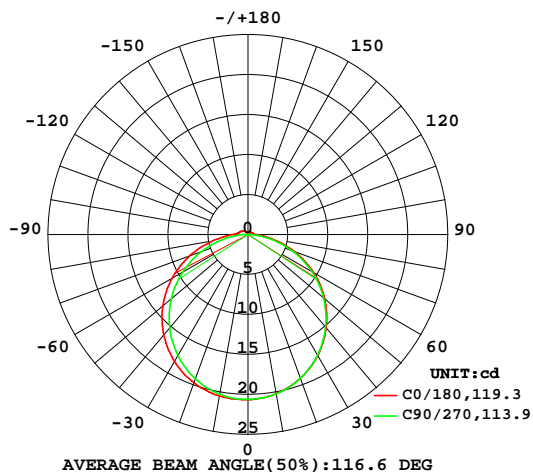


LUMINAIRE PHOTOMETRIC TEST REPORT

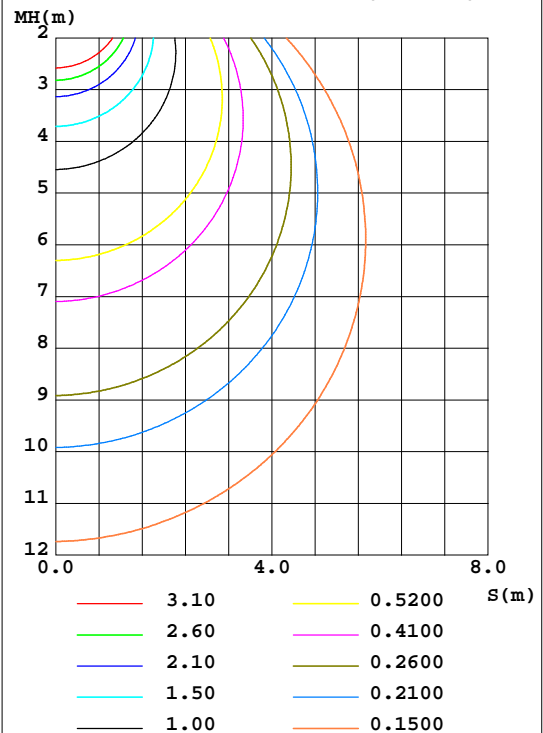
Test:U:24.00V I:0.1550A P:3.700W PF:0 Freq:0Hz Lamp Flux:64.7836x1 lm		
NAME: NMT1312-Plus	TYPE:	WEIGHT:
SPEC.:NMT1312-0RGBDW24NSN050CC0100-Plus-R	DIM.: 1000*13*12	SERIAL No.:
MFR.: Colors	SUR.:1000*13	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 17.51 lm/W			
MODEL	NMT1312	I _{max} (cd)	20.66	S/MH(C0/180)	1.32
NOMINAL POWER(W)	3.6	LOR(%)	100.0	S/MH(C90/270)	1.26
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	64.784	h UP,DN(C0-180)	1.2,46.5
NOMINAL FLUX(lm)	64.7836	CIE CLASS	DIRECT	h UP,DN(C180-360)	2.1,50.2
LAMPS INSIDE	1	h up(%)	3.3	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	24	h down(%)	96.7	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:2019-04-02

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:

