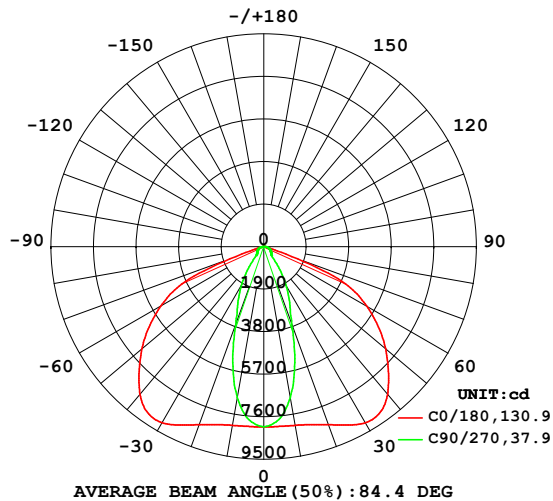


LUMINAIRE PHOTOMETRIC TEST REPORT

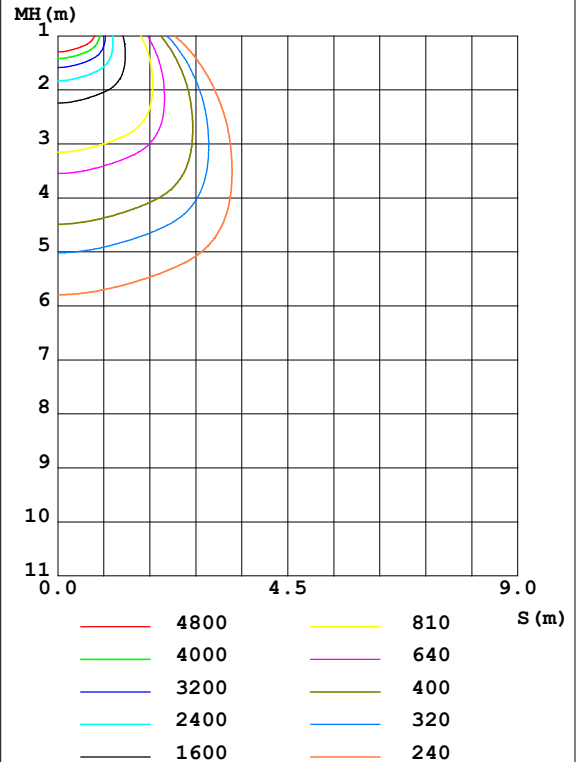
Test:U:230.1V I:0.4140A P:91.84W PF:0.9642 Lamp Flux:11938.9x1 lm		
NAME: LHB01-90	TYPE:90W	WEIGHT:
SPEC.:5000K Ra70 40130DEG L02804	DIM.: 0.718*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.7*0.1	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 130.00 lm/W			
MODEL	LHB01-90	I _{max} (cd)	9118	S/MH (C0/180)	1.64
NOMINAL POWER(W)	90	LOR(%)	100.0	S/MH (C90/270)	0.62
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	11939	η UP,DN (C0-180)	0.0,49.7
NOMINAL FLUX(lm)	11938.9	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0,50.3
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	0.70

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	8059	7877	7745	7877	8059	7887	7745	7887	0- 5	190.3	190.3	1.59,1.59
10	8104	7429	6837	7429	8104	7464	6837	7464	5- 10	549.0	739.4	6.19,6.19
15	8229	6646	5362	6646	8229	6703	5362	6703	10- 15	841.1	1580	13.2,13.2
20	8461	5581	3671	5581	8461	5633	3671	5633	15- 20	1034	2614	21.9,21.9
25	8790	4355	2747	4355	8790	4381	2747	4381	20- 25	1137	3751	31.4,31.4
30	9081	3317	2011	3317	9081	3313	2011	3313	25- 30	1207	4958	41.5,41.5
35	9050	2741	1276	2741	9050	2728	1276	2728	30- 35	1223	6181	51.8,51.8
40	8604	2097	540.5	2097	8604	2081	540.5	2081	35- 40	1158	7339	61.5,61.5
45	7877	1375	457.6	1375	7877	1356	457.6	1356	40- 45	1031	8370	70.1,70.1
50	7108	605.0	412.8	605.0	7108	569.0	412.8	569.0	45- 50	908.0	9278	77.7,77.7
55	6254	450.0	372.8	450.0	6254	425.1	372.8	425.1	50- 55	789.3	10068	84.3,84.3
60	5319	376.6	332.7	376.6	5319	356.5	332.7	356.5	55- 60	666.1	10734	89.9,89.9
65	4170	300.4	290.9	300.4	4170	287.4	290.9	287.4	60- 65	538.6	11272	94.4,94.4
70	1618	211.8	235.3	211.8	1618	208.9	235.3	208.9	65- 70	369.7	11642	97.5,97.5
75	210.9	146.9	177.8	146.9	210.9	148.2	177.8	148.2	70- 75	163.1	11805	98.9,98.9
80	70.14	99.77	120.4	99.77	70.14	100.8	120.4	100.8	75- 80	76.13	11881	99.5,99.5
85	9.408	52.96	63.02	52.96	9.408	53.62	63.02	53.62	80- 85	41.76	11923	99.9,99.9
90	5.593	6.312	5.604	6.312	5.593	6.584	5.604	6.584	85- 90	15.96	11939	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): 8370.3 lm

%lum = 70.1%

%lamp = 70.1%

Conical surface Flux(120deg): 10734 lm

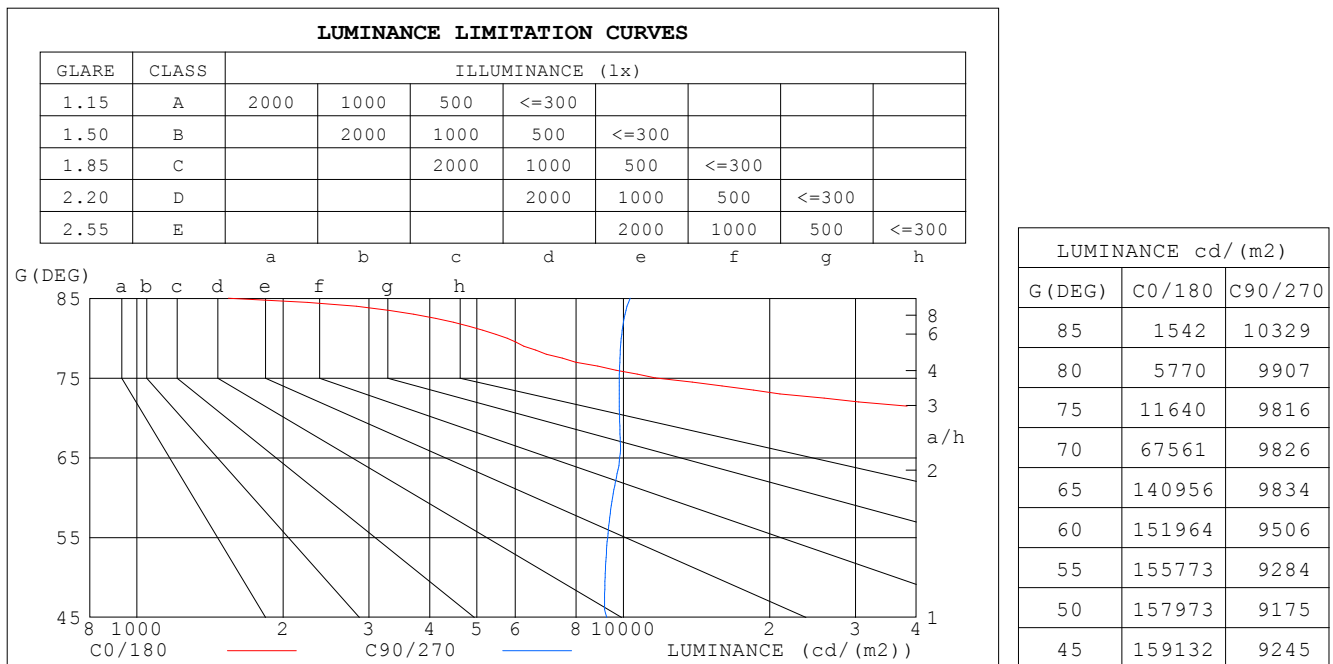
%lum = 89.9%

%lamp = 89.9%

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

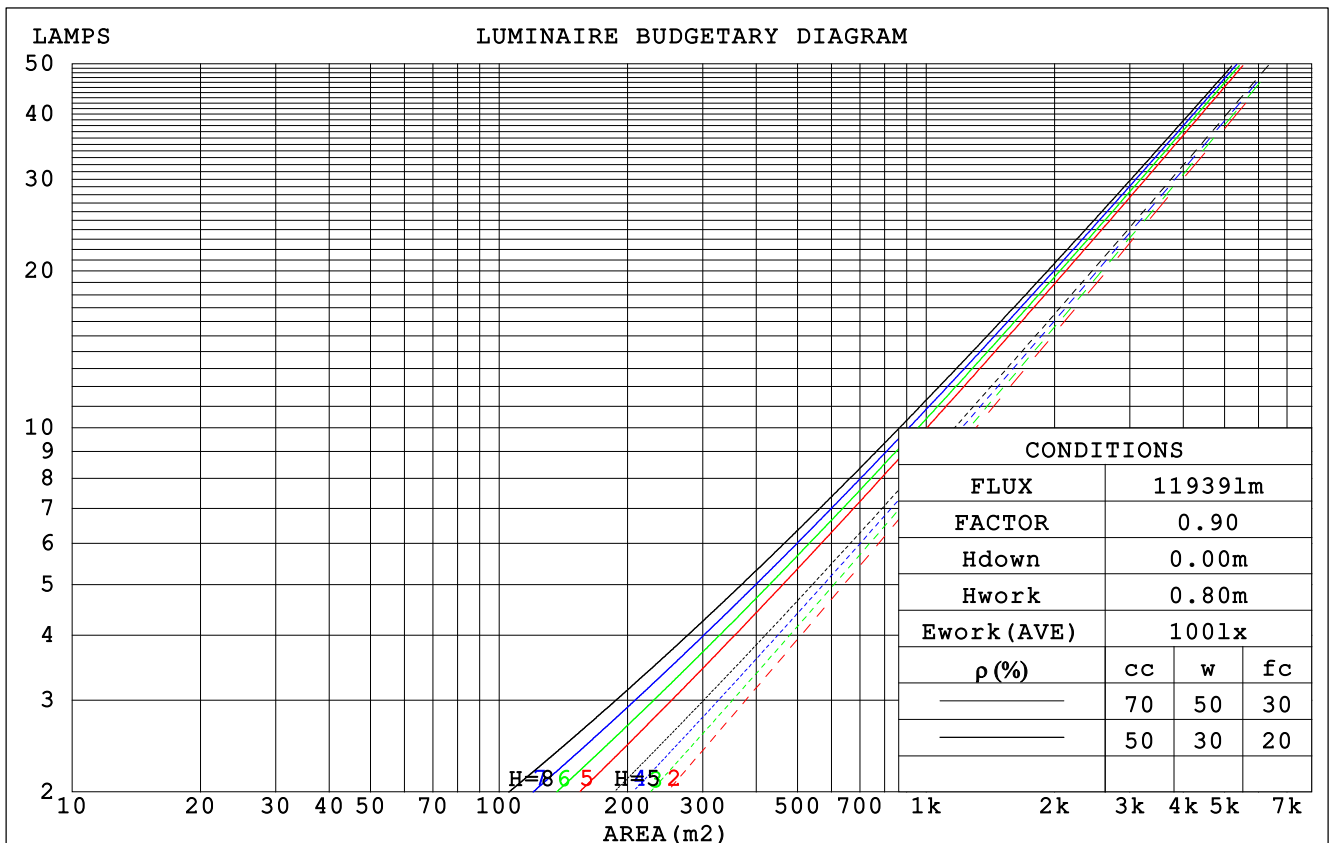


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-31

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	1.07	1.04	1.01	1.05	1.02	.99	1.01	.98	.96	.97	.95	.93	.94	.92	.90	.89
2.0	.96	.91	.86	.94	.89	.85	.91	.87	.83	.88	.84	.81	.85	.82	.79	.77
3.0	.87	.80	.74	.85	.79	.74	.82	.77	.72	.80	.75	.71	.77	.73	.70	.68
4.0	.78	.71	.65	.77	.70	.65	.75	.69	.64	.72	.67	.63	.70	.66	.62	.60
5.0	.71	.63	.58	.70	.63	.57	.68	.62	.57	.66	.61	.56	.65	.60	.56	.54
6.0	.65	.57	.52	.64	.57	.51	.62	.56	.51	.61	.55	.51	.59	.54	.50	.48
7.0	.60	.52	.47	.59	.52	.46	.58	.51	.46	.56	.50	.46	.55	.50	.46	.44
8.0	.55	.48	.42	.55	.47	.42	.53	.47	.42	.52	.46	.42	.51	.46	.42	.40
9.0	.51	.44	.39	.51	.44	.39	.50	.43	.39	.49	.43	.38	.48	.42	.38	.37
10.0	.48	.41	.36	.47	.40	.36	.46	.40	.36	.45	.40	.36	.45	.39	.35	.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	.244	.139	.044	.237	.135	.043	.224	.129	.041	.212	.123	.039	.201	.117	.038	
2.0	.236	.130	.040	.230	.127	.039	.219	.122	.038	.209	.117	.037	.199	.113	.036	
3.0	.224	.119	.036	.219	.117	.035	.209	.113	.034	.200	.110	.034	.191	.106	.033	
4.0	.211	.109	.032	.206	.108	.032	.197	.105	.031	.189	.102	.031	.182	.099	.030	
5.0	.198	.101	.029	.194	.099	.029	.186	.097	.029	.179	.094	.028	.172	.092	.028	
6.0	.186	.093	.027	.182	.092	.027	.176	.090	.026	.169	.088	.026	.163	.086	.026	
7.0	.175	.086	.025	.172	.086	.024	.166	.084	.024	.160	.082	.024	.155	.080	.024	
8.0	.165	.081	.023	.162	.080	.023	.157	.078	.022	.152	.077	.022	.147	.075	.022	
9.0	.156	.075	.021	.153	.075	.021	.148	.073	.021	.144	.072	.021	.139	.071	.020	
10.0	.148	.071	.020	.145	.070	.020	.141	.069	.019	.137	.068	.019	.133	.067	.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	.176	.157	.140	.150	.135	.120	.103	.093	.083	.059	.054	.048	.019	.017	.016	
2.0	.165	.132	.105	.141	.114	.091	.097	.079	.063	.056	.046	.037	.018	.015	.012	
3.0	.156	.114	.081	.133	.098	.070	.092	.068	.049	.053	.040	.029	.017	.013	.009	
4.0	.147	.100	.064	.126	.087	.056	.087	.060	.039	.050	.035	.023	.016	.011	.008	
5.0	.140	.089	.052	.120	.077	.045	.083	.054	.032	.048	.032	.019	.015	.010	.006	
6.0	.133	.081	.043	.114	.070	.038	.079	.049	.027	.046	.029	.016	.015	.009	.005	
7.0	.126	.074	.036	.109	.064	.032	.075	.045	.023	.044	.026	.013	.014	.009	.004	
8.0	.120	.068	.031	.104	.059	.027	.072	.041	.019	.042	.024	.012	.013	.008	.004	
9.0	.115	.063	.027	.099	.054	.024	.069	.038	.017	.040	.023	.010	.013	.007	.003	
10.0	.110	.058	.024	.094	.051	.021	.066	.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	30.6	31.9	30.9	32.1	32.3	16.5	17.8	16.7	18.0	18.1
3H	31.8	33.0	32.1	33.2	33.5	17.6	18.8	17.9	19.1	19.3
4H	31.8	32.9	32.1	33.1	33.4	18.2	19.4	18.5	19.6	19.9
6H	31.7	32.7	32.0	33.0	33.3	18.8	19.8	19.1	20.1	20.4
8H	31.6	32.7	32.0	32.9	33.2	19.0	20.0	19.3	20.3	20.6
12H	31.6	32.6	31.9	32.8	33.1	19.2	20.2	19.5	20.4	20.7
4H 2H	30.3	31.5	30.6	31.7	32.0	17.8	19.0	18.1	19.2	19.4
3H	31.6	32.5	31.9	32.8	33.1	18.9	19.8	19.2	20.1	20.4
4H	31.5	32.4	31.9	32.7	33.1	19.5	20.4	19.8	20.7	21.0
6H	31.5	32.2	31.8	32.6	32.9	20.1	20.9	20.5	21.2	21.6
8H	31.4	32.1	31.8	32.5	32.9	20.3	21.1	20.8	21.4	21.8
12H	31.4	32.0	31.8	32.4	32.8	20.6	21.2	21.0	21.6	22.0
8H 4H	31.4	32.1	31.8	32.5	32.9	19.8	20.5	20.2	20.9	21.2
6H	31.3	31.9	31.8	32.3	32.8	20.5	21.1	20.9	21.5	21.9
8H	31.3	31.8	31.8	32.3	32.7	20.8	21.4	21.3	21.8	22.2
12H	31.3	31.7	31.7	32.2	32.6	21.2	21.6	21.6	22.1	22.5
12H 4H	31.4	32.0	31.8	32.4	32.8	19.8	20.4	20.2	20.8	21.2
6H	31.3	31.8	31.8	32.2	32.7	20.5	21.1	21.0	21.5	21.9
8H	31.3	31.7	31.7	32.2	32.6	20.9	21.4	21.4	21.8	22.3
Variations with the observer position at spacings:										
S = 1.0H	+ 1.1 / - 1.1					+ 0.6 / - 0.8				
1.5H	+ 2.4 / - 4.4					+ 1.1 / - 0.7				
2.0H	+ 3.8 / - 8.8					+ 0.1 / - 0.3				

CIE Pub.117 Corrected 11939 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:2017-03-31

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:

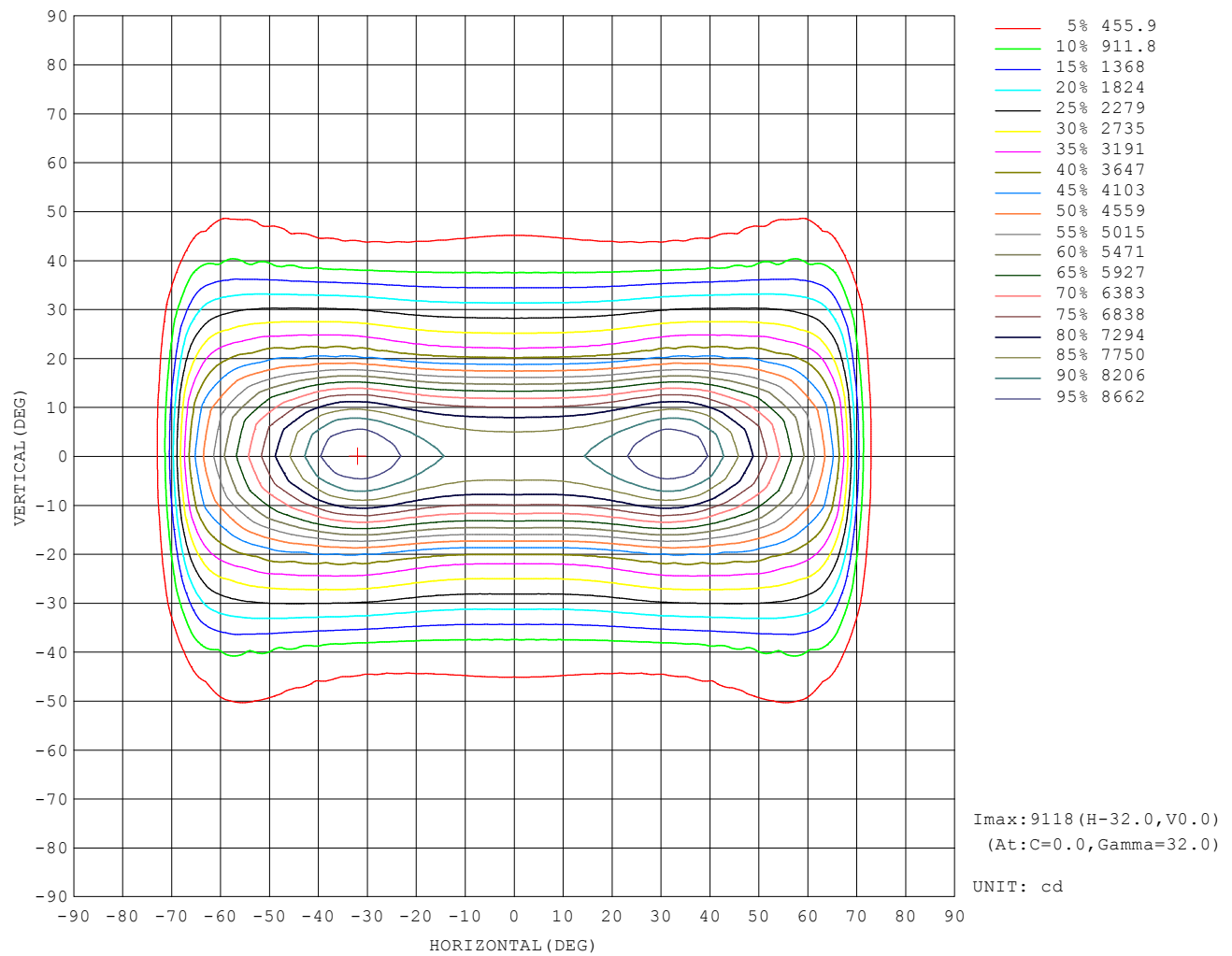
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	67	57	52	67	57	51	66	57	51	46
0.80	77	67	61	76	67	61	75	66	61	55
1.00	85	76	70	84	75	69	82	76	69	63
1.25	91	83	77	90	82	77	87	81	76	70
1.50	95	87	82	94	87	81	91	85	80	74
2.00	101	94	89	99	93	88	96	91	87	80
2.50	104	98	93	102	96	92	98	94	90	83
3.00	106	101	97	104	100	96	101	97	94	86
4.00	110	105	102	107	104	100	103	100	98	90
5.00	111	108	105	109	106	103	105	102	100	92
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:

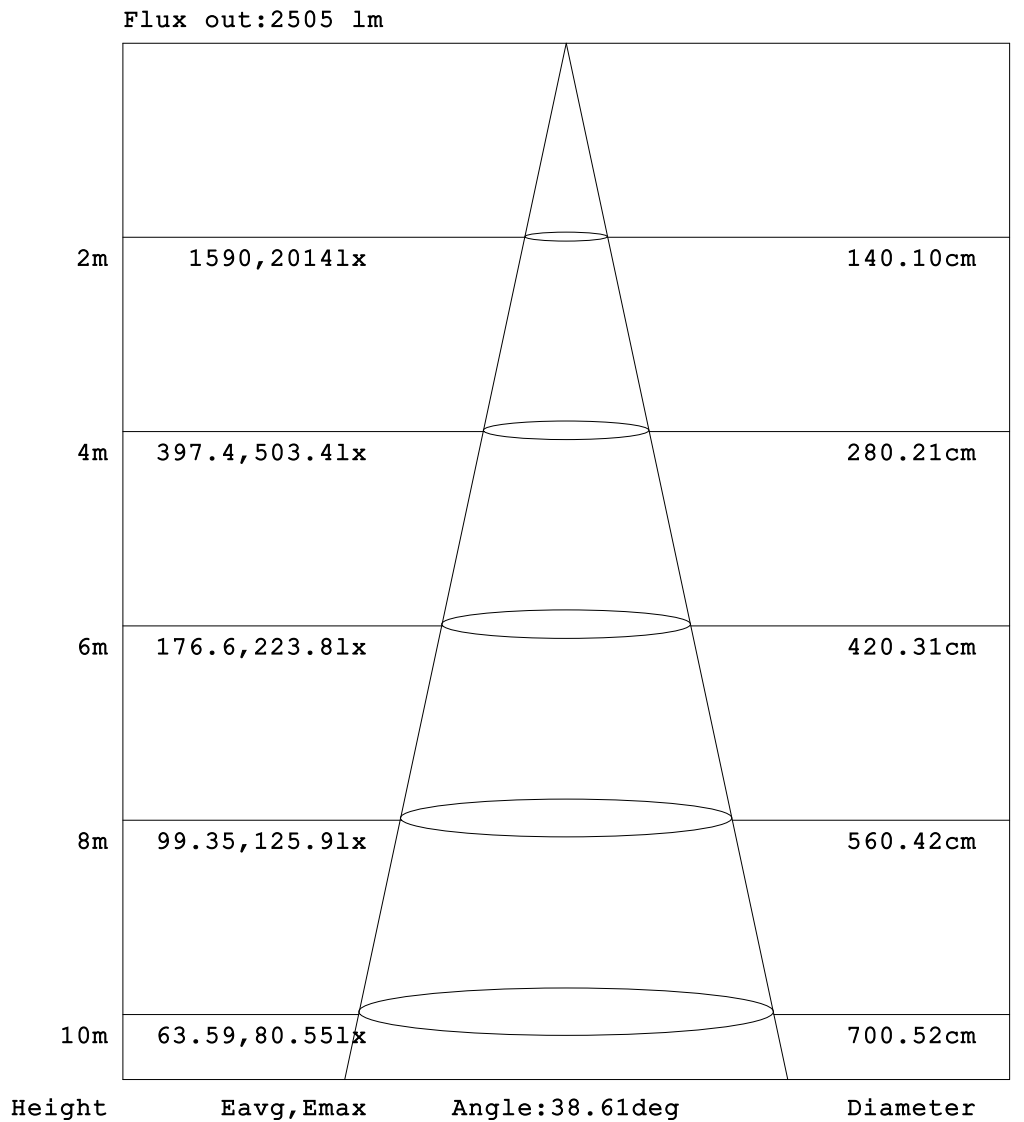
ISOCANDELA DIAGRAM



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

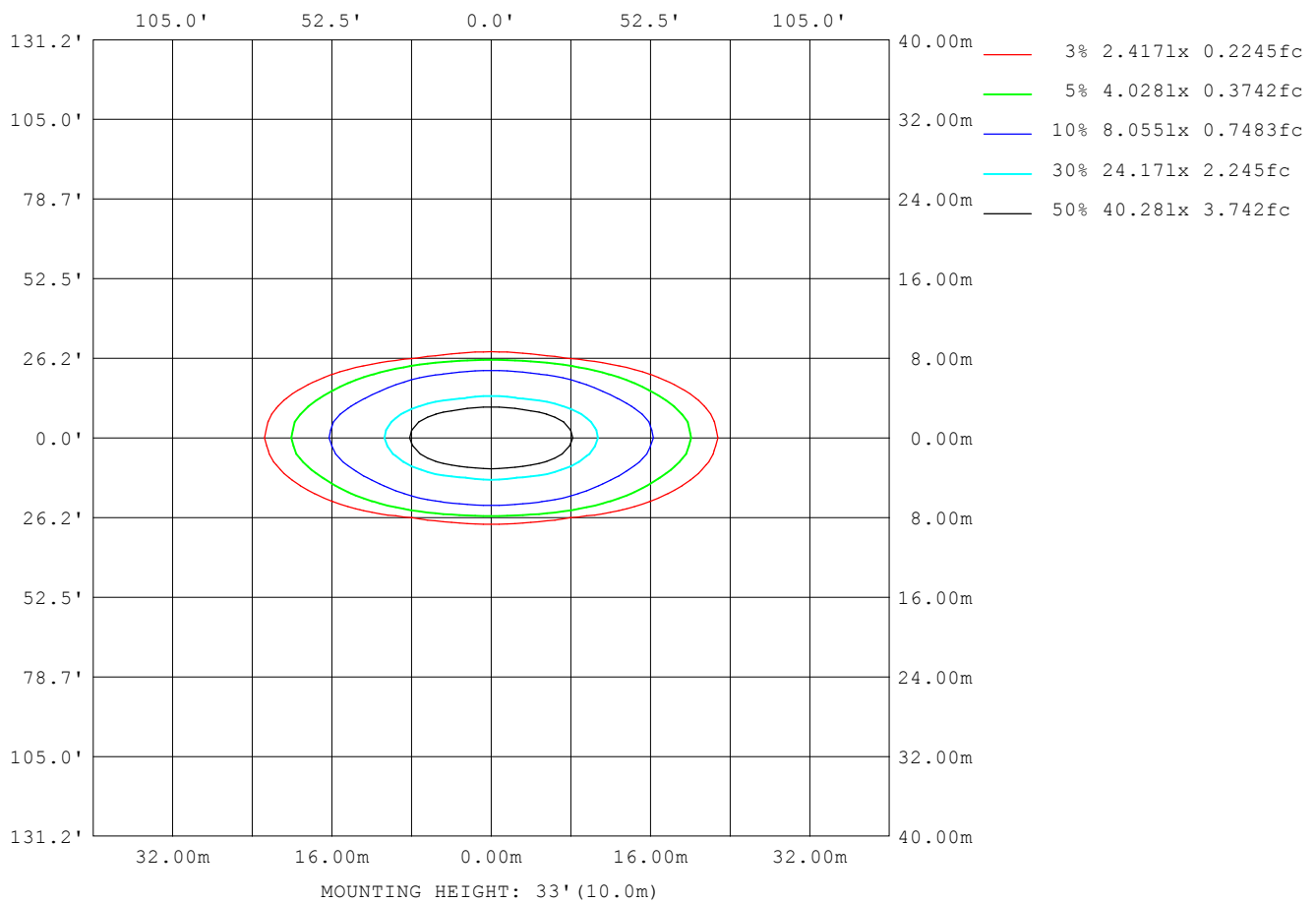


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:91.84W PF:0.9642 Lamp Flux:11938.9x1 lm		
NAME: LHB01-90	TYPE:90W	WEIGHT:
SPEC.:5000K Ra70 40130DEG L02804	DIM.: 0.718*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.7*0.1	Shielding Angle:

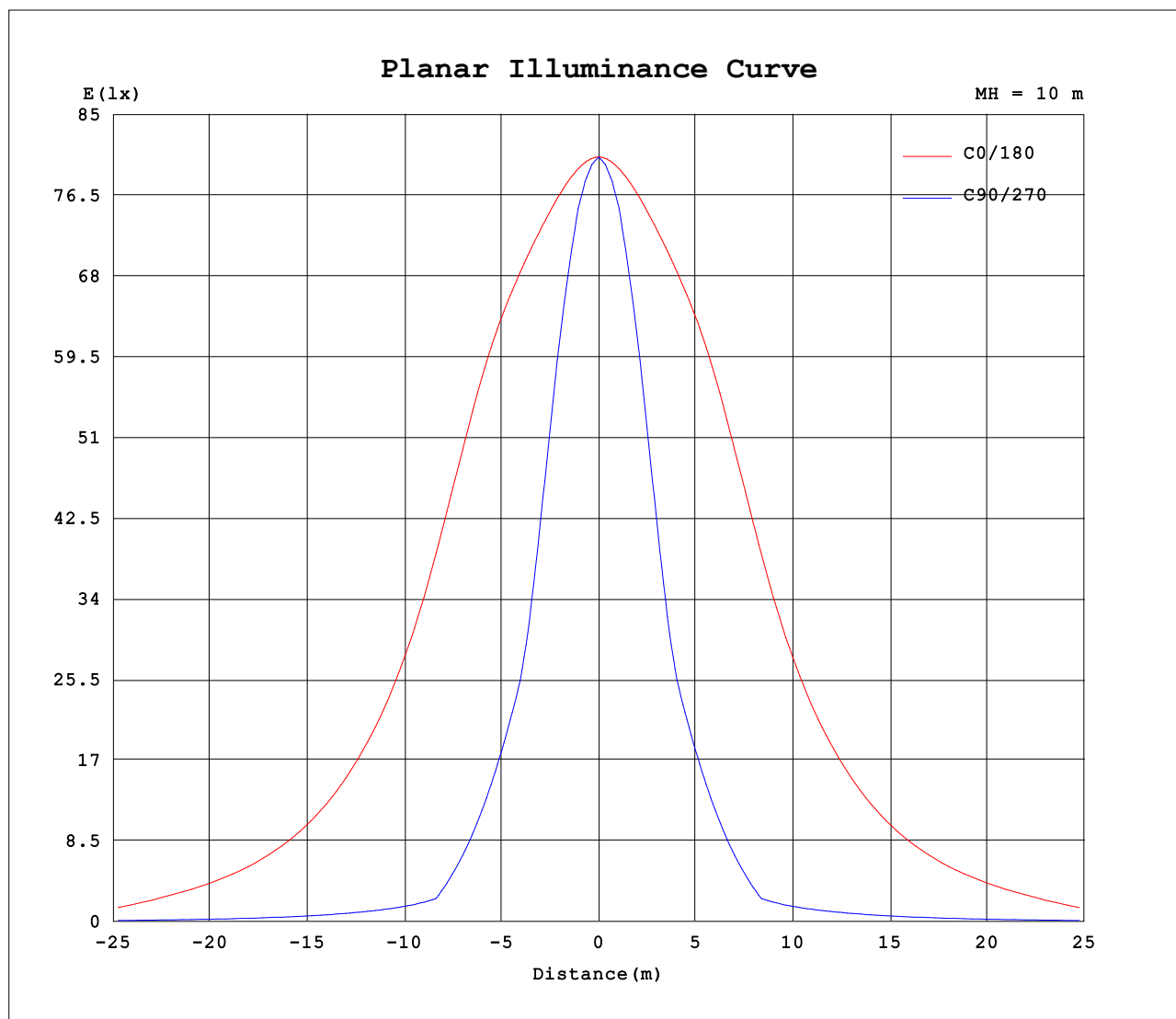
AvgL	cd/m2
L_0~180 (65) av	140956
L_0~180 (75) av	11640
L_0~180 (85) av	1542
L_90~270 (65) av	9834
L_90~270 (75) av	9816
L_90~270 (85) av	10329
L_45 (65) av	9936
L_45 (75) av	8145
L_45 (85) av	8735

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:

```

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:

```