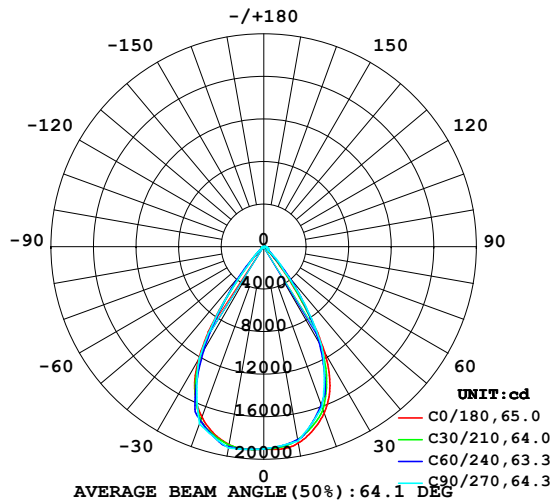


LUMINAIRE PHOTOMETRIC TEST REPORT

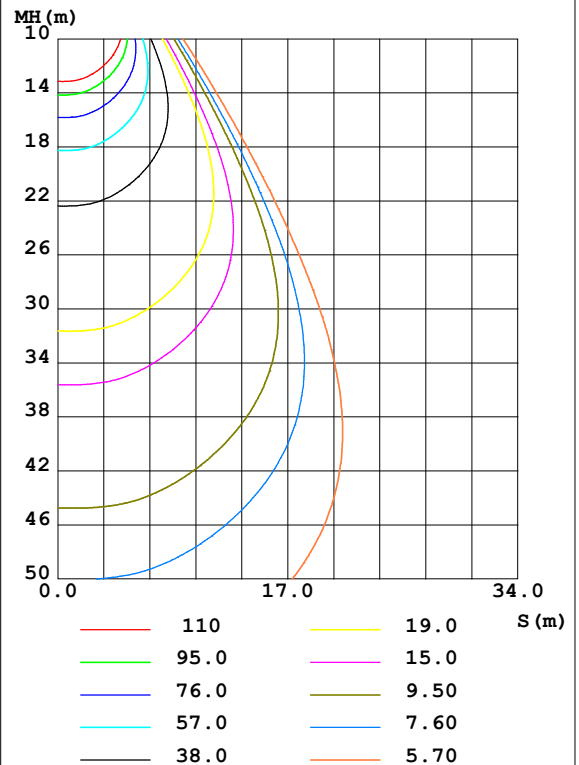
Test:U:220.0V I:0.6866A P:150.0W PF:0.9931 Lamp Flux:19411.5x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 129.42 lm/W			
MODEL	LHB-150W-6060	I _{max} (cd)	19213	S/MH (C0/180)	0.96
NOMINAL POWER (W)	150	LOR (%)	100.0	S/MH (C90/270)	0.95
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	19412	η UP, DN (C0-180)	0.0, 49.8
NOMINAL FLUX (lm)	19411.5	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 50.2
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE (V)	220	η down (%)	100.0	CIBSE SHR MAX	0.95

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: 2017-02-10

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	1910	1885	1879	1888	1911	1912	1912	1910	0- 5	454.7	454.7	2.34,2.34
10	1875	1838	1855	1849	1890	1900	1921	1891	5- 10	1352	1806	9.31,9.31
15	1789	1749	1729	1768	1818	1849	1846	1832	10- 15	2177	3983	20.5,20.5
20	1664	1587	1603	1616	1706	1723	1770	1695	15- 20	2853	6836	35.2,35.2
25	1473	1385	1350	1430	1531	1550	1493	1507	20- 25	3291	10127	52.2,52.2
30	1143	1067	1097	1120	1232	1192	1217	1135	25- 30	3296	13423	69.1,69.1
35	629.0	651.4	697.8	691.9	730.3	679.4	721.6	628.5	30- 35	2680	16103	83,83
40	244.4	291.4	298.2	297.1	273.7	251.8	226.6	235.7	35- 40	1563	17666	91,91
45	82.66	132.5	174.1	134.3	91.72	106.8	127.2	102.3	40- 45	686.3	18352	94.5,94.5
50	35.60	44.50	49.89	45.36	32.30	28.79	27.71	29.25	45- 50	285.8	18638	96,96
55	30.38	39.73	45.86	40.04	25.78	25.24	25.63	26.02	50- 55	153.2	18791	96.8,96.8
60	28.91	36.97	41.83	37.33	24.19	23.31	23.56	23.81	55- 60	141.7	18933	97.5,97.5
65	27.15	33.16	35.40	33.79	22.39	21.47	19.54	21.56	60- 65	138.4	19071	98.2,98.2
70	25.35	28.42	28.98	29.01	20.47	18.07	15.52	17.87	65- 70	126.3	19198	98.9,98.9
75	20.64	21.53	21.12	21.88	16.34	12.14	10.14	11.86	70- 75	103.6	19301	99.4,99.4
80	11.54	13.97	13.27	14.19	7.296	6.314	4.755	6.082	75- 80	70.32	19372	99.8,99.8
85	7.038	4.091	0	4.161	3.362	1.382	0	1.316	80- 85	34.41	19406	100,100
90	4.779	0	0	0	3.386	0	0	0	85- 90	5.622	19412	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): 18352 lm

%lum = 94.5%

%lamp = 94.5%

Conical surface Flux(120deg): 18933 lm

%lum = 97.5%

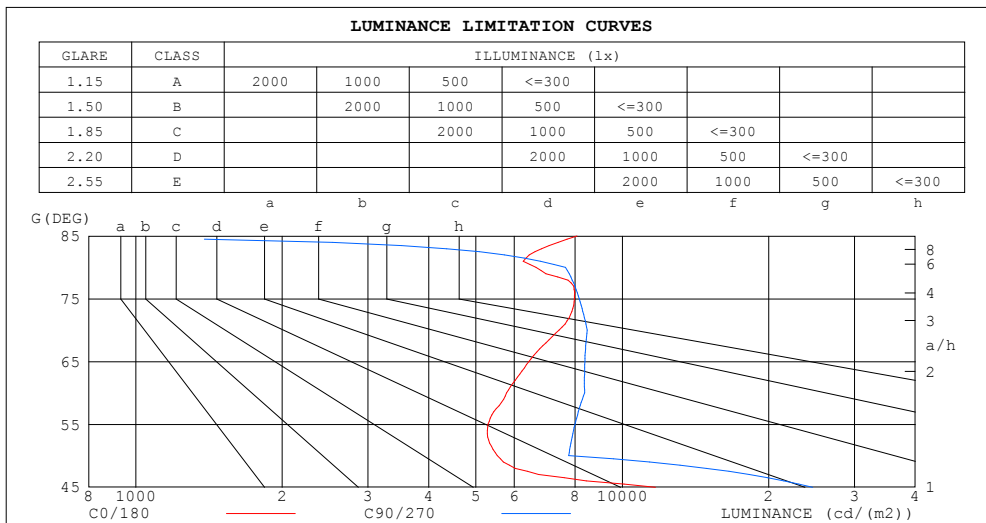
%lamp = 97.5%

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2017-02-10

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:220.0V I:0.6866A P:150.0W PF:0.9931 Lamp Flux:19411.5x1 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	8075	0
80	6646	7641
75	7974	8161
70	7411	8472
65	6425	8377
60	5783	8365
55	5296	7995
50	5538	7762
45	11690	24617

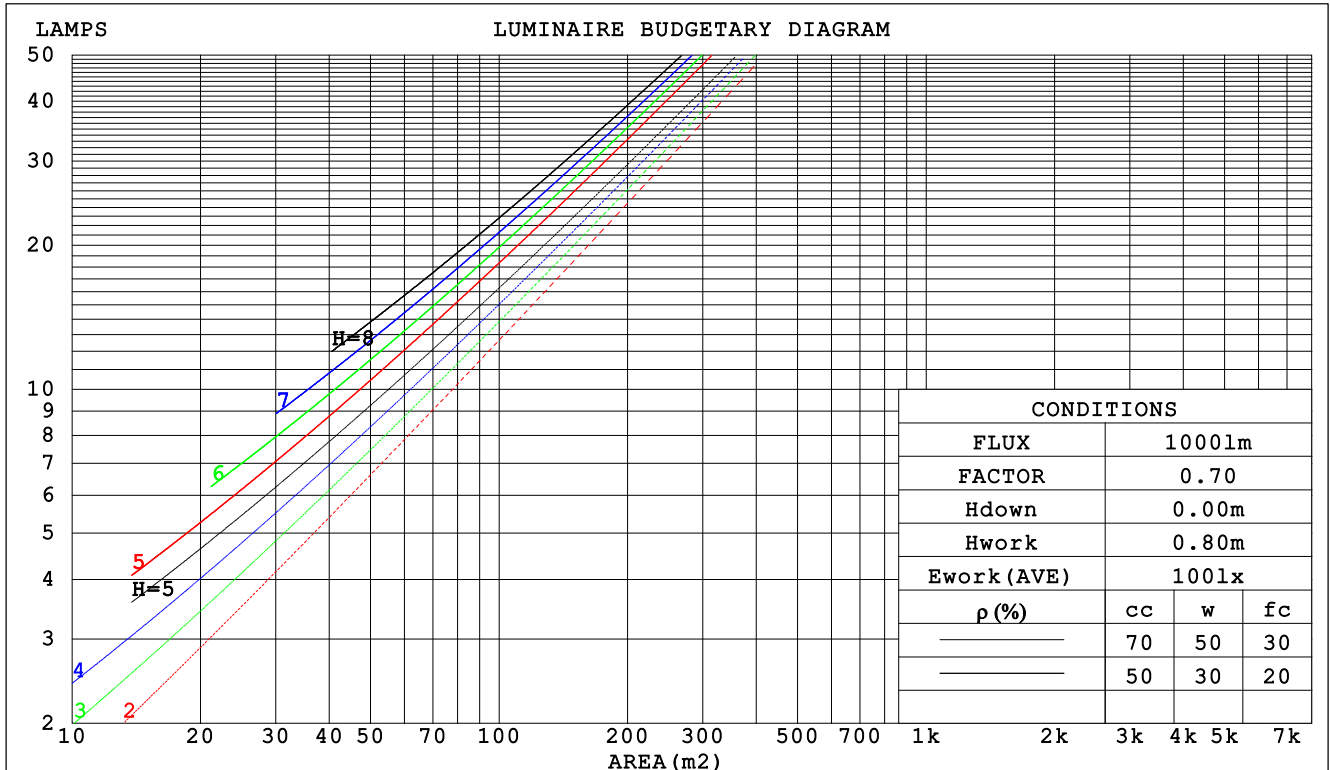
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-10

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 γ 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:220.0V I:0.6866A P:150.0W PF:0.9931 Lamp Flux:19411.5x1 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	1.00
1.0	1.10	1.08	1.05	1.08	1.06	1.04	1.04	1.02	1.00	1.00	.99	.97	.97	.96	.95	.93
2.0	1.02	.98	.94	1.00	.96	.93	.97	.94	.91	.94	.91	.89	.91	.89	.87	.86
3.0	.95	.90	.86	.93	.89	.85	.91	.87	.83	.88	.85	.82	.86	.83	.81	.79
4.0	.88	.83	.78	.87	.82	.78	.85	.80	.77	.83	.79	.76	.81	.78	.75	.73
5.0	.83	.76	.72	.82	.76	.72	.80	.75	.71	.78	.74	.70	.77	.73	.70	.68
6.0	.77	.71	.67	.76	.71	.66	.75	.70	.66	.74	.69	.66	.72	.68	.65	.64
7.0	.73	.66	.62	.72	.66	.62	.71	.65	.61	.69	.65	.61	.68	.64	.61	.59
8.0	.68	.62	.58	.68	.62	.58	.66	.61	.57	.65	.61	.57	.64	.60	.57	.56
9.0	.64	.58	.54	.64	.58	.54	.63	.57	.54	.62	.57	.54	.61	.57	.53	.52
10.0	.61	.55	.51	.60	.55	.51	.59	.54	.51	.59	.54	.50	.58	.53	.50	.49



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2017-02-10

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:220.0V I:0.6866A P:150.0W PF:0.9931 Lamp Flux:19411.5x1 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	.189	.107	.034	.182	.104	.033	.169	.097	.031	.158	.091	.029	.147	.085	.027		
2.0	.180	.099	.030	.174	.096	.030	.164	.091	.028	.154	.086	.027	.145	.082	.026		
3.0	.171	.091	.027	.166	.089	.027	.157	.085	.026	.148	.081	.025	.140	.078	.024		
4.0	.162	.084	.025	.158	.083	.024	.150	.079	.024	.143	.077	.023	.136	.074	.022		
5.0	.154	.078	.023	.150	.077	.022	.143	.075	.022	.137	.072	.021	.131	.070	.021		
6.0	.147	.073	.021	.143	.072	.021	.137	.070	.020	.132	.068	.020	.126	.066	.020		
7.0	.140	.069	.020	.137	.068	.019	.132	.067	.019	.127	.065	.019	.122	.063	.019		
8.0	.134	.065	.018	.131	.065	.018	.126	.063	.018	.122	.062	.018	.117	.060	.018		
9.0	.128	.062	.017	.126	.061	.017	.121	.060	.017	.117	.059	.017	.113	.058	.017		
10.0	.123	.059	.016	.121	.058	.016	.117	.057	.016	.113	.056	.016	.109	.055	.016		

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	.101	.093	.086	.058	.054	.050	.019	.017	.016	
2.0	.157	.132	.112	.135	.114	.096	.092	.079	.067	.053	.046	.039	.017	.015	.013	
3.0	.145	.114	.088	.125	.098	.077	.086	.068	.054	.049	.040	.032	.016	.013	.010	
4.0	.135	.099	.071	.116	.086	.062	.080	.060	.044	.046	.035	.026	.015	.011	.008	
5.0	.127	.088	.059	.109	.076	.051	.075	.053	.036	.043	.031	.021	.014	.010	.007	
6.0	.120	.078	.049	.103	.068	.042	.071	.047	.030	.041	.028	.018	.013	.009	.006	
7.0	.113	.071	.041	.097	.061	.036	.067	.043	.025	.039	.025	.015	.013	.008	.005	
8.0	.107	.065	.035	.093	.056	.031	.064	.039	.022	.037	.023	.013	.012	.008	.004	
9.0	.102	.060	.031	.088	.052	.027	.061	.036	.019	.036	.021	.011	.012	.007	.004	
10.0	.098	.055	.027	.084	.048	.023	.059	.034	.017	.034	.020	.010	.011	.007	.003	

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-10

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:220.0V I:0.6866A P:150.0W PF:0.9931 Lamp Flux:19411.5x1 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	18.8	19.8	19.0	20.0	20.1	19.6	20.6	19.9	20.8	21.0
3H	19.0	19.9	19.3	20.1	20.3	19.9	20.8	20.2	21.0	21.2
4H	19.2	20.1	19.5	20.3	20.5	20.1	21.0	20.4	21.2	21.4
6H	19.4	20.2	19.7	20.4	20.7	20.2	21.0	20.5	21.3	21.5
8H	19.4	20.2	19.7	20.4	20.7	20.3	21.0	20.6	21.3	21.6
12H	19.4	20.2	19.8	20.4	20.7	20.2	21.0	20.5	21.2	21.5
4H 2H	18.8	19.6	19.0	19.8	20.1	19.5	20.4	19.8	20.6	20.9
3H	19.1	19.9	19.4	20.1	20.4	20.0	20.8	20.3	21.0	21.3
4H	19.4	20.1	19.8	20.4	20.7	20.3	21.0	20.7	21.3	21.6
6H	19.7	20.3	20.1	20.6	21.0	20.6	21.2	21.0	21.5	21.9
8H	19.8	20.3	20.2	20.7	21.1	20.6	21.2	21.0	21.5	21.9
12H	19.9	20.4	20.3	20.8	21.1	20.6	21.1	21.0	21.5	21.9
8H 4H	19.5	20.1	19.9	20.4	20.8	20.4	20.9	20.8	21.3	21.7
6H	19.9	20.4	20.3	20.8	21.2	20.8	21.2	21.2	21.6	22.0
8H	20.1	20.5	20.5	20.9	21.4	20.9	21.3	21.3	21.7	22.1
12H	20.3	20.6	20.7	21.1	21.5	20.8	21.2	21.3	21.6	22.1
12H 4H	19.5	20.0	19.9	20.4	20.8	20.4	20.9	20.8	21.2	21.6
6H	20.0	20.4	20.4	20.8	21.2	20.8	21.2	21.2	21.6	22.1
8H	20.2	20.5	20.6	21.0	21.4	20.9	21.3	21.4	21.7	22.2
Variations with the observer position at spacings:										
S = 1.0H	+ 1.8 / - 1.8					+ 1.8 / - 2.2				
1.5H	+ 3.7 / - 1.8					+ 3.6 / - 2.4				
2.0H	+ 0.8 / - 0.3					+ 2.6 / - 0.7				

CIE Pub.117 Corrected 19412 lm Total Lamp Luminous Flux.(8log(F/F0) = 10.3)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-10

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:220.0V I:0.6866A P:150.0W PF:0.9931 Lamp Flux:19411.5x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:

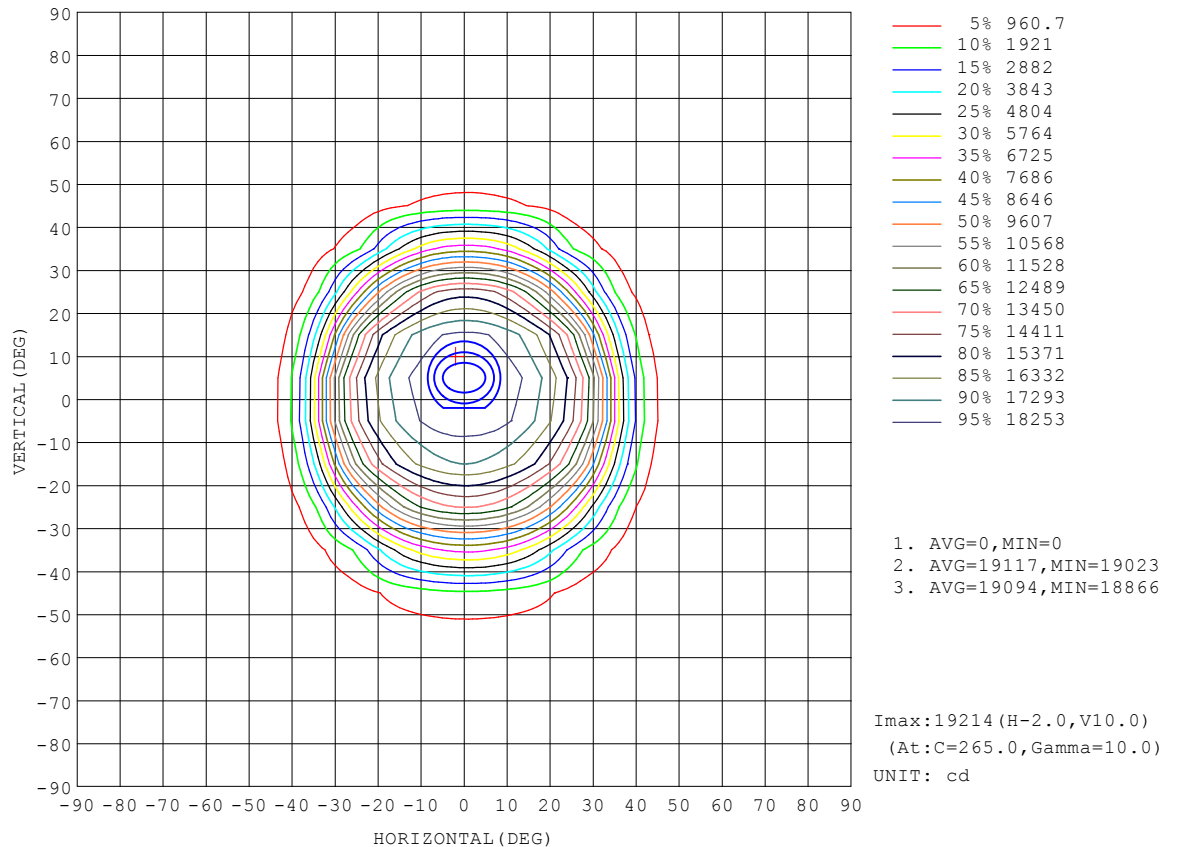
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	86	79	76	86	79	75	85	79	75	72
0.80	94	87	84	93	87	83	92	86	83	79
1.00	98	92	88	97	92	88	96	92	88	84
1.25	102	97	93	101	96	93	99	95	92	88
1.50	105	100	96	104	99	96	101	98	95	90
2.00	108	103	100	106	102	99	104	100	98	92
2.50	110	106	102	108	104	102	105	102	100	94
3.00	111	108	105	109	106	104	106	104	101	95
4.00	113	110	108	111	109	107	108	106	104	97
5.00	115	112	110	113	110	109	109	107	106	98
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:2017-02-10

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:220.0V I:0.6866A P:150.0W PF:0.9931 Lamp Flux:19411.5x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:

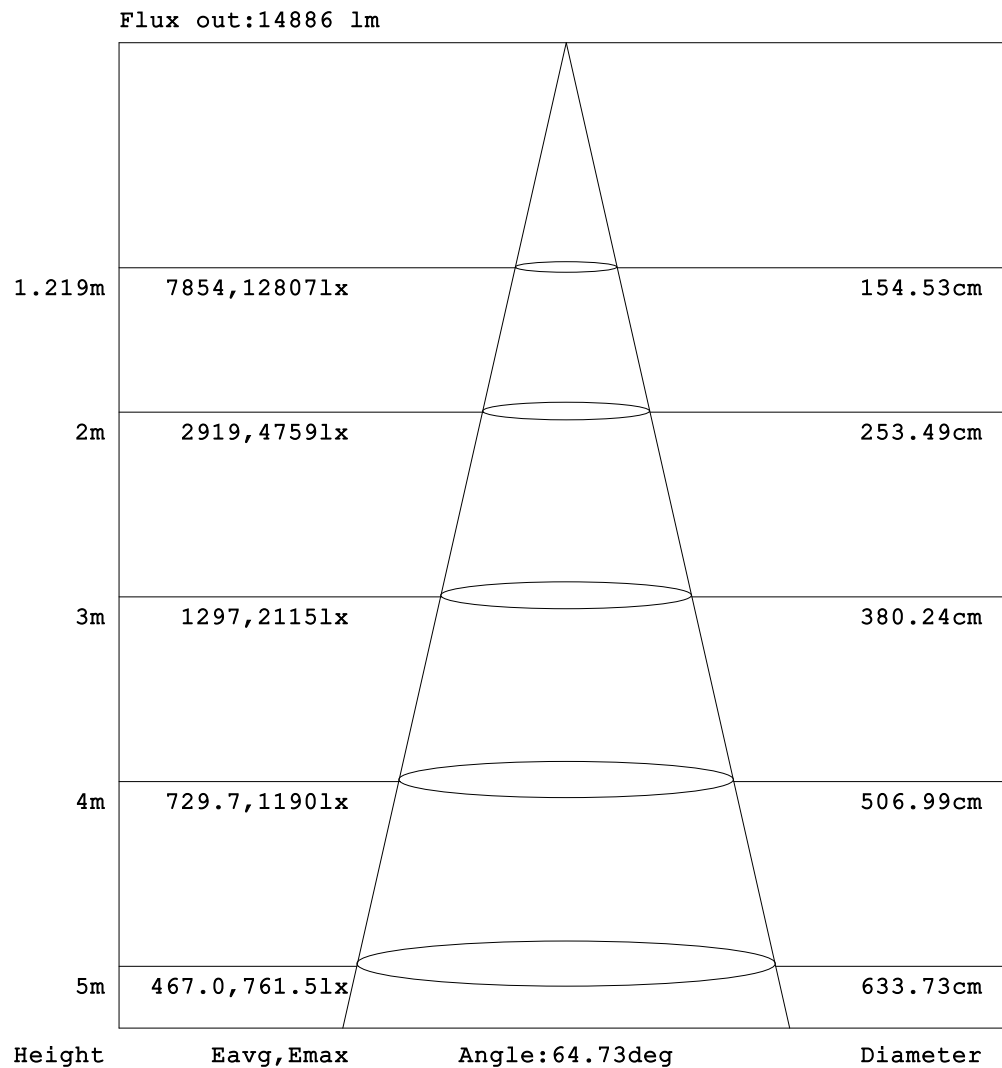


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-10

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:220.0V I:0.6866A P:150.0W PF:0.9931 Lamp Flux:19411.5x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:



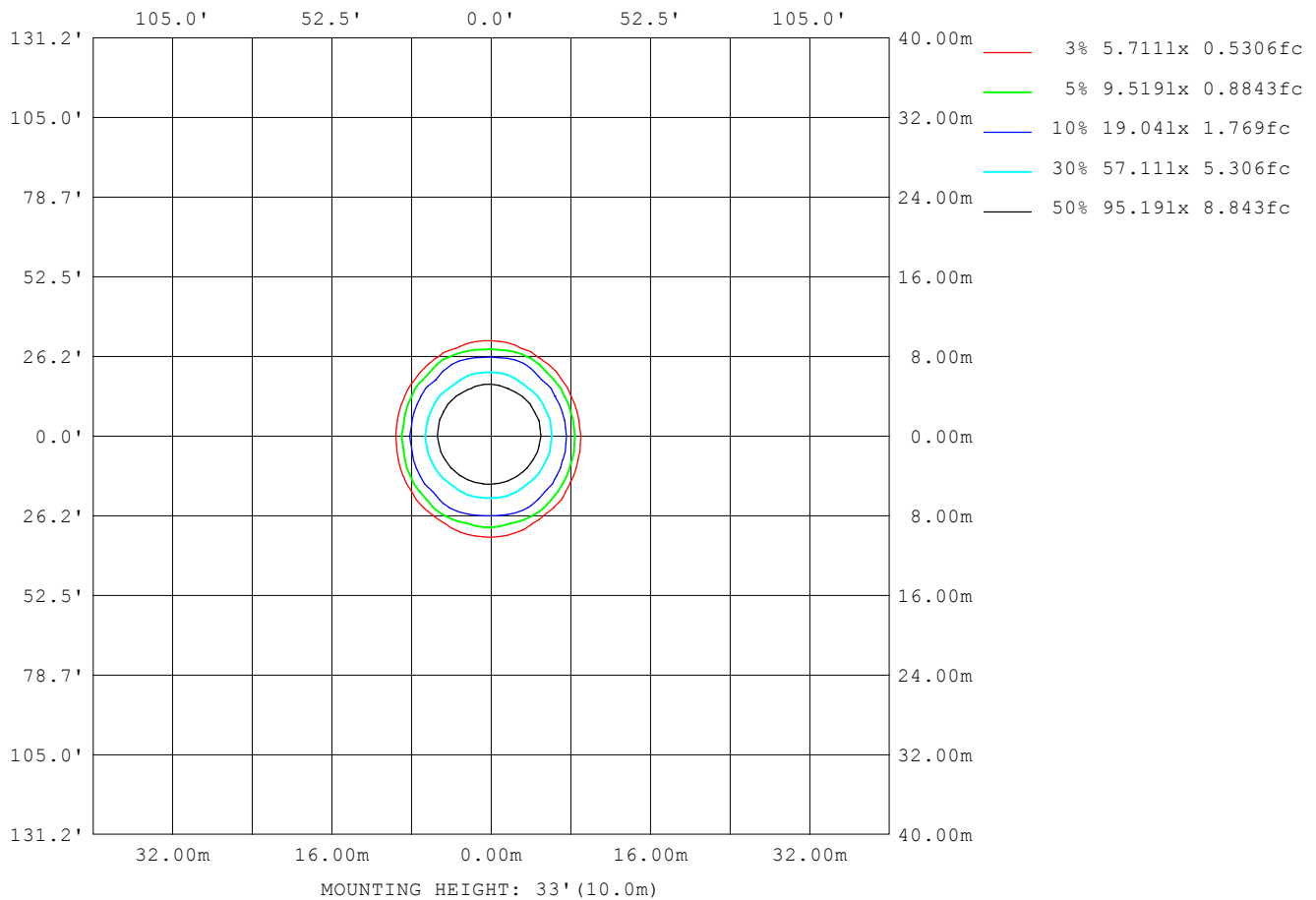
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2017-02-10

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:220.0V I:0.6866A P:150.0W PF:0.9931 Lamp Flux:19411.5x1 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:2017-02-10

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:220.0V I:0.6866A P:150.0W PF:0.9931 Lamp Flux:19411.5x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:

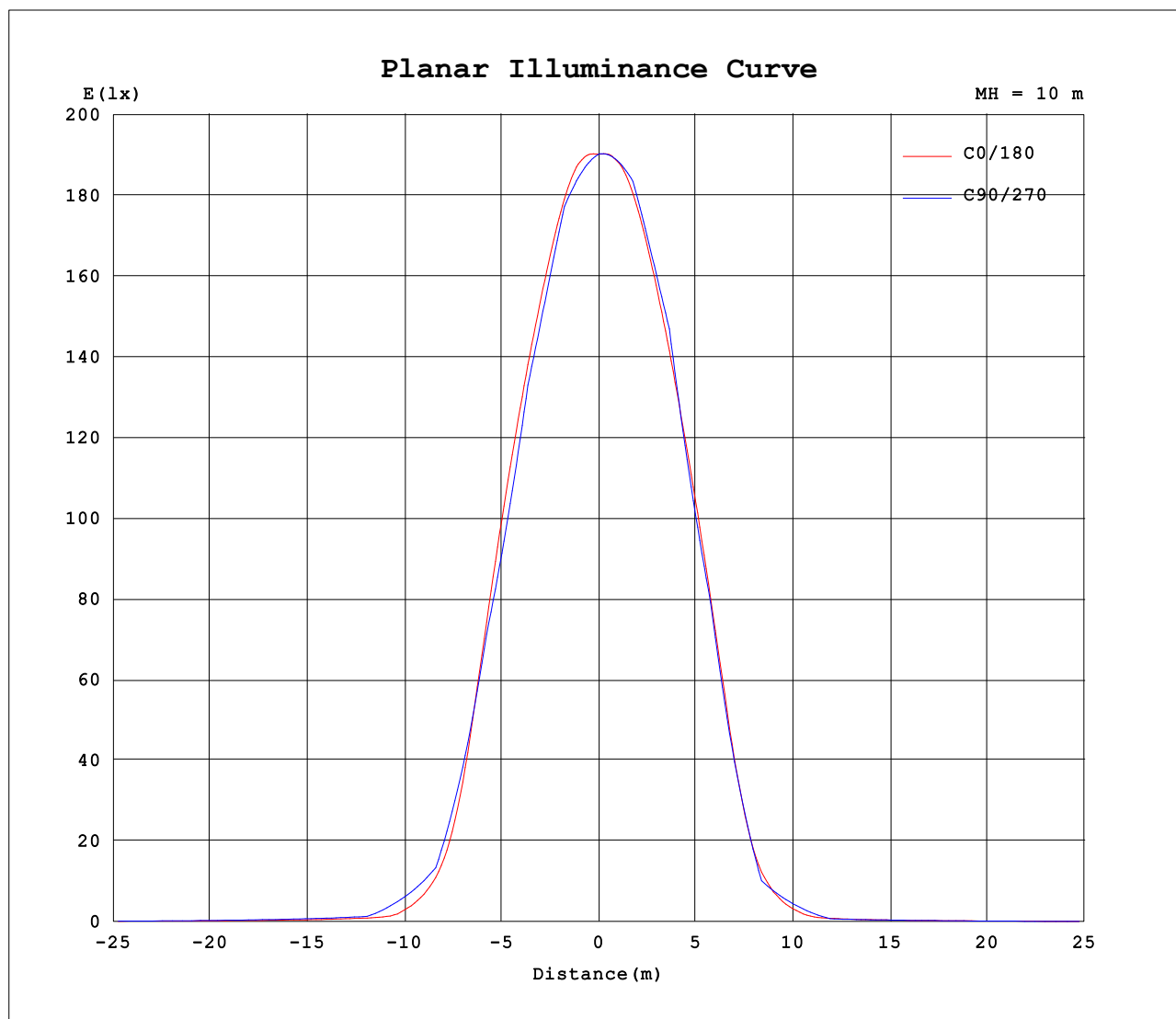
AvgL	cd/m2
L_0~180 (65) av	5862
L_0~180 (75) av	7143
L_0~180 (85) av	5966
L_90~270 (65) av	6500
L_90~270 (75) av	6039
L_90~270 (85) av	0
L_45 (65) av	6506
L_45 (75) av	6512
L_45 (85) av	3141

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-10

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.351
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Remarks:

Planar Illuminance Curve



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C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2017-02-10

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