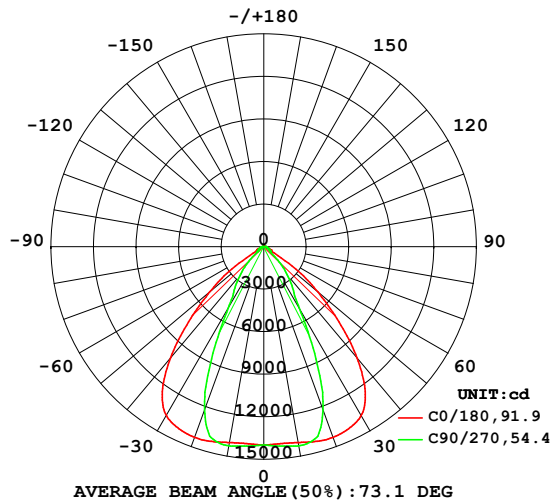


LUMINAIRE PHOTOMETRIC TEST REPORT

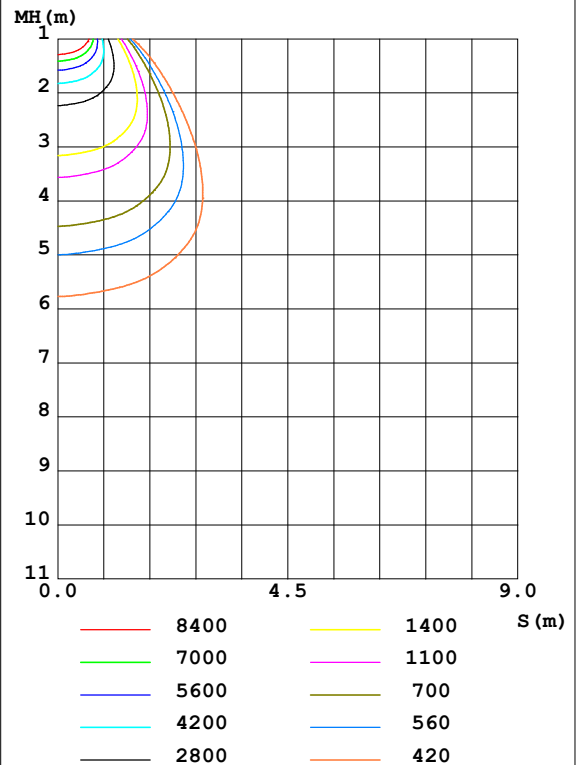
Test:U:229.9V I:0.8011A P:177.9W PF:0.9660 Lamp Flux:24463.7x1 lm		
NAME: LHB01-180	TYPE:180W	WEIGHT:
SPEC.:5000K Ra70 6090DEG L02802	DIM.: 0.718*0.275*0.102	SERIAL No.:
MFR.:	SUR.:0.255*0.69	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 137.50 lm/W			
MODEL	LHB01-180	Imax(cd)	16885	S/MH(C0/180)	1.30
NOMINAL POWER(W)	180	LOR(%)	100.0	S/MH(C90/270)	0.80
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	24464	η UP,DN(C0-180)	0.0,49.9
NOMINAL FLUX(lm)	24463.7	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.1
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.00
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	1395	1407	1412	1407	1395	1409	1412	1409	0- 5	335.5	335.5	1.37,1.37
10	1403	1427	1426	1427	1403	1435	1426	1435	5- 10	1013	1348	5.51,5.51
15	1422	1472	1402	1472	1422	1492	1402	1492	10- 15	1708	3056	12.5,12.5
20	1431	1540	1226	1540	1431	1566	1226	1566	15- 20	2397	5452	22.3,22.3
25	1417	1534	874.2	1534	1417	1553	874.2	1553	20- 25	2940	8392	34.3,34.3
30	1375	1375	502.2	1375	1375	1388	502.2	1388	25- 30	3184	11577	47.3,47.3
35	1248	1043	357.6	1043	1248	1042	357.6	1042	30- 35	3143	14720	60.2,60.2
40	1024	690.1	259.6	690.1	1024	675.4	259.6	675.4	35- 40	2931	17651	72.2,72.2
45	750.9	520.1	161.6	520.1	750.9	511.9	161.6	511.9	40- 45	2494	20145	82.3,82.3
50	497.8	364.9	63.57	364.9	497.8	364.5	63.57	364.5	45- 50	1842	21987	89.9,89.9
55	275.7	198.5	53.66	198.5	275.7	202.4	53.66	202.4	50- 55	1119	23107	94.5,94.5
60	60.93	57.49	43.76	57.49	60.93	59.97	43.76	59.97	55- 60	566.0	23673	96.8,96.8
65	53.80	44.71	33.85	44.71	53.80	46.60	33.85	46.60	60- 65	297.7	23970	98,98
70	31.16	31.50	23.95	31.50	31.16	32.71	23.95	32.71	65- 70	194.6	24165	98.8,98.8
75	19.56	18.32	19.79	18.32	19.56	18.68	19.79	18.68	70- 75	130.3	24295	99.3,99.3
80	10.65	12.02	15.64	12.02	10.65	12.20	15.64	12.20	75- 80	88.02	24383	99.7,99.7
85	3.697	6.562	11.49	6.562	3.697	6.678	11.49	6.678	80- 85	55.86	24439	99.9,99.9
90	0.3714	1.073	7.332	1.073	0.3714	1.121	7.332	1.121	85- 90	24.70	24464	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): 20145 lm

%lum = 82.3%

%lamp = 82.3%

Conical surface Flux(120deg): 23673 lm

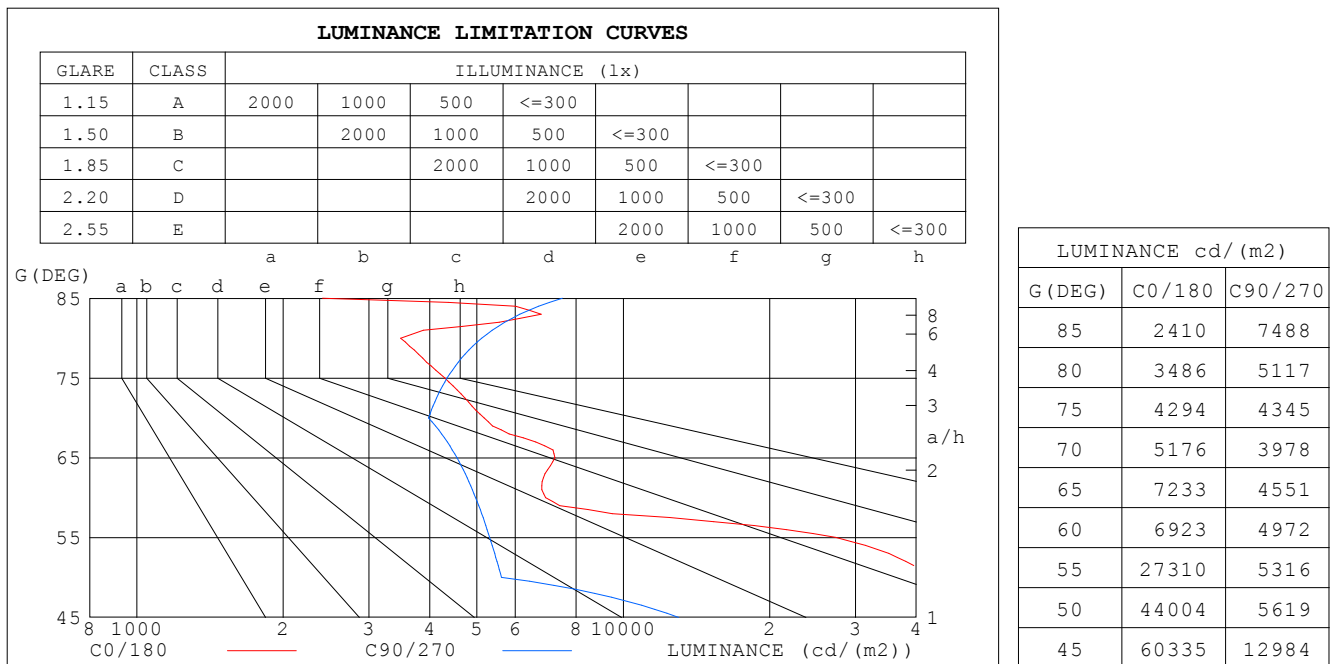
%lum = 96.8%

%lamp = 96.8%

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

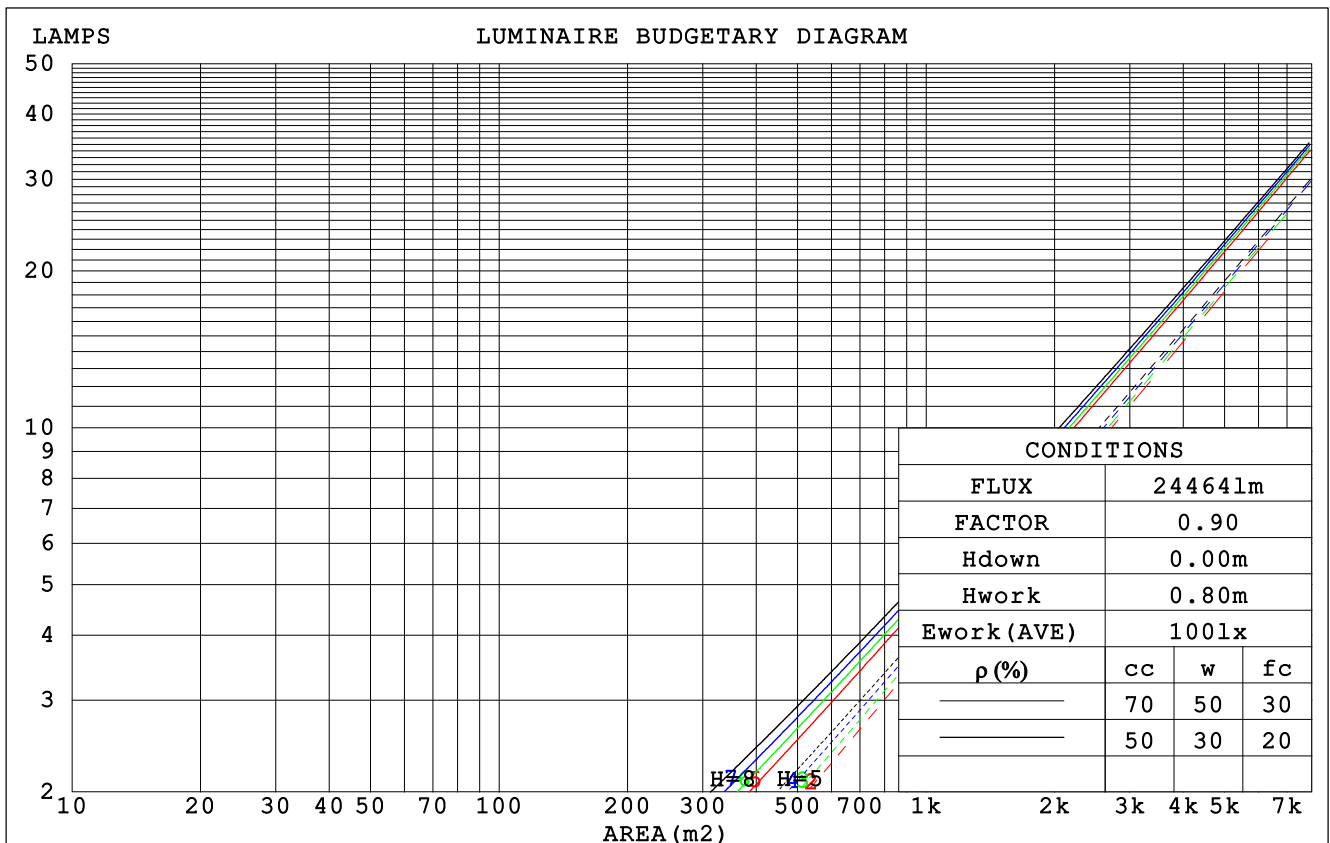


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-24

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

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	1.09	1.06	1.03	1.07	1.04	1.01	1.02	1.00	.98	.99	.97	.95	.95	.94	.92	.91
2.0	.99	.94	.90	.97	.93	.89	.94	.90	.87	.91	.88	.85	.88	.85	.83	.81
3.0	.90	.84	.79	.89	.83	.78	.86	.81	.77	.83	.79	.76	.81	.78	.75	.73
4.0	.82	.75	.70	.81	.75	.70	.79	.73	.69	.77	.72	.68	.75	.71	.67	.66
5.0	.75	.68	.63	.74	.68	.63	.72	.67	.62	.71	.66	.61	.69	.64	.61	.59
6.0	.69	.62	.57	.68	.62	.57	.67	.61	.56	.65	.60	.56	.64	.59	.55	.54
7.0	.64	.57	.52	.63	.56	.51	.62	.56	.51	.60	.55	.51	.59	.54	.50	.49
8.0	.59	.52	.47	.58	.52	.47	.57	.51	.47	.56	.51	.46	.55	.50	.46	.45
9.0	.55	.48	.43	.54	.48	.43	.53	.47	.43	.52	.47	.43	.51	.46	.42	.41
10.0	.51	.44	.40	.51	.44	.40	.50	.44	.39	.49	.43	.39	.48	.43	.39	.38



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	.217	.123	.039	.210	.120	.038	.198	.113	.036	.186	.107	.034	.175	.101	.033	
2.0	.211	.115	.035	.205	.113	.035	.194	.108	.033	.184	.103	.032	.174	.099	.031	
3.0	.201	.107	.032	.196	.105	.032	.187	.101	.031	.178	.097	.030	.170	.094	.029	
4.0	.191	.099	.029	.187	.098	.029	.179	.095	.028	.171	.092	.028	.164	.089	.027	
5.0	.182	.093	.027	.178	.091	.027	.170	.089	.026	.163	.086	.026	.157	.084	.025	
6.0	.172	.086	.025	.169	.085	.025	.162	.083	.024	.156	.081	.024	.151	.079	.024	
7.0	.164	.081	.023	.161	.080	.023	.155	.078	.023	.149	.077	.022	.144	.075	.022	
8.0	.156	.076	.021	.153	.075	.021	.148	.074	.021	.143	.072	.021	.138	.071	.021	
9.0	.148	.072	.020	.146	.071	.020	.141	.070	.020	.137	.068	.020	.132	.067	.019	
10.0	.141	.068	.019	.139	.067	.019	.135	.066	.019	.131	.065	.018	.127	.064	.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	.084	.059	.054	.049	.019	.017	.016	
2.0	.161	.132	.108	.138	.114	.093	.095	.079	.065	.055	.046	.038	.018	.015	.012	
3.0	.151	.114	.084	.130	.098	.073	.089	.068	.051	.051	.040	.030	.017	.013	.010	
4.0	.143	.100	.067	.122	.086	.058	.084	.060	.041	.049	.035	.024	.016	.011	.008	
5.0	.135	.089	.054	.116	.077	.047	.080	.054	.033	.046	.031	.020	.015	.010	.007	
6.0	.128	.080	.045	.110	.069	.039	.076	.048	.028	.044	.028	.017	.014	.009	.005	
7.0	.122	.073	.038	.105	.063	.033	.073	.044	.023	.042	.026	.014	.014	.009	.005	
8.0	.117	.067	.033	.100	.058	.028	.069	.041	.020	.040	.024	.012	.013	.008	.004	
9.0	.111	.062	.028	.096	.054	.025	.067	.038	.017	.039	.022	.010	.013	.007	.003	
10.0	.107	.058	.025	.092	.050	.022	.064	.035	.015	.037	.021	.009	.012	.007	.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	25.3	26.5	25.6	26.7	26.9	18.0	19.2	18.2	19.4	19.5
3H	25.2	26.3	25.5	26.5	26.7	18.1	19.2	18.3	19.4	19.6
4H	25.1	26.2	25.4	26.4	26.6	18.1	19.1	18.4	19.4	19.6
6H	25.1	26.0	25.4	26.3	26.5	18.2	19.2	18.5	19.4	19.7
8H	25.0	25.9	25.3	26.2	26.5	18.3	19.2	18.6	19.4	19.7
12H	25.0	25.9	25.3	26.1	26.4	18.3	19.2	18.7	19.5	19.8
4H 2H	25.1	26.1	25.4	26.3	26.6	18.3	19.4	18.6	19.6	19.8
3H	25.0	25.9	25.3	26.2	26.4	18.5	19.4	18.8	19.6	19.9
4H	24.9	25.7	25.3	26.0	26.4	18.6	19.4	19.0	19.7	20.0
6H	24.9	25.6	25.3	25.9	26.3	18.8	19.5	19.1	19.8	20.2
8H	24.9	25.5	25.3	25.9	26.2	18.8	19.5	19.2	19.9	20.2
12H	24.8	25.4	25.2	25.8	26.2	19.0	19.5	19.4	19.9	20.3
8H 4H	24.8	25.5	25.2	25.8	26.2	18.6	19.3	19.0	19.6	20.0
6H	24.8	25.3	25.2	25.7	26.1	18.8	19.4	19.3	19.8	20.2
8H	24.8	25.2	25.2	25.7	26.1	19.0	19.5	19.4	19.9	20.3
12H	24.7	25.1	25.2	25.6	26.1	19.2	19.6	19.6	20.0	20.5
12H 4H	24.8	25.4	25.2	25.7	26.1	18.6	19.2	19.0	19.6	19.9
6H	24.7	25.2	25.2	25.6	26.1	18.8	19.3	19.3	19.7	20.2
8H	24.7	25.1	25.2	25.6	26.0	19.0	19.4	19.5	19.9	20.3
Variations with the observer position at spacings:										
S = 1.0H	+ 2.3 / - 4.4					+ 1.8 / - 3.0				
1.5H	+ 2.3 / - 3.3					+ 3.2 / - 3.6				
2.0H	+ 5.2 / - 7.9					+ 3.4 / - 1.7				

CIE Pub.117 Corrected 24464 lm Total Lamp Luminous Flux.(8log(F/F0) = 11.1)

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:

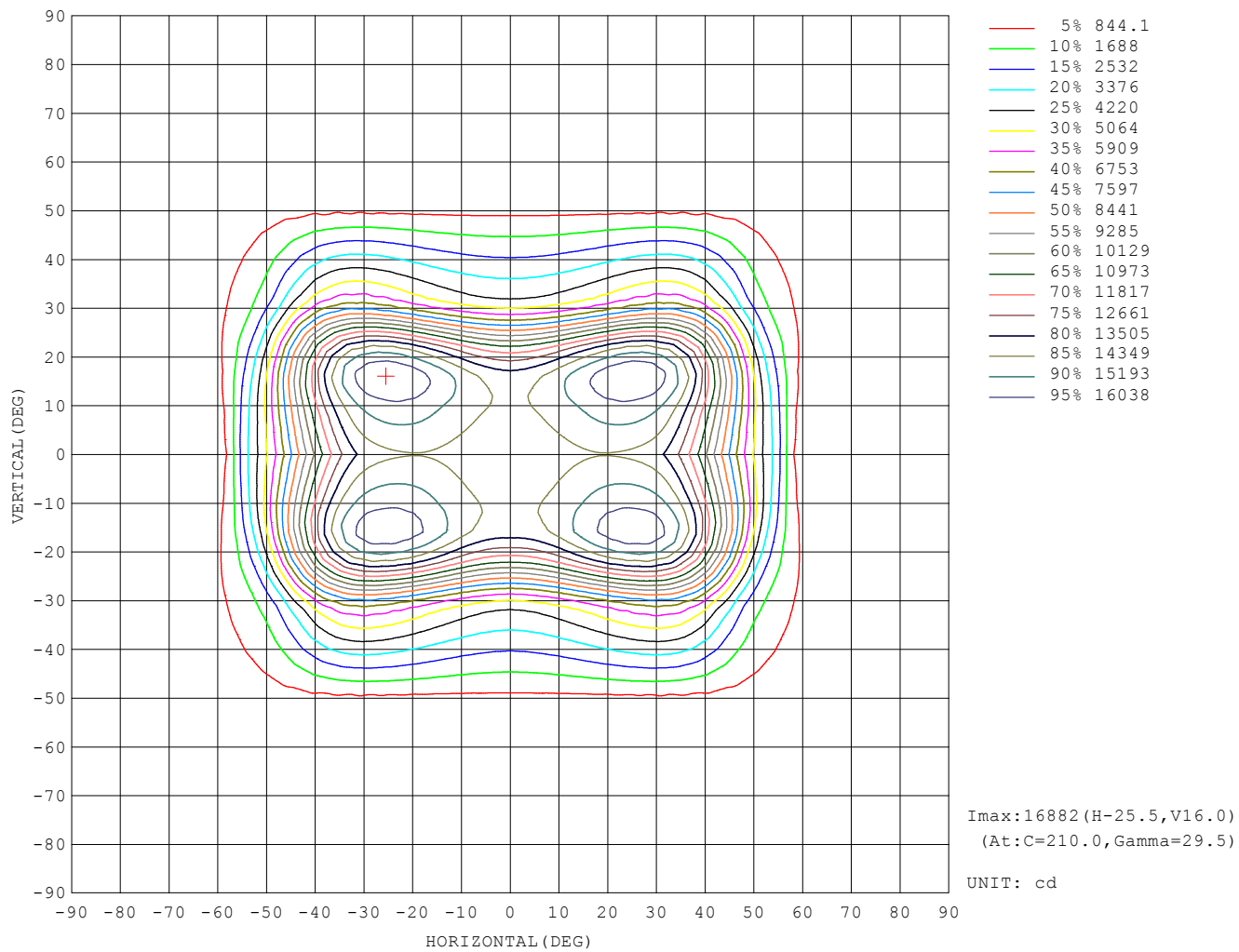
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	74	65	60	73	65	60	72	64	59	55
0.80	83	75	70	82	75	69	81	74	69	64
1.00	90	83	78	89	82	77	87	83	77	72
1.25	96	89	84	95	88	84	93	87	83	78
1.50	100	93	89	98	92	88	96	91	87	82
2.00	104	99	94	103	98	94	100	96	92	86
2.50	107	101	97	105	100	97	101	98	95	88
3.00	109	104	101	107	103	100	103	100	97	90
4.00	111	107	104	109	106	103	105	103	100	93
5.00	113	109	107	110	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: 2017-03-24

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:

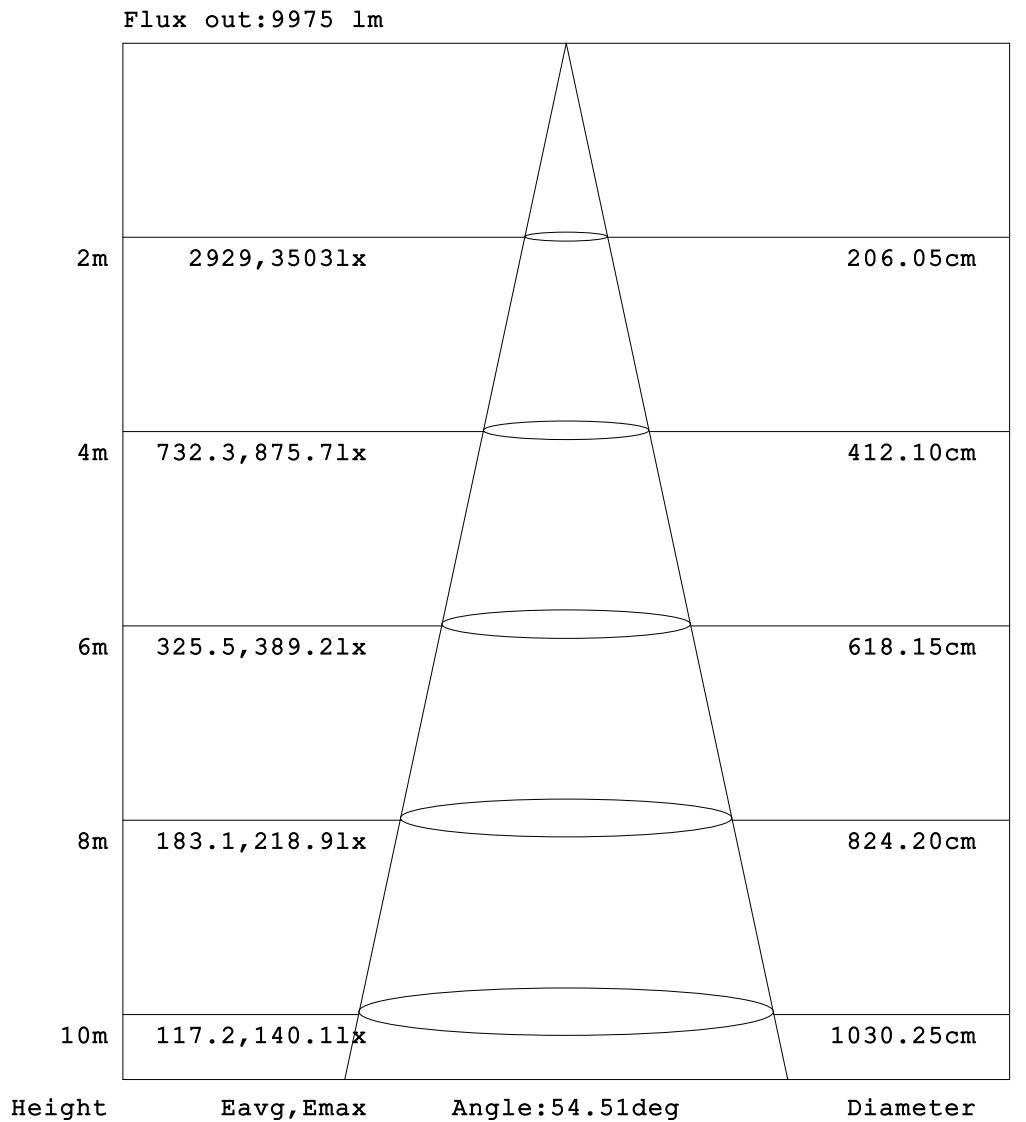
ISOCANDELA DIAGRAM



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

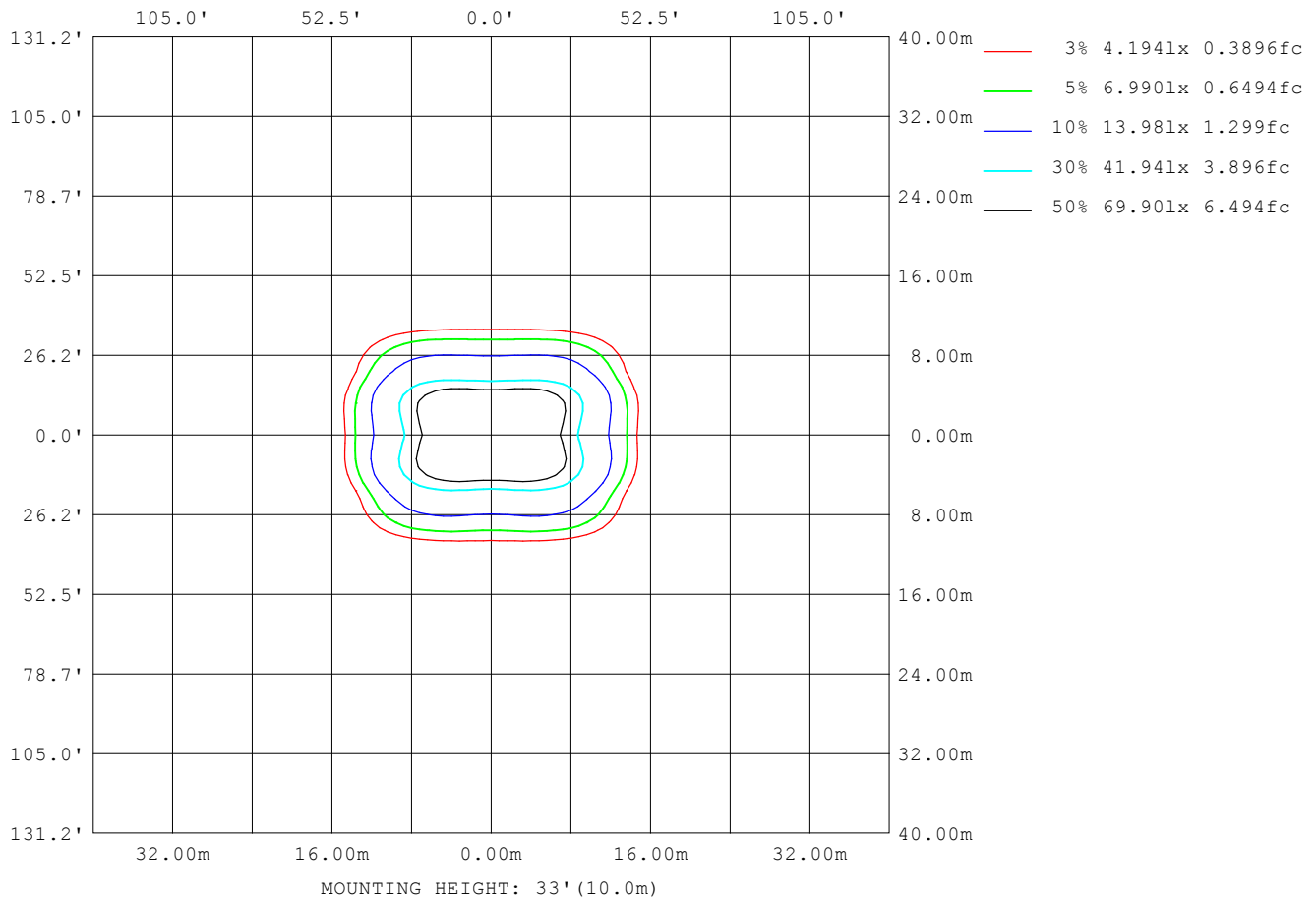


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

γ Range: 0 - 90 DEG
 γ Interval: 0.5 DEG
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:0.8011A P:177.9W PF:0.9660 Lamp Flux:24463.7x1 lm		
NAME: LHB01-180	TYPE:180W	WEIGHT:
SPEC.:5000K Ra70 6090DEG L02802	DIM.: 0.718*0.275*0.102	SERIAL No.:
MFR.:	SUR.:0.255*0.69	Shielding Angle:

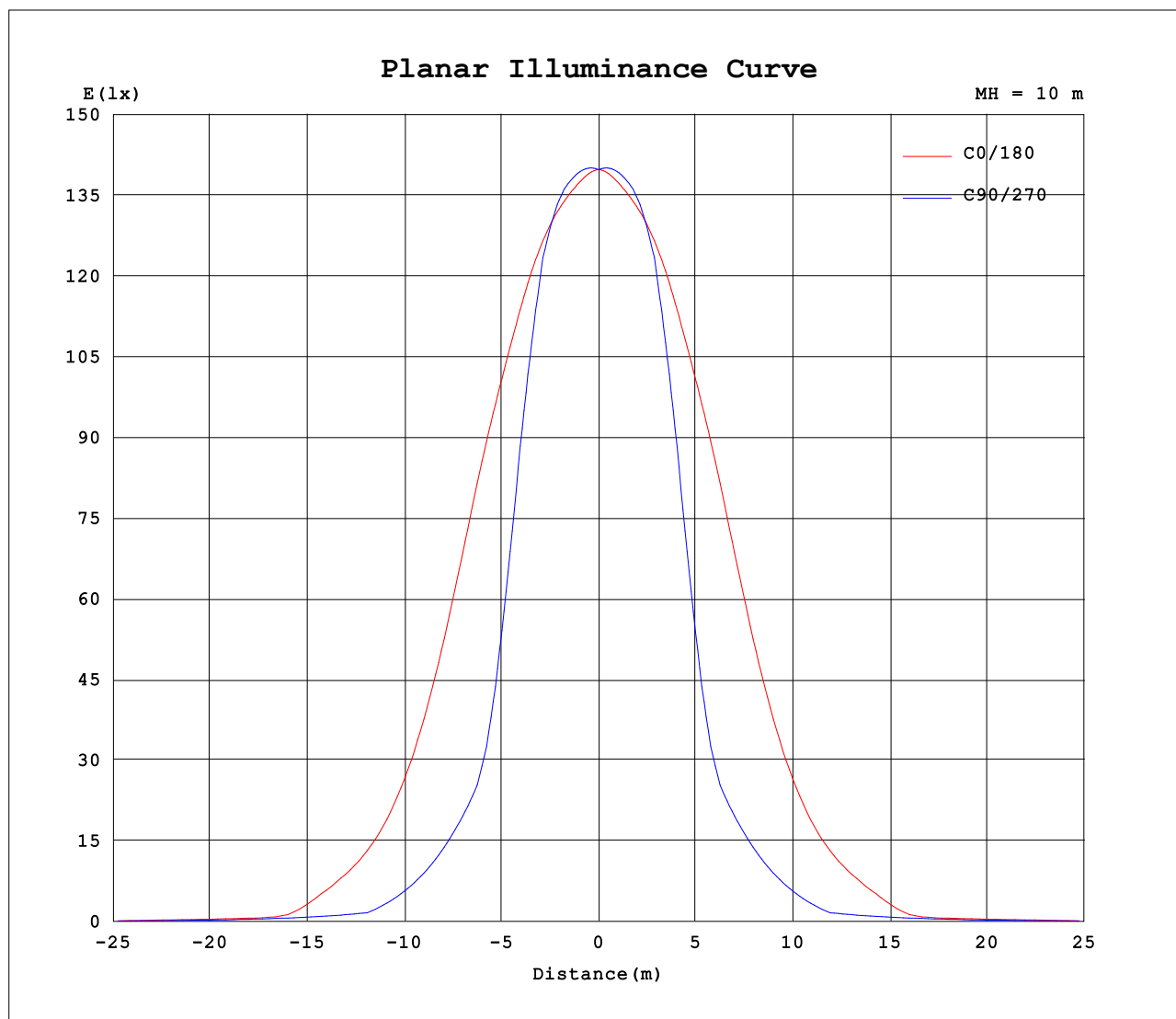
AvgL	cd/m2
L_0~180 (65) av	7233
L_0~180 (75) av	4294
L_0~180 (85) av	2410
L_90~270 (65) av	4551
L_90~270 (75) av	4345
L_90~270 (85) av	7488
L_45 (65) av	6138
L_45 (75) av	4062
L_45 (85) av	4316

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:

```

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:

```

```

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:

```

LUMINOUS DISTRIBUTION INTENSITY DATA

Table--3

UNIT: $\times 10 \text{cd}$ [illegible]

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:

```

UNIT: $\times 10 \text{cd}$

```

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