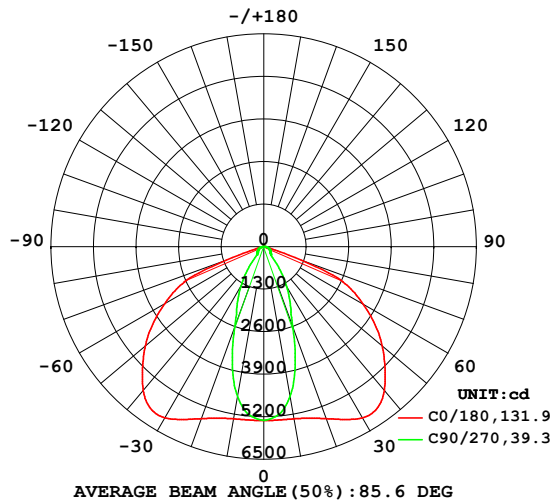


LUMINAIRE PHOTOMETRIC TEST REPORT

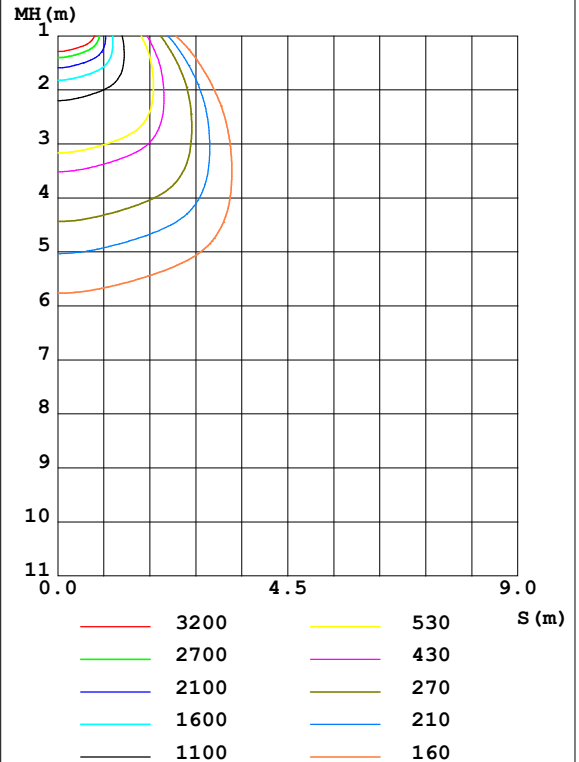
Test:U:230.1V I:0.2777A P:63.09W PF:0.9876 Lamp Flux:8108.86x1 lm		
NAME: LHB01-60	TYPE:60W	WEIGHT:
SPEC.:5000K Ra70 40130DEG L02804	DIM.: 0.486*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.466*0.1	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 128.54 lm/W			
MODEL	LHB01-60	I _{max} (cd)	6075	S/MH(C0/180)	1.65
NOMINAL POWER(W)	60	LOR(%)	100.0	S/MH(C90/270)	0.65
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	8108.9	η UP,DN(C0-180)	0.0,49.4
NOMINAL FLUX(lm)	8108.86	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.6
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	0.75

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	5318	5224	5154	5224	5318	5229	5154	5229	0- 5	125.9	125.9	1.55,1.55
10	5342	4983	4645	4983	5342	5001	4645	5001	5- 10	365.8	491.7	6.06,6.06
15	5428	4535	3724	4535	5428	4570	3724	4570	10- 15	566.9	1059	13.1,13.1
20	5594	3876	2583	3876	5594	3913	2583	3913	15- 20	704.5	1763	21.7,21.7
25	5827	3064	1926	3064	5827	3101	1926	3101	20- 25	780.4	2544	31.4,31.4
30	6040	2326	1399	2326	6040	2366	1399	2366	25- 30	830.4	3374	41.6,41.6
35	6037	1907	871.5	1907	6037	1945	871.5	1945	30- 35	842.3	4216	52,52
40	5735	1441	344.2	1441	5735	1478	344.2	1478	35- 40	794.6	5011	61.8,61.8
45	5239	920.2	292.5	920.2	5239	953.2	292.5	953.2	40- 45	701.0	5712	70.4,70.4
50	4727	367.2	263.4	367.2	4727	387.3	263.4	387.3	45- 50	611.9	6324	78,78
55	4151	272.8	237.1	272.8	4151	286.6	237.1	286.6	50- 55	528.4	6852	84.5,84.5
60	3498	227.0	210.9	227.0	3498	240.4	210.9	240.4	55- 60	442.8	7295	90,90
65	2819	180.5	183.6	180.5	2819	193.3	183.6	193.3	60- 65	357.5	7653	94.4,94.4
70	1222	127.6	148.4	127.6	1222	138.2	148.4	138.2	65- 70	255.9	7909	97.5,97.5
75	146.9	88.75	112.1	88.75	146.9	96.71	112.1	96.71	70- 75	114.6	8023	98.9,98.9
80	46.01	60.31	75.93	60.31	46.01	65.72	75.93	65.72	75- 80	49.43	8073	99.6,99.6
85	4.604	32.30	39.71	32.30	4.604	34.79	39.71	34.79	80- 85	26.21	8099	99.9,99.9
90	3.818	4.486	3.488	4.486	3.818	3.881	3.488	3.881	85- 90	10.14	8109	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): 5712 lm

%lum = 70.4%

%lamp = 70.4%

Conical surface Flux(120deg): 7295.1 lm

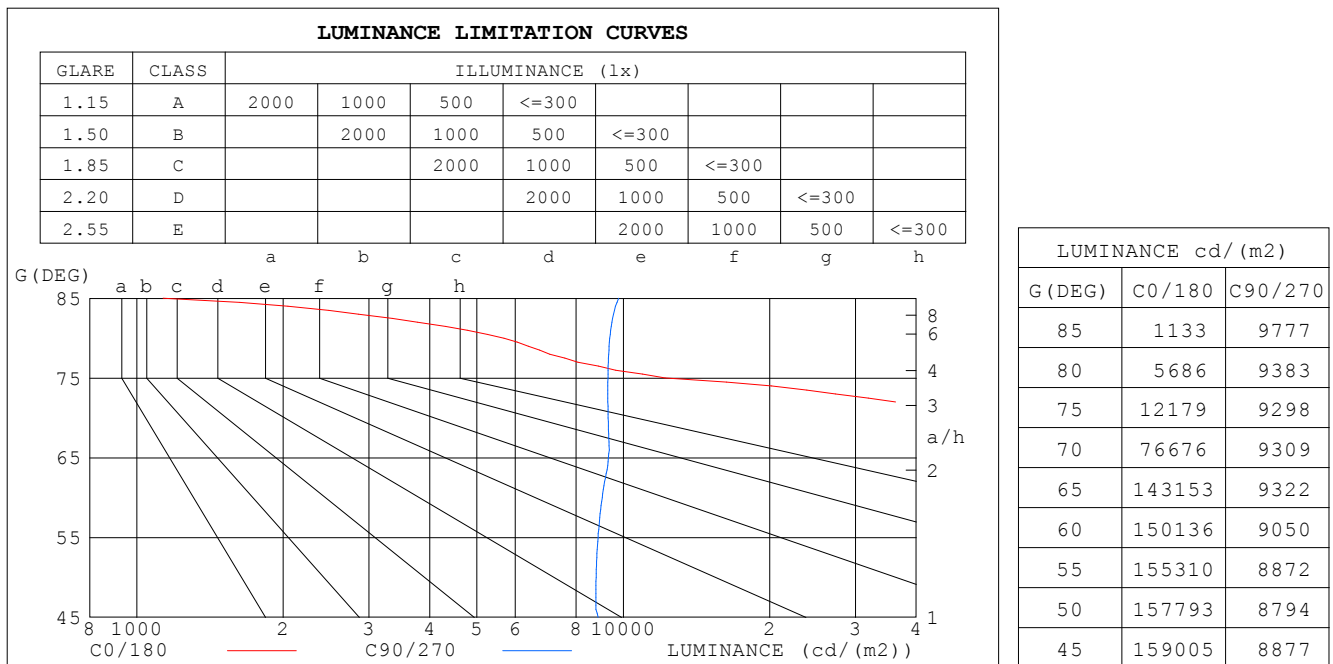
%lum = 90.0%

%lamp = 90.0%

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

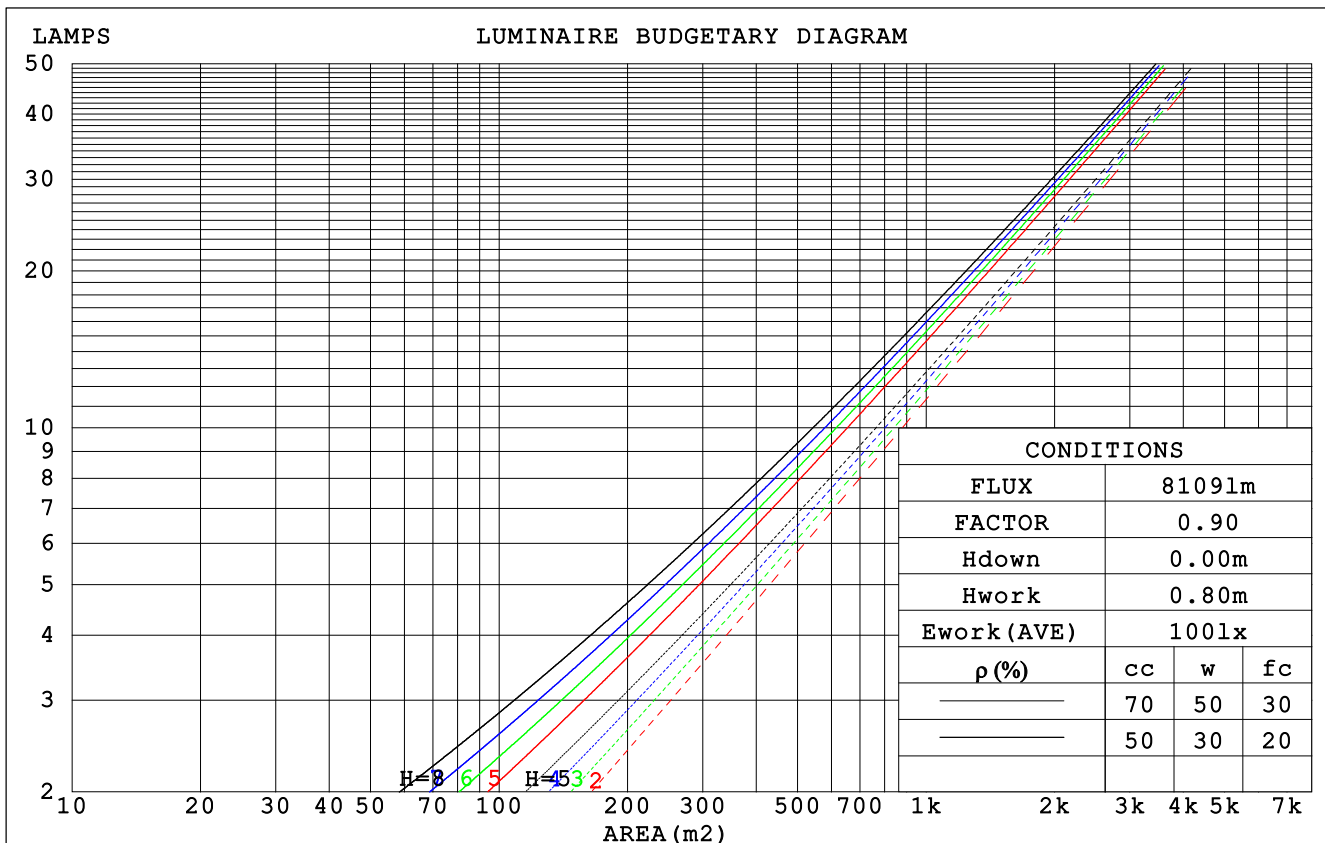


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-29

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	1.00
1.0	1.07	1.04	1.01	1.05	1.02	.99	1.01	.98	.96	.97	.95	.93	.94	.92	.91	.89
2.0	.96	.91	.86	.94	.89	.85	.91	.87	.83	.88	.84	.81	.85	.82	.79	.78
3.0	.87	.80	.74	.85	.79	.74	.82	.77	.72	.80	.75	.71	.77	.73	.70	.68
4.0	.78	.71	.65	.77	.70	.65	.75	.69	.64	.72	.67	.63	.70	.66	.62	.60
5.0	.71	.63	.58	.70	.63	.57	.68	.62	.57	.66	.61	.56	.65	.60	.56	.54
6.0	.65	.57	.52	.64	.57	.51	.63	.56	.51	.61	.55	.51	.59	.54	.50	.48
7.0	.60	.52	.47	.59	.52	.47	.58	.51	.46	.56	.50	.46	.55	.50	.46	.44
8.0	.55	.48	.42	.55	.47	.42	.53	.47	.42	.52	.46	.42	.51	.46	.42	.40
9.0	.51	.44	.39	.51	.44	.39	.50	.43	.39	.49	.43	.39	.48	.42	.38	.37
10.0	.48	.41	.36	.47	.40	.36	.46	.40	.36	.45	.40	.36	.45	.39	.35	.34



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	.244	.139	.044	.237	.135	.043	.224	.128	.041	.212	.122	.039	.201	.116	.038	
2.0	.236	.129	.040	.230	.127	.039	.219	.122	.038	.209	.117	.037	.199	.113	.035	
3.0	.224	.119	.036	.218	.117	.035	.209	.113	.034	.200	.109	.034	.191	.106	.033	
4.0	.210	.109	.032	.206	.108	.032	.197	.105	.031	.189	.102	.031	.182	.099	.030	
5.0	.198	.101	.029	.194	.099	.029	.186	.097	.029	.179	.094	.028	.172	.092	.028	
6.0	.186	.093	.027	.182	.092	.026	.175	.090	.026	.169	.088	.026	.163	.086	.026	
7.0	.175	.086	.024	.172	.086	.024	.166	.084	.024	.160	.082	.024	.155	.080	.024	
8.0	.165	.081	.023	.162	.080	.023	.157	.078	.022	.151	.077	.022	.147	.075	.022	
9.0	.156	.075	.021	.153	.075	.021	.148	.073	.021	.144	.072	.021	.139	.071	.020	
10.0	.148	.071	.020	.145	.070	.020	.141	.069	.019	.137	.068	.019	.133	.067	.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	.176	.157	.140	.150	.135	.120	.103	.093	.083	.059	.054	.048	.019	.017	.016	
2.0	.165	.132	.105	.141	.114	.091	.097	.079	.063	.056	.046	.037	.018	.015	.012	
3.0	.156	.114	.081	.133	.098	.070	.092	.068	.049	.053	.040	.029	.017	.013	.009	
4.0	.147	.100	.064	.126	.087	.056	.087	.060	.039	.050	.035	.023	.016	.011	.008	
5.0	.140	.089	.052	.120	.077	.045	.083	.054	.032	.048	.032	.019	.015	.010	.006	
6.0	.133	.081	.043	.114	.070	.038	.079	.049	.027	.046	.029	.016	.015	.009	.005	
7.0	.126	.074	.036	.109	.064	.032	.075	.045	.023	.044	.026	.013	.014	.009	.004	
8.0	.120	.068	.031	.104	.059	.027	.072	.041	.019	.042	.024	.012	.013	.008	.004	
9.0	.115	.063	.027	.099	.054	.024	.069	.038	.017	.040	.023	.010	.013	.007	.003	
10.0	.110	.058	.024	.094	.051	.021	.066	.036	.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	30.6	31.9	30.8	32.1	32.2	16.2	17.5	16.5	17.7	17.9
3H	31.8	33.0	32.1	33.2	33.5	17.3	18.5	17.6	18.7	19.0
4H	31.8	32.9	32.1	33.1	33.4	17.9	19.0	18.2	19.3	19.5
6H	31.7	32.7	32.0	33.0	33.3	18.4	19.5	18.7	19.7	20.0
8H	31.6	32.6	32.0	32.9	33.2	18.6	19.7	19.0	19.9	20.2
12H	31.6	32.6	31.9	32.8	33.1	18.8	19.8	19.1	20.1	20.4
4H 2H	30.3	31.4	30.6	31.7	31.9	17.5	18.7	17.8	18.9	19.1
3H	31.5	32.5	31.9	32.8	33.1	18.5	19.5	18.8	19.8	20.0
4H	31.5	32.4	31.9	32.7	33.0	19.1	20.0	19.4	20.3	20.6
6H	31.4	32.2	31.8	32.6	32.9	19.7	20.5	20.1	20.8	21.2
8H	31.4	32.1	31.8	32.5	32.9	19.9	20.7	20.3	21.0	21.4
12H	31.3	32.0	31.8	32.4	32.8	20.1	20.8	20.6	21.2	21.6
8H 4H	31.4	32.1	31.8	32.5	32.8	19.3	20.1	19.7	20.4	20.8
6H	31.3	31.9	31.7	32.3	32.7	20.0	20.6	20.5	21.0	21.5
8H	31.3	31.8	31.7	32.2	32.7	20.4	20.9	20.8	21.3	21.8
12H	31.2	31.7	31.7	32.1	32.6	20.7	21.1	21.2	21.6	22.1
12H 4H	31.3	32.0	31.8	32.4	32.8	19.3	20.0	19.8	20.4	20.8
6H	31.3	31.8	31.7	32.2	32.7	20.1	20.6	20.5	21.0	21.5
8H	31.2	31.7	31.7	32.1	32.6	20.5	20.9	20.9	21.3	21.8
Variations with the observer position at spacings:										
S = 1.0H	+ 1.0 / - 1.2					+ 0.7 / - 0.9				
1.5H	+ 2.4 / - 4.8					+ 1.2 / - 0.7				
2.0H	+ 3.7 / - 9.8					+ 0.1 / - 0.2				

CIE Pub.117 Corrected 8109 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:

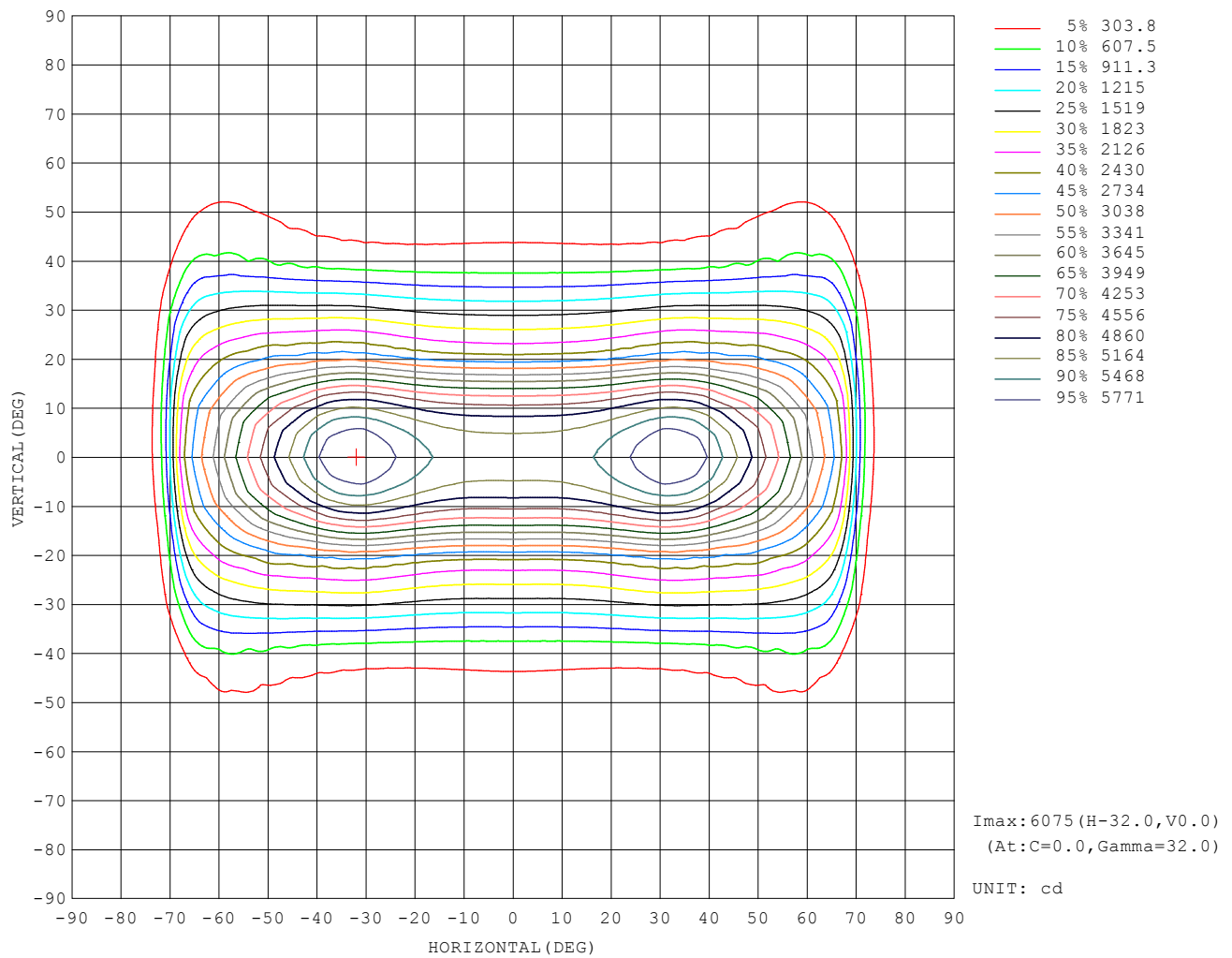
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	68	58	52	67	58	52	66	57	52	46
0.80	77	68	62	76	67	61	75	67	61	55
1.00	85	76	70	84	75	70	82	76	69	63
1.25	91	83	77	90	82	77	87	81	76	70
1.50	95	88	82	94	87	82	91	85	81	74
2.00	101	94	89	99	93	88	96	91	87	80
2.50	104	98	93	102	97	92	99	94	90	83
3.00	107	101	97	105	100	96	101	97	94	86
4.00	110	105	102	107	104	100	103	100	98	90
5.00	112	108	105	109	106	103	105	102	100	92
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:

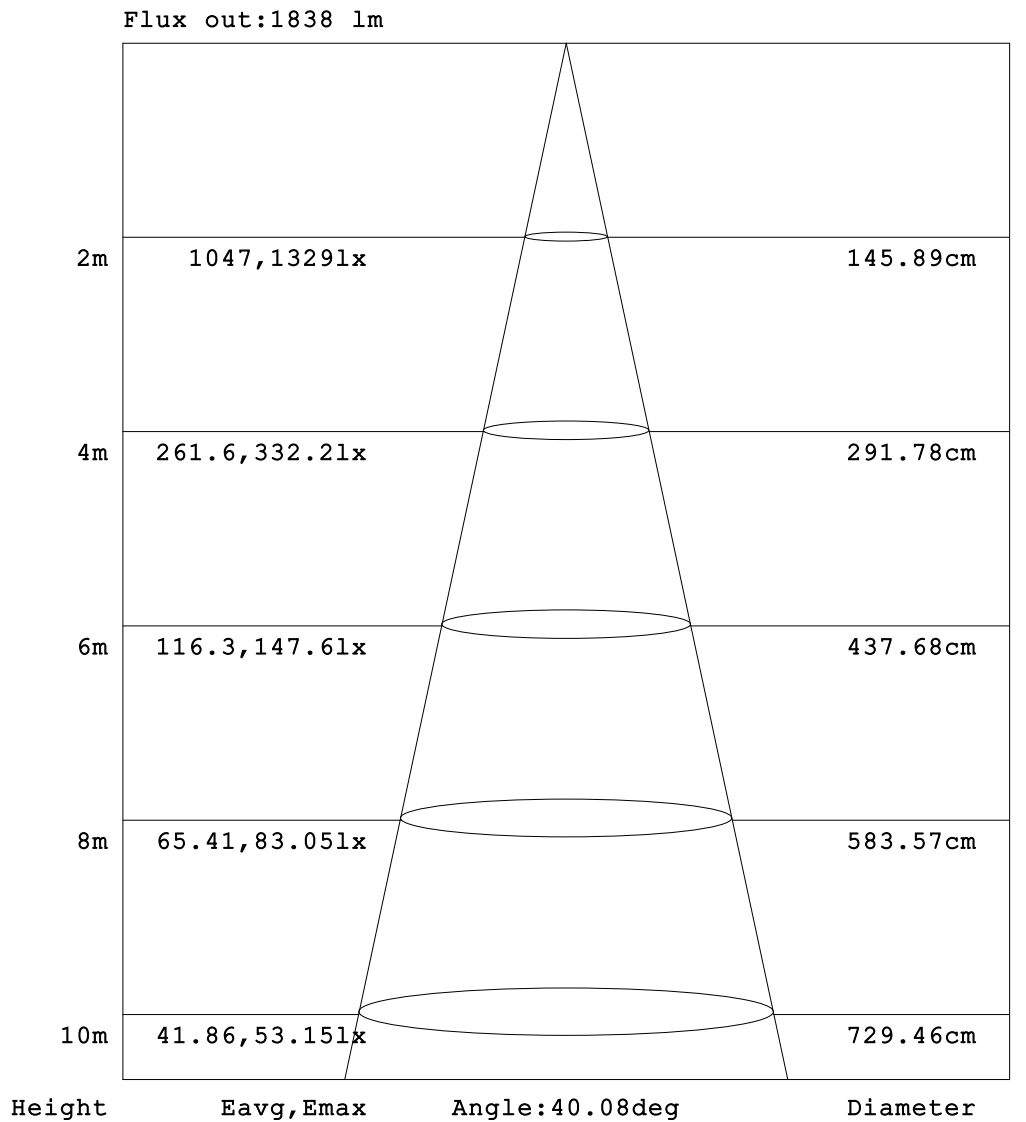
ISOCANDELA DIAGRAM



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

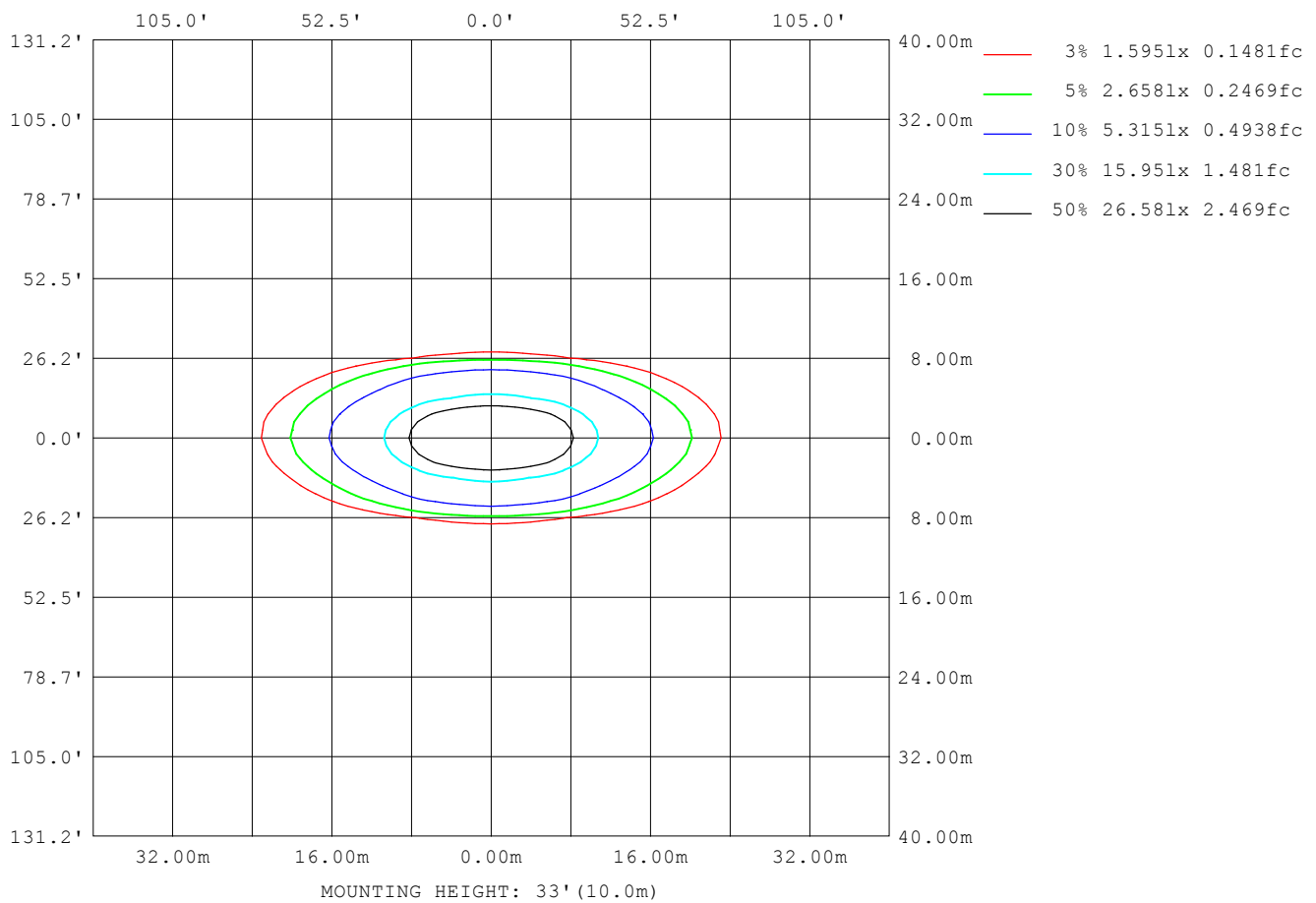


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:0.2777A P:63.09W PF:0.9876 Lamp Flux:8108.86x1 lm		
NAME: LHB01-60	TYPE:60W	WEIGHT:
SPEC.:5000K Ra70 40130DEG L02804	DIM.: 0.486*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.466*0.1	Shielding Angle:

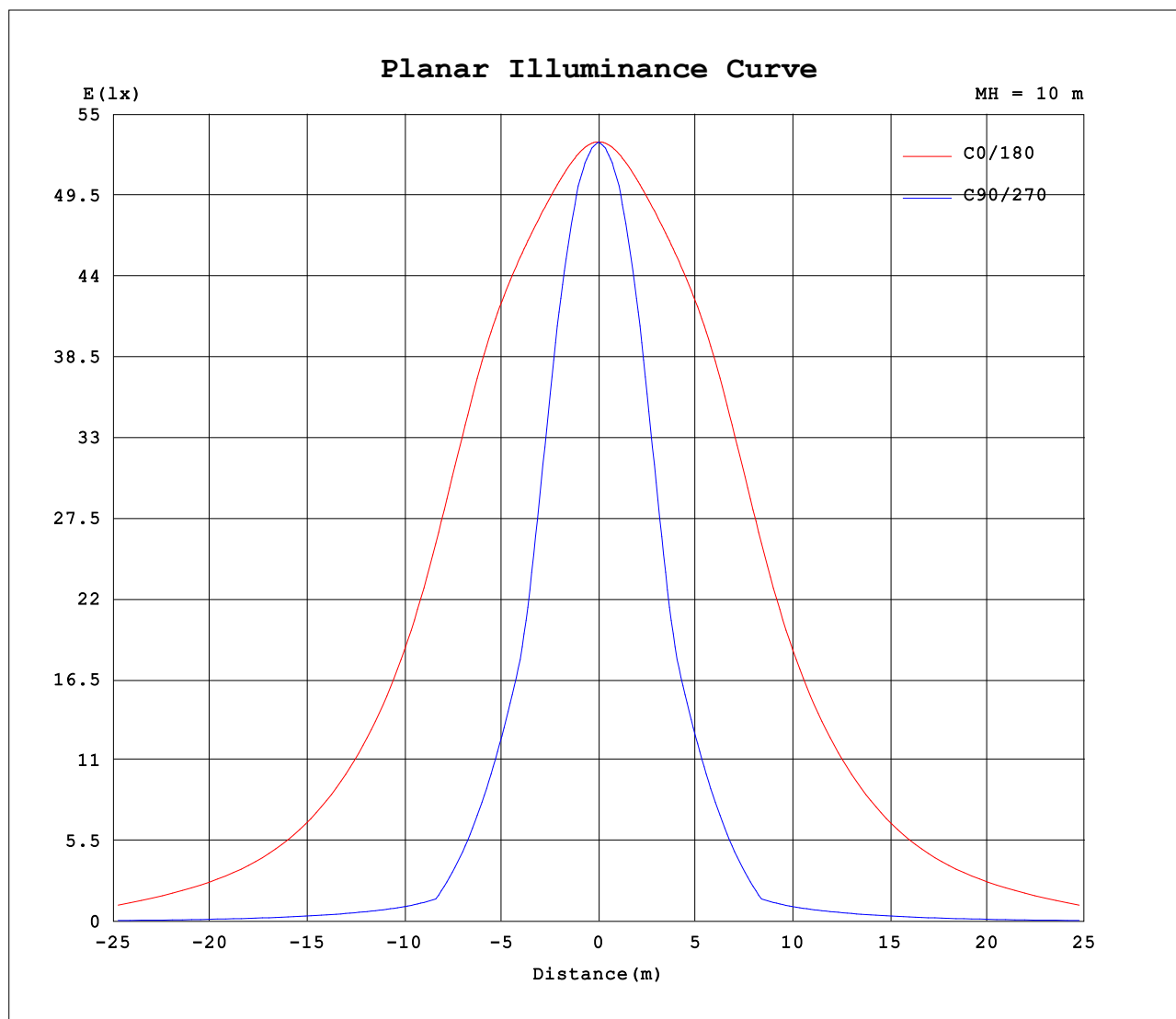
AvgL	cd/m2
L_0~180 (65) av	143153
L_0~180 (75) av	12179
L_0~180 (85) av	1133
L_90~270 (65) av	9322
L_90~270 (75) av	9298
L_90~270 (85) av	9777
L_45 (65) av	9491
L_45 (75) av	7688
L_45 (85) av	8259

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:

```

```

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:

```