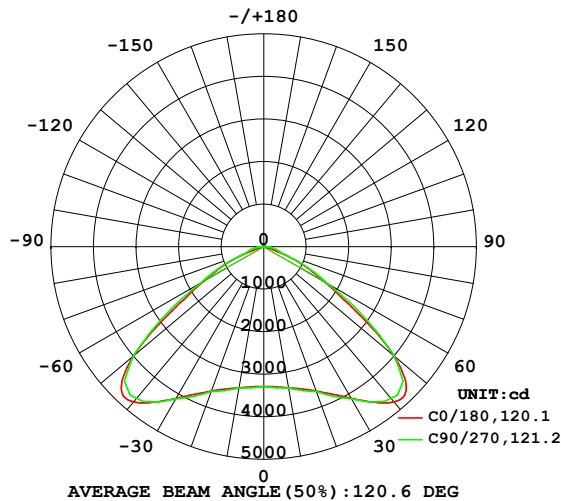


LUMINAIRE PHOTOMETRIC TEST REPORT

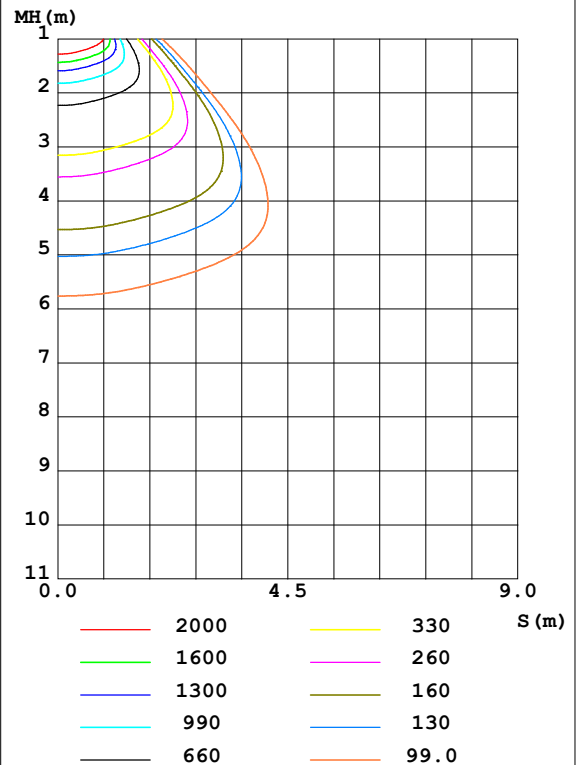
Test:U:230.0V I:0.4104A P:90.80W PF:0.9618 Lamp Flux:13241x1 lm		
NAME: LHB01-90H	TYPE:90W	WEIGHT:
SPEC.:5000K Ra80 L06403	DIM.: 0.718*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.7*0.1	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 145.83 lm/W			
MODEL	LHB01-90H	I _{max} (cd)	4823	S/MH (C0/180)	1.81
NOMINAL POWER(W)	90	LOR(%)	100.0	S/MH (C90/270)	1.82
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	13241	η UP,DN(C0-180)	0.0,50.0
NOMINAL FLUX(lm)	13241	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.0
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.75
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	1.75

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: 2017-10-10

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	3309	3327	3330	3327	3309	3329	3330	3329	0- 5	79.15	79.15	0.60,0.60
10	3370	3387	3374	3387	3370	3392	3374	3392	5- 10	240.1	319.3	2.41,2.41
15	3465	3474	3499	3474	3465	3487	3499	3487	10- 15	407.6	726.9	5.49,5.49
20	3614	3635	3624	3635	3614	3658	3624	3658	15- 20	587.1	1314	9.92,9.92
25	3827	3828	3877	3828	3827	3860	3877	3860	20- 25	784.9	2099	15.9,15.9
30	4116	4116	4130	4116	4116	4141	4130	4141	25- 30	1011	3110	23.5,23.5
35	4462	4465	4452	4465	4462	4462	4452	4462	30- 35	1267	4377	33.1,33.1
40	4766	4759	4655	4759	4766	4724	4655	4724	35- 40	1538	5915	44.7,44.7
45	4739	4693	4589	4693	4739	4678	4589	4678	40- 45	1753	7668	57.9,57.9
50	3988	3968	4002	3968	3988	3975	4002	3975	45- 50	1768	9436	71.3,71.3
55	2639	2728	2860	2728	2639	2677	2860	2677	50- 55	1461	10897	82.3,82.3
60	1649	1719	1718	1719	1649	1696	1718	1696	55- 60	1016	11912	90,90
65	1025	1066	1084	1066	1025	1050	1084	1050	60- 65	668.7	12581	95,95
70	357.3	520.9	450.0	520.9	357.3	515.0	450.0	515.0	65- 70	379.8	12961	97.9,97.9
75	86.57	134.4	338.4	134.4	86.57	137.5	338.4	137.5	70- 75	144.8	13106	99,99
80	51.12	65.77	226.8	65.77	51.12	67.96	226.8	67.96	75- 80	74.93	13181	99.5,99.5
85	11.18	34.41	115.1	34.41	11.18	35.32	115.1	35.32	80- 85	44.43	13225	99.9,99.9
90	3.619	3.710	3.539	3.710	3.619	3.836	3.539	3.836	85- 90	15.87	13241	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): 7667.7 lm

%lum = 57.9%

%lamp = 57.9%

Conical surface Flux(120deg): 11912 lm

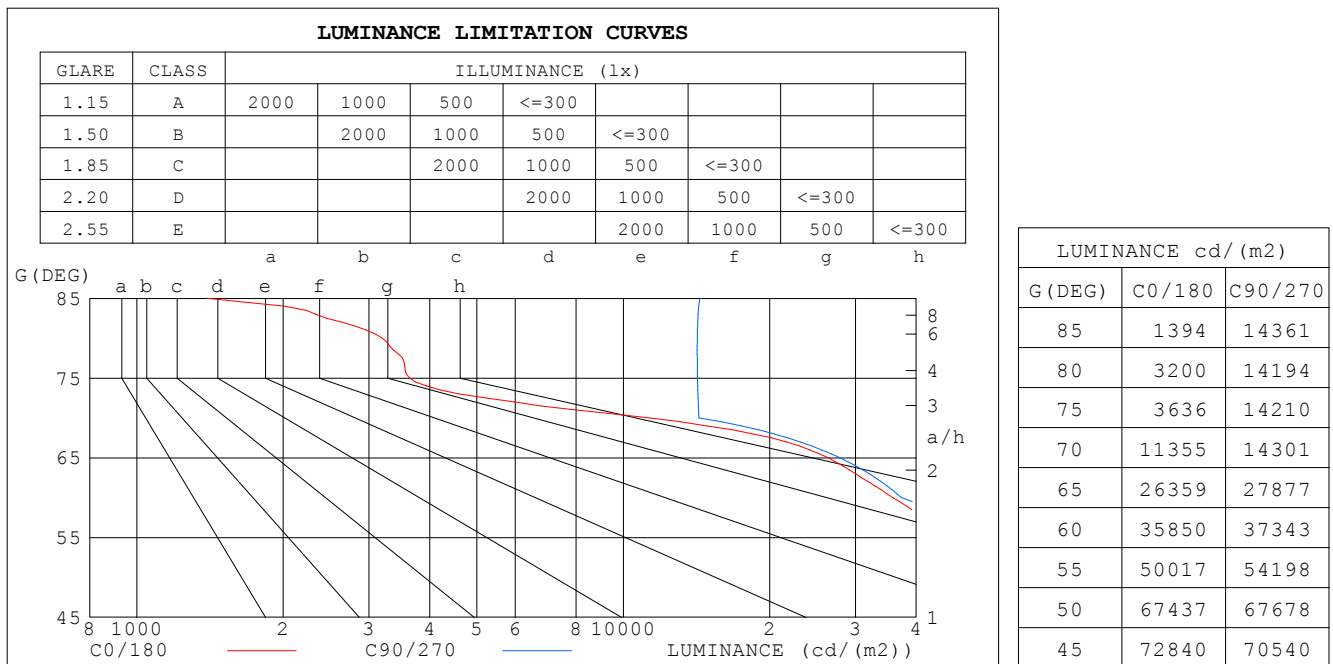
%lum = 90.0%

%lamp = 90.0%

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-10-10

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

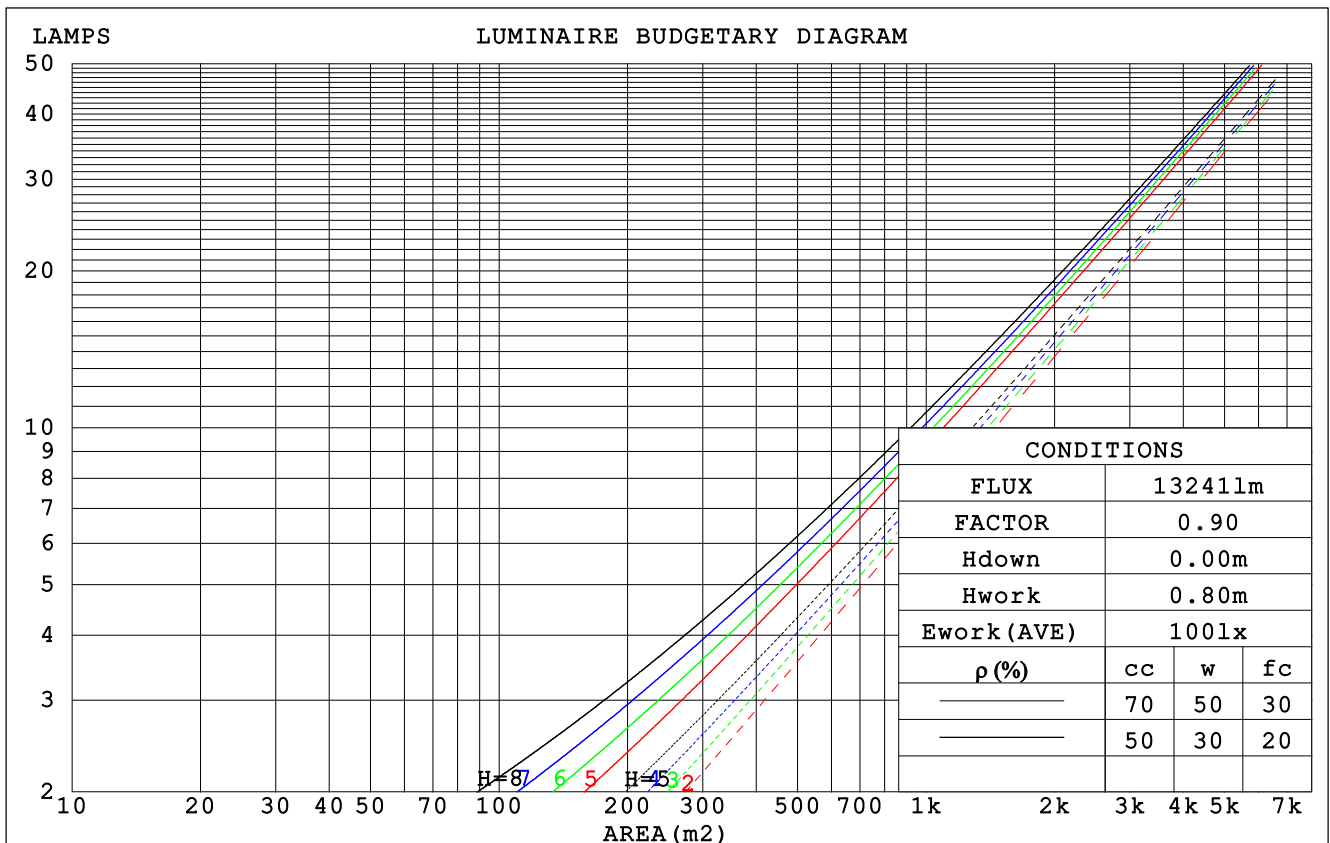


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-10-10

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	1.06	1.02	.99	1.04	1.00	.97	.00	.97	.94	.96	.94	.92	.92	.90	.89	.87
2.0	.94	.87	.82	.92	.86	.81	.88	.83	.79	.85	.81	.78	.82	.79	.76	.74
3.0	.82	.75	.69	.81	.74	.68	.78	.72	.67	.75	.70	.66	.73	.68	.65	.63
4.0	.73	.65	.58	.72	.64	.58	.69	.62	.57	.67	.61	.56	.65	.60	.55	.53
5.0	.65	.56	.50	.64	.56	.49	.62	.54	.49	.60	.53	.48	.58	.52	.48	.46
6.0	.58	.49	.43	.57	.49	.43	.55	.48	.42	.54	.47	.42	.52	.46	.42	.39
7.0	.52	.43	.37	.51	.43	.37	.50	.42	.37	.48	.42	.37	.47	.41	.36	.34
8.0	.47	.39	.33	.46	.38	.33	.45	.38	.32	.44	.37	.32	.43	.37	.32	.30
9.0	.43	.35	.29	.42	.34	.29	.41	.34	.29	.40	.33	.29	.39	.33	.28	.27
10.0	.39	.31	.26	.39	.31	.26	.38	.31	.26	.37	.30	.26	.36	.30	.25	.24



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-10-10

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	.267	.152	.048	.260	.148	.047	.247	.142	.045	.235	.136	.043	.224	.130	.042	
2.0	.262	.144	.044	.256	.141	.043	.245	.136	.042	.234	.131	.041	.224	.127	.040	
3.0	.250	.133	.040	.245	.131	.039	.235	.127	.039	.225	.124	.038	.217	.120	.037	
4.0	.236	.123	.036	.232	.121	.036	.223	.118	.035	.214	.115	.035	.207	.112	.034	
5.0	.222	.113	.033	.218	.112	.033	.210	.109	.032	.203	.107	.032	.196	.105	.031	
6.0	.209	.105	.030	.205	.104	.030	.198	.101	.030	.191	.099	.029	.185	.097	.029	
7.0	.196	.097	.028	.193	.096	.027	.186	.094	.027	.180	.092	.027	.175	.091	.027	
8.0	.185	.090	.025	.182	.089	.025	.176	.088	.025	.170	.086	.025	.165	.085	.025	
9.0	.174	.084	.023	.171	.083	.023	.166	.082	.023	.161	.081	.023	.156	.079	.023	
10.0	.164	.079	.022	.162	.078	.022	.157	.077	.022	.153	.076	.022	.148	.075	.021	

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	.177	.157	.138	.152	.134	.119	.104	.092	.082	.060	.053	.048	.019	.017	.015	
2.0	.168	.132	.102	.144	.114	.088	.099	.079	.061	.057	.046	.036	.018	.015	.012	
3.0	.161	.114	.077	.138	.098	.067	.095	.068	.047	.055	.040	.028	.018	.013	.009	
4.0	.154	.101	.060	.132	.087	.052	.091	.061	.037	.052	.036	.022	.017	.012	.007	
5.0	.147	.090	.048	.126	.078	.042	.087	.055	.030	.050	.032	.018	.016	.010	.006	
6.0	.141	.082	.040	.121	.071	.035	.083	.050	.025	.048	.029	.015	.016	.010	.005	
7.0	.134	.075	.034	.116	.065	.029	.080	.046	.021	.046	.027	.012	.015	.009	.004	
8.0	.129	.069	.029	.111	.060	.025	.077	.042	.018	.045	.025	.011	.014	.008	.004	
9.0	.123	.065	.025	.106	.056	.022	.073	.039	.016	.043	.023	.009	.014	.008	.003	
10.0	.117	.060	.022	.101	.052	.020	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-10-10

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	26.8	28.3	27.1	28.5	28.7	27.0	28.5	27.3	28.7	28.9
3H	27.0	28.3	27.3	28.5	28.8	27.2	28.6	27.5	28.8	29.0
4H	26.9	28.1	27.2	28.4	28.6	27.2	28.5	27.5	28.7	29.0
6H	26.8	28.0	27.1	28.2	28.5	27.2	28.4	27.6	28.7	29.0
8H	26.7	27.9	27.1	28.2	28.4	27.2	28.4	27.6	28.7	29.0
12H	26.7	27.8	27.0	28.1	28.4	27.2	28.3	27.6	28.6	28.9
4H 2H	27.0	28.3	27.3	28.5	28.8	27.1	28.4	27.4	28.7	28.9
3H	27.2	28.3	27.5	28.6	28.9	27.4	28.5	27.7	28.8	29.1
4H	27.1	28.1	27.5	28.4	28.7	27.4	28.4	27.8	28.7	29.1
6H	27.0	27.9	27.4	28.2	28.6	27.5	28.4	27.9	28.7	29.1
8H	27.0	27.8	27.4	28.1	28.5	27.5	28.4	28.0	28.7	29.1
12H	26.9	27.7	27.4	28.1	28.5	27.6	28.3	28.0	28.7	29.1
8H 4H	27.0	27.8	27.4	28.2	28.5	27.3	28.1	27.7	28.5	28.9
6H	26.9	27.6	27.4	28.0	28.4	27.4	28.1	27.9	28.5	28.9
8H	26.9	27.5	27.4	27.9	28.4	27.5	28.1	28.0	28.5	29.0
12H	26.9	27.4	27.4	27.8	28.3	27.6	28.1	28.1	28.5	29.0
12H 4H	27.0	27.7	27.4	28.1	28.5	27.3	28.0	27.7	28.4	28.8
6H	26.9	27.5	27.4	27.9	28.4	27.4	28.0	27.9	28.4	28.9
8H	26.9	27.4	27.4	27.8	28.3	27.5	28.0	28.0	28.4	28.9
Variations with the observer position at spacings:										
S = 1.0H	+ 0.8 / - 0.9					+ 0.5 / - 0.6				
1.5H	+ 0.5 / - 1.5					+ 0.5 / - 1.4				
2.0H	+ 1.8 / - 2.1					+ 1.6 / - 2.1				

CIE Pub.117 Corrected 13241 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:2017-10-10

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:

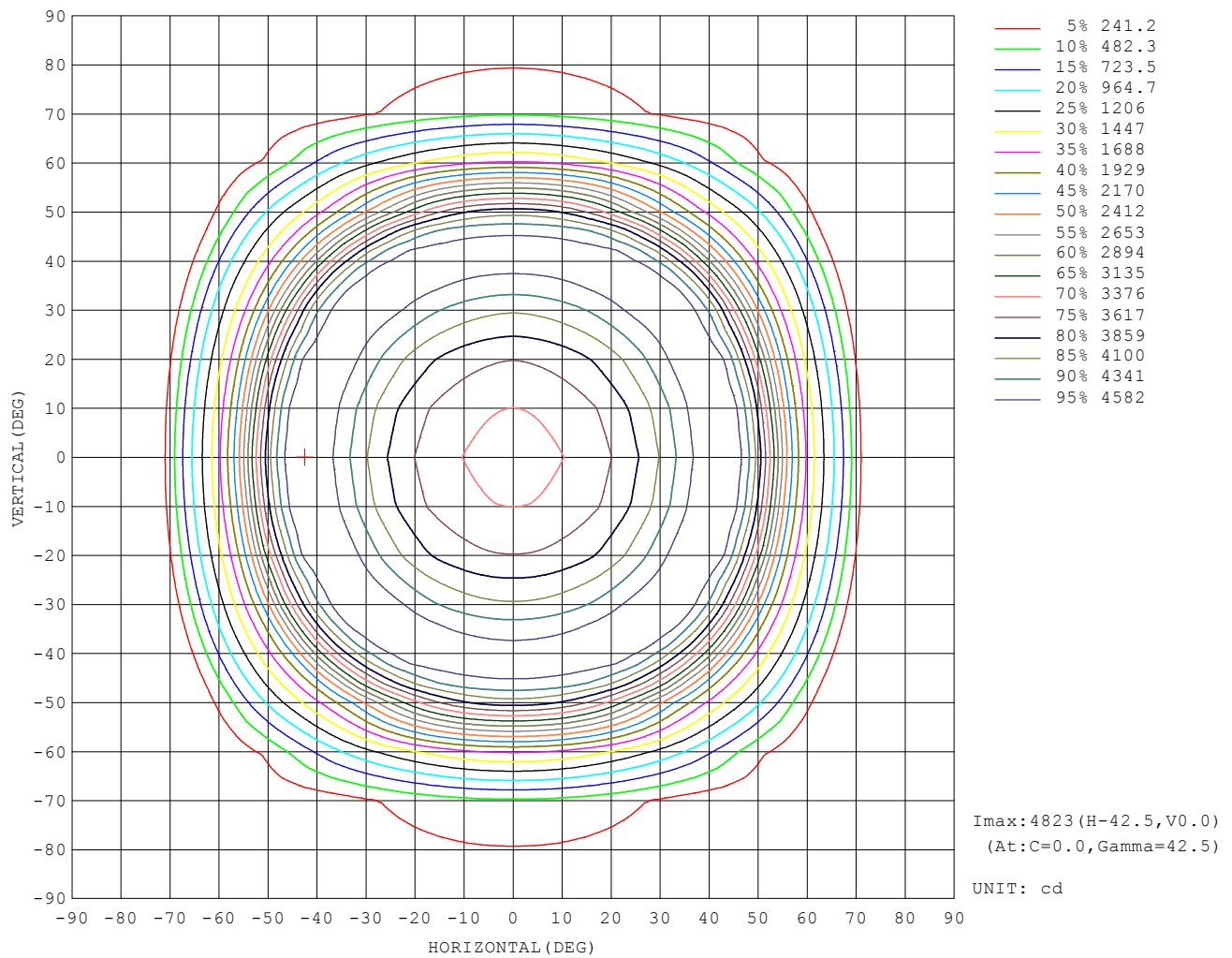
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	56	44	37	55	44	37	54	43	37	30
0.80	68	56	49	67	56	49	65	55	48	41
1.00	78	67	60	77	67	60	74	68	59	52
1.25	86	76	69	84	75	69	82	74	68	61
1.50	91	82	75	89	81	75	86	79	74	67
2.00	98	90	84	96	89	84	93	87	82	75
2.50	101	94	89	99	93	88	96	90	86	78
3.00	104	98	93	102	97	92	98	94	90	82
4.00	108	103	99	105	101	97	101	98	94	86
5.00	110	105	102	107	103	100	103	100	97	88
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: 2017-10-10

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:

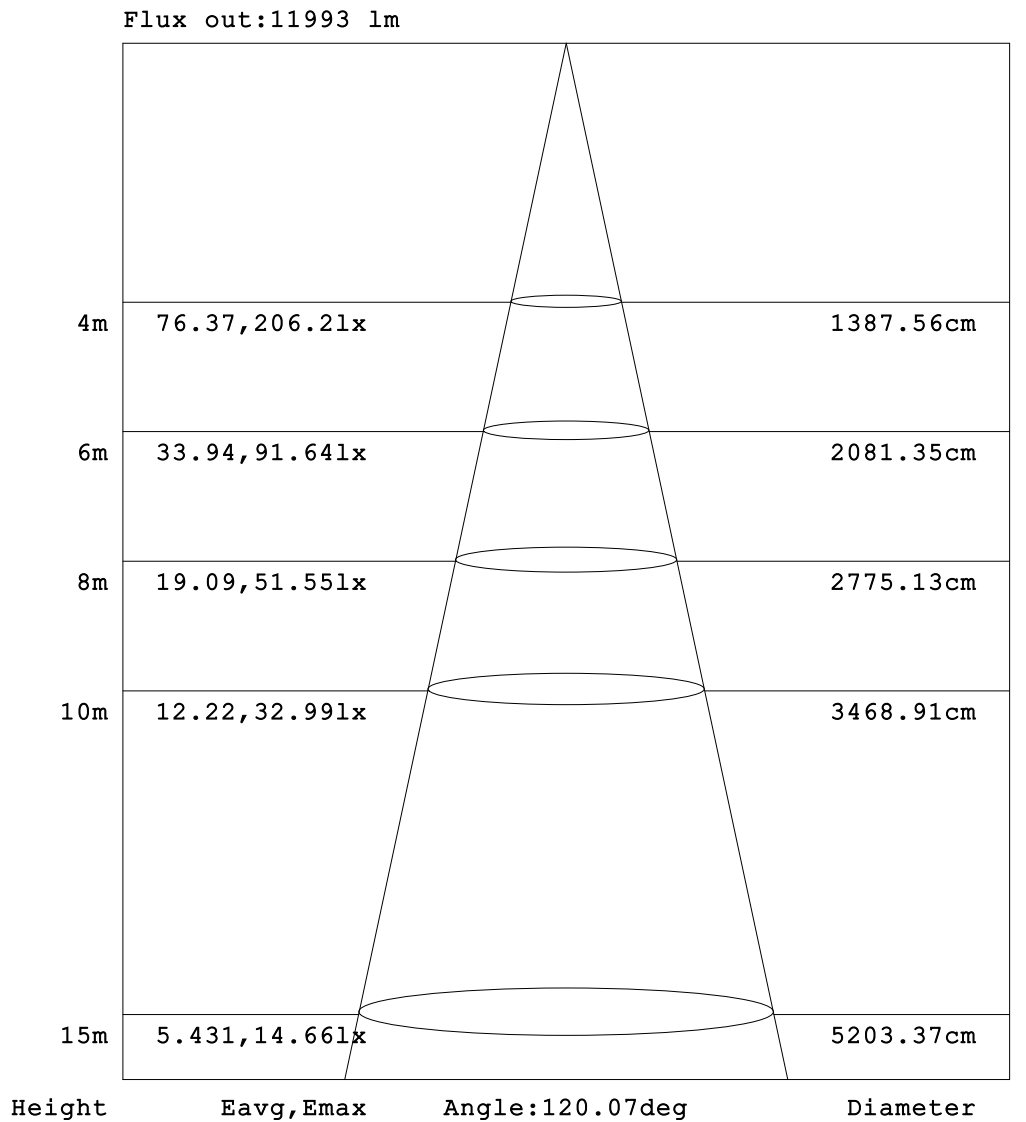
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-10-10

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

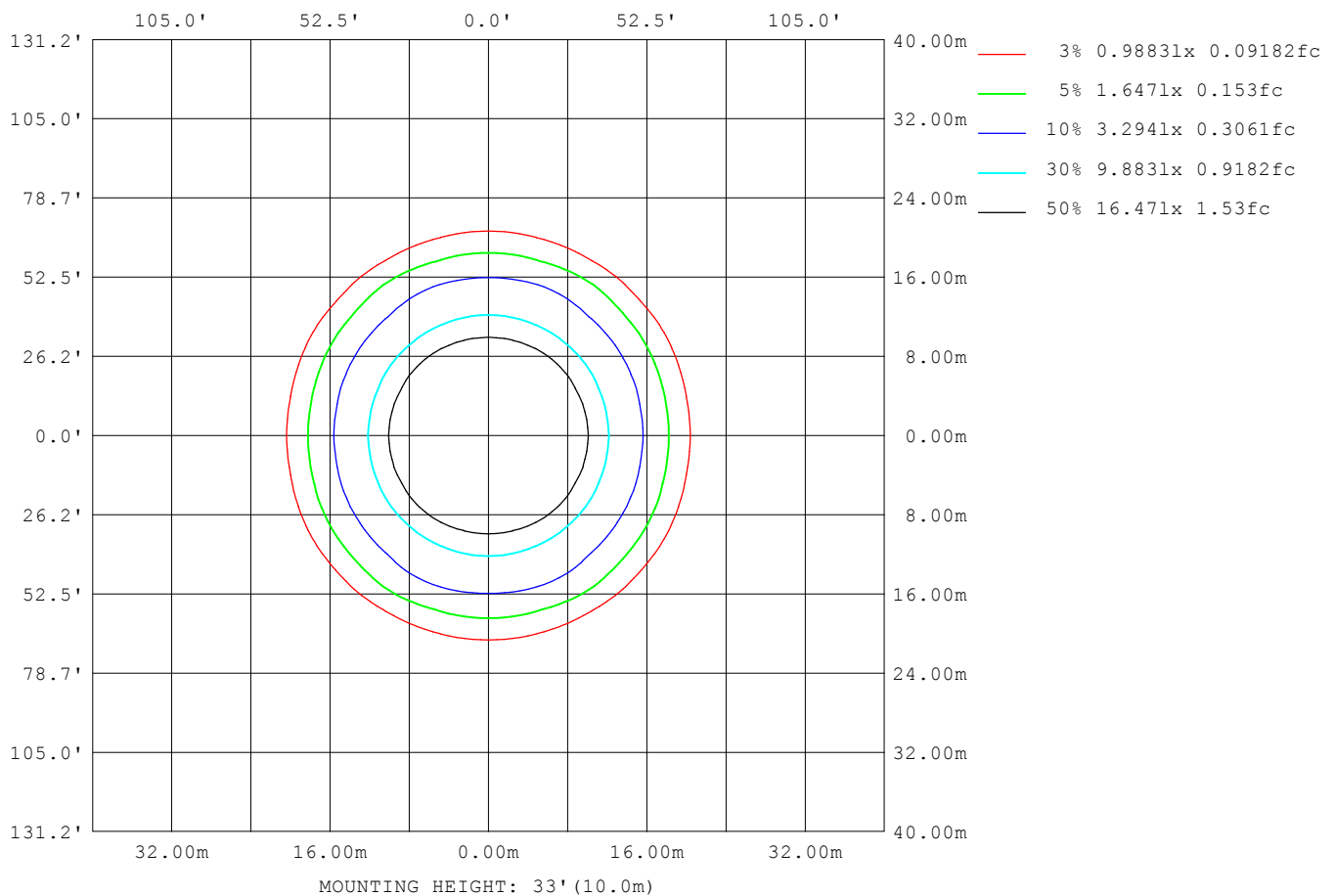


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-10-10

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: 2017-10-10

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:0.4104A P:90.80W PF:0.9618 Lamp Flux:13241x1 lm		
NAME: LHB01-90H	TYPE:90W	WEIGHT:
SPEC.:5000K Ra80 L06403	DIM.: 0.718*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.7*0.1	Shielding Angle:

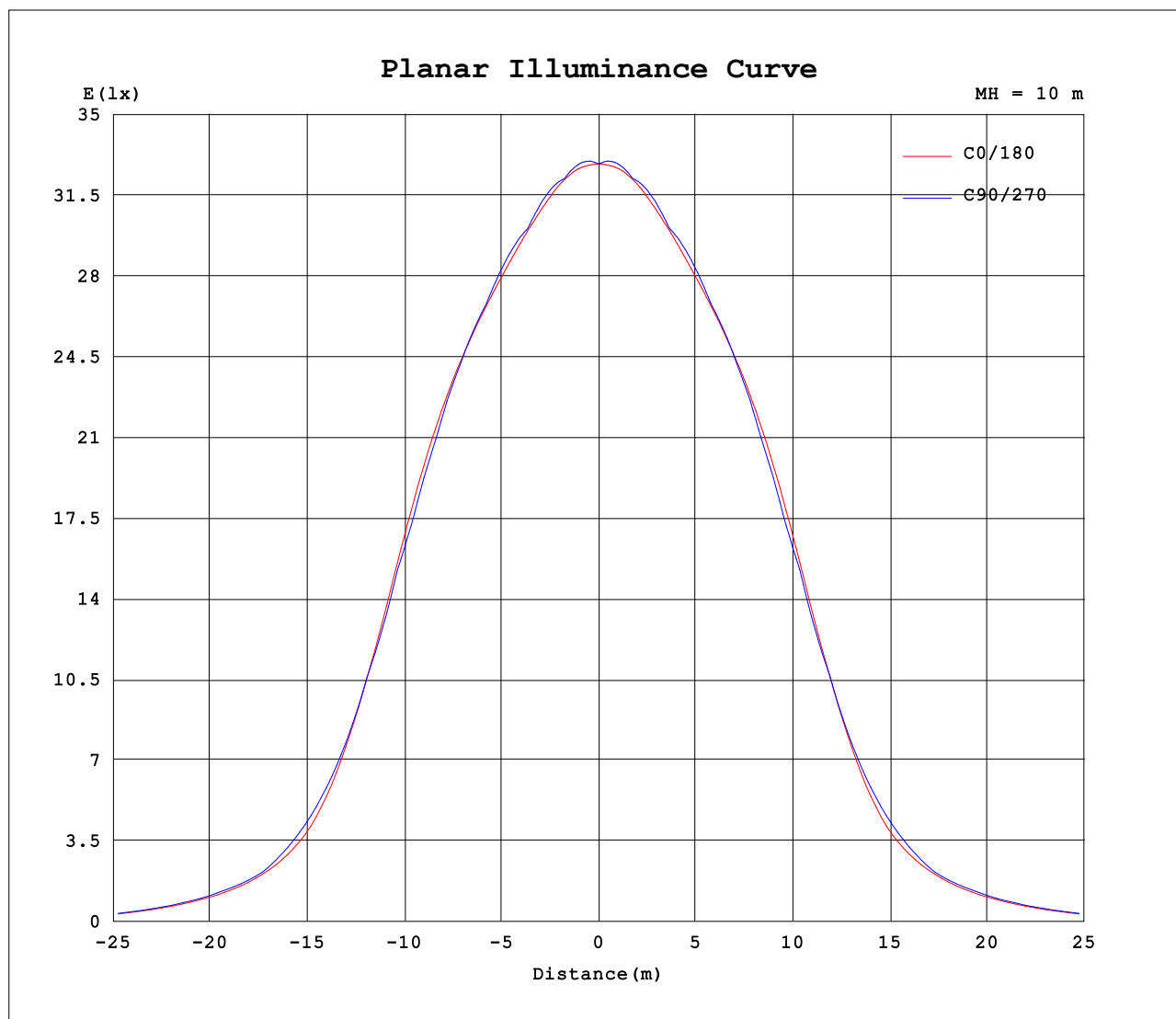
AvgL	cd/m2
L_0~180 (65) av	26359
L_0~180 (75) av	3636
L_0~180 (85) av	1394
L_90~270 (65) av	27877
L_90~270 (75) av	14210
L_90~270 (85) av	14361
L_45 (65) av	27207
L_45 (75) av	5709
L_45 (85) av	4349

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-10-10

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: 2017-10-10

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:

```

```

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:

```

```

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:

```