

## Lichttechnischer Prüfbefund

**Familie**  
**Licross® 21 Opal**

**Bestell-Nr.: 52TL1DDN445G**  
**EAN: 4058352049891**

**LP-Nummer**  
**59520\_87**



**Ausführung** Abdeckung, opal, direkt-/ indirekt strahlend, diffus

**Bestückung** LED 4000 K | CRI ≥ 80

**Betriebsgerät** EVG-DALI

**Bemessungswerte** Nettolichtstrom = 4500 lm  
Systemleistung = 25.8 W  
Lichtausbeute = 174.4 lm/W

**Seriendokumentation**  
**21.02.2024**

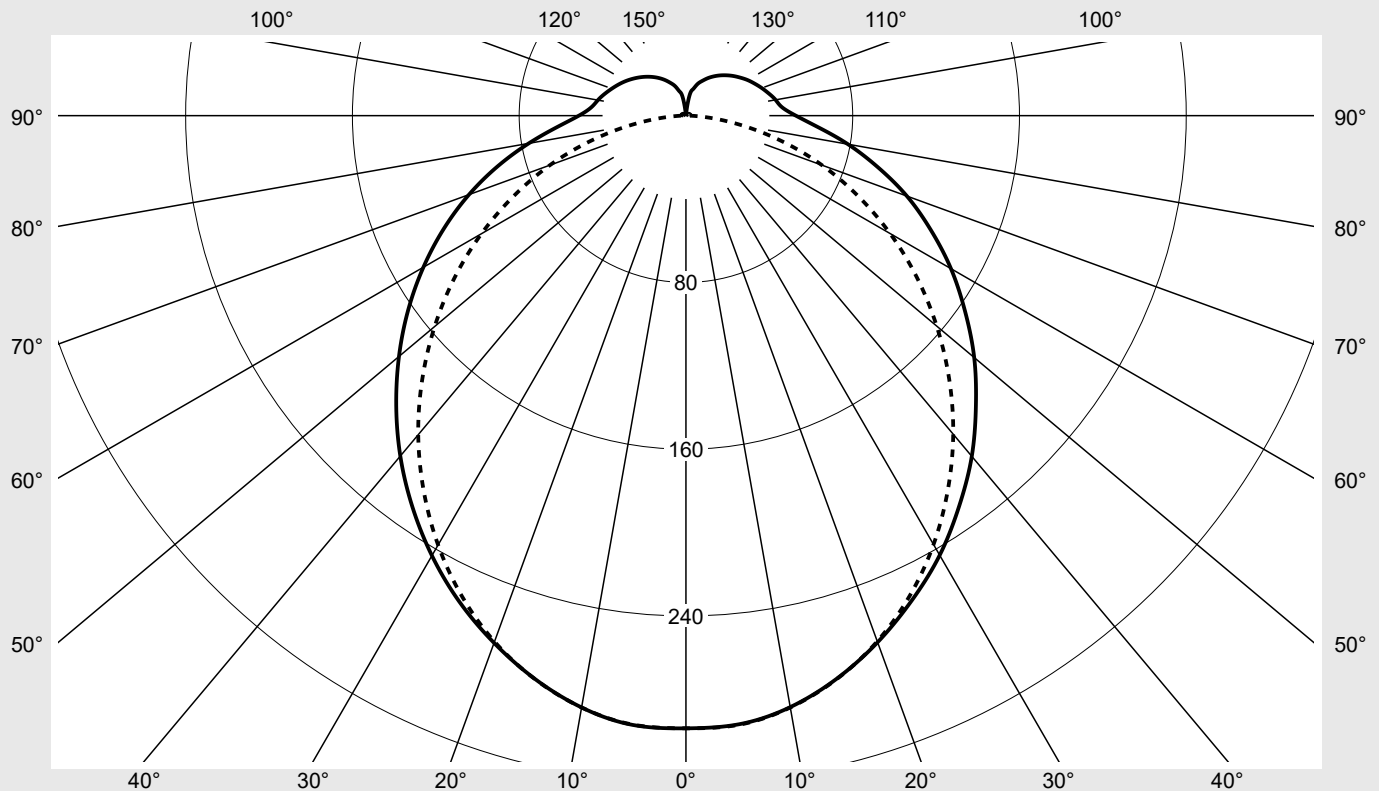
**siteco**

**Lichtstärke in cd/klm**

**C180-0**

**C270-90**

**Imax: 294 cd/klm**



**Klassifizierungen**

DIN 5040 B 3 1  
CIE N1=44 N2=73 N3=91  
N4=87 N5=100

**Leuchtenbetriebswirkungsgrade**

$\eta_{LB}$  100,0%  
 $\phi_u$  87,4%  
 $\phi_o$  12,6%

**Messbedingungen**

DIN EN 13032 und DIN 5032

## Lichttechnischer Prüfbefund

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<b>Wertetabelle Lichtstärkemessung</b>	<b>Maximale Lichtstärke</b>	<b>siteco</b>
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C- Ebenen	0°	15°	30°	45°	60°	75°	90°	105°	120°	135°	150°	165°	180°
$\gamma$	Lichtstärke in cd/klm												
0°	293.9	293.9	293.9	293.9	293.9	293.9	293.9	293.9	293.9	293.9	293.9	293.9	293.9
5°	293.1	292.7	289.9	291.0	293.1	293.0	293.3	293.1	293.1	292.5	291.2	291.6	293.4
10°	288.1	287.8	285.0	286.0	288.1	287.9	288.3	288.0	288.0	287.5	286.2	286.7	288.3
15°	279.6	279.4	276.6	277.6	279.6	279.4	279.8	279.5	279.5	279.0	277.7	278.4	279.8
20°	268.8	268.4	265.5	266.2	268.1	267.8	268.3	268.1	268.0	267.5	266.6	267.8	269.2
25°	256.5	256.4	252.9	252.4	253.9	253.4	254.1	253.8	253.8	253.6	254.0	255.9	257.2
30°	243.5	242.9	239.1	237.4	237.4	236.9	237.6	237.4	237.5	238.5	240.0	242.5	243.7
35°	228.6	228.2	223.9	221.1	219.2	218.5	219.1	218.9	219.7	221.9	224.6	227.5	228.9
40°	213.3	212.5	208.1	204.0	200.4	198.8	199.5	199.5	201.1	204.3	208.6	211.7	213.2
45°	196.7	195.9	191.2	185.9	180.8	177.8	178.6	178.3	181.6	186.0	191.4	194.8	196.6
50°	180.5	179.0	174.4	167.8	161.5	156.5	157.0	156.9	161.7	167.6	173.9	177.7	179.7
55°	163.4	162.0	157.2	149.2	141.7	135.1	135.2	135.5	141.8	149.1	156.1	160.5	162.7
60°	146.8	144.8	139.8	131.0	122.1	114.1	113.1	114.2	121.9	130.6	138.3	143.3	145.4
65°	129.6	127.7	122.3	112.9	103.0	93.4	91.0	93.7	102.6	112.1	120.5	126.2	128.1
70°	112.8	110.6	104.4	95.0	83.9	73.2	69.4	73.2	83.4	93.6	102.3	109.1	110.8
75°	95.2	93.5	86.3	76.8	64.8	53.0	48.0	53.1	64.1	74.9	84.3	91.4	93.3
80°	78.9	76.8	69.4	59.0	47.0	34.5	28.0	34.2	45.8	57.3	67.7	74.1	76.6
85°	63.7	61.7	54.7	44.0	31.4	18.8	11.3	18.6	30.6	42.7	52.6	59.2	61.9
90°	52.7	50.3	47.2	33.6	21.8	9.7	1.7	9.7	21.3	32.8	42.6	49.1	51.4
95°	46.3	44.0	38.4	29.9	19.4	8.9	1.8	8.9	19.3	29.6	38.3	43.8	45.6
100°	43.6	41.6	36.5	28.4	19.0	9.0	2.1	8.7	18.6	27.9	35.8	41.3	42.9
105°	41.1	39.4	34.3	27.0	18.2	9.1	2.1	8.8	17.9	26.7	33.7	38.6	40.4
110°	38.7	36.7	32.3	25.7	17.6	9.2	2.0	8.7	17.0	25.1	31.7	36.0	37.9
115°	36.4	34.4	30.4	24.3	17.0	9.3	1.9	8.8	16.4	23.6	29.8	33.7	35.5
120°	34.1	32.2	28.7	23.1	16.5	9.4	1.8	8.8	15.7	22.3	27.9	31.4	33.2
125°	31.8	30.1	26.8	21.8	15.8	9.4	1.6	8.8	15.0	21.0	26.0	29.2	30.9
130°	29.6	27.9	25.1	20.7	15.3	9.5	1.4	8.7	14.3	19.7	24.1	27.1	28.6
135°	27.4	25.8	23.3	19.5	14.6	8.1	1.3	7.6	13.7	18.5	22.3	24.9	26.4
140°	25.2	23.7	21.6	18.3	13.6	7.0	1.3	6.4	12.7	17.1	20.5	22.8	24.2
145°	23.0	21.6	19.8	16.6	12.1	6.4	1.2	5.9	11.1	15.6	18.8	20.7	21.9
150°	20.7	19.6	18.1	14.3	11.0	6.2	1.3	6.0	9.5	13.3	16.9	18.6	19.6
155°	18.4	17.4	15.6	12.5	8.2	5.5	1.3	5.2	7.5	11.1	14.5	16.4	17.3
160°	16.1	15.3	12.6	10.0	7.9	5.1	1.4	4.6	6.8	7.9	11.7	14.3	14.9
165°	13.1	12.1	8.6	7.8	8.1	5.4	1.4	4.8	6.9	7.0	6.9	11.2	12.1
170°	9.8	7.7	7.3	8.0	6.5	2.9	1.4	2.2	5.4	6.7	6.3	6.6	8.9
175°	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0

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<b>Wertetabelle Lichtstärkemessung</b>	<b>Maximale Lichtstärke</b>	<b>siteco</b>
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C- Ebenen	195°	210°	225°	240°	255°	270°	285°	300°	315°	330°	345°	Phi-Zone	Summe Phi-Zone
$\gamma$	Lichtstärke in cd/klm											Lichtstrom in lm/klm	
0°	293.9	293.9	293.9	293.9	293.9	293.9	293.9	293.9	293.9	293.9	293.9	1.8	1.8
5°	292.9	289.8	290.9	292.8	292.8	293.2	292.8	292.9	292.3	291.2	292.0	14.0	15.7
10°	288.0	285.0	285.8	287.9	287.8	288.3	287.9	288.0	287.3	286.3	287.0	27.3	43.1
15°	279.5	276.7	277.5	279.4	279.4	279.9	279.5	279.5	278.9	277.9	279.0	39.6	82.6
20°	268.9	265.7	266.2	268.0	267.9	268.5	268.2	268.1	267.5	266.6	267.7	50.2	132.8
25°	256.9	253.4	252.5	253.8	253.6	254.3	254.0	254.0	253.5	253.8	256.1	58.9	191.7
30°	243.4	239.6	237.7	237.4	237.1	237.8	237.6	237.8	238.3	239.7	242.3	65.6	257.3
35°	228.5	224.4	221.4	219.4	218.7	219.4	219.3	219.8	221.8	224.6	228.0	70.0	327.3
40°	212.7	208.2	204.2	200.7	198.9	199.8	199.8	201.1	204.3	208.6	211.9	72.3	399.6
45°	195.8	191.1	185.9	181.0	177.8	178.9	178.7	181.7	186.2	191.6	195.6	72.3	472.0
50°	178.6	174.0	167.6	161.4	156.5	157.3	157.3	162.0	168.0	174.3	178.3	70.5	542.5
55°	161.2	156.5	148.8	141.5	135.3	135.5	135.8	142.2	149.7	156.9	161.8	66.9	609.4
60°	143.7	138.7	130.1	121.6	114.2	113.3	114.6	122.5	131.3	139.3	144.4	61.7	671.1
65°	126.5	121.0	111.8	102.3	93.3	91.1	94.0	103.2	113.1	121.8	128.0	55.2	726.3
70°	109.1	102.8	93.5	83.0	72.9	69.4	73.6	84.1	94.6	103.5	110.4	47.6	773.9
75°	91.6	84.7	75.4	63.7	52.5	47.9	53.5	65.0	76.2	85.9	93.4	39.0	812.9
80°	74.9	67.7	57.5	45.8	33.9	27.9	34.5	46.6	58.5	69.1	75.6	30.2	843.1
85°	59.9	53.1	42.6	30.4	18.3	11.1	18.9	31.3	43.7	53.8	61.1	22.2	865.3
90°	49.1	42.6	32.8	21.3	9.6	1.7	9.7	21.6	33.2	43.3	50.0	16.9	882.1
95°	43.4	38.0	29.6	19.2	8.8	1.8	8.9	19.4	29.7	38.6	44.5	14.9	897.1
100°	41.0	35.9	27.9	18.7	8.8	2.1	8.9	18.7	28.1	36.1	41.8	14.0	911.1
105°	38.7	33.7	26.5	17.8	8.7	2.1	9.0	18.1	27.0	34.2	39.3	13.1	924.2
110°	35.9	31.6	25.0	17.1	8.8	2.0	9.1	17.4	25.5	32.1	36.6	12.0	936.2
115°	33.6	29.7	23.6	16.4	8.7	1.9	9.3	16.9	24.2	30.4	34.4	11.0	947.2
120°	31.4	27.9	22.4	15.7	8.8	1.8	9.3	16.2	22.9	28.6	32.2	9.9	957.1
125°	29.2	26.0	21.1	15.0	8.7	1.6	9.4	15.7	21.7	26.8	30.1	8.9	966.0
130°	27.0	24.2	19.8	14.4	8.7	1.4	9.4	15.1	20.5	24.9	27.8	7.8	973.7
135°	24.9	22.4	18.6	13.7	7.3	1.3	8.2	14.6	19.3	23.2	25.8	6.7	980.4
140°	22.7	20.6	17.3	12.7	6.4	1.3	7.0	13.5	18.0	21.5	23.6	5.6	986.0
145°	20.6	18.9	15.7	11.3	5.8	1.2	6.5	12.0	15.8	19.8	21.6	4.5	990.5
150°	18.5	17.0	13.4	10.2	6.1	1.3	6.3	10.3	14.2	17.9	19.5	3.5	994.0
155°	16.4	14.6	11.8	7.5	4.9	1.3	5.8	8.1	12.0	15.5	17.4	2.6	996.6
160°	14.2	11.8	9.1	7.1	4.6	1.4	5.2	7.3	8.7	12.7	15.3	1.8	998.3
165°	11.1	8.0	7.1	7.6	4.8	1.4	5.5	7.3	7.6	7.6	12.0	1.1	999.4
170°	6.9	7.3	7.0	5.8	2.1	1.4	3.1	6.1	7.5	6.2	7.2	0.6	1000.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0

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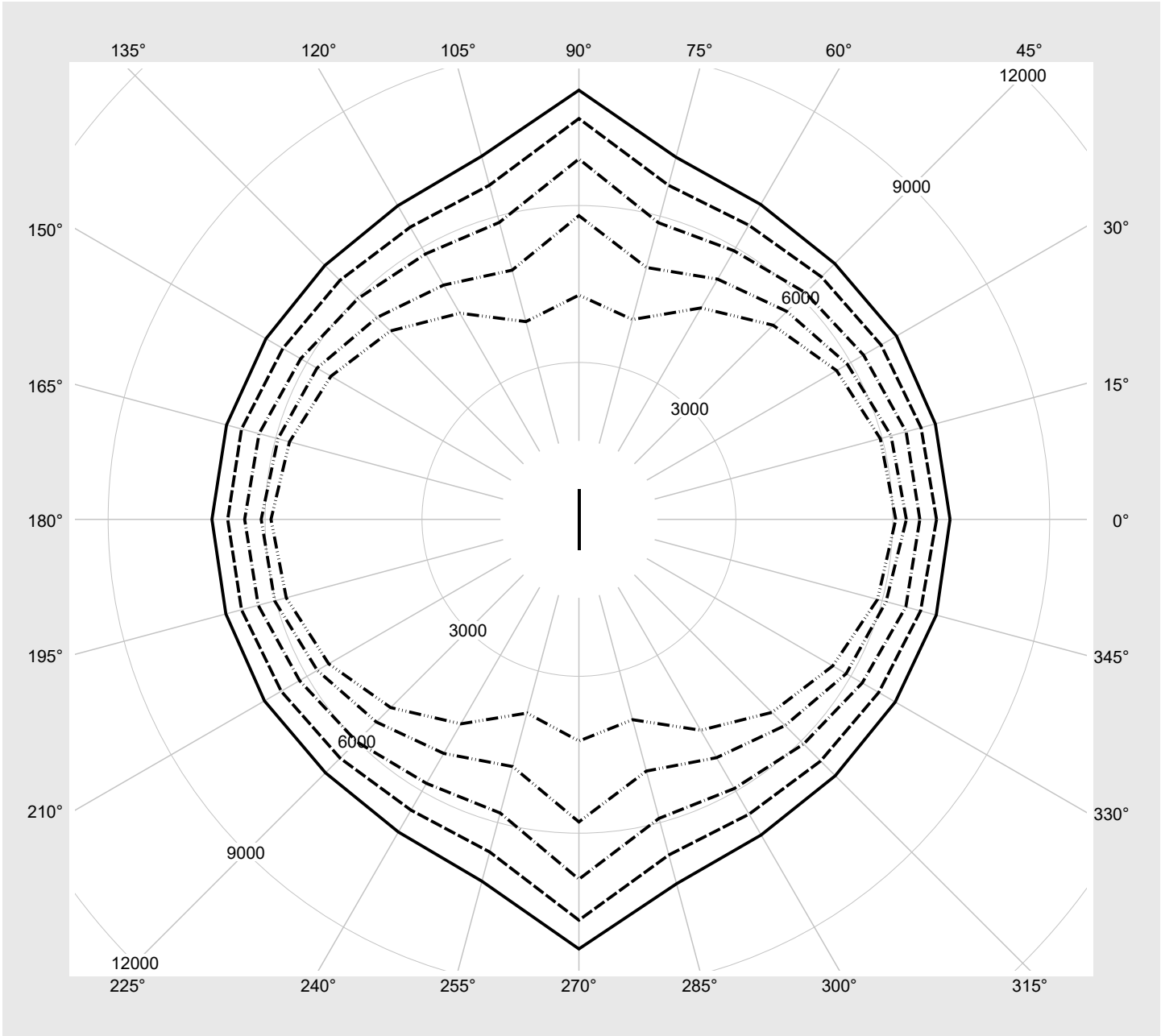
UGR-Tabelle		Standardraum									
		Blickrichtung quer zur Leuchte (C0)					Blickrichtung längs zur Leuchte (C90)				
Raumabmessungen											
x	y										
2H	2H	19,0	20,6	19,5	21,0	21,5	18,6	20,2	19,1	20,7	21,2
	3H	20,9	22,4	21,4	22,8	23,3	20,2	21,7	20,7	22,1	22,6
	4H	21,7	23,0	22,2	23,5	24,1	20,7	22,0	21,2	22,6	23,1
	6H	22,5	23,7	23,0	24,2	24,8	21,1	22,3	21,6	22,8	23,4
	8H	22,9	24,0	23,5	24,6	25,2	21,2	22,4	21,8	22,9	23,5
	12H	23,2	24,3	23,8	24,8	25,5	21,3	22,3	21,8	22,9	23,5
4H	2H	19,7	21,0	20,2	21,5	22,1	19,3	20,7	19,9	21,2	21,7
	3H	21,7	22,8	22,3	23,4	24,0	21,0	22,2	21,6	22,7	23,3
	4H	22,7	23,8	23,3	24,3	25,0	21,7	22,8	22,3	23,3	24,0
	6H	23,7	24,5	24,3	25,1	25,8	22,2	23,1	22,8	23,7	24,4
	8H	24,1	25,0	24,8	25,6	26,3	22,4	23,2	23,0	23,8	24,5
	12H	24,5	25,3	25,2	25,9	26,6	22,5	23,2	23,1	23,8	24,6
8H	4H	23,0	23,9	23,6	24,5	25,2	22,1	22,9	22,8	23,6	24,3
	6H	24,2	24,9	24,8	25,5	26,2	22,8	23,5	23,5	24,1	24,9
	8H	24,8	25,4	25,4	26,0	26,8	23,1	23,7	23,7	24,3	25,1
	12H	25,3	25,8	26,0	26,5	27,3	23,2	23,7	23,9	24,4	25,2
12H	4H	23,0	23,8	23,6	24,4	25,1	22,2	22,9	22,8	23,5	24,3
	6H	24,2	24,8	24,9	25,5	26,2	22,9	23,5	23,6	24,2	24,9
	8H	24,9	25,4	25,5	26,1	26,8	23,2	23,8	23,9	24,4	25,2

Leuchtdichten-Tabelle		Max. für $\gamma \geq 65^\circ$											
		Lichttechnische Abmessungen in mm: L = 1500 B = 76 H(C0) = 25 H(C180) = 25 H(C90) = 25 H(C270) = 25											
C-Ebenen	$\gamma$	0°	30°	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°
		Leuchtdichte in cd/m <sup>2</sup>											
45°		8263.6	8254.1	8563.3	9805.3	8597.8	8261.1	8256.8	8250.6	8571.0	9823.1	8601.7	8271.6
50°		7963.7	7934.8	8173.6	9454.9	8186.0	7912.7	7927.9	7916.4	8169.5	9474.4	8198.3	7931.1
55°		7652.0	7624.6	7767.7	9089.9	7772.1	7573.5	7617.8	7589.2	7758.8	9106.3	7794.3	7612.8
60°		7383.6	7317.7	7359.1	8679.0	7349.4	7241.3	7314.3	7262.5	7329.8	8691.4	7383.5	7292.2
65°		7095.4	7011.1	6951.5	8205.3	6924.1	6908.9	7015.5	6941.4	6902.3	8212.6	6967.9	6983.3
70°		6837.3	6670.5	6495.1	7662.9	6451.2	6535.8	6714.5	6572.1	6419.9	7662.9	6507.6	6618.7
75°		6517.9	6284.0	5930.0	6890.6	5861.1	6142.3	6390.3	6165.9	5828.5	6880.1	5942.6	6254.5
80°		6260.3	5927.5	5303.3	5807.2	5172.6	5782.3	6073.9	5775.4	5167.1	5785.2	5261.2	5899.8
85°		6057.2	5689.0	4667.5	4287.5	4551.8	5474.0	5886.9	5522.9	4514.5	4238.4	4655.5	5603.8

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**Leuchtdichten in cd/m²**      γ 65°    γ 70°    γ 75°    γ 80°    γ 85°      **siteco**



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<b>Dimmstufen-Tabelle</b>	Umgebungstemperatur: 25°C	<b>sITeco</b>
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Lichtstrom [%]	Dimmstufe linear	Dimmstufe logarithmisch	Lichtstrom [lm]	Systemleistung [W]
100	254	254	4500	25.8
95	241	252	4275	24.6
90	228	250	4053	23.4
85	215	248	3825	22.2
80	202	246	3600	20.9
75	189	243	3374	19.7
70	176	241	3145	18.4
65	163	238	2918	17.2
60	151	235	2704	16.0
55	138	232	2475	14.7
50	125	228	2242	13.4
45	113	224	2030	12.1
40	100	220	1796	11.4
35	88	215	1582	10.4
30	75	209	1349	9.2
25	63	203	1131	8.0
20	50	194	897	6.7
18	44	190	789	6.2