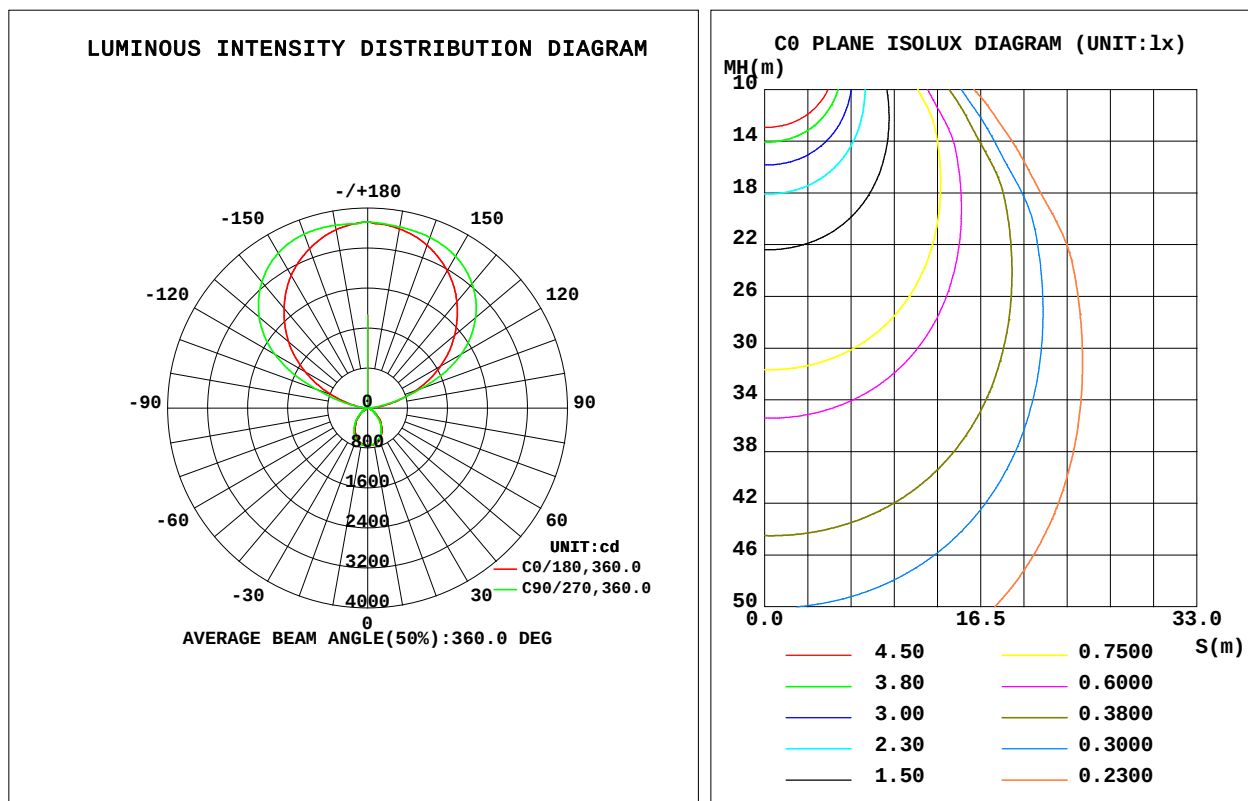


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.0V I:0.4500A P:98.90W PF:0.9800 Lamp Flux:13069.8x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 132.15 lm/W			
MODEL		I _{max} (cd)	3737	S/MH(C0/180)	1.05
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.11
RATED VOLTAGE(V)	220.0	TOTAL FLUX(lm)	13070	η UP, DN(C0-180)	44.3, 5.4
NOMINAL FLUX(lm)	13069.8	CIE CLASS	SEMI-IND.	η UP, DN(C180-360)	45.0, 5.3
LAMPS INSIDE	1	η up(%)	89.3	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	220.0	η down(%)	10.7	CIBSE SHR MAX	1.15



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:
Test Date:

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE G0-2000_V1 SYSTEM V2.0.295T
Humidity:65.0%
Test Distance:9.600m [K=1.0417]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	ϕ zone	ϕ total	%lum,lamp
5	751.0	749.4	746.3	744.1	744.5	746.0	750.0	751.9	0- 5	17.93	17.93	0.14,0.14
10	739.8	737.2	731.4	726.0	725.9	729.6	739.1	742.5	5- 10	53.02	70.95	0.54,0.54
15	716.5	713.6	705.2	695.2	692.7	698.4	715.8	721.5	10- 15	85.54	156.5	1.2,1.2
20	679.5	676.3	665.1	649.4	642.8	649.7	675.7	686.4	15- 20	113.2	269.7	2.06,2.06
25	628.8	624.8	610.6	590.3	579.2	585.7	618.6	635.5	20- 25	133.8	403.5	3.09,3.09
30	565.9	561.6	546.5	522.3	507.7	512.7	547.9	571.0	25- 30	145.7	549.2	4.2,4.2
35	496.4	491.2	476.3	449.2	433.5	437.9	470.5	498.2	30- 35	148.8	697.9	5.34,5.34
40	425.8	419.8	404.5	375.7	363.9	364.0	393.3	422.8	35- 40	144.1	842.1	6.44,6.44
45	359.2	353.2	309.0	285.7	276.3	263.3	304.8	345.1	40- 45	132.0	974.1	7.45,7.45
50	263.1	259.5	218.8	208.5	204.9	192.7	220.2	241.7	45- 50	108.1	1082	8.28,8.28
55	191.2	198.9	164.6	157.8	141.6	150.0	157.3	186.2	50- 55	84.79	1167	8.93,8.93
60	126.0	141.6	132.8	117.0	78.86	111.9	127.7	138.3	55- 60	67.27	1234	9.44,9.44
65	70.46	103.8	86.07	89.99	61.11	84.36	86.19	100.9	60- 65	49.97	1284	9.83,9.83
70	63.50	82.59	53.02	69.27	67.39	63.72	52.79	78.69	65- 70	38.33	1323	10.1,10.1
75	66.88	61.31	52.68	44.60	50.35	42.02	49.29	55.99	70- 75	31.44	1354	10.4,10.4
80	45.59	37.18	37.71	32.24	35.08	32.16	34.41	35.30	75- 80	23.54	1378	10.5,10.5
85	31.33	27.18	20.17	13.69	12.00	12.44	18.03	25.93	80- 85	15.51	1393	10.7,10.7
90	8.566	6.049	0.9096	0.8829	0.7480	0.8013	0.7185	4.541	85- 90	5.618	1399	10.7,10.7
95	130.1	148.0	38.94	31.17	33.08	32.15	34.78	143.1	90- 95	15.31	1414	10.8,10.8
100	300.6	468.8	251.0	257.3	184.0	263.5	226.5	463.2	95-100	99.86	1514	11.6,11.6
105	670.7	927.2	631.4	626.1	437.2	633.6	603.9	917.7	100-105	263.4	1777	13.6,13.6
110	1018	1371	1117	1104	756.1	1115	1074	1394	105-110	476.5	2254	17.2,17.2
115	1361	1783	1704	1538	1093	1554	1661	1825	110-115	687.4	2941	22.5,22.5
120	1685	2153	2159	1914	1433	1959	2136	2210	115-120	864.6	3806	29.1,29.1
125	1994	2465	2528	2251	1761	2311	2527	2543	120-125	991.7	4797	36.7,36.7
130	2273	2725	2822	2532	2069	2610	2835	2824	125-130	1070	5867	44.9,44.9
135	2533	2945	3060	2765	2344	2863	3086	3061	130-135	1101	6968	53.3,53.3
140	2778	3129	3251	2963	2605	3074	3296	3257	135-140	1093	8061	61.7,61.7
145	2996	3280	3401	3128	2847	3246	3460	3411	140-145	1040	9111	69.7,69.7
150	3181	3404	3512	3261	3065	3384	3582	3530	145-150	972.8	10083	77.2,77.2
155	3338	3502	3588	3373	3245	3493	3663	3620	150-155	868.0	10951	83.8,83.8
160	3471	3580	3635	3466	3398	3578	3707	3681	155-160	739.9	11691	89.5,89.5
165	3574	3638	3663	3540	3529	3640	3722	3719	160-165	593.5	12285	94,94
170	3643	3682	3682	3599	3626	3682	3715	3700	165-170	433.1	12718	97.3,97.3
175	3688	3715	3702	3648	3690	3709	3702	3706	170-175	263.4	12981	99.3,99.3
180	3728	3728	3728	3728	3728	3728	3728	3728	175-180	88.52	13070	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 974.11 lm

%lum = 7.5%
 %lamp = 7.5%

Conical surface Flux(120deg): 1234.3 lm

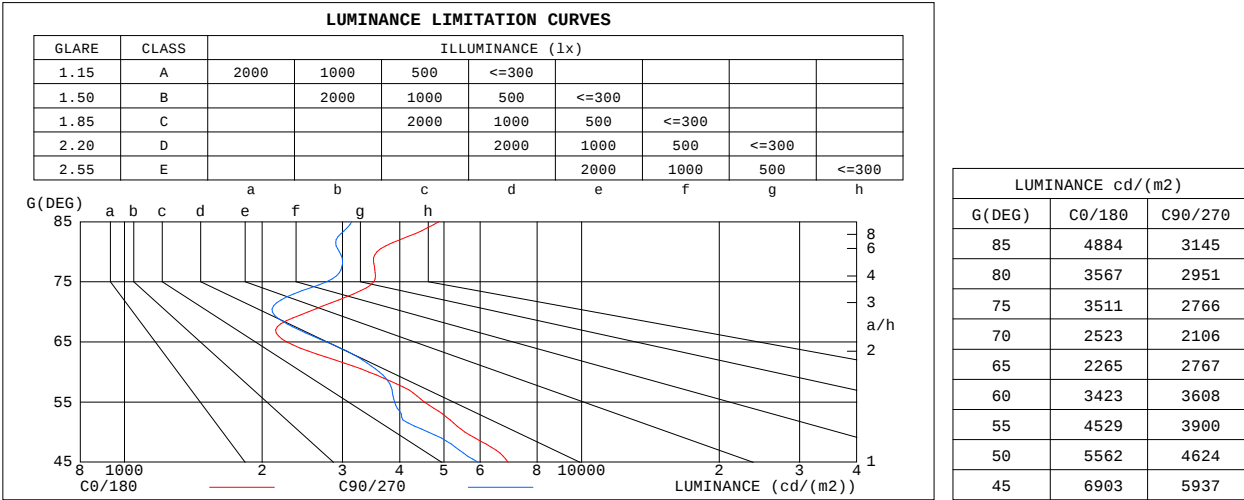
%lum = 9.4%
 %lamp = 9.4%

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:
 Test Date:

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE G0-2000_V1 SYSTEM V2.0.295T
 Humidity:65.0%
 Test Distance:9.600m [K=1.0417]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:220.0V I:0.4500A P:98.90W PF:0.9800 Lamp Flux:13069.8x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



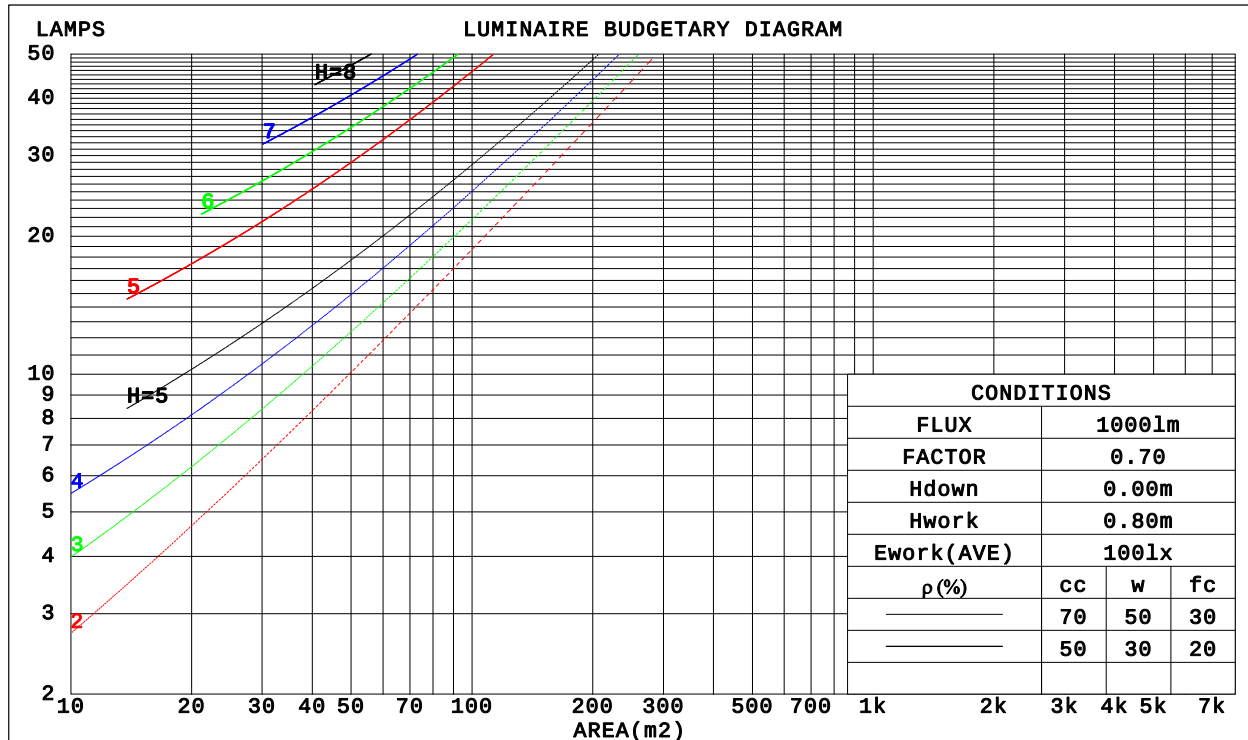
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:
Test Date:

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE G0-2000_V1 SYSTEM V2.0.295T
Humidity:65.0%
Test Distance:9.600m [K=1.0417]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.0V I:0.4500A P:98.90W PF:0.9800 Lamp Flux:13069.8x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

