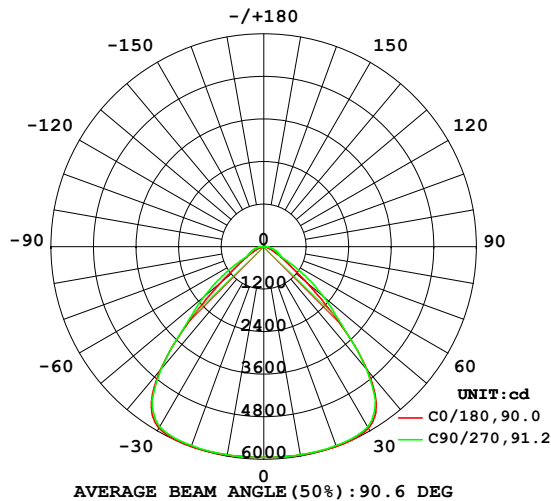


LUMINAIRE PHOTOMETRIC TEST REPORT

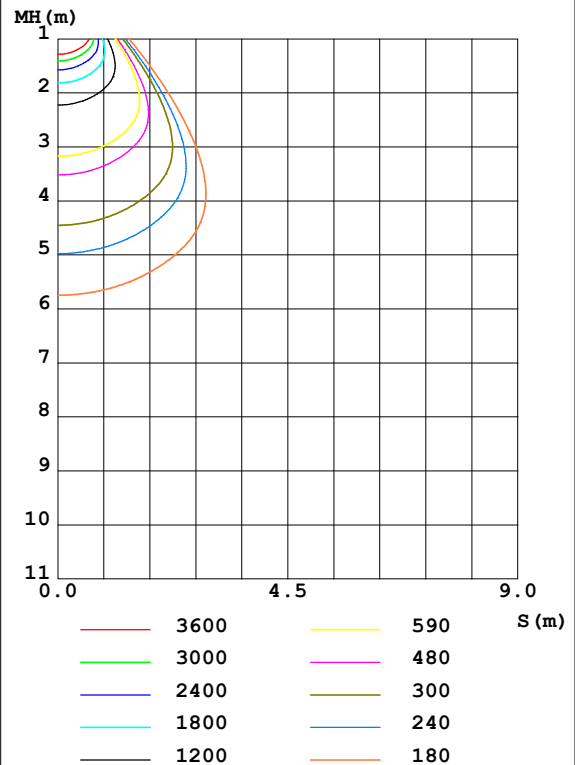
Test:U:230.1V I:0.4140A P:91.85W PF:0.9641 Lamp Flux:12306.1x1 lm		
NAME: LHB01-90	TYPE:90W	WEIGHT:
SPEC.:5000K Ra70 90DEG L02805	DIM.: 0.718*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.7*0.1	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 133.98 lm/W			
MODEL	LHB01-90	I _{max} (cd)	6009	S/MH(C0/180)	1.30
NOMINAL POWER(W)	90	LOR(%)	100.0	S/MH(C90/270)	1.30
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	12306	η UP,DN(C0-180)	0.0,49.9
NOMINAL FLUX(lm)	12306.1	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.1
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	1.35

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:2017-03-31

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	5949	5953	5952	5953	5949	5951	5952	5951	0- 5	142.2	142.2	1.16, 1.16
10	5962	5968	5961	5968	5962	5961	5961	5961	5- 10	426.3	568.5	4.62, 4.62
15	5980	5988	5972	5988	5980	5972	5972	5972	10- 15	708.5	1277	10.4, 10.4
20	5996	6003	5969	6003	5996	5979	5969	5979	15- 20	986.4	2263	18.4, 18.4
25	5990	5983	5956	5983	5990	5952	5956	5952	20- 25	1255	3518	28.6, 28.6
30	5906	5890	5873	5890	5906	5846	5873	5846	25- 30	1502	5021	40.8, 40.8
35	5533	5539	5476	5539	5533	5477	5476	5477	30- 35	1684	6705	54.5, 54.5
40	4542	4557	4496	4557	4542	4503	4496	4503	35- 40	1685	8390	68.2, 68.2
45	2976	2990	3113	2990	2976	3032	3113	3032	40- 45	1394	9785	79.5, 79.5
50	1594	1630	2208	1630	1594	1712	2208	1712	45- 50	947.0	10732	87.2, 87.2
55	838.2	882.5	1371	882.5	838.2	932.5	1371	932.5	50- 55	599.2	11331	92.1, 92.1
60	489.8	569.5	534.0	569.5	489.8	598.7	534.0	598.7	55- 60	363.9	11695	95, 95
65	305.0	345.9	445.7	345.9	305.0	361.3	445.7	361.3	60- 65	213.1	11908	96.8, 96.8
70	191.0	216.6	357.3	216.6	191.0	225.0	357.3	225.0	65- 70	150.7	12059	98, 98
75	109.8	158.2	268.9	158.2	109.8	164.5	268.9	164.5	70- 75	110.8	12169	98.9, 98.9
80	28.03	104.3	180.5	104.3	28.03	108.4	180.5	108.4	75- 80	76.43	12246	99.5, 99.5
85	2.730	53.28	92.12	53.28	2.730	55.38	92.12	55.38	80- 85	44.42	12290	99.9, 99.9
90	1.812	3.715	3.736	3.715	1.812	3.855	3.736	3.855	85- 90	15.86	12306	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): 9784.7 lm

%lum = 79.5%

%lamp = 79.5%

Conical surface Flux(120deg): 11695 lm

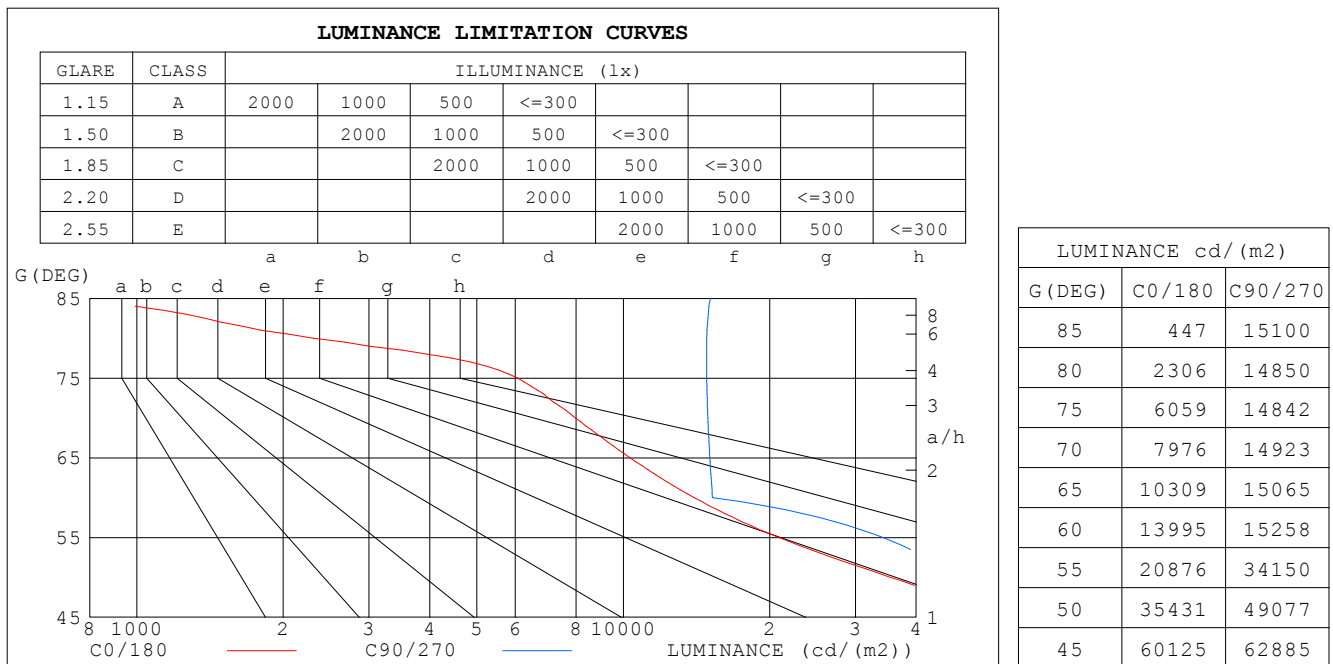
%lum = 95.0%

%lamp = 95.0%

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-03-31

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

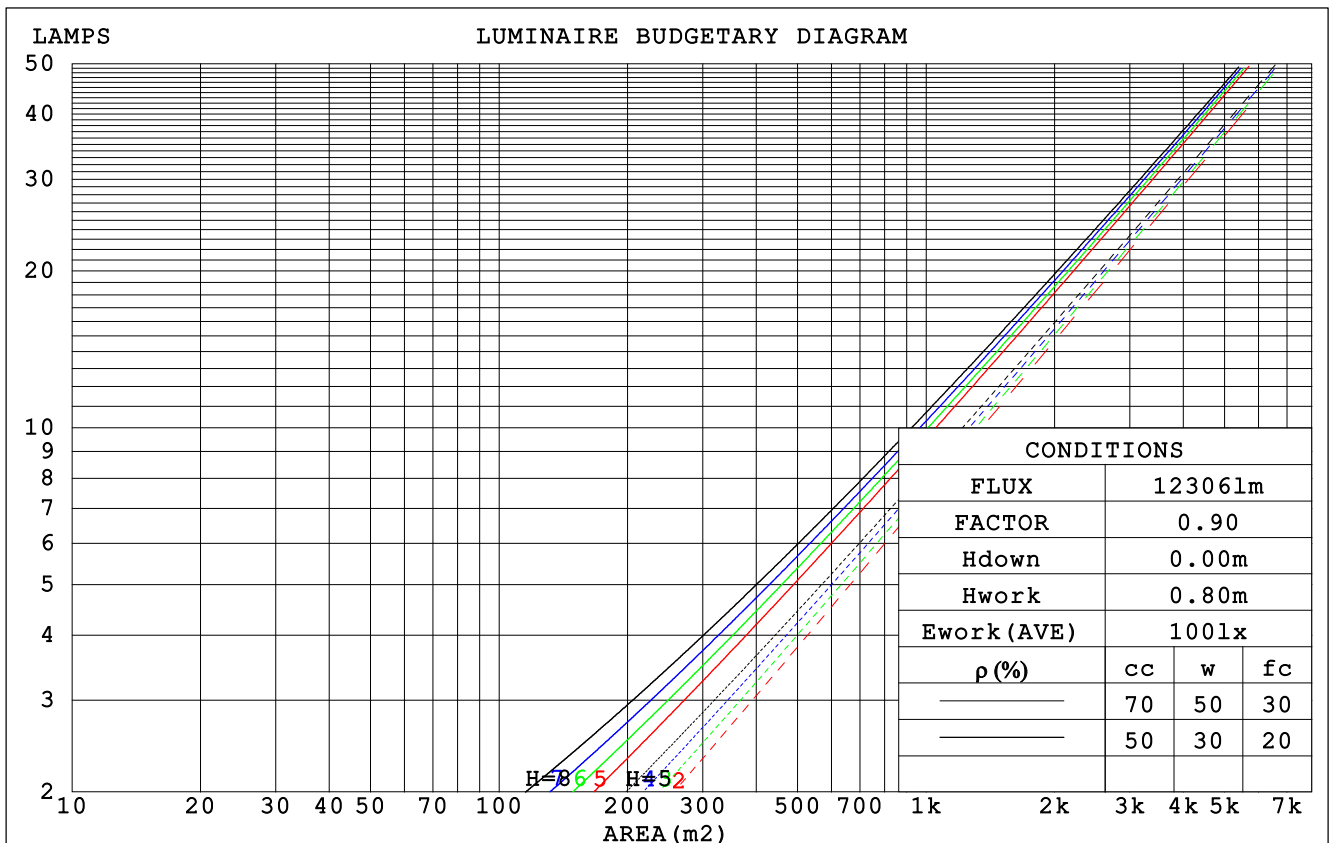


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-31

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	1.08	1.05	1.02	1.06	1.03	1.00	1.02	.99	.97	.98	.96	.94	.94	.93	.92	.90
2.0	.98	.92	.88	.96	.91	.87	.92	.88	.85	.89	.86	.83	.86	.84	.81	.80
3.0	.88	.82	.77	.87	.81	.76	.84	.79	.75	.82	.77	.74	.79	.76	.72	.71
4.0	.80	.73	.68	.79	.72	.67	.77	.71	.66	.75	.70	.66	.73	.68	.65	.63
5.0	.73	.66	.60	.72	.65	.60	.70	.64	.59	.68	.63	.59	.67	.62	.58	.56
6.0	.67	.59	.54	.66	.59	.54	.64	.58	.53	.63	.57	.53	.61	.56	.52	.51
7.0	.61	.54	.48	.61	.53	.48	.59	.53	.48	.58	.52	.48	.57	.51	.47	.46
8.0	.56	.49	.44	.56	.49	.44	.55	.48	.43	.53	.48	.43	.52	.47	.43	.41
9.0	.52	.45	.40	.52	.45	.40	.50	.44	.40	.49	.44	.39	.49	.43	.39	.38
10.0	.48	.41	.36	.48	.41	.36	.47	.41	.36	.46	.40	.36	.45	.40	.36	.34



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-03-31

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	.230	.131	.041	.223	.127	.040	.210	.121	.039	.198	.114	.037	.188	.109	.035	
2.0	.223	.122	.037	.217	.119	.037	.206	.114	.036	.195	.110	.034	.186	.105	.033	
3.0	.212	.113	.034	.207	.111	.033	.197	.107	.032	.188	.103	.032	.180	.100	.031	
4.0	.201	.104	.031	.197	.103	.030	.188	.100	.030	.180	.097	.029	.173	.094	.029	
5.0	.190	.097	.028	.186	.096	.028	.179	.093	.027	.172	.091	.027	.165	.088	.027	
6.0	.180	.090	.026	.177	.089	.026	.170	.087	.025	.164	.085	.025	.158	.083	.025	
7.0	.171	.084	.024	.168	.084	.024	.162	.082	.024	.156	.080	.023	.151	.078	.023	
8.0	.162	.079	.022	.159	.078	.022	.154	.077	.022	.149	.075	.022	.144	.074	.022	
9.0	.154	.075	.021	.152	.074	.021	.147	.073	.021	.142	.071	.020	.138	.070	.020	
10.0	.147	.070	.020	.144	.070	.019	.140	.069	.019	.136	.067	.019	.132	.066	.019	

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	.175	.157	.141	.150	.135	.121	.102	.093	.084	.059	.054	.049	.019	.017	.016	
2.0	.163	.132	.106	.140	.114	.092	.096	.079	.064	.055	.046	.038	.018	.015	.012	
3.0	.153	.114	.082	.131	.098	.072	.090	.068	.050	.052	.040	.030	.017	.013	.010	
4.0	.145	.100	.065	.124	.086	.057	.086	.060	.040	.049	.035	.024	.016	.011	.008	
5.0	.138	.089	.053	.118	.077	.046	.081	.054	.033	.047	.032	.019	.015	.010	.006	
6.0	.131	.080	.044	.113	.070	.038	.078	.049	.027	.045	.029	.016	.015	.009	.005	
7.0	.125	.073	.037	.107	.063	.032	.074	.044	.023	.043	.026	.014	.014	.009	.004	
8.0	.119	.067	.032	.103	.058	.028	.071	.041	.020	.041	.024	.012	.013	.008	.004	
9.0	.114	.062	.028	.098	.054	.024	.068	.038	.017	.040	.022	.010	.013	.007	.003	
10.0	.109	.058	.024	.094	.051	.021	.065	.036	.015	.038	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-31

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	23.6	24.8	23.8	25.0	25.2	24.4	25.6	24.6	25.8	26.0
3H	23.6	24.7	23.8	24.9	25.1	24.5	25.7	24.8	25.9	26.1
4H	23.5	24.6	23.8	24.8	25.1	24.6	25.7	24.9	26.0	26.2
6H	23.5	24.5	23.8	24.7	25.0	24.8	25.8	25.1	26.0	26.3
8H	23.4	24.4	23.7	24.7	24.9	24.8	25.8	25.2	26.1	26.4
12H	23.4	24.3	23.7	24.6	24.9	24.9	25.8	25.2	26.1	26.4
4H 2H	23.5	24.6	23.8	24.8	25.0	24.2	25.3	24.5	25.5	25.8
3H	23.5	24.5	23.9	24.7	25.0	24.5	25.4	24.8	25.7	26.0
4H	23.5	24.4	23.9	24.7	25.0	24.7	25.5	25.0	25.8	26.2
6H	23.5	24.3	23.9	24.6	25.0	24.9	25.7	25.3	26.0	26.4
8H	23.5	24.2	23.9	24.5	24.9	25.0	25.7	25.4	26.1	26.5
12H	23.4	24.1	23.9	24.4	24.8	25.1	25.8	25.6	26.1	26.5
8H 4H	23.5	24.2	23.9	24.6	24.9	24.6	25.3	25.0	25.7	26.0
6H	23.5	24.1	24.0	24.5	24.9	24.9	25.5	25.4	25.9	26.3
8H	23.5	24.0	24.0	24.4	24.9	25.1	25.6	25.6	26.0	26.5
12H	23.5	23.9	24.0	24.4	24.8	25.3	25.7	25.8	26.2	26.6
12H 4H	23.5	24.1	23.9	24.5	24.9	24.6	25.2	25.0	25.6	26.0
6H	23.5	24.0	24.0	24.5	24.9	24.9	25.4	25.4	25.8	26.3
8H	23.5	24.0	24.0	24.4	24.9	25.1	25.5	25.6	26.0	26.5
Variations with the observer position at spacings:										
S = 1.0H	+ 1.8 / - 3.6					+ 1.2 / - 1.6				
1.5H	+ 2.3 / - 3.3					+ 1.4 / - 1.6				
2.0H	+ 4.3 / - 3.3					+ 2.9 / - 2.9				

CIE Pub.117 Corrected 12306 lm Total Lamp Luminous Flux.(8log(F/F0) = 8.7)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-31

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:

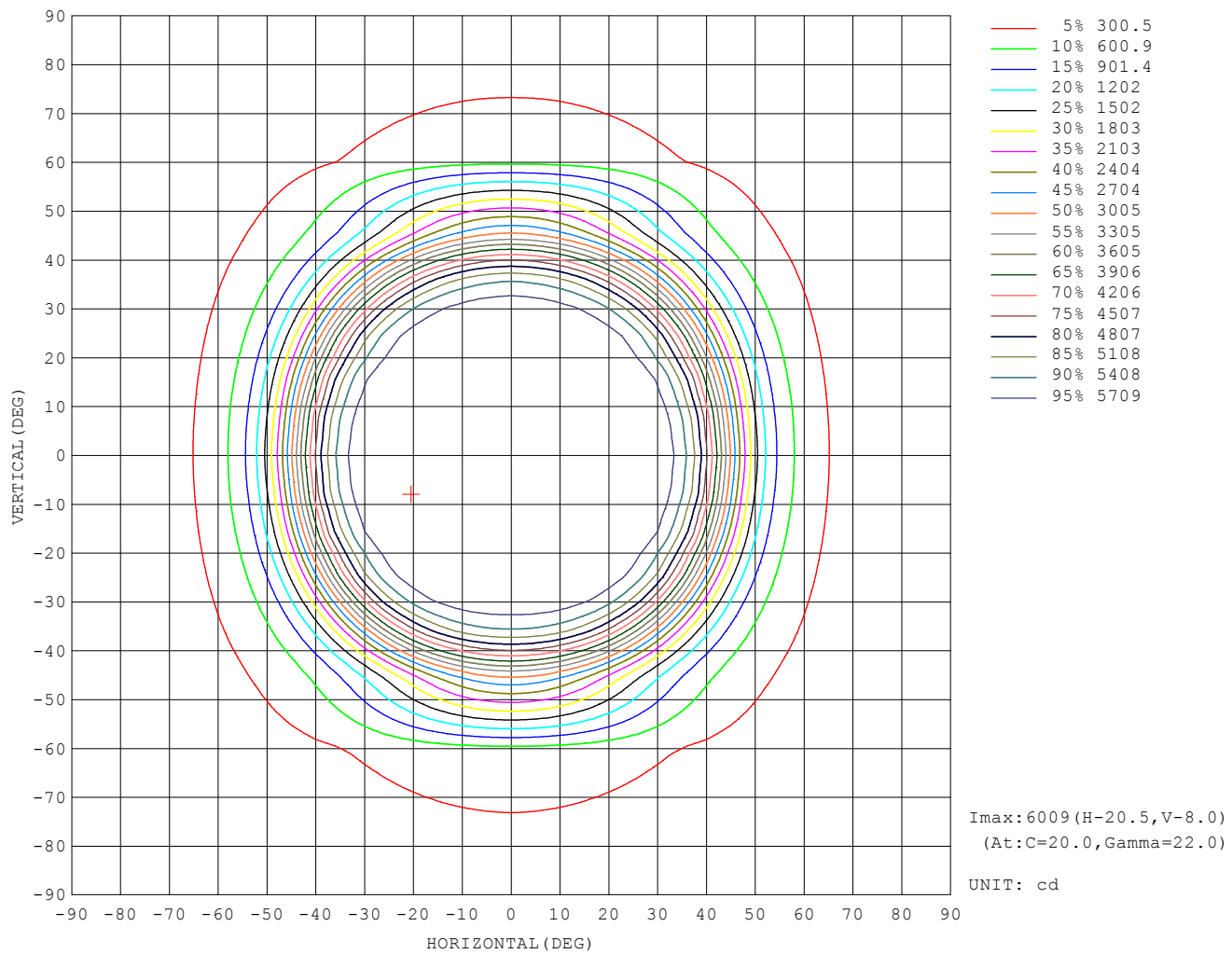
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	71	62	57	71	62	57	70	61	56	51
0.80	81	72	67	80	72	67	79	71	66	61
1.00	88	80	75	87	80	75	86	80	74	69
1.25	94	87	82	93	86	81	91	85	81	75
1.50	98	91	86	97	91	86	94	89	85	79
2.00	103	97	93	102	96	92	98	94	90	84
2.50	106	100	96	104	99	95	100	96	93	86
3.00	108	103	99	106	102	98	102	99	96	89
4.00	111	107	103	108	105	102	105	102	99	91
5.00	112	109	106	110	107	104	106	103	101	93
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: 2017-03-31

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:

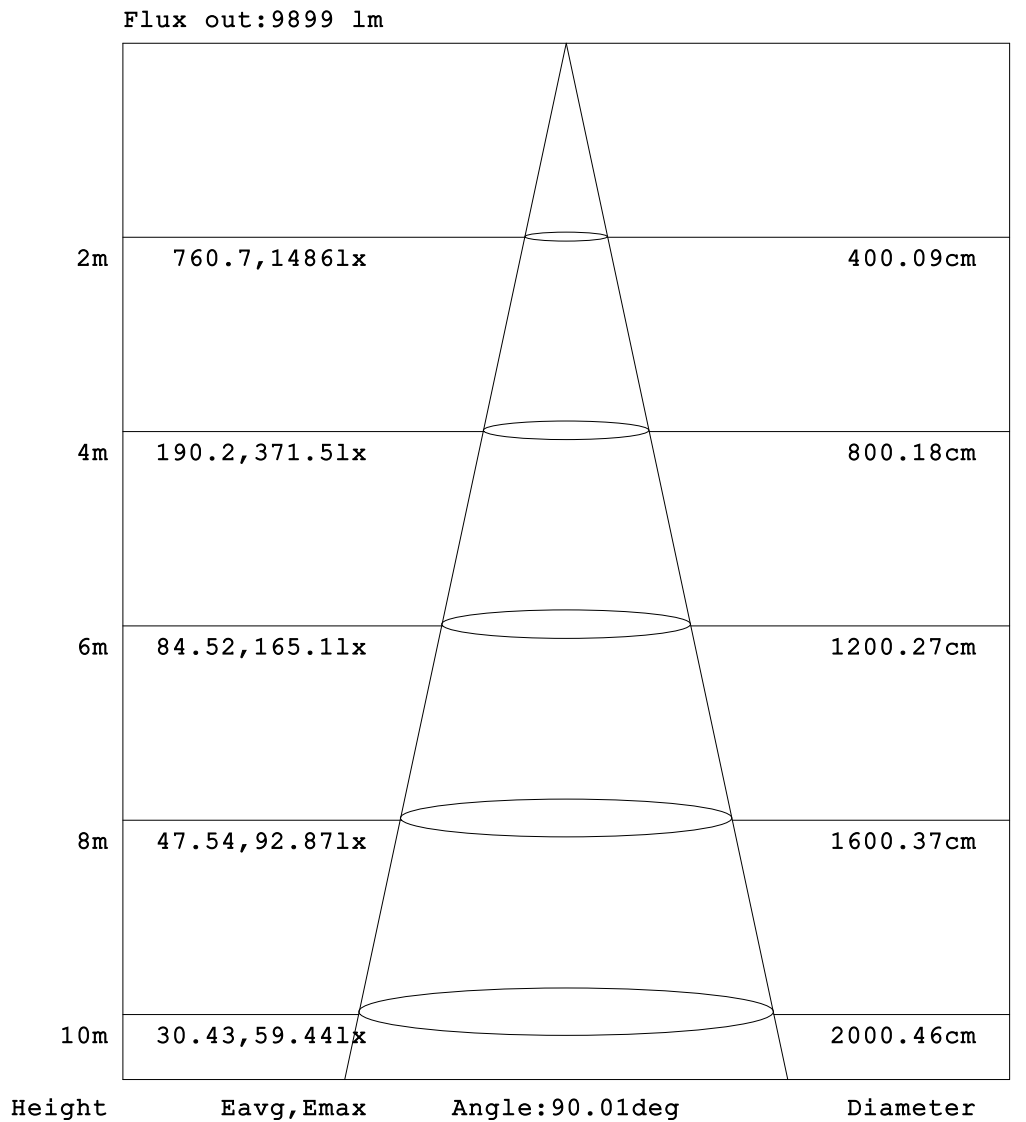
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-31

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

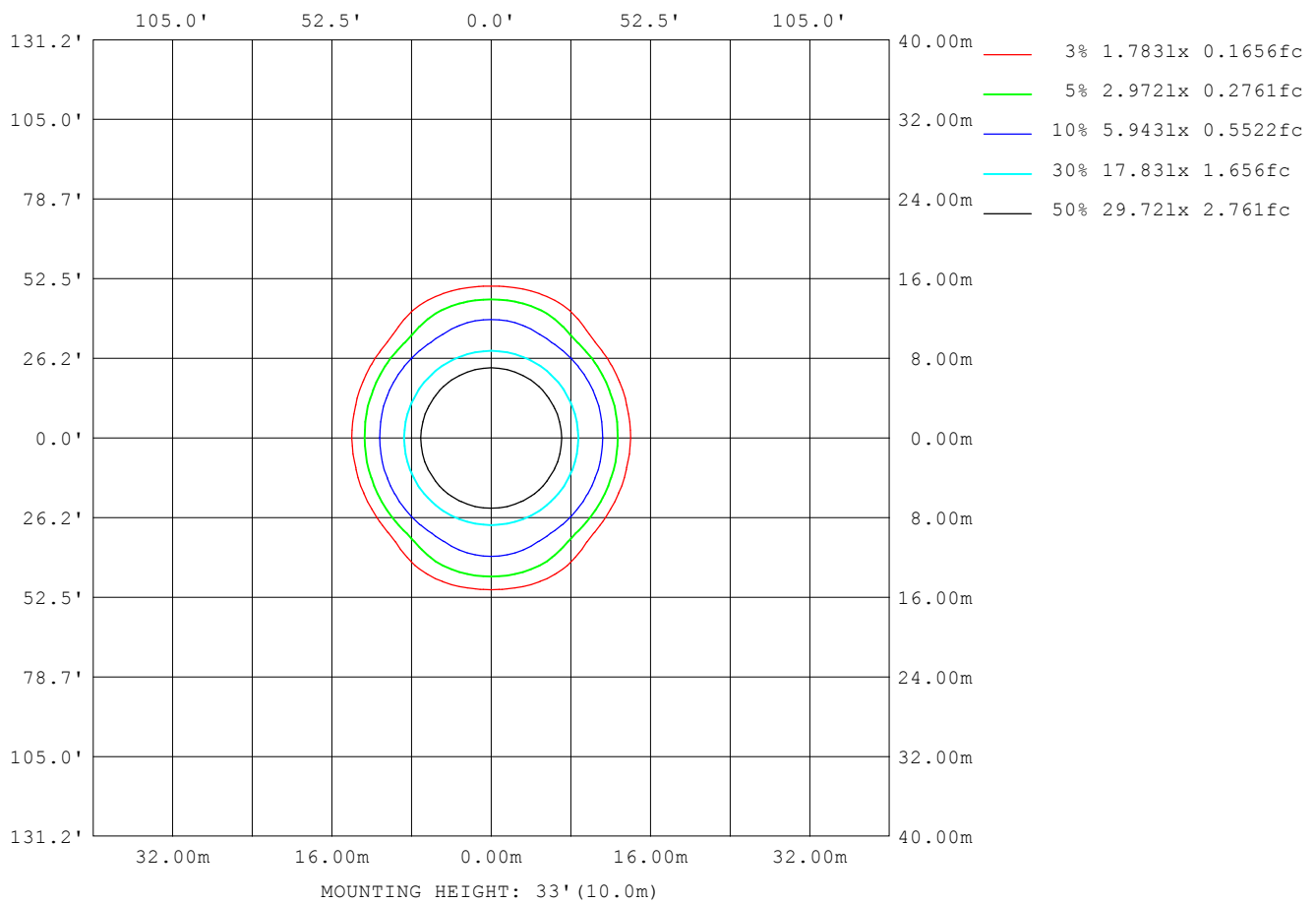


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-31

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: 2017-03-31

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:0.4140A P:91.85W PF:0.9641 Lamp Flux:12306.1x1 lm		
NAME: LHB01-90	TYPE:90W	WEIGHT:
SPEC.:5000K Ra70 90DEG L02805	DIM.: 0.718*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.7*0.1	Shielding Angle:

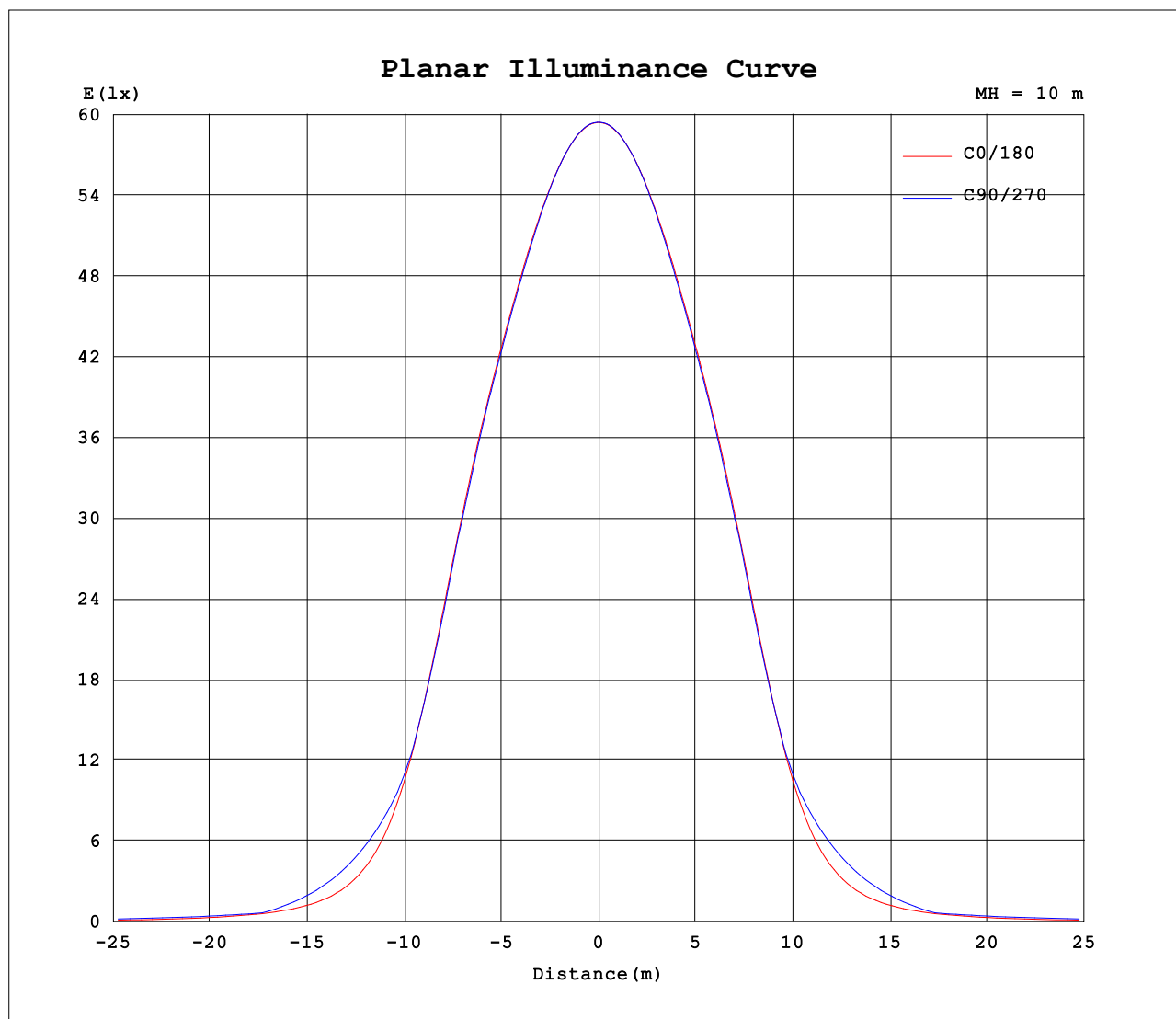
AvgL	cd/m2
L_0~180 (65) av	10309
L_0~180 (75) av	6059
L_0~180 (85) av	447
L_90~270 (65) av	15065
L_90~270 (75) av	14842
L_90~270 (85) av	15100
L_45 (65) av	11953
L_45 (75) av	8906
L_45 (85) av	8905

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-03-31

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: 2017-03-31

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:

```

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:

```