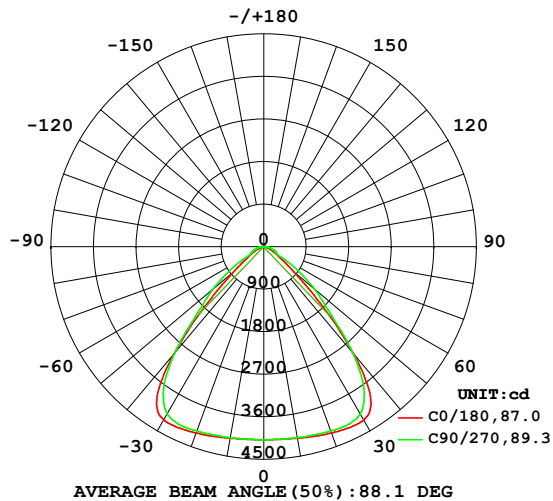


LUMINAIRE PHOTOMETRIC TEST REPORT

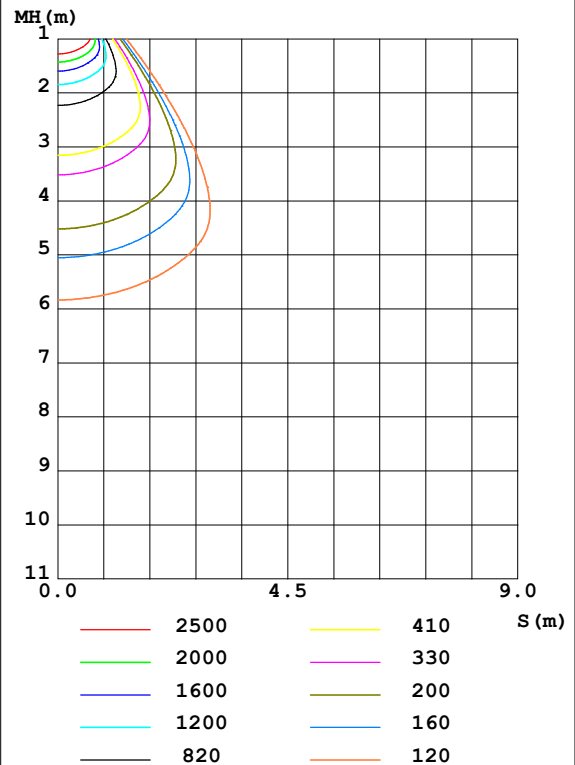
Test:U:230.1V I:0.2775A P:63.05W PF:0.9874 Lamp Flux:8208.45x1 lm		
NAME: LHB01-60	TYPE:60W	WEIGHT:
SPEC.:5000K Ra70 90DEG L02805	DIM.: 0.486*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.466*0.1	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 130.19 lm/W			
MODEL	LHB01-60	Imax(cd)	4245	S/MH(C0/180)	1.27
NOMINAL POWER(W)	60	LOR(%)	100.0	S/MH(C90/270)	1.28
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	8208.4	η UP,DN(C0-180)	0.0,50.0
NOMINAL FLUX(lm)	8208.45	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.0
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	1.30

