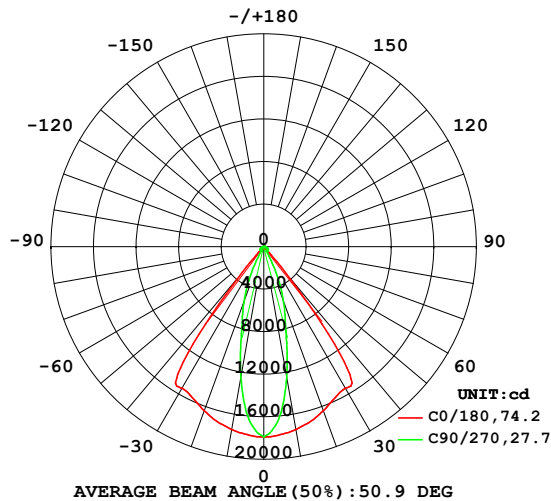


LUMINAIRE PHOTOMETRIC TEST REPORT

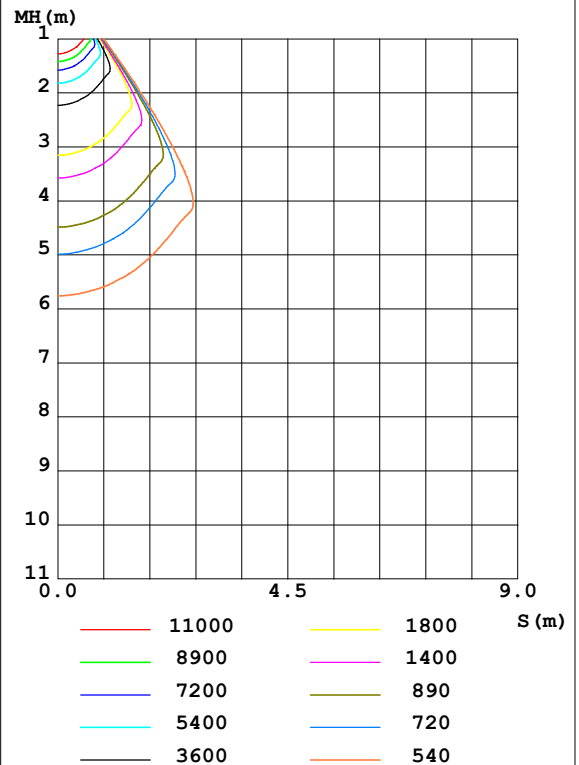
Test:U:230.1V I:0.4124A P:91.47W PF:0.9640 Lamp Flux:11474.3x1 lm		
NAME: LHB01-90	TYPE:90W	WEIGHT:
SPEC.:5000K Ra80 3070DEG L02801	DIM.: 0.718*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.7*0.1	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 125.45 lm/W			
MODEL	LHB01-90	Imax(cd)	17899	S/MH(C0/180)	1.07
NOMINAL POWER(W)	90	LOR(%)	100.0	S/MH(C90/270)	0.47
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	11474	η UP,DN(C0-180)	0.0,49.3
NOMINAL FLUX(lm)	11474.3	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.7
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:2017-06-15

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	1775	1687	1624	1687	1775	1691	1624	1691	0- 5	414.6	414.6	3.61,3.61
10	1746	1459	1247	1459	1746	1471	1247	1471	5- 10	1132	1547	13.5,13.5
15	1703	1137	810.9	1137	1703	1158	810.9	1158	10- 15	1578	3125	27.2,27.2
20	1642	777.5	542.9	777.5	1642	802.5	542.9	802.5	15- 20	1754	4879	42.5,42.5
25	1575	547.1	297.0	547.1	1575	569.1	297.0	569.1	20- 25	1762	6641	57.9,57.9
30	1538	364.1	51.05	364.1	1538	381.3	51.05	381.3	25- 30	1615	8256	72,72
35	1318	190.5	50.07	190.5	1318	198.6	50.07	198.6	30- 35	1401	9658	84.2,84.2
40	316.6	46.33	49.10	46.33	316.6	47.29	49.10	47.29	35- 40	897.3	10555	92,92
45	37.96	37.88	48.13	37.88	37.96	39.99	48.13	39.99	40- 45	292.8	10848	94.5,94.5
50	26.92	28.51	47.15	28.51	26.92	30.42	47.15	30.42	45- 50	136.4	10984	95.7,95.7
55	21.48	22.03	39.31	22.03	21.48	22.63	39.31	22.63	50- 55	114.1	11098	96.7,96.7
60	17.67	18.35	31.47	18.35	17.67	18.35	31.47	18.35	55- 60	99.23	11197	97.6,97.6
65	14.38	14.66	23.62	14.66	14.38	14.70	23.62	14.70	60- 65	85.68	11283	98.3,98.3
70	10.93	11.11	15.78	11.11	10.93	11.20	15.78	11.20	65- 70	70.17	11353	98.9,98.9
75	7.100	7.564	11.96	7.564	7.100	7.692	11.96	7.692	70- 75	53.07	11406	99.4,99.4
80	3.247	5.129	8.148	5.129	3.247	5.212	8.148	5.212	75- 80	36.83	11443	99.7,99.7
85	0.2831	2.854	4.335	2.854	0.2831	2.862	4.335	2.862	80- 85	22.18	11465	99.9,99.9
90	0.0777	0.5882	0.5213	0.5882	0.0777	0.5094	0.5213	0.5094	85- 90	8.970	11474	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): 10848 lm

%lum = 94.5%

%lamp = 94.5%

Conical surface Flux(120deg): 11197 lm

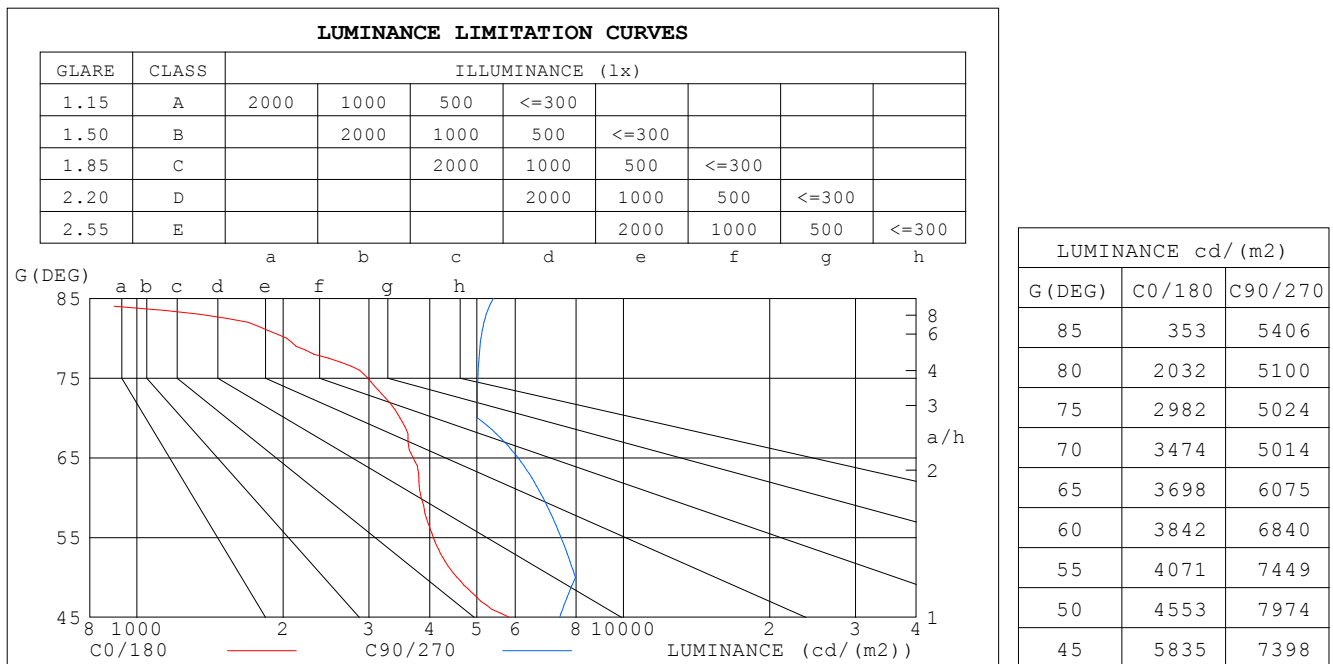
%lum = 97.6%

%lamp = 97.6%

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

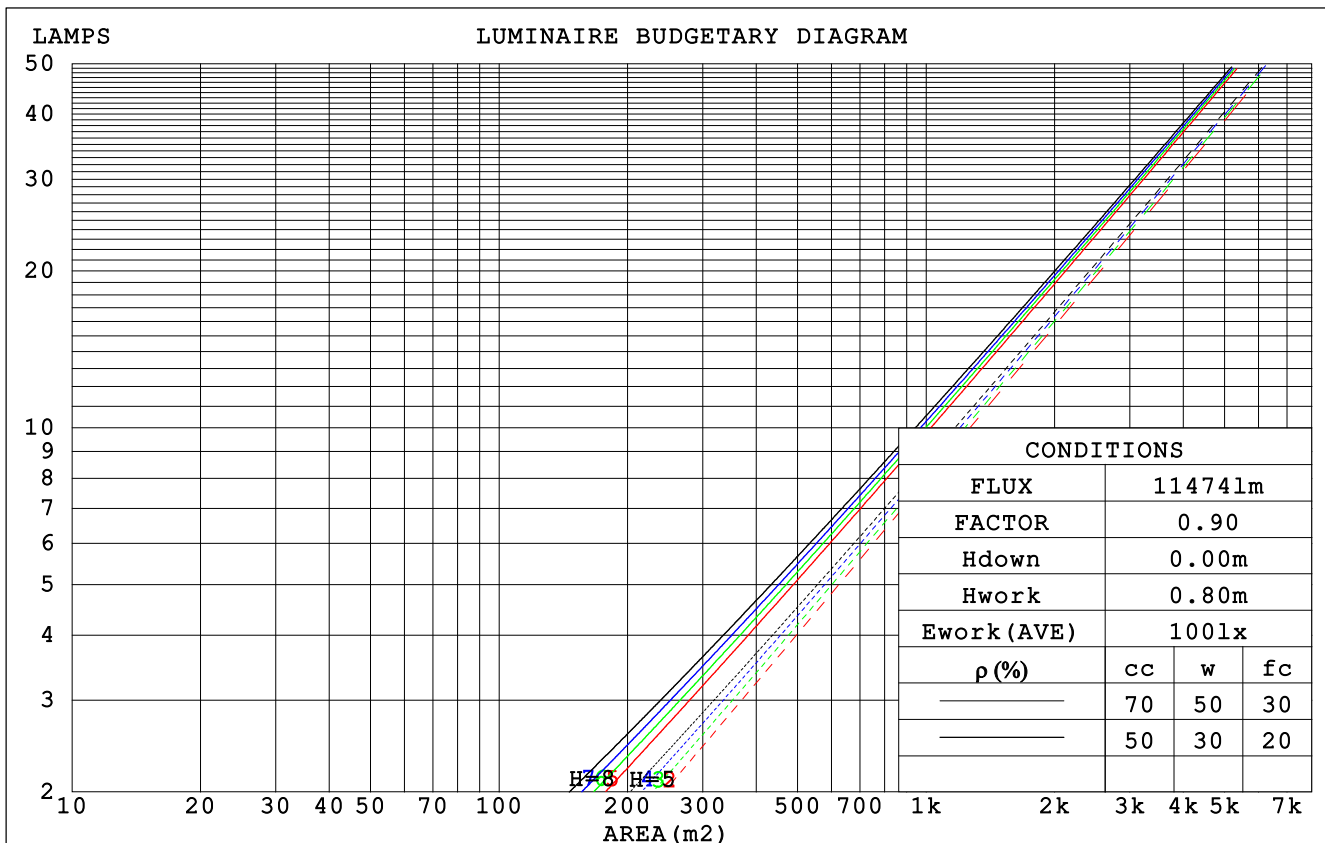


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-06-15

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

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	1.11	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	.95	.90	.86	.92	.88	.85	.89	.86	.84	.87	.85	.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	.68	.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	.57	.67	.61	.57	.66	.61	.57	.65	.60	.57	.64	.60	.57	.55
10.0	.64	.58	.54	.63	.58	.54	.62	.57	.54	.62	.57	.54	.61	.57	.54	.52



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	.183	.104	.033	.176	.100	.032	.163	.094	.030	.152	.087	.028	.141	.082	.026	
2.0	.173	.095	.029	.168	.092	.028	.157	.087	.027	.147	.083	.026	.138	.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	.020	.125	.065	.019	.120	.063	.019	
7.0	.133	.066	.019	.131	.065	.019	.125	.063	.018	.120	.062	.018	.116	.060	.018	
8.0	.127	.062	.017	.125	.061	.017	.120	.060	.017	.116	.059	.017	.112	.057	.017	
9.0	.122	.059	.016	.120	.058	.016	.115	.057	.016	.111	.056	.016	.108	.055	.016	
10.0	.117	.056	.016	.115	.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	.156	.132	.112	.134	.114	.097	.092	.079	.068	.053	.046	.040	.017	.015	.013	
3.0	.144	.114	.089	.123	.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	.060	.036	.019	.035	.021	.012	.011	.007	.004	
10.0	.095	.055	.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:2017-06-15

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	22.1	23.0	22.3	23.2	23.4	12.0	12.9	12.2	13.1	13.2
3H	22.0	22.9	22.2	23.1	23.3	13.4	14.3	13.7	14.5	14.7
4H	21.9	22.7	22.2	23.0	23.2	14.1	14.9	14.4	15.1	15.3
6H	21.9	22.6	22.2	22.9	23.1	14.7	15.5	15.0	15.7	16.0
8H	21.8	22.6	22.1	22.8	23.1	15.0	15.7	15.3	16.0	16.3
12H	21.8	22.5	22.1	22.8	23.0	15.2	15.9	15.5	16.2	16.5
4H 2H	21.9	22.7	22.2	22.9	23.1	12.3	13.1	12.5	13.3	13.5
3H	21.8	22.5	22.1	22.8	23.0	13.8	14.6	14.2	14.8	15.1
4H	21.7	22.4	22.1	22.7	23.0	14.6	15.3	15.0	15.6	15.9
6H	21.7	22.3	22.1	22.6	22.9	15.4	15.9	15.8	16.3	16.6
8H	21.6	22.2	22.0	22.5	22.9	15.7	16.2	16.1	16.6	17.0
12H	21.6	22.1	22.0	22.5	22.8	16.0	16.5	16.4	16.9	17.3
8H 4H	21.6	22.2	22.0	22.5	22.9	14.8	15.3	15.1	15.6	16.0
6H	21.6	22.0	22.0	22.4	22.8	15.6	16.1	16.1	16.5	16.9
8H	21.6	22.0	22.0	22.4	22.8	16.1	16.4	16.5	16.9	17.3
12H	21.5	21.9	22.0	22.3	22.8	16.5	16.8	16.9	17.2	17.7
12H 4H	21.6	22.1	22.0	22.4	22.8	14.8	15.2	15.2	15.6	16.0
6H	21.6	21.9	22.0	22.4	22.8	15.7	16.0	16.1	16.5	16.9
8H	21.5	21.9	22.0	22.3	22.8	16.1	16.4	16.6	16.9	17.4
Variations with the observer position at spacings:										
S = 1.0H	+ 5.7 / - 7.8					+ 0.1 / - 0.2				
1.5H	+ 8.4 / - 7.6					+ 0.7 / - 0.3				
2.0H	+ 0.7 / - 0.3					+ 1.2 / - 0.9				

CIE Pub.117 Corrected 11474 lm Total Lamp Luminous Flux.(8log(F/F0) = 8.5)

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:

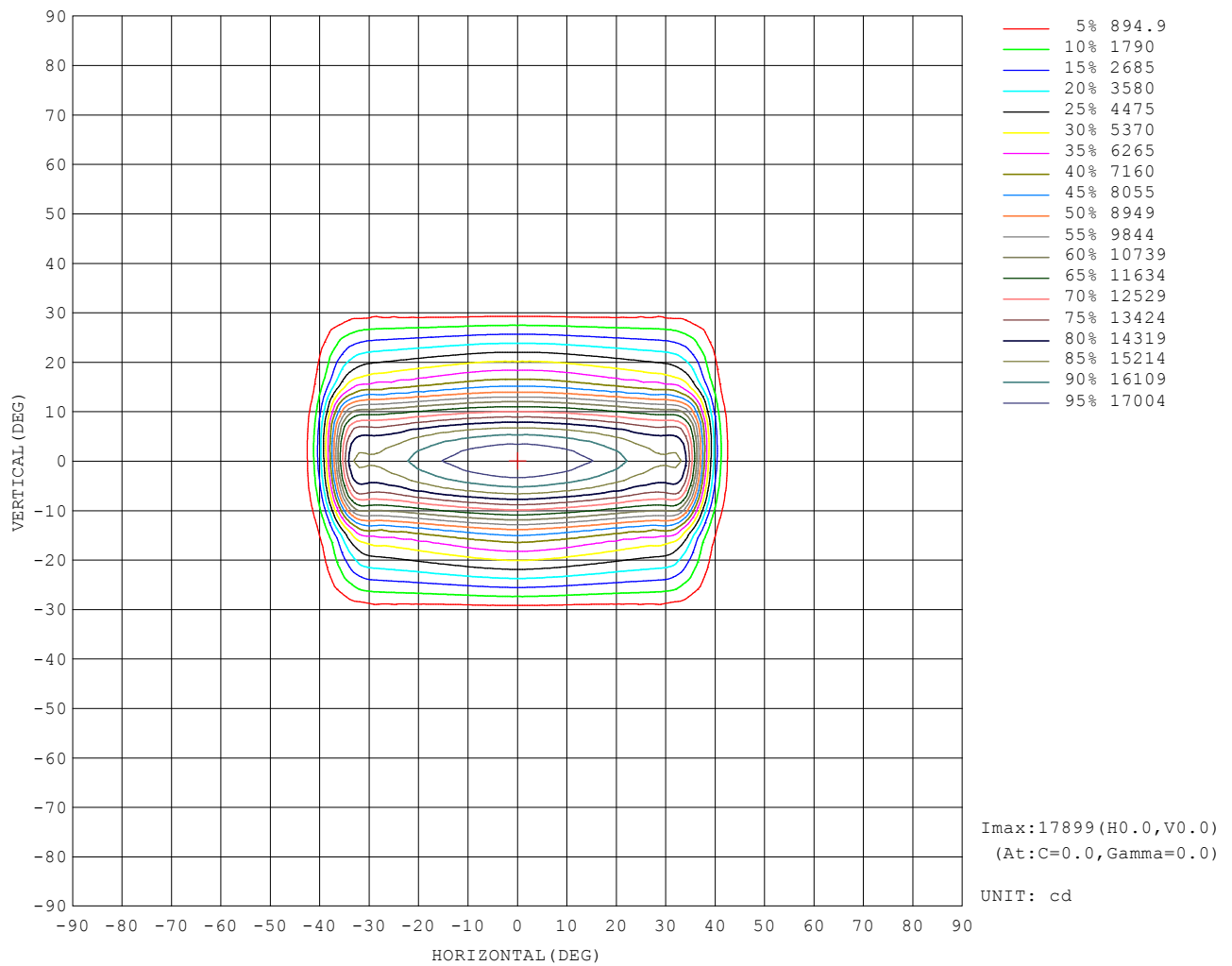
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	87	80	76	86	80	76	85	80	76	72
0.80	94	88	84	93	88	84	92	87	84	80
1.00	98	93	89	98	92	89	96	92	88	84
1.25	102	97	94	101	97	93	99	95	92	88
1.50	105	100	97	104	100	96	102	98	95	91
2.00	108	104	100	107	103	100	104	101	98	93
2.50	110	106	103	108	105	102	105	102	100	94
3.00	111	108	105	110	106	104	106	104	102	95
4.00	113	111	108	111	109	107	108	106	104	97
5.00	115	112	111	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: 2017-06-15

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:

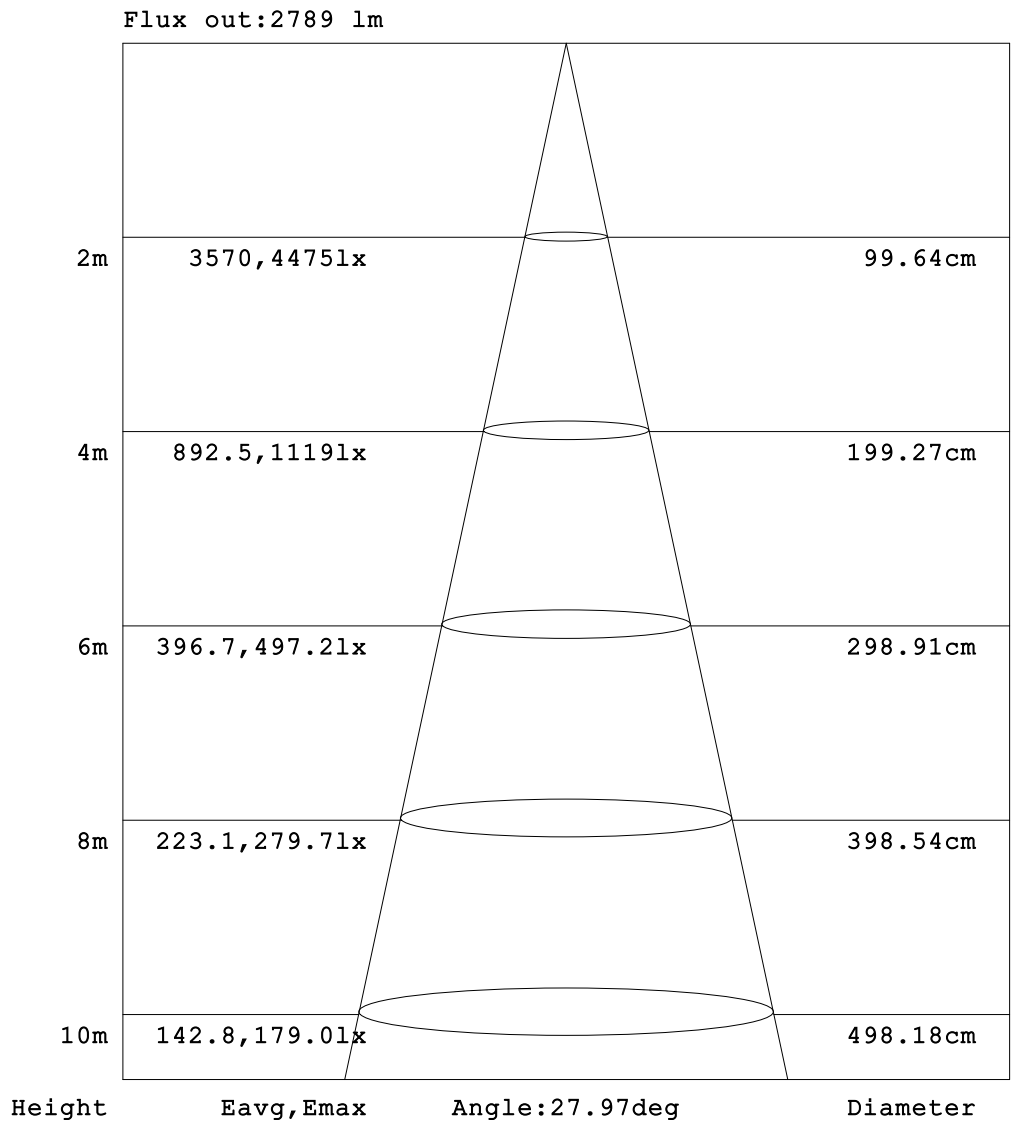
ISOCANDELA DIAGRAM



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

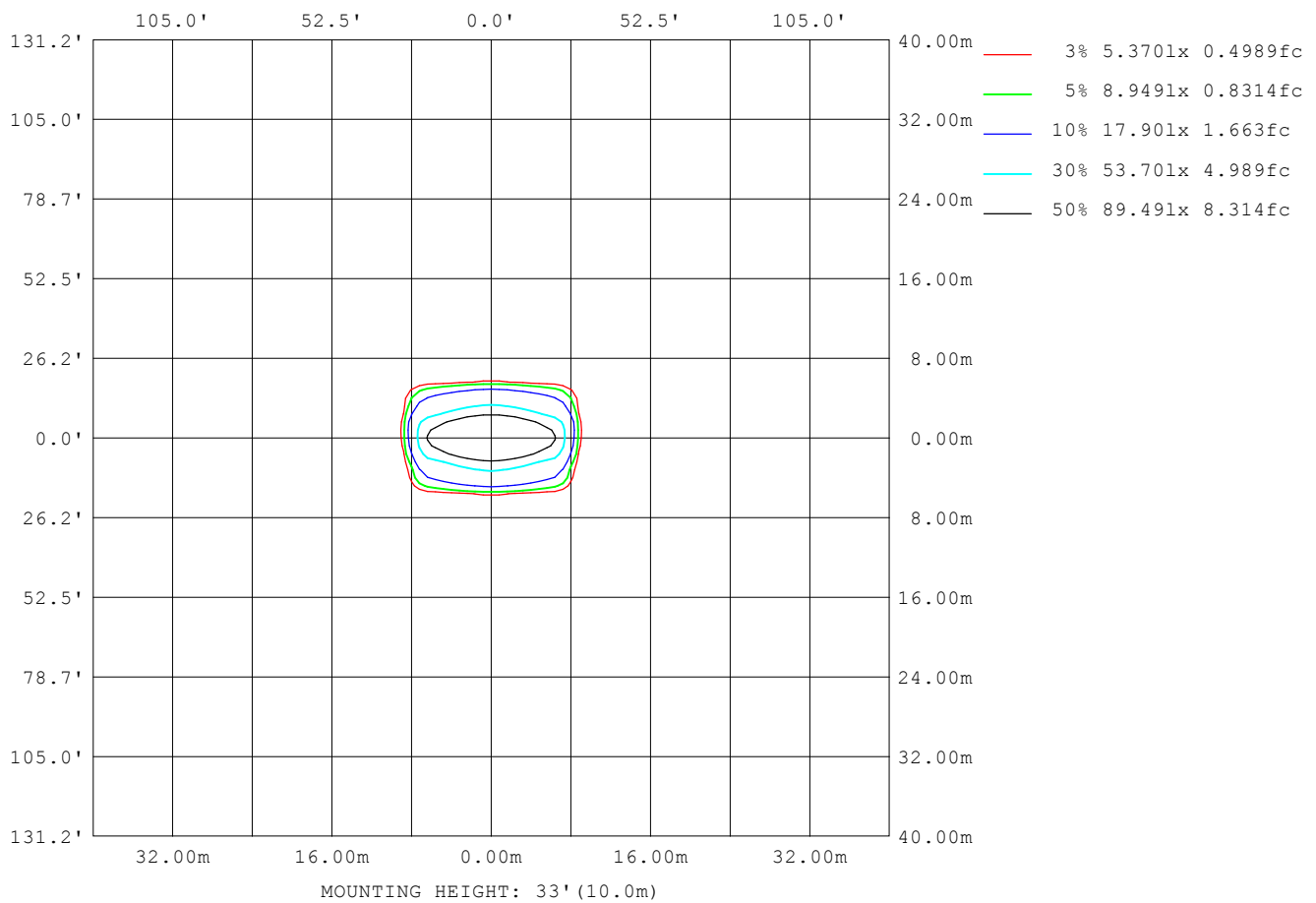


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:0.4124A P:91.47W PF:0.9640 Lamp Flux:11474.3x1 lm		
NAME: LHB01-90	TYPE:90W	WEIGHT:
SPEC.:5000K Ra80 3070DEG L02801	DIM.: 0.718*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.7*0.1	Shielding Angle:

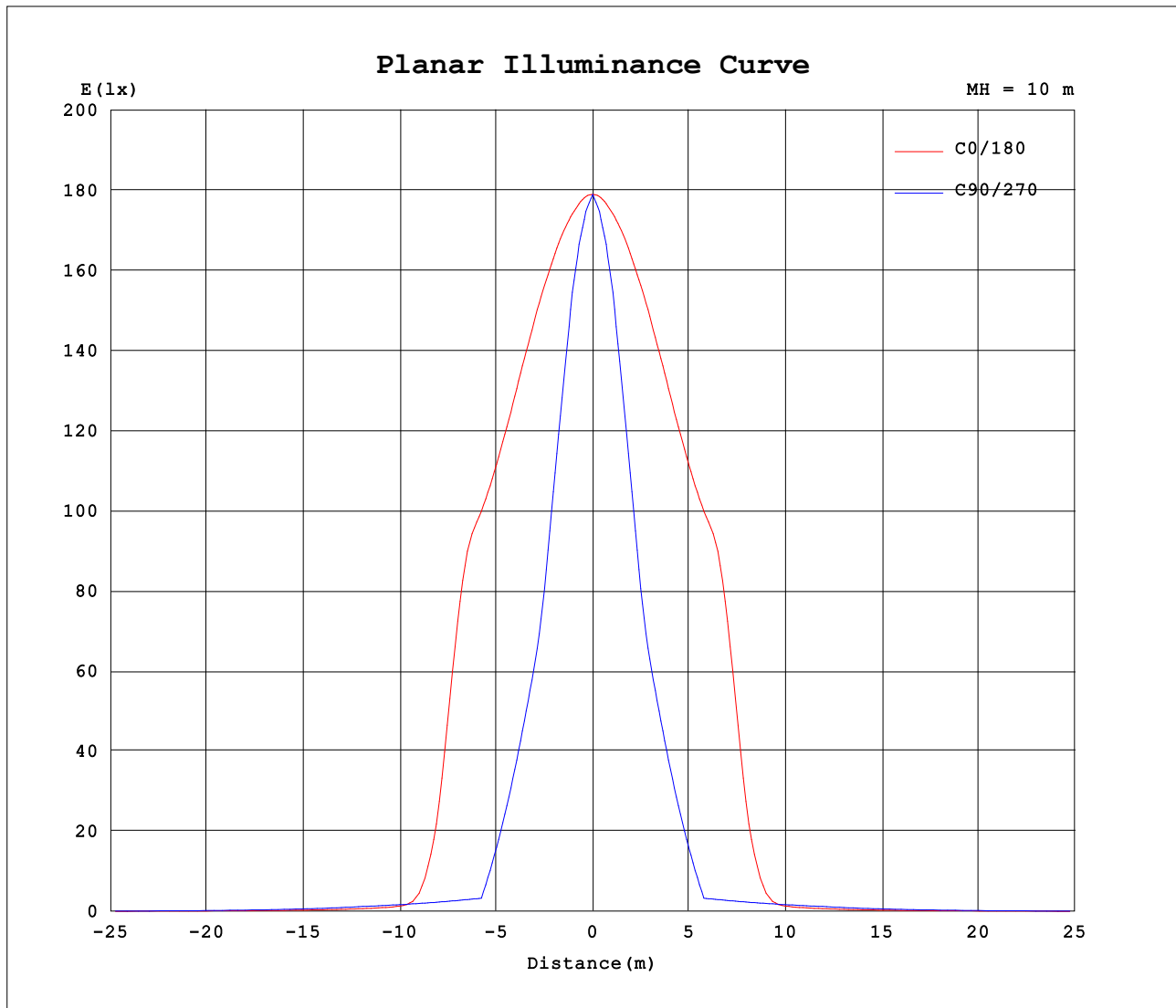
AvgL	cd/m2
L_0~180 (65) av	3698
L_0~180 (75) av	2982
L_0~180 (85) av	353
L_90~270 (65) av	6075
L_90~270 (75) av	5024
L_90~270 (85) av	5406
L_45 (65) av	3775
L_45 (75) av	3204
L_45 (85) av	3564

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:

```

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:

```

```

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: $\times 10 \text{cd}$

```

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:

```