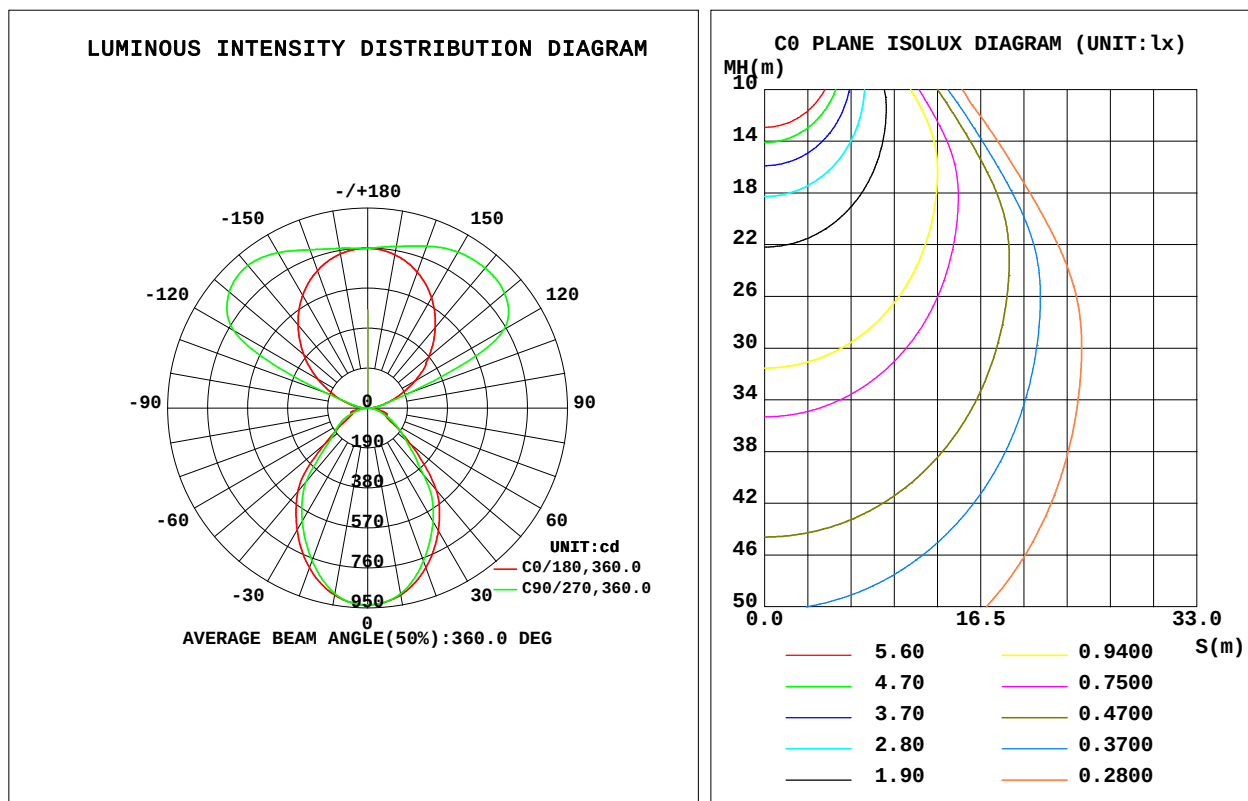


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.0V I:0.1520A P:32.90W PF:0.9770 Lamp Flux:4591.14x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 139.55 lm/W			
MODEL		I _{max} (cd)	938.2	S/MH(C0/180)	1.09
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.03
RATED VOLTAGE(V)	220.0	TOTAL FLUX(lm)	4591.1	η UP, DN(C0-180)	31.8,18.3
NOMINAL FLUX(lm)	4591.14	CIE CLASS	SEMI-IND.	η UP, DN(C180-360)	31.9,17.9
LAMPS INSIDE	1	η up(%)	63.8	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	220.0	η down(%)	36.2	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:9.460m [K=1.0571]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	ϕ zone	ϕ total	%lum, lamp
5	927.0	928.8	927.4	930.3	926.5	923.9	925.5	929.5	0- 5	22.28	22.28	0.49, 0.49
10	902.4	904.1	896.1	903.7	901.9	897.8	896.3	904.3	5- 10	65.43	87.70	1.91, 1.91
15	862.5	858.1	840.8	856.4	861.6	852.2	843.2	858.7	10- 15	104.1	191.8	4.18, 4.18
20	808.8	796.9	772.0	794.1	807.9	791.2	774.4	797.1	15- 20	135.7	327.5	7.13, 7.13
25	744.0	726.4	698.1	722.8	744.1	720.2	699.5	726.2	20- 25	158.8	486.2	10.6, 10.6
30	670.8	652.4	622.8	648.2	672.1	645.4	623.0	651.5	25- 30	173.2	659.5	14.4, 14.4
35	594.1	578.0	543.9	573.0	594.9	563.8	537.4	573.5	30- 35	179.2	838.6	18.3, 18.3
40	517.0	499.2	456.6	487.7	505.7	455.8	412.4	481.1	35- 40	175.1	1014	22.1, 22.1
45	408.2	385.1	318.7	359.6	380.6	330.2	309.8	355.4	40- 45	154.1	1168	25.4, 25.4
50	268.9	265.3	231.1	263.5	265.6	229.8	239.5	238.3	45- 50	121.0	1289	28.1, 28.1
55	179.1	181.4	186.4	188.8	183.7	173.1	189.6	173.3	50- 55	92.28	1381	30.1, 30.1
60	125.8	136.2	154.5	145.0	127.8	133.0	147.1	132.7	55- 60	73.26	1454	31.7, 31.7
65	94.15	110.1	125.1	118.5	99.70	111.6	109.4	109.9	60- 65	59.80	1514	33, 33
70	83.03	95.53	86.43	99.75	92.68	96.87	77.73	96.81	65- 70	50.78	1565	34.1, 34.1
