	1	-35.030	-60.721	20.000	-51.751	-26.203	0.000	27.5	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	2	32.802	-62.198	18.000	-3.066	-61.385	0.000	26.6	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	3	80.672	-1.095	20.000	61.702	-9.056	0.000	44.2	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	4	32.388	61.856	19.000	19.763	57.646	0.000	55.0	(C 90, G IMax)	/

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## Exterior Scene 1 / Sport Luminaires (Coordinates List)

### List of the Sport Luminaires

Luminaire	Index	Position [m]			Aiming Point [m]			Angle [°]	Alignment	Pole
		X	Y	Z	X	Y	Z			
MIC OPTOELECTRONIC CO.,LTD MFL-G480	5	-32.384	61.441	19.000	7.482	40.749	0.000	22.9	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	6	-80.711	1.479	20.000	-42.358	17.913	0.000	25.6	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	7	-31.813	-62.199	18.000	-19.972	-49.273	0.000	45.8	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	8	-34.860	-60.803	18.000	-34.306	-41.338	0.000	42.7	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	9	-33.061	-61.644	18.000	0.874	-8.140	0.000	15.9	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	10	-35.103	-60.747	19.000	-38.495	-17.812	0.000	23.8	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	11	-33.026	-61.525	19.000	-1.626	-9.140	0.000	17.3	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	12	-32.107	-62.031	20.000	-0.984	-57.032	0.000	32.4	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	13	-34.013	-61.097	19.000	-3.426	-5.040	0.000	16.6	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	14	-33.178	-61.651	20.000	-1.254	-5.790	0.000	17.3	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	15	-34.024	-61.105	18.000	-3.026	-0.583	0.000	14.8	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	16	-31.980	-62.067	19.000	3.374	-40.540	0.000	24.7	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	17	-34.026	-61.040	20.000	-0.151	-2.235	0.000	16.4	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	2	32.802	-62.198	20.000	22.167	-52.679	0.000	54.5	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	18	33.328	-61.500	18.000	-4.135	-10.272	0.000	15.8	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	18	33.328	-61.500	20.000	-0.847	-7.621	0.000	17.4	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	19	34.701	-60.375	18.000	30.431	-23.851	0.000	26.1	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	19	34.701	-60.375	20.000	49.399	-29.296	0.000	30.2	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	2	32.802	-62.198	19.000	-4.344	-40.350	0.000	23.8	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	19	34.701	-60.375	19.000	37.686	-40.694	0.000	43.7	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	20	33.956	-60.950	20.000	0.789	-0.888	0.000	16.3	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	20	33.956	-60.950	19.000	-1.072	-2.501	0.000	15.6	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	20	33.956	-60.950	18.000	-2.000	-5.012	0.000	15.1	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	18	33.328	-61.500	19.000	-1.626	-9.140	0.000	16.8	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	21	80.587	1.471	22.000	58.266	27.885	0.000	32.5	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	3	80.672	-1.095	22.000	36.166	-19.315	0.000	24.6	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	22	80.567	0.539	22.000	2.000	9.098	0.000	15.6	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	21	80.587	1.471	21.000	58.712	14.237	0.000	39.7	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	23	80.634	-0.269	20.000	2.000	-10.733	0.000	14.2	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	22	80.567	0.539	21.000	0.343	7.881	0.000	14.6	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	21	80.587	1.471	20.000	38.766	15.885	0.000	24.3	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	3	80.672	-1.095	21.000	56.610	-23.914	0.000	32.3	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	22	80.567	0.539	20.000	1.024	4.377	0.000	14.1	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	23	80.634	-0.269	21.000	0.197	0.873	0.000	14.6	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	23	80.634	-0.269	22.000	2.000	3.550	0.000	15.6	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	24	35.084	60.410	18.000	48.989	30.712	0.000	28.8	(C 90, G IMax)	/

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### Exterior Scene 1 / Sport Luminaires (Coordinates List)

