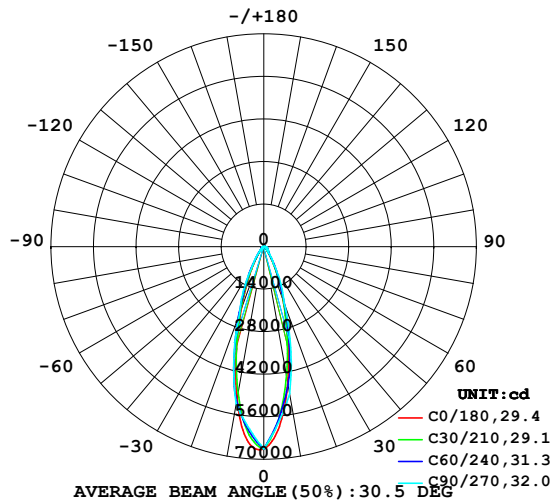


LUMINAIRE PHOTOMETRIC TEST REPORT

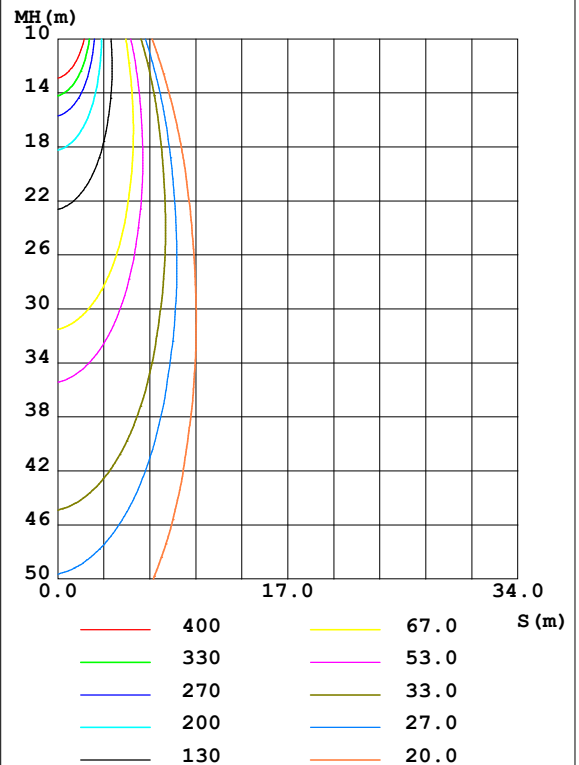
Test:U:219.8V I:0.9613A P:208.1W PF:0.9849 Lamp Flux:26278.9x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 126.27 lm/W			
MODEL	LHB-200W-3030	I _{max} (cd)	66866	S/MH (C0/180)	0.52
NOMINAL POWER (W)	200	LOR (%)	100.0	S/MH (C90/270)	0.55
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	26281	η UP, DN (C0-180)	0.0, 48.5
NOMINAL FLUX (lm)	26278.9	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 51.5
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE (V)	220	η down (%)	100.0	CIBSE SHR MAX	0.55

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: 2017-02-15

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	5939	5664	5783	5933	6387	6062	5957	5777	0- 5	1482	1482	5.64,5.64
10	4558	4428	4911	4743	5092	5004	5260	4631	5- 10	3799	5282	20.1,20.1
15	3052	3130	3440	3373	3495	3717	3809	3370	10- 15	4793	10074	38.3,38.3
20	1876	1926	1969	2090	2164	2364	2359	2114	15- 20	4416	14490	55.1,55.1
25	1113	1109	1310	1200	1278	1397	1572	1253	20- 25	3421	17911	68.2,68.2
30	641.6	643.2	650.2	695.6	714.1	813.8	784.5	734.6	25- 30	2452	20363	77.5,77.5
35	358.9	369.0	435.8	392.7	393.1	450.1	507.1	412.8	30- 35	1590	21953	83.5,83.5
40	206.5	200.1	221.3	203.2	218.2	229.9	229.6	214.2	35- 40	1020	22973	87.4,87.4
45	132.1	140.2	173.3	140.8	129.6	144.4	162.9	137.0	40- 45	648.5	23622	89.9,89.9
50	105.0	107.3	125.3	108.2	97.13	98.02	96.19	95.99	45- 50	495.2	24117	91.8,91.8
55	97.78	97.02	111.5	97.03	90.45	84.64	85.57	84.32	50- 55	425.9	24543	93.4,93.4
60	91.83	88.85	97.64	88.89	80.49	75.79	74.95	76.10	55- 60	405.3	24948	94.9,94.9
65	82.89	77.83	85.44	78.52	78.62	68.29	69.73	68.49	60- 65	386.2	25335	96.4,96.4
70	64.02	64.86	73.23	65.57	56.68	58.18	64.51	58.58	65- 70	349.4	25684	97.7,97.7
75	45.95	47.80	50.77	48.06	39.82	43.30	43.96	44.39	70- 75	287.5	25971	98.8,98.8
80	29.25	30.93	28.31	31.37	24.38	27.36	23.42	27.49	75- 80	197.5	26169	99.6,99.6
85	13.27	8.571	0	8.780	9.855	7.264	0	7.010	80- 85	98.50	26267	99.9,100
90	6.431	0	0	0	4.737	0	0	0	85- 90	13.18	26281	100,100
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:×10cd									UNIT:lm		

Conical surface Flux(90deg): 23622 lm

%lum = 89.9%

%lamp = 89.9%

Conical surface Flux(120deg): 24948 lm

%lum = 94.9%

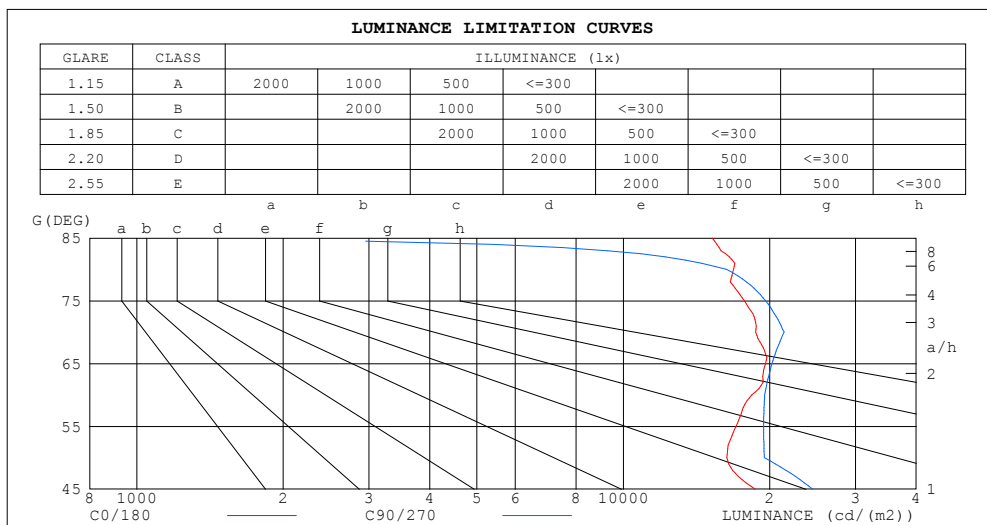
%lamp = 94.9%

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2017-02-15

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:219.8V I:0.9613A P:208.1W PF:0.9849 Lamp Flux:26278.9x1 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	15226	0
80	16844	16302
75	17755	19615
70	18718	21410
65	19613	20216
60	18365	19529
55	17047	19437
50	16329	19498
45	18677	24513

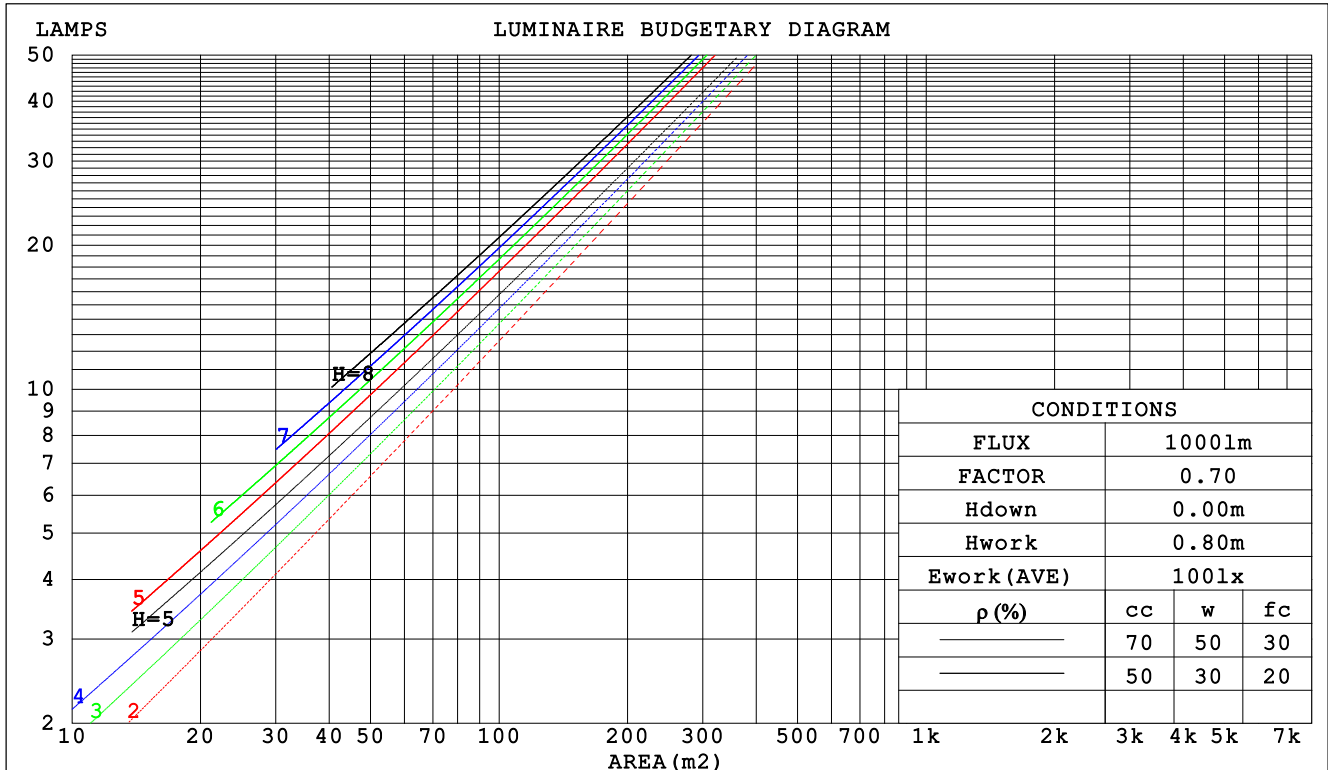
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-15

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:219.8V I:0.9613A P:208.1W PF:0.9849 Lamp Flux:26278.9x1 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	1.00
1.0	1.10	1.08	1.06	1.08	1.06	1.04	1.04	1.02	1.01	1.00	.99	.98	.97	.96	.95	.93
2.0	1.03	.99	.95	1.01	.97	.94	.98	.95	.92	.95	.92	.90	.92	.90	.88	.87
3.0	.96	.91	.88	.95	.90	.87	.92	.89	.85	.90	.87	.84	.88	.85	.83	.81
4.0	.91	.85	.81	.90	.85	.81	.87	.83	.80	.85	.82	.79	.84	.81	.78	.77
5.0	.86	.80	.76	.85	.80	.76	.83	.79	.75	.81	.78	.74	.80	.77	.74	.72
6.0	.81	.76	.72	.81	.75	.72	.79	.75	.71	.78	.74	.71	.77	.73	.70	.69
7.0	.77	.72	.68	.77	.72	.68	.76	.71	.67	.74	.70	.67	.73	.70	.67	.65
8.0	.74	.68	.65	.73	.68	.65	.72	.68	.64	.71	.67	.64	.70	.67	.64	.62
9.0	.71	.65	.62	.70	.65	.62	.69	.65	.61	.69	.64	.61	.68	.64	.61	.60
10.0	.68	.63	.59	.67	.62	.59	.67	.62	.59	.66	.62	.59	.65	.61	.59	.57



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2017-02-15

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:219.8V I:0.9613A P:208.1W PF:0.9849 Lamp Flux:26278.9x1 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	.184	.105	.033	.178	.101	.032	.165	.095	.030	.153	.088	.028	.143	.083	.027		
2.0	.173	.095	.029	.167	.092	.028	.156	.087	.027	.147	.082	.026	.138	.078	.025		
3.0	.161	.086	.026	.156	.084	.025	.147	.080	.024	.139	.076	.023	.131	.073	.022		
4.0	.151	.078	.023	.147	.077	.023	.139	.074	.022	.132	.071	.021	.125	.068	.021		
5.0	.142	.072	.021	.138	.071	.021	.131	.068	.020	.125	.066	.020	.119	.064	.019		
6.0	.133	.067	.019	.130	.066	.019	.124	.064	.019	.119	.062	.018	.114	.060	.018		
7.0	.126	.062	.018	.123	.061	.018	.118	.060	.017	.113	.058	.017	.109	.057	.017		
8.0	.120	.058	.016	.117	.058	.016	.113	.056	.016	.108	.055	.016	.104	.054	.016		
9.0	.114	.055	.015	.112	.054	.015	.108	.053	.015	.104	.052	.015	.100	.051	.015		
10.0	.109	.052	.014	.107	.052	.014	.103	.050	.014	.100	.049	.014	.096	.048	.014		

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	.172	.157	.144	.147	.135	.124	.100	.093	.086	.058	.054	.050	.019	.017	.016	
2.0	.156	.132	.112	.134	.114	.097	.092	.079	.068	.053	.046	.040	.017	.015	.013	
3.0	.144	.114	.090	.123	.098	.078	.084	.068	.055	.049	.040	.032	.016	.013	.011	
4.0	.133	.099	.073	.114	.085	.063	.078	.059	.045	.045	.035	.026	.015	.011	.009	
5.0	.123	.087	.060	.106	.075	.053	.073	.053	.037	.042	.031	.022	.014	.010	.007	
6.0	.115	.078	.051	.099	.067	.044	.068	.047	.031	.040	.028	.019	.013	.009	.006	
7.0	.108	.070	.043	.093	.061	.038	.064	.042	.027	.037	.025	.016	.012	.008	.005	
8.0	.102	.063	.037	.088	.055	.032	.061	.039	.023	.035	.023	.014	.011	.007	.005	
9.0	.096	.058	.032	.083	.050	.028	.057	.035	.020	.033	.021	.012	.011	.007	.004	
10.0	.091	.054	.028	.079	.046	.025	.055	.033	.018	.032	.019	.011	.010	.006	.003	

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-15

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:219.8V I:0.9613A P:208.1W PF:0.9849 Lamp Flux:26278.9x1 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	17.9	18.8	18.1	18.9	19.1	19.1	20.0	19.4	20.2	20.4
3H	19.6	20.5	19.9	20.7	20.9	20.8	21.6	21.0	21.8	22.0
4H	20.4	21.2	20.7	21.4	21.6	21.5	22.3	21.8	22.5	22.7
6H	20.9	21.6	21.2	21.8	22.1	22.0	22.7	22.3	23.0	23.2
8H	21.0	21.7	21.3	22.0	22.3	22.1	22.8	22.4	23.1	23.3
12H	21.1	21.8	21.5	22.1	22.4	22.1	22.7	22.4	23.0	23.3
4H 2H	18.7	19.5	19.0	19.7	19.9	19.7	20.5	19.9	20.7	20.9
3H	20.7	21.4	21.0	21.7	21.9	21.5	22.2	21.8	22.5	22.8
4H	21.6	22.2	21.9	22.5	22.8	22.4	23.0	22.7	23.3	23.6
6H	22.2	22.7	22.5	23.1	23.4	23.0	23.6	23.4	23.9	24.2
8H	22.4	22.9	22.8	23.2	23.6	23.1	23.7	23.5	24.0	24.4
12H	22.5	23.0	22.9	23.4	23.8	23.1	23.6	23.5	24.0	24.3
8H 4H	22.0	22.5	22.4	22.8	23.2	22.6	23.2	23.0	23.5	23.9
6H	22.7	23.2	23.1	23.5	24.0	23.4	23.9	23.9	24.3	24.7
8H	23.0	23.4	23.5	23.8	24.3	23.6	24.0	24.1	24.4	24.9
12H	23.3	23.6	23.7	24.0	24.5	23.6	23.9	24.1	24.4	24.8
12H 4H	22.0	22.5	22.4	22.9	23.2	22.7	23.1	23.1	23.5	23.9
6H	22.8	23.2	23.3	23.6	24.0	23.5	23.9	23.9	24.3	24.7
8H	23.2	23.5	23.6	23.9	24.4	23.7	24.0	24.2	24.5	24.9
Variations with the observer position at spacings:										
S = 1.0H	+ 0.3 / - 0.3					+ 0.3 / - 0.3				
1.5H	+ 0.6 / - 0.2					+ 0.5 / - 0.3				
2.0H	+ 0.2 / - 0.1					+ 0.3 / - 0.4				

CIE Pub.117 Corrected 26279 lm Total Lamp Luminous Flux.(8log(F/F0) = 11.4)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-15

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:219.8V I:0.9613A P:208.1W PF:0.9849 Lamp Flux:26278.9x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:

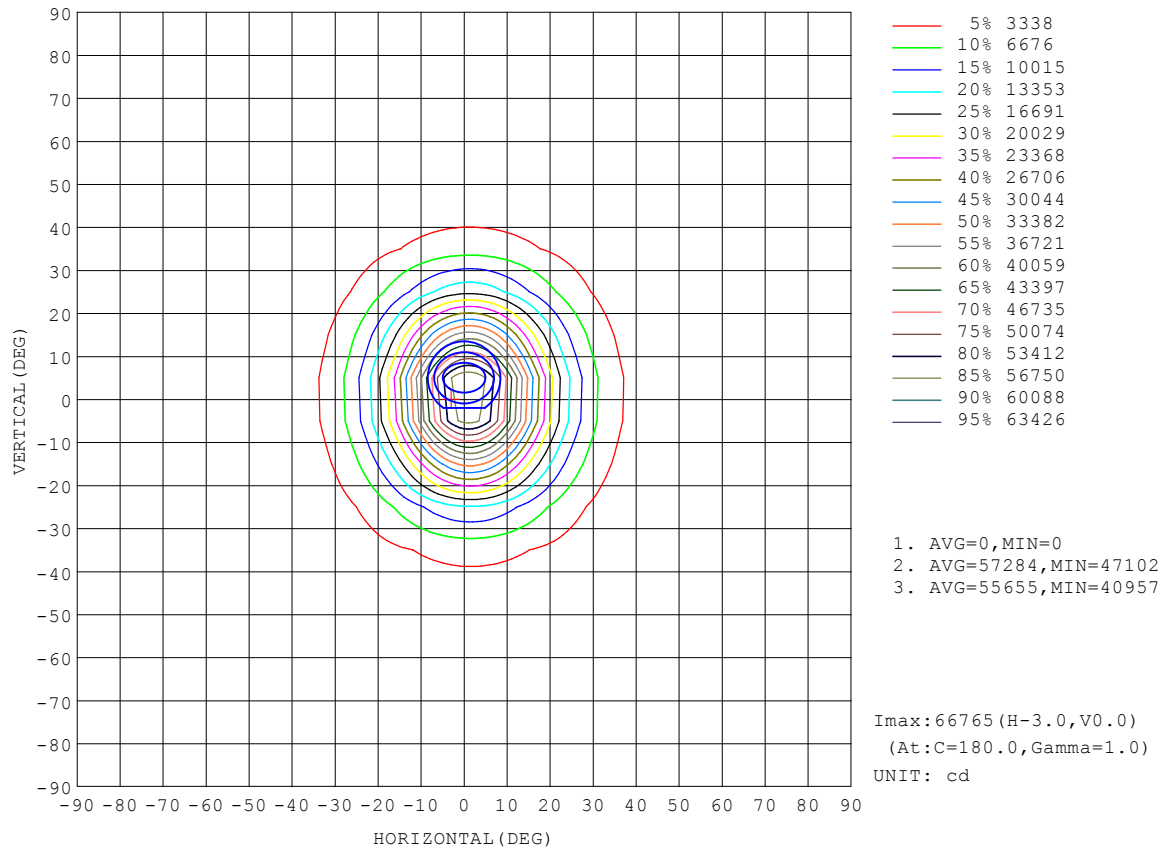
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	84	77	73	83	77	73	83	76	73	69
0.80	91	85	81	91	85	81	89	84	80	76
1.00	96	90	86	95	89	85	94	89	85	81
1.25	100	94	91	99	94	90	97	93	89	85
1.50	103	98	94	102	97	94	100	96	92	88
2.00	107	102	98	105	101	97	102	99	96	90
2.50	109	104	101	107	103	100	104	100	98	92
3.00	110	106	103	109	105	102	105	102	100	93
4.00	113	110	107	111	108	106	107	105	103	96
5.00	114	112	109	112	110	108	108	106	105	97
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:2017-02-15

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:219.8V I:0.9613A P:208.1W PF:0.9849 Lamp Flux:26278.9x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:

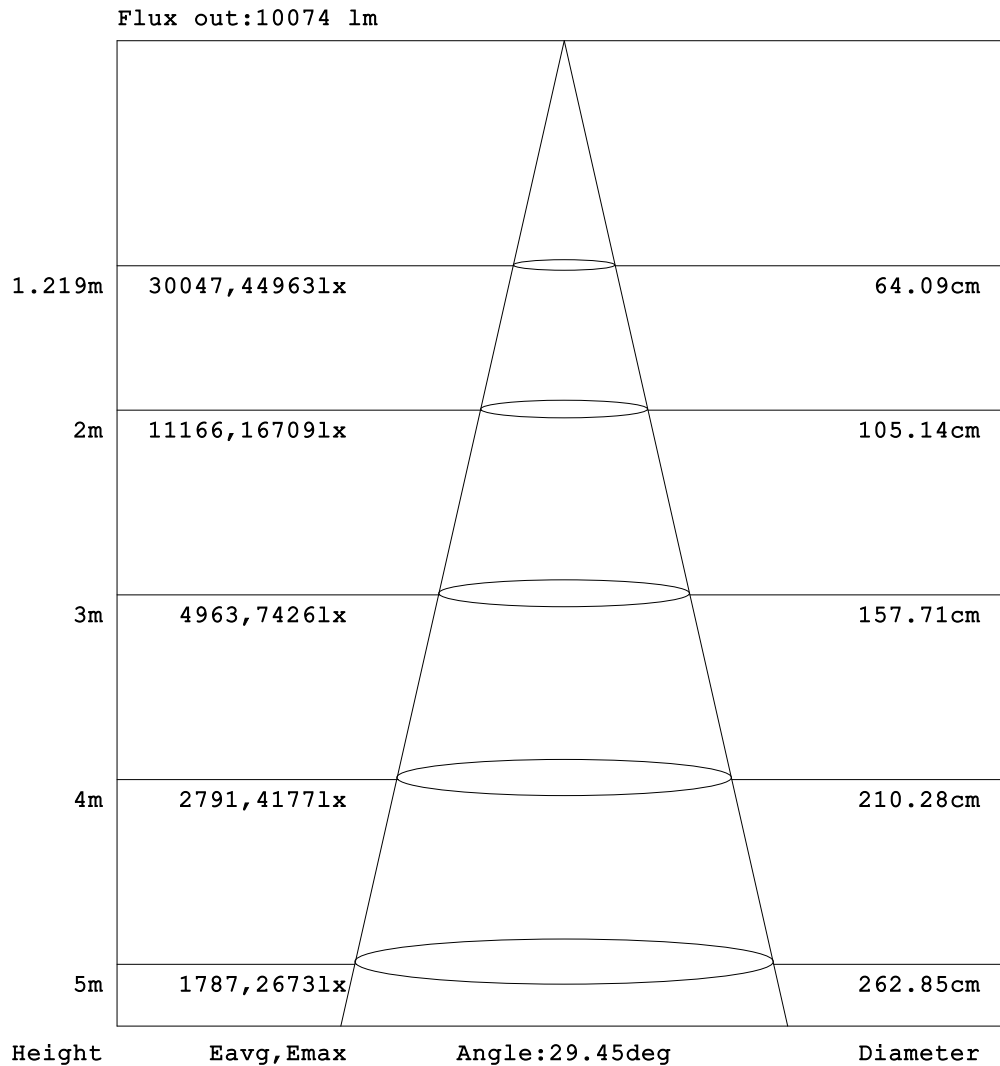


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-15

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:219.8V I:0.9613A P:208.1W PF:0.9849 Lamp Flux:26278.9x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:



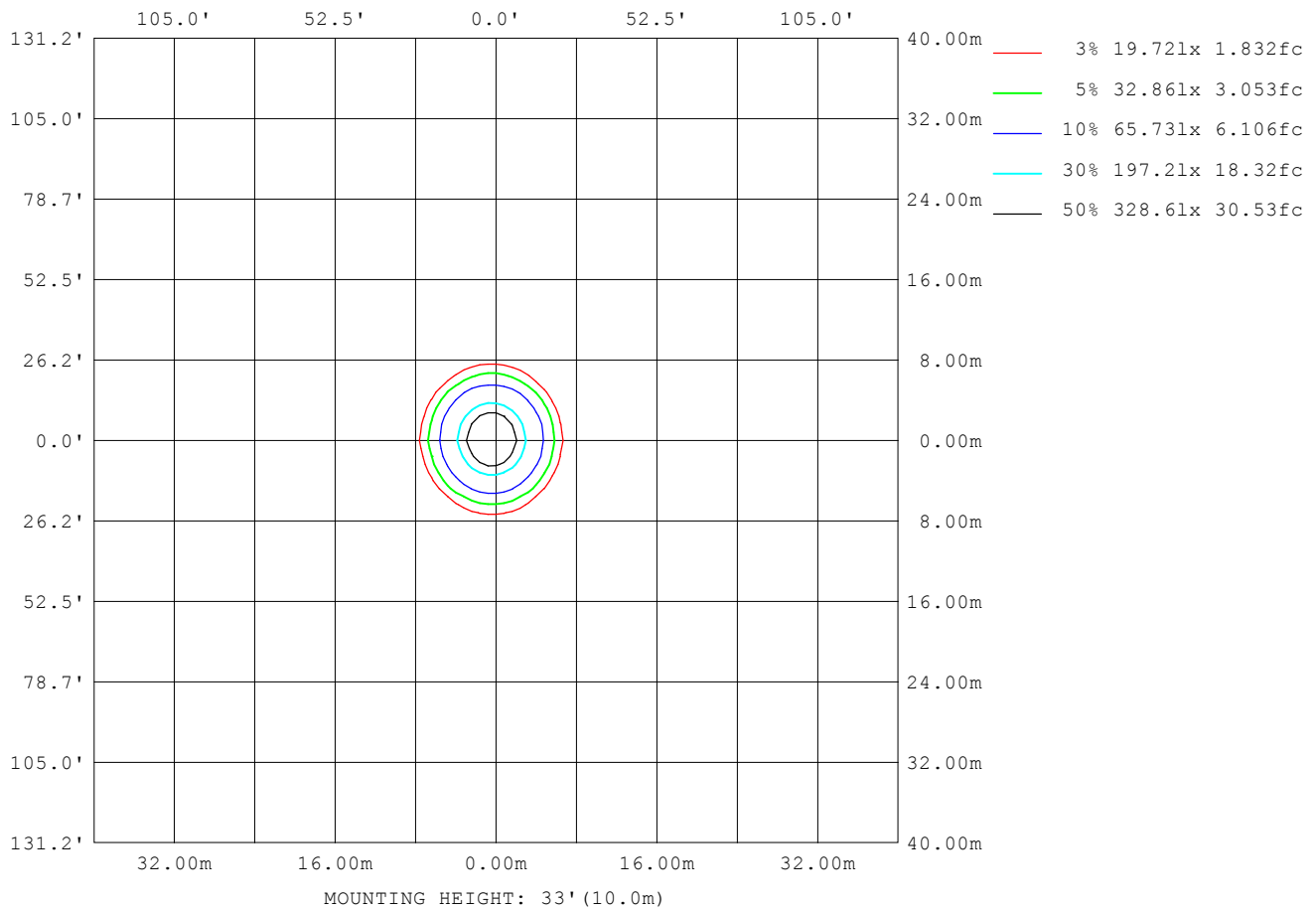
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2017-02-15

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:219.8V I:0.9613A P:208.1W PF:0.9849 Lamp Flux:26278.9x1 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:2017-02-15

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:219.8V I:0.9613A P:208.1W PF:0.9849 Lamp Flux:26278.9x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:

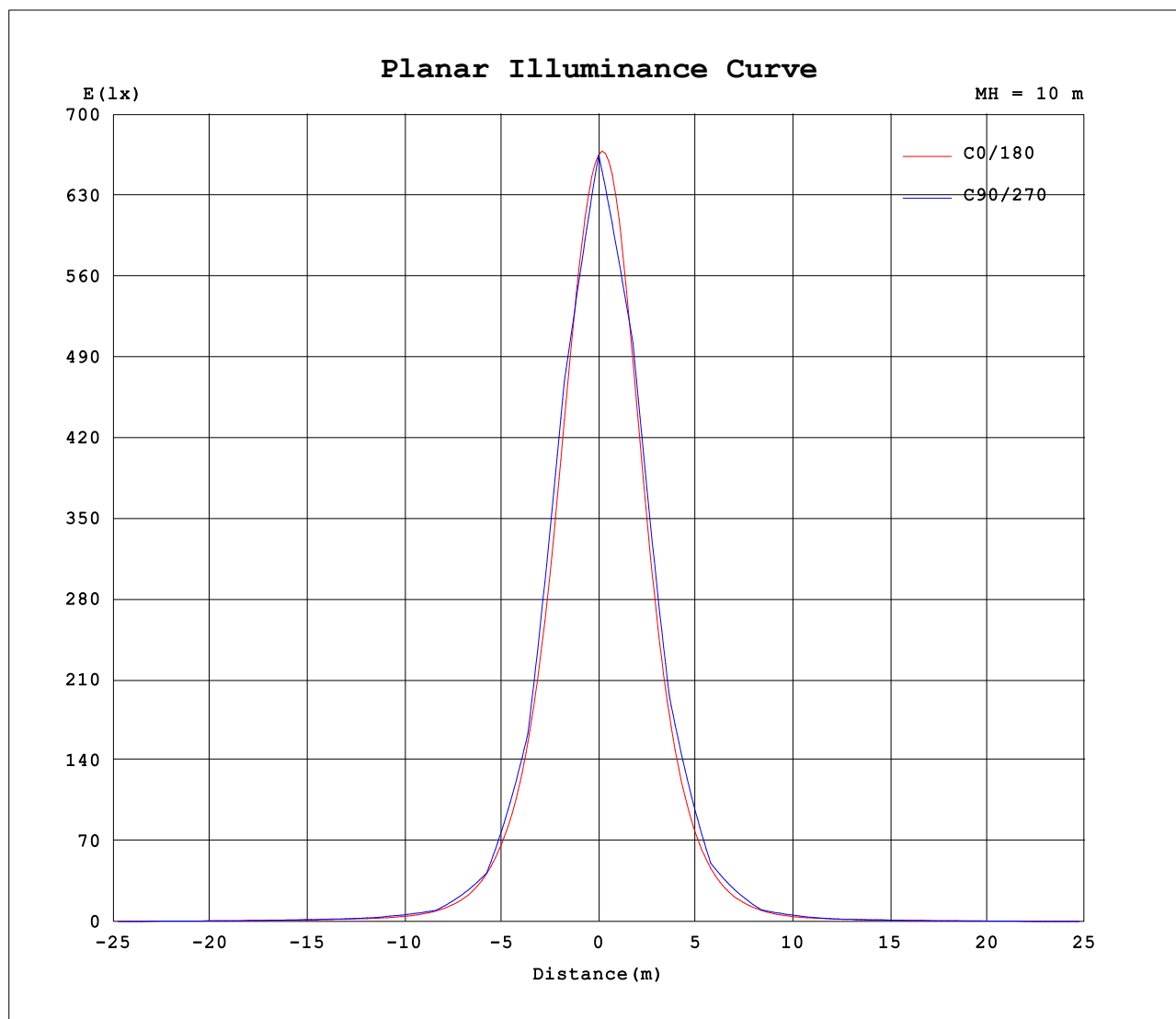
AvgL	cd/m2
L_0~180 (65) av	19108
L_0~180 (75) av	16570
L_0~180 (85) av	13267
L_90~270 (65) av	18358
L_90~270 (75) av	18300
L_90~270 (85) av	0
L_45 (65) av	17341
L_45 (75) av	17730
L_45 (85) av	9071

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-15

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: 2017-02-15

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:

```

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γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.351
Humidity:65.0%
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```

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

```