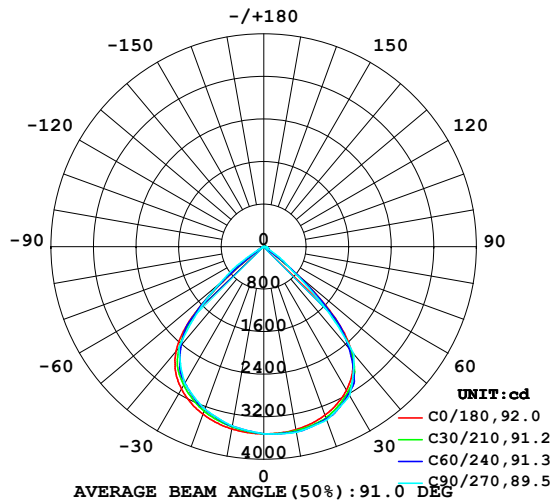


LUMINAIRE PHOTOMETRIC TEST REPORT

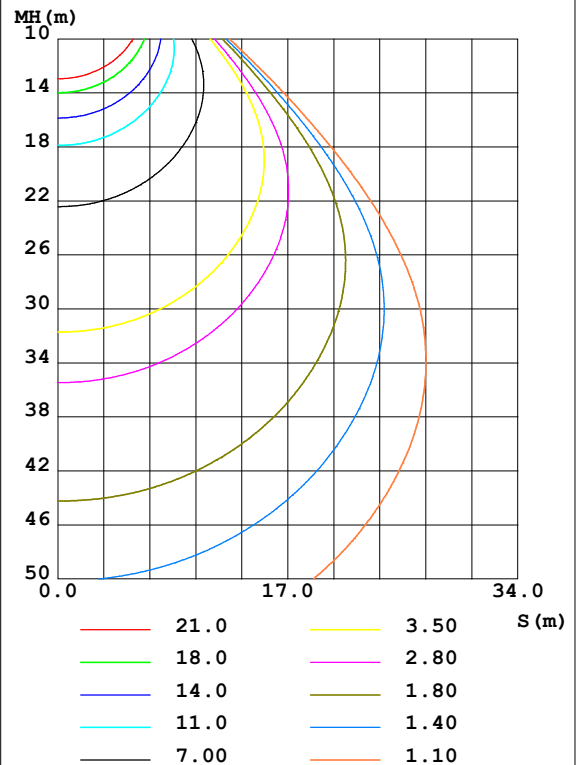
Test:U:220.4V I:0.2358A P:50.75W PF:0.9765 Lamp Flux:6352.9x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 124.66 lm/W			
MODEL	LHB-50W-9090	I _{max} (cd)	3544	S/MH (C0/180)	1.30
NOMINAL POWER (W)	83	LOR (%)	99.6	S/MH (C90/270)	1.25
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	6326.0	η UP, DN (C0-180)	0.0, 50.2
NOMINAL FLUX (lm)	6352.9	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 49.3
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	220	η down (%)	99.6	CIBSE SHR MAX	1.35

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: 2017-02-28

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.351
 Humidity: 65.0%
 Test Distance: 7.290m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
5	3517	3527	3532	3522	3509	3480	3473	3486	0- 5	83.94	83.94	1.33,1.32
10	3494	3524	3544	3515	3480	3430	3426	3442	5- 10	249.9	333.8	5.28,5.25
15	3446	3501	3505	3489	3428	3363	3339	3382	10- 15	409.9	743.7	11.8,11.7
20	3371	3429	3466	3418	3351	3263	3252	3285	15- 20	558.9	1303	20.6,20.5
25	3265	3334	3348	3327	3244	3147	3113	3172	20- 25	692.1	1995	31.5,31.4
30	3115	3180	3230	3175	3093	2985	2975	3012	25- 30	801.9	2797	44.2,44
35	2905	2949	2933	2947	2886	2768	2727	2801	30- 35	879.3	3676	58.1,57.9
40	2560	2585	2635	2595	2564	2469	2480	2505	35- 40	901.9	4578	72.4,72.1
45	1907	1742	1654	1793	1983	1862	1788	1878	40- 45	821.0	5399	85.3,85
50	820.1	720.3	672.4	802.0	883.7	1055	1096	1043	45- 50	555.4	5954	94.1,93.7
55	103.9	228.5	375.9	266.0	99.77	362.0	568.1	358.6	50- 55	215.9	6170	97.5,97.1
60	56.40	76.54	79.43	77.36	47.85	41.48	40.34	45.14	55- 60	63.55	6234	98.5,98.1
65	44.25	66.51	69.13	65.88	32.71	29.59	29.93	32.56	60- 65	26.27	6260	99,98.5
70	37.02	57.31	58.83	56.11	24.55	21.20	19.52	23.52	65- 70	21.24	6281	99.3,98.9
75	31.13	48.76	49.69	47.63	18.58	15.20	15.66	17.15	70- 75	18.02	6299	99.6,99.2
80	26.43	39.56	40.55	38.57	14.45	11.18	11.80	12.56	75- 80	15.04	6314	99.8,99.4
85	19.25	14.03	0	13.60	11.15	3.723	0	4.055	80- 85	9.797	6324	100,99.5
90	16.49	0	0	0	11.61	0	0	0	85- 90	1.970	6326	100,99.6
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		