#### List of the Sport Luminaires

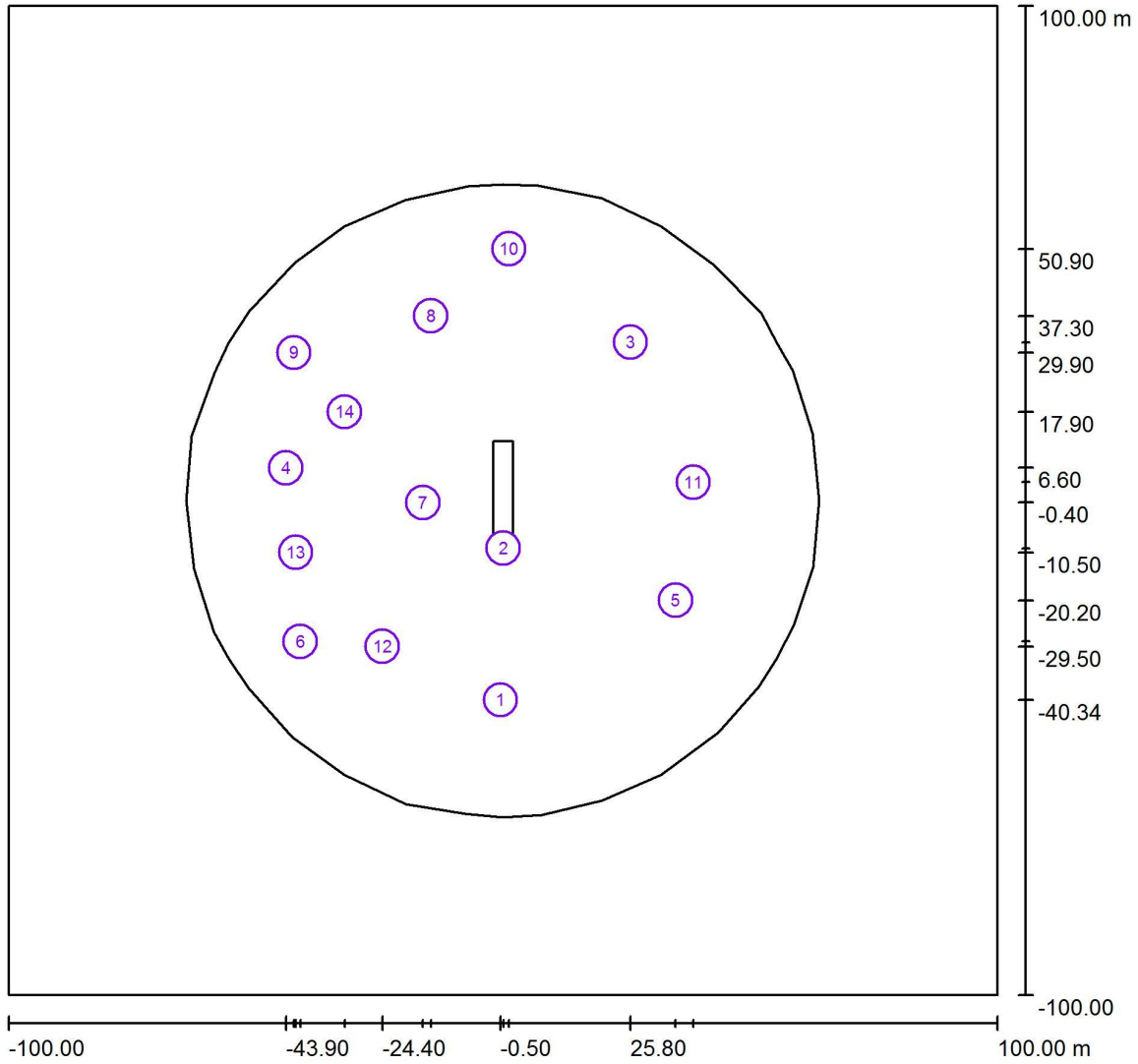
Luminaire	Index	Position [m]			Aiming Point [m]			Angle [°]	Alignment	Pole
		X	Y	Z	X	Y	Z			
MIC OPTOELECTRONIC CO.,LTD MFL-G480	25	33.345	61.368	20.000	-2.963	9.461	0.000	17.5	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	25	33.345	61.368	19.000	-2.163	6.661	0.000	16.2	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	4	32.388	61.856	20.000	7.989	41.612	0.000	32.2	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	24	35.084	60.410	20.000	33.289	47.912	0.000	57.7	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	24	35.084	60.410	19.000	34.489	23.012	0.000	26.9	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	26	34.167	60.929	19.000	0.789	-0.888	0.000	15.1	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	26	34.167	60.929	18.000	-0.411	7.312	0.000	15.8	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	4	32.388	61.856	18.000	-1.211	59.012	0.000	28.1	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	25	33.345	61.368	18.000	-0.963	2.261	0.000	14.8	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	26	34.167	60.929	20.000	-0.611	0.912	0.000	16.1	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	27	-34.443	60.136	19.000	-35.951	41.463	0.000	45.4	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	28	-33.807	60.542	18.000	-0.277	-4.102	0.000	13.9	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	28	-33.807	60.542	19.000	1.149	-1.659	0.000	14.9	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	29	-33.105	61.049	18.000	-0.365	4.574	0.000	15.4	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	27	-34.443	60.136	20.000	-32.902	16.066	0.000	24.4	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	29	-33.105	61.049	19.000	1.607	5.089	0.000	16.1	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	27	-34.443	60.136	18.000	-48.047	29.069	0.000	28.0	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	29	-33.105	61.049	20.000	0.910	6.021	0.000	17.2	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	5	-32.384	61.441	18.000	0.066	55.866	0.000	28.7	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	5	-32.384	61.441	20.000	-21.303	50.493	0.000	52.1	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	28	-33.807	60.542	20.000	1.214	1.816	0.000	16.3	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	30	-81.134	-0.378	20.000	-2.697	-4.556	0.000	14.3	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	30	-81.134	-0.378	19.000	-0.847	-7.621	0.000	13.3	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	30	-81.134	-0.378	18.000	-4.811	-9.894	0.000	13.2	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	31	-81.050	0.546	20.000	-6.555	7.232	0.000	15.0	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	32	-81.061	-1.715	18.000	-61.450	-6.433	0.000	41.7	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	6	-80.711	1.479	19.000	-45.806	21.104	0.000	25.4	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	33	-80.718	1.533	18.000	-52.271	29.885	0.000	24.1	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	32	-81.061	-1.715	19.000	-41.815	-20.082	0.000	23.7	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	32	-81.061	-1.715	20.000	-52.554	-32.103	0.000	25.6	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	31	-81.050	0.546	19.000	-3.807	4.166	0.000	13.8	(C 90, G IMax)	/
MIC OPTOELECTRONIC CO.,LTD MFL-G480	31	-81.050	0.546	18.000	-3.648	-0.908	0.000	13.1	(C 90, G IMax)	/





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**Exterior Scene 1 / GR Observer (Results Overview)**



Scale 1 : 1430

**GR Observerlist**

No.	Designation	Position [m]			Viewing sector [°]			Slope angle	Max
		X	Y	Z	Start	End	Increment		
1	GR Observer 1	-0.496	-40.344	1.750	0.0	360.0	15.0	-2.0	24 <sup>2)</sup>
2	GR Observer 1	0.083	-9.658	1.750	0.0	360.0	15.0	-2.0	24 <sup>2)</sup>
3	GR Observer 1	25.800	32.000	1.750	0.0	360.0	15.0	-2.0	28 <sup>2)</sup>
4	GR Observer 1	-43.900	6.600	1.750	0.0	360.0	15.0	-2.0	27 <sup>2)</sup>

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## Exterior Scene 1 / GR Observer (Results Overview)

### GR Observerlist

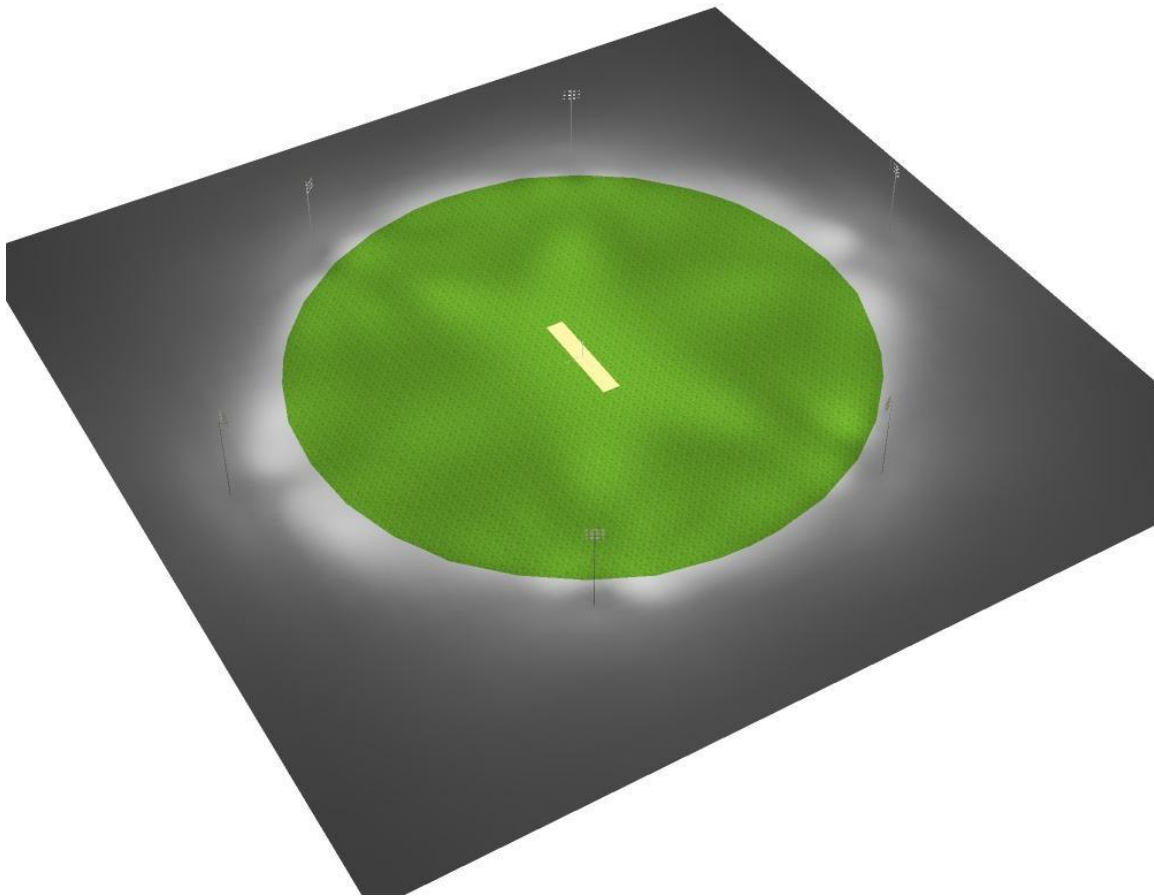
No.	Designation	Position [m]			Start	Viewing sector [°]		Slope angle	Max
		X	Y	Z		End	Increment		
5	GR Observer 1	34.900	-20.200	1.750	0.0	360.0	15.0	-2.0	26 <sup>2)</sup>
6	GR Observer 1	-41.000	-28.500	1.750	0.0	360.0	15.0	-2.0	24 <sup>2)</sup>
7	GR Observer 1	-16.200	-0.400	1.750	0.0	360.0	15.0	-2.0	24 <sup>2)</sup>
8	GR Observer 1	-14.600	37.300	1.750	0.0	360.0	15.0	-2.0	27 <sup>2)</sup>
9	GR Observer 1	-42.300	29.900	1.750	0.0	360.0	15.0	-2.0	23 <sup>2)</sup>
10	GR Observer 1	1.200	50.900	1.750	0.0	360.0	15.0	-2.0	25 <sup>2)</sup>
11	GR Observer 1	38.500	3.700	1.750	0.0	360.0	15.0	-2.0	29 <sup>2)</sup>
12	GR Observer 1	-24.400	-29.500	1.750	0.0	360.0	15.0	-2.0	29 <sup>2)</sup>
13	GR Observer 1	-41.900	-10.500	1.750	0.0	360.0	15.0	-2.0	27 <sup>2)</sup>
14	GR Observer 1	-32.000	17.900	1.750	0.0	360.0	15.0	-2.0	25 <sup>2)</sup>

<sup>2)</sup> The calculated equivalent veil luminance of the environment is based on the assumption of a complete diffuse reflection behavior of the environment (acc. EN 12464-2).