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	.98	.98	.98	.85	.85	.85	.62	.62	.62	.40	.40	.40	.20	.20	.20	.11	
1.0	.85	.82	.78	.74	.71	.69	.54	.52	.50	.35	.34	.33	.18	.17	.17	.09	
2.0	.74	.69	.64	.65	.60	.57	.47	.44	.42	.31	.29	.28	.16	.15	.15	.08	
3.0	.65	.59	.53	.57	.52	.47	.42	.38	.35	.28	.26	.24	.14	.13	.13	.07	
4.0	.58	.51	.45	.51	.45	.40	.37	.33	.30	.25	.22	.20	.13	.12	.11	.06	
5.0	.51	.44	.39	.45	.39	.34	.33	.29	.26	.22	.20	.18	.12	.11	.10	.06	
6.0	.46	.39	.33	.40	.34	.30	.30	.26	.22	.20	.17	.15	.11	.09	.09	.05	
7.0	.41	.34	.29	.36	.30	.26	.27	.23	.20	.18	.15	.14	.10	.09	.08	.05	
8.0	.37	.30	.25	.33	.27	.23	.24	.20	.17	.16	.14	.12	.09	.08	.07	.04	
9.0	.34	.27	.22	.30	.24	.20	.22	.18	.15	.15	.12	.11	.08	.07	.06	.04	
10.0	.31	.24	.20	.27	.22	.18	.20	.16	.14	.14	.11	.10	.08	.06	.06	.03	



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:
 Test Date:

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE G0-2000_V1 SYSTEM V2.0.295T
 Humidity:65.0%
 Test Distance:9.600m [K=1.0417]
 Remarks:

WEC AND CCEC

Test:U:220.0V I:0.4500A P:98.90W PF:0.9800 Lamp Flux:13069.8x1 lm														
NAME:					TYPE:					WEIGHT:				
SPEC.:					DIM.:					SERIAL No.:				
MFR.:					SUR.:					Shielding Angle:				

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	.258	.147	.046	.224	.128	.041	.160	.092	.029	.102	.059	.019	.048	.028	.009	
2.0	.238	.130	.040	.207	.114	.035	.149	.083	.026	.095	.053	.017	.045	.026	.008	
3.0	.220	.117	.035	.191	.103	.031	.138	.075	.023	.089	.049	.015	.043	.024	.007	
4.0	.204	.106	.031	.178	.093	.027	.128	.068	.020	.083	.044	.013	.040	.022	.007	
5.0	.190	.097	.028	.165	.085	.025	.120	.062	.018	.077	.041	.012	.037	.020	.006	
6.0	.177	.089	.025	.154	.078	.022	.112	.057	.017	.072	.038	.011	.035	.019	.006	
7.0	.165	.082	.023	.145	.072	.021	.105	.053	.015	.068	.035	.010	.033	.017	.005	
8.0	.155	.076	.021	.136	.067	.019	.099	.049	.014	.064	.032	.009	.031	.016	.005	
9.0	.146	.071	.020	.128	.062	.017	.093	.046	.013	.060	.030	.009	.030	.015	.004	
10.0	.137	.066	.018	.120	.058	.016	.088	.043	.012	.057	.028	.008	.028	.014	.004	

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	.871	.871	.871	.744	.744	.744	.508	.508	.508	.292	.292	.292	.093	.093	.093	
1.0	.863	.843	.824	.738	.723	.710	.505	.498	.491	.291	.288	.285	.093	.093	.092	
2.0	.856	.823	.795	.733	.708	.687	.502	.490	.479	.290	.285	.281	.093	.092	.092	
3.0	.849	.808	.776	.728	.697	.673	.500	.484	.472	.289	.283	.278	.093	.092	.091	
4.0	.843	.797	.762	.723	.689	.662	.497	.480	.466	.288	.281	.276	.093	.092	.091	
5.0	.837	.789	.753	.719	.682	.655	.495	.477	.463	.287	.280	.274	.092	.091	.090	
6.0	.832	.782	.746	.715	.677	.650	.493	.474	.460	.286	.279	.273	.092	.091	.090	
7.0	.826	.776	.741	.711	.673	.646	.491	.472	.458	.285	.278	.272	.092	.091	.090	
8.0	.821	.772	.738	.707	.669	.643	.489	.470	.456	.285	.277	.272	.092	.091	.090	
9.0	.817	.768	.735	.703	.666	.641	.487	.468	.455	.284	.277	.271	.092	.091	.090	
10.0	.812	.764	.732	.700	.664	.639	.486	.467	.454	.283	.276	.271	.092	.091	.090	

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:
 Test Date:

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.295T
 Humidity:65.0%
 Test Distance:9.600m [K=1.0417]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:220.0V I:0.4500A P:98.90W PF:0.9800 Lamp Flux:13069.8x1 lm											
NAME:					TYPE:			WEIGHT:			
SPEC.:					DIM.:			SERIAL No.:			
MFR.:					SUR.:			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	8.5	9.1	9.7	10.3	12.0	8.2	8.8	9.4	10.0	11.7	
	3H	8.9	9.5	10.1	10.6	12.3	8.5	9.1	9.8	10.3	12.0
	4H	9.3	9.9	10.5	11.1	12.8	8.8	9.4	10.0	10.5	12.2
	6H	9.7	10.2	11.0	11.4	13.1	9.1	9.6	10.4	10.8	12.6
	8H	9.9	10.4	11.2	11.6	13.3	9.3	9.7	10.5	10.9	12.7
	12H	10.2	10.6	11.4	11.8	13.5	9.3	9.8	10.6	11.0	12.7
4H	2H	8.5	9.0	9.7	10.2	11.9	8.2	8.8	9.4	10.0	11.7
	3H	9.1	9.6	10.4	10.8	12.5	8.8	9.3	10.1	10.5	12.2
	4H	9.8	10.2	11.0	11.4	13.1	9.3	9.7	10.5	10.9	12.6
	6H	10.3	10.6	11.5	11.8	13.6	9.7	10.1	11.0	11.3	13.0
	8H	10.6	10.9	11.8	12.1	13.9	9.9	10.2	11.1	11.4	13.2
	12H	10.9	11.2	12.1	12.4	14.2	10.0	10.3	11.3	11.6	13.3
8H	4H	9.8	10.1	11.0	11.3	13.1	9.3	9.7	10.6	10.9	12.6
	6H	10.4	10.7	11.7	11.9	13.7	9.9	10.2	11.2	11.4	13.2
	8H	10.9	11.1	12.1	12.3	14.1	10.2	10.5	11.5	11.7	13.5
	12H	11.3	11.5	12.6	12.8	14.6	10.5	10.7	11.8	12.0	13.7
12H	4H	9.7	10.0	11.0	11.2	13.0	9.3	9.6	10.5	10.8	12.6
	6H	10.4	10.7	11.7	11.9	13.7	10.0	10.2	11.2	11.4	13.2
	8H	10.9	11.1	12.2	12.3	14.1	10.3	10.5	11.6	11.7	13.5
Variations with the observer position at spacings:											
S = 1.0H	+ 0.4 / - 0.4					+ 0.4 / - 0.5					
1.5H	+ 0.3 / - 0.2					+ 0.2 / - 0.6					
2.0H	+ 0.8 / - 0.7					+ 0.6 / - 0.4					

CIE Pub.117 Corrected 13070 lm Total Lamp Luminous Flux.(8log(F/F0) = 8.9)

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:
 Test Date:

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.295T
 Humidity:65.0%
 Test Distance:9.600m [K=1.0417]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:220.0V I:0.4500A P:98.90W PF:0.9800 Lamp Flux:13069.8x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

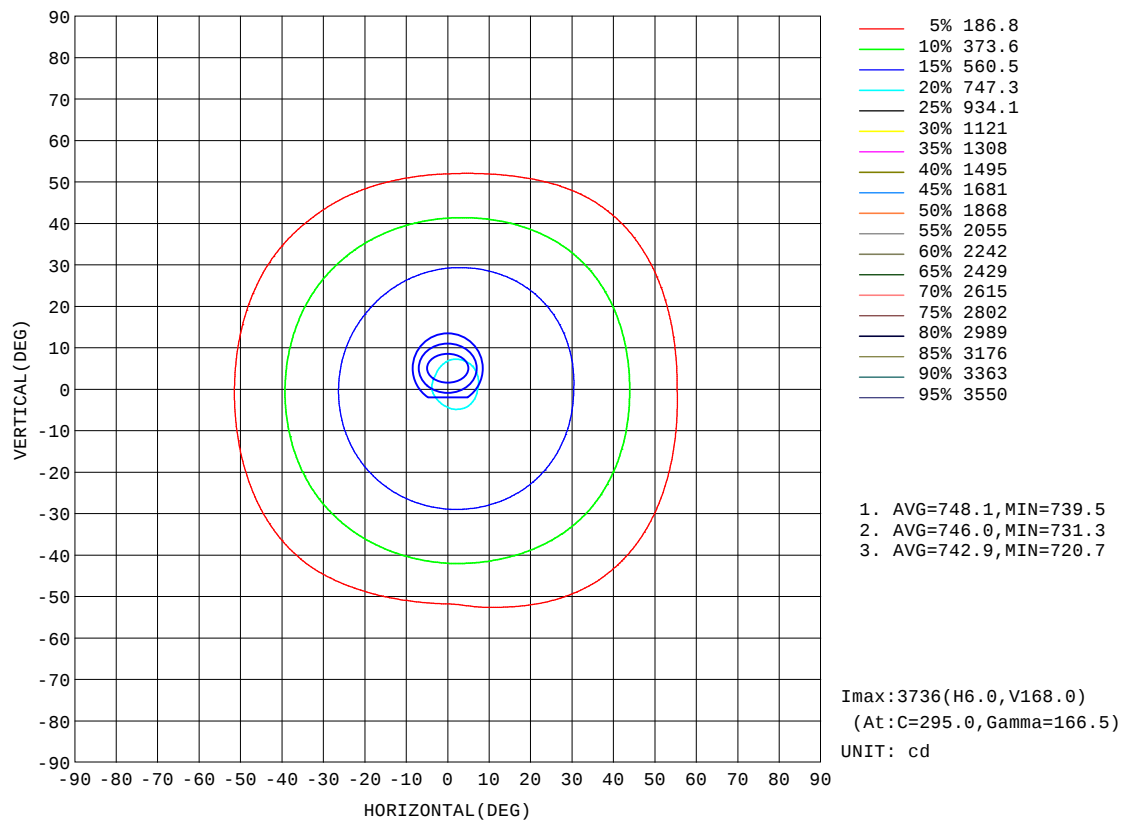
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	48	37	30	42	32	26	30	24	20	5
0.80	56	45	38	49	40	33	35	29	25	5
1.00	62	52	44	54	46	39	39	34	30	6
1.25	68	58	51	59	51	45	43	38	34	7
1.50	72	63	56	63	55	50	45	41	37	7
2.00	78	70	64	68	61	56	49	45	42	8
2.50	82	75	69	71	65	61	51	48	45	9
3.00	84	78	73	73	68	64	53	50	47	9
4.00	87	82	78	76	72	69	55	52	50	9
5.00	89	85	82	78	74	71	56	54	52	10
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Ceiling Mounted					SHRNOM = 1.00		

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:
 Test Date:

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE G0-2000_V1 SYSTEM V2.0.295T
 Humidity:65.0%
 Test Distance:9.600m [K=1.0417]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:220.0V I:0.4500A P:98.90W PF:0.9800 Lamp Flux:13069.8x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

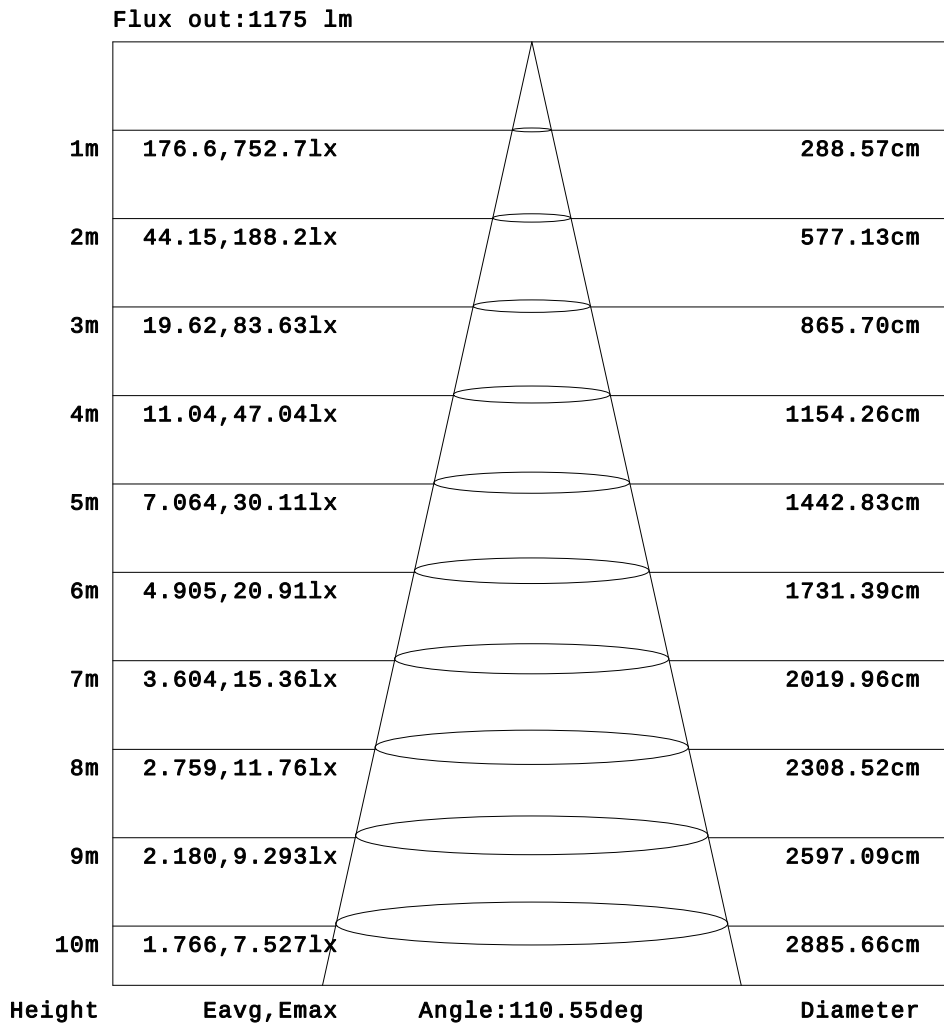


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature: 25.3DEG
Operators:
Test Date:

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System: EVERFINE G0-2000_V1 SYSTEM V2.0.295T
Humidity: 65.0%
Test Distance: 9.600m [K=1.0417]
Remarks:

AAI Figure

Test:U:220.0V I:0.4500A P:98.90W PF:0.9800 Lamp Flux:13069.8x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



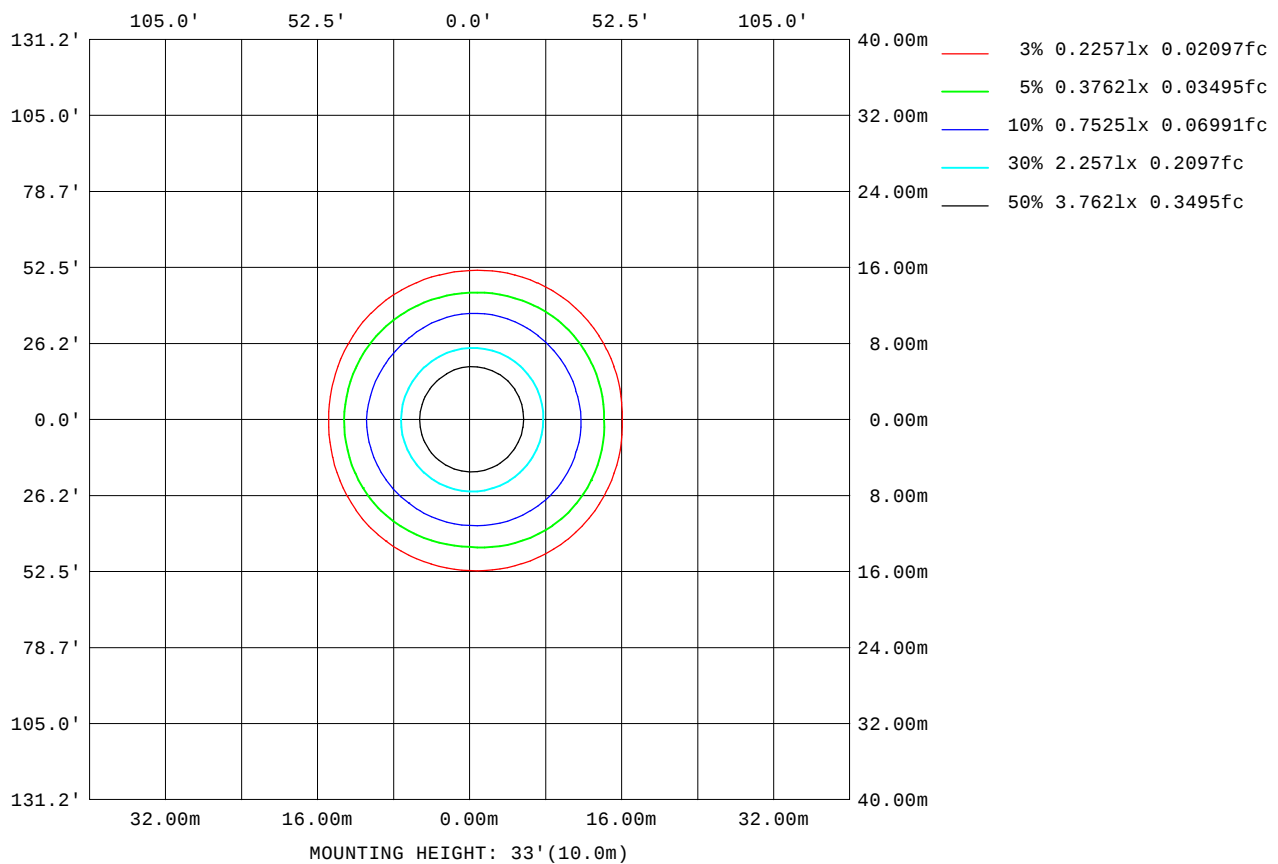
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:
 Test Date:

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE G0-2000_V1 SYSTEM V2.0.295T
 Humidity:65.0%
 Test Distance:9.600m [K=1.0417]
 Remarks:

ISOLUX DIAGRAM

Test:U:220.0V I:0.4500A P:98.90W PF:0.9800 Lamp Flux:13069.8x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature: 25.3DEG
Operators:
Test Date:

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System: EVERFINE G0-2000_V1 SYSTEM V2.0.295T
Humidity: 65.0%
Test Distance: 9.600m [K=1.0417]
Remarks:

LED Avg.L Report

Test:U:220.0V I:0.4500A P:98.90W PF:0.9800 Lamp Flux:13069.8x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

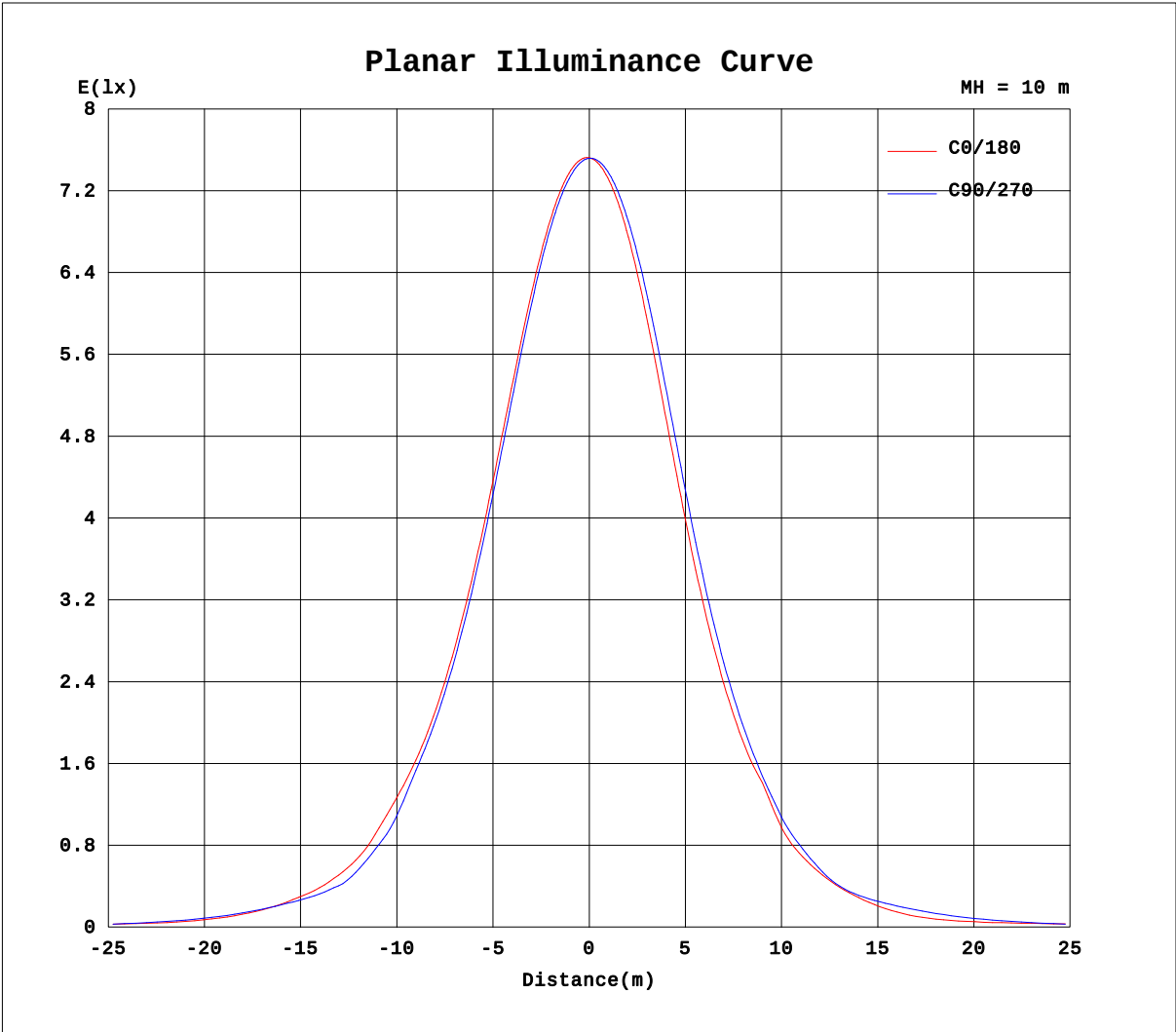
AvgL	cd/m2
L_0~180(65)av	2115
L_0~180(75)av	3077
L_0~180(85)av	3377
L_90~270(65)av	2769
L_90~270(75)av	2677
L_90~270(85)av	2978
L_45(65)av	3047
L_45(75)av	2676
L_45(85)av	3088

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:
Test Date:

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE G0-2000_V1 SYSTEM V2.0.295T
Humidity:65.0%
Test Distance:9.600m [K=1.0417]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:
Test Date:

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE G0-2000_V1 SYSTEM V2.0.295T
Humidity:65.0%
Test Distance:9.600m [K=1.0417]
Remarks: