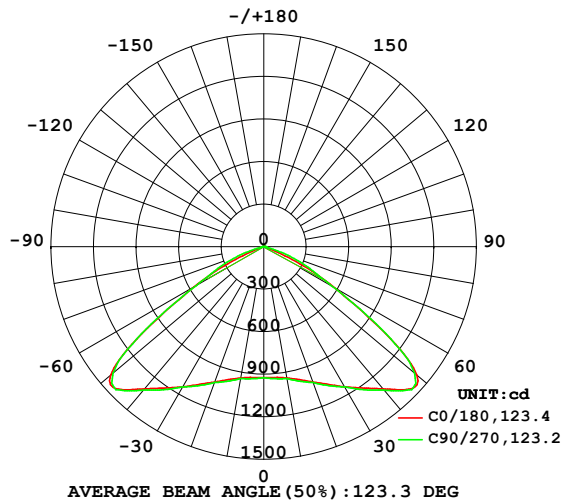


LUMINAIRE PHOTOMETRIC TEST REPORT

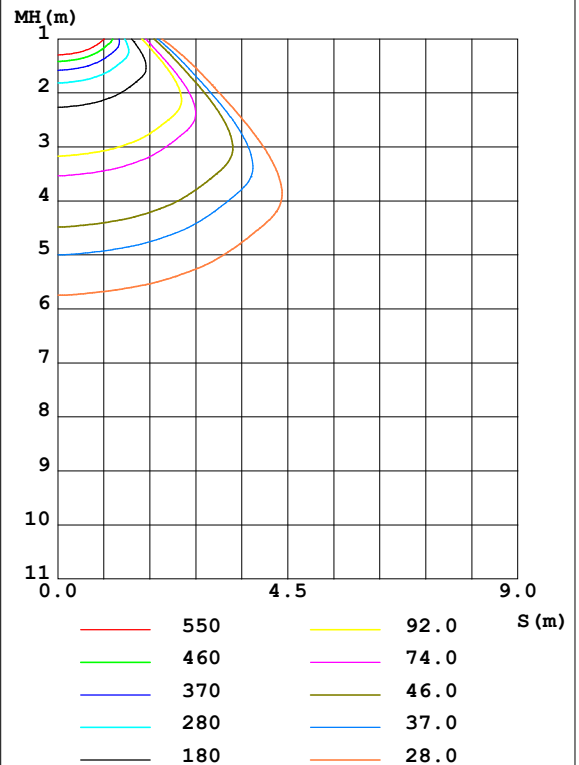
Test:U:230.0V I:0.1377A P:30.79W PF:0.9724 Lamp Flux:3956.91x1 lm		
NAME: LHB01-30	TYPE:30W	WEIGHT:
SPEC.:5000K Ra70 120DEG L02803	DIM.: 0.28*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.25*0.1	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 128.51 lm/W			
MODEL	LHB01-30	I _{max} (cd)	1459	S/MH (C0/180)	1.94
NOMINAL POWER(W)	30	LOR(%)	100.0	S/MH (C90/270)	1.94
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	3956.9	η UP,DN(C0-180)	0.0,49.8
NOMINAL FLUX(lm)	3956.91	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.2
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	2.00
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	0.00

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:2017-03-29

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	926.1	932.5	934.8	932.5	926.1	933.4	934.8	933.4	0- 5	22.22	22.22	0.56,0.56
10	941.3	947.3	944.9	947.3	941.3	949.9	944.9	949.9	5- 10	67.21	89.43	2.26,2.26
15	971.1	974.8	982.5	974.8	971.1	979.2	982.5	979.2	10- 15	114.2	203.6	5.15,5.15
20	1016	1023	1020	1023	1016	1027	1020	1027	15- 20	165.0	368.6	9.32,9.32
25	1071	1076	1081	1076	1071	1081	1081	1081	20- 25	220.2	588.8	14.9,14.9
30	1142	1144	1143	1144	1142	1149	1143	1149	25- 30	281.5	870.3	22,22
35	1218	1223	1232	1223	1218	1231	1232	1231	30- 35	349.0	1219	30.8,30.8
40	1309	1308	1321	1308	1309	1321	1321	1321	35- 40	424.5	1644	41.5,41.5
45	1426	1391	1432	1391	1426	1405	1432	1405	40- 45	508.1	2152	54.4,54.4
50	1410	1401	1388	1401	1410	1419	1388	1419	45- 50	576.9	2729	69,69
55	1001	1006	1011	1006	1001	1022	1011	1022	50- 55	532.4	3261	82.4,82.4
60	565.7	539.7	551.7	539.7	565.7	546.0	551.7	546.0	55- 60	353.5	3615	91.4,91.4
65	250.8	230.6	344.0	230.6	250.8	237.3	344.0	237.3	60- 65	194.6	3809	96.3,96.3
70	35.61	80.08	182.7	80.08	35.61	85.55	182.7	85.55	65- 70	89.21	3899	98.5,98.5
75	22.63	41.63	36.90	41.63	22.63	44.91	36.90	44.91	70- 75	37.25	3936	99.5,99.5
80	8.907	13.95	14.79	13.95	8.907	15.37	14.79	15.37	75- 80	12.67	3948	99.8,99.8
85	0.5993	7.906	8.147	7.906	0.5993	8.307	8.147	8.307	80- 85	6.078	3955	99.9,99.9
90	0.9887	1.868	1.501	1.868	0.9887	1.288	1.501	1.288	85- 90	2.403	3957	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): 2151.9 lm

%lum = 54.4%

%lamp = 54.4%

Conical surface Flux(120deg): 3614.7 lm

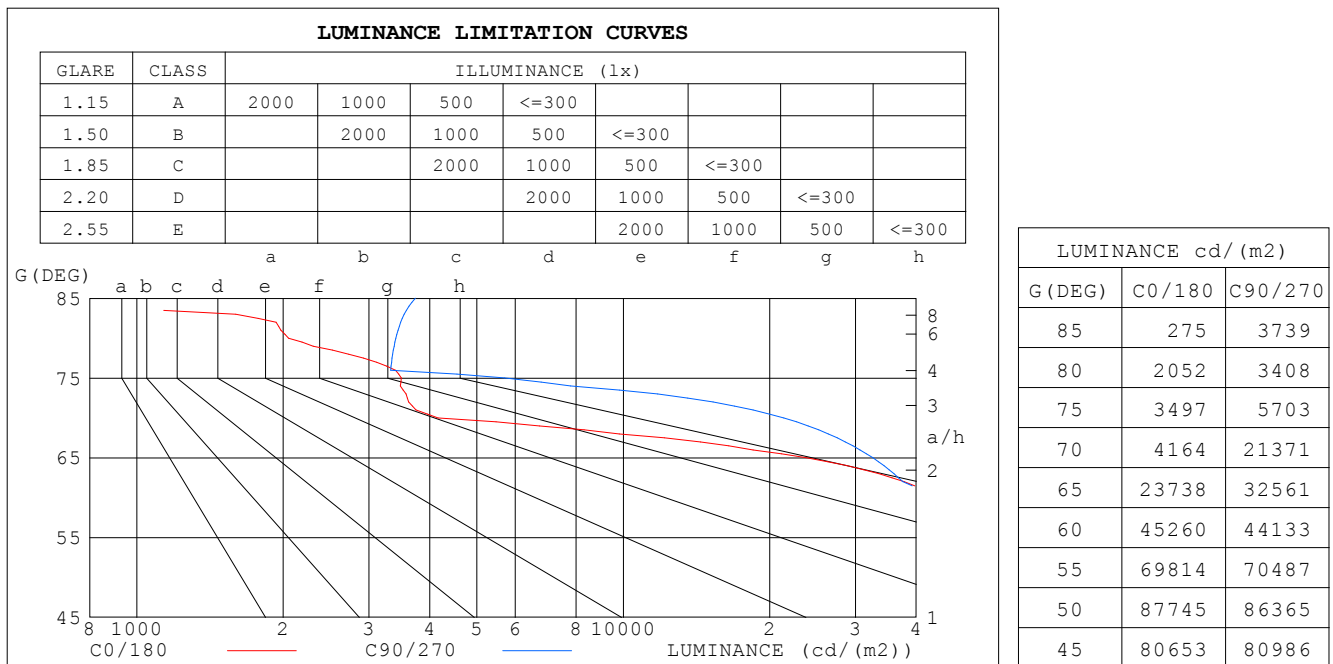
%lum = 91.4%

%lamp = 91.4%

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-03-29

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

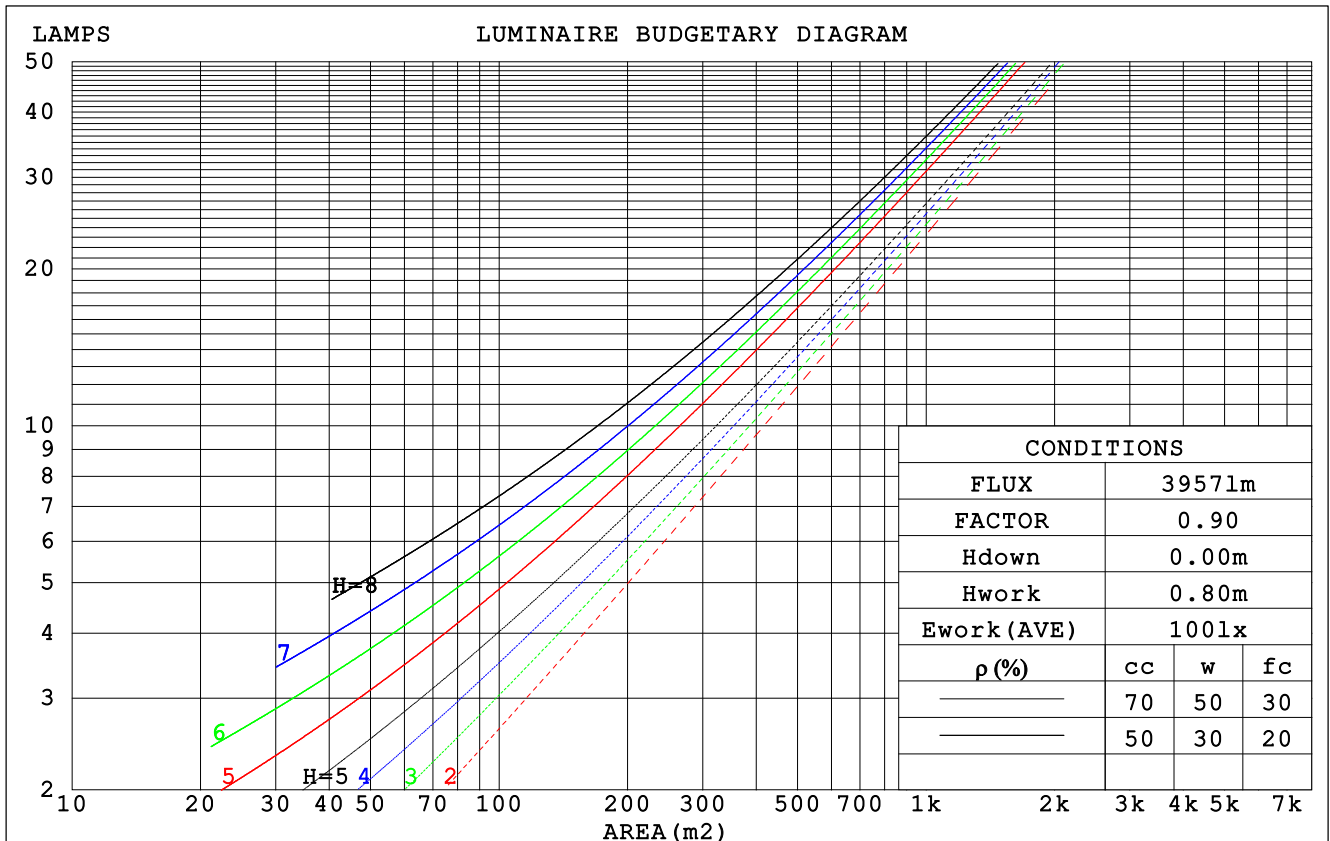


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-29

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	.00
1.0	1.06	1.02	.99	1.04	1.01	.98	.00	.97	.94	.96	.94	.92	.92	.91	.89	.87
2.0	.93	.87	.82	.92	.86	.81	.88	.83	.79	.85	.81	.77	.82	.79	.76	.74
3.0	.82	.74	.68	.81	.73	.68	.78	.72	.67	.75	.70	.65	.72	.68	.64	.62
4.0	.72	.64	.57	.71	.63	.57	.69	.62	.56	.66	.60	.55	.64	.59	.55	.53
5.0	.64	.55	.49	.63	.55	.49	.61	.54	.48	.59	.53	.47	.57	.51	.47	.45
6.0	.57	.48	.42	.56	.48	.42	.54	.47	.41	.53	.46	.41	.51	.45	.41	.39
7.0	.51	.42	.36	.50	.42	.36	.49	.41	.36	.47	.41	.36	.46	.40	.35	.33
8.0	.46	.38	.32	.46	.37	.32	.44	.37	.31	.43	.36	.31	.42	.36	.31	.29
9.0	.42	.34	.28	.41	.33	.28	.40	.33	.28	.39	.32	.28	.38	.32	.27	.26
10.0	.38	.30	.25	.38	.30	.25	.37	.30	.25	.36	.29	.25	.35	.29	.24	.23



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-03-29

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	.266	.151	.048	.259	.148	.047	.246	.141	.045	.234	.135	.043	.223	.129	.042		
2.0	.263	.144	.044	.257	.142	.044	.246	.137	.042	.235	.132	.041	.225	.128	.040		
3.0	.252	.134	.040	.247	.132	.040	.237	.128	.039	.227	.125	.038	.219	.121	.037		
4.0	.239	.124	.036	.234	.123	.036	.225	.119	.036	.217	.116	.035	.209	.114	.035		
5.0	.225	.115	.033	.221	.113	.033	.213	.111	.033	.205	.108	.032	.198	.106	.032		
6.0	.211	.106	.030	.208	.105	.030	.200	.103	.030	.194	.101	.030	.187	.099	.029		
7.0	.199	.098	.028	.195	.097	.028	.189	.095	.027	.183	.094	.027	.177	.092	.027		
8.0	.187	.091	.026	.184	.090	.026	.178	.089	.025	.172	.087	.025	.167	.086	.025		
9.0	.176	.085	.024	.173	.084	.024	.168	.083	.024	.163	.082	.023	.158	.080	.023		
10.0	.166	.080	.022	.164	.079	.022	.159	.078	.022	.154	.077	.022	.150	.075	.022		

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	.177	.157	.138	.152	.134	.119	.104	.092	.082	.060	.053	.048	.019	.017	.015	
2.0	.168	.132	.101	.144	.114	.088	.099	.079	.061	.057	.046	.036	.018	.015	.012	
3.0	.161	.114	.077	.138	.098	.067	.095	.068	.047	.055	.040	.028	.018	.013	.009	
4.0	.154	.101	.060	.132	.087	.052	.091	.061	.037	.053	.036	.022	.017	.012	.007	
5.0	.148	.090	.048	.127	.078	.042	.087	.055	.029	.051	.032	.017	.016	.010	.006	
6.0	.141	.082	.039	.122	.071	.034	.084	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.135	.075	.033	.116	.065	.029	.080	.046	.021	.047	.027	.012	.015	.009	.004	
8.0	.129	.070	.029	.111	.060	.025	.077	.042	.018	.045	.025	.011	.015	.008	.003	
9.0	.124	.065	.025	.107	.056	.022	.074	.040	.015	.043	.023	.009	.014	.008	.003	
10.0	.118	.061	.022	.102	.053	.019	.071	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-29

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	27.9	29.4	28.2	29.6	29.8	28.0	29.5	28.2	29.7	29.9
3H	27.8	29.2	28.1	29.4	29.6	28.2	29.5	28.5	29.8	30.0
4H	27.7	29.0	28.0	29.2	29.5	28.1	29.4	28.4	29.7	29.9
6H	27.6	28.8	27.9	29.1	29.4	28.0	29.2	28.3	29.5	29.8
8H	27.5	28.7	27.9	29.0	29.3	28.0	29.1	28.3	29.4	29.7
12H	27.5	28.6	27.8	28.9	29.2	27.9	29.0	28.3	29.3	29.6
4H 2H	27.9	29.2	28.2	29.5	29.7	28.0	29.3	28.3	29.5	29.8
3H	27.9	29.0	28.2	29.3	29.6	28.3	29.4	28.6	29.7	30.0
4H	27.8	28.8	28.1	29.1	29.4	28.2	29.2	28.6	29.5	29.9
6H	27.7	28.6	28.1	28.9	29.3	28.1	29.0	28.5	29.4	29.7
8H	27.7	28.5	28.1	28.8	29.2	28.1	28.9	28.5	29.3	29.6
12H	27.6	28.4	28.0	28.7	29.1	28.1	28.8	28.5	29.2	29.6
8H 4H	27.7	28.5	28.1	28.8	29.2	28.1	28.9	28.5	29.3	29.6
6H	27.6	28.3	28.0	28.7	29.1	28.0	28.7	28.5	29.1	29.5
8H	27.6	28.2	28.0	28.6	29.0	28.0	28.6	28.4	29.0	29.4
12H	27.5	28.0	28.0	28.5	29.0	28.0	28.5	28.4	28.9	29.4
12H 4H	27.6	28.4	28.1	28.8	29.2	28.1	28.8	28.5	29.2	29.6
6H	27.6	28.1	28.0	28.6	29.0	28.0	28.6	28.4	29.0	29.4
8H	27.5	28.0	28.0	28.5	29.0	28.0	28.5	28.4	28.9	29.4
Variations with the observer position at spacings:										
S = 1.0H	+ 0.4 / - 0.6					+ 0.3 / - 0.4				
1.5H	+ 1.1 / - 2.9					+ 1.0 / - 2.5				
2.0H	+ 2.3 / - 4.1					+ 2.2 / - 4.2				

CIE Pub.117 Corrected 3957 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:2017-03-29

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:

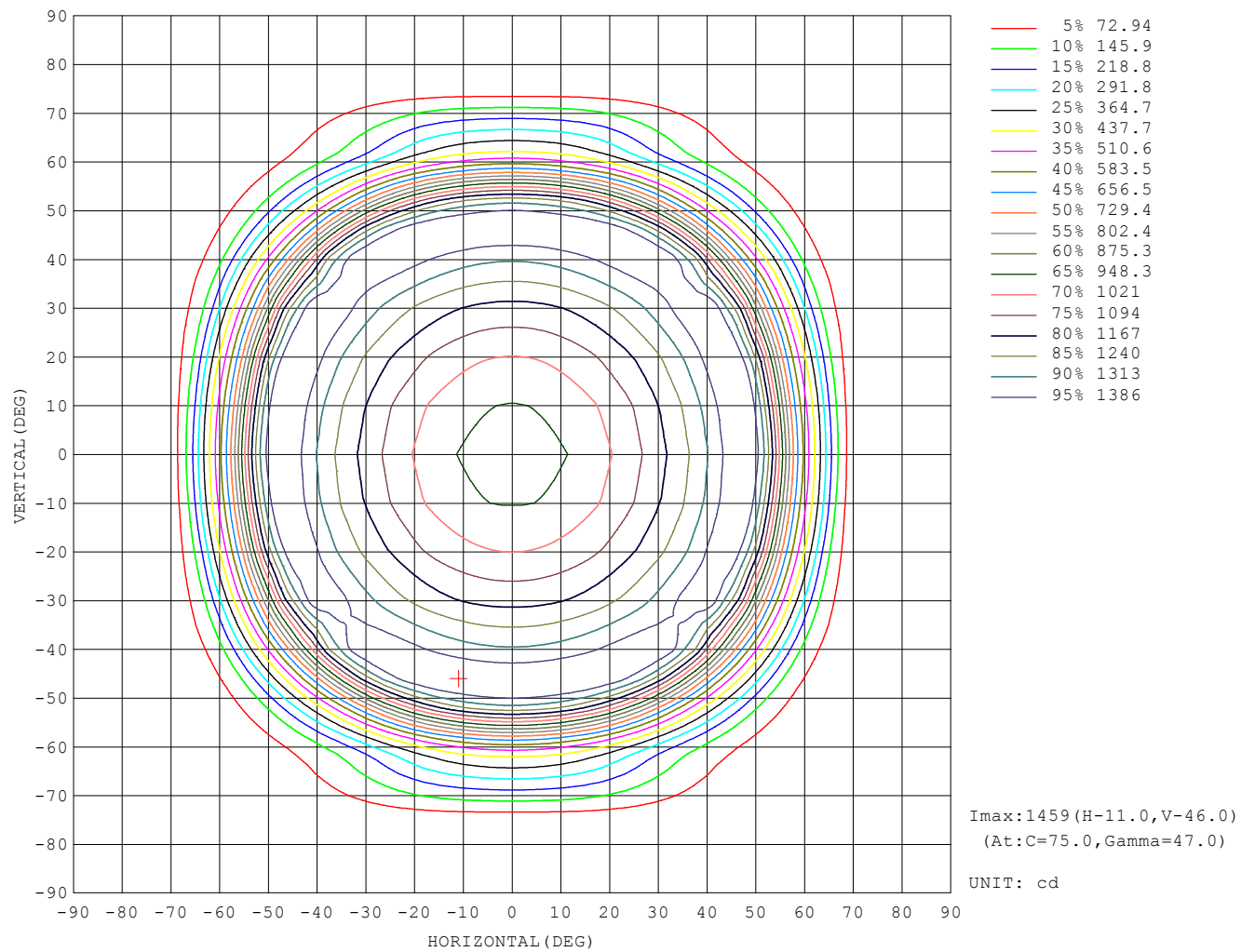
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	54	41	34	53	41	34	52	41	34	27
0.80	66	54	46	65	53	46	63	53	46	39
1.00	77	66	58	75	65	58	73	66	58	51
1.25	85	75	68	83	74	67	81	73	67	60
1.50	90	81	74	89	80	74	86	78	73	65
2.00	97	90	84	96	89	83	92	86	82	74
2.50	101	94	88	99	93	87	95	90	86	78
3.00	104	98	93	102	96	92	98	94	90	82
4.00	108	102	98	105	101	97	101	97	94	86
5.00	109	105	101	107	103	100	103	99	97	88
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: 2017-03-29

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:

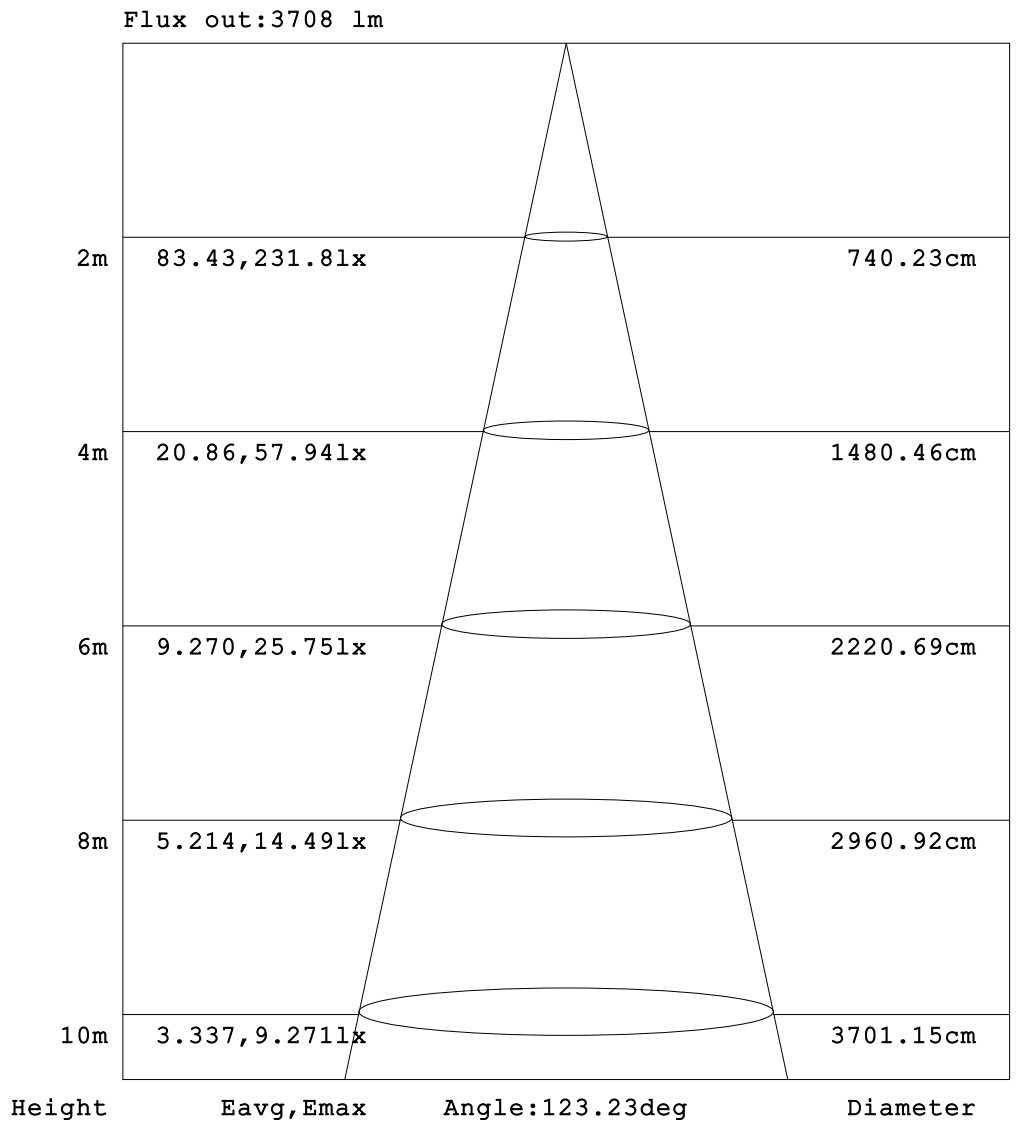
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-29

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

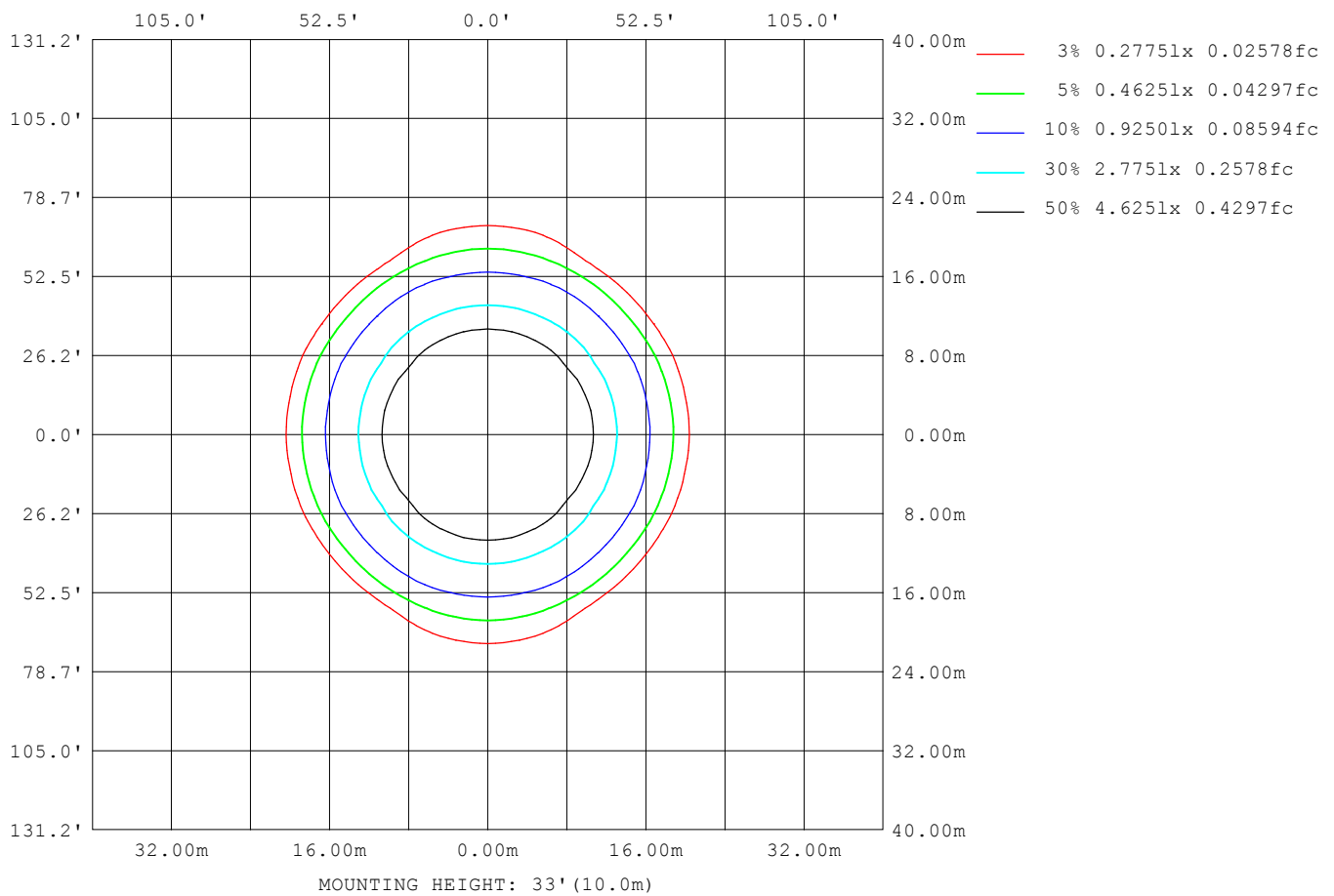


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-29

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: 2017-03-29

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:0.1377A P:30.79W PF:0.9724 Lamp Flux:3956.91x1 lm		
NAME: LHB01-30	TYPE:30W	WEIGHT:
SPEC.:5000K Ra70 120DEG L02803	DIM.: 0.28*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.25*0.1	Shielding Angle:

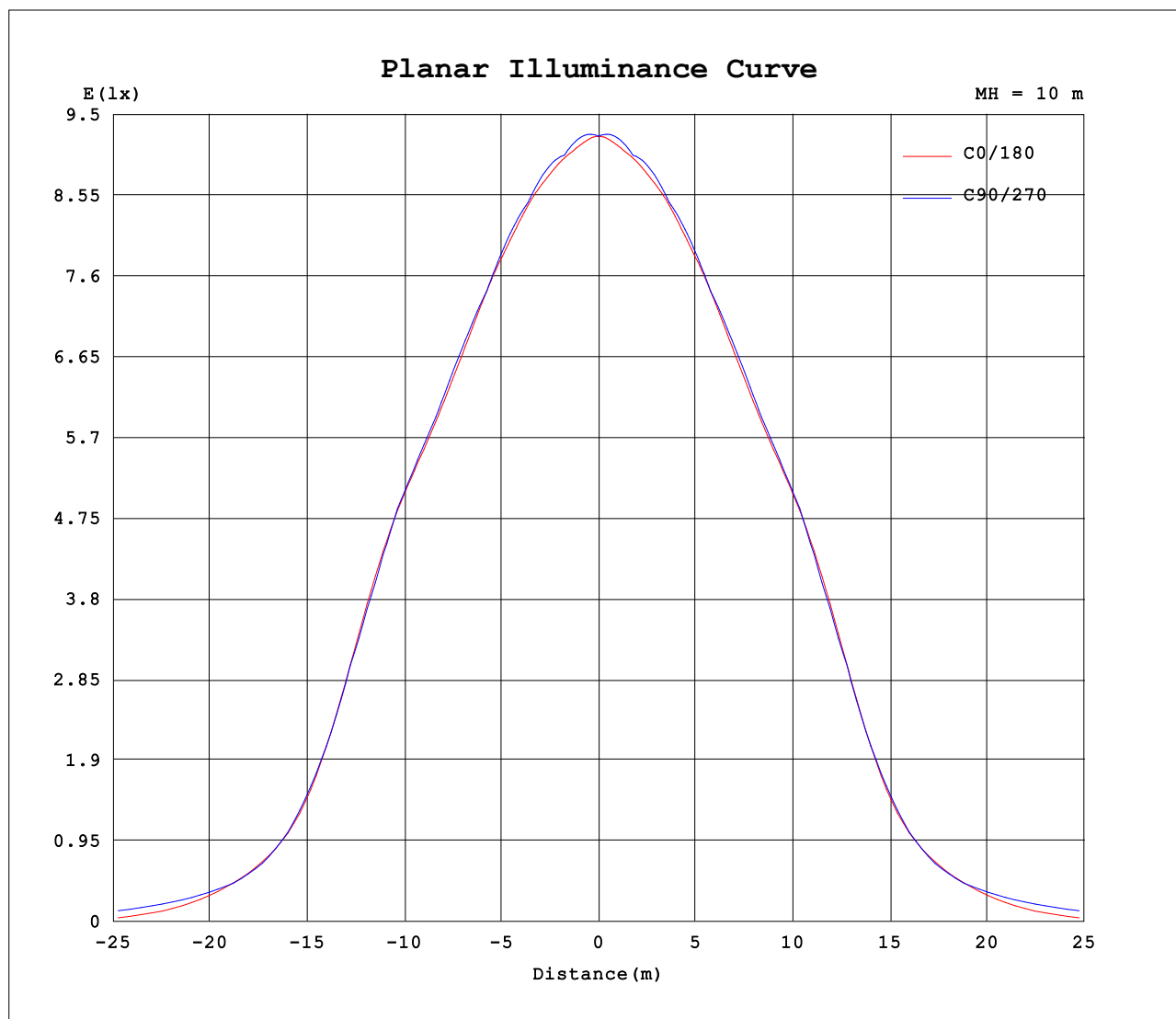
AvgL	cd/m2
L_0~180 (65) av	23738
L_0~180 (75) av	3497
L_0~180 (85) av	275
L_90~270 (65) av	32561
L_90~270 (75) av	5703
L_90~270 (85) av	3739
L_45 (65) av	22143
L_45 (75) av	6687
L_45 (85) av	3720

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-03-29

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: 2017-03-29

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:

```

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:

```