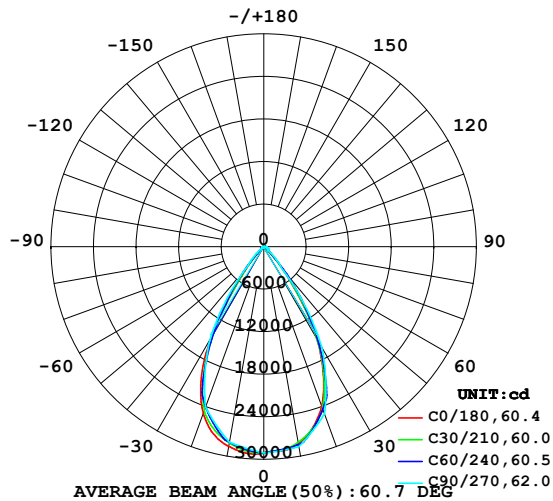


LUMINAIRE PHOTOMETRIC TEST REPORT

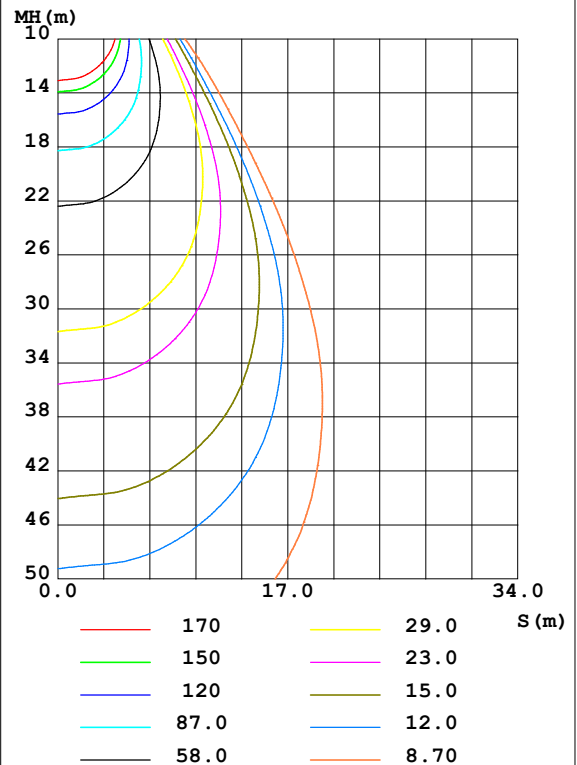
Test:U:220.0V I:0.9594A P:207.7W PF:0.9844 Lamp Flux:27321x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 131.23 lm/W			
MODEL	LHB-200W-6060	I _{max} (cd)	29291	S/MH(C0/180)	0.88
NOMINAL POWER(W)	200	LOR(%)	99.8	S/MH(C90/270)	0.91
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	27262	η UP,DN(C0-180)	0.0,51.2
NOMINAL FLUX(lm)	27321	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,48.6
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	220	η down(%)	99.8	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:2017-02-14

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	2892	2873	2886	2902	2922	2881	2855	2850	0- 5	691.4	691.4	2.54, 2.53
10	2820	2815	2863	2844	2859	2802	2800	2769	5- 10	2039	2730	10, 9.99
15	2651	2681	2685	2732	2737	2672	2603	2616	10- 15	3252	5982	21.9, 21.9
20	2390	2408	2506	2473	2499	2405	2406	2332	15- 20	4192	10174	37.3, 37.2
25	1993	2056	2072	2130	2098	2054	1964	1976	20- 25	4689	14863	54.5, 54.4
30	1502	1536	1638	1542	1483	1473	1523	1464	25- 30	4472	19335	70.9, 70.8
35	894.0	923.8	1014	838.7	732.4	800.4	936.6	872.9	30- 35	3462	22797	83.6, 83.4
40	411.0	427.0	390.1	350.5	316.7	329.6	350.6	400.8	35- 40	2039	24836	91.1, 90.9
45	125.1	199.6	233.2	161.5	66.50	134.5	196.4	174.8	40- 45	923.1	25760	94.5, 94.3
50	47.81	64.22	76.26	61.96	38.66	38.77	42.25	40.70	45- 50	373.7	26133	95.9, 95.7
55	41.19	57.08	69.29	56.63	35.33	35.82	38.09	36.17	50- 55	214.6	26348	96.6, 96.4
60	41.02	52.84	62.32	53.57	35.86	34.15	33.93	33.51	55- 60	204.7	26553	97.4, 97.2
65	40.96	48.92	55.61	49.15	34.60	31.43	31.47	31.01	60- 65	203.3	26756	98.1, 97.9
70	31.25	42.19	48.89	41.71	25.46	25.97	29.02	25.87	65- 70	186.9	26943	98.8, 98.6
75	26.92	32.80	35.50	31.18	18.76	18.04	19.02	18.36	70- 75	153.3	27096	99.4, 99.2
80	15.72	21.98	22.12	20.59	8.895	10.09	9.028	10.55	75- 80	106.3	27202	99.8, 99.6
85	9.673	6.343	0	5.817	3.718	2.119	0	2.358	80- 85	52.36	27255	100, 99.8
90	6.795	0	0	0	4.686	0	0	0	85- 90	7.498	27262	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:×10cd									UNIT:lm		

Conical surface Flux(90deg): 25760 lm

%lum = 94.5%

%lamp = 94.3%

Conical surface Flux(120deg): 26553 lm

%lum = 97.4%

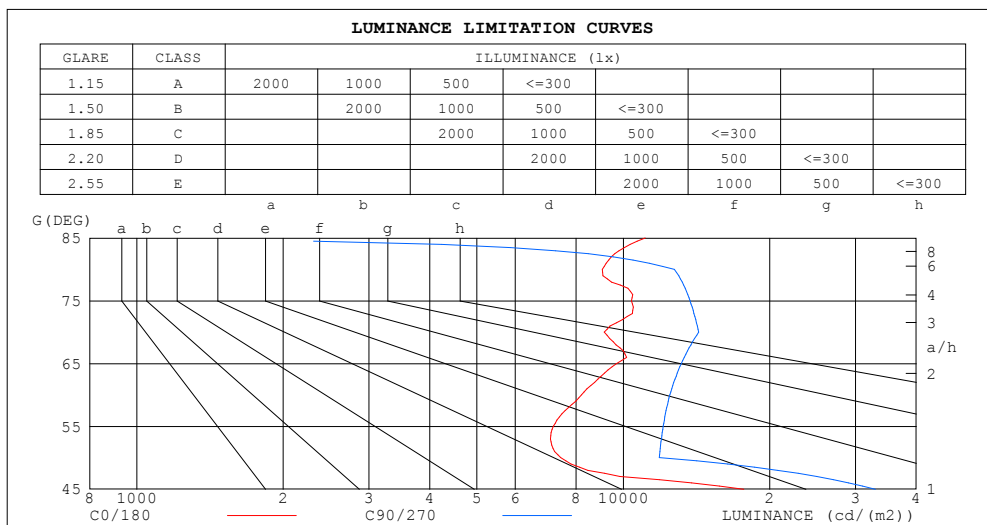
%lamp = 97.2%

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2017-02-14

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:0.9594A P:207.7W PF:0.9844 Lamp Flux:27321x1 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	11099	0
80	9050	12739
75	10401	13718
70	9137	14294
65	9691	13157
60	8205	12464
55	7182	12081
50	7438	11864
45	17696	32980

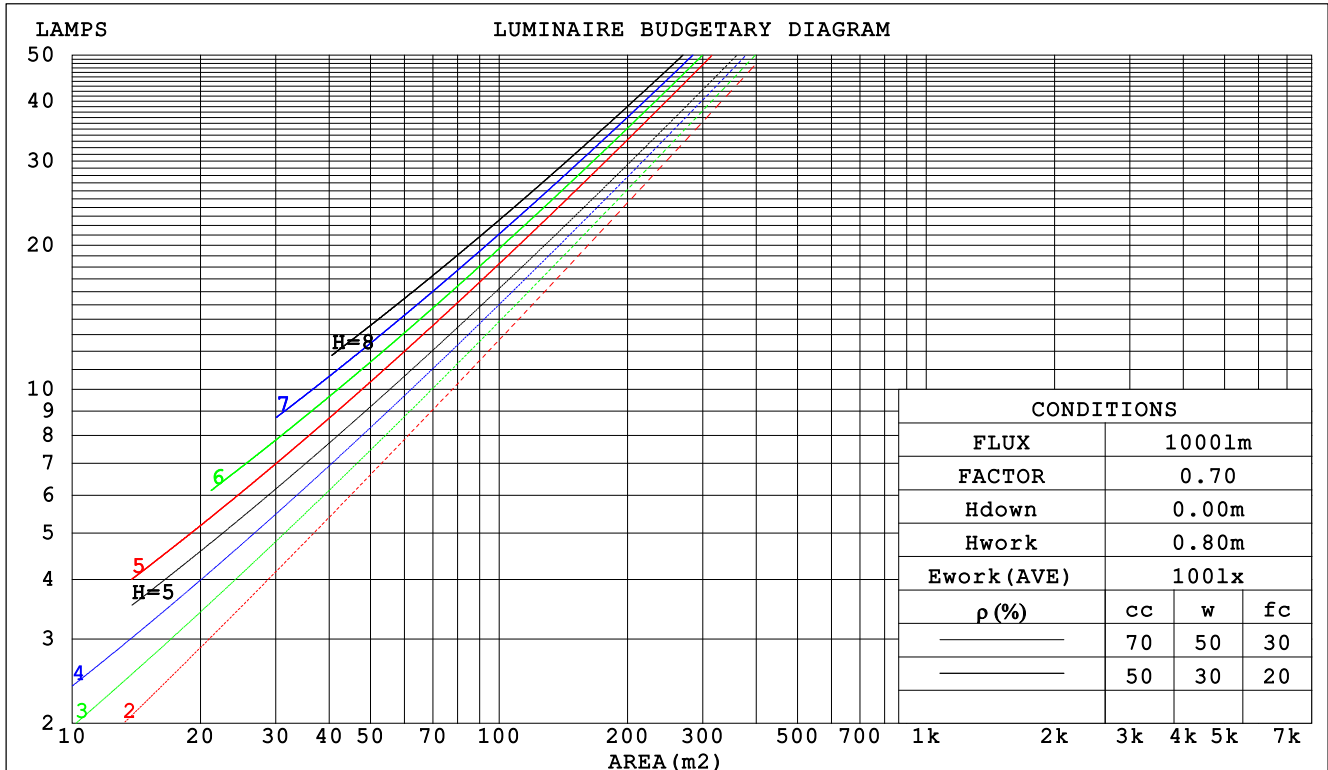
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-14

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:0.9594A P:207.7W PF:0.9844 Lamp Flux:27321x1 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	1.10	1.07	1.05	1.08	1.06	1.03	1.04	1.02	1.00	1.00	.99	.97	.97	.95	.94	.93
2.0	1.02	.98	.94	1.00	.96	.93	.97	.94	.91	.94	.92	.89	.91	.89	.87	.86
3.0	.95	.90	.86	.94	.89	.85	.91	.87	.84	.88	.85	.82	.86	.83	.81	.79
4.0	.89	.83	.79	.87	.82	.78	.85	.81	.77	.83	.79	.76	.81	.78	.75	.74
5.0	.83	.77	.72	.82	.76	.72	.80	.75	.72	.78	.74	.71	.77	.73	.70	.69
6.0	.78	.72	.67	.77	.71	.67	.75	.70	.67	.74	.69	.66	.73	.69	.66	.64
7.0	.73	.67	.63	.72	.67	.62	.71	.66	.62	.70	.65	.62	.69	.65	.61	.60
8.0	.69	.63	.59	.68	.62	.58	.67	.62	.58	.66	.61	.58	.65	.61	.58	.56
9.0	.65	.59	.55	.64	.59	.55	.63	.58	.55	.63	.58	.54	.62	.57	.54	.53
10.0	.61	.56	.52	.61	.55	.52	.60	.55	.51	.59	.55	.51	.59	.54	.51	.50



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2017-02-14

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:0.9594A P:207.7W PF:0.9844 Lamp Flux:27321x1 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	.187	.106	.034	.180	.103	.033	.168	.096	.031	.156	.090	.029	.145	.084	.027		
2.0	.178	.098	.030	.172	.095	.029	.162	.090	.028	.152	.085	.027	.143	.081	.025		
3.0	.169	.090	.027	.164	.088	.026	.155	.084	.025	.146	.080	.025	.138	.077	.024		
4.0	.160	.083	.024	.156	.081	.024	.148	.078	.023	.140	.075	.023	.134	.073	.022		
5.0	.152	.077	.022	.148	.076	.022	.141	.074	.022	.135	.071	.021	.129	.069	.021		
6.0	.144	.072	.021	.141	.071	.021	.135	.069	.020	.130	.067	.020	.124	.065	.019		
7.0	.138	.068	.019	.135	.067	.019	.130	.065	.019	.124	.064	.019	.120	.062	.018		
8.0	.132	.064	.018	.129	.064	.018	.124	.062	.018	.120	.061	.017	.116	.059	.017		
9.0	.126	.061	.017	.124	.060	.017	.119	.059	.017	.115	.058	.017	.111	.057	.016		
10.0	.121	.058	.016	.119	.057	.016	.115	.056	.016	.111	.055	.016	.108	.054	.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	.162	.162	.162	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.171	.157	.144	.147	.135	.124	.100	.093	.086	.058	.054	.050	.019	.017	.016	
2.0	.157	.132	.111	.134	.114	.096	.092	.079	.067	.053	.046	.039	.017	.015	.013	
3.0	.145	.113	.088	.124	.098	.077	.085	.068	.054	.049	.040	.032	.016	.013	.010	
4.0	.135	.099	.071	.116	.085	.062	.079	.059	.044	.046	.035	.026	.015	.011	.008	
5.0	.126	.087	.059	.108	.076	.051	.075	.053	.036	.043	.031	.021	.014	.010	.007	
6.0	.119	.078	.049	.102	.068	.043	.070	.047	.030	.041	.028	.018	.013	.009	.006	
7.0	.112	.071	.041	.097	.061	.036	.067	.043	.026	.039	.025	.015	.013	.008	.005	
8.0	.107	.064	.035	.092	.056	.031	.063	.039	.022	.037	.023	.013	.012	.008	.004	
9.0	.101	.059	.031	.087	.051	.027	.061	.036	.019	.035	.021	.011	.011	.007	.004	
10.0	.097	.055	.027	.083	.048	.024	.058	.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:2017-02-14

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:0.9594A P:207.7W PF:0.9844 Lamp Flux:27321x1 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	21.1	20.3	21.2	21.4	21.0	22.0	21.2	22.2	22.3
3H	20.3	21.2	20.5	21.4	21.6	21.4	22.3	21.6	22.5	22.7
4H	20.4	21.2	20.7	21.5	21.7	21.6	22.5	21.9	22.7	22.9
6H	20.5	21.3	20.8	21.5	21.8	21.9	22.7	22.2	22.9	23.2
8H	20.5	21.3	20.8	21.5	21.8	21.9	22.7	22.2	22.9	23.2
12H	20.5	21.3	20.9	21.5	21.8	21.9	22.6	22.2	22.9	23.2
4H 2H	20.1	20.9	20.3	21.1	21.4	20.9	21.8	21.2	22.0	22.2
3H	20.4	21.2	20.8	21.4	21.7	21.5	22.2	21.8	22.5	22.8
4H	20.7	21.4	21.0	21.7	22.0	21.9	22.5	22.2	22.8	23.1
6H	20.9	21.5	21.3	21.8	22.2	22.2	22.8	22.6	23.2	23.5
8H	21.0	21.5	21.4	21.9	22.3	22.3	22.9	22.7	23.2	23.6
12H	21.1	21.6	21.5	21.9	22.3	22.3	22.8	22.7	23.2	23.6
8H 4H	20.9	21.4	21.3	21.8	22.1	21.9	22.5	22.3	22.8	23.2
6H	21.2	21.7	21.7	22.1	22.5	22.4	22.9	22.9	23.3	23.7
8H	21.4	21.8	21.9	22.2	22.7	22.6	23.0	23.0	23.4	23.8
12H	21.6	21.9	22.1	22.4	22.8	22.5	22.9	23.0	23.3	23.8
12H 4H	20.9	21.4	21.3	21.7	22.1	21.9	22.4	22.3	22.8	23.2
6H	21.3	21.7	21.7	22.1	22.6	22.4	22.8	22.9	23.3	23.7
8H	21.5	21.9	22.0	22.3	22.8	22.6	22.9	23.1	23.4	23.8
Variations with the observer position at spacings:										
S = 1.0H	+ 1.8 / - 2.0					+ 1.7 / - 1.9				
1.5H	+ 3.8 / - 2.0					+ 3.4 / - 2.0				
2.0H	+ 1.0 / - 0.2					+ 2.0 / - 0.6				

CIE Pub.117 Corrected 27321 lm Total Lamp Luminous Flux.(8log(F/F0) = 11.5)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-14

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:0.9594A P:207.7W PF:0.9844 Lamp Flux:27321x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:

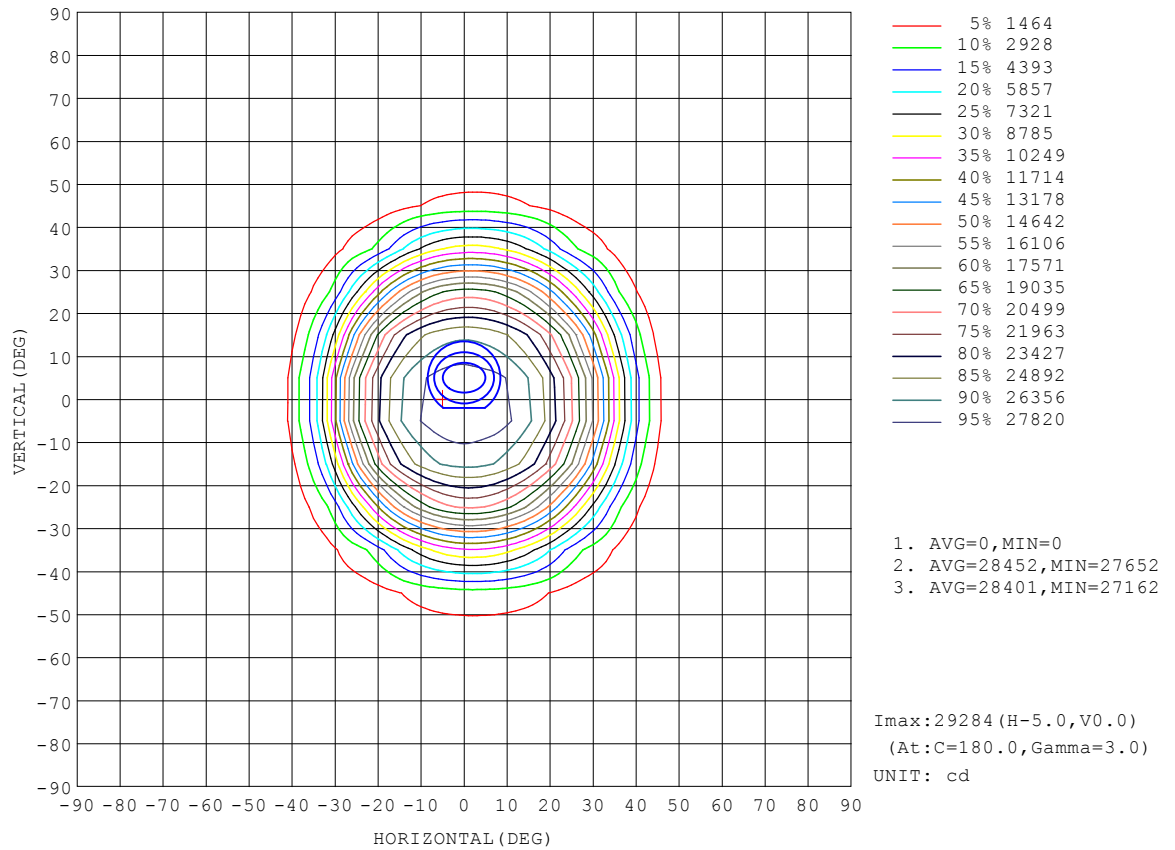
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	86	79	75	85	79	75	85	79	75	72
0.80	93	87	83	93	87	83	91	86	83	79
1.00	98	92	88	97	92	88	95	92	87	83
1.25	102	97	93	101	96	92	99	95	92	87
1.50	105	100	96	103	99	96	101	98	95	90
2.00	108	103	100	106	102	99	103	100	98	92
2.50	109	105	102	108	104	101	105	102	99	93
3.00	111	107	105	109	106	103	106	103	101	95
4.00	113	110	108	111	109	106	107	105	104	97
5.00	114	112	110	112	110	109	108	107	105	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:2017-02-14

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:0.9594A P:207.7W PF:0.9844 Lamp Flux:27321x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:

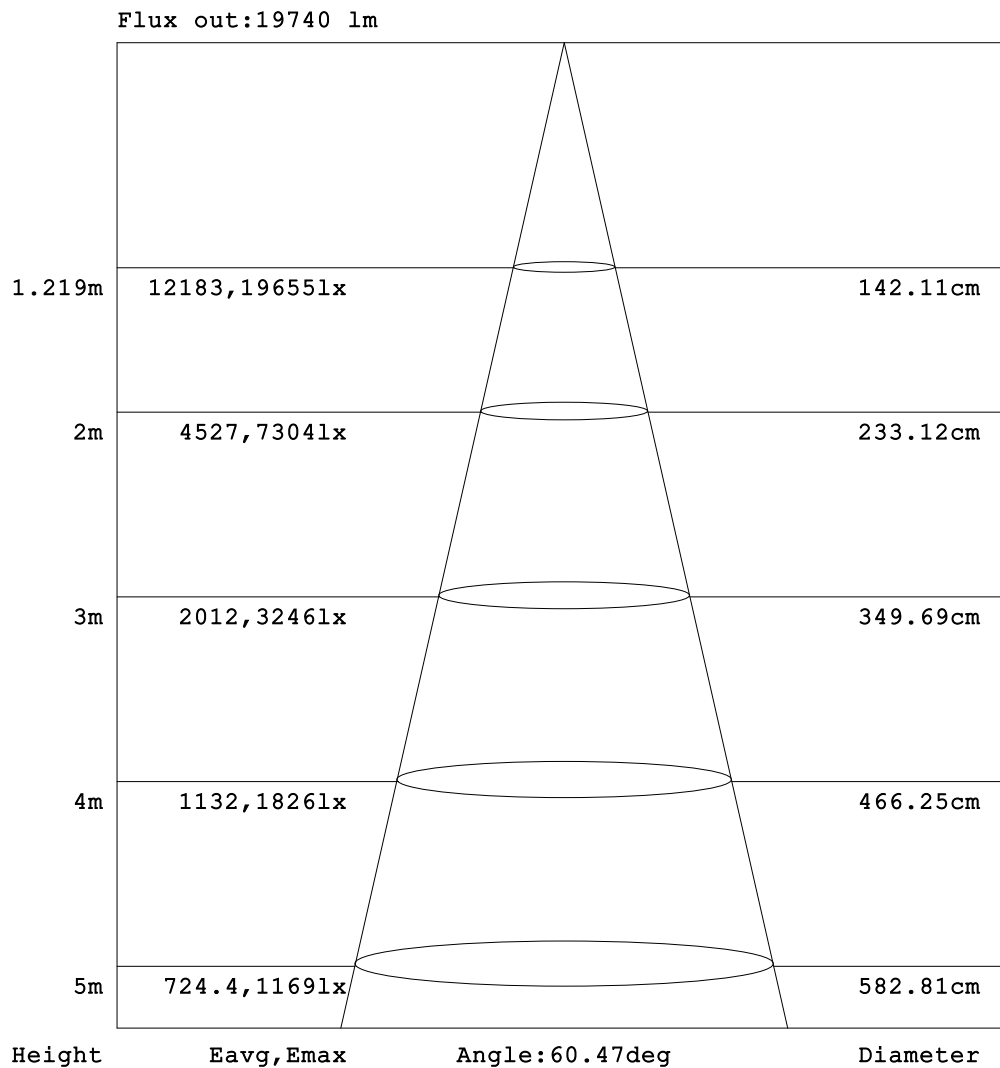


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-14

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:0.9594A P:207.7W PF:0.9844 Lamp Flux:27321x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:



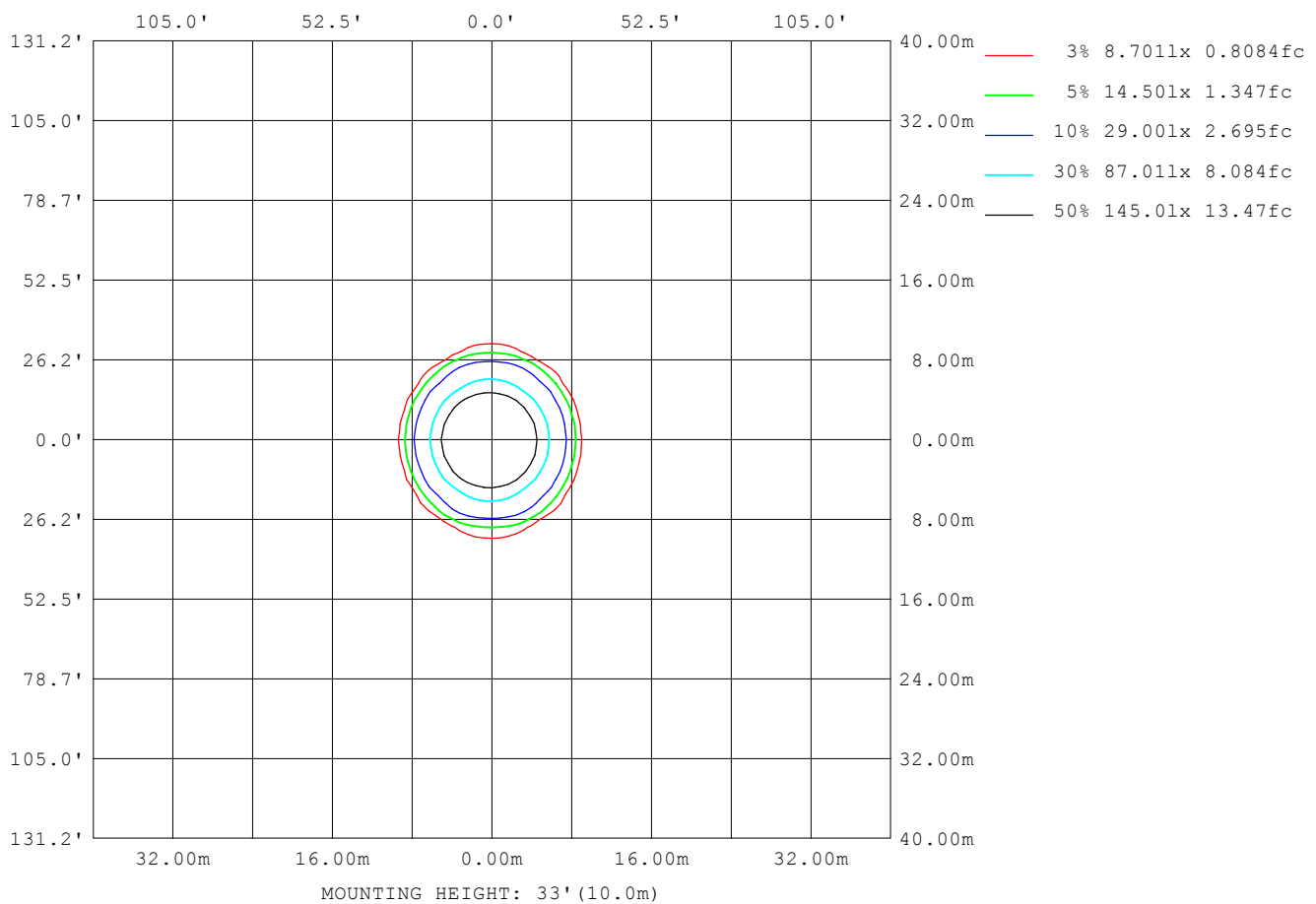
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2017-02-14

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:0.9594A P:207.7W PF:0.9844 Lamp Flux:27321x1 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:2017-02-14

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:0.9594A P:207.7W PF:0.9844 Lamp Flux:27321x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:

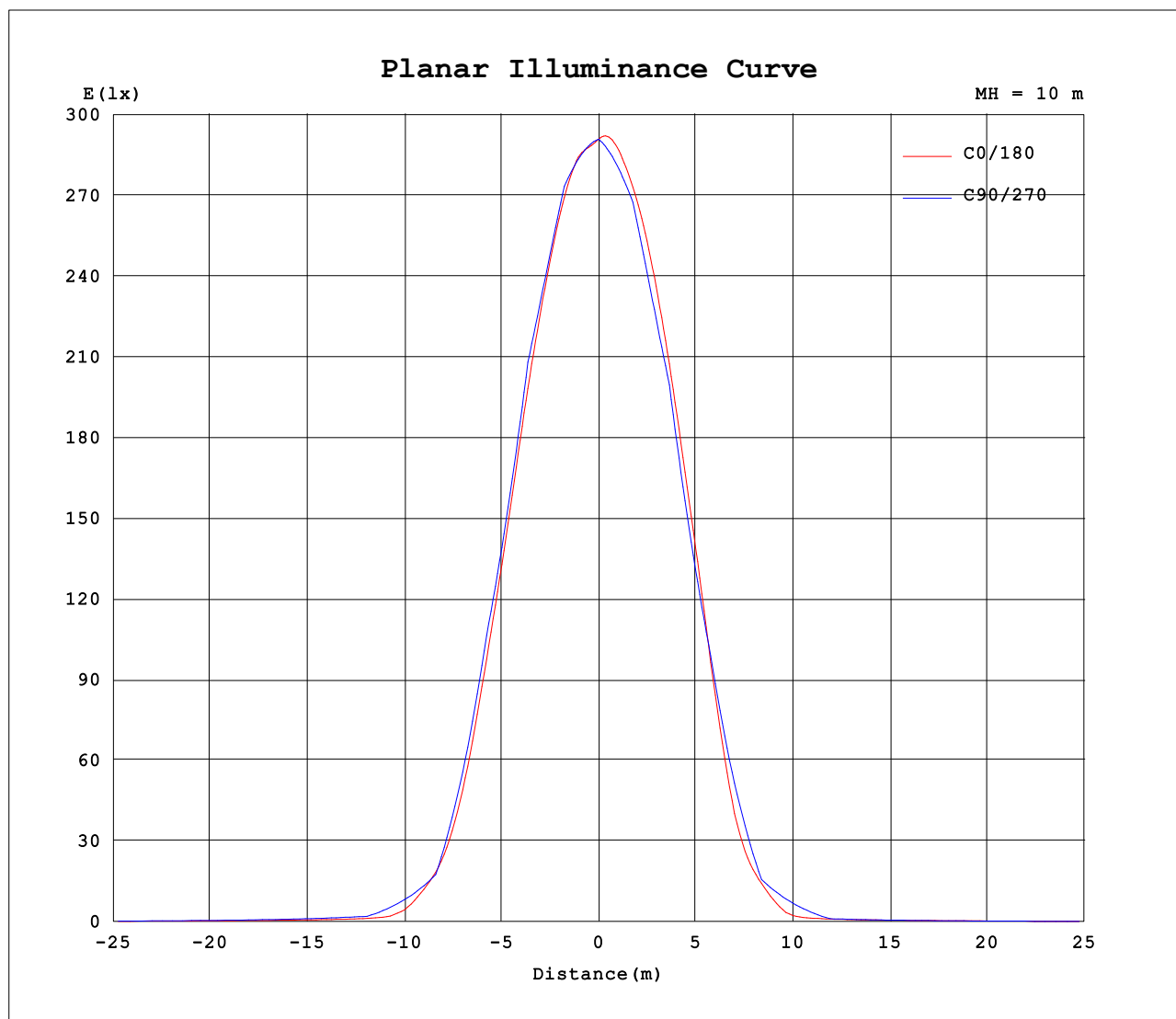
AvgL	cd/m2
L_0~180 (65) av	8939
L_0~180 (75) av	8825
L_0~180 (85) av	7683
L_90~270 (65) av	10302
L_90~270 (75) av	10534
L_90~270 (85) av	0
L_45 (65) av	9495
L_45 (75) av	9695
L_45 (85) av	4772

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-14

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: 2017-02-14

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:

```