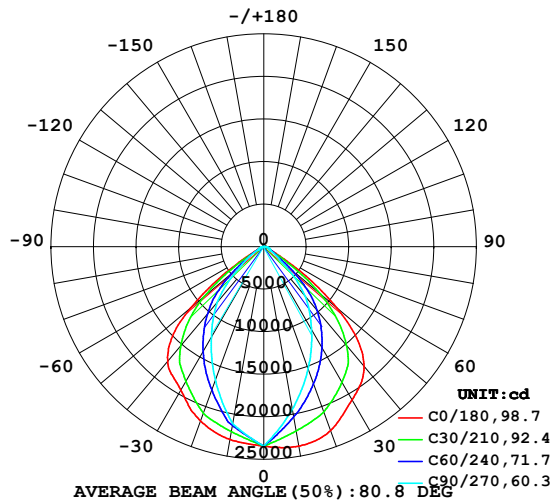


LUMINAIRE PHOTOMETRIC TEST REPORT

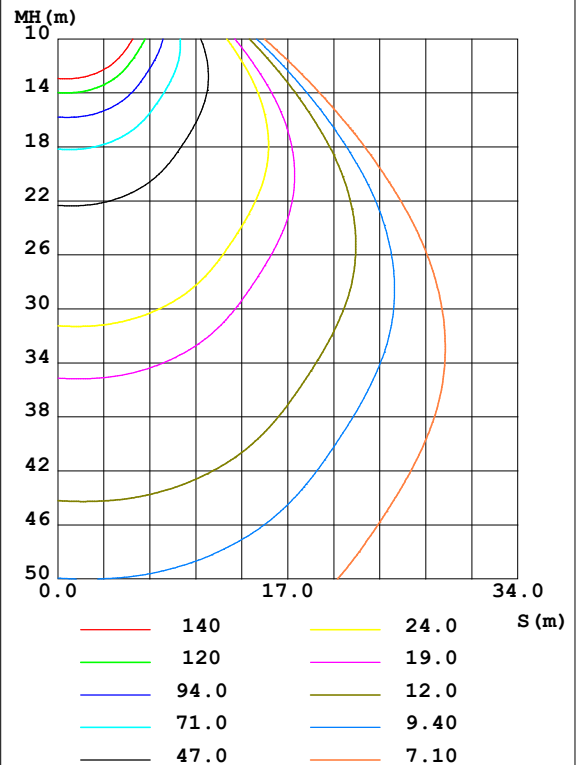
Test:U:219.7V I:1.316A P:287.2W PF:0.9930 Lamp Flux:37308.5x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 129.89 lm/W			
MODEL	LHB-300W-6090	I _{max} (cd)	23798	S/MH(C0/180)	1.24
NOMINAL POWER(W)	300	LOR(%)	100.0	S/MH(C90/270)	0.87
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	37309	η UP,DN(C0-180)	0.0,48.6
NOMINAL FLUX(lm)	37308.5	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,51.4
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	220	η down(%)	100.0	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:2017-02-17

