



# Photometric test report

<b>Family</b> <b>Silica® 21</b>	<b>Order number: 51MX24DA44SB</b> <b>EAN: 4058352899045</b>	<b>LP number</b> <b>59270_88</b>
	<b>Version</b> surface-mounted luminaire, reflector, black, direct distribution, asymmetric distribution <b>Lamps</b> LED 4000 K   CRI ≥ 80 <b>Controlgear</b> ECG-DALI	<b>serial documentation</b> <b>02.08.2023</b>
	<b>Rated values</b> Net luminous flux = 4320 lm Power consumption = 30.0 W Luminous efficacy = 144 lm/W	

**Luminous intensity in cd/klm** C180-0 C270-90 **Imax: 826 cd/klm**



Classifications	
DIN 5040	A 6 0
CIE	N1=74 N2=94 N3=99 N4=100 N5=100

Luminaire light output ratios	
$\eta_{LB}$	100.0%
$\phi_u$	100.0%
$\phi_o$	0.0%

**Measurement conditions**  
 DIN EN 13032 and DIN 5032

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Table of values for luminous intensities		Maximum luminous intensity
<b>siteco</b>		

C-planes	0°	15° 345°	30° 330°	45° 315°	60° 300°	75° 285°	90° 270°
$\gamma$	Luminous intensity in cd/klm						
0°	652.0	652.0	652.0	652.0	652.0	652.0	652.0
5°	666.9	669.0	664.7	668.1	665.8	658.5	656.3
10°	694.1	699.5	694.9	697.8	687.8	669.7	657.2
15°	745.9	757.8	758.6	751.7	720.3	681.6	653.2
20°	797.2	810.9	815.9	795.0	737.5	674.0	633.0
25°	811.7	825.8	812.3	769.4	703.1	631.1	577.8
30°	788.3	790.4	769.6	695.9	622.5	550.2	501.9
35°	654.2	653.0	648.0	598.2	512.7	433.1	387.1
40°	493.4	503.0	513.6	491.7	407.8	312.4	261.1
45°	356.9	371.2	396.6	382.3	311.7	212.0	163.2
50°	252.0	264.9	292.8	285.3	227.0	141.1	102.4
55°	174.1	185.5	214.4	210.2	168.5	93.5	60.0
60°	116.9	126.6	154.3	157.4	127.4	55.1	26.1
65°	85.8	90.4	106.5	115.9	84.8	29.1	8.4
70°	58.6	65.3	76.1	78.1	49.1	15.0	3.2
75°	29.3	36.5	51.8	37.7	23.5	8.4	1.1
80°	4.9	7.0	15.4	15.1	10.7	3.3	0.5
85°	1.0	1.2	2.3	2.1	0.8	0.3	0.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
105°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
110°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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<b>Table of values for luminous intensities</b>		<b>Maximum luminous intensity</b>
		<b>siteco</b>

C-planes	105° 255°	120° 240°	135° 225°	150° 210°	165° 195°	180°	Phi-zone	Total Phi-zone
$\gamma$	Luminous intensity in cd/klm						Luminous flux in lm/klm	
0°	652.0	652.0	652.0	652.0	652.0	652.0	3.9	3.9
5°	648.8	644.3	634.4	624.8	623.0	624.2	31.1	35.0
10°	640.2	622.4	598.9	573.5	560.8	555.7	61.3	96.3
15°	627.5	590.3	536.8	485.9	456.2	443.8	90.0	186.3
20°	595.4	535.2	448.1	369.0	322.8	305.6	113.9	300.1
25°	535.8	444.7	330.5	240.5	178.2	155.1	126.1	426.3
30°	439.6	334.4	213.1	117.0	65.0	52.1	126.1	552.3
35°	312.5	213.9	111.2	44.6	25.1	21.7	112.1	664.4
40°	197.6	120.2	49.4	22.0	16.7	15.5	92.5	756.9
45°	117.6	62.5	22.8	14.8	11.5	10.5	72.7	829.5
50°	69.7	30.7	13.3	9.8	7.0	5.9	55.0	884.6
55°	38.5	15.6	8.4	6.0	3.7	3.2	40.9	925.5
60°	14.7	7.6	5.1	3.5	2.8	2.3	29.3	954.8
65°	4.9	3.9	3.0	2.5	1.8	1.2	20.5	975.2
70°	1.9	1.9	1.7	1.4	1.0	0.6	13.9	989.2
75°	0.7	0.9	0.9	0.8	0.6	0.5	7.8	997.0
80°	0.4	0.5	0.5	0.5	0.4	0.4	2.6	999.6
85°	0.4	0.4	0.4	0.4	0.3	0.3	0.4	1000.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1000.0
95°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1000.0
100°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1000.0
105°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1000.0
110°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1000.0
115°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1000.0
120°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1000.0
125°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1000.0
130°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1000.0
135°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1000.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1000.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1000.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1000.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1000.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1000.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1000.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1000.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1000.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1000.0

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<b>UGR-Table</b>	<b>Standard room</b>	<b>siteco</b>
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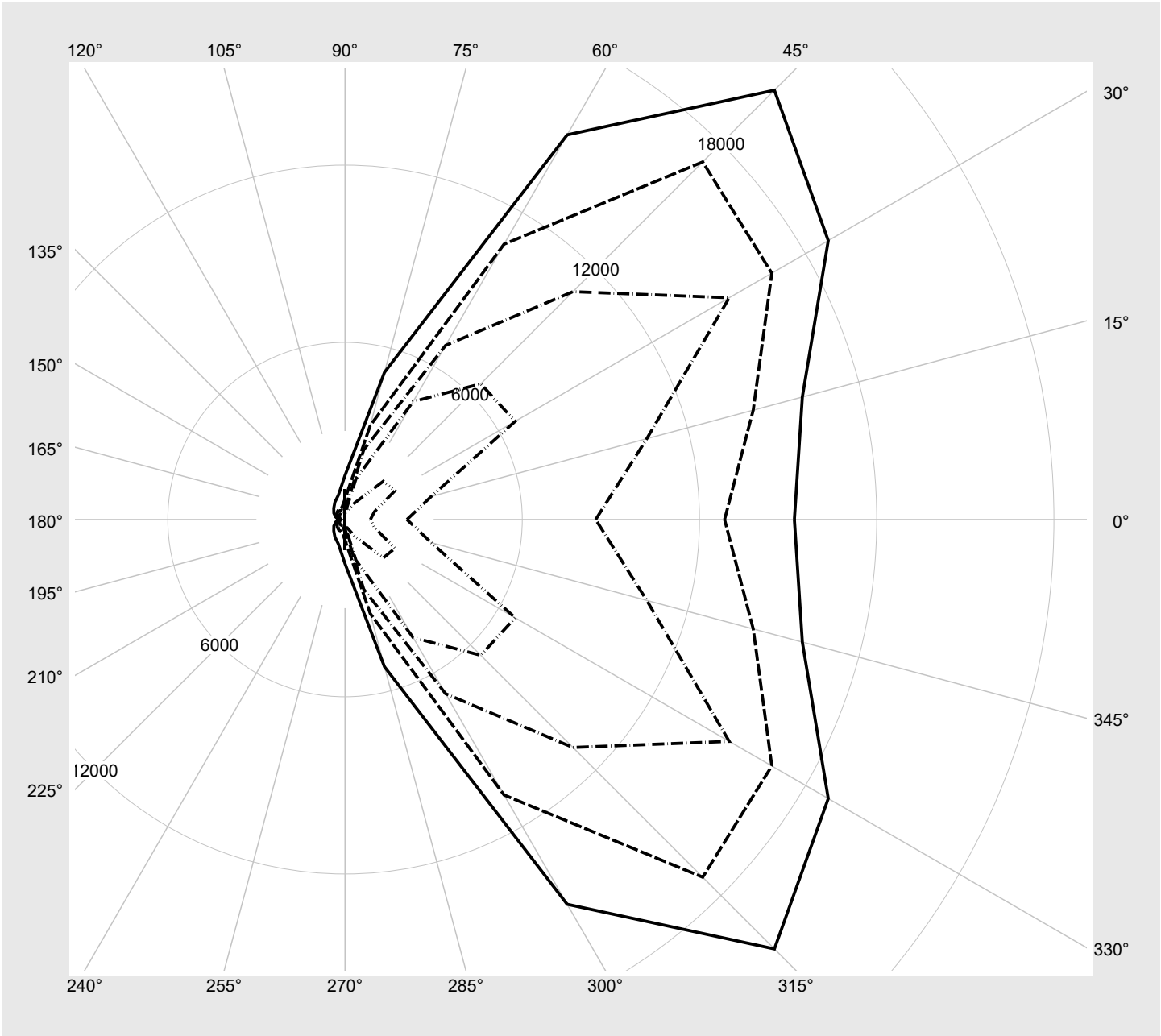
Reflection factor of ceiling	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3	
Reflection factor of walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3	
Reflection factor of floor	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
Room dimensions	View crosswise (C0)					View endwise (C90)					
x	y										
2H	2H	25.0	26.4	25.4	26.7	27.0	20.4	21.8	20.8	22.1	22.4
	3H	25.5	26.8	25.9	27.1	27.5	20.4	21.6	20.7	21.9	22.3
	4H	25.7	26.8	26.1	27.2	27.5	20.3	21.5	20.7	21.8	22.2
	6H	25.7	26.7	26.1	27.1	27.5	20.2	21.3	20.7	21.7	22.1
	8H	25.6	26.6	26.1	27.0	27.4	20.2	21.2	20.7	21.6	22.0
	12H	25.7	26.5	26.1	26.9	27.3	20.3	21.1	20.7	21.5	21.9
4H	2H	25.4	26.5	25.8	26.9	27.3	21.2	22.4	21.6	22.8	23.1
	3H	26.1	27.1	26.5	27.5	27.9	21.4	22.4	21.8	22.8	23.2
	4H	26.4	27.2	26.8	27.6	28.1	21.4	22.2	21.8	22.7	23.1
	6H	26.4	27.1	26.8	27.5	28.0	21.3	22.1	21.8	22.5	23.0
	8H	26.3	27.0	26.8	27.4	27.9	21.3	22.0	21.8	22.4	22.9
	12H	26.3	26.9	26.8	27.4	27.9	21.3	21.9	21.8	22.3	22.8
8H	4H	26.4	27.1	26.9	27.5	28.0	21.6	22.3	22.1	22.7	23.2
	6H	26.5	27.0	26.9	27.5	28.0	21.6	22.1	22.1	22.6	23.1
	8H	26.4	26.9	26.9	27.4	27.9	21.6	22.0	22.1	22.5	23.1
	12H	26.4	26.8	26.9	27.3	27.8	21.5	21.9	22.1	22.4	23.0
12H	4H	26.4	27.0	26.9	27.4	27.9	21.7	22.2	22.2	22.7	23.2
	6H	26.5	26.9	27.0	27.4	27.9	21.6	22.1	22.1	22.6	23.1
	8H	26.4	26.8	26.9	27.3	27.8	21.6	22.0	22.1	22.5	23.0

<b>Luminance table</b>	<b>Max. for <math>\gamma \geq 65^\circ</math></b>	<b>Photometric dimensions in mm:</b>	<b>L = 1176</b>										
			<b>B = 49</b>										
<b>C-planes</b>	<b>0°</b>	<b>15° 345°</b>	<b>30° 330°</b>	<b>45° 315°</b>	<b>60° 300°</b>	<b>75° 285°</b>	<b>90° 270°</b>	<b>105° 255°</b>	<b>120° 240°</b>	<b>135° 225°</b>	<b>150° 210°</b>	<b>165° 195°</b>	<b>180°</b>
$\gamma$	<b>Luminance in cd/m<sup>2</sup></b>												
45°	37839.4	39355.2	42043.7	40527.9	33048.7	22474.8	17303.7	12471.6	6626.9	2419.6	1571.7	1222.7	1112.6
50°	29386.5	30896.8	34153.2	33272.3	26476.2	16458.3	11940.3	8123.8	3582.1	1555.9	1146.8	814.9	682.8
55°	22760.1	24248.1	28024.4	27469.0	22017.9	12219.3	7847.1	5028.1	2036.2	1094.8	781.0	481.3	412.5
60°	17526.2	18986.4	23128.3	23597.5	19103.7	8263.5	3917.4	2206.5	1140.6	766.5	529.9	412.6	347.9
65°	15212.9	16028.7	18890.4	20558.2	15040.6	5161.0	1495.4	861.4	684.4	540.7	437.8	325.3	215.4
70°	12849.2	14306.8	16684.0	17124.5	10764.8	3293.6	697.7	416.9	416.9	369.6	307.5	221.8	135.9
75°	8486.1	10576.2	15018.4	10912.3	6809.8	2445.9	320.4	210.9	257.8	246.2	226.5	183.6	148.6
80°	2096.5	3022.1	6650.3	6498.8	4612.1	1426.9	203.8	192.1	227.1	233.1	221.5	192.1	174.8
85°	858.4	1032.2	1949.1	1833.0	649.4	289.9	278.7	313.1	348.4	359.6	336.3	289.9	278.7

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**Luminance values in cd/m<sup>2</sup>**     γ 65°   γ 70°   γ 75°   γ 80°   γ 85°     **siteco**



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<b>Dimming levels table</b>	environmental temperature: 25°C	<b>sITeco</b>
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Luminous flux %	Dimming level linear	Dimming level logarithmic	Luminous flux [lm]	Power consumption [W]
100	254	254	4320	30.0
95	240	252	4098	28.4
90	227	250	3890	26.9
85	214	248	3680	25.4
80	200	245	3450	23.8
75	187	243	3237	22.3
70	174	240	3021	20.8
65	161	237	2804	19.3
60	148	234	2586	17.8
55	136	231	2383	16.4
50	123	227	2161	15.0
45	110	223	1937	13.4
40	98	219	1730	12.1
35	85	214	1504	10.6
30	73	208	1294	9.3
25	61	202	1083	8.0
20	49	194	871	6.7
15	37	183	656	5.3
10	24	168	424	3.9
5	12	142	208	2.6
2	5	110	82	1.8