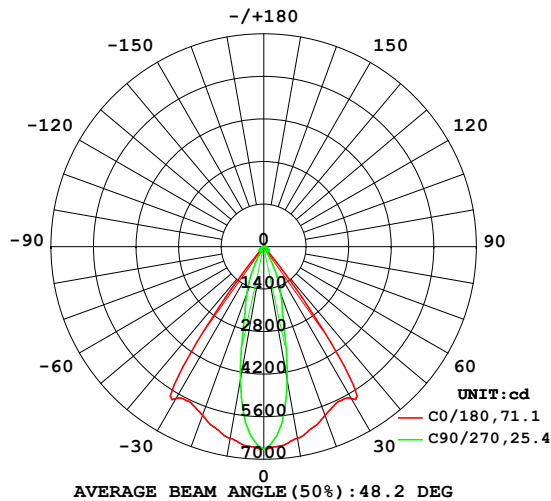


LUMINAIRE PHOTOMETRIC TEST REPORT

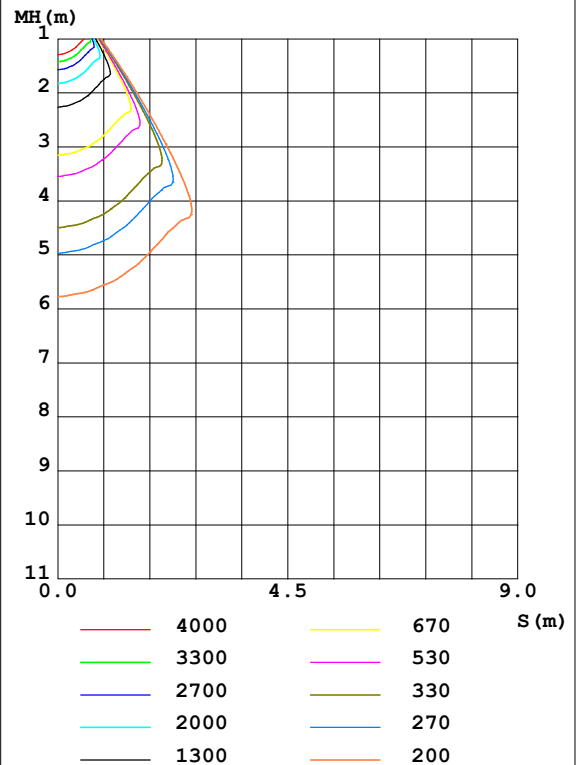
Test:U:230.1V I:0.1378A P:30.81W PF:0.9716 Lamp Flux:3936.76x1 lm		
NAME: LHB01-30	TYPE:30W	WEIGHT:
SPEC.:5000K Ra70 3070DEG L02801	DIM.: 0.28*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.25*0.1	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 127.78 lm/W			
MODEL	LHB01-30	Imax(cd)	6668	S/MH(C0/180)	1.02
NOMINAL POWER(W)	30	LOR(%)	100.0	S/MH(C90/270)	0.43
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	3936.8	η UP,DN(C0-180)	0.0,49.2
NOMINAL FLUX(lm)	3936.76	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.8
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	1.00

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:
Test Date:2017-03-29

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:9.500m [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	6579	6223	6031	6223	6579	6245	6031	6245	0- 5	153.6	153.6	3.9,3.9
10	6403	5330	4447	5330	6403	5418	4447	5418	5- 10	416.2	569.8	14.5,14.5
15	6177	3958	2523	3958	6177	4048	2523	4048	10- 15	563.0	1133	28.8,28.8
20	5906	2418	1658	2418	5906	2503	1658	2503	15- 20	600.5	1733	44,44
25	5675	1641	926.1	1641	5675	1713	926.1	1713	20- 25	595.0	2328	59.1,59.1
30	5767	1110	193.8	1110	5767	1163	193.8	1163	25- 30	554.2	2883	73.2,73.2
35	3858	610.8	194.7	610.8	3858	636.5	194.7	636.5	30- 35	488.3	3371	85.6,85.6
40	467.6	185.0	195.5	185.0	467.6	193.6	195.5	193.6	35- 40	245.7	3617	91.9,91.9
45	111.1	141.2	196.3	141.2	111.1	155.3	196.3	155.3	40- 45	73.44	3690	93.7,93.7
50	89.03	106.0	197.2	106.0	89.03	113.5	197.2	113.5	45- 50	49.49	3739	95,95
55	74.59	85.92	164.9	85.92	74.59	87.90	164.9	87.90	50- 55	44.42	3784	96.1,96.1
60	64.63	75.32	132.7	75.32	64.63	76.46	132.7	76.46	55- 60	39.57	3823	97.1,97.1
65	55.48	60.05	100.5	60.05	55.48	61.13	100.5	61.13	60- 65	34.85	3858	98,98
70	44.88	45.11	68.23	45.11	44.88	46.17	68.23	46.17	65- 70	29.06	3887	98.7,98.7
75	28.29	30.10	51.66	30.10	28.29	30.96	51.66	30.96	70- 75	22.10	3909	99.3,99.3
80	8.857	20.34	35.10	20.34	8.857	20.72	35.10	20.72	75- 80	15.03	3925	99.7,99.7
85	0.4098	11.33	18.54	11.33	0.4098	11.13	18.54	11.13	80- 85	8.776	3933	99.9,99.9
90	0.2838	2.327	1.979	2.327	0.2838	1.517	1.979	1.517	85- 90	3.458	3937	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:cd									UNIT:lm		

Conical surface Flux(90deg): 3690 lm

%lum = 93.7%

%lamp = 93.7%

Conical surface Flux(120deg): 3823.5 lm

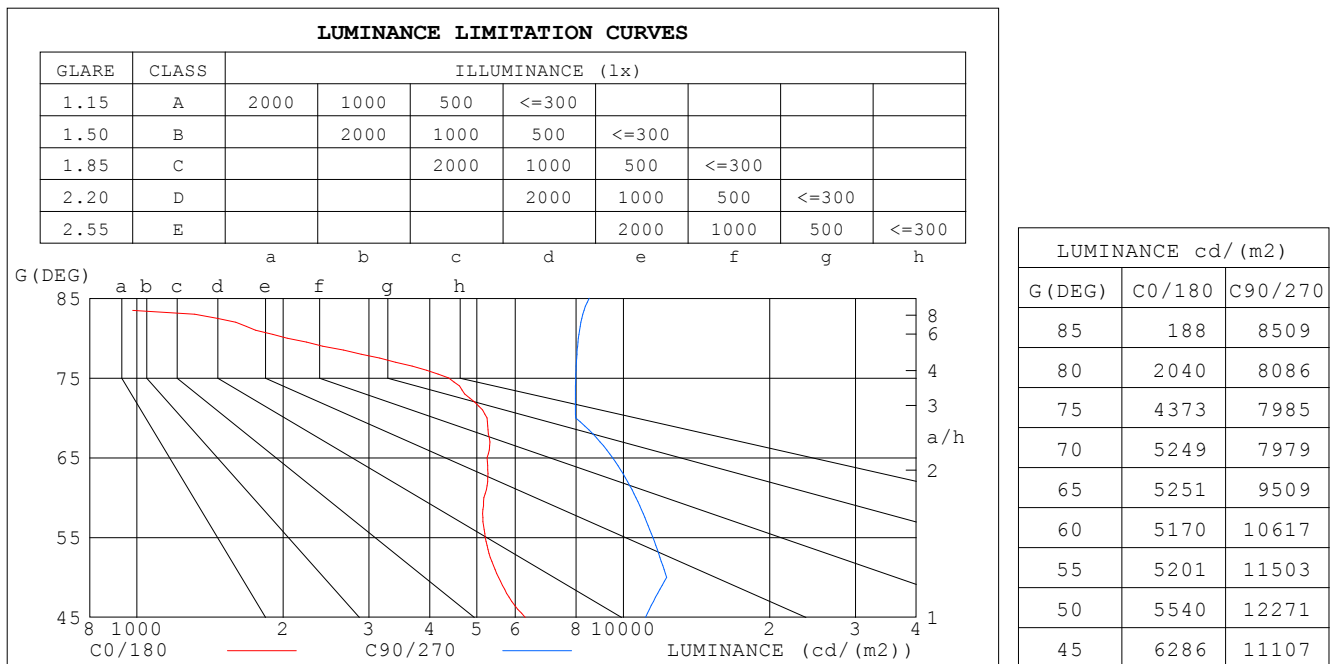
%lum = 97.1%

%lamp = 97.1%

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-03-29

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:9.500m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

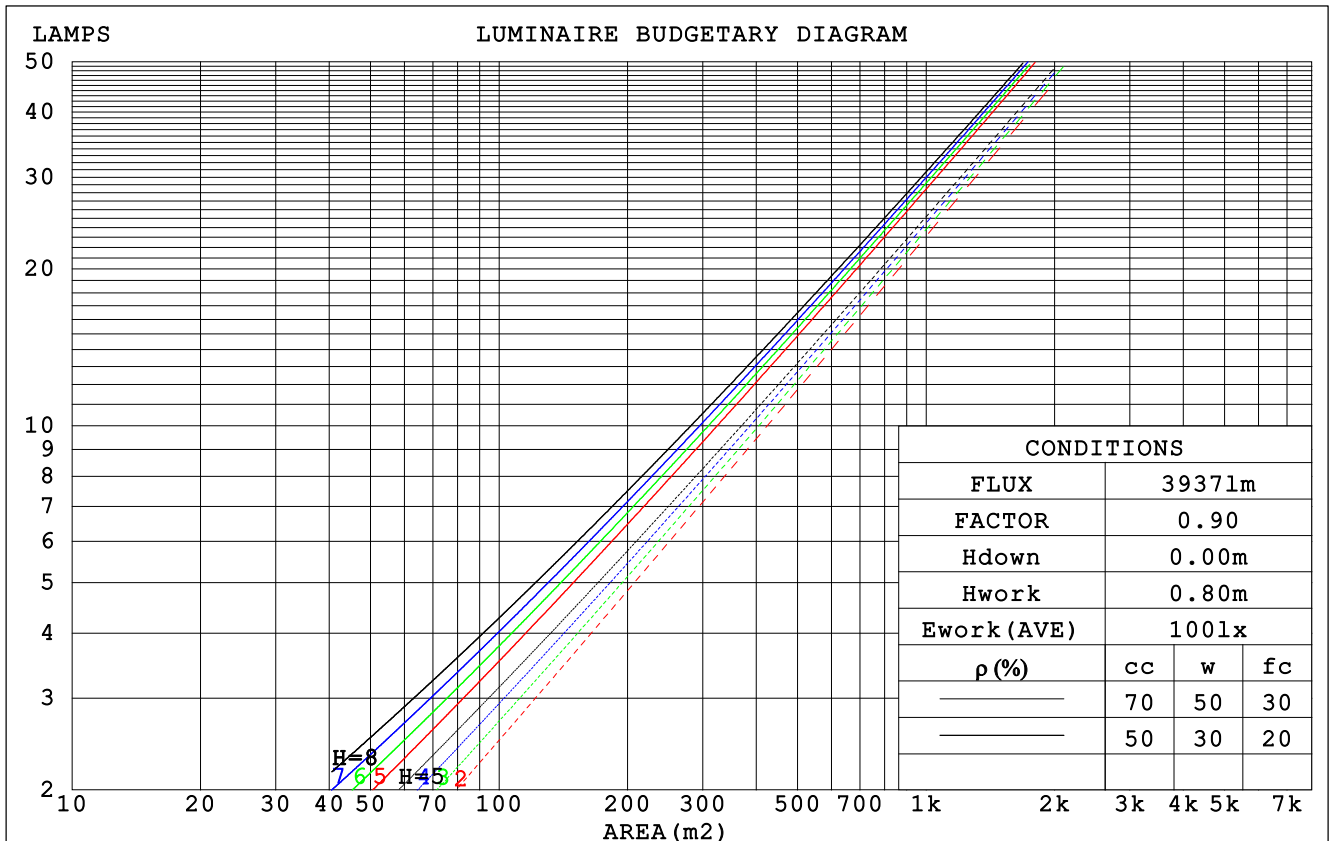


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-29

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.500m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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	1.01	.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	.87	.95	.90	.86	.92	.88	.85	.90	.86	.84	.87	.85	.82	.81
4.0	.90	.84	.80	.89	.84	.80	.87	.82	.79	.85	.81	.78	.83	.80	.77	.76
5.0	.85	.79	.75	.84	.78	.74	.82	.77	.74	.80	.76	.73	.79	.75	.72	.71
6.0	.80	.74	.70	.79	.73	.69	.77	.73	.69	.76	.72	.68	.75	.71	.68	.67
7.0	.75	.69	.65	.75	.69	.65	.73	.68	.65	.72	.68	.64	.71	.67	.64	.63
8.0	.71	.66	.62	.71	.65	.61	.70	.65	.61	.69	.64	.61	.68	.64	.61	.59
9.0	.68	.62	.58	.67	.62	.58	.66	.61	.58	.65	.61	.58	.65	.60	.57	.56
10.0	.64	.59	.55	.64	.59	.55	.63	.58	.55	.62	.58	.55	.62	.58	.55	.53



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-03-29

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity: 65.0%
 Test Distance: 9.500m [K=1.0000]
 Remarks:

WEC AND CCEC

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	.183	.104	.033	.176	.101	.032	.164	.094	.030	.152	.088	.028	.141	.082	.026	
2.0	.173	.095	.029	.168	.092	.028	.157	.087	.027	.147	.083	.026	.138	.078	.025	
3.0	.163	.087	.026	.159	.085	.026	.150	.081	.025	.141	.077	.024	.133	.074	.023	
4.0	.154	.080	.024	.150	.079	.023	.142	.076	.023	.135	.073	.022	.128	.070	.021	
5.0	.146	.075	.022	.143	.073	.021	.136	.071	.021	.130	.068	.020	.124	.066	.020	
6.0	.139	.070	.020	.136	.069	.020	.130	.066	.019	.124	.065	.019	.119	.063	.019	
7.0	.132	.065	.019	.129	.064	.018	.124	.063	.018	.119	.061	.018	.115	.060	.017	
8.0	.126	.062	.017	.124	.061	.017	.119	.059	.017	.114	.058	.017	.110	.057	.017	
9.0	.120	.058	.016	.118	.058	.016	.114	.056	.016	.110	.055	.016	.106	.054	.016	
10.0	.115	.055	.015	.113	.055	.015	.110	.054	.015	.106	.053	.015	.103	.052	.015	

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	.089	.123	.098	.077	.085	.068	.054	.049	.040	.032	.016	.013	.010	
4.0	.133	.099	.072	.115	.085	.063	.079	.060	.044	.046	.035	.026	.015	.011	.009	
5.0	.125	.087	.060	.107	.075	.052	.074	.053	.037	.043	.031	.022	.014	.010	.007	
6.0	.117	.078	.050	.100	.067	.043	.069	.047	.031	.040	.028	.018	.013	.009	.006	
7.0	.110	.070	.042	.095	.061	.037	.066	.043	.026	.038	.025	.016	.012	.008	.005	
8.0	.104	.064	.036	.090	.056	.032	.062	.039	.022	.036	.023	.013	.012	.008	.004	
9.0	.099	.059	.032	.085	.051	.027	.059	.036	.020	.034	.021	.012	.011	.007	.004	
10.0	.094	.054	.028	.081	.047	.024	.056	.033	.017	.033	.020	.010	.011	.006	.003	

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-29

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:9.500m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

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	23.5	24.4	23.7	24.6	24.7	13.9	14.8	14.1	15.0	15.2
3H	23.4	24.2	23.6	24.4	24.6	15.4	16.3	15.7	16.5	16.7
4H	23.3	24.1	23.6	24.4	24.6	16.2	17.0	16.4	17.2	17.4
6H	23.2	24.0	23.5	24.2	24.5	16.8	17.6	17.1	17.8	18.1
8H	23.2	23.9	23.5	24.2	24.5	17.1	17.9	17.4	18.1	18.4
12H	23.1	23.9	23.5	24.1	24.4	17.3	18.1	17.7	18.3	18.6
4H 2H	23.3	24.1	23.5	24.3	24.5	14.2	15.0	14.5	15.2	15.5
3H	23.2	23.9	23.5	24.2	24.4	15.9	16.6	16.2	16.9	17.1
4H	23.2	23.8	23.5	24.1	24.4	16.7	17.3	17.0	17.6	17.9
6H	23.1	23.7	23.5	24.0	24.3	17.5	18.1	17.9	18.4	18.7
8H	23.0	23.6	23.4	23.9	24.3	17.8	18.4	18.2	18.7	19.1
12H	23.0	23.5	23.4	23.9	24.2	18.2	18.6	18.6	19.0	19.4
8H 4H	23.1	23.6	23.4	23.9	24.3	16.8	17.4	17.2	17.7	18.1
6H	23.0	23.5	23.4	23.8	24.3	17.7	18.2	18.2	18.6	19.0
8H	23.0	23.4	23.4	23.8	24.2	18.2	18.6	18.6	19.0	19.4
12H	22.9	23.3	23.4	23.7	24.2	18.6	18.9	19.1	19.4	19.8
12H 4H	23.0	23.5	23.4	23.9	24.3	16.8	17.3	17.2	17.7	18.1
6H	23.0	23.4	23.4	23.8	24.2	17.8	18.1	18.2	18.6	19.0
8H	23.0	23.3	23.4	23.7	24.2	18.2	18.6	18.7	19.0	19.5
Variations with the observer position at spacings:										
S = 1.0H	+ 5.3 / - 4.6					+ 0.2 / - 0.2				
1.5H	+ 7.9 / - 4.5					+ 0.8 / - 0.4				
2.0H	+ 0.2 / - 0.2					+ 1.3 / - 0.9				

CIE Pub.117 Corrected 3937 lm Total Lamp Luminous Flux.(8log(F/F0) = 4.8)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-29

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:9.500m [K=1.0000]
Remarks:

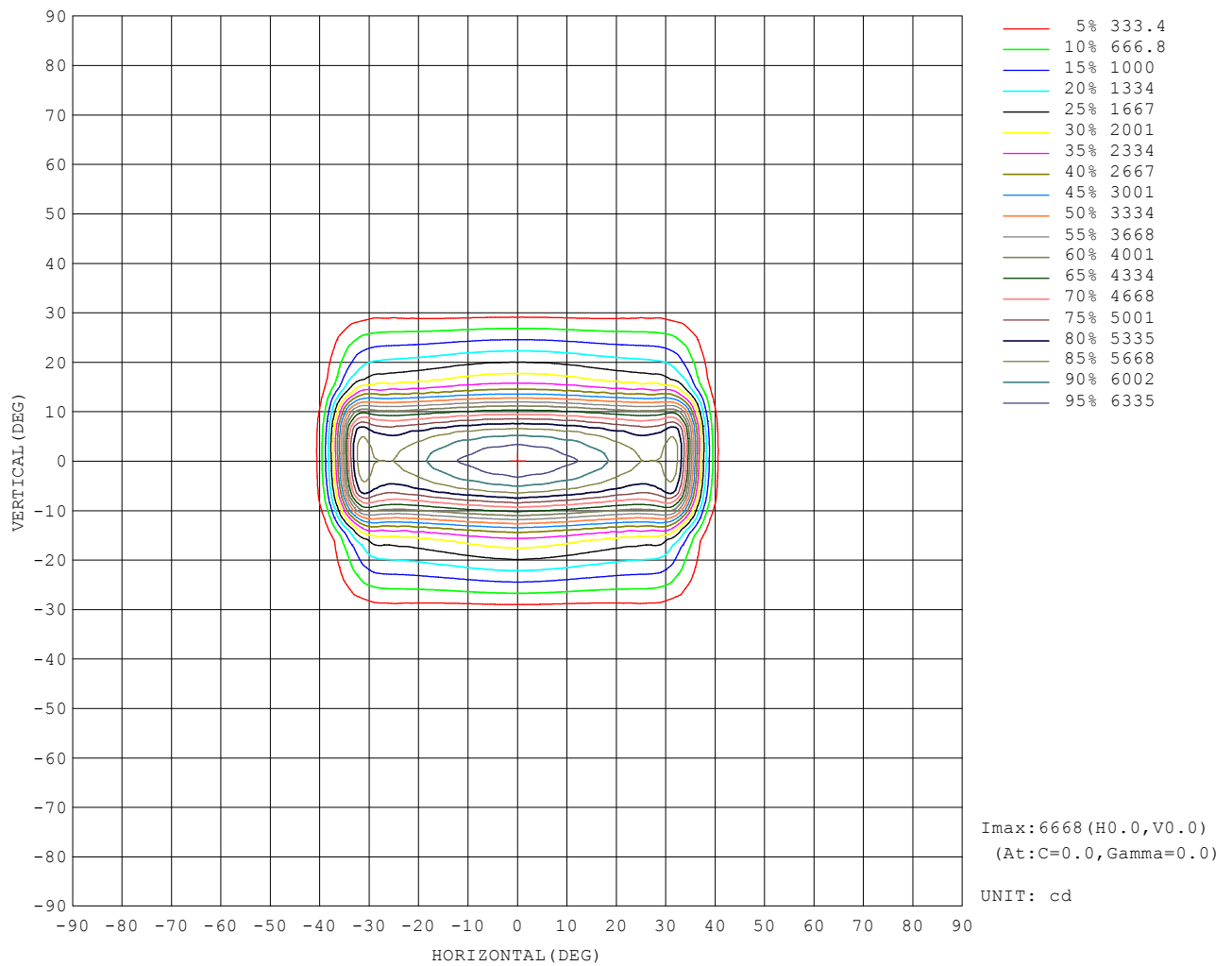
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	87	80	76	86	80	76	85	80	76	72
0.80	94	88	84	93	88	84	92	87	84	80
1.00	98	93	89	97	92	88	96	92	88	84
1.25	102	97	93	101	96	93	99	95	92	88
1.50	105	100	97	104	99	96	102	98	95	90
2.00	108	103	100	106	102	99	104	100	98	93
2.50	110	106	103	108	104	102	105	102	100	94
3.00	111	108	105	109	106	104	106	104	102	95
4.00	113	111	108	111	109	107	108	106	104	97
5.00	115	112	110	113	111	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:
Test Date: 2017-03-29

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.500m [K=1.0000]
Remarks:

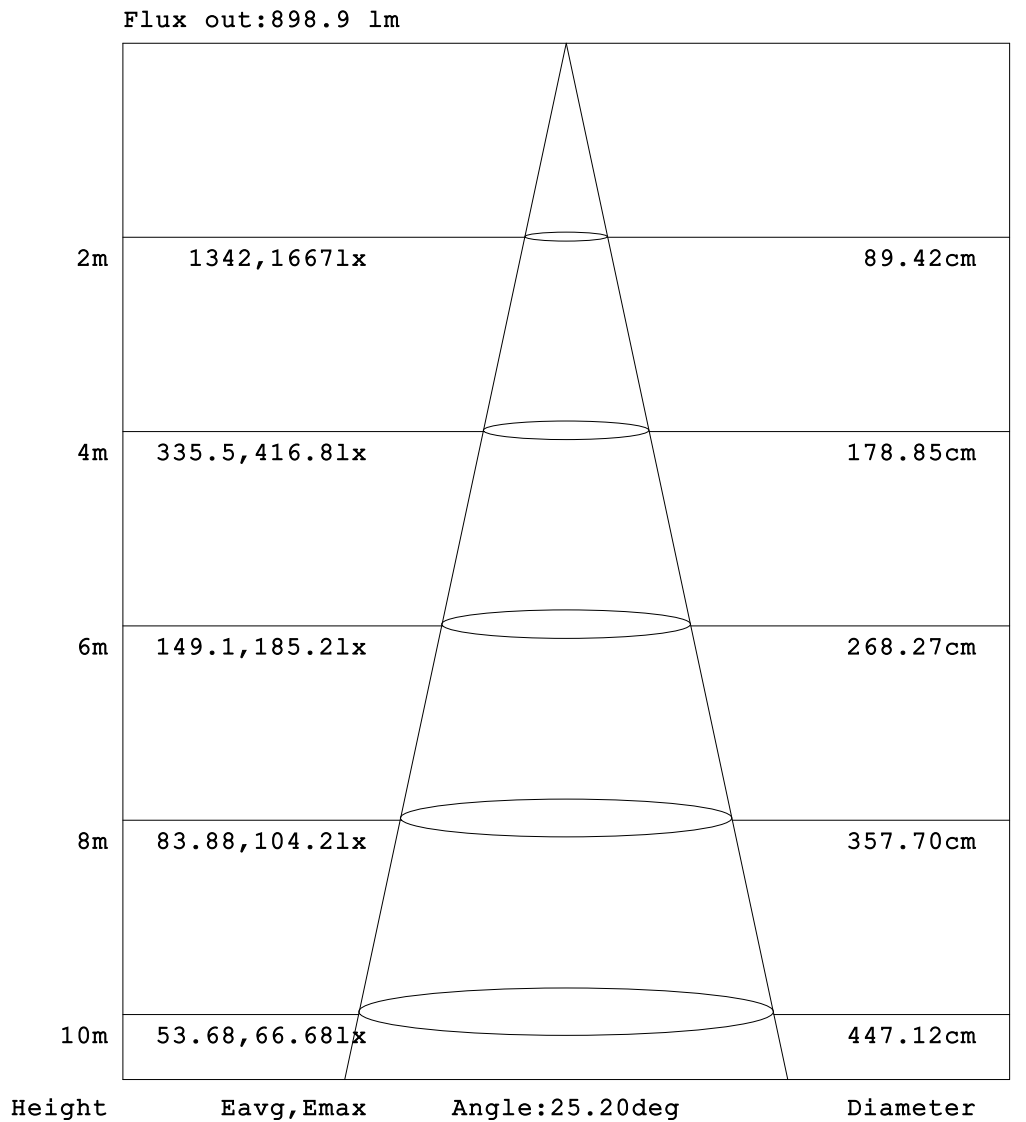
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-29

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.500m [K=1.0000]
Remarks:

AAI Figure

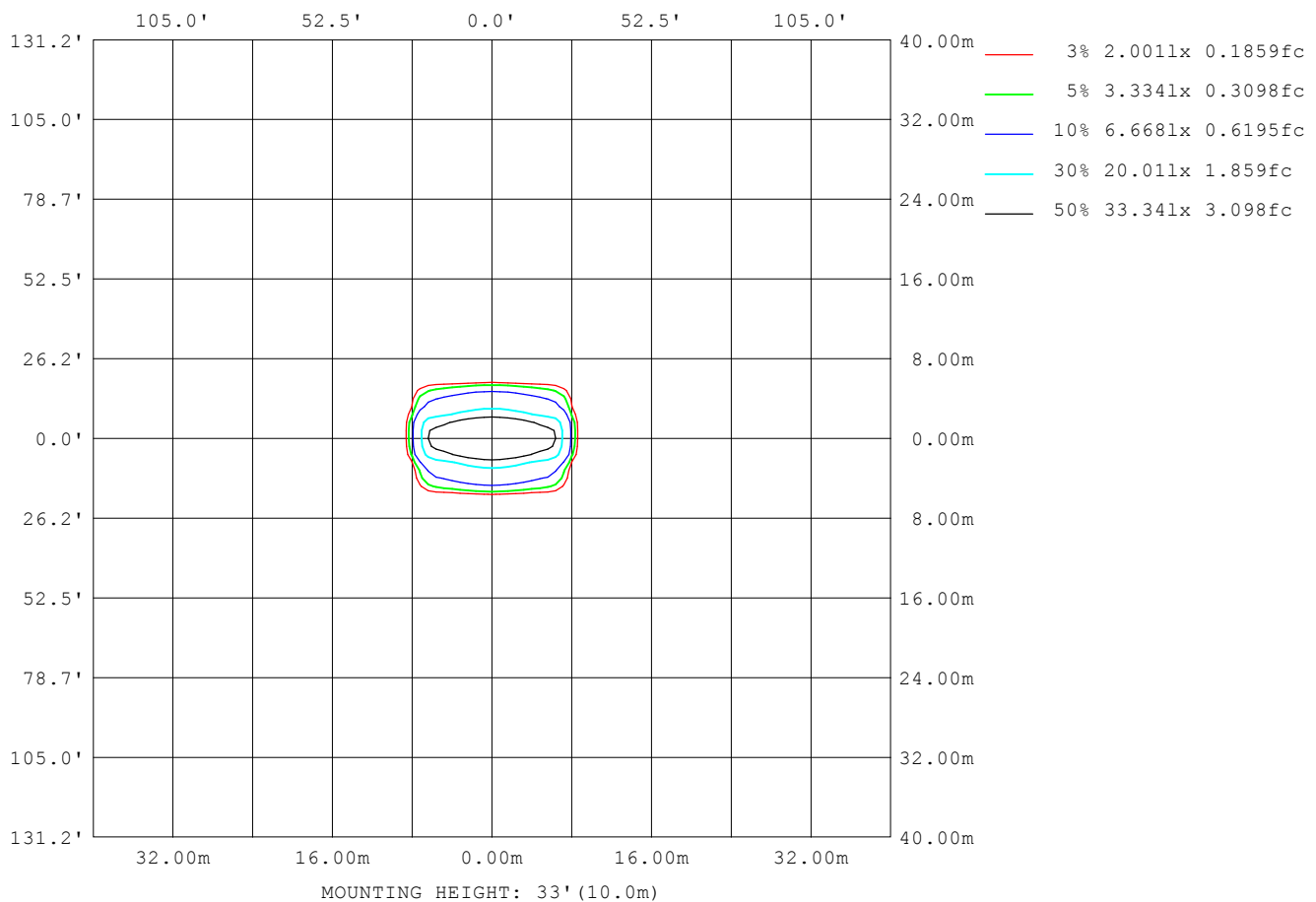


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-29

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.500m [K=1.0000]
Remarks:

ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-29

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.500m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:230.1V I:0.1378A P:30.81W PF:0.9716 Lamp Flux:3936.76x1 lm		
NAME: LHB01-30	TYPE:30W	WEIGHT:
SPEC.:5000K Ra70 3070DEG L02801	DIM.: 0.28*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.25*0.1	Shielding Angle:

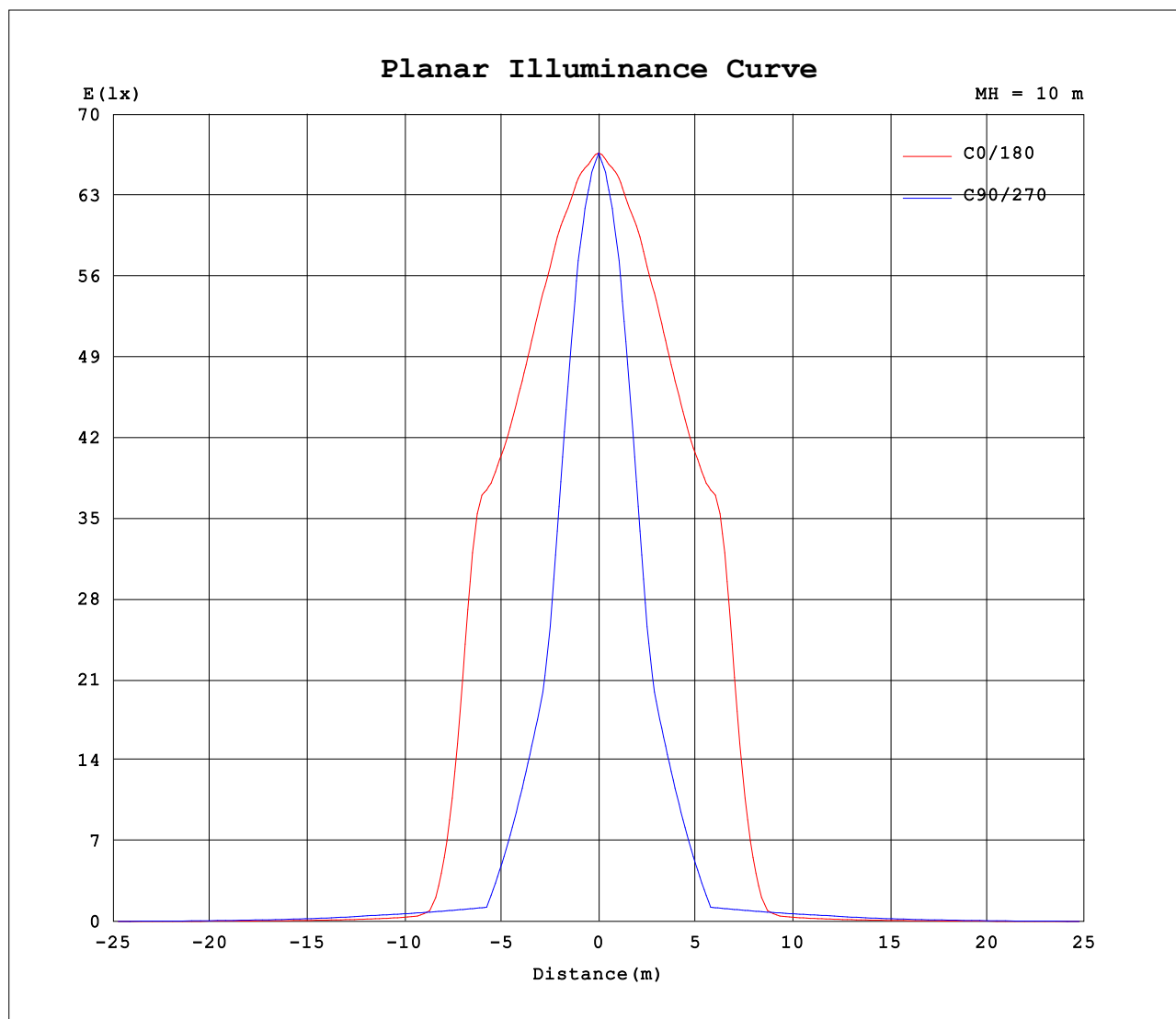
AvgL	cd/m2
L_0~180 (65) av	5251
L_0~180 (75) av	4373
L_0~180 (85) av	188
L_90~270 (65) av	9509
L_90~270 (75) av	7985
L_90~270 (85) av	8509
L_45 (65) av	5735
L_45 (75) av	4719
L_45 (85) av	5154

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-29

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:9.500m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-29

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.500m [K=1.0000]
Remarks:

```

Range: 0 - 90DEG
Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:9.500m [K=1.0000]
Remarks:

```

```

Range: 0 - 90DEG
Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:9.500m [K=1.0000]
Remarks:

```

```

Range: 0 - 90DEG
Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:9.500m [K=1.0000]
Remarks:

```

UNIT: cd

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:9.500m [K=1.0000]
Remarks:

```