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	2370	2223	2143	2188	2323	2249	2229	2282	0- 5	544.8	544.8	1.46,1.46
10	2379	2112	1941	2046	2302	2166	2113	2222	5- 10	1569	2114	5.67,5.67
15	2359	2010	1734	1921	2252	2078	1889	2151	10- 15	2481	4595	12.3,12.3
20	2299	1886	1526	1795	2179	1932	1665	2017	15- 20	3244	7840	21,21
25	2188	1758	1324	1670	2077	1796	1449	1884	20- 25	3842	11682	31.3,31.3
30	2079	1612	1122	1529	1949	1643	1232	1729	25- 30	4264	15946	42.7,42.7
35	1981	1426	941.0	1363	1863	1455	1041	1541	30- 35	4512	20459	54.8,54.8
40	1834	1210	759.8	1169	1758	1247	850.6	1327	35- 40	4556	25015	67,67
45	1568	937.6	507.0	907.3	1539	985.2	596.4	1042	40- 45	4267	29281	78.5,78.5
50	1120	617.8	254.3	598.8	1125	678.4	342.2	710.6	45- 50	3480	32761	87.8,87.8
55	601.8	326.8	167.9	311.7	595.3	357.4	211.4	377.5	50- 55	2258	35019	93.9,93.9
60	189.2	105.3	81.59	97.25	169.8	100.6	80.59	108.4	55- 60	1066	36086	96.7,96.7
65	78.31	75.77	73.61	72.25	68.73	60.03	66.55	63.76	60- 65	431.3	36517	97.9,97.9
70	56.13	57.28	65.62	55.35	47.95	38.71	52.50	40.80	65- 70	292.0	36809	98.7,98.7
75	42.65	44.50	48.03	42.37	34.38	27.45	40.20	29.23	70- 75	225.3	37034	99.3,99.3
80	29.92	31.69	30.45	29.86	22.08	17.83	27.90	19.26	75- 80	162.9	37197	99.7,99.7
85	18.93	10.01	0	9.369	12.76	5.103	0	5.593	80- 85	93.01	37290	100,100
90	11.12	0	0	0	9.034	0	0	0	85- 90	18.23	37309	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): 29281 lm

%lum = 78.5%

%lamp = 78.5%

Conical surface Flux(120deg): 36086 lm

%lum = 96.7%

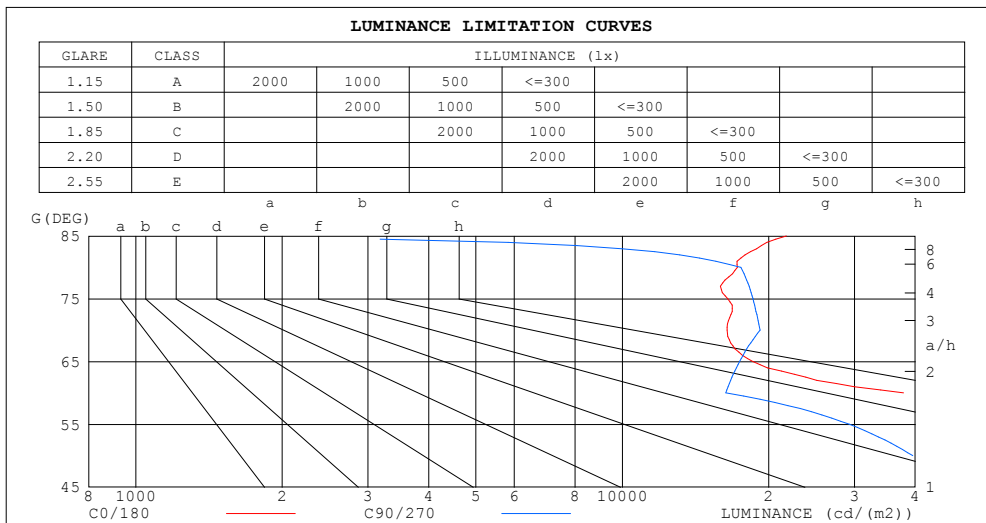
%lamp = 96.7%

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2017-02-17

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:219.7V I:1.316A P:287.2W PF:0.9930 Lamp Flux:37308.5x1 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	21724	0
80	17228	17533
75	16478	18558
70	16412	19186
65	18531	17417
60	37835	16318
55	104920	29279
50	174287	39559
45	221773	71706

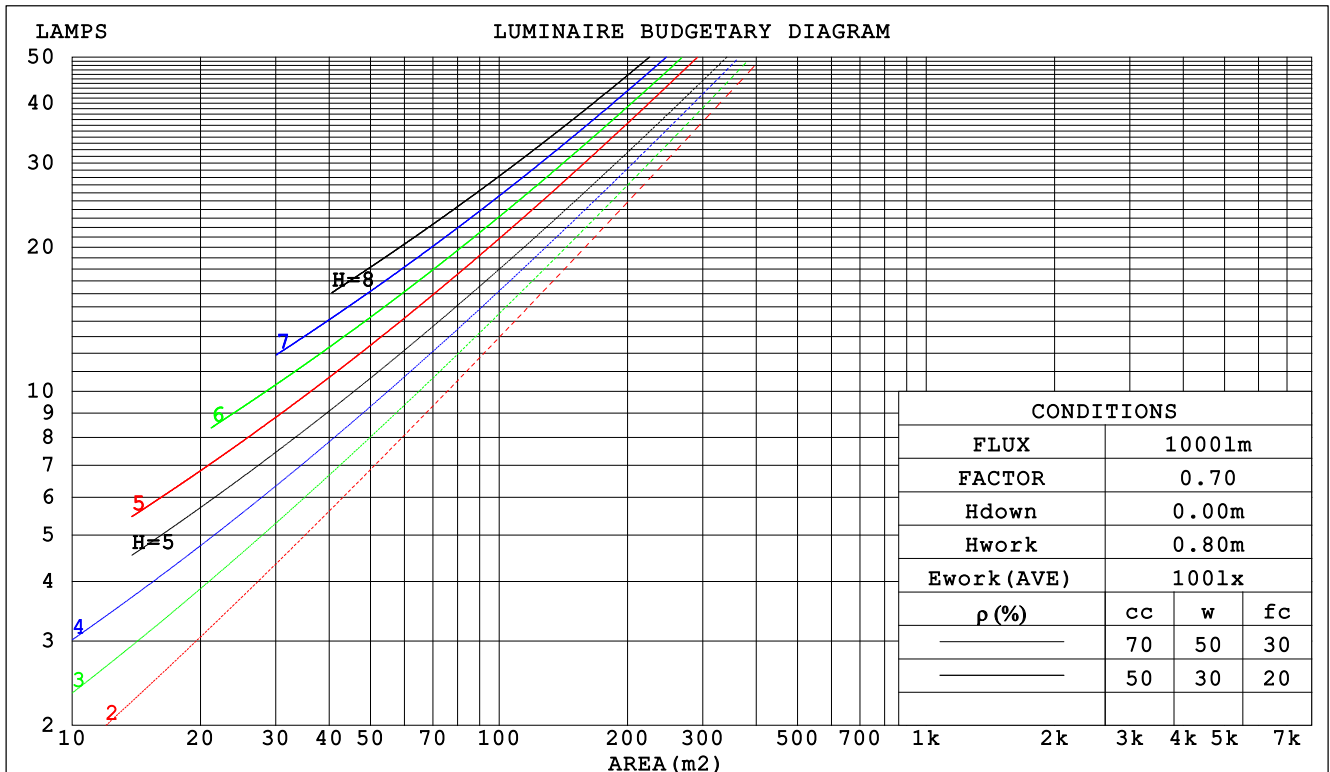
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-17

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:219.7V I:1.316A P:287.2W PF:0.9930 Lamp Flux:37308.5x1 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	1.08	1.05	1.03	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	.85	.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	.78	.72	.67	.75	.70	.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	.61	.54	.49	.60	.54	.49	.59	.53	.49	.57	.52	.48	.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	.40	.39
10.0	.49	.42	.38	.49	.42	.38	.48	.42	.37	.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:2017-02-17