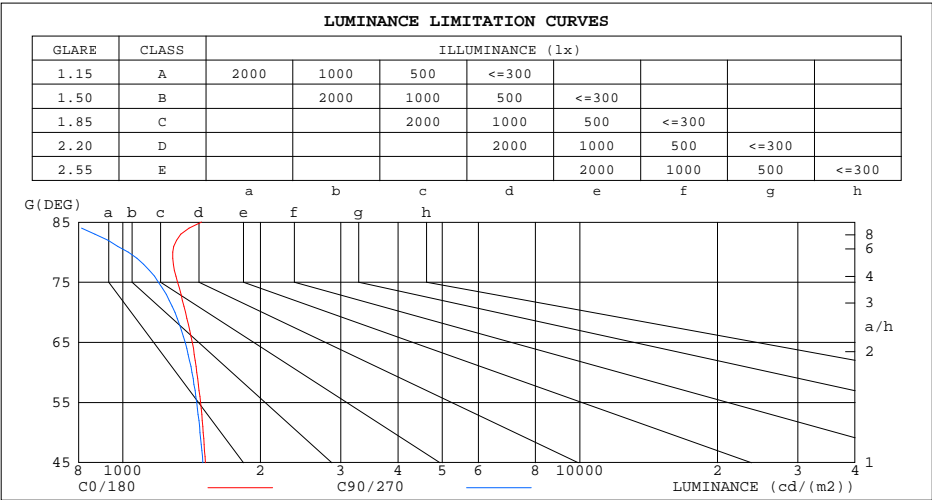
g	C0	C90	C180	C270					g	F zone	F total	%lum,lamp
10	20.22	20.24	20.50	20.29					0~ 10	1.955	1.955	3.02,3.02
20	19.16	19.15	19.75	19.22					10~ 20	5.617	7.572	11.7,11.7
30	17.47	17.41	18.36	17.51					20~ 30	8.565	16.14	24.9,24.9
40	15.24	15.11	16.39	15.24					30~ 40	10.42	26.56	41,41
50	12.53	12.34	13.92	12.52					40~ 50	10.96	37.52	57.9,57.9
60	9.442	9.206	10.98	9.431					50~ 60	10.13	47.66	73.6,73.6
70	6.097	5.783	7.711	6.143					60~ 70	8.037	55.69	86,86
80	2.903	2.322	4.364	2.722					70~ 80	4.993	60.69	93.7,93.7
90	0.9567	0	1.919	0.4235					80~ 90	1.937	62.62	96.7,96.7
100	0.6894	0	1.235	0.0001					90~100	0.6525	63.28	97.7,97.7
110	0.6142	0	1.074	0					100~110	0.4770	63.75	98.4,98.4
120	0.5422	0	0.8770	0					110~120	0.3830	64.14	99,99
130	0.4481	0.0126	0.7301	0					120~130	0.2930	64.43	99.5,99.5
140	0.3073	0.0313	0.5322	0.0063					130~140	0.2004	64.63	99.8,99.8
150	0.0565	0.0408	0.2975	0.0375					140~150	0.1056	64.74	99.9,99.9
160	0.0533	0.0501	0.0595	0.0345					150~160	0.0294	64.76	100,100
170	0.0533	0.0533	0.0595	0.0376					160~170	0.0142	64.78	100,100
180	0.0533	0.0533	0.0595	0.0407					170~180	0.0049	64.78	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:2019-04-02

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:0.1550A P:3.700W PF:0 Freq:0Hz Lamp Flux:64.7836x1 lm		
NAME: NMT1312-Plus	TYPE:	WEIGHT:
SPEC.:NMT1312-0RGBDW24NSN050CC0100-Plus-R	DIM.: 1000*13*12	SERIAL No.:
MFR.: Colors	SUR.:1000*13	Shielding Angle:



LUMINANCE cd/(m2)		
G(180)	C0/180	C90/270
85	1488	741
80	1286	1029
75	1319	1196
70	1371	1301
65	1419	1370
60	1453	1416
55	1480	1451
50	1500	1476
45	1517	1498

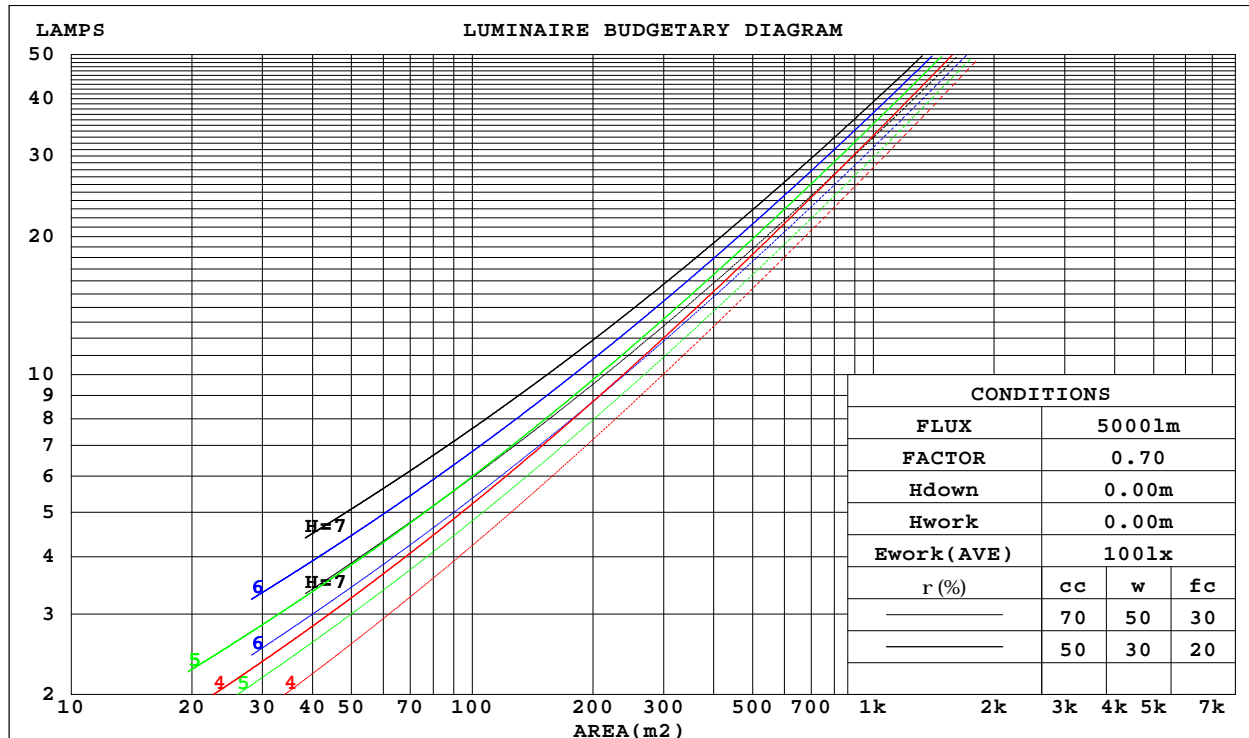
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-04-02

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:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:24.00V I:0.1550A P:3.700W PF:0 Freq:0Hz Lamp Flux:64.7836x1 lm		
NAME: NMT1312-Plus	TYPE:	WEIGHT:
SPEC.:NMT1312-0RGBDW24NSN050CC0100-Plus-R	DIM.: 1000*13*12	SERIAL No.:
MFR.: Colors	SUR.:1000*13	Shielding Angle:

r _{cc}	80%			70%			50%			30%			10%			0
r _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
r _{fc}	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	1.02	.98	.94	.90	.95	.92	.95	.91	.88	.90	.87	.85	.86	.84	.82	.79
2.0	.89	.81	.75	.86	.80	.74	.82	.77	.72	.78	.74	.70	.75	.71	.68	.65
3.0	.77	.69	.62	.76	.68	.62	.72	.65	.60	.69	.63	.59	.66	.61	.57	.55
4.0	.68	.59	.53	.67	.58	.52	.64	.57	.51	.61	.55	.50	.59	.53	.49	.46
5.0	.61	.52	.45	.60	.51	.45	.57	.50	.44	.55	.48	.43	.53	.47	.42	.40
6.0	.55	.46	.39	.54	.45	.39	.52	.44	.38	.49	.43	.38	.48	.42	.37	.35
7.0	.50	.41	.34	.49	.40	.34	.47	.39	.34	.45	.38	.33	.43	.37	.33	.31
8.0	.45	.37	.31	.44	.36	.30	.43	.35	.30	.41	.35	.30	.40	.34	.29	.27
9.0	.41	.33	.28	.41	.33	.27	.39	.32	.27	.38	.31	.27	.37	.31	.26	.25
10.0	.38	.30	.25	.38	.30	.25	.36	.29	.24	.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:2019-04-02

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:0.1550A P:3.700W PF:0 Freq:0Hz Lamp Flux:64.7836x1 lm		
NAME: NMT1312-Plus	TYPE:	WEIGHT:
SPEC.:NMT1312-0RGBDW24NSN050CC0100-Plus-R	DIM.: 1000*13*12	SERIAL No.:
MFR.: Colors	SUR.:1000*13	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	.327	.186	.059	.319	.182	.058	.303	.174	.056	.289	.167	.054	.276	.160	.052	
2.0	.302	.165	.051	.295	.162	.050	.281	.156	.049	.269	.151	.047	.257	.145	.046	
3.0	.277	.147	.044	.270	.145	.044	.258	.140	.043	.247	.135	.042	.237	.131	.041	
4.0	.254	.132	.039	.248	.130	.038	.238	.126	.038	.228	.122	.037	.218	.119	.036	
5.0	.234	.119	.035	.229	.117	.034	.219	.114	.034	.210	.111	.033	.202	.108	.032	
6.0	.216	.108	.031	.212	.107	.031	.203	.104	.030	.195	.101	.030	.187	.099	.029	
7.0	.201	.099	.028	.197	.098	.028	.189	.096	.028	.182	.093	.027	.175	.091	.027	
8.0	.187	.092	.026	.184	.090	.026	.177	.088	.025	.170	.086	.025	.164	.084	.024	
9.0	.175	.085	.024	.172	.084	.024	.166	.082	.023	.160	.080	.023	.154	.078	.023	
10.0	.165	.079	.022	.162	.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	.216	.216	.216	.185	.185	.185	.126	.126	.126	.072	.072	.072	.023	.023	.023		
1.0	.207	.182	.159	.177	.156	.137	.121	.107	.094	.070	.062	.055	.022	.020	.018		
2.0	.199	.158	.123	.171	.136	.106	.117	.094	.074	.067	.055	.043	.022	.018	.014		
3.0	.192	.140	.099	.164	.121	.086	.113	.084	.060	.065	.049	.036	.021	.016	.012		
4.0	.184	.127	.084	.158	.110	.073	.109	.077	.051	.063	.045	.030	.020	.015	.010		
5.0	.177	.117	.073	.152	.101	.063	.104	.071	.045	.061	.041	.027	.020	.014	.009		
6.0	.169	.109	.065	.146	.094	.057	.100	.066	.040	.058	.039	.024	.019	.013	.008		
7.0	.162	.102	.059	.140	.088	.052	.097	.062	.037	.056	.036	.022	.018	.012	.007		
8.0	.156	.096	.055	.134	.083	.048	.093	.058	.034	.054	.034	.020	.017	.011	.007		
9.0	.150	.091	.051	.129	.079	.045	.089	.056	.032	.052	.033	.019	.017	.011	.006		
10.0	.144	.087	.049	.124	.075	.043	.086	.053	.030	.050	.031	.018	.016	.010	.006		

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-04-02

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:0.1550A P:3.700W PF:0 Freq:0Hz Lamp Flux:64.7836x1 lm											
NAME: NMT1312-Plus						TYPE:		WEIGHT:			
SPEC.:NMT1312-0RGBDW24NSN050CC0100-Plus-R						DIM.: 1000*13*12		SERIAL No.:			
MFR.: Colors						SUR.:1000*13		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	23.4	24.9	23.8	25.2	25.5	23.4	24.9	23.7	25.1	25.4	
	3H	25.0	26.4	25.4	26.7	27.0	24.9	26.3	25.2	26.6	26.9
	4H	25.7	27.0	26.1	27.4	27.7	25.5	26.8	25.9	27.1	27.5
	6H	26.2	27.5	26.6	27.8	28.2	25.9	27.2	26.3	27.5	27.8
	8H	26.5	27.7	26.8	28.0	28.4	26.0	27.2	26.4	27.6	27.9
	12H	26.6	27.8	27.0	28.2	28.5	26.1	27.2	26.5	27.6	28.0
4H	2H	24.1	25.4	24.4	25.7	26.0	24.0	25.3	24.3	25.6	25.9
	3H	25.8	27.0	26.2	27.3	27.7	25.7	26.9	26.1	27.2	27.6
	4H	26.6	27.7	27.1	28.1	28.5	26.4	27.5	26.9	27.9	28.3
	6H	27.3	28.2	27.7	28.6	29.1	27.0	27.9	27.4	28.3	28.8
	8H	27.6	28.4	28.0	28.9	29.3	27.1	28.0	27.6	28.4	28.9
	12H	27.8	28.6	28.3	29.1	29.6	27.2	28.0	27.7	28.5	28.9
8H	4H	26.9	27.8	27.4	28.2	28.7	26.7	27.6	27.2	28.0	28.5
	6H	27.7	28.4	28.2	28.9	29.4	27.4	28.1	27.9	28.6	29.1
	8H	28.1	28.7	28.6	29.2	29.7	27.6	28.3	28.2	28.8	29.3
	12H	28.5	29.0	29.0	29.5	30.1	27.8	28.4	28.3	28.9	29.4
12H	4H	26.9	27.7	27.4	28.2	28.6	26.7	27.5	27.2	28.0	28.5
	6H	27.8	28.4	28.3	28.9	29.4	27.5	28.1	28.0	28.6	29.1
	8H	28.2	28.8	28.7	29.3	29.8	27.8	28.3	28.3	28.8	29.4
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					+ 0.1 / - 0.3					

CIE Pub.117, 64.78 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -9.5)

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-04-02

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:0.1550A P:3.700W PF:0 Freq:0Hz Lamp Flux:64.7836x1 lm		
NAME: NMT1312-Plus	TYPE:	WEIGHT:
SPEC.:NMT1312-0RGBDW24NSN050CC0100-Plus-R	DIM.: 1000*13*12	SERIAL No.:
MFR.: Colors	SUR.:1000*13	Shielding Angle:

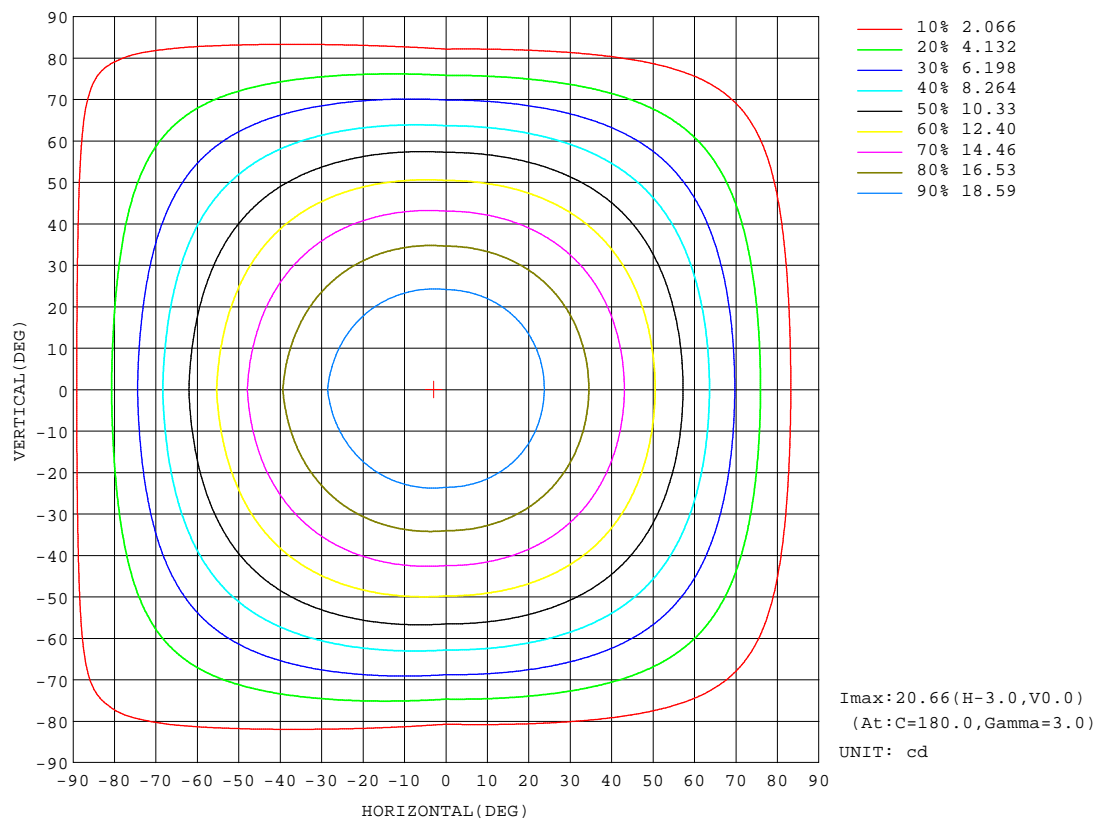
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	55	44	36	55	43	36	53	43	36	30
0.80	65	53	46	64	53	45	62	52	45	38
1.00	74	62	54	72	61	54	70	63	53	46
1.25	81	70	62	79	69	62	76	67	61	53
1.50	86	75	68	84	74	67	80	72	66	58
2.00	93	84	77	91	82	76	87	80	74	65
2.50	97	88	82	94	87	81	90	84	79	70
3.00	100	93	87	98	91	86	93	88	83	74
4.00	104	98	93	102	96	92	97	92	88	79
5.00	107	102	97	104	99	95	99	95	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:2019-04-02

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:0.1550A P:3.700W PF:0 Freq:0Hz Lamp Flux:64.7836x1 lm		
NAME: NMT1312-Plus	TYPE:	WEIGHT:
SPEC.:NMT1312-0RGBDW24NSN050CC0100-Plus-R	DIM.: 1000*13*12	SERIAL No.:
MFR.: Colors	SUR.:1000*13	Shielding Angle:



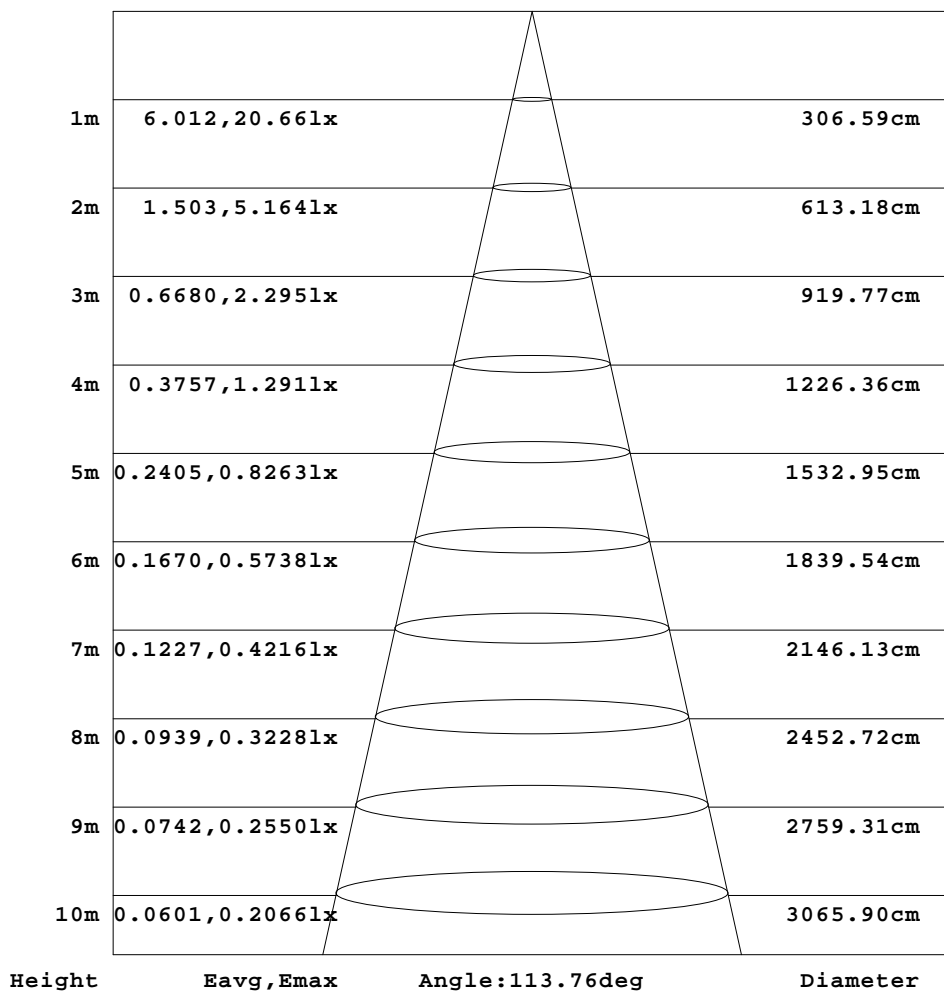
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-04-02

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:0.1550A P:3.700W PF:0 Freq:0Hz Lamp Flux:64.7836x1 lm		
NAME: NMT1312-Plus	TYPE:	WEIGHT:
SPEC.:NMT1312-0RGBDW24NSN050CC0100-Plus-R	DIM.: 1000*13*12	SERIAL No.:
MFR.: Colors	SUR.:1000*13	Shielding Angle:

Flux out:44.78 lm



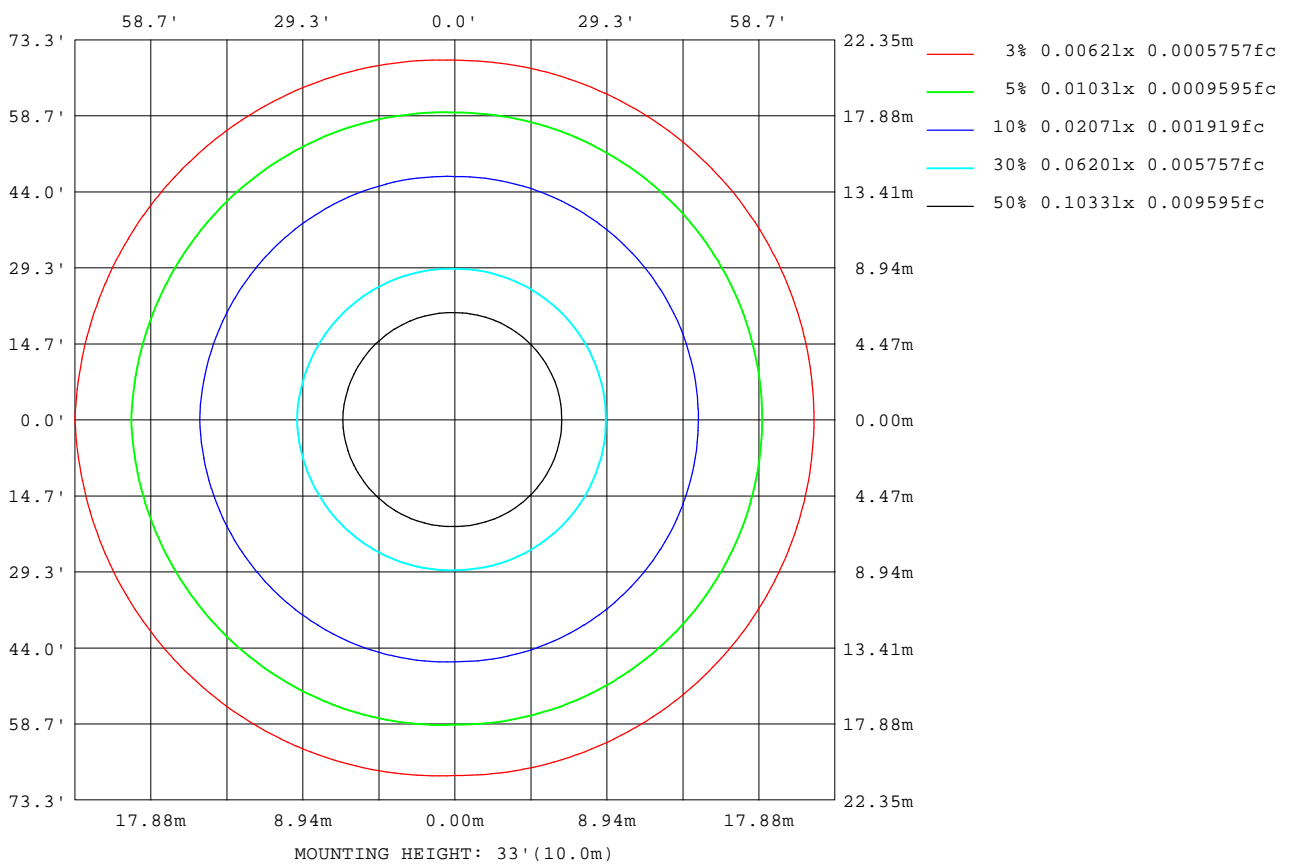
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-04-02

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:0.1550A P:3.700W PF:0 Freq:0Hz Lamp Flux:64.7836x1 lm		
NAME: NMT1312-Plus	TYPE:	WEIGHT:
SPEC.:NMT1312-0RGBDW24NSN050CC0100-Plus-R	DIM.: 1000*13*12	SERIAL No.:
MFR.: Colors	SUR.:1000*13	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: COLORS
 Test Date: 2019-04-02

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:0.1550A P:3.700W PF:0 Freq:0Hz Lamp Flux:64.7836x1 lm		
NAME: NMT1312-Plus	TYPE:	WEIGHT:
SPEC.:NMT1312-0RGBDW24NSN050CC0100-Plus-R	DIM.: 1000*13*12	SERIAL No.:
MFR.: Colors	SUR.:1000*13	Shielding Angle:

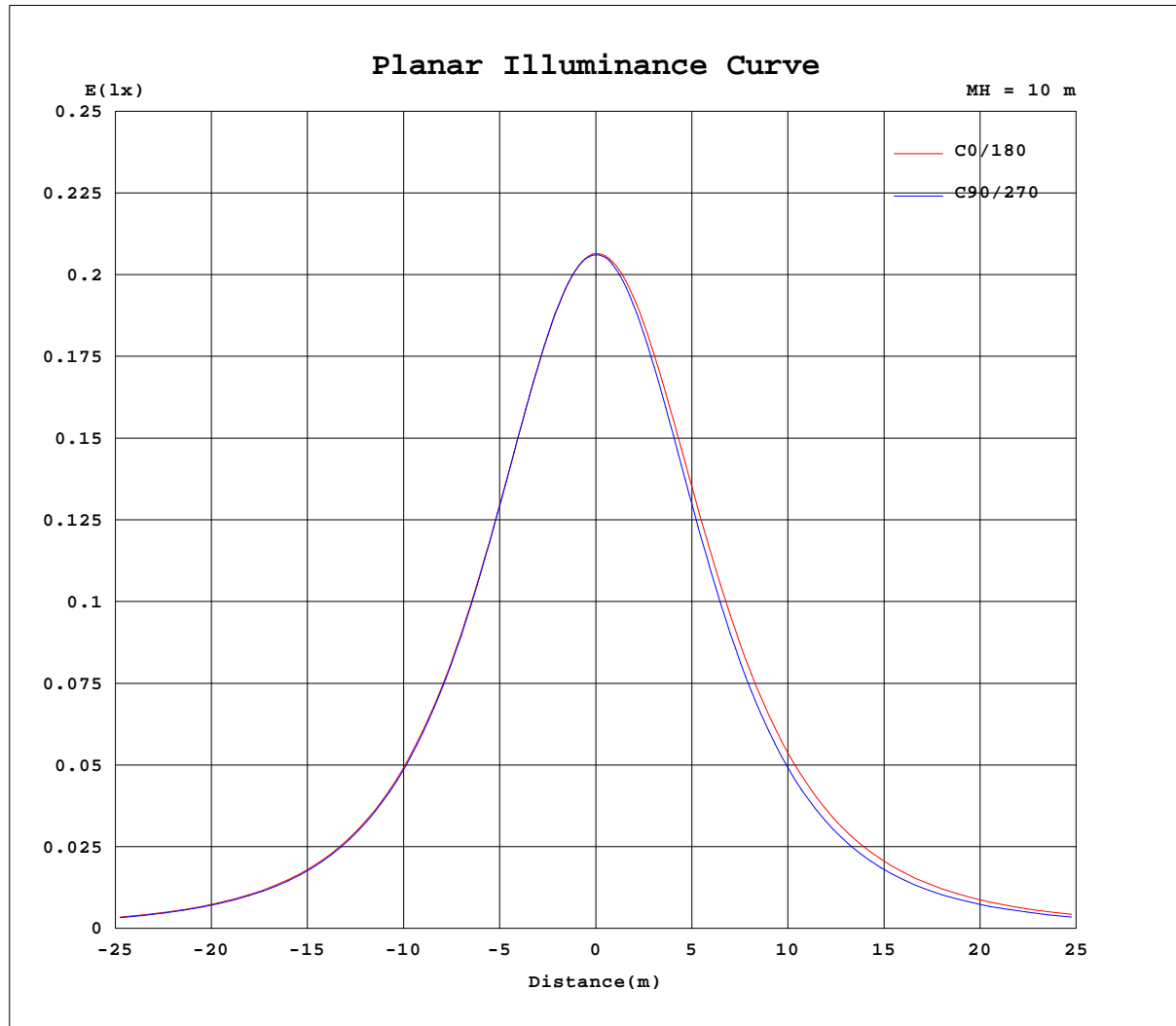
AvgL	cd/m2
L_0~180(65)av	1563
L_0~180(75)av	1552
L_0~180(85)av	2030
L_90~270(65)av	1398
L_90~270(75)av	1254
L_90~270(85)av	946
L_45(65)av	1469
L_45(75)av	1381
L_45(85)av	1387

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-04-02

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: 2019-04-02

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:0.1550A P:3.700W PF:0 Freq:0Hz Lamp Flux:64.7836x1 lm		
NAME: NMT1312-Plus	TYPE:	WEIGHT:
SPEC.:NMT1312-0RGBDW24NSN050CC0100-Plus-R	DIM.: 1000*13*12	SERIAL No.:
MFR.: Colors	SUR.:1000*13	Shielding Angle:

Table--1

UNIT: cd

C(DEG) g (DEG)	0	90	180	270															
0	20.7	20.6	20.7	20.6															
5	20.5	20.5	20.6	20.6															
10	20.2	20.2	20.5	20.3															
15	19.8	19.8	20.2	19.8															
20	19.2	19.1	19.7	19.2															
25	18.4	18.4	19.1	18.4															
30	17.5	17.4	18.4	17.5															
35	16.4	16.3	17.5	16.4															
40	15.2	15.1	16.4	15.2															
45	13.9	13.8	15.2	13.9															
50	12.5	12.3	13.9	12.5															
55	11.0	10.8	12.5	11.0															
60	9.44	9.21	11.0	9.43															
65	7.79	7.53	9.38	7.84															
70	6.10	5.78	7.71	6.14															
75	4.44	4.03	6.01	4.42															
80	2.90	2.32	4.36	2.72															
85	1.69	0.84	2.92	1.30															
90	0.96	0.00	1.92	0.42															
95	0.73	0.00	1.43	0.08															
100	0.69	0.00	1.23	0.00															
105	0.66	0.00	1.14	0.00															
110	0.61	0.00	1.07	0.00															
115	0.56	0.00	0.98	0.00															
120	0.54	0.00	0.88	0.00															
125	0.50	0.00	0.81	0.00															
130	0.45	0.01	0.73	0.00															
135	0.38	0.02	0.63	0.00															
140	0.31	0.03	0.53	0.01															
145	0.21	0.03	0.42	0.01															
150	0.06	0.04	0.30	0.04															
155	0.05	0.05	0.06	0.03															
160	0.05	0.05	0.06	0.03															
165	0.05	0.05	0.06	0.03															
170	0.05	0.05	0.06	0.04															
175	0.05	0.05	0.06	0.04															
180	0.05	0.05	0.06	0.04															

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-04-02

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: