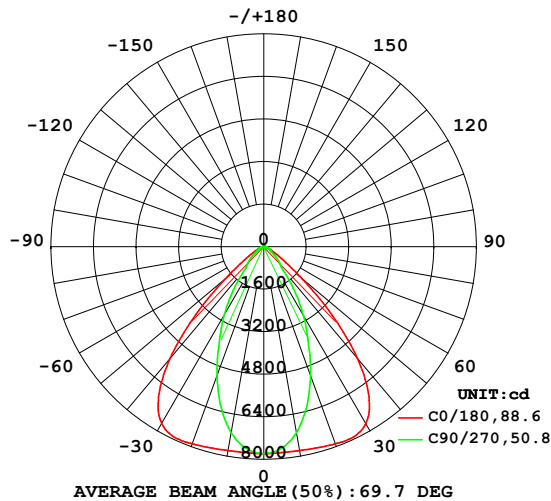


LUMINAIRE PHOTOMETRIC TEST REPORT

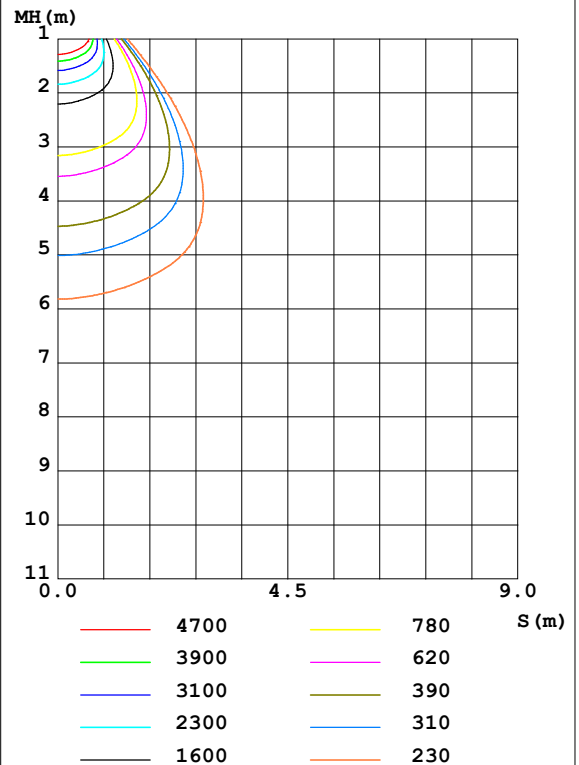
Test:U:230.0V I:0.2735A P:62.06W PF:0.9864 Lamp Flux:9846.77x1 lm		
NAME: LHB01-60H	TYPE:60W	WEIGHT:
SPEC.:5000K Ra70 5090DEG L06402	DIM.: 0.486*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.466*0.1	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 158.66 lm/W			
MODEL	LHB01-60H	Imax(cd)	7924	S/MH(C0/180)	1.28
NOMINAL POWER(W)	60	LOR(%)	100.0	S/MH(C90/270)	0.79
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	9846.8	η UP,DN(C0-180)	0.0,50.0
NOMINAL FLUX(lm)	9846.77	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.0
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	0.85

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:2017-06-01

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	7776	7685	7614	7703	7776	7703	7614	7685	0- 5	185.0	185.0	1.88,1.88
10	7785	7400	7101	7437	7785	7437	7101	7400	5- 10	541.0	726.0	7.37,7.37
15	7829	6938	6232	6977	7829	6977	6232	6938	10- 15	855.5	1581	16.1,16.1
20	7891	6245	5153	6281	7891	6281	5153	6245	15- 20	1102	2684	27.3,27.3
25	7917	5298	3979	5341	7917	5341	3979	5298	20- 25	1259	3943	40,40
30	7682	4088	2988	4164	7682	4164	2988	4088	25- 30	1309	5253	53.3,53.3
35	6903	2915	2023	3001	6903	3001	2023	2915	30- 35	1246	6499	66,66
40	5474	2106	1057	2180	5474	2180	1057	2106	35- 40	1063	7563	76.8,76.8
45	3617	1357	818.0	1414	3617	1414	818.0	1357	40- 45	802.6	8365	85,85
50	1899	682.0	579.0	721.2	1899	721.2	579.0	682.0	45- 50	547.6	8913	90.5,90.5
55	916.0	502.1	357.7	533.5	916.0	533.5	357.7	502.1	50- 55	338.4	9251	94,94
60	456.2	335.5	278.3	357.4	456.2	357.4	278.3	335.5	55- 60	209.2	9461	96.1,96.1
65	251.4	207.3	216.6	221.0	251.4	221.0	216.6	207.3	60- 65	139.2	9600	97.5,97.5
70	164.0	147.4	154.9	162.5	164.0	162.5	154.9	147.4	65- 70	97.73	9698	98.5,98.5
75	90.65	89.62	117.0	105.6	90.65	105.6	117.0	89.62	70- 75	68.34	9766	99.2,99.2
80	39.80	58.25	79.07	69.11	39.80	69.11	79.07	58.25	75- 80	45.14	9811	99.6,99.6
85	10.46	31.06	41.14	35.68	10.46	35.68	41.14	31.06	80- 85	26.00	9837	99.9,99.9
90	1.659	4.400	3.221	2.643	1.659	2.643	3.221	4.400	85- 90	9.616	9847	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): 8365.4 lm

%lum = 85.0%

%lamp = 85.0%

Conical surface Flux(120deg): 9460.7 lm

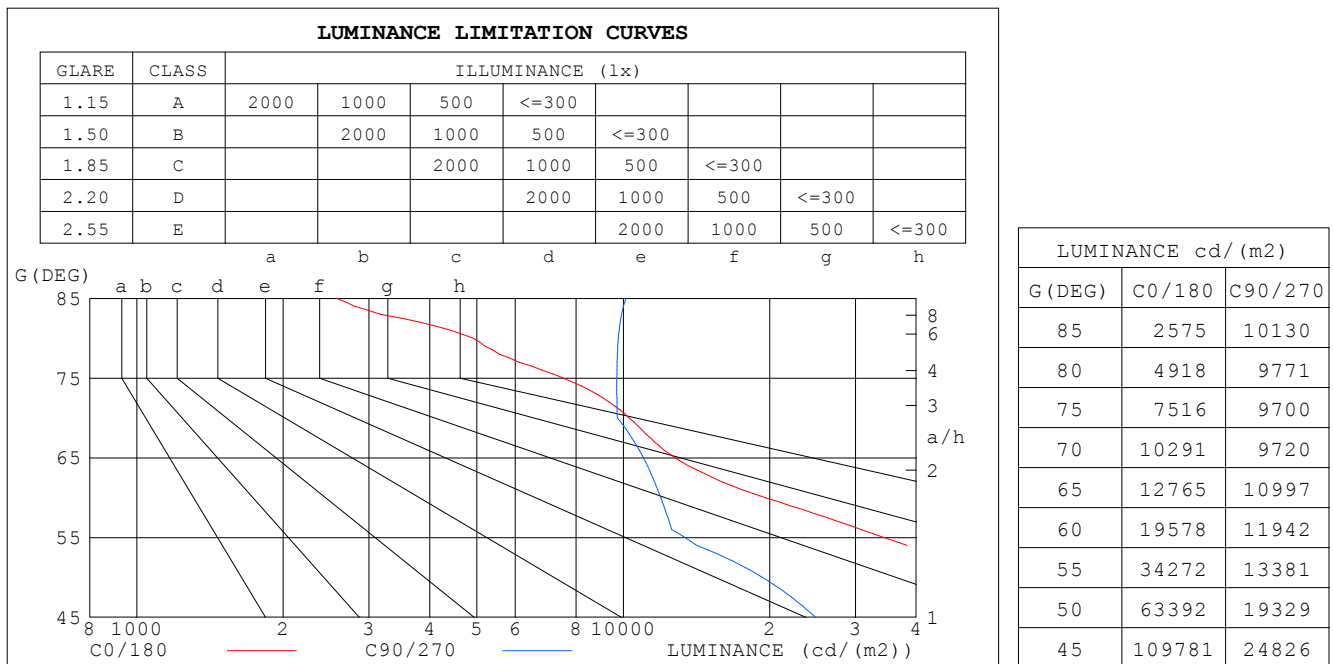
%lum = 96.1%

%lamp = 96.1%

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-06-01

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

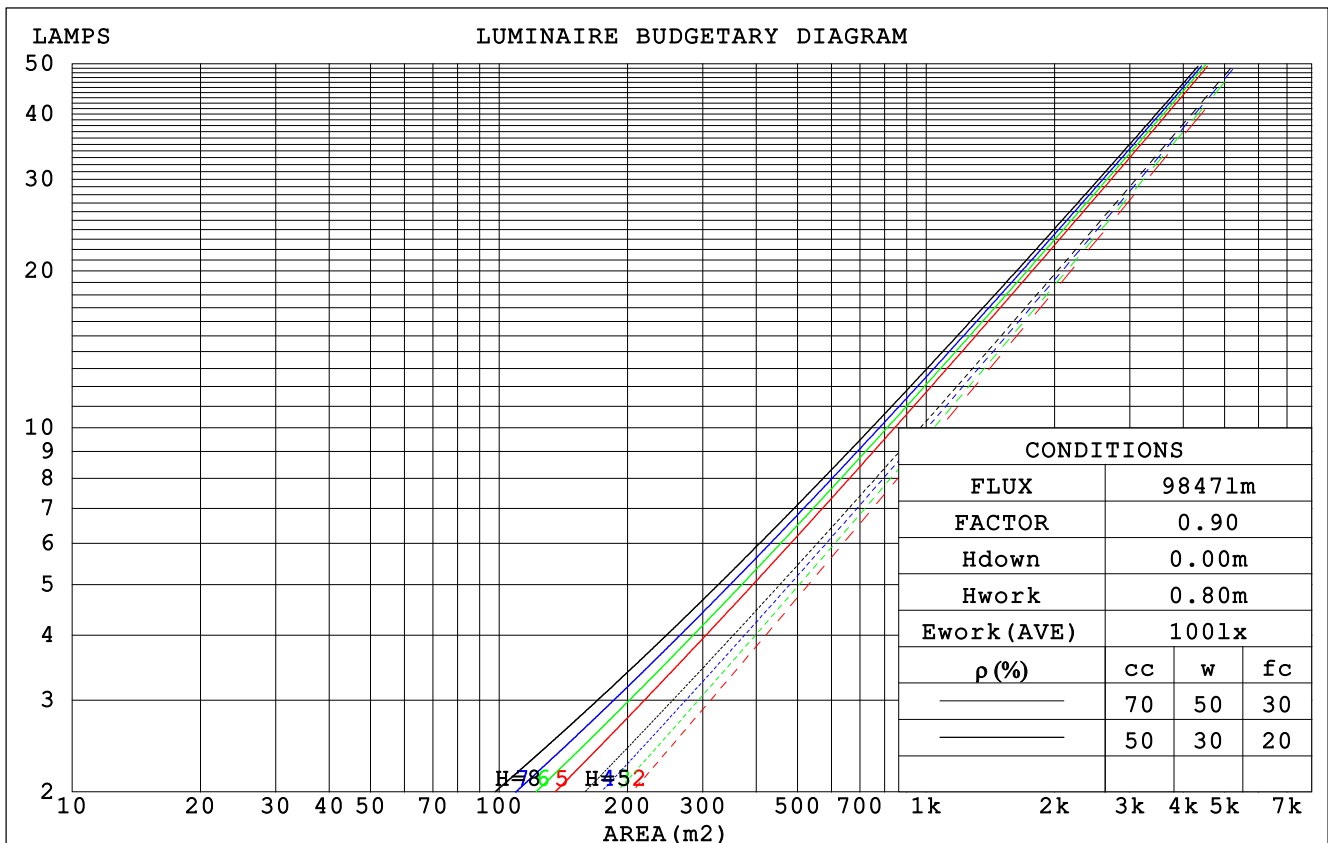


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-06-01

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	1.02	1.03	1.01	.99	.99	.97	.96	.95	.94	.93	.91
2.0	.00	.95	.91	.98	.93	.90	.95	.91	.88	.91	.88	.86	.89	.86	.84	.82
3.0	.91	.85	.81	.90	.84	.80	.87	.82	.79	.85	.81	.77	.82	.79	.76	.74
4.0	.84	.77	.72	.83	.77	.72	.80	.75	.71	.78	.74	.70	.76	.72	.69	.68
5.0	.77	.70	.65	.76	.70	.65	.74	.69	.64	.73	.68	.64	.71	.67	.63	.62
6.0	.71	.65	.60	.71	.64	.59	.69	.63	.59	.68	.62	.58	.66	.62	.58	.56
7.0	.66	.59	.55	.66	.59	.54	.64	.58	.54	.63	.58	.54	.62	.57	.53	.52
8.0	.62	.55	.50	.61	.55	.50	.60	.54	.50	.59	.53	.50	.58	.53	.49	.48
9.0	.58	.51	.46	.57	.51	.46	.56	.50	.46	.55	.50	.46	.54	.49	.46	.44
10.0	.54	.47	.43	.54	.47	.43	.53	.47	.43	.52	.46	.43	.51	.46	.43	.41



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-06-01

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	.212	.120	.038	.205	.117	.037	.192	.110	.035	.180	.104	.033	.169	.098	.032	
2.0	.204	.112	.034	.198	.109	.034	.187	.104	.032	.177	.099	.031	.168	.095	.030	
3.0	.194	.103	.031	.189	.101	.030	.179	.097	.030	.171	.094	.029	.163	.090	.028	
4.0	.184	.096	.028	.179	.094	.028	.171	.091	.027	.164	.088	.026	.156	.085	.026	
5.0	.174	.089	.026	.170	.087	.025	.163	.085	.025	.156	.083	.025	.150	.080	.024	
6.0	.165	.083	.024	.162	.082	.024	.155	.080	.023	.149	.078	.023	.144	.076	.022	
7.0	.157	.078	.022	.154	.077	.022	.148	.075	.022	.143	.073	.021	.138	.072	.021	
8.0	.149	.073	.020	.147	.072	.020	.141	.071	.020	.137	.069	.020	.132	.068	.020	
9.0	.142	.069	.019	.140	.068	.019	.135	.067	.019	.131	.066	.019	.127	.064	.019	
10.0	.135	.065	.018	.133	.064	.018	.129	.063	.018	.125	.062	.018	.121	.061	.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	.148	.135	.122	.102	.093	.085	.058	.054	.049	.019	.017	.016	
2.0	.161	.132	.109	.137	.114	.094	.094	.079	.066	.054	.046	.038	.017	.015	.013	
3.0	.150	.114	.085	.128	.098	.074	.088	.068	.052	.051	.040	.030	.016	.013	.010	
4.0	.141	.100	.068	.121	.086	.059	.083	.060	.042	.048	.035	.025	.015	.011	.008	
5.0	.133	.088	.056	.114	.076	.048	.079	.053	.034	.046	.031	.020	.015	.010	.007	
6.0	.126	.079	.046	.108	.069	.040	.075	.048	.028	.043	.028	.017	.014	.009	.006	
7.0	.120	.072	.039	.103	.063	.034	.071	.044	.024	.041	.026	.014	.013	.008	.005	
8.0	.114	.066	.033	.098	.057	.029	.068	.040	.021	.039	.024	.012	.013	.008	.004	
9.0	.109	.061	.029	.094	.053	.025	.065	.037	.018	.038	.022	.011	.012	.007	.004	
10.0	.104	.057	.025	.090	.049	.022	.062	.035	.016	.036	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-06-01

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	25.2	26.4	25.5	26.6	26.7	19.3	20.5	19.6	20.7	20.8
3H	25.2	26.2	25.5	26.4	26.7	19.8	20.8	20.0	21.0	21.2
4H	25.1	26.1	25.4	26.4	26.6	20.0	21.0	20.3	21.2	21.4
6H	25.1	26.0	25.4	26.3	26.5	20.2	21.1	20.5	21.4	21.6
8H	25.0	25.9	25.4	26.2	26.5	20.3	21.2	20.6	21.5	21.7
12H	25.0	25.8	25.3	26.1	26.4	20.4	21.2	20.7	21.5	21.8
4H 2H	25.0	26.0	25.3	26.3	26.5	19.5	20.5	19.8	20.7	21.0
3H	25.0	25.9	25.4	26.2	26.4	20.1	20.9	20.4	21.2	21.5
4H	25.0	25.8	25.4	26.1	26.4	20.4	21.2	20.7	21.5	21.8
6H	25.0	25.7	25.4	26.0	26.4	20.7	21.4	21.1	21.8	22.1
8H	25.0	25.6	25.4	25.9	26.3	20.9	21.5	21.3	21.9	22.3
12H	24.9	25.5	25.3	25.9	26.3	21.0	21.6	21.5	22.0	22.4
8H 4H	24.9	25.6	25.3	25.9	26.3	20.4	21.0	20.8	21.4	21.8
6H	24.9	25.4	25.3	25.8	26.2	20.9	21.4	21.3	21.8	22.2
8H	24.9	25.3	25.3	25.8	26.2	21.1	21.6	21.6	22.0	22.4
12H	24.9	25.2	25.3	25.7	26.2	21.3	21.7	21.8	22.2	22.6
12H 4H	24.9	25.5	25.3	25.8	26.2	20.4	21.0	20.8	21.3	21.7
6H	24.9	25.3	25.3	25.8	26.2	20.9	21.3	21.3	21.7	22.2
8H	24.9	25.3	25.3	25.7	26.2	21.1	21.5	21.6	22.0	22.4
Variations with the observer position at spacings:										
S = 1.0H	+ 3.1 / - 3.9					+ 1.0 / - 1.4				
1.5H	+ 4.0 / - 4.5					+ 1.1 / - 1.0				
2.0H	+ 6.1 / - 4.6					+ 1.3 / - 0.9				

CIE Pub.117 Corrected 9847 lm Total Lamp Luminous Flux.(8log(F/F0) = 7.9)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-06-01

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:

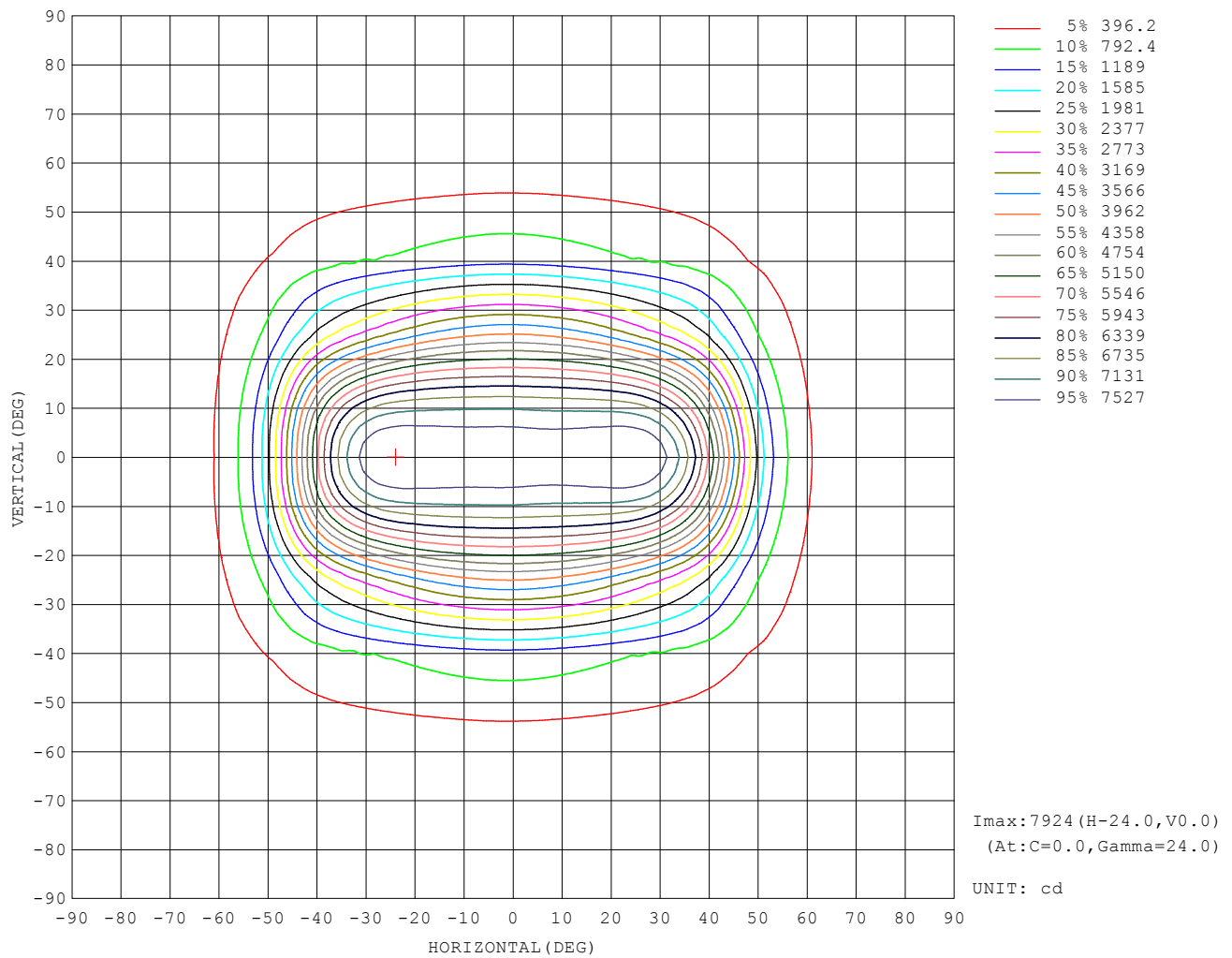
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	77	69	64	76	68	64	75	68	64	59
0.80	86	78	73	85	78	73	84	77	72	68
1.00	92	85	80	91	84	80	89	85	79	74
1.25	97	91	86	96	90	86	94	89	85	80
1.50	101	95	90	99	94	90	97	92	89	83
2.00	105	100	96	103	98	95	100	96	93	87
2.50	107	102	98	105	101	98	102	99	96	89
3.00	109	105	101	107	103	100	104	101	98	91
4.00	112	108	105	110	106	104	106	103	101	94
5.00	113	110	108	111	108	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: 2017-06-01

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:

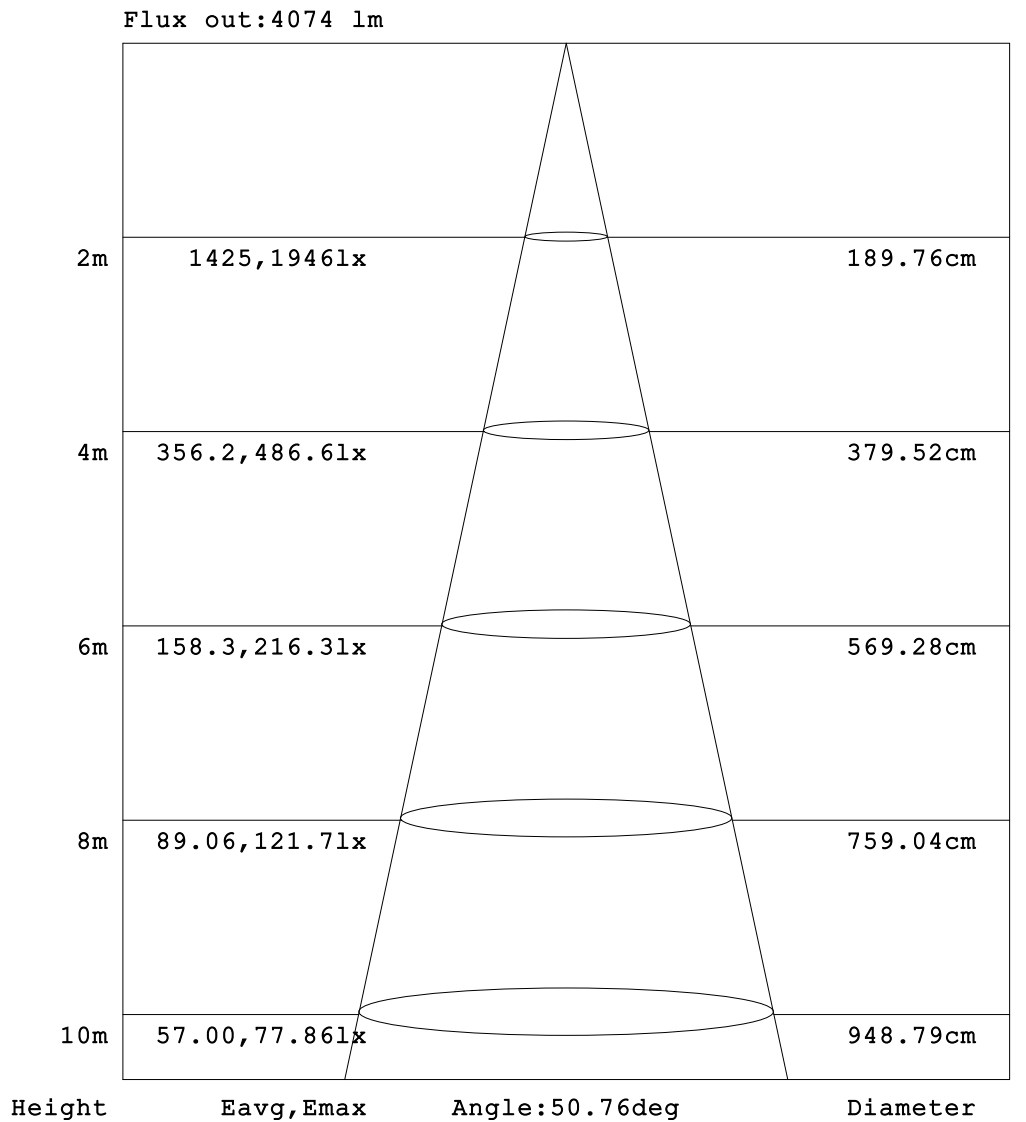
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-06-01

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

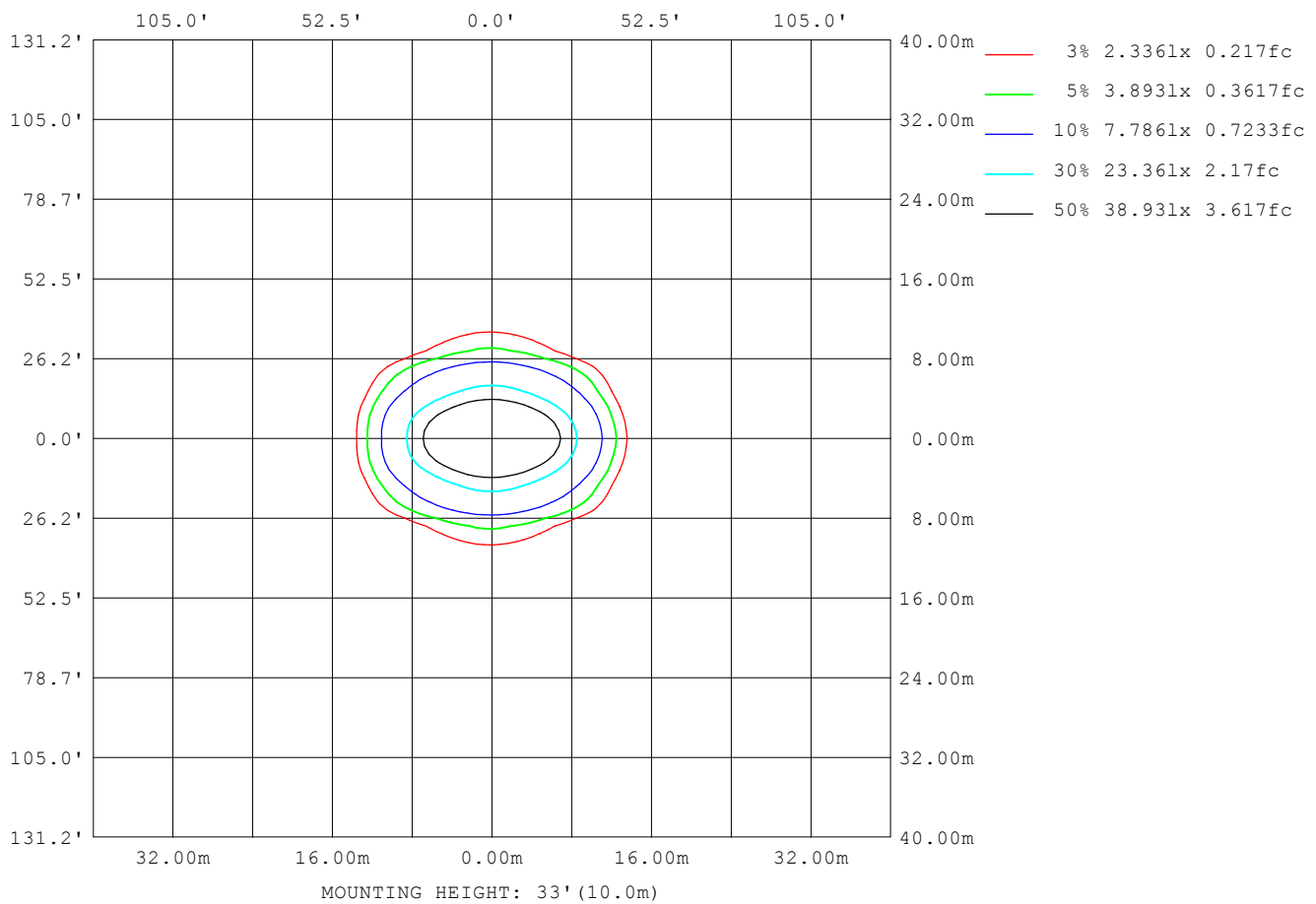


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360 DEG
C Interval: 5.0 DEG
Test Speed: HIGH
Temperature: 25.3 DEG
Operators:
Test Date: 2017-06-01

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: 2017-06-01

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:0.2735A P:62.06W PF:0.9864 Lamp Flux:9846.77x1 lm		
NAME: LHB01-60H	TYPE:60W	WEIGHT:
SPEC.:5000K Ra70 5090DEG L06402	DIM.: 0.486*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.466*0.1	Shielding Angle:

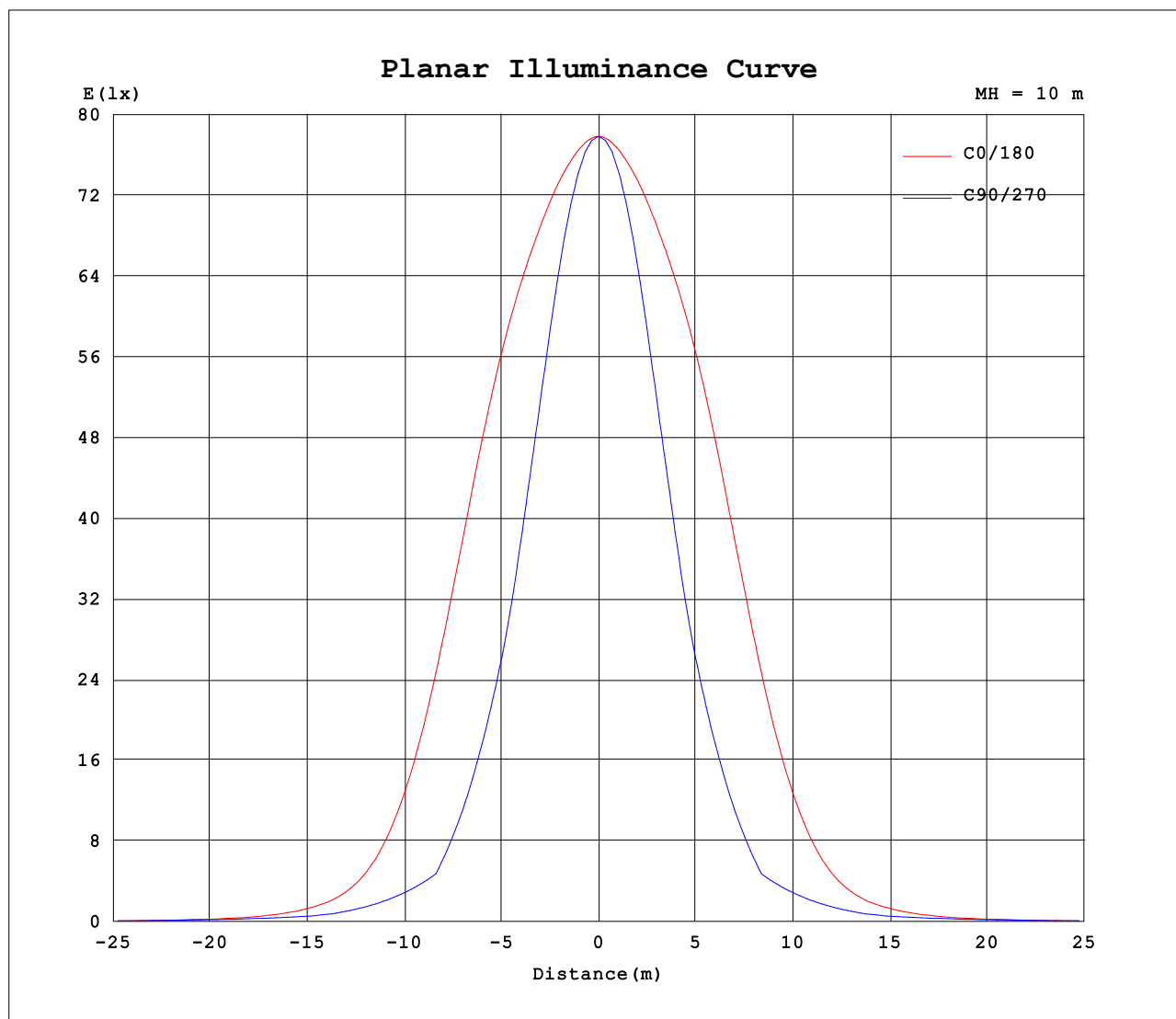
AvgL	cd/m2
L_0~180 (65) av	12765
L_0~180 (75) av	7516
L_0~180 (85) av	2575
L_90~270 (65) av	10997
L_90~270 (75) av	9700
L_90~270 (85) av	10130
L_45 (65) av	10876
L_45 (75) av	8094
L_45 (85) av	8217

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-06-01

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: 2017-06-01

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:

```