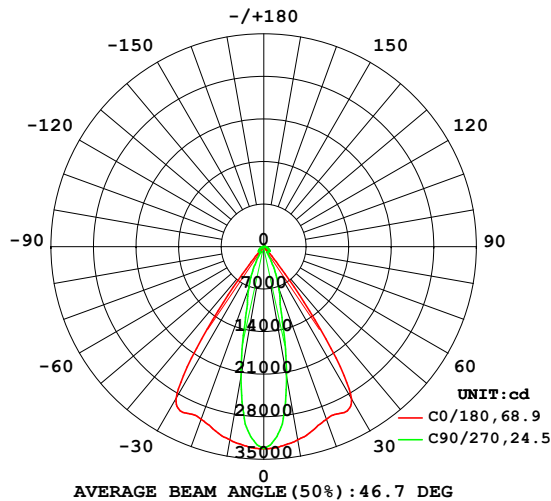


LUMINAIRE PHOTOMETRIC TEST REPORT

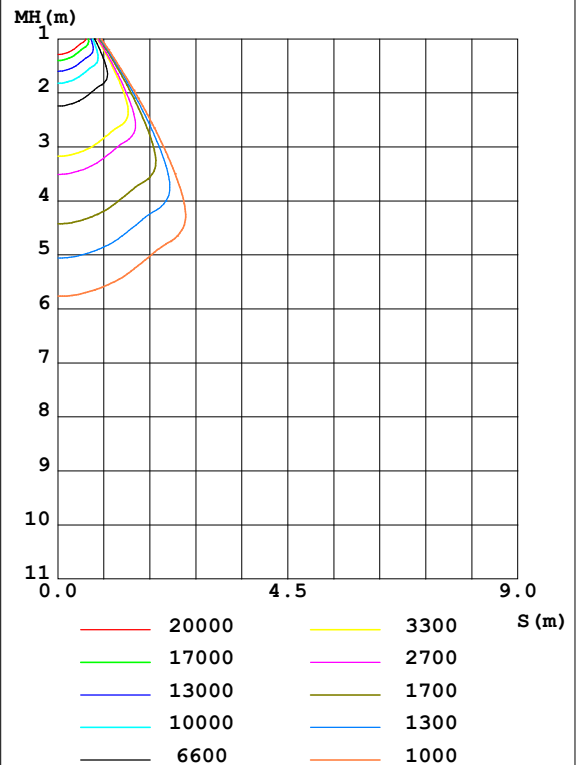
Test:U:230.0V I:0.6671A P:148.1W PF:0.9655 Lamp Flux:19371.2x1 lm		
NAME: LHB01-150	TYPE:150W	WEIGHT:
SPEC.:5000K Ra70 3070DEG L02801	DIM.: 1.178*0.137*0.102	SERIAL No.:
MFR.:	SUR.:1.17*0.1	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 130.78 lm/W			
MODEL	LHB01-150	I _{max} (cd)	33239	S/MH(C0/180)	0.99
NOMINAL POWER(W)	150	LOR(%)	100.0	S/MH(C90/270)	0.42
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	19371	η UP,DN(C0-180)	0.0,50.0
NOMINAL FLUX(lm)	19371.2	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.0
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	1.00

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:2017-03-23

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	3297	3149	3033	3161	3297	3161	3033	3149	0- 5	772.9	772.9	3.99, 3.99
10	3227	2683	2176	2713	3227	2713	2176	2683	5- 10	2095	2868	14.8, 14.8
15	3128	1928	1132	1974	3128	1974	1132	1928	10- 15	2788	5656	29.2, 29.2
20	3020	1116	737.5	1159	3020	1159	737.5	1116	15- 20	2911	8567	44.2, 44.2
25	3025	758.1	424.1	788.8	3025	788.8	424.1	758.1	20- 25	2907	11474	59.2, 59.2
30	2888	537.9	110.7	552.9	2888	552.9	110.7	537.9	25- 30	2770	14245	73.5, 73.5
35	1473	315.5	112.4	319.3	1473	319.3	112.4	315.5	30- 35	2167	16411	84.7, 84.7
40	268.8	104.9	114.1	111.9	268.8	111.9	114.1	104.9	35- 40	1033	17444	90.1, 90.1
45	59.69	79.22	115.8	86.45	59.69	86.45	115.8	79.22	40- 45	403.8	17848	92.1, 92.1
50	49.76	61.09	117.6	65.61	49.76	65.61	117.6	61.09	45- 50	291.9	18140	93.6, 93.6
55	43.50	52.00	98.95	53.29	43.50	53.29	98.95	52.00	50- 55	266.2	18406	95, 95
60	38.89	46.66	80.36	46.68	38.89	46.68	80.36	46.66	55- 60	241.2	18647	96.3, 96.3
65	33.96	37.58	61.76	37.72	33.96	37.72	61.76	37.58	60- 65	216.2	18863	97.4, 97.4
70	27.53	28.56	43.16	28.81	27.53	28.81	43.16	28.56	65- 70	184.1	19047	98.3, 98.3
75	20.63	19.53	32.59	19.85	20.63	19.85	32.59	19.53	70- 75	143.2	19191	99.1, 99.1
80	10.06	13.07	22.01	13.34	10.06	13.34	22.01	13.07	75- 80	99.29	19290	99.6, 99.6
85	2.643	6.966	11.44	7.121	2.643	7.121	11.44	6.966	80- 85	59.11	19349	99.9, 99.9
90	0.1868	0.8720	0.8701	0.8974	0.1868	0.8974	0.8701	0.8720	85- 90	22.05	19371	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): 17848 lm

%lum = 92.1%

%lamp = 92.1%

Conical surface Flux(120deg): 18647 lm

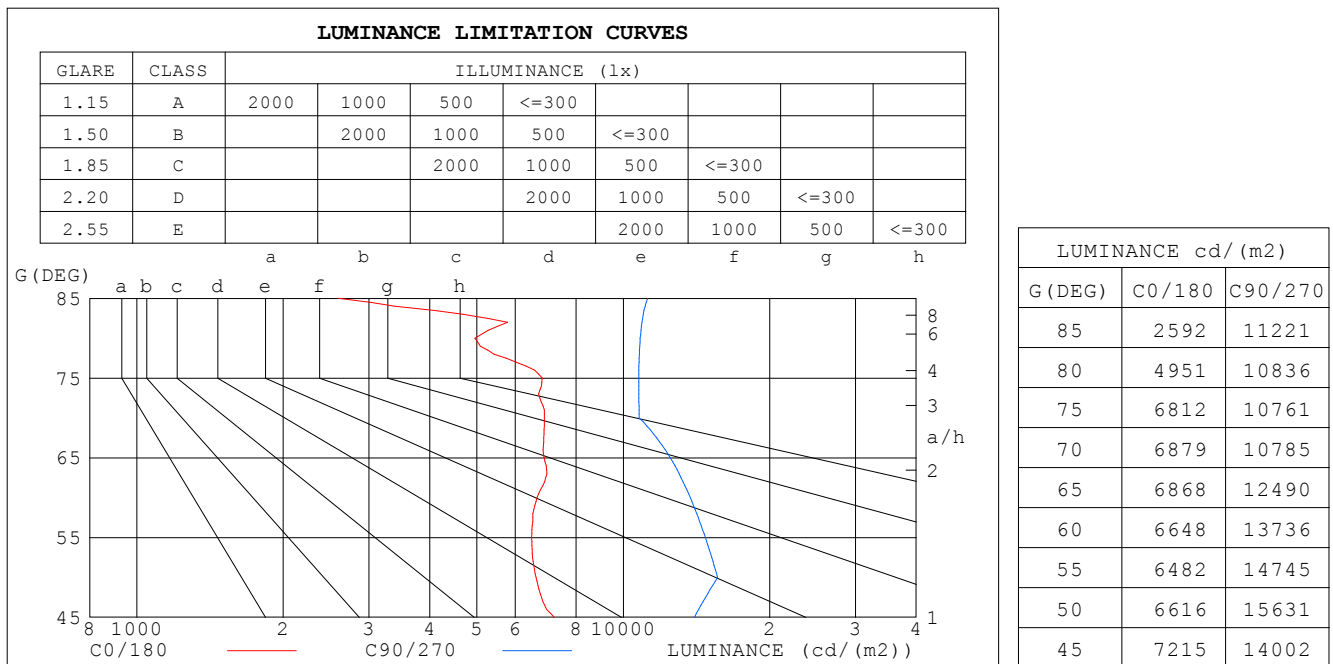
%lum = 96.3%

%lamp = 96.3%

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-03-23

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

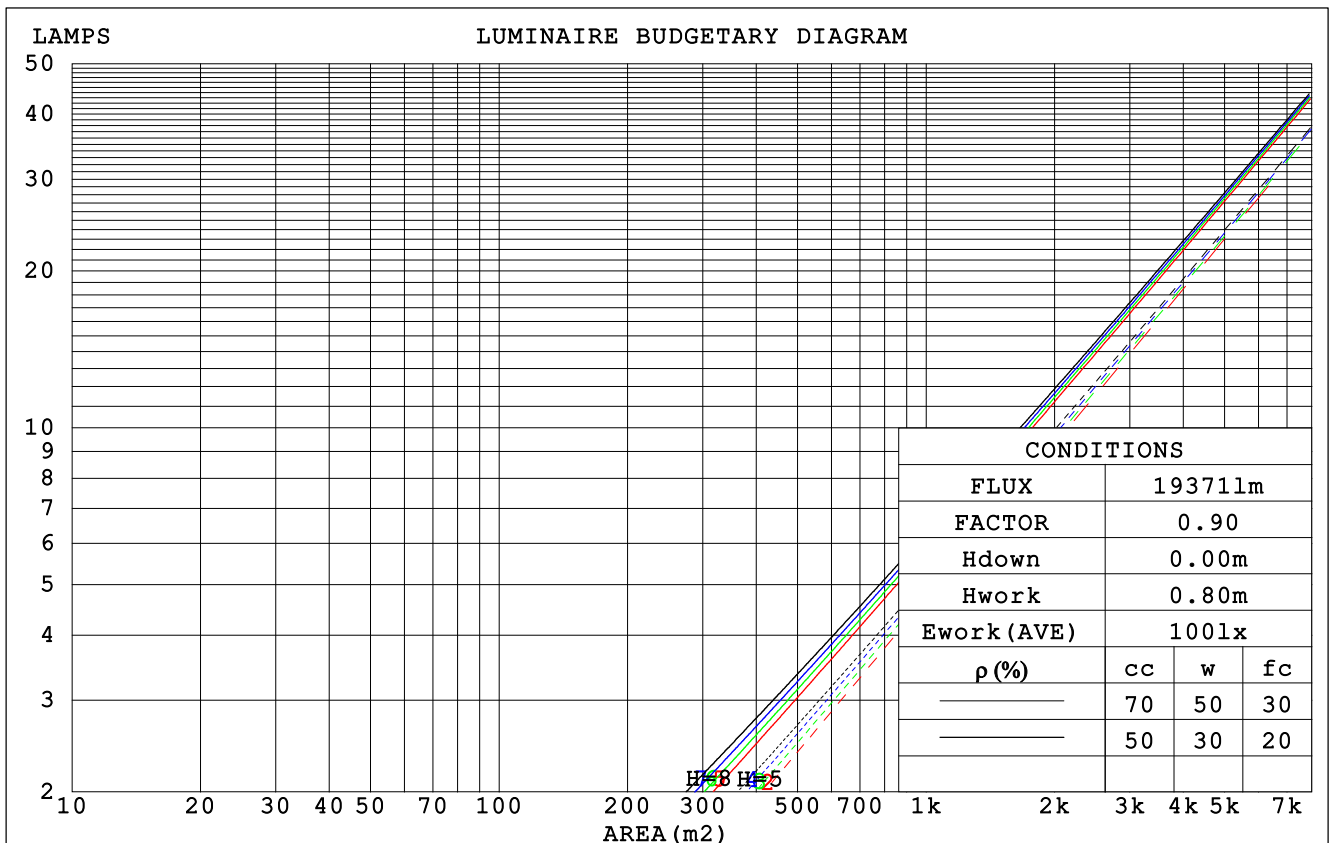


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-23

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
p _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
p _{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	1.10	1.08	1.05	1.08	1.06	1.04	1.04	1.02	1.00	1.00	.99	.97	.97	.96	.95	.93
2.0	1.02	.98	.95	1.01	.97	.94	.97	.94	.92	.94	.92	.90	.92	.90	.88	.86
3.0	.96	.91	.87	.94	.90	.86	.92	.88	.84	.89	.86	.83	.87	.84	.82	.80
4.0	.90	.84	.80	.88	.83	.79	.86	.82	.78	.84	.80	.77	.82	.79	.77	.75
5.0	.84	.78	.74	.83	.78	.74	.81	.77	.73	.80	.76	.72	.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	.61	.67	.63	.60	.59
9.0	.67	.62	.58	.67	.62	.58	.66	.61	.58	.65	.61	.57	.64	.60	.57	.56
10.0	.64	.59	.55	.64	.58	.55	.63	.58	.55	.62	.58	.54	.61	.57	.54	.53



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-03-23

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	.187	.106	.034	.180	.103	.033	.168	.096	.031	.156	.090	.029	.145	.084	.027		
2.0	.176	.097	.030	.171	.094	.029	.160	.089	.028	.150	.084	.026	.141	.080	.025		
3.0	.166	.088	.026	.161	.086	.026	.152	.082	.025	.144	.079	.024	.136	.075	.023		
4.0	.156	.081	.024	.152	.080	.024	.144	.077	.023	.137	.074	.022	.130	.071	.022		
5.0	.148	.075	.022	.144	.074	.022	.137	.072	.021	.131	.069	.021	.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	.130	.065	.018	.125	.063	.018	.120	.062	.018	.115	.060	.018		
8.0	.127	.062	.017	.124	.061	.017	.120	.060	.017	.115	.058	.017	.111	.057	.017		
9.0	.121	.058	.016	.119	.058	.016	.115	.057	.016	.111	.055	.016	.107	.054	.016		
10.0	.116	.055	.015	.114	.055	.015	.110	.054	.015	.106	.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	.101	.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	.059	.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	.099	.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:2017-03-23

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	22.4	23.3	22.6	23.5	23.7	15.5	16.5	15.8	16.7	16.8
3H	22.4	23.2	22.6	23.4	23.6	17.2	18.0	17.4	18.2	18.4
4H	22.4	23.2	22.6	23.4	23.6	17.9	18.7	18.2	19.0	19.2
6H	22.3	23.1	22.6	23.4	23.6	18.6	19.4	18.9	19.6	19.9
8H	22.3	23.1	22.6	23.3	23.6	18.9	19.6	19.2	19.9	20.1
12H	22.3	23.0	22.6	23.3	23.5	19.1	19.8	19.4	20.1	20.4
4H 2H	22.2	23.0	22.5	23.3	23.5	15.9	16.7	16.2	16.9	17.2
3H	22.3	23.0	22.6	23.3	23.6	17.6	18.3	17.9	18.6	18.9
4H	22.4	23.1	22.7	23.4	23.7	18.5	19.1	18.8	19.4	19.7
6H	22.4	23.0	22.8	23.3	23.7	19.3	19.9	19.7	20.2	20.5
8H	22.4	22.9	22.8	23.3	23.7	19.6	20.2	20.0	20.5	20.9
12H	22.4	22.9	22.8	23.2	23.6	19.9	20.4	20.3	20.8	21.2
8H 4H	22.4	22.9	22.7	23.2	23.6	18.6	19.2	19.0	19.5	19.9
6H	22.4	22.9	22.9	23.3	23.7	19.6	20.0	20.0	20.4	20.8
8H	22.5	22.9	22.9	23.3	23.7	20.0	20.4	20.4	20.8	21.2
12H	22.5	22.8	22.9	23.2	23.7	20.4	20.7	20.9	21.2	21.6
12H 4H	22.3	22.8	22.7	23.2	23.6	18.6	19.1	19.1	19.5	19.9
6H	22.4	22.8	22.9	23.2	23.7	19.6	20.0	20.0	20.4	20.8
8H	22.5	22.8	22.9	23.3	23.7	20.1	20.4	20.5	20.8	21.3
Variations with the observer position at spacings:										
S = 1.0H	+ 4.3 / - 2.2					+ 0.1 / - 0.2				
1.5H	+ 6.7 / - 2.3					+ 0.7 / - 0.4				
2.0H	+ 0.2 / - 0.1					+ 1.2 / - 0.9				

CIE Pub.117 Corrected 19371 lm Total Lamp Luminous Flux.(8log(F/F0) = 10.3)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-23

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:

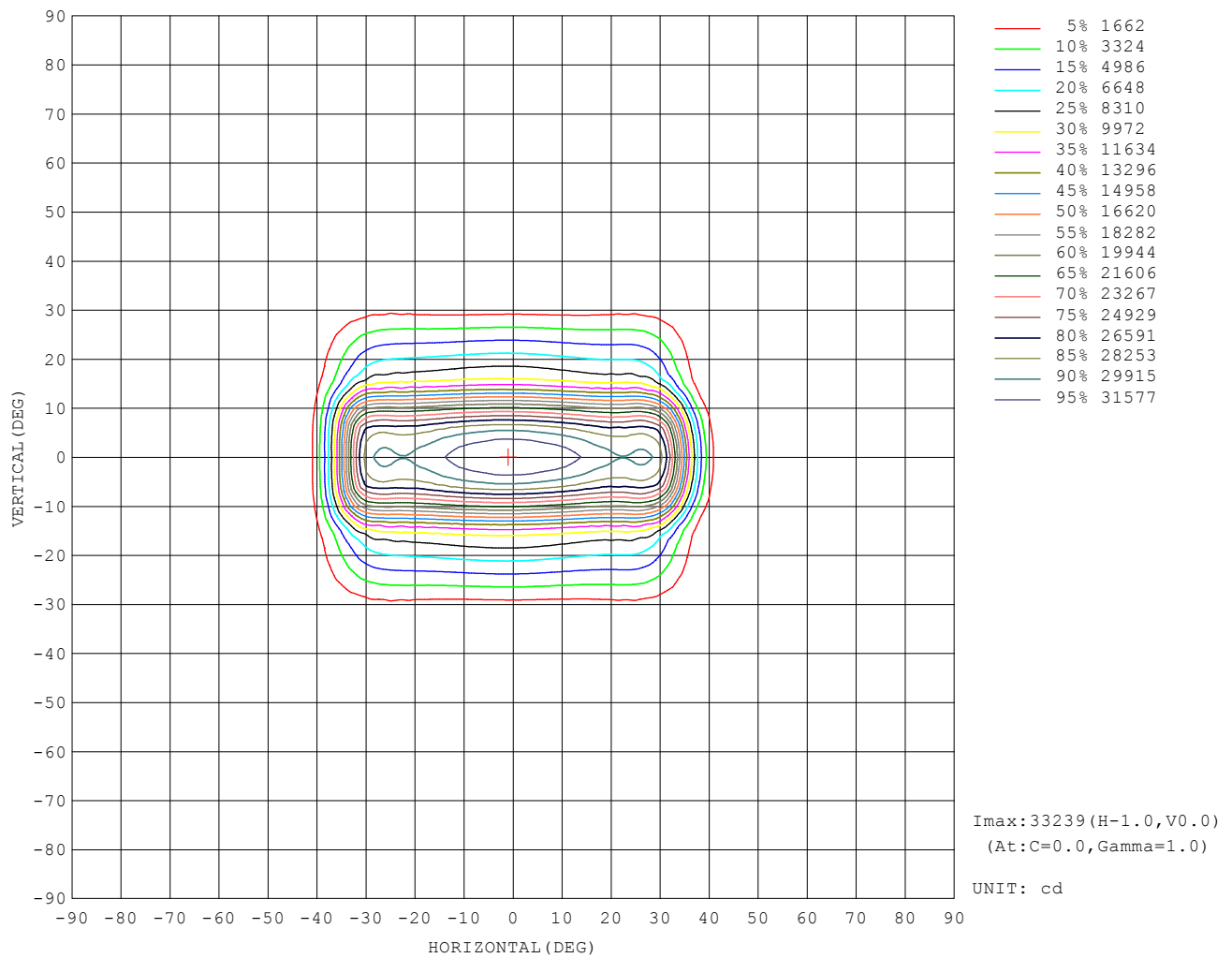
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	85	79	75	85	79	75	84	78	75	71
0.80	93	87	83	92	86	83	91	86	82	78
1.00	97	91	88	97	91	87	95	91	87	83
1.25	102	96	92	100	95	92	98	94	91	87
1.50	104	99	96	103	98	95	101	97	94	89
2.00	107	103	99	106	102	98	103	100	97	92
2.50	109	105	102	108	104	101	104	101	99	93
3.00	111	107	104	109	106	103	106	103	101	94
4.00	113	110	108	111	108	106	107	105	104	96
5.00	114	112	110	112	110	108	108	107	105	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: 2017-03-23

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:

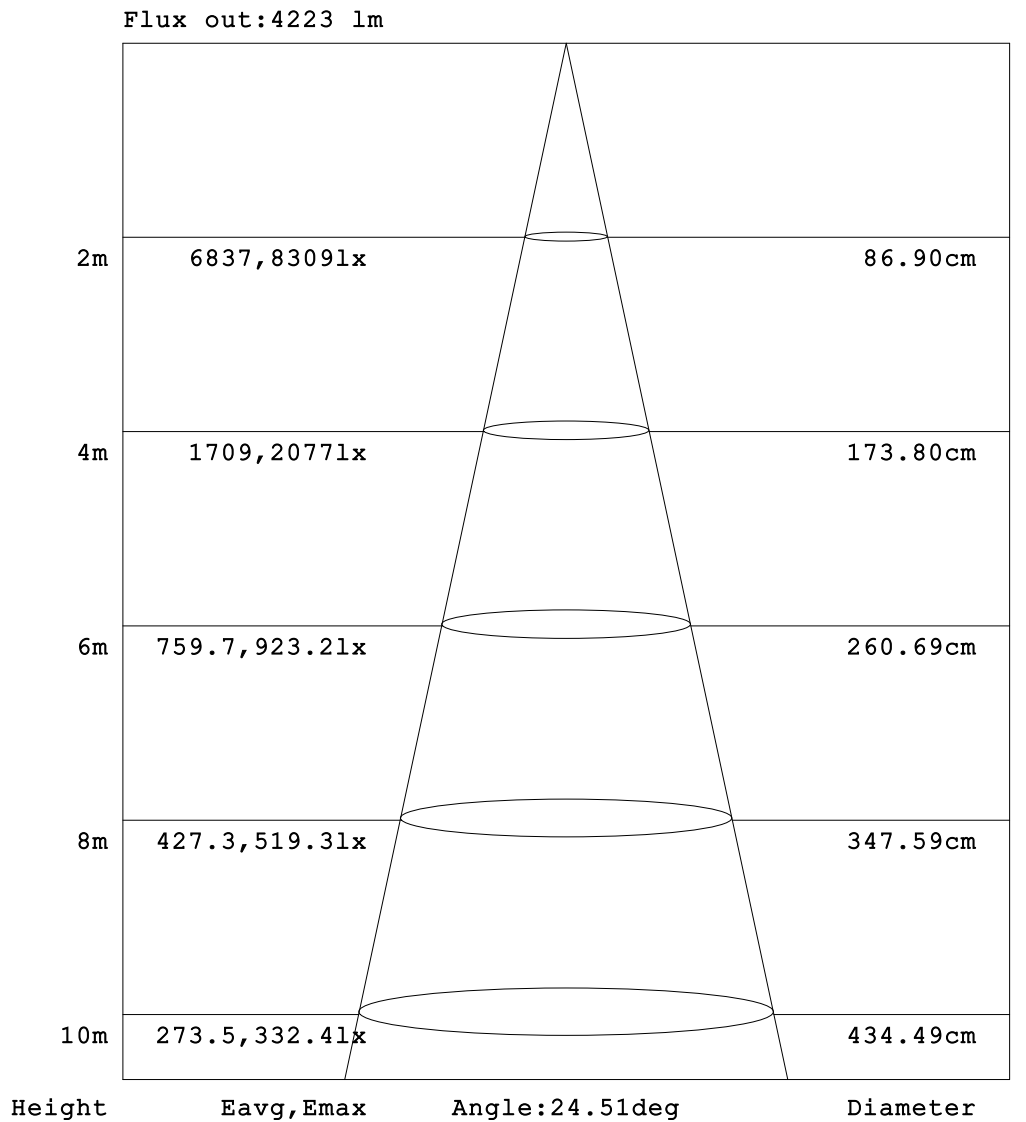
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-23

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

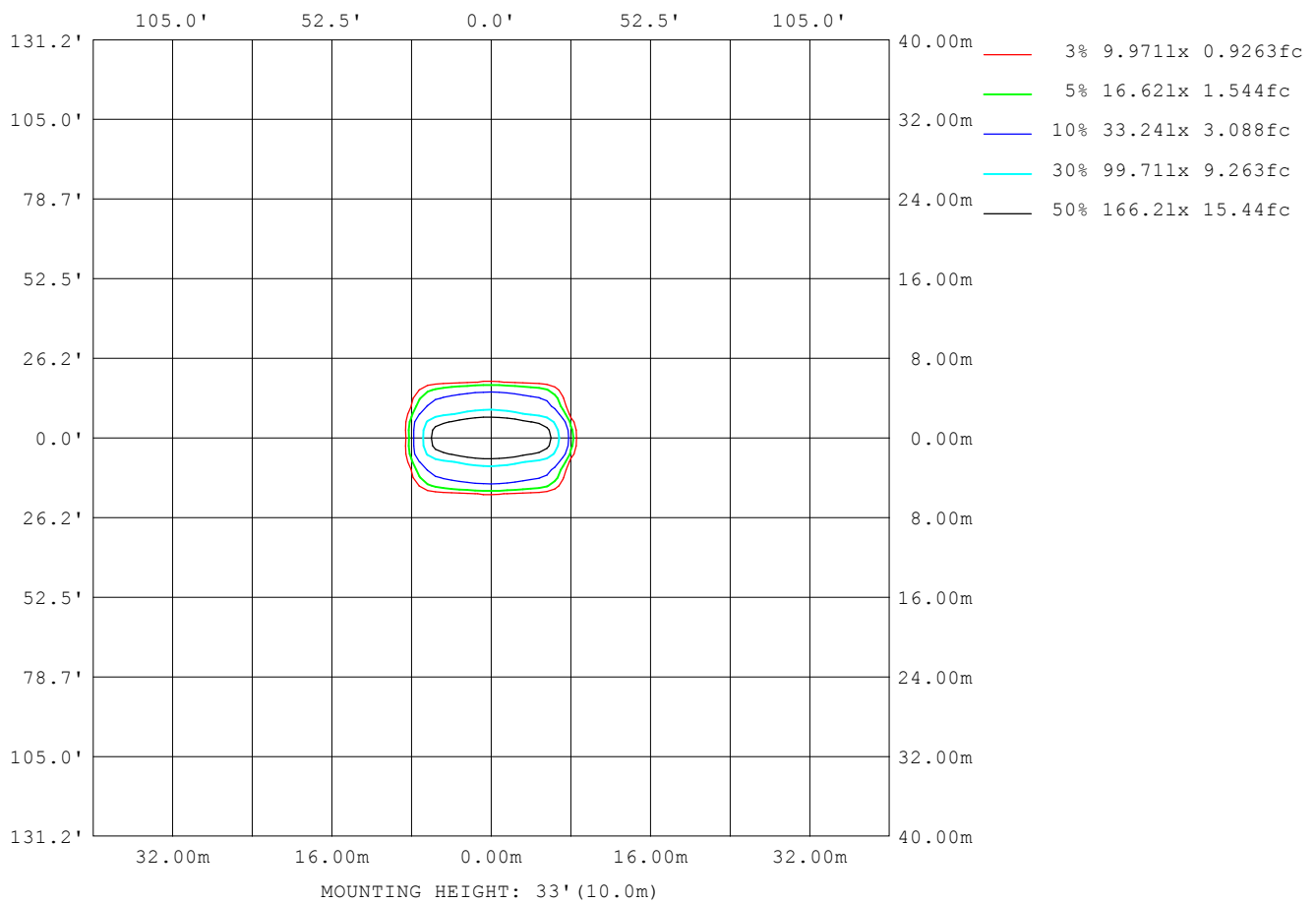


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-03-23

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:2017-03-23

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:0.6671A P:148.1W PF:0.9655 Lamp Flux:19371.2x1 lm		
NAME: LHB01-150	TYPE:150W	WEIGHT:
SPEC.:5000K Ra70 3070DEG L02801	DIM.: 1.178*0.137*0.102	SERIAL No.:
MFR.:	SUR.:1.17*0.1	Shielding Angle:

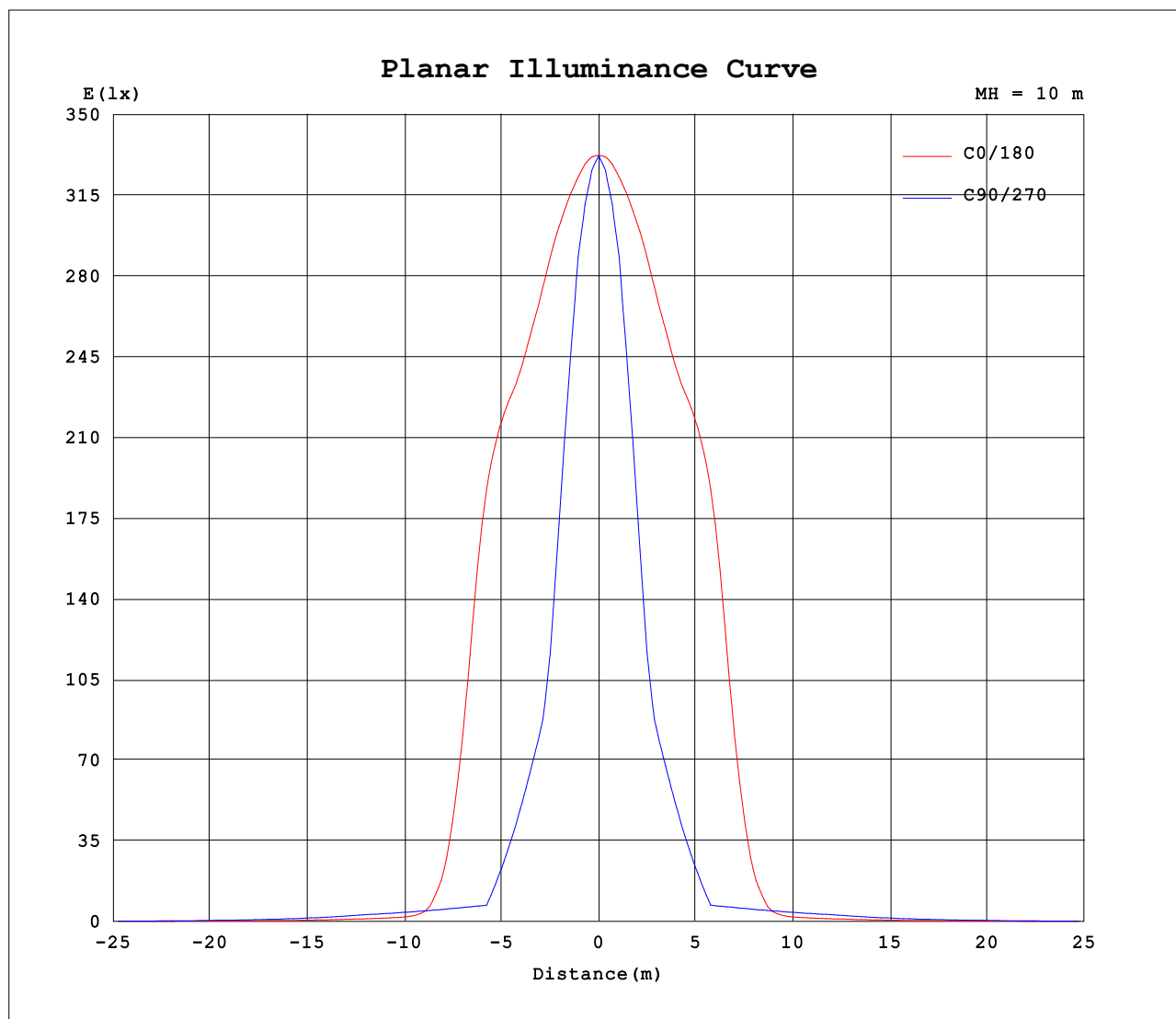
AvgL	cd/m2
L_0~180 (65) av	6868
L_0~180 (75) av	6812
L_0~180 (85) av	2592
L_90~270 (65) av	12490
L_90~270 (75) av	10761
L_90~270 (85) av	11221
L_45 (65) av	7614
L_45 (75) av	6503
L_45 (85) av	6907

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-03-23

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: 2017-03-23

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:

```

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:

```