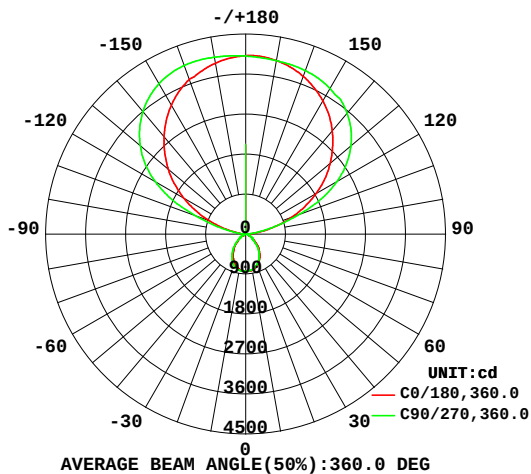


LUMINAIRE PHOTOMETRIC TEST REPORT

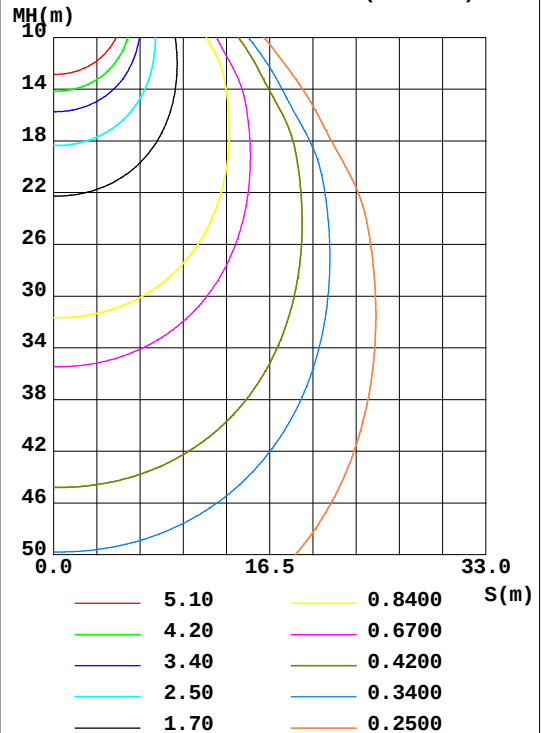
Test:U:220.0V I:0.4500A P:99.10W PF:0.9800 Lamp Flux:14305.1x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 144.35 lm/W			
MODEL		I _{max} (cd)	4057	S/MH(C0/180)	1.05
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.12
RATED VOLTAGE(V)	220.0	TOTAL FLUX(lm)	14305	η UP, DN(C0-180)	44.2, 5.5
NOMINAL FLUX(lm)	14305.1	CIE CLASS	SEMI-IND.	η UP, DN(C180-360)	44.9, 5.5
LAMPS INSIDE	1	η up(%)	89.1	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	220.0	η down(%)	10.9	CIBSE SHR MAX	1.15

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT: lx)



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	840.6	837.9	834.3	832.2	833.6	835.4	839.8	841.3	0- 5	20.07	20.07	0.14, 0.14
10	827.6	823.4	816.8	811.7	812.7	817.6	828.3	830.9	5- 10	59.33	79.39	0.55, 0.55
15	801.2	795.5	786.2	777.0	775.7	783.8	803.0	807.2	10- 15	95.69	175.1	1.22, 1.22
20	759.6	753.0	740.0	725.6	720.3	730.4	759.5	767.7	15- 20	126.6	301.7	2.11, 2.11
25	702.4	694.2	678.3	659.5	649.3	659.4	696.3	711.0	20- 25	149.6	451.3	3.15, 3.15
30	632.0	623.0	606.0	583.2	569.1	578.4	618.2	638.8	25- 30	162.9	614.2	4.29, 4.29
35	554.1	544.0	527.2	501.9	486.3	494.6	531.7	557.5	30- 35	166.3	780.6	5.46, 5.46
40	475.4	464.5	447.1	419.2	408.3	412.1	445.4	473.4	35- 40	161.2	941.7	6.58, 6.58
45	400.8	388.5	337.5	318.4	310.8	300.9	344.7	386.2	40- 45	147.2	1089	7.61, 7.61
50	292.7	284.0	237.6	232.8	230.4	218.2	252.6	270.7	45- 50	120.4	1209	8.45, 8.45
55	212.9	218.8	182.0	176.2	159.4	170.1	178.2	208.5	50- 55	94.51	1304	9.11, 9.11
60	140.1	155.1	145.4	130.8	89.17	127.7	145.8	155.1	55- 60	74.98	1379	9.64, 9.64
65	78.43	114.4	93.17	100.6	68.69	96.17	99.67	113.3	60- 65	55.88	1435	10, 10
70	71.17	91.13	58.30	77.35	75.50	72.59	60.75	88.30	65- 70	42.91	1478	10.3, 10.3
75	74.65	67.00	58.82	49.82	56.60	48.39	55.33	62.88	70- 75	35.22	1513	10.6, 10.6
80	50.81	40.57	40.80	35.96	39.54	36.78	39.63	39.60	75- 80	26.29	1539	10.8, 10.8
85	34.75	29.11	21.25	15.12	13.72	15.40	21.44	29.20	80- 85	17.38	1557	10.9, 10.9
90	9.214	5.553	0.9224	0.9300	0.7717	0.8541	0.7479	5.128	85- 90	6.205	1563	10.9, 10.9
95	134.3	158.1	46.24	40.93	41.23	39.78	38.72	144.7	90- 95	16.12	1579	11, 11
100	382.5	509.1	281.4	300.0	215.0	206.0	244.4	497.6	95-100	109.5	1688	11.8, 11.8
105	725.8	1003	700.6	709.8	498.1	707.1	656.9	984.6	100-105	289.1	1978	13.8, 13.8
110	1095	1498	1238	1239	851.2	1241	1174	1517	105-110	524.1	2502	17.5, 17.5
115	1470	1939	1878	1697	1230	1716	1824	1995	110-115	755.8	3258	22.8, 22.8
120	1830	2339	2375	2117	1596	2158	2340	2419	115-120	949.2	4207	29.4, 29.4
125	2180	2675	2777	2483	1946	2541	2765	2784	120-125	1088	5294	37, 37
130	2486	2953	3094	2785	2279	2866	3100	3090	125-130	1172	6466	45.2, 45.2
135	2768	3187	3350	3036	2578	3139	3375	3349	130-135	1205	7671	53.6, 53.6
140	3035	3383	3554	3246	2859	3365	3600	3560	135-140	1195	8866	62, 62
145	3271	3543	3713	3421	3120	3548	3777	3706	140-145	1145	10011	70, 70
150	3472	3673	3790	3564	3352	3694	3908	3812	145-150	1058	11069	77.4, 77.4
155	3640	3776	3870	3683	3547	3769	3995	3906	150-155	942.2	12011	84, 84
160	3782	3857	3919	3778	3711	3857	4041	3970	155-160	802.1	12813	89.6, 89.6
165	3893	3917	3948	3857	3808	3921	4055	4008	160-165	642.3	13456	94.1, 94.1
170	3968	3962	3965	3921	3910	3963	4044	4028	165-170	468.5	13924	97.3, 97.3
175	4015	3995	3986	3972	3978	3990	4028	4033	170-175	285.1	14209	99.3, 99.3
180	4018	4017	4018	4017	4018	4017	4018	4017	175-180	95.76	14305	100, 100
DEG	LUMINOUS INTENSITY:cd									UNIT: lm		

Conical surface Flux(90deg): 1089 lm

%lum = 7.6%

%lamp = 7.6%

Conical surface Flux(120deg): 1378.9 lm

%lum = 9.6%

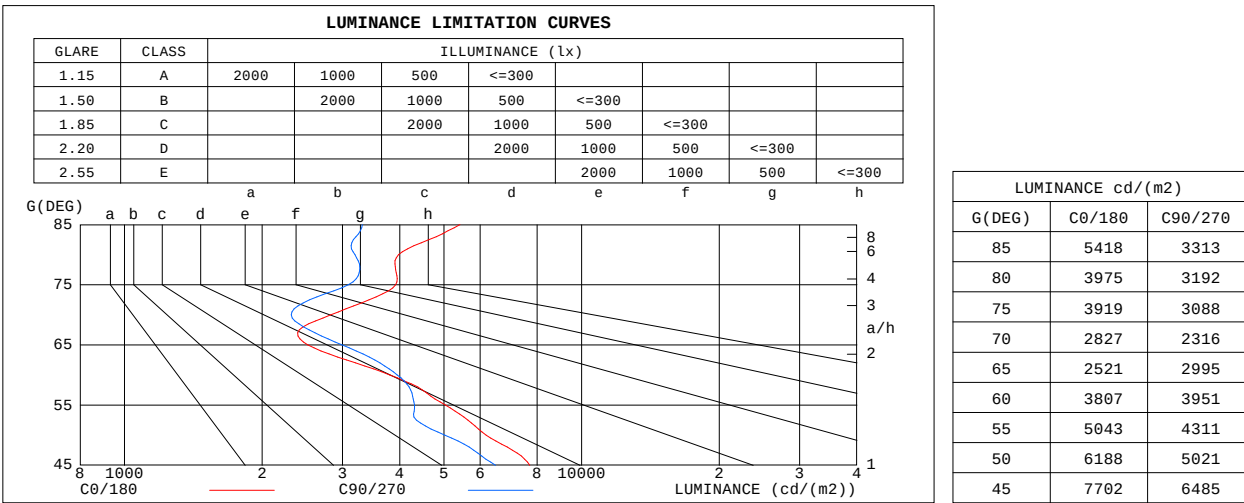
%lamp = 9.6%

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:99.10W PF:0.9800 Lamp Flux:14305.1x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



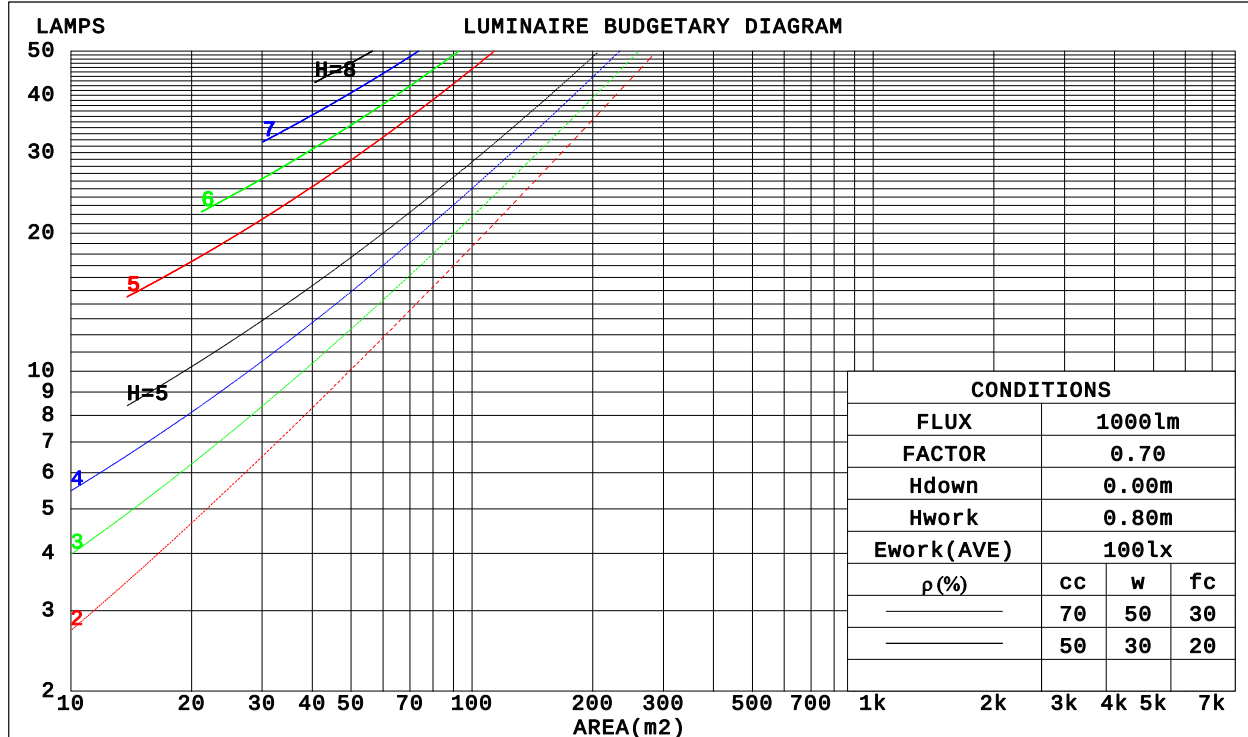
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:
Test Date:

