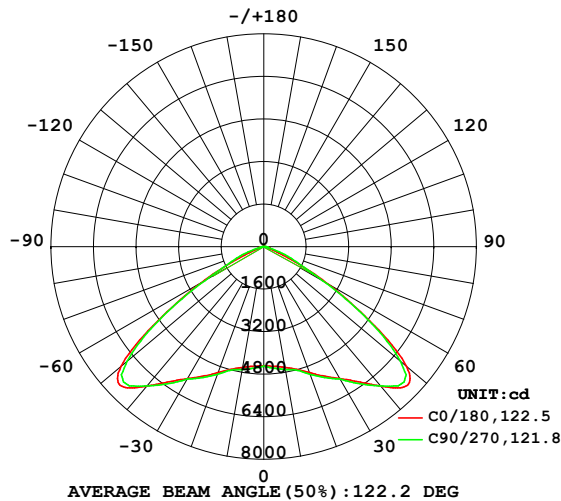


LUMINAIRE PHOTOMETRIC TEST REPORT

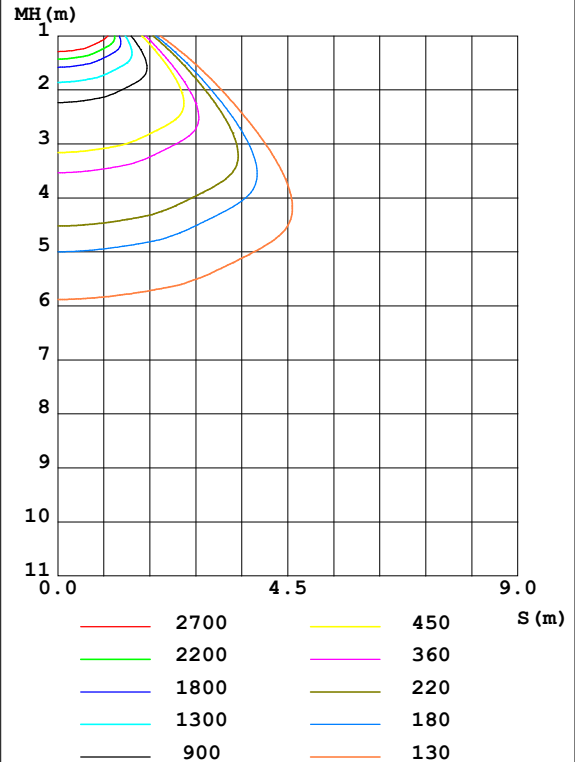
Test:U:229.9V I:0.6665A P:148.0W PF:0.9655 Lamp Flux:19556.9x1 lm		
NAME: LHB01-150	TYPE:150W	WEIGHT:
SPEC.:5000K Ra70 120DEG L02803	DIM.: 1.178*0.137*0.102	SERIAL No.:
MFR.:	SUR.:1.17*0.1	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 132.18 lm/W			
MODEL	LHB01-150	Imax(cd)	7509	S/MH(C0/180)	1.94
NOMINAL POWER(W)	150	LOR(%)	100.0	S/MH(C90/270)	1.93
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	19557	η UP,DN(C0-180)	0.0,50.0
NOMINAL FLUX(lm)	19556.9	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:2017-03-24

