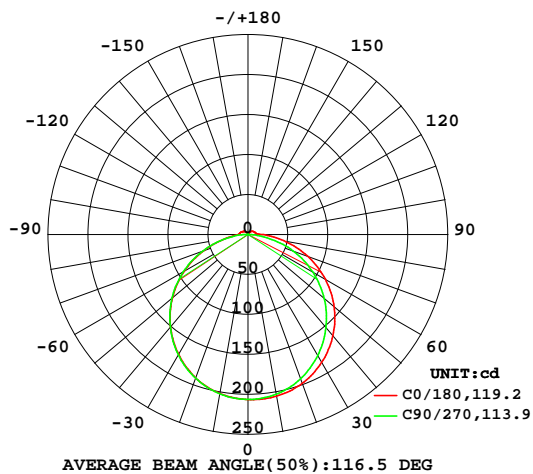


LUMINAIRE PHOTOMETRIC TEST REPORT

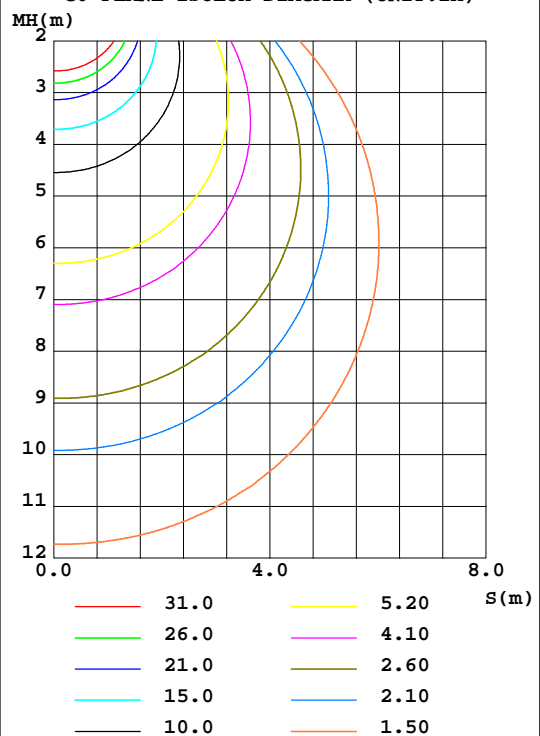
Test:U:24.00V I:0.5560A P:13.40W PF:1.000 Freq:0Hz Lamp Flux:651.449x1 lm		
NAME: NMT1312-Plus	TYPE:	WEIGHT:1000*13*12
SPEC.:NMT1312-9SWDW24NSN050CC0100-Plus	DIM.:	SERIAL No.:
MFR.: Colors	SUR.:1000*13	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 48.62 lm/W			
MODEL	NMT1312	I _{max} (cd)	206.6	S/MH(C0/180)	1.25
NOMINAL POWER(W)	12	LOR(%)	100.0	S/MH(C90/270)	1.26
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	651.45	h UP,DN(C0-180)	1.9,49.9
NOMINAL FLUX(lm)	651.449	CIE CLASS	DIRECT	h UP,DN(C180-360)	2.0,46.2
LAMPS INSIDE	1	h up(%)	3.8	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	24	h down(%)	96.2	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:2019-05-06

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:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

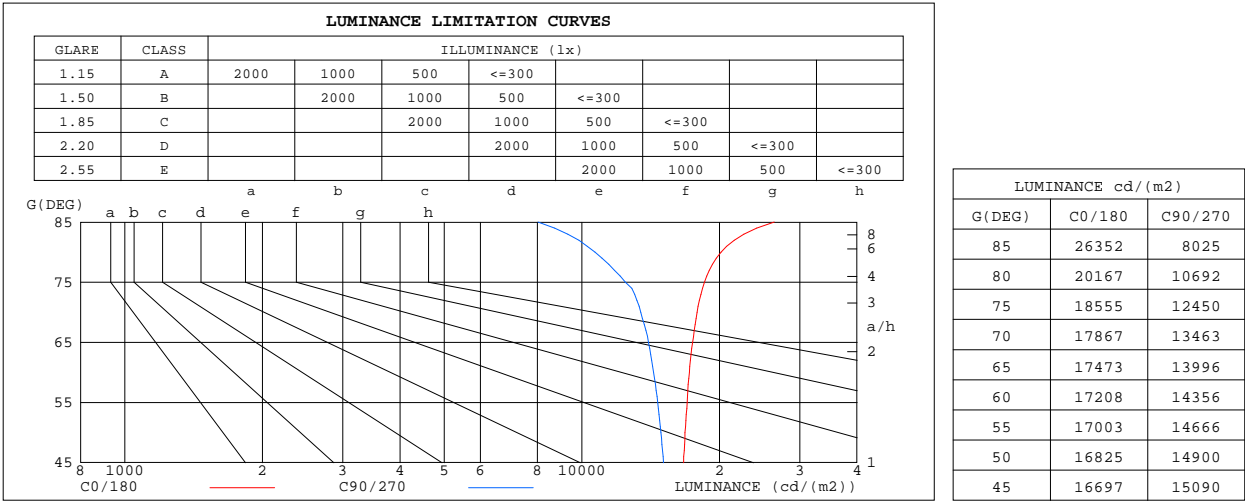
g	C0	C90	C180	C270					g	F zone	F total	%lum,lamp
10	205.3	202.9	202.0	202.4					0~ 10	19.55	19.55	3,3
20	198.4	192.3	191.2	191.4					10~ 20	56.20	75.75	11.6,11.6
30	184.7	174.7	173.6	174.1					20~ 30	85.62	161.4	24.8,24.8
40	165.3	151.9	150.9	151.2					30~ 40	104.1	265.5	40.8,40.8
50	140.6	124.5	123.4	124.3					40~ 50	109.6	375.1	57.6,57.6
60	111.9	93.32	92.12	93.49					50~ 60	101.3	476.4	73.1,73.1
70	79.44	59.86	58.67	59.66					60~ 70	80.40	556.8	85.5,85.5
80	45.52	24.14	27.49	26.27					70~ 80	50.03	606.8	93.1,93.1
90	17.76	0.4416	12.16	3.329					80~ 90	19.60	626.4	96.2,96.2
100	10.12	0.2854	10.63	0.3102					90~100	6.818	633.2	97.2,97.2
110	9.063	0.4263	9.361	0.4387					100~110	5.378	638.6	98,98
120	7.925	0.5736	7.424	0.5922					110~120	4.464	643.1	98.7,98.7
130	6.491	0.7176	6.154	0.7426					120~130	3.506	646.6	99.2,99.2
140	4.084	0.8555	5.052	0.8899					130~140	2.469	649.0	99.6,99.6
150	1.031	0.9839	3.541	1.024					140~150	1.323	650.4	99.8,99.8
160	1.065	1.078	1.652	1.092					150~160	0.6613	651.0	99.9,99.9
170	1.119	1.144	1.199	1.139					160~170	0.3254	651.3	100,100
180	1.191	1.181	1.191	1.169					170~180	0.1109	651.4	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:2019-05-06

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:0.5560A P:13.40W PF:1.000 Freq:0Hz Lamp Flux:651.449x1 lm		
NAME: NMT1312-Plus	TYPE:	WEIGHT:1000*13*12
SPEC.:NMT1312-9SWDW24NSN050CC0100-Plus	DIM.:	SERIAL No.:
MFR.: Colors	SUR.:1000*13	Shielding Angle:



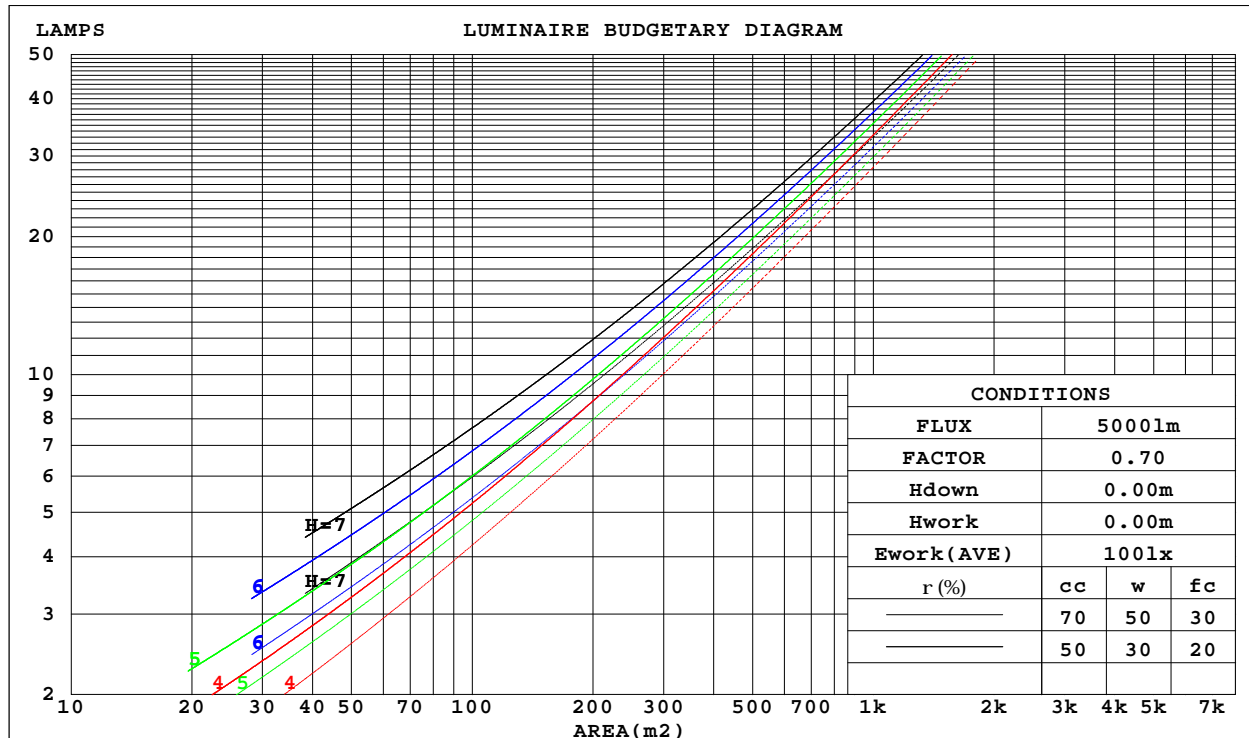
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-05-06

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:0.5560A P:13.40W PF:1.000 Freq:0Hz Lamp Flux:651.449x1 lm		
NAME: NMT1312-Plus	TYPE:	WEIGHT:1000*13*12
SPEC.:NMT1312-9SWDW24NSN050CC0100-Plus	DIM.:	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	.96
1.0	1.02	.98	.93	.99	.95	.92	.94	.91	.88	.90	.87	.85	.86	.83	.81	.79
2.0	.88	.81	.75	.86	.80	.74	.82	.77	.72	.78	.74	.70	.75	.71	.68	.65
3.0	.77	.69	.62	.75	.68	.61	.72	.65	.60	.69	.63	.58	.66	.61	.57	.54
4.0	.68	.59	.52	.67	.58	.52	.64	.56	.51	.61	.55	.50	.58	.53	.49	.46
5.0	.61	.52	.45	.60	.51	.45	.57	.49	.44	.55	.48	.43	.52	.47	.42	.40
6.0	.55	.46	.39	.54	.45	.39	.51	.44	.38	.49	.43	.37	.47	.41	.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	.34	.30	.40	.34	.29	.27
9.0	.41	.33	.27	.41	.33	.27	.39	.32	.27	.38	.31	.27	.37	.31	.26	.24
10.0	.38	.30	.25	.37	.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:2019-05-06

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:0.5560A P:13.40W PF:1.000 Freq:0Hz Lamp Flux:651.449x1 lm		
NAME: NMT1312-Plus	TYPE:	WEIGHT:1000*13*12
SPEC.:NMT1312-9SWDW24NSN050CC0100-Plus	DIM.:	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	.318 .182 .058	.303 .174 .056	.289 .167 .053	.276 .160 .051	
2.0	.302 .165 .051	.294 .162 .050	.281 .156 .048	.268 .150 .047	.256 .145 .046	
3.0	.277 .147 .044	.270 .145 .044	.258 .140 .042	.246 .135 .041	.236 .131 .040	
4.0	.254 .132 .039	.248 .130 .038	.237 .126 .038	.227 .122 .037	.217 .118 .036	
5.0	.234 .119 .035	.229 .117 .034	.219 .114 .034	.210 .111 .033	.201 .107 .032	
6.0	.216 .108 .031	.211 .107 .031	.203 .104 .030	.194 .101 .030	.187 .098 .029	
7.0	.201 .099 .028	.197 .098 .028	.189 .095 .027	.181 .093 .027	.174 .090 .027	
8.0	.187 .091 .026	.183 .090 .026	.176 .088 .025	.169 .086 .025	.163 .084 .024	
9.0	.175 .085 .024	.172 .084 .023	.165 .082 .023	.159 .080 .023	.153 .078 .022	
10.0	.164 .079 .022	.161 .078 .022	.155 .076 .021	.150 .074 .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	.220 .220 .220	.188 .188 .188	.128 .128 .128	.074 .074 .074	.024 .024 .024	
1.0	.211 .186 .163	.181 .159 .140	.124 .110 .097	.071 .063 .056	.023 .020 .018	
2.0	.203 .162 .127	.174 .139 .109	.119 .096 .076	.069 .056 .045	.022 .018 .015	
3.0	.196 .144 .103	.168 .124 .090	.115 .086 .063	.067 .050 .037	.021 .016 .012	
4.0	.188 .131 .088	.161 .113 .076	.111 .079 .054	.064 .046 .032	.021 .015 .010	
5.0	.181 .121 .077	.155 .105 .067	.107 .073 .047	.062 .043 .028	.020 .014 .009	
6.0	.173 .113 .069	.149 .098 .060	.103 .068 .043	.060 .040 .025	.019 .013 .008	
7.0	.166 .106 .063	.143 .092 .055	.099 .064 .039	.057 .038 .023	.019 .012 .008	
8.0	.160 .100 .059	.138 .087 .051	.095 .061 .036	.055 .036 .022	.018 .012 .007	
9.0	.154 .095 .055	.132 .083 .048	.092 .058 .034	.053 .034 .020	.017 .011 .007	
10.0	.148 .091 .053	.128 .079 .046	.089 .056 .033	.052 .033 .020	.017 .011 .006	

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-05-06

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:0.5560A P:13.40W PF:1.000 Freq:0Hz Lamp Flux:651.449x1 lm											
NAME: NMT1312-Plus						TYPE:		WEIGHT:1000*13*12			
SPEC.:NMT1312-9SWDW24NSN050CC0100-Plus						DIM.:		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	24.2	25.7	24.6	26.0	26.3	23.6	25.1	23.9	25.4	25.6	
	3H	26.1	27.5	26.5	27.8	28.1	25.2	26.6	25.5	26.9	27.2
	4H	27.0	28.3	27.4	28.7	29.0	25.8	27.1	26.2	27.5	27.8
	6H	27.8	29.1	28.2	29.4	29.8	26.2	27.5	26.6	27.8	28.2
	8H	28.2	29.4	28.6	29.8	30.1	26.4	27.6	26.8	27.9	28.3
	12H	28.6	29.7	29.0	30.1	30.5	26.4	27.6	26.8	27.9	28.3
4H	2H	24.8	26.1	25.2	26.5	26.8	24.3	25.7	24.7	26.0	26.3
	3H	26.9	28.1	27.3	28.4	28.8	26.1	27.3	26.6	27.7	28.0
	4H	28.0	29.0	28.4	29.4	29.8	26.9	28.0	27.3	28.4	28.8
	6H	28.9	29.9	29.4	30.3	30.7	27.5	28.4	27.9	28.8	29.3
	8H	29.4	30.2	29.8	30.7	31.1	27.6	28.5	28.1	29.0	29.4
	12H	29.8	30.6	30.3	31.1	31.6	27.7	28.5	28.2	29.0	29.5
8H	4H	28.2	29.1	28.7	29.5	30.0	27.3	28.2	27.8	28.6	29.1
	6H	29.4	30.1	29.9	30.6	31.1	28.1	28.8	28.6	29.3	29.8
	8H	30.0	30.6	30.5	31.1	31.6	28.3	29.0	28.9	29.5	30.0
	12H	30.6	31.1	31.1	31.6	32.2	28.5	29.1	29.1	29.6	30.2
12H	4H	28.2	29.0	28.7	29.5	30.0	27.4	28.2	27.9	28.6	29.1
	6H	29.4	30.1	30.0	30.6	31.1	28.2	28.9	28.7	29.3	29.9
	8H	30.1	30.6	30.6	31.1	31.7	28.5	29.1	29.1	29.6	30.2
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.2					
1.5H	+ 0.2 / - 0.2					+ 0.2 / - 0.3					
2.0H	+ 0.1 / - 0.3					+ 0.1 / - 0.4					

CIE Pub.117, 651.4 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -1.5)

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-05-06

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:0.5560A P:13.40W PF:1.000 Freq:0Hz Lamp Flux:651.449x1 lm		
NAME: NMT1312-Plus	TYPE:	WEIGHT:1000*13*12
SPEC.:NMT1312-9SWDW24NSN050CC0100-Plus	DIM.:	SERIAL No.:
MFR.: Colors	SUR.:1000*13	Shielding Angle:

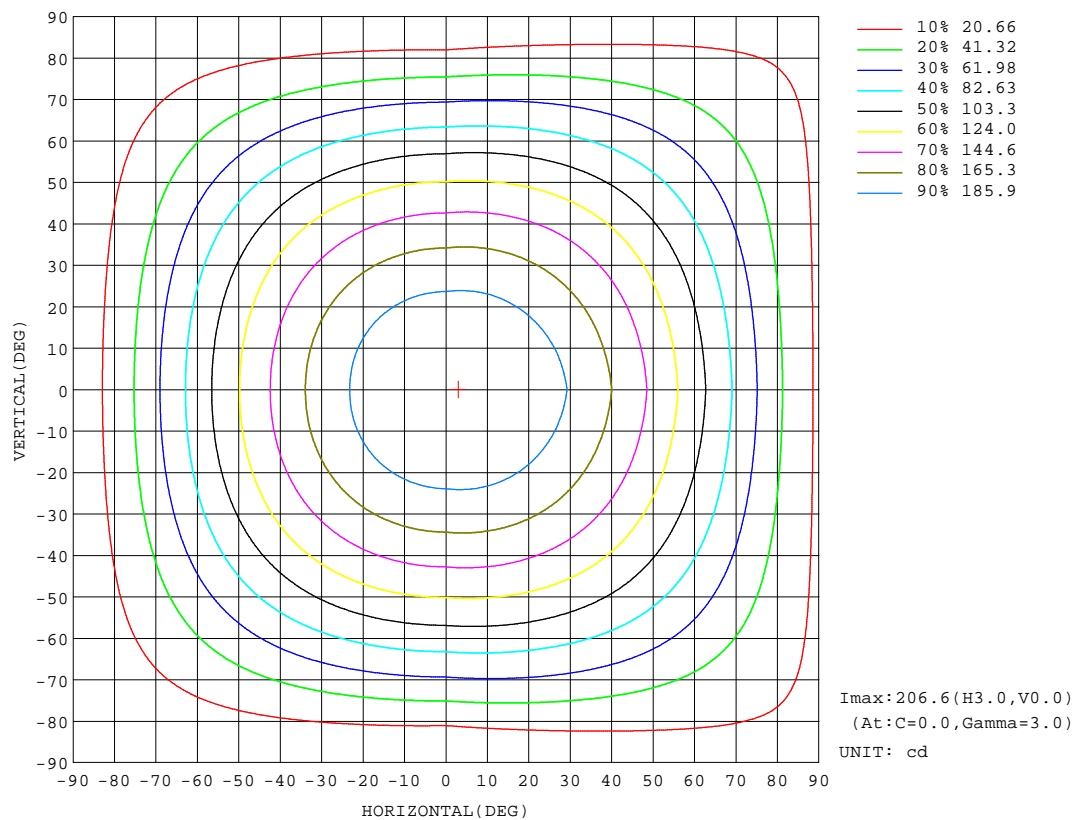
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	55	43	36	54	43	36	53	42	36	29
0.80	65	53	46	64	53	45	62	52	45	38
1.00	73	62	54	72	61	54	69	62	53	46
1.25	80	69	62	79	69	61	76	67	60	53
1.50	85	75	68	84	74	67	80	72	66	58
2.00	92	83	76	90	82	76	86	79	74	65
2.50	97	88	82	94	87	81	90	84	78	69
3.00	100	93	87	98	91	85	93	87	83	73
4.00	104	98	93	101	96	91	97	92	88	78
5.00	107	101	97	104	99	95	99	95	92	81
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:2019-05-06

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:0.5560A P:13.40W PF:1.000 Freq:0Hz Lamp Flux:651.449x1 lm		
NAME: NMT1312-Plus	TYPE:	WEIGHT:1000*13*12
SPEC.:NMT1312-9SWDW24NSN050CC0100-Plus	DIM.:	SERIAL No.:
MFR.: Colors	SUR.:1000*13	Shielding Angle:



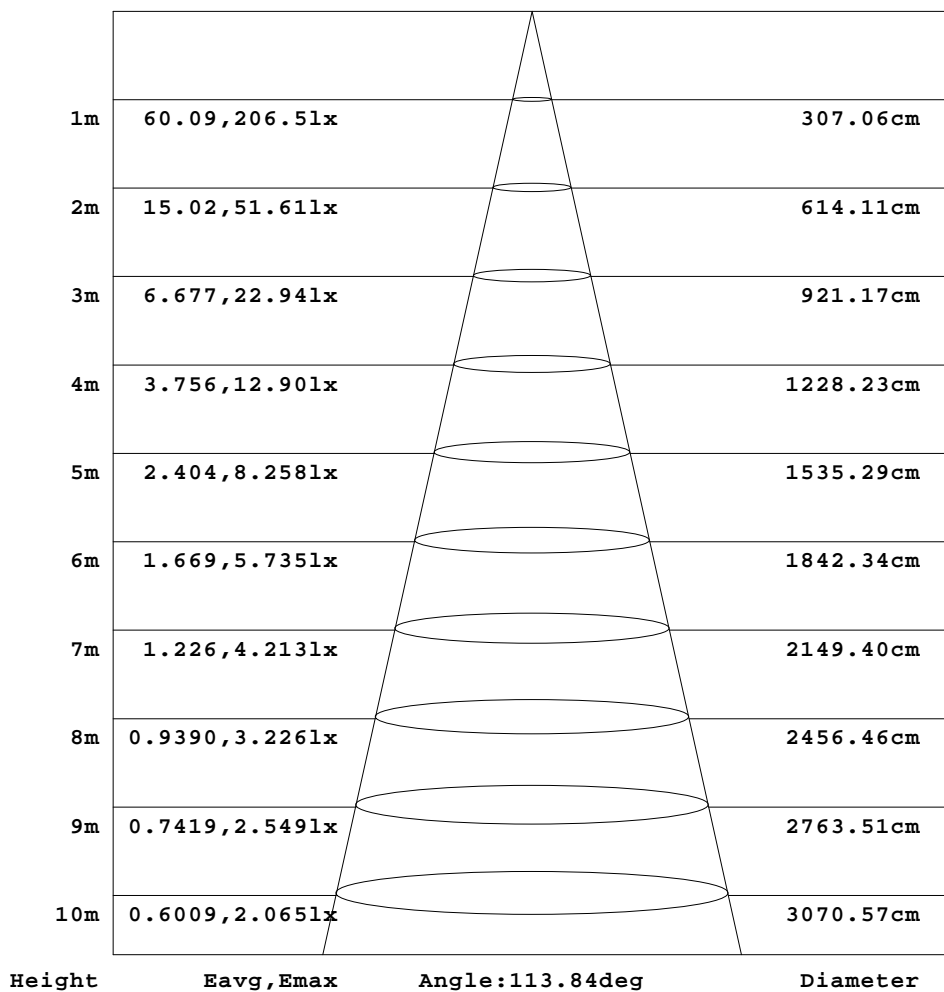
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-05-06

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:0.5560A P:13.40W PF:1.000 Freq:0Hz Lamp Flux:651.449x1 lm		
NAME: NMT1312-Plus	TYPE:	WEIGHT:1000*13*12
SPEC.:NMT1312-9SWDW24NSN050CC0100-Plus	DIM.:	SERIAL No.:
MFR.: Colors	SUR.:1000*13	Shielding Angle:

Flux out:447.6 lm



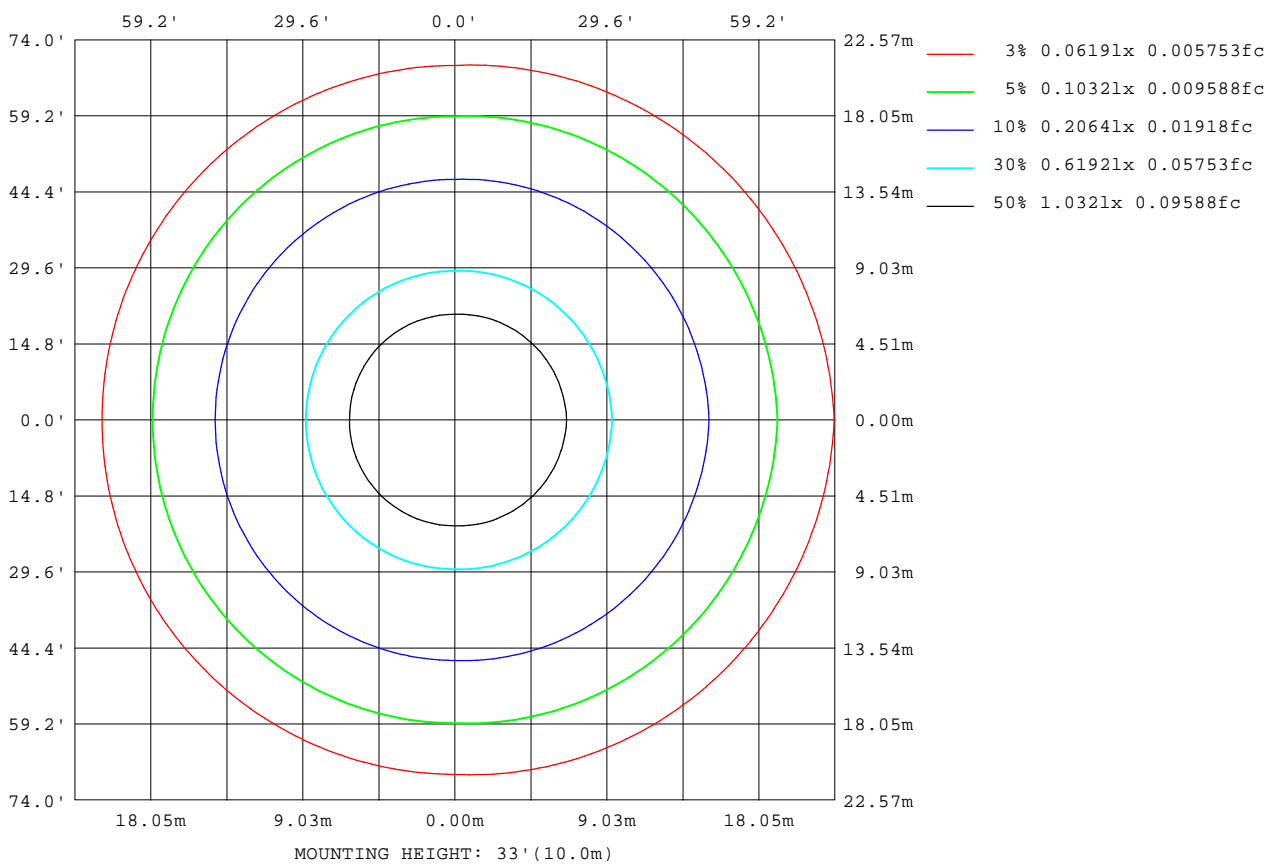
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-05-06

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:0.5560A P:13.40W PF:1.000 Freq:0Hz Lamp Flux:651.449x1 lm		
NAME: NMT1312-Plus	TYPE:	WEIGHT:1000*13*12
SPEC.:NMT1312-9SWDW24NSN050CC0100-Plus	DIM.:	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:2019-05-06

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:0.5560A P:13.40W PF:1.000 Freq:0Hz Lamp Flux:651.449x1 lm		
NAME: NMT1312-Plus	TYPE:	WEIGHT:1000*13*12
SPEC.:NMT1312-9SWDW24NSN050CC0100-Plus	DIM.:	SERIAL No.:
MFR.: Colors	SUR.:1000*13	Shielding Angle:

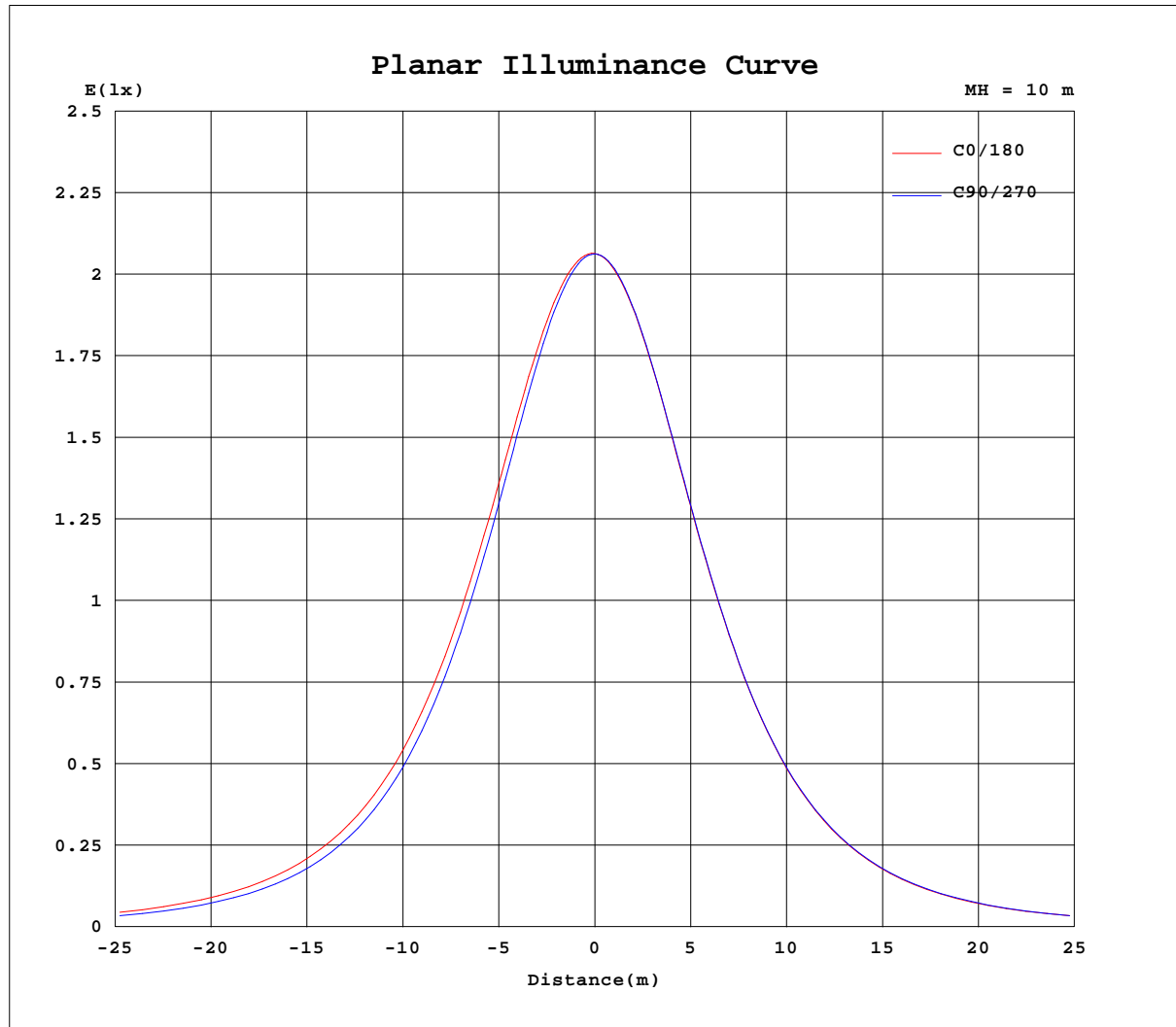
AvgL	cd/m2
L_0~180(65)av	15614
L_0~180(75)av	15543
L_0~180(85)av	20646
L_90~270(65)av	13992
L_90~270(75)av	12559
L_90~270(85)av	9519
L_45(65)av	14484
L_45(75)av	13490
L_45(85)av	13335

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:COLORS
 Test Date:2019-05-06

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: 2019-05-06

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:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:24.00V I:0.5560A P:13.40W PF:1.000 Freq:0Hz Lamp Flux:651.449x1 lm		
NAME: NMT1312-Plus	TYPE:	WEIGHT:1000*13*12
SPEC.:NMT1312-9SWD24NSN050CC0100-Plus	DIM.:	SERIAL No.:
MFR.: Colors	SUR.:1000*13	Shielding Angle:

Table--1

UNIT: cd

C(DEG) g (DEG)	0	90	180	270															
0	206	206	206	206															
5	207	206	205	205															
10	205	203	202	202															
15	203	198	197	198															
20	198	192	191	191															
25	192	184	183	184															
30	185	175	174	174															
35	176	164	163	163															
40	165	152	151	151															
45	153	139	138	138															
50	141	125	123	124															
55	127	109	108	109															
60	112	93.3	92.1	93.5															
65	96.0	76.9	75.6	76.8															
70	79.4	59.9	58.7	59.7															
75	62.4	41.9	42.2	42.6															
80	45.5	24.1	27.5	26.3															
85	29.9	9.09	16.9	12.5															
90	17.8	0.44	12.2	3.33															
95	11.9	0.23	11.2	0.31															
100	10.1	0.29	10.6	0.31															
105	9.59	0.35	10.00	0.39															
110	9.06	0.43	9.36	0.44															
115	8.52	0.50	8.72	0.52															
120	7.92	0.57	7.42	0.59															
125	7.25	0.65	7.16	0.69															
130	6.49	0.72	6.15	0.74															
135	5.64	0.79	5.74	0.81															
140	4.08	0.86	5.05	0.89															
145	1.87	0.92	4.32	0.94															
150	1.03	0.98	3.54	1.02															
155	1.03	1.04	2.45	1.08															
160	1.07	1.08	1.65	1.09															
165	1.10	1.12	1.20	1.13															
170	1.12	1.14	1.20	1.14															
175	1.15	1.17	1.19	1.15															
180	1.19	1.18	1.19	1.17															

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:COLORS
Test Date:2019-05-06

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: