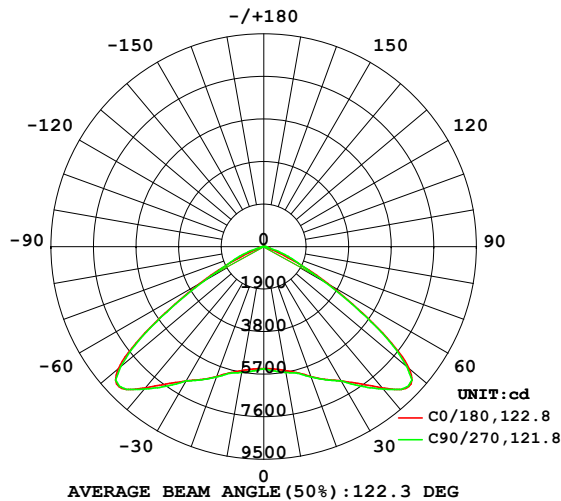


LUMINAIRE PHOTOMETRIC TEST REPORT

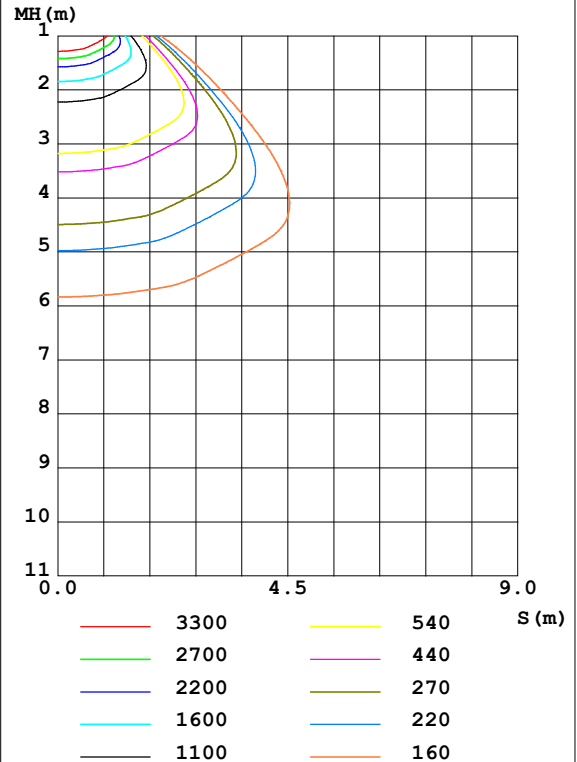
Test:U:230.0V I:0.8020A P:178.1W PF:0.9659 Lamp Flux:23695.7x1 lm		
NAME: LHB01-180	TYPE:180W	WEIGHT:
SPEC.:5000K Ra70 120DEG L02803	DIM.: 0.718*0.275*0.102	SERIAL No.:
MFR.:	SUR.:0.255*0.69	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 133.01 lm/W			
MODEL	LHB01-180	I _{max} (cd)	9003	S/MH(C0/180)	1.94
NOMINAL POWER(W)	180	LOR(%)	100.0	S/MH(C90/270)	1.93
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	23696	η UP,DN(C0-180)	0.0,50.0
NOMINAL FLUX(lm)	23695.7	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:2017-03-27

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	5488	5560	5578	5560	5488	5560	5578	5560	0- 5	131.8	131.8	0.56,0.56
10	5618	5719	5708	5719	5618	5719	5708	5719	5- 10	402.8	534.6	2.26,2.26
15	5837	5929	5860	5929	5837	5929	5860	5929	10- 15	688.3	1223	5.16,5.16
20	6173	6200	6199	6200	6173	6200	6199	6200	15- 20	998.3	2221	9.37,9.37
25	6548	6617	6560	6617	6548	6617	6560	6617	20- 25	1345	3566	15,15
30	6931	7075	6922	7075	6931	7075	6922	7075	25- 30	1720	5286	22.3,22.3
35	7478	7584	7613	7584	7478	7584	7613	7584	30- 35	2140	7426	31.3,31.3
40	8232	8133	8305	8133	8232	8133	8305	8133	35- 40	2632	10058	42.4,42.4
45	8955	8129	8913	8129	8955	8129	8913	8129	40- 45	3146	13204	55.7,55.7
50	8480	7438	8341	7438	8480	7438	8341	7438	45- 50	3463	16666	70.3,70.3
55	5932	5799	5856	5799	5932	5799	5856	5799	50- 55	3090	19756	83.4,83.4
60	3308	3119	3087	3119	3308	3119	3087	3119	55- 60	2053	21809	92,92
65	1334	1281	1611	1281	1334	1281	1611	1281	60- 65	1058	22867	96.5,96.5
70	318.4	479.0	887.2	479.0	318.4	479.0	887.2	479.0	65- 70	453.7	23321	98.4,98.4
75	222.6	267.6	230.8	267.6	222.6	267.6	230.8	267.6	70- 75	209.8	23530	99.3,99.3
80	138.8	116.5	111.8	116.5	138.8	116.5	111.8	116.5	75- 80	96.03	23627	99.7,99.7
85	41.74	62.54	60.02	62.54	41.74	62.54	60.02	62.54	80- 85	50.63	23677	99.9,99.9
90	6.423	8.865	8.226	8.865	6.423	8.865	8.226	8.865	85- 90	18.53	23696	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): 13204 lm

%lum = 55.7%

%lamp = 55.7%

Conical surface Flux(120deg): 21809 lm

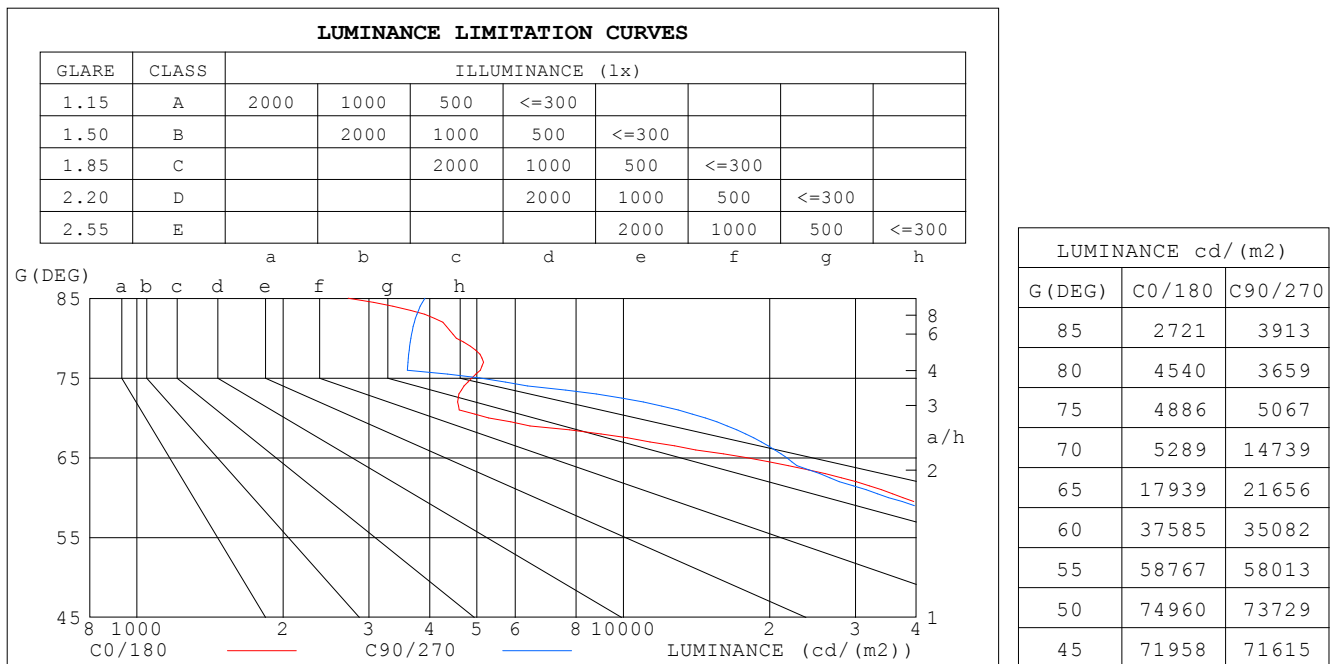
%lum = 92.0%

%lamp = 92.0%

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-03-27

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

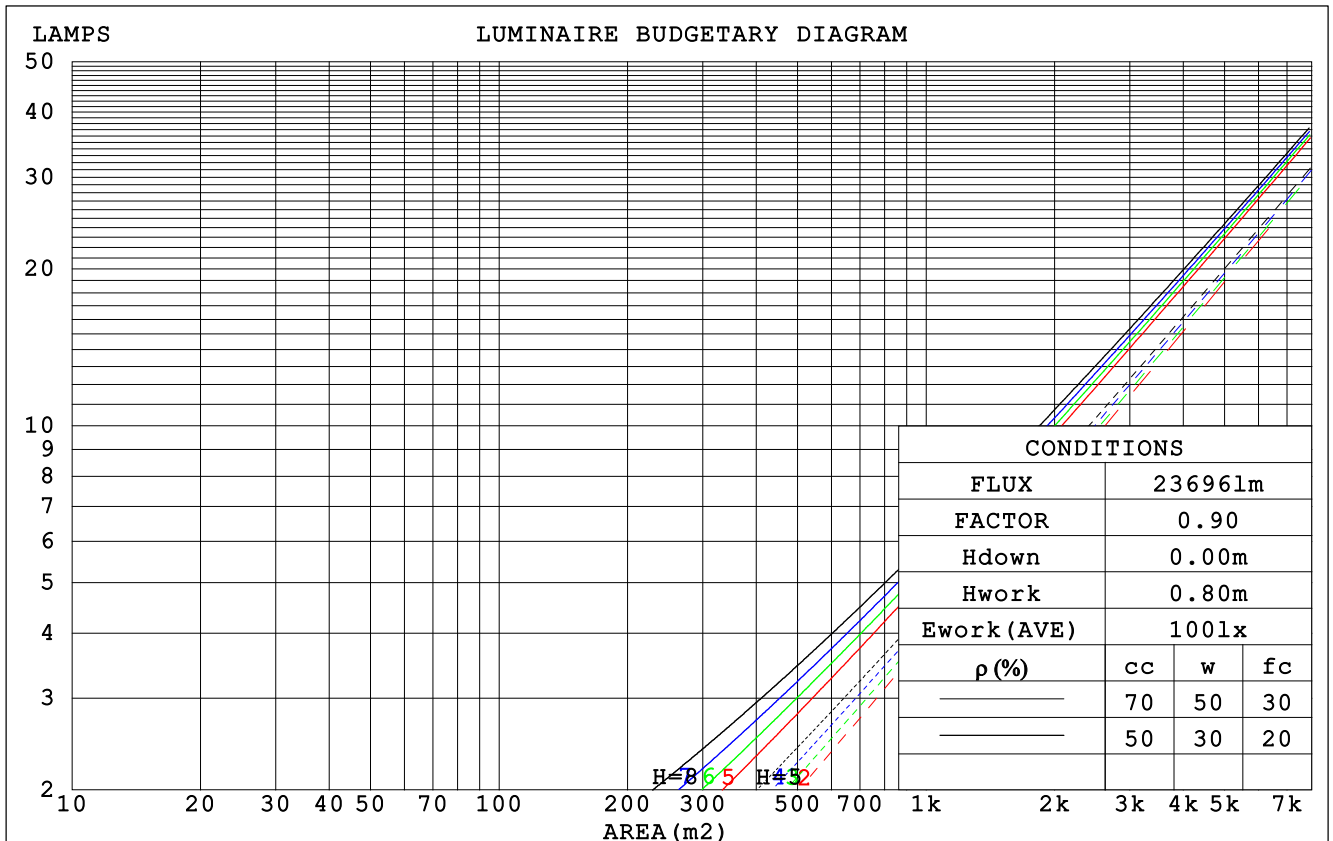


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-27

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	1.00
1.0	1.06	1.03	.99	1.04	1.01	.98	.00	.97	.95	.96	.94	.92	.92	.91	.89	.87
2.0	.94	.87	.82	.92	.86	.81	.88	.84	.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	.64	.58	.71	.64	.58	.69	.62	.57	.67	.61	.56	.65	.59	.55	.53
5.0	.65	.56	.49	.63	.55	.49	.61	.54	.48	.59	.53	.48	.58	.52	.47	.45
6.0	.58	.49	.42	.57	.48	.42	.55	.47	.42	.53	.46	.41	.52	.46	.41	.39
7.0	.52	.43	.37	.51	.42	.37	.49	.42	.36	.48	.41	.36	.46	.40	.36	.34
8.0	.47	.38	.32	.46	.38	.32	.45	.37	.32	.43	.37	.32	.42	.36	.31	.30
9.0	.42	.34	.28	.42	.34	.28	.41	.33	.28	.39	.33	.28	.38	.32	.28	.26
10.0	.39	.31	.25	.38	.30	.25	.37	.30	.25	.36	.30	.25	.35	.29	.25	.23



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-27

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	.264	.150	.048	.257	.147	.047	.244	.140	.045	.232	.134	.043	.221	.128	.041	
2.0	.261	.143	.044	.255	.141	.043	.244	.136	.042	.233	.131	.041	.223	.126	.040	
3.0	.250	.133	.040	.245	.131	.039	.235	.127	.039	.226	.124	.038	.217	.120	.037	
4.0	.237	.123	.036	.232	.122	.036	.223	.118	.035	.215	.115	.035	.207	.113	.034	
5.0	.223	.114	.033	.219	.113	.033	.211	.110	.032	.204	.107	.032	.197	.105	.032	
6.0	.210	.105	.030	.206	.104	.030	.199	.102	.030	.192	.100	.029	.186	.098	.029	
7.0	.198	.098	.028	.194	.097	.028	.188	.095	.027	.182	.093	.027	.176	.091	.027	
8.0	.186	.091	.026	.183	.090	.025	.177	.088	.025	.172	.087	.025	.167	.085	.025	
9.0	.175	.085	.024	.172	.084	.024	.167	.083	.023	.162	.081	.023	.158	.080	.023	
10.0	.165	.079	.022	.163	.079	.022	.158	.078	.022	.154	.076	.022	.150	.075	.022	

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	.053	.036	.022	.017	.012	.007	
5.0	.147	.090	.048	.127	.078	.042	.087	.055	.030	.051	.032	.018	.016	.010	.006	
6.0	.141	.082	.040	.121	.071	.035	.084	.050	.024	.049	.029	.015	.016	.010	.005	
7.0	.135	.075	.033	.116	.065	.029	.080	.046	.021	.047	.027	.012	.015	.009	.004	
8.0	.129	.070	.029	.111	.060	.025	.077	.042	.018	.045	.025	.011	.014	.008	.003	
9.0	.123	.065	.025	.106	.056	.022	.074	.039	.016	.043	.023	.009	.014	.008	.003	
10.0	.118	.061	.022	.102	.053	.019	.071	.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:2017-03-27

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	27.2	28.7	27.5	28.9	29.1	27.3	28.8	27.5	29.0	29.2
3H	27.1	28.5	27.4	28.7	29.0	27.3	28.7	27.6	28.9	29.1
4H	27.0	28.3	27.4	28.6	28.8	27.2	28.5	27.6	28.8	29.0
6H	27.0	28.2	27.3	28.4	28.7	27.2	28.4	27.5	28.6	28.9
8H	26.9	28.1	27.3	28.3	28.6	27.1	28.3	27.4	28.5	28.8
12H	26.9	28.0	27.2	28.3	28.6	27.1	28.2	27.4	28.5	28.8
4H 2H	27.3	28.5	27.6	28.8	29.0	27.3	28.6	27.6	28.8	29.1
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	28.8	27.3	28.3	27.7	28.6	29.0
6H	27.1	27.9	27.4	28.3	28.6	27.2	28.1	27.6	28.5	28.8
8H	27.0	27.8	27.4	28.2	28.6	27.2	28.0	27.6	28.4	28.8
12H	27.0	27.7	27.4	28.1	28.5	27.2	27.9	27.6	28.3	28.7
8H 4H	27.0	27.8	27.4	28.2	28.6	27.2	28.0	27.6	28.4	28.8
6H	27.0	27.6	27.4	28.0	28.4	27.1	27.8	27.6	28.2	28.6
8H	26.9	27.5	27.4	27.9	28.4	27.1	27.7	27.6	28.1	28.6
12H	26.9	27.4	27.4	27.8	28.3	27.1	27.6	27.6	28.0	28.5
12H 4H	27.0	27.7	27.4	28.1	28.5	27.2	27.9	27.6	28.3	28.7
6H	26.9	27.5	27.4	27.9	28.4	27.1	27.7	27.6	28.1	28.6
8H	26.9	27.4	27.4	27.8	28.3	27.1	27.6	27.6	28.0	28.5
Variations with the observer position at spacings:										
S = 1.0H	+ 0.6 / - 0.6					+ 0.4 / - 0.5				
1.5H	+ 1.0 / - 2.8					+ 0.9 / - 2.5				
2.0H	+ 2.3 / - 4.5					+ 2.2 / - 4.8				

