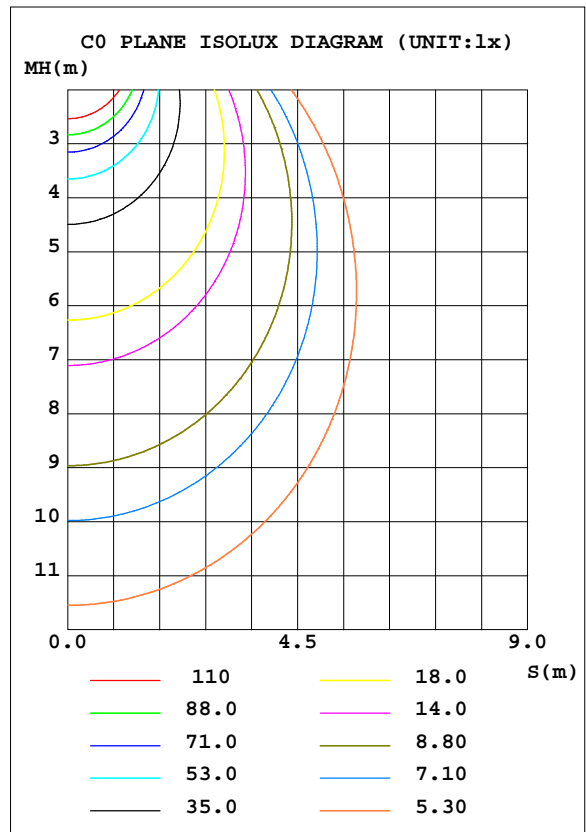
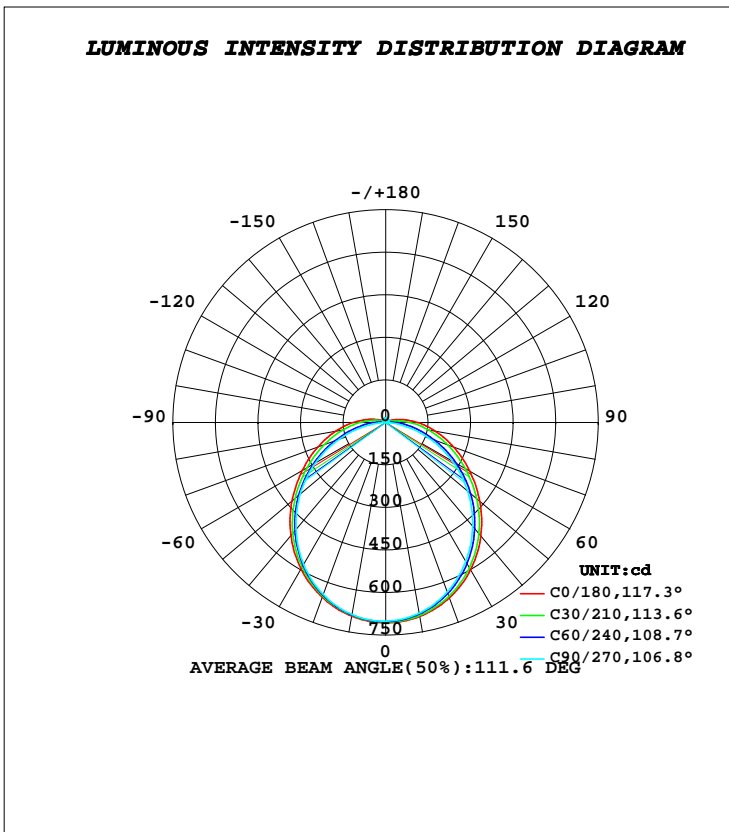


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.1V I:0.1210A P:21.20W PF:0.7910 Lamp Flux:2207.88x1 lm		
NAME: 0.6M-22W-4500K	TYPE:LED	
MFR.:		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 104.15 lm/W			
MODEL	0.6M-22W-4500K	I _{max} (cd)	706.9	S/MH(C0/180)	1.26
NOMINAL POWER(W)	22	LOR(%)	100.0	S/MH(C90/270)	1.21
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	2207.9	η UP, DN(C0-180)	2.6,46.5
NOMINAL FLUX(lm)	2207.88	CIE CLASS	DIRECT	η UP, DN(C180-360)	2.9,48.0
LAMPS INSIDE	1	η up(%)	5.5	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	220.1	η down(%)	94.5	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2018-01-17

