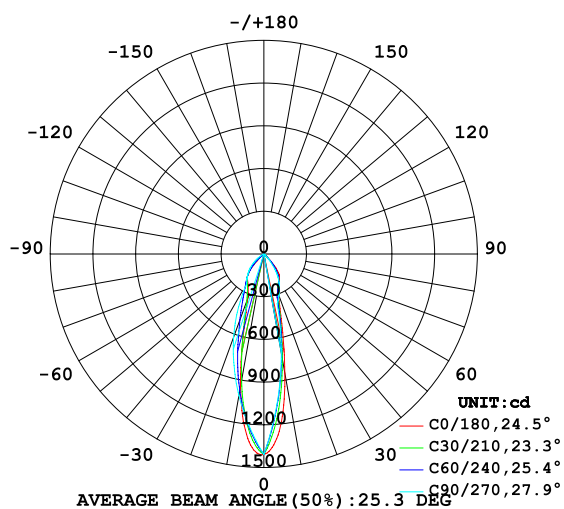


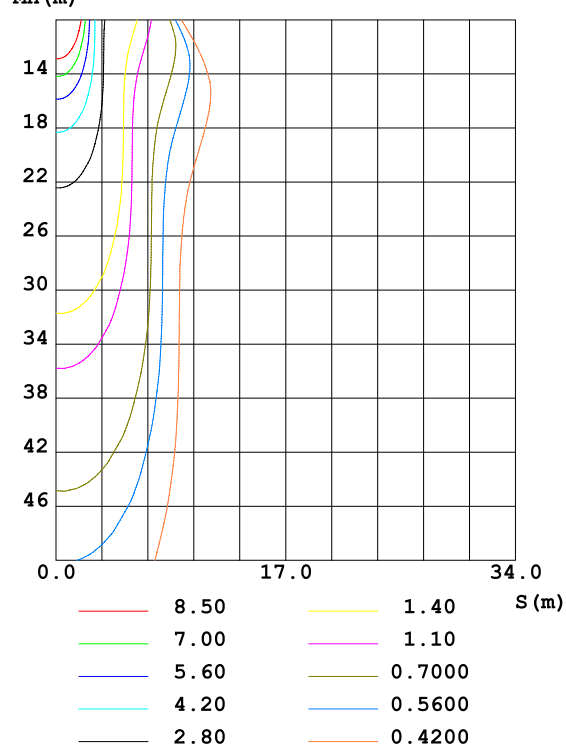
LUMINAIRE PHOTOMETRIC TEST REPORT

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 94.20 lm/W
MODEL	54.21.1010.____	I _{max} (cd)	1409	S/MH (C0/180)	0.44	
NOMINAL POWER (W)	6	LOR (%)	97.7	S/MH (C90/270)	0.56	
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	572.77	η UP, DN (C0-180)	0.0, 55.8	
NOMINAL FLUX (lm)	585.963	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 41.9	
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.00	
TEST VOLTAGE (V)	219.2	η down (%)	97.7	CIBSE SHR MAX	1.00	

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT: lx)



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2017-07-11

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V1.0.260
Humidity: 65.0%
Test Distance: 6.960m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM:

