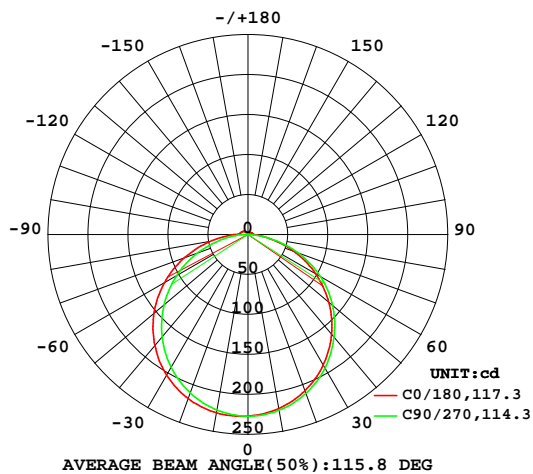


## LUMINAIRE PHOTOMETRIC TEST REPORT

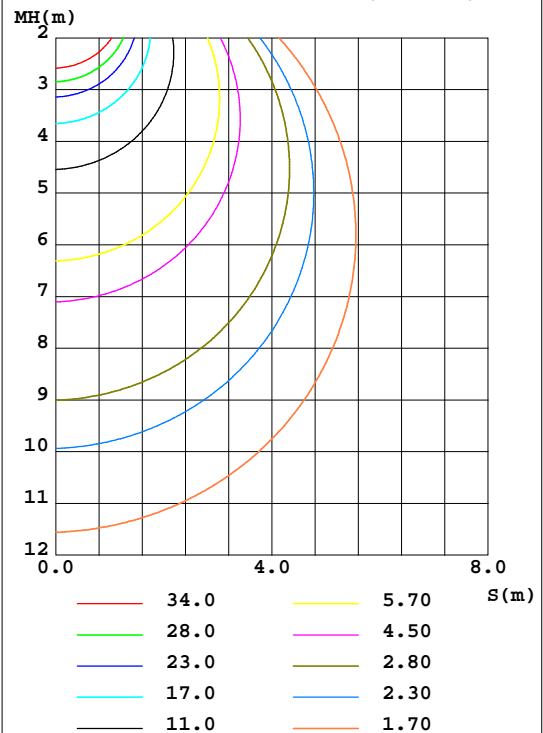
Test:U:24.00V I:0.4330A P:10.39W PF:0 Freq:0Hz Lamp Flux:701.719x1 lm		
NAME: NMT1312	TYPE:	WEIGHT:
SPEC.:NMT1312-8WW24NSN050CC0100-Plus	DIM.: 1000*13*12	SERIAL No.:
MFR.: Colors	SUR.:1000*13*12	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 67.52 lm/W			
MODEL	NMT1312	I <sub>max</sub> (cd)	227.6	S/MH(C0/180)	1.33
NOMINAL POWER(W)	9.6	LOR(%)	100.0	S/MH(C90/270)	1.26
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	701.72	h UP,DN(C0-180)	1.1,46.3
NOMINAL FLUX(lm)	701.719	CIE CLASS	DIRECT	h UP,DN(C180-360)	1.9,50.7
LAMPS INSIDE	1	h up(%)	3.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	24	h down(%)	97.0	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:

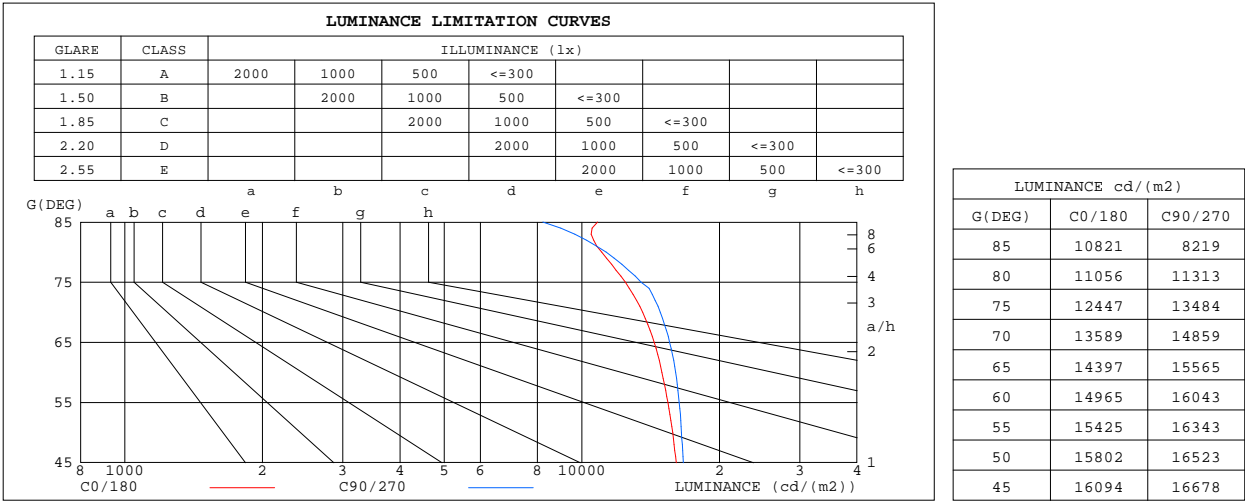
g	C0	C90	C180	C270					g	F zone	F total	%lum,lamp
10	221.0	223.2	226.5	223.0					0- 10	21.50	21.50	3.06,3.06
20	208.3	211.7	218.7	211.0					10- 20	61.77	83.27	11.9,11.9
30	188.3	192.9	203.3	192.1					20- 30	94.08	177.3	25.3,25.3
40	162.8	167.6	181.2	167.1					30- 40	114.2	291.6	41.6,41.6
50	132.0	138.1	153.5	137.2					40- 50	119.9	411.5	58.6,58.6
60	97.27	104.3	120.9	102.9					50- 60	110.6	522.1	74.4,74.4
70	60.42	66.07	84.11	66.42					60- 70	87.17	609.3	86.8,86.8
80	24.96	25.54	46.00	29.10					70- 80	52.75	662.0	94.3,94.3
90	7.088	1.336	15.96	3.889					80- 90	18.62	680.6	97.97
100	6.240	0.3702	10.07	0.6080					90-100	5.547	686.2	97.8,97.8
110	5.625	0.5704	8.985	0.4888					100-110	4.351	690.5	98.4,98.4
120	4.907	0.7082	7.789	0.6672					110-120	3.700	694.2	98.9,98.9
130	3.971	0.8462	6.144	0.8398					120-130	2.947	697.2	99.4,99.4
140	2.679	0.9715	5.104	0.9807					130-140	2.064	699.3	99.6,99.6
150	1.303	1.112	3.536	1.128					140-150	1.266	700.5	99.8,99.8
160	1.300	1.203	1.294	1.235					150-160	0.7154	701.2	99.9,99.9
170	1.299	1.263	1.260	1.288					160-170	0.3584	701.6	100,100
180	1.300	1.300	1.297	1.294					170-180	0.1228	701.7	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:0.4330A P:10.39W PF:0 Freq:0Hz Lamp Flux:701.719x1 lm		
NAME: NMT1312	TYPE:	WEIGHT:
SPEC.:NMT1312-8WW24NSN050CC0100-PLUS	DIM.: 1000*13*12	SERIAL No.:
MFR.: Colors	SUR.:1000*13*12	Shielding Angle:



