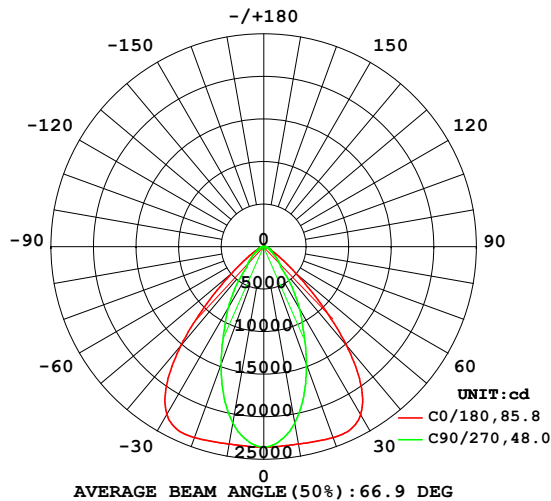


LUMINAIRE PHOTOMETRIC TEST REPORT

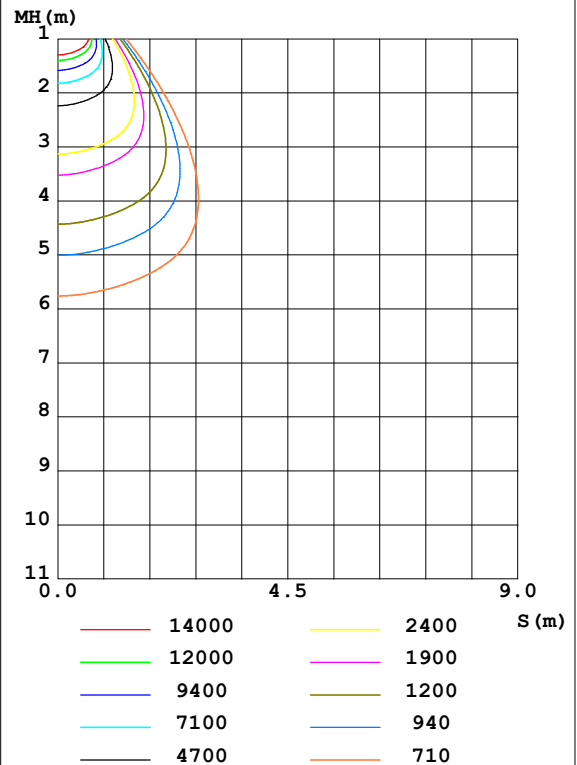
Test:U:230.0V I:0.8084A P:179.1W PF:0.9634 Lamp Flux:28875.2x1 lm		
NAME: LHB01-180H	TYPE:180W	WEIGHT:
SPEC.:5000K Ra70 5090DEG L06402	DIM.: 0.718*0.275*0.102	SERIAL No.:
MFR.:	SUR.:0.255*0.69	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 161.21 lm/W			
MODEL	LHB01-180H	Imax(cd)	23911	S/MH(C0/180)	1.24
NOMINAL POWER(W)	180	LOR(%)	100.0	S/MH(C90/270)	0.75
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	28875	η UP,DN(C0-180)	0.0,50.0
NOMINAL FLUX(lm)	28875.2	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.0
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	0.85

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:2017-06-02

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	2353	2316	2286	2320	2353	2320	2286	2316	0- 5	558.5	558.5	1.93,1.93
10	2356	2212	2104	2221	2356	2221	2104	2212	5- 10	1624	2182	7.56,7.56
15	2369	2052	1818	2062	2369	2062	1818	2052	10- 15	2548	4731	16.4,16.4
20	2387	1825	1471	1830	2387	1830	1471	1825	15- 20	3254	7985	27.7,27.7
25	2381	1524	1114	1525	2381	1525	1114	1524	20- 25	3677	11662	40.4,40.4
30	2279	1171	840.9	1169	2279	1169	840.9	1171	25- 30	3789	15451	53.5,53.5
35	1996	850.7	578.2	846.9	1996	846.9	578.2	850.7	30- 35	3593	19044	66,66
40	1510	630.1	315.4	624.7	1510	624.7	315.4	630.1	35- 40	3051	22095	76.5,76.5
45	947.2	418.8	247.7	412.8	947.2	412.8	247.7	418.8	40- 45	2277	24372	84.4,84.4
50	504.8	222.8	180.0	218.0	504.8	218.0	180.0	222.8	45- 50	1557	25929	89.8,89.8
55	265.2	166.5	117.0	163.1	265.2	163.1	117.0	166.5	50- 55	1006	26934	93.3,93.3
60	139.0	114.0	91.89	111.8	139.0	111.8	91.89	114.0	55- 60	653.9	27588	95.5,95.5
65	83.38	73.13	71.49	71.74	83.38	71.74	71.49	73.13	60- 65	451.3	28040	97.1,97.1
70	57.25	53.09	51.09	52.49	57.25	52.49	51.09	53.09	65- 70	326.2	28366	98.2,98.2
75	34.70	33.77	38.58	33.87	34.70	33.87	38.58	33.77	70- 75	232.2	28598	99,99
80	17.85	22.00	26.08	22.17	17.85	22.17	26.08	22.00	75- 80	155.1	28753	99.6,99.6
85	5.545	11.44	13.57	11.60	5.545	11.60	13.57	11.44	80- 85	89.63	28843	99.9,99.9
90	0.4441	1.064	1.068	1.214	0.4441	1.214	1.068	1.064	85- 90	32.44	28875	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): 24372 lm

%lum = 84.4%

%lamp = 84.4%

Conical surface Flux(120deg): 27588 lm

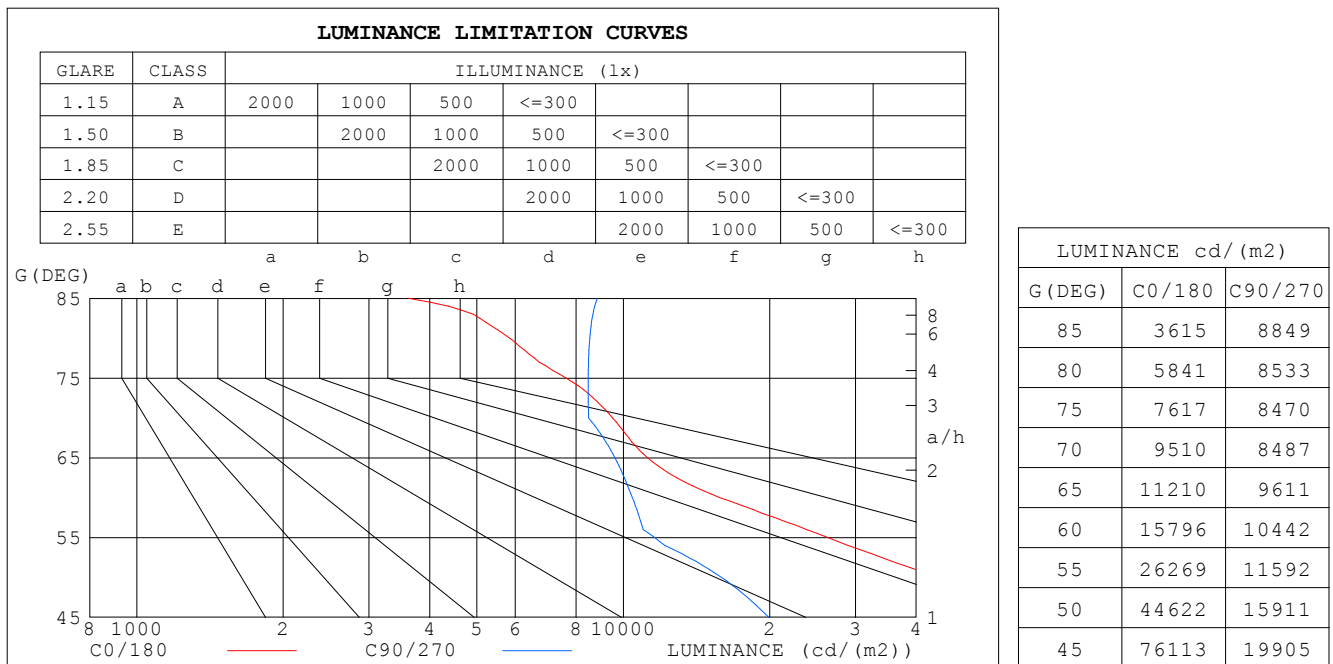
%lum = 95.5%

%lamp = 95.5%

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-06-02

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

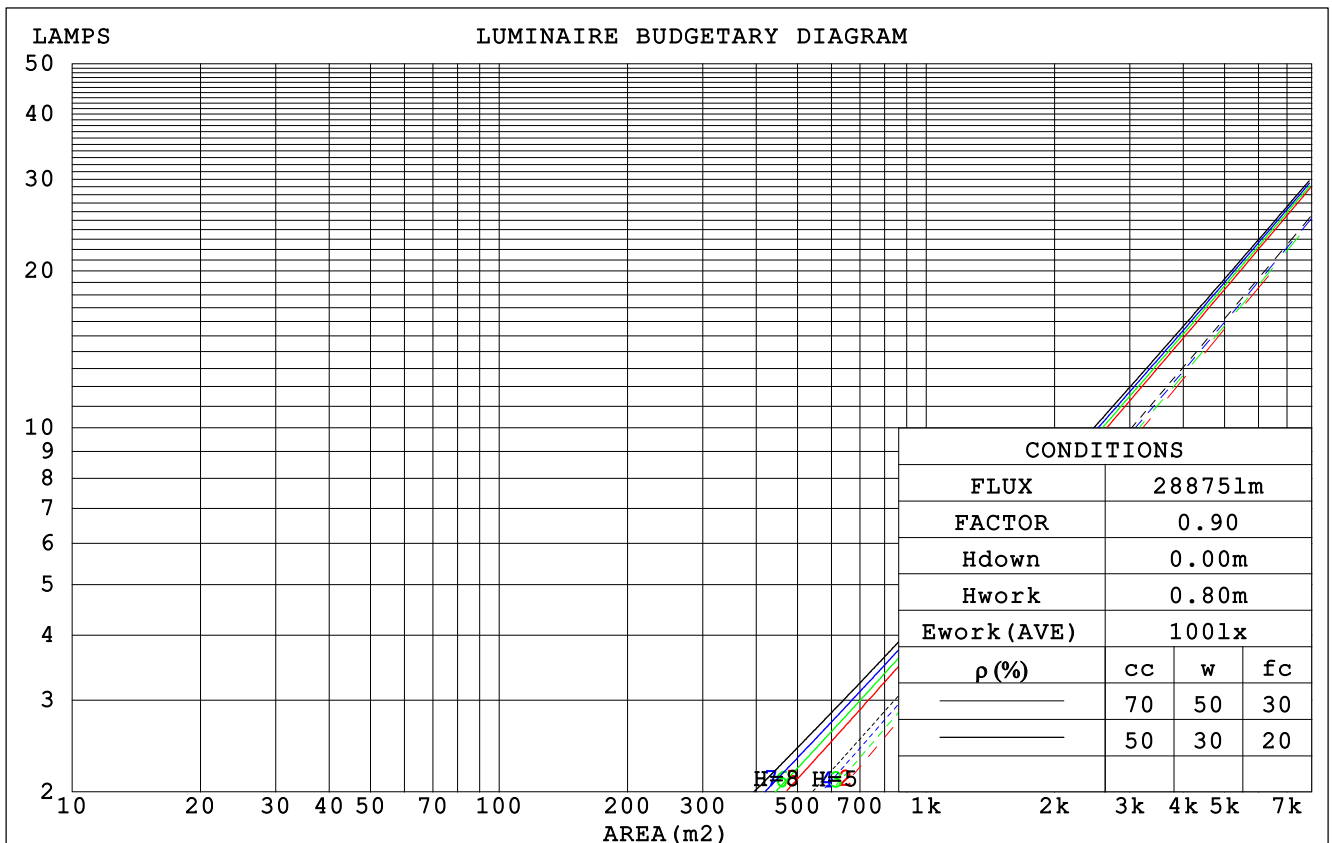


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-06-02

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	1.09	1.06	1.03	1.07	1.04	1.02	1.03	1.00	.98	.99	.97	.95	.95	.94	.93	.91
2.0	.99	.95	.91	.98	.93	.90	.94	.91	.88	.91	.88	.86	.88	.86	.84	.82
3.0	.91	.85	.80	.90	.84	.80	.87	.82	.78	.84	.80	.77	.82	.79	.76	.74
4.0	.84	.77	.72	.82	.76	.72	.80	.75	.71	.78	.74	.70	.76	.72	.69	.67
5.0	.77	.70	.65	.76	.70	.65	.74	.69	.64	.72	.68	.64	.71	.67	.63	.61
6.0	.71	.64	.59	.71	.64	.59	.69	.63	.59	.67	.62	.58	.66	.61	.58	.56
7.0	.66	.59	.54	.66	.59	.54	.64	.58	.54	.63	.58	.54	.62	.57	.53	.52
8.0	.62	.55	.50	.61	.55	.50	.60	.54	.50	.59	.53	.50	.58	.53	.49	.48
9.0	.58	.51	.46	.57	.51	.46	.56	.50	.46	.55	.50	.46	.54	.49	.46	.44
10.0	.54	.47	.43	.54	.47	.43	.53	.47	.43	.52	.47	.43	.51	.46	.43	.41



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-06-02

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	.214	.121	.038	.207	.118	.037	.194	.111	.036	.182	.105	.034	.171	.099	.032	
2.0	.205	.112	.035	.199	.110	.034	.188	.105	.033	.178	.100	.031	.169	.096	.030	
3.0	.195	.104	.031	.190	.102	.031	.180	.098	.030	.172	.094	.029	.164	.091	.028	
4.0	.185	.096	.028	.180	.094	.028	.172	.091	.027	.164	.088	.027	.157	.085	.026	
5.0	.175	.089	.026	.171	.088	.026	.164	.085	.025	.157	.083	.025	.151	.080	.024	
6.0	.166	.083	.024	.162	.082	.024	.156	.080	.023	.150	.078	.023	.144	.076	.023	
7.0	.157	.078	.022	.154	.077	.022	.148	.075	.022	.143	.073	.021	.138	.072	.021	
8.0	.149	.073	.021	.147	.072	.020	.141	.071	.020	.137	.069	.020	.132	.068	.020	
9.0	.142	.069	.019	.140	.068	.019	.135	.067	.019	.131	.066	.019	.127	.064	.019	
10.0	.135	.065	.018	.133	.064	.018	.129	.063	.018	.125	.062	.018	.121	.061	.018	

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	.174	.157	.142	.149	.135	.122	.102	.093	.085	.058	.054	.049	.019	.017	.016	
2.0	.161	.132	.108	.138	.114	.094	.094	.079	.065	.054	.046	.038	.017	.015	.012	
3.0	.150	.114	.085	.129	.098	.074	.088	.068	.052	.051	.040	.030	.016	.013	.010	
4.0	.141	.100	.068	.121	.086	.059	.083	.060	.042	.048	.035	.025	.015	.011	.008	
5.0	.133	.088	.055	.114	.076	.048	.079	.053	.034	.046	.031	.020	.015	.010	.007	
6.0	.126	.079	.046	.108	.069	.040	.075	.048	.028	.043	.028	.017	.014	.009	.006	
7.0	.120	.072	.039	.103	.063	.034	.071	.044	.024	.041	.026	.014	.013	.008	.005	
8.0	.114	.066	.033	.098	.057	.029	.068	.040	.021	.039	.024	.012	.013	.008	.004	
9.0	.109	.061	.029	.094	.053	.025	.065	.037	.018	.038	.022	.011	.012	.007	.004	
10.0	.104	.057	.025	.090	.049	.022	.062	.035	.016	.036	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-06-02

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	24.3	25.4	24.5	25.6	25.8	18.8	20.0	19.1	20.2	20.3
3H	24.3	25.3	24.5	25.5	25.7	19.4	20.4	19.6	20.6	20.8
4H	24.3	25.3	24.6	25.5	25.7	19.6	20.6	19.9	20.9	21.1
6H	24.2	25.1	24.5	25.4	25.7	19.9	20.8	20.2	21.1	21.3
8H	24.2	25.1	24.5	25.3	25.6	20.0	20.9	20.3	21.2	21.4
12H	24.2	25.0	24.5	25.3	25.6	20.1	21.0	20.4	21.2	21.5
4H 2H	24.1	25.1	24.4	25.3	25.5	19.1	20.1	19.4	20.3	20.6
3H	24.2	25.0	24.5	25.3	25.6	19.8	20.6	20.1	20.9	21.2
4H	24.2	25.0	24.6	25.3	25.6	20.2	20.9	20.5	21.2	21.6
6H	24.2	24.9	24.6	25.2	25.6	20.6	21.2	20.9	21.6	21.9
8H	24.2	24.8	24.6	25.2	25.6	20.7	21.4	21.1	21.7	22.1
12H	24.2	24.8	24.6	25.1	25.5	20.9	21.5	21.3	21.8	22.2
8H 4H	24.1	24.8	24.5	25.1	25.5	20.2	20.9	20.6	21.2	21.6
6H	24.2	24.7	24.6	25.1	25.5	20.8	21.3	21.2	21.7	22.1
8H	24.2	24.7	24.6	25.1	25.5	21.0	21.5	21.5	21.9	22.3
12H	24.2	24.6	24.7	25.0	25.5	21.3	21.6	21.7	22.1	22.6
12H 4H	24.1	24.7	24.5	25.1	25.4	20.2	20.8	20.6	21.2	21.6
6H	24.2	24.6	24.6	25.0	25.5	20.8	21.2	21.2	21.7	22.1
8H	24.2	24.6	24.7	25.0	25.5	21.1	21.5	21.5	21.9	22.4
Variations with the observer position at spacings:										
S = 1.0H	+ 2.8 / - 3.2					+ 0.8 / - 1.1				
1.5H	+ 3.9 / - 3.5					+ 0.8 / - 0.9				
2.0H	+ 5.3 / - 3.4					+ 1.0 / - 0.8				

CIE Pub.117 Corrected 28875 lm Total Lamp Luminous Flux.(8log(F/F0) = 11.7)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-06-02

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:

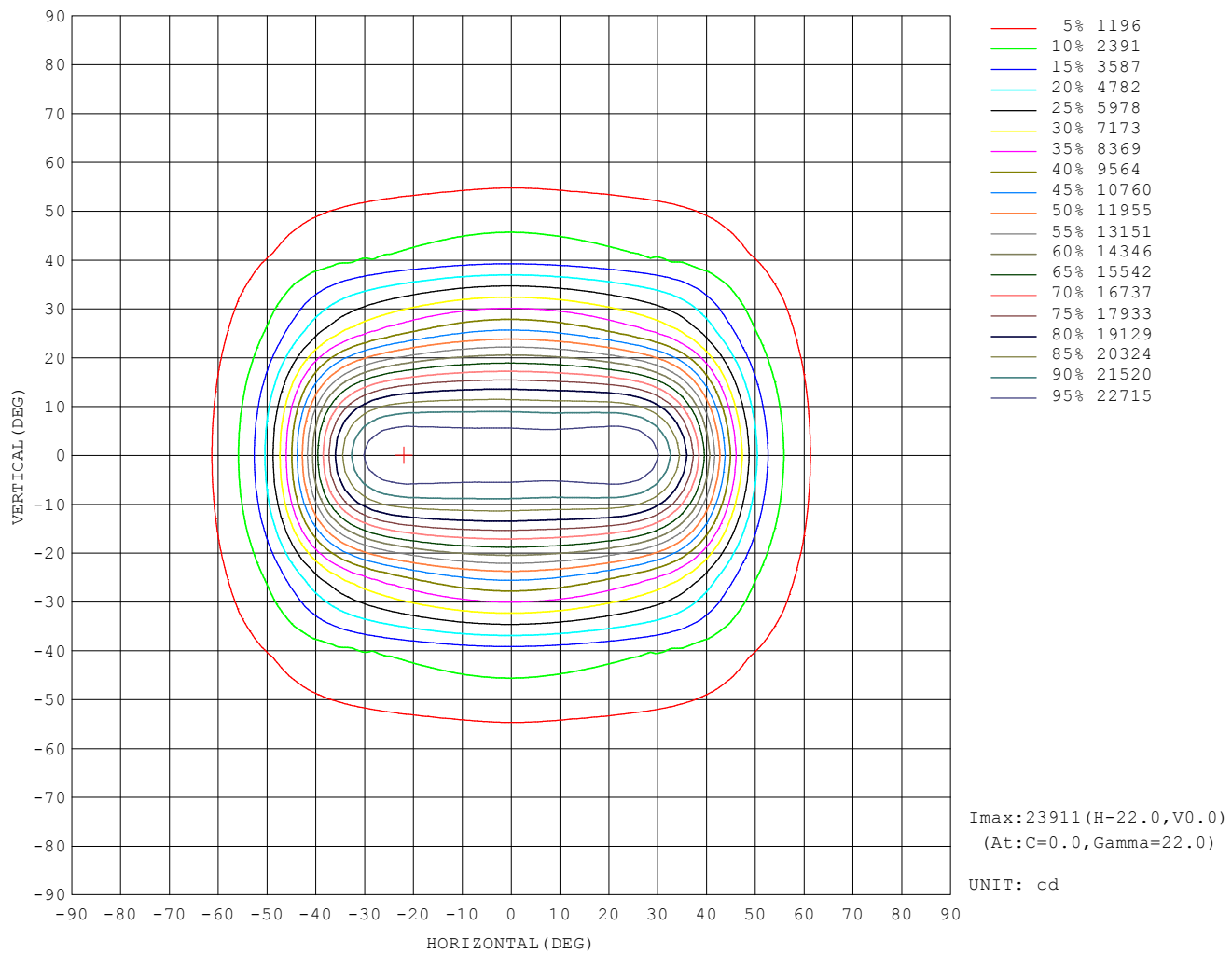
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	77	69	64	76	68	63	75	68	63	59
0.80	86	78	73	85	77	73	83	77	72	67
1.00	92	85	80	91	84	79	89	84	79	74
1.25	97	90	86	96	90	85	94	88	85	79
1.50	101	94	90	99	94	89	97	92	88	83
2.00	105	99	95	103	98	94	100	96	93	87
2.50	107	102	98	105	101	97	102	98	95	89
3.00	109	105	101	107	103	100	104	101	98	91
4.00	112	108	105	109	106	104	106	103	101	93
5.00	113	110	108	111	108	106	107	105	103	95
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: 2017-06-02

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:

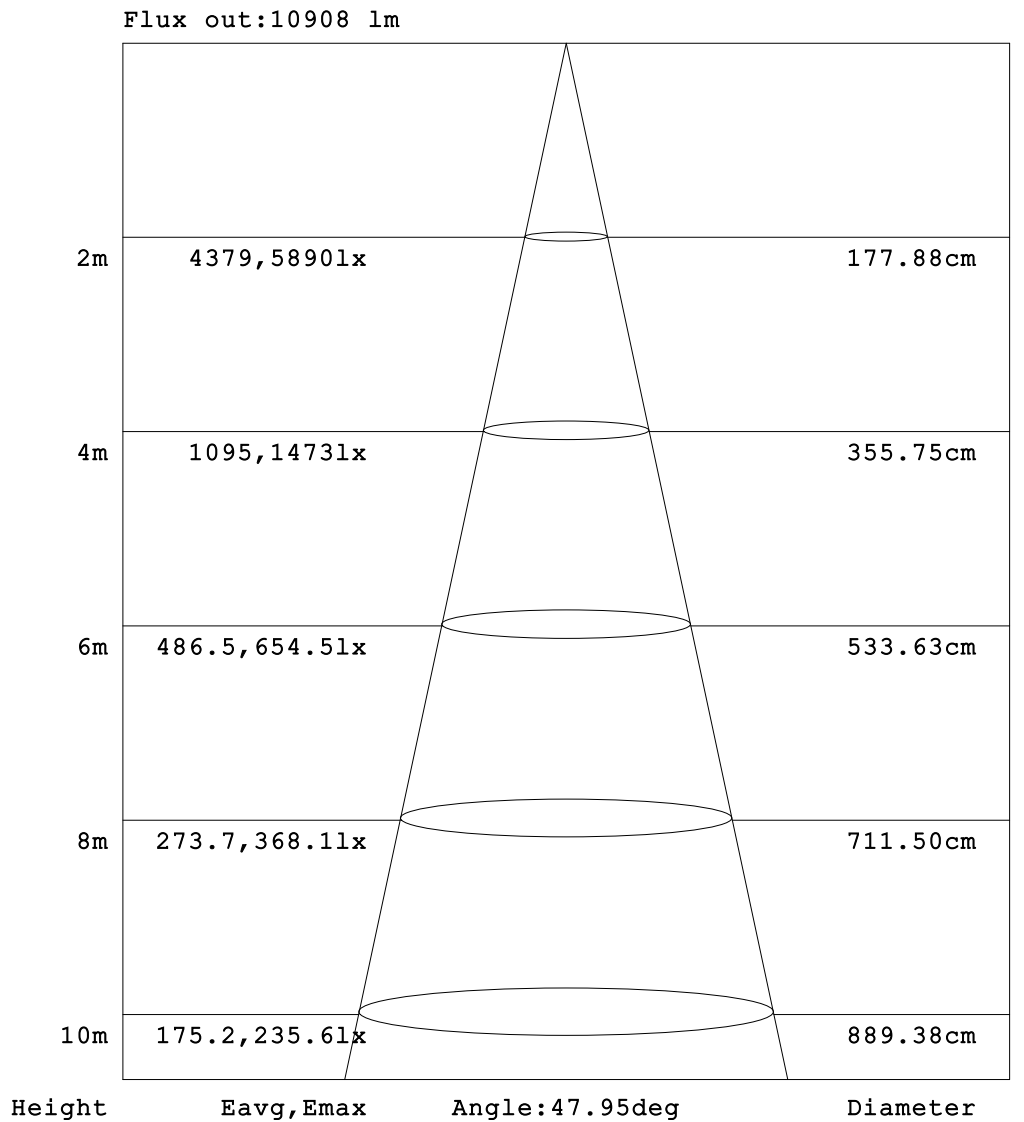
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-06-02

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

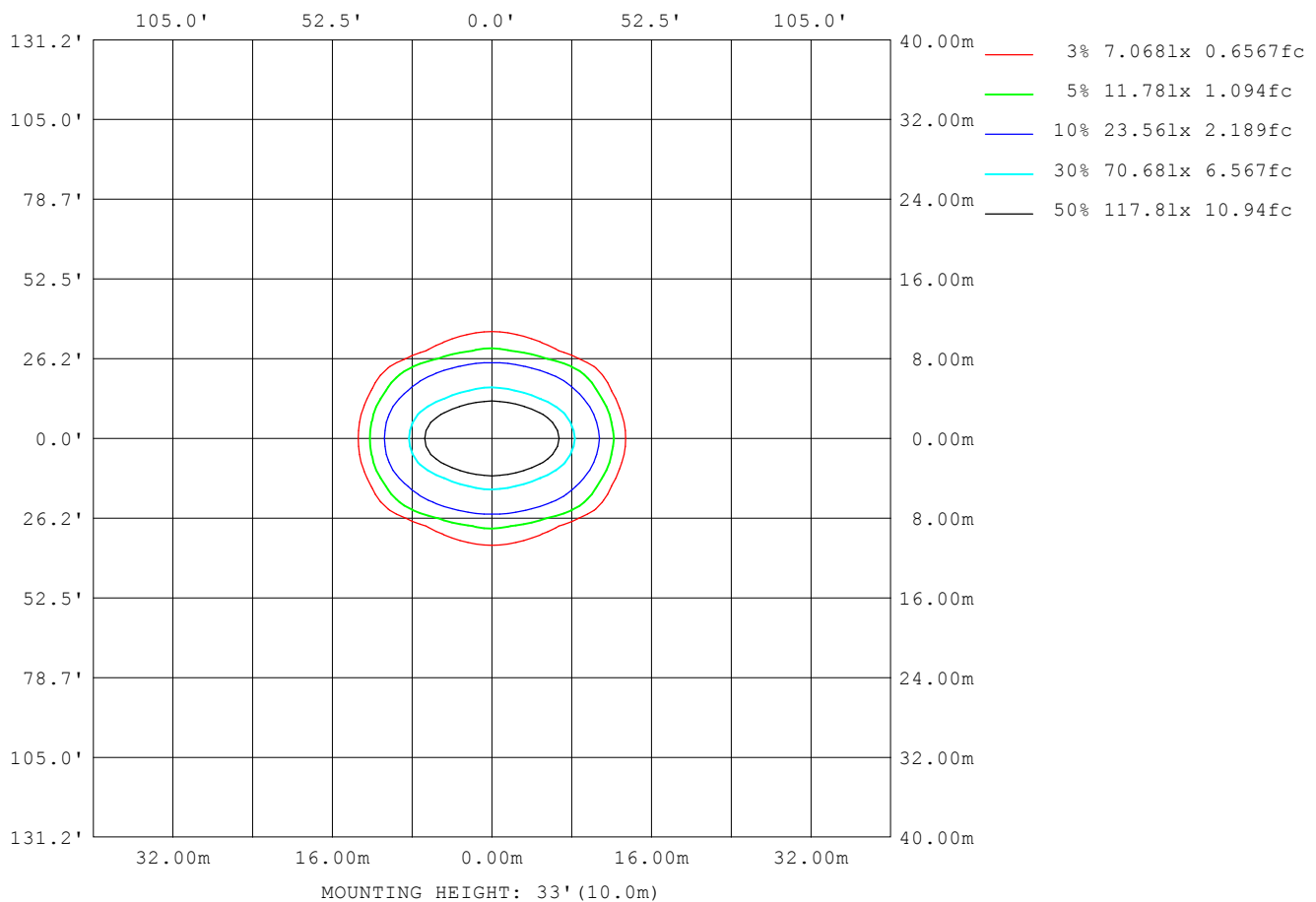


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-06-02

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: 2017-06-02

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:0.8084A P:179.1W PF:0.9634 Lamp Flux:28875.2x1 lm		
NAME: LHB01-180H	TYPE:180W	WEIGHT:
SPEC.:5000K Ra70 5090DEG L06402	DIM.: 0.718*0.275*0.102	SERIAL No.:
MFR.:	SUR.:0.255*0.69	Shielding Angle:

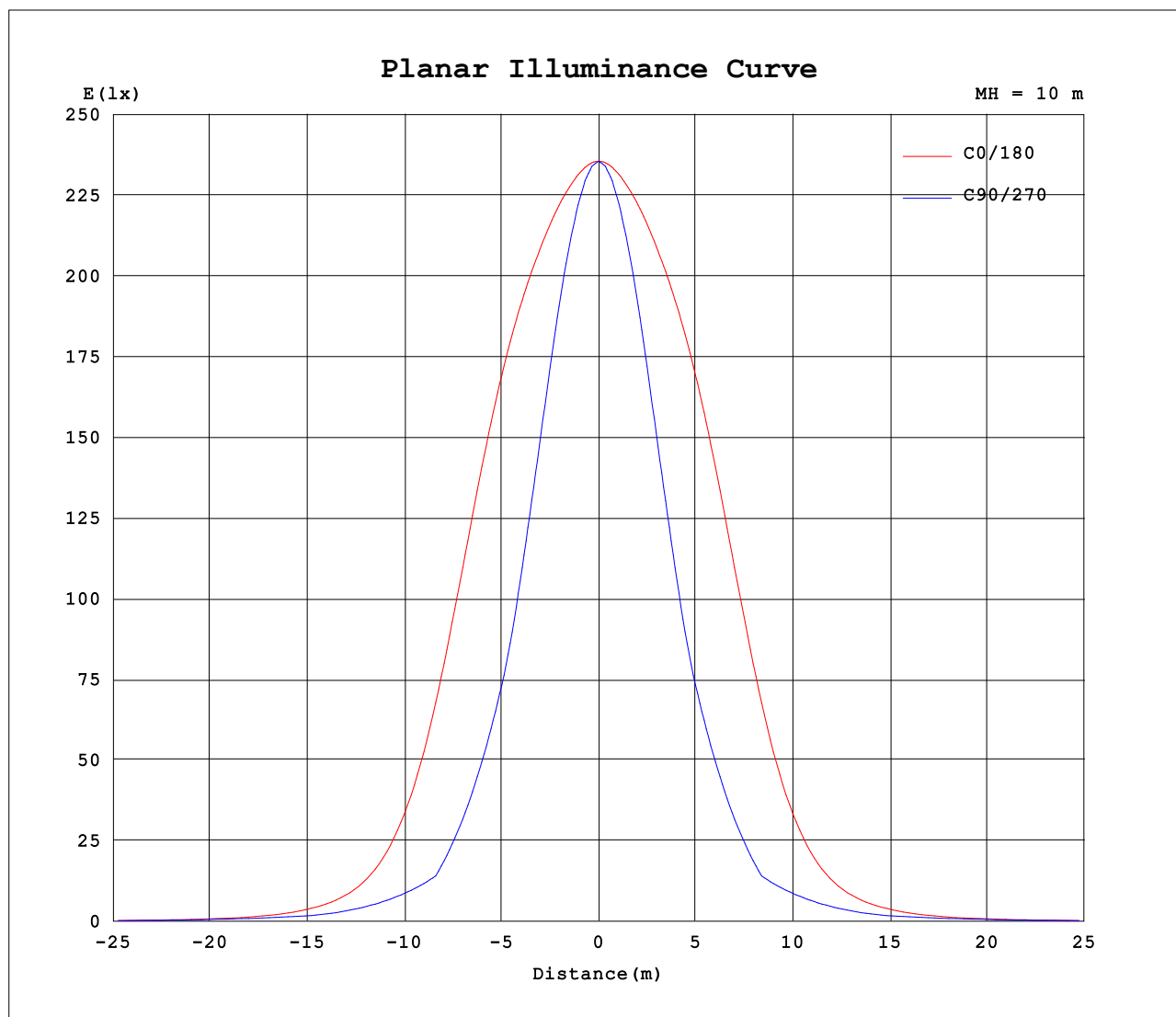
AvgL	cd/m2
L_0~180 (65) av	11210
L_0~180 (75) av	7617
L_0~180 (85) av	3615
L_90~270 (65) av	9611
L_90~270 (75) av	8470
L_90~270 (85) av	8849
L_45 (65) av	9739
L_45 (75) av	7425
L_45 (85) av	7512

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-06-02

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: 2017-06-02

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:

```

```

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:

```