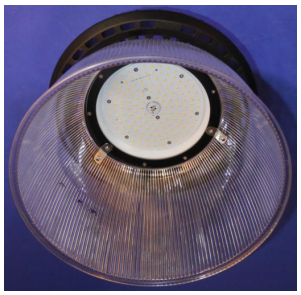
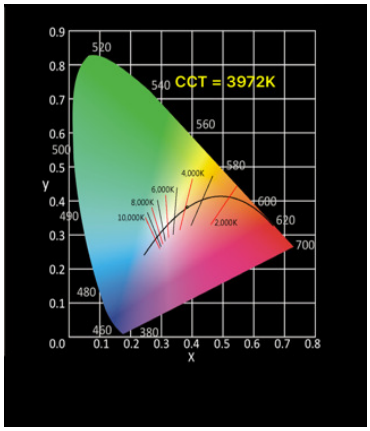
Tested by LightLab Photometrics Ltd.

Report of Photometry & Chromaticity for NVC Lighting Ltd.
NAC100/840+NAC/REFR/60-100 - AZTEC 100W LED Luminaire with Refractor Bowl



A. Product Description

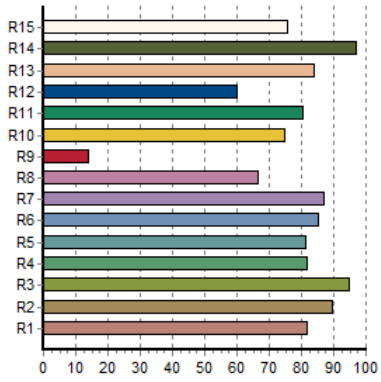
Product Name	Aztec 100W LED Luminaire+refractor bowl		
Date	23-11-2017		
Manufacturer	NVC Lighting Ltd		
Tester	lightlab photometrics	Reviewer	KB
Temperature	25degC	Re. Humidity(%)	53
Spectrum Range : 380 ~ 780 nm.		Wavelength Step : 1 nm.	



CIE1931 Chromaticity Diagram

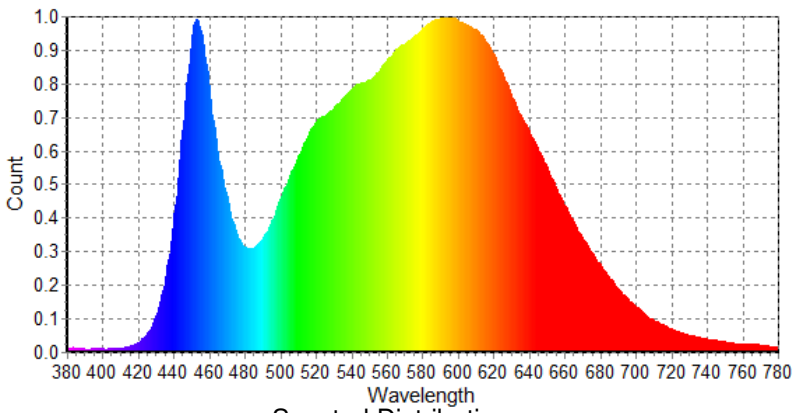
C. Photometry and Chromaticity

CIE_x	0.3830	Duv	0.0018
CIE_y	0.3822	Ld(nm)	578.2
CIE_u'	0.2246	Purity(%)	30.0
CIE_v'	0.5043	FWHM(nm)	153.0
CCT(K)	3972	SP ratio	1.69
Luminaire lumens	12825	PPFD(umol/sec m^2)	421.0
Lp(nm)	594.0		
TLCI(Qa)	71.39	GAI	70.9

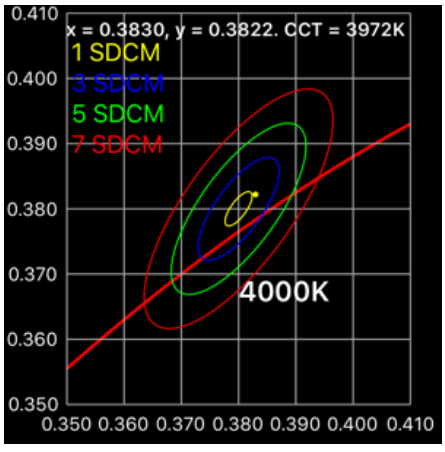


Histogram Diagram of CRI

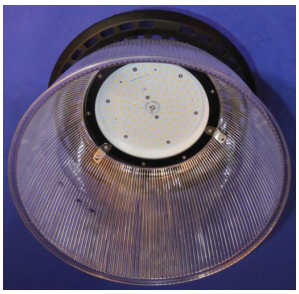
CRI(Ra)	84			Re(thru R1~R15)	77
Qa	83				
R1	82.2	R6	85.5	R11	80.9
R2	89.8	R7	87.3	R12	60.3
R3	95.1	R8	66.8	R13	84.2
R4	82.3	R9	14.3	R14	97.3
R5	81.8	R10	75.1	R15	76.3



Spectral Distribution



IEC SDCM



filename	: NAC100-840+NAC-REFR-60-100.LDT
meas. number	: 2450
luminaire number	: NAC100/840+NAC/REFR/60-100
date / operator	: 23-11-2017

default lamp type(s))

no of lamps	lamp type	luminaire lumens	input wattage
1	LED MODULE	12825 lm	104.30 W

dimensions

luminaire			luminous area		
diameter	:	310 mm	diameter	:	290 mm
height	:	270 mm	height	:	160 mm

coordinate system

no of planes	:	7	samples / plane	:	37
first c-plane	:	0.0 °	first gamma-angle	:	0.0 °
step angle	:	15.0 °	step angle	:	5.0 °
last c-plane	:	90.0 °	last gamma-angle	:	180.0 °
symmetrics	:	symmetry to C0 / C90			

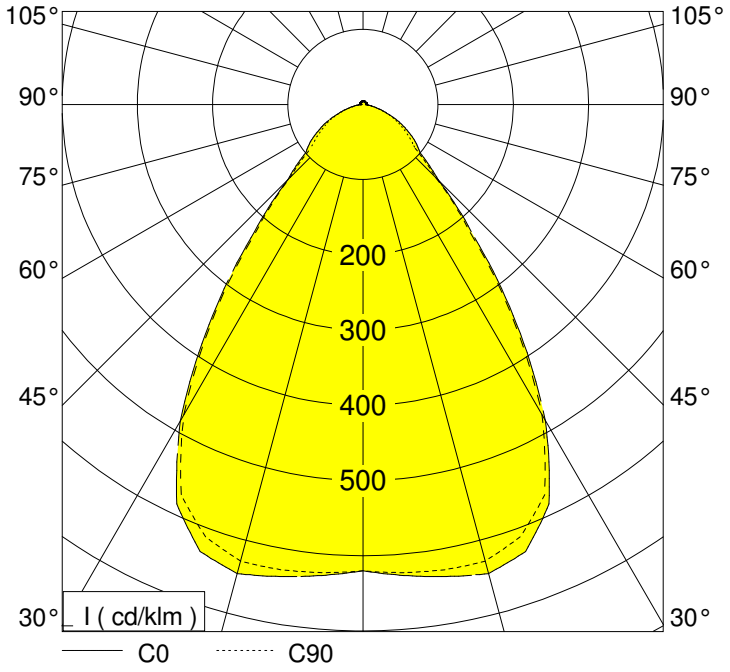
performance

light output ratio	:	100.0 %
DFF	:	97.4 %
UFF	:	2.6 %

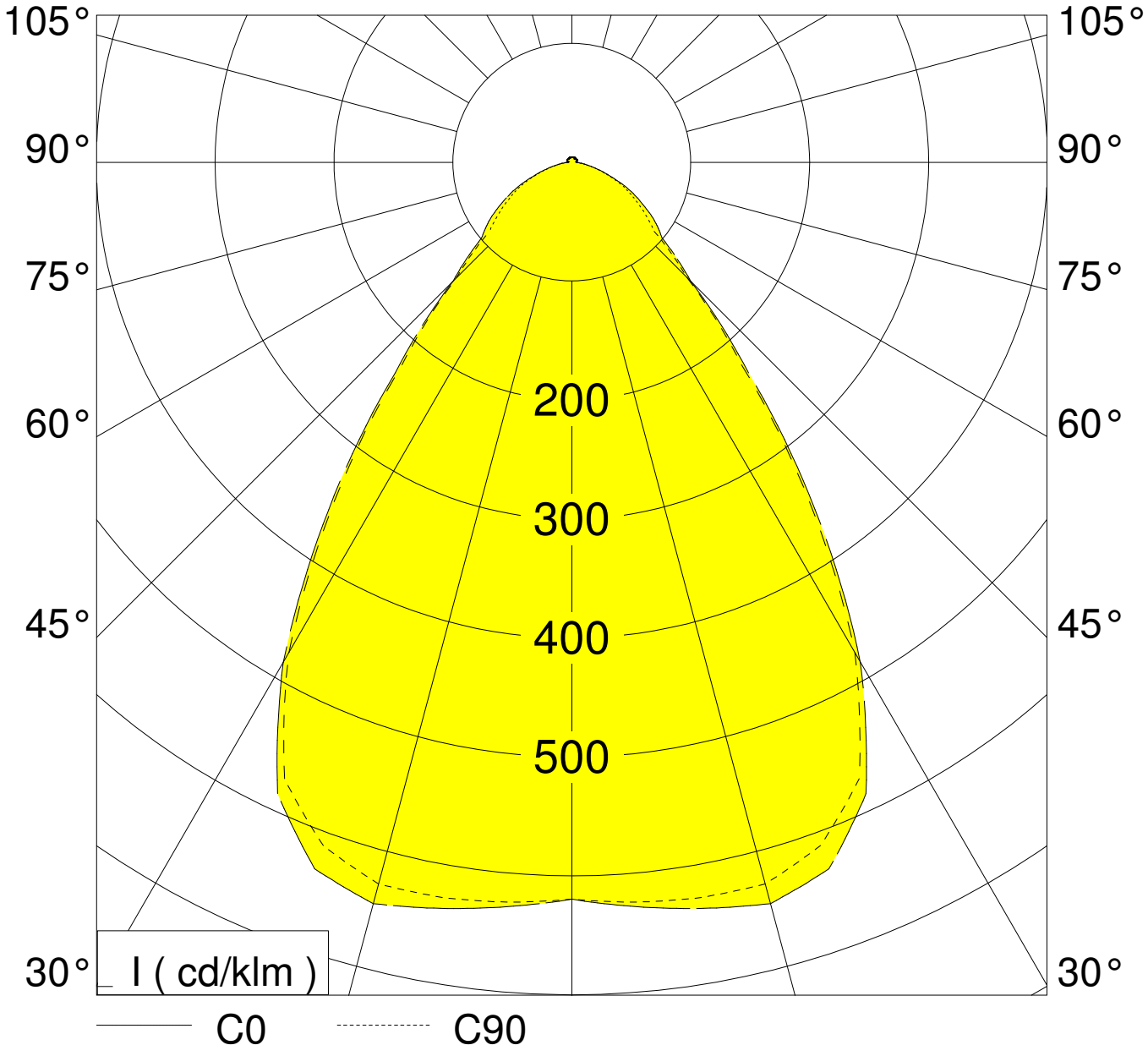
classification

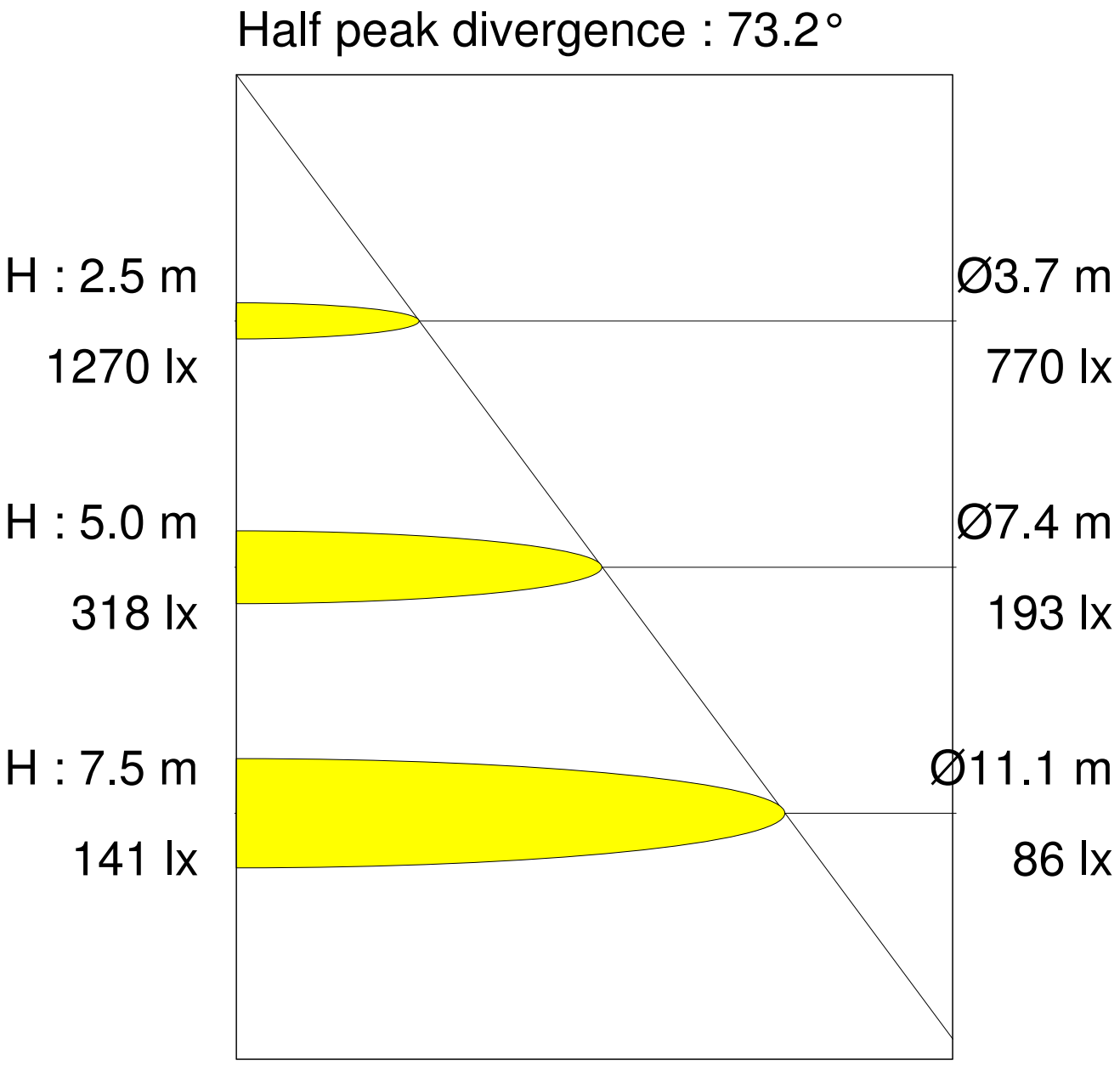
LiTG / DIN	: A62
	: 0.97B+0.03T
UTE	: 75 92 98 97 100
CIE	: 1 1 2 2 2 2 2 2 2
BZ	

Ambient Temperature	: 25 degC
Input Voltage	: 240 V
Circuit Watts	: 104.3W
Amps (running)	: 0.443A
V.A.	: 106.43VA
Power Factor	: 0.98
CCT	: 3972K (measured): 4000K (declared)
CRI (Ra)	: 84
Luminaire Lumens	: 12825 LLm
Luminaire Lm/circ.Watt	: 123 LLm/circ.Watt
Driver Details	: INVENTRONICS EUR-0965210SV



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 Luminaire Lumens measured. In reality the LED lumens would approximate to this value divided by the actual Light Output.




Half peak divergence : 73.2°
H : 2.5 m
1270 lx
Ø3.7 m
770 lx
H : 5.0 m
318 lx
Ø7.4 m
193 lx
H : 7.5 m
141 lx
Ø11.1 m
86 lx

	C 0.0	C 15.0	C 30.0	C 45.0	C 60.0	C 75.0	C 90.0
0.0°	619.10	619.10	619.10	619.10	619.10	619.10	619.10
5.0°	627.80	627.90	628.00	627.80	627.60	625.80	624.00
10.0°	636.50	636.60	636.80	636.00	635.20	631.20	627.20
15.0°	644.80	642.40	639.80	637.10	634.30	631.00	627.70
20.0°	631.70	625.80	620.00	614.90	609.60	610.30	610.90
25.0°	585.10	578.60	572.20	567.40	562.70	567.00	571.40
30.0°	485.10	479.30	473.30	468.30	463.20	469.60	475.80
35.0°	356.40	353.30	350.30	344.30	338.40	343.20	348.10
40.0°	230.90	228.10	225.40	221.50	217.60	219.80	222.00
45.0°	141.30	141.10	140.80	139.30	137.80	137.30	136.80
50.0°	99.00	98.30	97.70	95.10	92.60	91.50	90.40
55.0°	84.50	82.50	80.40	78.40	76.40	75.60	74.80
60.0°	67.40	66.00	64.70	63.30	61.80	61.10	60.40
65.0°	51.70	50.90	50.20	49.60	49.00	48.40	47.70
70.0°	34.40	34.10	33.90	33.80	33.70	33.50	33.40
75.0°	22.20	22.00	21.90	21.80	21.80	21.40	20.90
80.0°	12.50	12.70	13.00	13.00	13.10	12.70	12.30
85.0°	6.50	6.70	6.90	7.00	7.00	6.70	6.40
90.0°	3.80	3.80	3.80	3.80	3.80	3.70	3.50
95.0°	3.40	3.40	3.40	3.40	3.30	3.20	3.10
100.0°	3.60	3.60	3.60	3.60	3.50	3.30	3.20
105.0°	4.00	4.10	4.20	4.00	3.90	3.90	3.80
110.0°	4.50	4.60	4.70	4.50	4.40	4.10	3.90
115.0°	4.90	4.90	5.00	4.80	4.70	4.40	4.20
120.0°	4.70	4.80	4.90	4.80	4.70	4.50	4.30
125.0°	4.40	4.50	4.50	4.40	4.20	4.30	4.40
130.0°	4.20	4.30	4.40	4.10	3.80	3.90	4.10
135.0°	4.20	4.20	4.30	4.00	3.70	3.60	3.40
140.0°	4.30	4.30	4.30	4.00	3.70	3.60	3.50
145.0°	4.40	4.40	4.30	4.00	3.80	3.70	3.50
150.0°	4.50	4.50	4.40	4.20	4.00	3.90	3.70
155.0°	4.60	4.60	4.50	4.20	4.00	3.90	3.90
160.0°	4.80	4.60	4.50	4.40	4.20	4.10	4.10
165.0°	4.80	4.70	4.60	4.40	4.30	4.30	4.30
170.0°	4.70	4.60	4.50	4.40	4.40	4.40	4.50
175.0°	4.30	4.30	4.30	4.20	4.20	4.30	4.30
180.0°	4.70	4.70	4.70	4.60	4.50	4.50	4.60
							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	20.9	22.0	21.1	22.2	22.5	20.6	21.7	20.8	21.9	22.1
	3H	20.8	21.7	21.1	21.9	22.1	20.5	21.4	20.8	21.6	21.8
	4H	21.1	21.9	21.4	22.2	22.4	20.8	21.6	21.1	21.9	22.1
	6H	21.2	22.0	21.5	22.3	22.6	20.9	21.7	21.2	22.0	22.3
	8H	21.2	22.1	21.6	22.3	22.6	20.9	21.8	21.3	22.0	22.3
	12H	21.3	22.1	21.6	22.4	22.7	21.0	21.8	21.3	22.1	22.4
4H	2H	20.6	21.5	20.9	21.7	21.9	20.3	21.2	20.6	21.4	21.7
	3H	21.4	22.3	21.8	22.6	22.9	21.2	22.0	21.5	22.3	22.6
	4H	21.8	22.6	22.2	22.9	23.3	21.5	22.3	21.9	22.7	23.0
	6H	21.8	22.4	22.2	22.8	23.2	21.5	22.2	21.9	22.5	22.9
	8H	21.8	22.5	22.3	22.9	23.3	21.6	22.2	22.0	22.6	23.0
	12H	22.0	22.6	22.5	23.1	23.5	21.8	22.4	22.3	22.8	23.3
8H	4H	21.7	22.4	22.2	22.8	23.2	21.5	22.1	21.9	22.5	22.9
	6H	22.2	22.7	22.7	23.2	23.7	21.9	22.5	22.4	23.0	23.5
	8H	22.3	22.9	22.9	23.4	24.0	22.1	22.6	22.6	23.2	23.7
	12H	22.3	22.8	22.9	23.3	23.9	22.1	22.5	22.6	23.1	23.7
12H	4H	21.9	22.5	22.4	22.9	23.4	21.6	22.2	22.1	22.7	23.2
	6H	22.3	22.8	22.8	23.3	23.9	22.0	22.6	22.6	23.1	23.7
	8H	22.3	22.7	22.8	23.3	23.9	22.1	22.5	22.6	23.1	23.7
variation of observer position											
S =	1.0H			+1.3/	-1.1			+1.3/	-1.1		
	1.5H			+2.8/	-1.6			+2.9/	-1.6		
	2.0H			+4.2/	-2.2			+4.3/	-2.3		
standard-table				BK02				BK02			
correction for luminaire				4.0				3.8			
correct glare indices for a total flux of 12825lm											

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

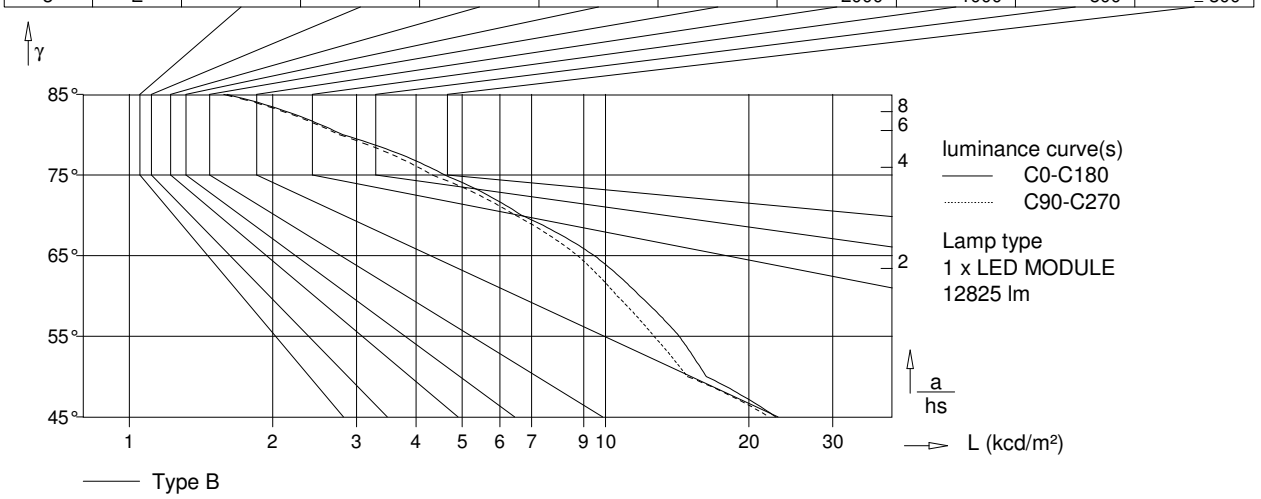


Table of intensities

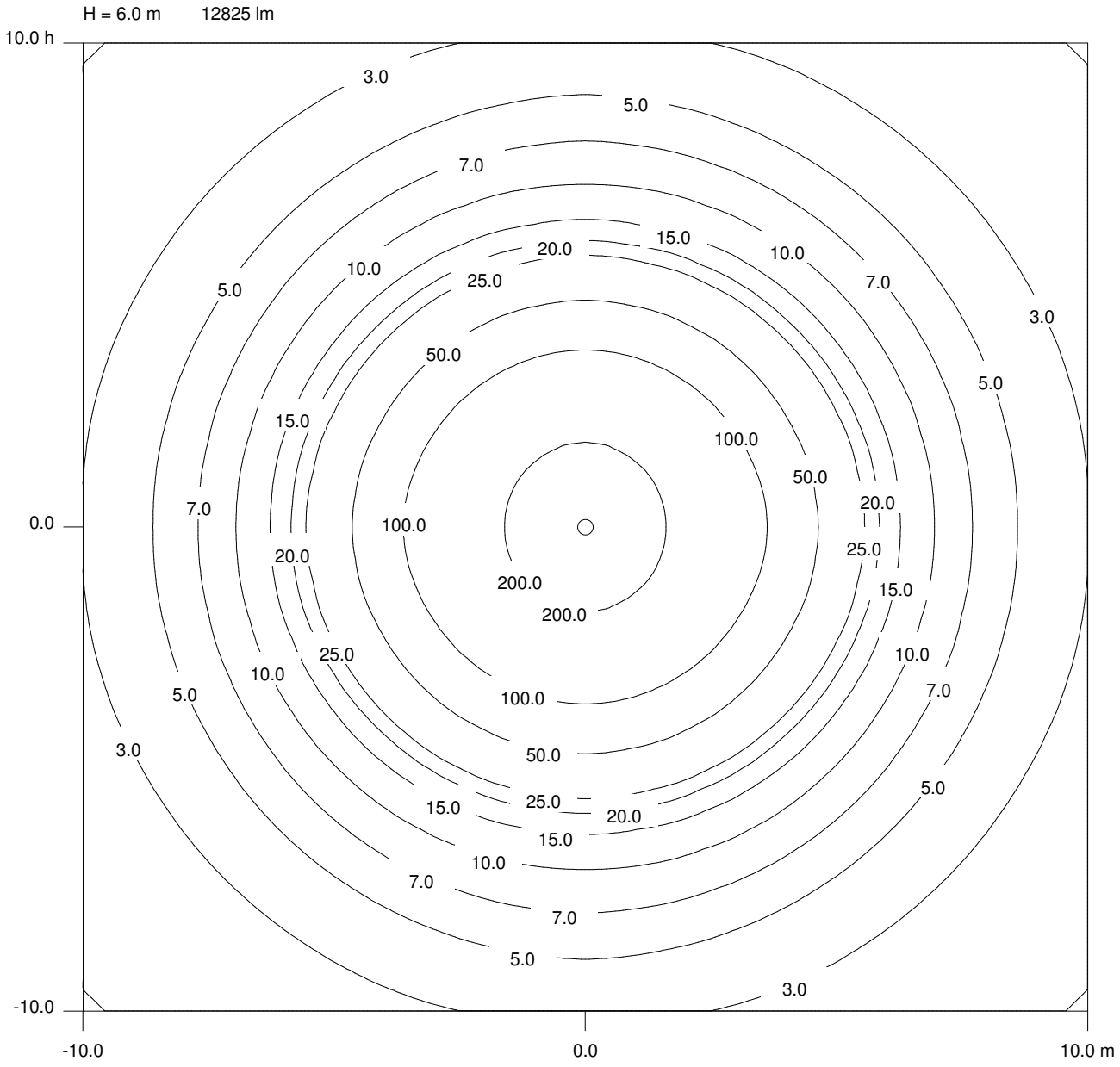
gamma	C 0	C 90	C 180	C 270
45°	22790.2	22064.4	22790.2	22064.4
50°	16277.5	14863.5	16277.5	14863.5
55°	14279.2	12640.0	14279.2	12640.0
60°	11807.3	10581.0	11807.3	10581.0
65°	9476.6	8743.4	9476.6	8743.4
70°	6665.1	6471.3	6665.1	6471.3
75°	4598.5	4329.2	4598.5	4329.2
80°	2804.4	2759.5	2804.4	2759.5
85°	1603.7	1579.1	1603.7	1579.1

all values in cd/m²

utilization factors / TM5

reflection			room index								
C	W	F	0.75	1.0	1.25	1.5	2.0	2.5	3.0	4.0	5.0
70	50	20	71	80	85	89	95	98	101	104	106
70	30	20	65	74	80	84	90	94	97	101	104
70	10	20	61	69	75	80	86	91	94	98	101
50	50	20	70	77	83	86	91	95	97	100	102
50	30	20	64	72	78	82	88	91	94	97	100
50	10	20	60	69	74	78	84	88	91	95	98
30	50	20	68	76	80	84	88	91	93	96	98
30	30	20	63	71	76	80	85	89	91	94	96
30	10	20	60	68	73	77	83	86	89	92	94
0	0	0	58	65	70	74	79	82	84	87	89
BZ-class			1	1	2	2	2	2	2	2	2

SHRnom : 1.00 SHRmax : 1.107


H = 6.0 m
12825 lm
10.0 h
0.0
-10.0
-10.0
0.0
10.0 m
3.0
5.0
7.0
10.0
15.0
20.0
25.0
50.0
100.0
200.0