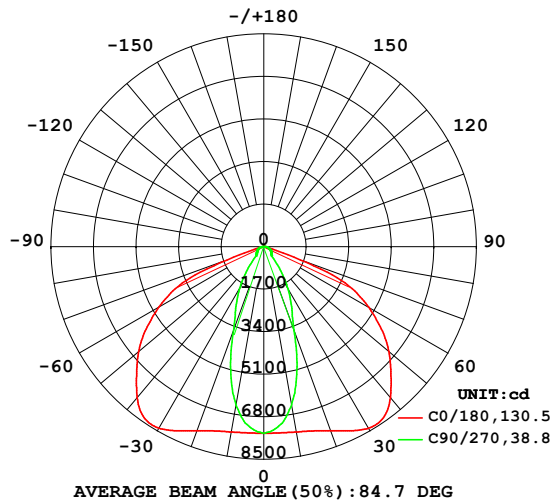


LUMINAIRE PHOTOMETRIC TEST REPORT

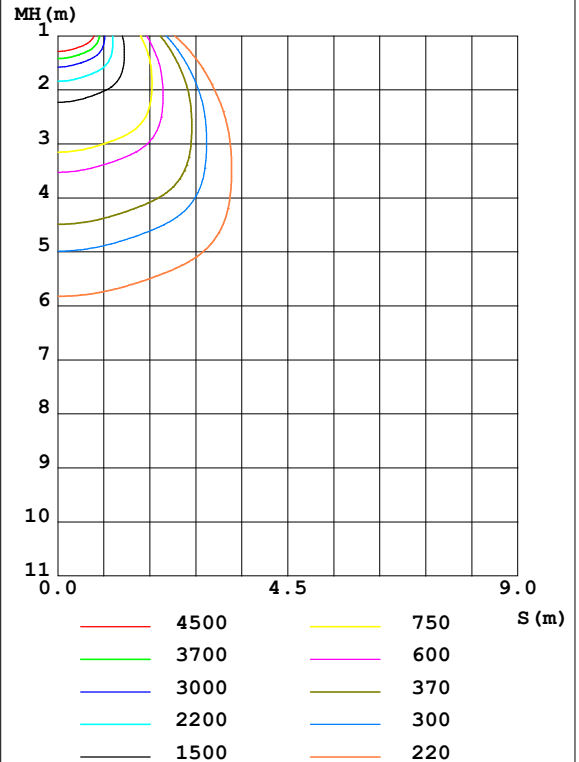
Test:U:230.1V I:0.4123A P:91.46W PF:0.9641 Lamp Flux:11213x1 lm		
NAME: LHB01-90	TYPE:90W	WEIGHT:
SPEC.:5000K Ra80 40130DEG L02804	DIM.: 0.718*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.7*0.1	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 122.61 lm/W			
MODEL	LHB01-90	I _{max} (cd)	8411	S/MH(C0/180)	1.63
NOMINAL POWER(W)	90	LOR(%)	100.0	S/MH(C90/270)	0.64
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	11213	η UP,DN(C0-180)	0.0,49.7
NOMINAL FLUX(lm)	11213	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.3
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:2017-06-15

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	7470	7304	7184	7304	7470	7312	7184	7312	0- 5	176.4	176.4	1.57,1.57
10	7520	6925	6414	6925	7520	6955	6414	6955	5- 10	510.4	686.7	6.12,6.12
15	7623	6259	5125	6259	7623	6314	5125	6314	10- 15	787.5	1474	13.1,13.1
20	7822	5317	3543	5317	7822	5372	3543	5372	15- 20	974.0	2448	21.8,21.8
25	8120	4187	2647	4187	8120	4199	2647	4199	20- 25	1074	3522	31.4,31.4
30	8377	3205	1930	3205	8377	3172	1930	3172	25- 30	1140	4663	41.6,41.6
35	8343	2640	1213	2640	8343	2610	1213	2610	30- 35	1155	5817	51.9,51.9
40	7875	2008	496.6	2008	7875	1988	496.6	1988	35- 40	1090	6907	61.6,61.6
45	7191	1304	426.4	1304	7191	1288	426.4	1288	40- 45	963.6	7871	70.2,70.2
50	6531	555.1	385.2	555.1	6531	529.5	385.2	529.5	45- 50	846.7	8718	77.7,77.7
55	5739	415.1	347.7	415.1	5739	399.4	347.7	399.4	50- 55	737.1	9455	84.3,84.3
60	4847	349.1	310.2	349.1	4847	336.3	310.2	336.3	55- 60	620.4	10075	89.9,89.9
65	3790	280.6	271.1	280.6	3790	271.8	271.1	271.8	60- 65	499.5	10575	94.3,94.3
70	1572	200.4	219.5	200.4	1572	198.0	219.5	198.0	65- 70	351.2	10926	97.4,97.4
75	206.5	140.8	166.3	140.8	206.5	140.7	166.3	140.7	70- 75	157.7	11084	98.8,98.8
80	70.19	96.77	113.1	96.77	70.19	95.93	113.1	95.93	75- 80	73.31	11157	99.5,99.5
85	8.285	52.83	59.90	52.83	8.285	51.23	59.90	51.23	80- 85	40.27	11197	99.9,99.9
90	5.188	8.965	6.711	8.965	5.188	6.584	6.711	6.584	85- 90	15.75	11213	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): 7871 lm

%lum = 70.2%

%lamp = 70.2%

Conical surface Flux(120deg): 10075 lm

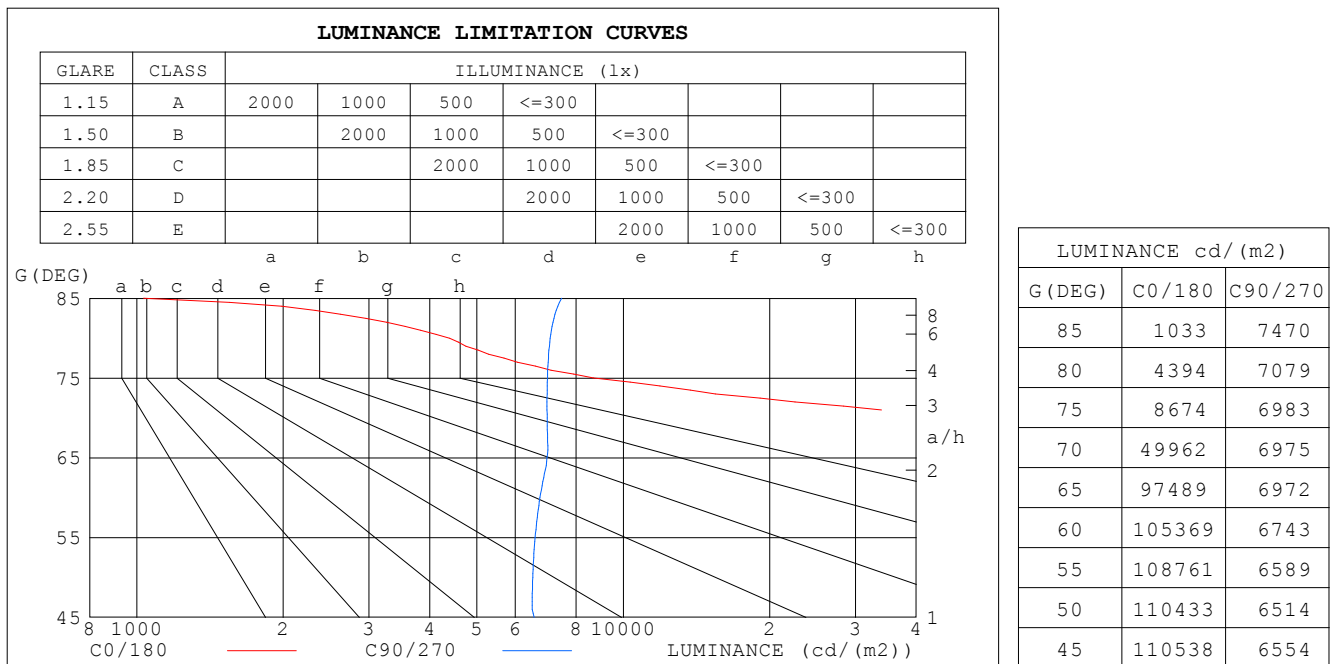
%lum = 89.9%

%lamp = 89.9%

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-06-15

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

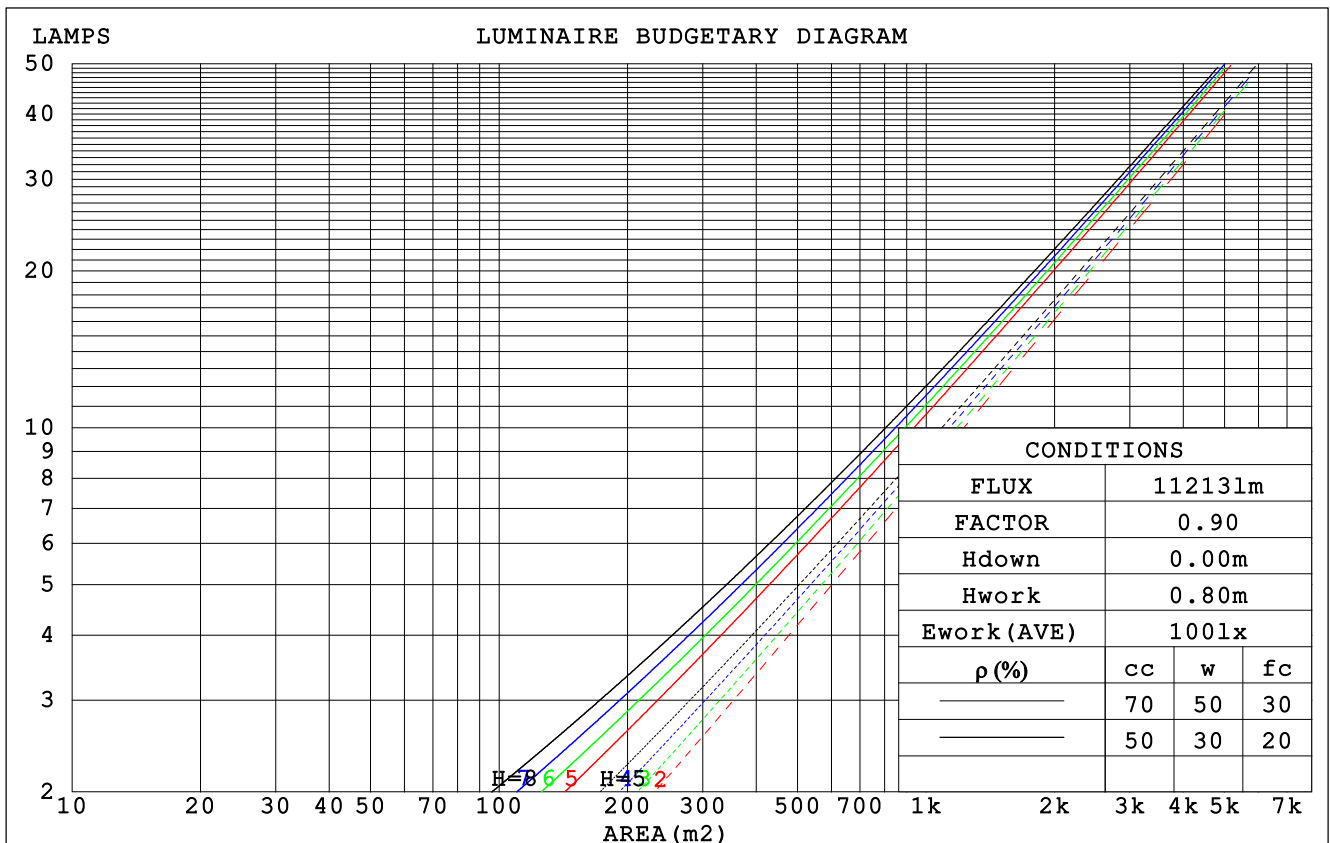


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-06-15

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	.00
1.0	1.07	1.04	1.01	1.05	1.02	.99	1.01	.98	.96	.97	.95	.93	.94	.92	.90	.89
2.0	.96	.91	.86	.94	.89	.85	.91	.87	.83	.88	.84	.81	.85	.82	.79	.77
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	.62	.56	.51	.61	.55	.51	.59	.54	.50	.48
7.0	.60	.52	.47	.59	.52	.46	.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	.38	.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: 2017-06-15

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	.238	.136	.043	.225	.129	.041	.213	.123	.039	.202	.117	.038		
2.0	.237	.130	.040	.231	.127	.039	.219	.122	.038	.209	.117	.037	.200	.113	.036		
3.0	.224	.119	.036	.219	.117	.035	.209	.113	.034	.200	.110	.034	.192	.106	.033		
4.0	.211	.109	.032	.206	.108	.032	.198	.105	.031	.190	.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	.027	.176	.090	.026	.169	.088	.026	.163	.086	.026		
7.0	.175	.086	.025	.172	.086	.024	.166	.084	.024	.160	.082	.024	.155	.080	.024		
8.0	.165	.081	.023	.162	.080	.023	.157	.078	.022	.152	.077	.022	.147	.075	.022		
9.0	.156	.075	.021	.153	.075	.021	.148	.073	.021	.144	.072	.021	.140	.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	.090	.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:2017-06-15

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	29.4	30.7	29.6	30.9	31.0	15.3	16.6	15.6	16.8	17.0
3H	30.6	31.8	30.9	32.0	32.2	16.5	17.7	16.7	17.9	18.1
4H	30.6	31.7	30.9	31.9	32.2	17.1	18.2	17.4	18.4	18.7
6H	30.5	31.5	30.8	31.8	32.1	17.6	18.7	17.9	18.9	19.2
8H	30.4	31.4	30.7	31.7	32.0	17.8	18.9	18.2	19.1	19.4
12H	30.4	31.3	30.7	31.6	31.9	18.0	19.0	18.4	19.3	19.6
4H 2H	29.1	30.2	29.4	30.4	30.7	16.7	17.8	17.0	18.0	18.3
3H	30.3	31.3	30.7	31.6	31.9	17.7	18.7	18.0	19.0	19.2
4H	30.3	31.2	30.7	31.5	31.8	18.3	19.2	18.7	19.5	19.8
6H	30.3	31.0	30.6	31.4	31.7	18.9	19.7	19.3	20.0	20.4
8H	30.2	30.9	30.6	31.3	31.7	19.2	19.9	19.6	20.3	20.6
12H	30.2	30.8	30.6	31.2	31.6	19.4	20.1	19.8	20.4	20.8
8H 4H	30.2	30.9	30.6	31.3	31.7	18.6	19.4	19.0	19.7	20.1
6H	30.1	30.7	30.6	31.1	31.6	19.3	19.9	19.8	20.3	20.8
8H	30.1	30.6	30.6	31.0	31.5	19.7	20.2	20.2	20.6	21.1
12H	30.1	30.5	30.5	31.0	31.4	20.0	20.5	20.5	20.9	21.4
12H 4H	30.1	30.8	30.6	31.2	31.6	18.6	19.3	19.1	19.7	20.1
6H	30.1	30.6	30.5	31.0	31.5	19.4	19.9	19.9	20.3	20.8
8H	30.1	30.5	30.5	31.0	31.4	19.8	20.2	20.3	20.7	21.2
Variations with the observer position at spacings:										
S = 1.0H	+ 0.9 / - 1.0					+ 0.6 / - 0.8				
1.5H	+ 2.2 / - 4.1					+ 1.1 / - 0.7				
2.0H	+ 3.6 / - 8.6					+ 0.1 / - 0.3				

CIE Pub.117 Corrected 11213 lm Total Lamp Luminous Flux.(8log(F/F0) = 8.4)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-06-15

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:

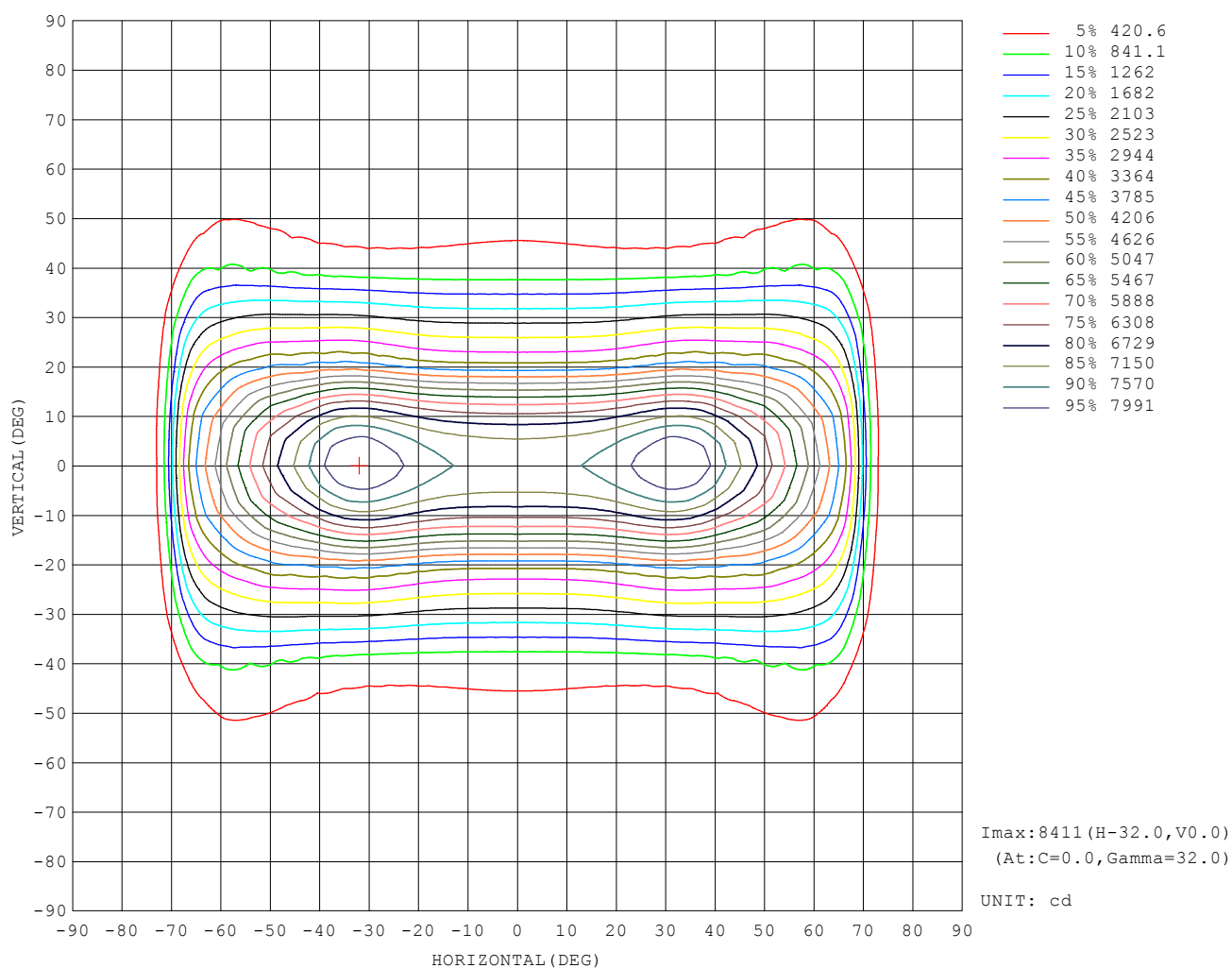
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	67	58	52	67	57	52	66	57	51	46
0.80	77	68	61	76	67	61	75	66	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	80	74
2.00	101	94	89	99	93	88	96	91	87	80
2.50	104	98	93	102	96	92	98	94	90	83
3.00	106	101	97	104	100	96	101	97	94	86
4.00	110	105	102	107	104	100	103	100	98	90
5.00	111	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: 2017-06-15

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:

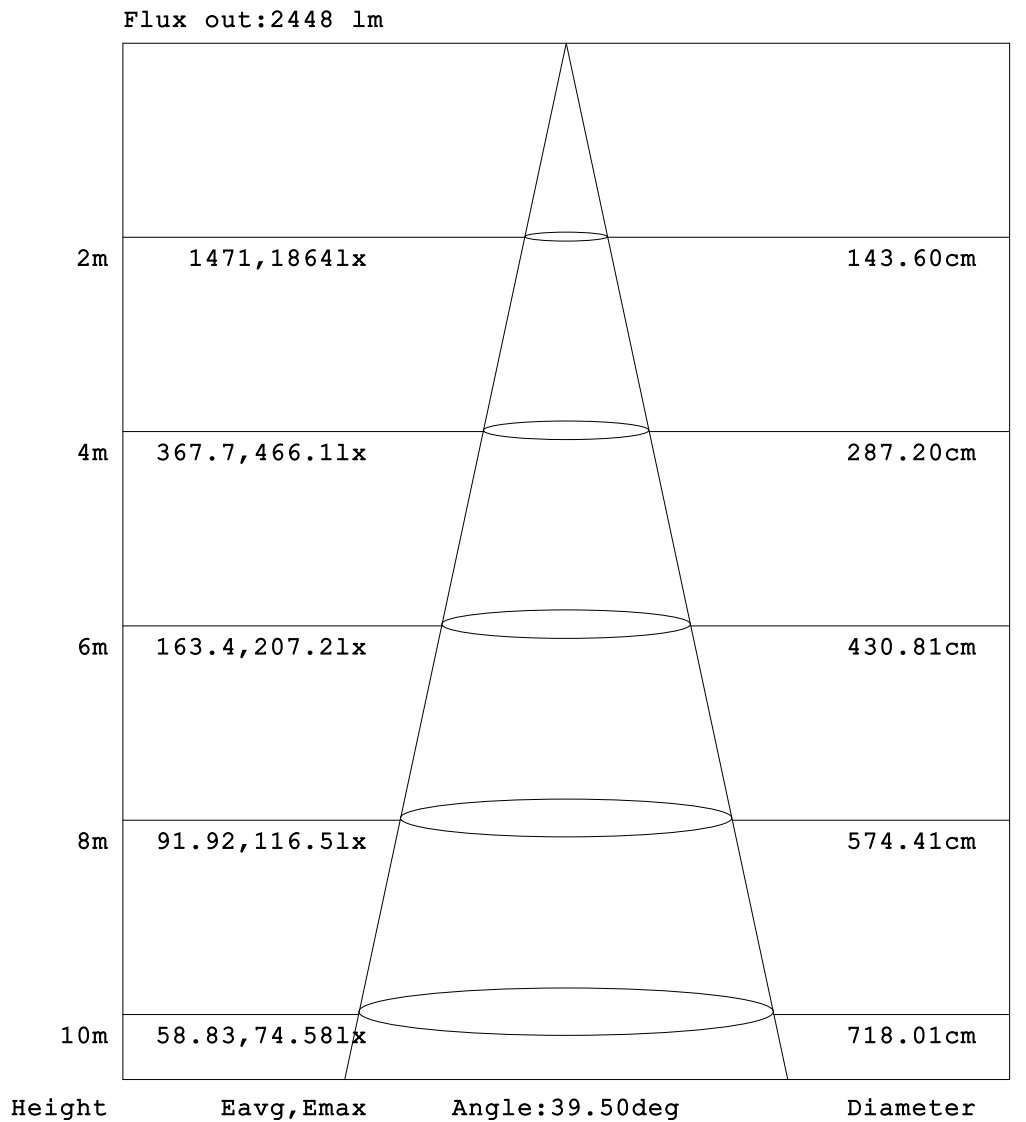
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-06-15

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

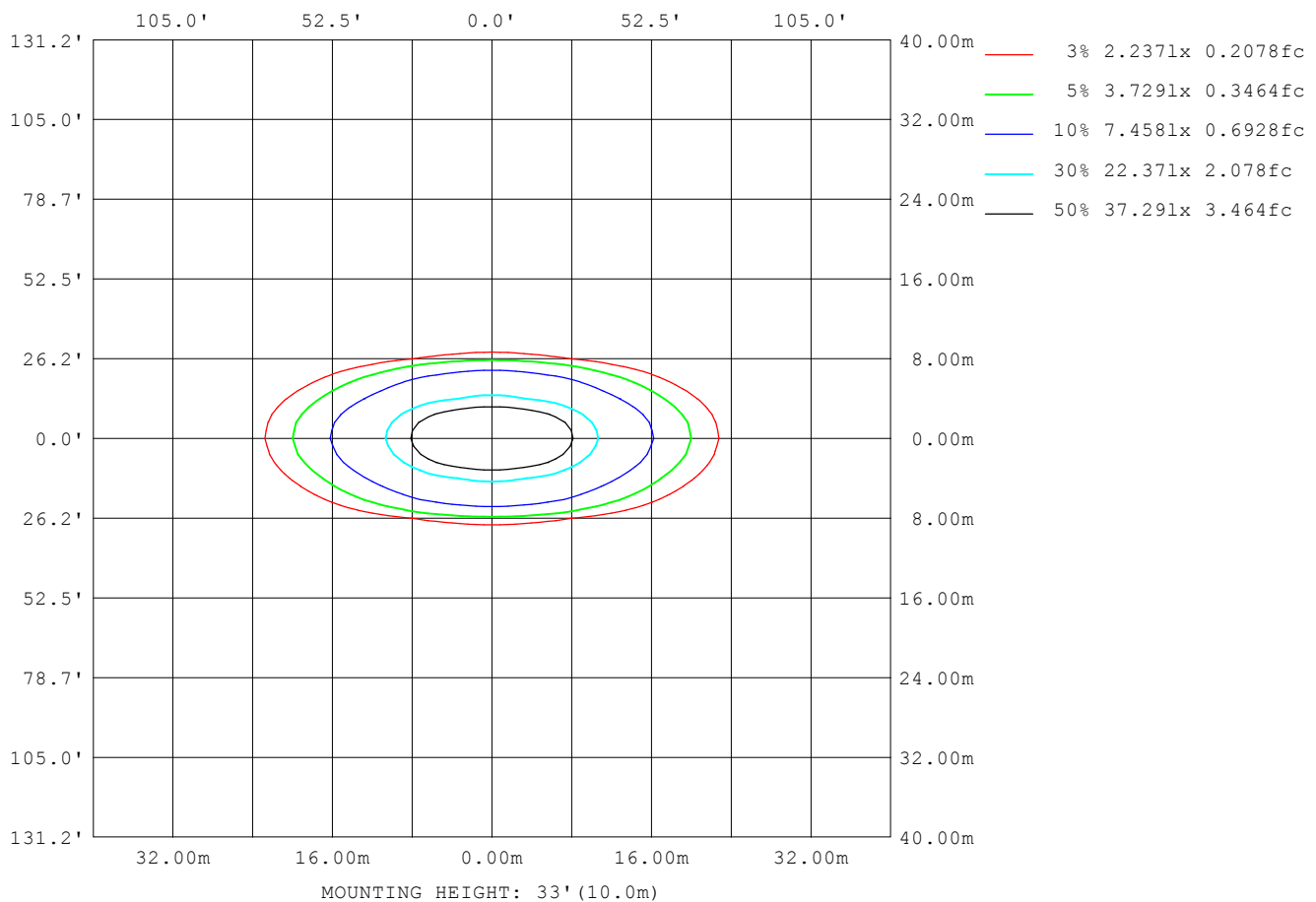


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-06-15

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: 2017-06-15

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:0.4123A P:91.46W PF:0.9641 Lamp Flux:11213x1 lm		
NAME: LHB01-90	TYPE:90W	WEIGHT:
SPEC.:5000K Ra80 40130DEG L02804	DIM.: 0.718*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.7*0.1	Shielding Angle:

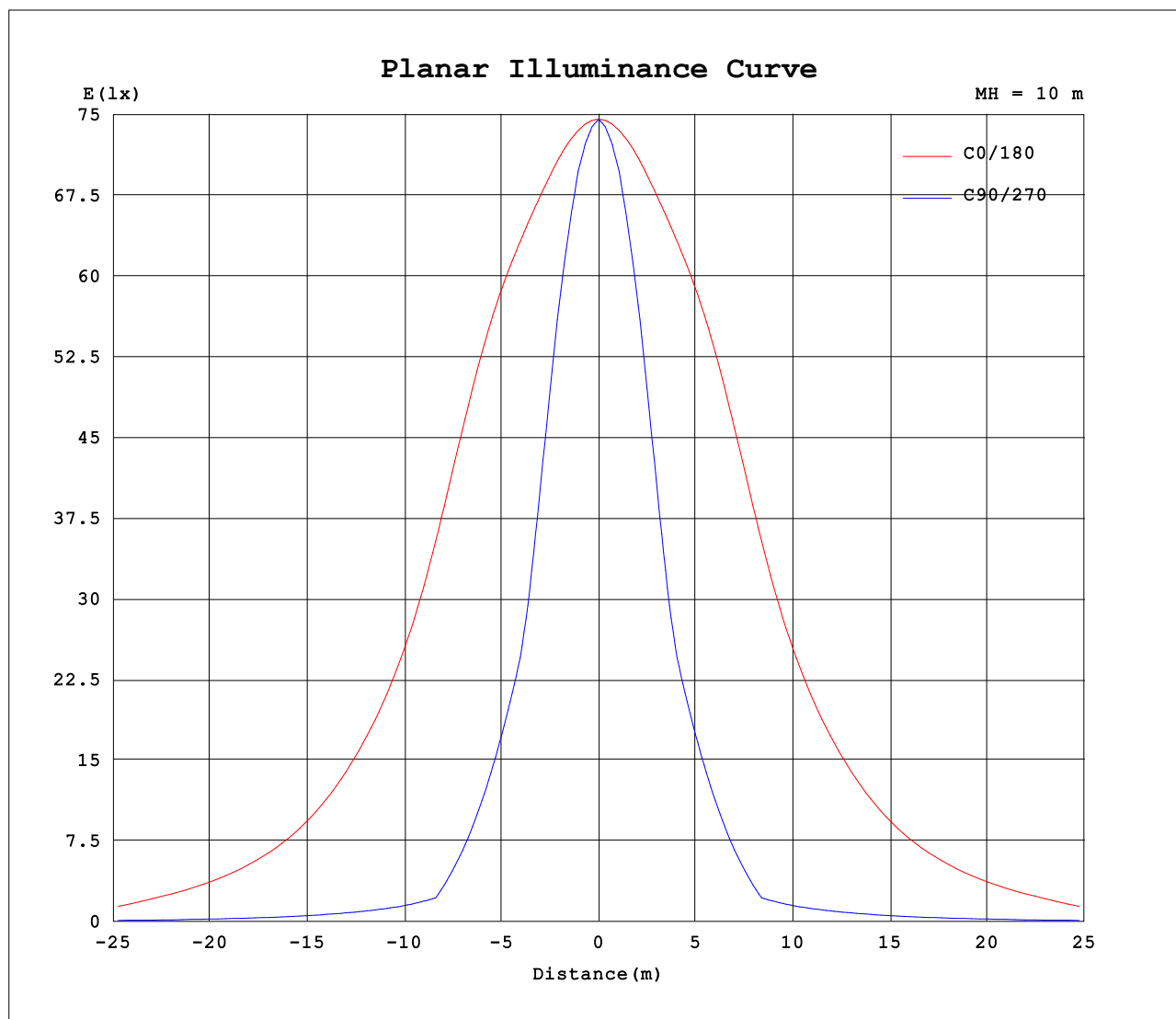
AvgL	cd/m2
L_0~180 (65) av	97489
L_0~180 (75) av	8674
L_0~180 (85) av	1033
L_90~270 (65) av	6972
L_90~270 (75) av	6983
L_90~270 (85) av	7470
L_45 (65) av	7105
L_45 (75) av	5911
L_45 (85) av	6489

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-06-15

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: 2017-06-15

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:

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:

```

```

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:

```