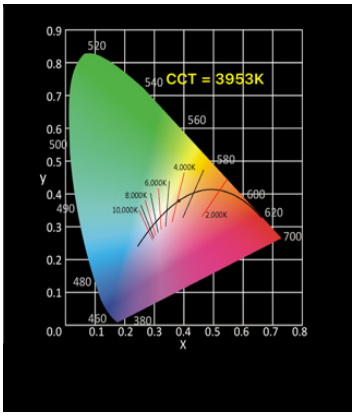
Tested by LightLab Photometrics Ltd.

Report of Photometry & Chromaticity for NVC Lighting Ltd
NTM90/840(110DEG)-TEMPE TRUNKING BATTEN POSITION 1

A. Product Description

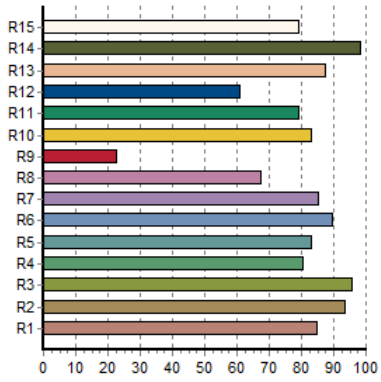
Product Name	TEMPE		
Date	05-05-2017		
Manufacturer	NVC Lighting Ltd		
Tester	lightlab photometrics	Reviewer	KB
Temperature	25degC	Re. Humidity(%)	53
Spectrum Range : 380 ~ 780 nm.		Wavelength Step : 1 nm.	



CIE1931 Chromaticity Diagram

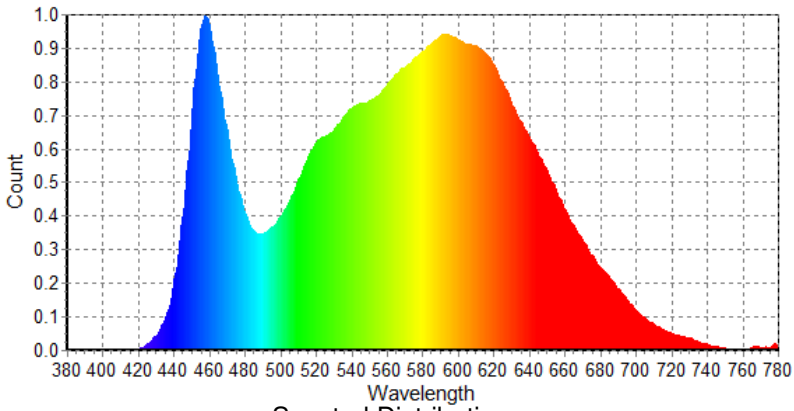
C. Photometry and Chromaticity

CIE_x	0.3828	Duv	0.0005
CIE_y	0.3792	d(nm)	579.0
CIE_u' 0.2257		Purity(%)	29.0
		FWHM(nm)	29.6
CCT(K)	3953	SP ratio	1.74
Luminaire	11200	PPFD(umol/sec m^2)	
p(nm)	458.0		1.0
TLCI(Qa)	74.10	GAI	70.8

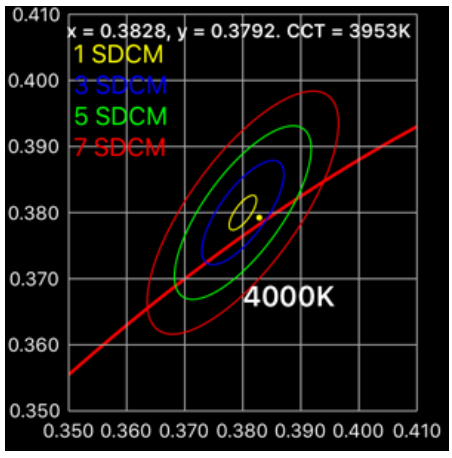


Histogram Diagram of CRI

CRI(Ra)	85			Re(thru R1~R15)	80
Qa	84				
R1	85.1	R6	89.9	R11	79.5
R2	94.0	R7	85.5	R12	61.2
R3	96.2	R8	68.0	R13	88.0
R4	80.8	R9	23.0	R14	98.7
R5	83.6	R10	83.6	R15	79.7



Spectral Distribution



IEC SDCM

filename	: NTM90/840(110DEG).LDT
meas. number	: 2252
luminaire number	: NTM90/840(110DEG)
date / operator	: 05-05-2017

default lamp type(s))

no of lamps	lamp type	luminaire lumens	input wattage
1	LED MODULE	11200 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				

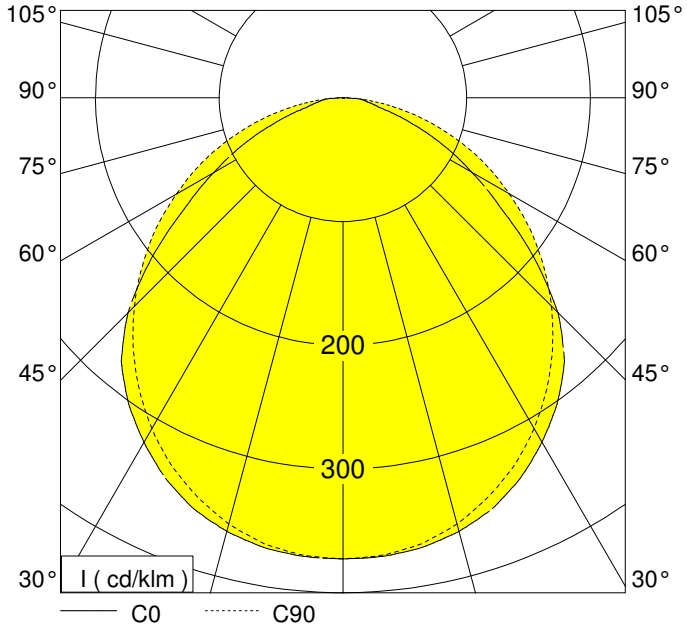
performance

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

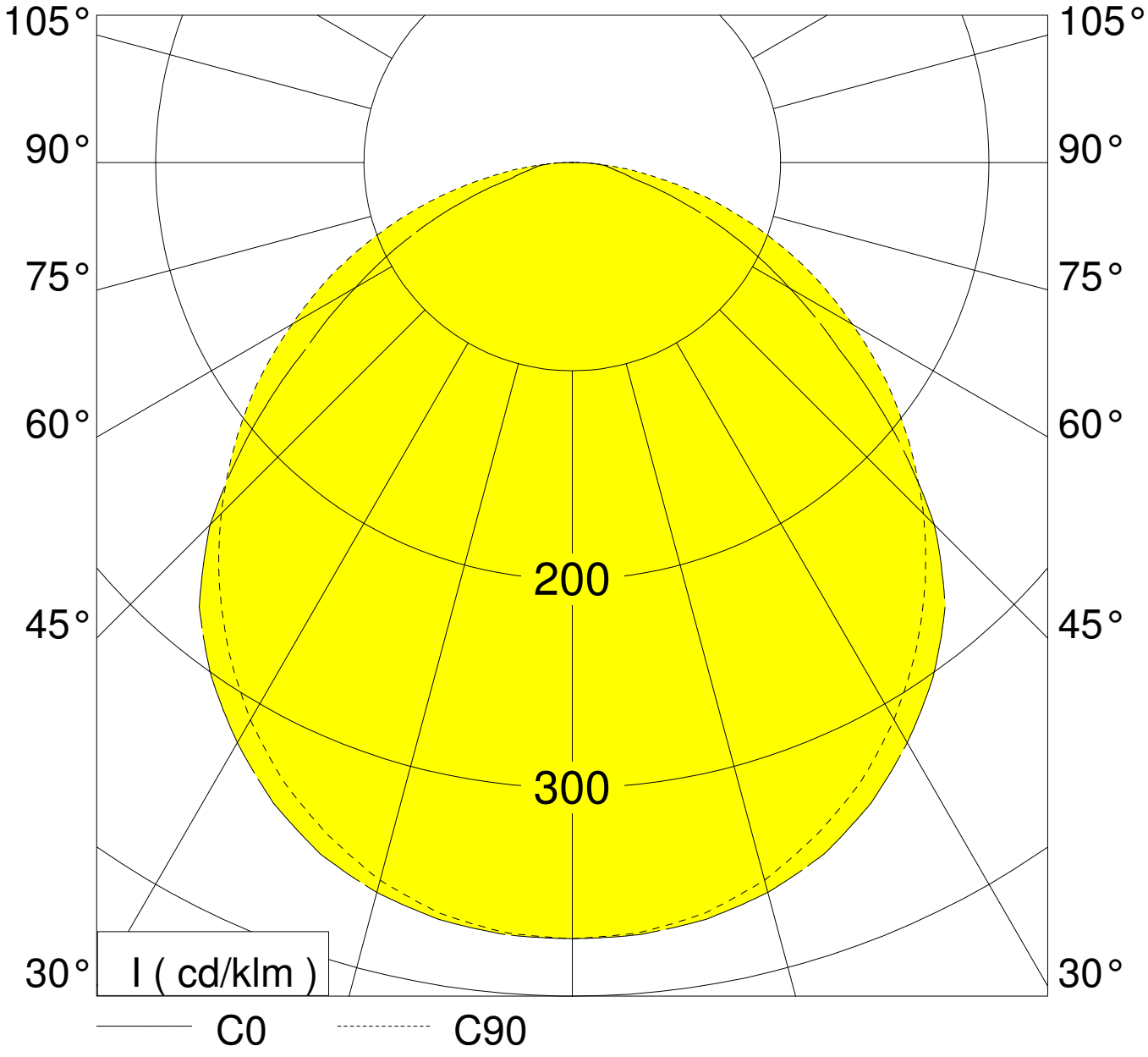
classification

LiTG / DIN	: A40
UTE	: 1.00D
CIE	: 50 82 97 100 100
BZ	: 3 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	: 3953K (measured): 4000K (declared)
CRI (Ra)	: 85
Luminaire Lumens	: 11200LLm
Luminaire Lm/circ.Watt	: 123 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.



intensity table

	C 0.0	C 15.0	C 30.0	C 45.0	C 60.0	C 75.0	C 90.0
0.0°	372.30	372.30	372.30	372.30	372.30	372.30	372.30
5.0°	371.80	371.80	371.80	371.50	371.30	371.00	370.80
10.0°	368.70	368.40	368.20	367.40	366.70	366.20	365.70
15.0°	362.50	361.90	361.40	359.90	358.40	357.40	356.40
20.0°	353.10	352.60	352.10	349.60	347.10	345.10	343.10
25.0°	339.10	338.90	338.60	335.40	332.20	329.90	327.70
30.0°	321.40	321.10	320.80	317.70	314.60	311.60	308.70
35.0°	301.70	300.90	300.10	296.80	293.50	290.30	287.10
40.0°	278.40	278.10	277.80	273.90	270.20	266.80	263.50
45.0°	245.70	248.40	251.20	247.60	244.00	241.10	238.30
50.0°	202.00	209.40	216.80	216.40	216.10	213.80	211.60
55.0°	156.30	165.00	173.70	180.80	187.80	186.10	184.40
60.0°	120.20	126.50	132.60	145.50	158.30	156.70	155.10
65.0°	88.00	93.20	98.30	111.20	124.10	125.70	127.10
70.0°	56.90	62.20	67.50	77.60	87.50	92.40	97.40
75.0°	30.80	35.00	39.10	47.80	56.60	62.60	68.60
80.0°	20.70	20.80	20.90	25.50	30.10	35.40	40.60
85.0°	15.10	14.90	14.60	13.60	12.60	14.90	17.30
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

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	22.2	23.7	22.4	23.9	24.1	23.0	24.4	23.2	24.6	24.8
	3H	22.4	23.5	22.7	23.7	23.8	23.8	24.9	24.0	25.0	25.2
	4H	22.7	23.8	23.0	24.0	24.2	24.4	25.5	24.7	25.7	25.9
	6H	22.9	23.9	23.2	24.1	24.3	24.9	25.9	25.2	26.1	26.4
	8H	23.0	24.0	23.3	24.3	24.5	25.1	26.1	25.4	26.3	26.6
	12H	23.2	24.2	23.5	24.4	24.7	25.2	26.2	25.6	26.5	26.7
4H	2H	22.3	23.3	22.5	23.5	23.7	22.9	23.9	23.2	24.1	24.3
	3H	23.4	24.4	23.8	24.7	24.9	24.7	25.7	25.0	25.9	26.2
	4H	23.9	24.9	24.2	25.1	25.4	25.5	26.5	25.9	26.8	27.0
	6H	23.9	24.7	24.3	25.0	25.3	25.9	26.7	26.2	27.0	27.3
	8H	24.1	24.9	24.5	25.2	25.5	26.1	26.9	26.5	27.2	27.5
	12H	24.5	25.2	24.9	25.6	26.0	26.4	27.2	26.9	27.5	27.9
8H	4H	24.0	24.8	24.4	25.1	25.4	25.5	26.3	25.9	26.6	26.9
	6H	24.6	25.3	25.1	25.8	26.2	26.4	27.1	26.9	27.5	28.0
	8H	24.9	25.6	25.4	26.1	26.5	26.8	27.5	27.3	27.9	28.4
	12H	25.1	25.7	25.6	26.1	26.6	26.9	27.5	27.4	28.0	28.4
12H	4H	24.2	25.0	24.7	25.3	25.7	25.7	26.4	26.1	26.8	27.2
	6H	24.8	25.5	25.3	25.9	26.4	26.6	27.2	27.0	27.7	28.1
	8H	25.0	25.5	25.5	26.0	26.5	26.8	27.3	27.3	27.8	28.3
variation of observer position											
S =	1.0H			+0.2/	-0.2			+0.1/	-0.1		
	1.5H			+0.5/	-0.7			+0.2/	-0.4		
	2.0H			+0.8/	-1.3			+0.4/	-0.6		
standard-table				BK04					BK05		
correction for luminaire				7.2					9.2		
correct glare indices for a total flux of 11200lm											

glare rating / DIN

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

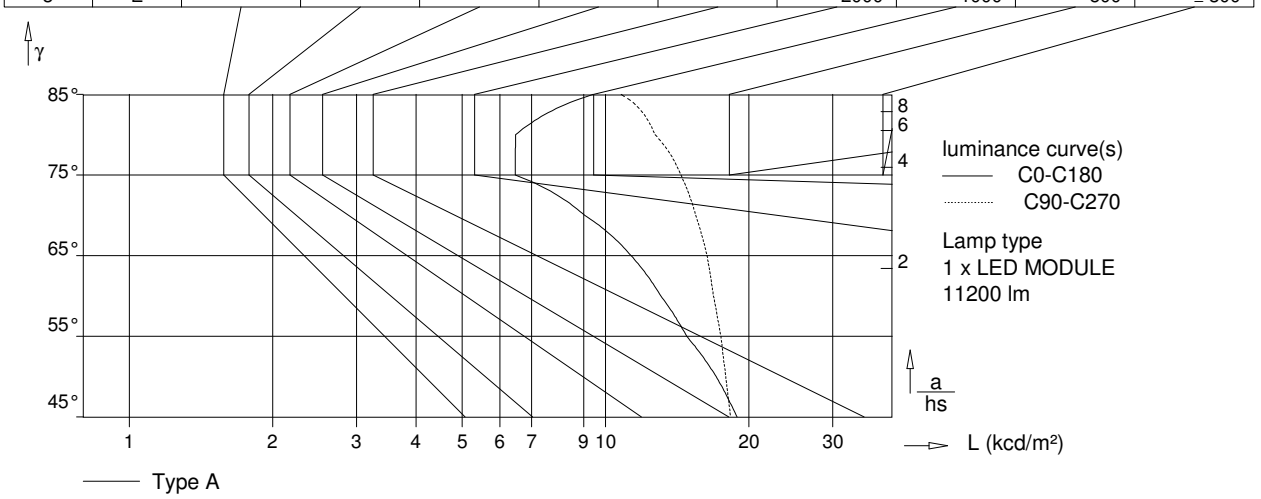


Table of intensities

gamma	C 0	C 90	C 180	C 270
45°	18877.9	18309.4	18877.9	18309.4
50°	17073.3	17884.7	17073.3	17884.7
55°	14804.8	17466.4	14804.8	17466.4
60°	13060.8	16853.0	13060.8	16853.0
65°	11312.8	16339.2	11312.8	16339.2
70°	9038.5	15471.8	9038.5	15471.8
75°	6465.3	14400.0	6465.3	14400.0
80°	6476.4	12702.5	6476.4	12702.5
85°	9412.7	10784.1	9412.7	10784.1

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	62	71	78	83	90	94	98	102	104
70	30	20	55	64	71	77	84	89	93	98	101
70	10	20	50	58	66	72	80	85	89	95	98
50	50	20	61	69	76	80	87	91	94	98	100
50	30	20	54	62	70	75	82	87	90	95	98
50	10	20	50	58	65	70	78	83	87	92	95
30	50	20	59	67	73	78	84	88	91	94	96
30	30	20	54	61	68	73	80	84	87	92	94
30	10	20	49	57	64	69	76	81	85	89	92
0	0	0	47	55	62	66	73	78	81	85	88
BZ-class			3	4	4	4	4	4	4	4	4
SHRnom : 1.50 SHRmax : 1.612											

isolux diagram