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:99.10W PF:0.9800 Lamp Flux:14305.1x1 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	.51	.35	.34	.33	.18	.18	.17	.10	
2.0	.75	.69	.64	.65	.61	.57	.47	.45	.42	.31	.30	.28	.16	.15	.15	.08	
3.0	.66	.59	.54	.57	.52	.47	.42	.38	.35	.28	.26	.24	.14	.14	.13	.07	
4.0	.58	.51	.45	.51	.45	.40	.37	.33	.30	.25	.22	.21	.13	.12	.11	.06	
5.0	.52	.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	.23	.20	.17	.16	.11	.10	.09	.05	
7.0	.41	.34	.29	.36	.30	.26	.27	.23	.20	.18	.16	.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	.13	.11	.08	.07	.06	.04	
10.0	.31	.24	.20	.27	.22	.18	.20	.16	.14	.14	.11	.10	.08	.06	.06	.04	



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:99.10W PF:0.9800 Lamp Flux:14305.1x1 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	.161	.092	.029	.102	.059	.019	.049	.028	.009	
2.0	.238	.130	.040	.207	.114	.035	.149	.083	.026	.095	.054	.017	.046	.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	.129	.068	.020	.083	.044	.013	.040	.022	.007	
5.0	.190	.097	.028	.165	.085	.025	.120	.062	.018	.077	.041	.012	.038	.020	.006	
6.0	.177	.089	.025	.154	.078	.022	.112	.057	.017	.073	.038	.011	.036	.019	.006	
7.0	.165	.082	.023	.145	.072	.021	.105	.053	.015	.068	.035	.010	.034	.017	.005	
8.0	.155	.076	.021	.136	.067	.019	.099	.049	.014	.064	.033	.009	.032	.016	.005	
9.0	.146	.071	.020	.128	.062	.017	.093	.046	.013	.061	.030	.009	.030	.015	.004	
10.0	.138	.066	.018	.121	.058	.016	.088	.043	.012	.057	.029	.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	.869	.869	.869	.743	.743	.743	.507	.507	.507	.291	.291	.291	.093	.093	.093		
1.0	.861	.841	.823	.737	.722	.708	.504	.497	.490	.290	.287	.285	.093	.092	.092		
2.0	.854	.821	.793	.731	.707	.686	.501	.489	.478	.289	.284	.280	.093	.092	.091		
3.0	.847	.807	.774	.726	.696	.671	.499	.483	.471	.288	.282	.277	.093	.092	.091		
4.0	.841	.796	.761	.722	.687	.661	.496	.479	.465	.287	.281	.275	.092	.091	.091		
5.0	.835	.787	.751	.718	.681	.654	.494	.476	.462	.286	.279	.274	.092	.091	.090		
6.0	.830	.780	.745	.713	.676	.648	.492	.473	.459	.286	.278	.273	.092	.091	.090		
7.0	.825	.775	.740	.709	.671	.645	.490	.471	.457	.285	.277	.272	.092	.091	.090		
8.0	.820	.770	.736	.706	.668	.642	.488	.469	.455	.284	.277	.271	.092	.091	.090		
9.0	.815	.766	.733	.702	.665	.639	.486	.467	.454	.283	.276	.271	.092	.091	.090		
10.0	.810	.763	.731	.699	.662	.638	.485	.466	.453	.283	.275	.270	.092	.090	.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:99.10W PF:0.9800 Lamp Flux:14305.1x1 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	8.8	9.5	10.0	10.7	12.4	8.5	9.2	9.7	10.3	12.0	
	3H	9.3	9.9	10.5	11.0	12.7	8.9	9.4	10.1	10.6	12.3
	4H	9.7	10.3	10.9	11.4	13.2	9.1	9.7	10.4	10.9	12.6
	6H	10.1	10.6	11.4	11.8	13.5	9.5	10.0	10.7	11.2	12.9
	8H	10.3	10.8	11.6	12.0	13.7	9.6	10.1	10.8	11.2	13.0
	12H	10.6	11.0	11.8	12.2	13.9	9.7	10.1	10.9	11.3	13.0
4H	2H	8.8	9.4	10.1	10.6	12.3	8.6	9.1	9.8	10.3	12.0
	3H	9.5	10.0	10.8	11.2	12.9	9.1	9.6	10.4	10.8	12.5
	4H	10.1	10.5	11.4	11.7	13.5	9.6	10.0	10.8	11.2	12.9
	6H	10.7	11.0	11.9	12.2	14.0	10.0	10.4	11.3	11.6	13.4
	8H	11.0	11.3	12.2	12.5	14.3	10.2	10.5	11.5	11.7	13.5
	12H	11.3	11.6	12.5	12.8	14.6	10.4	10.6	11.6	11.9	13.6
8H	4H	10.2	10.5	11.4	11.7	13.5	9.7	10.0	10.9	11.2	13.0
	6H	10.8	11.1	12.1	12.3	14.1	10.3	10.5	11.5	11.8	13.5
	8H	11.2	11.5	12.5	12.7	14.5	10.5	10.8	11.8	12.0	13.8
	12H	11.7	11.9	13.0	13.2	15.0	10.8	11.0	12.1	12.2	14.0
12H	4H	10.1	10.4	11.4	11.6	13.4	9.6	9.9	10.9	11.1	12.9
	6H	10.8	11.0	12.1	12.3	14.1	10.3	10.5	11.5	11.7	13.5
	8H	11.3	11.5	12.6	12.7	14.5	10.6	10.8	11.9	12.1	13.8
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 14305 lm Total Lamp Luminous Flux.(8log(F/F0) = 9.2)

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:

UTILIZATION FACTORS TABLE

Test:U:220.0V I:0.4500A P:99.10W PF:0.9800 Lamp Flux:14305.1x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

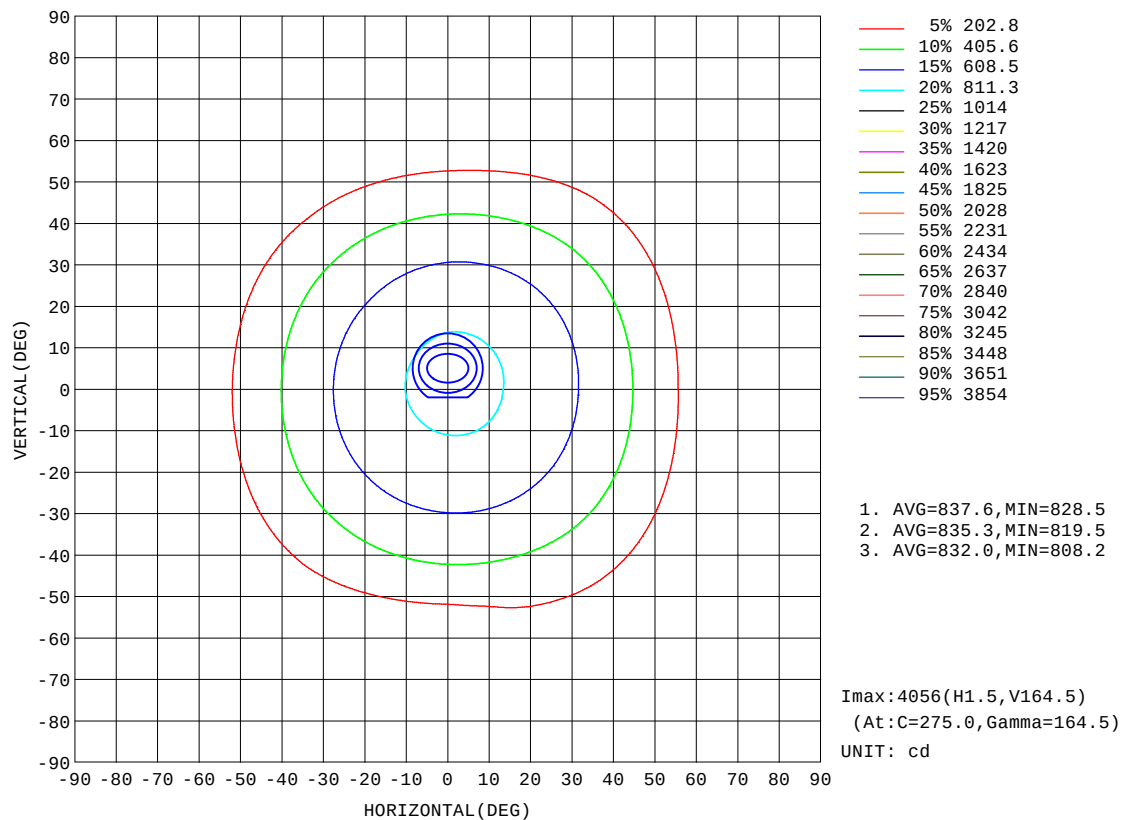
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	48	37	30	42	32	26	30	24	20	5
0.80	56	45	38	49	40	34	35	30	25	6
1.00	63	52	45	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	56	50	45	41	37	8
2.00	78	70	64	68	62	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	83	78	76	72	69	55	52	50	9
5.00	89	85	82	78	74	72	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:99.10W PF:0.9800 Lamp Flux:14305.1x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

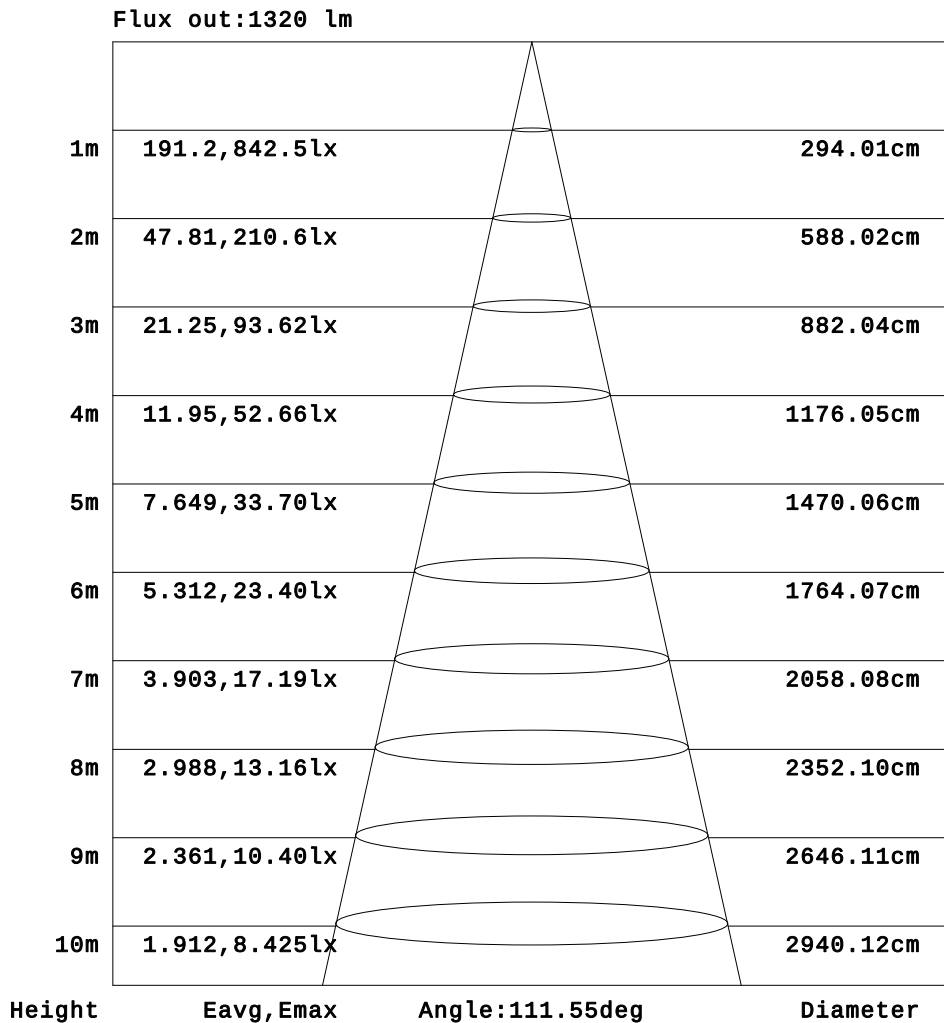


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature: 25.3DEG
Operators:
Test Date:

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:99.10W PF:0.9800 Lamp Flux:14305.1x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



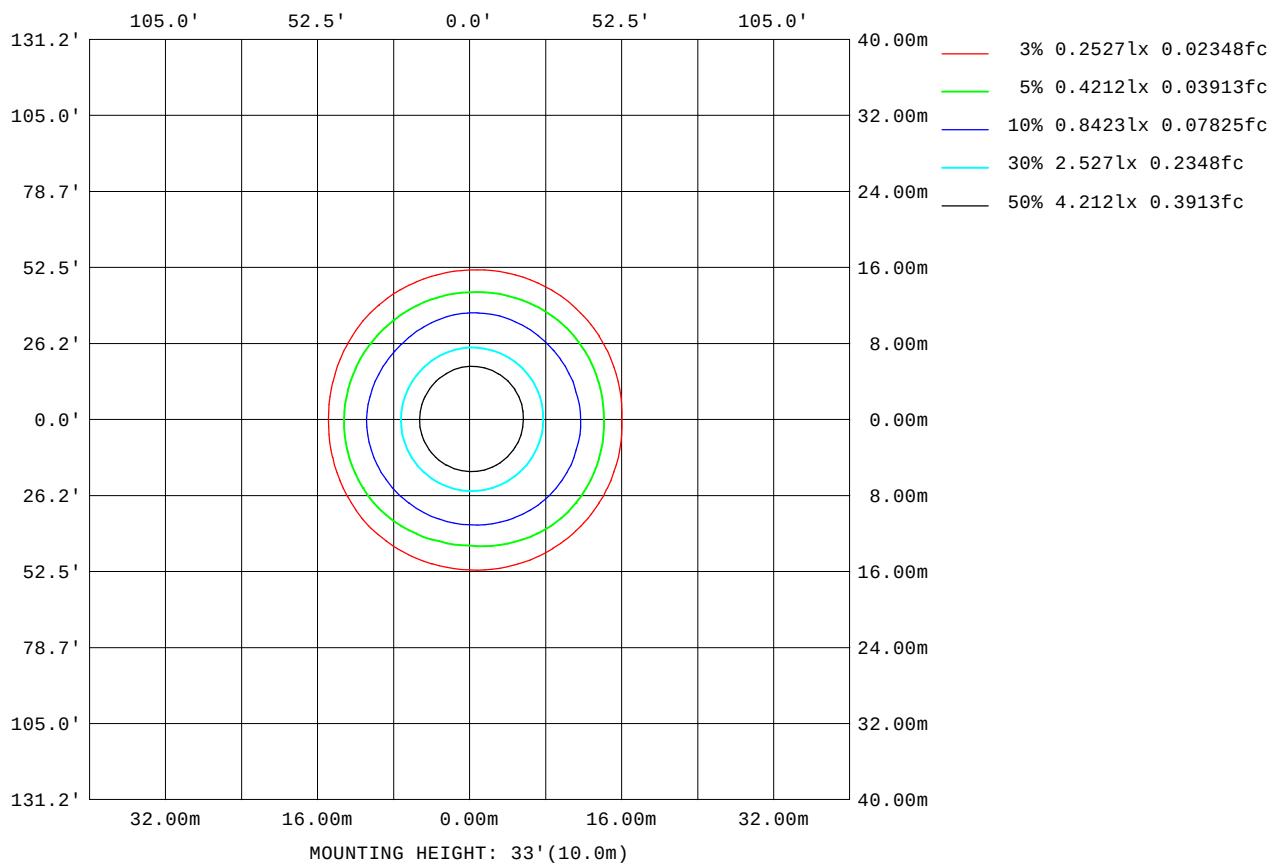
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:99.10W PF:0.9800 Lamp Flux:14305.1x1 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:99.10W PF:0.9800 Lamp Flux:14305.1x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

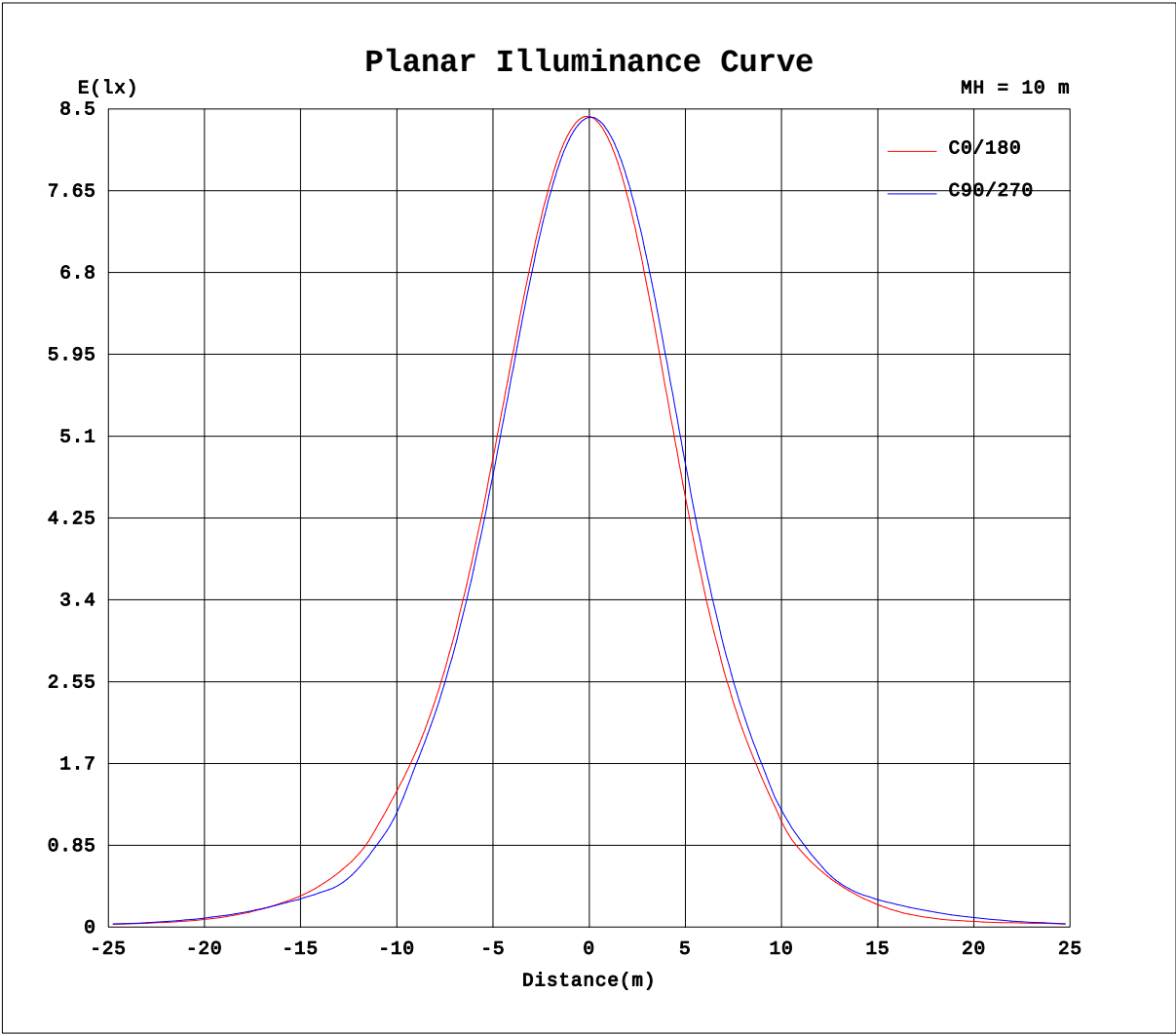
AvgL	cd/m2
L_0~180(65)av	2365
L_0~180(75)av	3445
L_0~180(85)av	3778
L_90~270(65)av	3100
L_90~270(75)av	2996
L_90~270(85)av	3328
L_45(65)av	3412
L_45(75)av	2993
L_45(85)av	3462

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: