

## Photometric test report

Family  
Highbay 11

Order number: 51HLA2D14FCAD + 59HL91001  
EAN: 4058352341629 + 4058352323519

LP number  
58924\_7

**Version** wide distribution, UGR≤22, toughened safety glass  
**Lamps** LED 4000 K | CRI ≥ 80  
**Controlgear** ECG-DALI  
**Rated values** Net luminous flux = 13730 lm  
Power consumption = 81.2 W  
Luminous efficacy = 169.1 lm/W

serial  
documentation  
13.06.2019

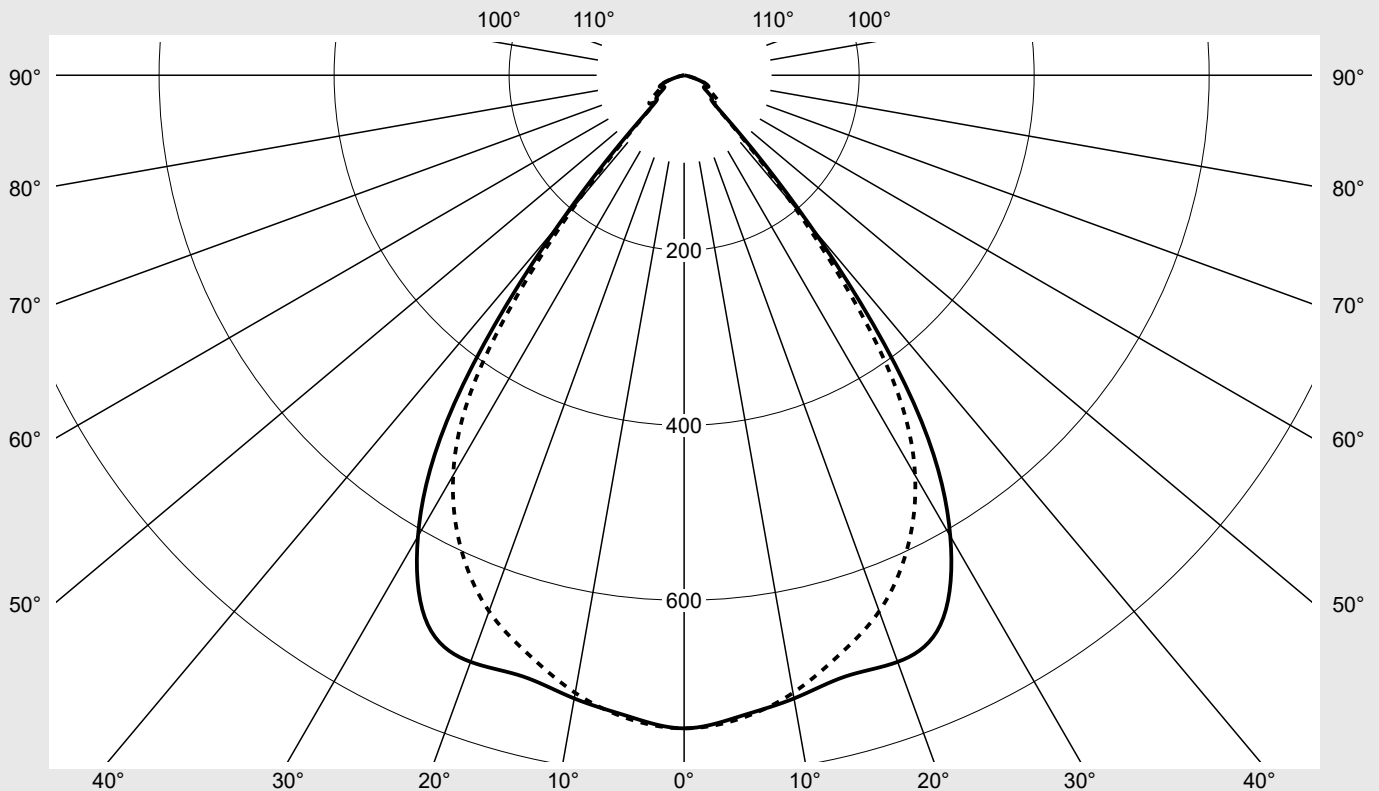
sitEco

Luminous intensity in cd/klm

C180-0

C270-90

Imax: 746 cd/klm



### Classifications

DIN 5040 A 6 0  
CIE N1=88 N2=97 N3=100  
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



C-planes γ	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°	746.3	746.3	746.3	746.3	746.3	746.3	746.3	4.5	4.5
5°	735.3	737.5	739.7	739.9	738.3	739.6	738.0	35.3	39.7
10°	723.2	726.6	729.4	728.5	722.4	719.9	716.7	69.0	108.7
15°	711.3	717.1	725.5	723.9	708.1	693.6	685.6	100.9	209.6
20°	713.4	718.0	728.3	720.4	690.5	663.2	651.9	131.3	340.9
25°	693.0	694.9	704.2	693.3	653.0	614.7	601.0	154.7	495.6
30°	608.4	605.8	624.6	634.7	585.4	537.6	527.9	162.4	658.1
35°	457.7	465.3	511.3	544.0	482.6	417.8	402.1	149.4	807.5
40°	223.2	249.0	306.2	349.8	284.7	219.8	194.6	95.0	902.5
45°	63.3	67.7	80.1	90.2	68.6	60.3	58.8	27.6	930.1
50°	41.6	37.0	34.8	39.2	39.3	44.2	50.6	16.8	947.0
55°	31.4	29.8	26.5	27.8	29.3	36.0	43.6	14.0	961.0
60°	26.5	29.7	26.3	21.9	21.3	25.9	33.0	12.2	973.2
65°	30.8	23.4	22.4	19.4	17.1	22.6	29.4	11.2	984.4
70°	22.6	17.1	16.5	15.8	14.1	17.3	23.9	8.9	993.3
75°	9.7	7.3	8.1	9.4	9.5	10.1	9.9	4.8	998.1
80°	2.5	2.3	2.6	3.2	3.7	3.7	3.7	1.7	999.8
85°	0.2	0.2	0.3	0.3	0.6	0.6	0.7	0.2	1000.0
90°	0.0	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	0.0	1000.0
100°	0.0	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	0.0	1000.0
110°	0.0	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	0.0	1000.0
120°	0.0	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	0.0	1000.0
130°	0.0	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	0.0	1000.0
140°	0.0	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	0.0	1000.0
150°	0.0	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	0.0	1000.0
160°	0.0	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	0.0	1000.0
170°	0.0	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	0.0	1000.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1000.0

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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	20.6	21.9	21.0	22.2	22.6	20.2	21.5	20.5	21.8	22.1
	3H	21.0	22.1	21.3	22.4	22.8	20.5	21.7	20.9	22.0	22.4
	4H	21.0	22.1	21.4	22.4	22.8	20.7	21.7	21.1	22.1	22.4
	6H	21.0	21.9	21.4	22.3	22.7	20.7	21.6	21.1	22.0	22.4
	8H	21.0	21.8	21.5	22.2	22.6	20.7	21.5	21.1	21.9	22.3
	12H	21.0	21.8	21.4	22.1	22.6	20.7	21.4	21.1	21.8	22.3
4H	2H	20.6	21.6	21.0	22.0	22.3	20.1	21.2	20.5	21.5	21.9
	3H	21.0	21.8	21.4	22.2	22.6	20.6	21.4	21.0	21.8	22.2
	4H	21.0	21.8	21.5	22.2	22.7	20.7	21.5	21.2	21.9	22.3
	6H	21.0	21.7	21.5	22.1	22.6	20.7	21.4	21.2	21.8	22.3
	8H	21.0	21.6	21.4	22.0	22.5	20.7	21.3	21.2	21.8	22.2
	12H	21.0	21.5	21.5	21.9	22.4	20.7	21.2	21.2	21.7	22.2
8H	4H	21.0	21.6	21.5	22.0	22.5	20.7	21.3	21.2	21.7	22.2
	6H	21.0	21.4	21.4	21.9	22.4	20.7	21.2	21.2	21.7	22.2
	8H	20.9	21.3	21.4	21.8	22.3	20.7	21.1	21.2	21.6	22.1
	12H	20.9	21.2	21.4	21.7	22.3	20.7	21.0	21.2	21.5	22.1
12H	4H	21.0	21.5	21.5	21.9	22.4	20.7	21.2	21.2	21.6	22.1
	6H	21.0	21.3	21.5	21.8	22.4	20.7	21.1	21.2	21.6	22.1
	8H	20.9	21.2	21.4	21.7	22.3	20.7	21.0	21.2	21.5	22.1

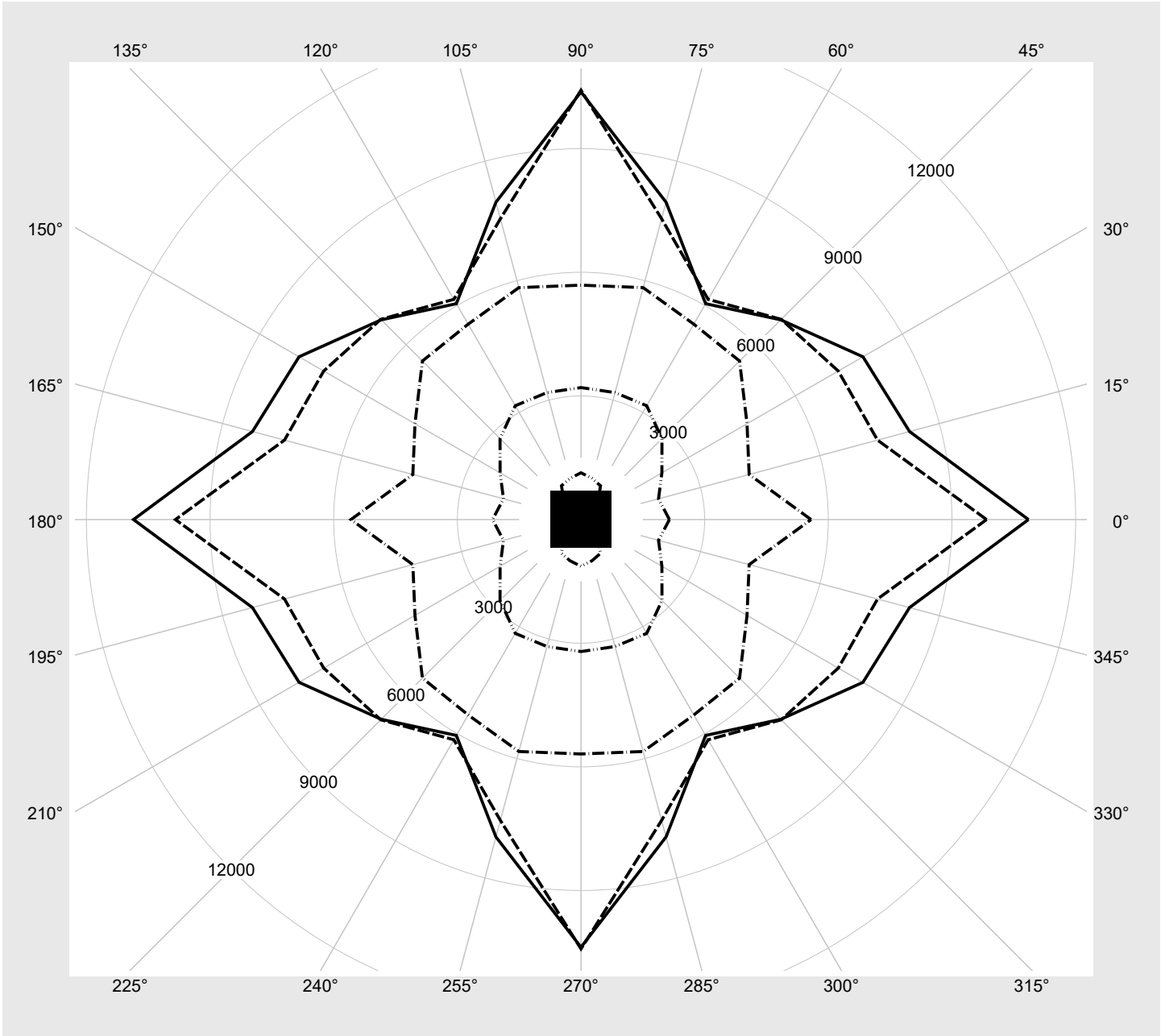
Luminance table	Max. for $\gamma \geq 65^\circ$	Photometric dimensions in mm:	L = 295
			B = 312

C-planes	$\gamma$	0°	15°	30°	45°	60°	75°	90°
		180°	165°	150°	135°	120°	105°	90°
		195°	210°	225°	240°	255°	270°	
		345°	330°	315°	300°	285°		
		Luminance in cd/m²						
45°		13358.5	14276.2	16907.3	19038.9	14469.6	12718.6	12397.1
50°		9661.7	8591.1	8064.8	9100.1	9129.8	10267.0	11735.5
55°		8162.5	7742.5	6889.7	7220.0	7615.8	9366.7	11337.8
60°		7900.9	8851.4	7843.3	6548.5	6356.9	7715.6	9843.1
65°		10856.8	8252.2	7898.9	6853.7	6047.9	7972.3	10376.4
70°		9840.6	7447.8	7207.9	6870.8	6169.4	7556.8	10417.6
75°		5582.1	4223.6	4651.3	5440.9	5474.3	5825.9	5687.6
80°		2145.1	1947.5	2266.2	2778.2	3188.8	3189.7	3202.6
85°		380.0	385.1	439.9	580.2	946.5	1033.8	1134.8

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**Luminance values in cd/m<sup>2</sup>**        $\gamma$  65°      $\gamma$  70°      $\gamma$  75°      $\gamma$  80°      $\gamma$  85°



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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	13730	81.2
95	241	252	13044	76.8
90	227	250	12357	72.5
85	214	248	11671	68.4
80	201	245	10984	64.2
75	188	243	10298	60.0
70	175	240	9611	56.0
65	162	238	8925	51.9
60	149	235	8238	48.0
55	136	232	7552	44.1
50	124	228	6865	40.2
45	111	225	6179	36.3
40	99	220	5492	32.5
35	86	216	4806	28.8
30	74	211	4119	25.1
25	62	205	3433	21.3
20	50	198	2746	17.6
15	38	190	2060	14.0
10	26	179	1372	10.4