CIE Pub.117 Corrected 23696 lm Total Lamp Luminous Flux.(8log(F/F0) = 11.0)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-27

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:

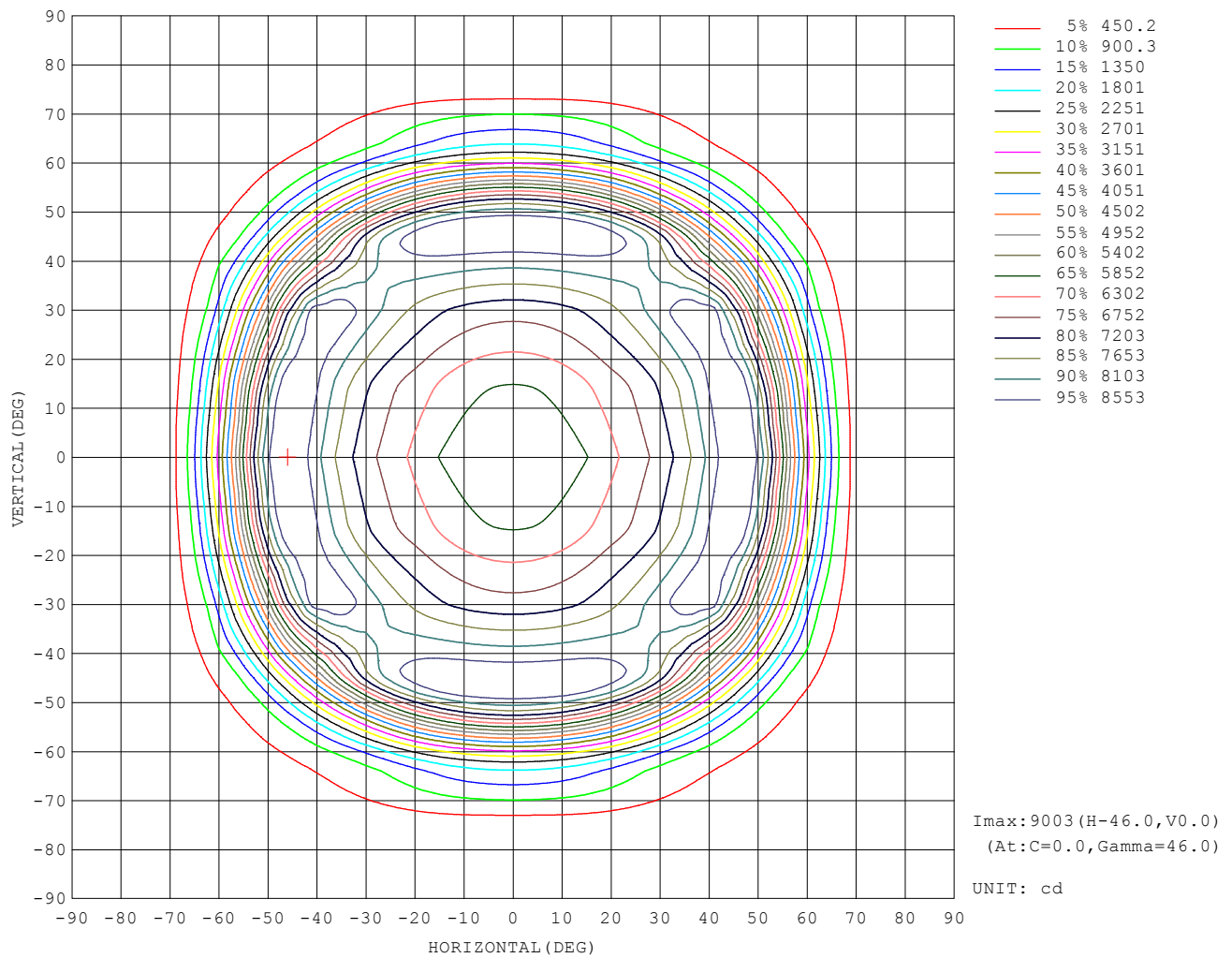
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	54	42	35	53	42	34	52	41	34	28
0.80	66	54	47	65	54	47	64	53	46	39
1.00	77	66	59	76	66	59	74	67	58	51
1.25	85	75	69	84	75	68	81	73	67	60
1.50	91	81	75	89	80	74	86	79	73	66
2.00	98	90	84	96	89	84	93	87	82	75
2.50	101	94	89	99	93	88	95	90	86	78
3.00	104	98	93	102	97	92	98	94	90	82
4.00	108	102	98	105	101	97	101	97	94	86
5.00	110	105	101	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: 2017-03-27

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:

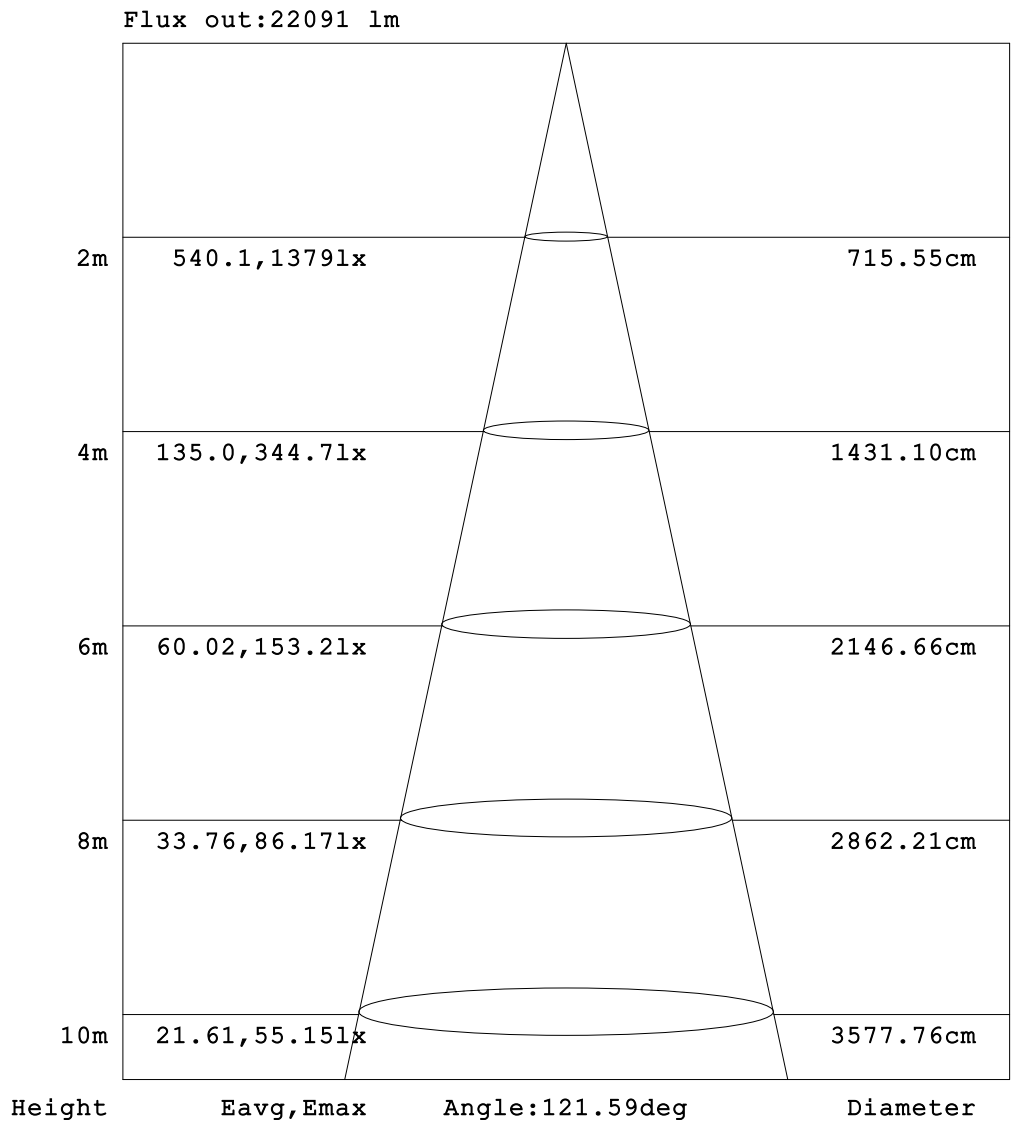
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-27

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

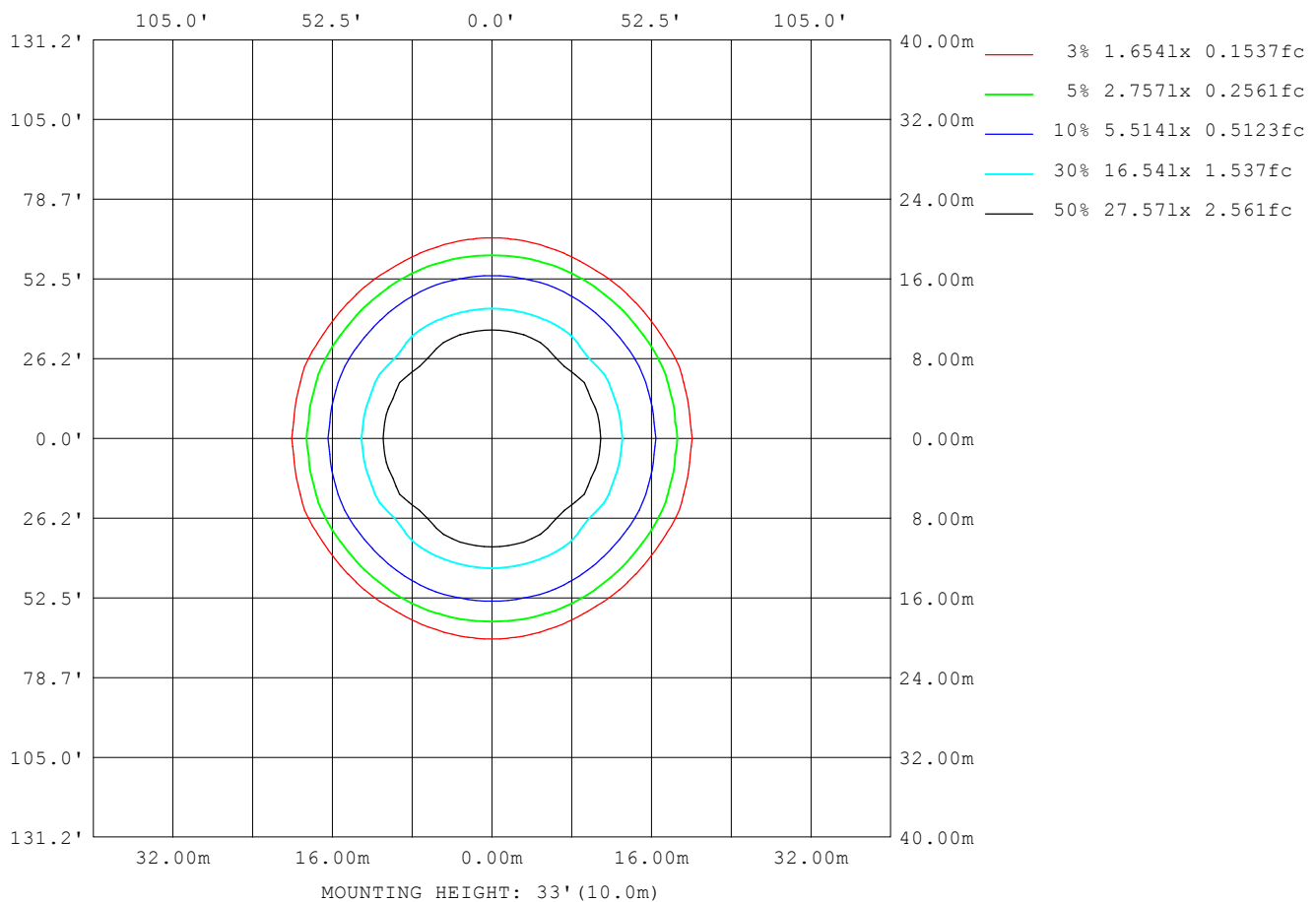


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-27

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: 2017-03-27

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:0.8020A P:178.1W PF:0.9659 Lamp Flux:23695.7x1 lm		
NAME: LHB01-180	TYPE:180W	WEIGHT:
SPEC.:5000K Ra70 120DEG L02803	DIM.: 0.718*0.275*0.102	SERIAL No.:
MFR.:	SUR.:0.255*0.69	Shielding Angle:

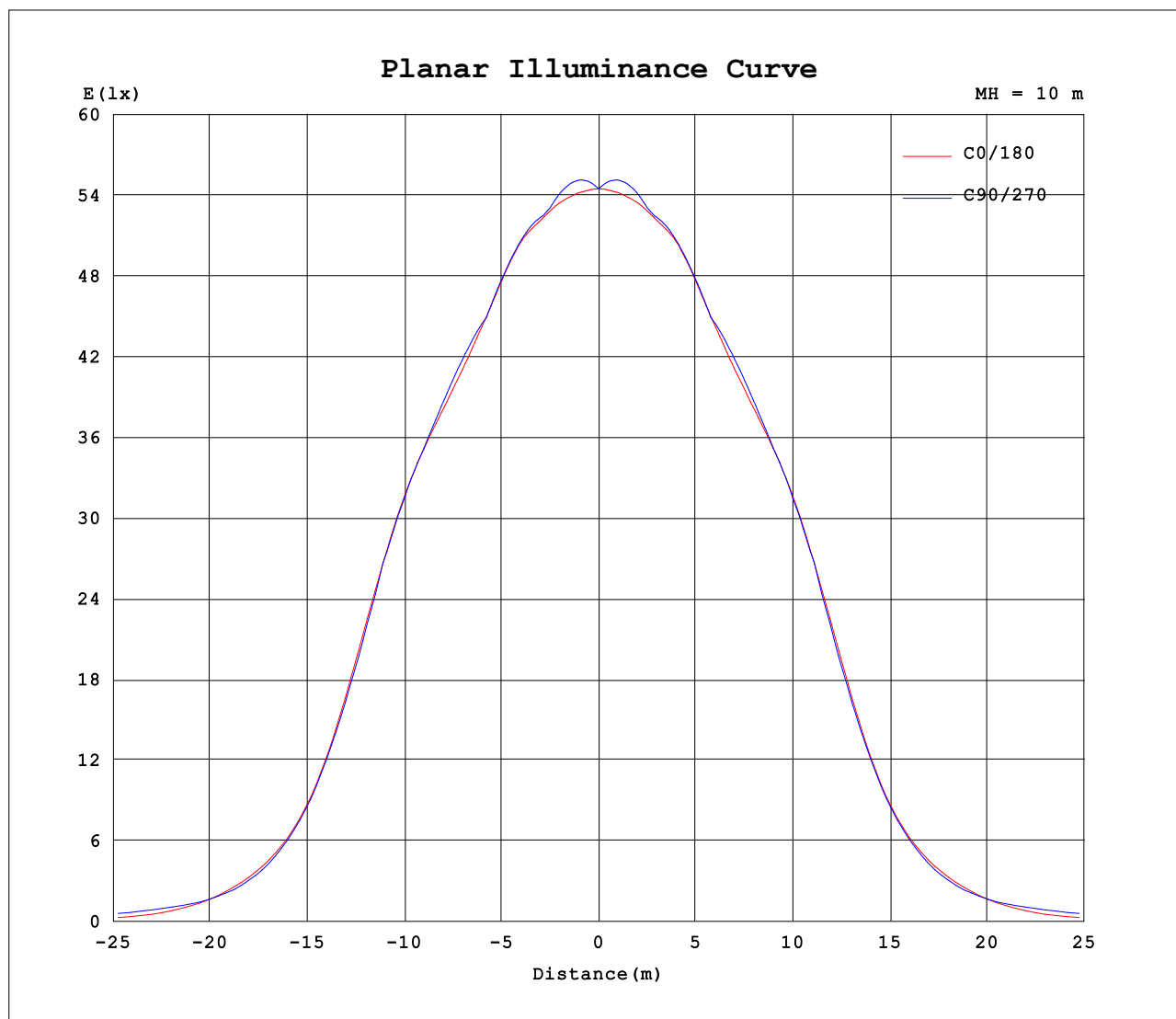
AvgL	cd/m2
L_0~180 (65) av	17939
L_0~180 (75) av	4886
L_0~180 (85) av	2721
L_90~270 (65) av	21656
L_90~270 (75) av	5067
L_90~270 (85) av	3913
L_45 (65) av	17222
L_45 (75) av	5874
L_45 (85) av	4077

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-03-27

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: 2017-03-27

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:

```

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:

```