

## **FK ZELEZIARNE PODBREZOVA - TRENINGOVA PLOCHA**

Date: 02.02.2026  
Operator:

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Summary

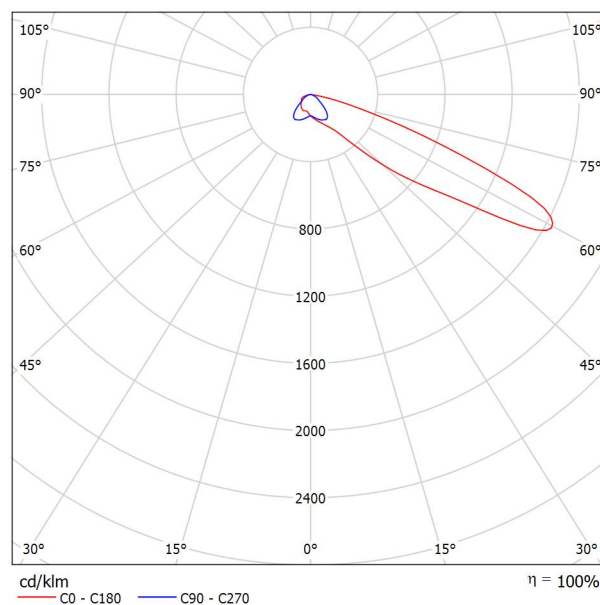
Value Chart (E, Horizontal)

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**THORN Lighting ALG5 432L105-740 A16 G21 ALTIS LED 3 bricks - 432 x Neutral White  
4000K LED CRI70 1050mA Gen2.1 - A16 Optic / Luminaire Data Sheet**

Luminous emittance 1:

See our luminaire catalog for an image of the luminaire.



Luminaire classification according to CIE: 100  
CIE flux code: 26 65 97 100 100

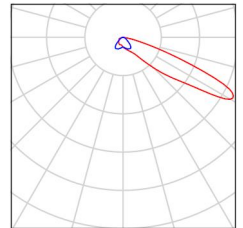
Due to missing symmetry properties, no UGR table  
can be displayed for this luminaire.

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## Exterior Scene 2 Altis / Luminaire parts list

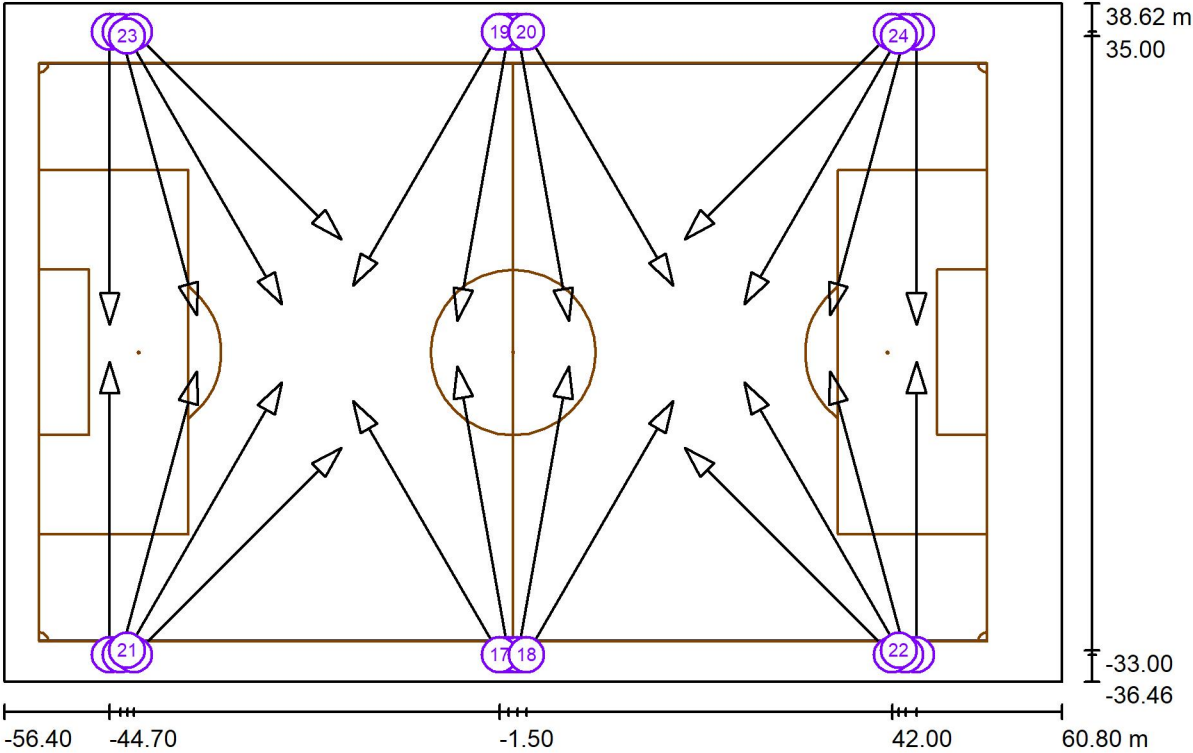
24 Pieces THORN Lighting ALG5 432L105-740 A16 G21  
ALTIS LED 3 bricks - 432 x Neutral White 4000K  
LED CRI70 1050mA Gen2.1 - A16 Optic  
Article No.: ALG5 432L105-740 A16 G21  
Luminous flux (Luminaire): 183504 lm  
Luminous flux (Lamps): 183508 lm  
Luminaire Wattage: 1365.8 W  
Luminaire classification according to CIE: 100  
CIE flux code: 26 65 97 100 100  
Fitting: 1 x LEDs (Correction Factor 1.000).

See our luminaire  
catalog for an image of  
the luminaire.



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Exterior Scene 2 Altis / Sport Luminaires (Coordinates List)



Scale 1 : 838

List of the Sport Luminaires

Luminaire	Index	Position [m]			Aiming Point [m]			Angle [°]	Alignment	Pole
		X	Y	Z	X	Y	Z			
THORN Lighting ALG5 432L105-740 Al6 G21 ALTIS LED 3 bricks - 432 x Neutral White 4000K LED CRI70 1050mA Gen2.1 - Al6 Optic	1	-44.700	-33.500	18.000	-44.700	-1.027	0.000	29.0	(C 0, G IMax)	/
THORN Lighting ALG5 432L105-740 Al6 G21 ALTIS LED 3 bricks - 432 x Neutral White 4000K LED CRI70 1050mA Gen2.1 - Al6 Optic	2	44.700	-33.500	18.000	44.700	-1.027	0.000	29.0	(C 0, G IMax)	/
THORN Lighting ALG5 432L105-740 Al6 G21 ALTIS LED 3 bricks - 432 x Neutral White 4000K LED CRI70 1050mA Gen2.1 - Al6 Optic	3	-44.700	35.500	18.000	-44.700	3.027	0.000	29.0	(C 0, G IMax)	/
THORN Lighting ALG5 432L105-740 Al6 G21 ALTIS LED 3 bricks - 432 x Neutral White 4000K LED CRI70 1050mA Gen2.1 - Al6 Optic	4	44.700	35.500	18.000	44.700	3.027	0.000	29.0	(C 0, G IMax)	/

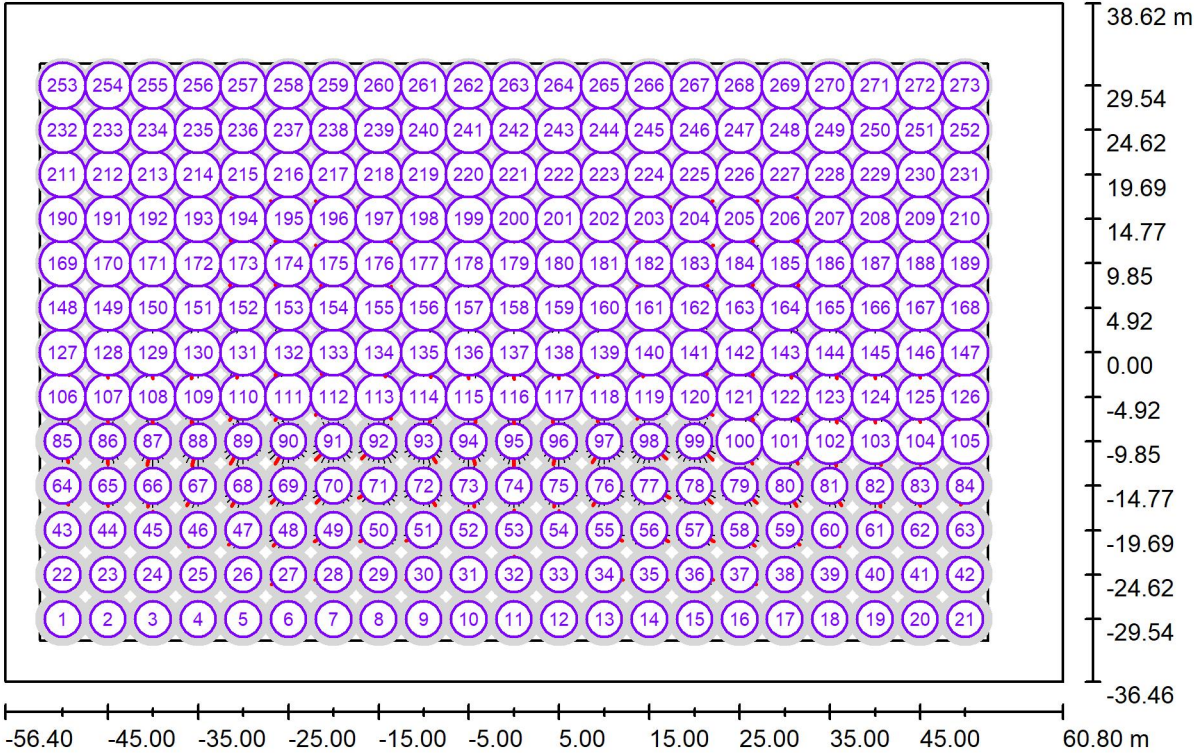
### Exterior Scene 2 Altis / Sport Luminaires (Coordinates List)

[illegible]

740 A16 G21 ALTIS LED 3 bricks - 432 x Neutral White 4000K LED CRI70 1050mA Gen2.1 - A16 Optic THORN Lighting ALG5 432L105-	22	42.750	-33.000	19.000	25.612	-3.315	0.000	29.0	(C 0, G IMax)	/
740 A16 G21 ALTIS LED 3 bricks - 432 x Neutral White 4000K LED CRI70 1050mA Gen2.1 - A16 Optic THORN Lighting ALG5 432L105-	23	-42.750	35.000	19.000	-25.612	5.315	0.000	29.0	(C 0, G IMax)	/
740 A16 G21 ALTIS LED 3 bricks - 432 x Neutral White 4000K LED CRI70 1050mA Gen2.1 - A16 Optic	24	42.750	35.000	19.000	25.612	5.315	0.000	29.0	(C 0, G IMax)	/

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Exterior Scene 2 Altis / GR Observer (Results Overview)



Scale 1 : 838

GR Observerlist

No.	Designation	Position [m]			Viewing sector [°]			Slope angle	Max
		X	Y	Z	Start	End	Increment		
1	GR Observer 1	-50.000	-29.538	1.500	0.0	360.0	15.0	-2.0	22 <sup>2)</sup>
2	GR Observer 2	-45.000	-29.538	1.500	0.0	360.0	15.0	-2.0	24 <sup>2)</sup>
3	GR Observer 3	-40.000	-29.538	1.500	0.0	360.0	15.0	-2.0	25 <sup>2)</sup>
4	GR Observer 4	-35.000	-29.538	1.500	0.0	360.0	15.0	-2.0	24 <sup>2)</sup>



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## Exterior Scene 2 Altis / GR Observer (Results Overview)

### GR Observerlist

No.	Designation	Position [m]			Start	End	Viewing sector [°]		Max
		X	Y	Z			Increment	Slope angle	
5	GR Observer 5	-30.000	-29.538	1.500	0.0	360.0	15.0	-2.0	25 <sup>2)</sup>
6	GR Observer 6	-25.000	-29.538	1.500	0.0	360.0	15.0	-2.0	27 <sup>2)</sup>
7	GR Observer 7	-20.000	-29.538	1.500	0.0	360.0	15.0	-2.0	27 <sup>2)</sup>
8	GR Observer 8	-15.000	-29.538	1.500	0.0	360.0	15.0	-2.0	27 <sup>2)</sup>
9	GR Observer 9	-10.000	-29.538	1.500	0.0	360.0	15.0	-2.0	26 <sup>2)</sup>
10	GR Observer 10	-5.000	-29.538	1.500	0.0	360.0	15.0	-2.0	26 <sup>2)</sup>
11	GR Observer 11	0.000	-29.538	1.500	0.0	360.0	15.0	-2.0	28 <sup>2)</sup>
12	GR Observer 12	5.000	-29.538	1.500	0.0	360.0	15.0	-2.0	26 <sup>2)</sup>
13	GR Observer 13	10.000	-29.538	1.500	0.0	360.0	15.0	-2.0	26 <sup>2)</sup>
14	GR Observer 14	15.000	-29.538	1.500	0.0	360.0	15.0	-2.0	27 <sup>2)</sup>
15	GR Observer 15	20.000	-29.538	1.500	0.0	360.0	15.0	-2.0	27 <sup>2)</sup>
16	GR Observer 16	25.000	-29.538	1.500	0.0	360.0	15.0	-2.0	27 <sup>2)</sup>
17	GR Observer 17	30.000	-29.538	1.500	0.0	360.0	15.0	-2.0	25 <sup>2)</sup>
18	GR Observer 18	35.000	-29.538	1.500	0.0	360.0	15.0	-2.0	24 <sup>2)</sup>
19	GR Observer 19	40.000	-29.538	1.500	0.0	360.0	15.0	-2.0	25 <sup>2)</sup>
20	GR Observer 20	45.000	-29.538	1.500	0.0	360.0	15.0	-2.0	24 <sup>2)</sup>
21	GR Observer 21	50.000	-29.538	1.500	0.0	360.0	15.0	-2.0	22 <sup>2)</sup>
22	GR Observer 22	-50.000	-24.615	1.500	0.0	360.0	15.0	-2.0	24 <sup>2)</sup>
23	GR Observer 23	-45.000	-24.615	1.500	0.0	360.0	15.0	-2.0	27 <sup>2)</sup>
24	GR Observer 24	-40.000	-24.615	1.500	0.0	360.0	15.0	-2.0	28 <sup>2)</sup>
25	GR Observer 25	-35.000	-24.615	1.500	0.0	360.0	15.0	-2.0	27 <sup>2)</sup>
26	GR Observer 26	-30.000	-24.615	1.500	0.0	360.0	15.0	-2.0	29 <sup>2)</sup>
27	GR Observer 27	-25.000	-24.615	1.500	0.0	360.0	15.0	-2.0	32 <sup>2)</sup>
28	GR Observer 28	-20.000	-24.615	1.500	0.0	360.0	15.0	-2.0	32 <sup>2)</sup>
29	GR Observer 29	-15.000	-24.615	1.500	0.0	360.0	15.0	-2.0	32 <sup>2)</sup>
30	GR Observer 30	-10.000	-24.615	1.500	0.0	360.0	15.0	-2.0	31 <sup>2)</sup>
31	GR Observer 31	-5.000	-24.615	1.500	0.0	360.0	15.0	-2.0	29 <sup>2)</sup>
32	GR Observer 32	0.000	-24.615	1.500	0.0	360.0	15.0	-2.0	30 <sup>2)</sup>
33	GR Observer 33	5.000	-24.615	1.500	0.0	360.0	15.0	-2.0	29 <sup>2)</sup>
34	GR Observer 34	10.000	-24.615	1.500	0.0	360.0	15.0	-2.0	31 <sup>2)</sup>
35	GR Observer 35	15.000	-24.615	1.500	0.0	360.0	15.0	-2.0	32 <sup>2)</sup>
36	GR Observer 36	20.000	-24.615	1.500	0.0	360.0	15.0	-2.0	32 <sup>2)</sup>
37	GR Observer 37	25.000	-24.615	1.500	0.0	360.0	15.0	-2.0	32 <sup>2)</sup>
38	GR Observer 38	30.000	-24.615	1.500	0.0	360.0	15.0	-2.0	29 <sup>2)</sup>
39	GR Observer 39	35.000	-24.615	1.500	0.0	360.0	15.0	-2.0	27 <sup>2)</sup>
40	GR Observer 40	40.000	-24.615	1.500	0.0	360.0	15.0	-2.0	28 <sup>2)</sup>

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## Exterior Scene 2 Altis / GR Observer (Results Overview)

### GR Observerlist

No.	Designation	Position [m]			Start	End	Viewing sector [°]		Max
		X	Y	Z			Increment	Slope angle	
41	GR Observer 41	45.000	-24.615	1.500	0.0	360.0	15.0	-2.0	27 <sup>2)</sup>
42	GR Observer 42	50.000	-24.615	1.500	0.0	360.0	15.0	-2.0	24 <sup>2)</sup>
43	GR Observer 43	-50.000	-19.692	1.500	0.0	360.0	15.0	-2.0	27 <sup>2)</sup>
44	GR Observer 44	-45.000	-19.692	1.500	0.0	360.0	15.0	-2.0	30 <sup>2)</sup>
45	GR Observer 45	-40.000	-19.692	1.500	0.0	360.0	15.0	-2.0	31 <sup>2)</sup>
46	GR Observer 46	-35.000	-19.692	1.500	0.0	360.0	15.0	-2.0	31 <sup>2)</sup>
47	GR Observer 47	-30.000	-19.692	1.500	0.0	360.0	15.0	-2.0	34 <sup>2)</sup>
48	GR Observer 48	-25.000	-19.692	1.500	0.0	360.0	15.0	-2.0	36 <sup>2)</sup>
49	GR Observer 49	-20.000	-19.692	1.500	0.0	360.0	15.0	-2.0	36 <sup>2)</sup>
50	GR Observer 50	-15.000	-19.692	1.500	0.0	360.0	15.0	-2.0	36 <sup>2)</sup>
51	GR Observer 51	-10.000	-19.692	1.500	0.0	360.0	15.0	-2.0	33 <sup>2)</sup>
52	GR Observer 52	-5.000	-19.692	1.500	0.0	360.0	15.0	-2.0	32 <sup>2)</sup>
53	GR Observer 53	0.000	-19.692	1.500	0.0	360.0	15.0	-2.0	33 <sup>2)</sup>
54	GR Observer 54	5.000	-19.692	1.500	0.0	360.0	15.0	-2.0	32 <sup>2)</sup>
55	GR Observer 55	10.000	-19.692	1.500	0.0	360.0	15.0	-2.0	33 <sup>2)</sup>
56	GR Observer 56	15.000	-19.692	1.500	0.0	360.0	15.0	-2.0	36 <sup>2)</sup>
57	GR Observer 57	20.000	-19.692	1.500	0.0	360.0	15.0	-2.0	36 <sup>2)</sup>
58	GR Observer 58	25.000	-19.692	1.500	0.0	360.0	15.0	-2.0	36 <sup>2)</sup>
59	GR Observer 59	30.000	-19.692	1.500	0.0	360.0	15.0	-2.0	34 <sup>2)</sup>
60	GR Observer 60	35.000	-19.692	1.500	0.0	360.0	15.0	-2.0	31 <sup>2)</sup>
61	GR Observer 61	40.000	-19.692	1.500	0.0	360.0	15.0	-2.0	31 <sup>2)</sup>
62	GR Observer 62	45.000	-19.692	1.500	0.0	360.0	15.0	-2.0	30 <sup>2)</sup>
63	GR Observer 63	50.000	-19.692	1.500	0.0	360.0	15.0	-2.0	27 <sup>2)</sup>
64	GR Observer 64	-50.000	-14.769	1.500	0.0	360.0	15.0	-2.0	32 <sup>2)</sup>
65	GR Observer 65	-45.000	-14.769	1.500	0.0	360.0	15.0	-2.0	34 <sup>2)</sup>
66	GR Observer 66	-40.000	-14.769	1.500	0.0	360.0	15.0	-2.0	36 <sup>2)</sup>
67	GR Observer 67	-35.000	-14.769	1.500	0.0	360.0	15.0	-2.0	37 <sup>2)</sup>
68	GR Observer 68	-30.000	-14.769	1.500	0.0	360.0	15.0	-2.0	39 <sup>2)</sup>
69	GR Observer 69	-25.000	-14.769	1.500	0.0	360.0	15.0	-2.0	40 <sup>2)</sup>
70	GR Observer 70	-20.000	-14.769	1.500	0.0	360.0	15.0	-2.0	40 <sup>2)</sup>
71	GR Observer 71	-15.000	-14.769	1.500	0.0	360.0	15.0	-2.0	39 <sup>2)</sup>
72	GR Observer 72	-10.000	-14.769	1.500	0.0	360.0	15.0	-2.0	37 <sup>2)</sup>
73	GR Observer 73	-5.000	-14.769	1.500	0.0	360.0	15.0	-2.0	36 <sup>2)</sup>
74	GR Observer 74	0.000	-14.769	1.500	0.0	360.0	15.0	-2.0	36 <sup>2)</sup>
75	GR Observer 75	5.000	-14.769	1.500	0.0	360.0	15.0	-2.0	36 <sup>2)</sup>
76	GR Observer 76	10.000	-14.769	1.500	0.0	360.0	15.0	-2.0	37 <sup>2)</sup>

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## Exterior Scene 2 Altis / GR Observer (Results Overview)

### GR Observerlist

No.	Designation	Position [m]			Viewing sector [°]				Max
		X	Y	Z	Start	End	Increment	Slope angle	
77	GR Observer 77	15.000	-14.769	1.500	0.0	360.0	15.0	-2.0	39 <sup>2)</sup>
78	GR Observer 78	20.000	-14.769	1.500	0.0	360.0	15.0	-2.0	40 <sup>2)</sup>
79	GR Observer 79	25.000	-14.769	1.500	0.0	360.0	15.0	-2.0	40 <sup>2)</sup>
80	GR Observer 80	30.000	-14.769	1.500	0.0	360.0	15.0	-2.0	39 <sup>2)</sup>
81	GR Observer 81	35.000	-14.769	1.500	0.0	360.0	15.0	-2.0	37 <sup>2)</sup>
82	GR Observer 82	40.000	-14.769	1.500	0.0	360.0	15.0	-2.0	36 <sup>2)</sup>
83	GR Observer 83	45.000	-14.769	1.500	0.0	360.0	15.0	-2.0	34 <sup>2)</sup>
84	GR Observer 84	50.000	-14.769	1.500	0.0	360.0	15.0	-2.0	32 <sup>2)</sup>
85	GR Observer 85	-50.000	-9.846	1.500	0.0	360.0	15.0	-2.0	36 <sup>2)</sup>
86	GR Observer 86	-45.000	-9.846	1.500	0.0	360.0	15.0	-2.0	38 <sup>2)</sup>
87	GR Observer 87	-40.000	-9.846	1.500	0.0	360.0	15.0	-2.0	40 <sup>2)</sup>
88	GR Observer 88	-35.000	-9.846	1.500	0.0	360.0	15.0	-2.0	41 <sup>2)</sup>
89	GR Observer 89	-30.000	-9.846	1.500	0.0	360.0	15.0	-2.0	42 <sup>2)</sup>
90	GR Observer 90	-25.000	-9.846	1.500	0.0	360.0	15.0	-2.0	42 <sup>2)</sup>
91	GR Observer 91	-20.000	-9.846	1.500	0.0	360.0	15.0	-2.0	42 <sup>2)</sup>
92	GR Observer 92	-15.000	-9.846	1.500	0.0	360.0	15.0	-2.0	40 <sup>2)</sup>
93	GR Observer 93	-10.000	-9.846	1.500	0.0	360.0	15.0	-2.0	40 <sup>2)</sup>
94	GR Observer 94	-5.000	-9.846	1.500	0.0	360.0	15.0	-2.0	40 <sup>2)</sup>
95	GR Observer 95	0.000	-9.846	1.500	0.0	360.0	15.0	-2.0	39 <sup>2)</sup>
96	GR Observer 96	5.000	-9.846	1.500	0.0	360.0	15.0	-2.0	40 <sup>2)</sup>
97	GR Observer 97	10.000	-9.846	1.500	0.0	360.0	15.0	-2.0	40 <sup>2)</sup>
98	GR Observer 98	15.000	-9.846	1.500	0.0	360.0	15.0	-2.0	40 <sup>2)</sup>
99	GR Observer 99	20.000	-9.846	1.500	0.0	360.0	15.0	-2.0	42 <sup>2)</sup>
100	GR Observer 100	25.000	-9.846	1.500	0.0	360.0	15.0	-2.0	42 <sup>2)</sup>
101	GR Observer 101	30.000	-9.846	1.500	0.0	360.0	15.0	-2.0	42 <sup>2)</sup>
102	GR Observer 102	35.000	-9.846	1.500	0.0	360.0	15.0	-2.0	41 <sup>2)</sup>
103	GR Observer 103	40.000	-9.846	1.500	0.0	360.0	15.0	-2.0	40 <sup>2)</sup>
104	GR Observer 104	45.000	-9.846	1.500	0.0	360.0	15.0	-2.0	38 <sup>2)</sup>
105	GR Observer 105	50.000	-9.846	1.500	0.0	360.0	15.0	-2.0	36 <sup>2)</sup>
106	GR Observer 106	-50.000	-4.923	1.500	0.0	360.0	15.0	-2.0	39 <sup>2)</sup>
107	GR Observer 107	-45.000	-4.923	1.500	0.0	360.0	15.0	-2.0	41 <sup>2)</sup>
108	GR Observer 108	-40.000	-4.923	1.500	0.0	360.0	15.0	-2.0	42 <sup>2)</sup>
109	GR Observer 109	-35.000	-4.923	1.500	0.0	360.0	15.0	-2.0	44 <sup>2)</sup>
110	GR Observer 110	-30.000	-4.923	1.500	0.0	360.0	15.0	-2.0	44 <sup>2)</sup>
111	GR Observer 111	-25.000	-4.923	1.500	0.0	360.0	15.0	-2.0	44 <sup>2)</sup>
112	GR Observer 112	-20.000	-4.923	1.500	0.0	360.0	15.0	-2.0	42 <sup>2)</sup>

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## Exterior Scene 2 Altis / GR Observer (Results Overview)

### GR Observerlist

No.	Designation	Position [m]			Viewing sector [°]				Max
		X	Y	Z	Start	End	Increment	Slope angle	
113	GR Observer 113	-15.000	-4.923	1.500	0.0	360.0	15.0	-2.0	41 <sup>2)</sup>
114	GR Observer 114	-10.000	-4.923	1.500	0.0	360.0	15.0	-2.0	42 <sup>2)</sup>
115	GR Observer 115	-5.000	-4.923	1.500	0.0	360.0	15.0	-2.0	42 <sup>2)</sup>
116	GR Observer 116	0.000	-4.923	1.500	0.0	360.0	15.0	-2.0	43 <sup>2)</sup>
117	GR Observer 117	5.000	-4.923	1.500	0.0	360.0	15.0	-2.0	42 <sup>2)</sup>
118	GR Observer 118	10.000	-4.923	1.500	0.0	360.0	15.0	-2.0	42 <sup>2)</sup>
119	GR Observer 119	15.000	-4.923	1.500	0.0	360.0	15.0	-2.0	41 <sup>2)</sup>
120	GR Observer 120	20.000	-4.923	1.500	0.0	360.0	15.0	-2.0	42 <sup>2)</sup>
121	GR Observer 121	25.000	-4.923	1.500	0.0	360.0	15.0	-2.0	44 <sup>2)</sup>
122	GR Observer 122	30.000	-4.923	1.500	0.0	360.0	15.0	-2.0	44 <sup>2)</sup>
123	GR Observer 123	35.000	-4.923	1.500	0.0	360.0	15.0	-2.0	44 <sup>2)</sup>
124	GR Observer 124	40.000	-4.923	1.500	0.0	360.0	15.0	-2.0	42 <sup>2)</sup>
125	GR Observer 125	45.000	-4.923	1.500	0.0	360.0	15.0	-2.0	41 <sup>2)</sup>
126	GR Observer 126	50.000	-4.923	1.500	0.0	360.0	15.0	-2.0	39 <sup>2)</sup>
127	GR Observer 127	-50.000	0.000	1.500	0.0	360.0	15.0	-2.0	39 <sup>2)</sup>
128	GR Observer 128	-45.000	0.000	1.500	0.0	360.0	15.0	-2.0	42 <sup>2)</sup>
129	GR Observer 129	-40.000	0.000	1.500	0.0	360.0	15.0	-2.0	43 <sup>2)</sup>
130	GR Observer 130	-35.000	0.000	1.500	0.0	360.0	15.0	-2.0	44 <sup>2)</sup>
131	GR Observer 131	-30.000	0.000	1.500	0.0	360.0	15.0	-2.0	44 <sup>2)</sup>
132	GR Observer 132	-25.000	0.000	1.500	0.0	360.0	15.0	-2.0	43 <sup>2)</sup>
133	GR Observer 133	-20.000	0.000	1.500	0.0	360.0	15.0	-2.0	41 <sup>2)</sup>
134	GR Observer 134	-15.000	0.000	1.500	0.0	360.0	15.0	-2.0	41 <sup>2)</sup>
135	GR Observer 135	-10.000	0.000	1.500	0.0	360.0	15.0	-2.0	42 <sup>2)</sup>
136	GR Observer 136	-5.000	0.000	1.500	0.0	360.0	15.0	-2.0	43 <sup>2)</sup>
137	GR Observer 137	0.000	0.000	1.500	0.0	360.0	15.0	-2.0	44 <sup>2)</sup>
138	GR Observer 138	5.000	0.000	1.500	0.0	360.0	15.0	-2.0	43 <sup>2)</sup>
139	GR Observer 139	10.000	0.000	1.500	0.0	360.0	15.0	-2.0	42 <sup>2)</sup>
140	GR Observer 140	15.000	0.000	1.500	0.0	360.0	15.0	-2.0	41 <sup>2)</sup>
141	GR Observer 141	20.000	0.000	1.500	0.0	360.0	15.0	-2.0	41 <sup>2)</sup>
142	GR Observer 142	25.000	0.000	1.500	0.0	360.0	15.0	-2.0	43 <sup>2)</sup>
143	GR Observer 143	30.000	0.000	1.500	0.0	360.0	15.0	-2.0	44 <sup>2)</sup>
144	GR Observer 144	35.000	0.000	1.500	0.0	360.0	15.0	-2.0	44 <sup>2)</sup>
145	GR Observer 145	40.000	0.000	1.500	0.0	360.0	15.0	-2.0	43 <sup>2)</sup>
146	GR Observer 146	45.000	0.000	1.500	0.0	360.0	15.0	-2.0	42 <sup>2)</sup>
147	GR Observer 147	50.000	0.000	1.500	0.0	360.0	15.0	-2.0	39 <sup>2)</sup>
148	GR Observer 148	-50.000	4.923	1.500	0.0	360.0	15.0	-2.0	39 <sup>2)</sup>