75	83.34	79.36	54.08	76.65	85.67	70.20	55.79	75.22	70- 75	43.24	1608	35, 35
80	55.09	48.65	36.71	46.78	53.37	40.00	30.91	43.51	75- 80	31.49	1640	35.7, 35.7
85	25.83	22.37	12.05	18.30	28.21	13.39	10.06	18.02	80- 85	16.60	1656	36.1, 36.1
90	4.996	8.327	5.820	8.799	3.573	7.981	4.604	9.231	85- 90	6.422	1663	36.2, 36.2
95	27.53	35.40	28.90	27.76	17.43	25.21	26.25	34.82	90- 95	9.080	1672	36.4, 36.4
100	62.52	88.50	54.64	88.68	48.88	68.01	53.48	125.6	95-100	26.07	1698	37, 37
105	106.4	252.8	90.26	268.4	89.68	220.4	91.72	348.9	100-105	68.32	1766	38.5, 38.5
110	158.7	492.4	203.2	467.4	139.2	472.2	204.4	518.6	105-110	140.7	1907	41.5, 41.5
115	210.8	620.5	498.1	563.7	196.7	603.6	516.7	587.7	110-115	211.7	2118	46.1, 46.1
120	272.5	681.7	732.8	617.9	260.1	655.7	747.6	629.3	115-120	263.4	2382	51.9, 51.9
125	335.3	721.6	816.8	656.1	325.8	689.1	817.4	662.5	120-125	283.6	2666	58.1, 58.1
130	397.4	747.7	858.4	683.7	379.4	712.4	849.4	690.3	125-130	285.3	2951	64.3, 64.3
135	457.5	763.4	880.6	701.4	441.0	732.1	864.9	714.0	130-135	278.0	3229	70.3, 70.3
140	515.2	769.9	885.4	713.2	500.2	748.1	868.5	733.7	135-140	263.9	3493	76.1, 76.1
145	569.7	770.1	874.3	721.0	556.3	759.6	865.2	747.6	140-145	243.8	3737	81.4, 81.4
150	619.0	766.7	853.1	727.2	606.9	764.4	856.5	756.1	145-150	218.8	3955	86.2, 86.2
155	661.3	763.3	826.1	734.2	651.4	764.1	840.5	760.4	150-155	189.8	4145	90.3, 90.3
160	696.5	762.6	801.1	742.1	688.4	763.2	818.7	763.5	155-160	158.2	4303	93.7, 93.7
165	724.8	763.3	782.7	750.1	718.6	764.4	797.1	765.7	160-165	124.9	4428	96.5, 96.5
170	744.8	764.2	771.1	756.4	740.7	765.2	780.2	767.5	165-170	90.23	4518	98.4, 98.4
175	756.2	761.1	762.2	758.1	754.4	762.3	768.1	764.5	170-175	54.50	4573	99.6, 99.6
180	759.3	759.3	759.3	759.3	759.3	759.3	759.3	759.3	175-180	18.18	4591	100, 100
DEG	LUMINOUS INTENSITY:cd									UNIT: lm		