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	694.5	688.4	682.7	680.9	693.5	689.5	687.7	689.7	0- 10	66.35	66.35	3,3
20	658.2	647.1	635.9	636.7	656.0	649.3	645.5	653.3	10- 20	189.2	255.6	11.6,11.6
30	599.4	582.5	565.4	570.3	596.9	586.1	578.7	593.2	20- 30	284.8	540.4	24.5,24.5
40	522.4	500.0	477.5	486.8	520.0	503.7	492.1	513.4	30- 40	340.7	881.1	39.9,39.9
50	433.4	405.3	378.3	391.8	432.4	409.8	393.5	421.4	40- 50	351.7	1233	55.8,55.8
60	342.1	305.3	272.0	292.8	340.3	308.4	286.3	321.0	50- 60	320.2	1553	70.3,70.3
70	255.6	208.7	162.0	198.7	254.8	211.4	176.0	224.5	60- 70	256.6	1810	82,82
80	177.0	125.1	58.50	119.3	178.7	127.5	68.83	139.2	70- 80	176.4	1986	89.9,89.9
90	112.2	61.18	4.196	61.39	114.6	66.21	5.855	75.04	80- 90	100.1	2086	94.5,94.5
100	61.09	22.95	5.629	26.81	64.56	29.37	6.635	34.05	90-100	49.68	2136	96.7,96.7
110	26.85	12.12	6.970	11.95	30.06	13.66	7.953	14.97	100-110	22.67	2158	97.8,97.8
120	10.96	8.983	8.548	8.801	12.89	9.841	9.368	9.968	110-120	11.51	2170	98.3,98.3
130	10.53	10.47	10.17	10.34	11.46	11.09	10.78	11.06	120-130	9.046	2179	98.7,98.7
140	11.92	11.96	11.76	11.82	12.61	12.32	12.14	12.32	130-140	8.837	2188	99.1,99.1
150	13.20	13.27	13.14	13.09	13.66	13.48	13.41	13.49	140-150	7.983	2196	99.4,99.4
160	14.45	14.44	14.36	14.23	14.78	14.56	14.53	14.57	150-160	6.425	2202	99.7,99.7
170	15.59	15.46	15.40	15.26	15.77	15.44	15.39	15.41	160-170	4.233	2206	99.9,99.9
180	16.07	15.82	15.73	15.73	16.14	15.81	15.71	15.73	170-180	1.491	2208	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

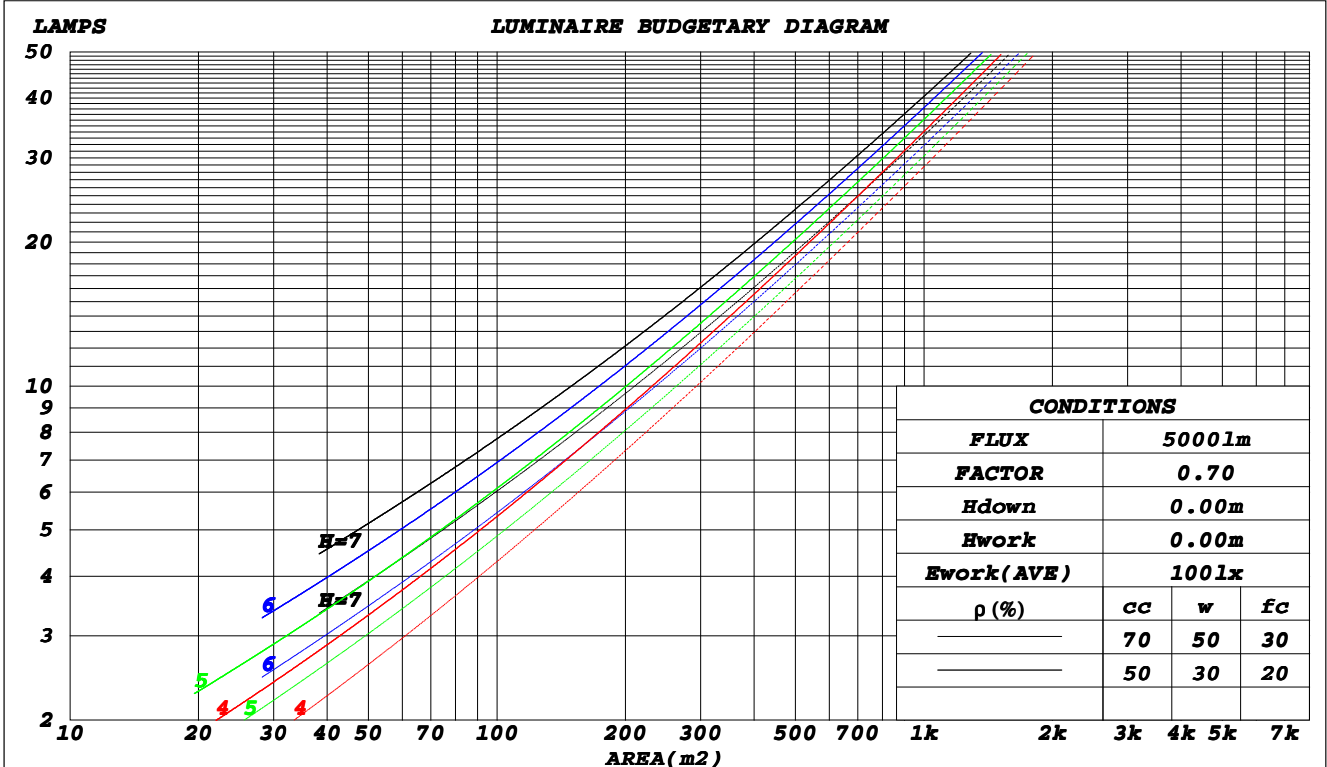
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2018-01-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.1V I:0.1210A P:21.20W PF:0.7910 Lamp Flux:2207.88x1 lm		
NAME: 0.6M-22W-4500K	TYPE:LED	
MFR.:		

