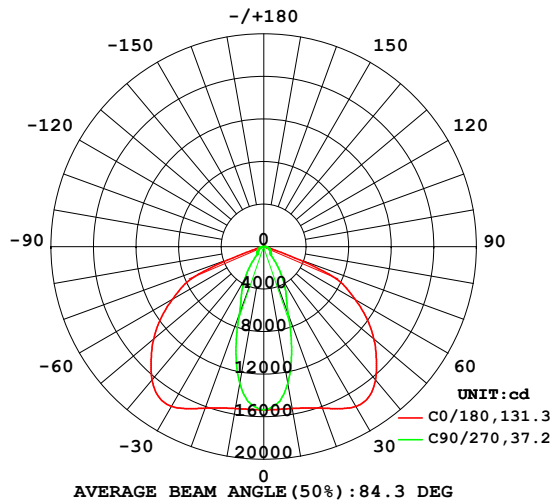


LUMINAIRE PHOTOMETRIC TEST REPORT

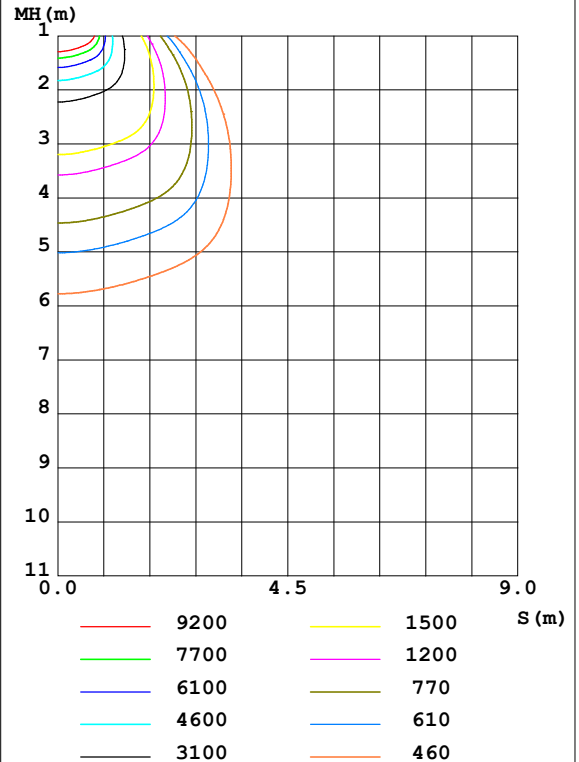
Test:U:230.0V I:0.8185A P:181.8W PF:0.9658 Lamp Flux:22439.8x1 lm		
NAME: LHB01-180	TYPE:180W	WEIGHT:
SPEC.:5000K Ra80 40130DEG L02804	DIM.: 0.718*0.275*0.102	SERIAL No.:
MFR.:	SUR.:0.255*0.69	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 123.46 lm/W			
MODEL	LHB01-180	Imax(cd)	17403	S/MH(C0/180)	1.64
NOMINAL POWER(W)	180	LOR(%)	100.0	S/MH(C90/270)	0.61
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	22440	η UP,DN(C0-180)	0.0,49.9
NOMINAL FLUX(lm)	22439.8	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.1
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	0.70

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: 2017-06-16

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	1536	1503	1480	1503	1536	1506	1480	1506	0- 5	363.0	363.0	1.62,1.62
10	1545	1420	1306	1420	1545	1429	1306	1429	5- 10	1049	1412	6.29,6.29
15	1571	1268	1012	1268	1571	1282	1012	1282	10- 15	1606	3018	13.4,13.4
20	1617	1056	674.0	1056	1617	1066	674.0	1066	15- 20	1963	4981	22.2,22.2
25	1681	811.7	500.3	811.7	1681	809.0	500.3	809.0	20- 25	2144	7125	31.8,31.8
30	1734	609.6	367.1	609.6	1734	595.0	367.1	595.0	25- 30	2263	9388	41.8,41.8
35	1725	503.4	234.0	503.4	1725	489.6	234.0	489.6	30- 35	2286	11674	52,52
40	1634	384.4	100.8	384.4	1634	373.2	100.8	373.2	35- 40	2157	13831	61.6,61.6
45	1499	251.6	88.46	251.6	1499	242.9	88.46	242.9	40- 45	1918	15749	70.2,70.2
50	1353	110.2	80.25	110.2	1353	101.9	80.25	101.9	45- 50	1695	17444	77.7,77.7
55	1185	84.54	72.56	84.54	1185	79.33	72.56	79.33	50- 55	1476	18921	84.3,84.3
60	990.6	71.15	64.86	71.15	990.6	66.98	64.86	66.98	55- 60	1243	20164	89.9,89.9
65	802.1	57.26	56.82	57.26	802.1	54.39	56.82	54.39	60- 65	1004	21168	94.3,94.3
70	309.4	41.26	45.95	41.26	309.4	40.31	45.95	40.31	65- 70	699.3	21867	97.4,97.4
75	47.84	29.07	34.73	29.07	47.84	28.93	34.73	28.93	70- 75	310.0	22177	98.8,98.8
80	18.23	19.72	23.51	19.72	18.23	19.60	23.51	19.60	75- 80	149.2	22326	99.5,99.5
85	5.603	10.42	12.29	10.42	5.603	10.36	12.29	10.36	80- 85	82.56	22409	99.9,99.9
90	1.032	1.156	1.066	1.156	1.032	1.168	1.066	1.168	85- 90	30.91	22440	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:×10cd									UNIT:lm		

Conical surface Flux(90deg): 15749 lm

%lum = 70.2%

%lamp = 70.2%

Conical surface Flux(120deg): 20164 lm

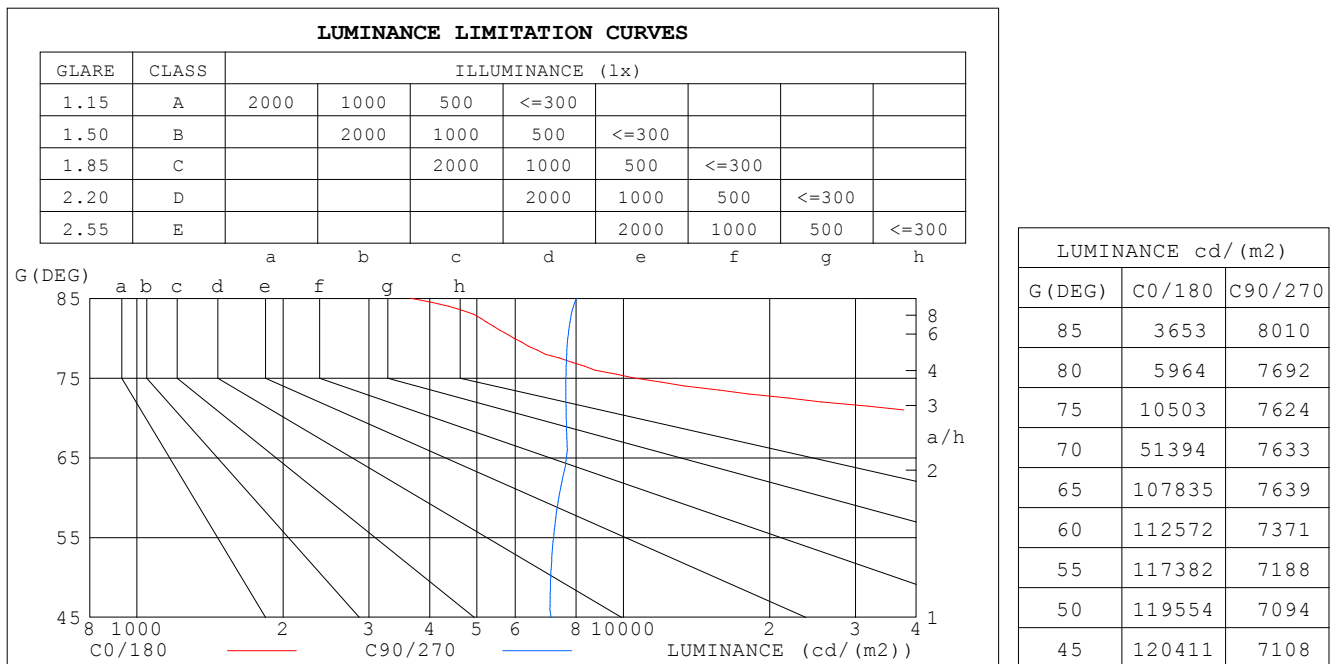
%lum = 89.9%

%lamp = 89.9%

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-06-16

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

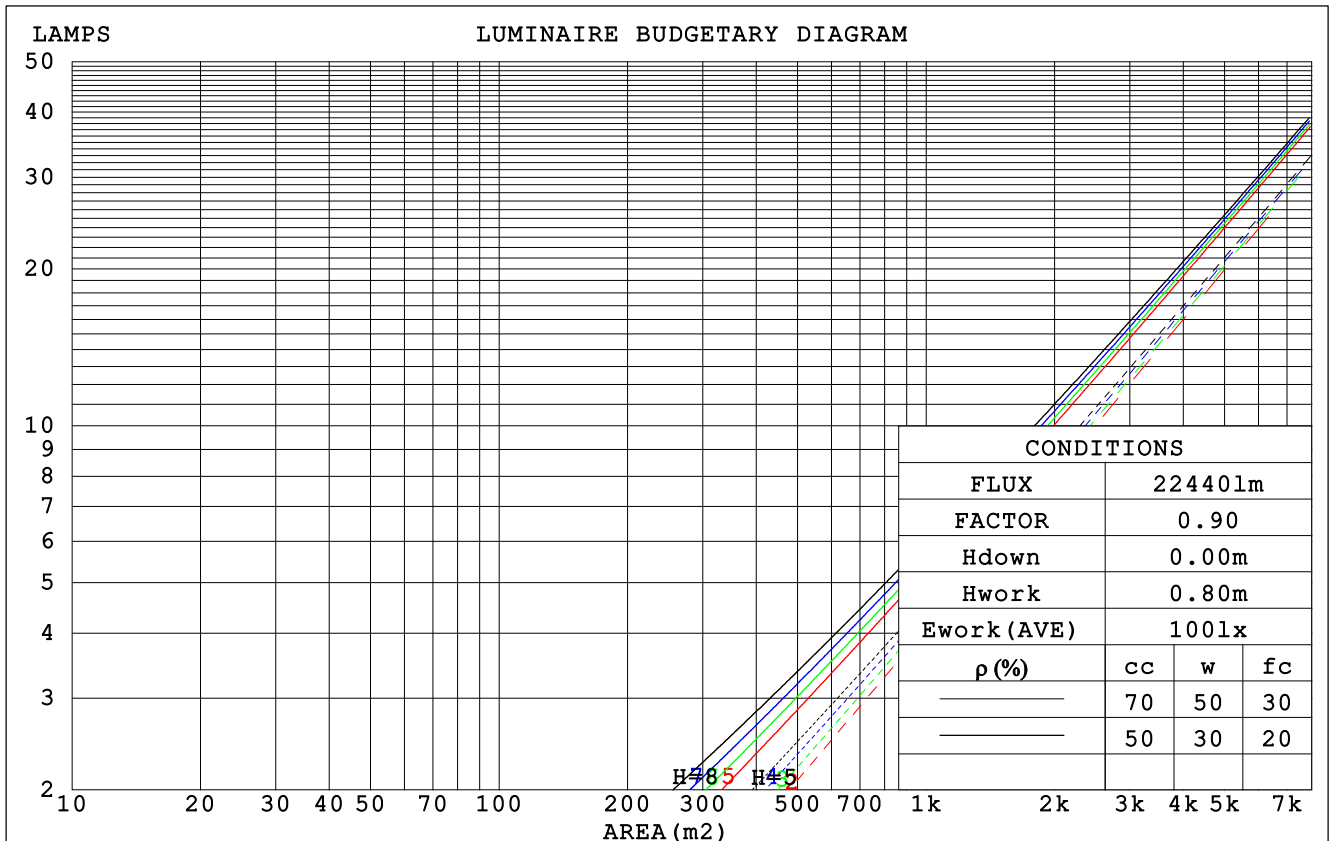


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-06-16

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	1.07	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	.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	.73	.67	.63	.70	.66	.62	.60
5.0	.71	.64	.58	.70	.63	.57	.68	.62	.57	.66	.61	.56	.65	.60	.56	.54
6.0	.65	.57	.52	.64	.57	.52	.63	.56	.51	.61	.55	.51	.60	.54	.50	.49
7.0	.60	.52	.47	.59	.52	.47	.58	.51	.46	.56	.50	.46	.55	.50	.46	.44
8.0	.55	.48	.43	.55	.48	.43	.54	.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	.41	.36	.47	.40	.36	.46	.40	.36	.45	.39	.36	.34



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-06-16

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	.129	.041	.212	.123	.039	.201	.117	.038		
2.0	.236	.129	.040	.230	.127	.039	.219	.122	.038	.209	.117	.037	.199	.113	.036		
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	.197	.101	.029	.193	.099	.029	.186	.097	.028	.179	.094	.028	.172	.092	.028		
6.0	.186	.093	.027	.182	.092	.026	.175	.090	.026	.169	.088	.026	.163	.086	.025		
7.0	.175	.086	.024	.171	.085	.024	.165	.084	.024	.160	.082	.024	.154	.080	.024		
8.0	.165	.080	.023	.162	.080	.023	.156	.078	.022	.151	.077	.022	.146	.075	.022		
9.0	.156	.075	.021	.153	.075	.021	.148	.073	.021	.144	.072	.021	.139	.071	.020		
10.0	.147	.071	.020	.145	.070	.020	.141	.069	.019	.136	.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	.073	.037	.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	.068	.038	.017	.040	.023	.010	.013	.007	.003	
10.0	.109	.058	.024	.094	.051	.021	.065	.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:2017-06-16

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	29.6	30.9	29.9	31.1	31.3	15.5	16.8	15.7	17.0	17.2
3H	30.9	32.1	31.2	32.3	32.5	16.7	17.9	17.0	18.1	18.4
4H	30.8	32.0	31.1	32.2	32.5	17.4	18.5	17.7	18.7	19.0
6H	30.8	31.8	31.1	32.1	32.3	17.9	19.0	18.2	19.2	19.5
8H	30.7	31.7	31.0	32.0	32.3	18.2	19.2	18.5	19.4	19.7
12H	30.7	31.6	31.0	31.9	32.2	18.3	19.3	18.7	19.6	19.9
4H 2H	29.4	30.5	29.7	30.7	31.0	16.8	17.9	17.1	18.2	18.4
3H	30.6	31.6	31.0	31.9	32.2	17.9	18.9	18.3	19.2	19.5
4H	30.6	31.5	31.0	31.8	32.1	18.6	19.5	18.9	19.8	20.1
6H	30.5	31.3	30.9	31.7	32.0	19.2	20.0	19.6	20.3	20.7
8H	30.5	31.2	30.9	31.6	32.0	19.5	20.2	19.9	20.6	20.9
12H	30.5	31.1	30.9	31.5	31.9	19.7	20.4	20.1	20.7	21.1
8H 4H	30.5	31.2	30.9	31.6	31.9	18.9	19.6	19.3	20.0	20.3
6H	30.4	31.0	30.9	31.4	31.8	19.6	20.2	20.1	20.6	21.0
8H	30.4	30.9	30.8	31.3	31.8	20.0	20.5	20.4	20.9	21.4
12H	30.4	30.8	30.8	31.2	31.7	20.3	20.8	20.8	21.2	21.7
12H 4H	30.4	31.1	30.9	31.5	31.9	18.9	19.5	19.3	19.9	20.3
6H	30.4	30.9	30.8	31.3	31.8	19.7	20.2	20.1	20.6	21.1
8H	30.4	30.8	30.8	31.2	31.7	20.1	20.5	20.5	21.0	21.4
Variations with the observer position at spacings:										
S = 1.0H	+ 1.0 / - 1.2					+ 0.6 / - 0.7				
1.5H	+ 2.4 / - 4.4					+ 1.0 / - 0.6				
2.0H	+ 3.8 / - 8.9					+ 0.1 / - 0.2				

CIE Pub.117 Corrected 22440 lm Total Lamp Luminous Flux.(8log(F/F0) = 10.8)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-06-16

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:

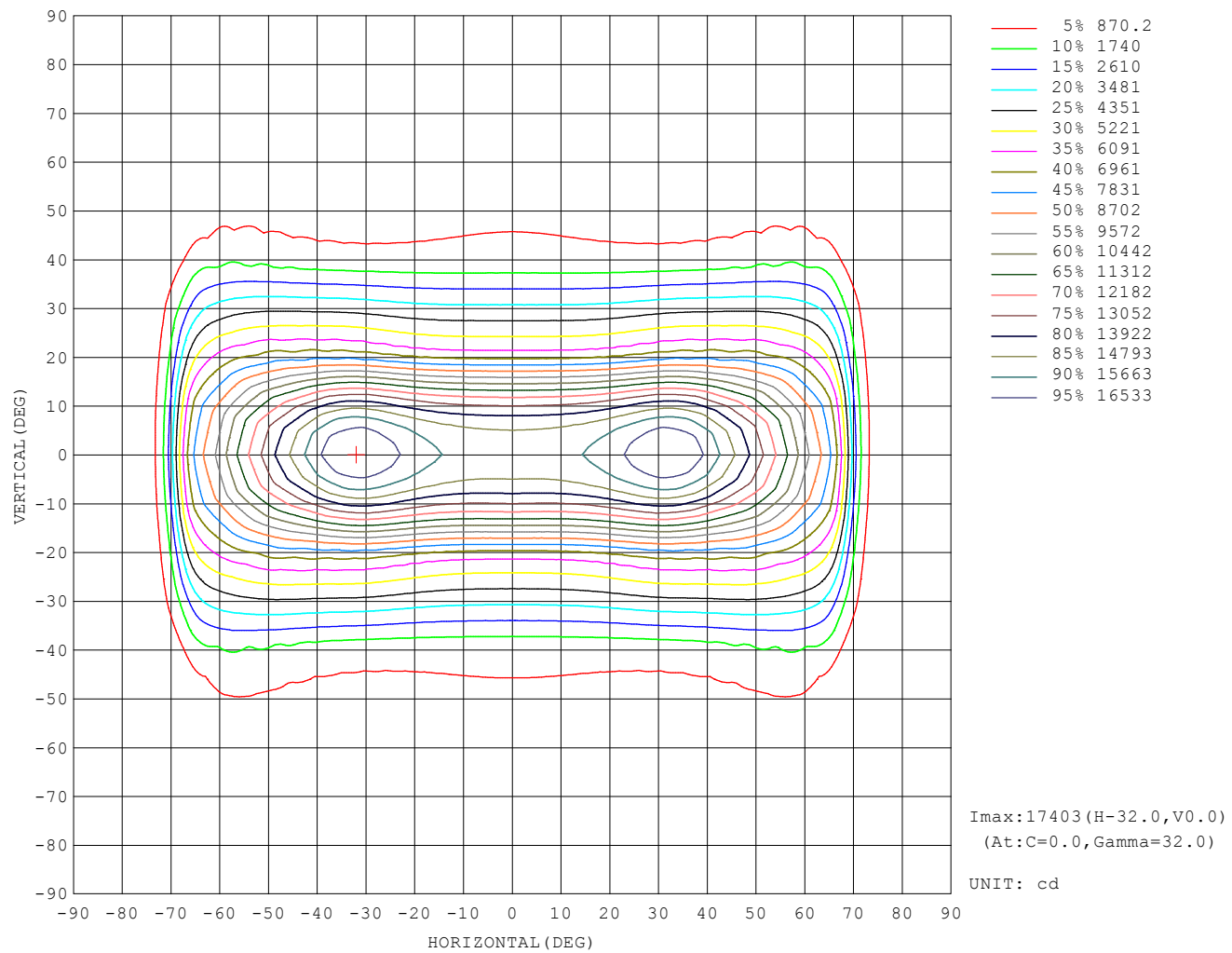
UTILIZATION FACTORS TABLE

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: 2017-06-16

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:

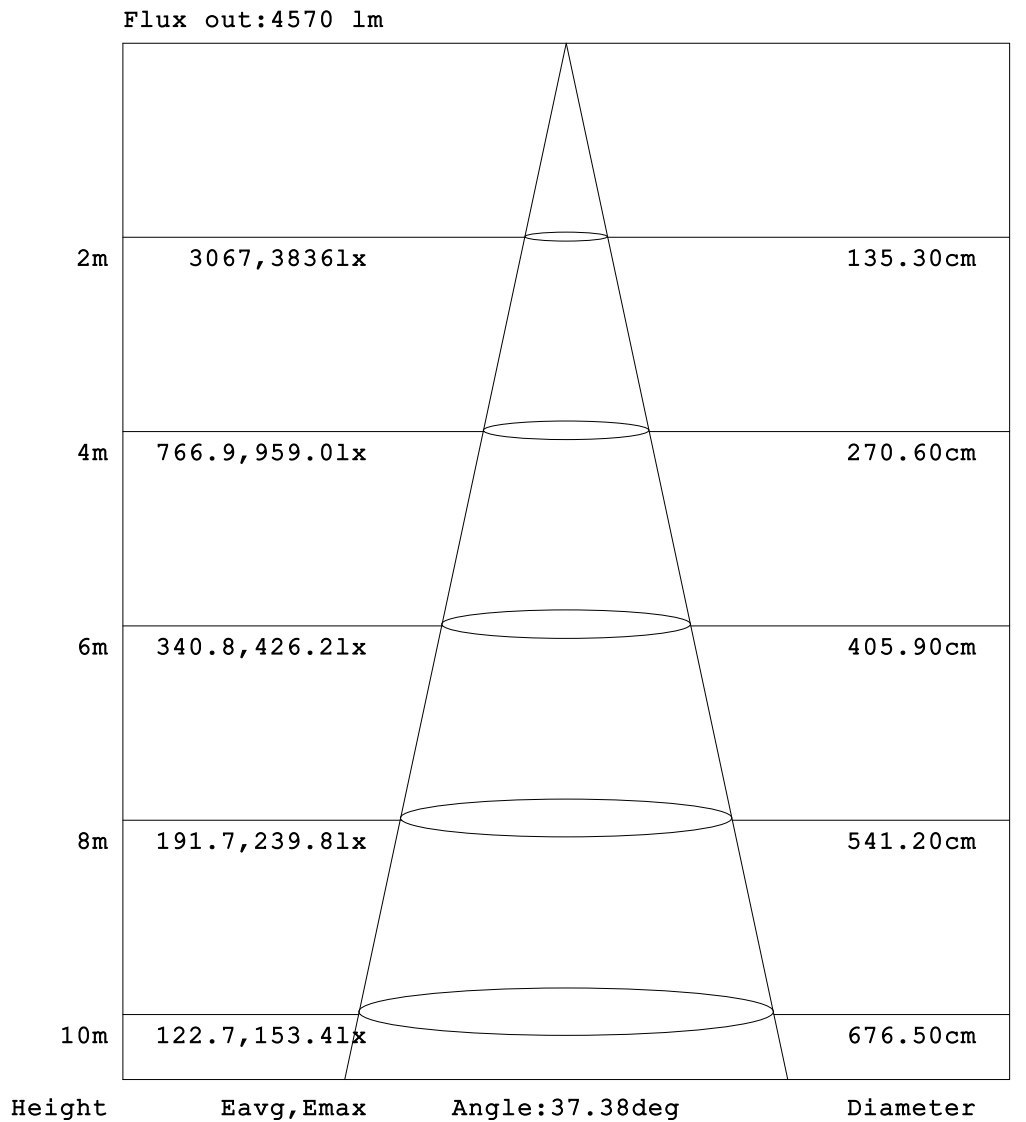
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-06-16

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

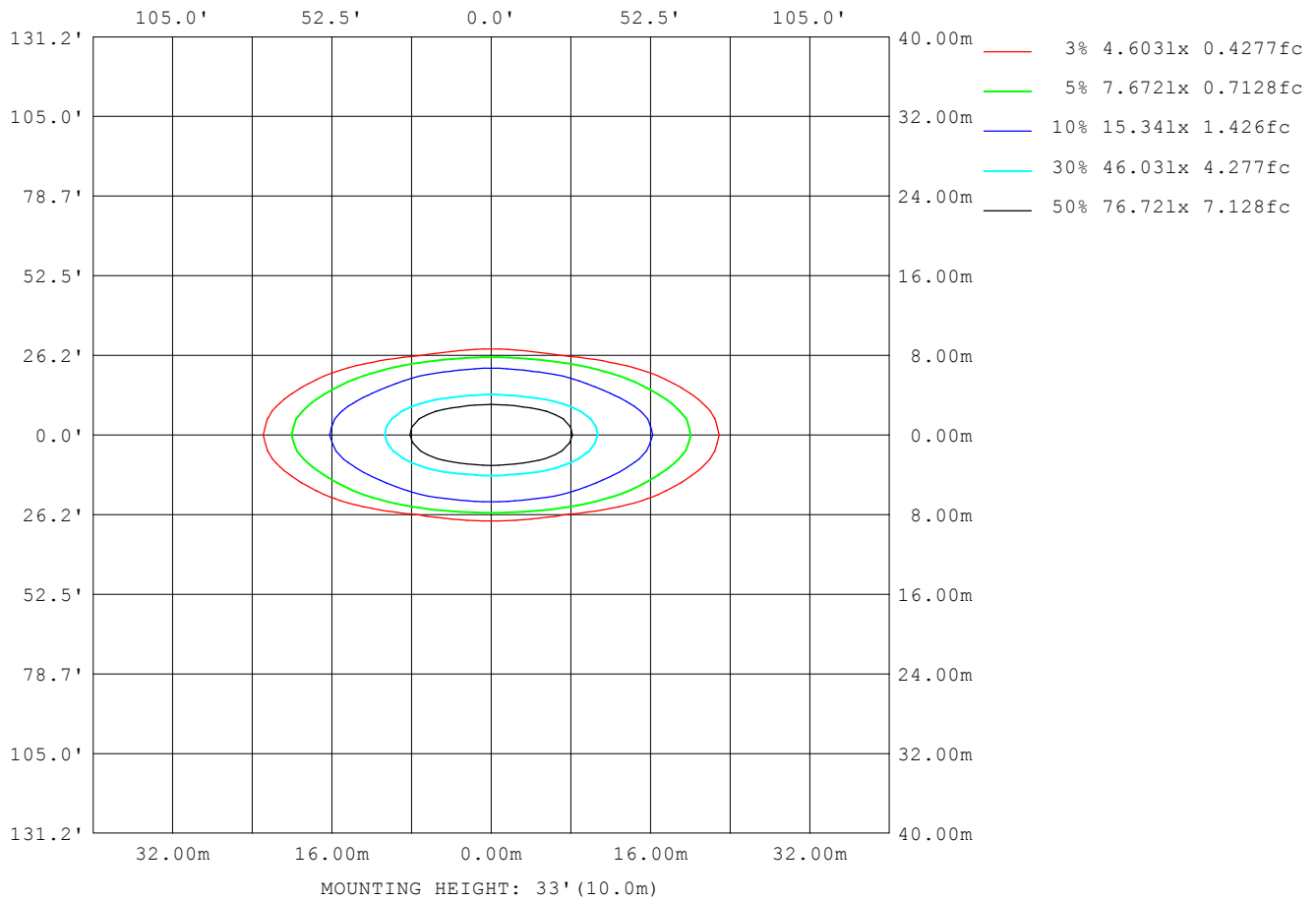


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360 DEG
C Interval: 5.0 DEG
Test Speed: HIGH
Temperature: 25.3 DEG
Operators:
Test Date: 2017-06-16

γ Range: 0 - 90 DEG
 γ Interval: 0.5 DEG
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: 2017-06-16

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:0.8185A P:181.8W PF:0.9658 Lamp Flux:22439.8x1 lm		
NAME: LHB01-180	TYPE:180W	WEIGHT:
SPEC.:5000K Ra80 40130DEG L02804	DIM.: 0.718*0.275*0.102	SERIAL No.:
MFR.:	SUR.:0.255*0.69	Shielding Angle:

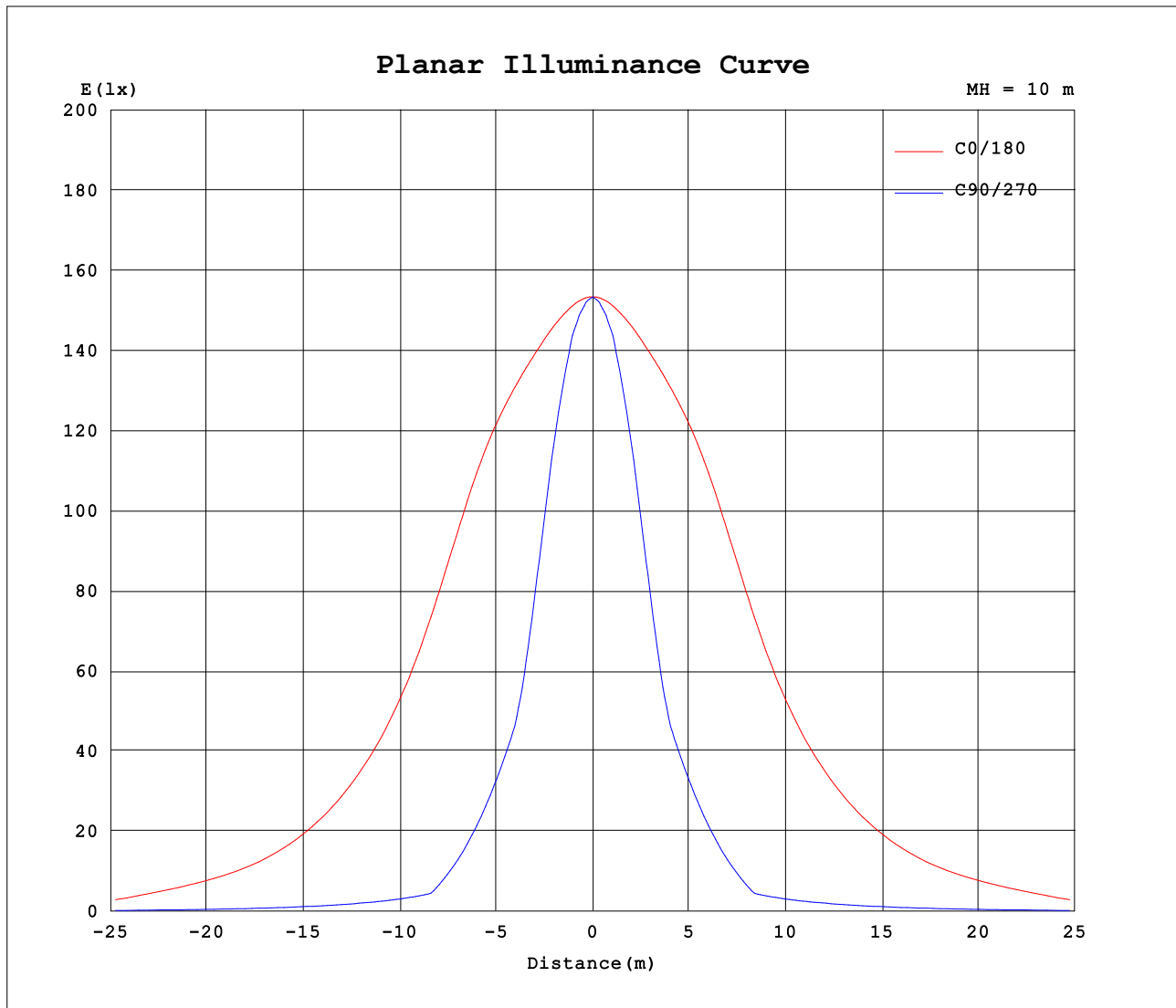
AvgL	cd/m2
L_0~180 (65) av	107835
L_0~180 (75) av	10503
L_0~180 (85) av	3653
L_90~270 (65) av	7639
L_90~270 (75) av	7624
L_90~270 (85) av	8010
L_45 (65) av	7505
L_45 (75) av	6366
L_45 (85) av	6774

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-06-16

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: 2017-06-16

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:

```

```

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:

```

```

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:

```