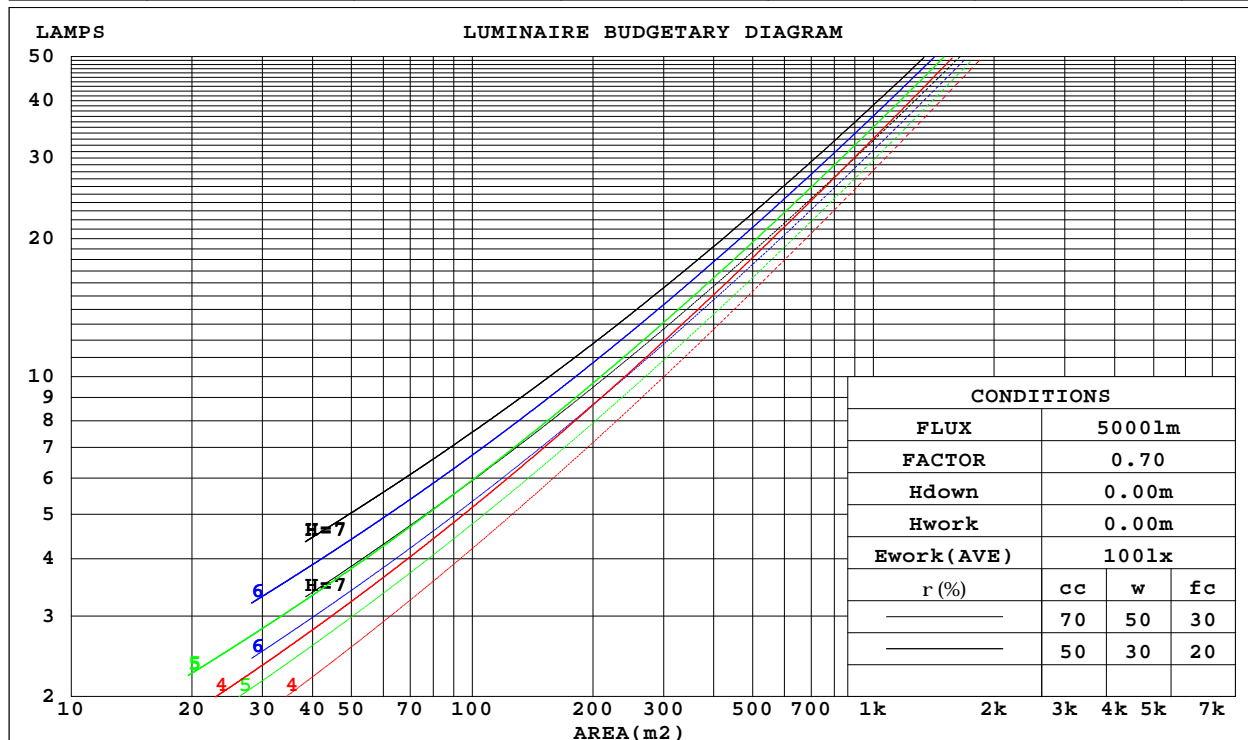
C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:COLORS  
Test Date:2019-04-04

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:0.4330A P:10.39W PF:0 Freq:0Hz Lamp Flux:701.719x1 lm		
NAME: NMT1312	TYPE:	WEIGHT:
SPEC.:NMT1312-8WW24NSN050CC0100-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	1.18	1.18	1.18	1.15	1.15	1.15	1.09	1.09	1.09	1.04	1.04	1.04	.99	.99	.99	.97
1.0	1.03	.98	.94	.90	.96	.92	.95	.92	.89	.91	.88	.85	.87	.84	.82	.80
2.0	.89	.82	.76	.87	.80	.75	.83	.77	.73	.79	.74	.70	.75	.72	.68	.66
3.0	.78	.69	.63	.76	.68	.62	.73	.66	.61	.69	.64	.59	.66	.62	.58	.55
4.0	.69	.60	.53	.67	.59	.52	.64	.57	.51	.62	.55	.50	.59	.54	.49	.47
5.0	.61	.52	.45	.60	.51	.45	.58	.50	.44	.55	.49	.43	.53	.47	.43	.40
6.0	.55	.46	.40	.54	.45	.39	.52	.44	.39	.50	.43	.38	.48	.42	.37	.35
7.0	.50	.41	.35	.49	.41	.35	.47	.40	.34	.45	.39	.34	.44	.38	.33	.31
8.0	.45	.37	.31	.45	.36	.31	.43	.36	.30	.42	.35	.30	.40	.34	.30	.28
9.0	.42	.33	.28	.41	.33	.28	.40	.32	.27	.38	.32	.27	.37	.31	.27	.25
10.0	.38	.30	.25	.38	.30	.25	.37	.30	.25	.35	.29	.24	.34	.28	.24	.22



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:0.4330A P:10.39W PF:0 Freq:0Hz Lamp Flux:701.719x1 lm		
NAME: NMT1312	TYPE:	WEIGHT:
SPEC.:NMT1312-8WW24NSN050CC0100-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	.322	.183	.058	.314	.179	.057	.299	.172	.055	.285	.165	.053	.273	.158	.051	
2.0	.299	.164	.050	.292	.161	.050	.279	.155	.048	.266	.149	.047	.255	.144	.045	
3.0	.275	.146	.044	.269	.144	.043	.257	.139	.042	.246	.135	.041	.236	.131	.040	
4.0	.253	.131	.039	.247	.129	.038	.237	.125	.037	.227	.122	.037	.218	.118	.036	
5.0	.233	.119	.034	.228	.117	.034	.219	.114	.034	.210	.111	.033	.201	.108	.032	
6.0	.216	.108	.031	.211	.107	.031	.203	.104	.030	.195	.101	.030	.187	.099	.029	
7.0	.200	.099	.028	.196	.098	.028	.189	.095	.027	.182	.093	.027	.175	.091	.027	
8.0	.187	.091	.026	.183	.090	.026	.176	.088	.025	.170	.086	.025	.164	.084	.024	
9.0	.175	.085	.024	.172	.084	.023	.165	.082	.023	.160	.080	.023	.154	.078	.023	
10.0	.164	.079	.022	.161	.078	.022	.156	.076	.021	.150	.075	.021	.145	.073	.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	.213	.213	.213	.182	.182	.182	.124	.124	.124	.071	.071	.071	.023	.023	.023	
1.0	.204	.179	.156	.175	.154	.135	.120	.106	.093	.069	.061	.054	.022	.020	.018	
2.0	.196	.155	.120	.168	.134	.104	.115	.092	.073	.066	.054	.043	.021	.017	.014	
3.0	.189	.138	.097	.162	.119	.084	.111	.083	.059	.064	.048	.035	.021	.016	.011	
4.0	.181	.125	.081	.155	.108	.071	.107	.075	.050	.062	.044	.029	.020	.014	.010	
5.0	.174	.114	.070	.149	.099	.061	.103	.069	.043	.060	.041	.026	.019	.013	.008	
6.0	.167	.106	.062	.143	.092	.054	.099	.064	.038	.057	.038	.023	.018	.012	.008	
7.0	.160	.099	.057	.137	.086	.049	.095	.060	.035	.055	.035	.021	.018	.012	.007	
8.0	.153	.093	.052	.132	.081	.046	.091	.057	.032	.053	.034	.019	.017	.011	.006	
9.0	.147	.088	.049	.127	.077	.043	.088	.054	.030	.051	.032	.018	.017	.010	.006	
10.0	.141	.084	.046	.122	.073	.040	.084	.051	.029	.049	.030	.017	.016	.010	.006	

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:0.4330A P:10.39W PF:0 Freq:0Hz Lamp Flux:701.719x1 lm											
NAME: NMT1312					TYPE:			WEIGHT:			
SPEC.:NMT1312-8WW24NSN050CC0100-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	23.3	24.8	23.6	25.0	25.3	23.5	25.0	23.8	25.3	25.6	
	3H	24.8	26.2	25.1	26.5	26.8	25.1	26.5	25.4	26.8	27.1
	4H	25.4	26.7	25.7	27.0	27.3	25.7	27.0	26.1	27.3	27.7
	6H	25.8	27.0	26.1	27.3	27.7	26.1	27.3	26.5	27.7	28.0
	8H	25.9	27.1	26.3	27.4	27.8	26.2	27.4	26.6	27.7	28.1
	12H	26.0	27.1	26.4	27.5	27.8	26.2	27.4	26.6	27.7	28.1
4H	2H	23.9	25.2	24.3	25.5	25.9	24.1	25.4	24.5	25.7	26.1
	3H	25.6	26.8	26.0	27.1	27.5	25.9	27.0	26.3	27.4	27.7
	4H	26.3	27.3	26.7	27.7	28.1	26.6	27.6	27.0	28.0	28.4
	6H	26.8	27.7	27.2	28.1	28.6	27.1	28.0	27.5	28.4	28.9
	8H	27.0	27.8	27.4	28.3	28.7	27.2	28.1	27.7	28.5	29.0
	12H	27.1	27.9	27.6	28.3	28.8	27.3	28.1	27.8	28.6	29.0
8H	4H	26.6	27.4	27.0	27.9	28.3	26.8	27.7	27.3	28.1	28.6
	6H	27.2	27.9	27.7	28.4	28.9	27.4	28.2	27.9	28.6	29.1
	8H	27.5	28.1	28.0	28.6	29.1	27.7	28.3	28.2	28.8	29.3
	12H	27.7	28.2	28.2	28.7	29.3	27.8	28.4	28.3	28.9	29.4
12H	4H	26.6	27.4	27.0	27.8	28.3	26.8	27.6	27.3	28.1	28.5
	6H	27.2	27.9	27.8	28.4	28.9	27.5	28.1	28.0	28.6	29.1
	8H	27.5	28.1	28.1	28.6	29.1	27.7	28.3	28.3	28.8	29.3
Variations with the observer position at spacings:											
S = 1.0H	+ 0.2 / - 0.2					+ 0.1 / - 0.2					
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3					
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3					

CIE Pub.117, 701.7 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -1.2)

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:0.4330A P:10.39W PF:0 Freq:0Hz Lamp Flux:701.719x1 lm		
NAME: NMT1312	TYPE:	WEIGHT:
SPEC.:NMT1312-8WW24NSN050CC0100-Plus	DIM.: 1000*13*12	SERIAL No.:
MFR.: Colors	SUR.:1000*13*12	Shielding Angle:

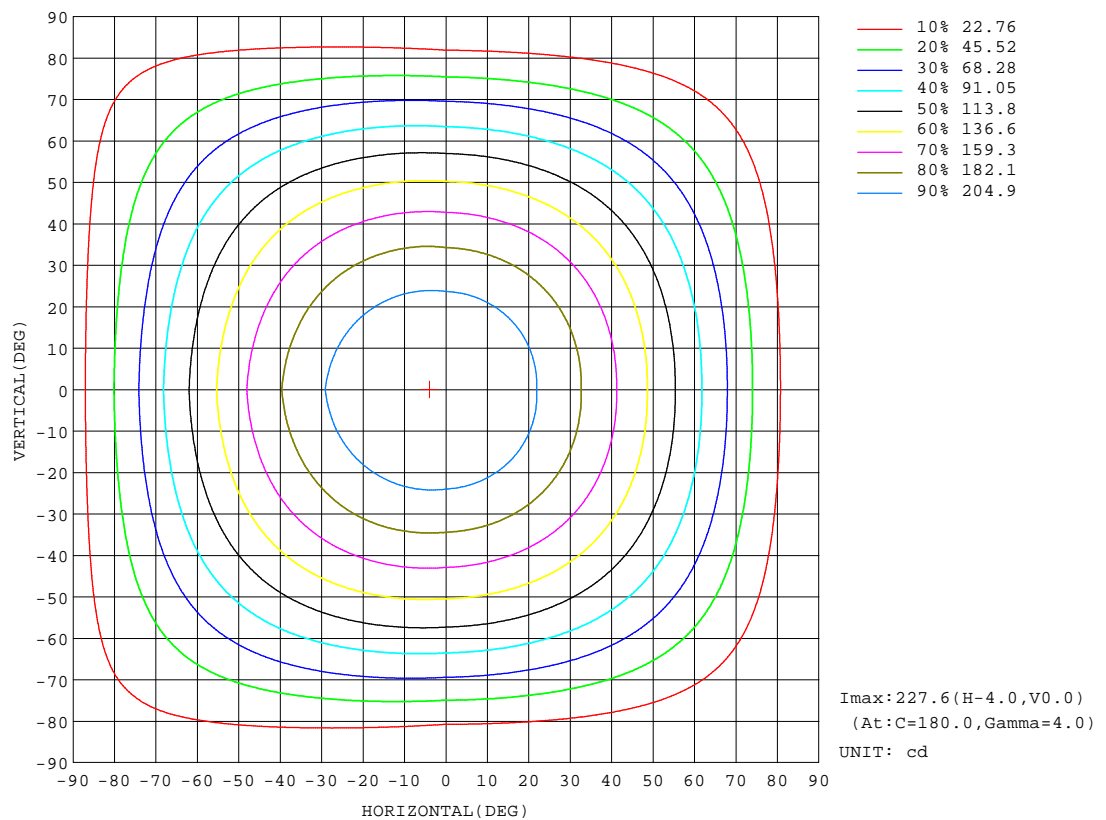
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	56	44	37	55	44	37	54	43	36	30
0.80	66	54	46	64	53	46	62	52	45	38
1.00	74	62	55	73	62	55	70	63	54	46
1.25	81	70	63	79	69	62	76	68	61	54
1.50	86	76	68	84	75	68	81	73	67	59
2.00	93	84	77	91	83	76	87	80	75	66
2.50	97	89	83	95	87	81	91	84	79	70
3.00	101	93	87	98	92	86	94	88	84	74
4.00	105	99	94	102	97	92	97	93	89	79
5.00	107	102	98	105	100	96	99	96	92	82
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:0.4330A P:10.39W PF:0 Freq:0Hz Lamp Flux:701.719x1 lm		
NAME: NMT1312	TYPE:	WEIGHT:
SPEC.:NMT1312-8WW24NSN050CC0100-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

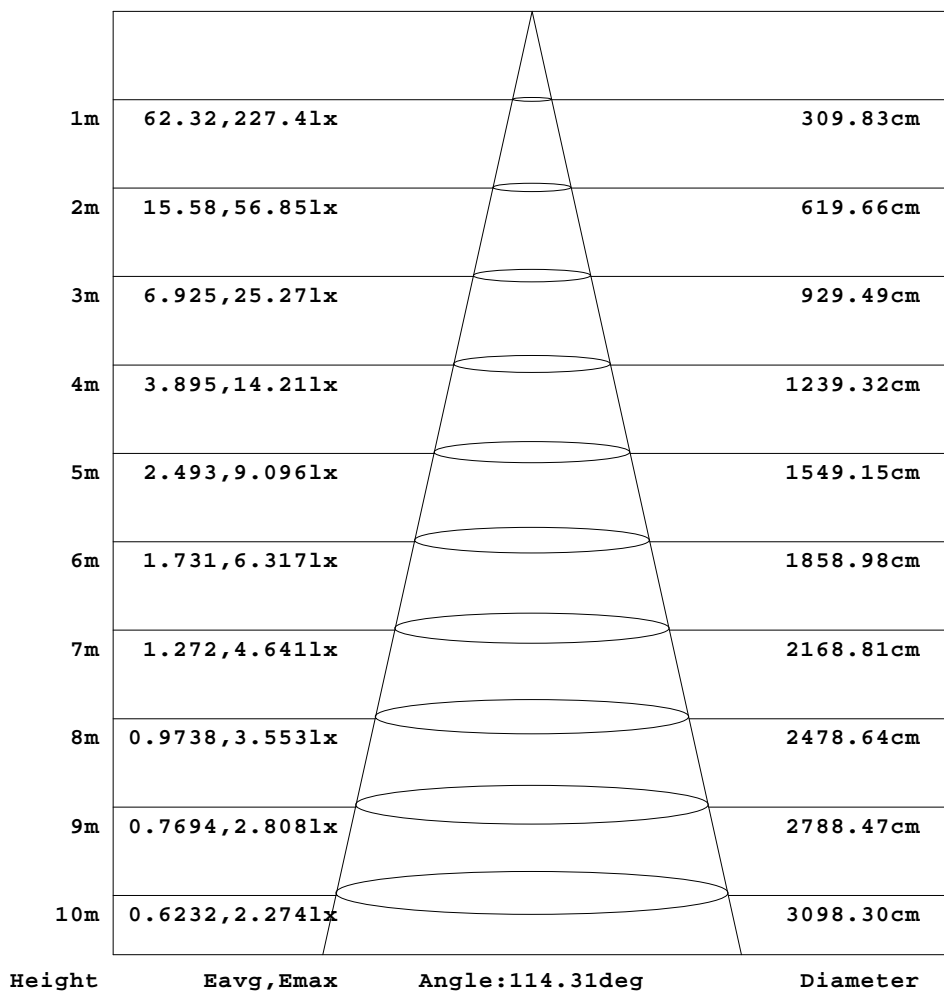
deg Range: 0 - 180DEG  
Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.362  
Humidity: 65.0%  
Test Distance: 7.500m [K=1.0000]  
Remarks:



### AAI Figure

Test:U:24.00V I:0.4330A P:10.39W PF:0 Freq:0Hz Lamp Flux:701.719x1 lm		
NAME: NMT1312	TYPE:	WEIGHT:
SPEC.:NMT1312-8WW24NSN050CC0100-Plus	DIM.: 1000*13*12	SERIAL No.:
MFR.: Colors	SUR.:1000*13*12	Shielding Angle:

