

filename : NPH50-LED-850.LDT
 meas. number : 3179
 luminaire number : NPH50/LED/850
 date / operator : 06-02-2014

default lamp type(s)

no of lamps	lamp type	luminaire lumens	input wattage
1	6ft LED strip with opal diffuser & separate driver	5335 lm	48.6 W

dimensions

luminaire		luminous area	
length	: 1790 mm	length	: 1750 mm
width	: 60 mm	width	: 25 mm
height	: 65 mm	height	: 15 mm

coordinate system

no of planes	: 24	samples / plane	: 37
first c-plane	: 0.0 °	first gamma-angle	: 0.0 °
step angle	: 15.0 °	step angle	: 5.0 °
last c-plane	: 345.0 °	last gamma-angle	: 180.0 °
symmetrics	: bi-symmetric		

performance

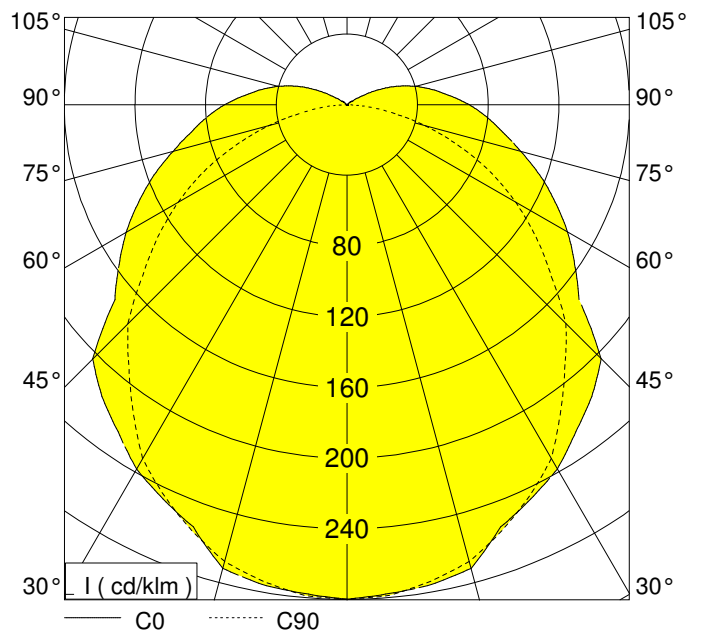
light output ratio : 100.0 %
 DFF : 91.2 %
 UFF : 8.8 %

classification

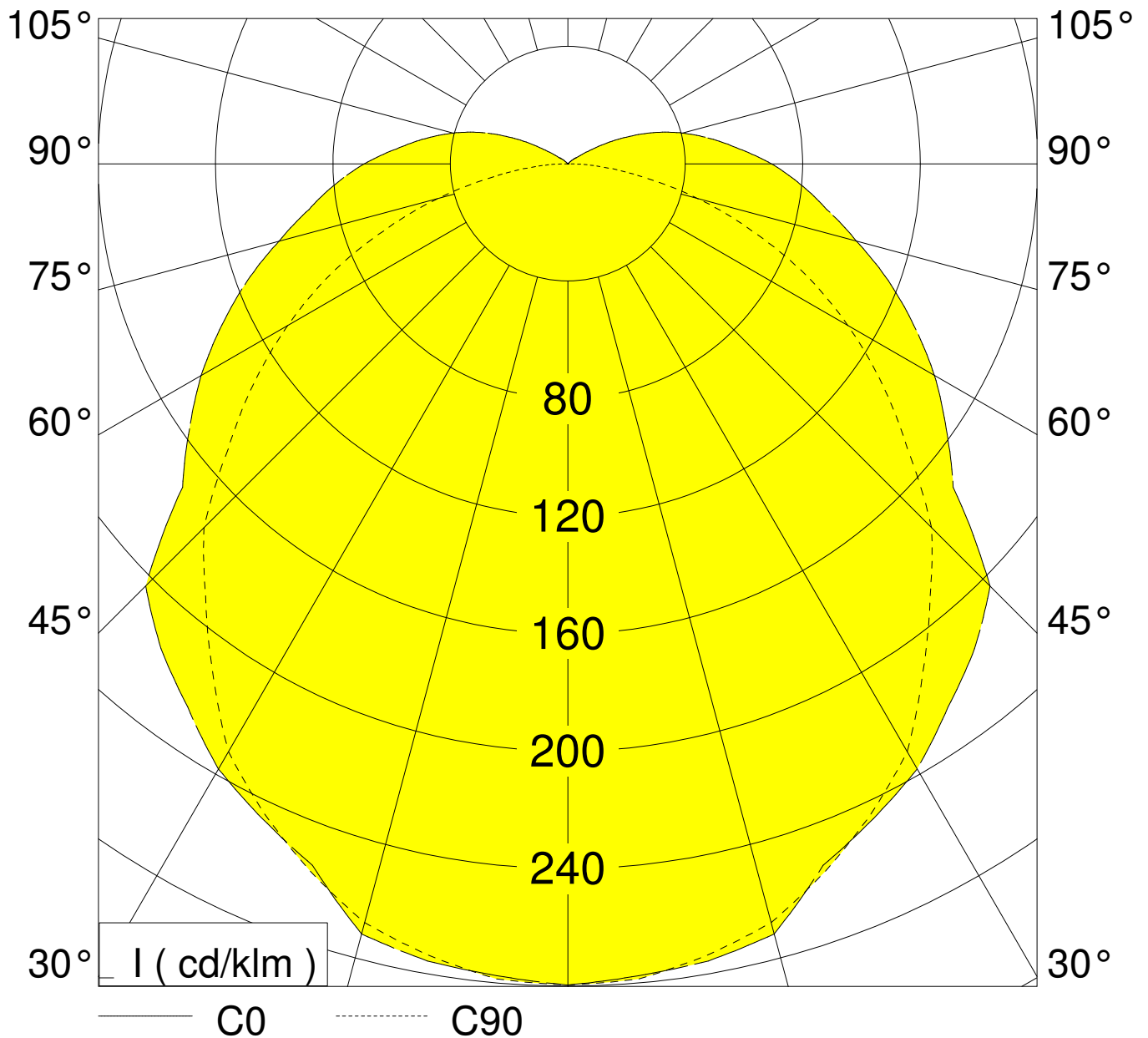
LiTG / DIN : A31
 UTE : 0.91G+0.09T
 CIE : 41 70 89 91 100
 BZ : 5 5 5 5 5 5 5 5

Ambient Temperature : 25 degC
 Input Voltage : 240 V
 Circuit Watts : 48.6W
 Amps (running) : 0.209A
 V.A. : 50.10VA
 Power Factor : 0.97
 CCT : 4838K (measured): 4800K (nominal)

Output current DC : 1020mA
 Output Voltage DC : 39.7V
 Output Power : 40.5watts
 Luminaire Lm/CircWatt : 110
 Driver Efficiency : 83%
 Driver Details : OSRAM OPOTRONIC
 OT50/220-240/1A0CSL



Measurements made are in absolute units
 The luminaire is treated as if it was a lamp as it is not possible to measure each LED separately - hence an LOR of 100%
 The Light output ratio in real terms would be less than 100%. If it was possible to compare real LED lumens with the total output from the luminaire we could obtain an actual LOR
 This also means that the total lumens emitted from the LED's would be greater than the 5335 lumens measured.
 In reality the LED lumens would approximate to this value divided by the actual Light Output



	C 0.0	C 15.0	C 30.0	C 45.0	C 60.0	C 75.0	C 90.0	C 105.0
0.0°	279.40	279.40	279.40	279.40	279.40	279.40	279.40	279.40
5.0°	277.30	277.90	278.40	277.90	277.30	277.90	278.40	277.90
10.0°	275.40	275.40	275.40	274.40	273.40	273.40	273.40	273.40
15.0°	271.30	271.30	271.30	269.30	267.20	267.30	267.30	267.30
20.0°	254.00	258.00	262.10	260.10	258.20	257.20	256.20	257.20
25.0°	245.90	249.90	253.90	250.50	247.00	245.60	244.10	245.60
30.0°	237.80	239.80	241.60	237.30	232.80	231.90	231.00	231.90
35.0°	225.60	227.00	228.50	223.60	218.60	214.80	210.80	214.80
40.0°	215.40	215.30	215.20	208.80	202.50	197.10	191.80	197.10
45.0°	203.20	201.20	199.20	191.20	183.10	179.10	175.10	179.10
50.0°	171.20	177.40	183.50	174.50	165.50	158.30	150.90	158.30
55.0°	157.20	162.20	167.30	157.60	147.90	139.30	130.60	139.30
60.0°	144.10	147.30	150.60	138.90	127.10	118.60	110.10	118.60
65.0°	129.90	133.20	136.50	123.60	110.70	100.10	89.30	100.10
70.0°	116.00	119.60	123.10	108.70	94.30	80.50	66.70	80.50
75.0°	101.70	104.20	106.70	91.80	77.00	61.50	46.00	61.50
80.0°	89.50	90.90	92.40	77.00	61.80	43.70	25.60	43.70
85.0°	79.40	79.90	80.30	65.90	51.50	31.20	11.00	31.20
90.0°	69.30	69.10	68.90	55.00	41.20	20.60	0.00	20.60
95.0°	58.50	58.40	58.30	46.10	33.80	17.00	0.00	17.00
100.0°	49.40	50.00	50.50	37.60	24.60	12.30	0.00	12.30
105.0°	40.50	40.60	40.70	29.00	17.40	8.60	0.00	8.60
110.0°	31.10	31.00	31.00	19.80	8.60	4.30	0.00	4.30
115.0°	21.00	21.20	21.30	13.30	5.30	2.70	0.00	2.70
120.0°	11.10	11.60	12.00	8.10	4.20	2.10	0.00	2.10
125.0°	3.70	4.20	4.60	3.70	2.90	1.40	0.00	1.40
130.0°	2.50	2.70	2.90	1.40	0.00	0.00	0.00	0.00
135.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	cd / klm							

	C 120.0	C 135.0	C 150.0	C 165.0	C 180.0	C 195.0	C 210.0	C 225.0
0.0°	279.40	279.40	279.40	279.40	279.40	279.40	279.40	279.40
5.0°	277.30	277.90	278.40	277.90	277.30	277.90	278.40	277.90
10.0°	273.40	274.40	275.40	275.40	275.40	275.40	275.40	274.40
15.0°	267.20	269.30	271.30	271.30	271.30	271.30	271.30	269.30
20.0°	258.20	260.10	262.10	258.00	254.00	258.00	262.10	260.10
25.0°	247.00	250.50	253.90	249.90	245.90	249.90	253.90	250.50
30.0°	232.80	237.30	241.60	239.80	237.80	239.80	241.60	237.30
35.0°	218.60	223.60	228.50	227.00	225.60	227.00	228.50	223.60
40.0°	202.50	208.80	215.20	215.30	215.40	215.30	215.20	208.80
45.0°	183.10	191.20	199.20	201.20	203.20	201.20	199.20	191.20
50.0°	165.50	174.50	183.50	177.40	171.20	177.40	183.50	174.50
55.0°	147.90	157.60	167.30	162.20	157.20	162.20	167.30	157.60
60.0°	127.10	138.90	150.60	147.30	144.10	147.30	150.60	138.90
65.0°	110.70	123.60	136.50	133.20	129.90	133.20	136.50	123.60
70.0°	94.30	108.70	123.10	119.60	116.00	119.60	123.10	108.70
75.0°	77.00	91.80	106.70	104.20	101.70	104.20	106.70	91.80
80.0°	61.80	77.00	92.40	90.90	89.50	90.90	92.40	77.00
85.0°	51.50	65.90	80.30	79.90	79.40	79.90	80.30	65.90
90.0°	41.20	55.00	68.90	69.10	69.30	69.10	68.90	55.00
95.0°	33.80	46.10	58.30	58.40	58.50	58.40	58.30	46.10
100.0°	24.60	37.60	50.50	50.00	49.40	50.00	50.50	37.60
105.0°	17.40	29.00	40.70	40.60	40.50	40.60	40.70	29.00
110.0°	8.60	19.80	31.00	31.00	31.10	31.00	31.00	19.80
115.0°	5.30	13.30	21.30	21.20	21.00	21.20	21.30	13.30
120.0°	4.20	8.10	12.00	11.60	11.10	11.60	12.00	8.10
125.0°	2.90	3.70	4.60	4.20	3.70	4.20	4.60	3.70
130.0°	0.00	1.40	2.90	2.70	2.50	2.70	2.90	1.40
135.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	cd / klm							

	C 240.0	C 255.0	C 270.0	C 285.0	C 300.0	C 315.0	C 330.0	C 345.0
0.0°	279.40	279.40	279.40	279.40	279.40	279.40	279.40	279.40
5.0°	277.30	277.90	278.40	277.90	277.30	277.90	278.40	277.90
10.0°	273.40	273.40	273.40	273.40	273.40	274.40	275.40	275.40
15.0°	267.20	267.30	267.30	267.30	267.20	269.30	271.30	271.30
20.0°	258.20	257.20	256.20	257.20	258.20	260.10	262.10	258.00
25.0°	247.00	245.60	244.10	245.60	247.00	250.50	253.90	249.90
30.0°	232.80	231.90	231.00	231.90	232.80	237.30	241.60	239.80
35.0°	218.60	214.80	210.80	214.80	218.60	223.60	228.50	227.00
40.0°	202.50	197.10	191.80	197.10	202.50	208.80	215.20	215.30
45.0°	183.10	179.10	175.10	179.10	183.10	191.20	199.20	201.20
50.0°	165.50	158.30	150.90	158.30	165.50	174.50	183.50	177.40
55.0°	147.90	139.30	130.60	139.30	147.90	157.60	167.30	162.20
60.0°	127.10	118.60	110.10	118.60	127.10	138.90	150.60	147.30
65.0°	110.70	100.10	89.30	100.10	110.70	123.60	136.50	133.20
70.0°	94.30	80.50	66.70	80.50	94.30	108.70	123.10	119.60
75.0°	77.00	61.50	46.00	61.50	77.00	91.80	106.70	104.20
80.0°	61.80	43.70	25.60	43.70	61.80	77.00	92.40	90.90
85.0°	51.50	31.20	11.00	31.20	51.50	65.90	80.30	79.90
90.0°	41.20	20.60	0.00	20.60	41.20	55.00	68.90	69.10
95.0°	33.80	17.00	0.00	17.00	33.80	46.10	58.30	58.40
100.0°	24.60	12.30	0.00	12.30	24.60	37.60	50.50	50.00
105.0°	17.40	8.60	0.00	8.60	17.40	29.00	40.70	40.60
110.0°	8.60	4.30	0.00	4.30	8.60	19.80	31.00	31.00
115.0°	5.30	2.70	0.00	2.70	5.30	13.30	21.30	21.20
120.0°	4.20	2.10	0.00	2.10	4.20	8.10	12.00	11.60
125.0°	2.90	1.40	0.00	1.40	2.90	3.70	4.60	4.20
130.0°	0.00	0.00	0.00	0.00	0.00	1.40	2.90	2.70
135.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	cd / klm							

glare rating according to UGR											
ρ-ceiling	70	70	50	50	30	70	70	50	50	30	
ρ-walls	50	30	50	30	30	50	30	50	30	30	
ρ-workplane	20	20	20	20	20	20	20	20	20	20	
room dimensions X Y		viewed crosswise					viewed endwise				
2H	2H	22.7	24.2	23.1	24.6	24.9	22.9	24.3	23.2	24.7	25.1
	3H	24.2	25.4	24.6	25.8	26.1	24.1	25.3	24.5	25.7	26.0
	4H	25.1	26.3	25.5	26.7	27.1	24.7	25.9	25.2	26.3	26.7
	6H	25.9	27.1	26.4	27.5	27.9	25.2	26.3	25.6	26.7	27.2
	8H	26.4	27.5	26.8	27.9	28.4	25.4	26.5	25.8	26.9	27.4
	12H	26.8	27.9	27.3	28.4	28.8	25.5	26.6	26.0	27.1	27.6
4H	2H	23.2	24.4	23.6	24.7	25.1	23.2	24.4	23.7	24.8	25.2
	3H	25.4	26.5	25.8	26.9	27.4	25.1	26.3	25.6	26.7	27.2
	4H	26.5	27.6	27.0	28.1	28.6	26.0	27.1	26.5	27.6	28.1
	6H	27.3	28.2	27.8	28.7	29.2	26.4	27.4	27.0	27.8	28.4
	8H	27.8	28.7	28.4	29.2	29.8	26.7	27.6	27.2	28.1	28.7
	12H	28.4	29.3	29.0	29.9	30.5	27.0	27.8	27.6	28.4	29.1
8H	4H	26.7	27.6	27.3	28.1	28.7	26.3	27.2	26.9	27.7	28.3
	6H	28.2	29.1	28.9	29.7	30.4	27.4	28.2	28.0	28.9	29.6
	8H	29.0	29.8	29.7	30.4	31.2	27.9	28.7	28.6	29.3	30.1
	12H	29.5	30.2	30.2	30.9	31.6	28.1	28.8	28.8	29.4	30.2
12H	4H	26.9	27.8	27.5	28.4	29.0	26.6	27.4	27.2	28.0	28.7
	6H	28.5	29.3	29.1	29.9	30.7	27.7	28.5	28.4	29.2	29.9
	8H	29.1	29.8	29.8	30.4	31.2	28.1	28.7	28.7	29.4	30.2
variation of observer position											
S =	1.0H	+0.1/		-0.1		+0.1/		-0.1			
	1.5H	+0.2/		-0.2		+0.2/		-0.2			
	2.0H	+0.2/		-0.4		+0.3/		-0.5			
standard-table	BK08					BK07					
correction for luminaire	12.0					10.9					
correct glare indices for a total flux of 5335lm											

class		glare rating for service value of illuminance (lx)									
A	A	1000	750	500	--	≤ 300					
1	B	2000	1500	1000	750	500	≤ 300				
2	D					2000	1000	500	≤ 300		
3	E						2000	1000	500	≤ 300	

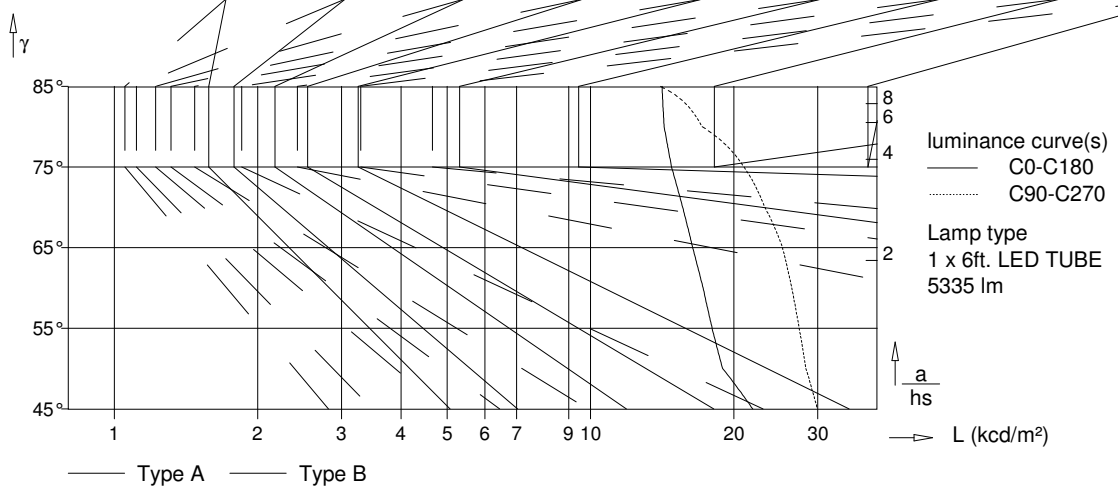
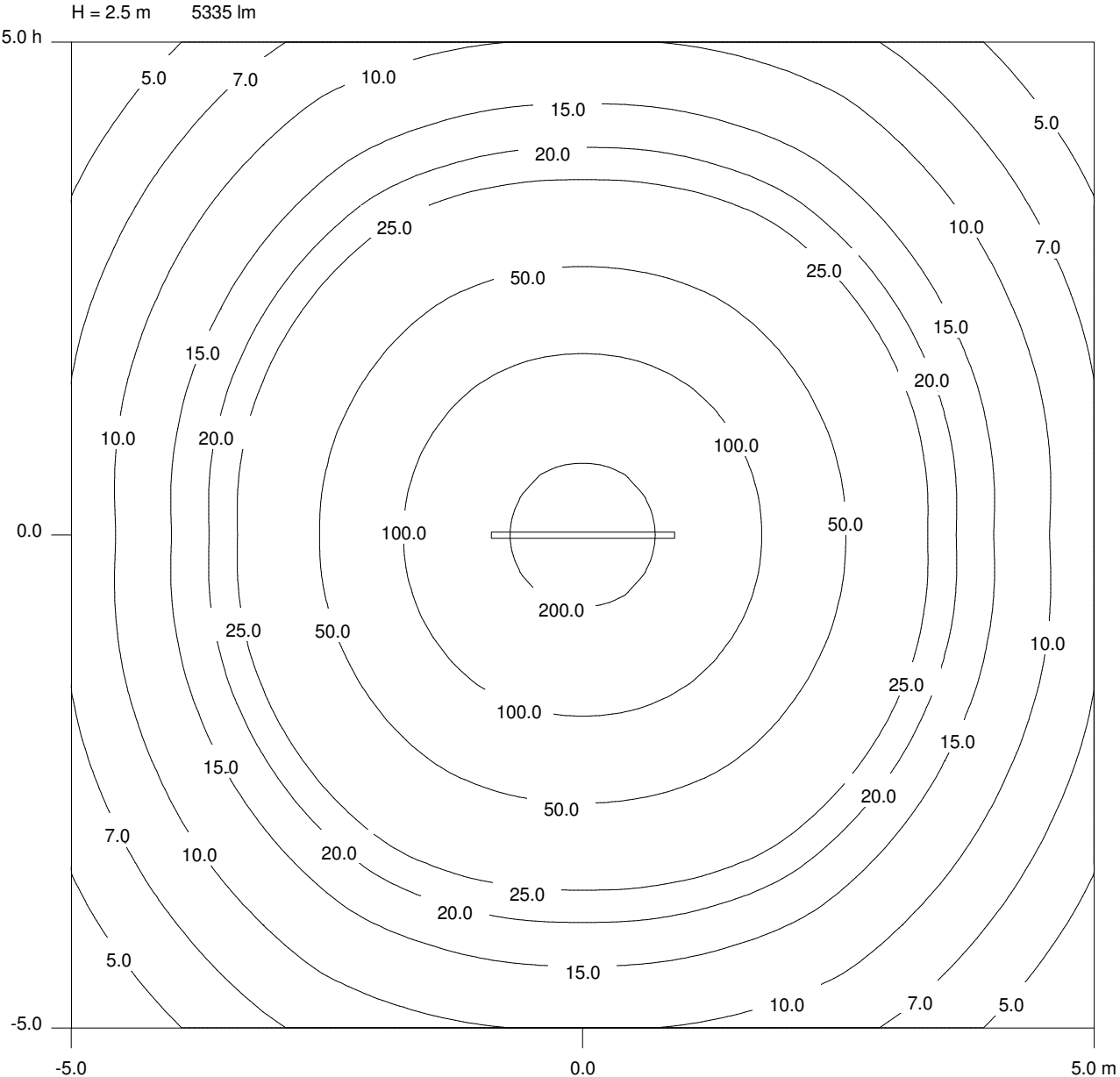


Tabelle der berechneten Leuchtdichten

gamma	C 0	C 90	C 180	C 270
45°	21901.6	29939.9	21901.6	29939.9
50°	18937.2	28337.7	18937.2	28337.7
55°	17998.3	27429.9	17998.3	27429.9
60°	17233.9	26459.0	17233.9	26459.0
65°	16391.1	25301.7	16391.1	25301.7
70°	15615.8	23233.9	15615.8	23233.9
75°	14792.4	21001.1	14792.4	21001.1
80°	14275.2	17144.0	14275.2	17144.0
85°	14137.3	14017.2	14137.3	14017.2

alle Werte in cd/m²



filename : NPH55-LED-850.LDT
 meas. number : 1068
 luminaire number : NPH55/LED/850
 date / operator : 21-05-2014

default lamp type(s)

no of lamps	lamp type	luminaire lumens	input wattage
1	LED TUBE	5920 lm	56.3 W

dimensions

luminaire		luminous area	
length	: 1225 mm	length	: 1190 mm
width	: 60 mm	width	: 25 mm
height	: 60 mm	height	: 15 mm

coordinate system

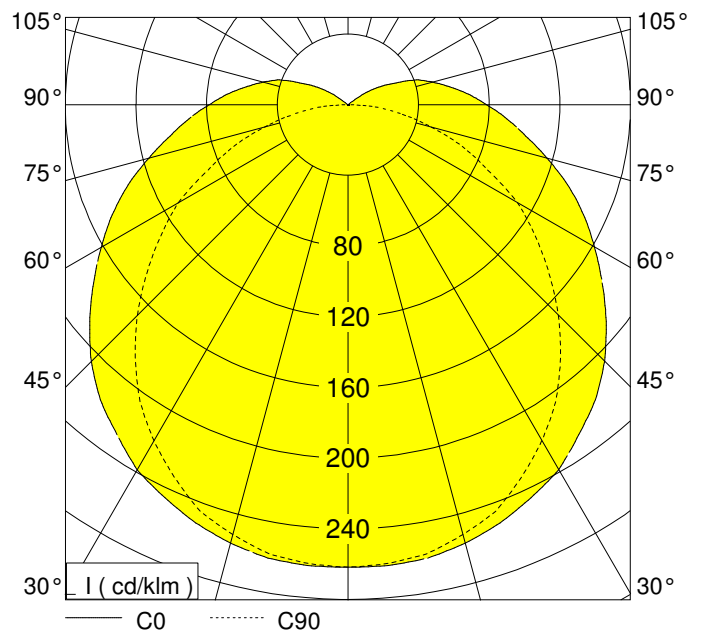
no of planes	: 24	samples / plane	: 37
first c-plane	: 0.0 °	first gamma-angle	: 0.0 °
step angle	: 15.0 °	step angle	: 5.0 °
last c-plane	: 345.0 °	last gamma-angle	: 180.0 °
symmetrics	: bi-symmetric		

performance

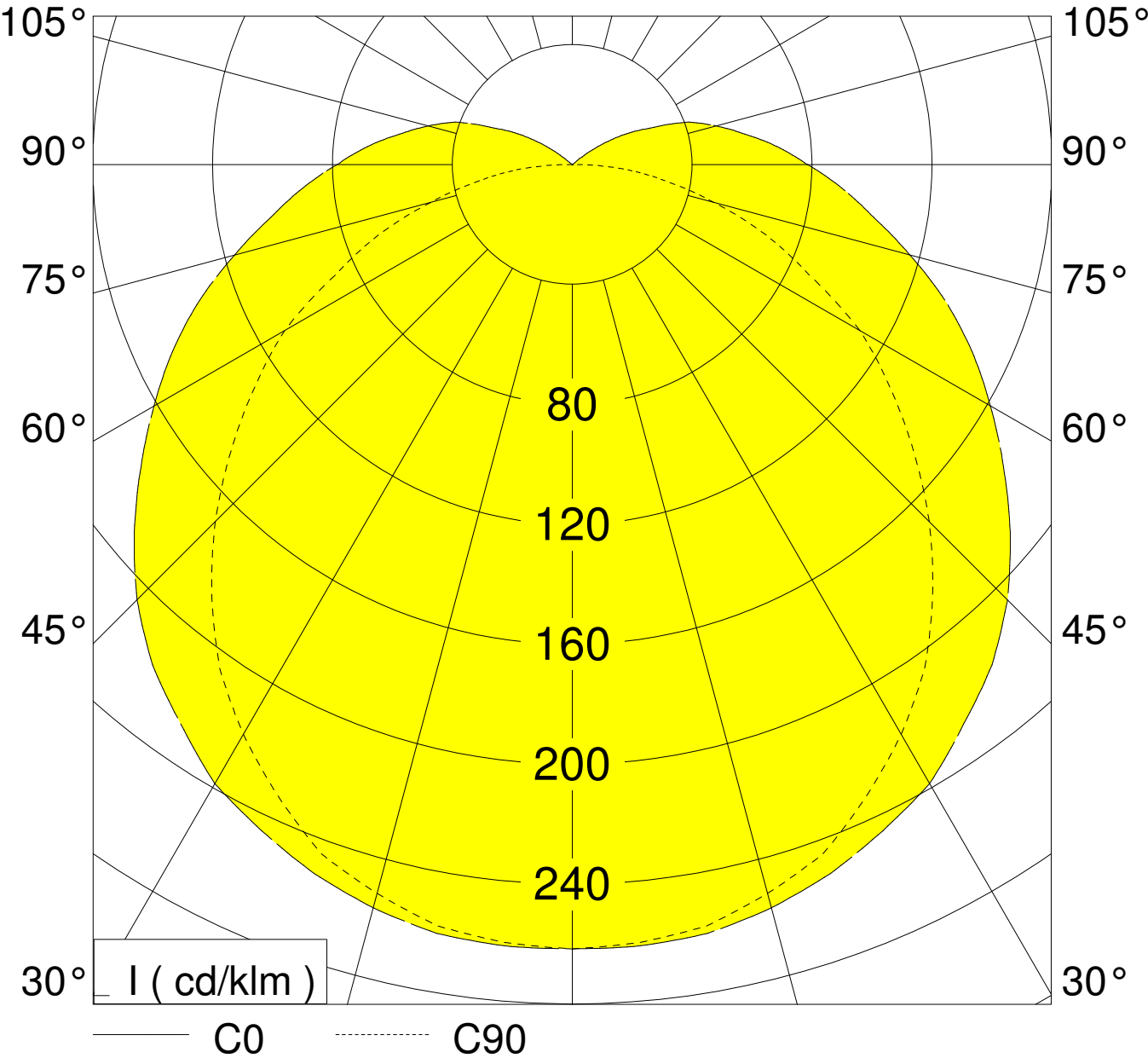
light output ratio	: 100.0 %
DFF	: 90.8 %
UFF	: 9.2 %

classification

LiTG / DIN	: A31
UTE	: 0.91G+0.09T
CIE	: 40 69 88 91 100
BZ	: 5 5 5 5 5 5 6 6 6
Ambient Temperature	: 25 degC
Input Voltage	: 240 V
Circuit Watts	: 56.3W
Amps (running)	: 0.239 A
V.A.	: 57.45 VA
Power Factor	: 0.98
CCT	: 4910K (measured): 4000K (nominal)
Output current DC	: 1040 mA
Output Voltage DC	: 46.4V
Output Power	: 48.26 W
Luminaire Lm/CircWatt	: 105 LumLm/circ W
Driver Efficiency	: 85.7%
Driver Details	: OPOTRONIC OTFIT 50/220-240 1AO CSL



Measurements made are in absolute units. The luminaire is treated as if it was a lamp as it is not possible to measure each LED separately - hence an LOR of 100%
The Light output ratio in real terms would be less than 100%. If it was possible to compare real LED lumens with the total output from the luminaire we could obtain an actual LOR
This also means that the total lumens emitted from the LED's would be greater than the 5920 Lumens measured. In reality the LED lumens would approximate to this value divided by the actual Light Output.



	C 0.0	C 15.0	C 30.0	C 45.0	C 60.0	C 75.0	C 90.0	C 105.0
0.0°	261.40	261.40	261.40	261.40	261.40	261.40	261.40	261.40
5.0°	261.40	261.40	261.40	261.40	261.40	260.80	260.20	260.80
10.0°	260.20	260.20	260.20	259.60	259.00	258.30	257.70	258.30
15.0°	256.50	257.10	257.70	255.90	254.00	252.80	251.50	252.80
20.0°	251.50	251.50	251.50	249.70	247.80	246.10	244.50	246.10
25.0°	245.00	245.00	245.10	241.20	237.50	234.80	232.20	234.80
30.0°	238.30	236.60	234.90	230.10	225.20	222.20	219.30	222.20
35.0°	227.60	226.10	224.60	217.80	211.00	207.90	204.90	207.90
40.0°	217.70	215.20	212.80	203.80	194.80	190.90	187.00	190.90
45.0°	205.20	201.70	198.30	188.20	178.10	173.20	168.30	173.20
50.0°	190.60	186.20	181.80	172.00	162.10	155.30	148.50	155.30
55.0°	175.50	170.00	164.50	154.50	144.40	136.80	129.20	136.80
60.0°	161.00	156.10	151.10	139.50	128.00	119.30	110.80	119.30
65.0°	147.00	142.00	136.90	123.50	110.00	98.50	87.20	98.50
70.0°	132.20	128.10	123.90	108.30	92.60	80.70	68.80	80.70
75.0°	116.50	111.70	106.80	91.20	75.40	62.10	48.90	62.10
80.0°	102.10	97.50	93.00	77.20	61.50	46.50	31.40	46.50
85.0°	90.20	85.40	80.60	65.00	49.40	33.20	17.20	33.20
90.0°	78.40	73.40	68.60	55.00	41.40	20.70	0.00	20.70
95.0°	68.60	63.80	58.90	46.10	33.10	16.60	0.00	16.60
100.0°	58.40	54.20	50.10	38.00	25.90	12.90	0.00	12.90
105.0°	49.70	45.40	41.10	29.30	17.40	8.70	0.00	8.70
110.0°	41.40	36.50	31.50	20.50	9.40	4.70	0.00	4.70
115.0°	28.80	26.00	23.30	11.60	0.00	0.00	0.00	0.00
120.0°	20.00	16.00	12.00	6.10	0.00	0.00	0.00	0.00
125.0°	10.40	7.90	5.30	2.70	0.00	0.00	0.00	0.00
130.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	cd / klm							

	C 120.0	C 135.0	C 150.0	C 165.0	C 180.0	C 195.0	C 210.0	C 225.0
0.0°	261.40	261.40	261.40	261.40	261.40	261.40	261.40	261.40
5.0°	261.40	261.40	261.40	261.40	261.40	261.40	261.40	261.40
10.0°	259.00	259.60	260.20	260.20	260.20	260.20	260.20	259.60
15.0°	254.00	255.90	257.70	257.10	256.50	257.10	257.70	255.90
20.0°	247.80	249.70	251.50	251.50	251.50	251.50	251.50	249.70
25.0°	237.50	241.20	245.10	245.00	245.00	245.00	245.10	241.20
30.0°	225.20	230.10	234.90	236.60	238.30	236.60	234.90	230.10
35.0°	211.00	217.80	224.60	226.10	227.60	226.10	224.60	217.80
40.0°	194.80	203.80	212.80	215.20	217.70	215.20	212.80	203.80
45.0°	178.10	188.20	198.30	201.70	205.20	201.70	198.30	188.20
50.0°	162.10	172.00	181.80	186.20	190.60	186.20	181.80	172.00
55.0°	144.40	154.50	164.50	170.00	175.50	170.00	164.50	154.50
60.0°	128.00	139.50	151.10	156.10	161.00	156.10	151.10	139.50
65.0°	110.00	123.50	136.90	142.00	147.00	142.00	136.90	123.50
70.0°	92.60	108.30	123.90	128.10	132.20	128.10	123.90	108.30
75.0°	75.40	91.20	106.80	111.70	116.50	111.70	106.80	91.20
80.0°	61.50	77.20	93.00	97.50	102.10	97.50	93.00	77.20
85.0°	49.40	65.00	80.60	85.40	90.20	85.40	80.60	65.00
90.0°	41.40	55.00	68.60	73.40	78.40	73.40	68.60	55.00
95.0°	33.10	46.10	58.90	63.80	68.60	63.80	58.90	46.10
100.0°	25.90	38.00	50.10	54.20	58.40	54.20	50.10	38.00
105.0°	17.40	29.30	41.10	45.40	49.70	45.40	41.10	29.30
110.0°	9.40	20.50	31.50	36.50	41.40	36.50	31.50	20.50
115.0°	0.00	11.60	23.30	26.00	28.80	26.00	23.30	11.60
120.0°	0.00	6.10	12.00	16.00	20.00	16.00	12.00	6.10
125.0°	0.00	2.70	5.30	7.90	10.40	7.90	5.30	2.70
130.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	cd / klm							

	C 240.0	C 255.0	C 270.0	C 285.0	C 300.0	C 315.0	C 330.0	C 345.0
0.0°	261.40	261.40	261.40	261.40	261.40	261.40	261.40	261.40
5.0°	261.40	260.80	260.20	260.80	261.40	261.40	261.40	261.40
10.0°	259.00	258.30	257.70	258.30	259.00	259.60	260.20	260.20
15.0°	254.00	252.80	251.50	252.80	254.00	255.90	257.70	257.10
20.0°	247.80	246.10	244.50	246.10	247.80	249.70	251.50	251.50
25.0°	237.50	234.80	232.20	234.80	237.50	241.20	245.10	245.00
30.0°	225.20	222.20	219.30	222.20	225.20	230.10	234.90	236.60
35.0°	211.00	207.90	204.90	207.90	211.00	217.80	224.60	226.10
40.0°	194.80	190.90	187.00	190.90	194.80	203.80	212.80	215.20
45.0°	178.10	173.20	168.30	173.20	178.10	188.20	198.30	201.70
50.0°	162.10	155.30	148.50	155.30	162.10	172.00	181.80	186.20
55.0°	144.40	136.80	129.20	136.80	144.40	154.50	164.50	170.00
60.0°	128.00	119.30	110.80	119.30	128.00	139.50	151.10	156.10
65.0°	110.00	98.50	87.20	98.50	110.00	123.50	136.90	142.00
70.0°	92.60	80.70	68.80	80.70	92.60	108.30	123.90	128.10
75.0°	75.40	62.10	48.90	62.10	75.40	91.20	106.80	111.70
80.0°	61.50	46.50	31.40	46.50	61.50	77.20	93.00	97.50
85.0°	49.40	33.20	17.20	33.20	49.40	65.00	80.60	85.40
90.0°	41.40	20.70	0.00	20.70	41.40	55.00	68.60	73.40
95.0°	33.10	16.60	0.00	16.60	33.10	46.10	58.90	63.80
100.0°	25.90	12.90	0.00	12.90	25.90	38.00	50.10	54.20
105.0°	17.40	8.70	0.00	8.70	17.40	29.30	41.10	45.40
110.0°	9.40	4.70	0.00	4.70	9.40	20.50	31.50	36.50
115.0°	0.00	0.00	0.00	0.00	0.00	11.60	23.30	26.00
120.0°	0.00	0.00	0.00	0.00	0.00	6.10	12.00	16.00
125.0°	0.00	0.00	0.00	0.00	0.00	2.70	5.30	7.90
130.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	cd / klm							

glare rating according to UGR											
ρ-ceiling	70	70	50	50	30	70	70	50	50	30	
ρ-walls	50	30	50	30	30	50	30	50	30	30	
ρ-workplane	20	20	20	20	20	20	20	20	20	20	
room dimensions X Y		viewed crosswise					viewed endwise				
2H	2H	24.7	26.2	25.1	26.5	26.9	24.4	25.9	24.8	26.3	26.7
	3H	26.3	27.5	26.7	27.9	28.3	25.7	26.9	26.1	27.3	27.7
	4H	27.3	28.5	27.7	28.9	29.3	26.4	27.6	26.8	28.0	28.4
	6H	28.2	29.3	28.6	29.7	30.2	26.9	28.1	27.4	28.5	29.0
	8H	28.6	29.8	29.1	30.2	30.7	27.2	28.3	27.7	28.8	29.2
4H	12H	29.1	30.2	29.6	30.7	31.2	27.4	28.6	27.9	29.0	29.5
	2H	25.1	26.3	25.5	26.7	27.1	24.9	26.1	25.3	26.5	26.9
	3H	27.3	28.5	27.8	28.9	29.4	26.8	27.9	27.2	28.3	28.8
	4H	28.6	29.7	29.1	30.1	30.7	27.7	28.8	28.2	29.3	29.8
	6H	29.4	30.3	29.9	30.8	31.4	28.2	29.1	28.7	29.6	30.2
8H	8H	30.0	30.8	30.5	31.4	32.0	28.5	29.4	29.1	29.9	30.5
	12H	30.6	31.5	31.2	32.1	32.7	28.9	29.7	29.5	30.3	31.0
	4H	28.7	29.6	29.3	30.1	30.7	28.0	28.9	28.5	29.4	30.0
	6H	30.3	31.1	30.9	31.7	32.4	29.1	30.0	29.8	30.6	31.3
	8H	31.0	31.8	31.7	32.5	33.3	29.7	30.5	30.3	31.1	31.9
12H	12H	31.6	32.3	32.3	33.0	33.8	29.9	30.6	30.6	31.3	32.1
	4H	28.9	29.8	29.5	30.4	31.0	28.2	29.1	28.8	29.7	30.3
	6H	30.5	31.3	31.2	32.0	32.7	29.4	30.2	30.1	30.9	31.7
	8H	31.1	31.8	31.8	32.5	33.3	29.8	30.5	30.5	31.2	32.0
variation of observer position											
S =	1.0H	+0.1/		-0.1		+0.1/		-0.1			
	1.5H	+0.2/		-0.2		+0.2/		-0.2			
	2.0H	+0.2/		-0.3		+0.3/		-0.4			
standard-table	BK09					BK07					
correction for luminaire	14.6					12.6					
correct glare indices for a total flux of 5920lm											

class		glare rating for service value of illuminance (lx)									
A	A	1000	750	500	--	≤ 300					
1	B	2000	1500	1000	750	500	≤ 300				
2	D					2000	1000	500	≤ 300		
3	E						2000	1000	500	≤ 300	

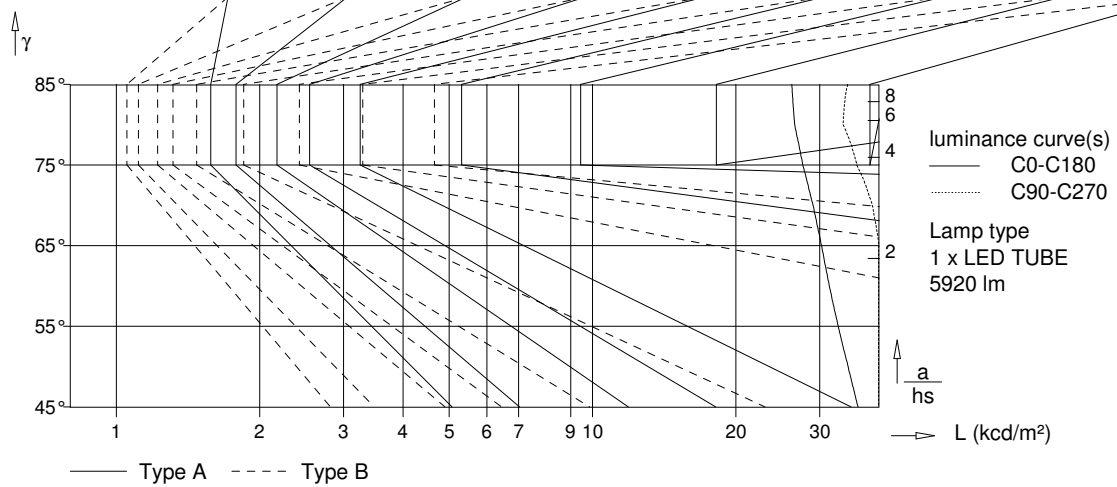
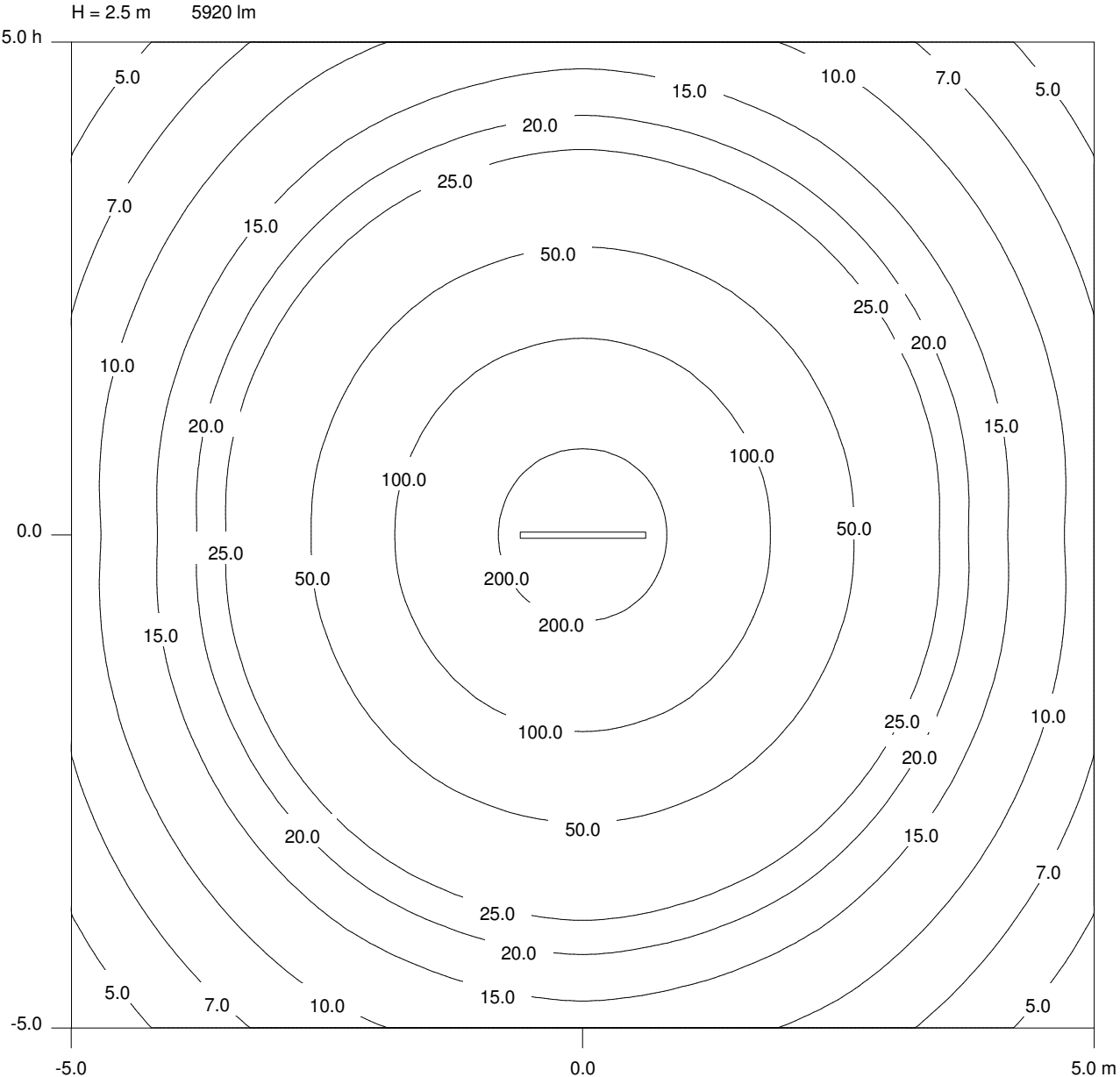


Tabelle der berechneten Leuchtdichten

gamma	C 0	C 90	C 180	C 270
45°	36091.7	46772.8	36091.7	46772.8
50°	34404.3	45291.7	34404.3	45291.7
55°	32789.5	44030.9	32789.5	44030.9
60°	31421.3	43154.4	31421.3	43154.4
65°	30268.7	39977.8	30268.7	39977.8
70°	29041.3	38688.8	29041.3	38688.8
75°	27651.7	35907.3	27651.7	35907.3
80°	26574.5	33582.1	26574.5	33582.1
85°	26207.9	34325.1	26207.9	34325.1

alle Werte in cd/m²



filename : NPH65-LED-850.LDT
 meas. number : 1069
 luminaire number : NPH65/LED/850
 date / operator : 21-05-2014

default lamp type(s)

no of lamps	lamp type	luminaire lumens	input wattage
1	65W LED TUBE	7450 lm	65.8 W

dimensions

luminaire	luminous area
length : 1510 mm	length : 1490 mm
width : 60 mm	width : 25 mm
height : 60 mm	height : 15 mm

coordinate system

no of planes : 24	samples / plane : 37
first c-plane : 0.0 °	first gamma-angle : 0.0 °
step angle : 15.0 °	step angle : 5.0 °
last c-plane : 345.0 °	last gamma-angle : 180.0 °
symmetrics : bi-symmetric	

performance

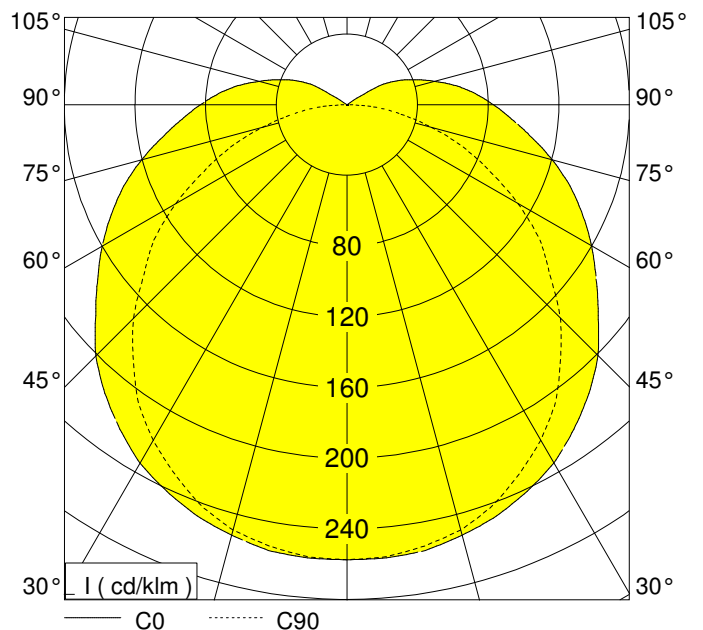
light output ratio : 100.0 %
 DFF : 90.6 %
 UFF : 9.4 %

classification

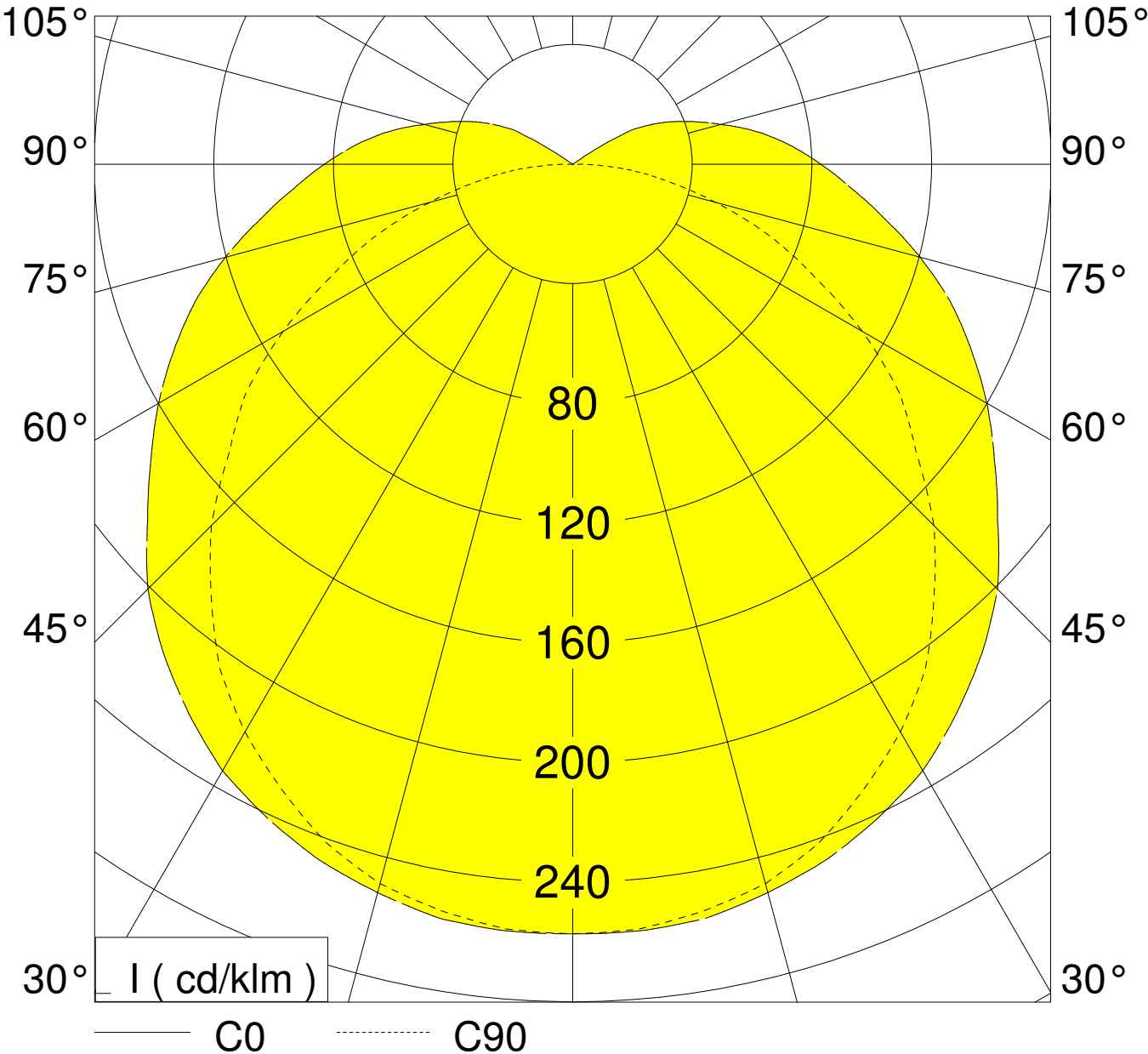
LiTG / DIN : A31
 UTE : 0.91G+0.09T
 CIE : 40 69 88 91 100
 BZ : 5 5 5 5 6 6 6 6 6 6

Ambient Temperature : 25 degC
 Input Voltage : 240 V
 Circuit Watts : 65.8 W
 Amps (running) : 0.280 A
 V.A. : 67.14VA
 Power Factor : 0.98
 CCT : 4991K (measured): 4000K (nominal)

Output current DC : 1400 mA
 Output Voltage DC : 41.4 V
 Output Power : 57.95W
 Luminaire Lm/CircWatt : 113 LumLm/circW
 Driver Efficiency : 88%
 Driver Details : OSRAM OTFIT 80/220-240 1A6 CSL



Measurements made are in absolute units. The luminaire is treated as if it was a lamp as it is not possible to measure each LED separately - hence an LOR of 100%
The Light output ratio in real terms would be less than 100%. If it was possible to compare real LED lumens with the total output from the luminaire we could obtain an actual LOR
This also means that the total lumens emitted from the LED's would be greater than the 7450 Lumens measured. In reality the LED lumens would approximate to this value divided by the actual Light Output.



	C 0.0	C 15.0	C 30.0	C 45.0	C 60.0	C 75.0	C 90.0	C 105.0
0.0°	257.10	257.10	257.10	257.10	257.10	257.10	257.10	257.10
5.0°	257.10	257.10	257.10	257.10	257.10	256.70	256.40	256.70
10.0°	255.80	255.80	255.80	255.50	255.10	254.20	253.20	254.20
15.0°	251.90	252.20	252.50	251.90	251.30	250.00	248.80	250.00
20.0°	247.40	247.40	247.40	245.80	244.30	242.70	241.10	242.70
25.0°	241.10	241.30	241.50	238.20	234.80	232.60	230.30	232.60
30.0°	234.00	233.60	233.20	228.60	224.10	221.50	219.00	221.50
35.0°	223.80	223.40	223.00	215.90	208.70	207.20	205.60	207.20
40.0°	212.90	211.20	209.40	202.50	195.40	191.60	187.90	191.60
45.0°	200.80	197.10	193.40	185.20	177.00	173.90	170.70	173.90
50.0°	185.40	182.70	179.90	170.90	161.80	155.80	149.80	155.80
55.0°	172.00	168.60	165.10	154.30	143.40	138.40	133.30	138.40
60.0°	159.80	157.10	154.20	140.90	127.50	119.70	111.70	119.70
65.0°	147.00	143.50	140.10	124.10	108.10	98.60	89.30	98.60
70.0°	134.30	129.10	124.10	108.20	92.40	81.20	70.00	81.20
75.0°	120.10	114.60	109.20	93.20	77.30	63.40	49.50	63.40
80.0°	106.00	100.50	94.90	78.30	61.70	46.40	31.20	46.40
85.0°	93.50	88.00	82.40	66.40	50.50	33.70	16.90	33.70
90.0°	82.90	76.90	70.90	55.40	40.00	20.00	0.00	20.00
95.0°	72.90	66.40	59.80	45.10	30.40	15.20	0.00	15.20
100.0°	62.60	57.00	51.30	37.60	23.90	11.90	0.00	11.90
105.0°	51.30	47.60	44.00	30.60	17.10	8.50	0.00	8.50
110.0°	41.60	38.30	34.80	22.30	9.70	4.90	0.00	4.90
115.0°	32.80	29.10	25.30	12.70	0.00	0.00	0.00	0.00
120.0°	23.00	19.10	15.20	7.70	0.00	0.00	0.00	0.00
125.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	cd / klm							

	C 120.0	C 135.0	C 150.0	C 165.0	C 180.0	C 195.0	C 210.0	C 225.0
0.0°	257.10	257.10	257.10	257.10	257.10	257.10	257.10	257.10
5.0°	257.10	257.10	257.10	257.10	257.10	257.10	257.10	257.10
10.0°	255.10	255.50	255.80	255.80	255.80	255.80	255.80	255.50
15.0°	251.30	251.90	252.50	252.20	251.90	252.20	252.50	251.90
20.0°	244.30	245.80	247.40	247.40	247.40	247.40	247.40	245.80
25.0°	234.80	238.20	241.50	241.30	241.10	241.30	241.50	238.20
30.0°	224.10	228.60	233.20	233.60	234.00	233.60	233.20	228.60
35.0°	208.70	215.90	223.00	223.40	223.80	223.40	223.00	215.90
40.0°	195.40	202.50	209.40	211.20	212.90	211.20	209.40	202.50
45.0°	177.00	185.20	193.40	197.10	200.80	197.10	193.40	185.20
50.0°	161.80	170.90	179.90	182.70	185.40	182.70	179.90	170.90
55.0°	143.40	154.30	165.10	168.60	172.00	168.60	165.10	154.30
60.0°	127.50	140.90	154.20	157.10	159.80	157.10	154.20	140.90
65.0°	108.10	124.10	140.10	143.50	147.00	143.50	140.10	124.10
70.0°	92.40	108.20	124.10	129.10	134.30	129.10	124.10	108.20
75.0°	77.30	93.20	109.20	114.60	120.10	114.60	109.20	93.20
80.0°	61.70	78.30	94.90	100.50	106.00	100.50	94.90	78.30
85.0°	50.50	66.40	82.40	88.00	93.50	88.00	82.40	66.40
90.0°	40.00	55.40	70.90	76.90	82.90	76.90	70.90	55.40
95.0°	30.40	45.10	59.80	66.40	72.90	66.40	59.80	45.10
100.0°	23.90	37.60	51.30	57.00	62.60	57.00	51.30	37.60
105.0°	17.10	30.60	44.00	47.60	51.30	47.60	44.00	30.60
110.0°	9.70	22.30	34.80	38.30	41.60	38.30	34.80	22.30
115.0°	0.00	12.70	25.30	29.10	32.80	29.10	25.30	12.70
120.0°	0.00	7.70	15.20	19.10	23.00	19.10	15.20	7.70
125.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	cd / klm							

	C 240.0	C 255.0	C 270.0	C 285.0	C 300.0	C 315.0	C 330.0	C 345.0
0.0°	257.10	257.10	257.10	257.10	257.10	257.10	257.10	257.10
5.0°	257.10	256.70	256.40	256.70	257.10	257.10	257.10	257.10
10.0°	255.10	254.20	253.20	254.20	255.10	255.50	255.80	255.80
15.0°	251.30	250.00	248.80	250.00	251.30	251.90	252.50	252.20
20.0°	244.30	242.70	241.10	242.70	244.30	245.80	247.40	247.40
25.0°	234.80	232.60	230.30	232.60	234.80	238.20	241.50	241.30
30.0°	224.10	221.50	219.00	221.50	224.10	228.60	233.20	233.60
35.0°	208.70	207.20	205.60	207.20	208.70	215.90	223.00	223.40
40.0°	195.40	191.60	187.90	191.60	195.40	202.50	209.40	211.20
45.0°	177.00	173.90	170.70	173.90	177.00	185.20	193.40	197.10
50.0°	161.80	155.80	149.80	155.80	161.80	170.90	179.90	182.70
55.0°	143.40	138.40	133.30	138.40	143.40	154.30	165.10	168.60
60.0°	127.50	119.70	111.70	119.70	127.50	140.90	154.20	157.10
65.0°	108.10	98.60	89.30	98.60	108.10	124.10	140.10	143.50
70.0°	92.40	81.20	70.00	81.20	92.40	108.20	124.10	129.10
75.0°	77.30	63.40	49.50	63.40	77.30	93.20	109.20	114.60
80.0°	61.70	46.40	31.20	46.40	61.70	78.30	94.90	100.50
85.0°	50.50	33.70	16.90	33.70	50.50	66.40	82.40	88.00
90.0°	40.00	20.00	0.00	20.00	40.00	55.40	70.90	76.90
95.0°	30.40	15.20	0.00	15.20	30.40	45.10	59.80	66.40
100.0°	23.90	11.90	0.00	11.90	23.90	37.60	51.30	57.00
105.0°	17.10	8.50	0.00	8.50	17.10	30.60	44.00	47.60
110.0°	9.70	4.90	0.00	4.90	9.70	22.30	34.80	38.30
115.0°	0.00	0.00	0.00	0.00	0.00	12.70	25.30	29.10
120.0°	0.00	0.00	0.00	0.00	0.00	7.70	15.20	19.10
125.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	cd / klm							

glare rating according to UGR											
ρ-ceiling	70	70	50	50	30	70	70	50	50	30	
ρ-walls	50	30	50	30	30	50	30	50	30	30	
ρ-workplane	20	20	20	20	20	20	20	20	20	20	
room dimensions X Y		viewed crosswise					viewed endwise				
2H	2H	24.7	26.2	25.1	26.5	26.9	24.5	26.0	24.9	26.3	26.7
	3H	26.4	27.6	26.7	28.0	28.3	25.8	27.0	26.2	27.4	27.8
	4H	27.4	28.6	27.8	29.0	29.4	26.5	27.7	26.9	28.1	28.5
	6H	28.3	29.4	28.7	29.9	30.3	27.0	28.2	27.5	28.6	29.1
	8H	28.8	29.9	29.3	30.4	30.8	27.3	28.4	27.8	28.9	29.3
4H	12H	29.3	30.4	29.7	30.8	31.3	27.5	28.6	28.0	29.1	29.6
	2H	25.1	26.3	25.5	26.7	27.1	24.9	26.1	25.3	26.5	26.9
	3H	27.4	28.5	27.9	29.0	29.5	26.8	28.0	27.3	28.4	28.9
	4H	28.6	29.8	29.2	30.2	30.8	27.8	28.9	28.3	29.4	29.9
	6H	29.5	30.5	30.1	31.0	31.5	28.3	29.2	28.8	29.7	30.2
8H	8H	30.1	31.0	30.7	31.5	32.1	28.6	29.4	29.1	30.0	30.6
	12H	30.8	31.6	31.4	32.2	32.9	29.0	29.8	29.6	30.4	31.1
	4H	28.8	29.7	29.4	30.2	30.8	28.1	28.9	28.6	29.5	30.1
	6H	30.4	31.2	31.0	31.9	32.6	29.2	30.0	29.9	30.7	31.4
	8H	31.2	32.0	31.9	32.7	33.5	29.7	30.5	30.4	31.2	32.0
12H	12H	31.8	32.5	32.5	33.1	33.9	30.0	30.7	30.7	31.4	32.2
	4H	29.0	29.9	29.6	30.5	31.1	28.3	29.2	28.9	29.8	30.4
	6H	30.6	31.4	31.3	32.1	32.9	29.5	30.3	30.2	31.0	31.8
	8H	31.3	31.9	32.0	32.6	33.4	29.9	30.6	30.6	31.3	32.1
variation of observer position											
S =	1.0H	+0.1/		-0.1		+0.1/		-0.1			
	1.5H	+0.2/		-0.2		+0.2/		-0.2			
	2.0H	+0.2/		-0.3		+0.3/		-0.4			
standard-table	BK09					BK07					
correction for luminaire	14.7					12.7					
correct glare indices for a total flux of 7450lm											

class		glare rating for service value of illuminance (lx)									
A	A	1000	750	500	--	≤ 300					
1	B	2000	1500	1000	750	500	≤ 300				
2	D					2000	1000	500	≤ 300		
3	E						2000	1000	500	≤ 300	

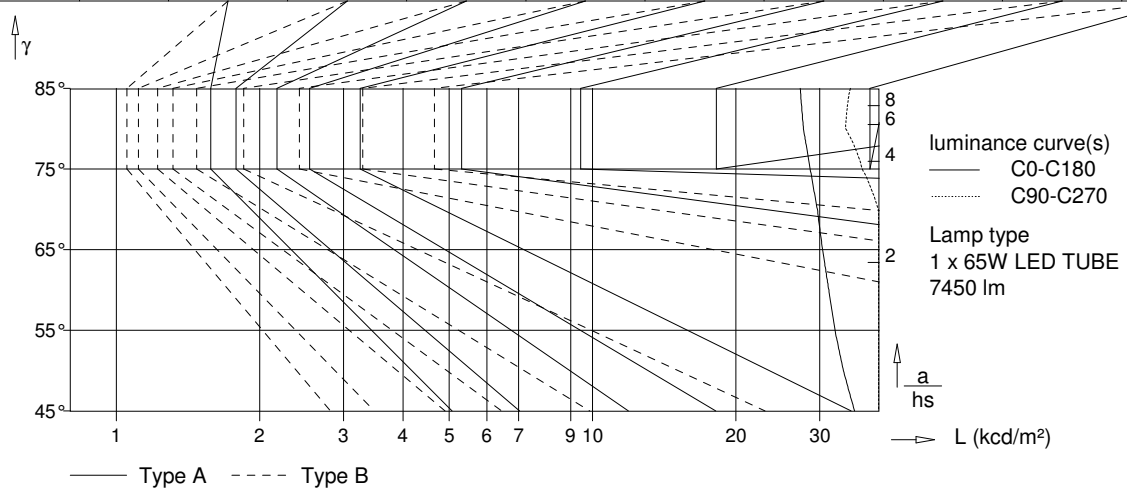
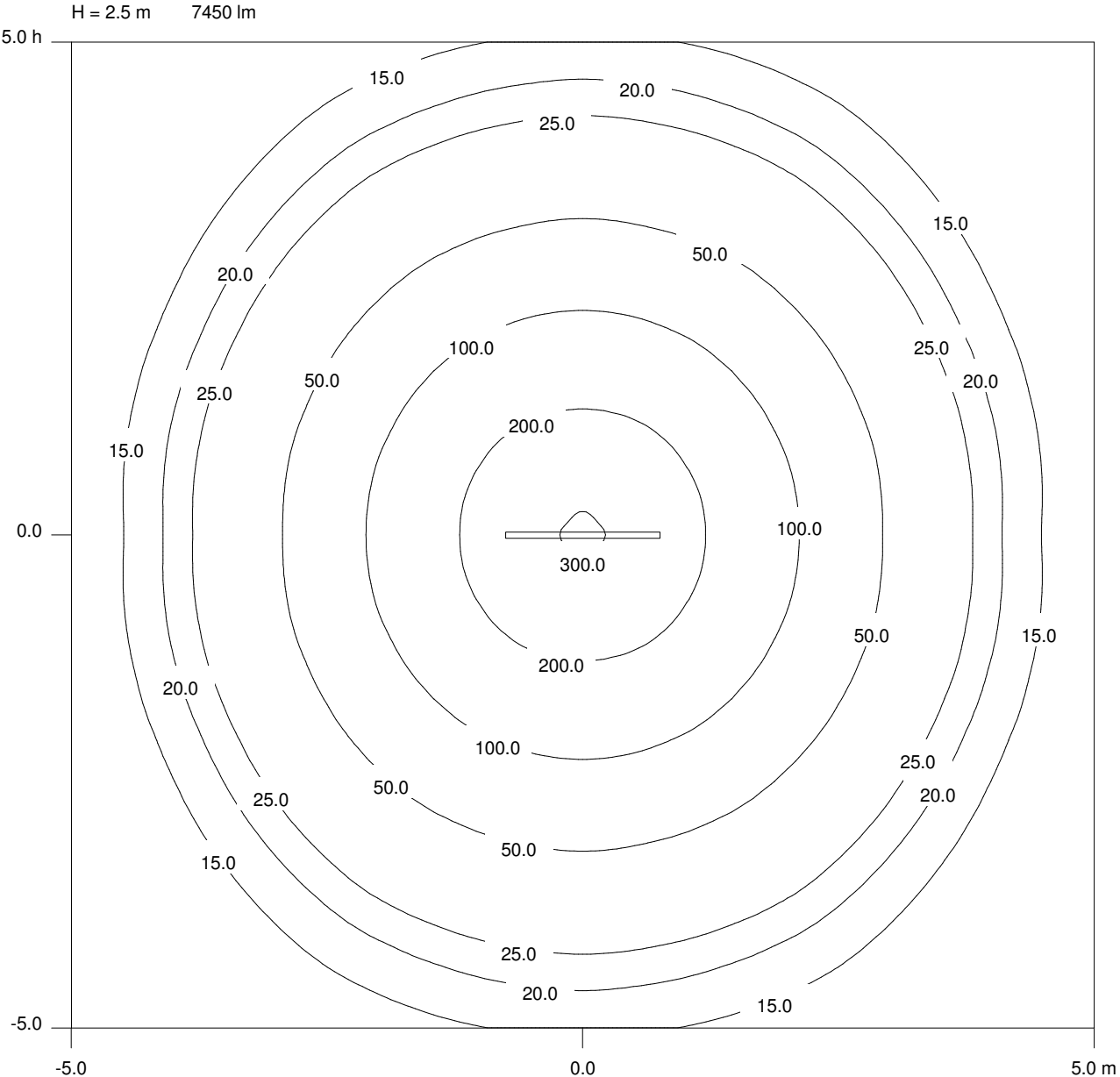


Tabelle der berechneten Leuchtdichten

gamma	C 0	C 90	C 180	C 270
45°	35496.8	47800.0	35496.8	47800.0
50°	33635.3	46056.9	33635.3	46056.9
55°	32298.4	45821.5	32298.4	45821.5
60°	31345.2	43914.3	31345.2	43914.3
65°	30422.1	41367.3	30422.1	41367.3
70°	29652.2	39831.6	29652.2	39831.6
75°	28650.7	36865.6	28650.7	36865.6
80°	27729.4	33993.9	27729.4	33993.9
85°	27304.3	34779.2	27304.3	34779.2

alle Werte in cd/m²



filename : NPH75-LED-850.LDT
 meas. number : 1070
 luminaire number : NPH75/LED/850
 date / operator : 22-05-2014

default lamp type(s)

no of lamps	lamp type	luminaire lumens	input wattage
1	75W LED TUBE	8475 lm	83.0 W

dimensions

luminaire		luminous area	
length	: 1755 mm	length	: 1755 mm
width	: 25 mm	width	: 25 mm
height	: 15 mm	height	: 15 mm

coordinate system

no of planes	: 24	samples / plane	: 37
first c-plane	: 0.0 °	first gamma-angle	: 0.0 °
step angle	: 15.0 °	step angle	: 5.0 °
last c-plane	: 345.0 °	last gamma-angle	: 180.0 °
symmetrics	: bi-symmetric		

performance

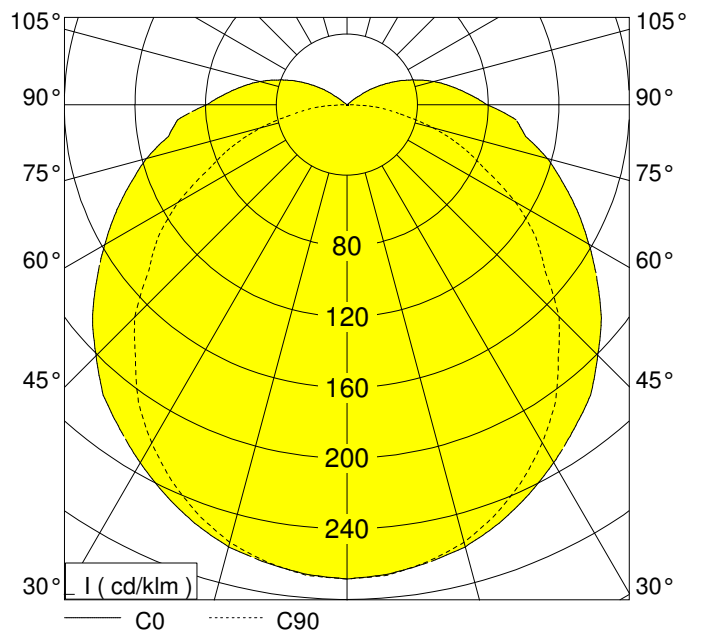
light output ratio	: 100.0 %
DFF	: 90.1 %
UFF	: 9.9 %

classification

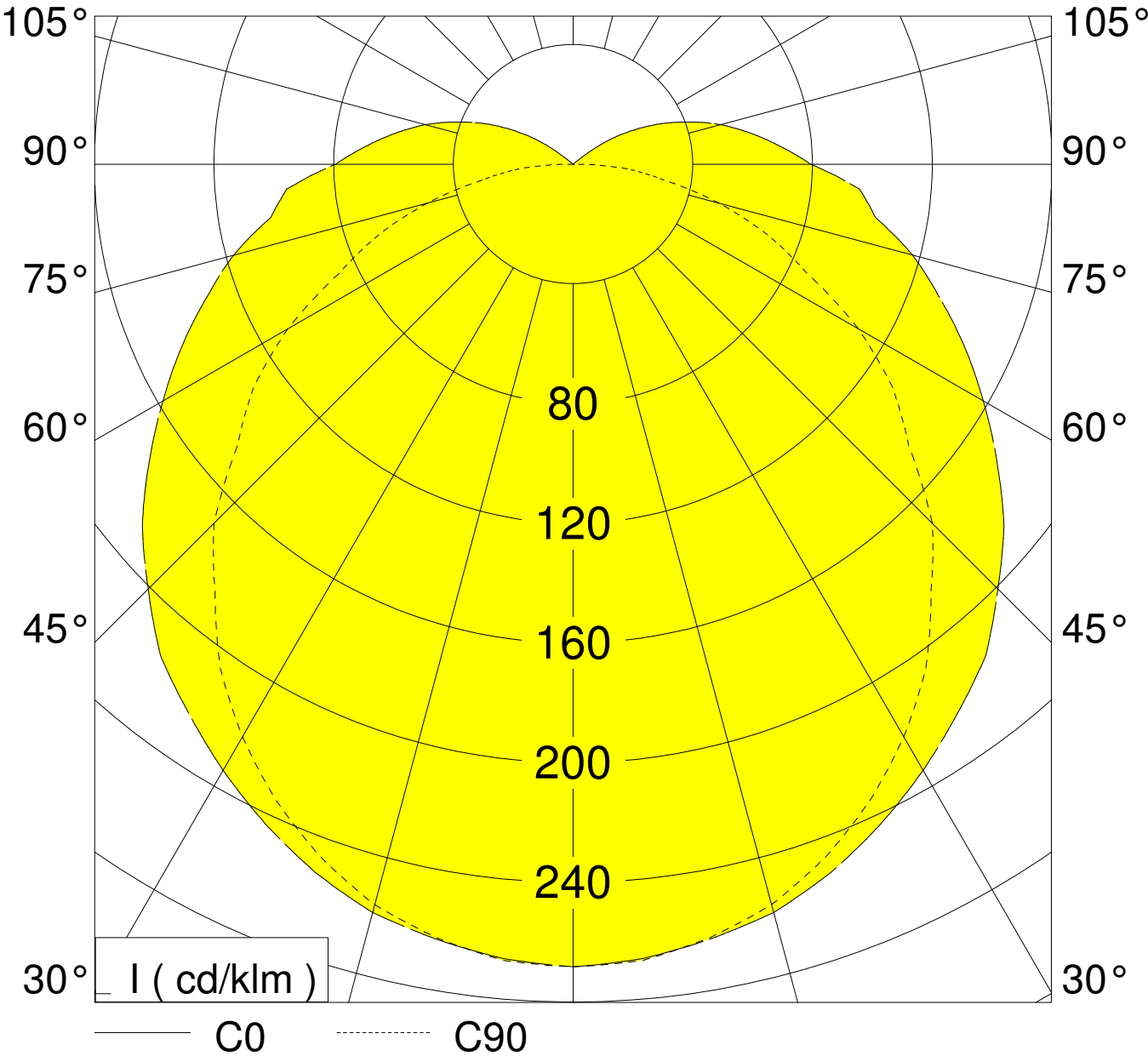
LiTG / DIN	: A31
UTE	: 0.90G+0.10T
CIE	: 40 69 88 90 100
BZ	: 5 5 5 5 6 6 6 6 6

Ambient Temperature : 25 degC
 Input Voltage : 240 V
 Circuit Watts : 83.0W
 Amps (running) : 0.349A
 V.A. : 83.84 VA
 Power Factor : 0.99
 CCT : 5086K (measured): 5000K (nominal)

Output current DC : 1580 mA
 Output Voltage DC : 47.0 V
 Output Power : 74.26 W
 Luminaire Lm/CircWatt : 102 LumLm/circW
 Driver Efficiency : 89%
 Driver Details : OPOTRONIC OTFIT 80/220-240
 1196CSL



Measurements made are in absolute units. The luminaire is treated as if it was a lamp as it is not possible to measure each LED separately - hence an LOR of 100%
The Light output ratio in real terms would be less than 100%. If it was possible to compare real LED lumens with the total output from the luminaire we could obtain an actual LOR
This also means that the total lumens emitted from the LED's would be greater than the 8475 Lumens measured. In reality the LED lumens would approximate to this value divided by the actual Light Output.



	C 0.0	C 15.0	C 30.0	C 45.0	C 60.0	C 75.0	C 90.0	C 105.0
0.0°	268.00	268.00	268.00	268.00	268.00	268.00	268.00	268.00
5.0°	266.30	266.60	266.90	266.30	265.80	266.30	266.90	266.30
10.0°	262.80	262.90	263.00	262.40	261.80	262.10	262.30	262.10
15.0°	258.70	258.00	257.30	256.20	255.10	255.60	256.00	255.60
20.0°	251.70	251.10	250.50	248.30	246.10	246.20	246.30	246.20
25.0°	243.10	242.30	241.60	239.40	237.20	235.80	234.50	235.80
30.0°	233.70	229.50	225.20	224.50	223.70	222.20	220.80	222.20
35.0°	223.80	220.30	216.70	211.90	206.90	206.20	205.40	206.20
40.0°	214.30	209.40	203.30	198.60	194.00	190.00	186.00	190.00
45.0°	200.60	195.40	190.30	183.10	176.10	172.80	169.60	172.80
50.0°	187.80	182.50	177.40	167.80	158.10	152.10	146.30	152.10
55.0°	172.70	168.30	163.90	152.80	141.90	136.10	130.30	136.10
60.0°	158.10	153.90	149.70	136.90	123.90	116.90	110.00	116.90
65.0°	144.20	139.70	135.10	120.70	106.30	96.20	86.10	96.20
70.0°	130.20	125.90	121.60	108.00	94.30	81.70	69.10	81.70
75.0°	117.40	111.50	105.50	91.50	77.50	64.00	50.50	64.00
80.0°	102.50	98.20	93.80	79.80	65.70	48.30	30.80	48.30
85.0°	96.00	89.00	82.00	67.80	53.50	35.90	18.20	35.90
90.0°	79.30	74.60	69.90	56.60	43.40	21.70	0.00	21.70
95.0°	69.30	65.30	61.40	47.90	34.40	17.10	0.00	17.10
100.0°	60.00	56.20	52.30	40.40	28.40	14.20	0.00	14.20
105.0°	51.10	47.80	44.50	32.50	20.50	10.30	0.00	10.30
110.0°	41.20	38.50	35.80	24.20	12.80	6.40	0.00	6.40
115.0°	31.90	28.70	25.50	12.80	0.00	0.00	0.00	0.00
120.0°	22.10	19.50	16.90	8.50	0.00	0.00	0.00	0.00
125.0°	12.60	10.00	7.30	3.70	0.00	0.00	0.00	0.00
130.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	cd / klm							

	C 120.0	C 135.0	C 150.0	C 165.0	C 180.0	C 195.0	C 210.0	C 225.0
0.0°	268.00	268.00	268.00	268.00	268.00	268.00	268.00	268.00
5.0°	265.80	266.30	266.90	266.60	266.30	266.60	266.90	266.30
10.0°	261.80	262.40	263.00	262.90	262.80	262.90	263.00	262.40
15.0°	255.10	256.20	257.30	258.00	258.70	258.00	257.30	256.20
20.0°	246.10	248.30	250.50	251.10	251.70	251.10	250.50	248.30
25.0°	237.20	239.40	241.60	242.30	243.10	242.30	241.60	239.40
30.0°	223.70	224.50	225.20	229.50	233.70	229.50	225.20	224.50
35.0°	206.90	211.90	216.70	220.30	223.80	220.30	216.70	211.90
40.0°	194.00	198.60	203.30	209.40	214.30	209.40	203.30	198.60
45.0°	176.10	183.10	190.30	195.40	200.60	195.40	190.30	183.10
50.0°	158.10	167.80	177.40	182.50	187.80	182.50	177.40	167.80
55.0°	141.90	152.80	163.90	168.30	172.70	168.30	163.90	152.80
60.0°	123.90	136.90	149.70	153.90	158.10	153.90	149.70	136.90
65.0°	106.30	120.70	135.10	139.70	144.20	139.70	135.10	120.70
70.0°	94.30	108.00	121.60	125.90	130.20	125.90	121.60	108.00
75.0°	77.50	91.50	105.50	111.50	117.40	111.50	105.50	91.50
80.0°	65.70	79.80	93.80	98.20	102.50	98.20	93.80	79.80
85.0°	53.50	67.80	82.00	89.00	96.00	89.00	82.00	67.80
90.0°	43.40	56.60	69.90	74.60	79.30	74.60	69.90	56.60
95.0°	34.40	47.90	61.40	65.30	69.30	65.30	61.40	47.90
100.0°	28.40	40.40	52.30	56.20	60.00	56.20	52.30	40.40
105.0°	20.50	32.50	44.50	47.80	51.10	47.80	44.50	32.50
110.0°	12.80	24.20	35.80	38.50	41.20	38.50	35.80	24.20
115.0°	0.00	12.80	25.50	28.70	31.90	28.70	25.50	12.80
120.0°	0.00	8.50	16.90	19.50	22.10	19.50	16.90	8.50
125.0°	0.00	3.70	7.30	10.00	12.60	10.00	7.30	3.70
130.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	cd / klm							

	C 240.0	C 255.0	C 270.0	C 285.0	C 300.0	C 315.0	C 330.0	C 345.0
0.0°	268.00	268.00	268.00	268.00	268.00	268.00	268.00	268.00
5.0°	265.80	266.30	266.90	266.30	265.80	266.30	266.90	266.60
10.0°	261.80	262.10	262.30	262.10	261.80	262.40	263.00	262.90
15.0°	255.10	255.60	256.00	255.60	255.10	256.20	257.30	258.00
20.0°	246.10	246.20	246.30	246.20	246.10	248.30	250.50	251.10
25.0°	237.20	235.80	234.50	235.80	237.20	239.40	241.60	242.30
30.0°	223.70	222.20	220.80	222.20	223.70	224.50	225.20	229.50
35.0°	206.90	206.20	205.40	206.20	206.90	211.90	216.70	220.30
40.0°	194.00	190.00	186.00	190.00	194.00	198.60	203.30	209.40
45.0°	176.10	172.80	169.60	172.80	176.10	183.10	190.30	195.40
50.0°	158.10	152.10	146.30	152.10	158.10	167.80	177.40	182.50
55.0°	141.90	136.10	130.30	136.10	141.90	152.80	163.90	168.30
60.0°	123.90	116.90	110.00	116.90	123.90	136.90	149.70	153.90
65.0°	106.30	96.20	86.10	96.20	106.30	120.70	135.10	139.70
70.0°	94.30	81.70	69.10	81.70	94.30	108.00	121.60	125.90
75.0°	77.50	64.00	50.50	64.00	77.50	91.50	105.50	111.50
80.0°	65.70	48.30	30.80	48.30	65.70	79.80	93.80	98.20
85.0°	53.50	35.90	18.20	35.90	53.50	67.80	82.00	89.00
90.0°	43.40	21.70	0.00	21.70	43.40	56.60	69.90	74.60
95.0°	34.40	17.10	0.00	17.10	34.40	47.90	61.40	65.30
100.0°	28.40	14.20	0.00	14.20	28.40	40.40	52.30	56.20
105.0°	20.50	10.30	0.00	10.30	20.50	32.50	44.50	47.80
110.0°	12.80	6.40	0.00	6.40	12.80	24.20	35.80	38.50
115.0°	0.00	0.00	0.00	0.00	0.00	12.80	25.50	28.70
120.0°	0.00	0.00	0.00	0.00	0.00	8.50	16.90	19.50
125.0°	0.00	0.00	0.00	0.00	0.00	3.70	7.30	10.00
130.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	cd / klm							

glare rating according to UGR											
ρ-ceiling	70	70	50	50	30	70	70	50	50	30	
ρ-walls	50	30	50	30	30	50	30	50	30	30	
ρ-workplane	20	20	20	20	20	20	20	20	20	20	
room dimensions X Y		viewed crosswise					viewed endwise				
2H	2H	24.5	25.9	24.9	26.3	26.7	24.2	25.7	24.6	26.1	26.5
	3H	26.1	27.3	26.5	27.7	28.1	25.6	26.8	26.0	27.2	27.6
	4H	27.1	28.3	27.5	28.7	29.1	26.3	27.5	26.8	27.9	28.3
	6H	28.0	29.2	28.5	29.6	30.1	26.9	28.0	27.3	28.5	28.9
	8H	28.5	29.7	29.0	30.1	30.6	27.2	28.3	27.6	28.7	29.2
4H	12H	29.0	30.2	29.5	30.6	31.1	27.4	28.5	27.9	29.0	29.5
	2H	24.9	26.1	25.3	26.5	26.9	24.7	25.9	25.1	26.3	26.7
	3H	27.1	28.3	27.6	28.7	29.2	26.6	27.8	27.1	28.2	28.7
	4H	28.4	29.5	28.9	30.0	30.5	27.6	28.7	28.1	29.2	29.8
	6H	29.3	30.2	29.8	30.7	31.3	28.1	29.1	28.7	29.6	30.2
8H	8H	29.8	30.7	30.4	31.3	31.9	28.5	29.4	29.1	29.9	30.5
	12H	30.5	31.4	31.2	32.0	32.7	28.9	29.8	29.5	30.4	31.1
	4H	28.6	29.4	29.1	30.0	30.6	27.9	28.8	28.5	29.3	29.9
	6H	30.1	31.0	30.8	31.6	32.4	29.1	30.0	29.8	30.6	31.3
	8H	30.9	31.7	31.6	32.4	33.2	29.7	30.5	30.4	31.2	32.0
12H	12H	31.6	32.2	32.3	32.9	33.8	30.0	30.7	30.7	31.4	32.2
	4H	28.8	29.6	29.4	30.2	30.9	28.2	29.0	28.8	29.6	30.3
	6H	30.4	31.2	31.1	31.9	32.7	29.4	30.2	30.1	30.9	31.7
	8H	31.1	31.7	31.7	32.4	33.2	29.9	30.5	30.6	31.2	32.0
variation of observer position											
S =	1.0H	+0.1/		-0.1		+0.1/		-0.1			
	1.5H	+0.2/		-0.2		+0.2/		-0.2			
	2.0H	+0.2/		-0.3		+0.3/		-0.4			
standard-table	BK09					BK07					
correction for luminaire	14.5					12.5					
correct glare indices for a total flux of 8475lm											

class		glare rating for service value of illuminance (lx)									
A	A	1000	750	500	--	≤ 300					
1	B	2000	1500	1000	750	500	≤ 300				
2	D					2000	1000	500	≤ 300		
3	E						2000	1000	500	≤ 300	

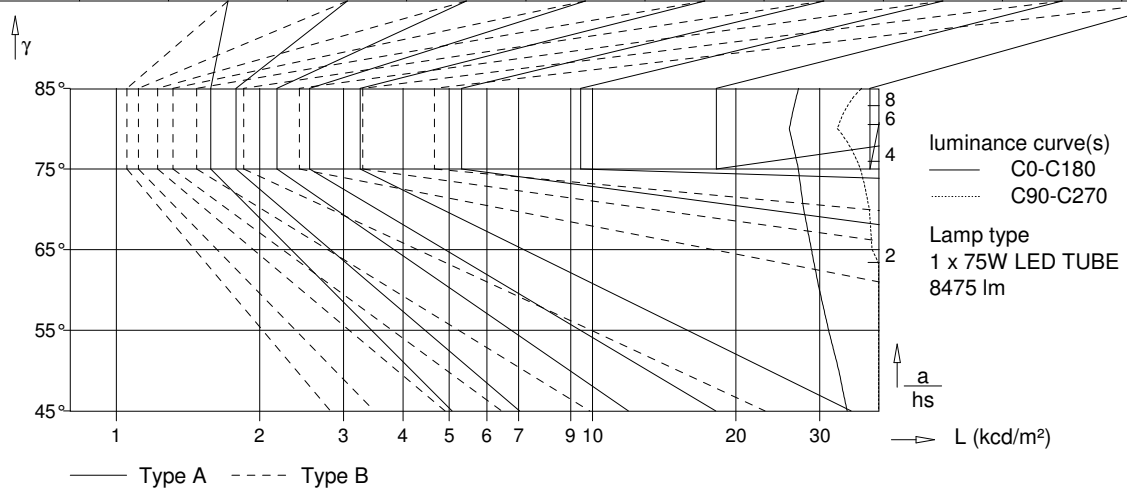
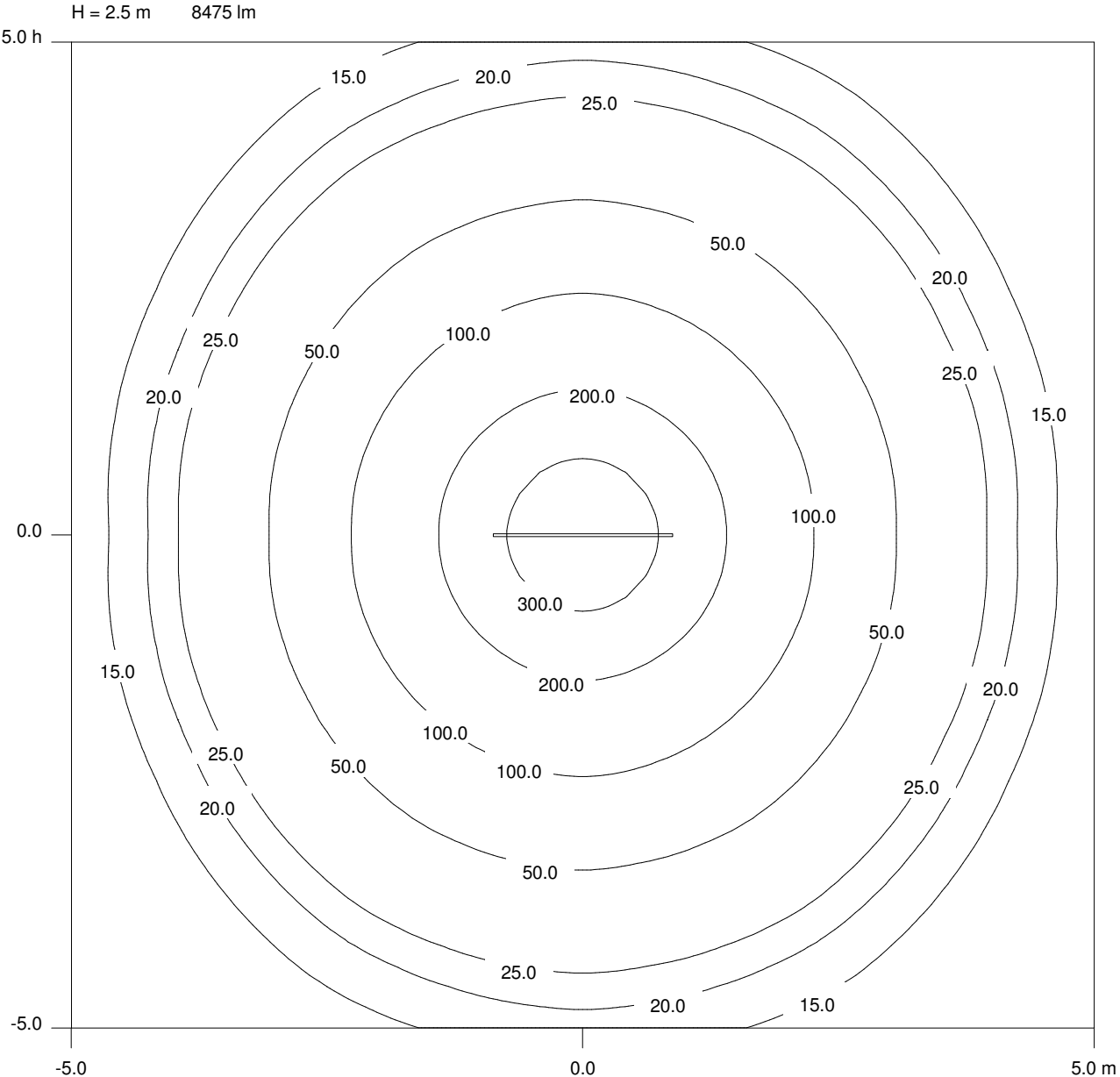


Tabelle der berechneten Leuchtdichten

gamma	C 0	C 90	C 180	C 270
45°	34249.1	45937.5	34249.1	45937.5
50°	32905.9	43520.9	32905.9	43520.9
55°	31321.1	43351.7	31321.1	43351.7
60°	29951.5	41875.8	29951.5	41875.8
65°	28822.4	38644.6	28822.4	38644.6
70°	27764.1	38130.1	27764.1	38130.1
75°	27049.1	36524.2	27049.1	36524.2
80°	25897.1	32677.3	25897.1	32677.3
85°	27076.0	36746.6	27076.0	36746.6

alle Werte in cd/m²



filename : NPH30-LED-850.LDT
 meas. number : 3177
 luminaire number : NPH30/LED/850
 date / operator : 06-02-2014

default lamp type(s)

no of lamps	lamp type	luminaire lumens	input wattage
1	4ft LED strip with opal diffuser & separate driver	3370 lm	30.7 W

dimensions

luminaire		luminous area	
length	: 1220 mm	length	: 1190 mm
width	: 60 mm	width	: 25 mm
height	: 65 mm	height	: 15 mm

coordinate system

no of planes	: 24	samples / plane	: 37
first c-plane	: 0.0 °	first gamma-angle	: 0.0 °
step angle	: 15.0 °	step angle	: 5.0 °
last c-plane	: 345.0 °	last gamma-angle	: 180.0 °
symmetrics	: bi-symmetric		

performance

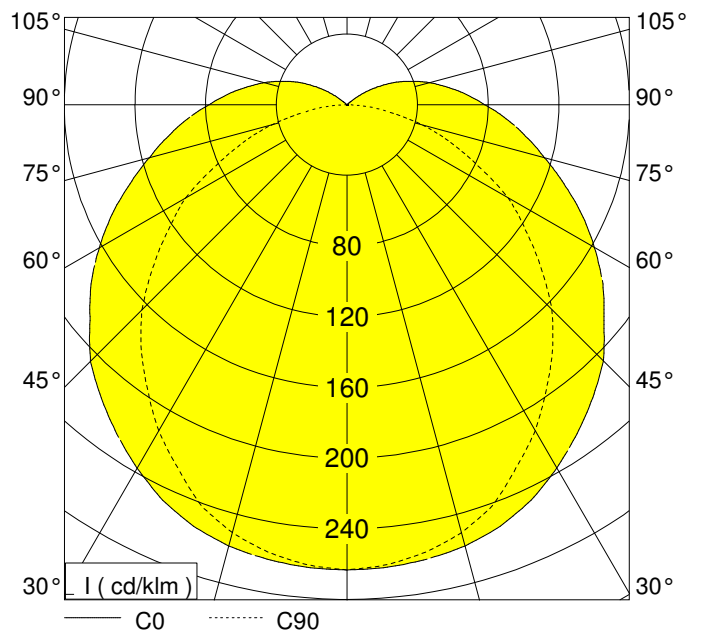
light output ratio	: 100.0 %
DFF	: 90.1 %
UFF	: 9.9 %

classification

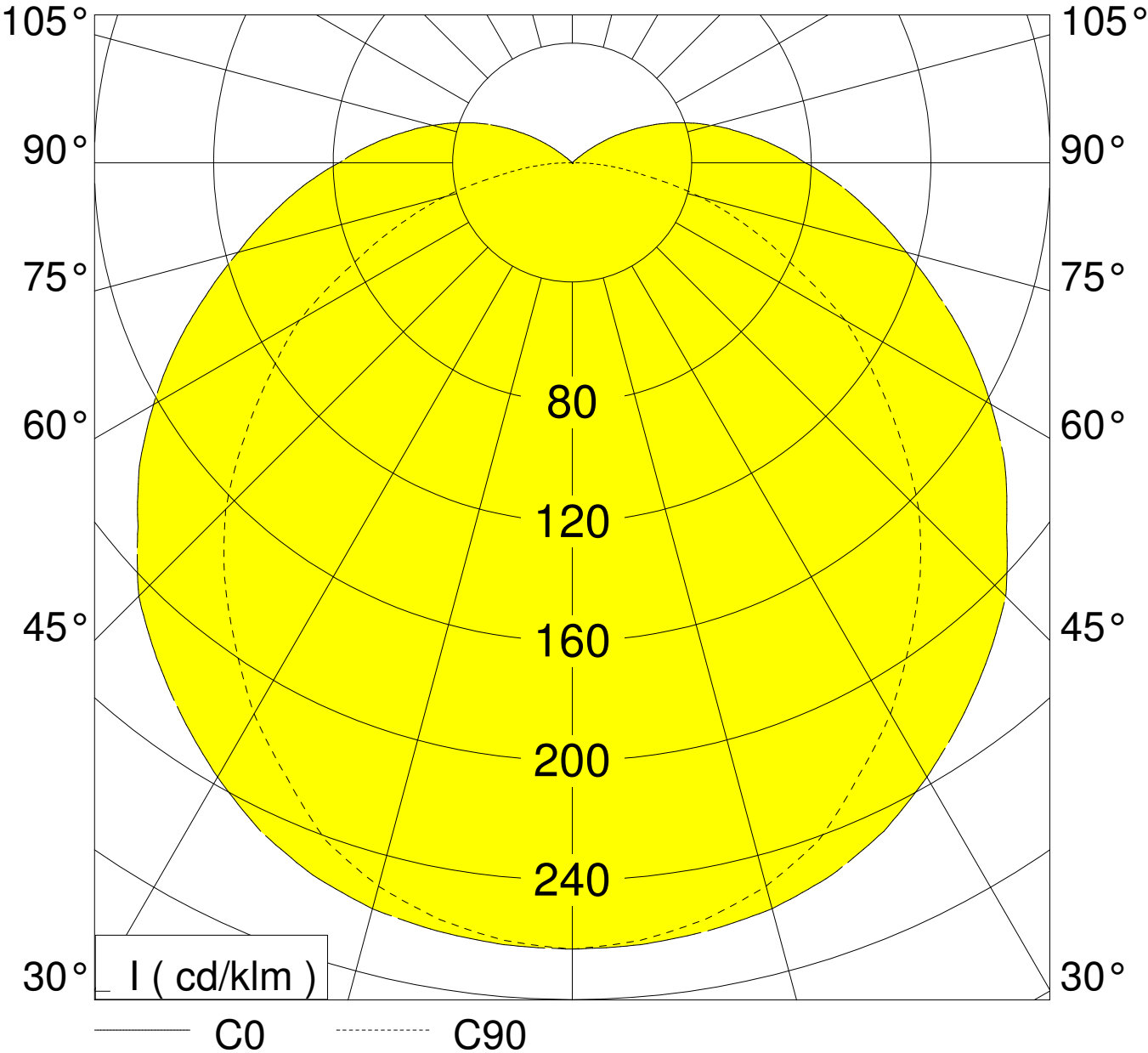
LiTG / DIN	: A31
UTE	: 0.90G+0.10T
CIE	: 40 69 88 90 100
BZ	: 5 5 5 5 5 6 6 6 6

Ambient Temperature	: 25 degC
Input Voltage	: 240 V
Circuit Watts	: 30.7W
Amps (running)	: 0.136A
V.A.	: 32.66VA
Power Factor	: 0.94
CCT	: 4880K (measured): 4800K (nominal)

Output current DC	: 700mA
Output Voltage DC	: 36.9V
Output Power	: 25.83watts
Luminaire Lm/CircWatt	: 110
Driver Efficiency	: 84%
Driver Details	: OSRAM OPOTRONIC OTFIT 35/220-240/700CSL



Measurements made are in absolute units
The luminaire is treated as if it was a lamp as it is not possible to measure each LED separately - hence an LOR of 100%
The Light output ratio in real terms would be less than 100%. If it was possible to compare real LED lumens with the total output from the luminaire we could obtain an actual LOR
This also means that the total lumens emitted from the LED's would be greater than the 3370 lumens measured.
In reality the LED lumens would approximate to this value divided by the actual Light Output



	C 0.0	C 15.0	C 30.0	C 45.0	C 60.0	C 75.0	C 90.0	C 105.0
0.0°	262.90	262.90	262.90	262.90	262.90	262.90	262.90	262.90
5.0°	262.40	262.10	261.90	261.50	261.00	261.00	261.00	261.00
10.0°	260.80	260.30	259.70	258.90	258.10	257.50	256.80	257.50
15.0°	258.20	257.20	256.20	254.40	252.60	251.50	250.40	251.50
20.0°	253.50	251.80	250.20	247.00	243.70	242.40	241.10	242.40
25.0°	246.60	244.50	242.30	238.30	234.40	230.40	226.40	230.40
30.0°	237.20	234.90	232.70	227.70	222.70	217.80	212.80	217.80
35.0°	226.90	224.70	222.50	214.80	207.10	201.80	196.50	201.80
40.0°	216.20	213.40	210.50	201.90	193.30	187.00	180.90	187.00
45.0°	205.00	201.00	197.00	185.50	174.00	168.90	163.90	168.90
50.0°	189.60	185.00	180.50	169.20	158.10	150.70	143.20	150.70
55.0°	176.70	172.10	167.70	154.70	141.80	132.50	123.20	132.50
60.0°	161.70	157.00	152.50	139.00	125.50	115.40	105.40	115.40
65.0°	146.50	142.50	138.60	124.20	109.80	95.80	81.80	95.80
70.0°	130.50	126.80	123.10	108.70	94.20	78.40	62.50	78.40
75.0°	115.70	111.60	107.30	92.30	77.20	60.70	44.40	60.70
80.0°	102.70	98.20	93.70	79.80	66.00	45.40	24.80	45.40
85.0°	90.40	86.20	81.80	67.00	52.20	32.00	11.80	32.00
90.0°	78.00	74.20	70.60	56.40	42.20	21.10	0.00	21.10
95.0°	67.80	63.90	60.00	47.20	34.50	17.30	0.00	17.30
100.0°	57.70	54.70	51.70	39.50	27.30	13.60	0.00	13.60
105.0°	48.40	45.50	42.40	31.40	20.30	10.20	0.00	10.20
110.0°	39.10	37.20	35.30	24.20	13.20	6.60	0.00	6.60
115.0°	30.10	27.90	25.70	15.40	5.00	2.50	0.00	2.50
120.0°	20.80	18.70	16.60	10.20	3.90	1.90	0.00	1.90
125.0°	11.90	10.10	8.30	4.20	0.00	0.00	0.00	0.00
130.0°	3.30	3.60	3.90	1.90	0.00	0.00	0.00	0.00
135.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	cd / klm							

	C 120.0	C 135.0	C 150.0	C 165.0	C 180.0	C 195.0	C 210.0	C 225.0
0.0°	262.90	262.90	262.90	262.90	262.90	262.90	262.90	262.90
5.0°	261.00	261.50	261.90	262.10	262.40	262.10	261.90	261.50
10.0°	258.10	258.90	259.70	260.30	260.80	260.30	259.70	258.90
15.0°	252.60	254.40	256.20	257.20	258.20	257.20	256.20	254.40
20.0°	243.70	247.00	250.20	251.80	253.50	251.80	250.20	247.00
25.0°	234.40	238.30	242.30	244.50	246.60	244.50	242.30	238.30
30.0°	222.70	227.70	232.70	234.90	237.20	234.90	232.70	227.70
35.0°	207.10	214.80	222.50	224.70	226.90	224.70	222.50	214.80
40.0°	193.30	201.90	210.50	213.40	216.20	213.40	210.50	201.90
45.0°	174.00	185.50	197.00	201.00	205.00	201.00	197.00	185.50
50.0°	158.10	169.20	180.50	185.00	189.60	185.00	180.50	169.20
55.0°	141.80	154.70	167.70	172.10	176.70	172.10	167.70	154.70
60.0°	125.50	139.00	152.50	157.00	161.70	157.00	152.50	139.00
65.0°	109.80	124.20	138.60	142.50	146.50	142.50	138.60	124.20
70.0°	94.20	108.70	123.10	126.80	130.50	126.80	123.10	108.70
75.0°	77.20	92.30	107.30	111.60	115.70	111.60	107.30	92.30
80.0°	66.00	79.80	93.70	98.20	102.70	98.20	93.70	79.80
85.0°	52.20	67.00	81.80	86.20	90.40	86.20	81.80	67.00
90.0°	42.20	56.40	70.60	74.20	78.00	74.20	70.60	56.40
95.0°	34.50	47.20	60.00	63.90	67.80	63.90	60.00	47.20
100.0°	27.30	39.50	51.70	54.70	57.70	54.70	51.70	39.50
105.0°	20.30	31.40	42.40	45.50	48.40	45.50	42.40	31.40
110.0°	13.20	24.20	35.30	37.20	39.10	37.20	35.30	24.20
115.0°	5.00	15.40	25.70	27.90	30.10	27.90	25.70	15.40
120.0°	3.90	10.20	16.60	18.70	20.80	18.70	16.60	10.20
125.0°	0.00	4.20	8.30	10.10	11.90	10.10	8.30	4.20
130.0°	0.00	1.90	3.90	3.60	3.30	3.60	3.90	1.90
135.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	cd / klm							

	C 240.0	C 255.0	C 270.0	C 285.0	C 300.0	C 315.0	C 330.0	C 345.0
0.0°	262.90	262.90	262.90	262.90	262.90	262.90	262.90	262.90
5.0°	261.00	261.00	261.00	261.00	261.00	261.50	261.90	262.10
10.0°	258.10	257.50	256.80	257.50	258.10	258.90	259.70	260.30
15.0°	252.60	251.50	250.40	251.50	252.60	254.40	256.20	257.20
20.0°	243.70	242.40	241.10	242.40	243.70	247.00	250.20	251.80
25.0°	234.40	230.40	226.40	230.40	234.40	238.30	242.30	244.50
30.0°	222.70	217.80	212.80	217.80	222.70	227.70	232.70	234.90
35.0°	207.10	201.80	196.50	201.80	207.10	214.80	222.50	224.70
40.0°	193.30	187.00	180.90	187.00	193.30	201.90	210.50	213.40
45.0°	174.00	168.90	163.90	168.90	174.00	185.50	197.00	201.00
50.0°	158.10	150.70	143.20	150.70	158.10	169.20	180.50	185.00
55.0°	141.80	132.50	123.20	132.50	141.80	154.70	167.70	172.10
60.0°	125.50	115.40	105.40	115.40	125.50	139.00	152.50	157.00
65.0°	109.80	95.80	81.80	95.80	109.80	124.20	138.60	142.50
70.0°	94.20	78.40	62.50	78.40	94.20	108.70	123.10	126.80
75.0°	77.20	60.70	44.40	60.70	77.20	92.30	107.30	111.60
80.0°	66.00	45.40	24.80	45.40	66.00	79.80	93.70	98.20
85.0°	52.20	32.00	11.80	32.00	52.20	67.00	81.80	86.20
90.0°	42.20	21.10	0.00	21.10	42.20	56.40	70.60	74.20
95.0°	34.50	17.30	0.00	17.30	34.50	47.20	60.00	63.90
100.0°	27.30	13.60	0.00	13.60	27.30	39.50	51.70	54.70
105.0°	20.30	10.20	0.00	10.20	20.30	31.40	42.40	45.50
110.0°	13.20	6.60	0.00	6.60	13.20	24.20	35.30	37.20
115.0°	5.00	2.50	0.00	2.50	5.00	15.40	25.70	27.90
120.0°	3.90	1.90	0.00	1.90	3.90	10.20	16.60	18.70
125.0°	0.00	0.00	0.00	0.00	0.00	4.20	8.30	10.10
130.0°	0.00	0.00	0.00	0.00	0.00	1.90	3.90	3.60
135.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	cd / klm							

glare rating according to UGR											
ρ-ceiling	70	70	50	50	30	70	70	50	50	30	
ρ-walls	50	30	50	30	30	50	30	50	30	30	
ρ-workplane	20	20	20	20	20	20	20	20	20	20	
room dimensions X Y		viewed crosswise					viewed endwise				
2H	2H	22.7	24.2	23.1	24.6	25.0	22.3	23.8	22.7	24.1	24.5
	3H	24.3	25.6	24.8	26.0	26.3	23.5	24.8	23.9	25.1	25.5
	4H	25.3	26.5	25.7	26.9	27.3	24.2	25.4	24.6	25.8	26.2
	6H	26.2	27.3	26.7	27.8	28.2	24.7	25.8	25.1	26.2	26.7
	8H	26.7	27.8	27.2	28.3	28.8	24.9	26.0	25.3	26.5	26.9
	12H	27.2	28.3	27.6	28.7	29.2	25.0	26.2	25.5	26.6	27.1
4H	2H	23.1	24.3	23.6	24.7	25.2	22.8	24.0	23.2	24.4	24.8
	3H	25.4	26.5	25.9	27.0	27.5	24.7	25.8	25.1	26.2	26.7
	4H	26.6	27.7	27.1	28.2	28.7	25.6	26.7	26.1	27.2	27.7
	6H	27.5	28.4	28.0	28.9	29.5	26.0	26.9	26.6	27.4	28.0
	8H	28.0	28.9	28.6	29.4	30.0	26.3	27.2	26.9	27.7	28.3
	12H	28.7	29.5	29.3	30.1	30.8	26.6	27.5	27.2	28.1	28.8
8H	4H	26.8	27.6	27.3	28.2	28.8	25.9	26.8	26.5	27.3	27.9
	6H	28.3	29.2	29.0	29.8	30.5	27.1	27.9	27.7	28.5	29.3
	8H	29.1	29.9	29.8	30.6	31.4	27.6	28.4	28.2	29.0	29.8
	12H	29.7	30.4	30.4	31.1	31.9	27.8	28.4	28.5	29.1	30.0
12H	4H	27.0	27.8	27.6	28.4	29.1	26.2	27.0	26.8	27.6	28.3
	6H	28.6	29.3	29.2	30.0	30.8	27.4	28.2	28.1	28.9	29.7
	8H	29.2	29.9	29.9	30.6	31.4	27.8	28.4	28.5	29.1	29.9
variation of observer position											
S =	1.0H	+0.1/		-0.1		+0.1/		-0.1			
	1.5H	+0.2/		-0.2		+0.2/		-0.2			
	2.0H	+0.2/		-0.3		+0.3/		-0.5			
standard-table	BK09					BK07					
correction for luminaire	12.6					10.4					
correct glare indices for a total flux of 3370lm											

class		glare rating for service value of illuminance (lx)									
A	A	1000	750	500	--	≤ 300					
1	B	2000	1500	1000	750	500	≤ 300				
2	D					2000	1000	500	≤ 300		
3	E						2000	1000	500	≤ 300	

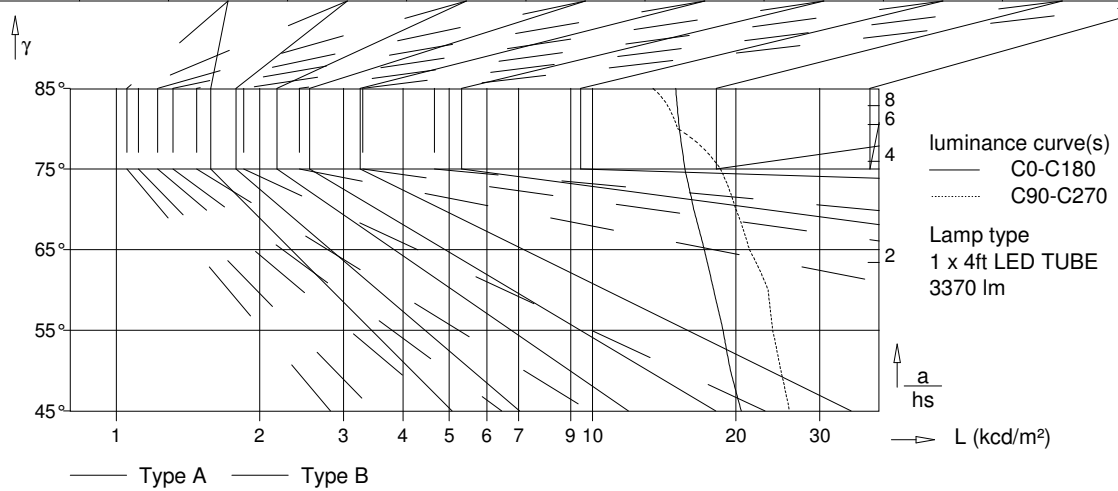
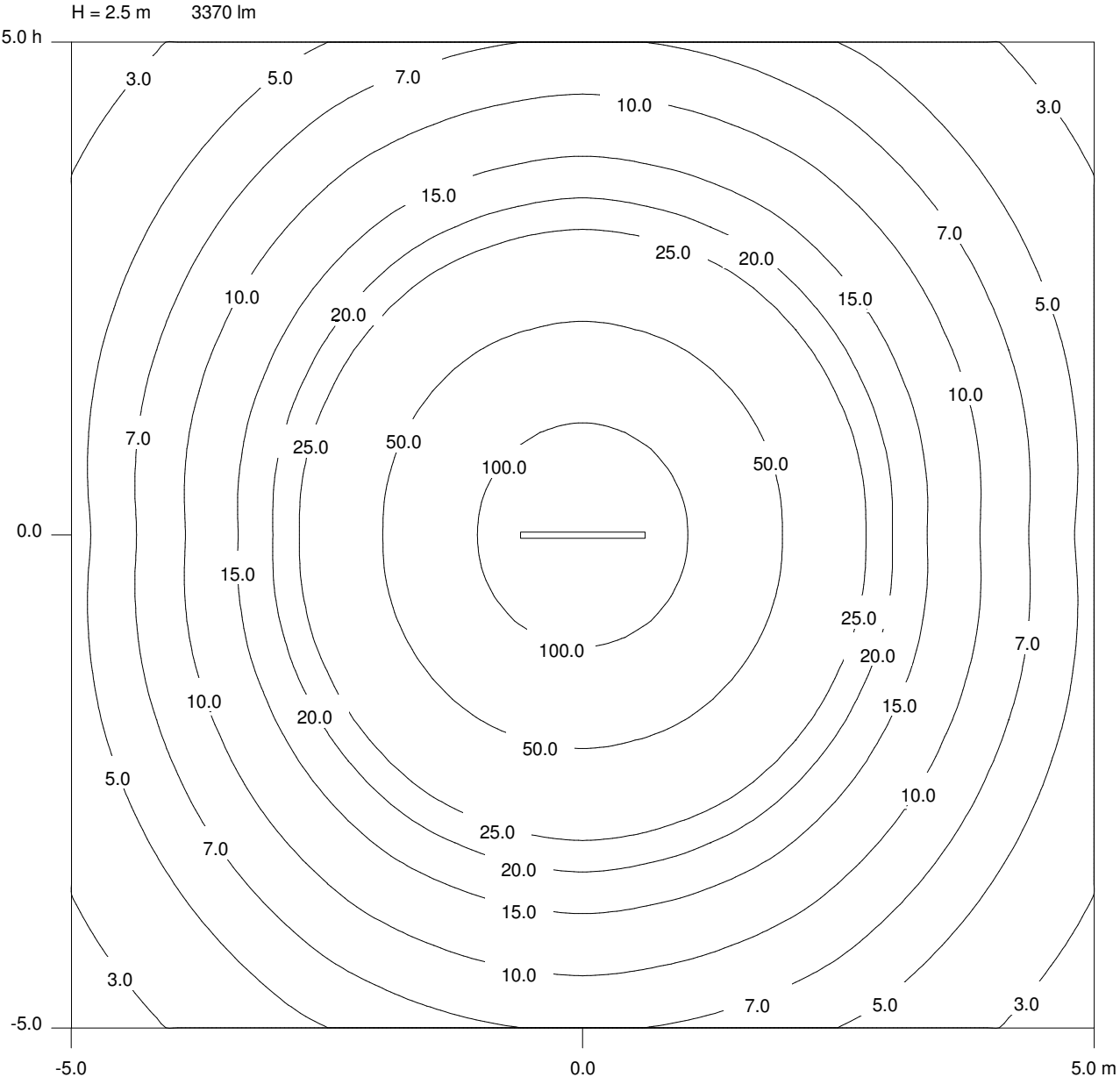


Tabelle der berechneten Leuchtdichten

gamma	C 0	C 90	C 180	C 270
45°	20525.4	25929.7	20525.4	25929.7
50°	19482.1	24862.4	19482.1	24862.4
55°	18793.3	23900.9	18793.3	23900.9
60°	17964.6	23368.7	17964.6	23368.7
65°	17172.1	21348.3	17172.1	21348.3
70°	16319.4	20007.2	16319.4	20007.2
75°	15632.9	18559.5	15632.9	18559.5
80°	15216.6	15098.6	15216.6	15098.6
85°	14952.1	13405.2	14952.1	13405.2

alle Werte in cd/m²



filename : NPH40-LED-850.LDT
 meas. number : 3196
 luminaire number : NPH40-LED-850
 date / operator : 17-09-2013

default lamp type(s)

no of lamps	lamp type	luminaire lumens	input wattage
1	LED TUBE	4600 lm	40.0 W

dimensions

luminaire		luminous area	
length	: 1525 mm	length	: 1490 mm
width	: 58 mm	width	: 25 mm
height	: 60 mm	height	: 10 mm

coordinate system

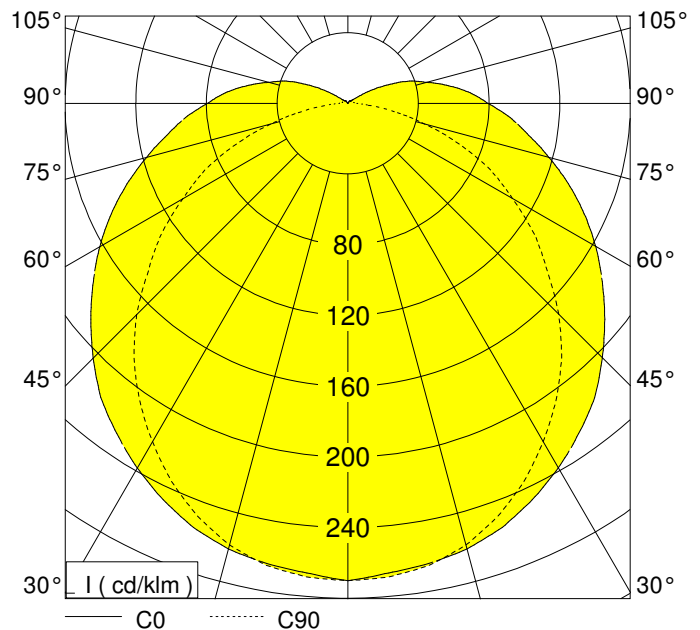
no of planes	: 24	samples / plane	: 37
first c-plane	: 0.0 °	first gamma-angle	: 0.0 °
step angle	: 15.0 °	step angle	: 5.0 °
last c-plane	: 345.0 °	last gamma-angle	: 180.0 °
symmetrics	: bi-symmetric		

performance

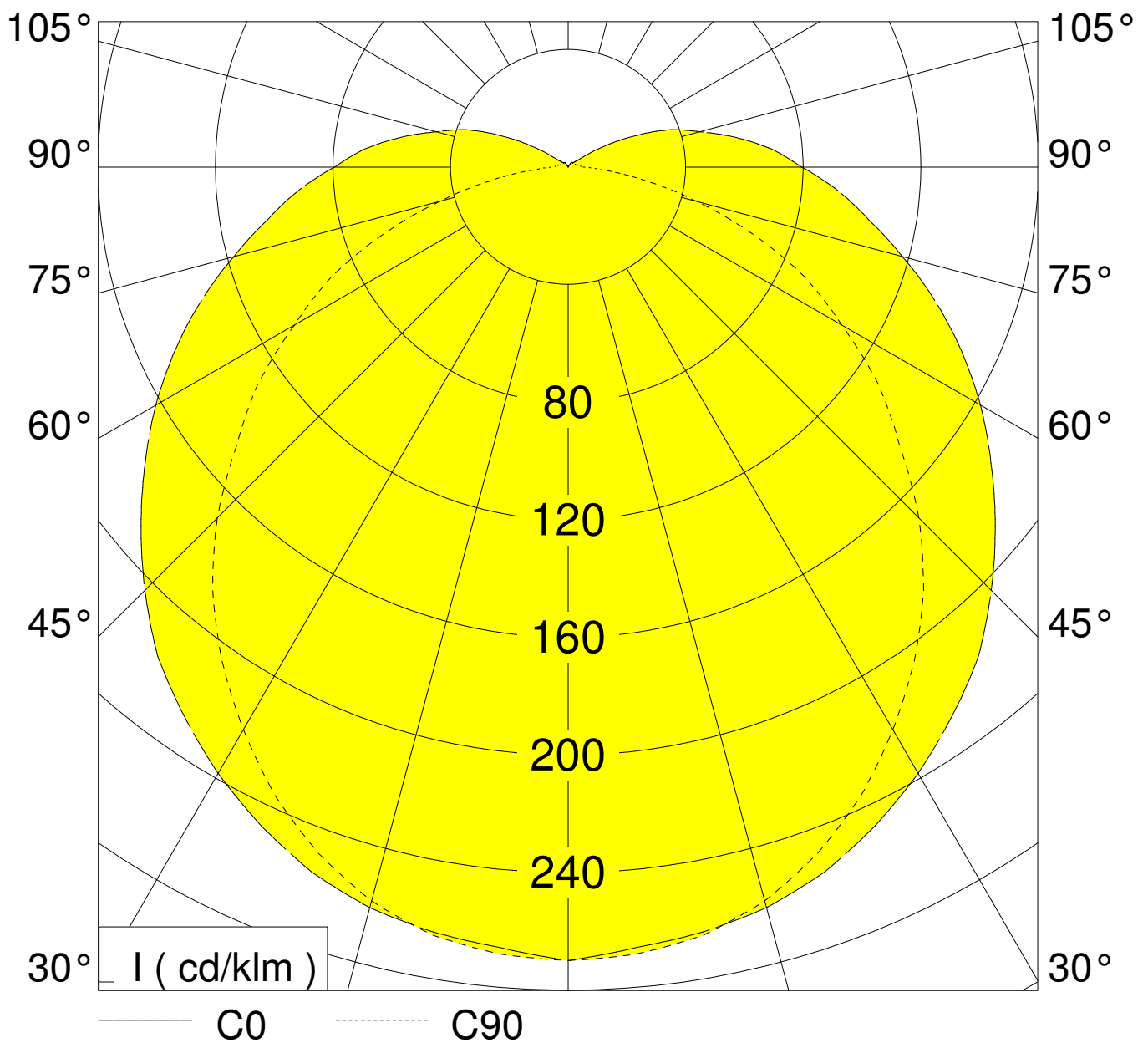
light output ratio	: 100.0 %
DFF	: 90.9 %
UFF	: 9.1 %

classification

LiTG / DIN	: A31
UTE	: 0.91G+0.09T
CIE	: 40 69 88 91 100
BZ	: 5 5 5 5 5 6 6 6
Ambient Temperature	: 25 degC
Input Voltage	: 240 V
Circuit Watts	: 40.0 W
Amps (running)	: 0.175 A
V.A.	: 42.1 VA
Power Factor	: 0.95
CCT	: 4815K (measured): 5000K (nominal)
Output current DC	: 700mA
Output Voltage DC	: 51.7 V
Output Power	: 36.19watts
Luminaire Lm/CircWatt	: 115
Driver Efficiency	: 90%
Driver Details	: Tridonic LCI 60 700mA TEC 4 Art No 87500 227



Measurements made are in absolute units
 The luminaire is treated as if it was a lamp as it is not possible to measure each LED separately - hence an LOR of 100%
 The Light output ratio in real terms would be less than 100%. If it was possible to compare real LED lumens with the total output from the luminaire we could obtain an actual LOR
 This also means that the total lumens emitted from the LED's would be greater than the 4600 lumens measured.
 In reality the LED lumens would approximate to this value divided by the actual Light Output



PHOENIX LED BATTEN / NPH40-LED-850

intensity table

	C 0.0	C 15.0	C 30.0	C 45.0	C 60.0	C 75.0	C 90.0	C 105.0
0.0°	269.70	269.70	269.70	269.70	269.70	269.70	269.70	269.70
5.0°	266.30	266.80	267.40	267.40	267.40	268.00	268.50	268.00
10.0°	264.00	263.40	262.90	263.40	264.00	264.60	265.10	264.60
15.0°	260.60	259.40	258.30	258.30	258.30	258.30	258.30	258.30
20.0°	255.00	253.30	251.60	250.50	249.30	248.70	248.20	248.70
25.0°	247.00	245.30	243.60	240.80	238.00	236.80	235.70	236.80
30.0°	238.00	235.70	233.40	230.00	226.60	223.60	220.80	223.60
35.0°	227.70	224.80	221.90	218.20	214.50	209.80	205.10	209.80
40.0°	217.10	213.00	208.80	204.30	199.80	193.80	188.00	193.80
45.0°	203.50	198.80	194.10	187.10	180.10	174.40	168.70	174.40
50.0°	189.60	184.00	178.30	170.60	162.90	155.00	147.10	155.00
55.0°	175.60	170.20	164.70	155.10	145.60	137.20	128.80	137.20
60.0°	161.90	155.80	149.80	138.40	126.90	117.20	107.40	117.20
65.0°	147.50	141.40	135.30	122.60	109.90	99.50	89.10	99.50
70.0°	132.70	126.50	120.30	107.30	94.10	80.60	67.00	80.60
75.0°	117.70	111.60	105.60	92.20	78.90	62.00	45.20	62.00
80.0°	103.90	98.20	92.40	78.30	64.10	45.50	26.70	45.50
85.0°	92.10	86.30	80.60	66.10	51.50	31.70	11.80	31.70
90.0°	79.40	73.60	67.90	54.10	40.50	22.70	5.10	22.70
95.0°	69.60	64.60	59.70	45.90	32.10	18.00	4.10	18.00
100.0°	58.00	53.70	49.40	36.60	23.80	13.60	3.40	13.60
105.0°	46.30	42.30	38.40	25.80	13.20	8.10	3.00	8.10
110.0°	37.20	31.90	26.60	16.50	6.30	4.50	2.80	4.50
115.0°	25.20	20.60	16.00	10.20	4.30	3.40	2.50	3.40
120.0°	14.00	10.70	7.50	5.40	3.30	2.90	2.50	2.90
125.0°	4.10	3.50	2.80	2.60	2.30	2.20	2.20	2.20
130.0°	2.40	2.40	2.50	2.60	2.60	2.30	2.00	2.30
135.0°	2.20	2.10	2.00	2.30	2.50	2.30	2.00	2.30
140.0°	2.00	2.00	1.90	2.00	2.20	2.10	2.00	2.10
145.0°	2.00	1.90	1.80	1.90	2.00	2.00	2.00	2.00
150.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	cd / klm							

PHOENIX LED BATTEN / NPH40-LED-850

intensity table

	C 120.0	C 135.0	C 150.0	C 165.0	C 180.0	C 195.0	C 210.0	C 225.0
0.0°	269.70	269.70	269.70	269.70	269.70	269.70	269.70	269.70
5.0°	267.40	267.40	267.40	266.80	266.30	266.80	267.40	267.40
10.0°	264.00	263.40	262.90	263.40	264.00	263.40	262.90	263.40
15.0°	258.30	258.30	258.30	259.40	260.60	259.40	258.30	258.30
20.0°	249.30	250.50	251.60	253.30	255.00	253.30	251.60	250.50
25.0°	238.00	240.80	243.60	245.30	247.00	245.30	243.60	240.80
30.0°	226.60	230.00	233.40	235.70	238.00	235.70	233.40	230.00
35.0°	214.50	218.20	221.90	224.80	227.70	224.80	221.90	218.20
40.0°	199.80	204.30	208.80	213.00	217.10	213.00	208.80	204.30
45.0°	180.10	187.10	194.10	198.80	203.50	198.80	194.10	187.10
50.0°	162.90	170.60	178.30	184.00	189.60	184.00	178.30	170.60
55.0°	145.60	155.10	164.70	170.20	175.60	170.20	164.70	155.10
60.0°	126.90	138.40	149.80	155.80	161.90	155.80	149.80	138.40
65.0°	109.90	122.60	135.30	141.40	147.50	141.40	135.30	122.60
70.0°	94.10	107.30	120.30	126.50	132.70	126.50	120.30	107.30
75.0°	78.90	92.20	105.60	111.60	117.70	111.60	105.60	92.20
80.0°	64.10	78.30	92.40	98.20	103.90	98.20	92.40	78.30
85.0°	51.50	66.10	80.60	86.30	92.10	86.30	80.60	66.10
90.0°	40.50	54.10	67.90	73.60	79.40	73.60	67.90	54.10
95.0°	32.10	45.90	59.70	64.60	69.60	64.60	59.70	45.90
100.0°	23.80	36.60	49.40	53.70	58.00	53.70	49.40	36.60
105.0°	13.20	25.80	38.40	42.30	46.30	42.30	38.40	25.80
110.0°	6.30	16.50	26.60	31.90	37.20	31.90	26.60	16.50
115.0°	4.30	10.20	16.00	20.60	25.20	20.60	16.00	10.20
120.0°	3.30	5.40	7.50	10.70	14.00	10.70	7.50	5.40
125.0°	2.30	2.60	2.80	3.50	4.10	3.50	2.80	2.60
130.0°	2.60	2.60	2.50	2.40	2.40	2.40	2.50	2.60
135.0°	2.50	2.30	2.00	2.10	2.20	2.10	2.00	2.30
140.0°	2.20	2.00	1.90	2.00	2.00	2.00	1.90	2.00
145.0°	2.00	1.90	1.80	1.90	2.00	1.90	1.80	1.90
150.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	cd / klm							

PHOENIX LED BATTEN / NPH40-LED-850

intensity table

	C 240.0	C 255.0	C 270.0	C 285.0	C 300.0	C 315.0	C 330.0	C 345.0
0.0°	269.70	269.70	269.70	269.70	269.70	269.70	269.70	269.70
5.0°	267.40	268.00	268.50	268.00	267.40	267.40	267.40	266.80
10.0°	264.00	264.60	265.10	264.60	264.00	263.40	262.90	263.40
15.0°	258.30	258.30	258.30	258.30	258.30	258.30	258.30	259.40
20.0°	249.30	248.70	248.20	248.70	249.30	250.50	251.60	253.30
25.0°	238.00	236.80	235.70	236.80	238.00	240.80	243.60	245.30
30.0°	226.60	223.60	220.80	223.60	226.60	230.00	233.40	235.70
35.0°	214.50	209.80	205.10	209.80	214.50	218.20	221.90	224.80
40.0°	199.80	193.80	188.00	193.80	199.80	204.30	208.80	213.00
45.0°	180.10	174.40	168.70	174.40	180.10	187.10	194.10	198.80
50.0°	162.90	155.00	147.10	155.00	162.90	170.60	178.30	184.00
55.0°	145.60	137.20	128.80	137.20	145.60	155.10	164.70	170.20
60.0°	126.90	117.20	107.40	117.20	126.90	138.40	149.80	155.80
65.0°	109.90	99.50	89.10	99.50	109.90	122.60	135.30	141.40
70.0°	94.10	80.60	67.00	80.60	94.10	107.30	120.30	126.50
75.0°	78.90	62.00	45.20	62.00	78.90	92.20	105.60	111.60
80.0°	64.10	45.50	26.70	45.50	64.10	78.30	92.40	98.20
85.0°	51.50	31.70	11.80	31.70	51.50	66.10	80.60	86.30
90.0°	40.50	22.70	5.10	22.70	40.50	54.10	67.90	73.60
95.0°	32.10	18.00	4.10	18.00	32.10	45.90	59.70	64.60
100.0°	23.80	13.60	3.40	13.60	23.80	36.60	49.40	53.70
105.0°	13.20	8.10	3.00	8.10	13.20	25.80	38.40	42.30
110.0°	6.30	4.50	2.80	4.50	6.30	16.50	26.60	31.90
115.0°	4.30	3.40	2.50	3.40	4.30	10.20	16.00	20.60
120.0°	3.30	2.90	2.50	2.90	3.30	5.40	7.50	10.70
125.0°	2.30	2.20	2.20	2.20	2.30	2.60	2.80	3.50
130.0°	2.60	2.30	2.00	2.30	2.60	2.60	2.50	2.40
135.0°	2.50	2.30	2.00	2.30	2.50	2.30	2.00	2.10
140.0°	2.20	2.10	2.00	2.10	2.20	2.00	1.90	2.00
145.0°	2.00	2.00	2.00	2.00	2.00	1.90	1.80	1.90
150.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	cd / klm							

glare rating according to UGR											
□-ceiling	70	70	50	50	30	70	70	50	50	30	
□-walls	50	30	50	30	30	50	30	50	30	30	
□-workplane	20	20	20	20	20	20	20	20	20	20	
room dimensions X Y		viewed crosswise					viewed endwise				
2H	2H	23.6	25.0	24.0	25.4	25.8	23.0	24.5	23.4	24.9	25.3
	3H	25.3	26.5	25.7	26.9	27.2	24.3	25.6	24.7	25.9	26.3
	4H	26.3	27.5	26.7	27.9	28.3	25.0	26.2	25.4	26.6	27.0
	6H	27.3	28.4	27.8	28.9	29.3	25.5	26.6	25.9	27.0	27.5
	8H	27.8	29.0	28.3	29.4	29.9	25.7	26.8	26.1	27.3	27.7
4H	12H	28.4	29.5	28.8	29.9	30.4	25.8	27.0	26.3	27.4	27.9
	2H	23.9	25.1	24.4	25.5	25.9	23.5	24.7	24.0	25.1	25.5
	3H	26.3	27.4	26.8	27.9	28.4	25.5	26.6	26.0	27.1	27.5
	4H	27.6	28.7	28.1	29.2	29.7	26.4	27.5	26.9	28.0	28.5
	6H	28.6	29.5	29.1	30.0	30.5	26.9	27.8	27.4	28.3	28.8
8H	8H	29.2	30.0	29.7	30.6	31.2	27.2	28.0	27.7	28.5	29.1
	12H	29.9	30.7	30.5	31.3	32.0	27.5	28.3	28.1	28.9	29.6
	4H	27.8	28.7	28.4	29.2	29.8	26.8	27.7	27.3	28.2	28.8
	6H	29.4	30.3	30.1	30.9	31.6	28.0	28.8	28.6	29.4	30.1
	8H	30.3	31.1	31.0	31.7	32.5	28.5	29.3	29.1	29.9	30.7
12H	12H	30.9	31.6	31.6	32.3	33.1	28.7	29.4	29.4	30.1	30.8
	4H	28.0	28.8	28.6	29.4	30.1	27.1	27.9	27.7	28.5	29.2
	6H	29.7	30.5	30.3	31.1	31.9	28.3	29.1	29.0	29.8	30.5
	8H	30.4	31.0	31.1	31.7	32.5	28.7	29.4	29.4	30.0	30.8
variation of observer position											
S =	1.0H	+0.1/		-0.1		+0.1/		-0.1			
	1.5H	+0.2/		-0.2		+0.2/		-0.3			
	2.0H	+0.2/		-0.3		+0.2/		-0.5			
standard-table	BK09					BK07					
correction for luminaire	13.7					11.2					
correct glare indices for a total flux of 4600lm											

class		glare rating for service value of illuminance (lx)								
A	A	1000	750	500	--	□ 300				
1	B	2000	1500	1000	750	500	□ 300			
2	D					2000	1000	500	□ 300	
3	E						2000	1000	500	□ 300

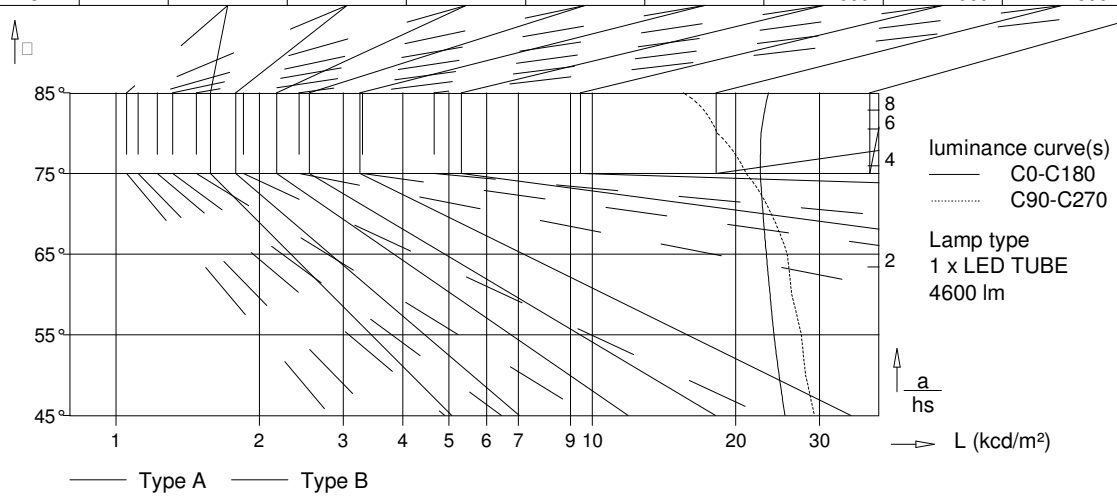


Tabelle der berechneten Leuchtdichten

gamma	C 0	C 90	C 180	C 270
45°	25385.3	29265.5	25385.3	29265.5
50°	24666.6	28036.1	24666.6	28036.1
55°	24061.2	27467.1	24061.2	27467.1
60°	23621.0	26220.8	23621.0	26220.8
65°	23199.3	25665.8	23199.3	25665.8
70°	22826.5	23753.1	22826.5	23753.1
75°	22527.9	21039.2	22527.9	21039.2
80°	22606.2	18291.5	22606.2	18291.5
85°	23419.8	15528.1	23419.8	15528.1

alle Werte in cd/m²