Conical surface Flux(90deg): 5398.8 lm

%lum = 85.3%

%lamp = 85.0%

Conical surface Flux(120deg): 6233.6 lm

%lum = 98.5%

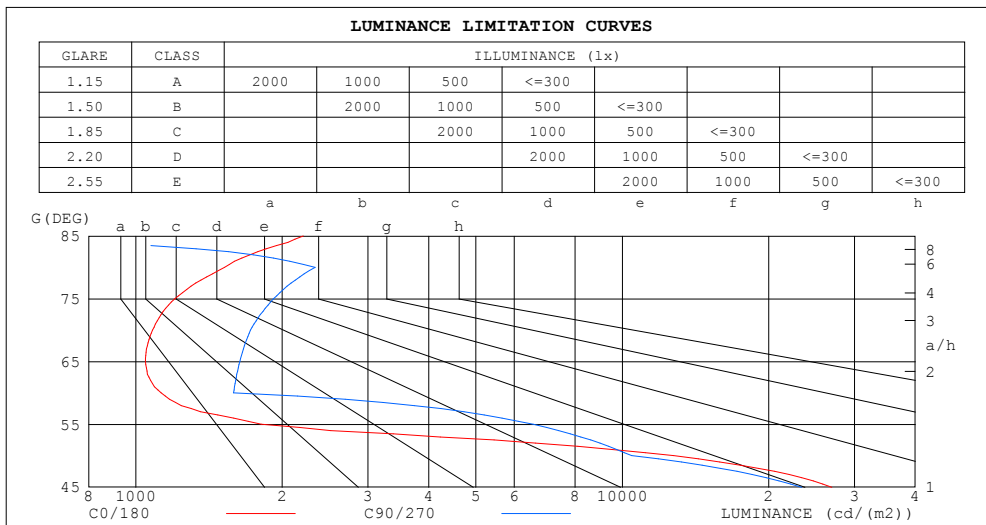
%lamp = 98.1%

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2017-02-28

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.351
 Humidity:65.0%
 Test Distance:7.290m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:220.4V I:0.2358A P:50.75W PF:0.9765 Lamp Flux:6352.9x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	2209	0
80	1522	2335
75	1203	1920
70	1082	1720
65	1047	1636
60	1128	1589
55	1811	6554
50	12759	10461
45	26965	23390