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:219.7V I:1.316A P:287.2W PF:0.9930 Lamp Flux:37308.5x1 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	.223	.127	.040	.216	.123	.039	.203	.117	.037	.191	.110	.035	.181	.105	.034		
2.0	.217	.119	.036	.211	.116	.036	.200	.111	.035	.190	.106	.033	.180	.102	.032		
3.0	.207	.110	.033	.202	.108	.033	.193	.104	.032	.184	.101	.031	.176	.097	.030		
4.0	.197	.103	.030	.193	.101	.030	.184	.098	.029	.177	.095	.029	.169	.092	.028		
5.0	.187	.095	.028	.183	.094	.027	.176	.091	.027	.169	.089	.026	.162	.087	.026		
6.0	.177	.089	.025	.174	.088	.025	.167	.086	.025	.161	.084	.025	.155	.082	.024		
7.0	.168	.083	.024	.165	.082	.023	.159	.081	.023	.154	.079	.023	.148	.077	.023		
8.0	.160	.078	.022	.157	.077	.022	.152	.076	.022	.147	.074	.021	.142	.073	.021		
9.0	.152	.073	.021	.149	.073	.020	.145	.071	.020	.140	.070	.020	.136	.069	.020		
10.0	.144	.069	.019	.142	.069	.019	.138	.068	.019	.134	.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	.135	.122	.102	.093	.084	.059	.054	.049	.019	.017	.016	
2.0	.162	.132	.107	.139	.114	.093	.095	.079	.065	.055	.046	.038	.018	.015	.012	
3.0	.152	.114	.083	.131	.098	.072	.090	.068	.051	.052	.040	.030	.017	.013	.010	
4.0	.144	.100	.066	.124	.086	.057	.085	.060	.040	.049	.035	.024	.016	.011	.008	
5.0	.137	.089	.054	.117	.077	.047	.081	.054	.033	.047	.032	.020	.015	.010	.006	
6.0	.130	.080	.044	.112	.069	.039	.077	.049	.027	.045	.029	.016	.014	.009	.005	
7.0	.124	.073	.037	.107	.063	.033	.074	.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:2017-02-17

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:219.7V I:1.316A P:287.2W PF:0.9930 Lamp Flux:37308.5x1 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	28.9	30.1	29.1	30.3	30.5	24.1	25.3	24.4	25.5	25.7
3H	28.8	29.9	29.0	30.1	30.3	24.2	25.3	24.5	25.5	25.7
4H	28.7	29.8	29.0	30.0	30.2	24.3	25.3	24.6	25.6	25.8
6H	28.7	29.6	29.0	29.9	30.2	24.3	25.3	24.6	25.6	25.8
8H	28.6	29.6	29.0	29.8	30.1	24.3	25.3	24.7	25.6	25.8
12H	28.6	29.5	28.9	29.8	30.1	24.3	25.2	24.6	25.5	25.8
4H 2H	28.6	29.7	28.9	29.9	30.2	24.2	25.2	24.4	25.4	25.7
3H	28.5	29.5	28.9	29.7	30.0	24.3	25.2	24.6	25.5	25.8
4H	28.5	29.3	28.9	29.7	30.0	24.5	25.3	24.8	25.6	25.9
6H	28.5	29.2	28.9	29.6	29.9	24.6	25.3	25.0	25.7	26.0
8H	28.5	29.2	28.9	29.5	29.9	24.6	25.3	25.0	25.7	26.0
12H	28.5	29.1	28.9	29.5	29.9	24.6	25.2	25.0	25.6	26.0
8H 4H	28.4	29.1	28.8	29.5	29.8	24.5	25.1	24.9	25.5	25.9
6H	28.5	29.0	28.9	29.4	29.8	24.7	25.2	25.1	25.6	26.1
8H	28.5	29.0	29.0	29.4	29.8	24.7	25.2	25.2	25.6	26.1
12H	28.6	29.0	29.0	29.4	29.9	24.7	25.1	25.2	25.6	26.0
12H 4H	28.4	29.0	28.8	29.4	29.8	24.4	25.0	24.9	25.4	25.8
6H	28.4	28.9	28.9	29.3	29.8	24.7	25.2	25.2	25.6	26.1
8H	28.5	28.9	29.0	29.3	29.8	24.8	25.2	25.3	25.6	26.1
Variations with the observer position at spacings:										
S = 1.0H	+ 1.5 / - 2.6					+ 1.8 / - 2.7				
1.5H	+ 1.7 / - 3.5					+ 1.9 / - 2.7				
2.0H	+ 4.4 / - 7.1					+ 2.9 / - 2.8				

CIE Pub.117 Corrected 37309 lm Total Lamp Luminous Flux.(8log(F/F0) = 12.6)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-17

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:219.7V I:1.316A P:287.2W PF:0.9930 Lamp Flux:37308.5x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:

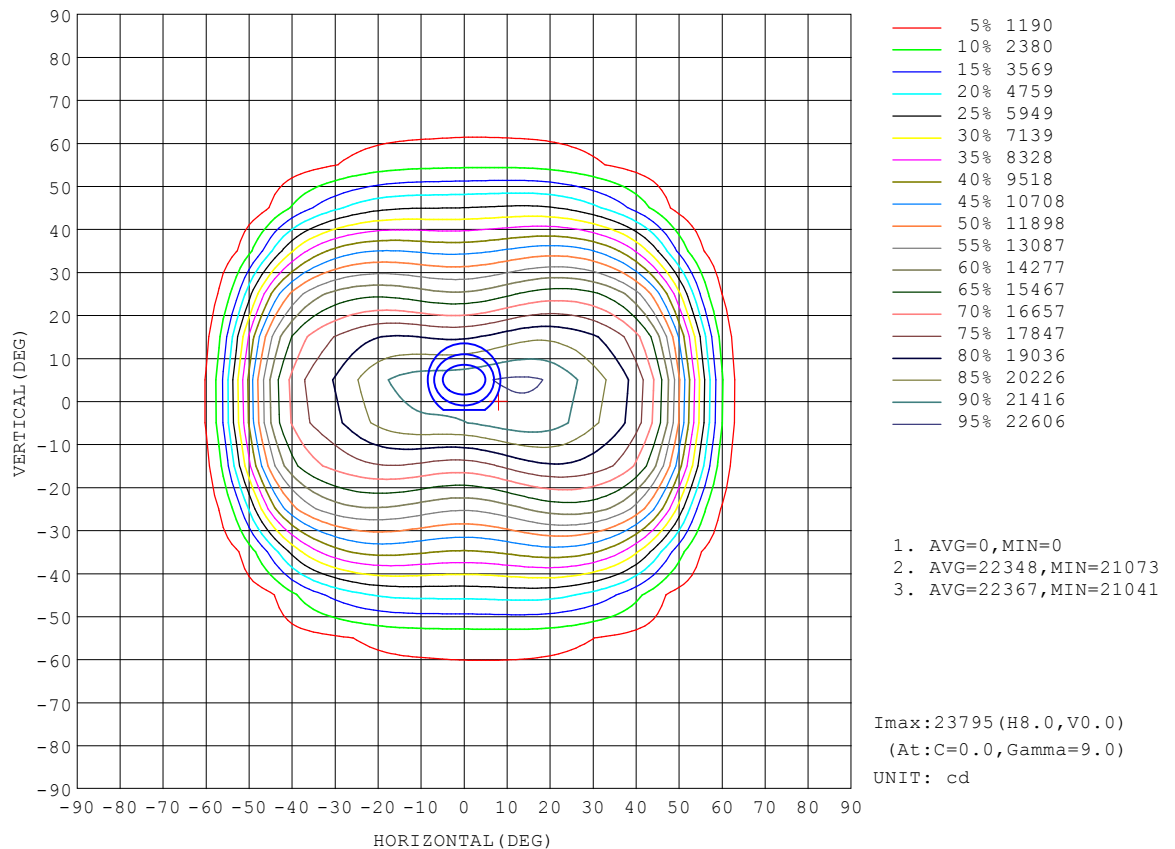
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	70	61	55	70	61	55	69	60	55	50
0.80	80	71	66	80	71	66	78	70	65	60
1.00	88	80	75	87	79	74	85	80	74	68
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	101	97	93	87
3.00	108	103	99	106	102	98	102	99	96	89
4.00	111	107	103	108	105	102	105	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:2017-02-17

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:219.7V I:1.316A P:287.2W PF:0.9930 Lamp Flux:37308.5x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:

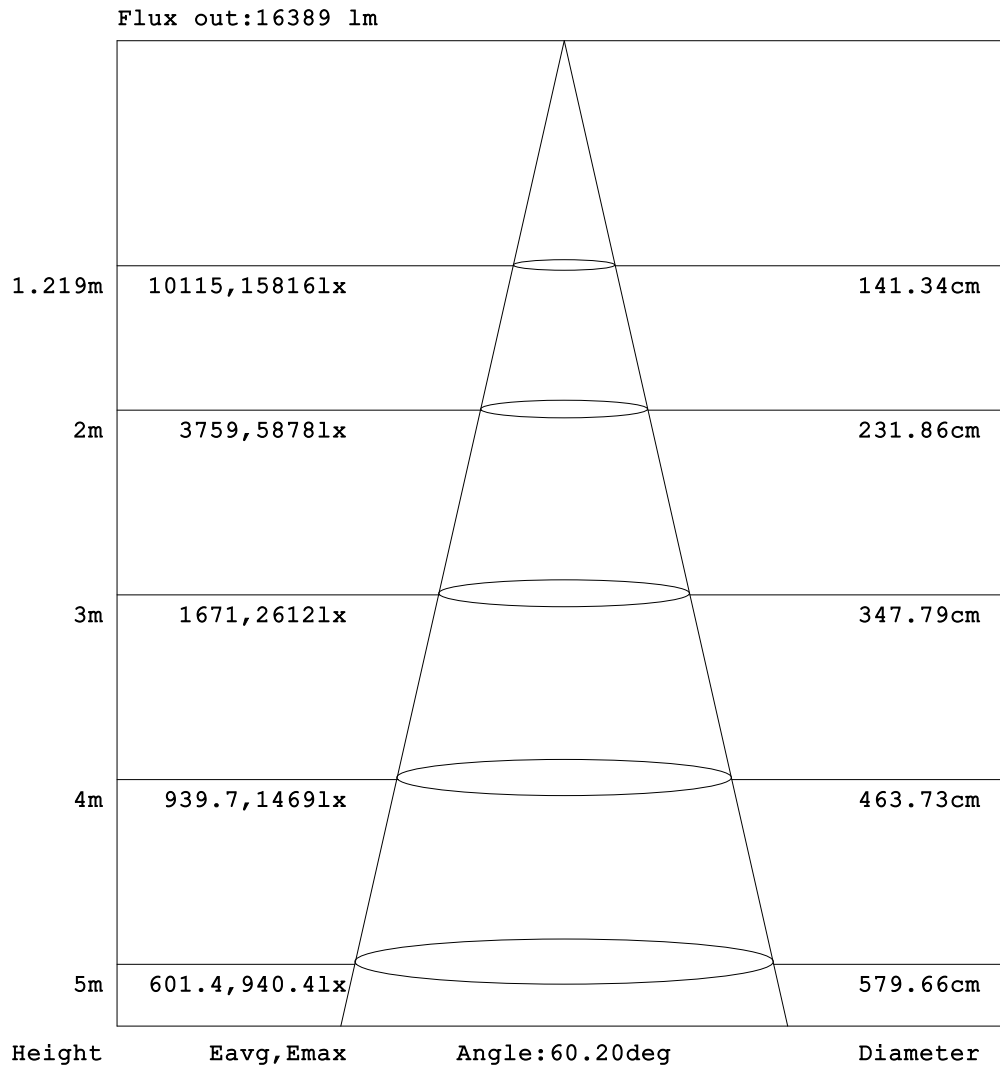


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-17

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:219.7V I:1.316A P:287.2W PF:0.9930 Lamp Flux:37308.5x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:



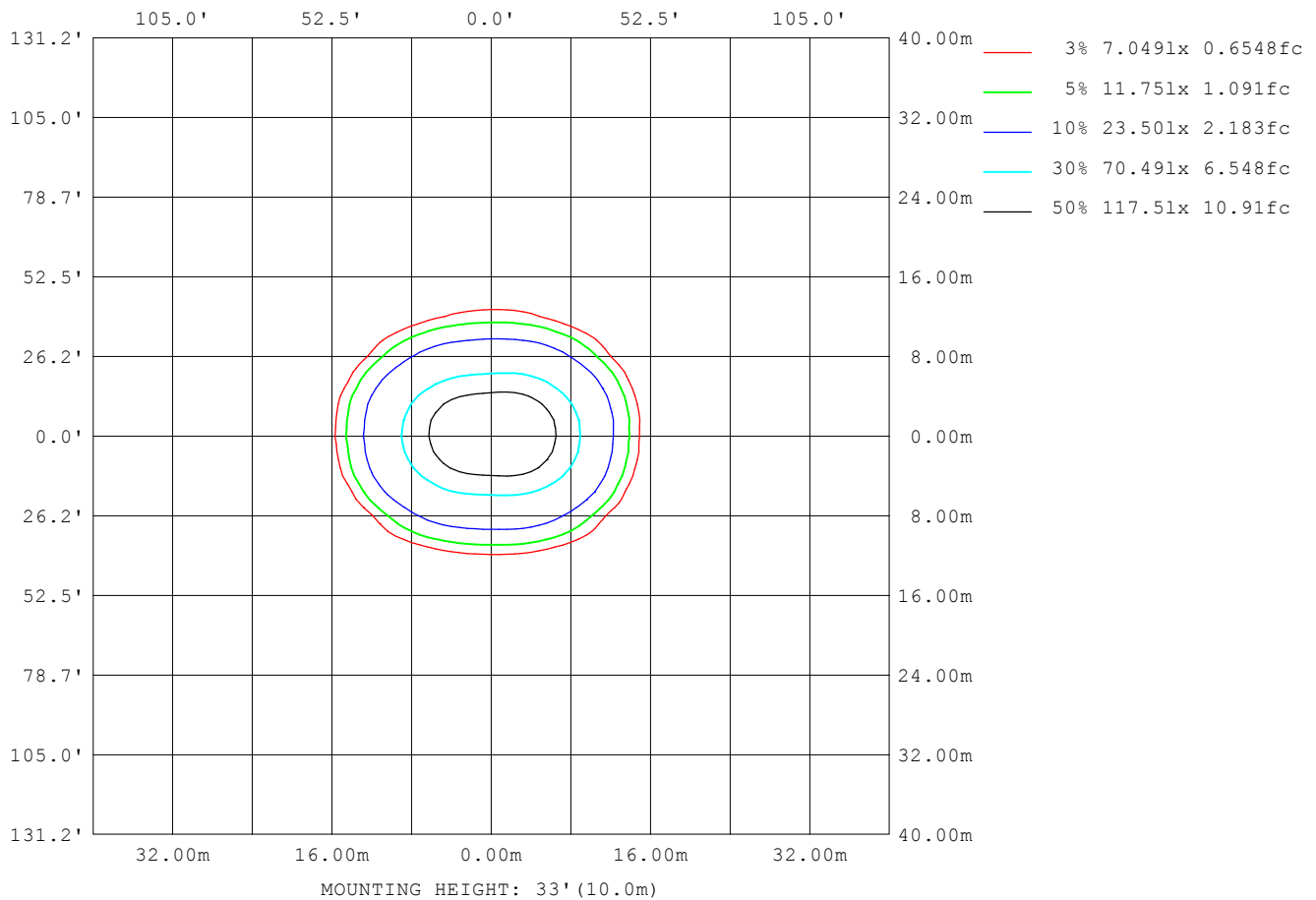
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2017-02-17

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:219.7V I:1.316A P:287.2W PF:0.9930 Lamp Flux:37308.5x1 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:2017-02-17

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:219.7V I:1.316A P:287.2W PF:0.9930 Lamp Flux:37308.5x1 lm		
NAME:	TYPE:LED	WEIGHT:
SPEC.:C470SP-Q2-P-03A 230V50HZ	DIM.:	SERIAL No.:1
MFR.: EVERFINE	SUR.:	Shielding Angle:

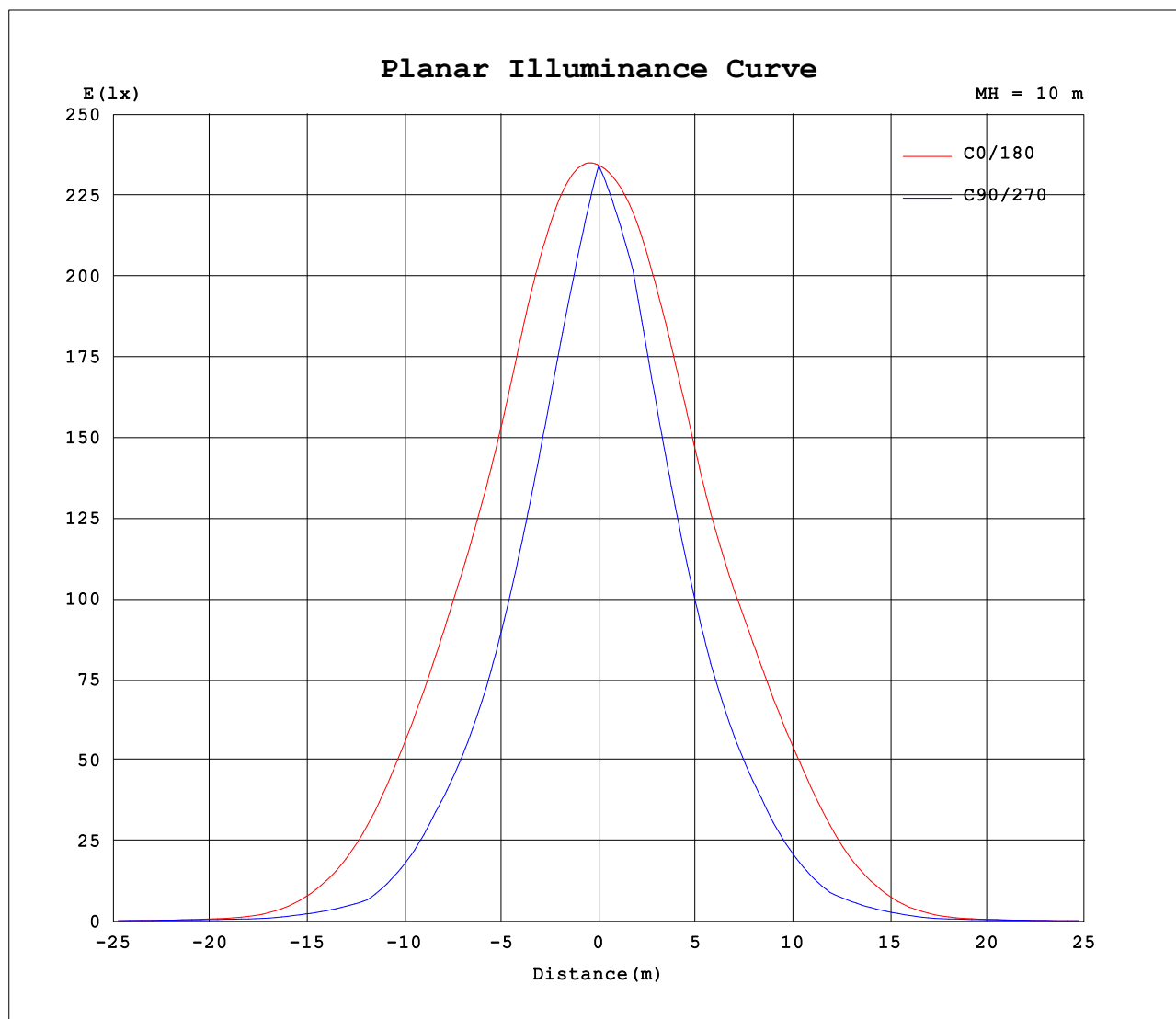
AvgL	cd/m2
L_0~180 (65) av	17397
L_0~180 (75) av	14881
L_0~180 (85) av	18182
L_90~270 (65) av	16581
L_90~270 (75) av	17045
L_90~270 (85) av	0
L_45 (65) av	16078
L_45 (75) av	13865
L_45 (85) av	8626

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2017-02-17

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: 2017-02-17

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
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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:

```