

## Lichttechnischer Prüfbefund

**Familie**  
**Licross® 21 Opal**

**Bestell-Nr.: 52TE1DDN46XG**  
**EAN: 4058352051979**

**LP-Nummer**  
**59520\_90**



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

**Bestückung** LED 4000 K | CRI ≥ 80

**Betriebsgerät** EVG-DALI

**Bemessungswerte** Nettolichtstrom = 6320 lm  
Systemleistung = 36.1 W  
Lichtausbeute = 175.1 lm/W

**Seriendokumentation**  
**26.01.2024**

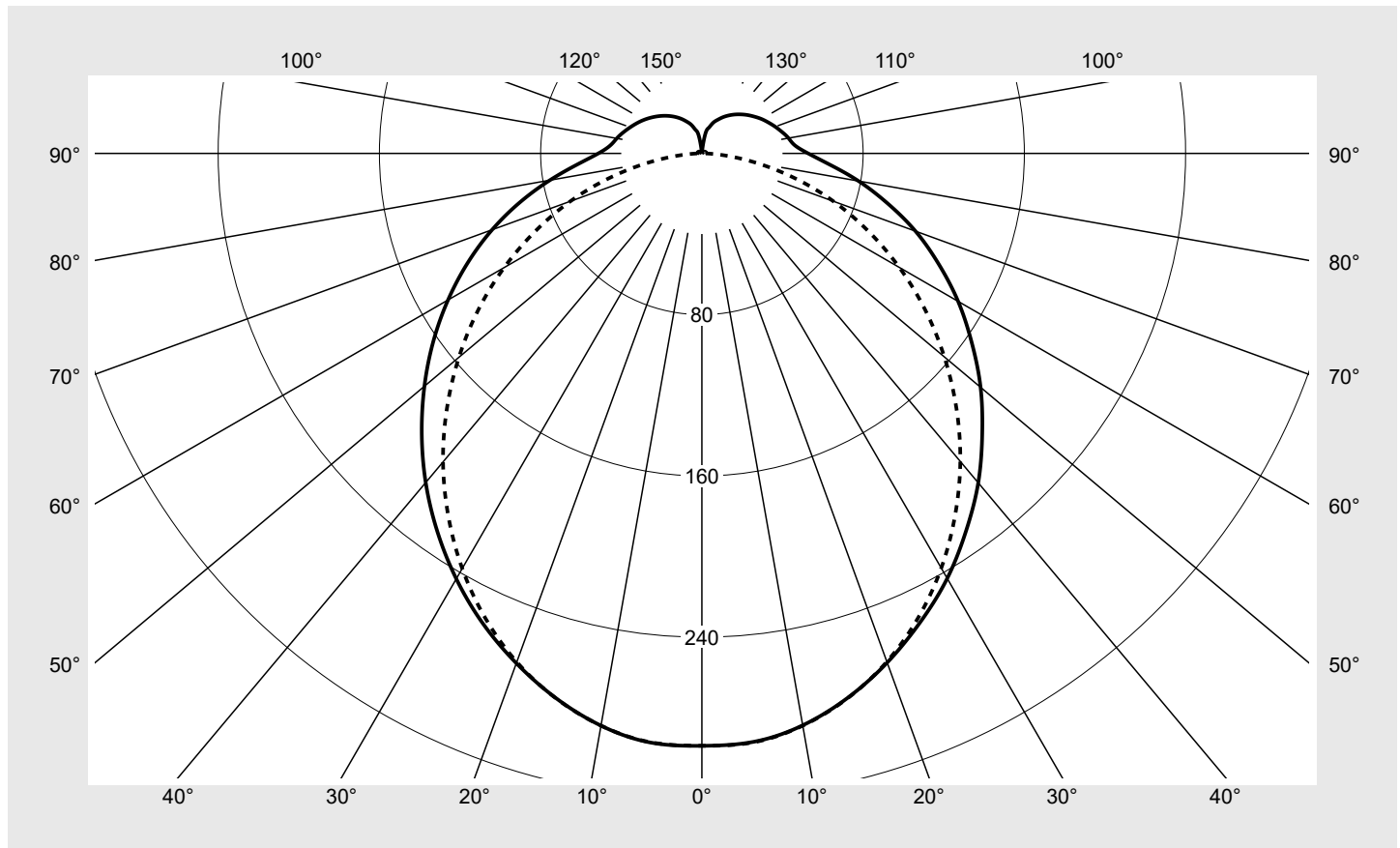
**siteco**

**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

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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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	1000.0
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	1000.0

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<b>UGR-Tabelle</b>	<b>Standardraum</b>	<b>siteco</b>
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Reflexionsgrad Decke	0,7	0,7	0,5	0,5	0,3	0,7	0,7	0,5	0,5	0,3	
Reflexionsgrad Wände	0,5	0,3	0,5	0,3	0,3	0,5	0,3	0,5	0,3	0,3	
Reflexionsgrad Boden	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	
<b>Raumabmessungen</b>	<b>Blickrichtung quer zur Leuchte (C0)</b>					<b>Blickrichtung längs zur Leuchte (C90)</b>					
<b>x</b>	<b>y</b>										
2H	2H	20,2	21,7	20,6	22,2	22,7	19,8	21,4	20,3	21,8	22,3
	3H	22,1	23,5	22,6	24,0	24,5	21,4	22,8	21,9	23,3	23,8
	4H	22,9	24,2	23,4	24,7	25,3	21,9	23,2	22,4	23,7	24,3
	6H	23,7	24,9	24,2	25,4	26,0	22,3	23,5	22,8	24,0	24,6
	8H	24,1	25,2	24,6	25,8	26,4	22,4	23,6	23,0	24,1	24,7
	12H	24,4	25,4	25,0	26,0	26,7	22,4	23,5	23,0	24,1	24,7
4H	2H	20,8	22,2	21,4	22,7	23,2	20,5	21,8	21,1	22,3	22,9
	3H	22,9	24,0	23,4	24,6	25,2	22,2	23,3	22,8	23,9	24,5
	4H	23,9	24,9	24,5	25,5	26,1	22,9	23,9	23,5	24,5	25,1
	6H	24,8	25,7	25,4	26,3	27,0	23,4	24,3	24,0	24,9	25,6
	8H	25,3	26,1	25,9	26,7	27,4	23,6	24,4	24,2	25,0	25,7
	12H	25,7	26,4	26,4	27,1	27,8	23,6	24,4	24,3	25,0	25,7
8H	4H	24,2	25,0	24,8	25,7	26,3	23,3	24,1	23,9	24,7	25,4
	6H	25,4	26,1	26,0	26,7	27,4	24,0	24,7	24,6	25,3	26,0
	8H	25,9	26,6	26,6	27,2	27,9	24,3	24,9	24,9	25,5	26,3
	12H	26,5	27,0	27,2	27,7	28,5	24,4	24,9	25,1	25,6	26,4
12H	4H	24,2	24,9	24,8	25,6	26,3	23,4	24,1	24,0	24,7	25,4
	6H	25,4	26,0	26,1	26,7	27,4	24,1	24,7	24,8	25,4	26,1
	8H	26,0	26,6	26,7	27,2	28,0	24,4	24,9	25,1	25,6	26,4

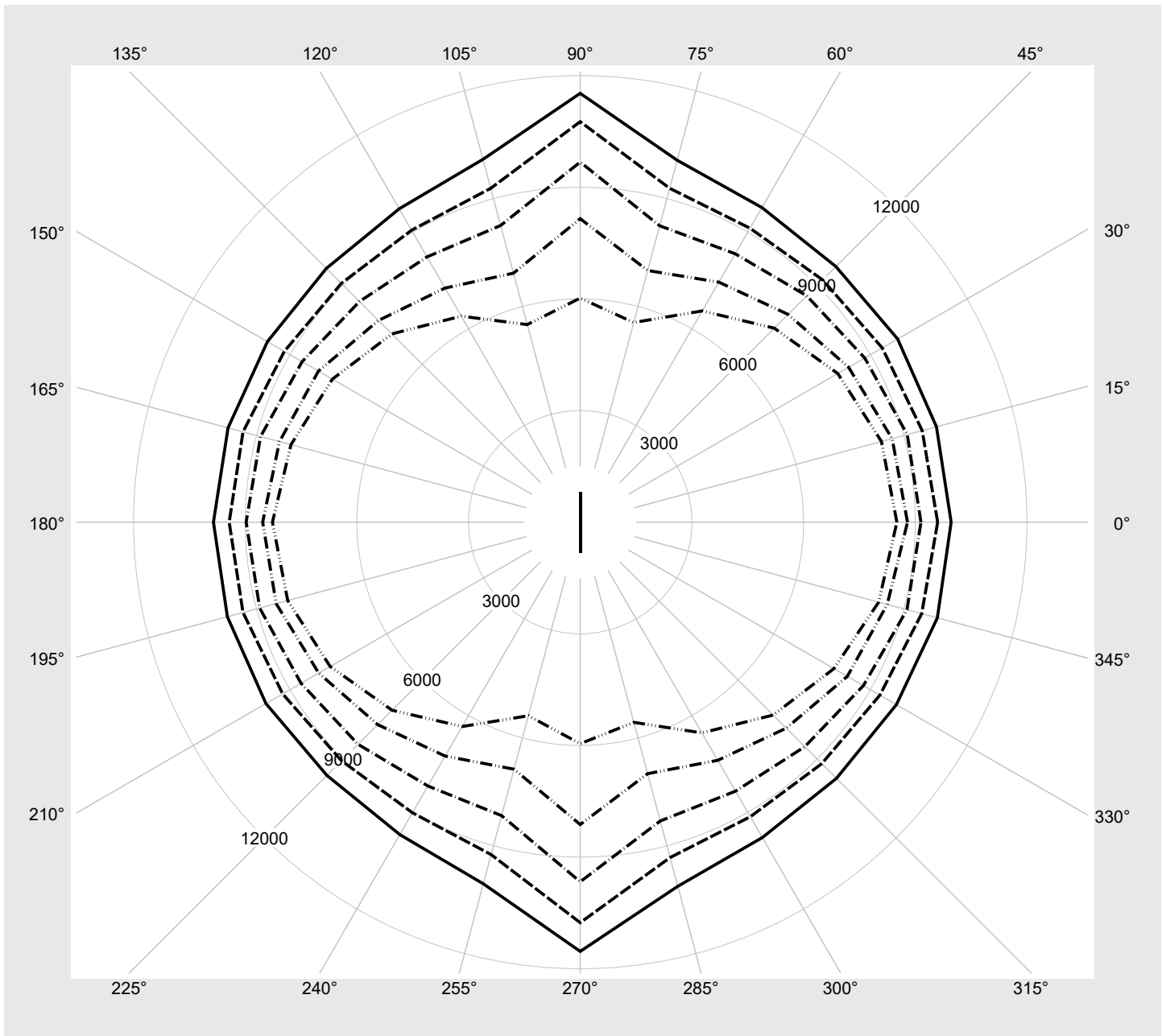
<b>Leuchtdichten-Tabelle</b>	<b>Max. für <math>\gamma \geq 65^\circ</math></b>	<b>Lichttechnische Abmessungen in mm:</b>	<b>L = 1500</b>	<b>H(C0) = 25</b>	<b>H(C180) = 25</b>
			<b>B = 76</b>	<b>H(C90) = 25</b>	<b>H(C270) = 25</b>

<b>C-Ebenen</b>	<b>0°</b>	<b>30°</b>	<b>60°</b>	<b>90°</b>	<b>120°</b>	<b>150°</b>	<b>180°</b>	<b>210°</b>	<b>240°</b>	<b>270°</b>	<b>300°</b>	<b>330°</b>
$\gamma$	<b>Leuchtdichte in cd/m²</b>											
45°	11605.7	11592.5	12026.7	13771.0	12075.2	11602.3	11596.2	11587.5	12037.5	13796.0	12080.6	11617.0
50°	11184.5	11144.0	11479.4	13278.9	11496.7	11112.9	11134.4	11118.1	11473.6	13306.3	11514.0	11138.8
55°	10746.8	10708.3	10909.3	12766.3	10915.5	10636.6	10698.8	10658.7	10896.8	12789.2	10946.7	10691.8
60°	10369.8	10277.3	10335.5	12189.1	10321.8	10170.0	10272.6	10199.8	10294.3	12206.6	10369.8	10241.5
65°	9965.2	9846.8	9762.9	11523.8	9724.5	9703.2	9852.9	9748.8	9693.8	11534.1	9786.0	9807.6
70°	9602.6	9368.4	9122.0	10762.2	9060.3	9179.2	9430.2	9230.1	9016.3	10762.2	9139.6	9295.6
75°	9154.0	8825.5	8328.3	9677.4	8231.6	8626.5	8974.9	8659.7	8185.7	9662.7	8346.0	8784.0
80°	8792.2	8324.8	7448.2	8155.9	7264.6	8120.9	8530.4	8111.2	7257.0	8125.0	7389.1	8286.0
85°	8507.1	7989.9	6555.3	6021.6	6392.8	7687.9	8267.9	7756.6	6340.3	5952.7	6538.4	7870.2

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Leuchtdichten in cd/m<sup>2</sup>      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	6320	36.1
95	241	252	6013	34.3
90	227	250	5680	32.4
85	214	248	5368	30.5
80	201	245	5054	28.7
75	188	243	4738	27.1
70	175	240	4421	25.4
65	162	238	4103	23.7
60	149	234	3780	21.9
55	137	231	3484	20.3
50	124	228	3158	18.5
45	111	224	2833	16.7
40	99	219	2530	15.0
35	86	214	2200	13.1
30	74	209	1896	11.7
25	62	202	1588	10.4
20	49	194	1254	8.7
15	37	183	946	7.0
13	31	177	792	6.2