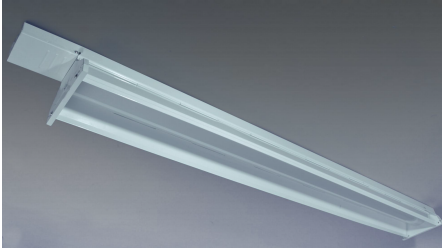
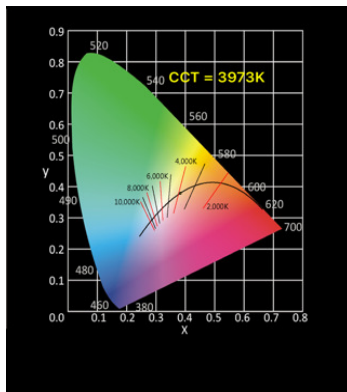


Report of Photometry & Chromaticity for NVC Lighting Ltd. NTM90/840(70DEG) TRUNKING BATTEN POSITION 3



A. Product Description

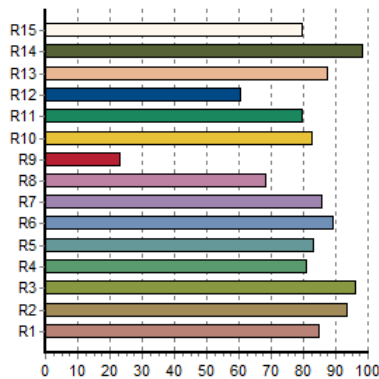
Product Name	TEMPO		
Date	05-05-2017		
Manufacturer	NVC Lighting Ltd		
Tester	lightlab photometrics	Reviewer	KB
Temperature	25degC	Re. Humidity(%)	53
Spectrum Range : 380 ~ 780 nm.		Wavelength Step : 1	



CIE1931 Chromaticity Diagram

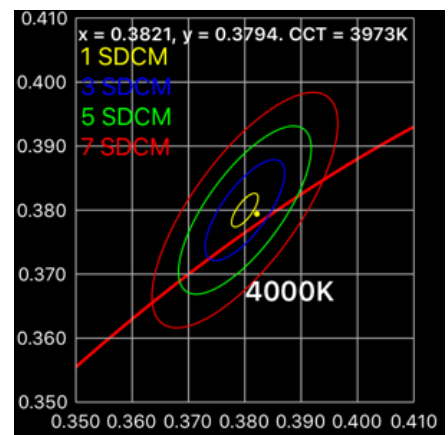
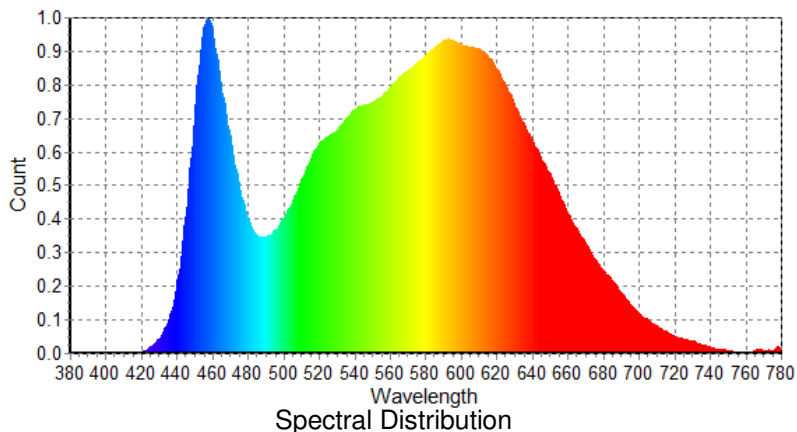
C. Photometry and Chromaticity

CIE_x	0.3821	Δv	0.0007
CIE_y	0.3794	Ld(nm)	578.8
CIE_u'	0.2252	Purity(%)	29.0
CIE_v'	0.5030	FWHM(nm)	29.4
CCT(K)	3973	SP ratio	1.74
Luminaire lumens	10580	PPFD(umol/sec m^2)	
Lp(nm)	458.0		1.0
TLCI(Qa)	74.60	GAI	70.9



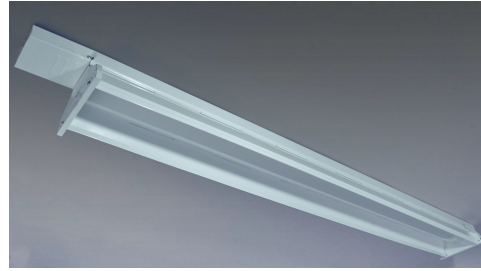
Histogram Diagram of CRI

CRI(Ra)		86	Re(thru R1~R15)		80
Qa		84			
 R1	85.2	 R6	89.7	 R11	80.0
 R2	93.8	 R7	85.9	 R12	60.8
 R3	96.4	 R8	68.5	 R13	88.0
 R4	81.3	 R9	23.7	 R14	98.7
 R5	83.7	 R10	83.1	 R15	79.8



IEC SDCM

filename : NTM90-840(70DEG).LDT
 meas. number : 2253
 luminaire number : NTM90/840(70DEG)
 date / operator : 05-05-2017

**default lamp type(s)**

no of lamps	lamp type	luminaire lumens	input wattage
1	LED MODULE	10580 lm	91.1 W

dimensions

luminaire		luminous area	
length	: 1335 mm	length	: 1330 mm
width	: 160 mm	width	: 155 mm
height	: 80 mm	height	: 0 mm

coordinate system

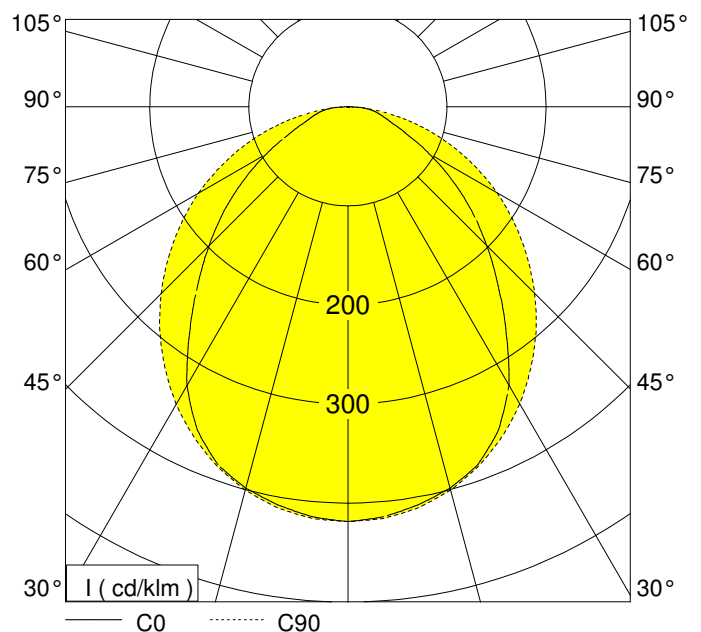
no of planes	: 7	samples / plane	: 37
first c-plane	: 0.0 °	first gamma-angle	: 0.0 °
step angle	: 15.0 °	step angle	: 5.0 °
last c-plane	: 90.0 °	last gamma-angle	: 180.0 °
symmetrics : symmetry to C0 / C90			

performance

light output ratio : 100.0 %
 DFF : 100.0 %
 UFF : 0.0 %

classification

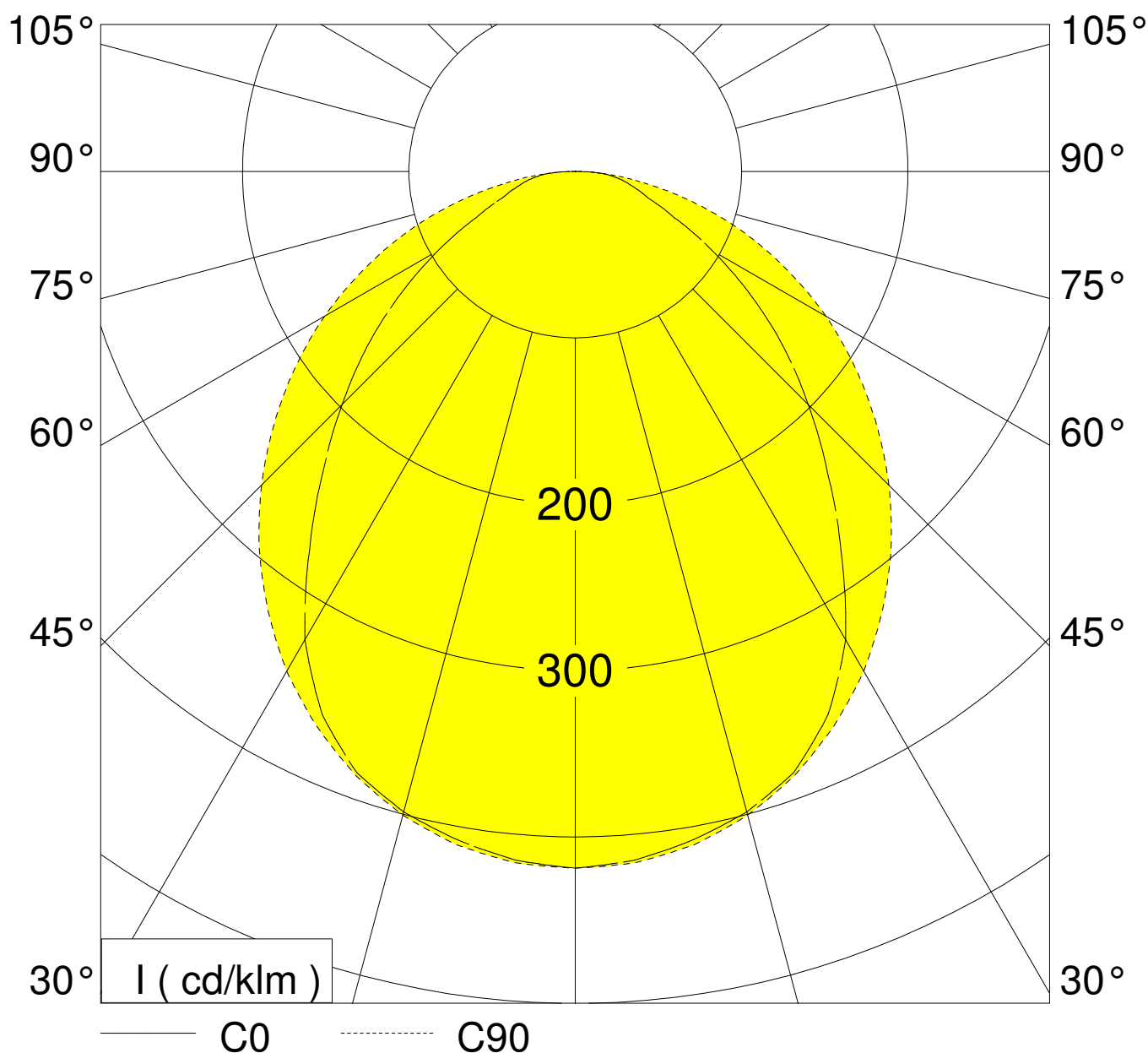
LITG / DIN : A40
 UTE : 1.00D
 CIE : 54 84 96 100 100
 BZ : 4 4 4 4 4 4 4 4 4
 Ambient Temperature : 25 degC
 Input Voltage : 240 V
 Circuit Watts : 91.1W
 Amps (running) : 0.395A
 V.A. : 94.9VA
 Power Factor : 0.96
 CCT : 3973K (measured): 4000K (declared)
 CRI (Ra) : 0.86
 Luminaire Lumens : 10580LLm
 Luminaire Lm/circ.Watt : 116 Lm/circ.Watt



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.



	C 0.0	C 15.0	C 30.0	C 45.0	C 60.0	C 75.0	C 90.0
0.0°	418.70	418.70	418.70	418.70	418.70	418.70	418.70
5.0°	415.30	415.60	415.90	416.40	417.00	417.00	417.00
10.0°	407.90	408.50	409.10	409.70	410.30	410.60	410.90
15.0°	398.40	398.40	398.40	399.10	399.70	400.10	400.50
20.0°	384.30	384.60	384.90	385.00	385.20	385.60	386.10
25.0°	360.00	362.60	365.10	365.90	366.70	367.20	367.80
30.0°	325.00	331.00	336.90	341.50	346.00	346.40	346.90
35.0°	278.70	288.40	298.10	309.40	320.80	321.40	322.00
40.0°	235.80	245.00	254.20	273.00	291.80	293.60	295.50
45.0°	198.10	206.90	215.80	236.20	256.60	261.70	266.70
50.0°	162.90	169.70	176.40	196.90	217.40	227.00	236.40
55.0°	127.60	134.50	141.50	159.30	177.20	191.30	205.50
60.0°	94.80	101.40	107.90	124.30	140.70	157.30	174.00
65.0°	65.70	71.00	76.30	91.20	106.20	123.60	140.90
70.0°	46.60	48.40	50.10	62.60	75.10	91.70	108.50
75.0°	36.30	36.70	37.20	41.90	46.60	61.10	75.60
80.0°	27.70	27.60	27.60	27.50	27.30	35.90	44.50
85.0°	17.90	18.50	19.20	18.00	16.80	17.90	19.00
90.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00
115.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120.0°	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125.0°	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
135.0°	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
145.0°	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
155.0°	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
165.0°	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
175.0°	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
	cd / klm						

glare rating according to UGR											
p -ceiling		70	70	50	50	30	70	70	50	50	30
p -walls		50	30	50	30	30	50	30	50	30	30
p -workplane		20	20	20	20	20	20	20	20	20	20
room dimensions X Y		viewed crosswise					viewed endwise				
2H	2H	20.7	22.2	21.0	22.4	22.6	22.9	24.3	23.1	24.5	24.7
	3H	20.9	21.9	21.1	22.1	22.3	23.7	24.8	24.0	25.0	25.1
	4H	21.3	22.3	21.6	22.5	22.7	24.4	25.4	24.7	25.6	25.8
	6H	21.8	22.7	22.0	23.0	23.2	24.9	25.9	25.2	26.1	26.4
	8H	22.0	23.0	22.3	23.2	23.5	25.1	26.1	25.4	26.4	26.6
	12H	22.3	23.3	22.6	23.5	23.8	25.3	26.3	25.6	26.5	26.8
4H	2H	20.8	21.9	21.1	22.1	22.3	22.6	23.6	22.9	23.8	24.0
	3H	21.9	22.9	22.2	23.1	23.4	24.4	25.4	24.7	25.6	25.9
	4H	22.5	23.5	22.9	23.8	24.0	25.3	26.2	25.6	26.5	26.8
	6H	22.9	23.7	23.3	24.0	24.3	25.7	26.4	26.0	26.7	27.1
	8H	23.3	24.0	23.6	24.3	24.7	25.9	26.7	26.3	27.0	27.4
	12H	23.7	24.5	24.2	24.8	25.2	26.3	27.0	26.7	27.4	27.8
8H	4H	22.7	23.5	23.1	23.8	24.1	25.2	25.9	25.6	26.3	26.6
	6H	23.7	24.4	24.2	24.8	25.3	26.2	26.9	26.6	27.3	27.7
	8H	24.3	24.9	24.7	25.4	25.8	26.6	27.3	27.1	27.7	28.2
	12H	24.6	25.2	25.1	25.6	26.1	26.8	27.3	27.3	27.8	28.3
12H	4H	22.9	23.7	23.4	24.0	24.4	25.4	26.1	25.8	26.5	26.9
	6H	23.9	24.6	24.4	25.0	25.5	26.3	27.0	26.8	27.4	27.9
	8H	24.3	24.9	24.8	25.4	25.8	26.6	27.1	27.1	27.6	28.1
variation of observer position											
S =	1.0H	+0.2/ -0.2				+0.1/ -0.1					
	1.5H	+0.3/ -0.6				+0.2/ -0.3					
	2.0H	+0.6/ -1.1				+0.6/ -0.7					
standard-table		BK05					BK06				
correction for luminaire		6.5					9.5				
correct glare indices for a total flux of 10580lm											

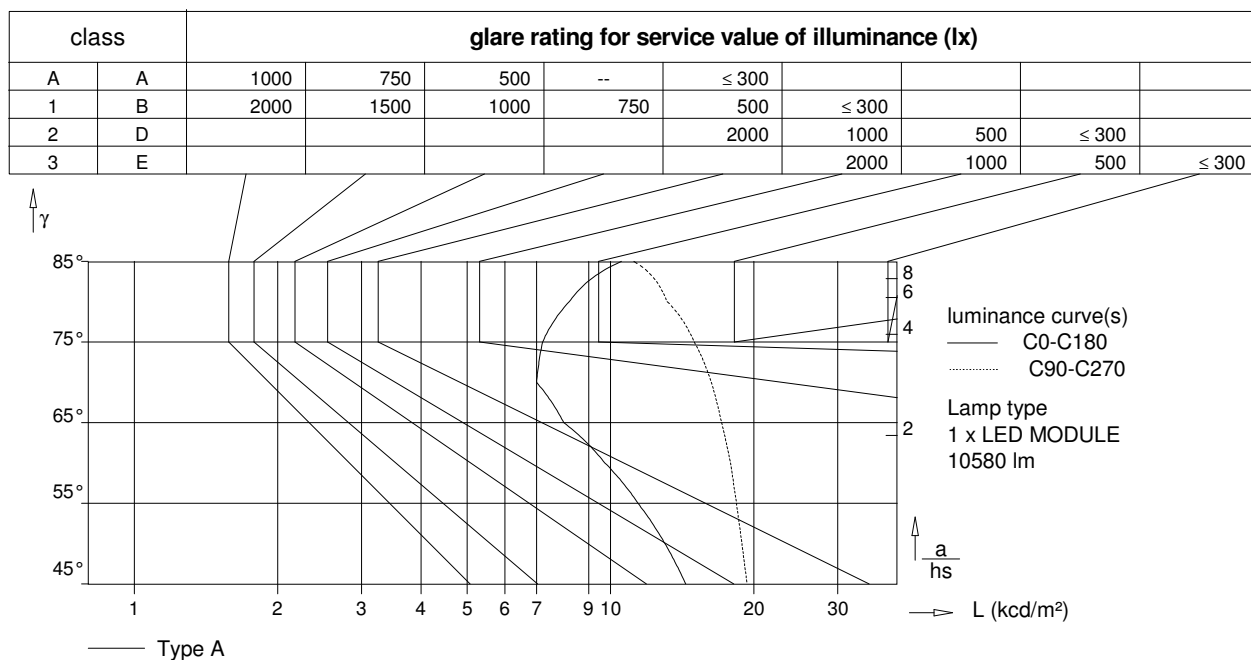


Table of intensities

gamma	C 0	C 90	C 180	C 270
45°	14378.1	19357.1	14378.1	19357.1
50°	13006.4	18874.8	13006.4	18874.8
55°	11417.3	18387.5	11417.3	18387.5
60°	9730.6	17860.0	9730.6	17860.0
65°	7978.5	17110.6	7978.5	17110.6
70°	6992.6	16281.0	6992.6	16281.0
75°	7198.0	14990.9	7198.0	14990.9
80°	8186.8	13152.0	8186.8	13152.0
85°	10540.5	11188.2	10540.5	11188.2

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	61	71	78	83	90	94	97	102	104
70	30	20	53	64	71	76	84	89	93	98	101
70	10	20	48	58	66	71	79	85	89	94	98
50	50	20	59	69	76	80	87	91	94	98	100
50	30	20	53	63	70	75	82	87	90	94	97
50	10	20	48	58	65	70	78	83	87	92	95
30	50	20	58	67	73	78	84	88	90	94	96
30	30	20	52	62	68	73	80	84	87	91	94
30	10	20	48	57	64	69	76	81	84	89	92
0	0	0	45	55	61	66	73	77	80	85	87
BZ-class			4	4	4	4	4	4	4	4	4
SHRnom : 1.25						SHRmax : 1.435					