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	4520	4578	4594	4578	4520	4578	4594	4578	0- 5	108.6	108.6	0.56,0.56
10	4612	4696	4691	4696	4612	4696	4691	4696	5- 10	331.2	439.8	2.25,2.25
15	4780	4857	4811	4857	4780	4857	4811	4857	10- 15	564.5	1004	5.14,5.14
20	5039	5071	5109	5071	5039	5071	5109	5071	15- 20	817.9	1822	9.32,9.32
25	5369	5430	5430	5430	5369	5430	5430	5430	20- 25	1104	2927	15,15
30	5731	5852	5751	5852	5731	5852	5751	5852	25- 30	1421	4347	22.2,22.2
35	6205	6310	6296	6310	6205	6310	6296	6310	30- 35	1775	6122	31.3,31.3
40	6852	6769	6842	6769	6852	6769	6842	6769	35- 40	2183	8305	42.5,42.5
45	7465	6700	7303	6700	7465	6700	7303	6700	40- 45	2601	10907	55.8,55.8
50	7011	6085	6707	6085	7011	6085	6707	6085	45- 50	2841	13748	70.3,70.3
55	4871	4743	4785	4743	4871	4743	4785	4743	50- 55	2517	16265	83.2,83.2
60	2720	2563	2551	2563	2720	2563	2551	2563	55- 60	1692	17957	91.8,91.8
65	1026	1086	1336	1086	1026	1086	1336	1086	60- 65	869.7	18827	96.3,96.3
70	258.0	434.8	746.1	434.8	258.0	434.8	746.1	434.8	65- 70	386.6	19214	98.2,98.2
75	200.0	246.2	209.9	246.2	200.0	246.2	209.9	246.2	70- 75	186.9	19400	99.2,99.2
80	127.4	110.4	106.5	110.4	127.4	110.4	106.5	110.4	75- 80	89.77	19490	99.7,99.7
85	36.72	59.51	57.11	59.51	36.72	59.51	57.11	59.51	80- 85	48.65	19539	99.9,99.9
90	5.820	8.578	7.731	8.578	5.820	8.578	7.731	8.578	85- 90	18.03	19557	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): 10907 lm

