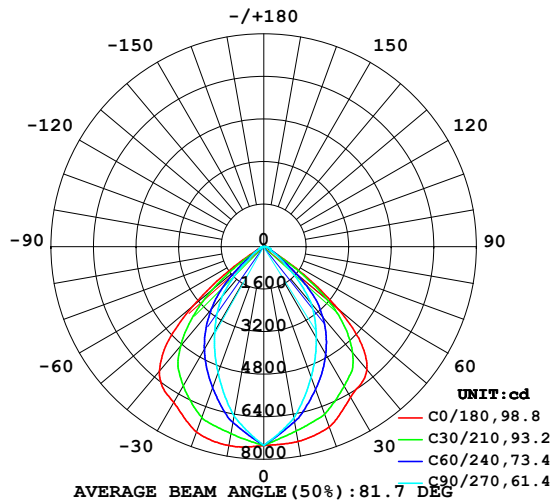


LUMINAIRE PHOTOMETRIC TEST REPORT

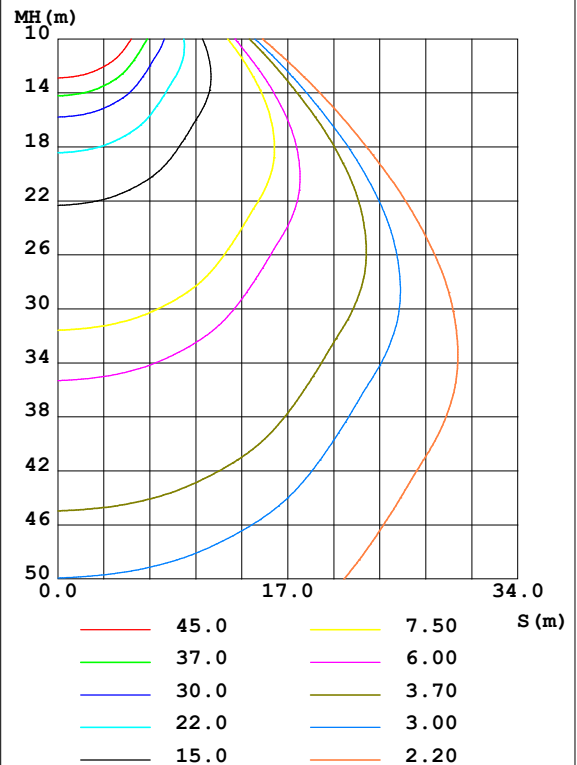
Test:U:220.2V I:0.4627A P:98.49W PF:0.9667 Lamp Flux:12112.5x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 122.76 lm/W			
MODEL	LHB-100W-6090	I _{max} (cd)	7598	S/MH (C0/180)	1.36
NOMINAL POWER (W)	100	LOR (%)	99.8	S/MH (C90/270)	0.82
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	12091	η UP, DN (C0-180)	0.0, 51.8
NOMINAL FLUX (lm)	12112.5	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 48.0
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE (V)	220	η down (%)	99.8	CIBSE SHR MAX	1.10

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: 2017-02-16

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	7460	7136	7013	7209	7561	7185	6976	7110	0- 5	174.2	174.2	1.44, 1.44
10	7437	6853	6548	6957	7598	6914	6473	6788	5- 10	503.6	677.8	5.61, 5.6
15	7349	6580	5883	6701	7549	6643	5758	6493	10- 15	800.0	1478	12.2, 12.2
20	7209	6190	5218	6328	7413	6216	5043	6079	15- 20	1051	2529	20.9, 20.9
25	6887	5830	4586	5950	7096	5775	4367	5661	20- 25	1252	3782	31.3, 31.2
30	6539	5407	3955	5515	6771	5266	3690	5181	25- 30	1397	5179	42.8, 42.8
35	6338	4864	3364	4970	6561	4618	3062	4584	30- 35	1486	6665	55.1, 55
40	6036	4227	2773	4314	6104	3853	2435	3881	35- 40	1506	8172	67.6, 67.5
45	5213	3376	1912	3397	5160	2853	1574	2902	40- 45	1405	9577	79.2, 79.1
50	3671	2340	1051	2305	3492	1695	714.3	1742	45- 50	1120	10697	88.5, 88.3
55	1840	1231	676.1	1205	1682	850.1	457.7	874.8	50- 55	692.5	11390	94.2, 94
60	499.2	370.7	300.9	359.2	463.0	242.5	201.1	254.7	55- 60	307.5	11697	96.7, 96.6
65	245.9	263.7	268.5	258.8	222.4	163.9	183.8	174.5	60- 65	131.4	11828	97.8, 97.7
70	182.0	199.7	236.1	198.3	155.7	114.9	166.5	121.6	65- 70	95.27	11924	98.6, 98.4
75	138.7	159.3	182.2	156.7	115.2	82.20	120.0	86.50	70- 75	75.09	11999	99.2, 99.1
80	95.66	116.0	128.3	113.5	74.01	50.85	73.45	53.32	75- 80	54.98	12054	99.7, 99.5
85	59.46	37.37	0	36.49	43.81	13.67	0	14.28	80- 85	31.69	12085	99.9, 99.8
90	35.31	0	0	0	29.16	0	0	0	85- 90	6.055	12091	100, 99.8
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): 9576.8 lm

%lum = 79.2%

%lamp = 79.1%

Conical surface Flux(120deg): 11697 lm

%lum = 96.7%

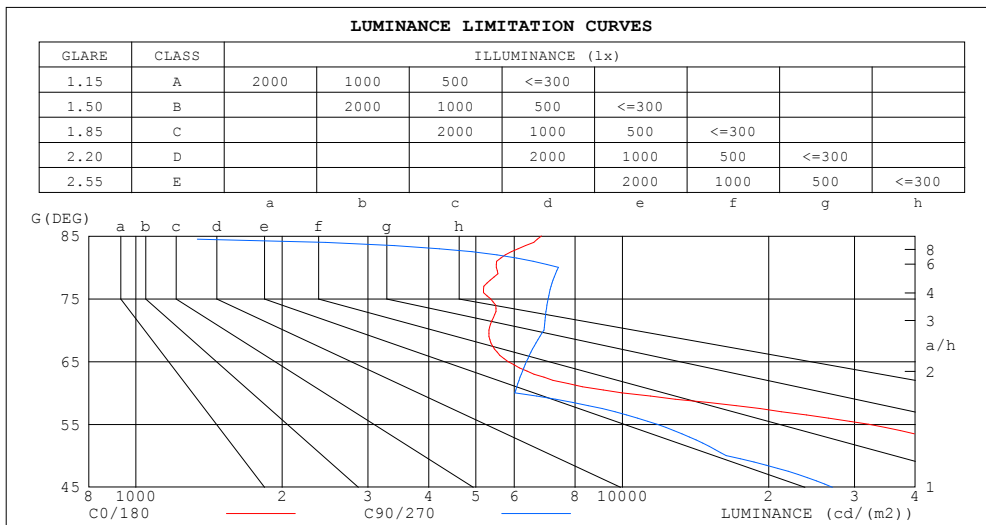
%lamp = 96.6%

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2017-02-16

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:220.2V I:0.4627A P:98.49W PF:0.9667 Lamp Flux:12112.5x1 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	6822	0
80	5509	7386
75	5361	7039
70	5322	6903
65	5818	6353
60	9984	6018
55	32071	11787
50	57112	16355
45	73726	27042

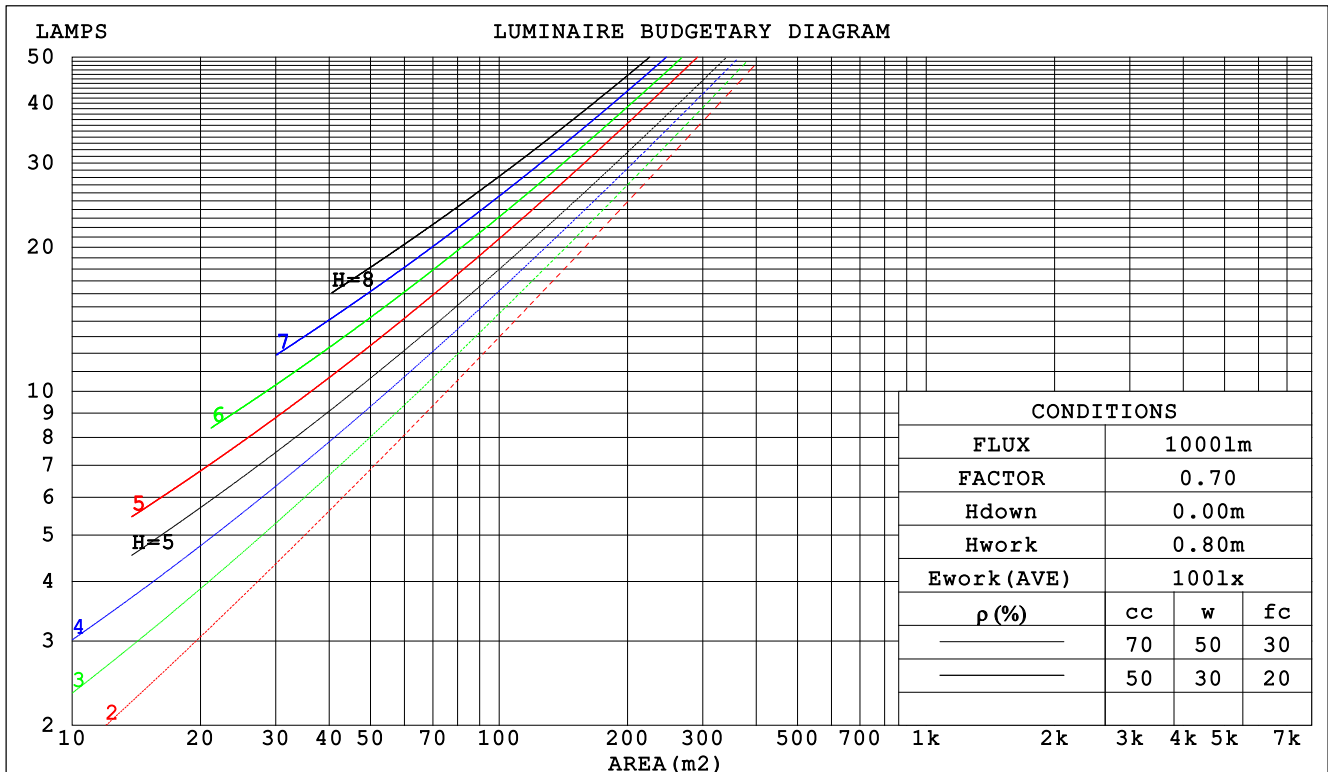
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-16

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:220.2V I:0.4627A P:98.49W PF:0.9667 Lamp Flux:12112.5x1 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	Coefficients of Utilization(CU)															
RCR:Room Cavity Ratio																
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	1.08	1.05	1.02	1.06	1.03	1.01	1.02	.00	.98	.98	.96	.95	.95	.93	.92	.90
2.0	.98	.93	.89	.96	.92	.88	.93	.89	.86	.90	.87	.84	.87	.84	.82	.80
3.0	.89	.83	.78	.88	.82	.77	.85	.80	.76	.82	.78	.75	.80	.76	.73	.72
4.0	.81	.74	.69	.80	.73	.68	.77	.72	.67	.75	.71	.67	.73	.69	.66	.64
5.0	.74	.67	.61	.73	.66	.61	.71	.65	.60	.69	.64	.60	.67	.63	.59	.57
6.0	.68	.60	.55	.67	.60	.55	.65	.59	.54	.64	.58	.54	.62	.57	.53	.52
7.0	.62	.55	.50	.62	.54	.49	.60	.54	.49	.59	.53	.49	.58	.52	.49	.47
8.0	.57	.50	.45	.57	.50	.45	.56	.49	.45	.54	.49	.44	.53	.48	.44	.43
9.0	.53	.46	.41	.53	.46	.41	.52	.45	.41	.51	.45	.41	.50	.44	.41	.39
10.0	.49	.42	.38	.49	.42	.38	.48	.42	.38	.47	.41	.37	.46	.41	.37	.36



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2017-02-16

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:220.2V I:0.4627A P:98.49W PF:0.9667 Lamp Flux:12112.5x1 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	.222	.126	.040	.215	.123	.039	.202	.116	.037	.191	.110	.035	.180	.104	.034		
2.0	.216	.118	.036	.210	.116	.036	.199	.111	.034	.189	.106	.033	.180	.102	.032		
3.0	.206	.110	.033	.201	.108	.032	.192	.104	.032	.183	.100	.031	.175	.097	.030		
4.0	.196	.102	.030	.192	.100	.030	.183	.097	.029	.176	.094	.028	.168	.092	.028		
5.0	.186	.095	.027	.182	.094	.027	.175	.091	.027	.168	.089	.026	.162	.086	.026		
6.0	.177	.089	.025	.173	.087	.025	.167	.085	.025	.160	.083	.025	.155	.081	.024		
7.0	.168	.083	.023	.165	.082	.023	.159	.080	.023	.153	.078	.023	.148	.077	.023		
8.0	.159	.078	.022	.156	.077	.022	.151	.075	.022	.146	.074	.021	.141	.073	.021		
9.0	.151	.073	.020	.149	.073	.020	.144	.071	.020	.140	.070	.020	.135	.069	.020		
10.0	.144	.069	.019	.142	.068	.019	.137	.067	.019	.133	.066	.019	.130	.065	.019		

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	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.174	.157	.141	.149	.134	.121	.102	.092	.084	.059	.054	.049	.019	.017	.016	
2.0	.162	.132	.107	.139	.114	.092	.095	.079	.064	.055	.046	.038	.018	.015	.012	
3.0	.152	.114	.083	.130	.098	.072	.089	.068	.051	.052	.040	.030	.017	.013	.010	
4.0	.144	.100	.066	.123	.086	.057	.085	.060	.040	.049	.035	.024	.016	.011	.008	
5.0	.136	.089	.054	.117	.077	.047	.081	.054	.033	.047	.031	.020	.015	.010	.006	
6.0	.130	.080	.044	.111	.069	.039	.077	.048	.027	.045	.029	.016	.014	.009	.005	
7.0	.124	.073	.037	.106	.063	.033	.073	.044	.023	.043	.026	.014	.014	.009	.005	
8.0	.118	.067	.032	.102	.058	.028	.070	.041	.020	.041	.024	.012	.013	.008	.004	
9.0	.113	.062	.028	.097	.054	.024	.067	.038	.017	.039	.022	.010	.013	.007	.003	
10.0	.108	.058	.024	.093	.050	.021	.065	.035	.015	.038	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-16

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:220.2V I:0.4627A P:98.49W PF:0.9667 Lamp Flux:12112.5x1 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	25.3	26.5	25.5	26.7	26.9	21.1	22.3	21.3	22.5	22.7
3H	25.2	26.3	25.4	26.5	26.7	21.1	22.3	21.4	22.5	22.7
4H	25.1	26.2	25.4	26.4	26.6	21.2	22.3	21.5	22.5	22.7
6H	25.1	26.0	25.4	26.3	26.6	21.3	22.3	21.6	22.5	22.8
8H	25.0	26.0	25.4	26.3	26.5	21.3	22.3	21.6	22.5	22.8
12H	25.0	25.9	25.3	26.2	26.5	21.3	22.2	21.6	22.5	22.8
4H 2H	25.1	26.1	25.4	26.4	26.6	21.1	22.2	21.4	22.4	22.6
3H	25.0	25.9	25.3	26.2	26.4	21.2	22.2	21.6	22.4	22.7
4H	24.9	25.8	25.3	26.1	26.4	21.4	22.2	21.7	22.5	22.8
6H	24.9	25.7	25.3	26.0	26.4	21.6	22.3	21.9	22.6	23.0
8H	24.9	25.6	25.3	26.0	26.3	21.6	22.3	22.0	22.6	23.0
12H	24.9	25.6	25.4	25.9	26.3	21.6	22.2	22.0	22.6	22.9
8H 4H	24.9	25.5	25.3	25.9	26.2	21.4	22.0	21.8	22.4	22.8
6H	24.9	25.4	25.3	25.8	26.3	21.6	22.2	22.1	22.6	23.0
8H	24.9	25.4	25.4	25.8	26.3	21.7	22.2	22.2	22.6	23.1
12H	25.0	25.4	25.5	25.8	26.3	21.7	22.1	22.2	22.5	23.0
12H 4H	24.8	25.4	25.2	25.8	26.2	21.4	22.0	21.8	22.3	22.7
6H	24.9	25.3	25.3	25.8	26.2	21.7	22.1	22.1	22.6	23.0
8H	24.9	25.3	25.4	25.8	26.3	21.7	22.2	22.2	22.6	23.1
Variations with the observer position at spacings:										
S = 1.0H	+ 1.5 / - 2.6					+ 1.7 / - 2.5				
1.5H	+ 1.6 / - 3.1					+ 1.8 / - 2.5				
2.0H	+ 4.3 / - 7.0					+ 2.8 / - 2.9				