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	4090	4092	4090	4092	4090	4092	4090	4092	0- 5	97.74	97.74	1.19,1.19
10	4113	4108	4103	4108	4113	4108	4103	4108	5- 10	293.3	391.0	4.76,4.76
15	4152	4140	4125	4140	4152	4140	4125	4140	10- 15	489.3	880.4	10.7,10.7
20	4195	4178	4150	4178	4195	4178	4150	4178	15- 20	685.3	1566	19.1,19.1
25	4233	4195	4168	4195	4233	4195	4168	4195	20- 25	878.9	2445	29.8,29.8
30	4233	4142	4094	4142	4233	4142	4094	4142	25- 30	1060	3505	42.7,42.7
35	3951	3814	3696	3814	3951	3814	3696	3814	30- 35	1182	4687	57.1,57.1
40	2954	2950	2925	2950	2954	2950	2925	2950	35- 40	1136	5822	70.9,70.9
45	1680	1820	1987	1820	1680	1820	1987	1820	40- 45	873.9	6696	81.6,81.6
50	843.0	969.6	1405	969.6	843.0	969.6	1405	969.6	45- 50	560.8	7257	88.4,88.4
55	460.7	530.3	868.9	530.3	460.7	530.3	868.9	530.3	50- 55	352.7	7610	92.7,92.7
60	285.9	346.8	333.3	346.8	285.9	346.8	333.3	346.8	55- 60	217.8	7828	95.4,95.4
65	188.8	216.3	278.1	216.3	188.8	216.3	278.1	216.3	60- 65	130.2	7958	96.9,96.9
70	122.5	139.3	223.0	139.3	122.5	139.3	223.0	139.3	65- 70	94.15	8052	98.1,98.1
75	72.83	102.1	167.9	102.1	72.83	102.1	167.9	102.1	70- 75	69.92	8122	98.9,98.9
80	18.43	67.43	112.8	67.43	18.43	67.43	112.8	67.43	75- 80	48.31	8170	99.5,99.5
85	0.8634	34.55	57.71	34.55	0.8634	34.55	57.71	34.55	80- 85	28.13	8198	99.9,99.9
90	1.148	2.637	2.602	2.637	1.148	2.637	2.602	2.637	85- 90	10.17	8208	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): 6696.2 lm