%lum = 55.8%

%lamp = 55.8%

Conical surface Flux(120deg): 17957 lm

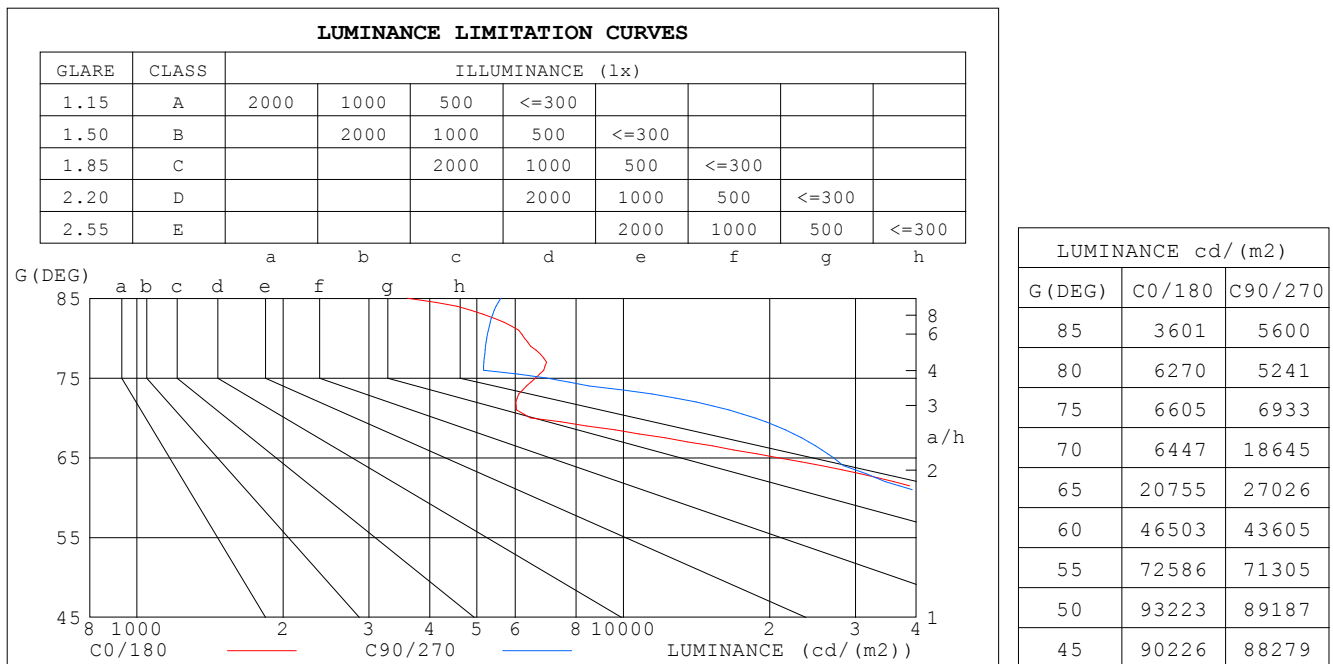
%lum = 91.8%

%lamp = 91.8%

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

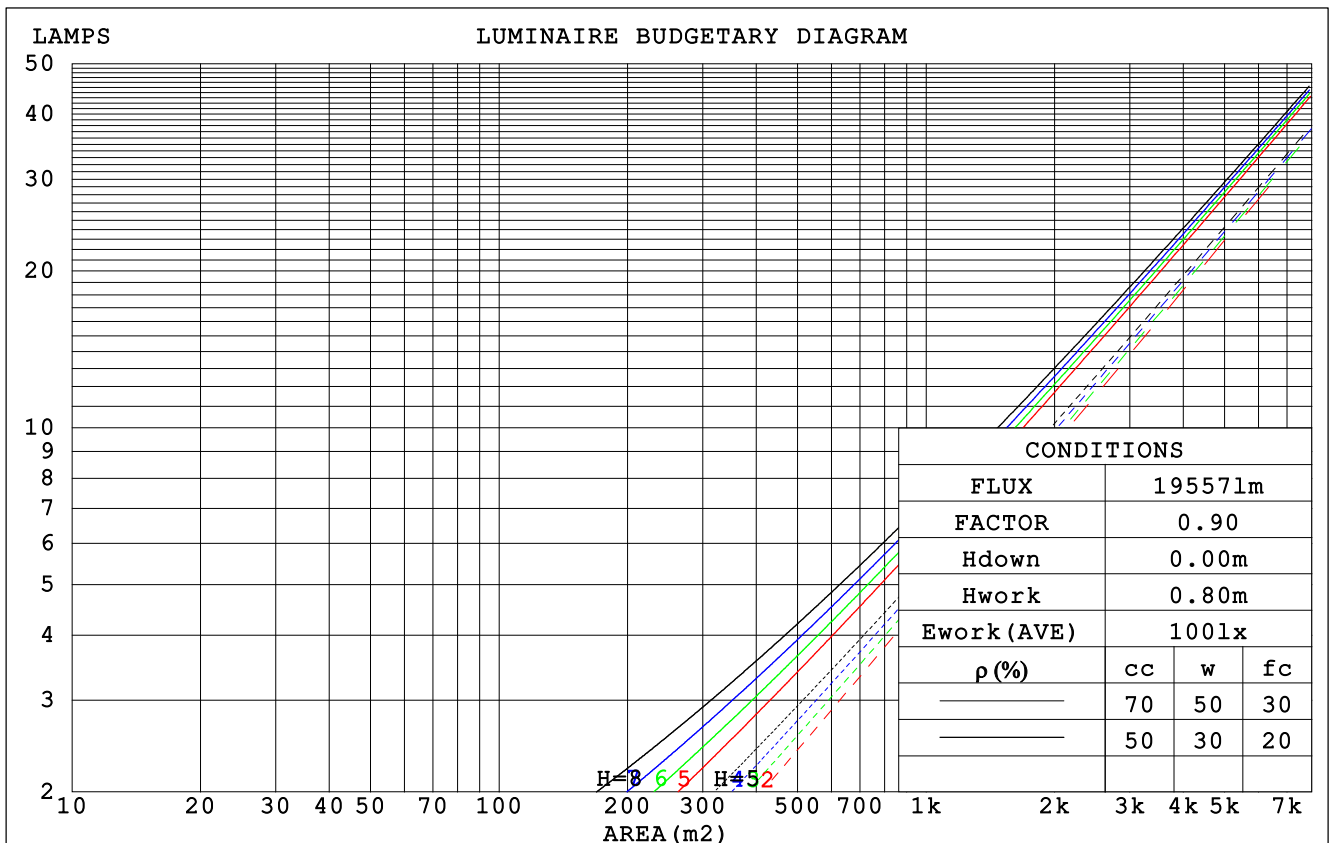


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-24

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	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	.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	.62
4.0	.73	.64	.58	.71	.64	.57	.69	.62	.57	.67	.61	.56	.64	.59	.55	.53
5.0	.64	.56	.49	.63	.55	.49	.61	.54	.48	.59	.53	.48	.57	.52	.47	.45
6.0	.58	.49	.42	.57	.48	.42	.55	.47	.42	.53	.46	.41	.51	.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	.29
9.0	.42	.34	.28	.42	.34	.28	.40	.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: 2017-03-24

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	.265	.151	.048	.258	.147	.047	.245	.141	.045	.233	.135	.043	.222	.129	.042		
2.0	.262	.144	.044	.256	.141	.043	.244	.136	.042	.234	.131	.041	.224	.127	.040		
3.0	.251	.134	.040	.245	.131	.040	.235	.128	.039	.226	.124	.038	.217	.120	.037		
4.0	.237	.123	.036	.233	.122	.036	.224	.119	.035	.215	.116	.035	.208	.113	.034		
5.0	.224	.114	.033	.219	.113	.033	.211	.110	.032	.204	.108	.032	.197	.105	.032		
6.0	.210	.105	.030	.206	.104	.030	.199	.102	.030	.193	.100	.029	.186	.098	.029		
7.0	.198	.098	.028	.194	.097	.028	.188	.095	.027	.182	.093	.027	.176	.092	.027		
8.0	.186	.091	.026	.183	.090	.025	.177	.089	.025	.172	.087	.025	.167	.086	.025		
9.0	.175	.085	.024	.173	.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:2017-03-24

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	28.0	29.5	28.2	29.7	29.9	27.9	29.4	28.2	29.6	29.9
3H	27.9	29.2	28.2	29.5	29.7	28.0	29.4	28.3	29.6	29.9
4H	27.8	29.1	28.1	29.3	29.6	28.0	29.2	28.3	29.5	29.7
6H	27.7	28.9	28.0	29.2	29.4	27.9	29.1	28.2	29.3	29.6
8H	27.7	28.8	28.0	29.1	29.4	27.8	29.0	28.2	29.3	29.5
12H	27.6	28.7	28.0	29.0	29.3	27.8	28.9	28.1	29.2	29.5
4H 2H	28.0	29.3	28.3	29.5	29.8	28.0	29.3	28.3	29.5	29.8
3H	27.9	29.0	28.3	29.3	29.6	28.1	29.2	28.4	29.5	29.8
4H	27.9	28.9	28.2	29.2	29.5	28.0	29.0	28.4	29.4	29.7
6H	27.8	28.7	28.2	29.0	29.4	28.0	28.9	28.4	29.2	29.6
8H	27.8	28.6	28.2	28.9	29.3	27.9	28.8	28.4	29.1	29.5
12H	27.7	28.5	28.2	28.9	29.3	27.9	28.6	28.3	29.0	29.4
8H 4H	27.8	28.6	28.2	28.9	29.3	27.9	28.7	28.3	29.1	29.5
6H	27.7	28.4	28.2	28.8	29.2	27.9	28.5	28.3	28.9	29.4
8H	27.7	28.3	28.2	28.7	29.2	27.9	28.4	28.3	28.9	29.3
12H	27.7	28.2	28.2	28.6	29.1	27.8	28.3	28.3	28.8	29.3
12H 4H	27.7	28.5	28.1	28.8	29.2	27.9	28.6	28.3	29.0	29.4
6H	27.7	28.3	28.1	28.7	29.1	27.9	28.4	28.3	28.9	29.3
8H	27.7	28.2	28.2	28.6	29.1	27.8	28.3	28.3	28.8	29.2
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 / - 2.4				
2.0H	+ 2.2 / - 4.5					+ 2.1 / - 4.5				

CIE Pub.117 Corrected 19557 lm Total Lamp Luminous Flux.(8log(F/F0) = 10.3)

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:

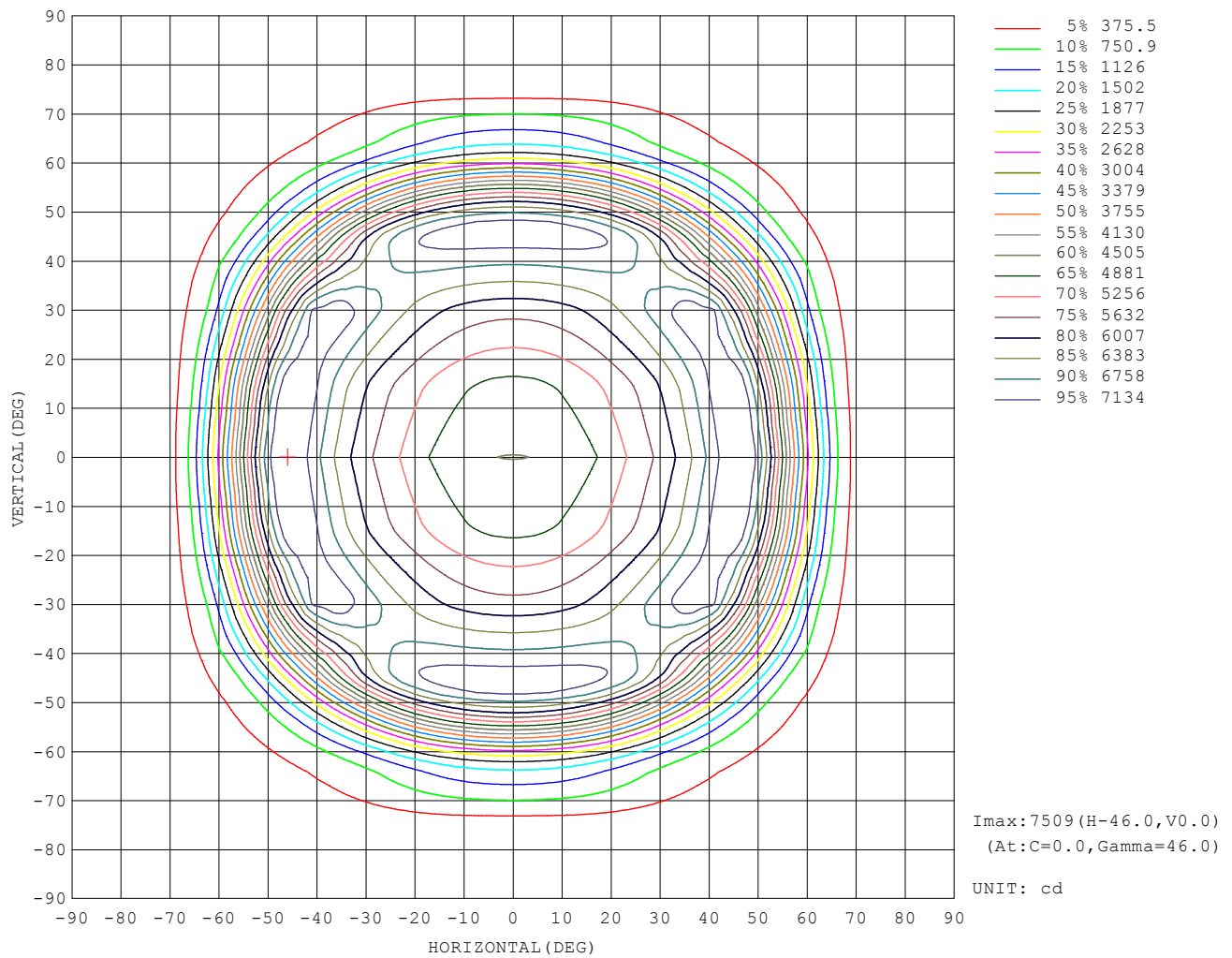
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	54	42	35	53	42	35	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	68	84	75	68	81	73	67	60
1.50	90	81	75	89	80	74	86	79	73	66
2.00	98	90	84	96	89	83	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	99	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: 2017-03-24

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:

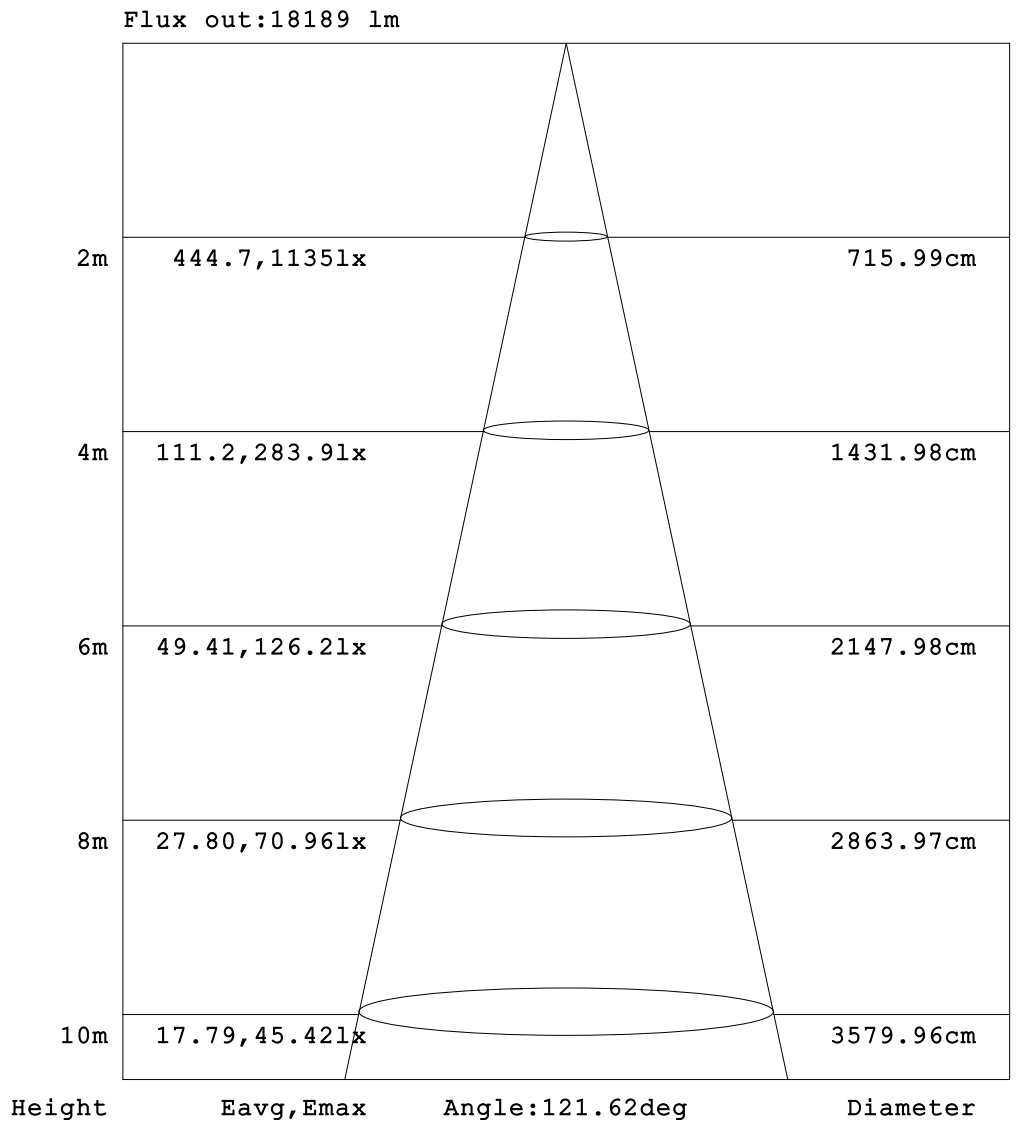
ISOCANDELA DIAGRAM



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

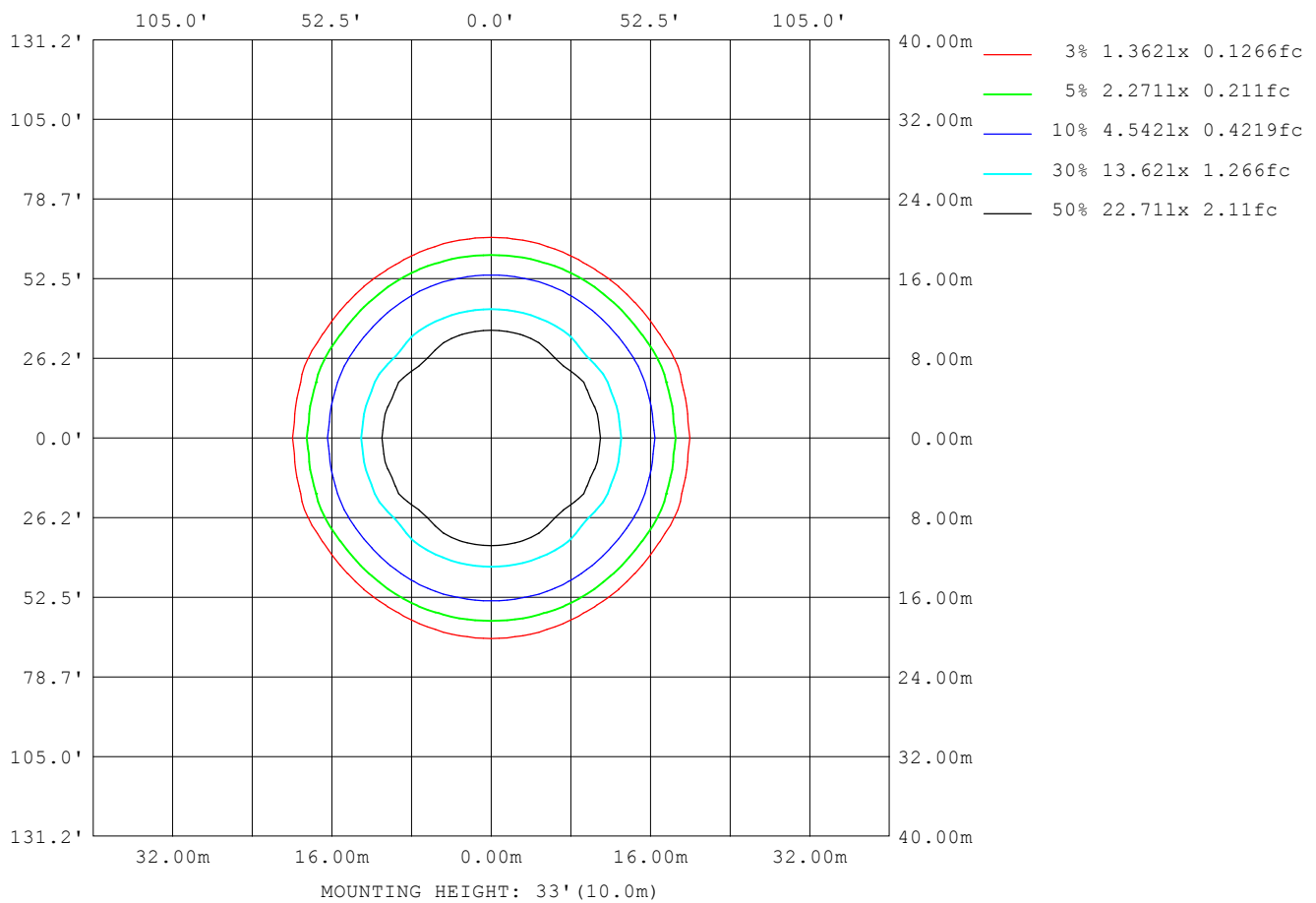


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:0.6665A P:148.0W PF:0.9655 Lamp Flux:19556.9x1 lm		
NAME: LHB01-150	TYPE:150W	WEIGHT:
SPEC.:5000K Ra70 120DEG L02803	DIM.: 1.178*0.137*0.102	SERIAL No.:
MFR.:	SUR.:1.17*0.1	Shielding Angle:

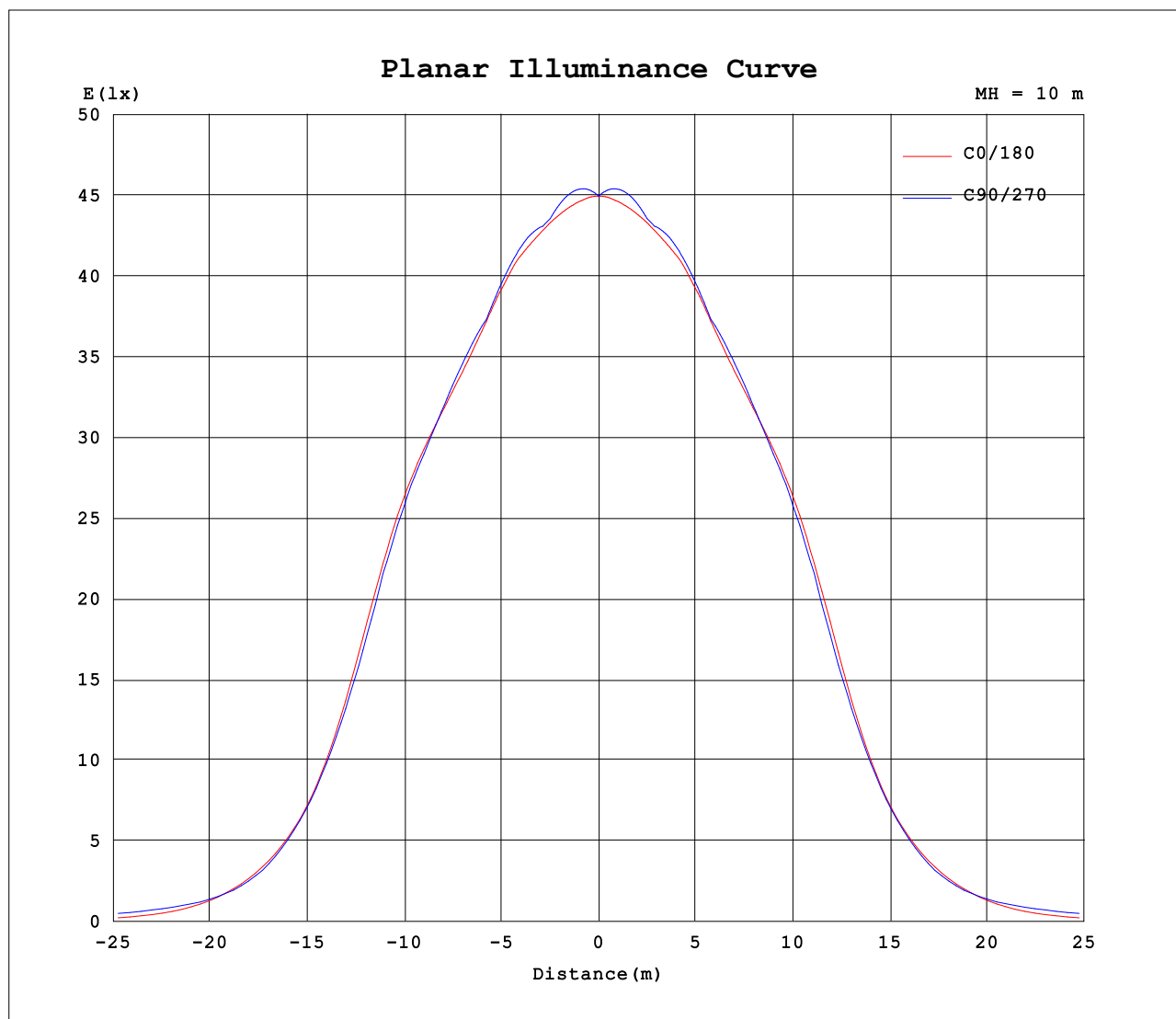
AvgL	cd/m2
L_0~180 (65) av	20755
L_0~180 (75) av	6605
L_0~180 (85) av	3601
L_90~270 (65) av	27026
L_90~270 (75) av	6933
L_90~270 (85) av	5600
L_45 (65) av	21956
L_45 (75) av	8130
L_45 (85) av	5836

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:

```

```

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:

```

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:

```