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						Coefficients of Utilization(CU)									
0.0	1.18	1.18	1.18	1.14	1.14	1.14	1.08	1.08	1.08	1.02	1.02	1.02	.97	.97	.97	.94
1.0	1.01	.96	.92	.98	.94	.90	.93	.89	.86	.88	.85	.82	.83	.81	.79	.76
2.0	.87	.80	.74	.85	.78	.73	.80	.75	.70	.76	.72	.68	.73	.69	.65	.63
3.0	.76	.68	.61	.74	.67	.60	.71	.64	.58	.67	.61	.57	.64	.59	.55	.53
4.0	.68	.59	.52	.66	.57	.51	.63	.55	.50	.60	.53	.48	.57	.52	.47	.45
5.0	.60	.51	.44	.59	.50	.44	.56	.49	.43	.54	.47	.42	.51	.45	.41	.39
6.0	.54	.45	.39	.53	.44	.38	.51	.43	.37	.48	.42	.37	.46	.40	.36	.34
7.0	.49	.40	.34	.48	.40	.34	.46	.39	.33	.44	.37	.32	.42	.36	.32	.30
8.0	.45	.36	.30	.44	.36	.30	.42	.35	.30	.40	.34	.29	.39	.33	.29	.27
9.0	.41	.33	.27	.40	.32	.27	.39	.32	.27	.37	.31	.26	.36	.30	.26	.24
10.0	.38	.30	.25	.37	.30	.24	.36	.29	.24	.35	.28	.24	.33	.28	.23	.22



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2018-01-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity: 65.0%
 Test Distance: 8.000m [K=0.7063]
 Remarks:

WEC AND CCEC

Test:U:220.1V I:0.1210A P:21.20W PF:0.7910 Lamp Flux:2207.88x1 lm		
NAME: 0.6M-22W-4500K	TYPE:LED	
MFR.:		

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	.342	.194	.062	.333	.190	.060	.316	.182	.058	.301	.174	.056	.287	.166	.054	
2.0	.308	.169	.052	.301	.166	.051	.286	.159	.049	.272	.153	.048	.260	.147	.046	
3.0	.280	.149	.045	.273	.146	.044	.260	.141	.043	.248	.136	.042	.236	.131	.040	
4.0	.255	.133	.039	.249	.130	.039	.237	.126	.038	.227	.122	.037	.216	.118	.036	
5.0	.234	.119	.035	.229	.118	.034	.218	.114	.033	.208	.110	.033	.199	.106	.032	
6.0	.216	.108	.031	.211	.107	.031	.202	.103	.030	.193	.100	.029	.185	.097	.029	
7.0	.201	.099	.028	.196	.098	.028	.188	.095	.027	.179	.092	.027	.172	.089	.026	
8.0	.187	.091	.026	.183	.090	.025	.175	.087	.025	.168	.085	.025	.161	.083	.024	
9.0	.175	.085	.024	.171	.083	.023	.164	.081	.023	.157	.079	.023	.151	.077	.022	
10.0	.164	.079	.022	.161	.078	.022	.154	.076	.021	.148	.074	.021	.142	.072	.021	

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	.233	.233	.233	.199	.199	.199	.136	.136	.136	.078	.078	.078	.025	.025	.025	
1.0	.225	.198	.174	.192	.170	.150	.132	.117	.104	.076	.068	.060	.024	.022	.020	
2.0	.217	.175	.139	.186	.150	.120	.127	.104	.084	.073	.060	.049	.024	.020	.016	
3.0	.209	.157	.116	.179	.136	.100	.123	.094	.070	.071	.055	.042	.023	.018	.014	
4.0	.202	.144	.100	.173	.125	.087	.119	.087	.061	.069	.051	.036	.022	.017	.012	
5.0	.194	.134	.090	.167	.116	.078	.115	.081	.055	.066	.048	.033	.021	.016	.011	
6.0	.187	.126	.082	.160	.109	.072	.111	.076	.051	.064	.045	.030	.021	.015	.010	
7.0	.180	.119	.076	.154	.103	.067	.107	.072	.047	.062	.043	.028	.020	.014	.009	
8.0	.173	.113	.072	.149	.098	.063	.103	.069	.045	.060	.041	.027	.019	.013	.009	
9.0	.167	.108	.069	.144	.094	.060	.100	.066	.043	.058	.039	.025	.019	.013	.008	
10.0	.161	.104	.066	.139	.090	.058	.096	.064	.041	.056	.038	.024	.018	.012	.008	

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-01-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.000m [K=0.7063]
 Remarks:

Uncorrected UGR Table

Test:U:220.1V I:0.1210A P:21.20W PF:0.7910 Lamp Flux:2207.88x1 lm		
NAME: 0.6M-22W-4500K	TYPE:LED	
MFR.:		

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	19.6	21.0	19.9	21.3	21.7	18.7	20.1	19.0	20.4	20.8
3H	21.6	22.9	21.9	23.3	23.6	20.1	21.4	20.4	21.8	22.1
4H	22.6	23.9	23.0	24.3	24.6	20.6	21.9	21.0	22.2	22.6
6H	23.7	24.9	24.1	25.3	25.7	20.9	22.1	21.3	22.5	22.9
8H	24.3	25.5	24.7	25.9	26.3	21.0	22.2	21.4	22.6	23.0
12H	25.0	26.1	25.4	26.5	26.9	21.0	22.2	21.5	22.6	23.0
4H 2H	20.1	21.4	20.5	21.8	22.1	19.4	20.7	19.8	21.0	21.4
3H	22.3	23.5	22.8	23.9	24.3	21.0	22.1	21.4	22.5	23.0
4H	23.5	24.6	24.0	25.0	25.5	21.7	22.7	22.1	23.1	23.6
6H	24.8	25.8	25.3	26.2	26.7	22.2	23.1	22.6	23.5	24.0
8H	25.5	26.4	26.0	26.9	27.4	22.3	23.2	22.8	23.6	24.1
12H	26.3	27.1	26.8	27.6	28.1	22.4	23.2	22.9	23.7	24.2
8H 4H	23.8	24.7	24.3	25.2	25.7	22.2	23.1	22.7	23.5	24.0
6H	25.4	26.1	25.9	26.6	27.2	22.9	23.6	23.4	24.2	24.7
8H	26.3	26.9	26.8	27.4	28.0	23.2	23.8	23.7	24.4	24.9
12H	27.3	27.8	27.8	28.4	29.0	23.4	23.9	23.9	24.5	25.1
12H 4H	23.8	24.6	24.3	25.1	25.6	22.3	23.1	22.9	23.6	24.2
6H	25.5	26.1	26.0	26.6	27.2	23.2	23.8	23.7	24.4	24.9
8H	26.4	27.0	27.0	27.5	28.1	23.6	24.1	24.1	24.7	25.3
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.1 / - 0.3				

CIE Pub.117 Corrected 2208 lm Total Lamp Luminous Flux.(8log(F/F0) = 2.8)

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-01-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.000m [K=0.7063]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:220.1V I:0.1210A P:21.20W PF:0.7910 Lamp Flux:2207.88x1 lm		
NAME: 0.6M-22W-4500K	TYPE:LED	
MFR.:		

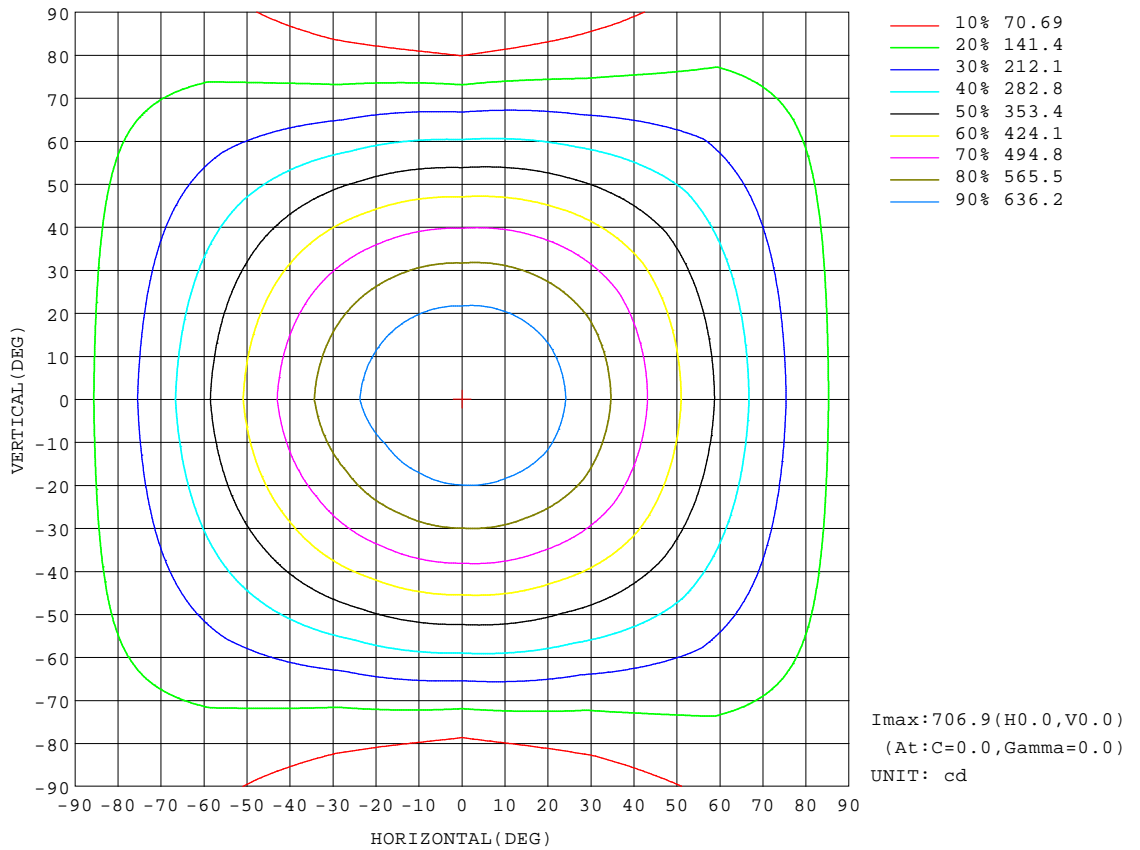
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	55	43	36	54	43	36	52	42	35	29
0.80	64	52	45	63	52	45	61	51	44	37
1.00	72	61	53	71	60	53	68	61	52	44
1.25	79	68	61	78	67	60	74	65	59	51
1.50	84	74	66	82	73	65	79	70	64	56
2.00	91	82	75	89	80	74	85	78	72	63
2.50	95	87	80	93	85	79	88	82	76	67
3.00	99	91	85	96	89	83	91	86	81	71
4.00	103	96	91	100	94	89	95	90	86	75
5.00	106	100	95	103	98	93	97	93	90	79
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2018-01-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks:

ISOCANDELA DIAGRAM

Test:U:220.1V I:0.1210A P:21.20W PF:0.7910 Lamp Flux:2207.88x1 lm		
NAME: 0.6M-22W-4500K	TYPE:LED	
MFR.:		



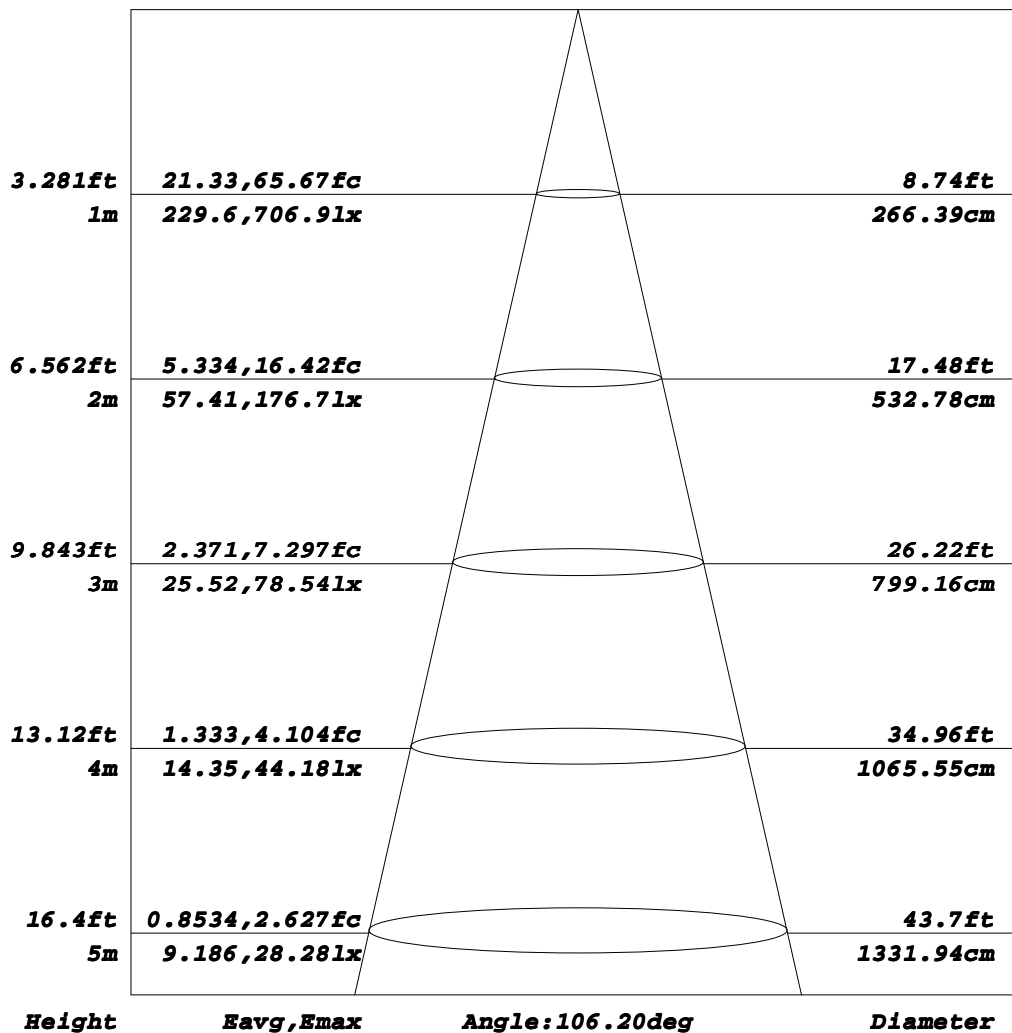
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2018-01-17

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity: 65.0%
Test Distance: 8.000m [K=0.7063]
Remarks:

AAI Figure

Test:U:220.1V I:0.1210A P:21.20W PF:0.7910 Lamp Flux:2207.88x1 lm		
NAME: 0.6M-22W-4500K	TYPE:LED	
MFR.:		

Flux out:1367 lm



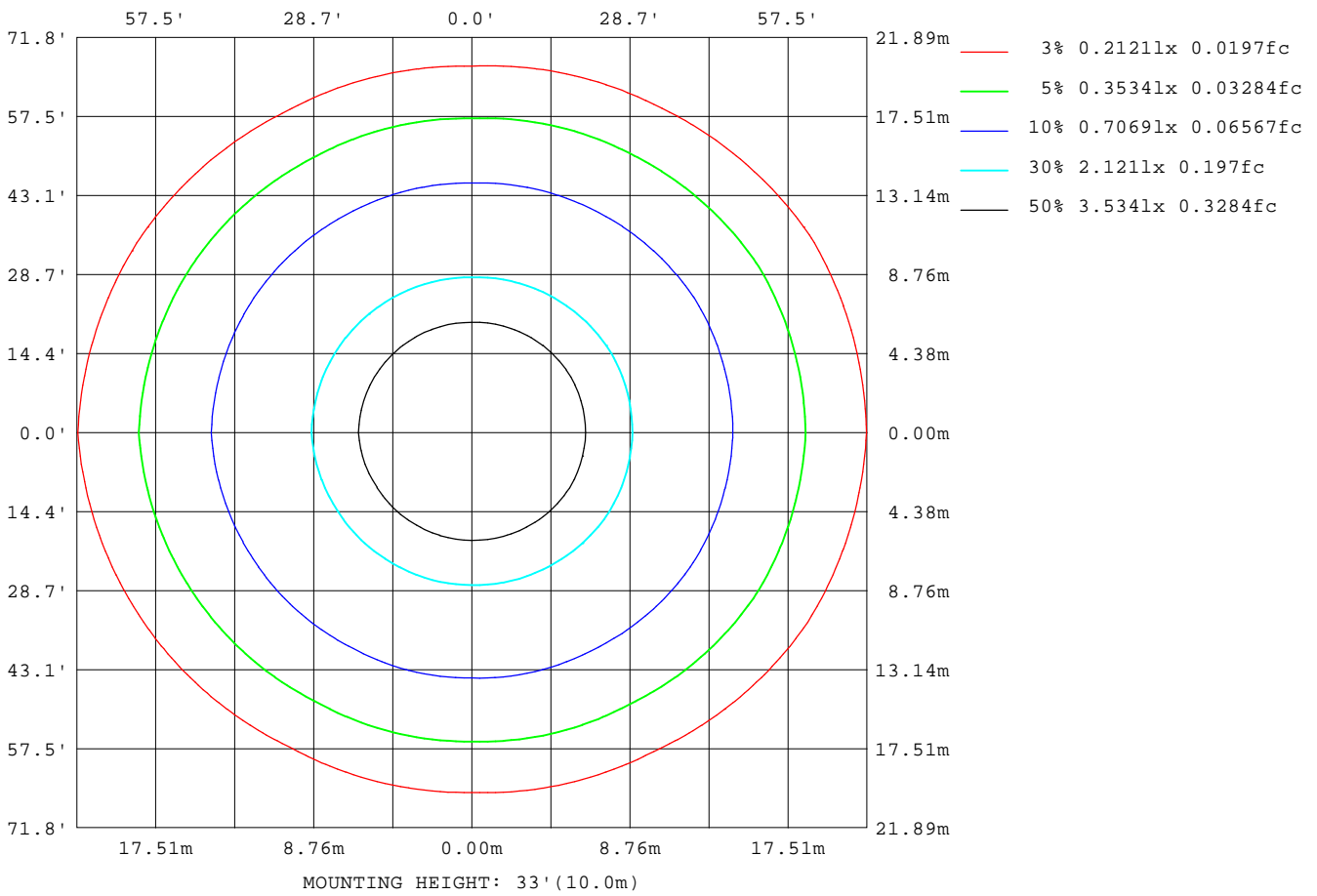
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2018-01-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity: 65.0%
 Test Distance: 8.000m [K=0.7063]
 Remarks:

ISOLUX DIAGRAM

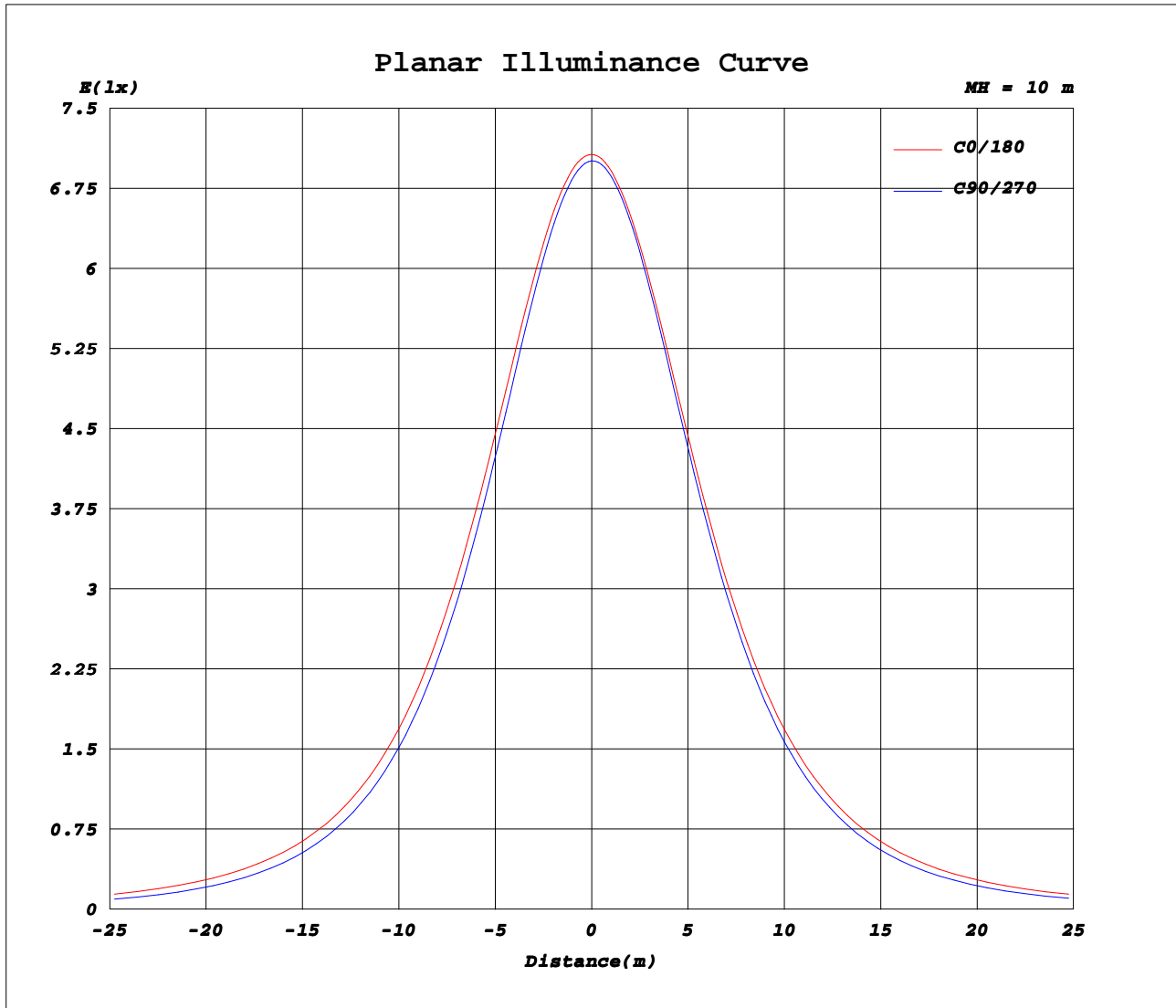
Test:U:220.1V I:0.1210A P:21.20W PF:0.7910 Lamp Flux:2207.88x1 lm		
NAME: 0.6M-22W-4500K	TYPE:LED	
MFR.:		



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2018-01-17

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity: 65.0%
Test Distance: 8.000m [K=0.7063]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2018-01-17

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity: 65.0%
Test Distance: 8.000m [K=0.7063]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:220.1V I:0.1210A P:21.20W PF:0.7910 Lamp Flux:2207.88x1 lm		
NAME: 0.6M-22W-4500K	TYPE:LED	
MFR.:		

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330							
0	707	704	702	701	700	699	707	704	702	701	700	699							
5	704	701	698	696	694	693	703	700	699	698	698	698							
10	695	691	686	683	681	681	693	690	689	688	690	690							
15	679	675	667	663	661	663	678	674	672	670	674	676							
20	658	652	642	636	635	639	656	651	648	646	651	655							
25	631	624	610	603	603	609	629	623	618	615	622	629							
30	599	591	574	565	565	575	597	590	582	579	588	598							
35	563	553	533	523	524	537	561	552	542	538	549	562							
40	522	512	488	478	479	494	520	510	498	492	505	521							
45	479	467	441	429	431	449	477	465	451	444	460	478							
50	433	419	391	378	381	402	432	418	402	394	411	432							
55	387	371	340	326	330	354	385	369	349	341	359	384							
60	342	324	287	272	278	308	340	321	296	286	306	336							
65	298	277	235	217	227	263	297	276	243	232	254	291							
70	256	233	184	162	177	220	255	232	191	176	202	247							
75	215	192	137	108	132	181	215	191	144	121	155	205							
80	177	154	96.2	58.5	93.0	146	179	153	102	68.8	112	166							
85	143	119	62.2	18.9	61.9	113	146	120	67.4	26.1	77.0	131							
90	112	84.9	37.5	4.20	37.8	84.9	115	90.6	41.8	5.85	49.5	101							
95	84.8	57.3	18.5	5.03	21.2	61.3	87.7	65.9	23.8	6.06	29.3	74.0							
100	61.1	35.1	10.8	5.63	11.6	42.0	64.6	45.5	13.2	6.63	16.5	51.6							
105	41.6	24.8	7.29	6.20	7.39	27.1	45.1	30.0	8.65	7.27	10.0	34.1							
110	26.8	16.9	7.33	6.97	7.11	16.8	30.1	19.1	8.19	7.95	8.27	21.7							
115	16.7	11.0	8.07	7.76	7.86	10.8	19.3	12.6	8.86	8.67	8.92	13.9							
120	11.0	9.15	8.82	8.55	8.63	8.97	12.9	10.2	9.50	9.37	9.60	10.3							
125	9.78	9.84	9.57	9.35	9.42	9.70	10.9	10.7	10.2	10.1	10.3	10.5							
130	10.5	10.6	10.4	10.2	10.2	10.5	11.5	11.4	10.8	10.8	10.9	11.2							
135	11.2	11.3	11.1	11.0	11.0	11.2	12.0	12.0	11.5	11.5	11.6	11.8							
140	11.9	12.0	11.9	11.8	11.7	11.9	12.6	12.5	12.2	12.1	12.2	12.4							
145	12.6	12.7	12.6	12.5	12.4	12.5	13.1	13.0	12.8	12.8	12.8	13.0							
150	13.2	13.3	13.2	13.1	13.1	13.1	13.7	13.6	13.4	13.4	13.4	13.6							
155	13.8	13.9	13.8	13.8	13.7	13.7	14.2	14.1	14.0	14.0	14.0	14.1							
160	14.5	14.5	14.4	14.4	14.2	14.2	14.8	14.6	14.5	14.5	14.5	14.6							
165	15.1	15.0	15.0	14.9	14.8	14.8	15.3	15.1	15.0	15.0	15.0	15.1							
170	15.6	15.5	15.4	15.4	15.3	15.2	15.8	15.5	15.4	15.4	15.4	15.5							
175	15.9	15.8	15.7	15.7	15.6	15.6	16.0	15.6	15.6	15.6	15.5	15.6							
180	16.1	15.8	15.8	15.7	15.7	15.8	16.1	15.8	15.8	15.7	15.7	15.8							

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2018-01-17

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks: