

# Photometric test report

<b>Family</b> <b>Silica® 21</b>	<b>Order number: 51MX24TBT5B</b> <b>EAN: 4058352687406</b>	<b>LP number</b> <b>59276_103</b>
	<b>Version</b>	surface-mounted luminaire, reflector, black, direct distribution, asymmetric distribution, tunable white
	<b>Lamps</b>	LED 6500 K   CRI ≥ 80
	<b>Controlgear</b>	ECG-DALI
	<b>Setting</b>	individual position
	<b>Rated values</b>	Net luminous flux = 4100 lm Power consumption = 40.5 W Luminous efficacy = 101.2 lm/W
		<b>serial documentation</b> 03.05.2023
		

**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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<b>Table of values for luminous intensities</b>		<b>Maximum luminous intensity</b>
		<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°	661.7	661.7	661.7	661.7	661.7	661.7	661.7
5°	707.6	708.8	701.1	699.3	690.5	675.5	665.7
10°	753.6	757.8	748.0	742.6	724.7	696.1	669.4
15°	787.1	797.8	794.5	785.9	757.5	712.8	665.2
20°	806.6	820.5	826.5	809.8	762.2	699.9	638.5
25°	788.4	808.5	803.3	771.2	718.7	652.8	578.2
30°	753.6	764.4	743.7	689.2	630.6	560.4	502.1
35°	647.7	641.5	628.6	587.6	522.2	450.6	386.5
40°	481.1	487.8	495.5	479.3	412.9	335.0	271.3
45°	342.4	353.2	375.0	376.0	318.8	233.5	172.1
50°	244.7	248.8	274.8	282.8	235.7	157.9	107.9
55°	171.3	177.5	199.4	208.0	176.1	105.7	63.9
60°	115.1	122.4	144.6	155.8	127.0	61.7	29.2
65°	81.5	86.1	102.4	113.9	84.3	29.7	9.5
70°	56.7	63.4	75.3	76.6	47.3	14.7	3.6
75°	29.5	36.2	51.5	39.1	25.8	8.2	1.2
80°	5.4	7.7	15.3	17.0	11.4	3.4	0.5
85°	1.1	1.3	2.4	2.3	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°	661.7	661.7	661.7	661.7	661.7	661.7	4.0	4.0
5°	650.2	639.3	625.2	613.2	610.8	611.4	31.6	35.6
10°	635.2	606.4	576.8	550.6	537.8	533.0	62.6	98.1
15°	612.2	559.4	505.1	459.9	436.0	425.6	90.9	189.1
20°	565.1	489.6	412.9	351.3	314.5	302.5	113.2	302.3
25°	497.5	409.8	322.4	247.7	191.9	168.1	125.1	427.4
30°	412.4	312.9	216.8	129.1	80.3	67.5	124.5	551.9
35°	304.3	218.0	125.8	57.5	28.2	23.1	112.3	664.2
40°	195.6	132.8	62.5	24.4	17.4	16.1	92.9	757.1
45°	117.9	72.0	27.4	15.9	12.0	11.0	72.7	829.8
50°	70.5	38.1	14.7	10.4	7.3	6.2	55.1	884.8
55°	41.0	19.6	9.0	6.3	3.7	3.2	41.1	925.9
60°	17.5	9.3	5.4	3.7	2.8	2.3	29.2	955.1
65°	5.6	4.4	3.2	2.6	1.9	1.3	20.1	975.2
70°	2.1	2.0	1.8	1.4	1.0	0.6	13.6	988.8
75°	0.8	0.9	0.9	0.8	0.6	0.5	8.0	996.8
80°	0.5	0.5	0.5	0.5	0.4	0.4	2.7	999.5
85°	0.4	0.4	0.4	0.4	0.3	0.3	0.5	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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UGR-Table		Standard room									
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	23.8	25.2	24.1	25.5	25.8	19.7	21.1	20.0	21.4	21.7
	3H	24.3	25.5	24.7	25.9	26.2	19.6	20.9	20.0	21.2	21.6
	4H	24.4	25.6	24.8	25.9	26.3	19.6	20.7	20.0	21.1	21.4
	6H	24.4	25.5	24.8	25.8	26.2	19.5	20.5	19.9	20.9	21.3
	8H	24.4	25.4	24.8	25.8	26.2	19.5	20.5	19.9	20.8	21.2
	12H	24.4	25.3	24.9	25.7	26.1	19.5	20.4	19.9	20.8	21.2
4H	2H	24.2	25.3	24.6	25.7	26.0	20.4	21.6	20.8	21.9	22.3
	3H	24.9	25.9	25.4	26.3	26.7	20.6	21.5	21.0	21.9	22.3
	4H	25.2	26.0	25.6	26.4	26.9	20.5	21.4	21.0	21.8	22.2
	6H	25.2	25.9	25.7	26.4	26.8	20.5	21.2	20.9	21.6	22.1
	8H	25.2	25.8	25.6	26.3	26.8	20.5	21.1	20.9	21.6	22.0
	12H	25.2	25.7	25.7	26.2	26.7	20.4	21.0	20.9	21.5	22.0
8H	4H	25.3	25.9	25.7	26.4	26.8	20.8	21.4	21.3	21.9	22.4
	6H	25.3	25.8	25.8	26.3	26.8	20.8	21.3	21.3	21.8	22.3
	8H	25.3	25.7	25.8	26.2	26.7	20.7	21.2	21.2	21.7	22.2
	12H	25.2	25.6	25.8	26.1	26.7	20.7	21.1	21.2	21.6	22.1
12H	4H	25.3	25.8	25.8	26.3	26.8	20.8	21.4	21.3	21.8	22.3
	6H	25.3	25.7	25.8	26.2	26.8	20.8	21.2	21.3	21.7	22.2
	8H	25.3	25.6	25.8	26.1	26.7	20.8	21.1	21.3	21.6	22.2

Luminance table		Max. for $\gamma \geq 65^\circ$											
		Photometric dimensions in mm: L = 1470 B = 49											
C-planes	0°	15° 345°	30° 330°	45° 315°	60° 300°	75° 285°	90° 270°	105° 255°	120° 240°	135° 225°	150° 210°	165° 195°	180°
$\gamma$	Luminance in cd/m <sup>2</sup>												
45°	27562.9	28428.1	30184.7	30263.3	25666.6	18797.7	13852.3	9489.8	5799.2	2204.0	1276.8	969.2	887.9
50°	21668.8	22034.2	24331.8	25043.2	20871.0	13979.9	9555.8	6242.1	3377.2	1298.8	921.0	647.9	548.0
55°	17000.6	17614.7	19791.0	20642.1	17474.7	10488.0	6337.0	4073.4	1945.7	894.2	625.9	371.6	316.8
60°	13100.4	13932.1	16460.8	17732.5	14462.4	7018.7	3324.5	1989.8	1061.7	617.9	418.9	315.1	267.0
65°	10972.2	11595.1	13794.3	15339.8	11352.4	3997.6	1276.4	758.8	589.3	437.2	343.6	252.9	172.5
70°	9442.1	10551.3	12528.0	12744.8	7864.7	2441.0	596.3	348.7	337.8	298.1	236.7	168.1	101.2
75°	6479.9	7957.8	11329.0	8595.1	5684.8	1807.3	269.8	169.6	200.6	190.9	169.6	141.0	109.7
80°	1765.2	2519.4	5028.4	5576.4	3743.7	1121.1	167.2	149.5	167.2	174.4	167.2	142.3	128.2
85°	709.3	871.9	1595.5	1509.9	510.7	226.6	205.7	241.0	262.5	269.7	255.4	220.1	198.5

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