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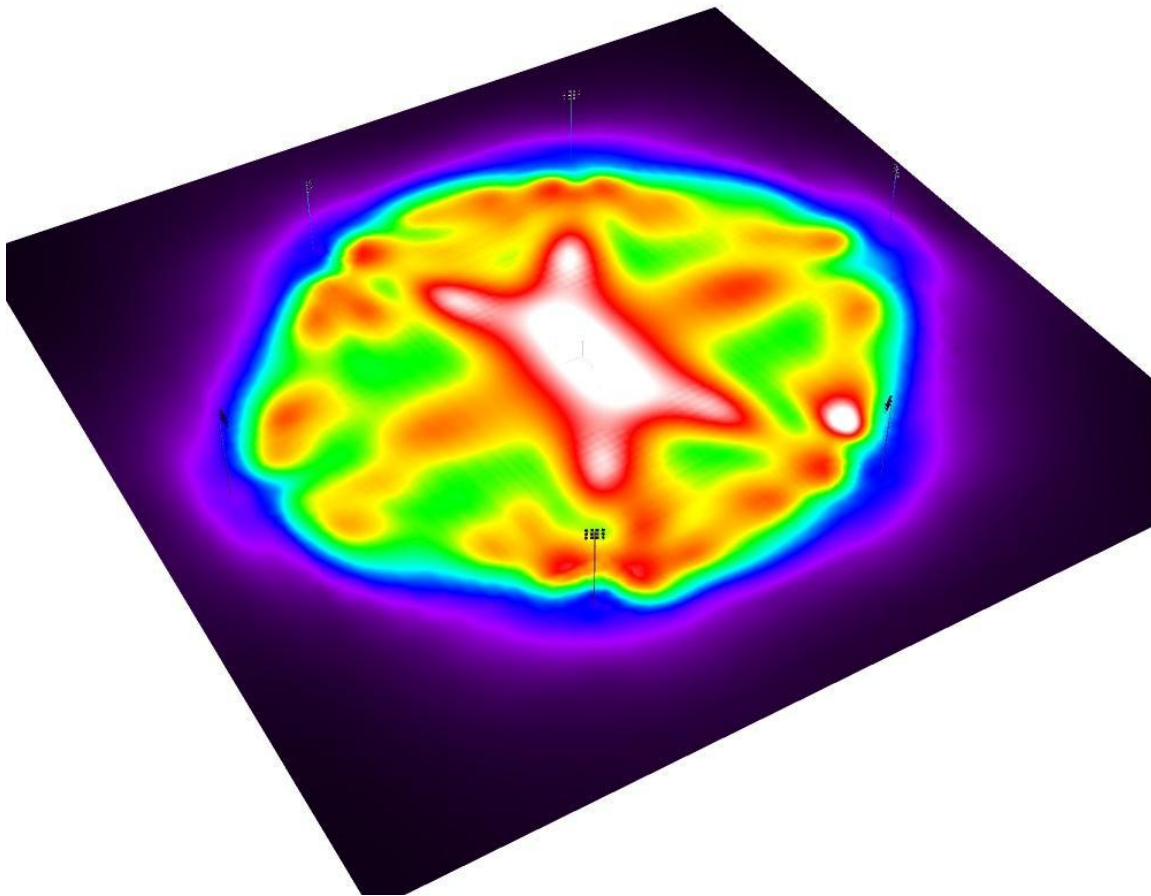
**Exterior Scene 1 / 3D Rendering**





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## Exterior Scene 1 / False Color Rendering

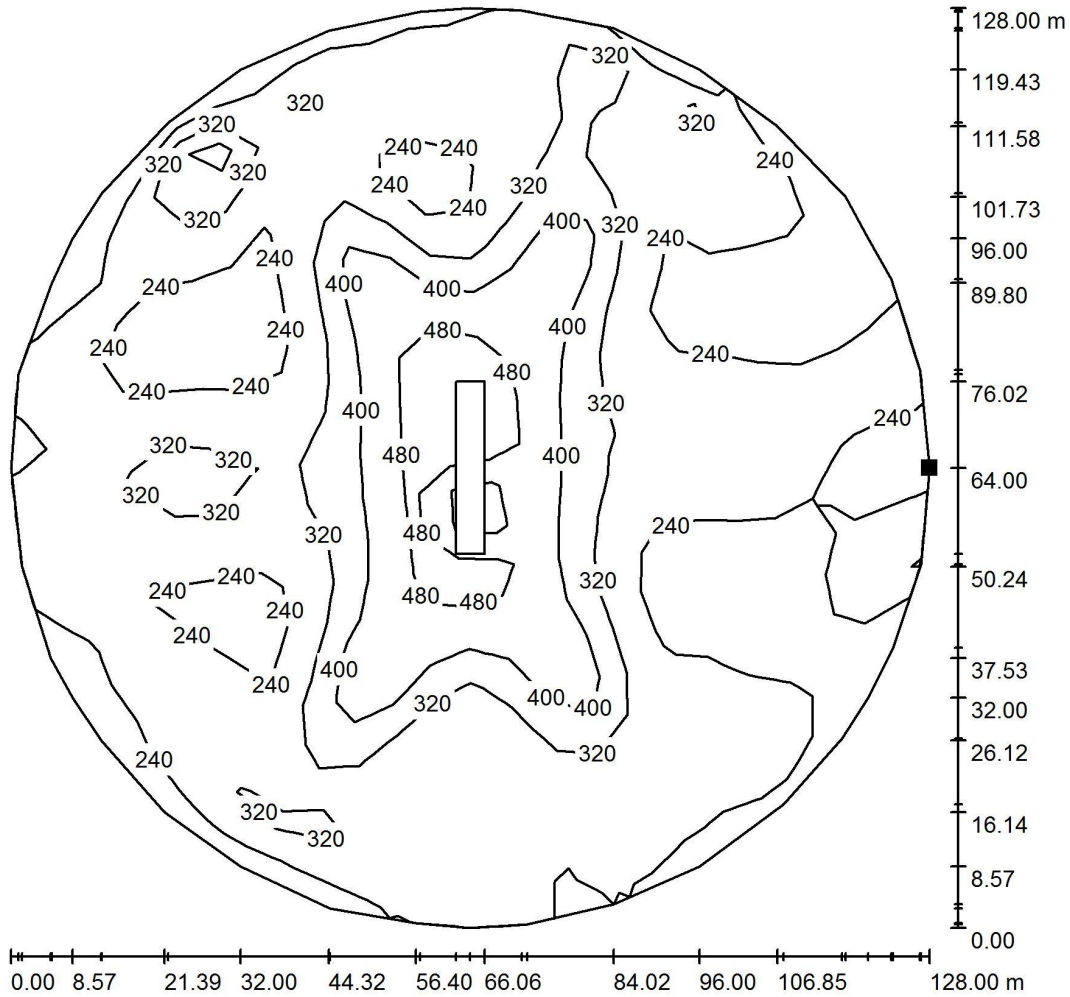


0      25      50      100      200      250      300      400      500

lx

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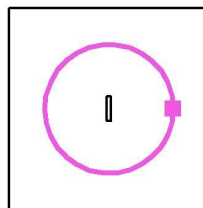
**Exterior Scene 1 / Ground Element 2 / Surface 1 / Isolines (E)**



Values in Lux, Scale 1 : 1001

Position of surface in external scene:

Marked point:  
(63.942 m, -0.023 m, 0.000 m)



Grid: 23 x 23 Points

$E_{av}$  [lx]  
300

$E_{min}$  [lx]  
163

$E_{max}$  [lx]  
530

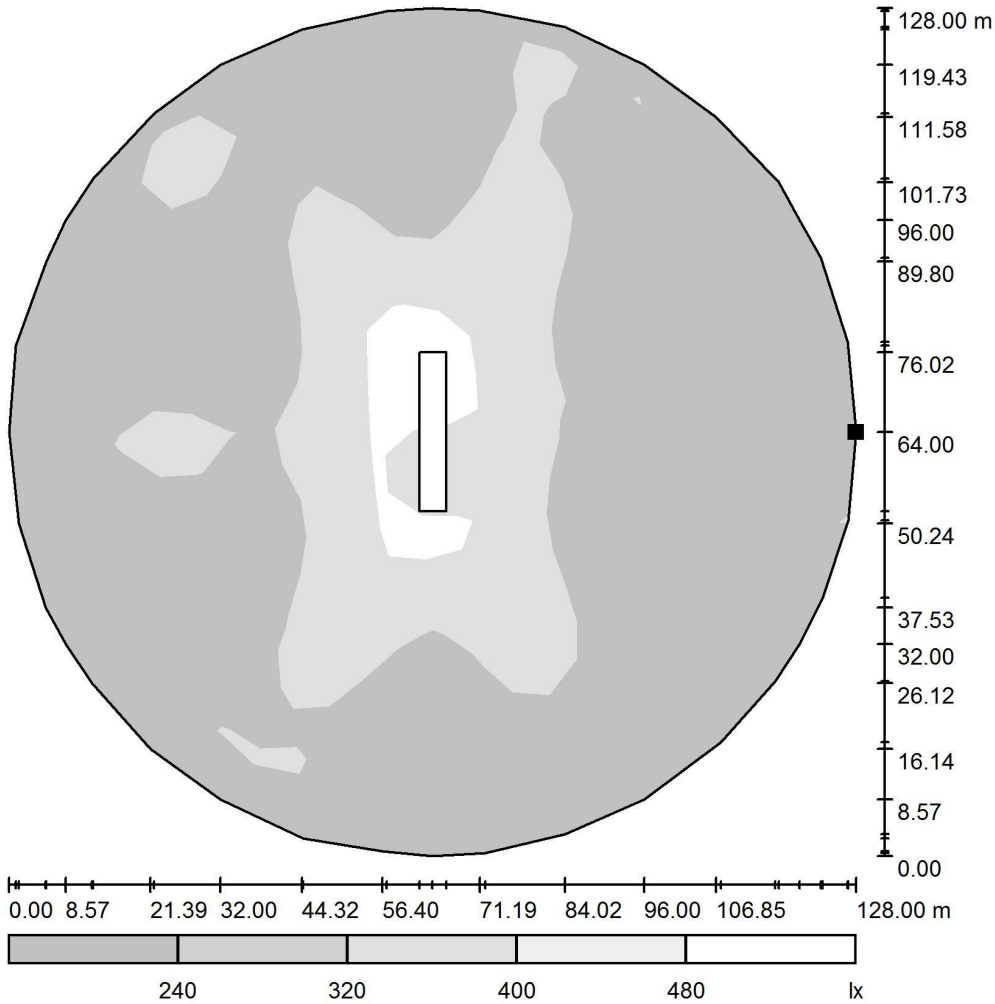
$u_0$   
0.543

$E_{min} / E_{max}$   
0.307



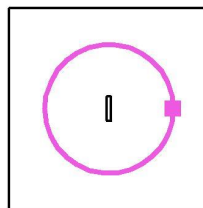
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**Exterior Scene 1 / Ground Element 2 / Surface 1 / Greyscale (E)**