%lum = 81.6%

%lamp = 81.6%

Conical surface Flux(120deg): 7827.6 lm

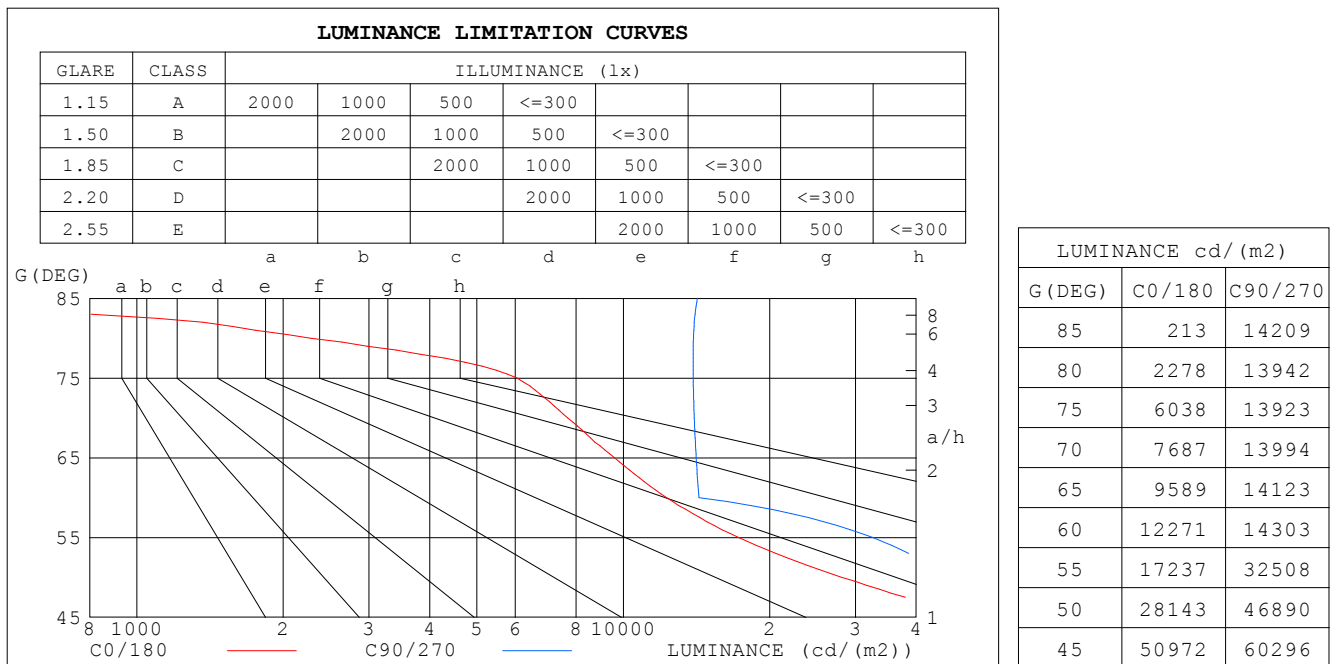
%lum = 95.4%

%lamp = 95.4%

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

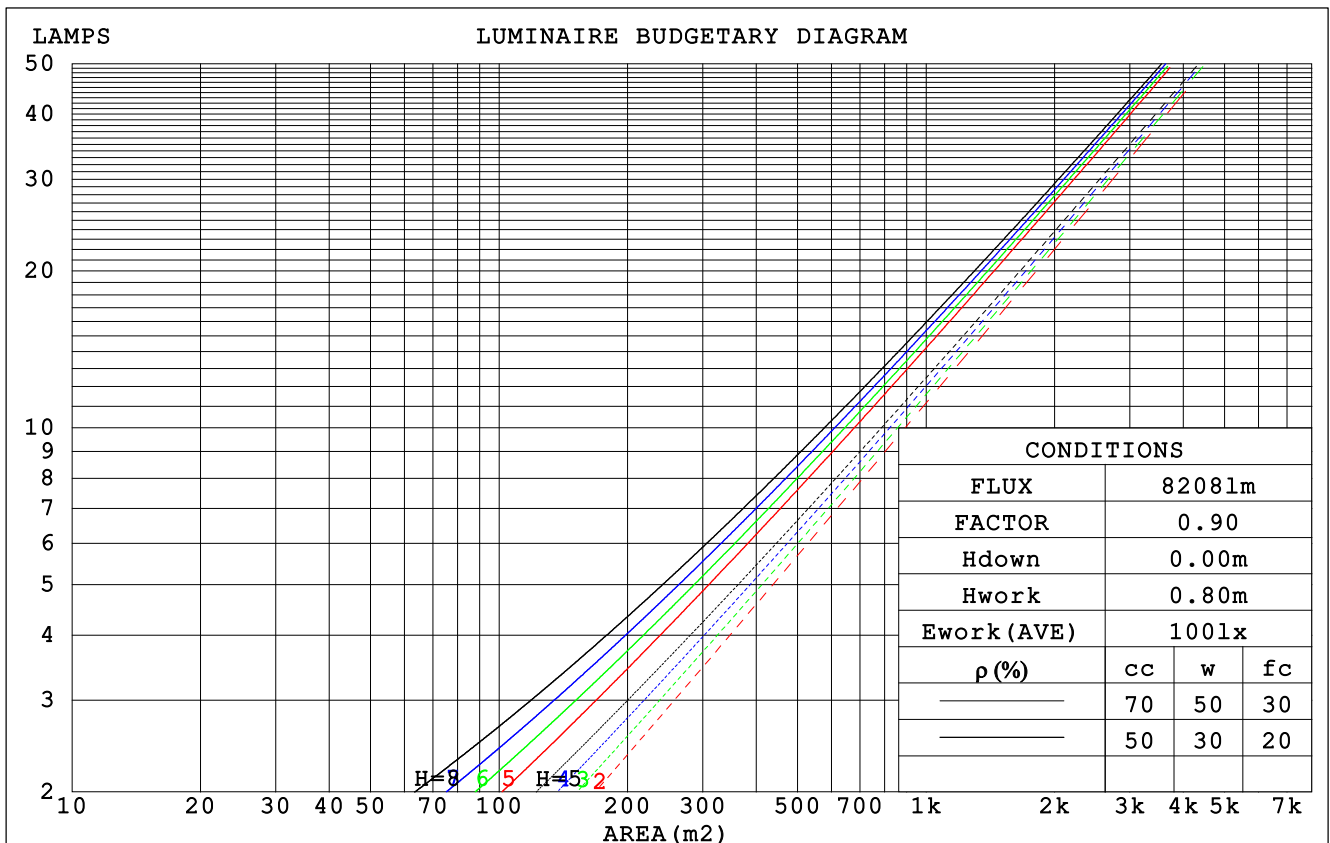


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-29

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
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			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	1.08	1.05	1.02	1.06	1.03	1.01	1.02	.00	.97	.98	.96	.95	.95	.93	.92	.90
2.0	.98	.93	.89	.96	.92	.88	.93	.89	.86	.90	.87	.84	.87	.84	.82	.80
3.0	.89	.83	.78	.87	.82	.77	.85	.80	.76	.82	.78	.74	.80	.76	.73	.71
4.0	.81	.74	.69	.80	.73	.68	.77	.72	.67	.75	.70	.66	.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	.49	.61	.54	.49	.60	.54	.49	.59	.53	.49	.57	.52	.48	.47
8.0	.57	.50	.45	.57	.50	.45	.55	.49	.45	.54	.49	.44	.53	.48	.44	.42
9.0	.53	.46	.41	.52	.46	.41	.51	.45	.41	.50	.45	.40	.49	.44	.40	.39
10.0	.49	.42	.37	.49	.42	.37	.48	.42	.37	.47	.41	.37	.46	.41	.37	.35



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	.226	.129	.041	.219	.125	.040	.207	.118	.038	.195	.112	.036	.184	.107	.034	
2.0	.219	.120	.037	.213	.117	.036	.202	.112	.035	.192	.107	.034	.182	.103	.032	
3.0	.208	.111	.033	.203	.109	.033	.194	.105	.032	.185	.101	.031	.177	.098	.030	
4.0	.198	.103	.030	.193	.101	.030	.185	.098	.029	.177	.095	.029	.170	.092	.028	
5.0	.187	.095	.028	.183	.094	.027	.176	.092	.027	.169	.089	.027	.163	.087	.026	
6.0	.178	.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	.149	.077	.023	
8.0	.160	.078	.022	.157	.077	.022	.152	.076	.022	.147	.074	.021	.142	.073	.021	
9.0	.152	.074	.021	.150	.073	.020	.145	.072	.020	.140	.070	.020	.136	.069	.020	
10.0	.145	.069	.019	.143	.069	.019	.138	.068	.019	.134	.067	.019	.130	.066	.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	.175	.157	.141	.149	.135	.121	.102	.093	.084	.059	.054	.049	.019	.017	.016	
2.0	.162	.132	.107	.139	.114	.092	.095	.079	.064	.055	.046	.038	.018	.015	.012	
3.0	.153	.114	.083	.131	.098	.072	.090	.068	.050	.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	.068	.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:
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	23.1	24.4	23.4	24.5	24.7	24.1	25.3	24.3	25.5	25.7
3H	23.1	24.2	23.4	24.5	24.7	24.2	25.4	24.5	25.6	25.8
4H	23.1	24.1	23.4	24.4	24.6	24.4	25.4	24.7	25.7	25.9
6H	23.0	24.0	23.3	24.3	24.5	24.5	25.5	24.8	25.7	26.0
8H	23.0	23.9	23.3	24.2	24.5	24.5	25.5	24.9	25.8	26.0
12H	22.9	23.8	23.3	24.1	24.4	24.6	25.5	24.9	25.8	26.1
4H 2H	23.0	24.1	23.3	24.3	24.6	23.9	25.0	24.2	25.2	25.5
3H	23.1	24.0	23.4	24.3	24.6	24.2	25.1	24.5	25.4	25.7
4H	23.1	23.9	23.5	24.2	24.6	24.4	25.2	24.7	25.5	25.8
6H	23.1	23.8	23.5	24.2	24.5	24.6	25.4	25.0	25.7	26.1
8H	23.1	23.7	23.5	24.1	24.5	24.7	25.4	25.1	25.8	26.1
12H	23.0	23.6	23.4	24.0	24.4	24.8	25.5	25.3	25.8	26.2
8H 4H	23.1	23.8	23.5	24.1	24.5	24.3	25.0	24.7	25.4	25.7
6H	23.1	23.7	23.5	24.1	24.5	24.6	25.2	25.1	25.6	26.0
8H	23.1	23.6	23.6	24.0	24.5	24.8	25.3	25.3	25.7	26.2
12H	23.1	23.5	23.6	23.9	24.4	25.0	25.4	25.5	25.8	26.3
12H 4H	23.1	23.7	23.5	24.1	24.5	24.3	24.9	24.7	25.3	25.7
6H	23.1	23.6	23.6	24.0	24.5	24.6	25.1	25.1	25.5	26.0
8H	23.1	23.5	23.6	24.0	24.5	24.8	25.2	25.3	25.7	26.1
Variations with the observer position at spacings:										
S = 1.0H	+ 1.9 / - 4.0					+ 1.1 / - 1.7				
1.5H	+ 2.9 / - 3.4					+ 1.6 / - 1.7				
2.0H	+ 4.1 / - 2.8					+ 3.0 / - 2.8				

CIE Pub.117 Corrected 8208 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:

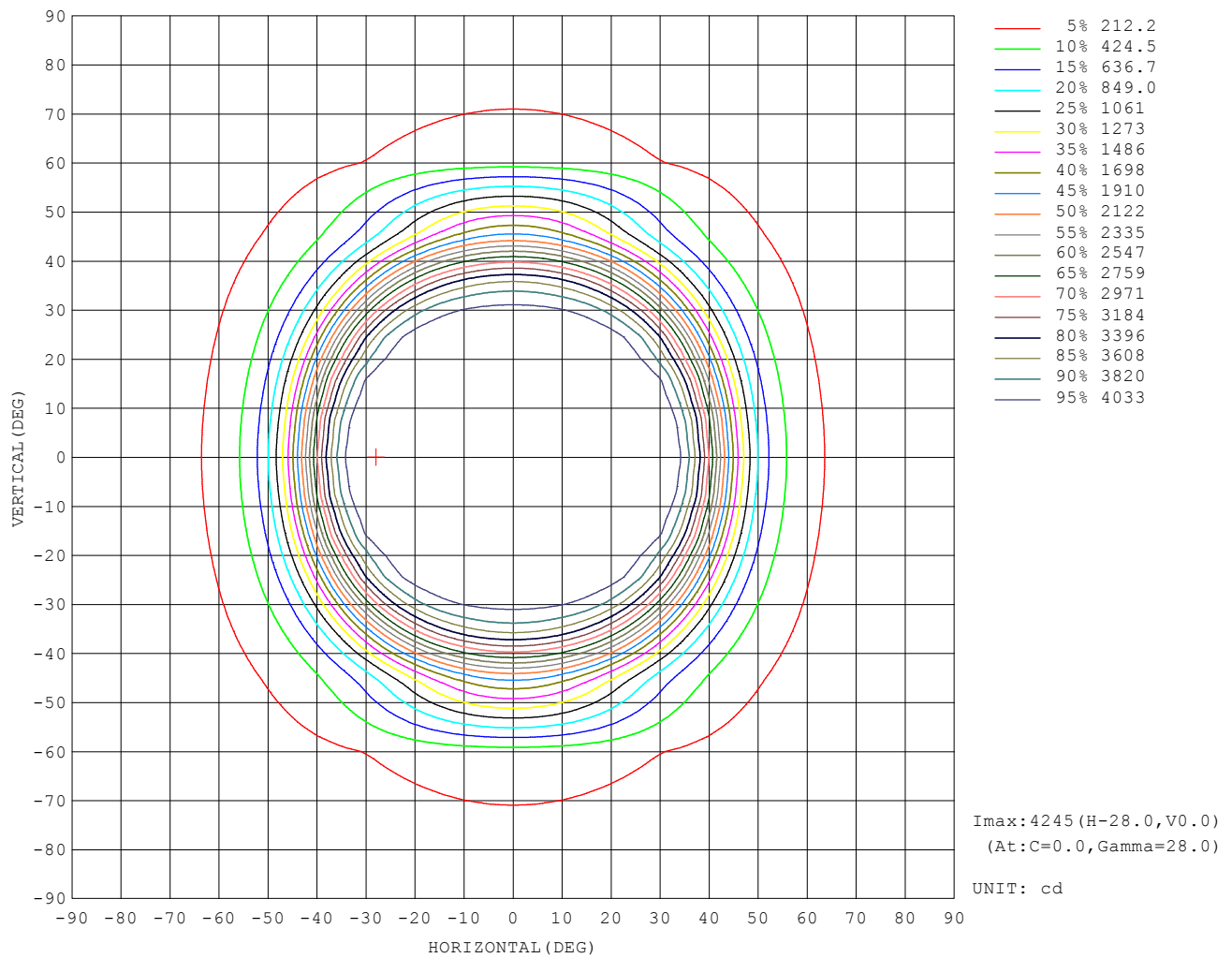
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	73	64	59	72	64	59	72	64	59	54
0.80	83	74	69	82	74	69	80	73	68	63
1.00	90	82	77	89	81	76	87	82	76	71
1.25	95	88	83	94	87	83	92	86	82	77
1.50	99	92	88	98	92	87	95	90	86	80
2.00	104	98	94	102	97	93	99	95	91	85
2.50	106	101	97	104	100	96	101	97	94	87
3.00	108	104	100	106	102	99	103	99	97	90
4.00	111	107	104	109	105	103	105	102	100	92
5.00	112	109	106	110	107	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:

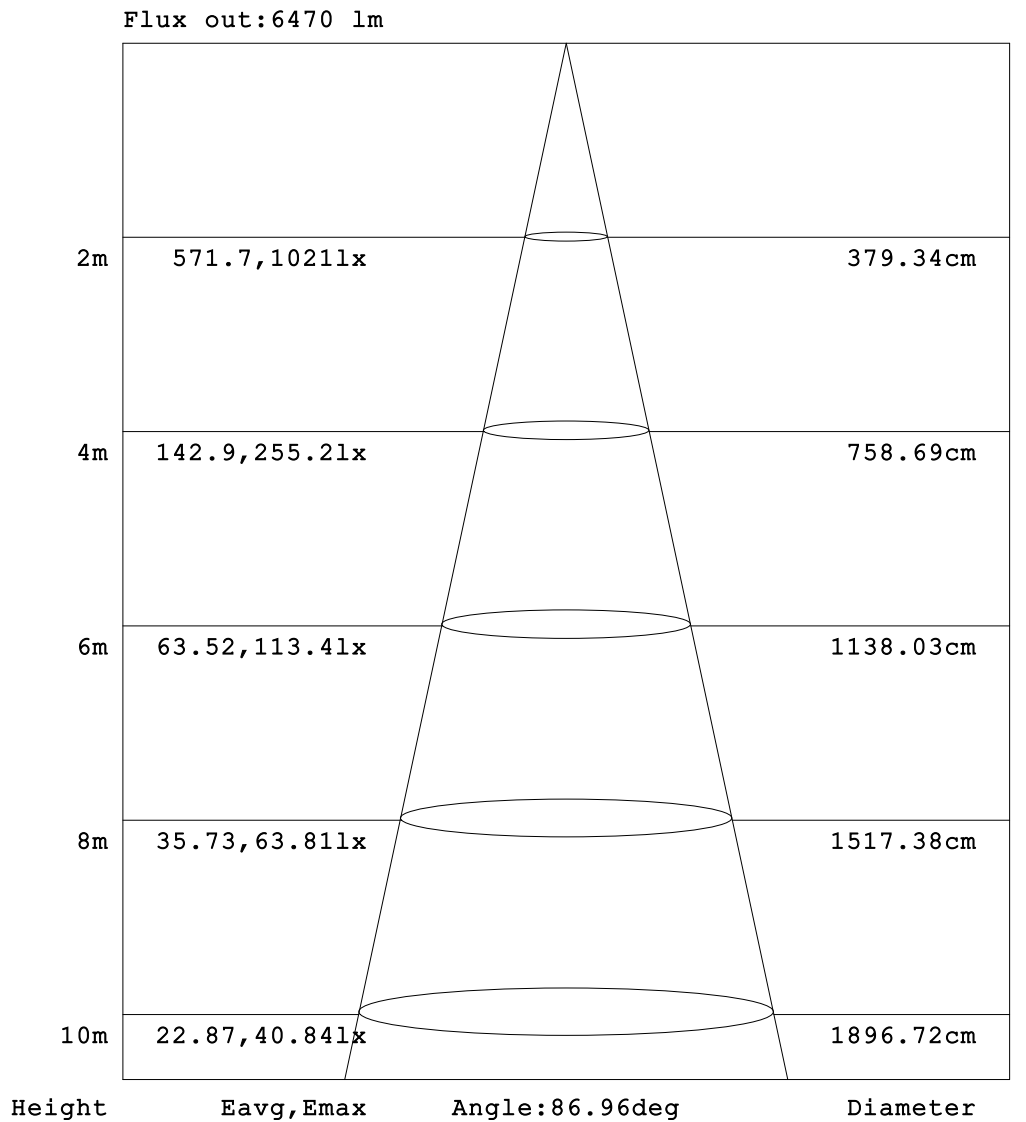
ISOCANDELA DIAGRAM



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

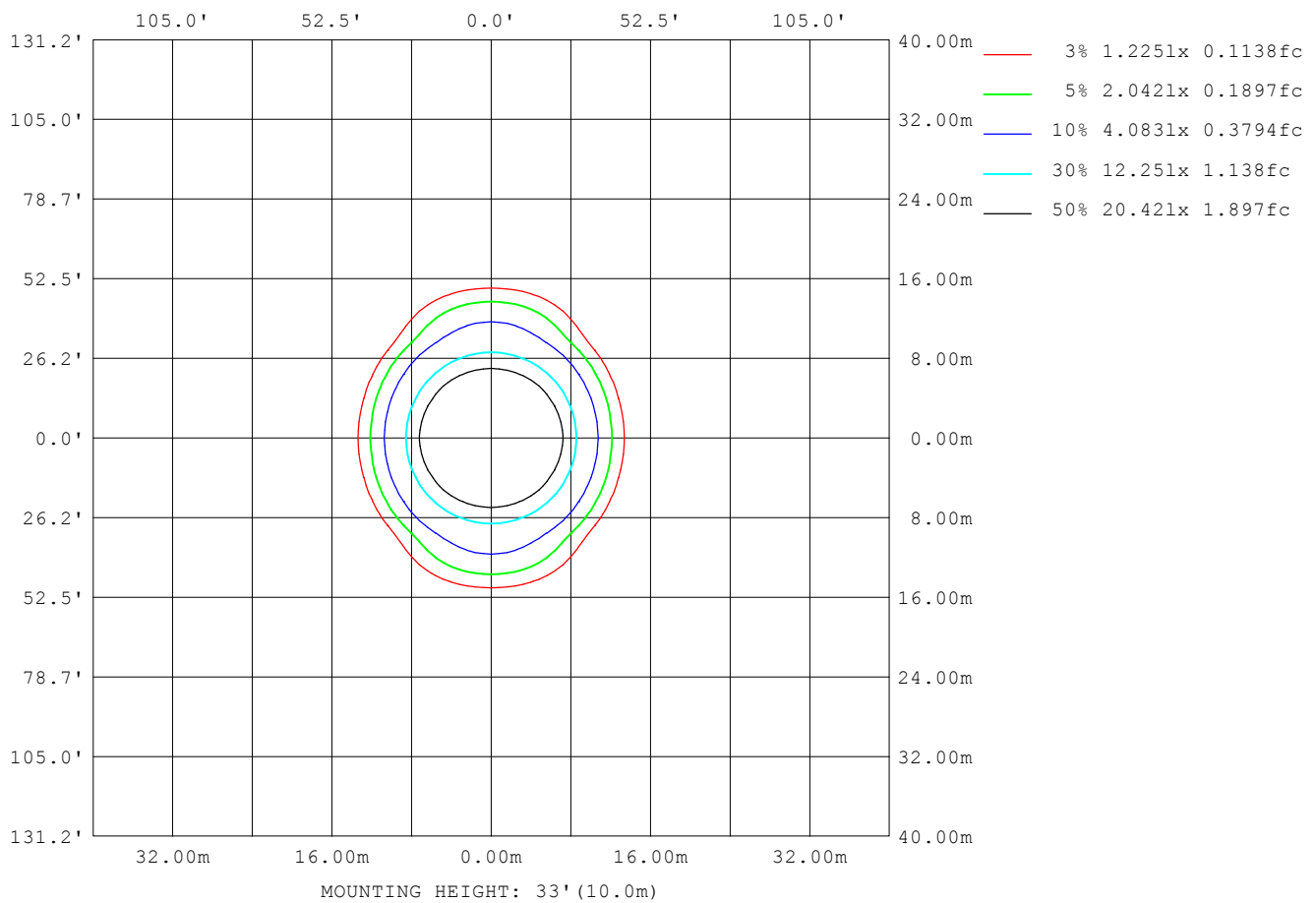


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:0.2775A P:63.05W PF:0.9874 Lamp Flux:8208.45x1 lm		
NAME: LHB01-60	TYPE:60W	WEIGHT:
SPEC.:5000K Ra70 90DEG L02805	DIM.: 0.486*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.466*0.1	Shielding Angle:

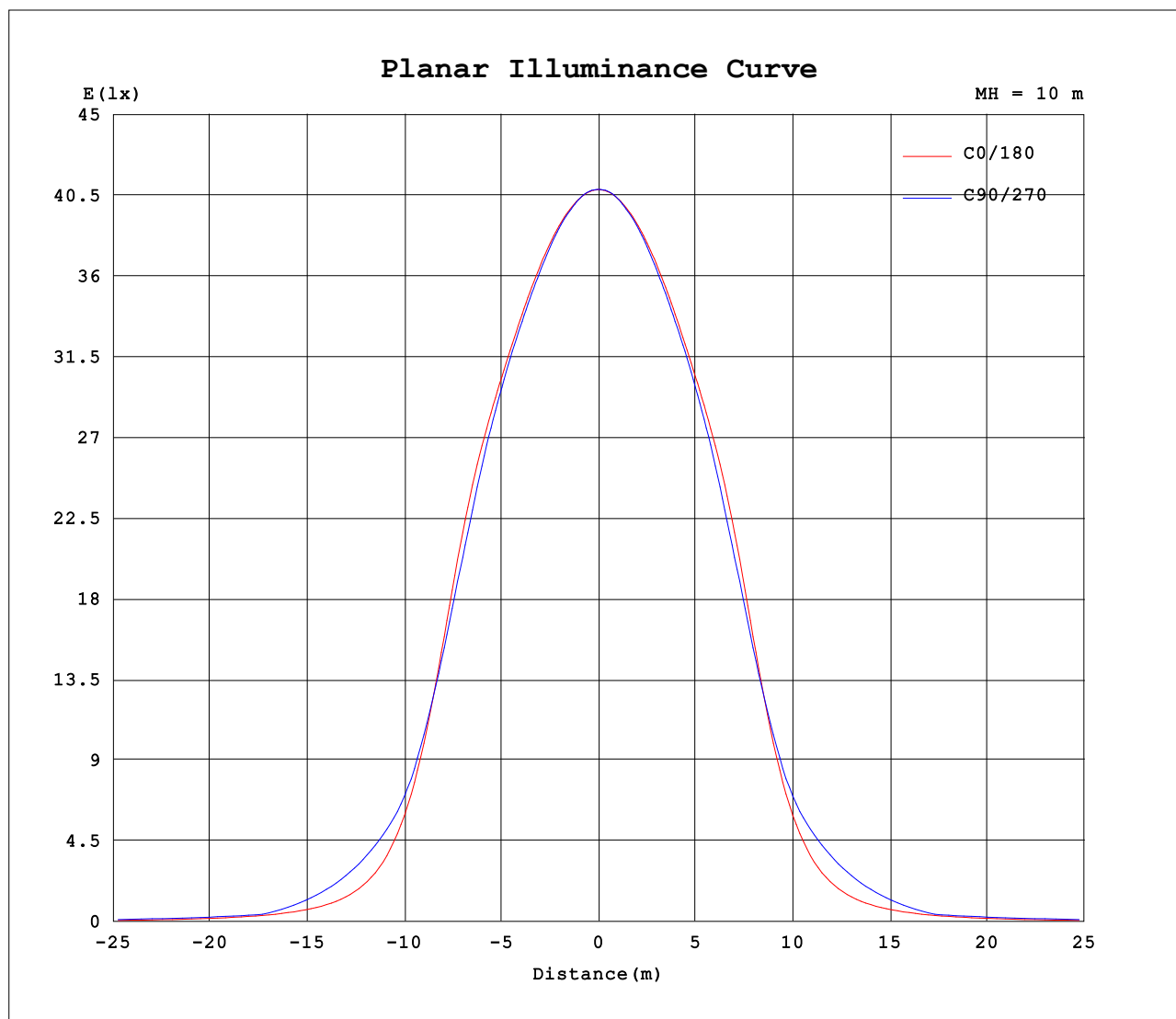
AvgL	cd/m2
L_0~180 (65) av	9589
L_0~180 (75) av	6038
L_0~180 (85) av	213
L_90~270 (65) av	14123
L_90~270 (75) av	13923
L_90~270 (85) av	14209
L_45 (65) av	10982
L_45 (75) av	8463
L_45 (85) av	8508

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:

```