

Photometric test report

Family
Silica® 21



Order number: **51MX31DC4DWB**
EAN: **4058352893401**

LP number
59281_66

serial
documentation
02.08.2023

Version Suspended luminaire, reflector, black, direct-/indirect distribution, narrow distribution, $UGR \leq 16$ ($L65 \leq 3000 \text{ cd/m}^2$)

Lamps LED 4000 K | CRI ≥ 80

Controlgear ECG-DALI

Rated values Net luminous flux = 18230 lm
Power consumption = 105.9 W
Luminous efficacy = 172.1 lm/W

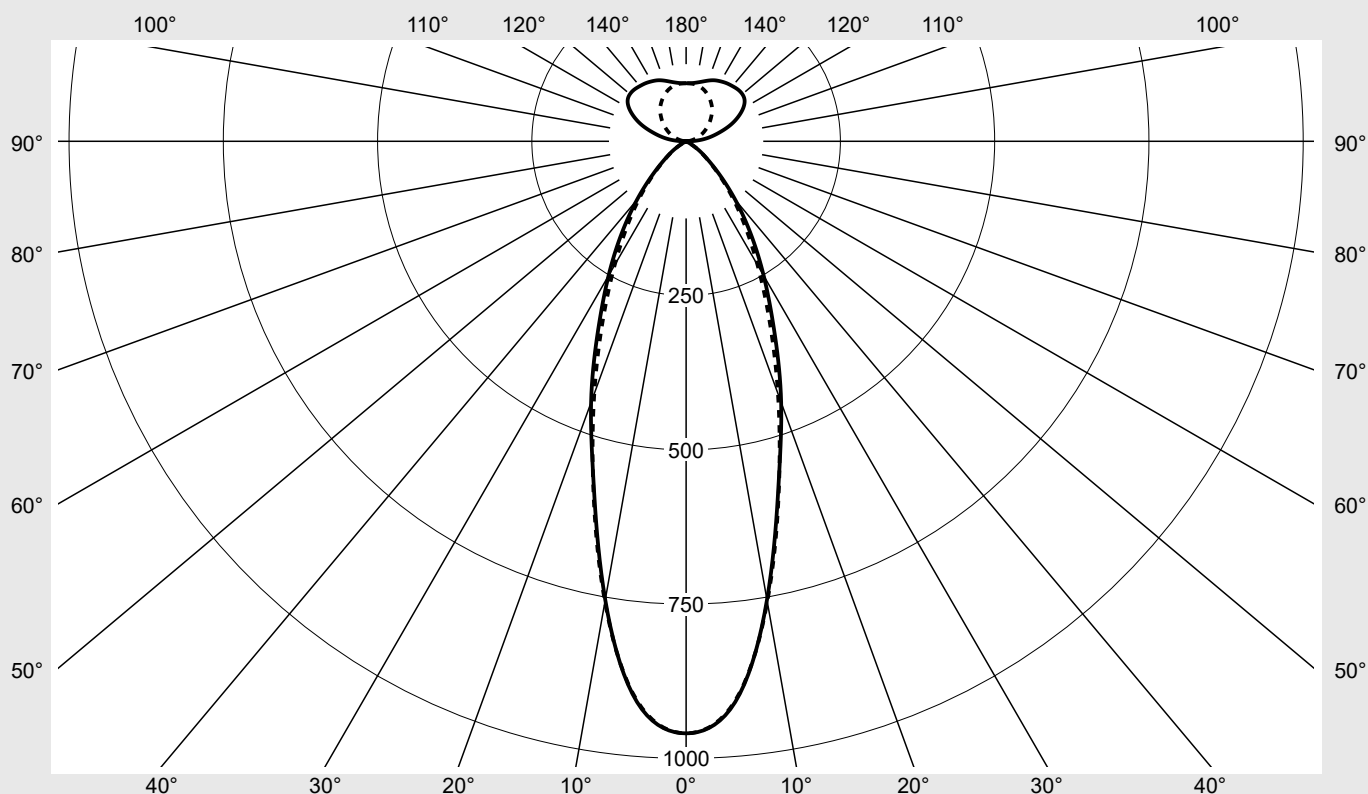
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Luminous intensity in cd/klm

C180-0

C270-90

Imax: 959 cd/klm



Classifications

DIN 5040 C 7 2
CIE N1=86 N2=99 N3=100
N4=59 N5=100

Luminaire light output ratios

η_{LB} 100.0%
 ϕ_u 59.0%
 ϕ_o 41.0%

Measurement conditions

DIN EN 13032 and DIN 5032

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Table of values for luminous intensities		Maximum luminous intensity

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C- planes	0° 180°	15° 165° 195° 345°	30° 150° 210° 330°	45° 135° 225° 315°	60° 120° 240° 300°	75° 105° 255° 285°	90° 270°	Phi-zone	Total Phi-zone
γ	Luminous intensity in cd/klm							Luminous flux in lm/klm	
0°	959.4	959.4	959.4	959.4	959.4	959.4	959.4	5.7	5.7
5°	912.2	913.2	911.7	911.4	911.5	911.7	910.3	43.6	49.3
10°	754.6	755.9	762.5	767.9	766.9	758.5	757.5	72.5	121.8
15°	578.2	581.5	588.5	595.2	592.8	584.9	581.1	83.3	205.1
20°	450.2	447.9	438.1	432.3	432.3	433.7	435.2	82.1	287.1
25°	337.4	332.5	314.5	302.7	311.9	319.4	319.2	73.7	360.8
30°	251.3	246.8	227.0	216.4	227.8	237.2	231.6	63.8	424.6
35°	181.9	180.8	165.4	156.1	165.0	174.0	165.2	53.2	477.8
40°	124.1	124.5	116.4	111.0	116.6	120.7	113.9	41.6	519.4
45°	77.3	77.7	75.1	73.6	76.6	76.5	72.7	29.4	548.8
50°	44.9	46.1	46.4	46.4	47.6	45.7	43.0	19.3	568.1
55°	25.0	26.0	27.2	27.9	28.2	25.7	24.0	11.9	580.0
60°	7.9	9.6	14.5	15.8	15.1	10.6	8.6	5.8	585.9
65°	2.5	3.1	4.5	8.1	4.9	3.1	2.7	2.2	588.0
70°	1.0	1.1	0.9	1.6	1.1	1.3	1.3	0.6	588.6
75°	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	588.8
80°	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	588.8
85°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.2	589.1
90°	4.7	4.6	4.9	4.8	2.9	1.0	0.4	1.9	590.9
95°	22.0	22.5	24.1	22.8	14.6	7.5	3.9	9.5	600.4
100°	39.3	40.4	40.8	35.7	24.0	13.5	8.9	16.1	616.5
105°	56.4	57.6	56.5	48.2	33.0	20.5	15.0	22.2	638.7
110°	75.8	76.1	71.3	59.4	42.3	27.6	21.4	27.9	666.6
115°	92.7	91.8	84.7	69.7	51.3	34.9	28.6	32.5	699.2
120°	106.6	104.9	95.6	78.0	59.7	42.0	35.6	35.7	734.9
125°	115.7	112.5	102.2	85.6	66.8	48.7	43.0	37.1	771.9
130°	118.9	116.2	105.4	90.1	72.2	55.6	50.5	36.7	808.6
135°	118.7	116.2	106.6	93.2	76.5	62.0	57.9	35.1	843.7
140°	116.7	115.0	106.9	95.4	80.1	68.1	65.7	32.7	876.4
145°	114.8	113.6	106.8	96.6	83.5	73.7	72.0	29.7	906.1
150°	112.1	111.6	105.6	96.5	86.2	79.2	77.7	26.2	932.3
155°	109.0	108.7	103.0	96.1	88.3	84.0	82.9	22.2	954.6
160°	104.7	104.4	99.9	95.3	90.2	87.8	87.5	17.9	972.5
165°	100.1	99.5	97.2	94.2	92.0	90.8	90.9	13.5	985.9
170°	96.6	96.1	95.5	94.2	93.3	93.1	93.2	9.0	994.9
175°	94.6	94.5	94.0	93.8	93.8	93.9	93.9	4.5	999.4
180°	94.1	94.1	94.1	94.1	94.1	94.1	94.1	0.6	1000.0

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UGR-Table			Standard room							siteco	
Reflection factor of ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Reflection factor of walls		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reflection factor of floor		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		View crosswise (C0)					View endwise (C90)				
x	y										
2H	2H	14.3	15.1	15.1	15.9	17.0	14.2	15.0	15.0	15.8	16.9
	3H	14.0	14.7	14.9	15.6	16.7	13.9	14.6	14.8	15.5	16.6
	4H	13.8	14.5	14.7	15.4	16.5	13.8	14.4	14.7	15.3	16.4
	6H	13.7	14.3	14.6	15.2	16.3	13.6	14.2	14.5	15.1	16.2
	8H	13.6	14.1	14.5	15.0	16.2	13.5	14.0	14.4	14.9	16.1
	12H	13.5	13.9	14.4	14.9	16.1	13.4	13.9	14.4	14.8	16.0
4H	2H	14.0	14.7	14.9	15.6	16.7	13.9	14.5	14.8	15.4	16.5
	3H	13.7	14.3	14.7	15.2	16.4	13.6	14.2	14.5	15.1	16.2
	4H	13.6	14.1	14.5	15.0	16.2	13.5	14.0	14.4	14.9	16.1
	6H	13.4	13.8	14.4	14.8	16.0	13.3	13.7	14.3	14.7	15.9
	8H	13.3	13.7	14.3	14.6	15.9	13.2	13.6	14.2	14.6	15.8
	12H	13.2	13.5	14.2	14.5	15.7	13.1	13.5	14.1	14.4	15.6
8H	4H	13.3	13.7	14.3	14.7	15.9	13.2	13.6	14.2	14.5	15.8
	6H	13.2	13.5	14.2	14.5	15.7	13.0	13.3	14.0	14.3	15.6
	8H	13.1	13.4	14.1	14.3	15.6	13.0	13.3	14.0	14.2	15.5
	12H	13.0	13.2	14.0	14.2	15.5	12.9	13.1	13.9	14.1	15.4
12H	4H	13.2	13.6	14.2	14.5	15.7	13.1	13.4	14.1	14.4	15.6
	6H	13.1	13.3	14.1	14.3	15.6	13.0	13.2	14.0	14.2	15.5
	8H	13.0	13.2	14.0	14.2	15.5	12.9	13.1	13.9	14.1	15.4

Luminance table		Max. for $\gamma \geq 65^\circ$		Photometric dimensions in mm:		L = 2940 B = 49	
C-planes	0° 180°	15° 165° 195° 345°	30° 150° 210° 330°	45° 135° 225° 315°	60° 120° 240° 300°	75° 105° 255° 285°	90° 270°
γ	Luminance in cd/m²						
45°	13826.2	13896.9	13442.3	13176.2	13708.6	13697.1	13011.9
50°	8846.3	9073.5	9126.6	9142.6	9378.8	8996.7	8471.6
55°	5510.1	5732.7	5996.5	6161.4	6220.9	5675.3	5284.8
60°	1999.4	2426.6	3680.7	3987.4	3825.7	2676.2	2168.5
65°	733.9	919.5	1346.2	2419.7	1465.4	930.9	809.4
70°	377.0	400.3	337.1	584.2	411.4	462.9	472.1
75°	95.3	134.5	133.0	170.1	165.7	158.9	129.6
80°	30.6	40.8	40.8	51.0	66.3	75.8	80.9
85°	615.6	599.6	583.7	550.3	537.2	530.0	537.2

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Luminance values in cd/m²

γ 65°

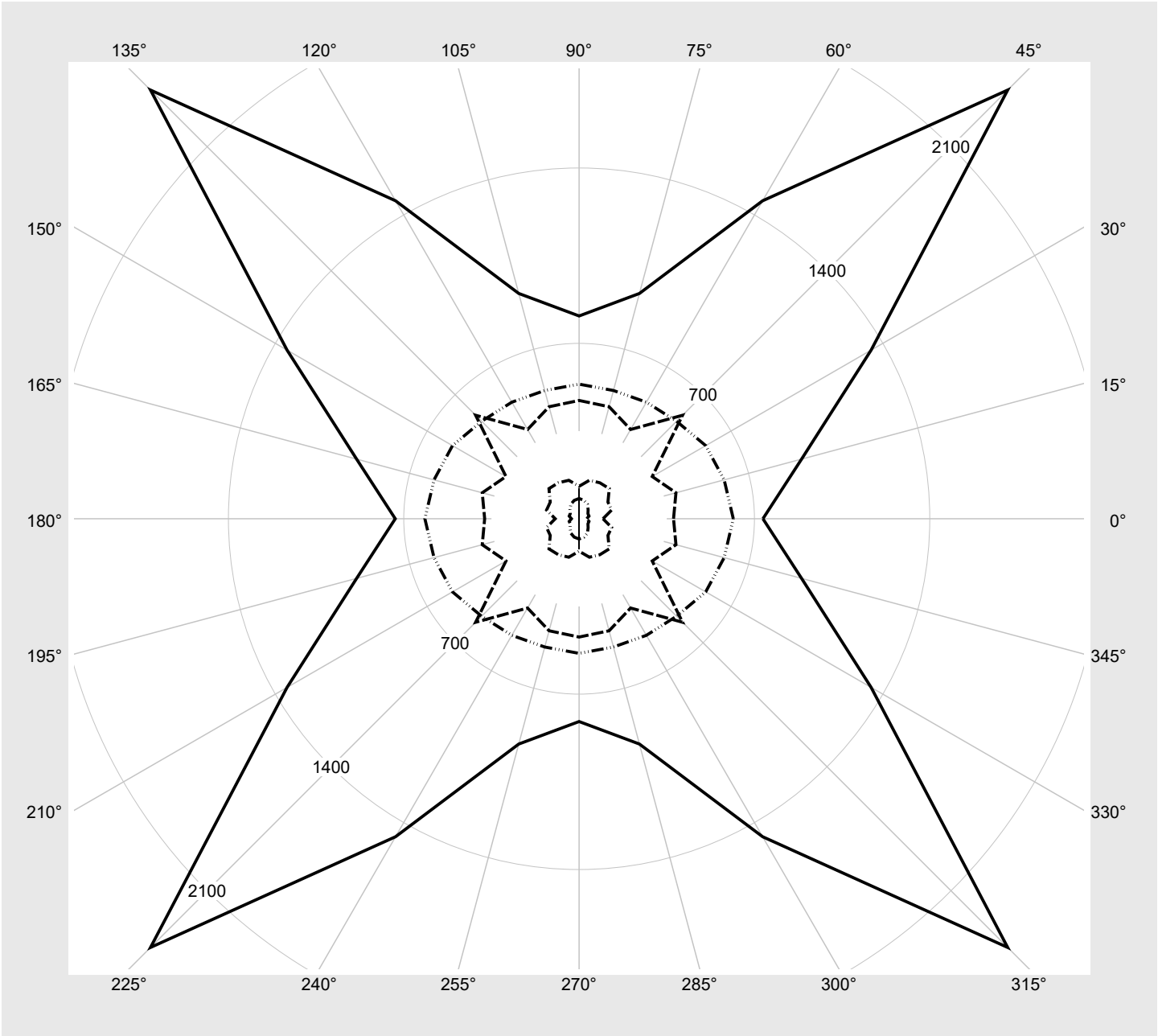
γ 70°

γ 75°

γ 80°

γ 85°

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Dimming levels table		environmental temperature: 25°C

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Luminous flux %	Dimming level linear	Dimming level logarithmic	Luminous flux [lm]	Power consumption [W]
100	254	254	18230	105.9
95	241	252	17346	100.3
90	227	250	16389	95.1
85	214	248	15494	89.8
80	201	245	14594	84.3
75	188	243	13687	78.9
70	175	240	12776	74.0
65	162	238	11858	68.7
60	149	234	10929	63.2
55	136	231	9998	58.0
50	124	228	9135	53.2
45	111	224	8194	48.2
40	99	219	7322	43.3
35	86	214	6371	38.1
30	74	209	5489	33.3
25	61	202	4530	27.8
20	49	194	3635	23.0
15	37	183	2741	18.1
10	25	169	1844	13.1
5	13	145	942	8.0
2	5	110	339	3.9