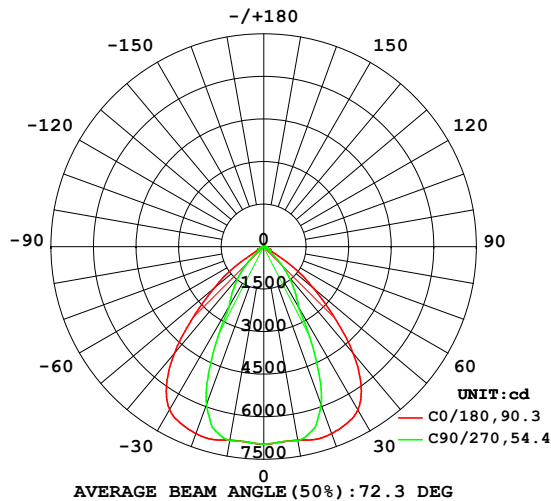


LUMINAIRE PHOTOMETRIC TEST REPORT

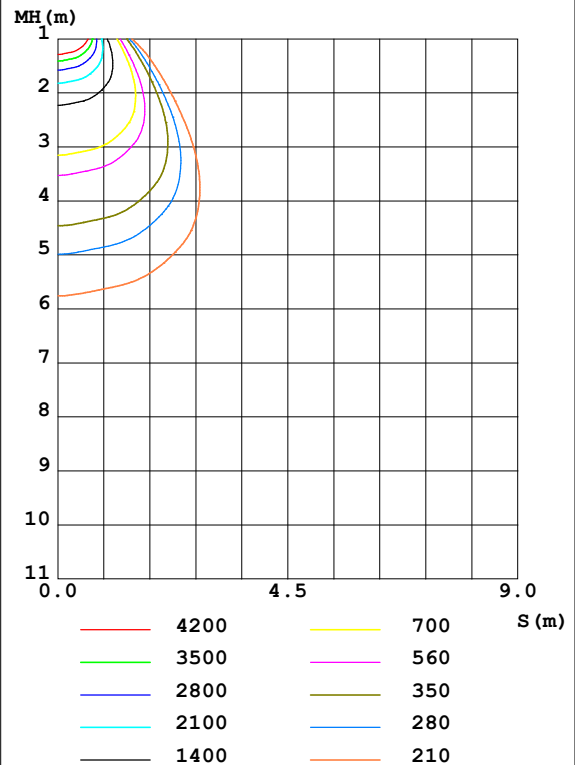
Test:U:230.0V I:0.4129A P:91.58W PF:0.9643 Lamp Flux:11855.8x1 lm					
NAME: LHB01-90		TYPE:90W		WEIGHT:	
SPEC.:5000K Ra80 6090DEG L02802		DIM.: 0.718*0.137*0.102		SERIAL No.:	
MFR.:		SUR.:0.7*0.1		Shielding Angle:	

DATA OF LAMP		PHOTOMETRIC DATA Eff: 129.45 lm/W			
MODEL	LHB01-90	I _{max} (cd)	7996	S/MH (C0/180)	1.29
NOMINAL POWER(W)	90	LOR(%)	100.0	S/MH (C90/270)	0.80
RATED VOLTAGE(V)	230	TOTAL FLUX (lm)	11856	η UP,DN (C0-180)	0.0,49.7
NOMINAL FLUX(lm)	11855.8	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0,50.3
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: 2017-06-15

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	6918	6909	6915	6909	6918	6913	6915	6913	0- 5	165.7	165.7	1.4,1.4
10	6930	6934	6946	6934	6930	6942	6946	6942	5- 10	494.7	660.4	5.57,5.57
15	7032	7156	6690	7156	7032	7212	6690	7212	10- 15	828.3	1489	12.6,12.6
20	7013	7353	5926	7353	7013	7490	5926	7490	15- 20	1153	2642	22.3,22.3
25	6889	7286	4340	7286	6889	7431	4340	7431	20- 25	1416	4058	34.2,34.2
30	6644	6682	2452	6682	6644	6838	2452	6838	25- 30	1540	5598	47.2,47.2
35	5985	5100	1911	5100	5985	5257	1911	5257	30- 35	1527	7125	60.1,60.1
40	4908	3410	1371	3410	4908	3498	1371	3498	35- 40	1437	8562	72.2,72.2
45	3522	2688	830.5	2688	3522	2797	830.5	2797	40- 45	1229	9791	82.6,82.6
50	2320	1870	290.2	1870	2320	1961	290.2	1961	45- 50	905.7	10697	90.2,90.2
55	1274	1000	243.8	1000	1274	1055	243.8	1055	50- 55	543.4	11240	94.8,94.8
60	263.4	262.8	197.3	262.8	263.4	272.1	197.3	272.1	55- 60	268.0	11508	97.1,97.1
65	226.2	202.4	150.9	202.4	226.2	210.2	150.9	210.2	60- 65	135.9	11644	98.2,98.2
70	119.8	140.6	104.4	140.6	119.8	145.6	104.4	145.6	65- 70	85.38	11729	98.9,98.9
75	73.45	79.20	81.30	79.20	73.45	80.72	81.30	80.72	70- 75	56.18	11786	99.4,99.4
80	37.85	52.29	58.16	52.29	37.85	52.60	58.16	52.60	75- 80	37.45	11823	99.7,99.7
85	3.429	29.41	35.02	29.41	3.429	28.83	35.02	28.83	80- 85	23.21	11846	99.9,99.9
90	1.495	6.257	11.88	6.257	1.495	4.789	11.88	4.789	85- 90	9.640	11856	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): 9791 lm

%lum = 82.6%

%lamp = 82.6%

Conical surface Flux(120deg): 11508 lm

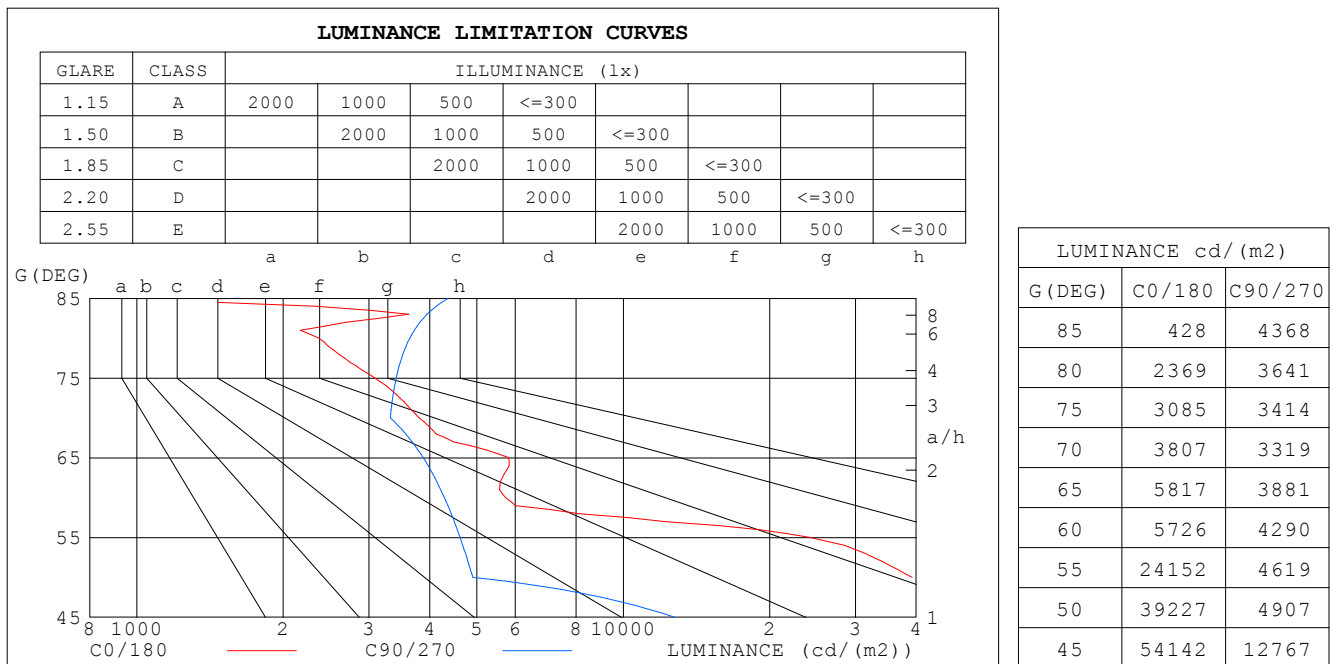
%lum = 97.1%

%lamp = 97.1%

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-06-15

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

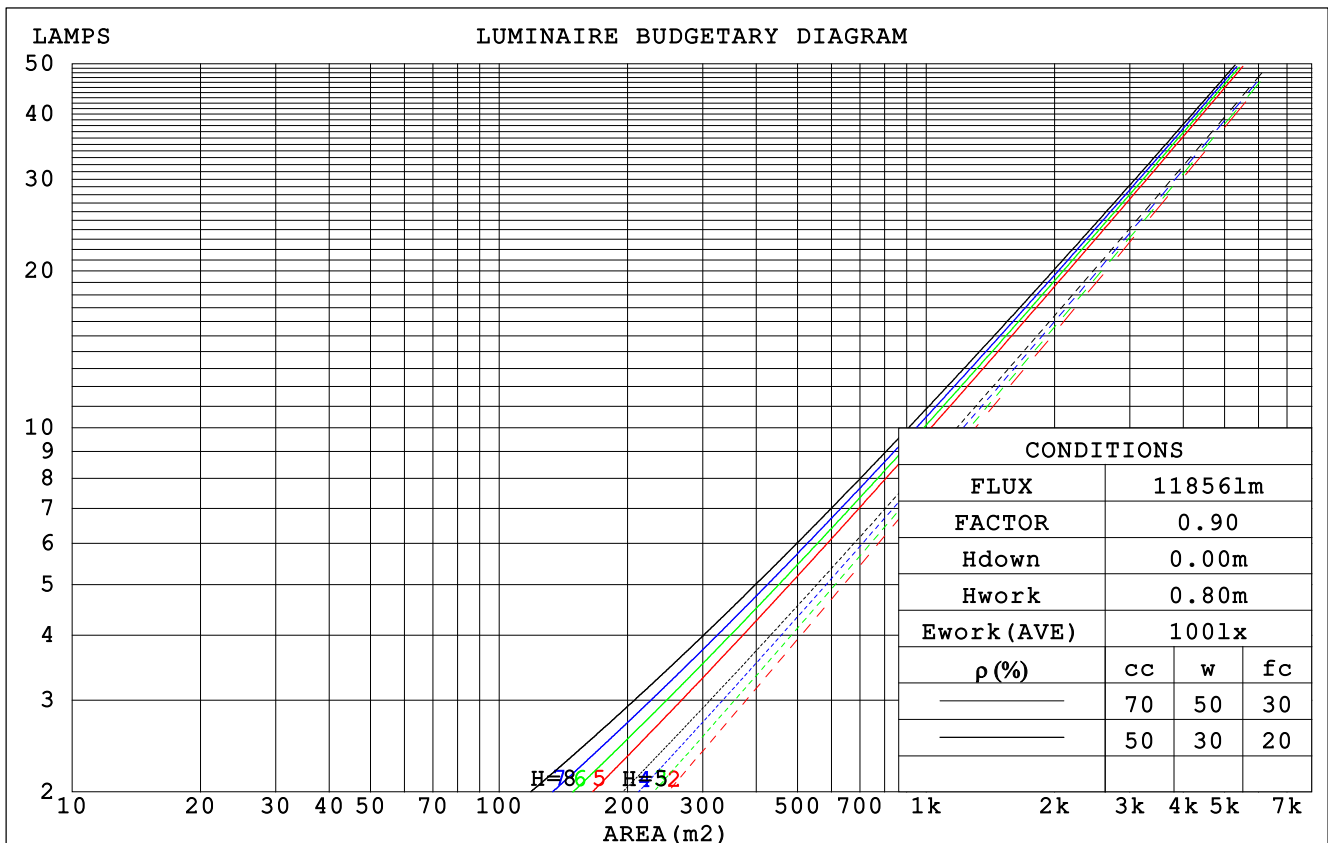


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-06-15

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	1.00
1.0	1.09	1.06	1.03	1.07	1.04	1.01	1.02	1.00	.98	.99	.97	.95	.95	.94	.93	.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	.79	.86	.81	.77	.83	.79	.76	.81	.78	.75	.73
4.0	.82	.76	.70	.81	.75	.70	.79	.73	.69	.77	.72	.68	.75	.71	.67	.66
5.0	.75	.68	.63	.74	.68	.63	.73	.67	.62	.71	.66	.62	.69	.65	.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	.51	.49
8.0	.59	.52	.47	.59	.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	.43	.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: 2017-06-15

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	.216	.123	.039	.209	.119	.038	.196	.113	.036	.184	.106	.034	.174	.101	.032	
2.0	.210	.115	.035	.204	.112	.035	.193	.107	.033	.183	.102	.032	.173	.098	.031	
3.0	.200	.107	.032	.195	.105	.031	.186	.101	.031	.177	.097	.030	.169	.094	.029	
4.0	.191	.099	.029	.186	.098	.029	.178	.094	.028	.170	.091	.028	.163	.089	.027	
5.0	.181	.092	.027	.177	.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	.150	.079	.023	
7.0	.164	.081	.023	.160	.080	.023	.155	.078	.023	.149	.076	.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	.136	.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	.142	.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	.066	.038	.018	.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:2017-06-15

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	24.9	26.1	25.2	26.3	26.5	18.1	19.3	18.4	19.5	19.7
3H	24.8	25.9	25.1	26.1	26.3	18.1	19.2	18.4	19.4	19.7
4H	24.7	25.7	25.0	26.0	26.2	18.2	19.2	18.4	19.4	19.7
6H	24.6	25.6	24.9	25.8	26.1	18.2	19.1	18.5	19.4	19.6
8H	24.6	25.5	24.9	25.8	26.0	18.2	19.1	18.5	19.4	19.6
12H	24.5	25.4	24.9	25.7	26.0	18.2	19.1	18.5	19.4	19.6
4H 2H	24.7	25.7	25.0	25.9	26.2	18.4	19.4	18.7	19.7	19.9
3H	24.6	25.4	24.9	25.7	26.0	18.5	19.4	18.8	19.6	19.9
4H	24.5	25.3	24.9	25.6	25.9	18.5	19.3	18.9	19.6	20.0
6H	24.4	25.1	24.8	25.5	25.8	18.6	19.3	19.0	19.7	20.0
8H	24.4	25.0	24.8	25.4	25.8	18.7	19.3	19.1	19.7	20.0
12H	24.4	24.9	24.8	25.3	25.7	18.7	19.3	19.1	19.7	20.1
8H 4H	24.4	25.0	24.8	25.4	25.8	18.5	19.2	18.9	19.5	19.9
6H	24.3	24.9	24.8	25.3	25.7	18.7	19.2	19.1	19.6	20.0
8H	24.3	24.8	24.8	25.2	25.6	18.7	19.2	19.2	19.6	20.1
12H	24.3	24.7	24.8	25.1	25.6	18.8	19.2	19.3	19.7	20.1
12H 4H	24.3	24.9	24.8	25.3	25.7	18.5	19.1	18.9	19.5	19.8
6H	24.3	24.8	24.7	25.2	25.6	18.6	19.1	19.1	19.5	20.0
8H	24.3	24.7	24.7	25.1	25.6	18.8	19.1	19.2	19.6	20.1
Variations with the observer position at spacings:										
S = 1.0H	+ 2.3 / - 4.7					+ 2.1 / - 3.9				
1.5H	+ 2.3 / - 3.1					+ 3.3 / - 4.5				
2.0H	+ 5.2 / - 8.5					+ 3.8 / - 2.2				

CIE Pub.117 Corrected 11856 lm Total Lamp Luminous Flux.(8log(F/F0) = 8.6)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-06-15

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:

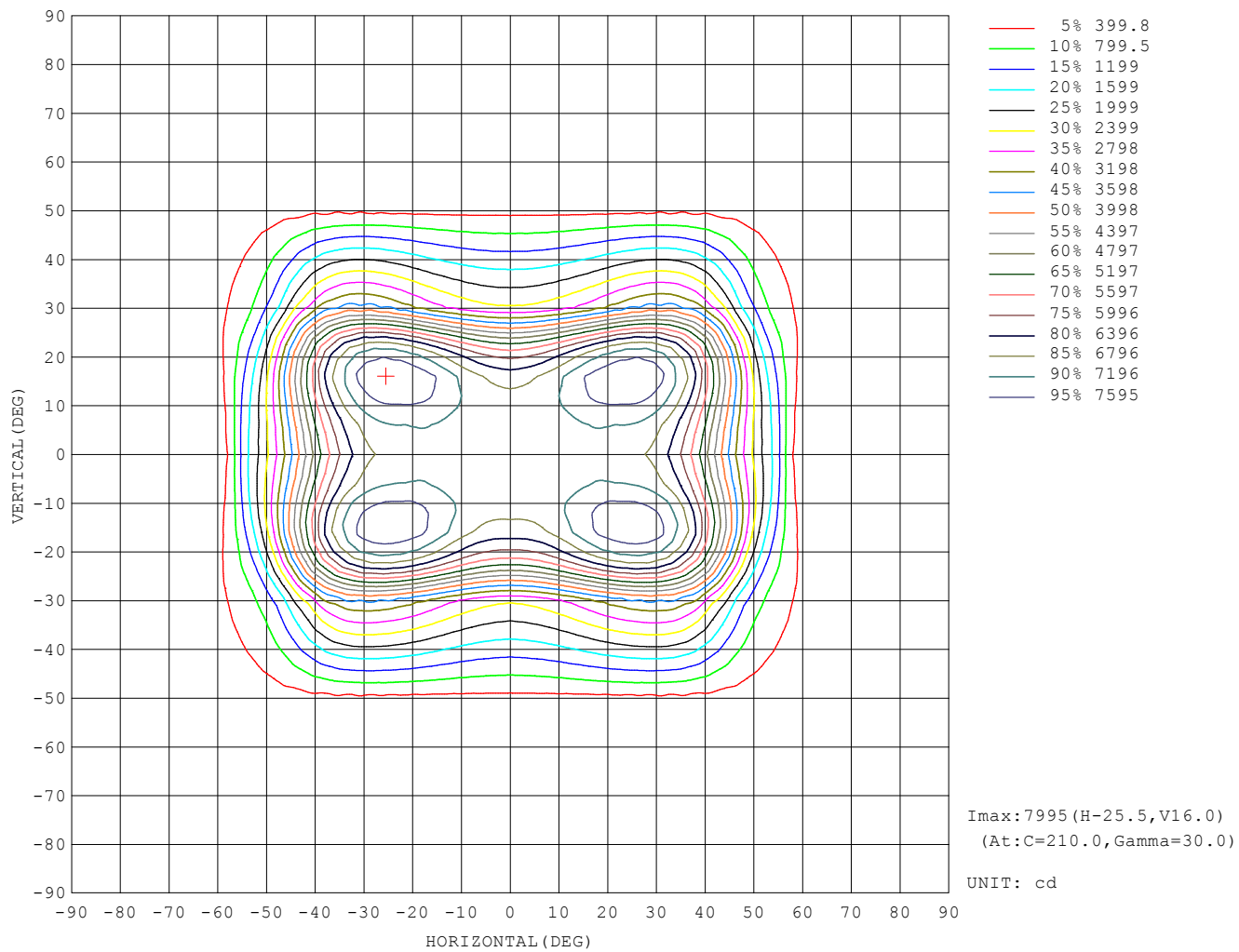
UTILIZATION FACTORS TABLE

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	70	81	74	69	64
1.00	90	83	78	89	82	77	88	83	77	72
1.25	96	89	84	95	88	84	93	87	83	78
1.50	100	93	89	98	93	88	96	91	87	82
2.00	104	99	95	103	98	94	100	96	92	86
2.50	107	102	98	105	100	97	102	98	95	88
3.00	109	104	101	107	103	100	103	100	97	90
4.00	111	108	105	109	106	103	105	103	100	93
5.00	113	110	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: 2017-06-15

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:

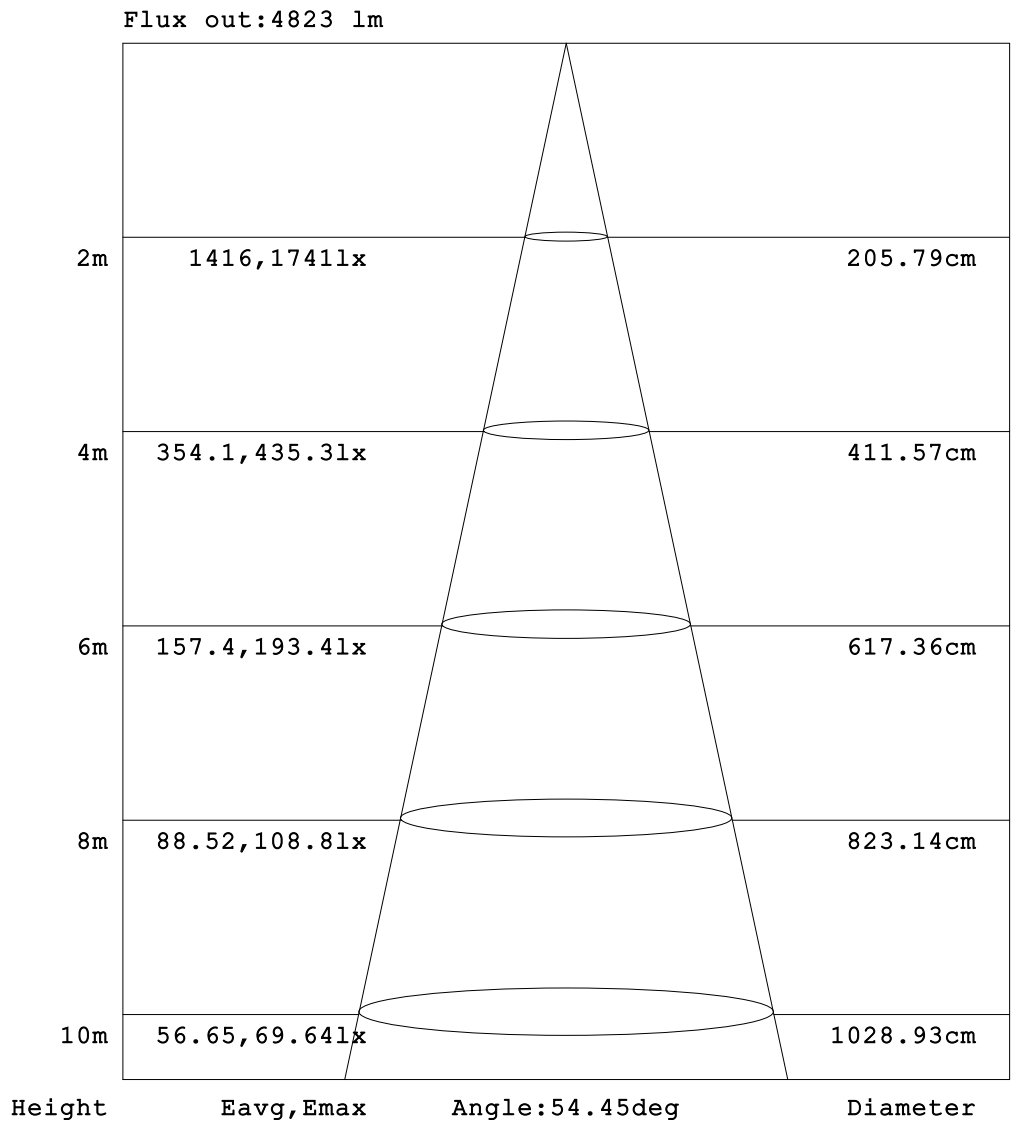
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-06-15

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

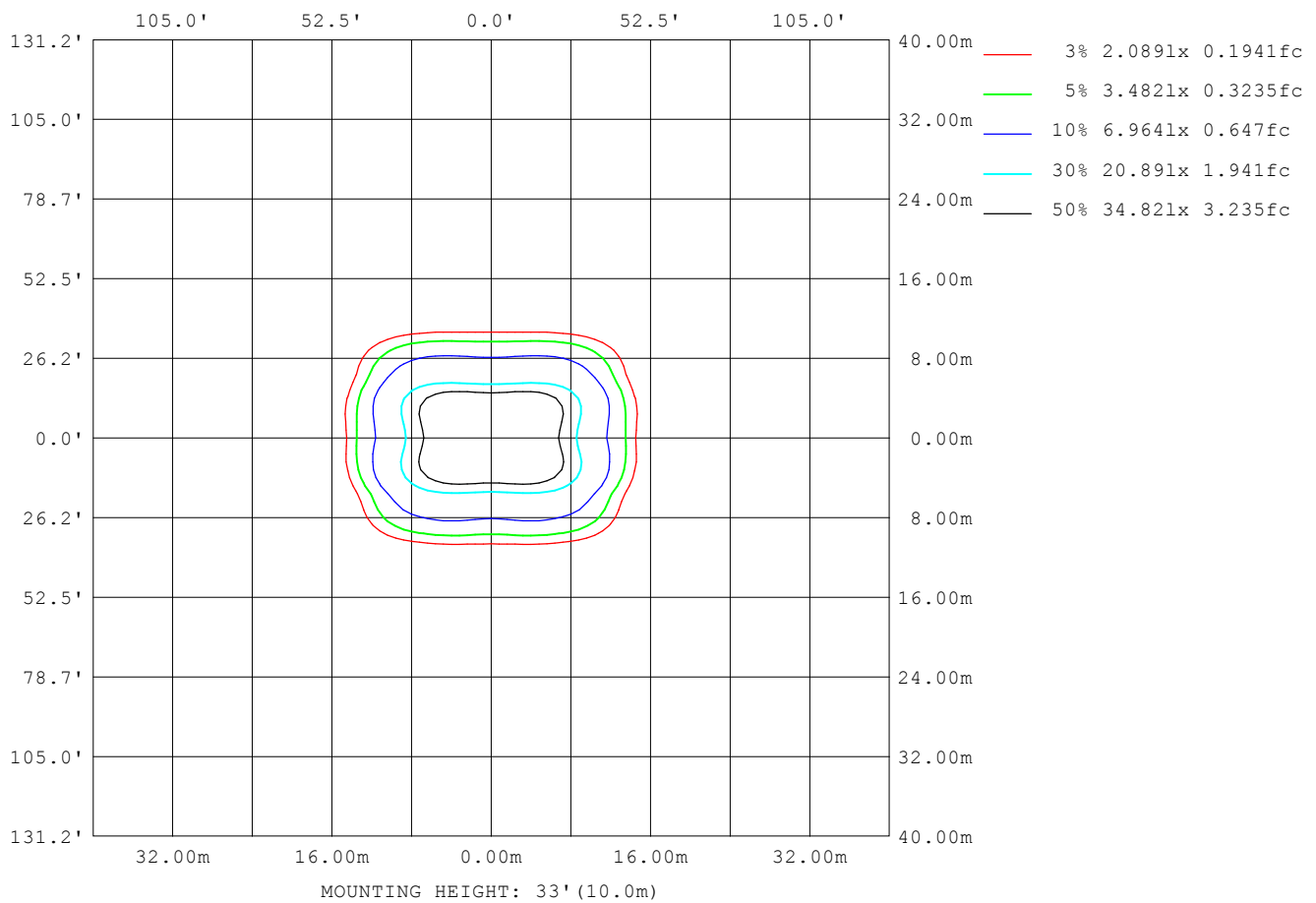


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-06-15

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: 2017-06-15

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:0.4129A P:91.58W PF:0.9643 Lamp Flux:11855.8x1 lm		
NAME: LHB01-90	TYPE:90W	WEIGHT:
SPEC.:5000K Ra80 6090DEG L02802	DIM.: 0.718*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.7*0.1	Shielding Angle:

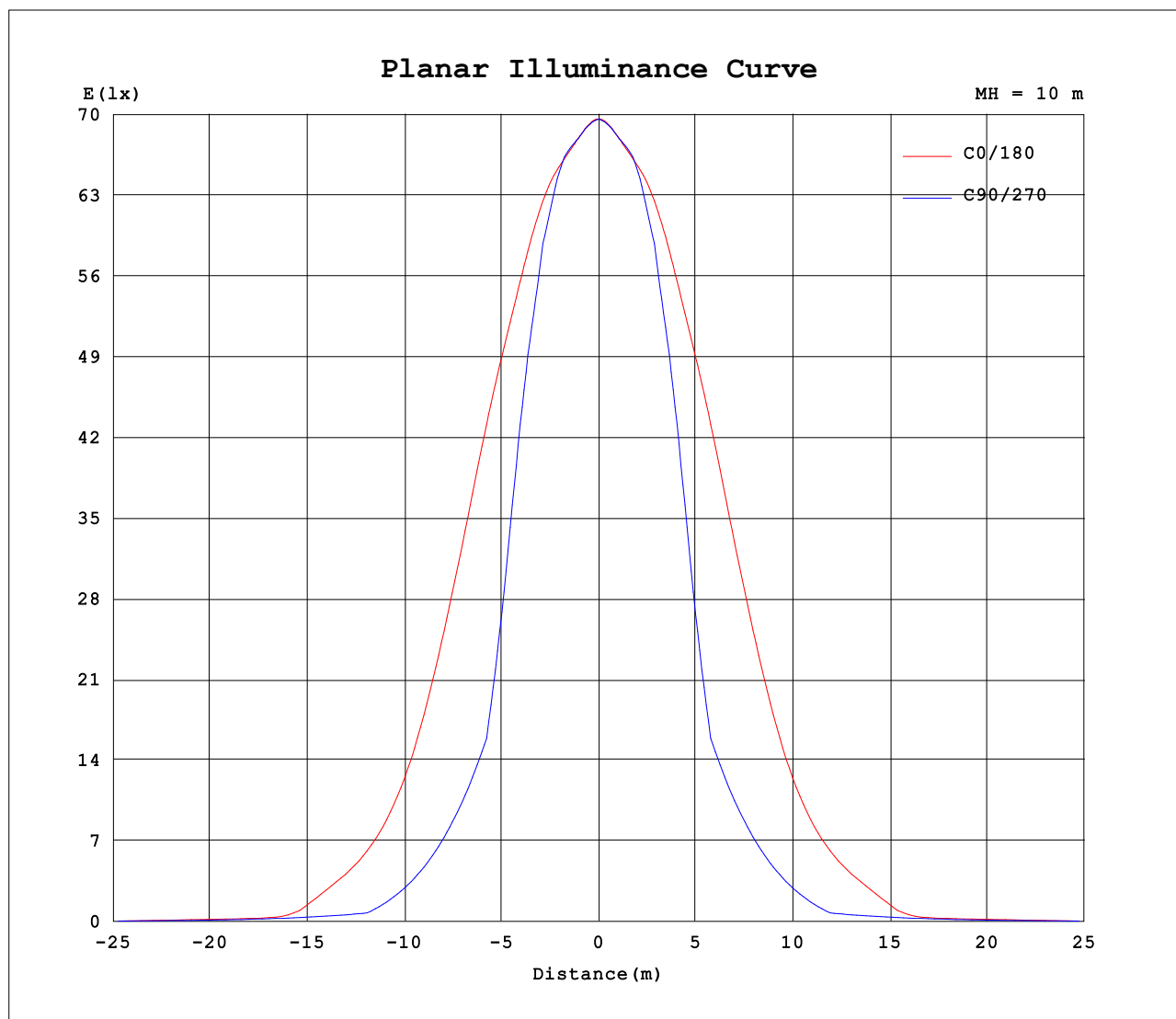
AvgL	cd/m2
L_0~180 (65) av	5817
L_0~180 (75) av	3085
L_0~180 (85) av	428
L_90~270 (65) av	3881
L_90~270 (75) av	3414
L_90~270 (85) av	4368
L_45 (65) av	5306
L_45 (75) av	3358
L_45 (85) av	3631

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-06-15

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: 2017-06-15

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:

```

```

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:

```