

Photometric test report

Family
Silica® 21

Order number: **51MX31DC3DBB**
EAN: **4058352892787**

LP number
59281_70

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 3000 K | CRI ≥ 80

Controlgear ECG-DALI

Rated values Net luminous flux = 18230 lm
Power consumption = 113.3 W
Luminous efficacy = 160.9 lm/W

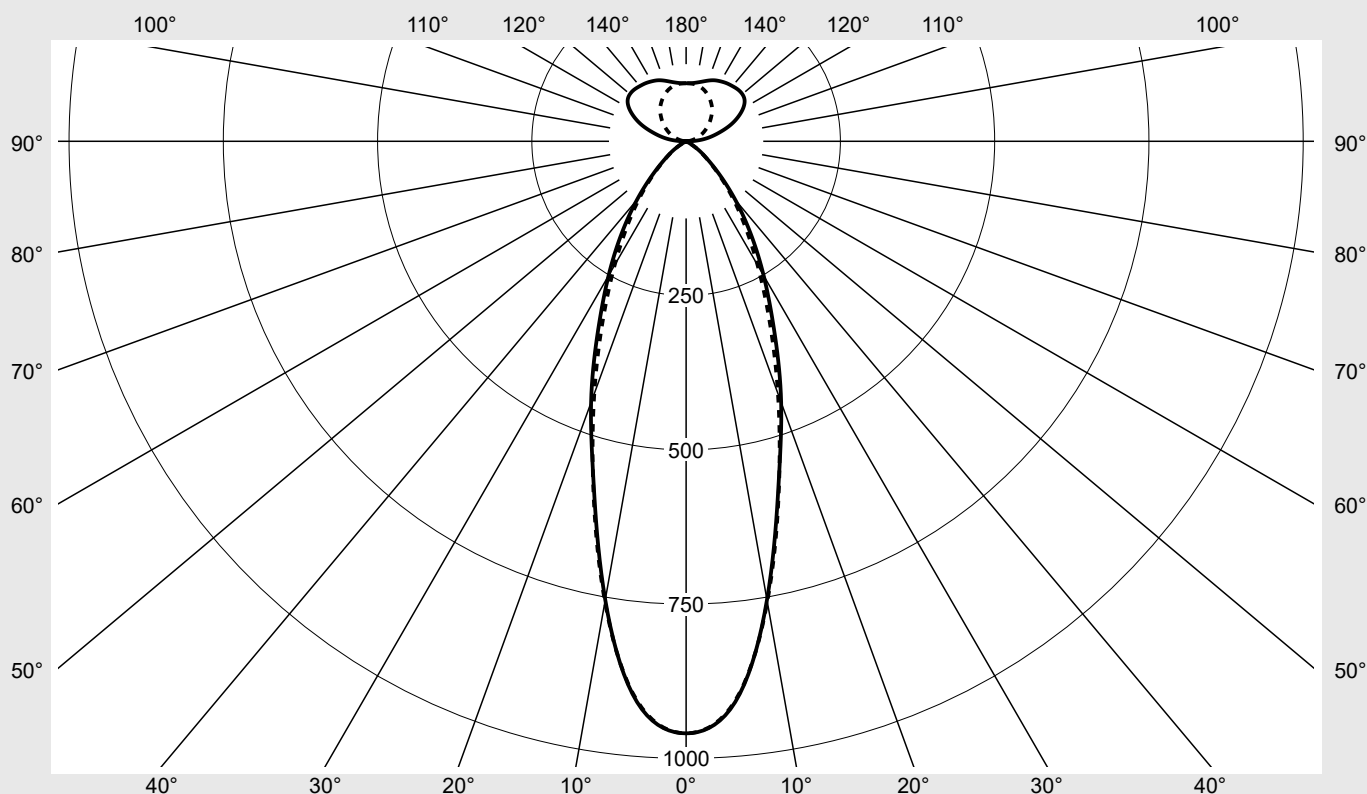
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Luminous intensity in cd/klm

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°

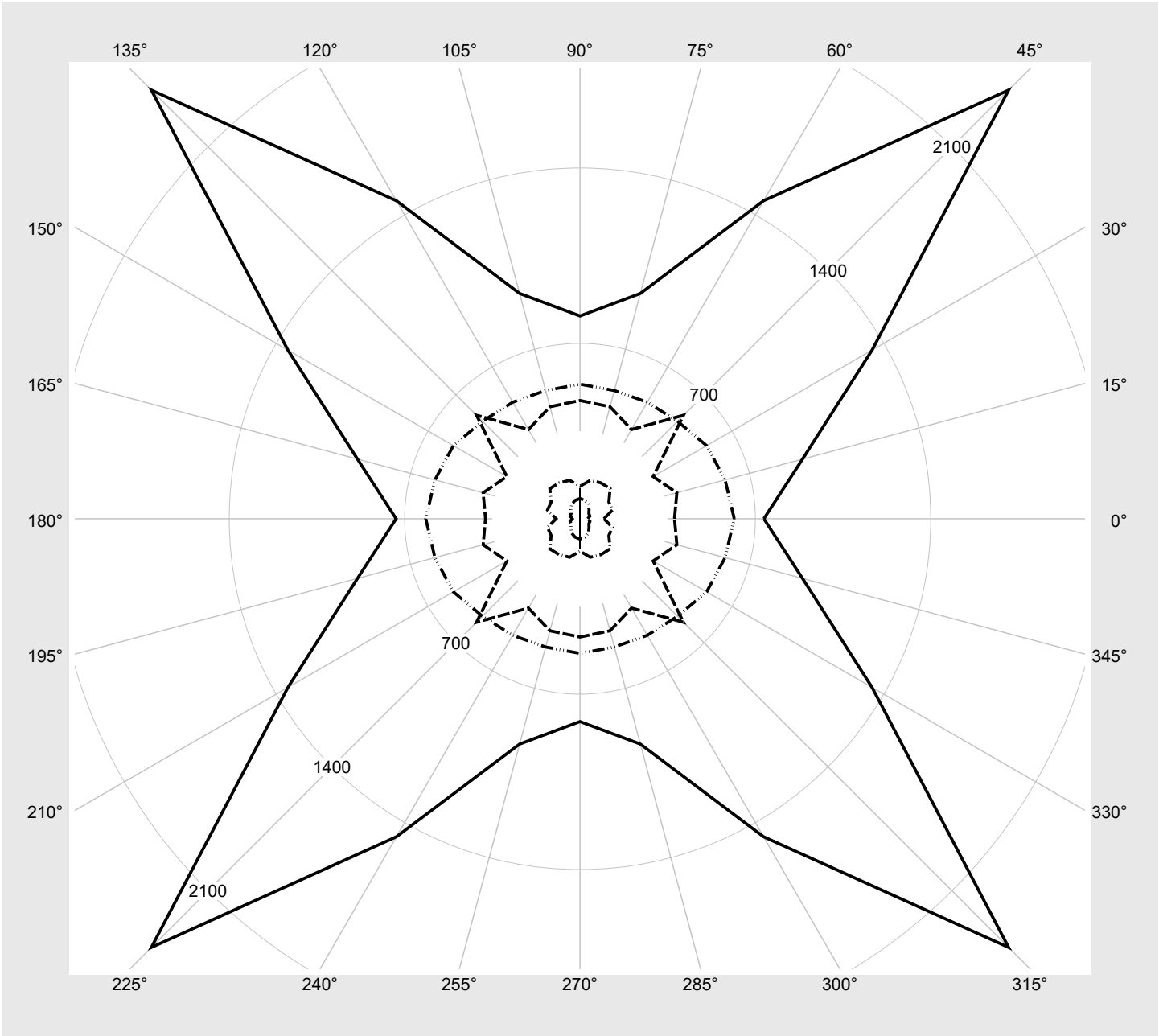
γ 70°

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	113.3
95	240	252	17286	107.2
90	227	250	16398	101.1
85	214	248	15510	95.7
80	201	245	14614	90.2
75	187	243	13643	84.0
70	174	240	12734	78.1
65	161	237	11819	72.8
60	149	234	10968	67.3
55	136	231	10035	61.8
50	123	227	9100	56.3
45	111	224	8232	50.9
40	98	219	7284	45.6
35	86	214	6405	40.4
30	73	208	5446	34.9
25	61	202	4558	29.6
20	49	194	3663	24.4
15	37	183	2761	19.1
10	25	169	1858	13.8
5	12	142	875	8.0
2	5	110	343	4.1