Flux out:501.4 lm



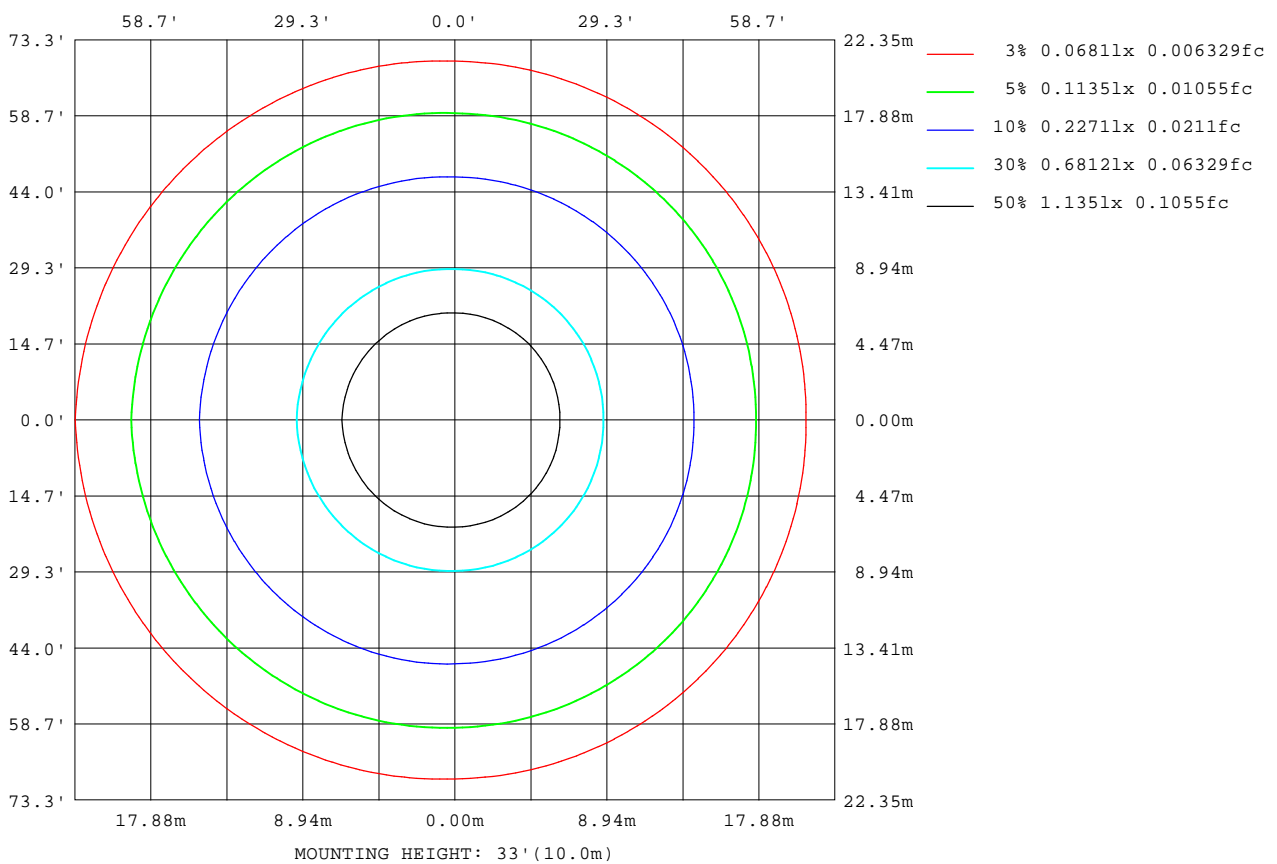
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:0.4330A P:10.39W PF:0 Freq:0Hz Lamp Flux:701.719x1 lm		
NAME: NMT1312	TYPE:	WEIGHT:
SPEC.:NMT1312-8WW24NSN050CC0100-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:0.4330A P:10.39W PF:0 Freq:0Hz Lamp Flux:701.719x1 lm		
NAME: NMT1312	TYPE:	WEIGHT:
SPEC.:NMT1312-8WW24NSN050CC0100-PLus	DIM.: 1000*13*12	SERIAL No.:
MFR.: Colors	SUR.:1000*13*12	Shielding Angle:

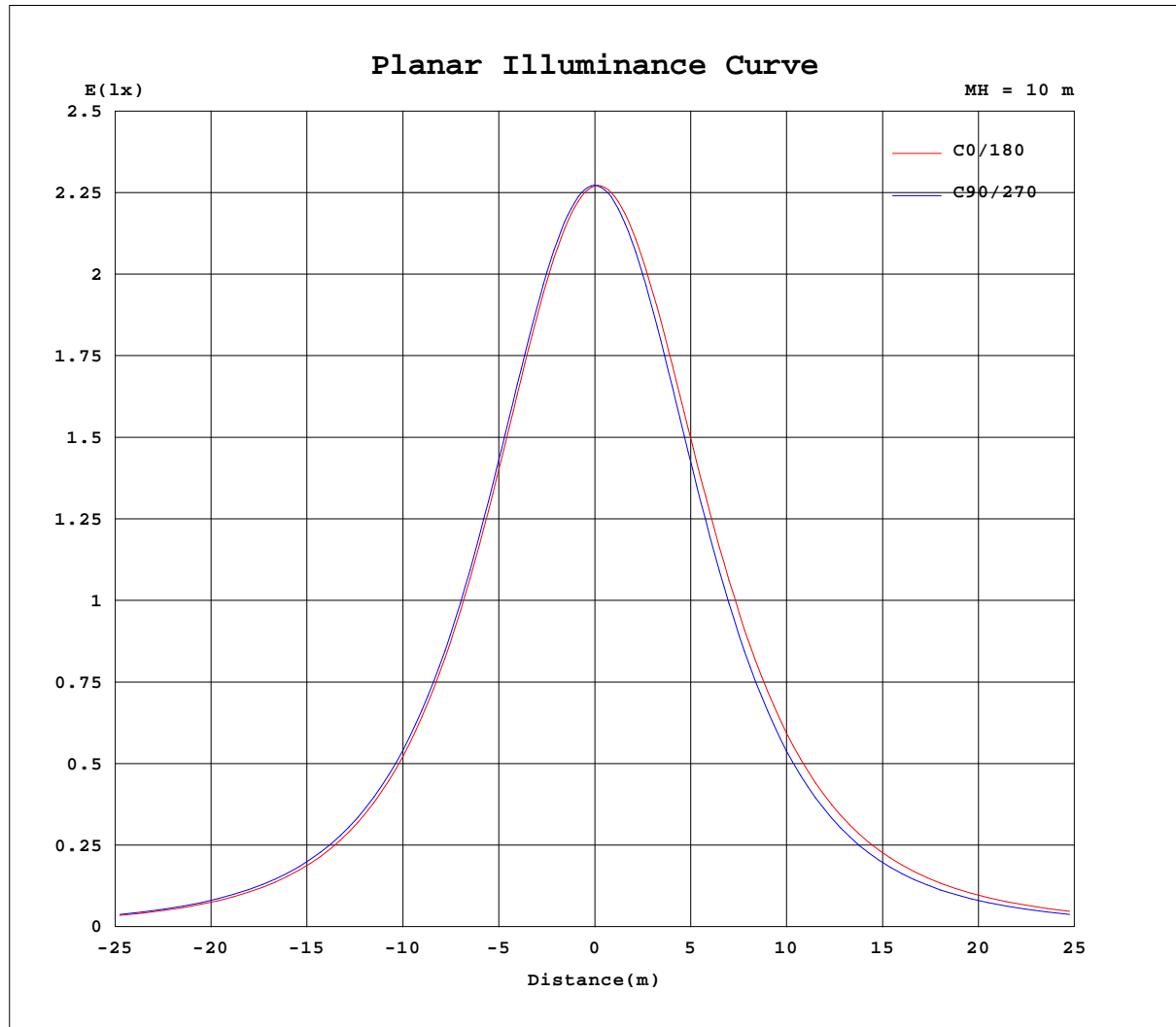
AvgL	cd/m2
L_0~180(65)av	16561
L_0~180(75)av	15864
L_0~180(85)av	18109
L_90~270(65)av	15549
L_90~270(75)av	13736
L_90~270(85)av	10128
L_45(65)av	16064
L_45(75)av	14748
L_45(85)av	13576

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

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:

## LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:24.00V I:0.4330A P:10.39W PF:0 Freq:0Hz Lamp Flux:701.719x1 lm		
NAME: NMT1312	TYPE:	WEIGHT:
SPEC.:NMT1312-8WW24NSN050CC0100-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	227	227	227	227														
5	225	226	228	226														
10	221	223	226	223														
15	215	218	223	218														
20	208	212	219	211														
25	199	203	212	202														
30	188	193	203	192														
35	176	181	193	180														
40	163	168	181	167														
45	148	153	168	153														
50	132	138	154	137														
55	115	122	138	120														
60	97.3	104	121	103														
65	79.1	85.5	103	85.3														
70	60.4	66.1	84.1	66.4														
75	41.9	45.4	64.9	47.1														
80	25.0	25.5	46.0	29.1														
85	12.3	9.31	28.8	13.6														
90	7.09	1.34	16.0	3.89														
95	6.56	0.37	10.8	1.58														
100	6.24	0.37	10.1	0.61														
105	5.94	0.50	9.53	0.45														
110	5.63	0.57	8.99	0.49														
115	5.28	0.64	8.41	0.58														
120	4.91	0.71	7.79	0.67														
125	4.48	0.78	7.15	0.75														
130	3.97	0.85	6.14	0.84														
135	3.39	0.91	5.42	0.91														
140	2.68	0.97	5.10	0.98														
145	1.50	1.06	4.26	1.05														
150	1.30	1.11	3.54	1.13														
155	1.30	1.16	2.53	1.18														
160	1.30	1.20	1.29	1.23														
165	1.30	1.24	1.27	1.25														
170	1.30	1.26	1.26	1.29														
175	1.30	1.29	1.28	1.29														
180	1.30	1.30	1.30	1.29														

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: