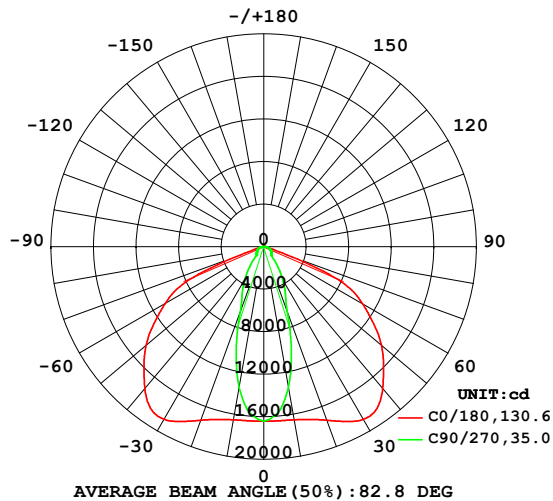


LUMINAIRE PHOTOMETRIC TEST REPORT

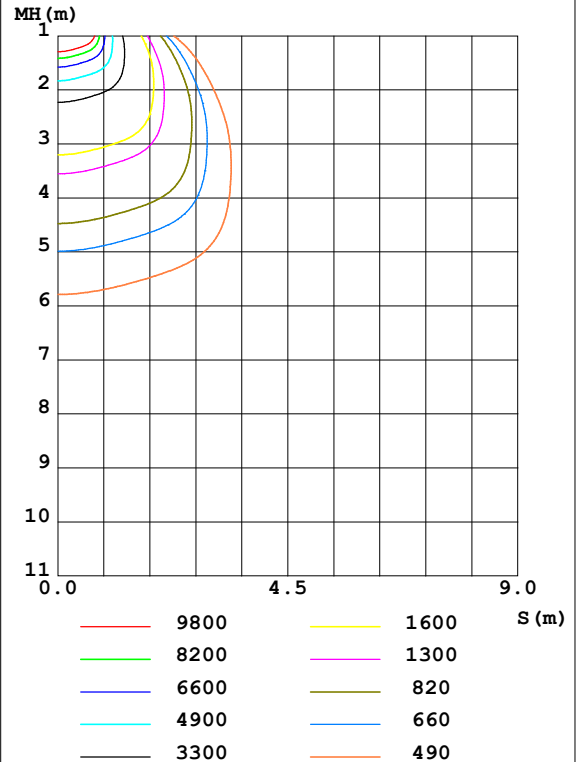
Test:U:229.9V I:0.8002A P:177.7W PF:0.9661 Lamp Flux:23278.3x1 lm		
NAME: LHB01-180	TYPE:180W	WEIGHT:
SPEC.:5000K Ra70 40130DEG L02804	DIM.: 0.718*0.275*0.102	SERIAL No.:
MFR.:	SUR.:0.255*0.69	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 130.98 lm/W			
MODEL	LHB01-180	Imax(cd)	18801	S/MH(C0/180)	1.63
NOMINAL POWER(W)	180	LOR(%)	100.0	S/MH(C90/270)	0.58
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	23278	η UP,DN(C0-180)	0.0,49.8
NOMINAL FLUX(lm)	23278.3	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.2
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	0.65

