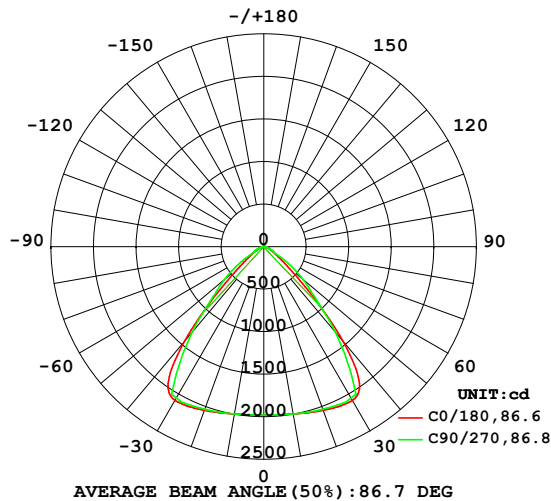


LUMINAIRE PHOTOMETRIC TEST REPORT

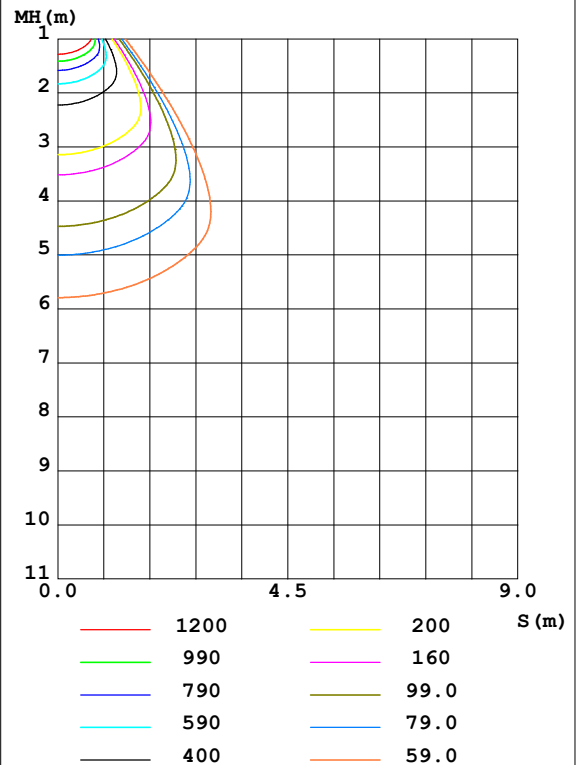
Test:U:230.0V I:0.1380A P:30.87W PF:0.9724 Lamp Flux:3933.12x1 lm		
NAME: LHB01-30	TYPE:30W	WEIGHT:
SPEC.:5000K Ra70 90DEG L02805	DIM.: 0.28*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.25*0.1	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 127.40 lm/W			
MODEL	LHB01-30	Imax(cd)	2088	S/MH(C0/180)	1.26
NOMINAL POWER(W)	30	LOR(%)	100.0	S/MH(C90/270)	1.25
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	3933.1	η UP,DN(C0-180)	0.0,49.8
NOMINAL FLUX(lm)	3933.12	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.2
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	1.30

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:2017-03-30

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	1983	1984	1984	1984	1983	1983	1984	1983	0- 5	47.37	47.37	1.2,1.2
10	1997	1999	1997	1999	1997	1998	1997	1998	5- 10	142.4	189.8	4.83,4.83
15	2020	2021	2014	2021	2020	2019	2014	2019	10- 15	238.3	428.1	10.9,10.9
20	2048	2045	2033	2045	2048	2043	2033	2043	15- 20	334.7	762.8	19.4,19.4
25	2074	2069	2054	2069	2074	2067	2054	2067	20- 25	431.0	1194	30.4,30.4
30	2087	2074	2055	2074	2087	2073	2055	2073	25- 30	524.9	1719	43.7,43.7
35	1960	1934	1766	1934	1960	1942	1766	1942	30- 35	595.1	2314	58.8,58.8
40	1442	1441	1303	1441	1442	1469	1303	1469	35- 40	560.8	2875	73.1,73.1
45	783.6	879.2	862.4	879.2	783.6	904.6	862.4	904.6	40- 45	412.6	3287	83.6,83.6
50	380.8	474.5	606.8	474.5	380.8	490.7	606.8	490.7	45- 50	251.9	3539	90,90
55	210.9	224.6	374.2	224.6	210.9	232.4	374.2	232.4	50- 55	153.2	3692	93.9,93.9
60	133.9	148.1	141.6	148.1	133.9	152.8	141.6	152.8	55- 60	94.66	3787	96.3,96.3
65	90.27	95.49	104.4	95.49	90.27	98.52	104.4	98.52	60- 65	57.33	3844	97.7,97.7
70	60.48	60.09	67.22	60.09	60.48	61.93	67.22	61.93	65- 70	39.58	3884	98.8,98.8
75	32.85	37.02	32.78	37.02	32.85	37.87	32.78	37.87	70- 75	25.55	3910	99.4,99.4
80	7.186	17.22	20.43	17.22	7.186	17.17	20.43	17.17	75- 80	13.94	3924	99.8,99.8
85	0.4139	9.331	10.84	9.331	0.4139	9.035	10.84	9.035	80- 85	7.026	3931	99.9,99.9
90	0.5420	1.512	1.250	1.512	0.5420	0.9987	1.250	0.9987	85- 90	2.574	3933	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:cd									UNIT:lm		

Conical surface Flux(90deg): 3287.3 lm

%lum = 83.6%

%lamp = 83.6%

Conical surface Flux(120deg): 3787.1 lm

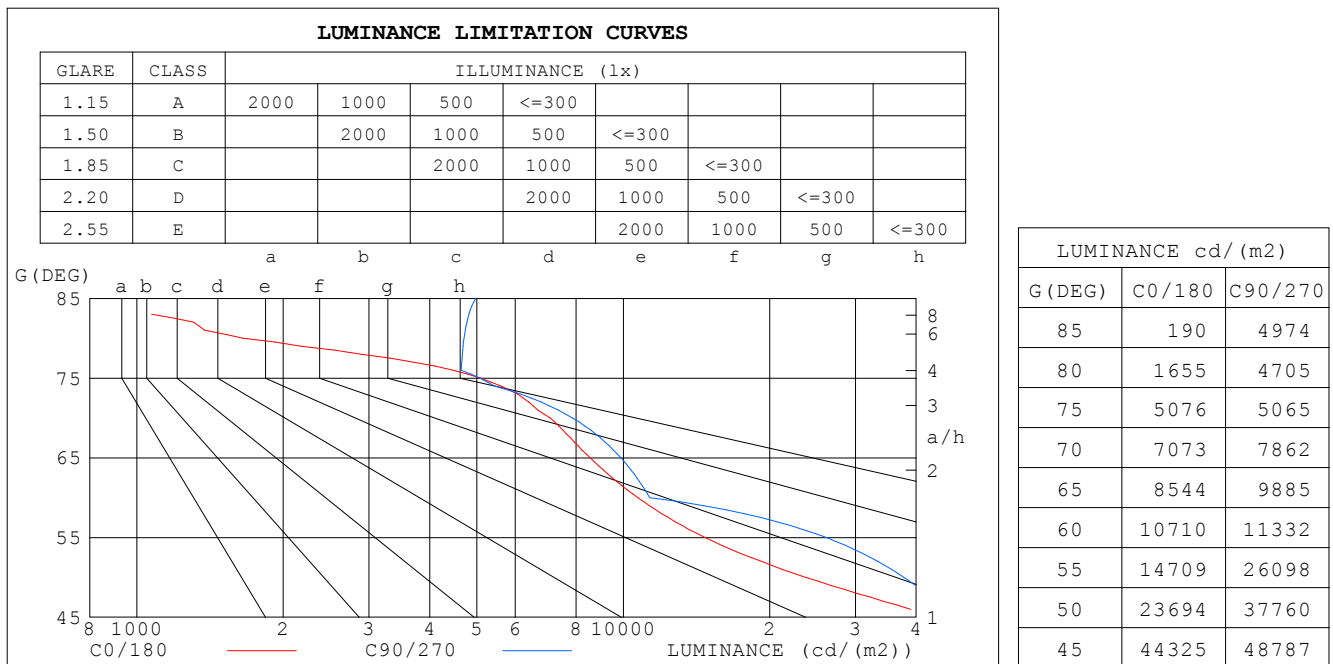
%lum = 96.3%

%lamp = 96.3%

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-03-30

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

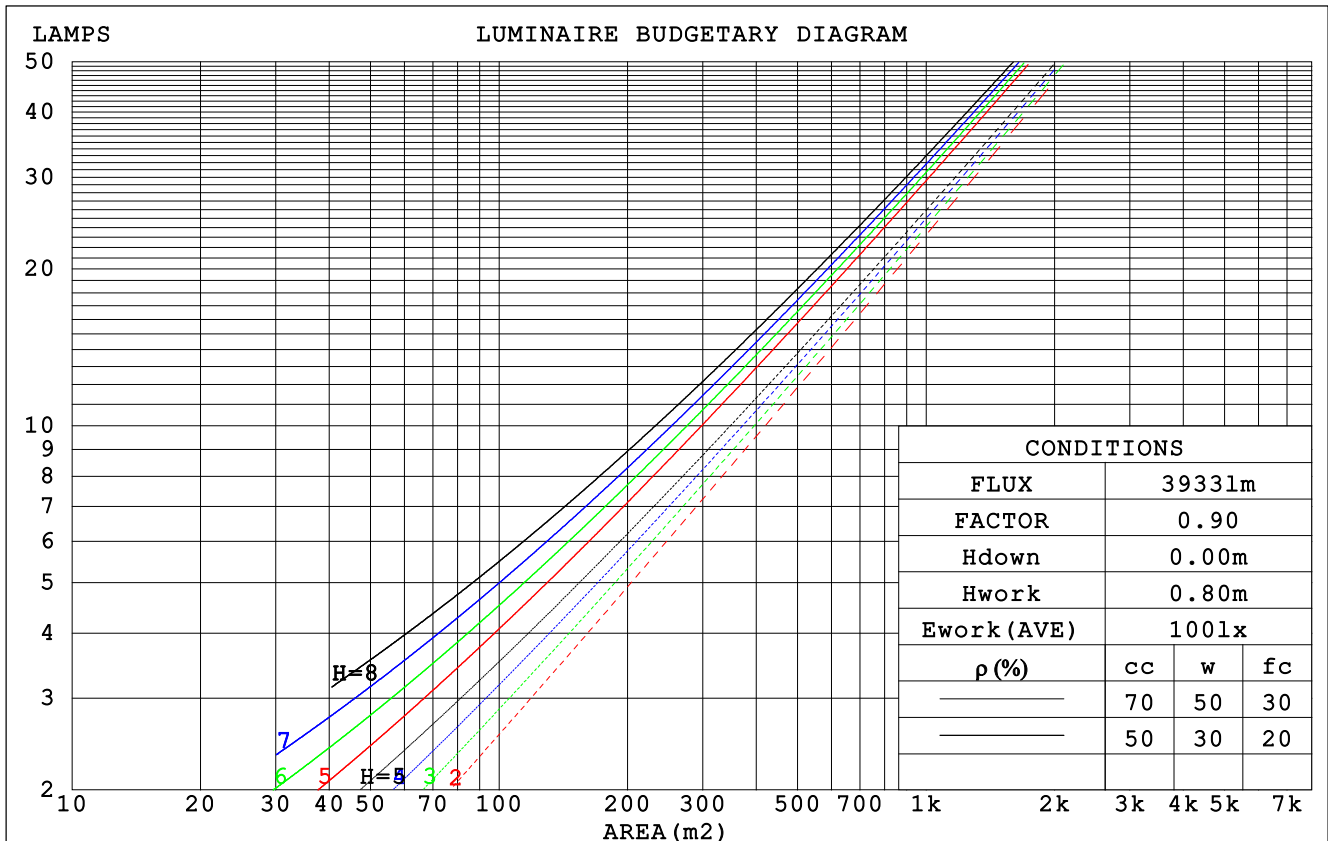


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-30

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

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{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	1.00
1.0	1.09	1.06	1.03	1.06	1.04	1.01	1.02	1.00	.98	.98	.97	.95	.95	.94	.92	.90
2.0	.99	.94	.89	.97	.92	.88	.93	.90	.86	.90	.87	.84	.88	.85	.83	.81
3.0	.90	.83	.78	.88	.82	.78	.85	.81	.76	.83	.79	.75	.80	.77	.74	.72
4.0	.82	.75	.70	.80	.74	.69	.78	.73	.68	.76	.71	.67	.74	.70	.67	.65
5.0	.75	.67	.62	.74	.67	.62	.72	.66	.61	.70	.65	.61	.68	.64	.60	.58
6.0	.68	.61	.56	.68	.61	.56	.66	.60	.55	.64	.59	.55	.63	.58	.54	.53
7.0	.63	.56	.50	.62	.55	.50	.61	.54	.50	.59	.54	.50	.58	.53	.49	.48
8.0	.58	.51	.46	.57	.50	.46	.56	.50	.45	.55	.49	.45	.54	.49	.45	.43
9.0	.54	.47	.42	.53	.46	.42	.52	.46	.41	.51	.45	.41	.50	.45	.41	.40
10.0	.50	.43	.38	.49	.43	.38	.48	.42	.38	.48	.42	.38	.47	.42	.38	.36



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-03-30

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	.220	.125	.040	.213	.121	.039	.200	.115	.037	.188	.109	.035	.177	.103	.033	
2.0	.214	.117	.036	.208	.114	.035	.197	.109	.034	.187	.105	.033	.177	.100	.032	
3.0	.204	.109	.033	.199	.107	.032	.190	.103	.031	.181	.099	.030	.173	.096	.030	
4.0	.194	.101	.030	.190	.099	.029	.181	.096	.029	.174	.093	.028	.166	.090	.028	
5.0	.184	.094	.027	.181	.093	.027	.173	.090	.027	.166	.088	.026	.160	.085	.026	
6.0	.175	.088	.025	.172	.087	.025	.165	.085	.025	.159	.083	.024	.153	.081	.024	
7.0	.166	.082	.023	.163	.081	.023	.157	.080	.023	.152	.078	.023	.147	.076	.022	
8.0	.158	.077	.022	.155	.077	.022	.150	.075	.021	.145	.074	.021	.141	.072	.021	
9.0	.151	.073	.020	.148	.072	.020	.143	.071	.020	.139	.070	.020	.135	.068	.020	
10.0	.144	.069	.019	.141	.068	.019	.137	.067	.019	.133	.066	.019	.129	.065	.019	

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	.141	.149	.135	.122	.102	.093	.084	.059	.054	.049	.019	.017	.016	
2.0	.162	.132	.107	.139	.114	.093	.095	.079	.065	.055	.046	.038	.018	.015	.012	
3.0	.152	.114	.084	.130	.098	.072	.089	.068	.051	.052	.040	.030	.017	.013	.010	
4.0	.143	.100	.066	.123	.086	.058	.085	.060	.041	.049	.035	.024	.016	.011	.008	
5.0	.136	.089	.054	.117	.077	.047	.080	.054	.033	.047	.031	.020	.015	.010	.006	
6.0	.129	.080	.045	.111	.069	.039	.077	.048	.028	.044	.029	.016	.014	.009	.005	
7.0	.123	.073	.038	.106	.063	.033	.073	.044	.023	.043	.026	.014	.014	.009	.005	
8.0	.118	.067	.032	.101	.058	.028	.070	.041	.020	.041	.024	.012	.013	.008	.004	
9.0	.113	.062	.028	.097	.054	.024	.067	.038	.017	.039	.022	.010	.013	.007	.003	
10.0	.108	.058	.025	.093	.050	.021	.064	.035	.015	.038	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-30

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	22.7	23.9	22.9	24.1	24.3	23.4	24.6	23.6	24.8	24.9
3H	22.7	23.8	23.0	24.0	24.2	23.4	24.5	23.6	24.7	24.9
4H	22.7	23.7	23.0	23.9	24.2	23.3	24.4	23.6	24.6	24.8
6H	22.6	23.6	22.9	23.8	24.1	23.3	24.2	23.6	24.5	24.7
8H	22.5	23.5	22.9	23.8	24.0	23.2	24.2	23.5	24.4	24.7
12H	22.5	23.4	22.8	23.7	24.0	23.2	24.1	23.5	24.4	24.7
4H 2H	22.6	23.6	22.9	23.9	24.1	23.2	24.2	23.5	24.5	24.7
3H	22.6	23.5	23.0	23.8	24.1	23.2	24.1	23.6	24.4	24.7
4H	22.6	23.5	23.0	23.8	24.1	23.2	24.0	23.6	24.4	24.7
6H	22.6	23.3	23.0	23.7	24.0	23.2	23.9	23.6	24.3	24.6
8H	22.6	23.2	23.0	23.6	24.0	23.2	23.9	23.6	24.2	24.6
12H	22.5	23.1	23.0	23.5	23.9	23.2	23.8	23.6	24.2	24.6
8H 4H	22.6	23.2	23.0	23.6	24.0	23.1	23.8	23.5	24.2	24.5
6H	22.6	23.1	23.0	23.5	23.9	23.1	23.7	23.6	24.1	24.5
8H	22.6	23.0	23.0	23.4	23.9	23.1	23.6	23.6	24.0	24.5
12H	22.5	22.9	23.0	23.4	23.8	23.1	23.6	23.6	24.0	24.5
12H 4H	22.5	23.1	22.9	23.5	23.9	23.1	23.7	23.5	24.1	24.5
6H	22.5	23.0	23.0	23.4	23.9	23.1	23.6	23.6	24.0	24.4
8H	22.5	22.9	23.0	23.4	23.8	23.1	23.5	23.6	24.0	24.4
Variations with the observer position at spacings:										
S = 1.0H	+ 2.1 / - 4.5					+ 1.7 / - 2.9				
1.5H	+ 3.3 / - 3.8					+ 2.2 / - 2.9				
2.0H	+ 4.4 / - 3.0					+ 3.7 / - 4.2				

CIE Pub.117 Corrected 3933 lm Total Lamp Luminous Flux.(8log(F/F0) = 4.8)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-30

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:

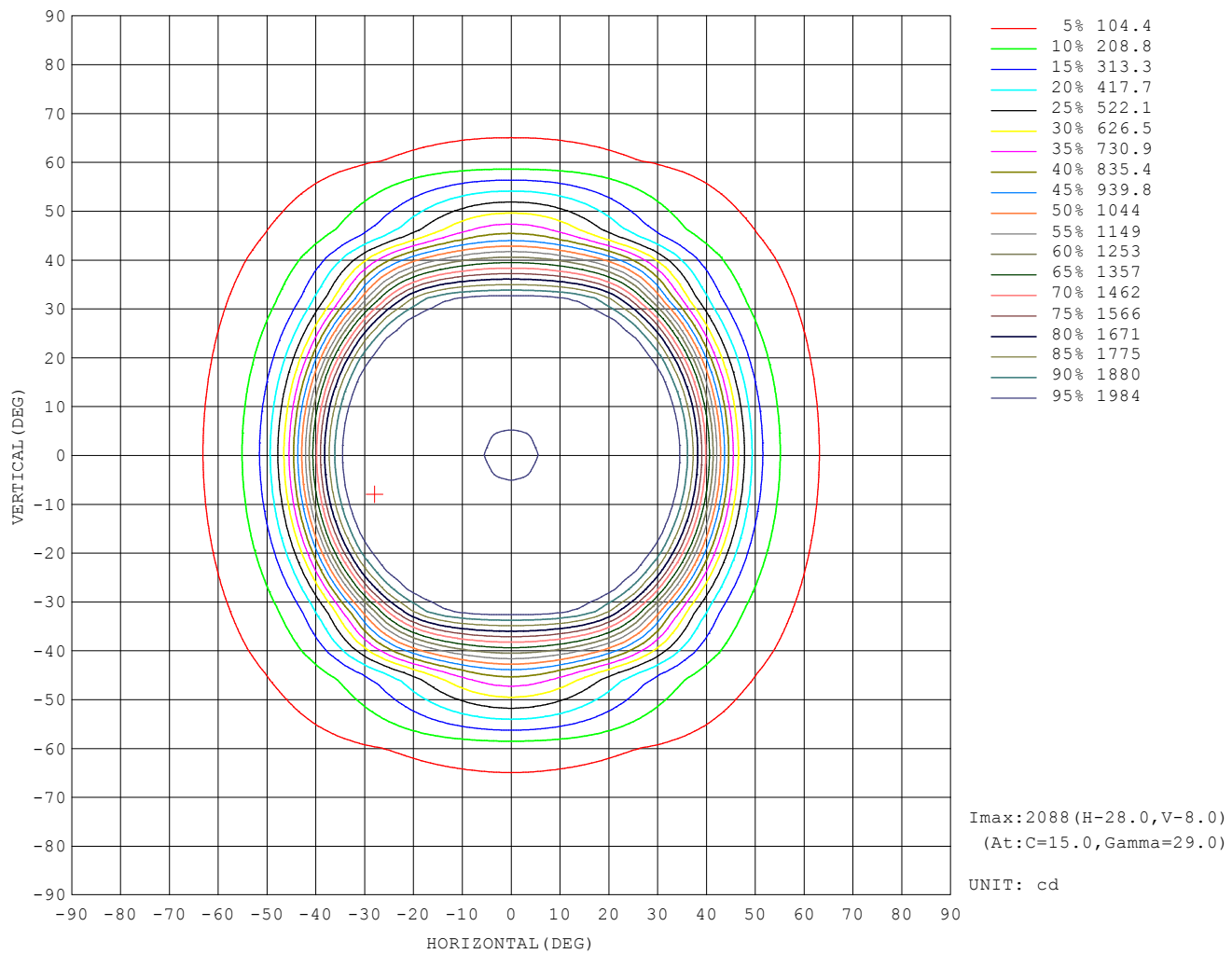
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	74	66	61	74	66	61	73	65	60	56
0.80	84	76	70	83	75	70	82	74	70	65
1.00	91	83	78	90	83	78	88	83	77	72
1.25	96	89	84	95	89	84	93	87	83	78
1.50	100	93	89	99	93	88	96	91	87	82
2.00	104	99	95	103	98	94	100	96	92	86
2.50	107	102	98	105	100	97	102	98	95	88
3.00	109	104	101	107	103	100	103	100	97	90
4.00	111	108	105	109	106	103	105	103	101	93
5.00	113	110	107	111	108	105	106	104	102	94
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: 2017-03-30

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:

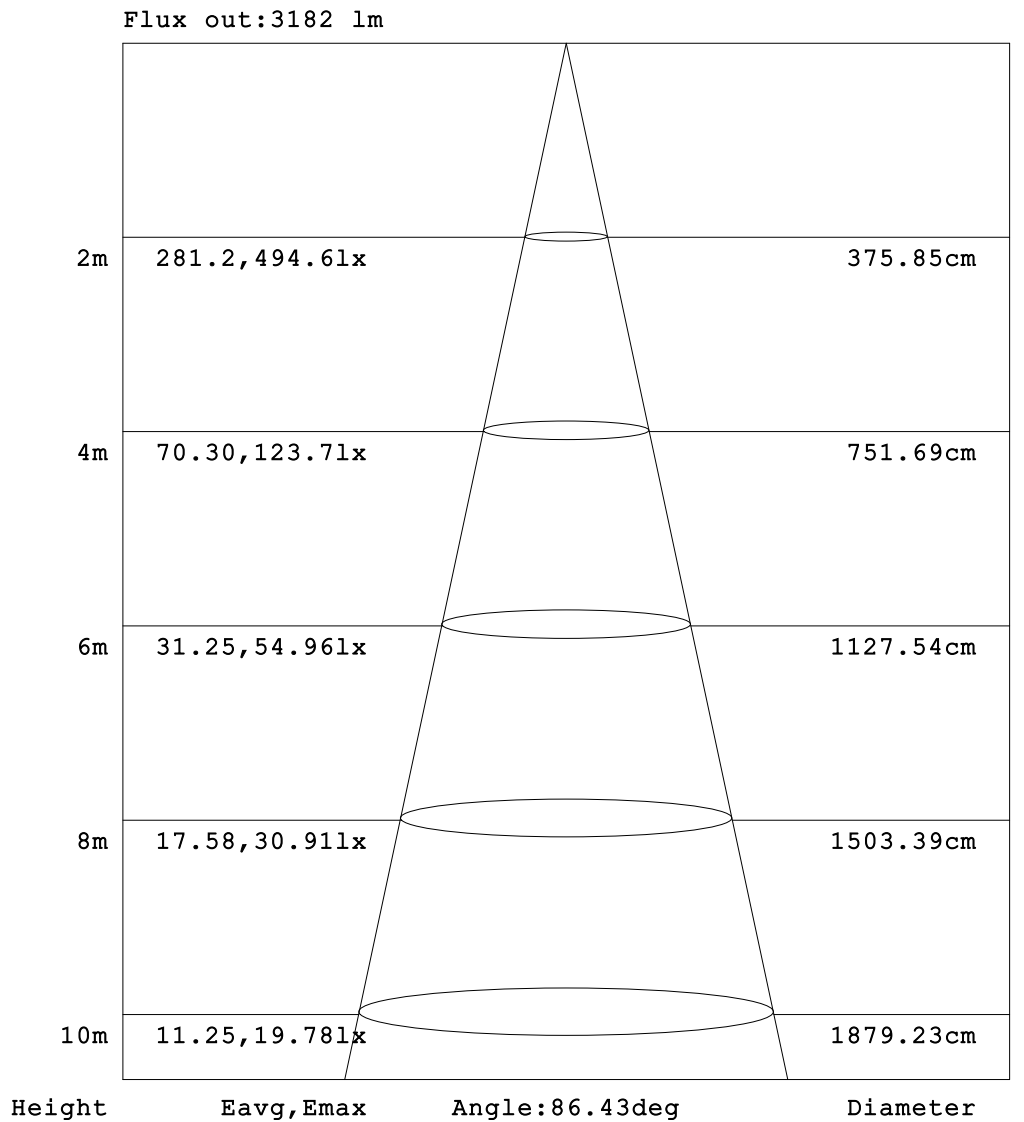
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-30

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

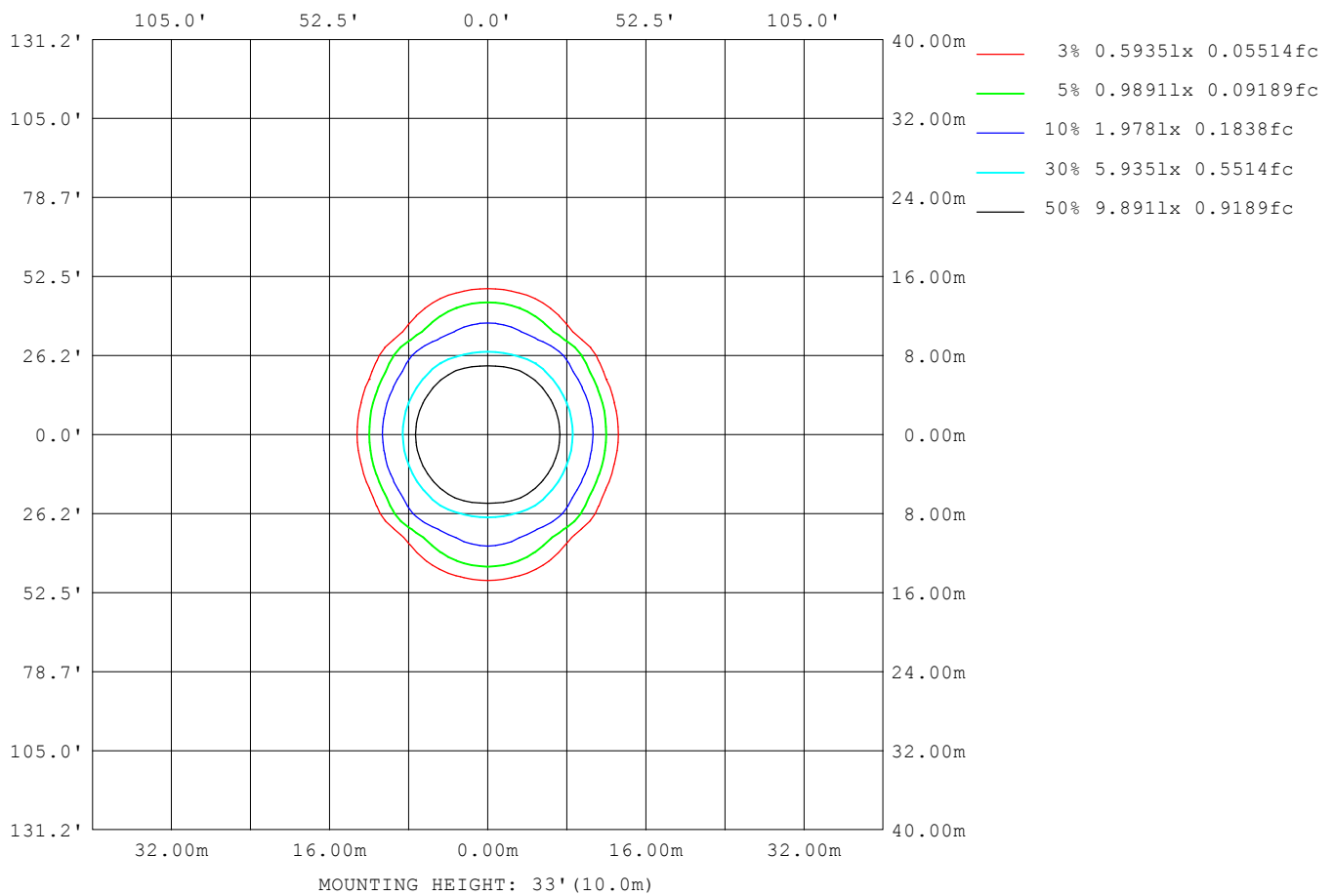


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-30

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: 2017-03-30

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:0.1380A P:30.87W PF:0.9724 Lamp Flux:3933.12x1 lm		
NAME: LHB01-30	TYPE:30W	WEIGHT:
SPEC.:5000K Ra70 90DEG L02805	DIM.: 0.28*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.25*0.1	Shielding Angle:

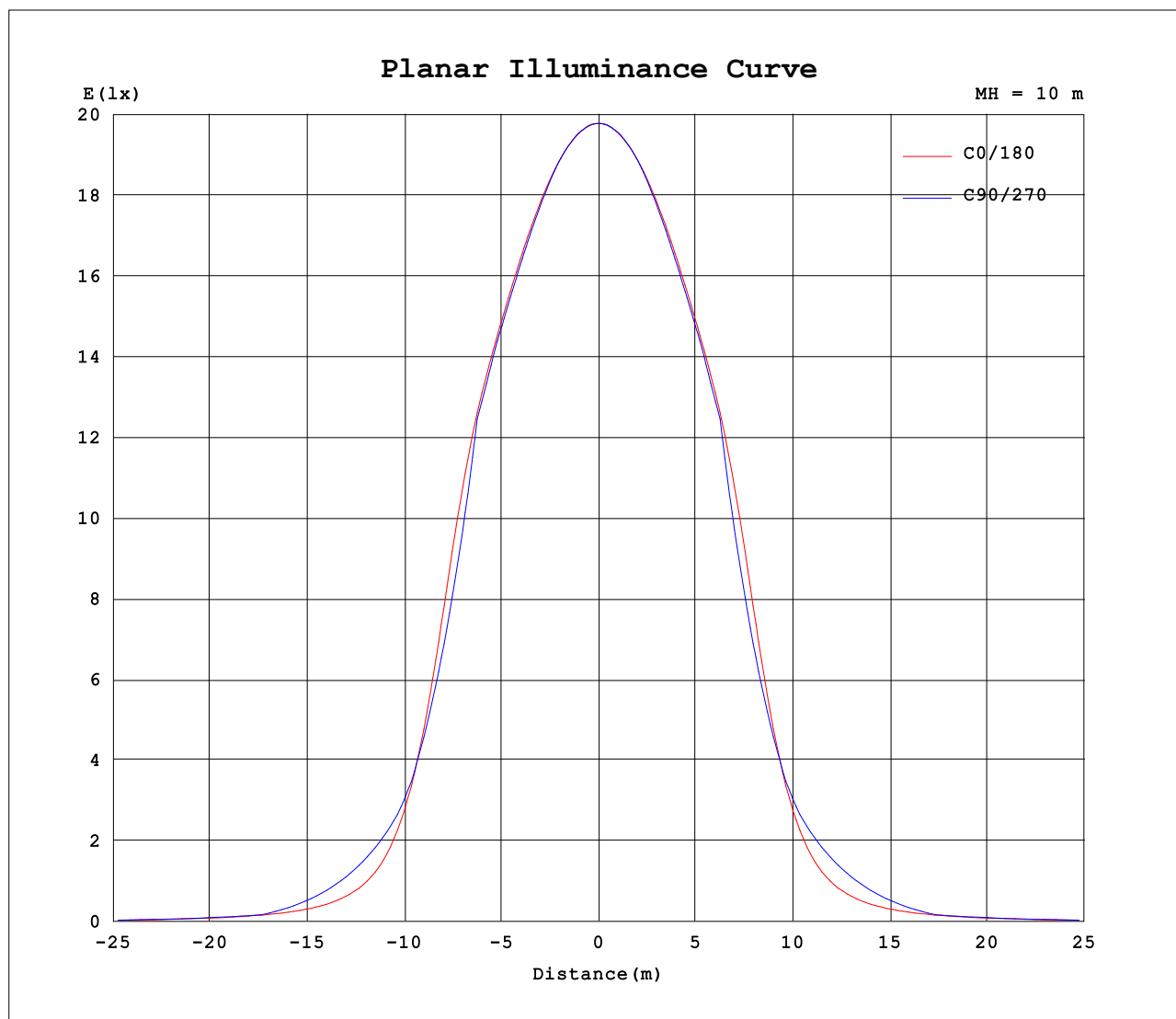
AvgL	cd/m2
L_0~180 (65) av	8544
L_0~180 (75) av	5076
L_0~180 (85) av	190
L_90~270 (65) av	9885
L_90~270 (75) av	5065
L_90~270 (85) av	4974
L_45 (65) av	9181
L_45 (75) av	5787
L_45 (85) av	4214

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-30

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: 2017-03-30

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: 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:

```