

Knacks Farm

Installation : Riding Arena lighting

Project number :

Customer :

Processed by : KR

Date : 19.01.2024

Project description:
100lx

The determination of the lighting results is performed on a sales support basis and carried out with the utmost care, based on the available documents and commercially available calculation methods (eg Relux, Dialux, AGI32).
A guarantee / warranty / liability for this free calculation is not taken over by SITECO. We refer in this context to the performance of the lighting design and engineering office.

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.

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1 Luminaire data

1.1 Siteco, Floodlight FL 21 midi, PL33... (5XA7781F4F3A)

1.1.1 Data sheet

Manufacturer: Siteco

5XA7781F4F3A Floodlight FL 21 midi, PL33T, 3000 K, DALI 2 in preparation

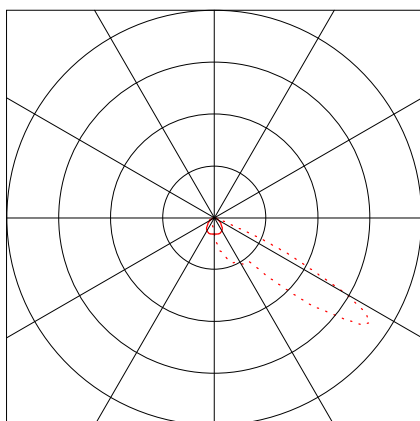
Luminaire data

Luminaire efficiency : 100%
Luminaire efficacy : 136.57 lm/W
Classification : A30 ↓100.0% ↑0.0%
CIE Flux Codes : 26 75 99 100 100
Glare : G*6 / D4
Power : 270.2 W
Luminous flux : 36900 lm

Equipped with

Quantity : 1
Designation : luminous flux:
100 % | dim-lin:
254 | 620 mA
Colour : 3000 K
Luminous flux : 36900 lm
Colour reproduction : 70

Dimensions : 657 mm x 442 mm x 76 mm

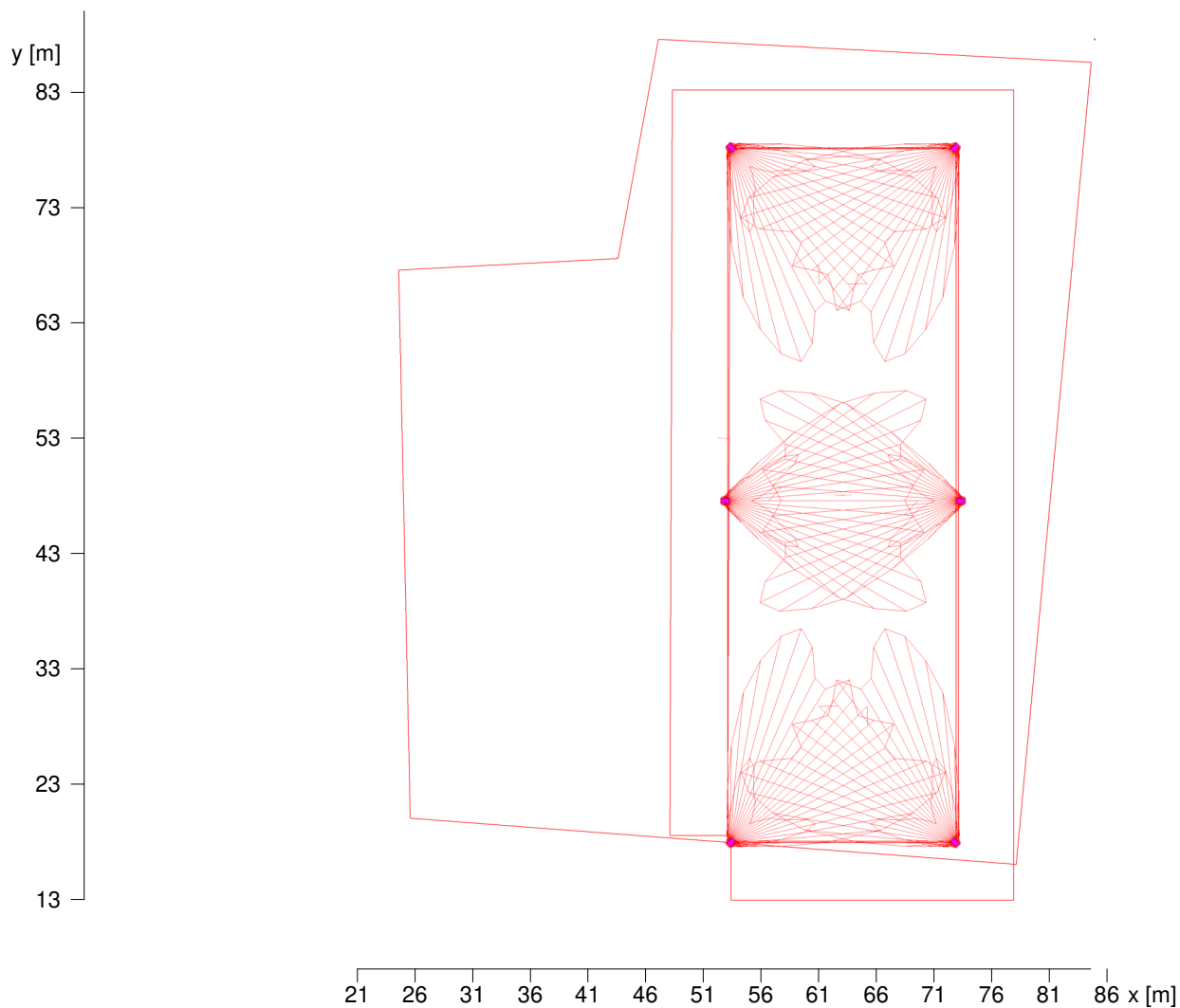


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2 New Arena

2.1 Description, New Arena

2.1.1 Floor plan

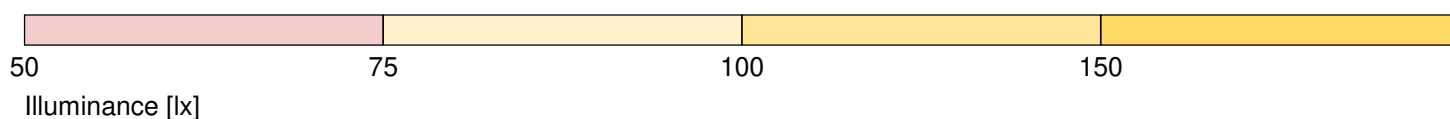
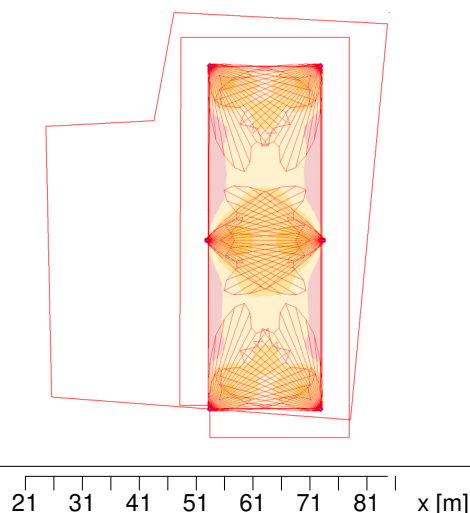


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2 New Arena

2.2 Summary, New Arena

2.2.1 Result overview, Proposed Arena 60 x 20M



General

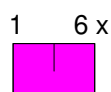
Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Height (phot. centre) [m]:	6.96 m
Maintenance factor	0.80

Total luminous flux	221400 lm
Total power	1621.2 W
Total power per area (3490.12 m ²)	0.46 W/m ²

Illuminance

Average illuminance	$\bar{E}_m$	99 lx
Minimum illuminance	E_{min}	55 lx
Maximum illuminance	E_{max}	181 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:1.81 (0.55)
Diversity U_d	E_{min}/E_{max}	1:3.31 (0.3)

Type No. \ Make



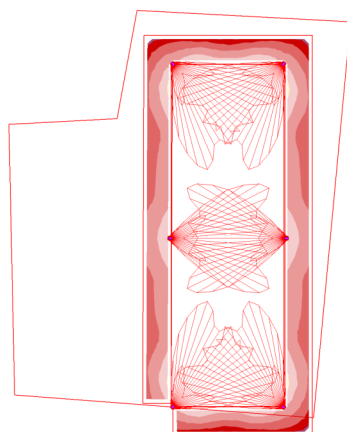
Siteco

Order No.	: 5XA7781F4F3A
Luminaire name	: Floodlight FL 21 midi, PL33T, 3000 K, DALI 2 in preparatio
n	
Equipment	: 1 x luminous flux: 100 % dim-lin: 254 620 mA 270.2 W / 36900 lm

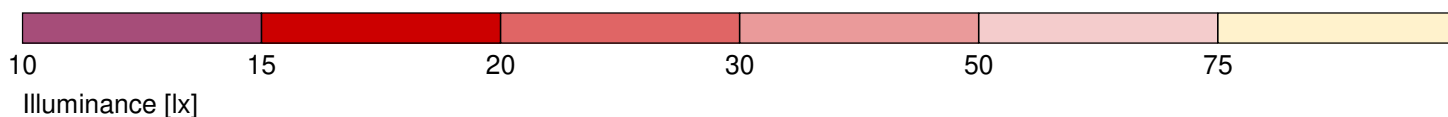
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2.2 Summary, New Arena

2.2.2 Result overview, Lightspill



21 31 41 51 61 71 81 x [m]



General

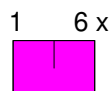
Calculation algorithm used	Average indirect fraction
Height of evaluation surface	0.00 m
Height (phot. centre) [m]:	6.96 m
Maintenance factor	0.80

Total luminous flux	221400 lm
Total power	1621.2 W
Total power per area (3490.12 m ²)	0.46 W/m ²

Illuminance

Average illuminance	$\bar{E}_m$	37.4 lx
Minimum illuminance	E_{min}	13.7 lx
Maximum illuminance	E_{max}	83.3 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	1:2.73 (0.37)
Diversity U_d	E_{min}/E_{max}	1:6.09 (0.16)

Type No. \ Make



Siteco

Order No.	: 5XA7781F4F3A
Luminaire name	: Floodlight FL 21 midi, PL33T, 3000 K, DALI 2 in preparatio
	n
Equipment	: 1 x luminous flux: 100 % dim-lin: 254 620 mA 270.2 W / 36900 lm

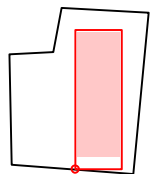
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2 New Arena

2.3 Calculation results, New Arena

2.3.2 Table, Proposed Arena 60 x 20M (E)

	71	105	121	107	92	77	77	92	107	121	105	72
	103	153	156	137	118	93	93	118	137	156	153	103
	116	150	153	137	114	95	95	114	137	153	150	116
55	102	126	132	115	100	99	99	100	115	132	126	102
	86	105	110	100	101	106	106	101	100	110	105	86
	67	80	87	91	99	112	112	99	91	87	80	67
50	58	73	78	86	95	104	104	95	86	78	73	58
	(55)	72	78	82	90	90	90	90	82	78	72	(55)
	57	74	83	81	84	82	82	84	81	83	74	57
45	57	73	83	81	79	78	78	79	81	83	73	57
	56	71	82	83	79	75	75	79	83	82	71	56
	56	70	81	86	84	80	80	84	86	81	70	56
40	56	70	83	89	91	92	92	91	89	83	70	56
	56	71	84	95	102	105	105	102	95	84	71	56
	58	73	87	103	111	115	115	102	87	73	58	
35	63	84	101	112	111	113	113	111	112	101	84	63
	74	104	126	135	129	118	118	129	135	125	104	74
	86	130	154	155	147	128	128	147	155	154	130	86
30	93	152	181	172	156	135	135	156	172	181	152	93
	92	147	172	170	153	133	133	153	170	172	147	92
	82	121	141	151	145	128	128	145	151	141	121	82
25	71	97	118	128	122	115	115	122	118	97	71	
	62	82	97	110	113	119	119	113	110	97	82	62
	59	76	90	104	113	115	115	113	104	90	76	59
20	59	75	89	98	102	105	105	102	98	89	75	59
	60	75	87	94	94	92	92	94	94	87	75	60
	60	76	88	90	87	83	83	87	90	88	76	60
15	60	77	88	86	83	82	82	83	86	88	77	60
	60	77	86	84	86	84	84	86	84	86	77	60
	57	74	80	83	91	91	91	91	83	80	74	57
10	59	74	78	86	96	105	105	96	86	78	74	59
	67	81	87	92	99	113	113	99	92	87	81	67
	86	105	110	100	102	106	106	102	100	110	105	86
5	103	126	132	115	100	99	99	100	115	132	126	103



Part1

Height reference plane		: 0.00 m
Average illuminance	$\bar{E}_m$	: 99 lx
Minimum illuminance	E_{min}	: 55 lx
Maximum illuminance	E_{max}	: 181 lx
Uniformity U_o	$E_{min}/\bar{E}_m$	: 1 : 1.81 (0.55)
Diversity U_d	E_{min}/E_{max}	: 1 : 3.31 (0.30)

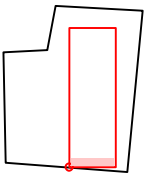
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2.3 Calculation results, New Arena

2.3.2 Table, Proposed Arena 60 x 20M (E)

116	150	153	137	114	95	95	114	137	153	150	116
104	153	156	137	118	93	94	118	137	156	153	104
71	105	121	107	92	77	77	92	107	121	105	71
24681012141618 [m]											
Illuminance [lx]											



Part2