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:2017-03-24

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	1643	1596	1562	1596	1643	1599	1562	1599	0- 5	386.7	386.7	1.66,1.66
10	1653	1486	1341	1486	1653	1495	1341	1495	5- 10	1106	1493	6.41,6.41
15	1682	1301	1005	1301	1682	1311	1005	1311	10- 15	1669	3162	13.6,13.6
20	1737	1062	648.9	1062	1737	1065	648.9	1065	15- 20	2014	5176	22.2,22.2
25	1814	798.8	482.3	798.8	1814	790.7	482.3	790.7	20- 25	2187	7363	31.6,31.6
30	1875	593.8	358.9	593.8	1875	579.0	358.9	579.0	25- 30	2314	9677	41.6,41.6
35	1857	495.2	235.5	495.2	1857	481.9	235.5	481.9	30- 35	2349	12026	51.7,51.7
40	1740	382.1	112.1	382.1	1740	372.5	112.1	372.5	35- 40	2227	14253	61.2,61.2
45	1593	252.9	101.5	252.9	1593	246.9	101.5	246.9	40- 45	1993	16246	69.8,69.8
50	1446	113.1	92.37	113.1	1446	107.6	92.37	107.6	45- 50	1778	18024	77.4,77.4
55	1260	88.86	83.46	88.86	1260	85.42	83.46	85.42	50- 55	1558	19582	84.1,84.1
60	1071	74.82	74.56	74.82	1071	72.22	74.56	72.22	55- 60	1316	20898	89.8,89.8
65	845.3	60.55	65.25	60.55	845.3	58.93	65.25	58.93	60- 65	1069	21967	94.4,94.4
70	282.9	44.68	52.73	44.68	282.9	44.36	52.73	44.36	65- 70	716.6	22684	97.4,97.4
75	44.40	31.91	39.81	31.91	44.40	32.08	39.81	32.08	70- 75	311.8	22996	98.8,98.8
80	17.70	21.53	26.89	21.53	17.70	21.67	26.89	21.67	75- 80	159.3	23155	99.5,99.5
85	5.154	11.28	13.97	11.28	5.154	11.40	13.97	11.40	80- 85	89.90	23245	99.9,99.9
90	1.095	1.115	1.049	1.115	1.095	1.203	1.049	1.203	85- 90	33.47	23278	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:×10cd									UNIT:lm		

Conical surface Flux(90deg): 16246 lm

%lum = 69.8%

%lamp = 69.8%

Conical surface Flux(120deg): 20898 lm

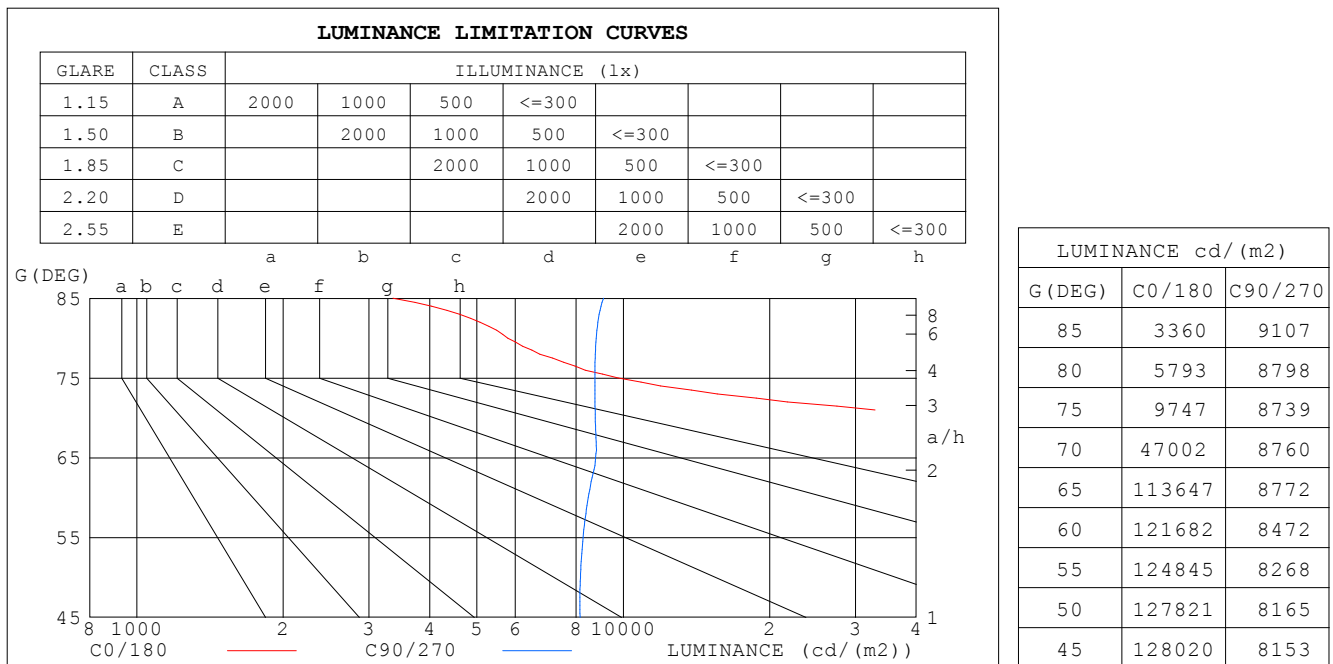
%lum = 89.8%

%lamp = 89.8%

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-03-24

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

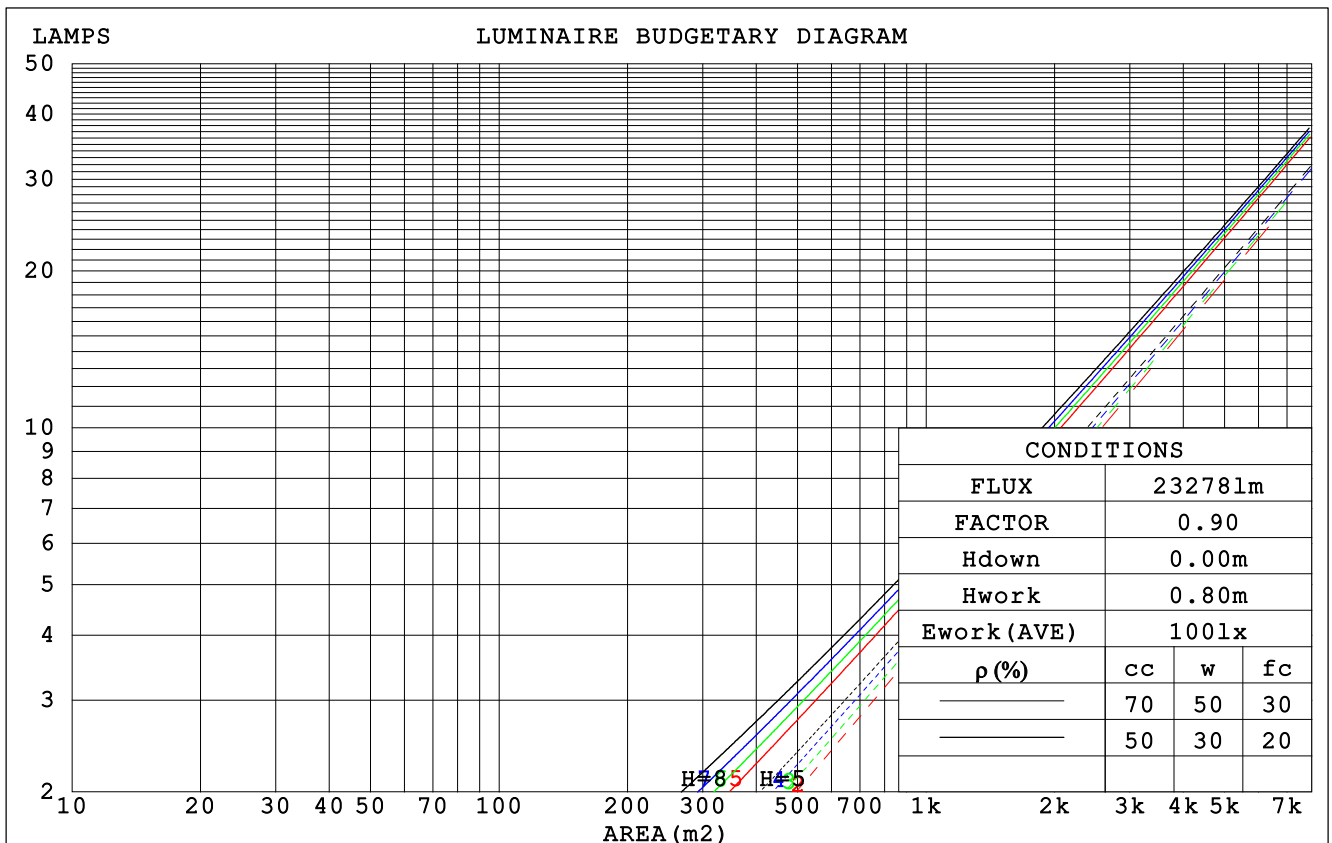


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-24

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	.88
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	.47	.58	.51	.46	.56	.50	.46	.55	.50	.46	.44
8.0	.55	.48	.43	.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	.39	.48	.42	.38	.37
10.0	.48	.41	.36	.47	.41	.36	.46	.40	.36	.46	.40	.36	.45	.39	.35	.34



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-03-24

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	.245	.139	.044	.238	.136	.043	.225	.129	.041	.213	.123	.039	.202	.117	.038	
2.0	.237	.130	.040	.231	.127	.039	.220	.122	.038	.209	.117	.037	.200	.113	.036	
3.0	.224	.119	.036	.219	.117	.035	.209	.113	.034	.200	.110	.034	.192	.106	.033	
4.0	.211	.110	.032	.206	.108	.032	.198	.105	.031	.190	.102	.031	.182	.099	.030	
5.0	.198	.101	.029	.194	.100	.029	.186	.097	.029	.179	.095	.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	.151	.077	.022	.147	.075	.022	
9.0	.156	.075	.021	.153	.075	.021	.148	.073	.021	.144	.072	.021	.139	.071	.020	
10.0	.147	.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	.134	.120	.103	.093	.083	.059	.054	.048	.019	.017	.016	
2.0	.165	.132	.105	.141	.114	.090	.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	.068	.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:2017-03-24

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	29.9	31.2	30.1	31.3	31.5	15.9	17.2	16.1	17.4	17.5
3H	31.0	32.2	31.2	32.4	32.6	17.3	18.5	17.5	18.7	18.9
4H	30.9	32.0	31.2	32.3	32.5	18.0	19.1	18.3	19.3	19.6
6H	30.8	31.9	31.1	32.1	32.4	18.6	19.6	18.9	19.9	20.1
8H	30.8	31.8	31.1	32.1	32.3	18.8	19.8	19.1	20.1	20.4
12H	30.7	31.7	31.1	32.0	32.3	19.0	20.0	19.3	20.3	20.5
4H 2H	29.6	30.7	29.9	30.9	31.2	17.1	18.2	17.4	18.5	18.7
3H	30.7	31.7	31.0	32.0	32.2	18.4	19.3	18.7	19.6	19.9
4H	30.6	31.5	31.0	31.9	32.2	19.1	20.0	19.4	20.3	20.6
6H	30.6	31.4	31.0	31.7	32.1	19.8	20.5	20.2	20.9	21.2
8H	30.5	31.3	30.9	31.6	32.0	20.1	20.8	20.5	21.1	21.5
12H	30.5	31.2	30.9	31.5	31.9	20.3	21.0	20.7	21.3	21.7
8H 4H	30.5	31.2	30.9	31.6	32.0	19.3	20.1	19.7	20.4	20.8
6H	30.5	31.1	30.9	31.5	31.9	20.1	20.7	20.6	21.1	21.6
8H	30.4	31.0	30.9	31.4	31.8	20.5	21.1	21.0	21.5	21.9
12H	30.4	30.8	30.9	31.3	31.8	20.9	21.3	21.4	21.8	22.3
12H 4H	30.5	31.1	30.9	31.5	31.9	19.3	20.0	19.8	20.4	20.8
6H	30.4	30.9	30.9	31.4	31.8	20.2	20.7	20.7	21.1	21.6
8H	30.4	30.8	30.9	31.3	31.8	20.6	21.1	21.1	21.5	22.0
Variations with the observer position at spacings:										
S = 1.0H	+ 1.3 / - 1.3					+ 0.5 / - 0.6				
1.5H	+ 2.7 / - 4.9					+ 0.8 / - 0.5				
2.0H	+ 3.9 / - 9.4					+ 0.1 / - 0.1				

CIE Pub.117 Corrected 23278 lm Total Lamp Luminous Flux.(8log(F/F0) = 10.9)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-24

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:

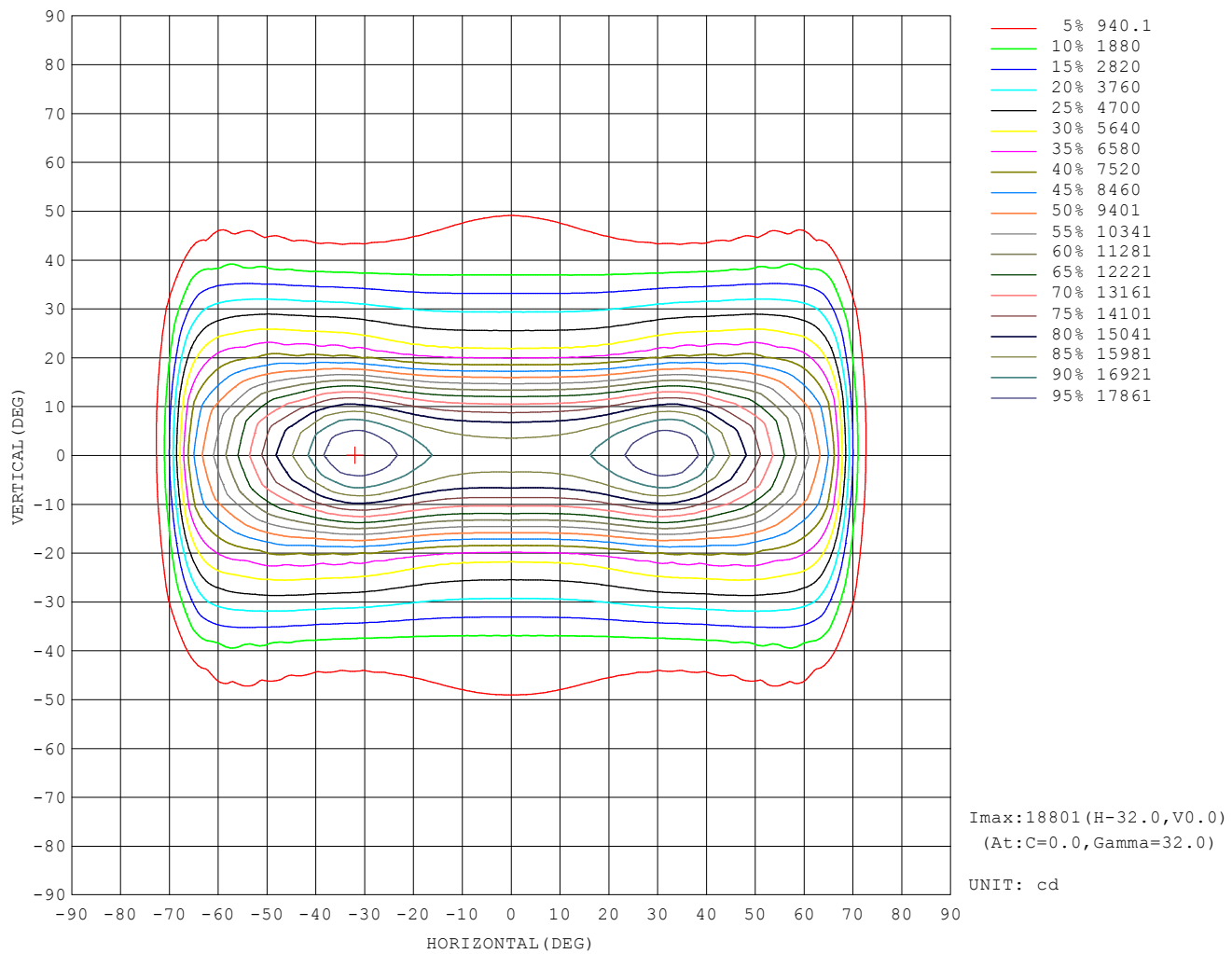
UTILIZATION FACTORS TABLE

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	51	67	57	51	65	57	51	46
0.80	77	67	61	76	67	61	74	66	61	55
1.00	85	76	70	84	75	69	82	76	69	63
1.25	91	82	77	90	82	76	87	80	76	69
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	103	100	103	100	98	89
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: 2017-03-24

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:

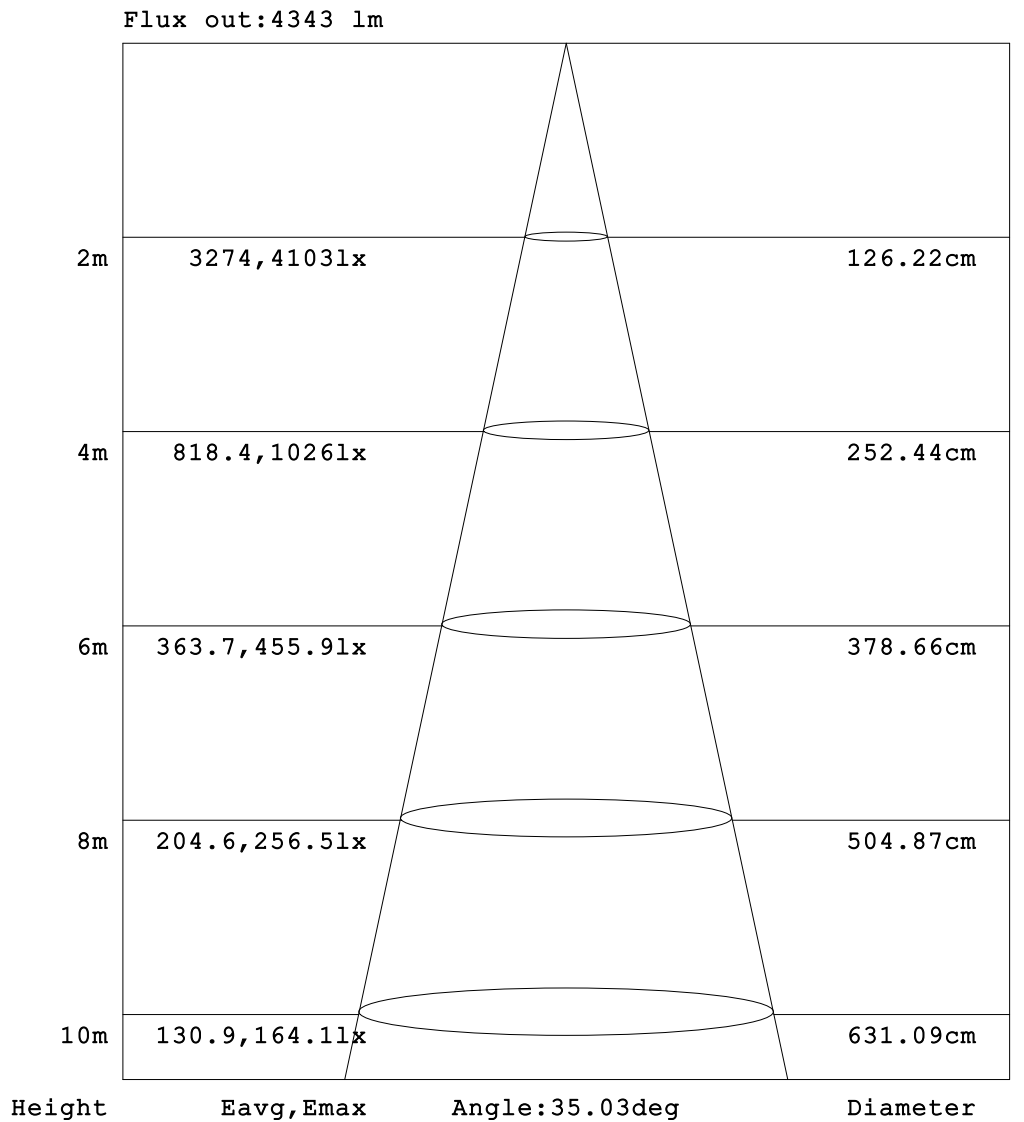
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-24

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

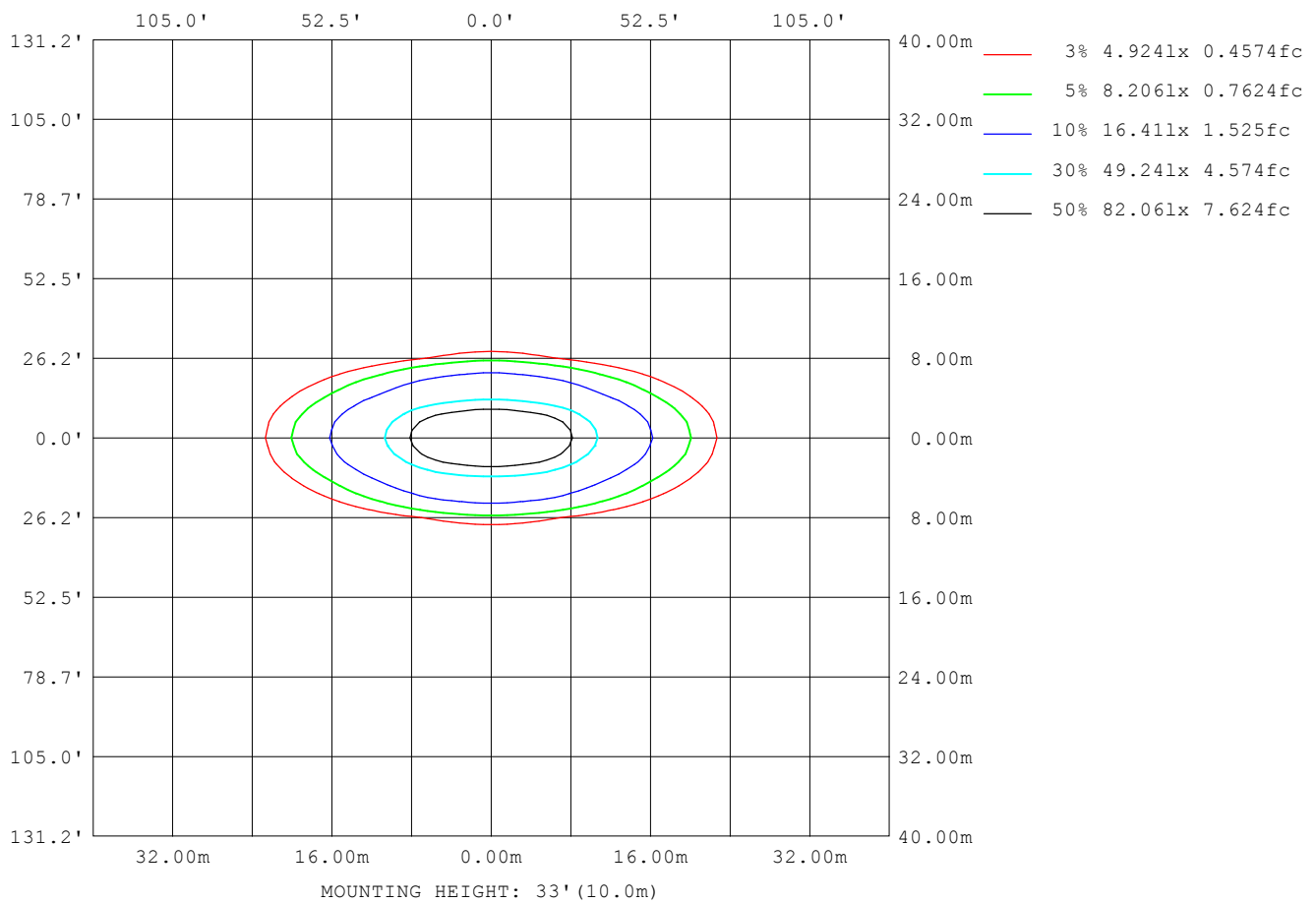


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-24

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: 2017-03-24

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:229.9V I:0.8002A P:177.7W PF:0.9661 Lamp Flux:23278.3x1 lm		
NAME: LHB01-180	TYPE:180W	WEIGHT:
SPEC.:5000K Ra70 40130DEG L02804	DIM.: 0.718*0.275*0.102	SERIAL No.:
MFR.:	SUR.:0.255*0.69	Shielding Angle:

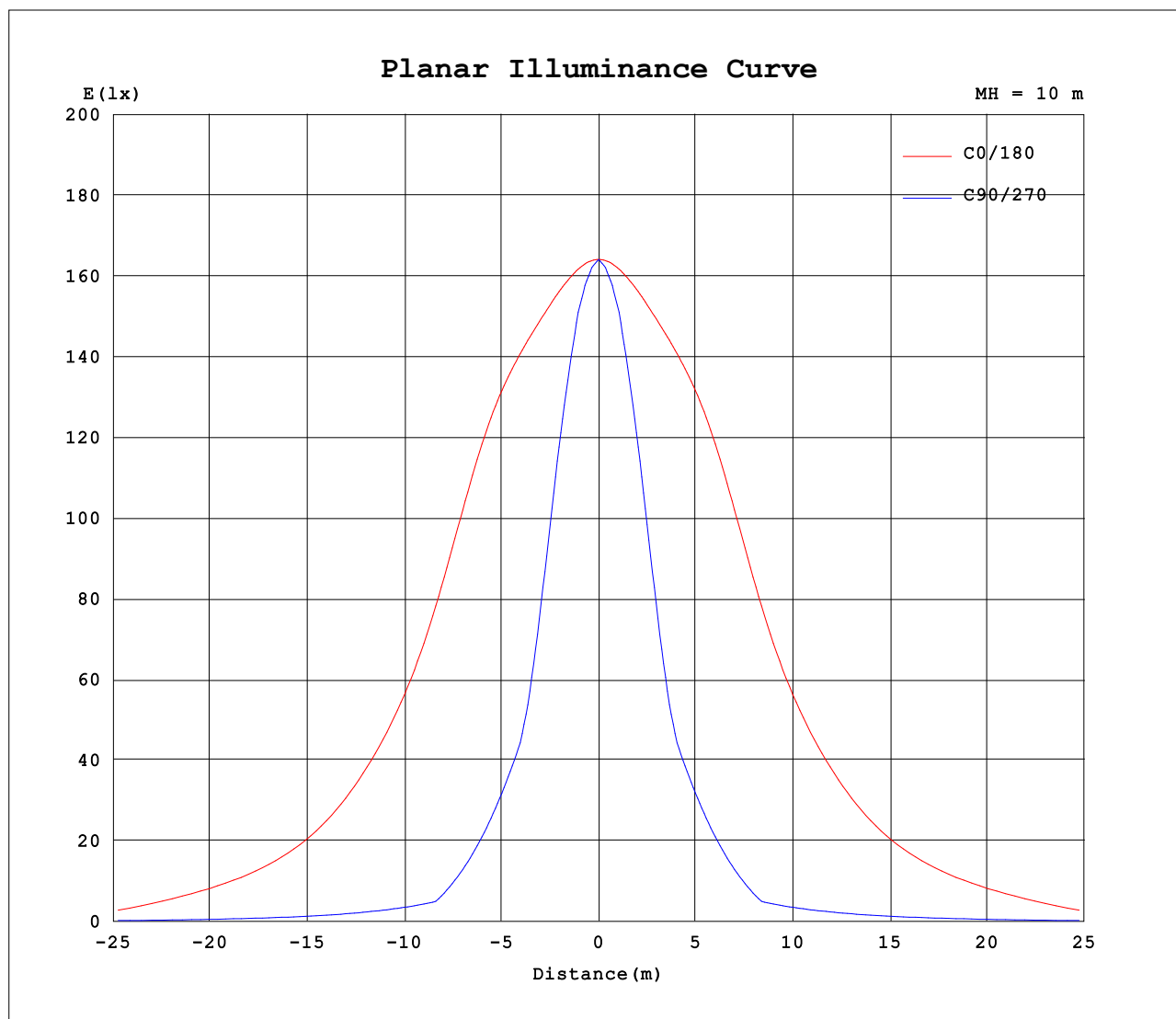
AvgL	cd/m2
L_0~180 (65) av	113647
L_0~180 (75) av	9747
L_0~180 (85) av	3360
L_90~270 (65) av	8772
L_90~270 (75) av	8739
L_90~270 (85) av	9107
L_45 (65) av	8032
L_45 (75) av	7024
L_45 (85) av	7393

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-03-24

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: 2017-03-24

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:

```

```

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:

```