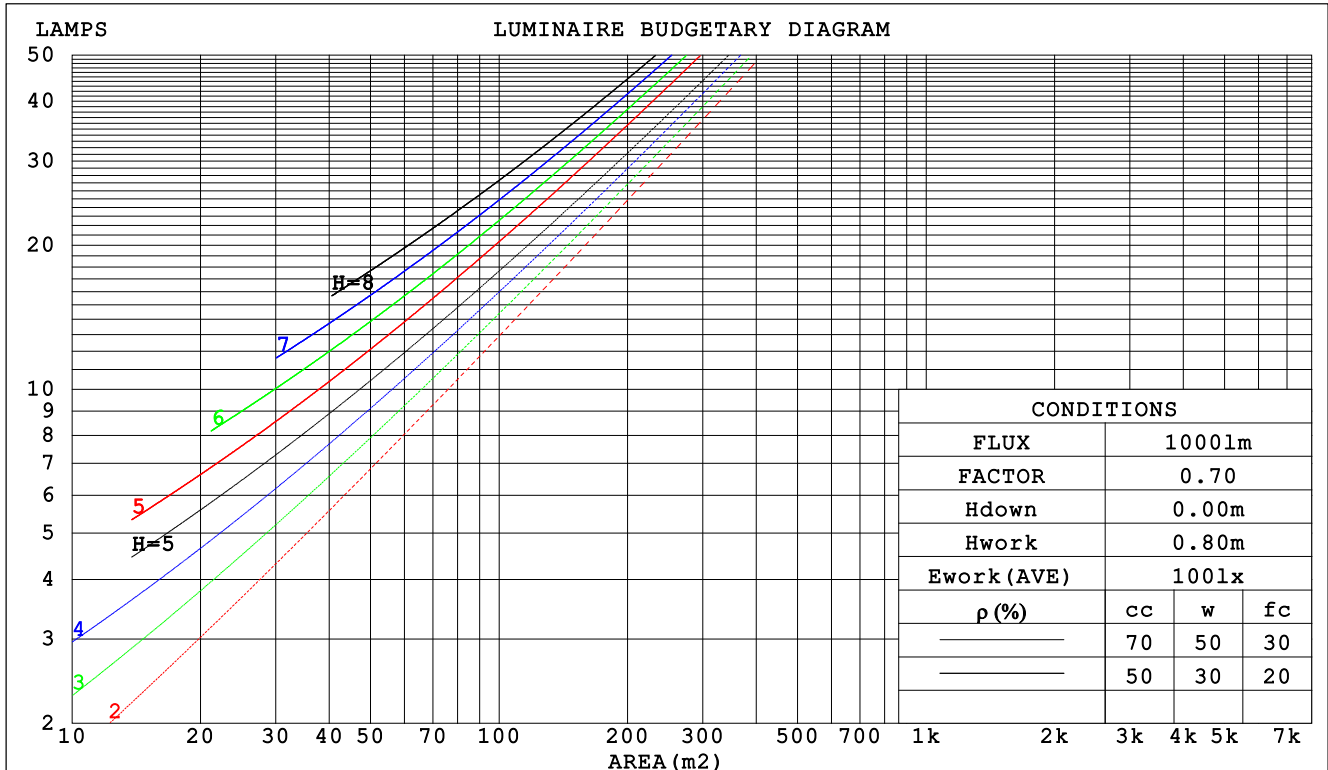
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-28

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.351
Humidity:65.0%
Test Distance:7.290m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.4V I:0.2358A P:50.75W PF:0.9765 Lamp Flux:6352.9x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	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	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	.00
1.0	1.09	1.06	1.03	1.06	1.04	1.01	1.02	1.00	.98	.99	.97	.95	.95	.94	.92	.91
2.0	.99	.94	.90	.97	.93	.89	.94	.90	.87	.91	.88	.85	.88	.85	.83	.81
3.0	.90	.84	.79	.89	.83	.79	.86	.81	.77	.83	.79	.76	.81	.78	.75	.73
4.0	.82	.76	.71	.81	.75	.70	.79	.73	.69	.77	.72	.68	.75	.71	.68	.66
5.0	.75	.68	.63	.74	.68	.63	.72	.67	.62	.71	.66	.62	.69	.65	.61	.59
6.0	.69	.62	.57	.68	.61	.57	.67	.61	.56	.65	.60	.56	.64	.59	.55	.54
7.0	.64	.56	.51	.63	.56	.51	.61	.55	.51	.60	.55	.51	.59	.54	.50	.49
8.0	.59	.52	.47	.58	.51	.46	.57	.51	.46	.56	.50	.46	.55	.50	.46	.44
9.0	.54	.47	.43	.54	.47	.42	.53	.47	.42	.52	.46	.42	.51	.46	.42	.40
10.0	.50	.44	.39	.50	.43	.39	.49	.43	.39	.48	.43	.39	.47	.42	.38	.37



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2017-02-28

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.351
 Humidity:65.0%
 Test Distance:7.290m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:220.4V I:0.2358A P:50.75W PF:0.9765 Lamp Flux:6352.9x1 lm					
NAME:			TYPE:LED		WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ			DIM.:		SERIAL No.:1
MFR.: EVERFINE			SUR.:		Shielding Angle:

pcc	80%			70%			50%			30%			10%			0	
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
pfc	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients (WEC)										
0.0																	
1.0	.211	.120	.038	.204	.116	.037	.192	.110	.035	.180	.104	.033	.169	.098	.032		
2.0	.206	.113	.035	.200	.110	.034	.189	.105	.033	.179	.100	.031	.170	.096	.030		
3.0	.197	.105	.031	.192	.103	.031	.183	.099	.030	.174	.095	.029	.166	.092	.028		
4.0	.189	.098	.029	.184	.096	.028	.176	.093	.028	.168	.090	.027	.161	.088	.027		
5.0	.180	.092	.027	.176	.090	.026	.169	.088	.026	.162	.085	.025	.155	.083	.025		
6.0	.171	.086	.025	.168	.085	.024	.161	.083	.024	.155	.081	.024	.150	.079	.023		
7.0	.163	.081	.023	.160	.080	.023	.154	.078	.022	.149	.076	.022	.144	.075	.022		
8.0	.155	.076	.021	.153	.075	.021	.147	.074	.021	.143	.072	.021	.138	.071	.021		
9.0	.148	.072	.020	.146	.071	.020	.141	.070	.020	.137	.068	.020	.132	.067	.019		
10.0	.141	.068	.019	.139	.067	.019	.135	.066	.019	.131	.065	.018	.127	.064	.018		

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.162	.162	.162	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.173	.156	.142	.148	.134	.122	.101	.092	.084	.058	.053	.049	.019	.017	.016	
2.0	.160	.132	.108	.137	.113	.093	.094	.078	.065	.054	.046	.038	.017	.015	.012	
3.0	.150	.113	.084	.129	.098	.073	.088	.068	.051	.051	.040	.030	.016	.013	.010	
4.0	.142	.099	.067	.121	.086	.058	.083	.060	.041	.048	.035	.024	.016	.011	.008	
5.0	.134	.088	.054	.115	.076	.047	.079	.053	.033	.046	.031	.020	.015	.010	.007	
6.0	.128	.079	.045	.110	.069	.039	.076	.048	.028	.044	.028	.016	.014	.009	.005	
7.0	.122	.072	.038	.105	.063	.033	.072	.044	.023	.042	.026	.014	.014	.008	.005	
8.0	.116	.067	.032	.100	.058	.028	.069	.041	.020	.040	.024	.012	.013	.008	.004	
9.0	.111	.062	.028	.096	.053	.024	.066	.038	.017	.039	.022	.010	.013	.007	.003	
10.0	.107	.057	.025	.092	.050	.022	.064	.035	.015	.037	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-28

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.351
Humidity:65.0%
Test Distance:7.290m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:220.4V I:0.2358A P:50.75W PF:0.9765 Lamp Flux:6352.9x1 lm										
NAME:					TYPE:LED			WEIGHT:		
SPEC.:C470SP-Q2-P-03A 230V50HZ					DIM.:			SERIAL No.:1		
MFR.: EVERFINE					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	20.1	21.3	20.4	21.5	21.7	20.1	21.3	20.4	21.5	21.7
3H	20.0	21.1	20.3	21.3	21.5	20.0	21.1	20.3	21.3	21.5
4H	19.9	20.9	20.2	21.2	21.4	19.9	21.0	20.2	21.2	21.4
6H	19.8	20.8	20.1	21.0	21.3	19.9	20.8	20.2	21.1	21.4
8H	19.8	20.7	20.1	21.0	21.3	19.9	20.8	20.2	21.0	21.3
12H	19.8	20.6	20.1	20.9	21.2	19.8	20.7	20.2	21.0	21.3
4H 2H	19.9	20.9	20.2	21.1	21.4	19.9	20.9	20.2	21.1	21.4
3H	19.7	20.6	20.1	20.9	21.2	19.8	20.6	20.1	20.9	21.2
4H	19.7	20.5	20.1	20.8	21.1	19.7	20.5	20.1	20.8	21.1
6H	19.7	20.3	20.0	20.7	21.0	19.7	20.4	20.1	20.8	21.1
8H	19.6	20.3	20.0	20.6	21.0	19.7	20.4	20.1	20.7	21.1
12H	19.6	20.2	20.1	20.6	21.0	19.7	20.3	20.1	20.6	21.0
8H 4H	19.6	20.2	20.0	20.6	21.0	19.6	20.3	20.0	20.6	21.0
6H	19.6	20.1	20.0	20.5	20.9	19.7	20.2	20.1	20.6	21.0
8H	19.6	20.1	20.1	20.5	20.9	19.7	20.2	20.1	20.6	21.0
12H	19.7	20.1	20.1	20.5	21.0	19.7	20.0	20.1	20.5	21.0
12H 4H	19.6	20.1	20.0	20.5	20.9	19.6	20.2	20.0	20.6	20.9
6H	19.6	20.0	20.0	20.5	20.9	19.7	20.1	20.1	20.5	21.0
8H	19.6	20.0	20.1	20.5	20.9	19.7	20.1	20.2	20.5	21.0
Variations with the observer position at spacings:										
S = 1.0H	+ 2.7 / - 7.6					+ 2.4 / - 6.2				
1.5H	+ 2.5 / - 8.4					+ 2.6 / - 8.2				
2.0H	+ 6.6 / - 6.6					+ 5.7 / - 5.9				

CIE Pub.117 Corrected 6353 lm Total Lamp Luminous Flux.(8log(F/F0) = 6.4)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-28

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.351
Humidity:65.0%
Test Distance:7.290m [K=1.0000]
Remarks:

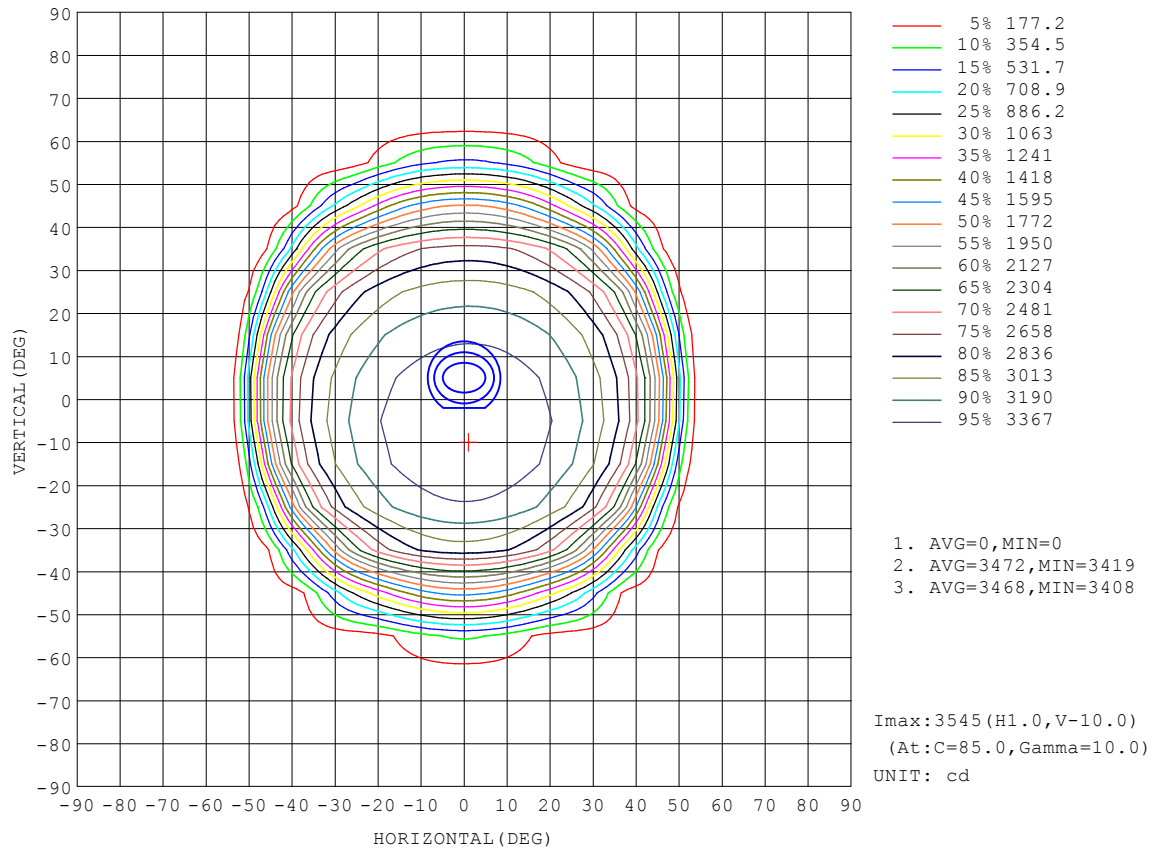
```

Range: 0 - 90DEG
Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.351
Humidity:65.0%
Test Distance:7.290m [K=1.0000]
Remarks:

```

ISOCANDELA DIAGRAM

Test:U:220.4V I:0.2358A P:50.75W PF:0.9765 Lamp Flux:6352.9x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:

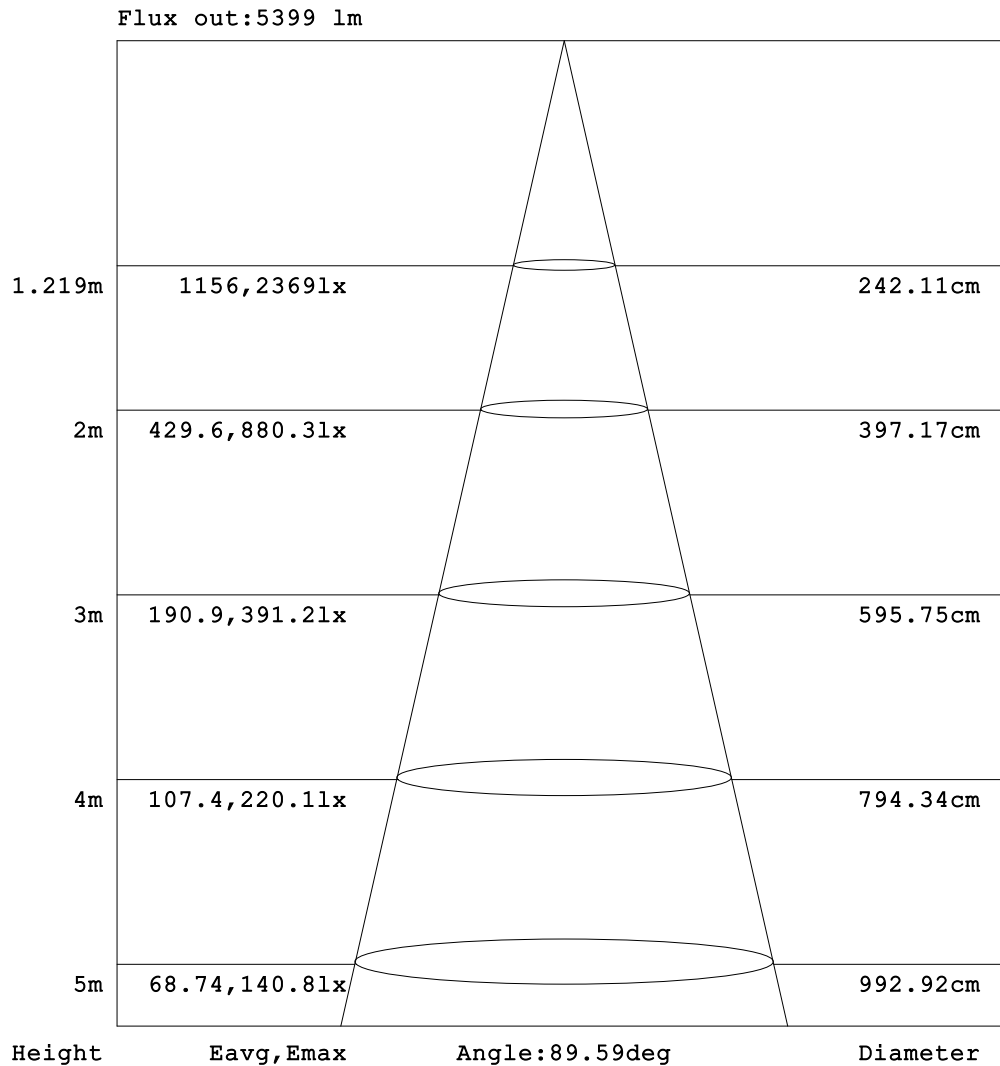


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-28

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.351
Humidity:65.0%
Test Distance:7.290m [K=1.0000]
Remarks:

AAI Figure

Test:U:220.4V I:0.2358A P:50.75W PF:0.9765 Lamp Flux:6352.9x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:



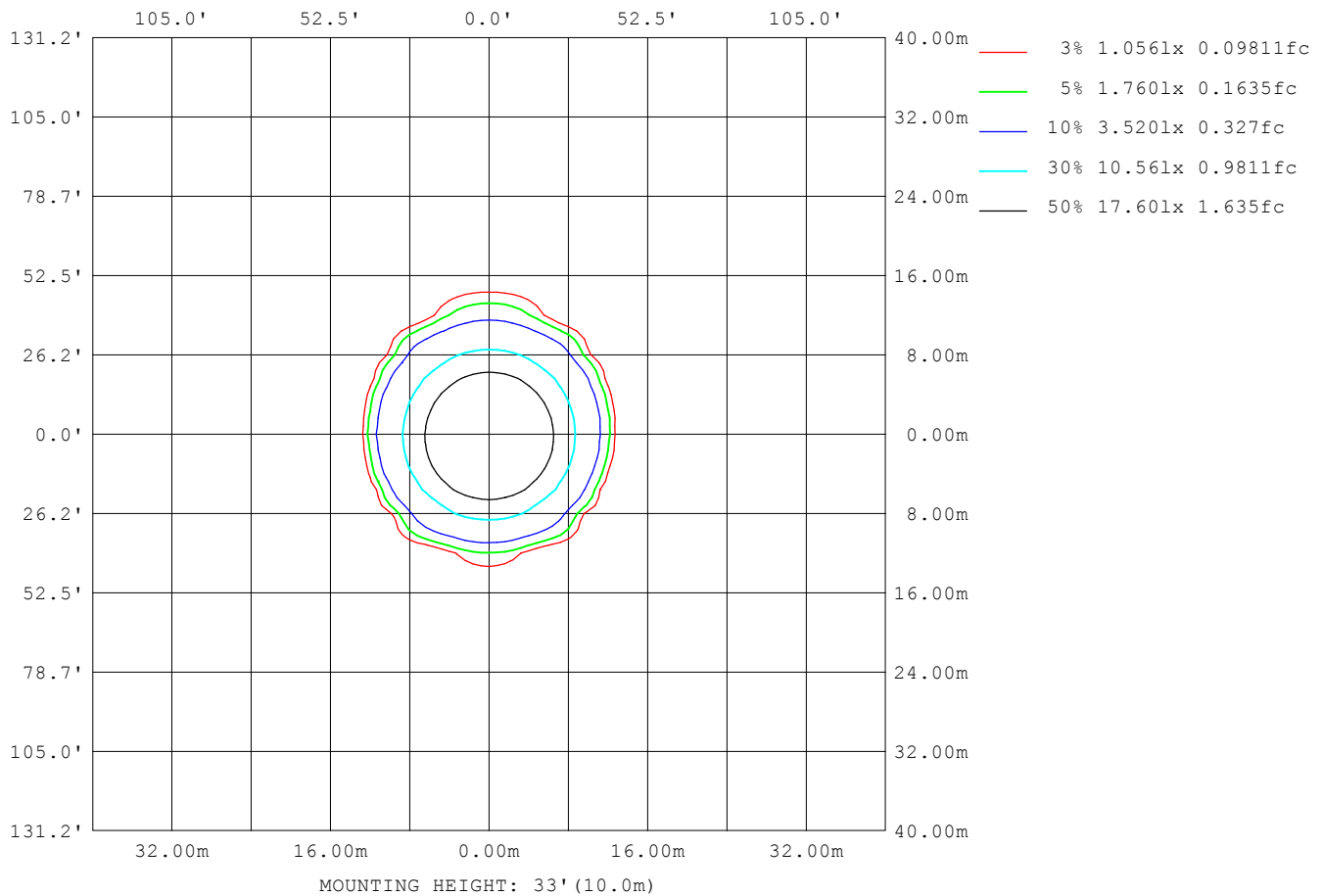
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2017-02-28

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.351
 Humidity:65.0%
 Test Distance:7.290m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:220.4V I:0.2358A P:50.75W PF:0.9765 Lamp Flux:6352.9x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-28

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.351
Humidity:65.0%
Test Distance:7.290m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:220.4V I:0.2358A P:50.75W PF:0.9765 Lamp Flux:6352.9x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:

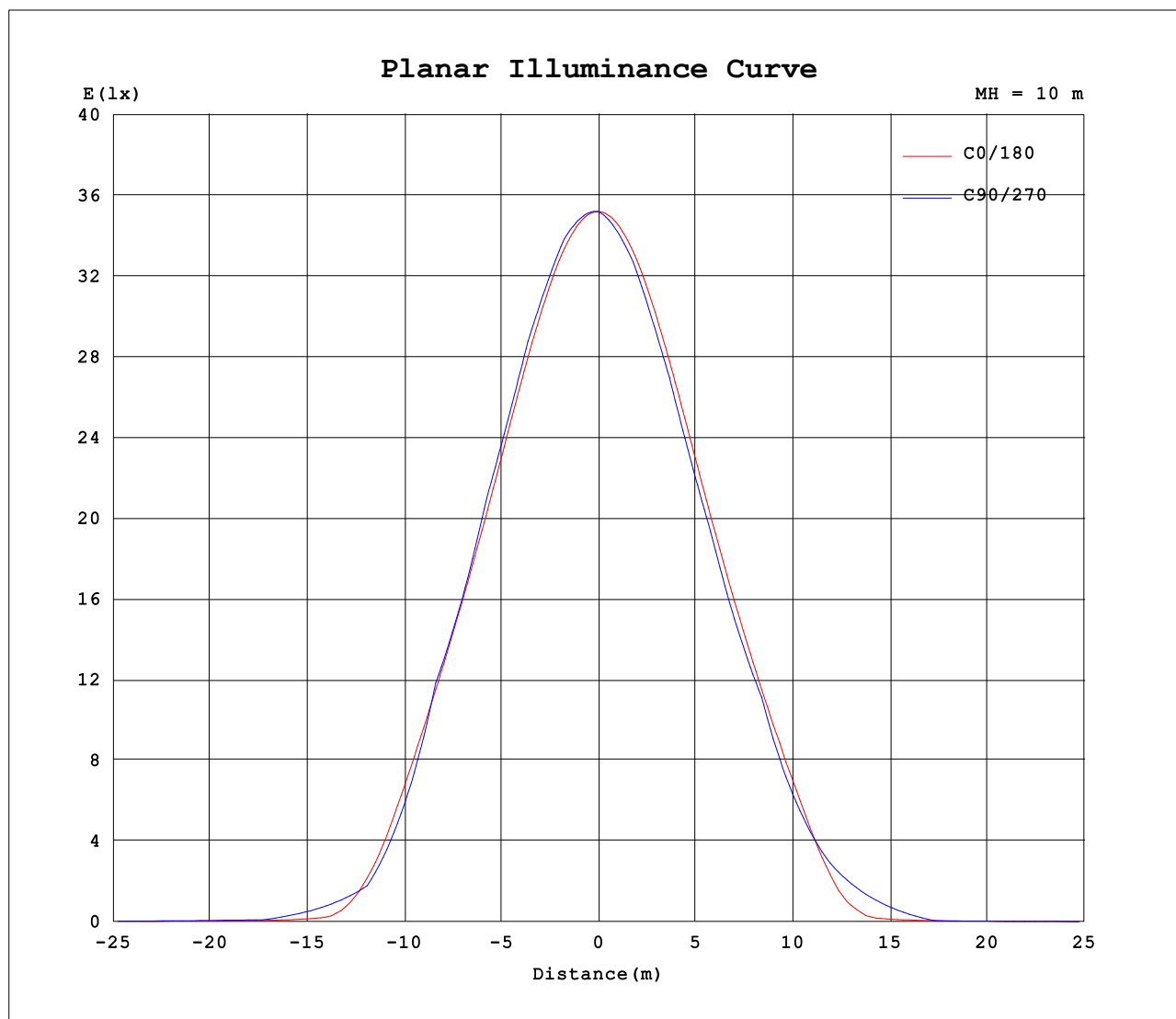
AvgL	cd/m2
L_0~180 (65) av	910
L_0~180 (75) av	960
L_0~180 (85) av	1744
L_90~270 (65) av	1172
L_90~270 (75) av	1262
L_90~270 (85) av	0
L_45 (65) av	1151
L_45 (75) av	1244
L_45 (85) av	1016

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-28

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.351
Humidity:65.0%
Test Distance:7.290m [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: 2017-02-28

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.351
Humidity: 65.0%
Test Distance: 7.290m [K=1.0000]
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.351
Humidity:65.0%
Test Distance:7.290m [K=1.0000]
Remarks:

```

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.351
Humidity:65.0%
Test Distance:7.290m [K=1.0000]
Remarks:

```

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.351
Humidity:65.0%
Test Distance:7.290m [K=1.0000]
Remarks:

```

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.351
Humidity:65.0%
Test Distance:7.290m [K=1.0000]
Remarks:

```