Scale 1 : 1086

Position of surface in external scene:  
Marked point:  
(63.942 m, -0.023 m, 0.000 m)



Grid: 23 x 23 Points

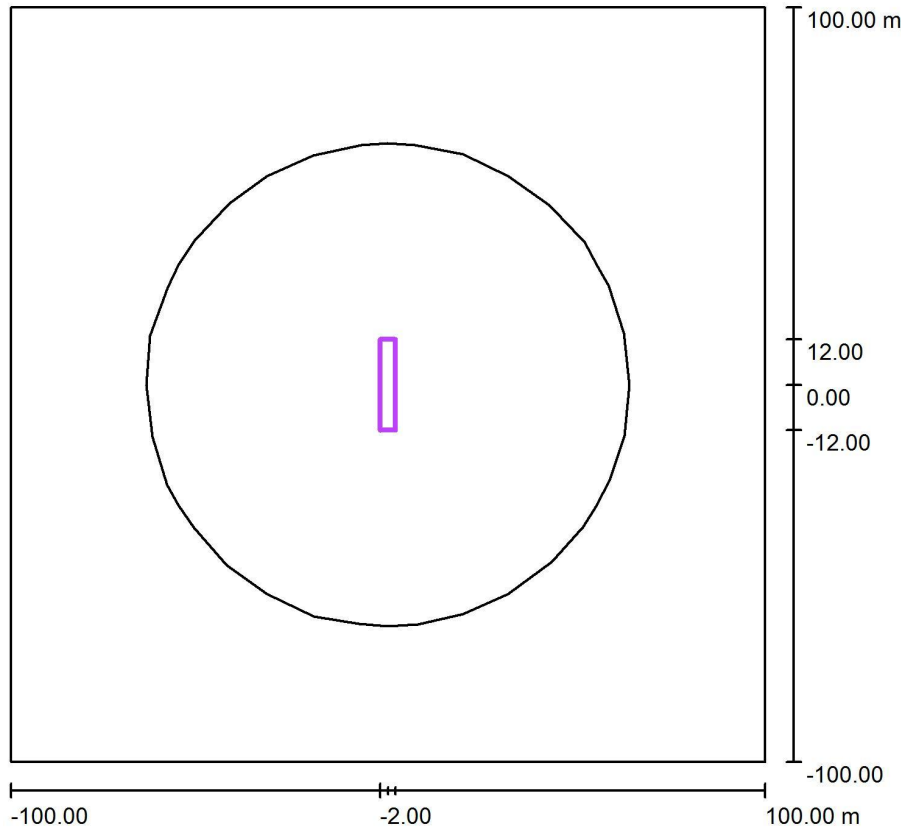
$E_{av}$ [lx]	$E_{min}$ [lx]	$E_{max}$ [lx]	$u0$	$E_{min} / E_{max}$
300	163	530	0.543	0.307





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**Exterior Scene 1 / Calculation Grid 3 / Summary**



Scale 1 : 1907

Position: (0.000 m, 0.000 m, 0.000 m)  
 Size: (4.000 m, 24.000 m)  
 Rotation: (0.0°, 0.0°, 0.0°)  
 Type: Normal, Grid: 3 x 13 Points

**Results overview**

No.	Type	$E_{av}$ [lx]	$E_{min}$ [lx]	$E_{max}$ [lx]	$u0$	$E_{min} / E_{max}$	$E_{h\ m} / E_m$	H [m]	Camera
1	perpendicular	537	526	543	0.98	0.97	/	0.000	/

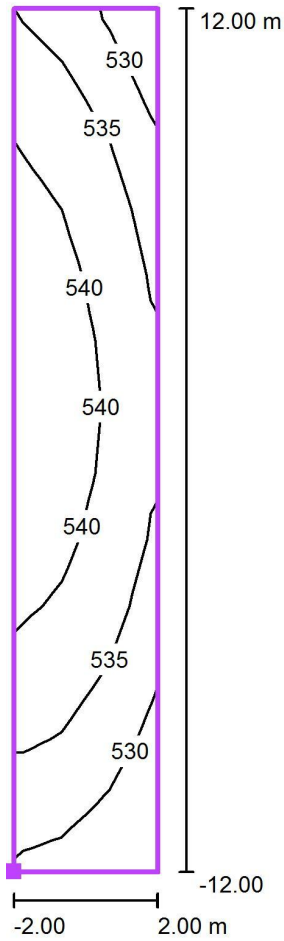
$E_{h\ m} / E_m$  = Relationship between middle horizontal and vertical illuminance, H = Measuring Height





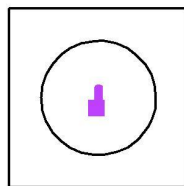
Operator  
Telephone  
Fax  
e-Mail

**Exterior Scene 1 / Calculation Grid 3 / Isolines (E, Perpendicular)**



Values in Lux, Scale 1 : 200

Position of surface in external scene:  
Marked point: (-2.000 m, -12.000 m, 0.000 m)



Grid: 3 x 13 Points

$E_{av}$  [lx]  
537

$E_{min}$  [lx]  
526

$E_{max}$  [lx]  
543

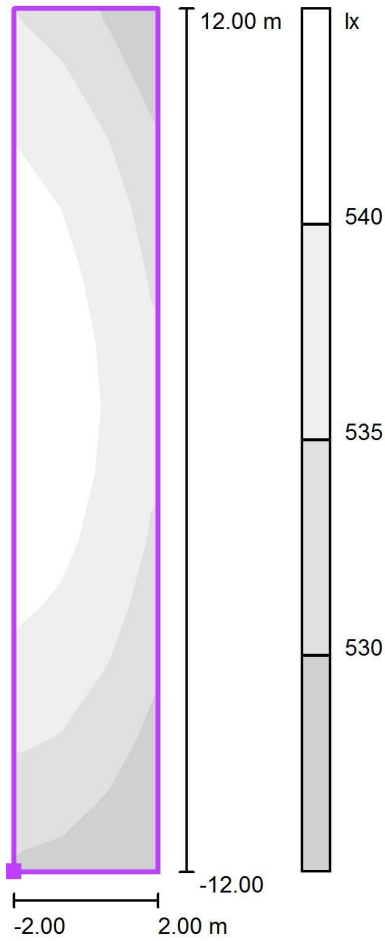
$u_0$   
0.98

$E_{min} / E_{max}$   
0.97



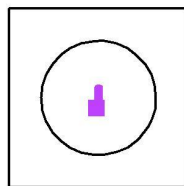
Operator  
Telephone  
Fax  
e-Mail

**Exterior Scene 1 / Calculation Grid 3 / Greyscale (E, Perpendicular)**



Scale 1 : 200

Position of surface in external scene:  
Marked point: (-2.000 m, -12.000 m, 0.000 m)



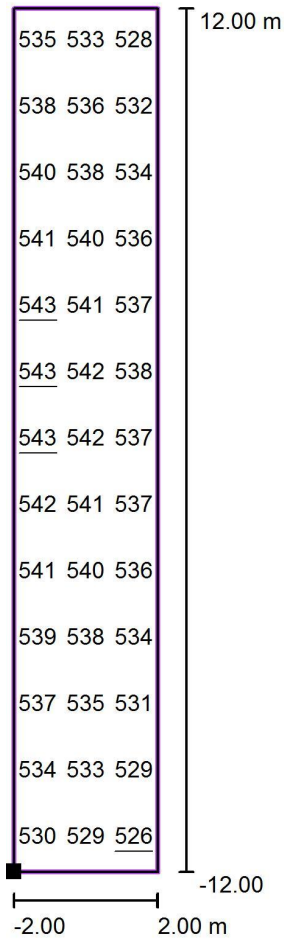
Grid: 3 x 13 Points

$E_{av}$ [lx]	$E_{min}$ [lx]	$E_{max}$ [lx]	u0	$E_{min} / E_{max}$
537	526	543	0.98	0.97



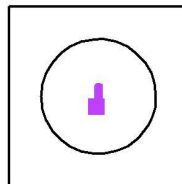
Operator  
Telephone  
Fax  
e-Mail

**Exterior Scene 1 / Calculation Grid 3 / Value Chart (E, Perpendicular)**



Values in Lux, Scale 1 : 200

Position of surface in external scene:  
Marked point: (-2.000 m, -12.000 m,  
0.000 m)



Grid: 3 x 13 Points

$E_{av}$ [lx]	$E_{min}$ [lx]	$E_{max}$ [lx]	u0	$E_{min} / E_{max}$
537	526	543	0.98	0.97