CIE Pub.117 Corrected 12112 lm Total Lamp Luminous Flux.(8log(F/F0) = 8.7)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-16

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:

UTILIZATION FACTORS TABLE

Test:U:220.2V I:0.4627A P:98.49W PF:0.9667 Lamp Flux:12112.5x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:

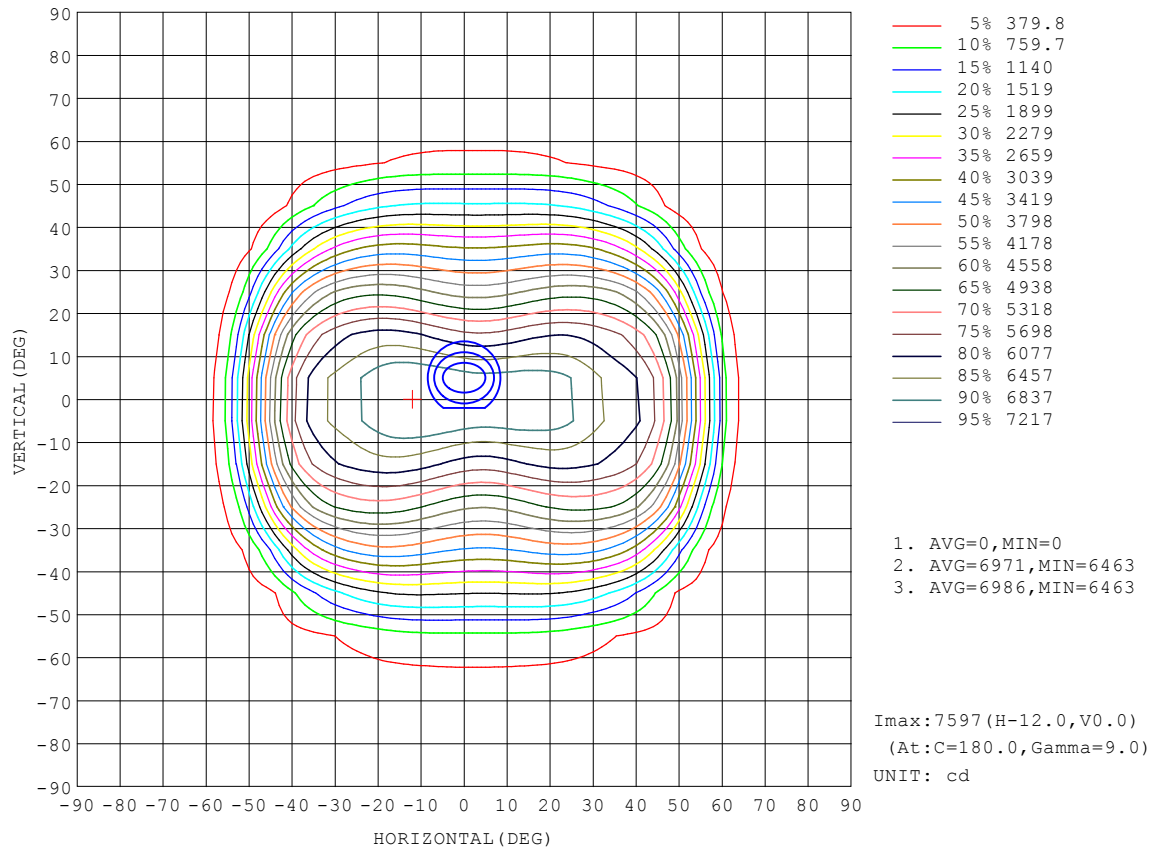
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	71	61	56	70	61	56	69	61	55	50
0.80	81	72	66	80	71	66	78	71	66	60
1.00	88	80	75	87	80	75	85	80	74	69
1.25	94	87	82	93	86	81	91	85	81	75
1.50	98	91	87	97	91	86	94	89	85	79
2.00	103	97	93	102	96	92	99	94	91	84
2.50	106	100	96	104	99	95	100	97	93	87
3.00	108	103	99	106	102	98	102	99	96	89
4.00	110	107	103	108	105	102	104	102	99	91
5.00	112	109	106	110	107	104	106	103	101	93
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-16

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:

ISOCANDELA DIAGRAM

Test:U:220.2V I:0.4627A P:98.49W PF:0.9667 Lamp Flux:12112.5x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:

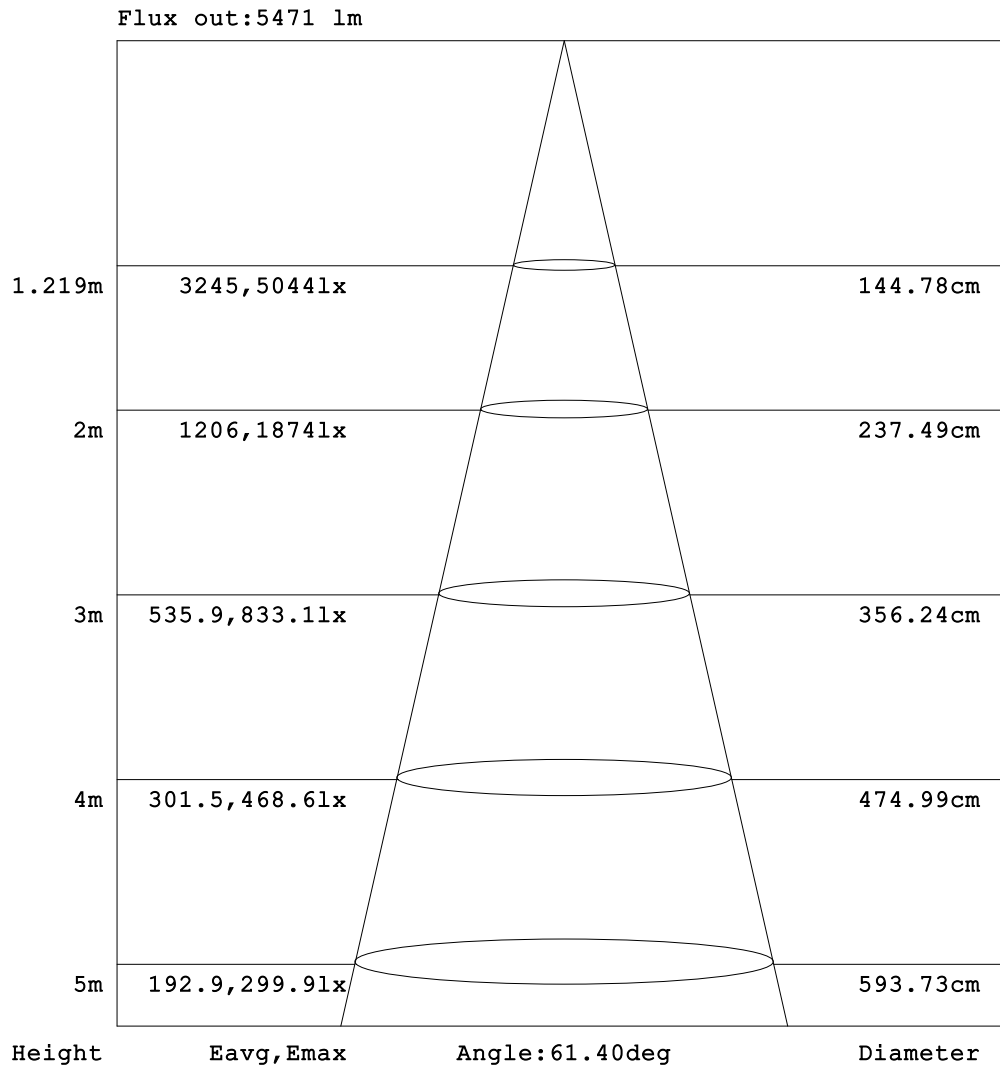


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-16

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:220.2V I:0.4627A P:98.49W PF:0.9667 Lamp Flux:12112.5x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:



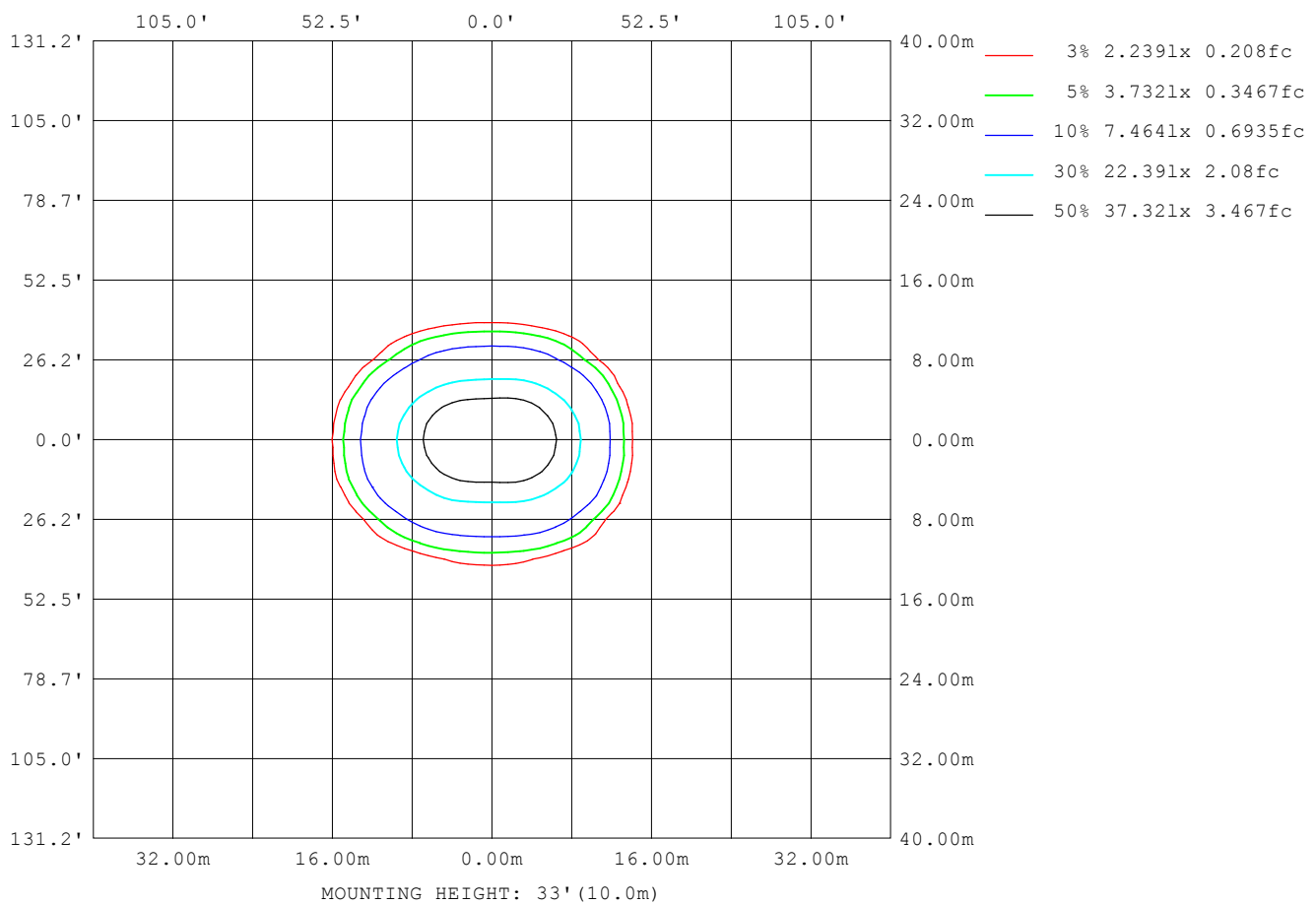
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2017-02-16

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:220.2V I:0.4627A P:98.49W PF:0.9667 Lamp Flux:12112.5x1 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:2017-02-16

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:220.2V I:0.4627A P:98.49W PF:0.9667 Lamp Flux:12112.5x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:

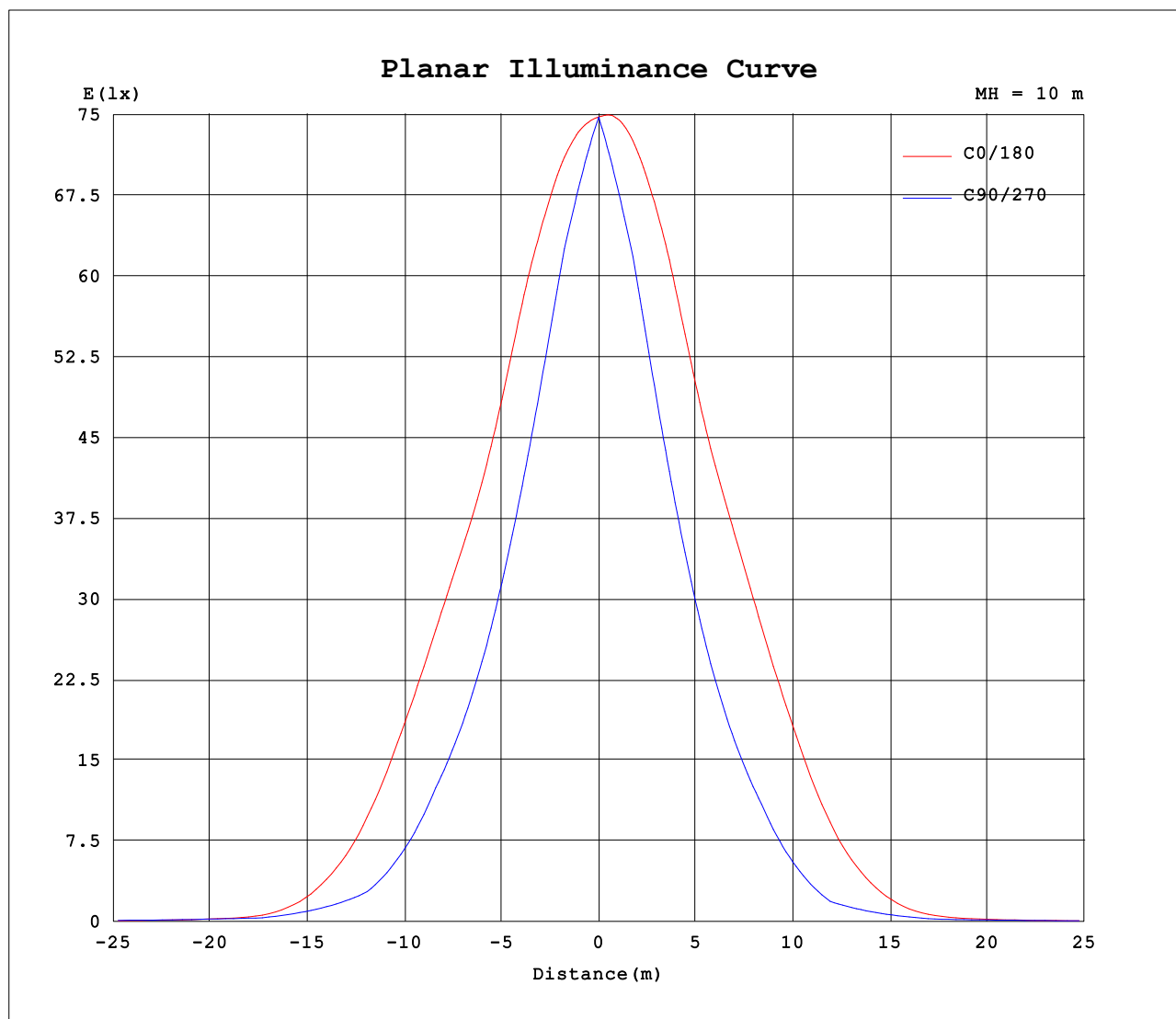
AvgL	cd/m2
L_0~180 (65) av	5541
L_0~180 (75) av	4906
L_0~180 (85) av	5925
L_90~270 (65) av	5351
L_90~270 (75) av	5838
L_90~270 (85) av	0
L_45 (65) av	5093
L_45 (75) av	4681
L_45 (85) av	2920

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-16

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: 2017-02-16

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:

```