Conical surface Flux(90deg): 1167.8 lm

%lum = 25.4%

%lamp = 25.4%

Conical surface Flux(120deg): 1454.3 lm

%lum = 31.7%

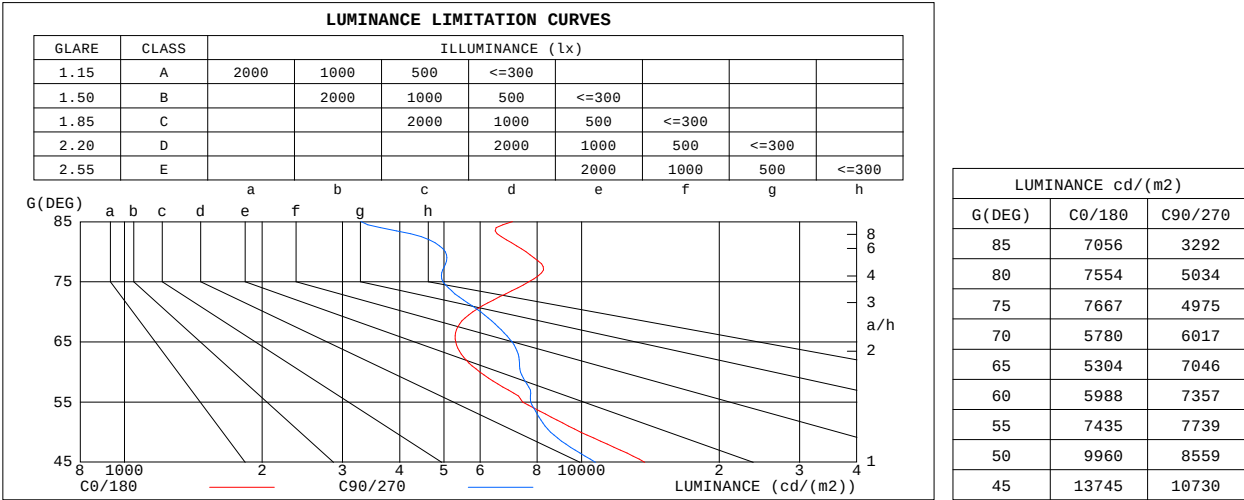
%lamp = 31.7%

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: 9.460m [K=1.0571]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:220.0V I:0.1520A P:32.90W PF:0.9770 Lamp Flux:4591.14x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



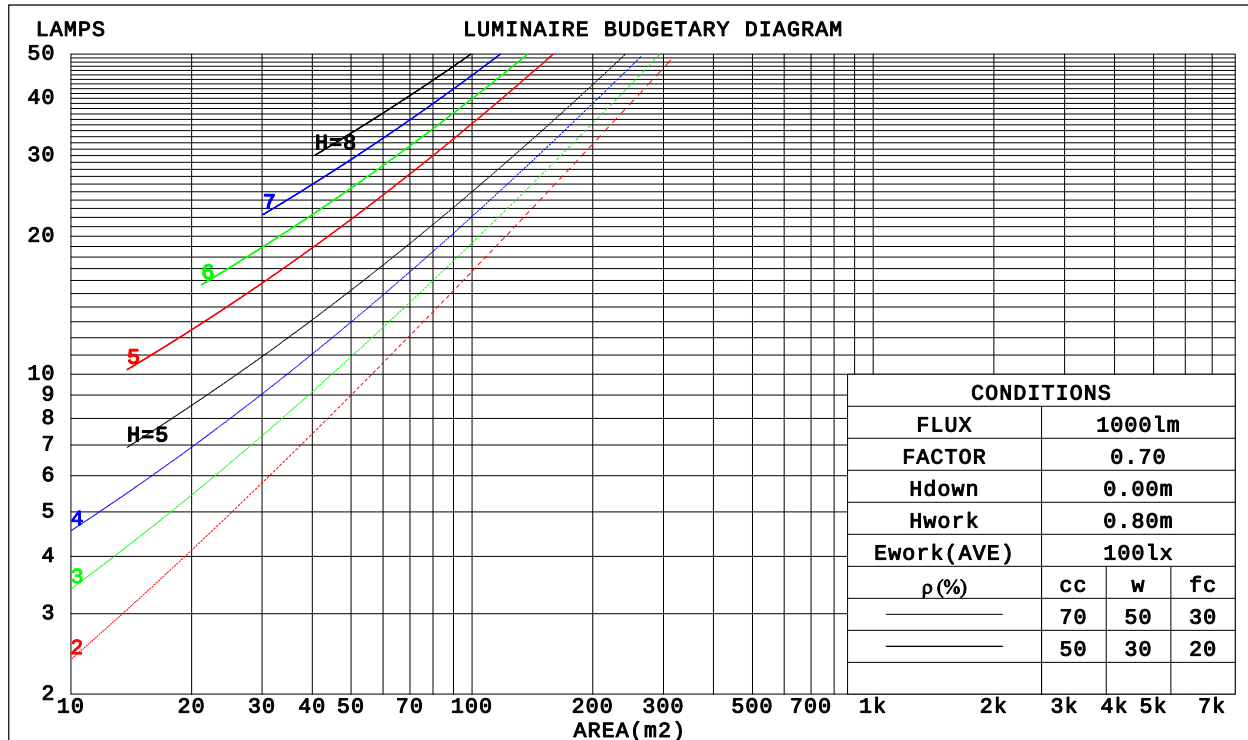
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:
Test Date:

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE G0-2000_V1 SYSTEM V2.0.295T
Humidity:65.0%
Test Distance:9.460m [K=1.0571]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.0V I:0.1520A P:32.90W PF:0.9770 Lamp Flux:4591.14x1 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	1.04	1.04	1.04	.94	.94	.94	.76	.76	.76	.59	.59	.59	.43	.43	.43	.36	
1.0	.91	.88	.84	.83	.80	.77	.67	.65	.63	.53	.51	.50	.39	.38	.38	.32	
2.0	.80	.75	.70	.73	.68	.64	.59	.56	.53	.47	.45	.43	.35	.34	.33	.27	
3.0	.71	.64	.59	.65	.59	.54	.53	.49	.45	.42	.39	.37	.32	.30	.29	.24	
4.0	.63	.56	.50	.58	.52	.47	.47	.43	.39	.38	.35	.32	.29	.27	.25	.21	
5.0	.57	.49	.44	.52	.45	.40	.43	.38	.34	.34	.31	.28	.26	.24	.22	.19	
6.0	.51	.44	.38	.47	.40	.35	.39	.34	.30	.31	.28	.25	.24	.22	.20	.17	
7.0	.46	.39	.34	.43	.36	.31	.35	.30	.27	.29	.25	.22	.22	.20	.18	.15	
8.0	.42	.35	.30	.39	.32	.28	.32	.27	.24	.26	.23	.20	.21	.18	.16	.14	
9.0	.39	.31	.27	.36	.29	.25	.30	.25	.22	.24	.21	.18	.19	.17	.15	.13	
10.0	.35	.29	.24	.33	.27	.23	.27	.23	.20	.23	.19	.17	.18	.15	.14	.12	



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: 9.460m [K=1.0571]
 Remarks:

WEC AND CCEC

Test:U:220.0V I:0.1520A P:32.90W PF:0.9770 Lamp Flux:4591.14x1 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	.260	.148	.047	.233	.133	.042	.184	.106	.034	.139	.080	.026	.098	.057	.018				
2.0	.241	.132	.041	.217	.120	.037	.172	.096	.030	.131	.074	.023	.093	.053	.017				
3.0	.223	.119	.036	.202	.108	.032	.161	.087	.026	.123	.067	.021	.087	.048	.015				
4.0	.207	.108	.032	.187	.098	.029	.150	.079	.024	.115	.062	.019	.082	.045	.014				
5.0	.193	.098	.029	.175	.090	.026	.140	.073	.021	.107	.057	.017	.077	.041	.012				
6.0	.180	.090	.026	.163	.083	.024	.131	.067	.020	.101	.052	.015	.073	.038	.011				
7.0	.169	.084	.024	.153	.076	.022	.123	.062	.018	.095	.049	.014	.069	.036	.010				
8.0	.159	.077	.022	.144	.071	.020	.116	.058	.017	.090	.045	.013	.065	.033	.010				
9.0	.149	.072	.020	.136	.066	.019	.110	.054	.015	.085	.043	.012	.062	.031	.009				
10.0	.141	.068	.019	.128	.062	.017	.104	.051	.014	.081	.040	.011	.059	.029	.008				

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	.676	.676	.676	.578	.578	.578	.395	.395	.395	.227	.227	.227	.072	.072	.072	
1.0	.667	.647	.628	.571	.555	.541	.390	.382	.374	.225	.221	.217	.072	.071	.070	
2.0	.659	.625	.597	.564	.538	.516	.387	.372	.360	.223	.217	.211	.072	.070	.069	
3.0	.651	.610	.577	.558	.526	.500	.383	.366	.351	.221	.213	.207	.071	.069	.068	
4.0	.645	.598	.563	.553	.517	.489	.380	.360	.344	.220	.211	.204	.071	.069	.067	
5.0	.638	.589	.553	.548	.510	.481	.378	.356	.339	.219	.209	.201	.070	.068	.066	
6.0	.632	.582	.545	.544	.504	.475	.375	.353	.336	.218	.207	.200	.070	.068	.066	
7.0	.627	.576	.540	.539	.499	.470	.372	.350	.333	.216	.206	.198	.070	.067	.066	
8.0	.621	.571	.536	.535	.495	.467	.370	.348	.331	.215	.205	.197	.070	.067	.065	
9.0	.616	.566	.533	.531	.492	.465	.368	.346	.330	.214	.204	.197	.069	.067	.065	
10.0	.612	.563	.530	.527	.489	.463	.366	.344	.329	.213	.203	.196	.069	.067	.065	

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:9.460m [K=1.0571]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:220.0V I:0.1520A P:32.90W PF:0.9770 Lamp Flux:4591.14x1 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	14.7	15.5	15.7	16.4	17.7	14.6	15.4	15.6	16.4	17.7	
	3H	15.4	16.1	16.4	17.1	18.4	15.5	16.2	16.5	17.2	18.5
	4H	16.1	16.7	17.1	17.7	19.1	15.8	16.5	16.8	17.5	18.8
	6H	16.7	17.3	17.7	18.3	19.7	16.0	16.6	17.1	17.6	19.0
	8H	16.8	17.4	17.9	18.5	19.8	16.1	16.7	17.1	17.7	19.1
	12H	16.9	17.5	18.0	18.5	19.9	16.1	16.6	17.1	17.6	19.0
4H	2H	14.7	15.4	15.7	16.4	17.7	14.7	15.4	15.7	16.4	17.7
	3H	15.8	16.3	16.8	17.3	18.7	15.8	16.4	16.9	17.4	18.8
	4H	16.7	17.1	17.7	18.2	19.6	16.3	16.8	17.4	17.8	19.2
	6H	17.4	17.9	18.5	18.9	20.4	16.6	17.1	17.7	18.1	19.6
	8H	17.7	18.0	18.7	19.1	20.6	16.7	17.1	17.8	18.2	19.7
	12H	17.8	18.2	18.9	19.2	20.7	16.8	17.1	17.9	18.2	19.7
8H	4H	16.8	17.2	17.9	18.3	19.7	16.5	16.9	17.6	18.0	19.4
	6H	17.7	18.1	18.9	19.2	20.6	17.0	17.3	18.1	18.4	19.9
	8H	18.1	18.3	19.2	19.4	20.9	17.2	17.5	18.3	18.6	20.1
	12H	18.3	18.5	19.4	19.6	21.1	17.2	17.5	18.4	18.6	20.1
12H	4H	16.8	17.1	17.9	18.2	19.7	16.5	16.8	17.6	17.9	19.4
	6H	17.7	18.0	18.9	19.1	20.6	17.0	17.3	18.2	18.4	19.9
	8H	18.1	18.3	19.2	19.5	21.0	17.3	17.5	18.4	18.6	20.1
Variations with the observer position at spacings:											
S = 1.0H	+ 0.4 / - 0.4					+ 0.5 / - 0.5					
1.5H	+ 0.3 / - 0.3					+ 0.4 / - 0.5					
2.0H	+ 1.0 / - 0.6					+ 0.6 / - 0.3					

CIE Pub.117 Corrected 4591 lm Total Lamp Luminous Flux.(8log(F/F0) = 5.3)

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:9.460m [K=1.0571]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:220.0V I:0.1520A P:32.90W PF:0.9770 Lamp Flux:4591.14x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

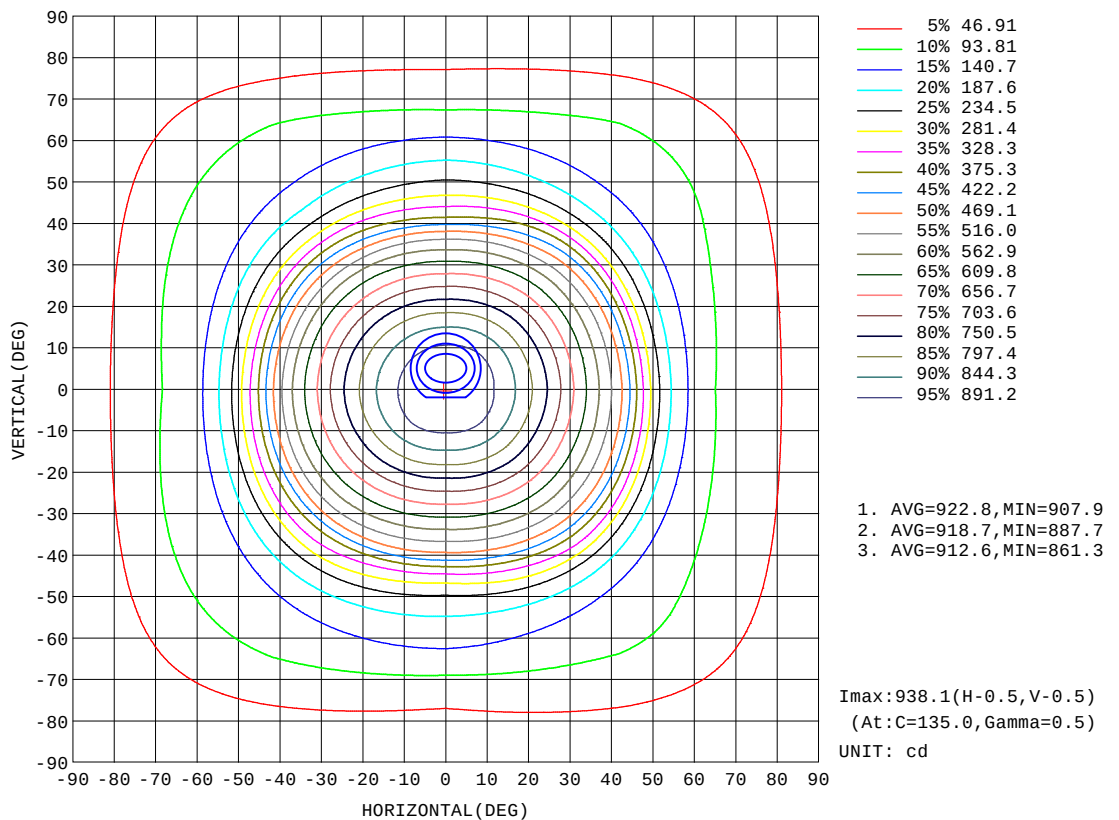
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	54	43	36	49	39	33	40	33	29	16
0.80	62	51	44	57	47	41	46	39	35	18
1.00	69	58	51	62	54	47	51	44	40	21
1.25	75	65	58	68	59	53	55	49	45	23
1.50	79	70	63	71	64	58	58	53	48	25
2.00	85	77	71	77	70	65	62	58	54	28
2.50	88	81	76	80	74	70	64	61	57	29
3.00	90	85	80	82	77	73	66	63	60	30
4.00	94	89	85	85	81	77	68	66	63	31
5.00	96	92	88	86	83	80	70	67	65	32
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:9.460m [K=1.0571]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:220.0V I:0.1520A P:32.90W PF:0.9770 Lamp Flux:4591.14x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

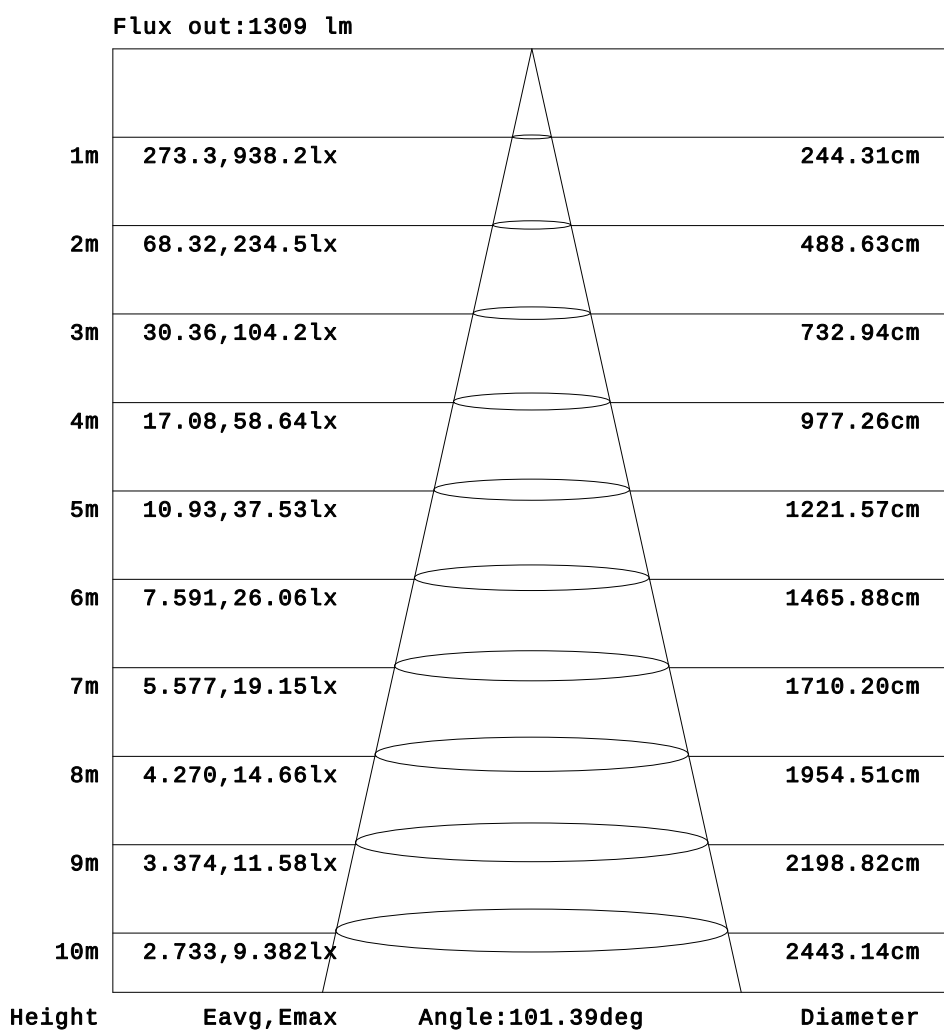


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature: 25.3DEG
Operators:
Test Date:

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System: EVERFINE G0-2000_V1 SYSTEM V2.0.295T
Humidity: 65.0%
Test Distance: 9.460m [K=1.0571]
Remarks:

AAI Figure

Test:U:220.0V I:0.1520A P:32.90W PF:0.9770 Lamp Flux:4591.14x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



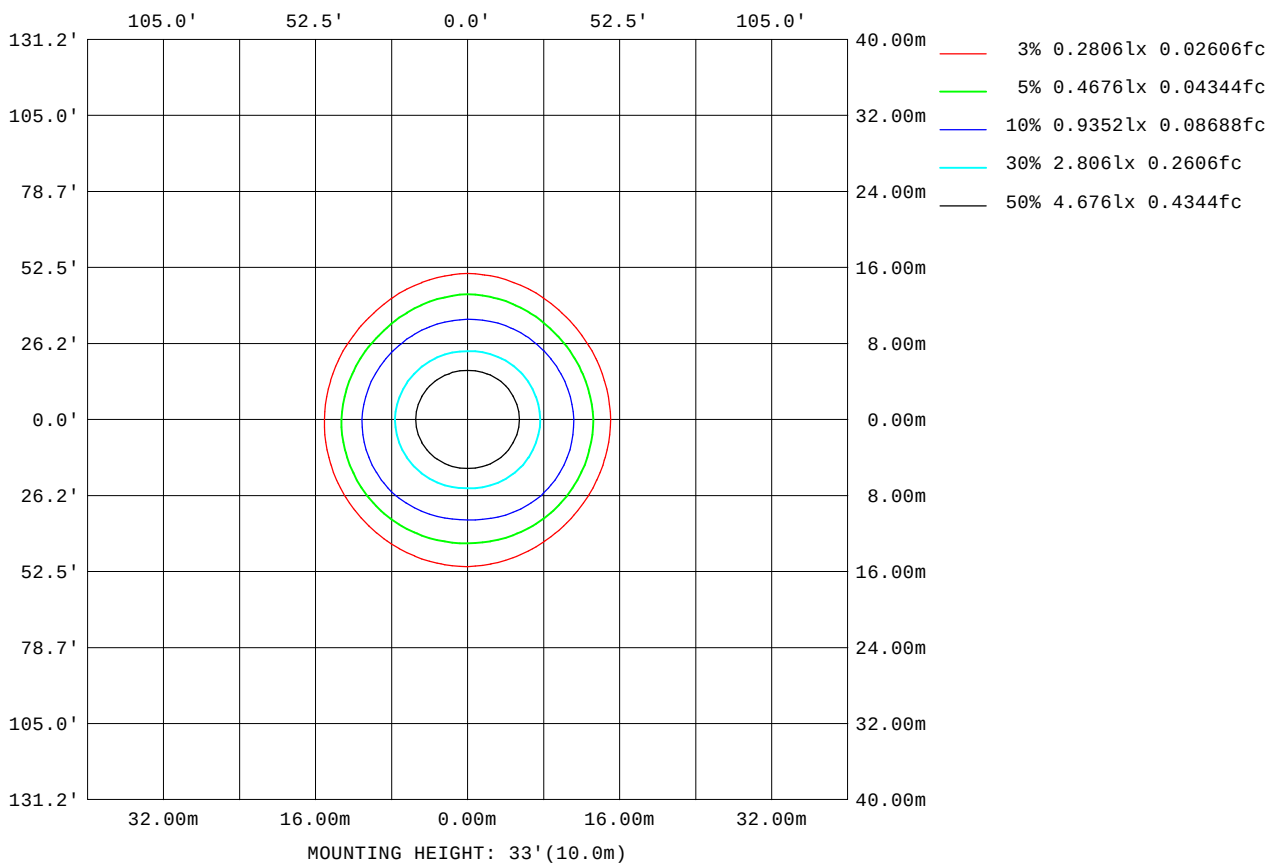
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:9.460m [K=1.0571]
 Remarks:

ISOLUX DIAGRAM

Test:U:220.0V I:0.1520A P:32.90W PF:0.9770 Lamp Flux:4591.14x1 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: 9.460m [K=1.0571]
Remarks:

LED Avg.L Report

Test:U:220.0V I:0.1520A P:32.90W PF:0.9770 Lamp Flux:4591.14x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

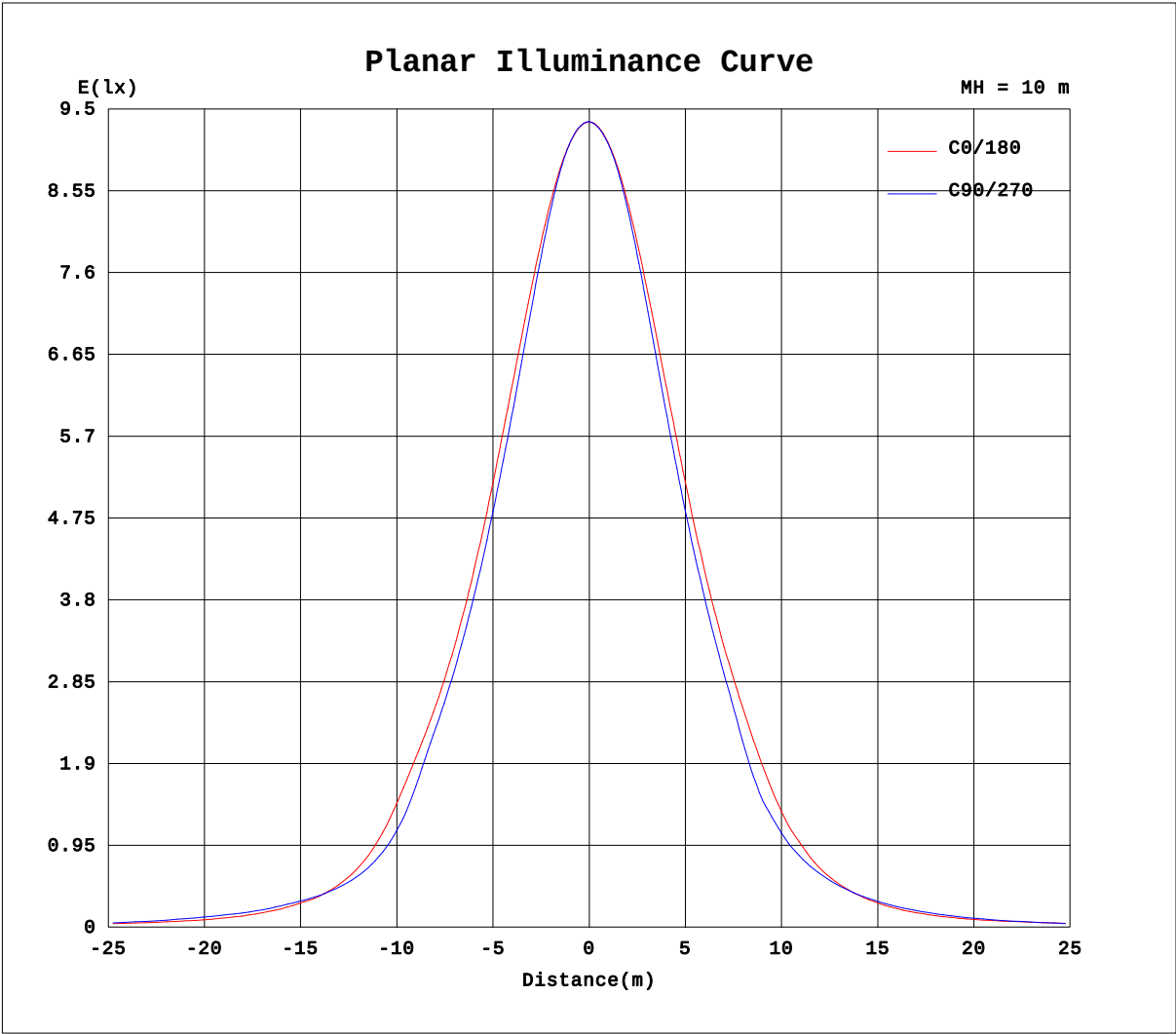
AvgL	cd/m2
L_0~180(65)av	5461
L_0~180(75)av	7774
L_0~180(85)av	7381
L_90~270(65)av	6604
L_90~270(75)av	5054
L_90~270(85)av	3020
L_45(65)av	6340
L_45(75)av	6932
L_45(85)av	4923

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:9.460m [K=1.0571]
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:9.460m [K=1.0571]
Remarks: