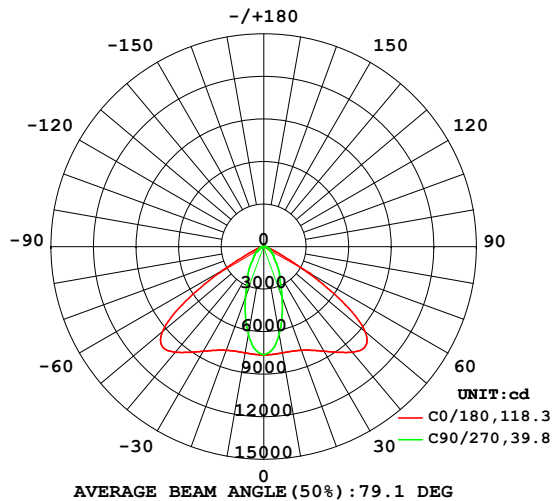


LUMINAIRE PHOTOMETRIC TEST REPORT

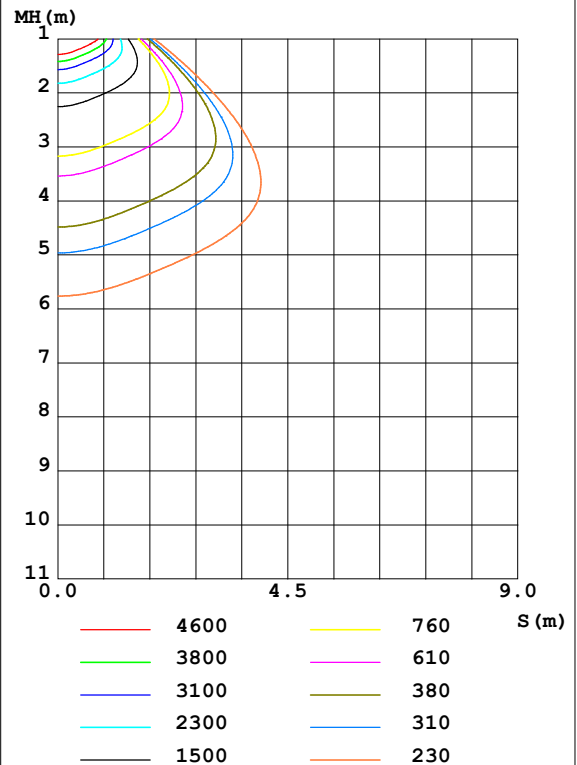
Test:U:230.1V I:0.4112A P:90.98W PF:0.9619 Lamp Flux:12977.6x1 lm		
NAME: LHB01-90H	TYPE:90W	WEIGHT:
SPEC.:5000K Ra80 L06404	DIM.: 0.718*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.7*0.1	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 142.65 lm/W			
MODEL	LHB01-90H	Imax(cd)	10053	S/MH(C0/180)	1.84
NOMINAL POWER(W)	90	LOR(%)	100.0	S/MH(C90/270)	0.63
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	12978	η UP,DN(C0-180)	0.0,50.2
NOMINAL FLUX(lm)	12977.6	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,49.8
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	0.80

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:2017-09-26

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	762.5	740.7	724.8	740.7	762.5	740.7	724.8	740.7	0- 5	179.6	179.6	1.38,1.38
10	761.0	689.4	629.2	689.4	761.0	689.0	629.2	689.0	5- 10	512.4	692.0	5.33,5.33
15	764.5	611.8	504.2	611.8	764.5	610.6	504.2	610.6	10- 15	777.5	1469	11.3,11.3
20	778.3	523.7	379.7	523.7	778.3	521.2	379.7	521.2	15- 20	963.2	2433	18.7,18.7
25	807.0	433.1	279.3	433.1	807.0	429.5	279.3	429.5	20- 25	1082	3515	27.1,27.1
30	852.0	347.7	223.1	347.7	852.0	343.7	223.1	343.7	25- 30	1168	4683	36.1,36.1
35	909.6	280.5	171.9	280.5	909.6	276.6	171.9	276.6	30- 35	1247	5930	45.7,45.7
40	971.8	237.5	120.8	237.5	971.8	233.9	120.8	233.9	35- 40	1308	7239	55.8,55.8
45	1005	187.4	100.9	187.4	1005	184.7	100.9	184.7	40- 45	1346	8584	66.1,66.1
50	933.3	128.2	81.10	128.2	933.3	127.3	81.10	127.3	45- 50	1333	9918	76.4,76.4
55	675.1	104.7	62.02	104.7	675.1	104.2	62.02	104.2	50- 55	1174	11092	85.5,85.5
60	328.3	77.56	49.02	77.56	328.3	77.45	49.02	77.45	55- 60	822.5	11914	91.8,91.8
65	125.6	51.39	36.79	51.39	125.6	51.52	36.79	51.52	60- 65	470.2	12384	95.4,95.4
70	50.99	36.46	24.55	36.46	50.99	36.47	24.55	36.47	65- 70	266.2	12651	97.5,97.5
75	24.00	21.29	18.52	21.29	24.00	21.15	18.52	21.15	70- 75	158.1	12809	98.7,98.7
80	12.93	13.65	12.48	13.65	12.93	13.54	12.48	13.54	75- 80	96.36	12905	99.4,99.4
85	2.363	7.048	6.447	7.048	2.363	7.003	6.447	7.003	80- 85	53.76	12959	99.9,99.9
90	0.4879	0.4730	0.4114	0.4730	0.4879	0.5200	0.4114	0.5200	85- 90	18.78	12978	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): 8584.5 lm

%lum = 66.1%

%lamp = 66.1%

Conical surface Flux(120deg): 11914 lm

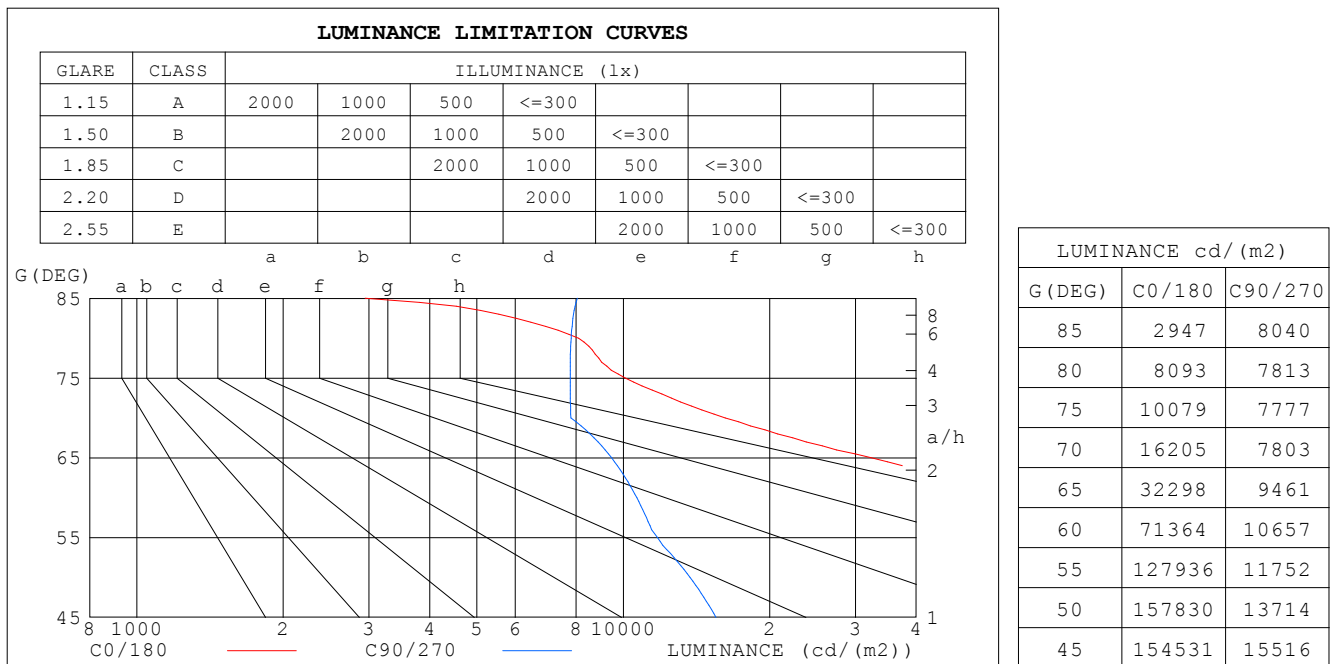
%lum = 91.8%

%lamp = 91.8%

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-09-26

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

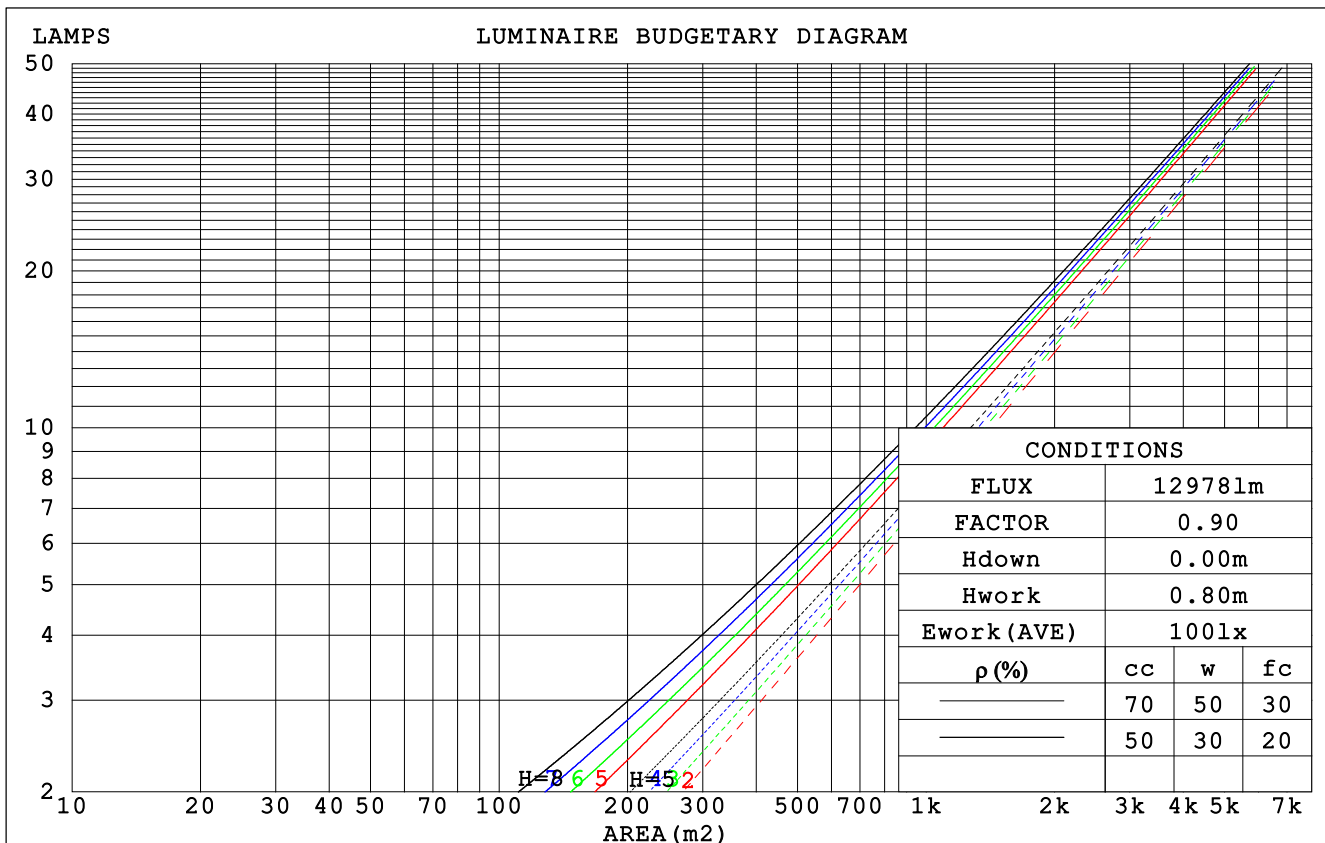


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-09-26

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	1.07	1.04	1.00	1.05	1.02	.99	1.01	.98	.96	.97	.95	.93	.93	.92	.90	.88
2.0	.96	.90	.85	.94	.89	.84	.90	.86	.82	.87	.84	.80	.84	.81	.79	.77
3.0	.86	.79	.73	.84	.78	.72	.81	.76	.71	.79	.74	.70	.76	.72	.69	.67
4.0	.77	.69	.63	.76	.69	.63	.73	.67	.62	.71	.66	.61	.69	.64	.61	.59
5.0	.70	.62	.56	.69	.61	.55	.66	.60	.55	.65	.59	.54	.63	.58	.54	.52
6.0	.63	.55	.49	.62	.55	.49	.61	.54	.49	.59	.53	.48	.57	.52	.48	.46
7.0	.58	.50	.44	.57	.49	.44	.56	.49	.44	.54	.48	.43	.53	.47	.43	.41
8.0	.53	.45	.40	.52	.45	.40	.51	.44	.39	.50	.44	.39	.49	.43	.39	.37
9.0	.49	.41	.36	.48	.41	.36	.47	.41	.36	.46	.40	.36	.45	.40	.36	.34
10.0	.45	.38	.33	.45	.38	.33	.44	.37	.33	.43	.37	.33	.42	.37	.33	.31



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-09-26

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	.249	.142	.045	.242	.138	.044	.229	.131	.042	.217	.125	.040	.206	.120	.039	
2.0	.242	.133	.041	.236	.130	.040	.225	.125	.039	.214	.120	.038	.205	.116	.037	
3.0	.230	.122	.037	.225	.120	.036	.215	.116	.035	.206	.113	.035	.197	.109	.034	
4.0	.217	.113	.033	.212	.111	.033	.204	.108	.032	.195	.105	.032	.188	.102	.031	
5.0	.204	.104	.030	.200	.103	.030	.192	.100	.029	.185	.098	.029	.178	.095	.029	
6.0	.192	.096	.028	.188	.095	.027	.181	.093	.027	.175	.091	.027	.169	.089	.026	
7.0	.181	.089	.025	.177	.088	.025	.171	.087	.025	.165	.085	.025	.160	.083	.024	
8.0	.170	.083	.023	.167	.082	.023	.162	.081	.023	.157	.079	.023	.152	.078	.023	
9.0	.161	.078	.022	.158	.077	.022	.153	.076	.021	.149	.074	.021	.144	.073	.021	
10.0	.152	.073	.020	.150	.072	.020	.145	.071	.020	.141	.070	.020	.137	.069	.020	

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	.176	.157	.139	.151	.134	.120	.103	.093	.083	.059	.054	.048	.019	.017	.016	
2.0	.166	.132	.104	.142	.114	.090	.097	.079	.063	.056	.046	.037	.018	.015	.012	
3.0	.157	.114	.080	.134	.098	.069	.092	.068	.049	.053	.040	.029	.017	.013	.009	
4.0	.149	.100	.063	.128	.087	.055	.088	.060	.039	.051	.035	.023	.016	.012	.008	
5.0	.142	.090	.051	.122	.077	.044	.084	.054	.031	.049	.032	.019	.016	.010	.006	
6.0	.135	.081	.042	.116	.070	.037	.080	.049	.026	.046	.029	.015	.015	.009	.005	
7.0	.129	.074	.036	.111	.064	.031	.076	.045	.022	.044	.026	.013	.014	.009	.004	
8.0	.123	.068	.031	.106	.059	.027	.073	.041	.019	.042	.024	.011	.014	.008	.004	
9.0	.117	.063	.027	.101	.055	.023	.070	.039	.017	.041	.023	.010	.013	.007	.003	
10.0	.112	.059	.024	.096	.051	.021	.067	.036	.015	.039	.021	.009	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-09-26

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	30.0	31.3	30.3	31.5	31.7	18.5	19.8	18.7	20.0	20.2
3H	30.0	31.3	30.3	31.5	31.7	19.1	20.3	19.4	20.6	20.8
4H	30.0	31.1	30.3	31.4	31.6	19.4	20.5	19.7	20.8	21.0
6H	29.9	31.0	30.2	31.2	31.5	19.7	20.7	20.0	21.0	21.3
8H	29.8	30.9	30.2	31.2	31.4	19.8	20.8	20.1	21.1	21.4
12H	29.8	30.8	30.1	31.1	31.4	19.8	20.9	20.2	21.1	21.4
4H 2H	29.7	30.9	30.0	31.1	31.4	19.7	20.9	20.0	21.1	21.4
3H	29.8	30.8	30.2	31.1	31.4	20.4	21.4	20.7	21.7	22.0
4H	29.8	30.7	30.2	31.0	31.3	20.7	21.6	21.1	21.9	22.2
6H	29.7	30.6	30.1	30.9	31.3	21.0	21.8	21.4	22.2	22.5
8H	29.7	30.5	30.1	30.8	31.2	21.2	21.9	21.6	22.3	22.6
12H	29.7	30.4	30.1	30.7	31.1	21.3	21.9	21.7	22.3	22.7
8H 4H	29.7	30.4	30.1	30.8	31.2	20.9	21.7	21.3	22.0	22.4
6H	29.7	30.3	30.1	30.7	31.1	21.4	22.0	21.8	22.4	22.8
8H	29.6	30.2	30.1	30.6	31.0	21.6	22.1	22.0	22.5	23.0
12H	29.6	30.1	30.1	30.5	31.0	21.8	22.2	22.3	22.7	23.2
12H 4H	29.6	30.3	30.1	30.7	31.1	20.9	21.6	21.4	22.0	22.4
6H	29.6	30.2	30.1	30.6	31.0	21.4	22.0	21.9	22.4	22.8
8H	29.6	30.1	30.1	30.5	31.0	21.7	22.1	22.2	22.6	23.1
Variations with the observer position at spacings:										
S = 1.0H	+ 0.7 / - 1.4					+ 0.7 / - 0.9				
1.5H	+ 3.3 / - 5.5					+ 0.5 / - 0.7				
2.0H	+ 4.3 / - 7.4					+ 0.7 / - 0.8				

CIE Pub.117 Corrected 12978 lm Total Lamp Luminous Flux.(8log(F/F0) = 8.9)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-09-26

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:

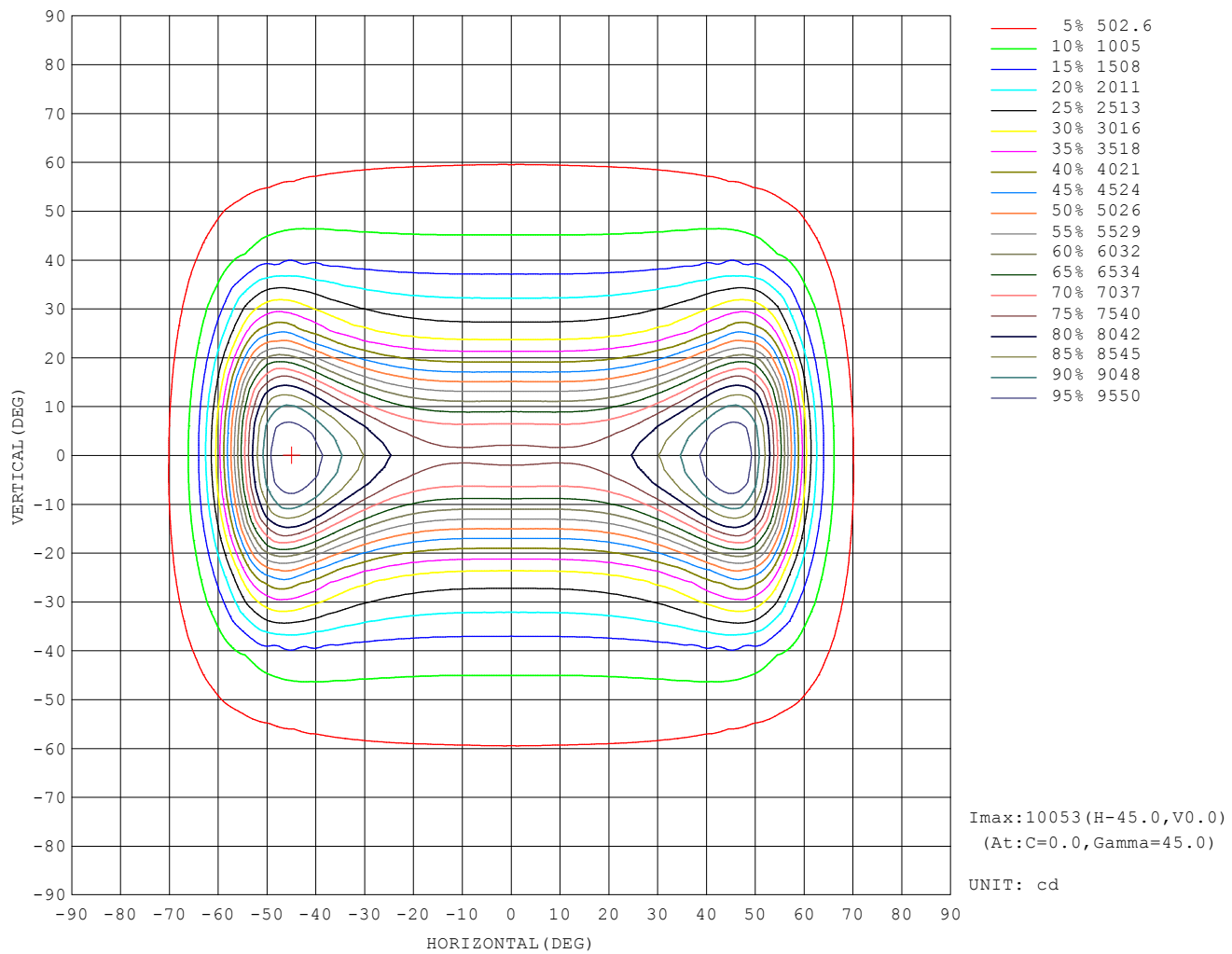
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	63	53	46	62	52	46	61	52	46	40
0.80	74	64	57	73	63	57	71	62	56	50
1.00	83	73	67	82	73	67	79	73	66	60
1.25	90	81	75	88	80	74	86	79	74	67
1.50	94	86	80	93	85	80	90	83	79	72
2.00	100	93	88	98	92	87	95	90	86	79
2.50	103	97	92	101	95	91	98	93	89	82
3.00	106	100	96	104	99	95	100	96	93	85
4.00	109	104	101	107	103	99	103	99	97	88
5.00	111	107	103	108	105	102	104	101	99	90
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: 2017-09-26

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:

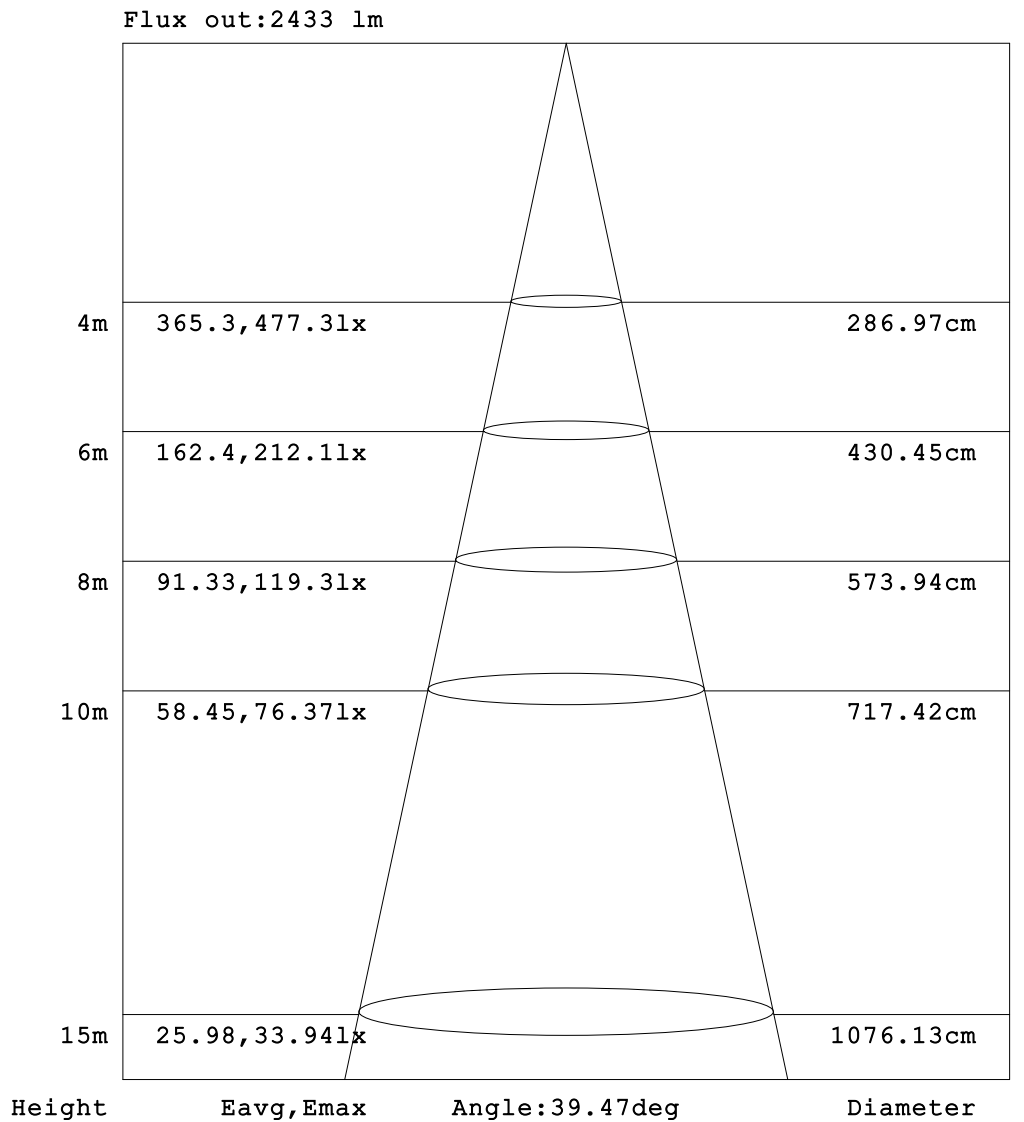
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-09-26

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

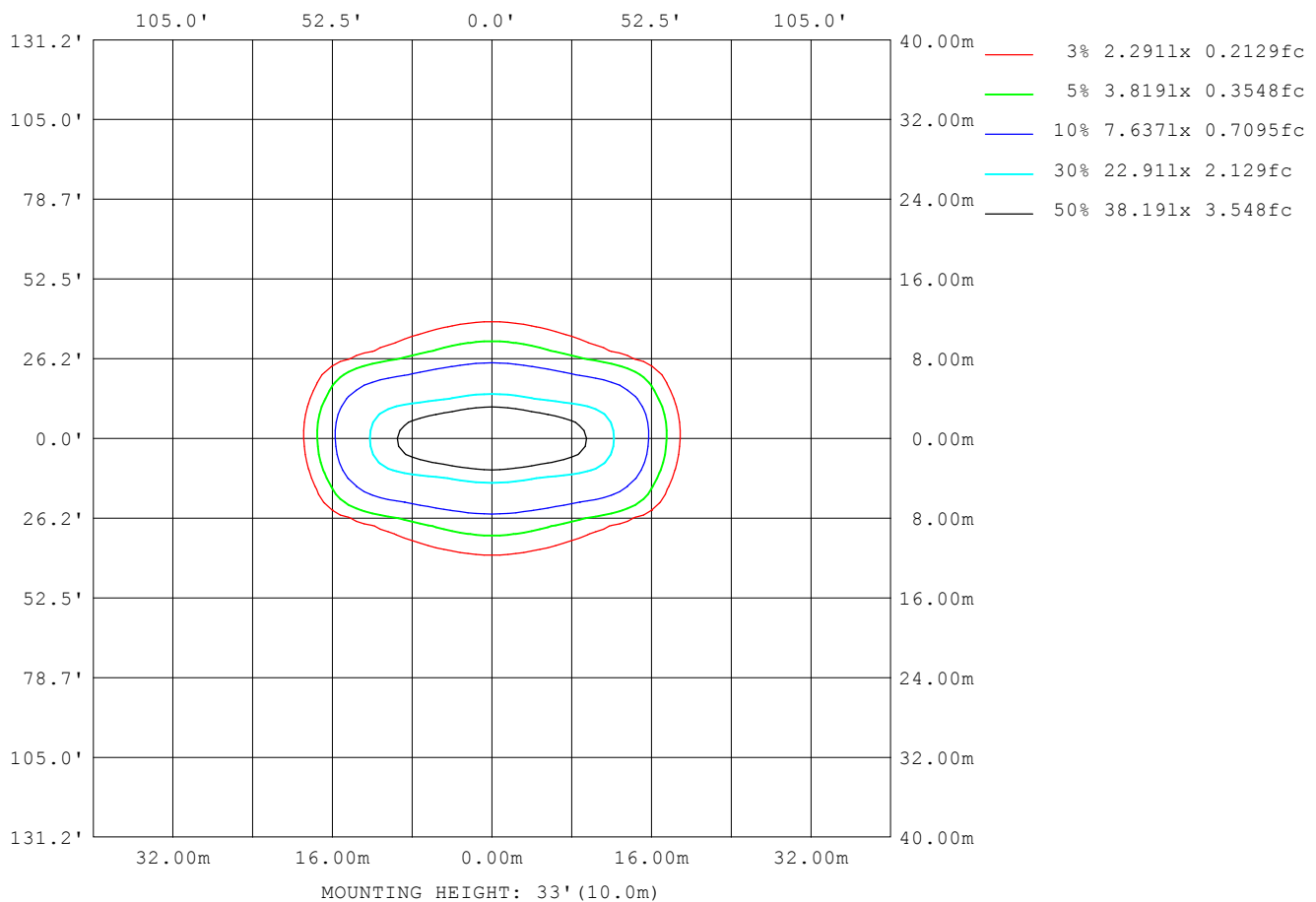


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-09-26

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: 2017-09-26

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:230.1V I:0.4112A P:90.98W PF:0.9619 Lamp Flux:12977.6x1 lm		
NAME: LHB01-90H	TYPE:90W	WEIGHT:
SPEC.:5000K Ra80 L06404	DIM.: 0.718*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.7*0.1	Shielding Angle:

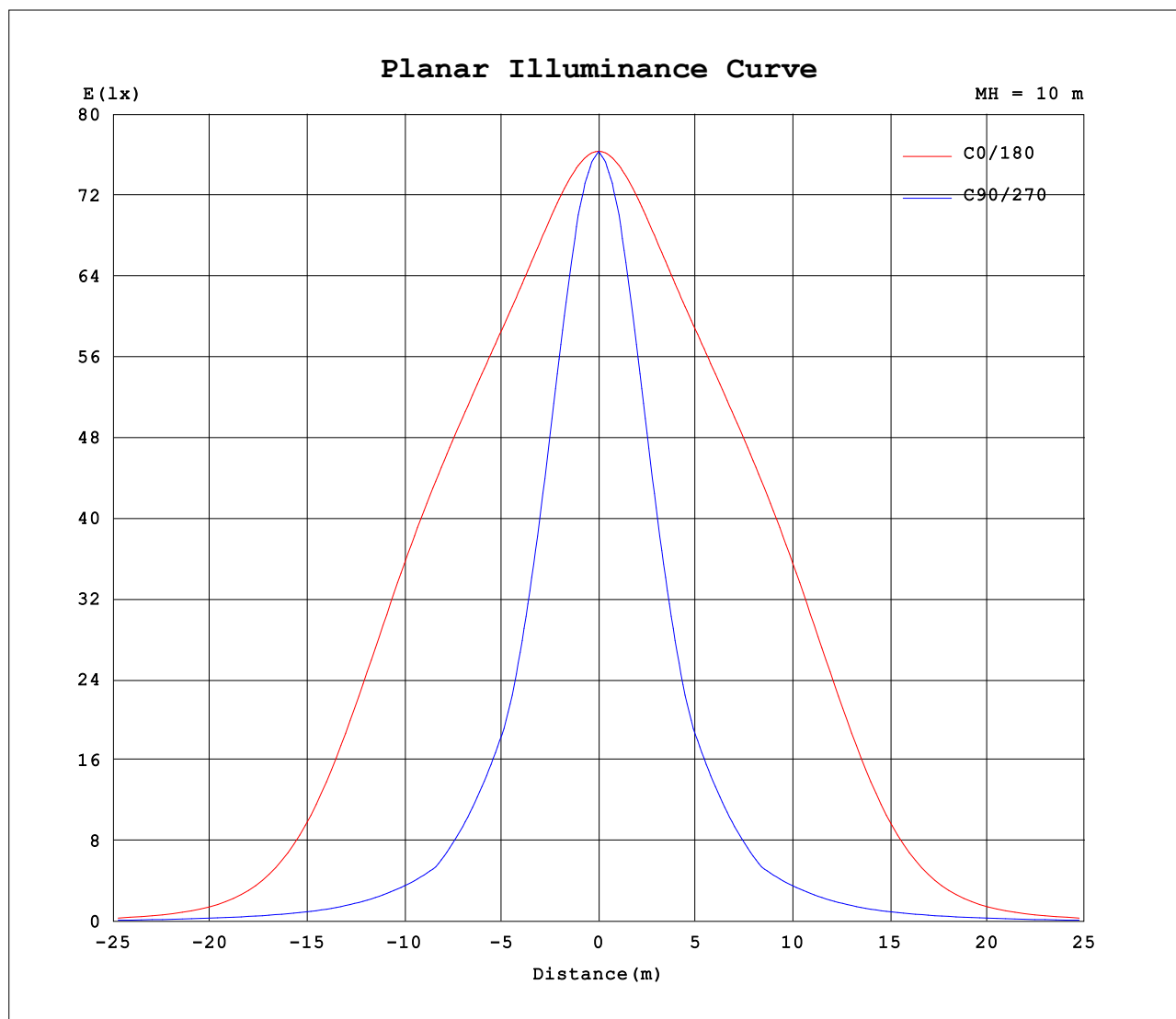
AvgL	cd/m2
L_0~180 (65) av	32298
L_0~180 (75) av	10079
L_0~180 (85) av	2947
L_90~270 (65) av	9461
L_90~270 (75) av	7777
L_90~270 (85) av	8040
L_45 (65) av	13233
L_45 (75) av	8913
L_45 (85) av	8762

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-09-26

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: 2017-09-26

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:

```

```

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:

```