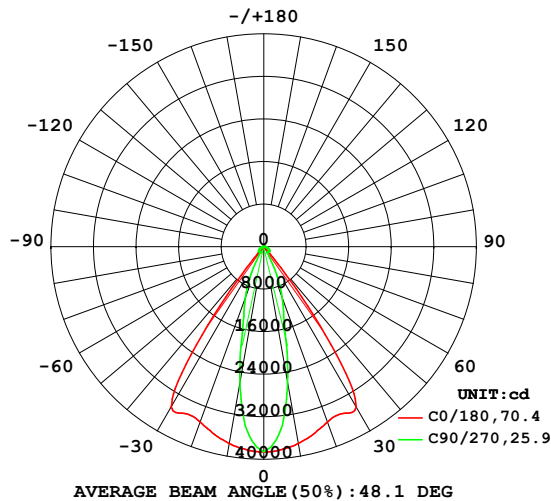


LUMINAIRE PHOTOMETRIC TEST REPORT

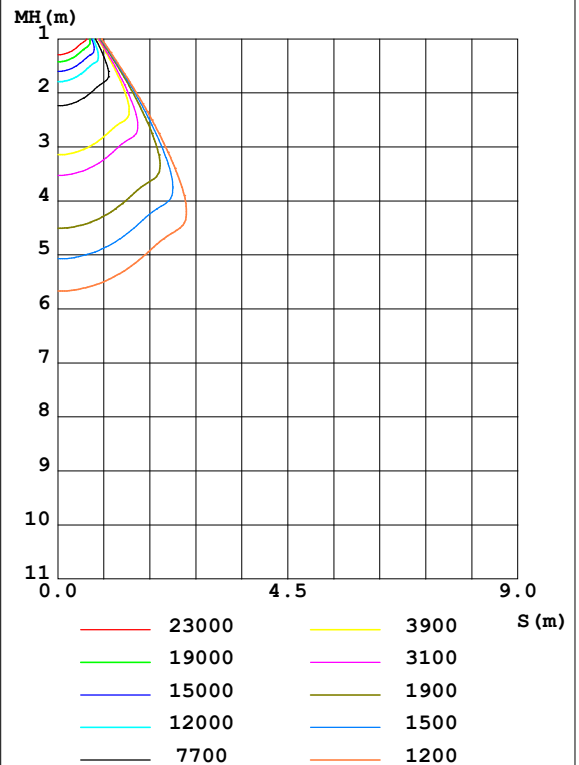
Test:U:229.9V I:0.8032A P:178.4W PF:0.9658 Lamp Flux:23639.6x1 lm		
NAME: LHB01-180	TYPE:180W	WEIGHT:
SPEC.:5000K Ra70 3070DEG L02801	DIM.: 0.718*0.275*0.102	SERIAL No.:
MFR.:	SUR.:0.255*0.69	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 132.52 lm/W			
MODEL	LHB01-180	Imax(cd)	38578	S/MH(C0/180)	1.01
NOMINAL POWER(W)	180	LOR(%)	100.0	S/MH(C90/270)	0.44
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	23640	η UP,DN(C0-180)	0.0,49.5
NOMINAL FLUX(lm)	23639.6	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.5
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:2017-03-24

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	3831	3639	3499	3639	3831	3648	3499	3648	0- 5	894.3	894.3	3.78,3.78
10	3757	3121	2594	3121	3757	3145	2594	3145	5- 10	2430	3324	14.1,14.1
15	3644	2340	1527	2340	3644	2374	1527	2374	10- 15	3306	6630	28,28
20	3509	1504	1014	1504	3509	1539	1014	1539	15- 20	3565	10196	43.1,43.1
25	3468	1056	572.0	1056	3468	1081	572.0	1081	20- 25	3579	13775	58.3,58.3
30	3483	731.8	130.0	731.8	3483	747.9	130.0	747.9	25- 30	3400	17175	72.7,72.7
35	2023	414.0	130.8	414.0	2023	418.3	130.8	418.3	30- 35	2796	19970	84.5,84.5
40	332.7	124.9	131.7	124.9	332.7	130.8	131.7	130.8	35- 40	1450	21420	90.6,90.6
45	70.43	95.12	132.6	95.12	70.43	103.2	132.6	103.2	40- 45	518.8	21939	92.8,92.8
50	57.90	70.53	133.5	70.53	57.90	76.11	133.5	76.11	45- 50	335.0	22274	94.2,94.2
55	49.57	57.58	113.1	57.58	49.57	59.19	113.1	59.19	50- 55	298.6	22572	95.5,95.5
60	43.40	50.59	92.72	50.59	43.40	50.60	92.72	50.60	55- 60	267.7	22840	96.6,96.6
65	37.33	40.77	72.33	40.77	37.33	40.83	72.33	40.83	60- 65	238.3	23078	97.6,97.6
70	30.42	31.13	51.93	31.13	30.42	31.33	51.93	31.33	65- 70	202.2	23280	98.5,98.5
75	22.71	21.44	40.34	21.44	22.71	21.74	40.34	21.74	70- 75	157.8	23438	99.1,99.1
80	10.64	14.30	28.76	14.30	10.64	14.58	28.76	14.58	75- 80	109.9	23548	99.6,99.6
85	2.752	7.580	17.17	7.580	2.752	7.760	17.17	7.760	80- 85	65.74	23614	99.9,99.9
90	0.2026	0.9025	5.583	0.9025	0.2026	0.9519	5.583	0.9519	85- 90	25.89	23640	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): 21939 lm

%lum = 92.8%

%lamp = 92.8%

Conical surface Flux(120deg): 22840 lm

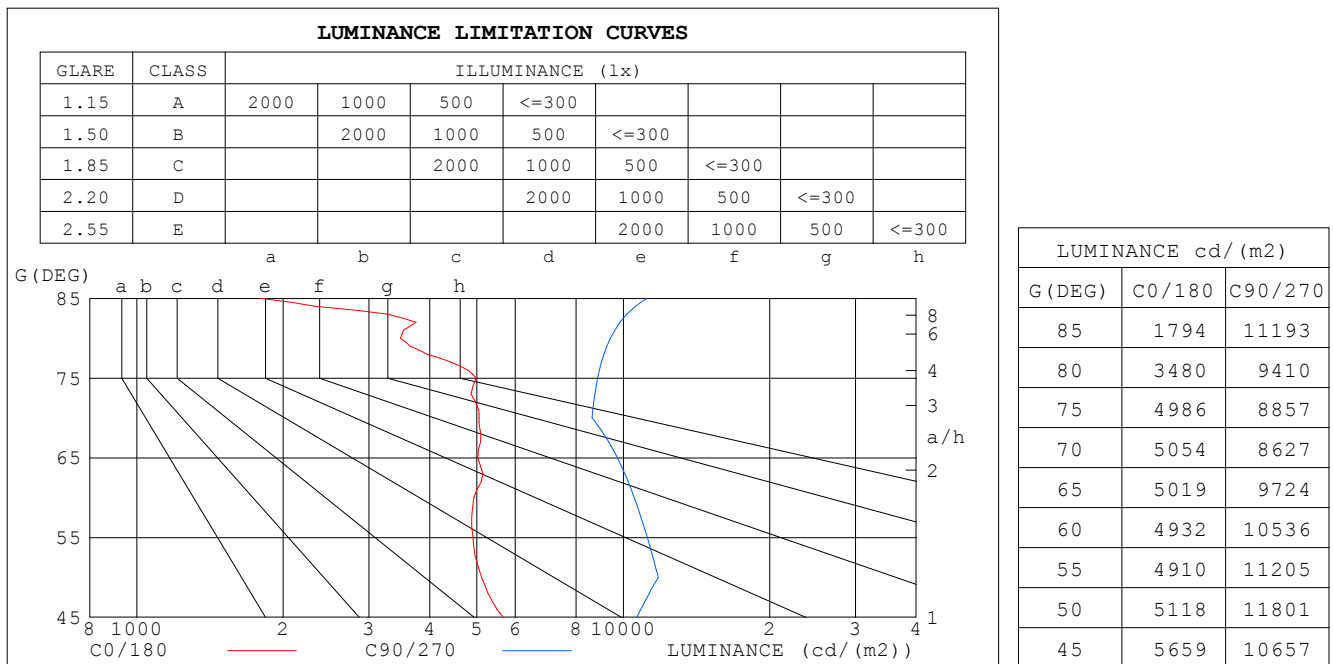
%lum = 96.6%

%lamp = 96.6%

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-03-24

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

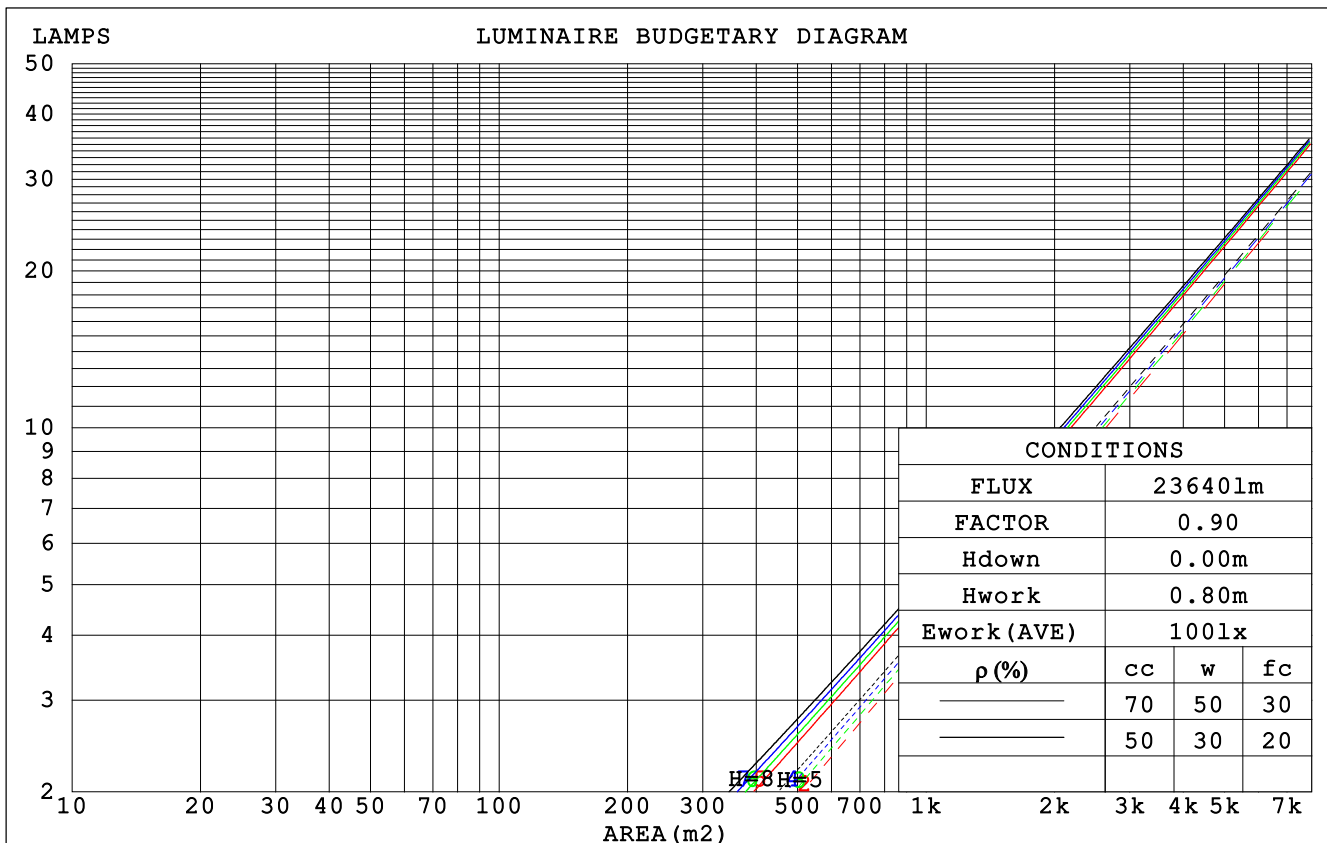


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-24

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	1.05	1.08	1.06	1.04	1.04	1.02	1.01	1.00	.99	.97	.97	.96	.95	.93
2.0	1.02	.98	.95	1.01	.97	.94	.98	.94	.92	.95	.92	.90	.92	.90	.88	.86
3.0	.96	.91	.86	.94	.90	.86	.92	.88	.84	.89	.86	.83	.87	.84	.82	.80
4.0	.89	.84	.80	.88	.83	.79	.86	.82	.78	.84	.80	.77	.82	.79	.76	.75
5.0	.84	.78	.74	.83	.78	.74	.81	.77	.73	.80	.75	.72	.78	.74	.72	.70
6.0	.79	.73	.69	.78	.73	.69	.77	.72	.68	.75	.71	.68	.74	.70	.67	.66
7.0	.75	.69	.65	.74	.68	.64	.73	.68	.64	.72	.67	.64	.70	.66	.63	.62
8.0	.71	.65	.61	.70	.65	.61	.69	.64	.60	.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	.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: 2017-03-24

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	.167	.096	.031	.155	.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	.157	.081	.024	.153	.080	.024	.145	.077	.023	.137	.074	.022	.131	.071	.022	
5.0	.148	.076	.022	.145	.074	.022	.138	.072	.021	.131	.069	.021	.126	.067	.020	
6.0	.141	.071	.020	.137	.069	.020	.131	.067	.020	.126	.065	.019	.121	.064	.019	
7.0	.134	.066	.019	.131	.065	.019	.126	.064	.018	.121	.062	.018	.116	.060	.018	
8.0	.127	.062	.018	.125	.062	.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	.116	.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	.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	.108	.076	.052	.074	.053	.036	.043	.031	.022	.014	.010	.007	
6.0	.118	.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	.031	.063	.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	.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:2017-03-24

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	21.9	22.9	22.1	23.0	23.2	14.3	15.2	14.5	15.4	15.6
3H	21.9	22.7	22.1	22.9	23.1	16.0	16.9	16.3	17.1	17.3
4H	21.8	22.7	22.1	22.9	23.1	16.8	17.7	17.1	17.9	18.1
6H	21.8	22.6	22.1	22.8	23.1	17.6	18.4	17.9	18.6	18.9
8H	21.8	22.5	22.1	22.8	23.0	18.0	18.7	18.3	19.0	19.2
12H	21.7	22.4	22.0	22.7	23.0	18.3	19.0	18.6	19.3	19.6
4H 2H	21.7	22.6	22.0	22.8	23.0	14.6	15.4	14.9	15.6	15.9
3H	21.7	22.5	22.1	22.7	23.0	16.4	17.1	16.7	17.4	17.7
4H	21.8	22.4	22.1	22.7	23.0	17.3	18.0	17.7	18.3	18.6
6H	21.7	22.3	22.1	22.7	23.0	18.2	18.8	18.6	19.1	19.5
8H	21.7	22.3	22.1	22.6	23.0	18.7	19.2	19.1	19.5	19.9
12H	21.7	22.2	22.1	22.6	22.9	19.1	19.6	19.5	19.9	20.3
8H 4H	21.7	22.2	22.1	22.6	23.0	17.5	18.0	17.9	18.4	18.7
6H	21.7	22.2	22.2	22.6	23.0	18.5	18.9	18.9	19.3	19.7
8H	21.7	22.1	22.2	22.5	23.0	19.0	19.4	19.4	19.8	20.2
12H	21.7	22.0	22.2	22.5	22.9	19.5	19.8	19.9	20.2	20.7
12H 4H	21.7	22.2	22.1	22.5	22.9	17.5	17.9	17.9	18.3	18.7
6H	21.7	22.1	22.2	22.5	23.0	18.5	18.9	18.9	19.3	19.7
8H	21.7	22.1	22.2	22.5	23.0	19.0	19.3	19.5	19.8	20.3
Variations with the observer position at spacings:										
S = 1.0H	+ 4.7 / - 3.7					+ 0.1 / - 0.2				
1.5H	+ 7.3 / - 3.7					+ 0.7 / - 0.4				
2.0H	+ 0.2 / - 0.1					+ 1.2 / - 0.9				

CIE Pub.117 Corrected 23640 lm Total Lamp Luminous Flux.(8log(F/F0) = 11.0)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-24

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:

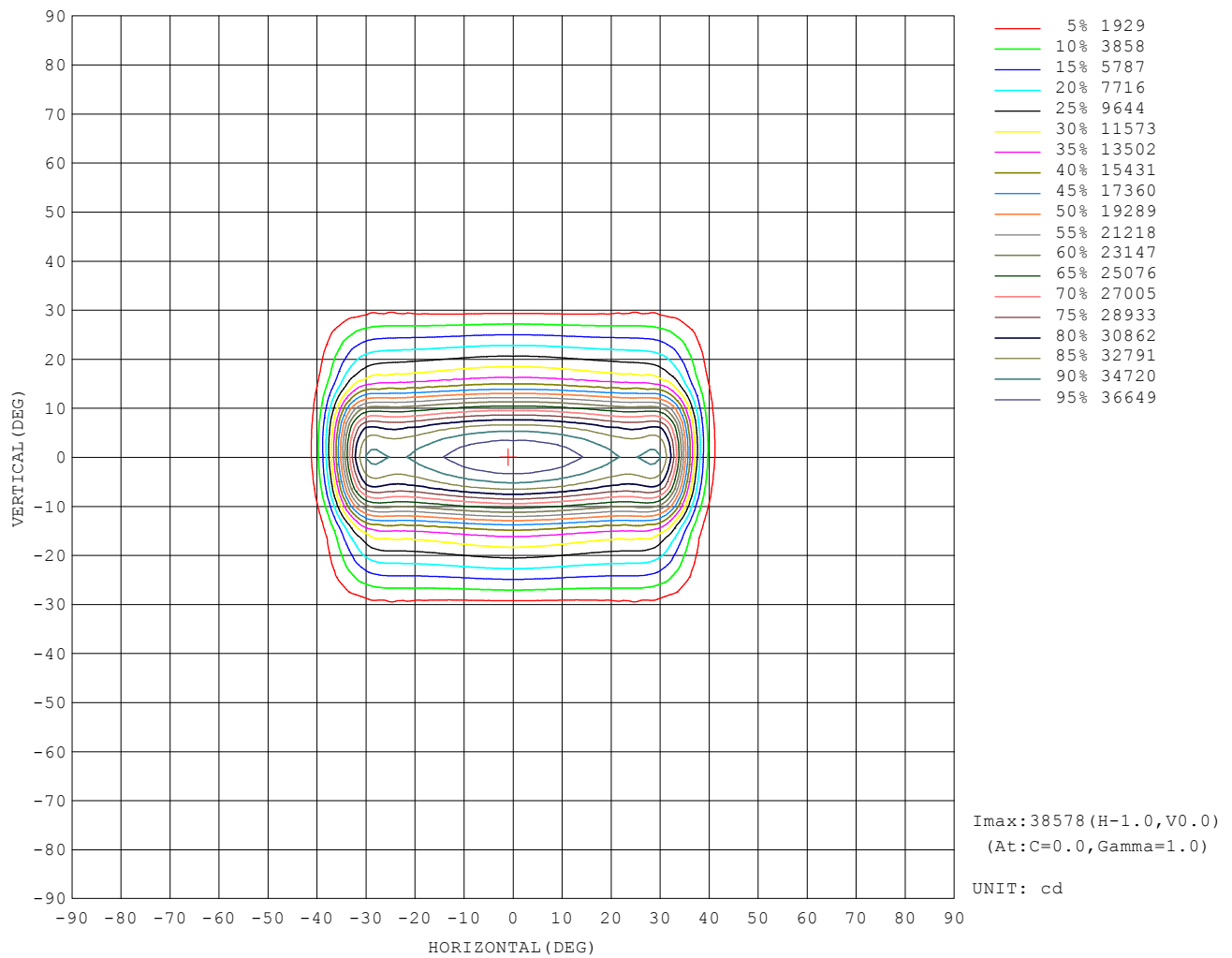
UTILIZATION FACTORS TABLE

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	79	75	85	79	75	85	79	75	71
0.80	93	87	83	93	87	83	91	86	83	79
1.00	98	92	88	97	91	88	95	91	87	83
1.25	102	96	93	101	96	92	99	94	91	87
1.50	105	100	96	103	99	95	101	97	94	90
2.00	107	103	100	106	102	99	103	100	97	92
2.50	109	105	102	108	104	101	105	102	99	93
3.00	111	107	104	109	106	103	106	103	101	95
4.00	113	110	108	111	109	106	107	105	104	97
5.00	115	112	110	112	110	109	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: 2017-03-24

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:

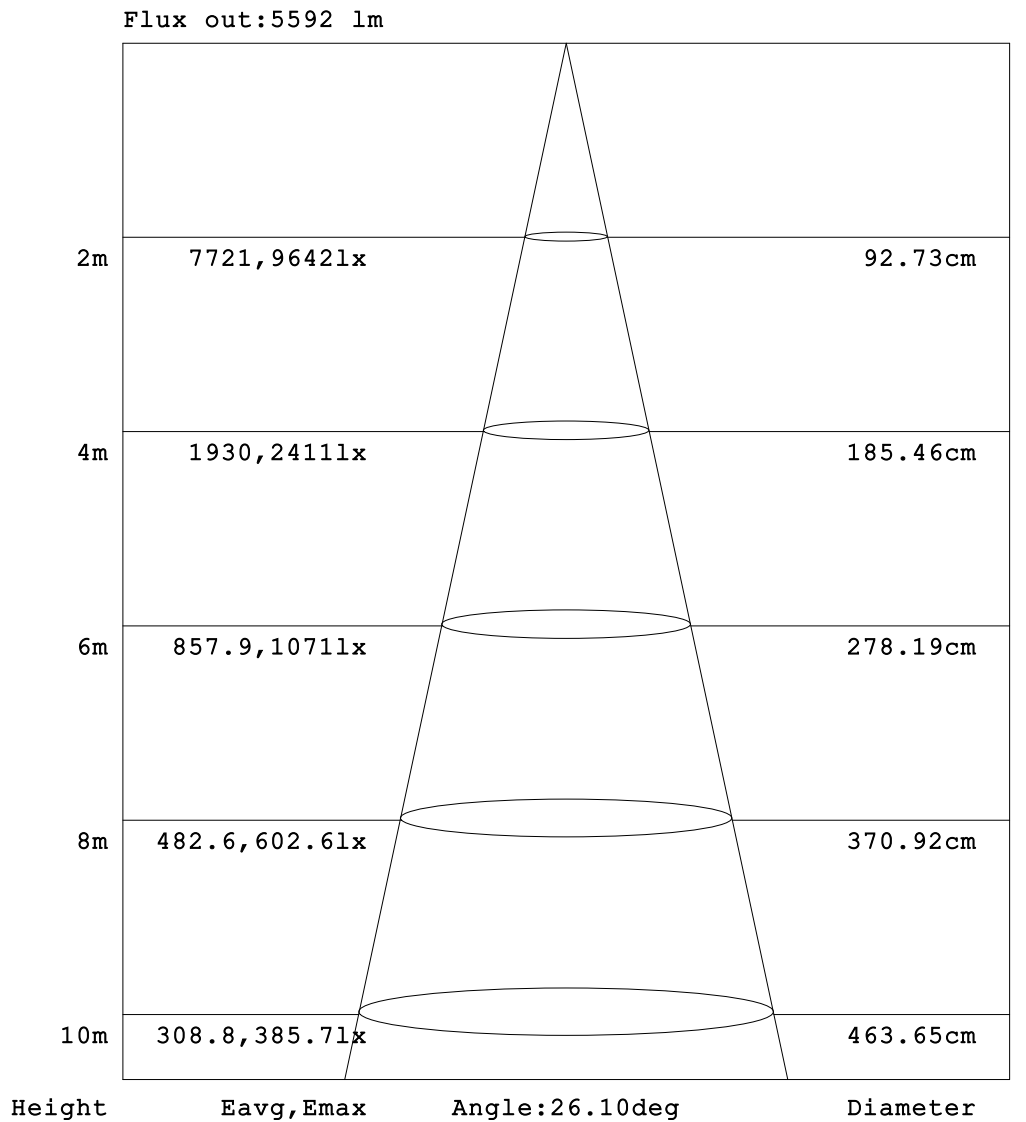
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-24

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

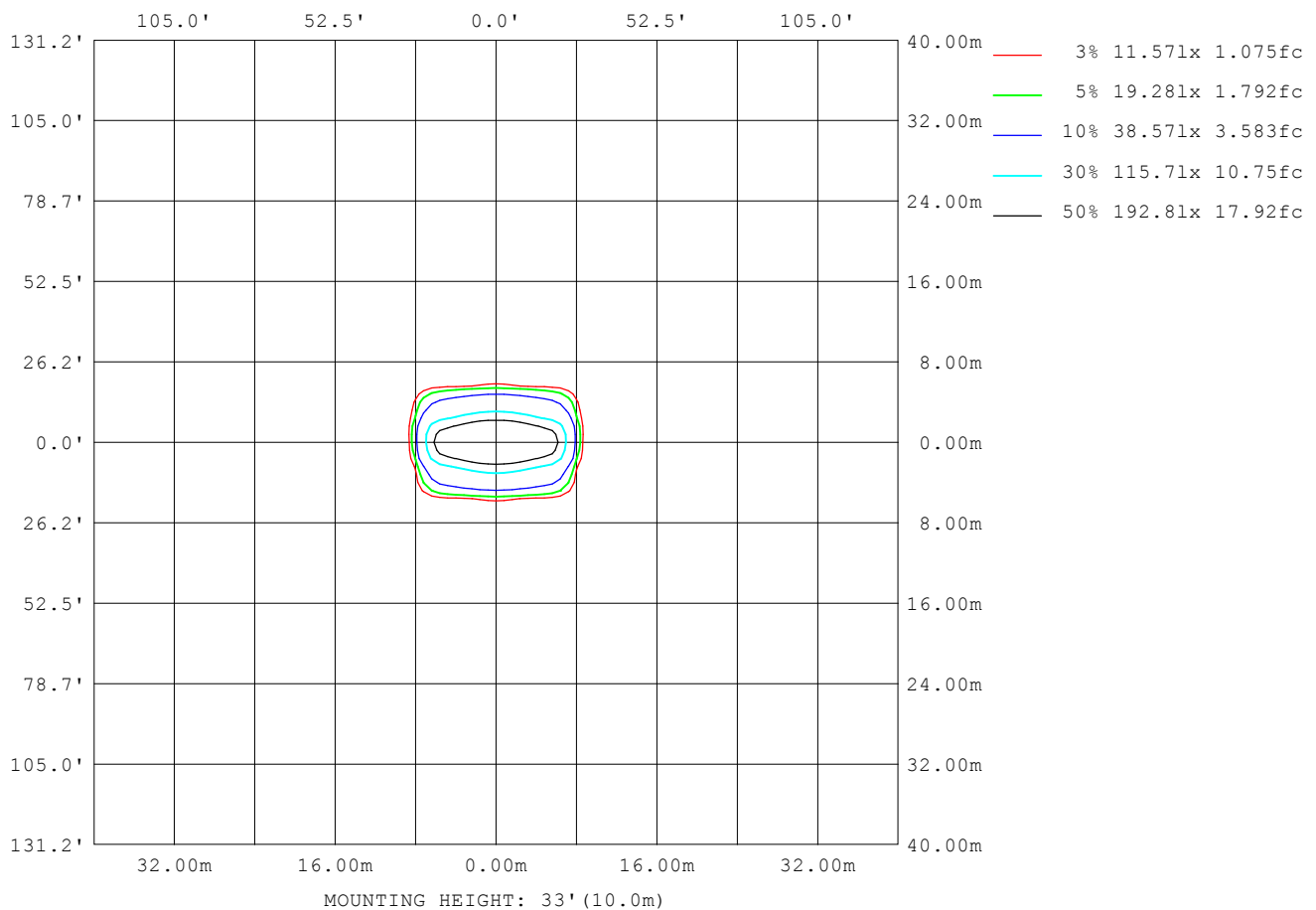


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-24

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: 2017-03-24

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:229.9V I:0.8032A P:178.4W PF:0.9658 Lamp Flux:23639.6x1 lm		
NAME: LHB01-180	TYPE:180W	WEIGHT:
SPEC.:5000K Ra70 3070DEG L02801	DIM.: 0.718*0.275*0.102	SERIAL No.:
MFR.:	SUR.:0.255*0.69	Shielding Angle:

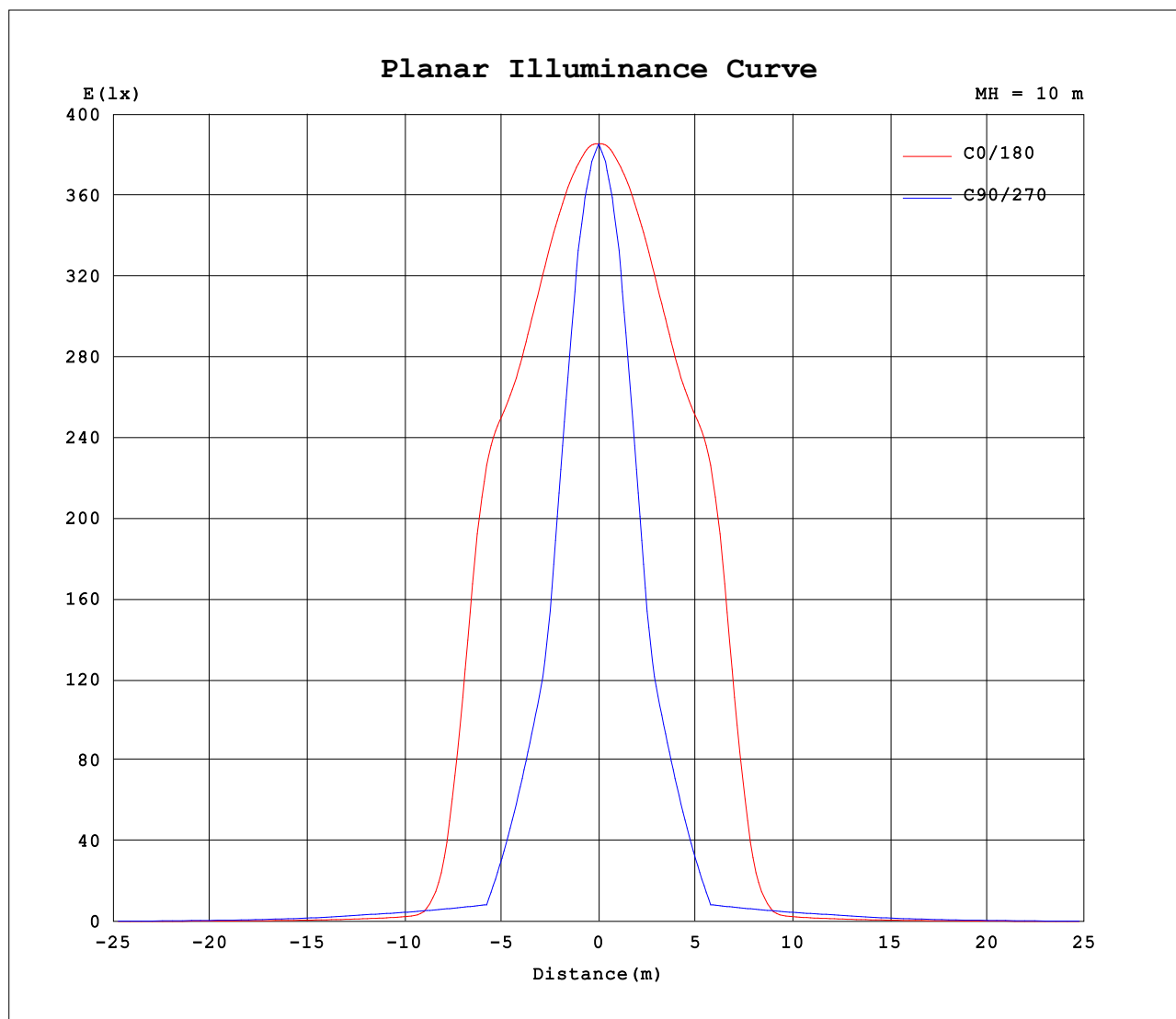
AvgL	cd/m2
L_0~180 (65) av	5019
L_0~180 (75) av	4986
L_0~180 (85) av	1794
L_90~270 (65) av	9724
L_90~270 (75) av	8857
L_90~270 (85) av	11193
L_45 (65) av	5485
L_45 (75) av	4740
L_45 (85) av	5000

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-24

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: 2017-03-24

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:

```