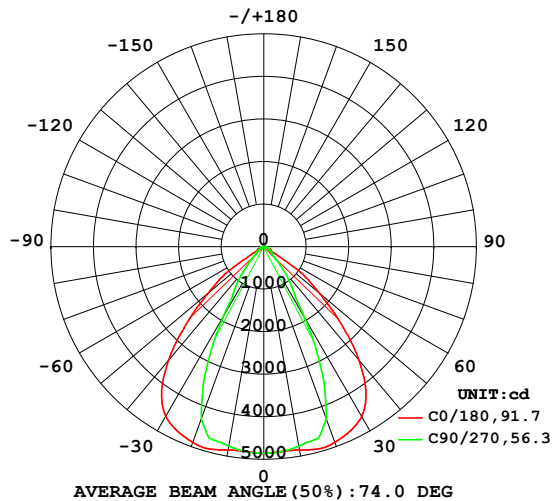


LUMINAIRE PHOTOMETRIC TEST REPORT

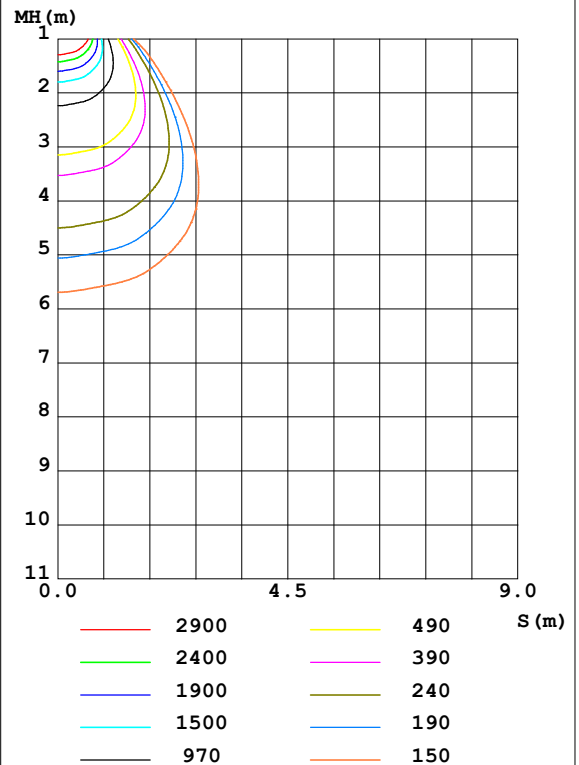
Test:U:230.1V I:0.2778A P:63.12W PF:0.9878 Lamp Flux:8217.76x1 lm		
NAME: LHB01-60	TYPE:60W	WEIGHT:
SPEC.:5000K Ra70 6090DEG L02802	DIM.: 0.486*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.466*0.1	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 130.20 lm/W			
MODEL	LHB01-60	Imax(cd)	5573	S/MH(C0/180)	1.30
NOMINAL POWER(W)	60	LOR(%)	100.0	S/MH(C90/270)	0.83
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	8217.8	η UP,DN(C0-180)	0.0,49.5
NOMINAL FLUX(lm)	8217.76	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.5
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	1.05

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	4832	4832	4837	4832	4832	4841	4837	4841	0- 5	115.9	115.9	1.41,1.41
10	4852	4804	4758	4804	4852	4811	4758	4811	5- 10	344.6	460.4	5.6,5.6
15	4922	4878	4689	4878	4922	4859	4689	4859	10- 15	571.3	1032	12.6,12.6
20	4894	5131	4303	5131	4894	5068	4303	5068	15- 20	798.6	1830	22.3,22.3
25	4791	5227	3229	5227	4791	5206	3229	5206	20- 25	988.4	2819	34.3,34.3
30	4607	4782	1940	4782	4607	4836	1940	4836	25- 30	1090	3908	47.6,47.6
35	4190	3833	1161	3833	4190	3885	1161	3885	30- 35	1077	4985	60.7,60.7
40	3482	2511	736.9	2511	3482	2576	736.9	2576	35- 40	992.9	5978	72.7,72.7
45	2586	1650	348.4	1650	2586	1740	348.4	1740	40- 45	834.0	6812	82.9,82.9
50	1727	977.0	246.5	977.0	1727	1066	246.5	1066	45- 50	610.9	7423	90.3,90.3
55	1070	341.0	180.4	341.0	1070	402.4	180.4	402.4	50- 55	378.7	7801	94.9,94.9
60	180.6	213.8	114.4	213.8	180.6	258.1	114.4	258.1	55- 60	188.8	7990	97.2,97.2
65	155.3	132.9	100.2	132.9	155.3	159.1	100.2	159.1	60- 65	91.13	8081	98.3,98.3
70	82.91	77.69	86.09	77.69	82.91	91.10	86.09	91.10	65- 70	56.57	8138	99,99
75	51.08	51.08	71.08	51.08	51.08	59.09	71.08	59.09	70- 75	36.81	8175	99.5,99.5
80	22.02	26.54	49.04	26.54	22.02	29.91	49.04	29.91	75- 80	23.67	8198	99.8,99.8
85	0.8950	14.79	26.12	14.79	0.8950	16.93	26.12	16.93	80- 85	13.64	8212	99.9,99.9
90	1.068	3.269	3.201	3.269	1.068	3.728	3.201	3.728	85- 90	5.857	8218	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): 6811.7 lm

%lum = 82.9%

%lamp = 82.9%

Conical surface Flux(120deg): 7990.1 lm

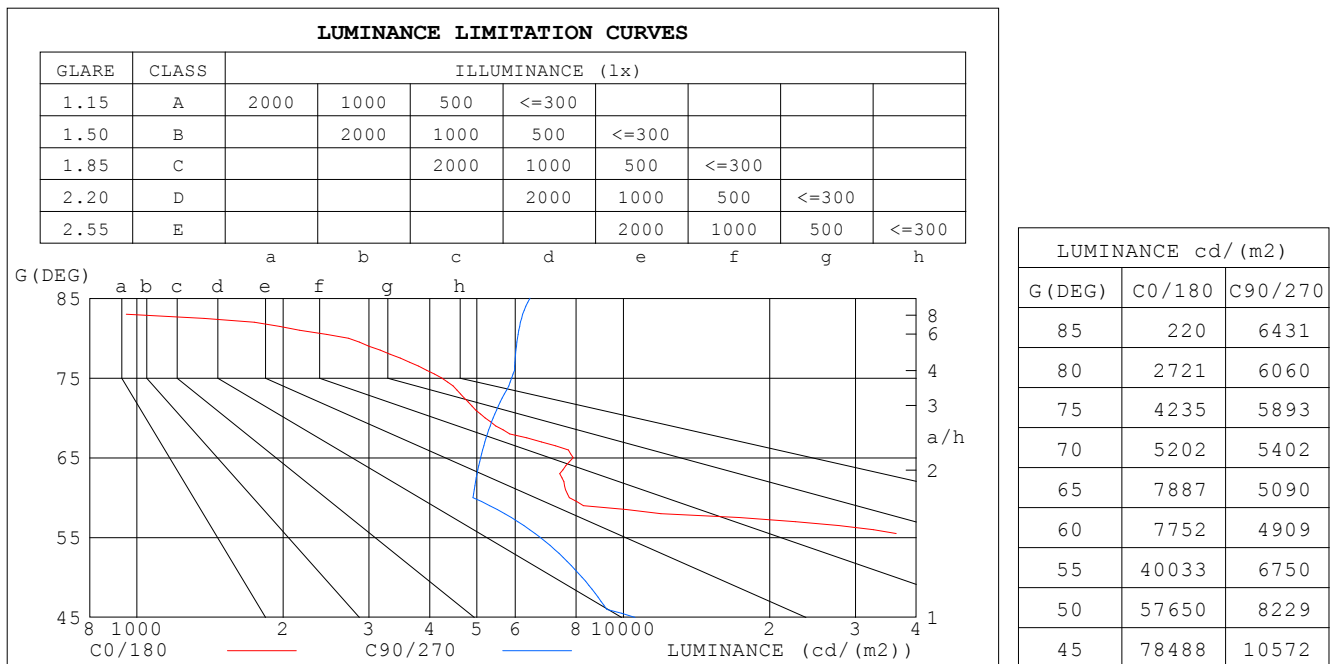
%lum = 97.2%

%lamp = 97.2%

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

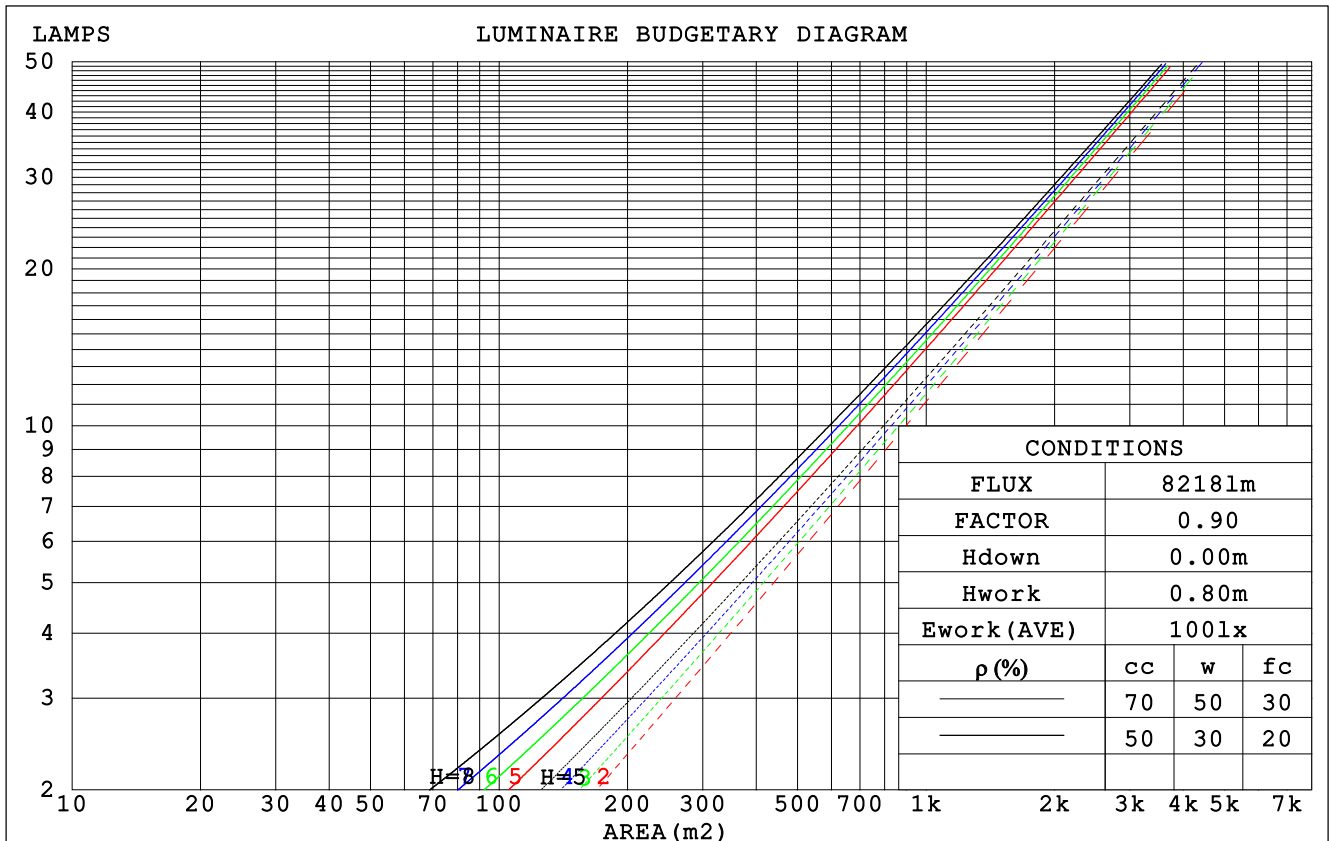


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-29

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

pcc	80%			70%			50%			30%			10%			0
p _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
p _{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	1.09	1.06	1.03	1.07	1.04	1.02	1.03	1.00	.98	.99	.97	.95	.95	.94	.93	.91
2.0	.99	.94	.90	.97	.93	.89	.94	.90	.87	.91	.88	.85	.88	.86	.83	.82
3.0	.90	.84	.79	.89	.83	.79	.86	.81	.77	.84	.80	.76	.81	.78	.75	.73
4.0	.83	.76	.71	.81	.75	.70	.79	.74	.69	.77	.72	.68	.75	.71	.68	.66
5.0	.76	.69	.63	.75	.68	.63	.73	.67	.62	.71	.66	.62	.69	.65	.61	.59
6.0	.69	.62	.57	.69	.62	.57	.67	.61	.56	.65	.60	.56	.64	.59	.56	.54
7.0	.64	.57	.52	.63	.56	.52	.62	.56	.51	.61	.55	.51	.59	.54	.51	.49
8.0	.59	.52	.47	.59	.52	.47	.57	.51	.47	.56	.51	.47	.55	.50	.46	.45
9.0	.55	.48	.43	.54	.48	.43	.53	.47	.43	.52	.47	.43	.52	.46	.43	.41
10.0	.51	.44	.40	.51	.44	.40	.50	.44	.40	.49	.43	.39	.48	.43	.39	.38



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	.215	.122	.039	.208	.119	.038	.195	.112	.036	.183	.106	.034	.173	.100	.032	
2.0	.209	.114	.035	.203	.112	.034	.192	.107	.033	.182	.102	.032	.172	.098	.031	
3.0	.200	.106	.032	.195	.104	.031	.185	.100	.031	.176	.097	.030	.168	.093	.029	
4.0	.190	.099	.029	.186	.097	.029	.177	.094	.028	.170	.091	.027	.163	.088	.027	
5.0	.181	.092	.027	.177	.091	.026	.169	.088	.026	.163	.086	.026	.156	.083	.025	
6.0	.172	.086	.025	.168	.085	.024	.162	.083	.024	.156	.081	.024	.150	.079	.023	
7.0	.163	.081	.023	.160	.080	.023	.154	.078	.022	.149	.076	.022	.144	.075	.022	
8.0	.155	.076	.021	.152	.075	.021	.147	.074	.021	.142	.072	.021	.138	.071	.021	
9.0	.148	.071	.020	.145	.071	.020	.141	.070	.020	.136	.068	.020	.132	.067	.019	
10.0	.141	.068	.019	.139	.067	.019	.134	.066	.019	.130	.065	.018	.127	.064	.018	

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	.142	.149	.135	.122	.102	.093	.084	.059	.054	.049	.019	.017	.016	
2.0	.161	.132	.108	.138	.114	.093	.095	.079	.065	.055	.046	.038	.017	.015	.012	
3.0	.151	.114	.084	.129	.098	.073	.089	.068	.051	.051	.040	.030	.016	.013	.010	
4.0	.142	.100	.067	.122	.086	.058	.084	.060	.041	.049	.035	.024	.016	.011	.008	
5.0	.135	.089	.055	.116	.077	.047	.080	.054	.034	.046	.031	.020	.015	.010	.007	
6.0	.128	.080	.045	.110	.069	.039	.076	.048	.028	.044	.028	.017	.014	.009	.005	
7.0	.122	.073	.038	.105	.063	.033	.072	.044	.024	.042	.026	.014	.014	.009	.005	
8.0	.116	.067	.033	.100	.058	.028	.069	.041	.020	.040	.024	.012	.013	.008	.004	
9.0	.111	.062	.028	.096	.054	.025	.066	.038	.018	.039	.022	.010	.013	.007	.003	
10.0	.106	.057	.025	.092	.050	.022	.064	.035	.015	.037	.021	.009	.012	.007	.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	26.2	27.4	26.5	27.6	27.8	18.1	19.3	18.3	19.5	19.6
3H	26.1	27.2	26.3	27.4	27.6	18.1	19.2	18.4	19.4	19.6
4H	26.0	27.0	26.3	27.2	27.5	18.1	19.2	18.4	19.4	19.6
6H	25.9	26.9	26.2	27.1	27.4	18.2	19.1	18.5	19.4	19.7
8H	25.9	26.8	26.2	27.0	27.3	18.2	19.1	18.5	19.4	19.7
12H	25.8	26.7	26.1	27.0	27.2	18.2	19.1	18.6	19.4	19.7
4H 2H	26.0	27.0	26.2	27.2	27.4	18.4	19.4	18.7	19.7	19.9
3H	25.8	26.7	26.2	27.0	27.3	18.5	19.4	18.8	19.6	19.9
4H	25.8	26.6	26.1	26.9	27.2	18.5	19.3	18.9	19.6	20.0
6H	25.7	26.4	26.1	26.7	27.1	18.6	19.3	19.0	19.7	20.0
8H	25.6	26.3	26.0	26.6	27.0	18.7	19.3	19.1	19.7	20.0
12H	25.6	26.2	26.0	26.6	27.0	18.7	19.3	19.1	19.7	20.1
8H 4H	25.6	26.3	26.0	26.6	27.0	18.5	19.2	18.9	19.5	19.9
6H	25.6	26.1	26.0	26.5	26.9	18.7	19.2	19.1	19.6	20.0
8H	25.5	26.0	26.0	26.4	26.9	18.7	19.2	19.2	19.6	20.1
12H	25.5	25.9	26.0	26.3	26.8	18.8	19.2	19.3	19.7	20.1
12H 4H	25.6	26.2	26.0	26.6	26.9	18.5	19.1	18.9	19.5	19.8
6H	25.5	26.0	26.0	26.4	26.9	18.6	19.1	19.1	19.5	20.0
8H	25.5	25.9	26.0	26.3	26.8	18.7	19.1	19.2	19.6	20.0
Variations with the observer position at spacings:										
S = 1.0H	+ 2.3 / - 4.6					+ 1.9 / - 3.6				
1.5H	+ 2.0 / - 4.1					+ 3.7 / - 2.8				
2.0H	+ 5.2 / - 9.5					+ 1.4 / - 1.9				

CIE Pub.117 Corrected 8218 lm Total Lamp Luminous Flux.(8log(F/F0) = 7.3)

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:

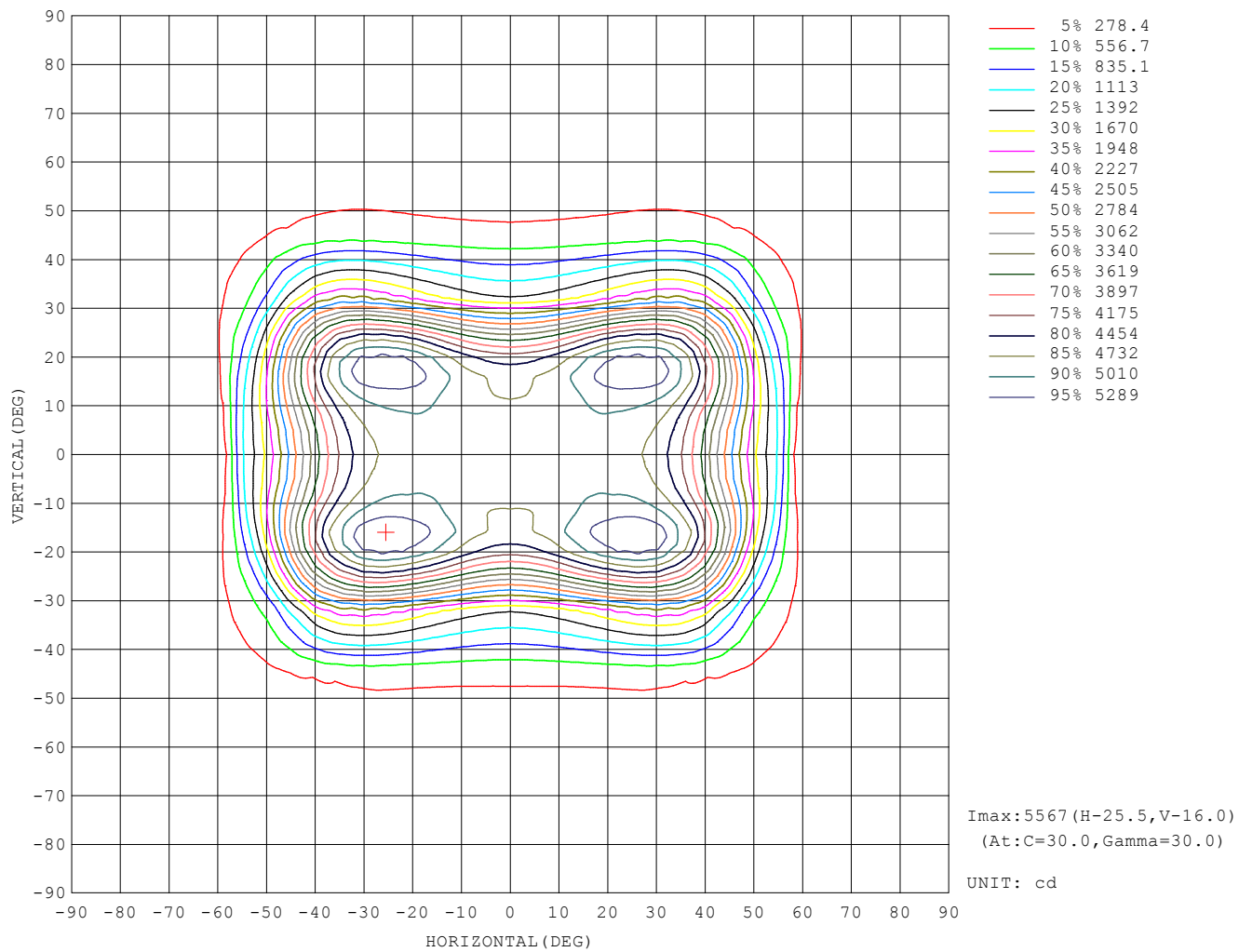
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	74	65	60	73	65	60	72	65	60	55
0.80	84	75	70	83	75	70	81	74	70	65
1.00	91	83	78	90	82	78	88	83	77	72
1.25	96	89	85	95	89	84	93	87	83	78
1.50	100	94	89	99	93	89	96	91	87	82
2.00	104	99	95	103	98	94	100	96	93	87
2.50	107	102	98	105	100	97	102	98	95	88
3.00	109	104	101	107	103	100	103	100	98	91
4.00	111	108	105	109	106	103	105	103	101	93
5.00	113	110	107	111	108	105	106	104	102	94
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:

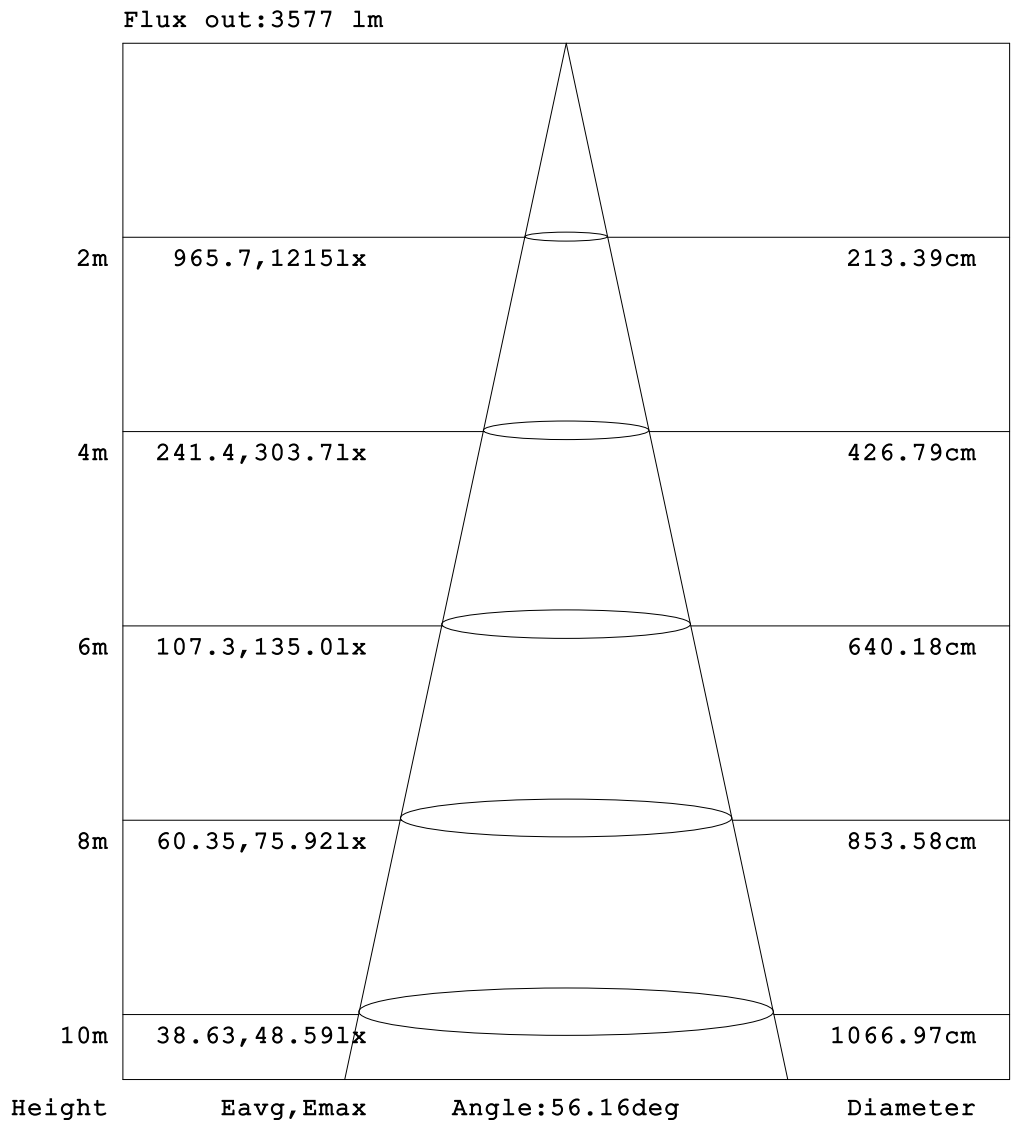
ISOCANDELA DIAGRAM



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

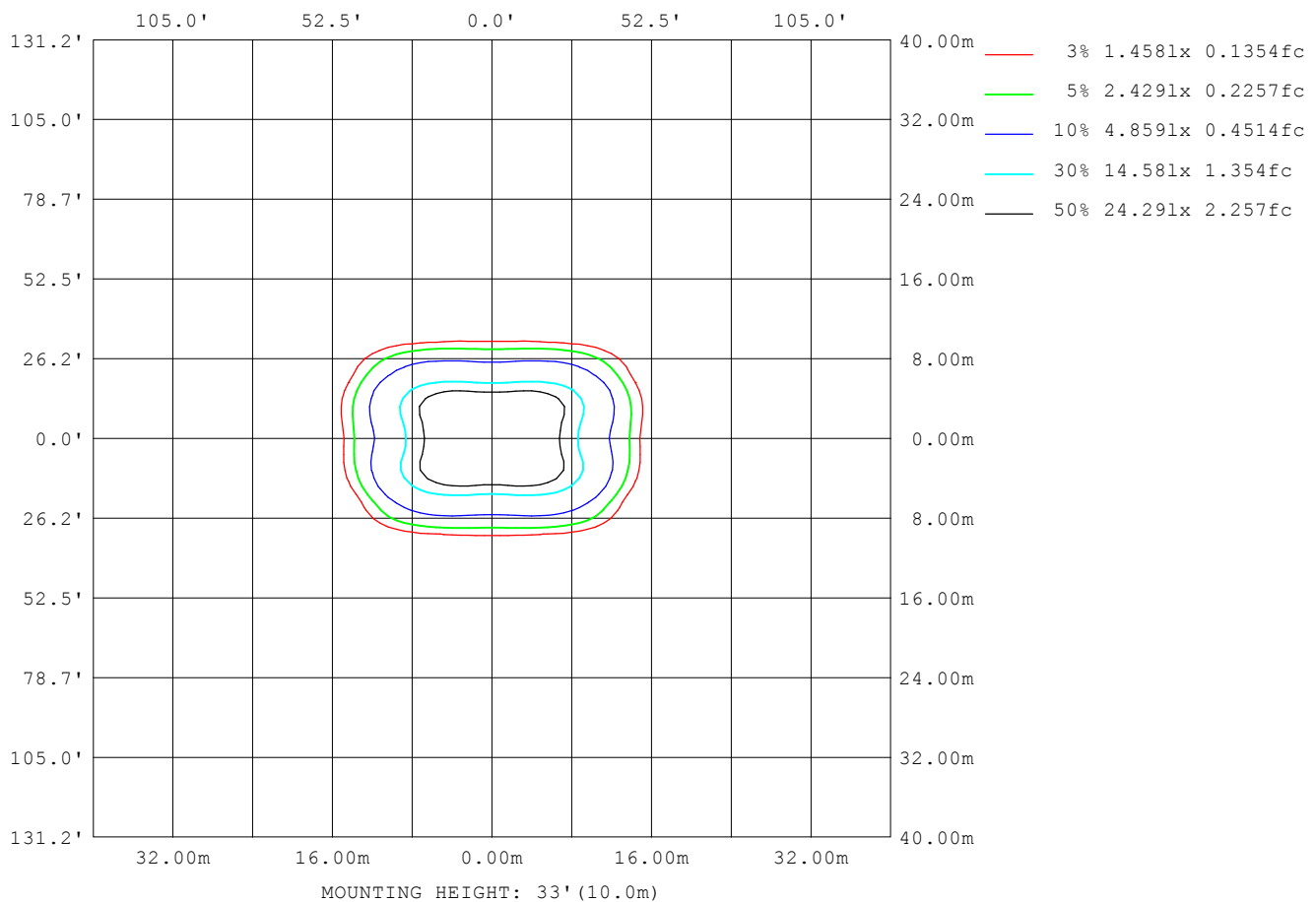


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:0.2778A P:63.12W PF:0.9878 Lamp Flux:8217.76x1 lm		
NAME: LHB01-60	TYPE:60W	WEIGHT:
SPEC.:5000K Ra70 6090DEG L02802	DIM.: 0.486*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.466*0.1	Shielding Angle:

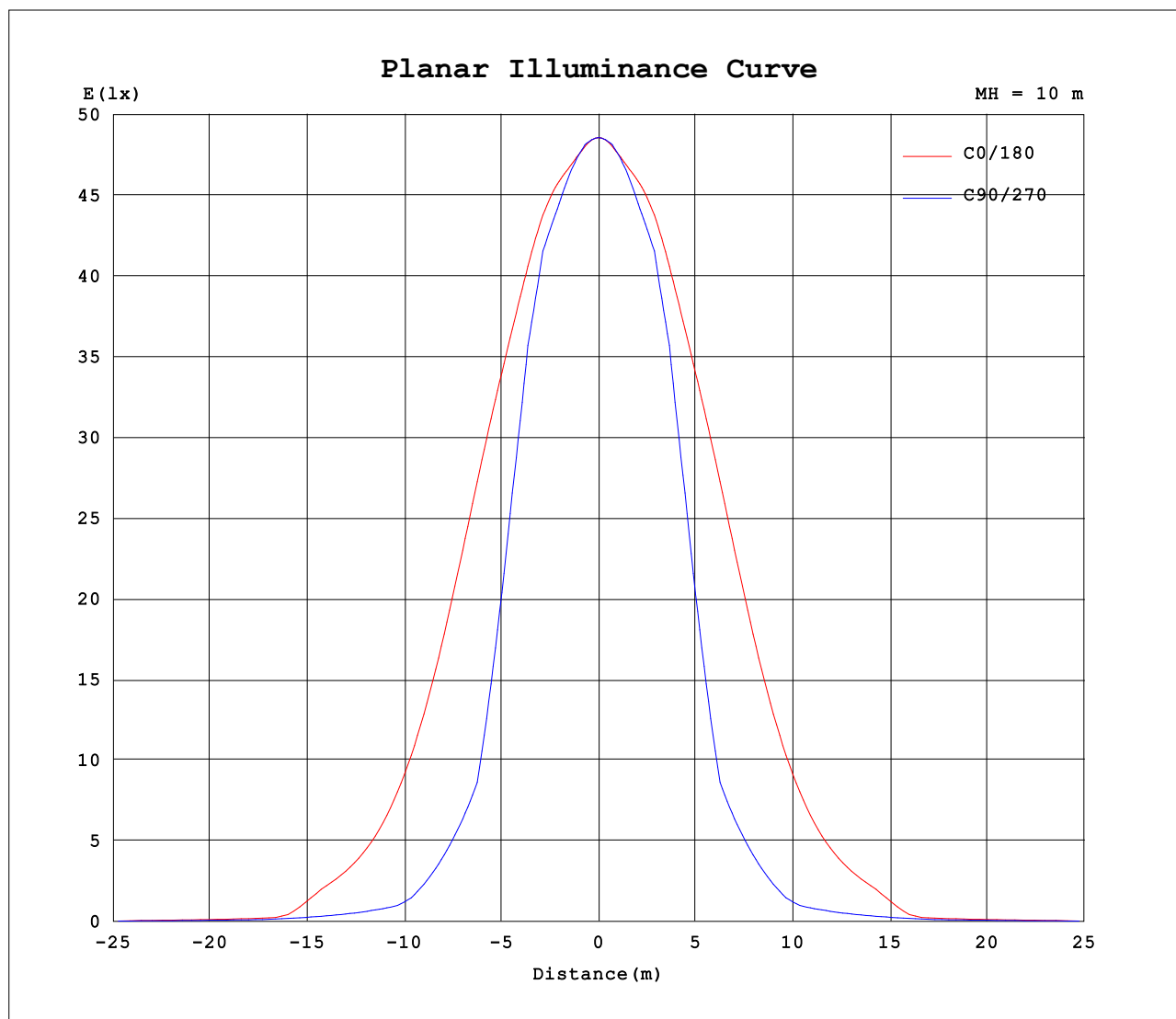
AvgL	cd/m2
L_0~180 (65) av	7887
L_0~180 (75) av	4235
L_0~180 (85) av	220
L_90~270 (65) av	5090
L_90~270 (75) av	5893
L_90~270 (85) av	6431
L_45 (65) av	7415
L_45 (75) av	4567
L_45 (85) av	3905

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:

```

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:

```

```

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:

```

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:

```