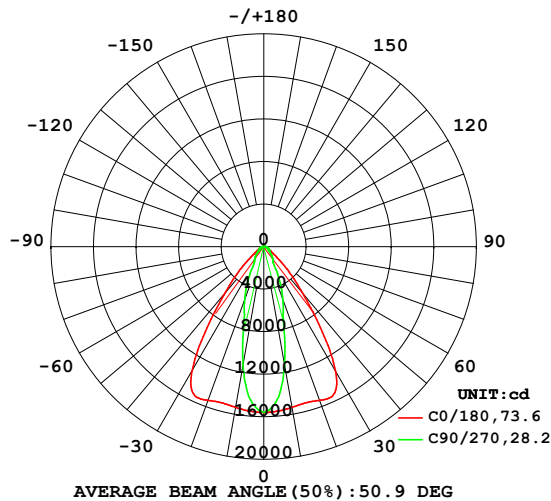


LUMINAIRE PHOTOMETRIC TEST REPORT

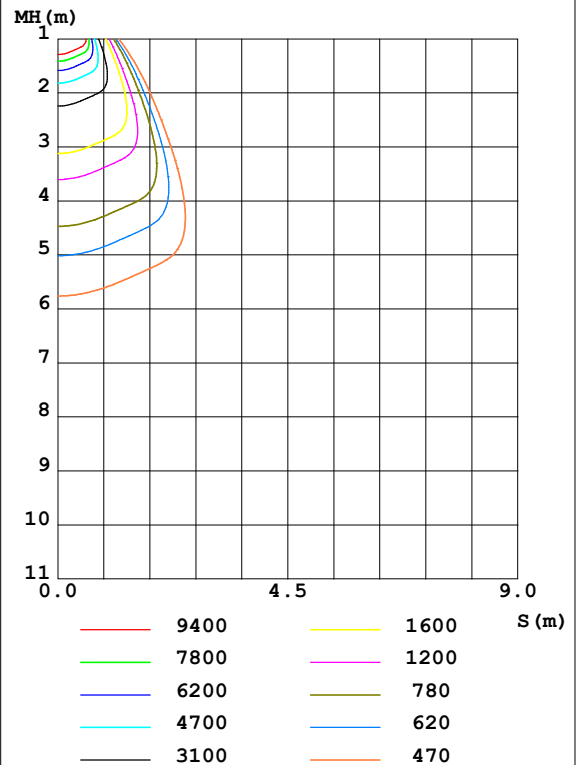
Test:U:230.0V I:0.4083A P:90.64W PF:0.9653 Lamp Flux:13243x1 lm		
NAME: LHB01-90H	TYPE:90W	WEIGHT:
SPEC.:4000K Ra80 3070DEG L06401	DIM.: 0.718*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.7*0.1	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 146.10 lm/W			
MODEL	LHB01-90H	I _{max} (cd)	15598	S/MH (C0/180)	1.07
NOMINAL POWER(W)	90	LOR(%)	100.0	S/MH (C90/270)	0.48
RATED VOLTAGE(V)	230	TOTAL FLUX (lm)	13243	η UP,DN (C0-180)	0.0,49.8
NOMINAL FLUX(lm)	13243	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0,50.2
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	0.60

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:2017-06-05

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	1552	1492	1447	1492	1552	1495	1447	1495	0- 5	364.2	364.2	2.75,2.75
10	1534	1325	1131	1325	1534	1332	1131	1332	5- 10	1010	1375	10.4,10.4
15	1522	1062	726.1	1062	1522	1065	726.1	1065	10- 15	1429	2803	21.2,21.2
20	1538	771.4	526.7	771.4	1538	763.9	526.7	763.9	15- 20	1638	4441	33.5,33.5
25	1543	614.1	354.0	614.1	1543	598.9	354.0	598.9	20- 25	1778	6220	47,47
30	1351	477.7	181.2	477.7	1351	463.5	181.2	463.5	25- 30	1764	7984	60.3,60.3
35	931.3	311.0	152.5	311.0	931.3	308.0	152.5	308.0	30- 35	1490	9474	71.5,71.5
40	565.0	153.0	123.8	153.0	565.0	156.2	123.8	156.2	35- 40	1106	10580	79.9,79.9
45	340.0	124.6	95.06	124.6	340.0	126.4	95.06	126.4	40- 45	790.0	11370	85.9,85.9
50	177.9	97.58	66.35	97.58	177.9	97.99	66.35	97.99	45- 50	561.3	11932	90.1,90.1
55	90.03	71.42	57.64	71.42	90.03	70.94	57.64	70.94	50- 55	387.5	12319	93,93
60	53.28	47.98	48.93	47.98	53.28	46.95	48.93	46.95	55- 60	280.3	12600	95.1,95.1
65	35.00	37.74	40.22	37.74	35.00	37.08	40.22	37.08	60- 65	213.2	12813	96.8,96.8
70	23.07	27.37	31.51	27.37	23.07	27.10	31.51	27.10	65- 70	162.8	12976	98,98
75	14.84	17.09	23.77	17.09	14.84	17.22	23.77	17.22	70- 75	119.6	13095	98.9,98.9
80	8.450	11.09	16.03	11.09	8.450	11.24	16.03	11.24	75- 80	81.79	13177	99.5,99.5
85	0.4806	5.768	8.289	5.768	0.4806	5.888	8.289	5.888	80- 85	48.40	13226	99.9,99.9
90	0.1639	0.5248	0.5483	0.5248	0.1639	0.6101	0.5483	0.6101	85- 90	17.48	13243	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): 11370 lm

%lum = 85.9%

%lamp = 85.9%

Conical surface Flux(120deg): 12600 lm

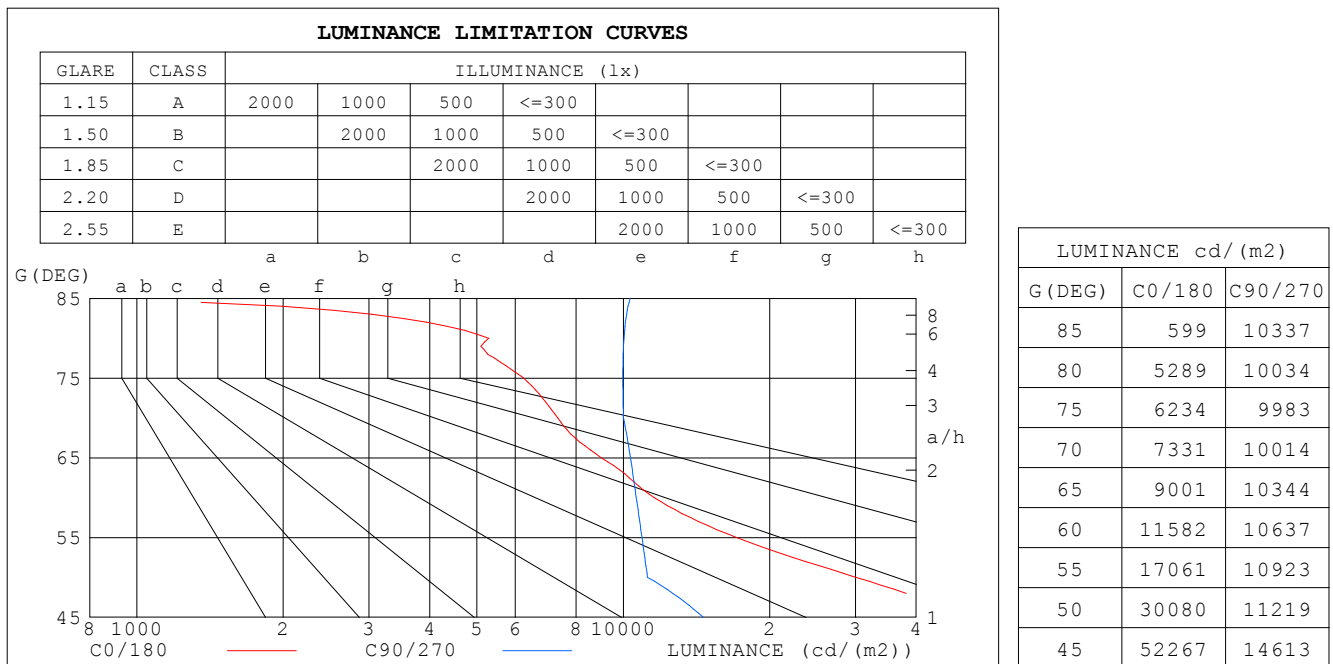
%lum = 95.1%

%lamp = 95.1%

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-06-05

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

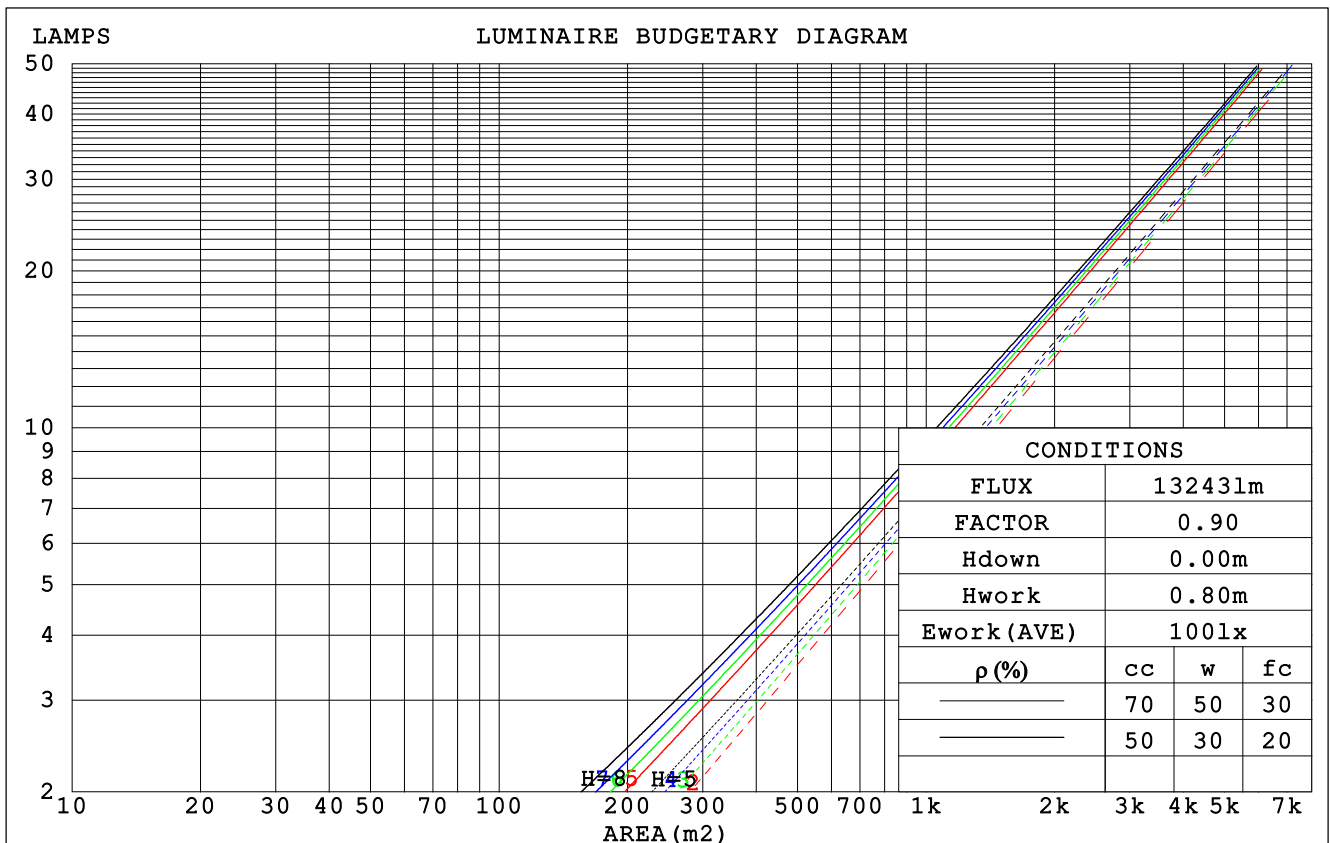


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-06-05

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	.00
1.0	1.09	1.06	1.04	1.07	1.04	1.02	1.03	1.01	.99	.99	.97	.96	.96	.94	.93	.91
2.0	1.00	.96	.92	.98	.94	.91	.95	.92	.89	.92	.89	.87	.89	.87	.85	.83
3.0	.92	.87	.82	.91	.86	.81	.88	.84	.80	.86	.82	.79	.83	.80	.78	.76
4.0	.85	.79	.74	.84	.78	.74	.82	.77	.73	.80	.76	.72	.78	.74	.71	.70
5.0	.79	.73	.68	.78	.72	.68	.76	.71	.67	.75	.70	.66	.73	.69	.66	.64
6.0	.74	.67	.62	.73	.67	.62	.71	.66	.62	.70	.65	.61	.69	.64	.61	.59
7.0	.69	.62	.58	.68	.62	.58	.67	.61	.57	.66	.61	.57	.65	.60	.57	.55
8.0	.65	.58	.54	.64	.58	.54	.63	.57	.53	.62	.57	.53	.61	.56	.53	.51
9.0	.61	.54	.50	.60	.54	.50	.59	.54	.50	.58	.53	.50	.58	.53	.49	.48
10.0	.57	.51	.47	.57	.51	.47	.56	.51	.47	.55	.50	.47	.55	.50	.46	.45



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-06-05

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	.207	.118	.037	.201	.114	.036	.188	.108	.034	.176	.102	.033	.165	.096	.031	
2.0	.198	.108	.033	.192	.106	.033	.181	.101	.031	.171	.096	.030	.162	.092	.029	
3.0	.187	.099	.030	.182	.097	.029	.173	.094	.028	.164	.090	.028	.156	.086	.027	
4.0	.176	.092	.027	.172	.090	.027	.164	.087	.026	.156	.084	.025	.149	.081	.025	
5.0	.167	.085	.025	.163	.084	.024	.156	.081	.024	.149	.079	.023	.143	.076	.023	
6.0	.158	.079	.023	.154	.078	.022	.148	.076	.022	.142	.074	.022	.137	.072	.021	
7.0	.149	.074	.021	.147	.073	.021	.141	.071	.021	.136	.070	.020	.131	.068	.020	
8.0	.142	.069	.020	.139	.069	.019	.134	.067	.019	.130	.066	.019	.125	.064	.019	
9.0	.135	.065	.018	.133	.065	.018	.128	.063	.018	.124	.062	.018	.120	.061	.018	
10.0	.129	.062	.017	.127	.061	.017	.123	.060	.017	.119	.059	.017	.115	.058	.017	

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	.173	.157	.142	.148	.135	.123	.101	.093	.085	.058	.054	.049	.019	.017	.016	
2.0	.160	.132	.109	.137	.114	.095	.094	.079	.066	.054	.046	.039	.017	.015	.013	
3.0	.148	.114	.086	.127	.098	.075	.087	.068	.052	.050	.040	.031	.016	.013	.010	
4.0	.139	.099	.069	.119	.086	.060	.082	.060	.042	.047	.035	.025	.015	.011	.008	
5.0	.131	.088	.057	.112	.076	.049	.077	.053	.035	.045	.031	.021	.014	.010	.007	
6.0	.123	.079	.047	.106	.068	.041	.073	.048	.029	.042	.028	.017	.014	.009	.006	
7.0	.117	.072	.040	.100	.062	.035	.069	.044	.025	.040	.026	.015	.013	.008	.005	
8.0	.111	.065	.034	.096	.057	.030	.066	.040	.021	.038	.024	.013	.012	.008	.004	
9.0	.106	.060	.030	.091	.052	.026	.063	.037	.018	.037	.022	.011	.012	.007	.004	
10.0	.101	.056	.026	.087	.049	.023	.060	.034	.016	.035	.020	.010	.011	.007	.003	

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-06-05

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	22.9	24.0	23.2	24.2	24.4	17.1	18.2	17.4	18.4	18.5
3H	23.0	24.0	23.2	24.2	24.4	18.3	19.3	18.6	19.5	19.7
4H	23.0	23.9	23.3	24.1	24.4	18.9	19.9	19.2	20.1	20.3
6H	23.0	23.8	23.3	24.1	24.3	19.5	20.3	19.8	20.6	20.9
8H	22.9	23.8	23.3	24.0	24.3	19.7	20.5	20.0	20.8	21.1
12H	22.9	23.7	23.2	24.0	24.3	19.9	20.7	20.2	20.9	21.2
4H 2H	22.8	23.7	23.1	24.0	24.2	17.6	18.6	17.9	18.8	19.0
3H	23.0	23.8	23.3	24.0	24.3	19.0	19.8	19.3	20.1	20.3
4H	23.0	23.8	23.4	24.1	24.4	19.7	20.4	20.0	20.7	21.0
6H	23.1	23.7	23.5	24.1	24.4	20.3	21.0	20.7	21.3	21.7
8H	23.1	23.7	23.5	24.0	24.4	20.6	21.2	21.0	21.6	22.0
12H	23.0	23.6	23.5	24.0	24.4	20.9	21.4	21.3	21.8	22.2
8H 4H	23.0	23.6	23.4	24.0	24.3	19.8	20.4	20.2	20.8	21.1
6H	23.1	23.6	23.5	24.0	24.4	20.6	21.1	21.0	21.5	21.9
8H	23.1	23.6	23.6	24.0	24.4	21.0	21.4	21.4	21.9	22.3
12H	23.1	23.5	23.6	24.0	24.4	21.3	21.7	21.8	22.2	22.6
12H 4H	23.0	23.5	23.4	23.9	24.3	19.8	20.4	20.2	20.7	21.1
6H	23.1	23.5	23.5	23.9	24.4	20.6	21.1	21.1	21.5	21.9
8H	23.1	23.5	23.6	24.0	24.4	21.1	21.4	21.5	21.9	22.3
Variations with the observer position at spacings:										
S = 1.0H	+ 3.2 / - 2.7					+ 0.4 / - 0.4				
1.5H	+ 4.5 / - 3.2					+ 0.3 / - 0.4				
2.0H	+ 4.8 / - 2.2					+ 0.4 / - 0.3				

CIE Pub.117 Corrected 13243 lm Total Lamp Luminous Flux.(8log(F/F0) = 9.0)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-06-05

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:

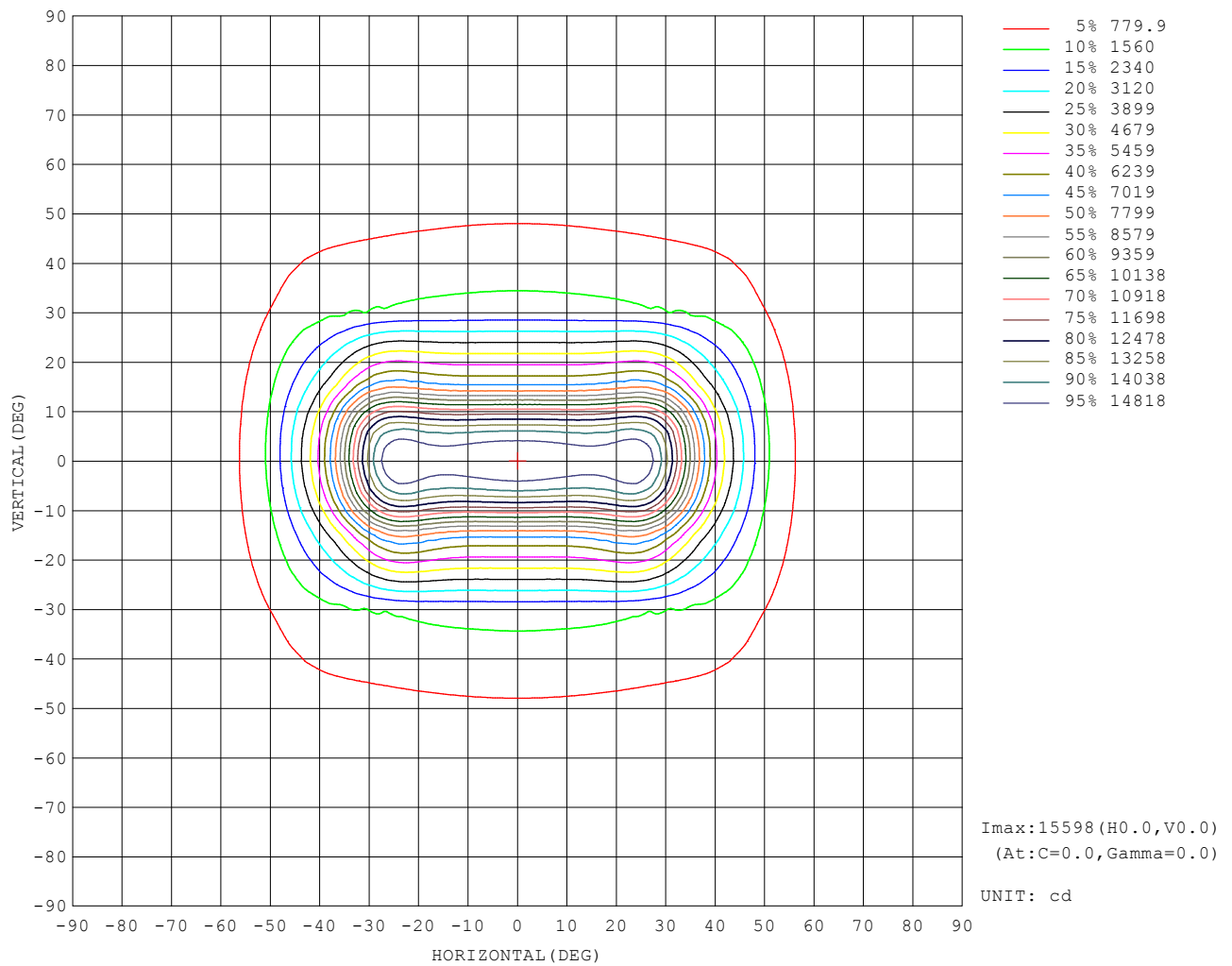
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	79	71	66	78	71	66	78	71	66	62
0.80	87	80	75	87	80	75	85	79	75	70
1.00	93	86	82	92	86	81	90	86	81	76
1.25	98	92	87	97	91	87	95	90	86	81
1.50	101	95	91	100	95	91	98	93	90	84
2.00	105	100	96	104	99	95	101	97	94	88
2.50	107	103	99	106	101	98	102	99	96	90
3.00	109	105	102	108	104	101	104	101	98	92
4.00	112	108	106	110	107	104	106	104	101	94
5.00	113	110	108	111	109	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: 2017-06-05

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:

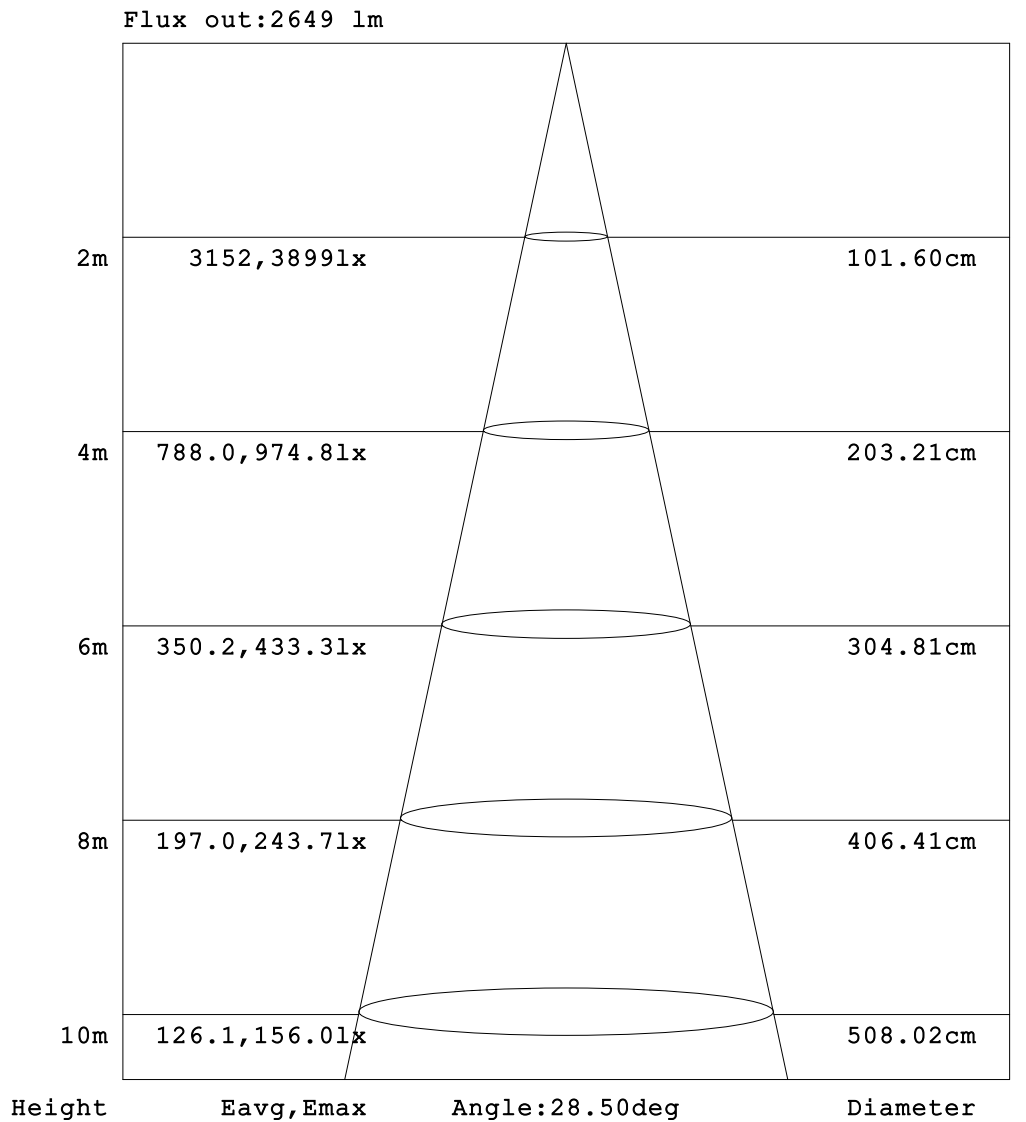
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-06-05

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

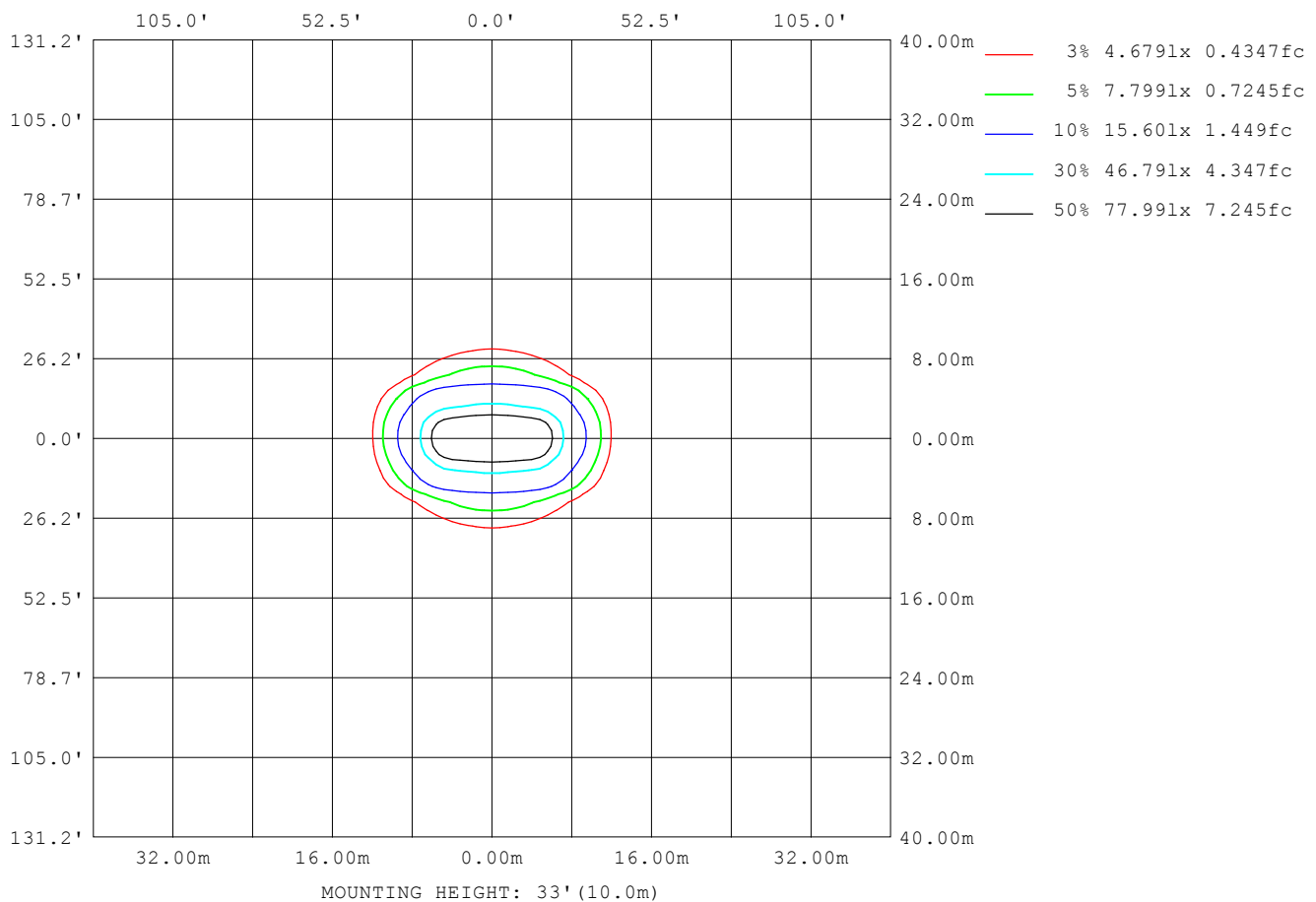


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-06-05

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: 2017-06-05

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:0.4083A P:90.64W PF:0.9653 Lamp Flux:13243x1 lm		
NAME: LHB01-90H	TYPE:90W	WEIGHT:
SPEC.:4000K Ra80 3070DEG L06401	DIM.: 0.718*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.7*0.1	Shielding Angle:

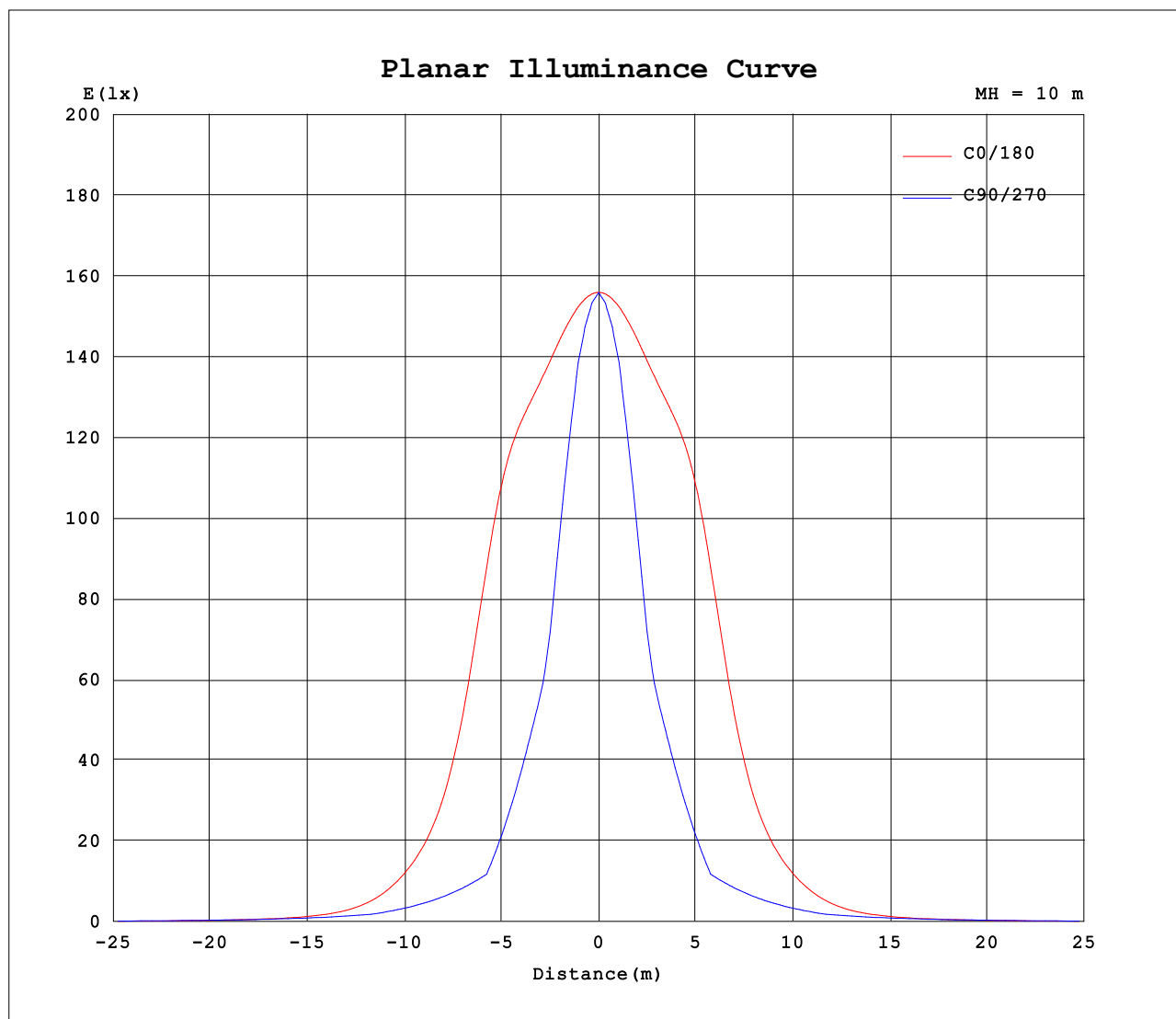
AvgL	cd/m2
L_0~180 (65) av	9001
L_0~180 (75) av	6234
L_0~180 (85) av	599
L_90~270 (65) av	10344
L_90~270 (75) av	9983
L_90~270 (85) av	10337
L_45 (65) av	9622
L_45 (75) av	7205
L_45 (85) av	7268

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-06-05

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: 2017-06-05

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:

```

```

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:

```