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## Exterior Scene 2 Altis / GR Observer (Results Overview)

### GR Observerlist

No.	Designation	Position [m]			Start	End	Viewing sector [°]		Max
		X	Y	Z			Increment	Slope angle	
149	GR Observer 149	-45.000	4.923	1.500	0.0	360.0	15.0	-2.0	42 <sup>2)</sup>
150	GR Observer 150	-40.000	4.923	1.500	0.0	360.0	15.0	-2.0	43 <sup>2)</sup>
151	GR Observer 151	-35.000	4.923	1.500	0.0	360.0	15.0	-2.0	44 <sup>2)</sup>
152	GR Observer 152	-30.000	4.923	1.500	0.0	360.0	15.0	-2.0	44 <sup>2)</sup>
153	GR Observer 153	-25.000	4.923	1.500	0.0	360.0	15.0	-2.0	44 <sup>2)</sup>
154	GR Observer 154	-20.000	4.923	1.500	0.0	360.0	15.0	-2.0	42 <sup>2)</sup>
155	GR Observer 155	-15.000	4.923	1.500	0.0	360.0	15.0	-2.0	41 <sup>2)</sup>
156	GR Observer 156	-10.000	4.923	1.500	0.0	360.0	15.0	-2.0	43 <sup>2)</sup>
157	GR Observer 157	-5.000	4.923	1.500	0.0	360.0	15.0	-2.0	43 <sup>2)</sup>
158	GR Observer 158	0.000	4.923	1.500	0.0	360.0	15.0	-2.0	43 <sup>2)</sup>
159	GR Observer 159	5.000	4.923	1.500	0.0	360.0	15.0	-2.0	43 <sup>2)</sup>
160	GR Observer 160	10.000	4.923	1.500	0.0	360.0	15.0	-2.0	43 <sup>2)</sup>
161	GR Observer 161	15.000	4.923	1.500	0.0	360.0	15.0	-2.0	41 <sup>2)</sup>
162	GR Observer 162	20.000	4.923	1.500	0.0	360.0	15.0	-2.0	42 <sup>2)</sup>
163	GR Observer 163	25.000	4.923	1.500	0.0	360.0	15.0	-2.0	44 <sup>2)</sup>
164	GR Observer 164	30.000	4.923	1.500	0.0	360.0	15.0	-2.0	44 <sup>2)</sup>
165	GR Observer 165	35.000	4.923	1.500	0.0	360.0	15.0	-2.0	44 <sup>2)</sup>
166	GR Observer 166	40.000	4.923	1.500	0.0	360.0	15.0	-2.0	43 <sup>2)</sup>
167	GR Observer 167	45.000	4.923	1.500	0.0	360.0	15.0	-2.0	42 <sup>2)</sup>
168	GR Observer 168	50.000	4.923	1.500	0.0	360.0	15.0	-2.0	39 <sup>2)</sup>
169	GR Observer 169	-50.000	9.846	1.500	0.0	360.0	15.0	-2.0	37 <sup>2)</sup>
170	GR Observer 170	-45.000	9.846	1.500	0.0	360.0	15.0	-2.0	40 <sup>2)</sup>
171	GR Observer 171	-40.000	9.846	1.500	0.0	360.0	15.0	-2.0	41 <sup>2)</sup>
172	GR Observer 172	-35.000	9.846	1.500	0.0	360.0	15.0	-2.0	43 <sup>2)</sup>
173	GR Observer 173	-30.000	9.846	1.500	0.0	360.0	15.0	-2.0	43 <sup>2)</sup>
174	GR Observer 174	-25.000	9.846	1.500	0.0	360.0	15.0	-2.0	43 <sup>2)</sup>
175	GR Observer 175	-20.000	9.846	1.500	0.0	360.0	15.0	-2.0	43 <sup>2)</sup>
176	GR Observer 176	-15.000	9.846	1.500	0.0	360.0	15.0	-2.0	41 <sup>2)</sup>
177	GR Observer 177	-10.000	9.846	1.500	0.0	360.0	15.0	-2.0	41 <sup>2)</sup>
178	GR Observer 178	-5.000	9.846	1.500	0.0	360.0	15.0	-2.0	41 <sup>2)</sup>
179	GR Observer 179	0.000	9.846	1.500	0.0	360.0	15.0	-2.0	41 <sup>2)</sup>
180	GR Observer 180	5.000	9.846	1.500	0.0	360.0	15.0	-2.0	41 <sup>2)</sup>
181	GR Observer 181	10.000	9.846	1.500	0.0	360.0	15.0	-2.0	41 <sup>2)</sup>
182	GR Observer 182	15.000	9.846	1.500	0.0	360.0	15.0	-2.0	41 <sup>2)</sup>
183	GR Observer 183	20.000	9.846	1.500	0.0	360.0	15.0	-2.0	43 <sup>2)</sup>
184	GR Observer 184	25.000	9.846	1.500	0.0	360.0	15.0	-2.0	43 <sup>2)</sup>

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## Exterior Scene 2 Altis / GR Observer (Results Overview)

### GR Observerlist

No.	Designation	Position [m]			Viewing sector [°]				Max
		X	Y	Z	Start	End	Increment	Slope angle	
185	GR Observer 185	30.000	9.846	1.500	0.0	360.0	15.0	-2.0	43 <sup>2)</sup>
186	GR Observer 186	35.000	9.846	1.500	0.0	360.0	15.0	-2.0	43 <sup>2)</sup>
187	GR Observer 187	40.000	9.846	1.500	0.0	360.0	15.0	-2.0	41 <sup>2)</sup>
188	GR Observer 188	45.000	9.846	1.500	0.0	360.0	15.0	-2.0	40 <sup>2)</sup>
189	GR Observer 189	50.000	9.846	1.500	0.0	360.0	15.0	-2.0	37 <sup>2)</sup>
190	GR Observer 190	-50.000	14.769	1.500	0.0	360.0	15.0	-2.0	34 <sup>2)</sup>
191	GR Observer 191	-45.000	14.769	1.500	0.0	360.0	15.0	-2.0	36 <sup>2)</sup>
192	GR Observer 192	-40.000	14.769	1.500	0.0	360.0	15.0	-2.0	38 <sup>2)</sup>
193	GR Observer 193	-35.000	14.769	1.500	0.0	360.0	15.0	-2.0	39 <sup>2)</sup>
194	GR Observer 194	-30.000	14.769	1.500	0.0	360.0	15.0	-2.0	40 <sup>2)</sup>
195	GR Observer 195	-25.000	14.769	1.500	0.0	360.0	15.0	-2.0	41 <sup>2)</sup>
196	GR Observer 196	-20.000	14.769	1.500	0.0	360.0	15.0	-2.0	41 <sup>2)</sup>
197	GR Observer 197	-15.000	14.769	1.500	0.0	360.0	15.0	-2.0	39 <sup>2)</sup>
198	GR Observer 198	-10.000	14.769	1.500	0.0	360.0	15.0	-2.0	38 <sup>2)</sup>
199	GR Observer 199	-5.000	14.769	1.500	0.0	360.0	15.0	-2.0	38 <sup>2)</sup>
200	GR Observer 200	0.000	14.769	1.500	0.0	360.0	15.0	-2.0	37 <sup>2)</sup>
201	GR Observer 201	5.000	14.769	1.500	0.0	360.0	15.0	-2.0	38 <sup>2)</sup>
202	GR Observer 202	10.000	14.769	1.500	0.0	360.0	15.0	-2.0	38 <sup>2)</sup>
203	GR Observer 203	15.000	14.769	1.500	0.0	360.0	15.0	-2.0	39 <sup>2)</sup>
204	GR Observer 204	20.000	14.769	1.500	0.0	360.0	15.0	-2.0	41 <sup>2)</sup>
205	GR Observer 205	25.000	14.769	1.500	0.0	360.0	15.0	-2.0	41 <sup>2)</sup>
206	GR Observer 206	30.000	14.769	1.500	0.0	360.0	15.0	-2.0	40 <sup>2)</sup>
207	GR Observer 207	35.000	14.769	1.500	0.0	360.0	15.0	-2.0	39 <sup>2)</sup>
208	GR Observer 208	40.000	14.769	1.500	0.0	360.0	15.0	-2.0	38 <sup>2)</sup>
209	GR Observer 209	45.000	14.769	1.500	0.0	360.0	15.0	-2.0	36 <sup>2)</sup>
210	GR Observer 210	50.000	14.769	1.500	0.0	360.0	15.0	-2.0	34 <sup>2)</sup>
211	GR Observer 211	-50.000	19.692	1.500	0.0	360.0	15.0	-2.0	29 <sup>2)</sup>
212	GR Observer 212	-45.000	19.692	1.500	0.0	360.0	15.0	-2.0	31 <sup>2)</sup>
213	GR Observer 213	-40.000	19.692	1.500	0.0	360.0	15.0	-2.0	32 <sup>2)</sup>
214	GR Observer 214	-35.000	19.692	1.500	0.0	360.0	15.0	-2.0	34 <sup>2)</sup>
215	GR Observer 215	-30.000	19.692	1.500	0.0	360.0	15.0	-2.0	36 <sup>2)</sup>
216	GR Observer 216	-25.000	19.692	1.500	0.0	360.0	15.0	-2.0	38 <sup>2)</sup>
217	GR Observer 217	-20.000	19.692	1.500	0.0	360.0	15.0	-2.0	38 <sup>2)</sup>
218	GR Observer 218	-15.000	19.692	1.500	0.0	360.0	15.0	-2.0	37 <sup>2)</sup>
219	GR Observer 219	-10.000	19.692	1.500	0.0	360.0	15.0	-2.0	35 <sup>2)</sup>
220	GR Observer 220	-5.000	19.692	1.500	0.0	360.0	15.0	-2.0	33 <sup>2)</sup>

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## Exterior Scene 2 Altis / GR Observer (Results Overview)

### GR Observerlist

No.	Designation	Position [m]			Viewing sector [°]				Max
		X	Y	Z	Start	End	Increment	Slope angle	
221	GR Observer 221	0.000	19.692	1.500	0.0	360.0	15.0	-2.0	34 <sup>2)</sup>
222	GR Observer 222	5.000	19.692	1.500	0.0	360.0	15.0	-2.0	33 <sup>2)</sup>
223	GR Observer 223	10.000	19.692	1.500	0.0	360.0	15.0	-2.0	35 <sup>2)</sup>
224	GR Observer 224	15.000	19.692	1.500	0.0	360.0	15.0	-2.0	37 <sup>2)</sup>
225	GR Observer 225	20.000	19.692	1.500	0.0	360.0	15.0	-2.0	38 <sup>2)</sup>
226	GR Observer 226	25.000	19.692	1.500	0.0	360.0	15.0	-2.0	38 <sup>2)</sup>
227	GR Observer 227	30.000	19.692	1.500	0.0	360.0	15.0	-2.0	36 <sup>2)</sup>
228	GR Observer 228	35.000	19.692	1.500	0.0	360.0	15.0	-2.0	34 <sup>2)</sup>
229	GR Observer 229	40.000	19.692	1.500	0.0	360.0	15.0	-2.0	32 <sup>2)</sup>
230	GR Observer 230	45.000	19.692	1.500	0.0	360.0	15.0	-2.0	31 <sup>2)</sup>
231	GR Observer 231	50.000	19.692	1.500	0.0	360.0	15.0	-2.0	29 <sup>2)</sup>
232	GR Observer 232	-50.000	24.615	1.500	0.0	360.0	15.0	-2.0	26 <sup>2)</sup>
233	GR Observer 233	-45.000	24.615	1.500	0.0	360.0	15.0	-2.0	28 <sup>2)</sup>
234	GR Observer 234	-40.000	24.615	1.500	0.0	360.0	15.0	-2.0	29 <sup>2)</sup>
235	GR Observer 235	-35.000	24.615	1.500	0.0	360.0	15.0	-2.0	28 <sup>2)</sup>
236	GR Observer 236	-30.000	24.615	1.500	0.0	360.0	15.0	-2.0	30 <sup>2)</sup>
237	GR Observer 237	-25.000	24.615	1.500	0.0	360.0	15.0	-2.0	34 <sup>2)</sup>
238	GR Observer 238	-20.000	24.615	1.500	0.0	360.0	15.0	-2.0	34 <sup>2)</sup>
239	GR Observer 239	-15.000	24.615	1.500	0.0	360.0	15.0	-2.0	33 <sup>2)</sup>
240	GR Observer 240	-10.000	24.615	1.500	0.0	360.0	15.0	-2.0	32 <sup>2)</sup>
241	GR Observer 241	-5.000	24.615	1.500	0.0	360.0	15.0	-2.0	30 <sup>2)</sup>
242	GR Observer 242	0.000	24.615	1.500	0.0	360.0	15.0	-2.0	32 <sup>2)</sup>
243	GR Observer 243	5.000	24.615	1.500	0.0	360.0	15.0	-2.0	30 <sup>2)</sup>
244	GR Observer 244	10.000	24.615	1.500	0.0	360.0	15.0	-2.0	32 <sup>2)</sup>
245	GR Observer 245	15.000	24.615	1.500	0.0	360.0	15.0	-2.0	33 <sup>2)</sup>
246	GR Observer 246	20.000	24.615	1.500	0.0	360.0	15.0	-2.0	34 <sup>2)</sup>
247	GR Observer 247	25.000	24.615	1.500	0.0	360.0	15.0	-2.0	34 <sup>2)</sup>
248	GR Observer 248	30.000	24.615	1.500	0.0	360.0	15.0	-2.0	30 <sup>2)</sup>
249	GR Observer 249	35.000	24.615	1.500	0.0	360.0	15.0	-2.0	28 <sup>2)</sup>
250	GR Observer 250	40.000	24.615	1.500	0.0	360.0	15.0	-2.0	29 <sup>2)</sup>
251	GR Observer 251	45.000	24.615	1.500	0.0	360.0	15.0	-2.0	28 <sup>2)</sup>
252	GR Observer 252	50.000	24.615	1.500	0.0	360.0	15.0	-2.0	26 <sup>2)</sup>
253	GR Observer 253	-50.000	29.538	1.500	0.0	360.0	15.0	-2.0	23 <sup>2)</sup>
254	GR Observer 254	-45.000	29.538	1.500	0.0	360.0	15.0	-2.0	25 <sup>2)</sup>
255	GR Observer 255	-40.000	29.538	1.500	0.0	360.0	15.0	-2.0	27 <sup>2)</sup>
256	GR Observer 256	-35.000	29.538	1.500	0.0	360.0	15.0	-2.0	25 <sup>2)</sup>



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## Exterior Scene 2 Altis / GR Observer (Results Overview)

### GR Observerlist

No.	Designation	Position [m]			Viewing sector [°]				Max
		X	Y	Z	Start	End	Increment	Slope angle	
257	GR Observer 257	-30.000	29.538	1.500	0.0	360.0	15.0	-2.0	26 <sup>2)</sup>
258	GR Observer 258	-25.000	29.538	1.500	0.0	360.0	15.0	-2.0	29 <sup>2)</sup>
259	GR Observer 259	-20.000	29.538	1.500	0.0	360.0	15.0	-2.0	29 <sup>2)</sup>
260	GR Observer 260	-15.000	29.538	1.500	0.0	360.0	15.0	-2.0	29 <sup>2)</sup>
261	GR Observer 261	-10.000	29.538	1.500	0.0	360.0	15.0	-2.0	28 <sup>2)</sup>
262	GR Observer 262	-5.000	29.538	1.500	0.0	360.0	15.0	-2.0	27 <sup>2)</sup>
263	GR Observer 263	0.000	29.538	1.500	0.0	360.0	15.0	-2.0	29 <sup>2)</sup>
264	GR Observer 264	5.000	29.538	1.500	0.0	360.0	15.0	-2.0	27 <sup>2)</sup>
265	GR Observer 265	10.000	29.538	1.500	0.0	360.0	15.0	-2.0	28 <sup>2)</sup>
266	GR Observer 266	15.000	29.538	1.500	0.0	360.0	15.0	-2.0	29 <sup>2)</sup>
267	GR Observer 267	20.000	29.538	1.500	0.0	360.0	15.0	-2.0	29 <sup>2)</sup>
268	GR Observer 268	25.000	29.538	1.500	0.0	360.0	15.0	-2.0	29 <sup>2)</sup>
269	GR Observer 269	30.000	29.538	1.500	0.0	360.0	15.0	-2.0	26 <sup>2)</sup>
270	GR Observer 270	35.000	29.538	1.500	0.0	360.0	15.0	-2.0	25 <sup>2)</sup>
271	GR Observer 271	40.000	29.538	1.500	0.0	360.0	15.0	-2.0	27 <sup>2)</sup>
272	GR Observer 272	45.000	29.538	1.500	0.0	360.0	15.0	-2.0	25 <sup>2)</sup>
273	GR Observer 273	50.000	29.538	1.500	0.0	360.0	15.0	-2.0	23 <sup>2)</sup>

2) 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).



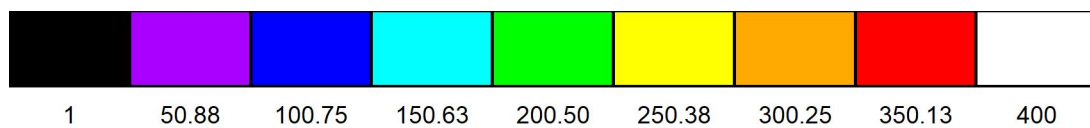
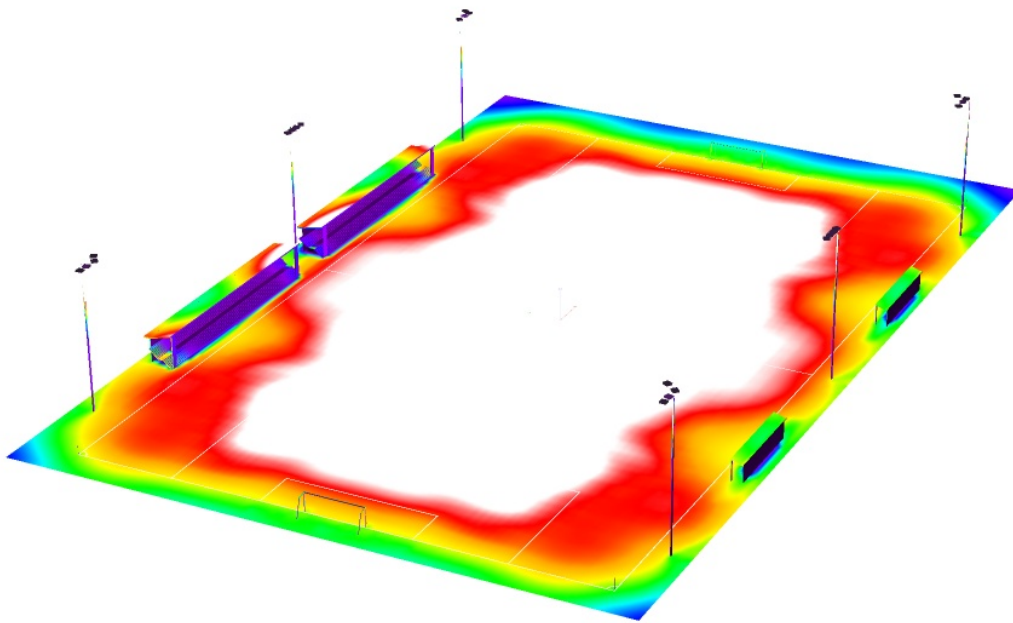
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## Exterior Scene 2 Altis / 3D Rendering



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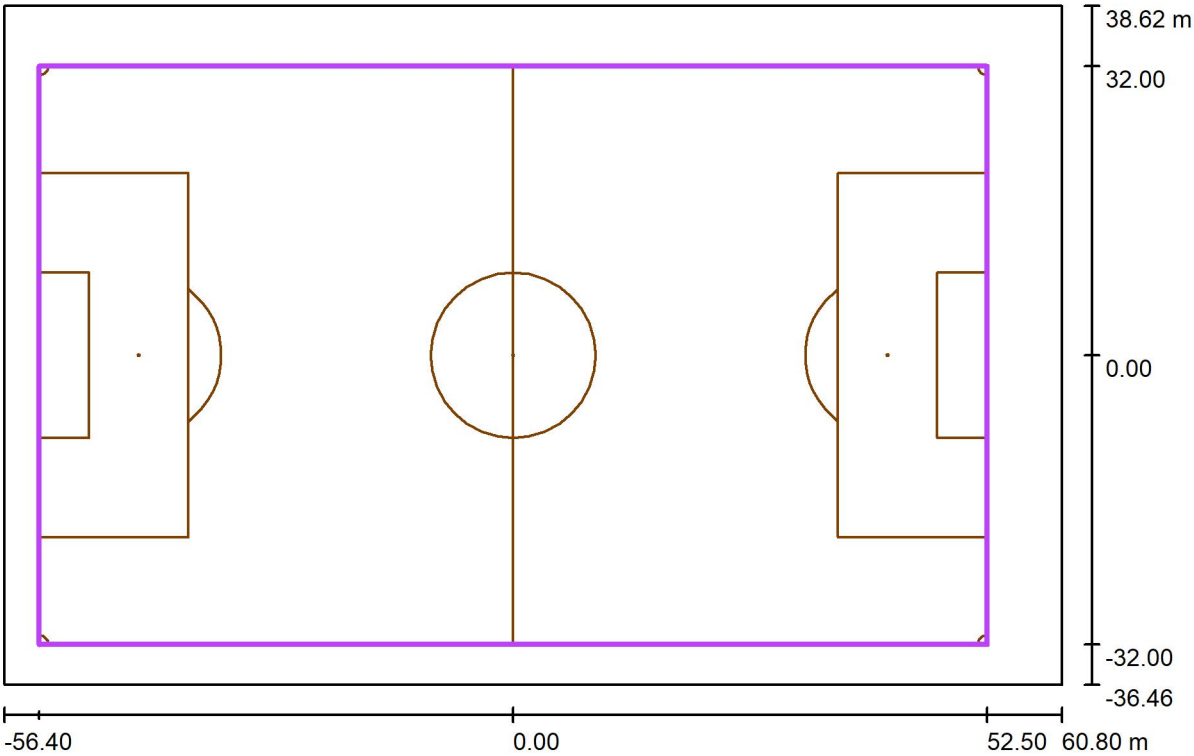
## Exterior Scene 2 Altis / False Colour Rendering



lx

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Exterior Scene 2 Altis / Soccer Field 1 Calculation Grid (PA) / Summary



Scale 1 : 838

Position: (0.000 m, 0.000 m, 0.000 m)  
Size: (105.000 m, 64.000 m)  
Rotation: (0.0°, 0.0°, 0.0°)  
Type: Normal, Grid: 21 x 13 Points  
Belongs to the following sport arena: Soccer Field 1

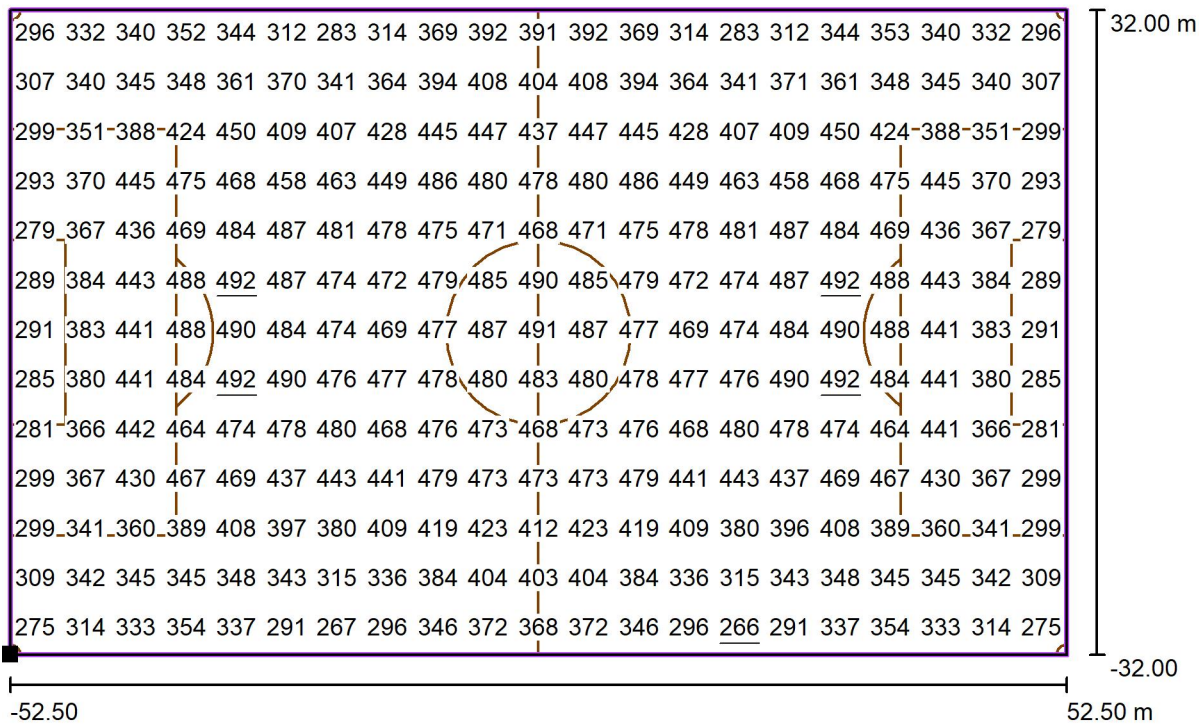
Results overview

No.	Type	$E_{av}$ [lx]	$E_{min}$ [lx]	$E_{max}$ [lx]	$u_0$	$E_{min} / E_{max}$	$E_{h\ m} / E_m$	H [m]	Camera
1	horizontal	405	266	492	0.66	0.54	/	0.000	/

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

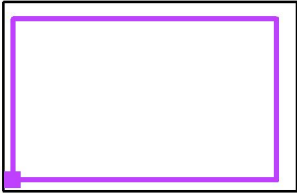
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Exterior Scene 2 Altis / Soccer Field 1 Calculation Grid (PA) / Value Chart (E, Horizontal)



Values in Lux, Scale 1 : 751

Position of surface in external scene:  
Marked point: (-52.500 m, -32.000 m, 0.000 m)



Grid: 21 x 13 Points

$E_{av}$ [lx]	$E_{min}$ [lx]	$E_{max}$ [lx]	$u0$	$E_{min} / E_{max}$
405	266	492	0.66	0.54