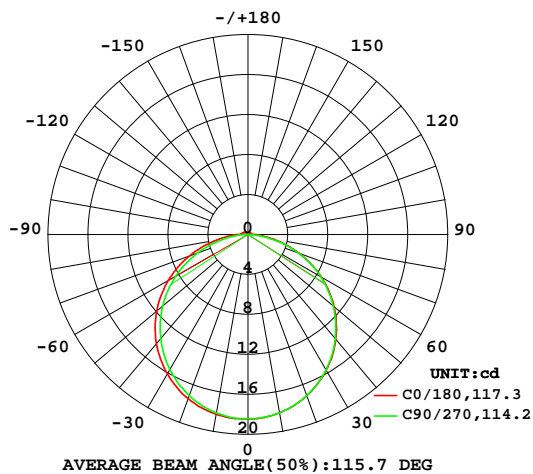


## LUMINAIRE PHOTOMETRIC TEST REPORT

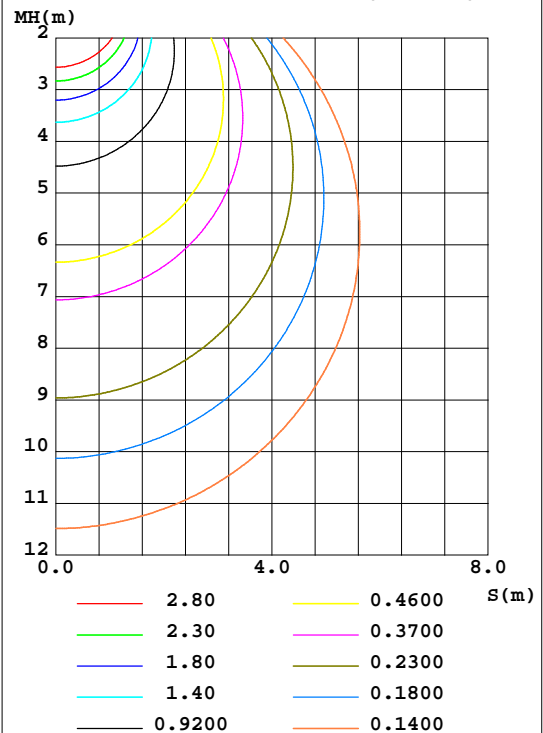
Test:U:24.00V I:0.3420A P:8.200W PF:0 Freq:0Hz Lamp Flux:56.2063x1 lm		
NAME: NMT1312	TYPE:	WEIGHT:
SPEC.:NMT1312-OB24NSN050CC0100-PLus	DIM.: 1000*13*12	SERIAL No.:
MFR.: Colors	SUR.:1000*13*12	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 6.85 lm/W
MODEL	NMT1312	I <sub>max</sub> (cd)	18.46	S/MH(C0/180)	1.30	
NOMINAL POWER(W)	8	LOR(%)	100.0	S/MH(C90/270)	1.26	
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	56.206	h UP,DN(C0-180)	0.8,48.1	
NOMINAL FLUX(lm)	56.2063	CIE CLASS	DIRECT	h UP,DN(C180-360)	1.2,49.9	
LAMPS INSIDE	1	h up(%)	2.0	CIBSE SHR NOM	1.25	
TEST VOLTAGE(V)	24	h down(%)	98.0	CIBSE SHR MAX	1.35	

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:COLORS  
 Test Date:2019-04-04

Range: 0 - 180DEG  
 Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
 Humidity:65.0%  
 Test Distance:7.500m [K=1.0000]  
 Remarks:

## ZONAL FLUX DIAGRAM

### ZONAL FLUX DIAGRAM:

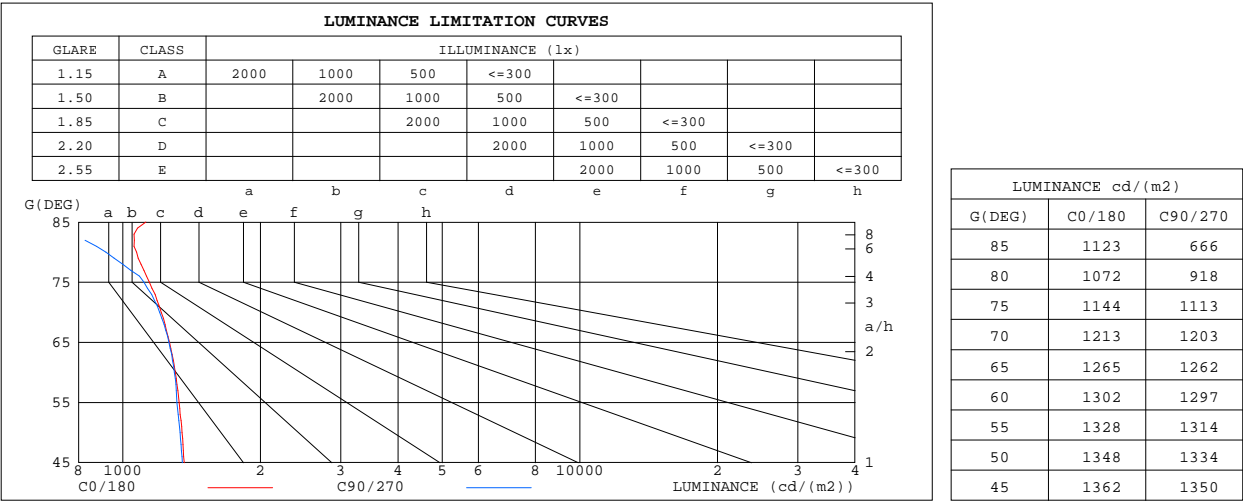
g	C0	C90	C180	C270					g	F zone	F total	%lum,lamp
10	18.12	18.12	18.27	18.13					0~ 10	1.748	1.748	3.11,3.11
20	17.18	17.17	17.49	17.17					10~ 20	5.020	6.768	12,12
30	15.68	15.64	16.13	15.62					20~ 30	7.639	14.41	25.6,25.6
40	13.68	13.59	14.26	13.58					30~ 40	9.281	23.69	42.1,42.1
50	11.27	11.15	11.93	11.15					40~ 50	9.736	33.42	59.5,59.5
60	8.464	8.432	9.203	8.355					50~ 60	8.961	42.39	75.4,75.4
70	5.395	5.351	6.185	5.308					60~ 70	7.033	49.42	87.9,87.9
80	2.420	2.073	3.164	2.260					70~ 80	4.222	53.64	95.4,95.4
90	0.6430	0.0123	1.060	0.2452					80~ 90	1.439	55.08	98,98
100	0.3823	0	0.6361	0					90~100	0.3470	55.43	98.6,98.6
110	0.3416	0	0.5421	0					100~110	0.2519	55.68	99.1,99.1
120	0.2946	0	0.4442	0					110~120	0.2015	55.88	99.4,99.4
130	0.2414	0.0032	0.3446	0					120~130	0.1516	56.03	99.7,99.7
140	0.1693	0.0157	0.2629	0					130~140	0.0977	56.13	99.9,99.9
150	0.0627	0.0282	0.0688	0.0062					140~150	0.0483	56.18	99.9,99.9
160	0.0345	0.0345	0.0345	0.0219					150~160	0.0147	56.19	100,100
170	0.0439	0.0407	0.0407	0.0376					160~170	0.0102	56.20	100,100
180	0.0407	0.0407	0.0439	0.0407					170~180	0.0040	56.21	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:COLORS  
Test Date:2019-04-04

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:7.500m [K=1.0000]  
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:24.00V I:0.3420A P:8.200W PF:0 Freq:0Hz Lamp Flux:56.2063x1 lm		
NAME: NMT1312	TYPE:	WEIGHT:
SPEC.:NMT1312-OB24NSN050CC0100-PLus	DIM.: 1000*13*12	SERIAL No.:
MFR.: Colors	SUR.:1000*13*12	Shielding Angle:



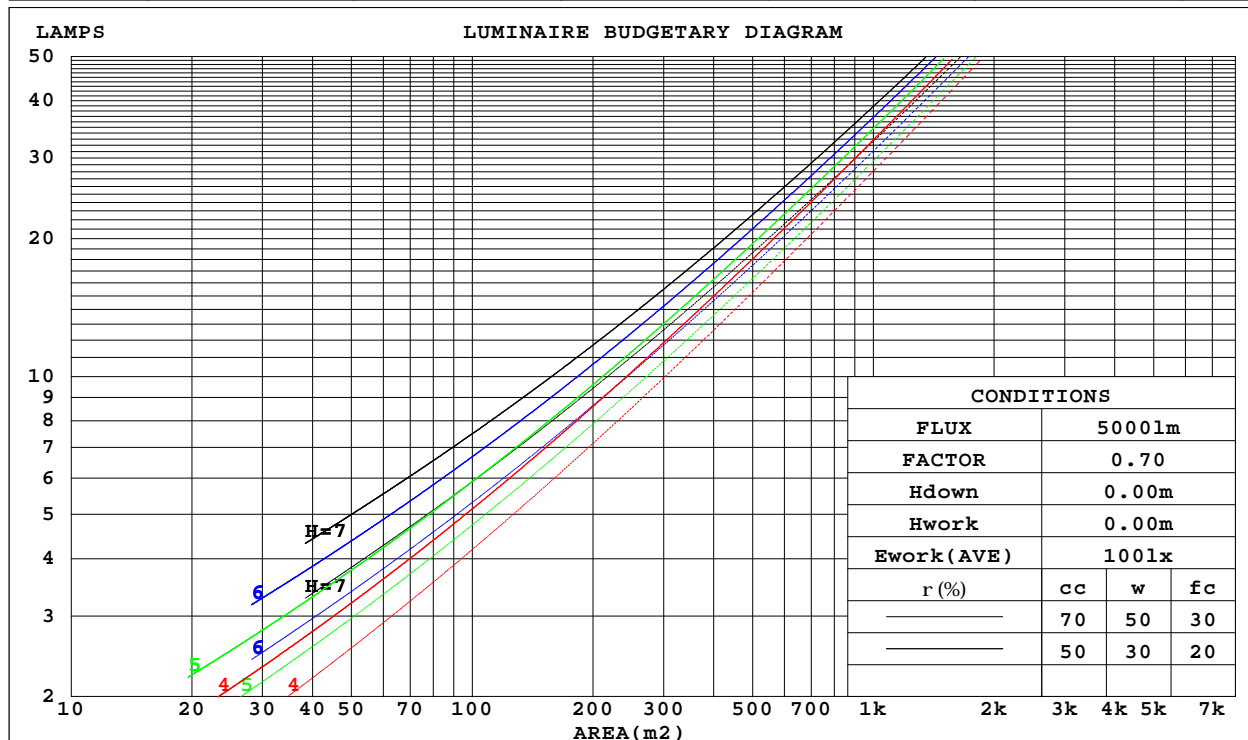
C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:COLORS  
Test Date:2019-04-04

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:7.500m [K=1.0000]  
Remarks:

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:24.00V I:0.3420A P:8.200W PF:0 Freq:0Hz Lamp Flux:56.2063x1 lm		
NAME: NMT1312	TYPE:	WEIGHT:
SPEC.:NMT1312-OB24NSN050CC0100-PLus	DIM.: 1000*13*12	SERIAL No.:
MFR.: Colors	SUR.:1000*13*12	Shielding Angle:

r <sub>cc</sub>	80%			70%			50%			30%			10%			0
r <sub>w</sub>	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
r <sub>fc</sub>	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.10	1.10	1.10	1.05	1.05	1.05	1.00	1.00	1.00	.98
1.0	1.03	.98	.94	1.00	.96	.93	.96	.92	.89	.91	.89	.86	.87	.85	.83	.81
2.0	.89	.82	.76	.87	.81	.75	.83	.78	.73	.80	.75	.71	.76	.73	.69	.67
3.0	.78	.70	.63	.76	.69	.62	.73	.66	.61	.70	.64	.60	.67	.62	.58	.56
4.0	.69	.60	.53	.68	.59	.53	.65	.57	.52	.62	.56	.51	.60	.54	.50	.48
5.0	.62	.52	.46	.60	.52	.45	.58	.50	.45	.56	.49	.44	.54	.48	.43	.41
6.0	.55	.46	.40	.54	.46	.39	.52	.45	.39	.50	.44	.38	.49	.43	.38	.36
7.0	.50	.41	.35	.49	.41	.35	.47	.40	.34	.46	.39	.34	.44	.38	.34	.32
8.0	.46	.37	.31	.45	.37	.31	.43	.36	.31	.42	.35	.30	.41	.35	.30	.28
9.0	.42	.34	.28	.41	.33	.28	.40	.33	.28	.39	.32	.27	.37	.31	.27	.25
10.0	.39	.31	.25	.38	.30	.25	.37	.30	.25	.36	.29	.25	.35	.29	.25	.23



C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:COLORS  
 Test Date:2019-04-04

g Range: 0 - 180DEG  
 g Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
 Humidity:65.0%  
 Test Distance:7.500m [K=1.0000]  
 Remarks:

## WEC AND CCEC

Test:U:24.00V I:0.3420A P:8.200W PF:0 Freq:0Hz Lamp Flux:56.2063x1 lm		
NAME: NMT1312	TYPE:	WEIGHT:
SPEC.:NMT1312-OB24NSN050CC0100-PLus	DIM.: 1000*13*12	SERIAL No.:
MFR.: Colors	SUR.:1000*13*12	Shielding Angle:

rcc	80%			70%			50%			30%			10%			0
rw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
rfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio			Wall Exitance Coefficients(WEC)												
0.0																
1.0	.321	.183	.058	.313	.179	.057	.299	.171	.055	.286	.165	.053	.273	.158	.051	
2.0	.299	.164	.050	.292	.161	.050	.279	.155	.048	.267	.150	.047	.256	.145	.046	
3.0	.275	.146	.044	.269	.144	.043	.257	.140	.042	.247	.135	.042	.237	.131	.041	
4.0	.253	.131	.039	.247	.129	.038	.237	.126	.038	.228	.122	.037	.219	.119	.036	
5.0	.233	.119	.034	.228	.117	.034	.219	.114	.034	.211	.111	.033	.203	.108	.033	
6.0	.216	.108	.031	.211	.107	.031	.203	.104	.030	.196	.102	.030	.189	.099	.030	
7.0	.200	.099	.028	.197	.098	.028	.189	.096	.028	.183	.094	.027	.176	.092	.027	
8.0	.187	.091	.026	.184	.090	.026	.177	.088	.025	.171	.087	.025	.165	.085	.025	
9.0	.175	.085	.024	.172	.084	.024	.166	.082	.023	.161	.080	.023	.155	.079	.023	
10.0	.164	.079	.022	.162	.078	.022	.156	.077	.022	.151	.075	.021	.147	.074	.021	

rcc	80%			70%			50%			30%			10%			0
rw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
rfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio			Ceiling Cavity Exitance Coefficients(CCEC)												
0.0	.206	.206	.206	.176	.176	.176	.120	.120	.120	.069	.069	.069	.022	.022	.022	
1.0	.196	.171	.149	.168	.147	.128	.115	.101	.089	.066	.059	.052	.021	.019	.017	
2.0	.189	.147	.113	.162	.127	.097	.111	.088	.068	.064	.051	.040	.020	.017	.013	
3.0	.181	.130	.089	.155	.112	.077	.107	.078	.054	.062	.045	.032	.020	.015	.010	
4.0	.173	.117	.073	.149	.101	.064	.102	.070	.045	.059	.041	.027	.019	.013	.009	
5.0	.166	.106	.062	.143	.092	.054	.098	.064	.038	.057	.038	.023	.018	.012	.008	
6.0	.159	.098	.055	.136	.085	.048	.094	.059	.034	.055	.035	.020	.018	.011	.007	
7.0	.152	.091	.049	.131	.079	.043	.090	.055	.030	.052	.033	.018	.017	.011	.006	
8.0	.145	.085	.044	.125	.074	.039	.087	.052	.027	.050	.031	.016	.016	.010	.005	
9.0	.139	.081	.041	.120	.070	.036	.083	.049	.025	.048	.029	.015	.016	.010	.005	
10.0	.133	.076	.038	.115	.066	.033	.080	.047	.024	.047	.028	.014	.015	.009	.005	

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:COLORS  
Test Date:2019-04-04

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:7.500m [K=1.0000]  
Remarks:

UGR(Unified Glare Rating) Table

Test:U:24.00V I:0.3420A P:8.200W PF:0 Freq:0Hz Lamp Flux:56.2063x1 lm											
NAME: NMT1312					TYPE:			WEIGHT:			
SPEC.:NMT1312-OB24NSN050CC0100-PLus					DIM.: 1000*13*12			SERIAL No.:			
MFR.: Colors					SUR.:1000*13*12			Shielding Angle:			
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3	
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3	
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
Room dimensions		Viewed crosswise					Viewed endwise				
x = 2H y = 2H	23.7	25.2	24.0	25.5	25.7	23.7	25.2	24.0	25.4	25.7	
	3H	25.3	26.7	25.6	27.0	27.3	25.3	26.7	25.6	27.0	27.2
	4H	25.9	27.3	26.3	27.6	27.9	25.9	27.2	26.2	27.5	27.8
	6H	26.4	27.7	26.8	28.0	28.3	26.3	27.6	26.7	27.9	28.2
	8H	26.6	27.8	27.0	28.1	28.5	26.4	27.6	26.8	27.9	28.3
	12H	26.7	27.9	27.1	28.2	28.6	26.4	27.6	26.8	27.9	28.3
4H	2H	24.3	25.7	24.7	26.0	26.3	24.3	25.7	24.7	25.9	26.2
	3H	26.1	27.3	26.5	27.6	28.0	26.1	27.3	26.5	27.6	27.9
	4H	26.9	27.9	27.3	28.3	28.7	26.8	27.9	27.2	28.3	28.6
	6H	27.5	28.4	27.9	28.8	29.2	27.3	28.3	27.8	28.7	29.1
	8H	27.7	28.6	28.1	29.0	29.4	27.5	28.4	27.9	28.8	29.2
	12H	27.9	28.7	28.4	29.1	29.6	27.6	28.4	28.0	28.8	29.3
8H	4H	27.1	28.0	27.6	28.4	28.9	27.1	28.0	27.5	28.4	28.8
	6H	27.9	28.6	28.4	29.1	29.5	27.8	28.5	28.2	28.9	29.4
	8H	28.2	28.9	28.7	29.3	29.8	28.0	28.6	28.5	29.1	29.6
	12H	28.5	29.1	29.0	29.5	30.1	28.1	28.7	28.6	29.2	29.7
12H	4H	27.1	28.0	27.6	28.4	28.8	27.1	27.9	27.6	28.4	28.8
	6H	27.9	28.6	28.4	29.1	29.6	27.8	28.5	28.3	28.9	29.4
	8H	28.3	28.9	28.8	29.3	29.9	28.1	28.6	28.6	29.1	29.6
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.2					+ 0.1 / - 0.2					
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3					
2.0H	+ 0.1 / - 0.3					+ 0.2 / - 0.3					

CIE Pub.117, 56.21 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -10.0)

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:COLORS  
Test Date:2019-04-04

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:7.500m [K=1.0000]  
Remarks:

### UTILIZATION FACTORS TABLE

Test:U:24.00V I:0.3420A P:8.200W PF:0 Freq:0Hz Lamp Flux:56.2063x1 lm		
NAME: NMT1312	TYPE:	WEIGHT:
SPEC.:NMT1312-OB24NSN050CC0100-PLus	DIM.: 1000*13*12	SERIAL No.:
MFR.: Colors	SUR.:1000*13*12	Shielding Angle:

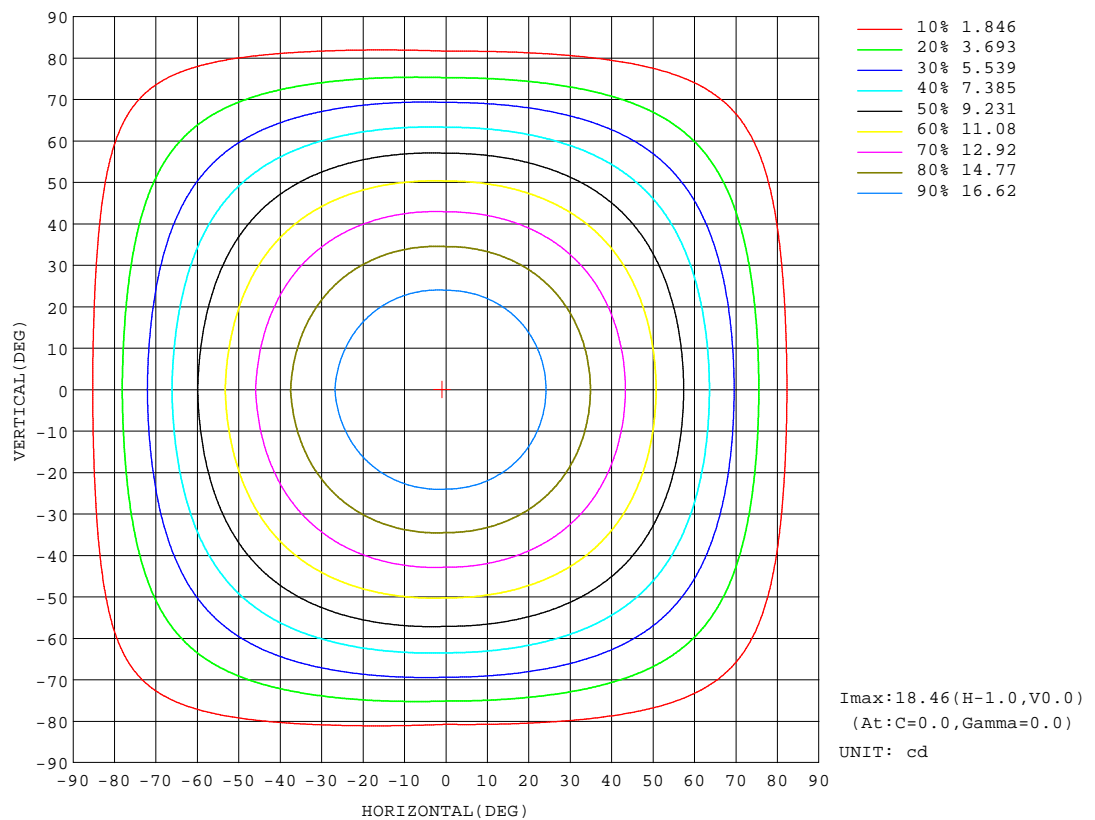
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	56	44	37	55	44	37	54	43	37	30
0.80	66	54	47	65	54	46	63	53	46	39
1.00	74	63	55	73	62	55	71	64	55	47
1.25	81	71	63	80	70	63	77	68	62	54
1.50	86	76	69	85	75	68	81	73	67	59
2.00	93	85	78	91	83	77	88	81	75	67
2.50	97	89	83	95	88	82	91	85	80	71
3.00	101	94	88	99	92	87	94	89	84	75
4.00	105	99	94	102	97	93	98	93	90	80
5.00	108	102	98	105	100	96	100	96	93	83
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:COLORS  
Test Date:2019-04-04

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:7.500m [K=1.0000]  
Remarks:

### ISOCANDELA DIAGRAM

Test:U:24.00V I:0.3420A P:8.200W PF:0 Freq:0Hz Lamp Flux:56.2063x1 lm		
NAME: NMT1312	TYPE:	WEIGHT:
SPEC.:NMT1312-OB24NSN050CC0100-PLus	DIM.: 1000*13*12	SERIAL No.:
MFR.: Colors	SUR.:1000*13*12	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:COLORS  
Test Date:2019-04-04

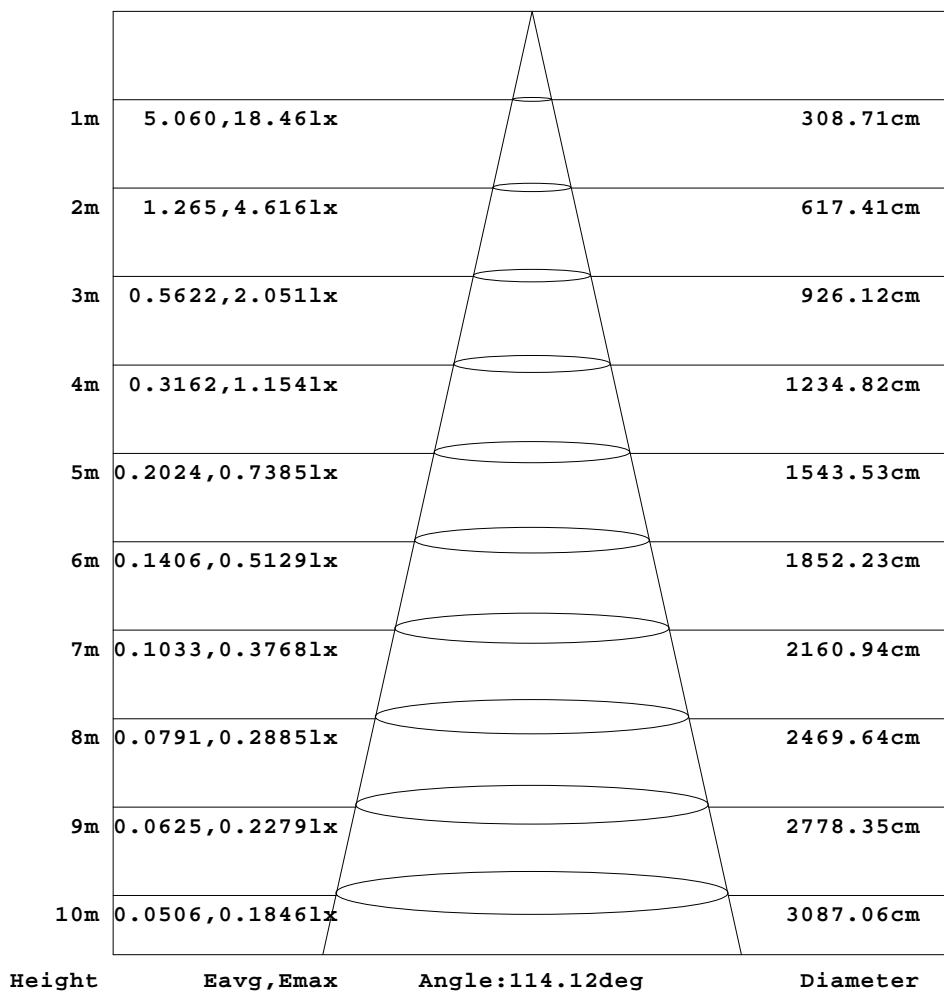
Range: 0 - 180DEG  
Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:7.500m [K=1.0000]  
Remarks:



### AAI Figure

Test:U:24.00V I:0.3420A P:8.200W PF:0 Freq:0Hz Lamp Flux:56.2063x1 lm		
NAME: NMT1312	TYPE:	WEIGHT:
SPEC.:NMT1312-OB24NSN050CC0100-PLus	DIM.: 1000*13*12	SERIAL No.:
MFR.: Colors	SUR.:1000*13*12	Shielding Angle:

Flux out:40.71 lm



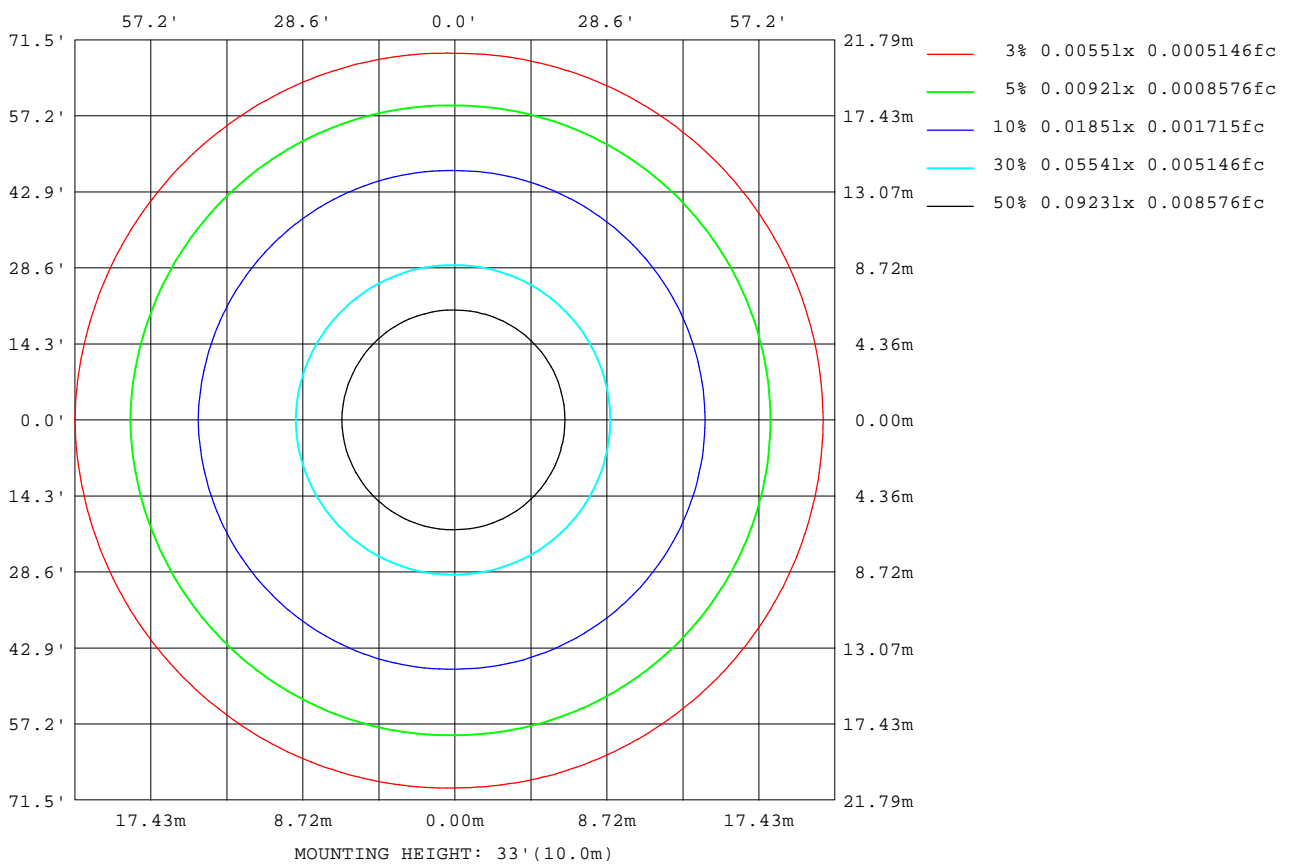
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:COLORS  
Test Date:2019-04-04

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:7.500m [K=1.0000]  
Remarks:

## ISOLUX DIAGRAM

Test:U:24.00V I:0.3420A P:8.200W PF:0 Freq:0Hz Lamp Flux:56.2063x1 lm		
NAME: NMT1312	TYPE:	WEIGHT:
SPEC.:NMT1312-OB24NSN050CC0100-PLus	DIM.: 1000*13*12	SERIAL No.:
MFR.: Colors	SUR.:1000*13*12	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: COLORS  
Test Date: 2019-04-04

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity: 65.0%  
Test Distance: 7.500m [K=1.0000]  
Remarks:

### LED Avg.L Report

Test:U:24.00V I:0.3420A P:8.200W PF:0 Freq:0Hz Lamp Flux:56.2063x1 lm		
NAME: NMT1312	TYPE:	WEIGHT:
SPEC.:NMT1312-OB24NSN050CC0100-PLus	DIM.: 1000*13*12	SERIAL No.:
MFR.: Colors	SUR.:1000*13*12	Shielding Angle:

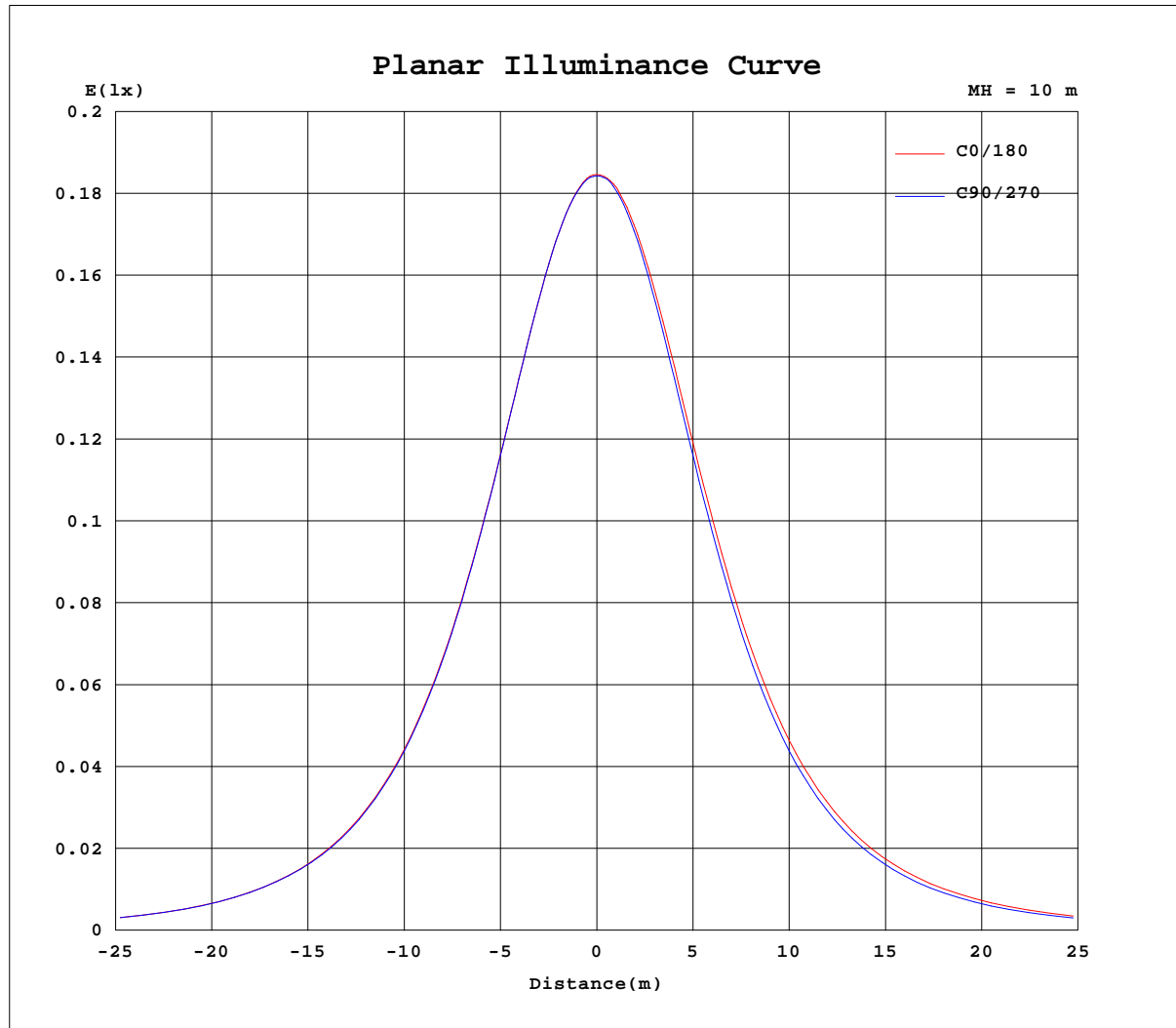
AvgL	cd/m2
L_0~180(65)av	1336
L_0~180(75)av	1262
L_0~180(85)av	1403
L_90~270(65)av	1254
L_90~270(75)av	1115
L_90~270(85)av	785
L_45(65)av	1289
L_45(75)av	1177
L_45(85)av	1034

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:COLORS  
Test Date:2019-04-04

g Range: 0 - 180DEG  
g Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:7.500m [K=1.0000]  
Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: COLORS  
Test Date: 2019-04-04

deg Range: 0 - 180DEG  
Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity: 65.0%  
Test Distance: 7.500m [K=1.0000]  
Remarks:

## LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:24.00V I:0.3420A P:8.200W PF:0 Freq:0Hz Lamp Flux:56.2063x1 lm		
NAME: NMT1312	TYPE:	WEIGHT:
SPEC.:NMT1312-OB24NSN050CC0100-PLus	DIM.: 1000*13*12	SERIAL No.:
MFR.: Colors	SUR.:1000*13*12	Shielding Angle:

Table--1

UNIT: cd

C(DEG) g (DEG)	0	90	180	270															
0	18.5	18.4	18.5	18.4															
5	18.4	18.4	18.4	18.4															
10	18.1	18.1	18.3	18.1															
15	17.7	17.7	17.9	17.7															
20	17.2	17.2	17.5	17.2															
25	16.5	16.5	16.9	16.5															
30	15.7	15.6	16.1	15.6															
35	14.7	14.7	15.3	14.7															
40	13.7	13.6	14.3	13.6															
45	12.5	12.4	13.1	12.4															
50	11.3	11.1	11.9	11.2															
55	9.90	9.79	10.6	9.79															
60	8.46	8.43	9.20	8.35															
65	6.95	6.93	7.73	6.84															
70	5.39	5.35	6.19	5.31															
75	3.85	3.74	4.64	3.76															
80	2.42	2.07	3.16	2.26															
85	1.27	0.75	1.91	1.02															
90	0.64	0.01	1.06	0.25															
95	0.42	0.00	0.68	0.03															
100	0.38	0.00	0.64	0.00															
105	0.36	0.00	0.59	0.00															
110	0.34	0.00	0.54	0.00															
115	0.32	0.00	0.49	0.00															
120	0.29	0.00	0.44	0.00															
125	0.27	0.00	0.41	0.00															
130	0.24	0.00	0.34	0.00															
135	0.21	0.01	0.28	0.00															
140	0.17	0.02	0.26	0.00															
145	0.11	0.02	0.18	0.00															
150	0.06	0.03	0.07	0.01															
155	0.04	0.03	0.03	0.01															
160	0.03	0.03	0.03	0.02															
165	0.04	0.03	0.04	0.03															
170	0.04	0.04	0.04	0.04															
175	0.04	0.04	0.04	0.04															
180	0.04	0.04	0.04	0.04															

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:COLORS  
Test Date:2019-04-04

g Range: 0 - 180DEG  
Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:7.500m [K=1.0000]  
Remarks: