

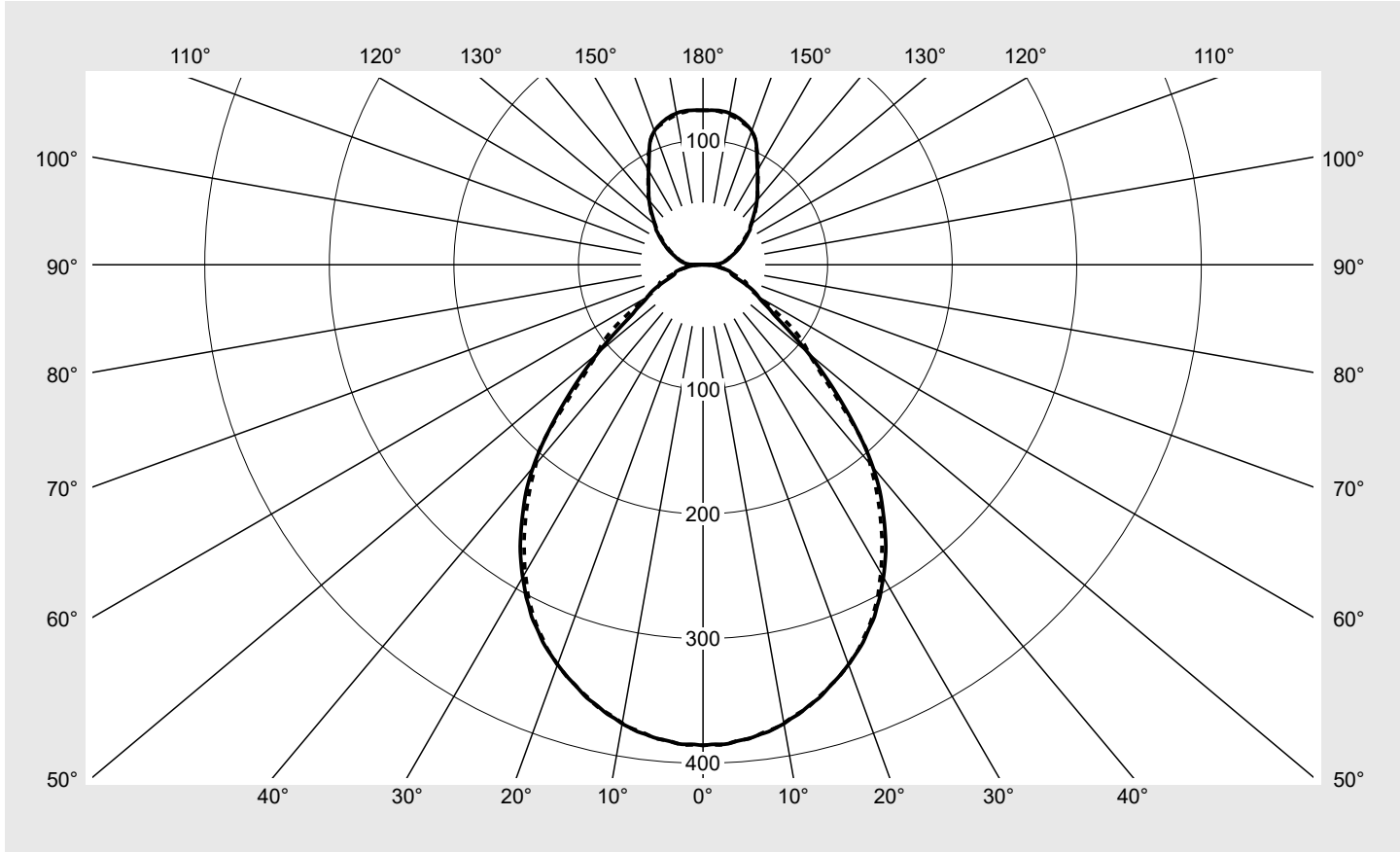


# Photometric test report

<b>Family</b> <b>Round 21 L</b>	<b>Order number: 51MR38ND0421S</b> <b>EAN: 4058352881811</b>	<b>LP number</b> <b>59654_18</b>
	<b>Version</b> Suspended luminaire, micro prismatic cover, PMMA, wide distribution, direct-/ indirect distribution, aluminium housing, silver, UGR≤19 (L65≤3000cd/m²)	<b>serial documentation</b> <b>31.07.2024</b>
	<b>Lamps</b> LED 4000 K   CRI ≥ 80	
<b>Controlgear</b> ECG-DALI		
<b>Rated values</b> Net luminous flux = 12230 lm Power consumption = 88.2 W Luminous efficacy = 138.7 lm/W		

**Luminous intensity in cd/klm** C180-0 C270-90 **Imax: 386 cd/klm**



Classifications	
DIN 5040	B 5 3
CIE	N1=66 N2=90 N3=98 N4=71 N5=100

Luminaire light output ratios	
$\eta_{LB}$	100.0%
$\phi_u$	70.6%
$\phi_o$	29.4%

**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 $\gamma$	0° 180°	15°	30°	45°	60°	75°	90° 270°	Phi-zone	Total Phi-zone
		165° 195° 345°	150° 210° 330°	135° 225° 315°	120° 240° 300°	105° 255° 285°			
Luminous intensity in cd/klm							Luminous flux in lm/klm		
0°	385.7	385.7	385.7	385.7	385.7	385.7	385.7	0.1	0.1
1°	385.0	385.3	384.9	385.7	385.2	385.8	385.3	0.7	0.8
2°	385.1	385.3	384.7	384.8	385.1	385.3	385.6	1.5	2.3
3°	384.9	384.4	384.2	384.6	384.4	384.5	384.8	2.2	4.5
4°	383.3	383.8	383.7	384.1	383.1	383.9	383.2	2.9	7.4
5°	382.4	382.7	382.8	382.6	382.2	382.5	382.5	3.7	11.1
6°	381.3	381.9	381.4	381.6	380.9	381.5	381.5	4.4	15.5
7°	379.5	380.2	379.8	379.8	379.7	379.9	379.2	5.1	20.5
8°	378.3	378.8	378.4	378.5	378.1	378.8	377.4	5.8	26.3
9°	376.0	376.7	376.0	376.5	375.3	376.7	376.1	6.5	32.8
10°	374.0	374.7	374.1	374.6	373.4	374.4	373.5	7.1	39.9
11°	370.9	372.5	371.7	371.8	370.7	372.2	370.5	7.8	47.7
12°	368.8	369.8	369.0	369.7	368.0	369.4	368.0	8.4	56.1
13°	365.5	367.3	366.0	367.1	365.3	366.8	365.9	9.0	65.1
14°	362.4	364.6	363.2	364.3	362.6	363.9	362.8	9.6	74.8
15°	359.9	361.6	359.9	361.1	359.0	361.0	359.0	10.2	85.0
16°	356.2	358.0	357.0	358.2	356.0	357.8	355.9	10.8	95.8
17°	352.3	355.1	353.8	354.9	352.3	354.3	352.2	11.3	107.1
18°	349.0	351.4	350.0	351.4	348.4	351.0	349.2	11.9	119.0
19°	345.3	348.0	346.4	347.3	344.6	347.0	345.3	12.4	131.4
20°	341.4	343.9	342.3	343.5	340.9	343.5	341.6	12.8	144.2
21°	337.3	340.1	338.4	339.6	336.3	339.0	336.9	13.3	157.5
22°	333.2	335.4	334.1	335.3	332.0	334.2	333.0	13.7	171.2
23°	329.0	331.3	329.5	330.6	327.6	329.9	327.5	14.1	185.4
24°	323.7	326.6	324.4	325.8	322.7	325.1	322.7	14.5	199.8
25°	318.8	321.6	318.9	320.4	317.7	320.1	317.5	14.8	214.7
26°	314.0	316.3	313.5	315.2	312.3	314.2	311.8	15.1	229.8
27°	307.7	310.6	307.6	309.1	306.4	309.0	305.7	15.3	245.1
28°	302.3	304.3	301.4	303.5	300.7	302.6	299.5	15.6	260.7
29°	295.7	298.2	294.8	297.4	294.6	296.4	292.2	15.7	276.4
30°	289.6	291.6	288.0	291.0	288.0	290.1	285.5	15.9	292.3
31°	283.0	285.0	280.5	284.0	282.5	282.8	278.3	16.0	308.2
32°	276.4	277.8	273.8	277.0	275.9	276.1	271.0	16.0	324.2
33°	269.5	270.8	266.2	269.7	269.4	268.6	263.9	16.0	340.3
34°	261.7	263.3	258.9	262.4	262.3	261.6	256.1	16.0	356.3
35°	254.0	256.0	251.6	254.8	255.0	253.9	248.4	16.0	372.3
36°	246.1	248.3	243.8	246.8	247.4	245.8	240.7	15.9	388.1
37°	238.4	240.3	235.8	238.8	239.8	237.6	232.6	15.7	403.8
38°	230.5	231.7	227.8	230.2	232.0	229.0	224.9	15.5	419.3
39°	221.7	222.5	219.5	221.2	223.7	219.6	216.5	15.2	434.6
40°	212.3	213.0	210.1	211.6	215.3	209.7	208.6	14.9	449.5
41°	202.4	202.4	199.7	201.7	206.4	199.2	202.2	14.5	464.0
42°	191.8	191.6	189.6	191.5	196.4	188.5	192.6	14.1	478.1
43°	180.9	180.6	181.0	181.0	186.6	177.8	180.0	13.6	491.6
44°	170.1	169.6	168.4	170.7	176.2	167.8	166.2	13.0	504.6

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

C-planes $\gamma$	0° 180°	15°	30°	45°	60°	75°	90° 270°	Phi-zone	Total Phi-zone
		165° 195° 345°	150° 210° 330°	135° 225° 315°	120° 240° 300°	105° 255° 285°			
Luminous intensity in cd/klm							Luminous flux in lm/klm		
45°	159.3	159.0	156.5	160.3	165.7	157.7	153.3	12.3	516.9
46°	149.0	148.8	145.8	149.4	158.7	147.8	142.7	11.8	528.7
47°	138.9	139.0	133.8	139.0	148.2	138.5	131.6	11.1	539.9
48°	129.2	130.0	125.0	129.2	138.7	129.5	124.1	10.6	550.5
49°	119.9	121.5	117.7	119.6	127.6	121.1	116.8	10.0	560.5
50°	110.2	113.4	111.2	111.0	117.5	113.1	111.4	9.5	569.9
51°	101.0	105.5	106.0	103.0	107.2	105.3	106.9	9.0	578.9
52°	91.7	97.9	100.6	95.4	97.0	97.9	102.7	8.4	587.3
53°	83.1	90.7	95.5	88.4	87.5	90.7	97.6	7.9	595.3
54°	75.5	83.7	90.1	81.4	78.7	83.6	91.8	7.4	602.7
55°	69.0	77.3	84.2	75.2	71.0	77.2	85.3	6.9	609.6
56°	65.5	71.4	77.9	69.2	64.6	71.3	77.7	6.5	616.1
57°	61.0	65.7	71.6	64.1	59.3	65.8	70.3	6.0	622.1
58°	56.6	60.6	65.3	59.7	55.1	60.9	63.3	5.6	627.7
59°	53.4	55.8	59.2	55.9	52.0	56.5	57.2	5.2	632.9
60°	51.3	51.4	53.7	52.3	49.7	52.2	52.0	4.9	637.8
61°	49.4	47.8	49.0	49.2	48.0	48.7	47.9	4.7	642.5
62°	47.4	44.7	45.1	46.5	46.4	45.8	44.5	4.4	646.9
63°	44.8	42.2	42.4	43.9	44.6	43.2	42.0	4.2	651.2
64°	41.9	39.9	40.4	41.1	42.1	40.4	40.1	4.0	655.2
65°	38.6	37.9	39.2	38.3	39.2	37.6	38.7	3.8	659.0
66°	35.6	35.8	38.2	35.5	36.0	34.8	38.2	3.6	662.6
67°	32.6	33.8	37.2	32.9	33.2	32.4	37.8	3.4	666.1
68°	29.9	31.9	35.5	30.6	30.7	30.2	36.7	3.3	669.3
69°	27.6	30.0	33.5	28.7	28.6	28.6	34.5	3.1	672.4
70°	25.9	28.4	31.1	27.6	26.9	27.4	31.9	2.9	675.3
71°	24.7	26.9	28.8	26.9	25.4	26.4	29.3	2.8	678.1
72°	23.9	25.4	26.8	26.0	24.1	25.5	27.0	2.7	680.8
73°	23.6	24.0	25.2	24.7	23.2	24.3	25.2	2.5	683.3
74°	23.3	22.8	24.1	23.1	22.7	23.0	23.8	2.4	685.8
75°	22.8	21.7	23.0	21.5	22.4	21.5	22.7	2.3	688.1
76°	22.2	20.4	21.8	20.1	21.8	20.1	21.7	2.2	690.4
77°	20.7	19.2	20.5	18.8	20.5	18.7	20.4	2.1	692.5
78°	18.8	17.9	18.9	17.5	18.8	17.4	19.0	2.0	694.4
79°	16.7	16.4	17.2	16.1	16.9	16.0	17.4	1.8	696.2
80°	14.7	14.9	15.4	14.5	15.2	14.7	15.7	1.6	697.8
81°	13.5	13.4	13.8	13.1	13.7	13.1	13.9	1.5	699.3
82°	12.3	11.8	12.3	11.8	12.4	11.7	12.2	1.3	700.6
83°	11.3	10.5	10.9	10.4	11.1	10.4	10.6	1.2	701.8
84°	10.0	9.2	9.5	9.1	9.7	9.1	9.3	1.0	702.8
85°	8.7	7.8	8.3	7.7	8.3	7.7	8.0	0.9	703.7
86°	7.4	6.2	6.9	6.3	7.0	6.2	6.6	0.7	704.4
87°	6.2	4.8	5.5	4.8	5.5	4.7	5.3	0.6	705.0
88°	4.2	3.4	4.0	3.5	4.0	3.5	3.9	0.4	705.4
89°	2.6	2.5	2.6	2.7	2.5	2.7	2.5	0.3	705.7

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Table of values for luminous intensities		Maximum luminous intensity
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C-planes $\gamma$	0° 180°	15°	30°	45°	60°	75°	90° 270°	Phi-zone	Total Phi-zone
		165° 195° 345°	150° 210° 330°	135° 225° 315°	120° 240° 300°	105° 255° 285°			
Luminous intensity in cd/klm								Luminous flux in lm/klm	
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	705.7
91°	9.7	8.6	9.0	8.2	8.4	8.0	8.2	0.9	706.6
92°	11.4	10.0	10.8	9.6	10.3	9.2	10.0	1.1	707.7
93°	12.4	11.5	11.9	11.1	11.5	11.0	11.2	1.3	709.0
94°	13.6	12.8	12.8	12.5	12.8	12.3	12.4	1.4	710.3
95°	14.4	13.7	14.1	13.3	13.9	13.4	13.5	1.5	711.8
96°	15.6	15.1	15.2	14.4	15.2	14.6	14.3	1.6	713.5
97°	16.5	16.1	16.2	15.7	16.1	15.7	15.2	1.7	715.2
98°	17.1	16.8	16.8	16.6	17.0	16.6	16.1	1.8	717.0
99°	18.1	17.8	17.9	17.6	17.7	17.3	17.2	1.9	718.9
100°	18.6	18.7	18.5	18.2	18.5	18.3	18.1	2.0	720.9
101°	19.5	19.2	19.5	19.1	19.2	19.3	19.1	2.1	723.0
102°	20.2	20.0	20.1	19.6	20.1	20.1	19.6	2.1	725.1
103°	20.9	20.8	20.8	20.4	20.9	20.8	20.5	2.2	727.4
104°	21.5	21.5	21.7	21.3	21.6	21.6	20.9	2.3	729.6
105°	22.4	22.3	22.3	22.1	22.4	22.2	21.8	2.4	732.0
106°	23.1	22.7	23.0	23.0	23.1	22.9	22.5	2.4	734.4
107°	23.8	23.6	23.8	23.7	23.9	23.8	23.4	2.5	736.9
108°	24.8	24.5	24.7	24.6	24.7	24.8	24.0	2.6	739.5
109°	25.8	25.4	25.4	25.3	25.8	25.6	24.8	2.6	742.1
110°	26.9	26.4	26.4	26.2	26.6	26.7	26.1	2.7	744.8
111°	27.9	27.2	27.6	27.1	27.6	27.6	26.8	2.8	747.6
112°	29.1	28.5	28.5	28.0	28.4	28.5	27.8	2.9	750.5
113°	30.1	29.5	29.5	28.9	29.4	29.3	28.8	3.0	753.5
114°	31.3	30.4	30.4	29.9	30.5	30.4	29.8	3.0	756.5
115°	32.2	31.4	31.5	31.2	31.6	31.4	30.8	3.1	759.6
116°	33.2	32.2	32.5	32.2	32.7	32.6	31.8	3.2	762.8
117°	34.1	33.3	33.6	33.4	33.7	33.6	33.2	3.3	766.1
118°	35.6	34.5	34.9	34.4	34.9	34.8	34.3	3.4	769.5
119°	36.7	35.6	36.1	35.8	36.2	35.8	35.4	3.4	772.9
120°	37.8	36.8	37.1	36.8	37.1	37.1	36.7	3.5	776.5
121°	39.1	38.0	38.4	38.2	38.4	38.2	38.0	3.6	780.0
122°	40.4	39.2	39.7	39.3	39.8	39.3	39.1	3.7	783.7
123°	41.7	40.6	41.0	40.6	41.0	40.4	40.3	3.7	787.5
124°	43.0	41.9	42.2	41.8	42.6	41.8	42.2	3.8	791.3
125°	44.2	43.2	43.5	43.2	44.1	43.2	43.1	3.9	795.2
126°	46.0	44.6	44.9	44.6	45.6	44.4	44.5	4.0	799.2
127°	47.3	45.9	46.3	45.9	47.1	45.9	46.0	4.1	803.2
128°	47.9	47.5	47.5	47.6	48.8	47.4	47.7	4.1	807.4
129°	48.8	49.0	49.0	48.9	50.2	48.9	49.2	4.2	811.6
130°	50.0	50.4	50.2	50.7	51.6	50.4	50.7	4.3	815.8
131°	51.7	52.2	51.6	52.1	52.9	52.1	52.0	4.3	820.1
132°	53.2	53.8	53.2	53.9	54.2	53.7	53.6	4.4	824.5
133°	54.7	55.5	55.1	55.7	55.7	55.4	55.1	4.4	828.9
134°	56.4	57.2	56.6	57.2	57.3	57.0	56.7	4.5	833.4

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Table of values for luminous intensities		Maximum luminous intensity
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C-planes $\gamma$	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
	Luminous intensity in cd/klm							Luminous flux in lm/klm	
135°	58.1	59.0	58.1	59.0	58.8	58.8	58.9	4.6	838.0
136°	60.0	60.6	59.8	60.8	60.2	60.5	60.5	4.6	842.6
137°	61.7	62.4	61.5	62.5	61.7	62.2	62.0	4.6	847.2
138°	63.9	64.1	63.4	64.4	63.3	64.1	63.7	4.7	851.9
139°	65.6	66.0	65.1	66.2	65.2	65.9	65.6	4.7	856.6
140°	67.4	67.8	66.9	68.2	67.2	67.8	67.5	4.8	861.4
141°	69.0	69.7	68.8	69.8	69.0	69.8	69.4	4.8	866.2
142°	70.9	71.8	70.6	71.9	70.7	71.7	71.4	4.8	871.0
143°	72.5	73.6	72.5	74.0	72.7	73.7	72.9	4.8	875.8
144°	74.4	75.7	74.5	76.0	74.5	75.8	74.8	4.8	880.7
145°	76.2	77.6	76.3	78.2	76.8	78.0	76.8	4.9	885.5
146°	78.3	79.7	78.5	80.1	78.9	80.2	78.8	4.9	890.4
147°	80.4	82.0	80.5	82.5	81.1	82.5	80.9	4.9	895.3
148°	82.7	84.2	82.8	84.8	83.6	84.8	83.3	4.9	900.2
149°	85.1	86.7	85.2	87.2	85.7	87.3	85.6	4.9	905.0
150°	87.5	89.2	87.7	89.8	88.1	89.7	88.1	4.9	909.9
151°	89.8	91.9	90.6	92.6	91.1	92.5	91.0	4.9	914.8
152°	92.6	94.4	93.3	95.4	93.9	95.3	93.8	4.9	919.6
153°	95.5	97.4	96.2	98.4	96.9	98.1	96.9	4.8	924.4
154°	98.6	100.4	99.2	101.1	99.6	101.0	99.6	4.8	929.3
155°	101.9	103.2	102.4	104.0	102.8	103.6	102.1	4.8	934.0
156°	105.4	105.7	105.2	106.2	105.4	106.3	105.0	4.7	938.7
157°	108.2	108.5	107.6	108.7	108.1	108.7	108.1	4.6	943.4
158°	110.5	110.6	110.1	111.0	110.3	110.6	110.5	4.5	947.9
159°	112.4	112.7	112.1	112.7	112.1	112.4	112.4	4.4	952.3
160°	114.2	114.4	113.8	114.0	113.9	113.9	114.1	4.3	956.6
161°	115.6	116.0	115.6	115.8	115.3	115.4	115.3	4.1	960.7
162°	116.8	117.3	116.7	117.1	116.4	116.6	116.5	4.0	964.7
163°	117.9	118.3	118.0	117.8	117.7	117.6	117.2	3.8	968.5
164°	119.0	119.2	118.9	119.0	118.6	118.4	118.0	3.6	972.1
165°	119.9	120.2	120.0	120.0	119.3	119.5	119.0	3.4	975.5
166°	120.9	121.1	120.7	120.8	120.3	120.2	119.8	3.2	978.7
167°	121.6	121.7	121.5	121.4	121.2	120.8	120.4	3.0	981.7
168°	122.4	122.3	122.1	122.1	121.7	121.4	121.0	2.8	984.4
169°	122.9	123.0	122.6	122.6	122.3	122.0	121.7	2.6	987.0
170°	123.4	123.3	122.9	123.1	122.8	122.4	122.1	2.3	989.3
171°	123.9	123.7	123.4	123.5	123.2	122.8	122.5	2.1	991.5
172°	124.1	124.1	123.5	123.9	123.4	123.1	123.1	1.9	993.3
173°	124.2	124.2	123.8	123.9	123.7	123.1	123.3	1.7	995.0
174°	124.4	124.2	123.9	124.3	124.0	123.3	123.8	1.4	996.4
175°	124.3	124.3	124.2	124.2	124.2	123.4	124.0	1.2	997.6
176°	124.2	124.3	124.1	124.1	124.2	123.4	124.0	0.9	998.5
177°	124.2	124.1	124.1	123.8	124.2	123.3	124.1	0.7	999.3
178°	123.9	123.9	124.2	123.9	124.0	123.4	124.1	0.5	999.7
179°	123.9	123.9	124.0	124.1	124.0	123.3	124.0	0.2	1000.0
180°	124.0	124.0	124.0	124.0	124.0	124.0	124.0	0.0	1000.0

## Photometric test report

Family Round 21 L	Order number: 51MR38ND0421S EAN: 4058352881811	LP number 59654_18
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UGR-Table	Standard room	siteco								
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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	13.7	14.8	14.4	15.5	16.4	13.7	14.8	14.4	15.5	16.4
	3H	14.1	15.1	14.9	15.8	16.8	14.2	15.1	14.9	15.9	16.8
	4H	14.5	15.4	15.3	16.2	17.1	14.6	15.5	15.4	16.2	17.2
	6H	15.0	15.8	15.7	16.5	17.5	15.0	15.8	15.8	16.6	17.5
	8H	15.0	15.8	15.8	16.6	17.5	15.1	15.8	15.9	16.6	17.6
	12H	15.2	15.9	16.0	16.7	17.7	15.2	15.9	16.0	16.7	17.7
4H	2H	13.8	14.7	14.6	15.5	16.4	13.8	14.7	14.6	15.5	16.4
	3H	14.6	15.3	15.4	16.1	17.1	14.6	15.3	15.4	16.1	17.1
	4H	15.1	15.7	15.9	16.5	17.5	15.1	15.7	15.9	16.5	17.5
	6H	15.6	16.2	16.5	17.0	18.0	15.6	16.2	16.4	17.0	18.0
	8H	15.7	16.2	16.6	17.1	18.1	15.7	16.2	16.5	17.1	18.1
	12H	16.0	16.5	16.9	17.3	18.3	16.0	16.4	16.8	17.3	18.3
8H	4H	15.2	15.7	16.0	16.5	17.6	15.2	15.7	16.0	16.5	17.6
	6H	15.8	16.2	16.6	17.1	18.1	15.8	16.2	16.6	17.0	18.1
	8H	16.1	16.5	17.0	17.3	18.4	16.1	16.5	17.0	17.3	18.4
	12H	16.5	16.8	17.4	17.7	18.7	16.5	16.8	17.3	17.6	18.7
12H	4H	15.3	15.7	16.1	16.6	17.6	15.3	15.7	16.1	16.6	17.6
	6H	16.0	16.3	16.8	17.2	18.2	16.0	16.3	16.8	17.2	18.2
	8H	16.3	16.6	17.2	17.5	18.6	16.3	16.6	17.2	17.5	18.5

Luminance table	Max. for $\gamma \geq 65^\circ$	Photometric dimensions in mm: D = 840						
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C-planes	$\gamma$	0° 180°	15°	30°	45°	60°	75°	90° 270°
			165° 195° 345°	150° 210° 330°	135° 225° 315°	120° 240° 300°	105° 255° 285°	
Luminance in cd/m <sup>2</sup>								
45°		4973.1	4962.1	4883.1	5004.0	5171.0	4921.5	4786.0
50°		3782.6	3893.6	3819.4	3810.1	4033.4	3883.3	3824.2
55°		2656.4	2974.7	3239.6	2893.5	2730.3	2970.9	3280.1
60°		2263.8	2270.4	2370.2	2309.8	2194.0	2305.3	2292.9
65°		2017.9	1976.6	2045.1	2002.2	2044.5	1962.5	2019.5
70°		1671.5	1831.0	2008.5	1783.9	1732.9	1766.4	2056.3
75°		1946.9	1850.6	1958.8	1836.1	1912.8	1836.9	1933.3
80°		1870.6	1893.5	1960.9	1847.7	1938.0	1864.3	1992.6
85°		2209.3	1963.6	2090.3	1958.6	2102.9	1938.3	2019.4

**Photometric test report**

<b>Family</b> Round 21 L	<b>Order number: 51MR38ND0421S</b> <b>EAN: 4058352881811</b>	<b>LP number</b> 59654_18
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**Luminance values in cd/m<sup>2</sup>**

  $\gamma$  65°
 

  $\gamma$  70°
 

  $\gamma$  75°
 

  $\gamma$  80°
 

  $\gamma$  85°
 

 serial

