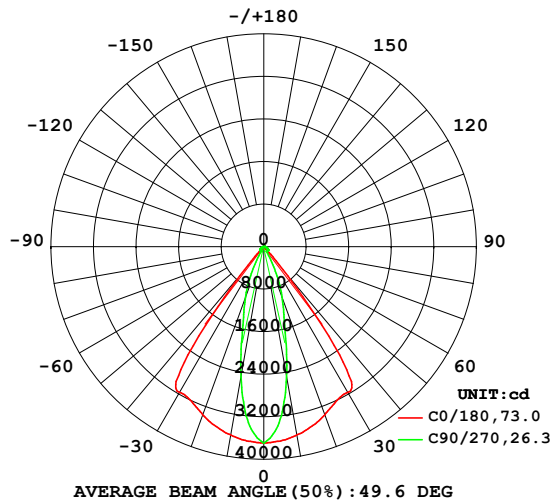


LUMINAIRE PHOTOMETRIC TEST REPORT

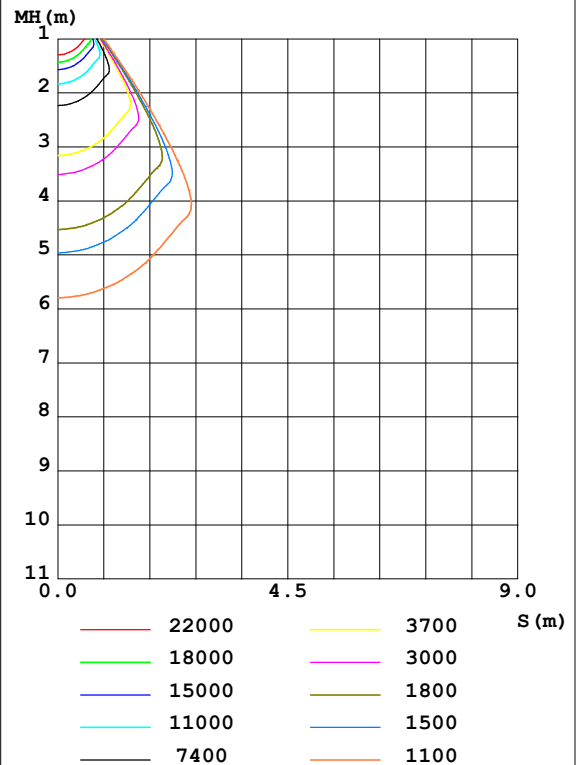
Test:U:229.8V I:0.8188A P:181.7W PF:0.9659 Lamp Flux:22879x1 lm		
NAME: LHB01-180	TYPE:180W	WEIGHT:
SPEC.:5000K Ra80 3070DEG L02801	DIM.: 0.718*0.275*0.102	SERIAL No.:
MFR.:	SUR.:0.255*0.69	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 125.89 lm/W			
MODEL	LHB01-180	Imax(cd)	36934	S/MH(C0/180)	1.05
NOMINAL POWER(W)	180	LOR(%)	100.0	S/MH(C90/270)	0.44
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	22879	η UP,DN(C0-180)	0.0,49.4
NOMINAL FLUX(lm)	22879	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.6
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	0.50

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	3666	3458	3322	3458	3666	3467	3322	3467	0- 5	852.1	852.1	3.72,3.72
10	3597	2972	2487	2972	3597	2998	2487	2998	5- 10	2314	3166	13.8,13.8
15	3494	2262	1527	2262	3494	2298	1527	2298	10- 15	3180	6346	27.7,27.7
20	3361	1482	1016	1482	3361	1518	1016	1518	15- 20	3480	9826	42.9,42.9
25	3215	1030	561.3	1030	3215	1062	561.3	1062	20- 25	3483	13309	58.2,58.2
30	3166	689.4	106.3	689.4	3166	711.7	106.3	711.7	25- 30	3211	16521	72.2,72.2
35	2489	365.7	104.8	365.7	2489	375.6	104.8	375.6	30- 35	2784	19304	84.4,84.4
40	566.8	95.58	103.3	95.58	566.8	98.08	103.3	98.08	35- 40	1666	20970	91.7,91.7
45	81.60	76.88	101.8	76.88	81.60	81.71	101.8	81.71	40- 45	561.5	21531	94.1,94.1
50	56.18	58.77	100.3	58.77	56.18	62.49	100.3	62.49	45- 50	285.4	21817	95.4,95.4
55	45.01	46.72	84.21	46.72	45.01	47.95	84.21	47.95	50- 55	242.3	22059	96.4,96.4
60	37.43	39.65	68.07	39.65	37.43	39.68	68.07	39.68	55- 60	212.9	22272	97.3,97.3
65	31.08	31.82	51.94	31.82	31.08	31.89	51.94	31.89	60- 65	185.7	22458	98.2,98.2
70	24.66	24.24	35.80	24.24	24.66	24.35	35.80	24.35	65- 70	154.2	22612	98.8,98.8
75	17.13	16.61	27.08	16.61	17.13	16.73	27.08	16.73	70- 75	117.8	22730	99.3,99.3
80	8.728	11.11	18.37	11.11	8.728	11.26	18.37	11.26	75- 80	81.66	22812	99.7,99.7
85	2.577	5.966	9.655	5.966	2.577	6.107	9.655	6.107	80- 85	48.76	22860	99.9,99.9
90	0.1655	0.8450	0.9398	0.8450	0.1655	0.9656	0.9398	0.9656	85- 90	18.76	22879	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): 21531 lm

%lum = 94.1%

%lamp = 94.1%

Conical surface Flux(120deg): 22272 lm

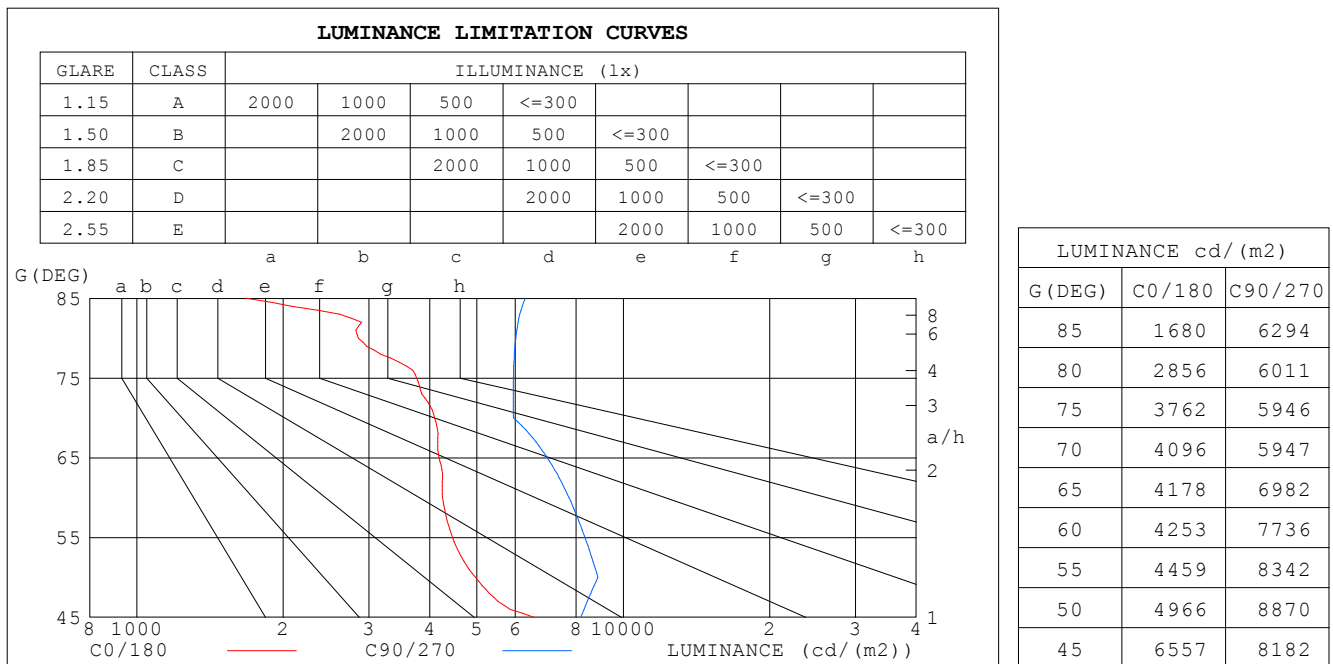
%lum = 97.3%

%lamp = 97.3%

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

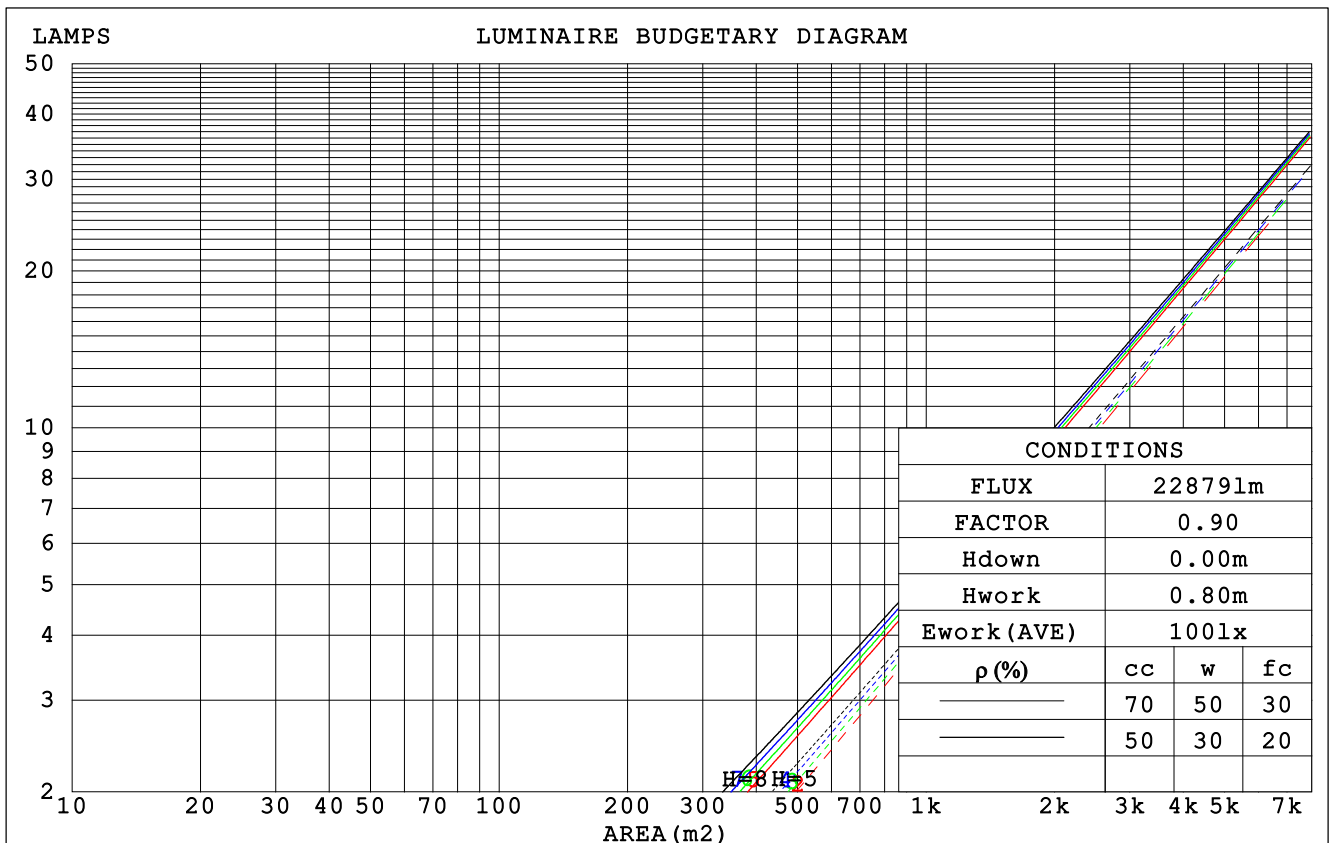


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-06-16

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

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	1.10	1.08	1.06	1.08	1.06	1.04	1.04	1.02	1.01	1.01	.99	.98	.97	.96	.95	.93
2.0	1.03	.99	.95	1.01	.97	.94	.98	.95	.92	.95	.92	.90	.92	.90	.88	.87
3.0	.96	.91	.87	.94	.90	.86	.92	.88	.85	.89	.86	.83	.87	.84	.82	.81
4.0	.90	.84	.80	.89	.84	.80	.86	.82	.79	.84	.81	.78	.83	.79	.77	.75
5.0	.84	.79	.74	.83	.78	.74	.82	.77	.73	.80	.76	.73	.78	.75	.72	.70
6.0	.79	.73	.69	.79	.73	.69	.77	.72	.69	.76	.71	.68	.74	.71	.68	.66
7.0	.75	.69	.65	.74	.69	.65	.73	.68	.64	.72	.67	.64	.71	.67	.64	.62
8.0	.71	.65	.61	.70	.65	.61	.69	.64	.61	.68	.64	.60	.67	.63	.60	.59
9.0	.67	.61	.58	.67	.61	.57	.66	.61	.57	.65	.60	.57	.64	.60	.57	.56
10.0	.64	.58	.54	.63	.58	.54	.63	.58	.54	.62	.57	.54	.61	.57	.54	.53



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	.183	.104	.033	.177	.101	.032	.164	.094	.030	.152	.088	.028	.142	.082	.026		
2.0	.174	.095	.029	.168	.093	.029	.157	.088	.027	.148	.083	.026	.139	.078	.025		
3.0	.164	.087	.026	.159	.085	.026	.150	.081	.025	.142	.078	.024	.134	.074	.023		
4.0	.155	.081	.024	.151	.079	.023	.143	.076	.023	.136	.073	.022	.129	.070	.021		
5.0	.147	.075	.022	.144	.074	.021	.137	.071	.021	.130	.069	.020	.125	.067	.020		
6.0	.140	.070	.020	.137	.069	.020	.131	.067	.019	.125	.065	.019	.120	.063	.019		
7.0	.133	.066	.019	.130	.065	.019	.125	.063	.018	.120	.062	.018	.116	.060	.018		
8.0	.127	.062	.017	.125	.061	.017	.120	.060	.017	.115	.059	.017	.111	.057	.017		
9.0	.122	.059	.016	.119	.058	.016	.115	.057	.016	.111	.056	.016	.107	.055	.016		
10.0	.116	.056	.015	.114	.055	.015	.111	.054	.015	.107	.053	.015	.104	.052	.015		

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	.172	.157	.144	.147	.135	.124	.100	.093	.086	.058	.054	.050	.019	.017	.016	
2.0	.157	.132	.112	.134	.114	.097	.092	.079	.068	.053	.046	.040	.017	.015	.013	
3.0	.144	.114	.089	.124	.098	.077	.085	.068	.054	.049	.040	.032	.016	.013	.010	
4.0	.134	.099	.072	.115	.085	.063	.079	.060	.044	.046	.035	.026	.015	.011	.009	
5.0	.125	.087	.060	.107	.076	.052	.074	.053	.037	.043	.031	.022	.014	.010	.007	
6.0	.117	.078	.050	.101	.068	.043	.070	.047	.031	.040	.028	.018	.013	.009	.006	
7.0	.111	.070	.042	.095	.061	.037	.066	.043	.026	.038	.025	.015	.012	.008	.005	
8.0	.105	.064	.036	.090	.056	.032	.062	.039	.022	.036	.023	.013	.012	.008	.004	
9.0	.100	.059	.031	.086	.051	.027	.059	.036	.019	.035	.021	.012	.011	.007	.004	
10.0	.095	.054	.028	.082	.047	.024	.057	.033	.017	.033	.020	.010	.011	.006	.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	22.5	23.4	22.7	23.6	23.8	12.6	13.6	12.8	13.7	13.9
3H	22.4	23.2	22.6	23.4	23.6	14.2	15.1	14.5	15.3	15.5
4H	22.3	23.1	22.6	23.4	23.6	14.9	15.8	15.2	16.0	16.2
6H	22.2	23.0	22.5	23.3	23.5	15.6	16.4	15.9	16.6	16.9
8H	22.2	23.0	22.5	23.2	23.5	15.9	16.6	16.2	16.9	17.2
12H	22.2	22.9	22.5	23.2	23.4	16.1	16.8	16.5	17.1	17.4
4H 2H	22.3	23.1	22.5	23.3	23.5	12.9	13.8	13.2	14.0	14.2
3H	22.2	22.9	22.5	23.2	23.4	14.6	15.3	14.9	15.6	15.9
4H	22.1	22.8	22.5	23.1	23.4	15.5	16.1	15.8	16.4	16.7
6H	22.1	22.7	22.5	23.0	23.3	16.3	16.8	16.6	17.2	17.5
8H	22.1	22.6	22.5	22.9	23.3	16.6	17.2	17.0	17.5	17.9
12H	22.0	22.5	22.4	22.9	23.3	16.9	17.4	17.3	17.8	18.2
8H 4H	22.0	22.6	22.4	22.9	23.3	15.6	16.1	16.0	16.5	16.8
6H	22.0	22.5	22.4	22.8	23.3	16.5	16.9	16.9	17.3	17.8
8H	22.0	22.4	22.4	22.8	23.2	16.9	17.3	17.4	17.8	18.2
12H	22.0	22.3	22.4	22.7	23.2	17.4	17.7	17.8	18.1	18.6
12H 4H	22.0	22.5	22.4	22.9	23.2	15.6	16.1	16.0	16.5	16.8
6H	22.0	22.4	22.4	22.8	23.2	16.5	16.9	17.0	17.3	17.8
8H	22.0	22.3	22.4	22.7	23.2	17.0	17.3	17.5	17.8	18.2
Variations with the observer position at spacings:										
S = 1.0H	+ 5.6 / - 6.5					+ 0.1 / - 0.2				
1.5H	+ 8.3 / - 6.4					+ 0.6 / - 0.3				
2.0H	+ 0.8 / - 0.3					+ 1.1 / - 0.9				

CIE Pub.117 Corrected 22879 lm Total Lamp Luminous Flux.(8log(F/F0) = 10.9)

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:

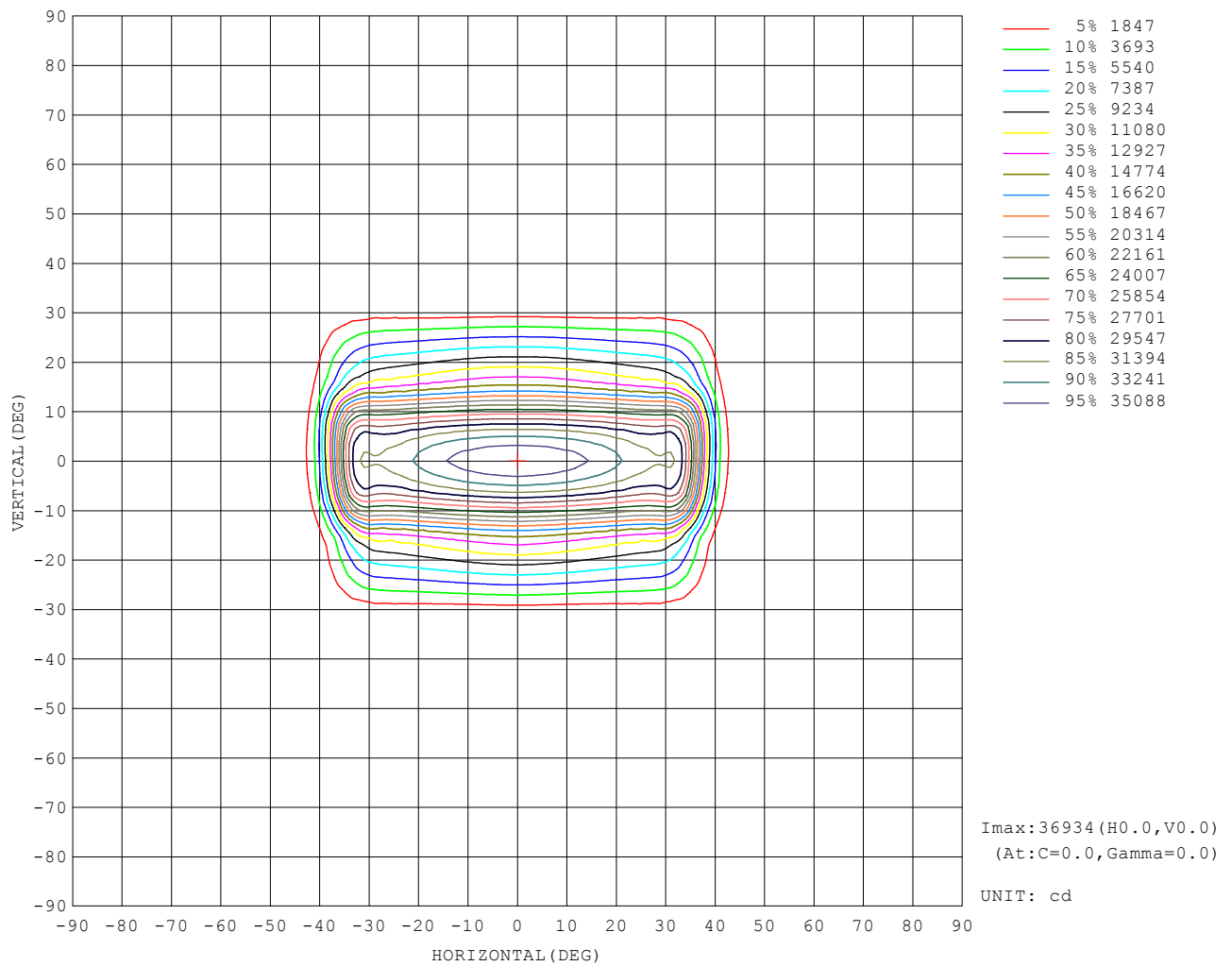
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	86	80	76	86	80	76	85	79	76	72
0.80	94	88	84	93	87	84	92	87	83	80
1.00	98	92	89	97	92	88	96	92	88	84
1.25	102	97	93	101	96	93	99	95	92	88
1.50	105	100	97	104	99	96	102	98	95	90
2.00	108	103	100	106	102	99	104	100	98	93
2.50	110	106	103	108	104	102	105	102	100	94
3.00	111	108	105	109	106	104	106	104	102	95
4.00	113	111	108	111	109	107	108	106	104	97
5.00	115	112	110	113	111	109	109	107	106	98
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:

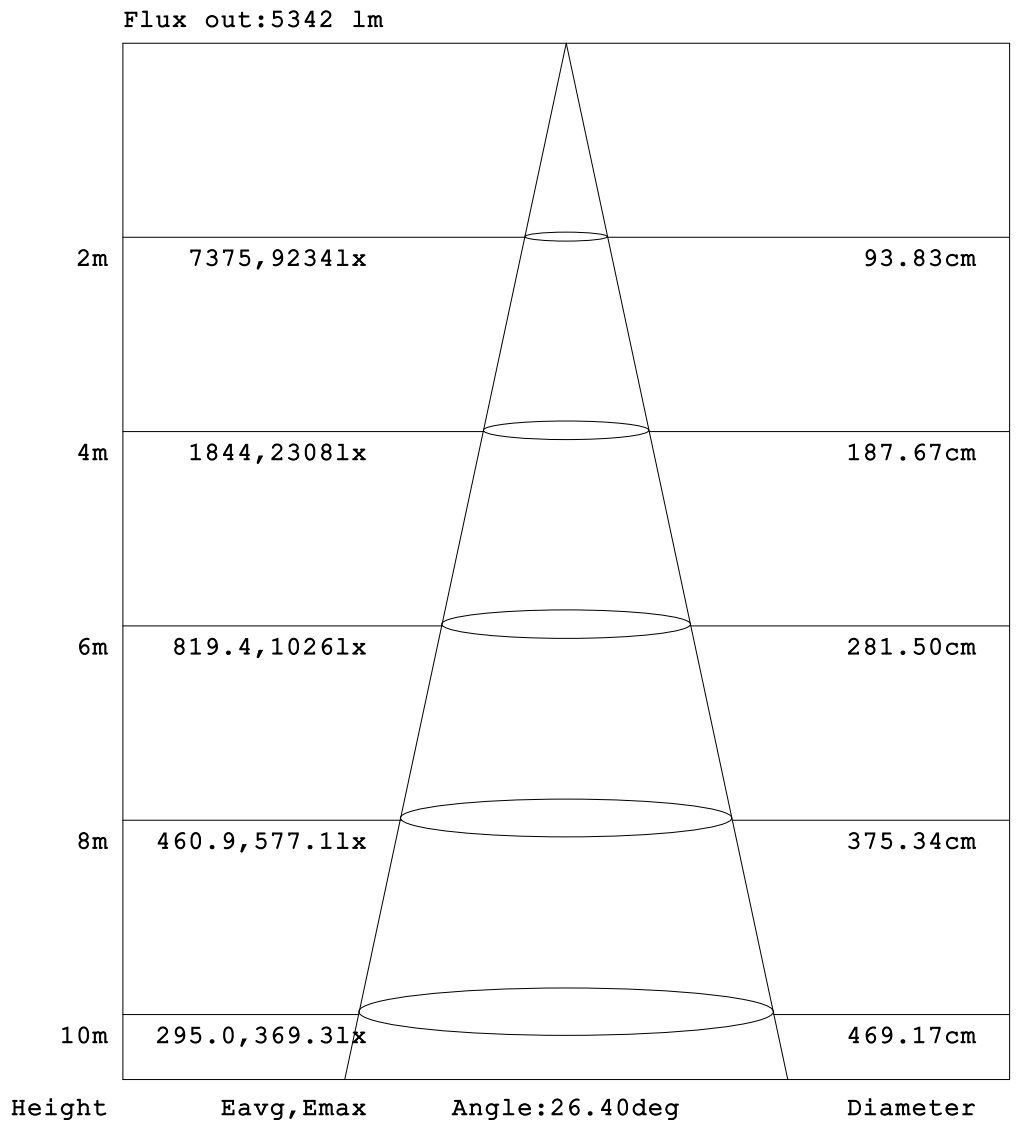
ISOCANDELA DIAGRAM



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

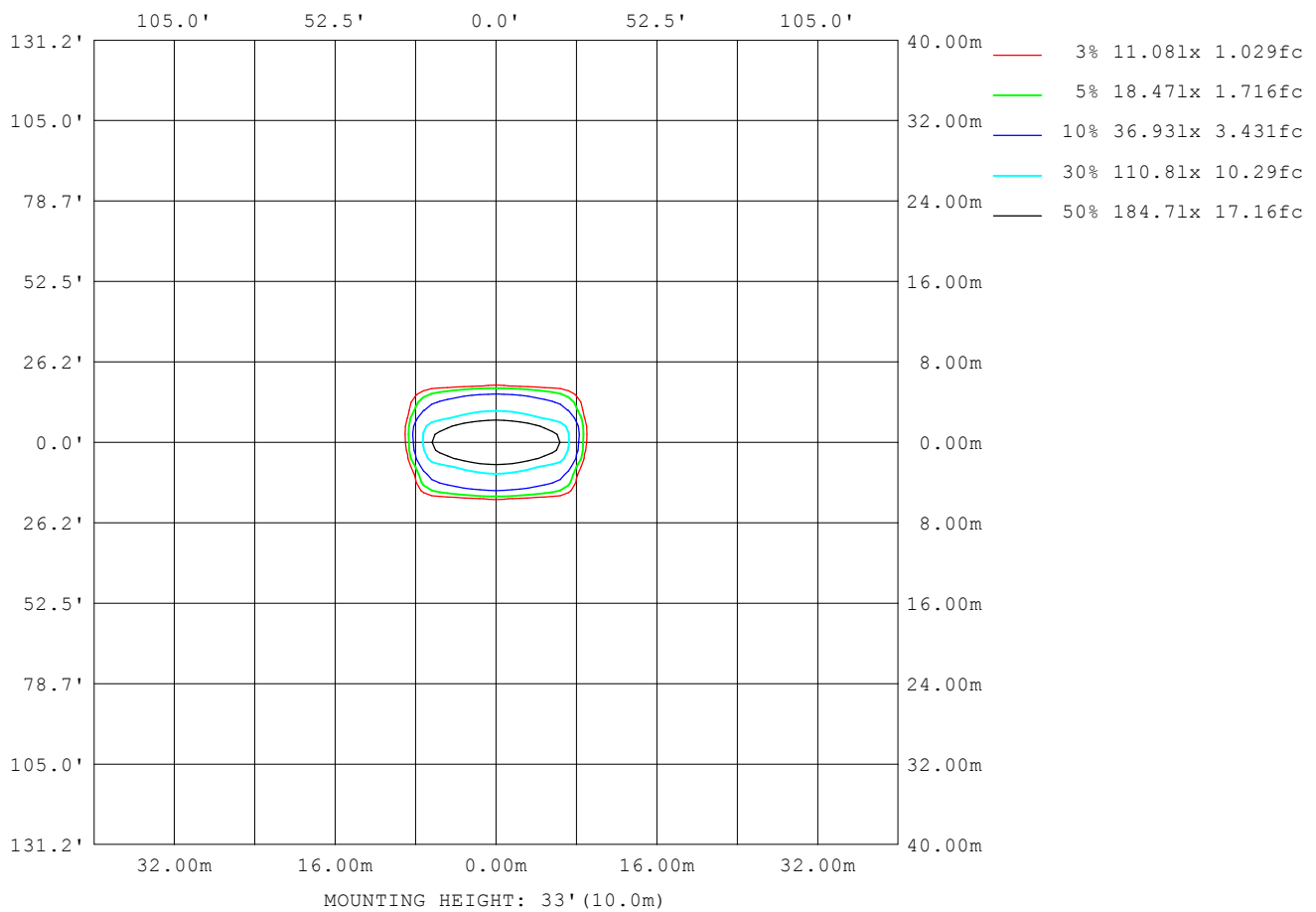


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 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:

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:229.8V I:0.8188A P:181.7W PF:0.9659 Lamp Flux:22879x1 lm		
NAME: LHB01-180	TYPE:180W	WEIGHT:
SPEC.:5000K Ra80 3070DEG L02801	DIM.: 0.718*0.275*0.102	SERIAL No.:
MFR.:	SUR.:0.255*0.69	Shielding Angle:

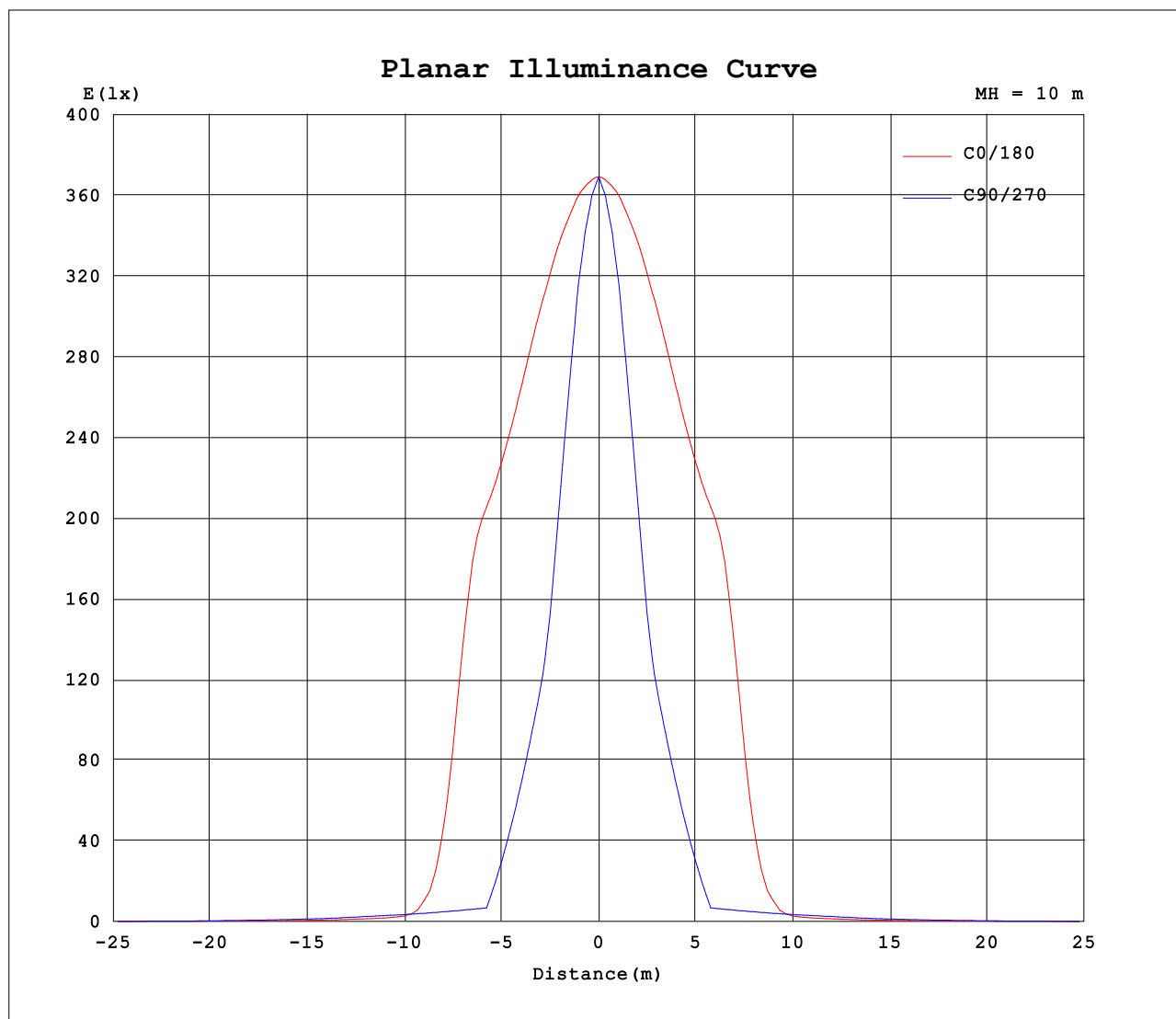
AvgL	cd/m2
L_0~180 (65) av	4178
L_0~180 (75) av	3762
L_0~180 (85) av	1680
L_90~270 (65) av	6982
L_90~270 (75) av	5946
L_90~270 (85) av	6294
L_45 (65) av	4283
L_45 (75) av	3660
L_45 (85) av	3935

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:

```

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: $\times 10 \text{cd}$

```

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:

```