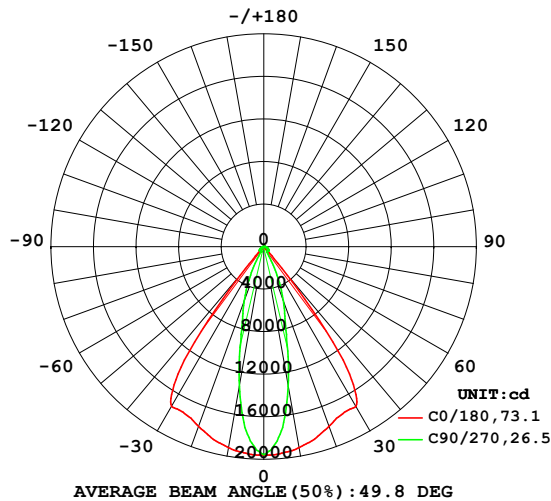


LUMINAIRE PHOTOMETRIC TEST REPORT

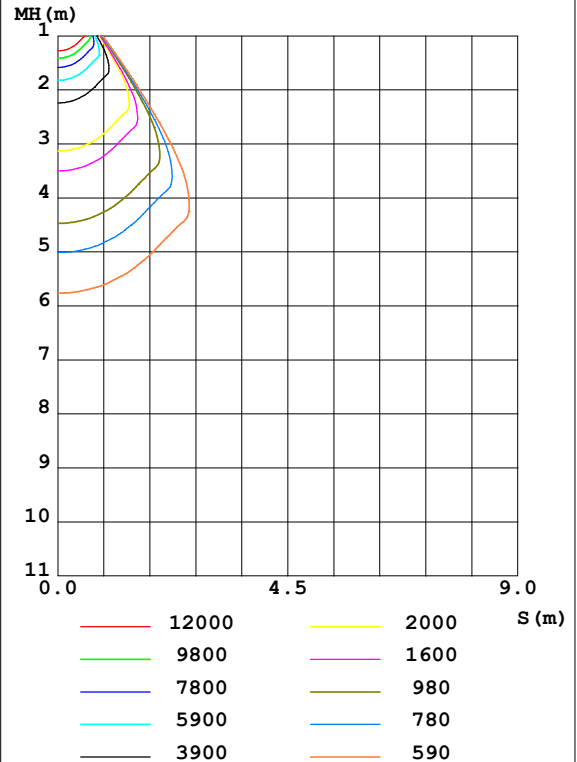
Test:U:230.0V I:0.4140A P:91.83W PF:0.9643 Lamp Flux:12210.8x1 lm		
NAME: LHB01-90	TYPE:90W	WEIGHT:
SPEC.:5000K Ra70 3070DEG L02801	DIM.: 0.718*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.7*0.1	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 132.97 lm/W			
MODEL	LHB01-90	I _{max} (cd)	19592	S/MH (C0/180)	1.05
NOMINAL POWER(W)	90	LOR(%)	100.0	S/MH (C90/270)	0.45
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	12211	η UP,DN (C0-180)	0.0,49.4
NOMINAL FLUX(lm)	12210.8	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:2017-03-31

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	1949	1847	1770	1847	1949	1852	1770	1852	0- 5	453.9	453.9	3.72,3.72
10	1919	1593	1333	1593	1919	1605	1333	1605	5- 10	1237	1691	13.8,13.8
15	1868	1218	812.7	1218	1868	1236	812.7	1236	10- 15	1704	3395	27.8,27.8
20	1799	795.0	538.9	795.0	1799	816.4	538.9	816.4	15- 20	1860	5255	43,43
25	1740	551.0	297.4	551.0	1740	567.3	297.4	567.3	20- 25	1863	7118	58.3,58.3
30	1735	371.1	55.86	371.1	1735	383.1	55.86	383.1	25- 30	1732	8849	72.5,72.5
35	1301	198.6	55.80	198.6	1301	204.7	55.80	204.7	30- 35	1474	10323	84.5,84.5
40	270.3	53.01	55.74	53.01	270.3	53.91	55.74	53.91	35- 40	882.2	11205	91.8,91.8
45	33.44	42.41	55.68	42.41	33.44	45.41	55.68	45.41	40- 45	280.6	11486	94.1,94.1
50	26.29	31.99	55.62	31.99	26.29	34.45	55.62	34.45	45- 50	148.1	11634	95.3,95.3
55	21.90	25.21	46.98	25.21	21.90	26.03	46.98	26.03	50- 55	129.9	11764	96.3,96.3
60	18.72	21.73	38.34	21.73	18.72	21.75	38.34	21.75	55- 60	115.2	11879	97.3,97.3
65	15.60	17.40	29.70	17.40	15.60	17.44	29.70	17.44	60- 65	101.1	11980	98.1,98.1
70	12.27	13.21	21.06	13.21	12.27	13.31	21.06	13.31	65- 70	84.25	12064	98.8,98.8
75	8.256	8.998	15.92	8.998	8.256	9.151	15.92	9.151	70- 75	64.68	12129	99.3,99.3
80	3.630	6.034	10.78	6.034	3.630	6.164	10.78	6.164	75- 80	44.73	12174	99.7,99.7
85	0.3379	3.259	5.639	3.259	0.3379	3.335	5.639	3.335	80- 85	26.67	12201	99.9,99.9
90	0.0914	0.4938	0.4984	0.4938	0.0914	0.5056	0.4984	0.5056	85- 90	10.32	12211	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): 11486 lm

%lum = 94.1%

%lamp = 94.1%

Conical surface Flux(120deg): 11879 lm

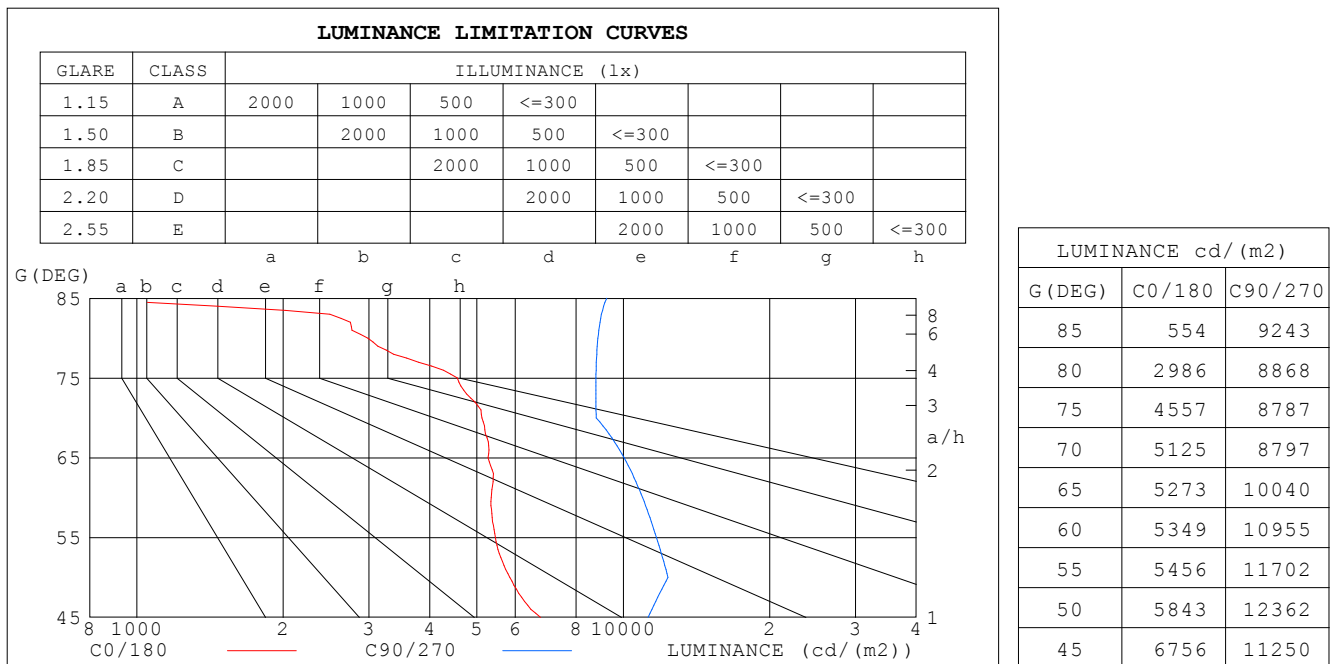
%lum = 97.3%

%lamp = 97.3%

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-03-31

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

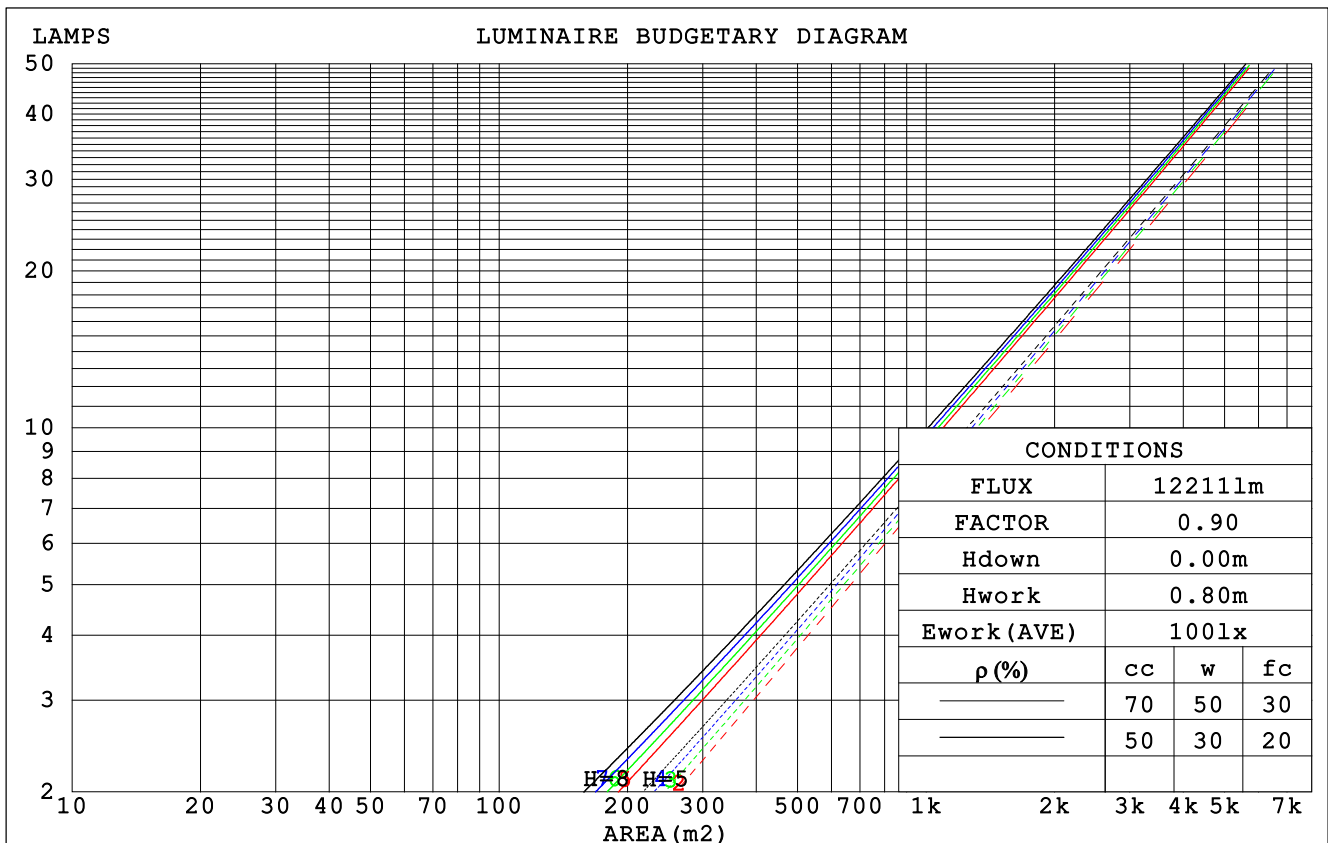


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-31

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	1.10	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	.71
6.0	.79	.74	.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	.62	.58	.67	.61	.58	.66	.61	.57	.65	.60	.57	.64	.60	.57	.56
10.0	.64	.58	.55	.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: 2017-03-31

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	.124	.066	.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	.018	.125	.063	.018	.120	.062	.018	.115	.060	.018	
8.0	.127	.062	.017	.125	.061	.017	.120	.060	.017	.115	.058	.017	.111	.057	.017	
9.0	.121	.059	.016	.119	.058	.016	.115	.057	.016	.111	.056	.016	.107	.054	.016	
10.0	.116	.056	.015	.114	.055	.015	.110	.054	.015	.107	.053	.015	.103	.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	.016	.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:2017-03-31

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	23.2	24.2	23.4	24.3	24.5	13.8	14.8	14.1	14.9	15.1
3H	23.1	24.0	23.4	24.2	24.4	15.5	16.3	15.7	16.5	16.7
4H	23.0	23.9	23.3	24.1	24.3	16.2	17.1	16.5	17.3	17.5
6H	23.0	23.7	23.3	24.0	24.2	16.9	17.7	17.2	17.9	18.2
8H	22.9	23.7	23.2	23.9	24.2	17.2	18.0	17.5	18.2	18.5
12H	22.9	23.6	23.2	23.9	24.2	17.5	18.2	17.8	18.4	18.7
4H 2H	23.0	23.8	23.3	24.0	24.3	14.1	15.0	14.4	15.2	15.4
3H	22.9	23.6	23.2	23.9	24.2	15.9	16.6	16.2	16.9	17.2
4H	22.9	23.5	23.2	23.8	24.2	16.8	17.4	17.1	17.7	18.0
6H	22.8	23.4	23.2	23.7	24.1	17.6	18.1	18.0	18.5	18.8
8H	22.8	23.3	23.2	23.7	24.1	17.9	18.5	18.3	18.8	19.2
12H	22.8	23.2	23.2	23.6	24.0	18.3	18.7	18.7	19.1	19.5
8H 4H	22.8	23.3	23.2	23.7	24.0	16.9	17.4	17.3	17.8	18.1
6H	22.8	23.2	23.2	23.6	24.0	17.8	18.3	18.2	18.6	19.1
8H	22.7	23.1	23.2	23.6	24.0	18.3	18.6	18.7	19.1	19.5
12H	22.7	23.0	23.2	23.5	24.0	18.7	19.0	19.1	19.5	19.9
12H 4H	22.8	23.2	23.2	23.6	24.0	16.9	17.4	17.3	17.7	18.1
6H	22.7	23.1	23.2	23.5	24.0	17.8	18.2	18.3	18.6	19.1
8H	22.7	23.1	23.2	23.5	24.0	18.3	18.6	18.8	19.1	19.6
Variations with the observer position at spacings:										
S = 1.0H	+ 5.6 / - 6.5					+ 0.1 / - 0.2				
1.5H	+ 8.3 / - 6.4					+ 0.7 / - 0.3				
2.0H	+ 0.2 / - 0.2					+ 1.2 / - 0.9				

CIE Pub.117 Corrected 12211 lm Total Lamp Luminous Flux.(8log(F/F0) = 8.7)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-31

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:

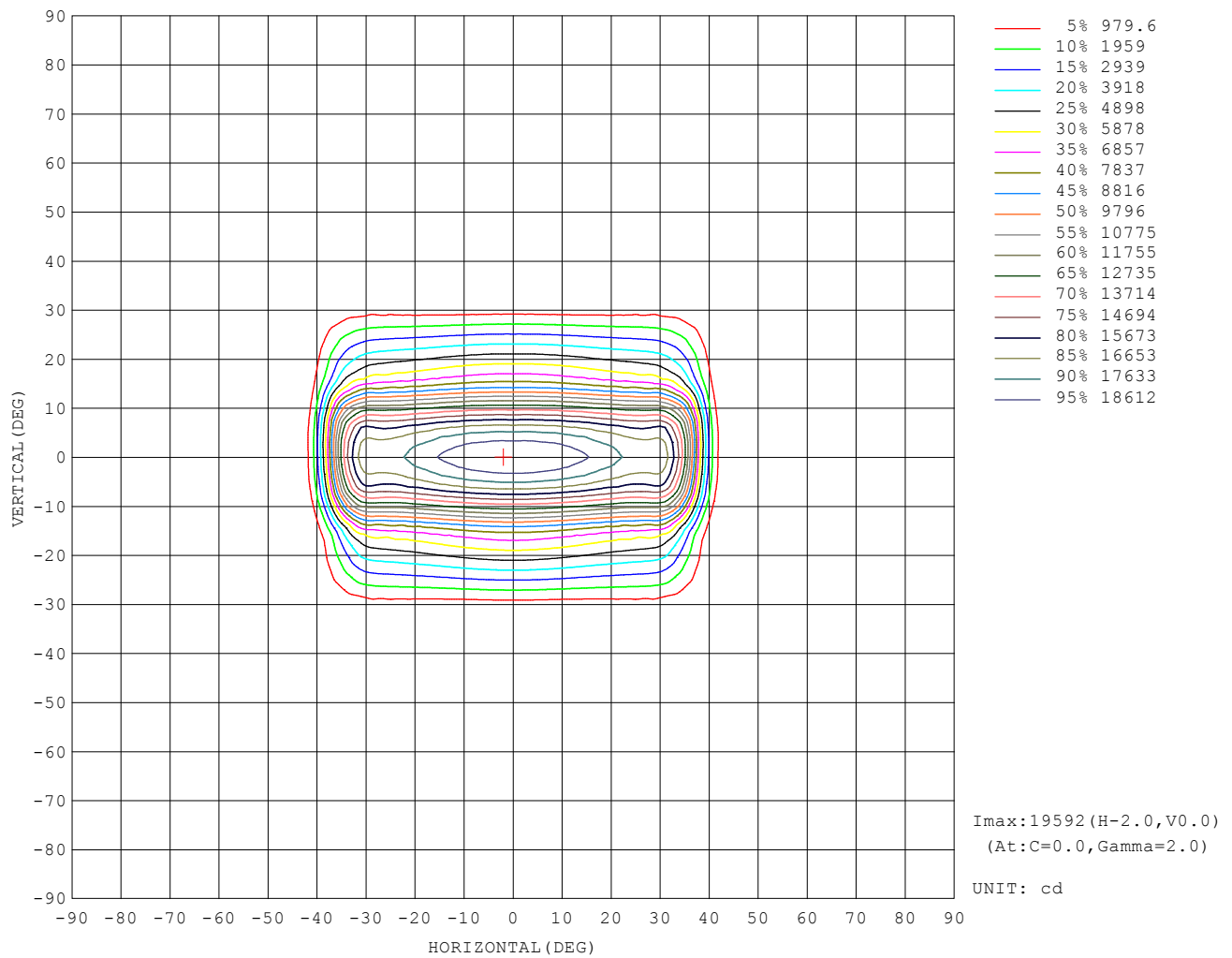
UTILIZATION FACTORS TABLE

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	79	76	72
0.80	94	88	84	93	88	84	92	87	83	80
1.00	98	93	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: 2017-03-31

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:

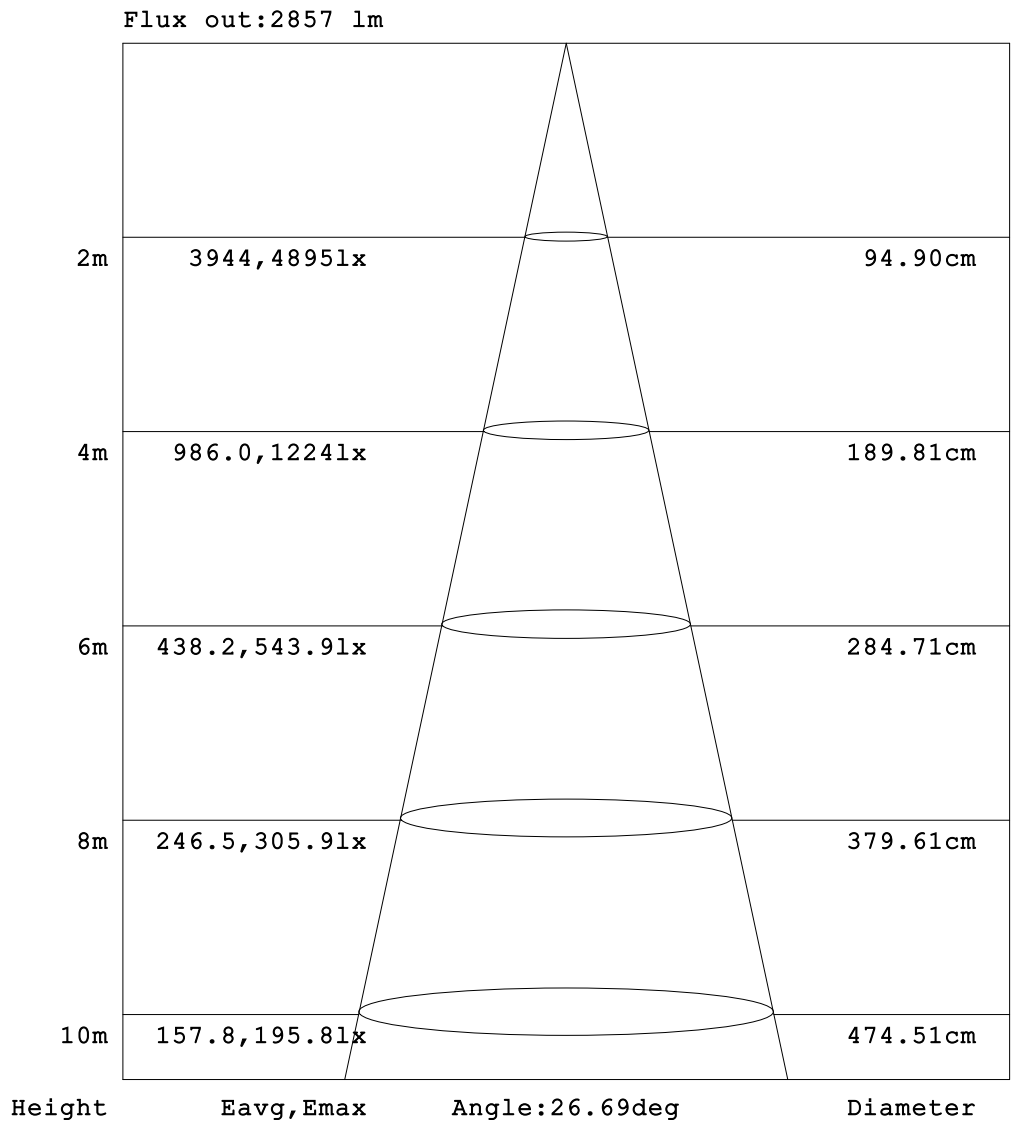
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-31

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

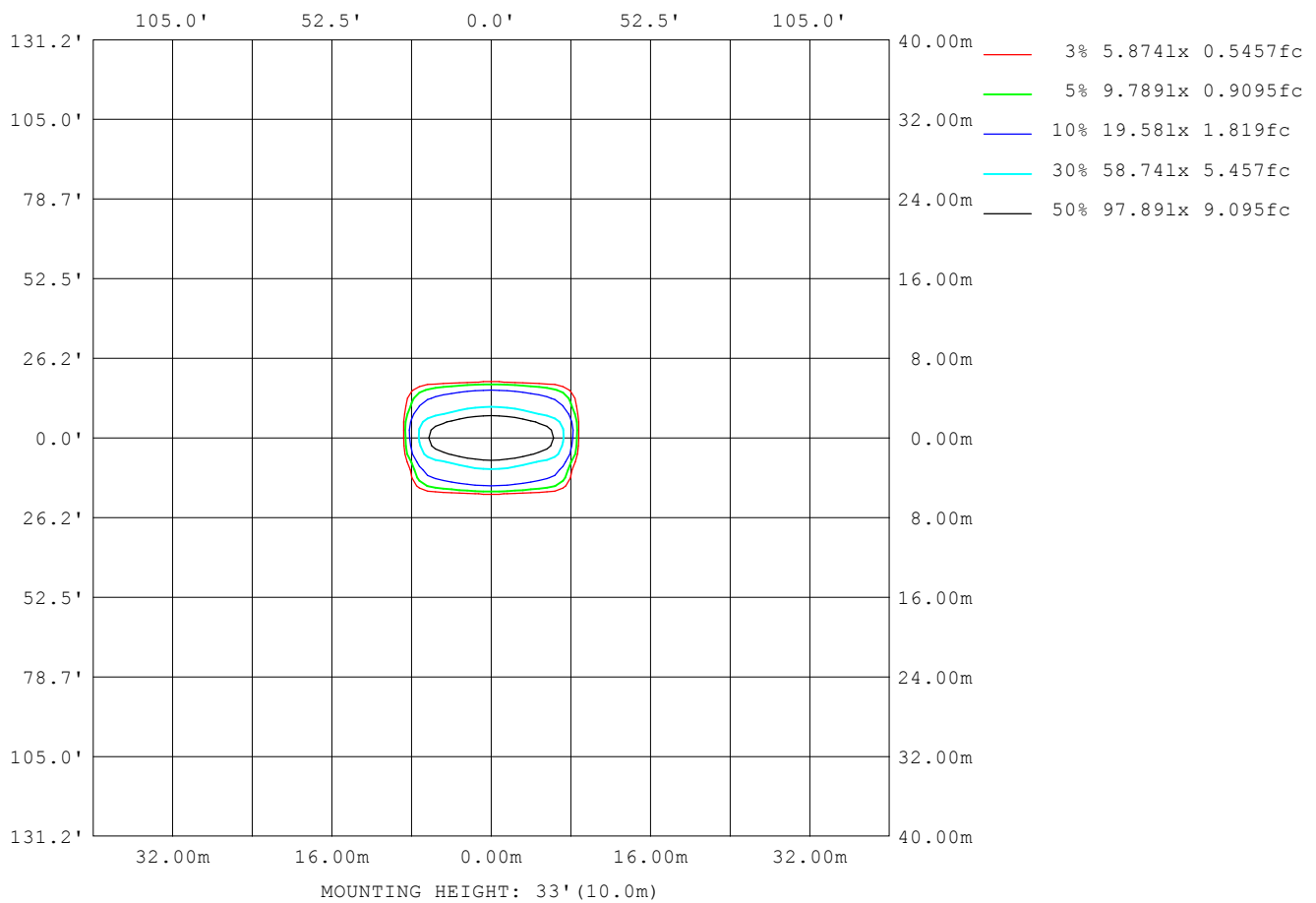


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-31

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:2017-03-31

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:0.4140A P:91.83W PF:0.9643 Lamp Flux:12210.8x1 lm		
NAME: LHB01-90	TYPE:90W	WEIGHT:
SPEC.:5000K Ra70 3070DEG L02801	DIM.: 0.718*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.7*0.1	Shielding Angle:

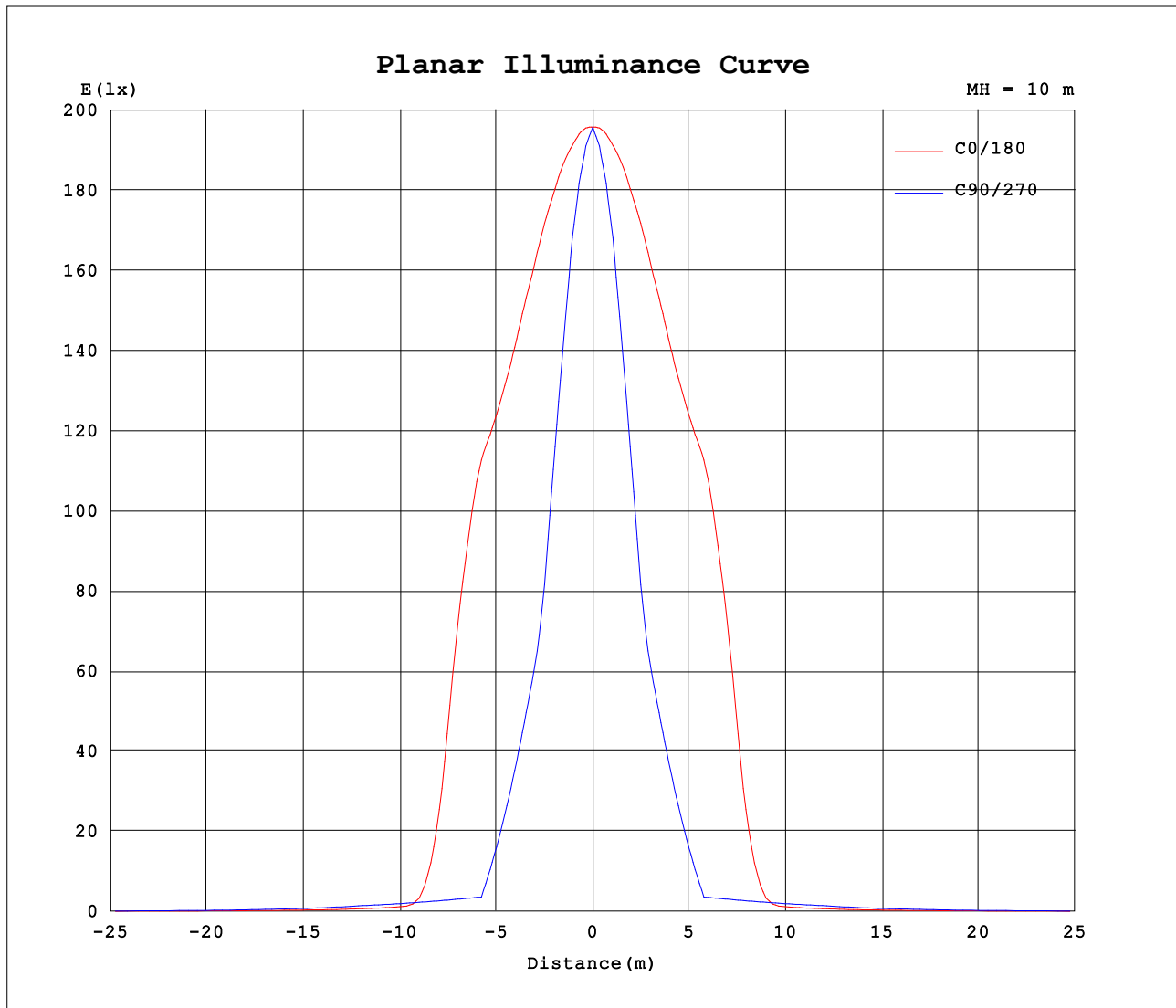
AvgL	cd/m2
L_0~180 (65) av	5273
L_0~180 (75) av	4557
L_0~180 (85) av	554
L_90~270 (65) av	10040
L_90~270 (75) av	8787
L_90~270 (85) av	9243
L_45 (65) av	5890
L_45 (75) av	5009
L_45 (85) av	5404

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-31

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: 2017-03-31

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:

```

```

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:

```