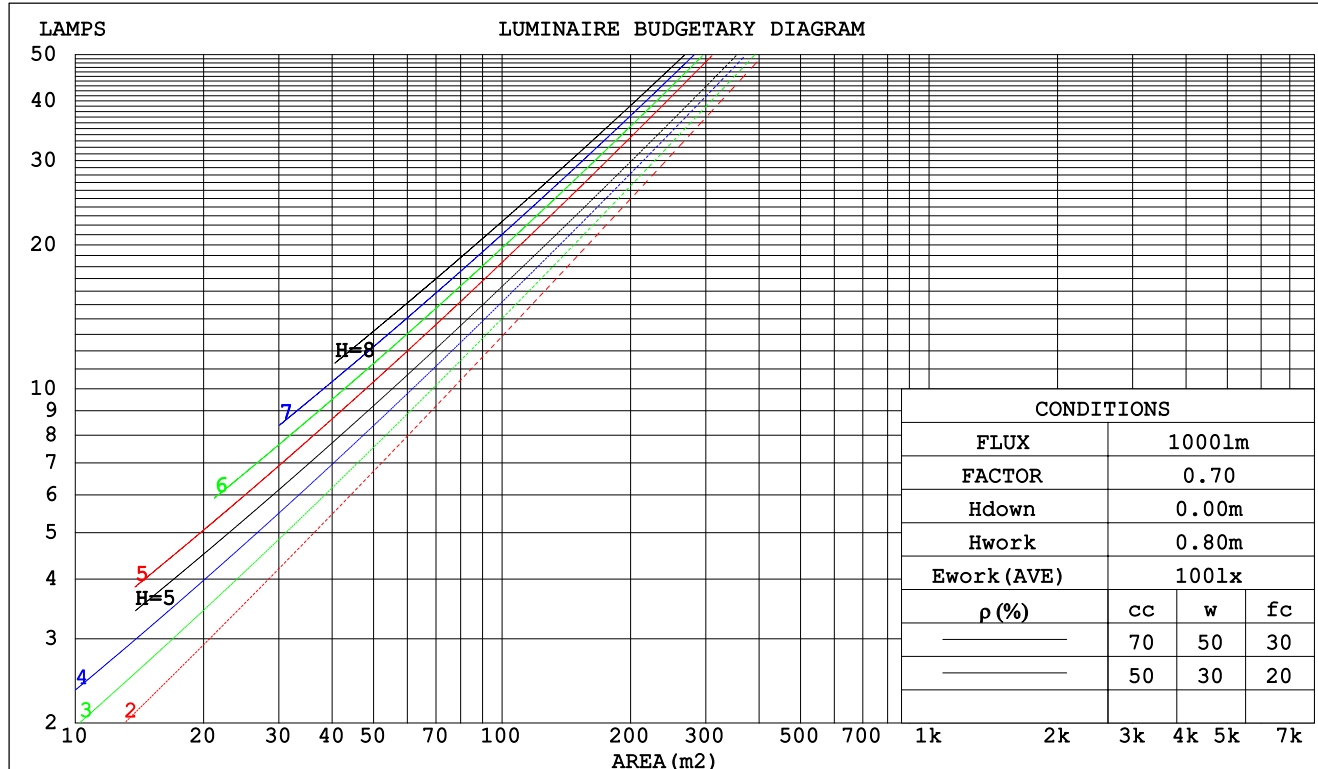
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
5	1302	1223	1209	1185	1250	1091	1060	1123	0- 5	30.14	30.14	5.26,5.14
10	945.5	936.2	1010	875.4	850.3	737.1	711.4	778.6	5- 10	71.17	101.3	17.7,17.3
15	538.0	624.7	810.0	566.5	470.4	440.5	362.6	472.3	10- 15	79.56	180.9	31.6,30.9
20	333.2	403.9	620.9	370.5	303.0	280.7	311.3	290.5	15- 20	70.96	251.8	44,43
25	261.3	298.7	431.8	280.3	245.9	236.7	259.9	243.3	20- 25	66.53	318.4	55.6,54.3
30	227.8	243.9	242.7	234.2	215.8	203.1	208.6	209.4	25- 30	63.69	382.0	66.7,65.2
35	202.5	212.9	206.2	204.6	191.2	162.9	144.2	168.4	30- 35	60.65	442.7	77.3,75.5
40	157.4	181.8	169.7	172.9	138.1	109.2	79.84	112.8	35- 40	53.99	496.7	86.7,84.8
45	56.06	118.0	133.2	104.9	38.40	54.52	15.48	57.72	40- 45	36.93	533.6	93.2,91.1
50	14.82	55.51	91.45	46.83	13.65	18.38	12.16	19.31	45- 50	17.31	550.9	96.2,94
55	9.794	11.81	49.73	10.73	8.869	7.807	8.835	7.895	50- 55	8.788	559.7	97.7,95.5
60	6.759	8.748	8.007	7.987	6.260	6.194	5.512	6.266	55- 60	5.034	564.7	98.6,96.4
65	5.386	6.350	6.442	5.968	5.018	4.850	4.023	4.958	60- 65	2.959	567.7	99.1,96.9
70	4.544	4.593	4.878	4.362	4.216	3.562	2.535	3.665	65- 70	2.344	570.0	99.5,97.3
75	2.397	2.954	3.313	2.772	2.084	2.081	1.046	2.131	70- 75	1.693	571.7	99.8,97.6
80	0.9676	1.192	0	1.137	0.9303	0.6579	0	0.6559	75- 80	0.7973	572.5	100,97.7
85	0.6031	0	0	0	0.6071	0	0	0	80- 85	0.2077	572.7	100,97.7
90	0	0	0	0	0.0024	0	0	0	85- 90	0.0257	572.8	100,97.7
95									90- 95			
100									95-100			
105									100-105			
110									105-110			
115									110-115			
120									115-120			
125									120-125			
130									125-130			
135									130-135			
140									135-140			
145									140-145			
150									145-150			
155									150-155			
160									155-160			
165									160-165			
170									165-170			
175									170-175			
180									175-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2017-07-11

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V1.0.260
 Humidity:65.0%
 Test Distance:6.960m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

pcc	80%			70%			50%			30%			10%			0
p _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
p _{fc}	20%			20%			20%			20%			20%			0
RCR	Coefficients of Utilization(CU)															
0.0	1.16	1.16	1.16	1.14	1.14	1.14	1.09	1.09	1.09	1.04	1.04	1.04	.00	.00	.00	.98
1.0	1.08	1.06	1.04	1.06	1.04	1.02	1.02	1.00	.99	.98	.97	.96	.95	.94	.93	.91
2.0	1.01	.97	.93	.99	.95	.92	.96	.93	.90	.93	.90	.88	.90	.88	.86	.85
3.0	.94	.89	.85	.92	.88	.84	.90	.86	.83	.87	.84	.82	.85	.83	.80	.79
4.0	.88	.82	.78	.87	.82	.78	.84	.80	.77	.83	.79	.76	.81	.78	.75	.74
5.0	.82	.77	.72	.81	.76	.72	.80	.75	.71	.78	.74	.71	.76	.73	.70	.69
6.0	.77	.72	.67	.77	.71	.67	.75	.70	.67	.74	.70	.66	.72	.69	.66	.64
7.0	.73	.67	.63	.72	.67	.63	.71	.66	.63	.70	.66	.62	.69	.65	.62	.61
8.0	.69	.63	.59	.69	.63	.59	.67	.63	.59	.66	.62	.59	.66	.62	.59	.57
9.0	.66	.60	.56	.65	.60	.56	.64	.59	.56	.63	.59	.56	.62	.58	.55	.54
10.0	.62	.57	.53	.62	.57	.53	.61	.56	.53	.60	.56	.53	.60	.56	.53	.51



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-07-11

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V1.0.260
Humidity:65.0%
Test Distance:6.960m [K=1.0000]
Remarks:

WEC AND CCEC

ρ_{cc}	80%			70%			50%			30%			10%			0	
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
ρ_{fc}	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.176	.100	.032	.169	.096	.031	.157	.090	.029	.145	.084	.027	.135	.078	.025		
2.0	.168	.092	.028	.163	.090	.028	.153	.085	.026	.143	.080	.025	.134	.076	.024		
3.0	.160	.085	.026	.155	.083	.025	.147	.079	.024	.138	.076	.023	.131	.072	.022		
4.0	.152	.079	.023	.148	.077	.023	.140	.074	.022	.133	.072	.022	.127	.069	.021		
5.0	.144	.074	.021	.141	.072	.021	.134	.070	.021	.128	.068	.020	.122	.065	.020		
6.0	.137	.069	.020	.134	.068	.020	.128	.066	.019	.123	.064	.019	.118	.062	.018		
7.0	.131	.065	.018	.128	.064	.018	.123	.062	.018	.118	.061	.018	.113	.059	.017		
8.0	.125	.061	.017	.122	.060	.017	.118	.059	.017	.113	.057	.017	.109	.056	.016		
9.0	.119	.058	.016	.117	.057	.016	.113	.056	.016	.109	.055	.016	.105	.053	.015		
10.0	.114	.055	.015	.112	.054	.015	.108	.053	.015	.105	.052	.015	.101	.051	.015		

ρ_{cc}	80%			70%			50%			30%			10%			0	
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
ρ_{fc}	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients (CCEC)										
0.0	.186	.186	.186	.159	.159	.159	.109	.109	.109	.062	.062	.062	.020	.020	.020		
1.0	.167	.154	.141	.143	.132	.122	.098	.091	.084	.056	.053	.049	.018	.017	.016		
2.0	.153	.130	.110	.131	.111	.095	.090	.077	.066	.052	.045	.039	.017	.015	.013		
3.0	.141	.111	.087	.121	.096	.076	.083	.067	.053	.048	.039	.031	.015	.013	.010		
4.0	.131	.097	.071	.112	.084	.061	.077	.058	.043	.045	.034	.026	.014	.011	.008		
5.0	.122	.085	.058	.105	.074	.051	.072	.052	.036	.042	.030	.021	.013	.010	.007		
6.0	.115	.076	.049	.099	.066	.042	.068	.046	.030	.040	.027	.018	.013	.009	.006		
7.0	.108	.069	.041	.093	.060	.036	.064	.042	.025	.037	.025	.015	.012	.008	.005		
8.0	.103	.063	.035	.088	.054	.031	.061	.038	.022	.036	.023	.013	.012	.007	.004		
9.0	.097	.058	.031	.084	.050	.027	.058	.035	.019	.034	.021	.011	.011	.007	.004		
10.0	.093	.053	.027	.080	.046	.023	.056	.033	.017	.032	.019	.010	.011	.006	.003		

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-07-11

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V1.0.260
Humidity:65.0%
Test Distance:6.960m [K=1.0000]
Remarks:

Uncorrected UGR Table

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	17.9	18.9	18.2	19.1	19.2	19.8	20.8	20.0	20.9	21.1
3H	17.9	18.7	18.1	18.9	19.1	19.7	20.6	20.0	20.8	21.0
4H	17.8	18.6	18.1	18.9	19.1	19.6	20.5	19.9	20.7	20.9
6H	17.7	18.5	18.0	18.8	19.0	19.6	20.3	19.9	20.6	20.8
8H	17.7	18.4	18.0	18.7	19.0	19.5	20.3	19.8	20.5	20.8
12H	17.7	18.4	18.0	18.6	18.9	19.5	20.2	19.8	20.5	20.7
4H 2H	17.7	18.6	18.0	18.8	19.0	19.6	20.4	19.8	20.6	20.8
3H	17.7	18.4	18.0	18.7	19.0	19.5	20.2	19.8	20.5	20.8
4H	17.7	18.3	18.0	18.6	18.9	19.5	20.1	19.8	20.4	20.7
6H	17.6	18.2	18.0	18.5	18.9	19.4	20.0	19.8	20.3	20.6
8H	17.6	18.1	18.0	18.5	18.8	19.3	19.9	19.7	20.2	20.6
12H	17.5	18.0	18.0	18.4	18.8	19.3	19.8	19.7	20.1	20.5
8H 4H	17.6	18.1	18.0	18.5	18.8	19.3	19.9	19.7	20.2	20.6
6H	17.5	18.0	18.0	18.4	18.8	19.3	19.7	19.7	20.1	20.5
8H	17.5	17.9	18.0	18.3	18.8	19.2	19.6	19.7	20.0	20.5
12H	17.5	17.8	18.0	18.3	18.7	19.2	19.5	19.6	19.9	20.4
12H 4H	17.5	18.0	18.0	18.4	18.8	19.3	19.8	19.7	20.2	20.5
6H	17.5	17.9	17.9	18.3	18.7	19.2	19.6	19.7	20.0	20.5
8H	17.5	17.8	17.9	18.2	18.7	19.2	19.5	19.6	19.9	20.4
Variations with the observer position at spacings:										
S = 1.0H	+ 2.4 / - 7.7					+ 1.9 / - 3.4				
1.5H	+ 3.9 / - 7.3					+ 1.9 / - 7.4				
2.0H	+ 5.3 / - 3.6					+ 5.3 / - 8.0				

CIE Pub.117 Corrected 586.0 lm Total Lamp Luminous Flux. (8log(F/F0) = -1.9)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-07-11

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V1.0.260
Humidity:65.0%
Test Distance:6.960m [K=1.0000]
Remarks:

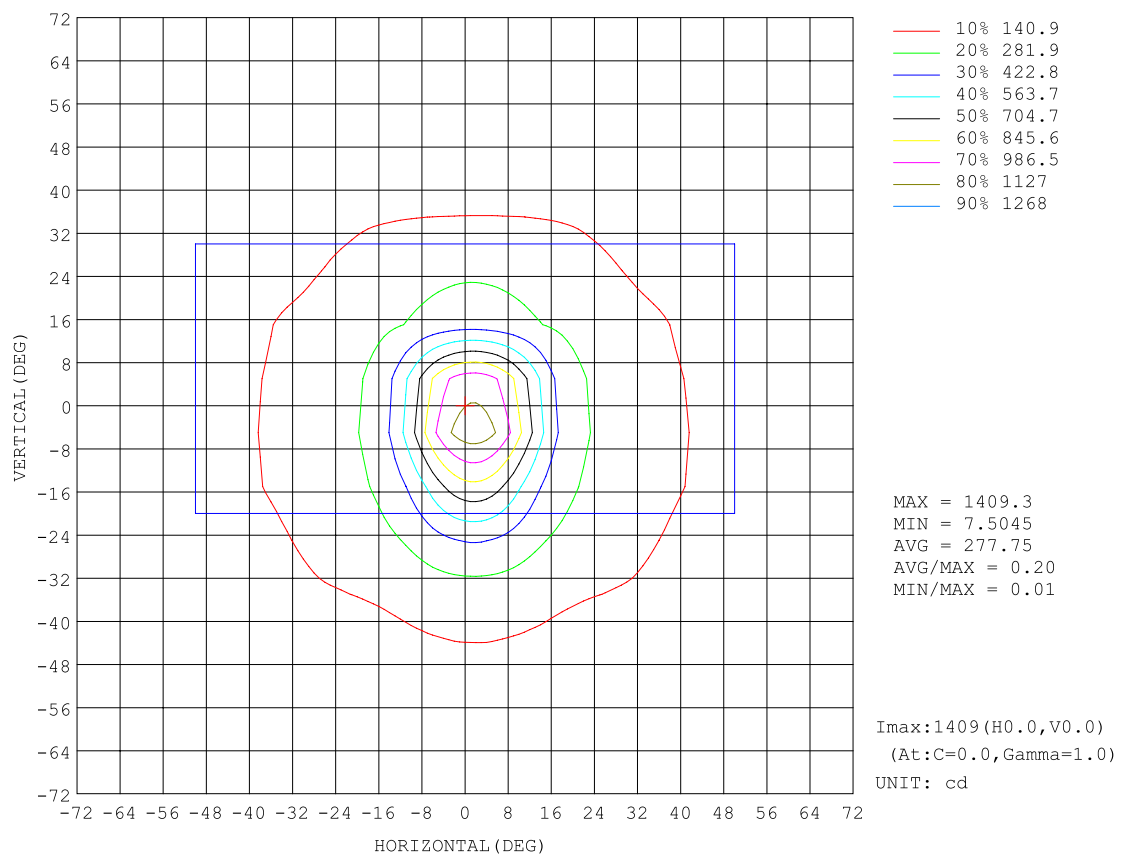
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	81	74	70	81	74	70	80	74	70	66
0.80	89	83	79	89	82	79	87	82	78	74
1.00	94	88	84	94	88	84	92	88	84	79
1.25	99	93	89	98	93	89	96	91	88	84
1.50	102	97	93	101	96	93	98	94	91	87
2.00	105	100	97	103	99	96	101	97	95	90
2.50	107	103	99	105	101	99	102	99	97	91
3.00	108	105	102	107	103	101	103	101	99	92
4.00	111	108	105	108	106	104	105	103	101	94
5.00	112	109	107	110	108	106	106	104	103	95
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2017-07-11

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V1.0.260
 Humidity: 65.0%
 Test Distance: 6.960m [K=1.0000]
 Remarks:

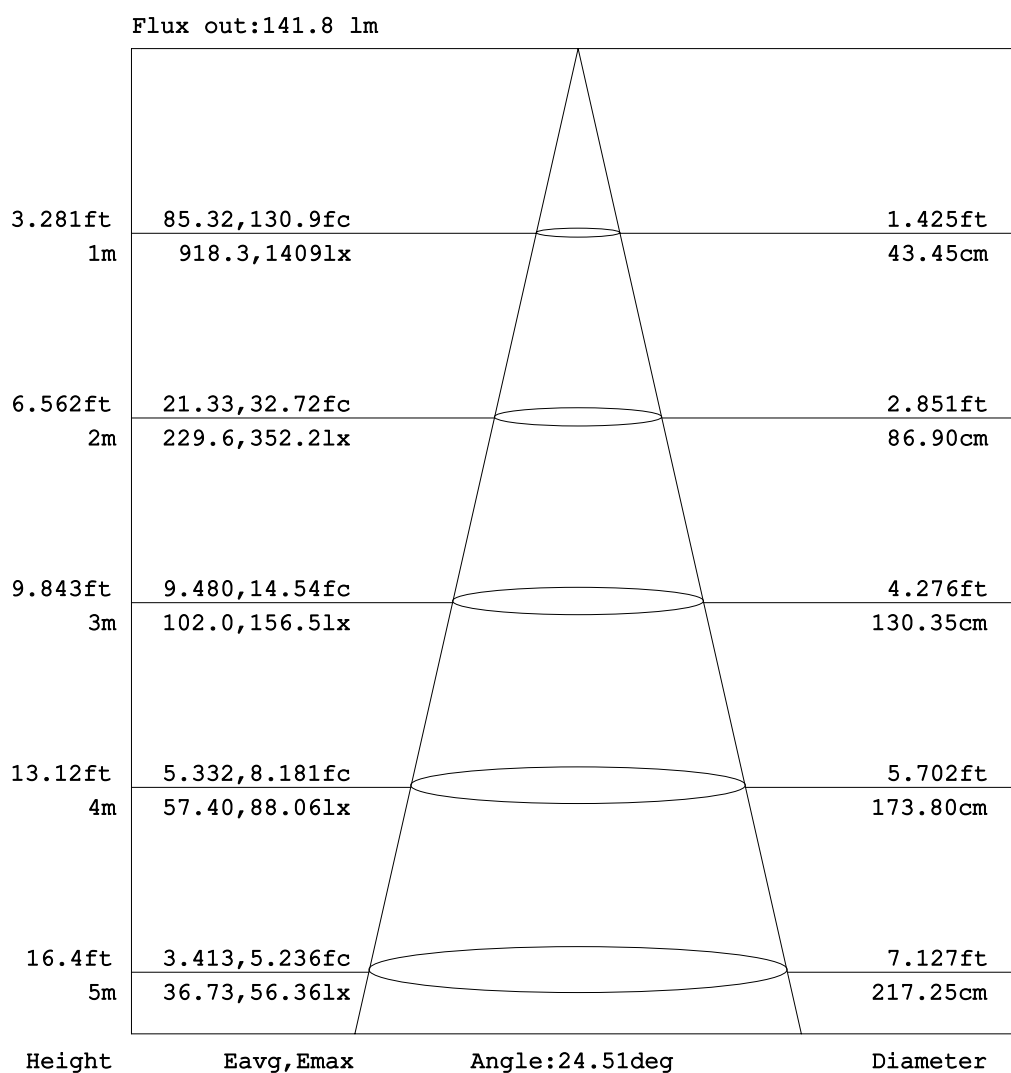
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-07-11

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V1.0.260
Humidity:65.0%
Test Distance:6.960m [K=1.0000]
Remarks:

AAI Figure

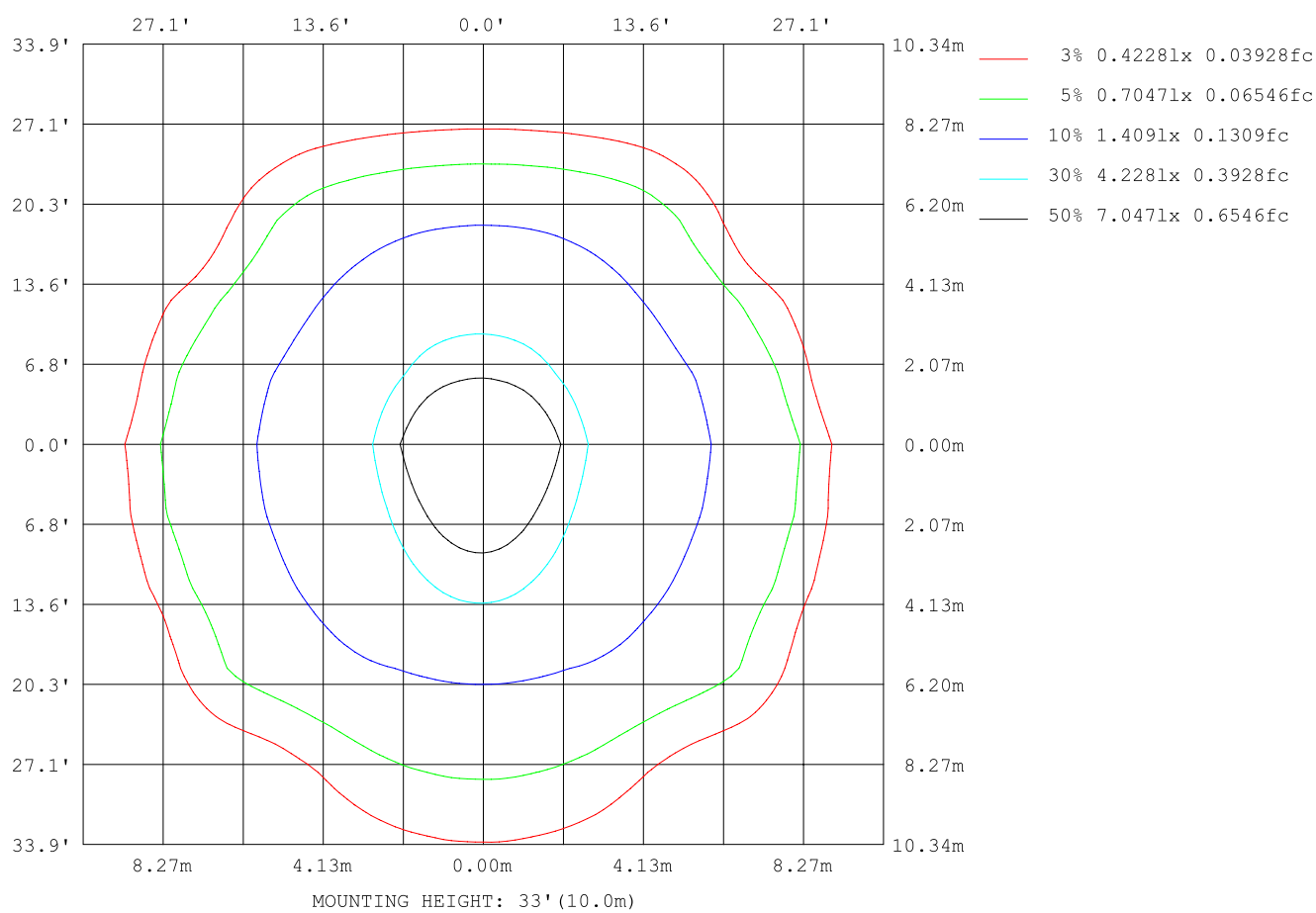


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-07-11

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V1.0.260
Humidity:65.0%
Test Distance:6.960m [K=1.0000]
Remarks:

ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2017-07-11

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V1.0.260
Humidity: 65.0%
Test Distance: 6.960m [K=1.0000]
Remarks:

Average Luminance Table (CIBSE)

Parameter description for average Luminance	Symbol	Value	Unit
Luminance in Azimuth Plane	Bc	refer Table 2	cd/sq.m.
Intensity at angle Gamma in given azimuth plane	I	from data	cd/klm
Number of lamps	N	1	
Output of each lamp(initial lumens as specified)	F	585.963	lm
Multiplying factor	K	1	
Luminous area in horizontal plane used in calculations	A	0.007	sq.m.
Angle to the downward vertical from light centre	Gamma	from data	deg

Table 1. Calculation parameters for determination of CIBSE LG3:1996 Average Luminance

G deg	C plane(deg)																		
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
55	2439	2552	2678	2880	4064	3124	4258	10224	12336	12385	11887	8532	3308	2826	2894	2558	2357	2281	2209
60	1931	2016	2130	2251	2339	2584	2801	4156	3091	2288	2973	3580	2464	2393	2134	2044	1903	1836	1789
65	1821	1855	1926	1955	2115	2108	2084	2187	2223	2178	2065	1977	1930	2018	1969	1845	1776	1715	1696
70	1898	1940	1982	2005	2013	1910	2040	2137	2144	2037	1865	1778	1763	1787	1900	1882	1850	1784	1761
75	1323	1680	1621	2047	1713	1720	1991	2089	2040	1829	1560	1483	1517	1501	1646	1886	1448	1343	1150
80	796	849	901	1582	1141	1011	768	366	90	0	68	248	538	797	1164	1494	858	772	765
85	989	1064	1279	0	0	0	0	0	0	0	0	0	0	0	0	0	1404	932	995

Table 2. Average Luminance(cd/sq.m.) for defined C plane,Gamma angle

CIBSE Category	Gamma (deg)	Average Luminance		Patch Luminance	
		maximum	specified	maximum	specified
		calculated	maximum	measured	maximum
Category 1	55 to 90	12385	200	---	500
Category 2	65 to 90	2223	200	---	500
Category 3	75 to 90	2089	200	---	500

Table 3. Tabulation of Average and Patch Luminance(cd/sq.m.) for defined CIBSE categories

No match

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-07-11

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V1.0.260
Humidity:65.0%
Test Distance:6.960m [K=1.0000]
Remarks:

Average Luminance Table (CIBSE)

Parameter description for average Luminance	Symbol	Value	Unit
Luminance in Azimuth Plane	Bc	refer Table 2	cd/sq.m.
Intensity at angle Gamma in given azimuth plane	I	from data	cd/klm
Number of lamps	N	1	
Output of each lamp(initial lumens as specified)	F	585.963	lm
Multiplying factor	K	1	
Luminous area in horizontal plane used in calculations	A	0.007	sq.m.
Angle to the downward vertical from light centre	Gamma	from data	deg

Table 1. Calculation parameters for determination of CIBSE LG3:2001 Average Luminance

G deg	C plane(deg)																		
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
55	2439	2552	2678	2880	4064	3124	4258	10224	12336	12385	11887	8532	3308	2826	2894	2558	2357	2281	2209
60	1931	2016	2130	2251	2339	2584	2801	4156	3091	2288	2973	3580	2464	2393	2134	2044	1903	1836	1789
65	1821	1855	1926	1955	2115	2108	2084	2187	2223	2178	2065	1977	1930	2018	1969	1845	1776	1715	1696
70	1898	1940	1982	2005	2013	1910	2040	2137	2144	2037	1865	1778	1763	1787	1900	1882	1850	1784	1761
75	1323	1680	1621	2047	1713	1720	1991	2089	2040	1829	1560	1483	1517	1501	1646	1886	1448	1343	1150
80	796	849	901	1582	1141	1011	768	366	90	0	68	248	538	797	1164	1494	858	772	765
85	989	1064	1279	0	0	0	0	0	0	0	0	0	0	0	0	0	1404	932	995

Table 2. Average Luminance(cd/sq.m.) for defined C plane,Gamma angle

range (deg)	Maximum measured	Average Luminance(cd/sq.m)			
		Maximum limit for screen type & software category used			
		Type I,II screen Some neg.s'ware	Type I,II screen Only pos.s'ware	Type III screen Some neg.s'ware	Type III screen Only pos.s'ware
55 to 90	12385	1000	1500	200	500
65 to 90	2223	1000	1500	200	500

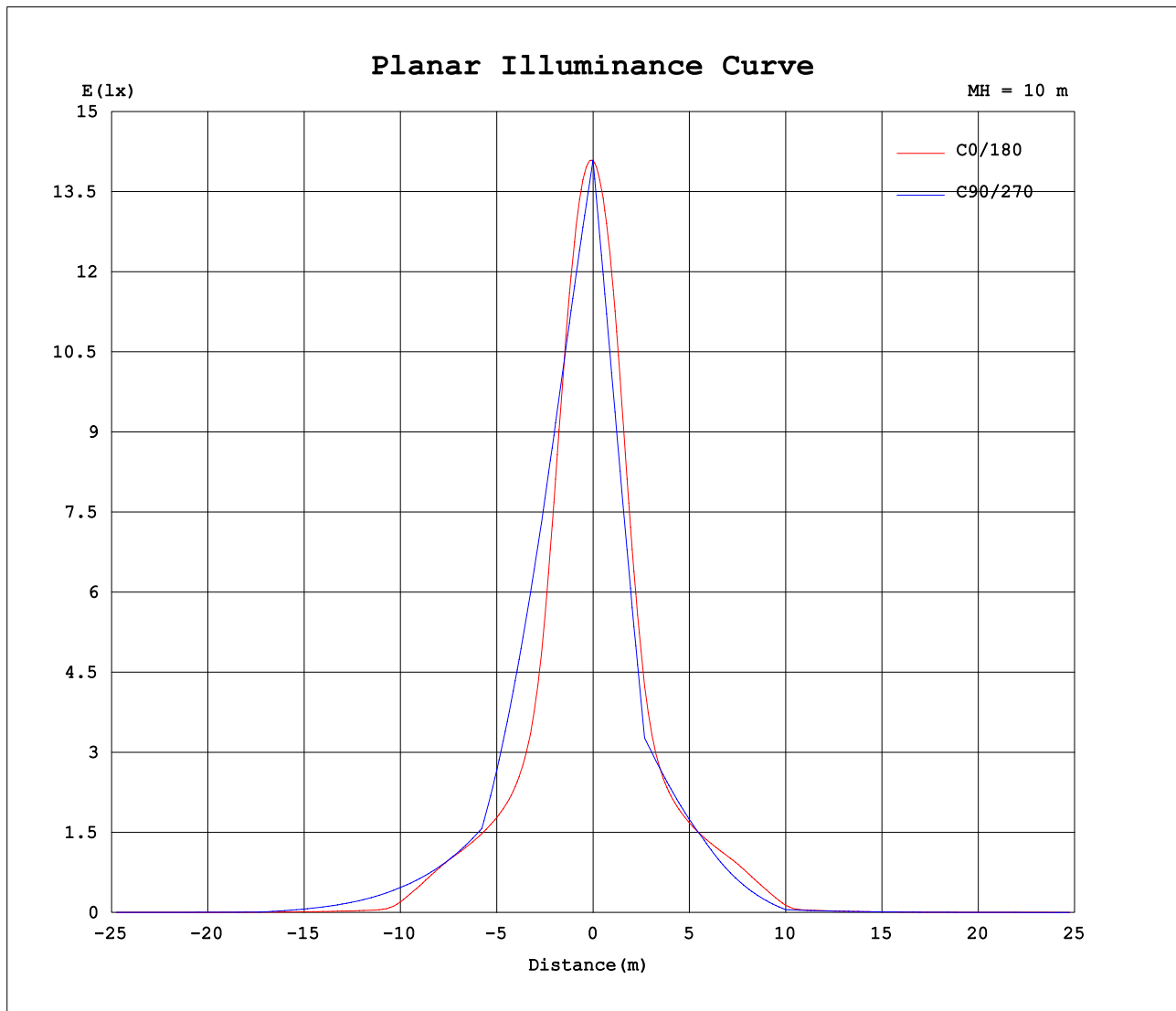
Table 3. Tabulation of average luminance(cd/sq.m.) and luminance limits

No match

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-07-11

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V1.0.260
Humidity:65.0%
Test Distance:6.960m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2017-07-11

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V1.0.260
 Humidity: 65.0%
 Test Distance: 6.960m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Table--1

UNIT: cd

[illegible]

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-07-11

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V1.0.260
Humidity:65.0%
Test Distance:6.960m [K=1.0000]
Remarks:

```

UNIT: cd

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-07-11

Página 14 de 16

UNIT: cd

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-07-11

Página 15 de 16

UNIT: cd

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V1.0.260
Humidity:65.0%
Test Distance:6.960m [K=1.0000]
Remarks:

```