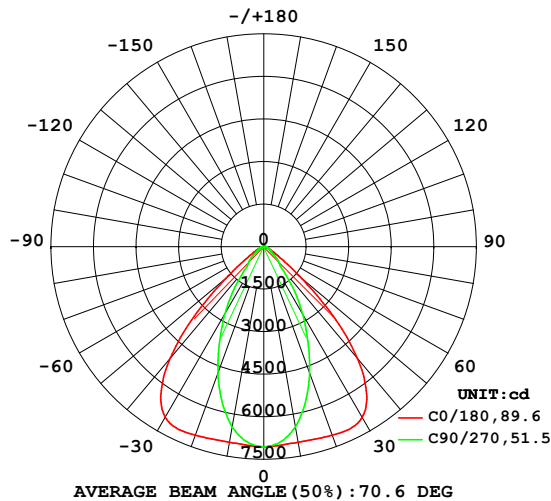


LUMINAIRE PHOTOMETRIC TEST REPORT

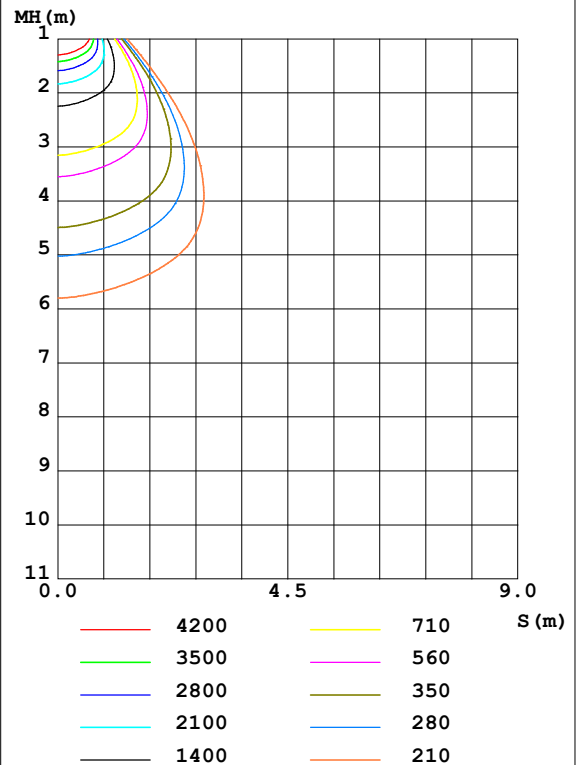
Test:U:230.0V I:0.2723A P:61.74W PF:0.9861 Lamp Flux:8914.33x1 lm		
NAME: LHB01-60H	TYPE:60W	WEIGHT:
SPEC.:4000K Ra80 5090DEG L06402	DIM.: 0.486*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.466*0.1	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 144.38 lm/W			
MODEL	LHB01-60H	I _{max} (cd)	7106	S/MH(C0/180)	1.29
NOMINAL POWER(W)	60	LOR(%)	100.0	S/MH(C90/270)	0.80
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	8914.3	η UP,DN(C0-180)	0.0,50.0
NOMINAL FLUX(lm)	8914.33	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.0
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	0.85

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:2017-06-01

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	7022	6945	6902	6977	7022	6977	6902	6945	0- 5	167.5	167.5	1.88,1.88
10	7001	6664	6448	6727	7001	6727	6448	6664	5- 10	488.8	656.4	7.36,7.36
15	7021	6247	5678	6313	7021	6313	5678	6247	10- 15	772.2	1429	16,16
20	7074	5640	4735	5714	7074	5714	4735	5640	15- 20	996.7	2425	27.2,27.2
25	7106	4787	3685	4905	7106	4905	3685	4787	20- 25	1143	3568	40,40
30	6949	3662	2756	3880	6949	3880	2756	3662	25- 30	1191	4759	53.4,53.4
35	6331	2559	1843	2816	6331	2816	1843	2559	30- 35	1135	5894	66.1,66.1
40	5133	1819	931.2	2031	5133	2031	931.2	1819	35- 40	969.7	6863	77,77
45	3464	1146	720.3	1302	3464	1302	720.3	1146	40- 45	735.0	7598	85.2,85.2
50	1760	547.0	509.3	643.7	1760	643.7	509.3	547.0	45- 50	498.0	8096	90.8,90.8
55	815.0	401.4	314.2	476.7	815.0	476.7	314.2	401.4	50- 55	299.5	8396	94.2,94.2
60	404.4	268.5	246.5	318.8	404.4	318.8	246.5	268.5	55- 60	181.2	8577	96.2,96.2
65	223.1	166.7	194.7	195.8	223.1	195.8	194.7	166.7	60- 65	120.3	8697	97.6,97.6
70	147.6	117.7	142.9	145.4	147.6	145.4	142.9	117.7	65- 70	85.00	8782	98.5,98.5
75	85.50	70.55	107.9	96.46	85.50	96.46	107.9	70.55	70- 75	60.14	8842	99.2,99.2
80	36.70	45.79	72.91	63.51	36.70	63.51	72.91	45.79	75- 80	40.08	8882	99.6,99.6
85	13.74	24.68	37.93	32.83	13.74	32.83	37.93	24.68	80- 85	23.18	8906	99.9,99.9
90	2.130	4.098	2.948	2.373	2.130	2.373	2.948	4.098	85- 90	8.778	8914	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): 7598.3 lm

%lum = 85.2%

%lamp = 85.2%

Conical surface Flux(120deg): 8576.9 lm

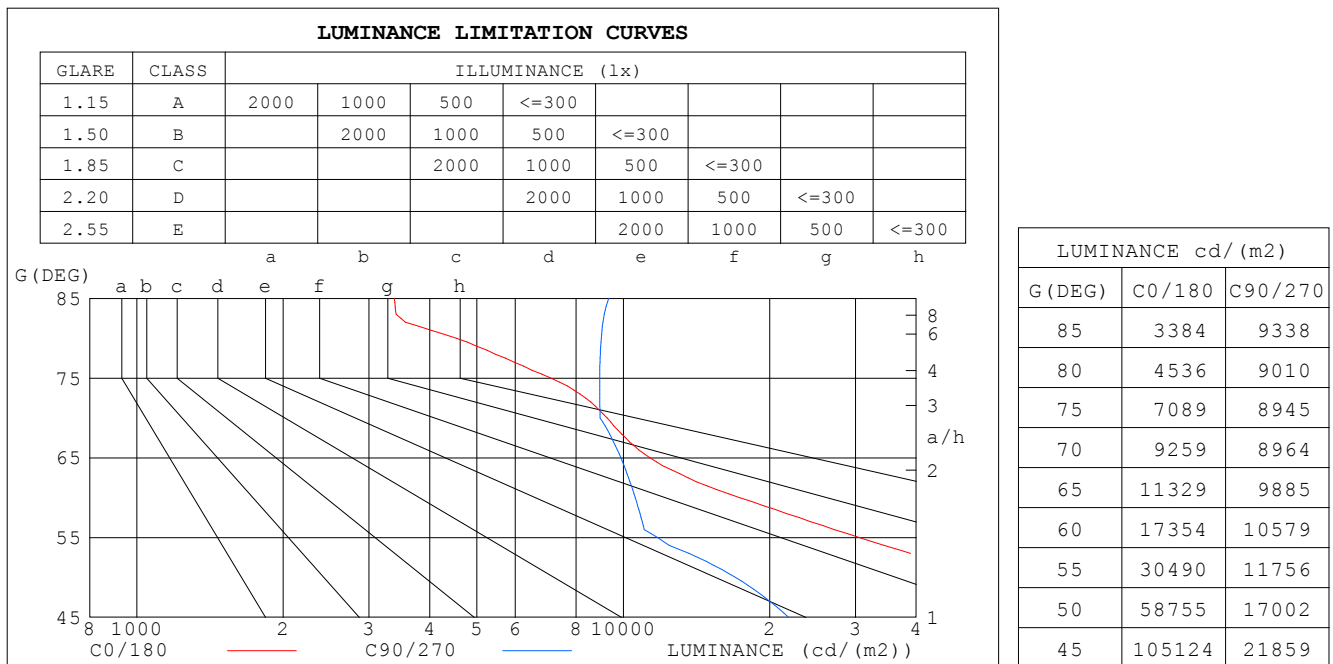
%lum = 96.2%

%lamp = 96.2%

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-06-01

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

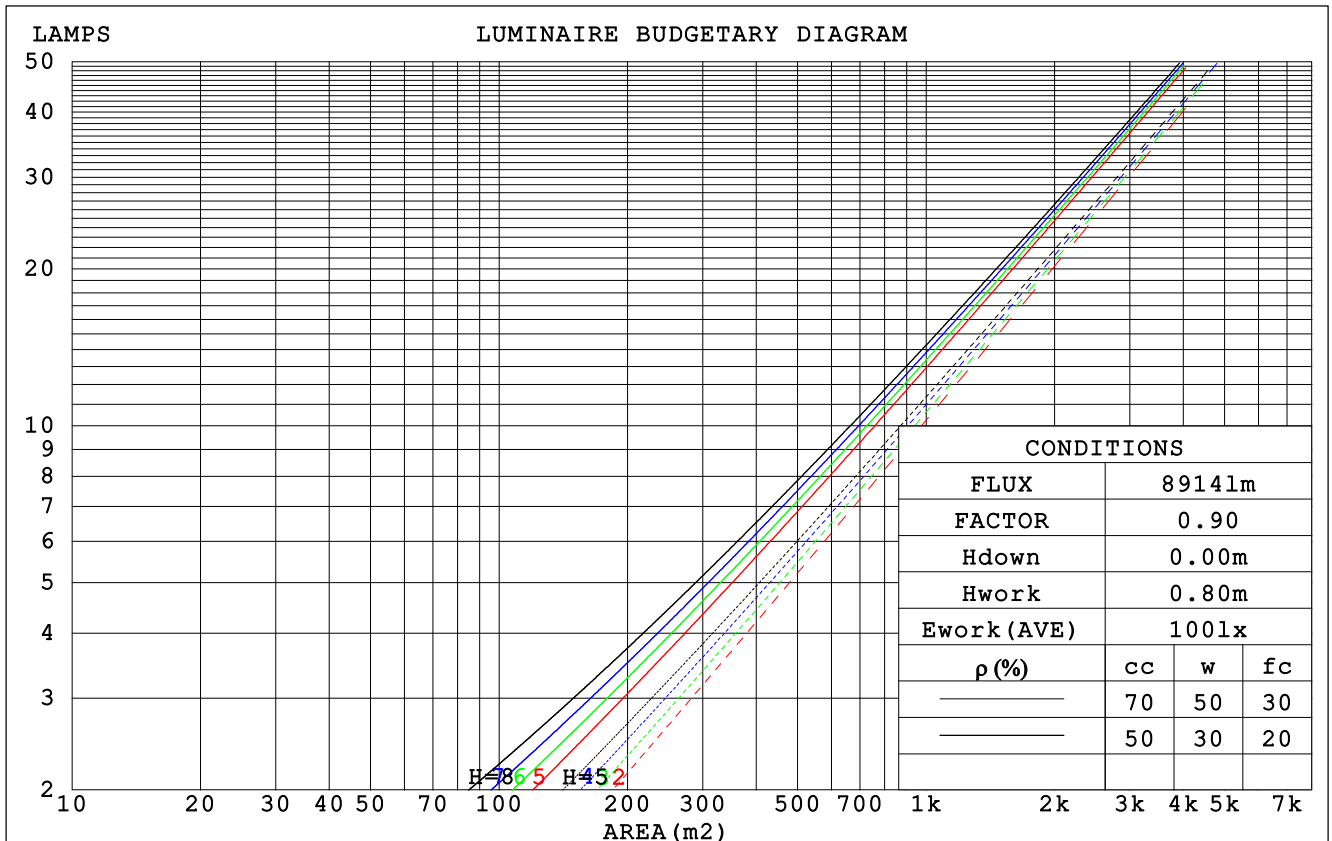


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-06-01

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	1.09	1.06	1.03	1.07	1.04	1.02	1.03	1.01	.99	.99	.97	.96	.95	.94	.93	.91
2.0	.90	.95	.91	.98	.94	.90	.95	.91	.88	.92	.89	.86	.89	.86	.84	.82
3.0	.91	.85	.81	.90	.84	.80	.87	.83	.79	.85	.81	.77	.82	.79	.76	.74
4.0	.84	.77	.72	.83	.77	.72	.80	.75	.71	.78	.74	.70	.76	.73	.69	.68
5.0	.77	.71	.65	.76	.70	.65	.74	.69	.65	.73	.68	.64	.71	.67	.63	.62
6.0	.72	.65	.60	.71	.64	.59	.69	.63	.59	.68	.62	.59	.66	.62	.58	.56
7.0	.66	.59	.55	.66	.59	.54	.64	.58	.54	.63	.58	.54	.62	.57	.53	.52
8.0	.62	.55	.50	.61	.55	.50	.60	.54	.50	.59	.54	.50	.58	.53	.49	.48
9.0	.58	.51	.46	.57	.51	.46	.56	.50	.46	.55	.50	.46	.54	.49	.46	.44
10.0	.54	.47	.43	.54	.47	.43	.53	.47	.43	.52	.47	.43	.51	.46	.43	.41



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-06-01

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	.211	.120	.038	.204	.117	.037	.192	.110	.035	.180	.104	.033	.169	.098	.032		
2.0	.203	.111	.034	.197	.109	.034	.187	.104	.032	.177	.099	.031	.167	.095	.030		
3.0	.193	.103	.031	.188	.101	.030	.179	.097	.029	.170	.093	.029	.162	.090	.028		
4.0	.183	.095	.028	.179	.094	.028	.171	.091	.027	.163	.088	.026	.156	.085	.026		
5.0	.174	.089	.026	.170	.087	.025	.163	.085	.025	.156	.082	.025	.150	.080	.024		
6.0	.165	.083	.024	.162	.082	.023	.155	.080	.023	.149	.078	.023	.144	.076	.022		
7.0	.157	.077	.022	.154	.077	.022	.148	.075	.022	.143	.073	.021	.138	.071	.021		
8.0	.149	.073	.020	.146	.072	.020	.141	.071	.020	.136	.069	.020	.132	.068	.020		
9.0	.142	.069	.019	.140	.068	.019	.135	.067	.019	.131	.065	.019	.127	.064	.019		
10.0	.135	.065	.018	.133	.064	.018	.129	.063	.018	.125	.062	.018	.121	.061	.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	.173	.157	.142	.148	.135	.122	.102	.093	.085	.058	.054	.049	.019	.017	.016		
2.0	.160	.132	.109	.137	.114	.094	.094	.079	.066	.054	.046	.038	.017	.015	.013		
3.0	.150	.114	.085	.128	.098	.074	.088	.068	.052	.051	.040	.031	.016	.013	.010		
4.0	.141	.100	.068	.121	.086	.059	.083	.060	.042	.048	.035	.025	.015	.011	.008		
5.0	.133	.088	.056	.114	.076	.048	.079	.053	.034	.045	.031	.020	.015	.010	.007		
6.0	.126	.079	.046	.108	.069	.040	.075	.048	.028	.043	.028	.017	.014	.009	.006		
7.0	.120	.072	.039	.103	.063	.034	.071	.044	.024	.041	.026	.014	.013	.008	.005		
8.0	.114	.066	.033	.098	.057	.029	.068	.040	.021	.039	.024	.012	.013	.008	.004		
9.0	.109	.061	.029	.094	.053	.025	.065	.037	.018	.038	.022	.011	.012	.007	.004		
10.0	.104	.057	.025	.090	.049	.022	.062	.035	.016	.036	.021	.009	.012	.007	.003		

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-06-01

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	24.7	25.8	24.9	26.0	26.2	18.7	19.8	18.9	20.0	20.2
3H	24.6	25.6	24.9	25.9	26.1	19.1	20.2	19.4	20.4	20.6
4H	24.6	25.5	24.8	25.8	26.0	19.4	20.3	19.7	20.6	20.8
6H	24.5	25.4	24.8	25.7	25.9	19.6	20.5	19.9	20.8	21.1
8H	24.4	25.3	24.8	25.6	25.9	19.7	20.6	20.1	20.9	21.2
12H	24.4	25.3	24.7	25.5	25.8	19.8	20.7	20.2	20.9	21.2
4H 2H	24.4	25.4	24.7	25.7	25.9	18.8	19.8	19.1	20.0	20.2
3H	24.4	25.3	24.8	25.6	25.8	19.4	20.2	19.7	20.5	20.8
4H	24.4	25.2	24.8	25.5	25.8	19.7	20.5	20.1	20.8	21.1
6H	24.4	25.0	24.7	25.4	25.7	20.1	20.8	20.5	21.1	21.4
8H	24.3	25.0	24.7	25.3	25.7	20.3	20.9	20.7	21.2	21.6
12H	24.3	24.9	24.7	25.2	25.6	20.4	21.0	20.8	21.4	21.7
8H 4H	24.3	24.9	24.7	25.3	25.7	19.7	20.3	20.1	20.7	21.1
6H	24.3	24.8	24.7	25.2	25.6	20.2	20.7	20.6	21.1	21.5
8H	24.2	24.7	24.7	25.1	25.6	20.4	20.9	20.9	21.3	21.7
12H	24.2	24.6	24.7	25.0	25.5	20.7	21.1	21.1	21.5	22.0
12H 4H	24.3	24.8	24.7	25.2	25.6	19.7	20.2	20.1	20.6	21.0
6H	24.2	24.7	24.7	25.1	25.6	20.2	20.6	20.6	21.0	21.5
8H	24.2	24.6	24.7	25.0	25.5	20.4	20.8	20.9	21.3	21.7
Variations with the observer position at spacings:										
S = 1.0H	+ 3.4 / - 4.6					+ 1.0 / - 1.4				
1.5H	+ 4.3 / - 5.2					+ 1.2 / - 1.0				
2.0H	+ 6.9 / - 5.2					+ 1.4 / - 0.9				

CIE Pub.117 Corrected 8914 lm Total Lamp Luminous Flux.(8log(F/F0) = 7.6)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-06-01

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:

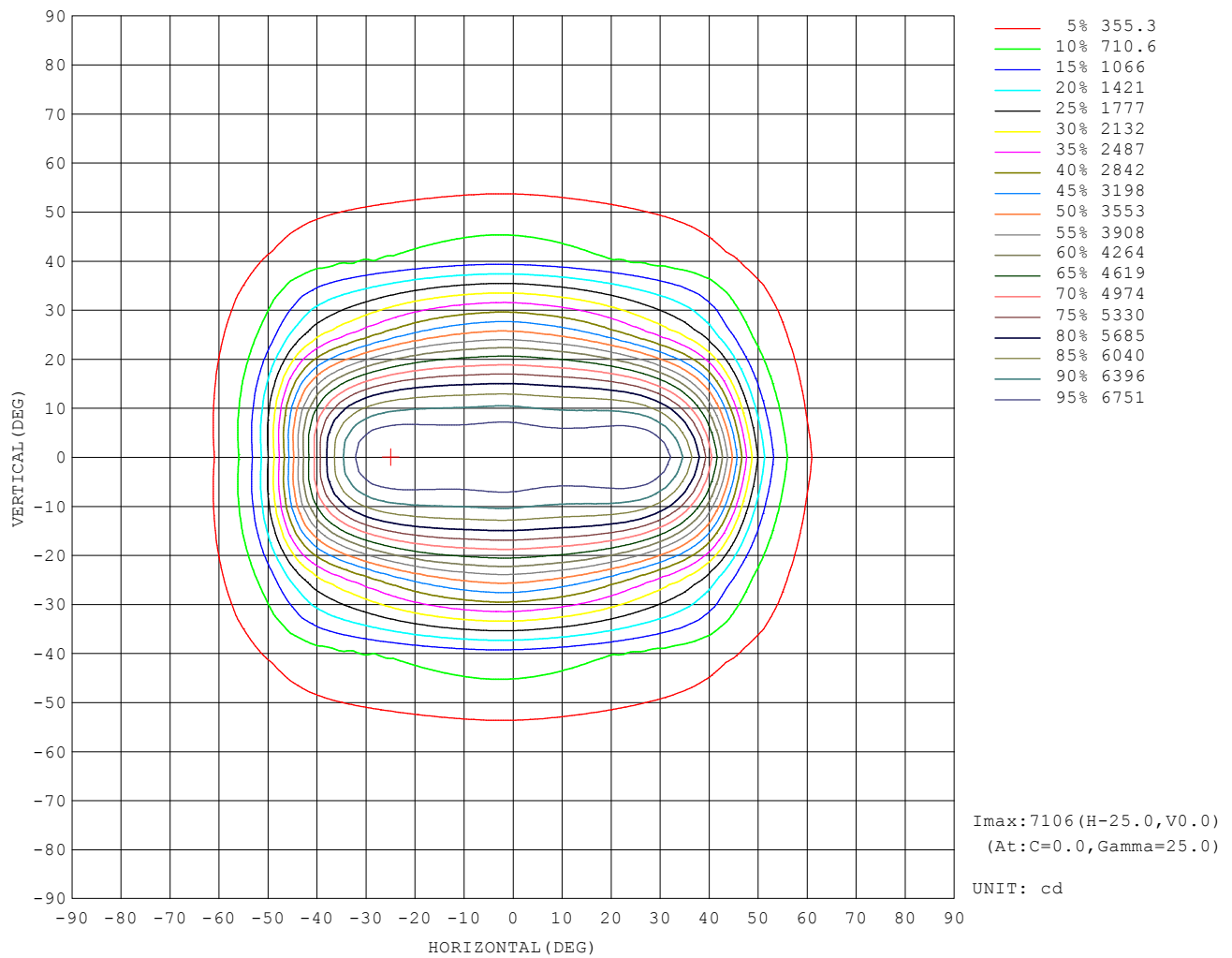
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	77	69	64	76	69	64	75	68	64	59
0.80	86	78	73	85	78	73	84	77	73	68
1.00	92	85	80	91	84	80	89	85	79	74
1.25	97	91	86	96	90	86	94	89	85	80
1.50	101	95	90	100	94	90	97	92	89	83
2.00	105	100	96	103	99	95	101	97	93	87
2.50	107	102	99	105	101	98	102	99	96	89
3.00	109	105	101	107	103	100	104	101	98	91
4.00	112	108	105	110	106	104	106	103	101	94
5.00	113	110	108	111	108	106	107	105	103	95
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: 2017-06-01

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:

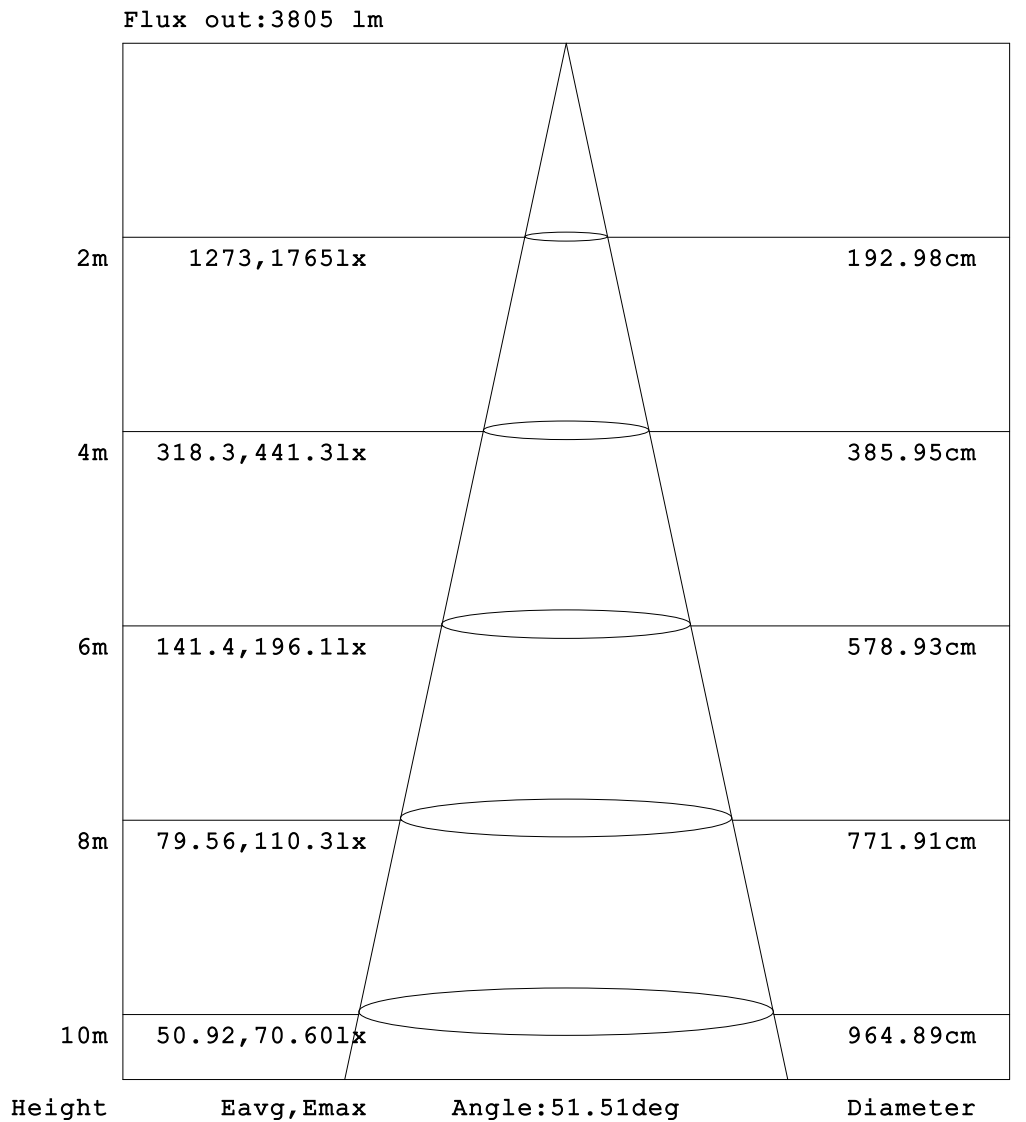
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-06-01

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

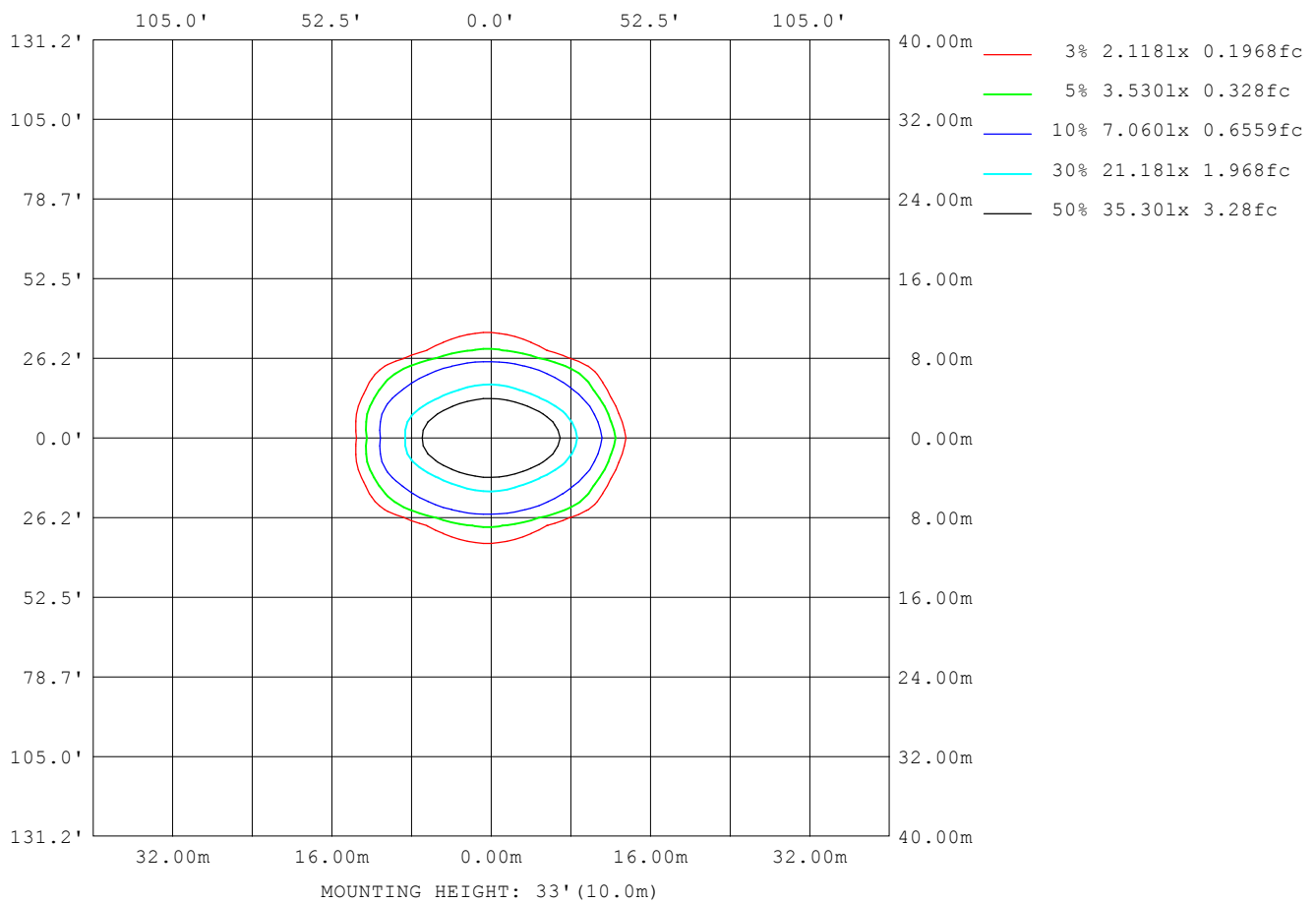


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-06-01

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: 2017-06-01

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:230.0V I:0.2723A P:61.74W PF:0.9861 Lamp Flux:8914.33x1 lm		
NAME: LHB01-60H	TYPE:60W	WEIGHT:
SPEC.:4000K Ra80 5090DEG L06402	DIM.: 0.486*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.466*0.1	Shielding Angle:

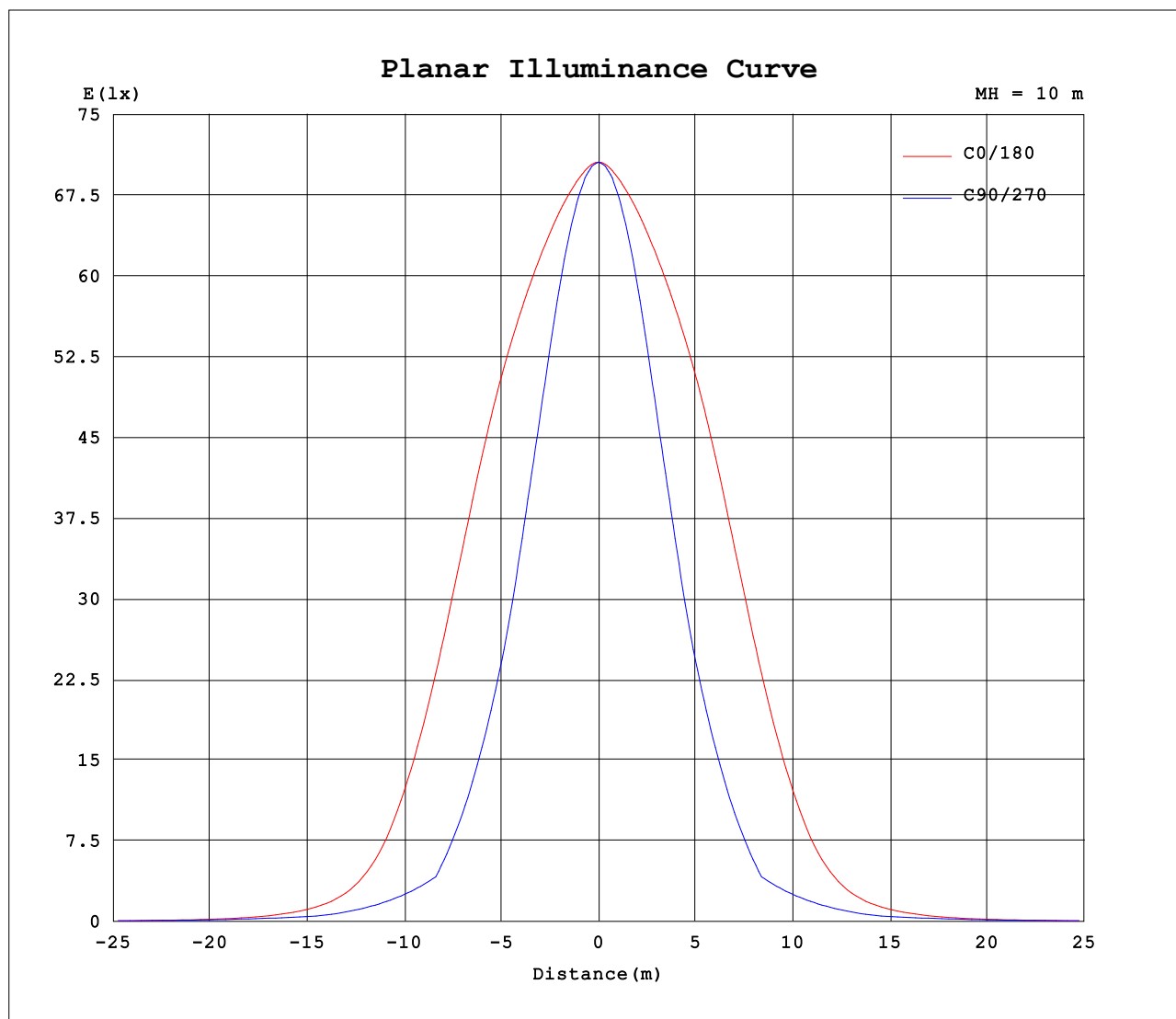
AvgL	cd/m2
L_0~180 (65) av	11329
L_0~180 (75) av	7089
L_0~180 (85) av	3384
L_90~270 (65) av	9885
L_90~270 (75) av	8945
L_90~270 (85) av	9338
L_45 (65) av	9204
L_45 (75) av	6923
L_45 (85) av	7080

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-06-01

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: 2017-06-01

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:

```

```

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:

```