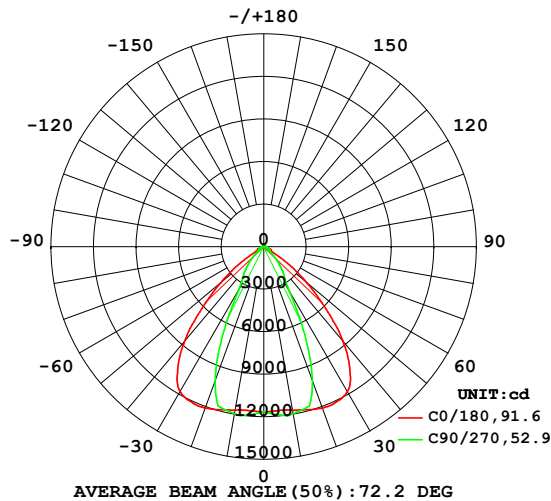


LUMINAIRE PHOTOMETRIC TEST REPORT

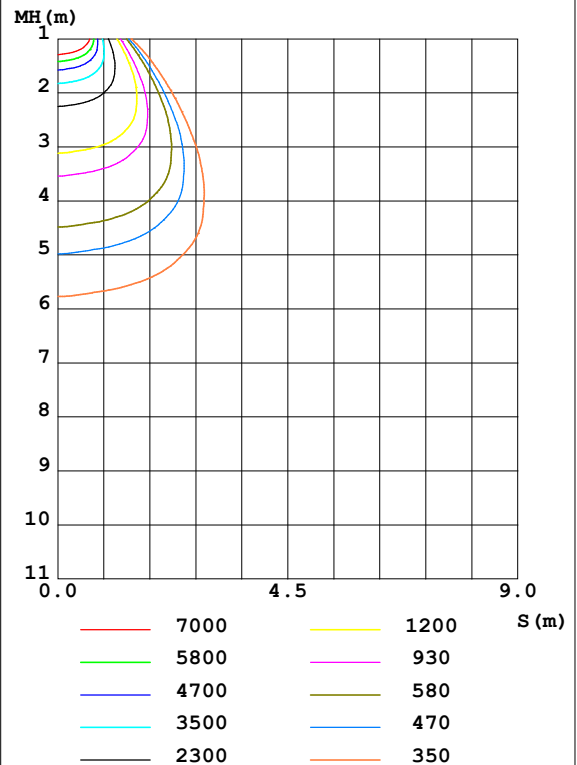
Test:U:230.0V I:0.6683A P:148.4W PF:0.9656 Lamp Flux:20093.5x1 lm		
NAME: LHB01-150	TYPE:150W	WEIGHT:
SPEC.:5000K Ra70 6090DEG L02802	DIM.: 1.178*0.137*0.102	SERIAL No.:
MFR.:	SUR.:1.17*0.1	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 135.41 lm/W			
MODEL	LHB01-150	I _{max} (cd)	14643	S/MH(C0/180)	1.31
NOMINAL POWER(W)	150	LOR(%)	100.0	S/MH(C90/270)	0.78
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	20094	η UP,DN(C0-180)	0.0,49.9
NOMINAL FLUX(lm)	20093.5	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.1
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	0.95

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	1161	1181	1190	1181	1161	1183	1190	1183	0- 5	280.9	280.9	1.4,1.4
10	1170	1207	1196	1207	1170	1210	1196	1210	5- 10	851.6	1132	5.64,5.64
15	1190	1239	1175	1239	1190	1245	1175	1245	10- 15	1433	2565	12.8,12.8
20	1210	1305	1006	1305	1210	1313	1006	1313	15- 20	2013	4578	22.8,22.8
25	1209	1299	683.7	1299	1209	1315	683.7	1315	20- 25	2463	7041	35,35
30	1181	1138	360.4	1138	1181	1152	360.4	1152	25- 30	2653	9694	48.2,48.2
35	1058	836.6	251.7	836.6	1058	836.1	251.7	836.1	30- 35	2595	12289	61.2,61.2
40	867.5	520.9	185.8	520.9	867.5	509.9	185.8	509.9	35- 40	2389	14678	73,73
45	620.9	390.9	119.8	390.9	620.9	383.5	119.8	383.5	40- 45	2003	16681	83,83
50	396.9	278.0	53.83	278.0	396.9	276.2	53.83	276.2	45- 50	1437	18117	90.2,90.2
55	199.2	155.1	45.81	155.1	199.2	155.9	45.81	155.9	50- 55	847.0	18964	94.4,94.4
60	53.68	49.62	37.79	49.62	53.68	51.06	37.79	51.06	55- 60	435.0	19399	96.5,96.5
65	49.10	38.89	29.77	38.89	49.10	39.97	29.77	39.97	60- 65	248.1	19647	97.8,97.8
70	28.24	27.98	21.75	27.98	28.24	28.56	21.75	28.56	65- 70	171.8	19819	98.6,98.6
75	18.35	17.14	17.25	17.14	18.35	17.26	17.25	17.26	70- 75	119.9	19939	99.2,99.2
80	10.07	11.30	12.74	11.30	10.07	11.37	12.74	11.37	75- 80	82.48	20022	99.6,99.6
85	3.101	6.006	8.228	6.006	3.101	6.083	8.228	6.083	80- 85	51.71	20073	99.9,99.9
90	0.3912	0.6399	3.718	0.6399	0.3912	0.7268	3.718	0.7268	85- 90	20.29	20094	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): 16681 lm

%lum = 83.0%

%lamp = 83.0%

Conical surface Flux(120deg): 19399 lm

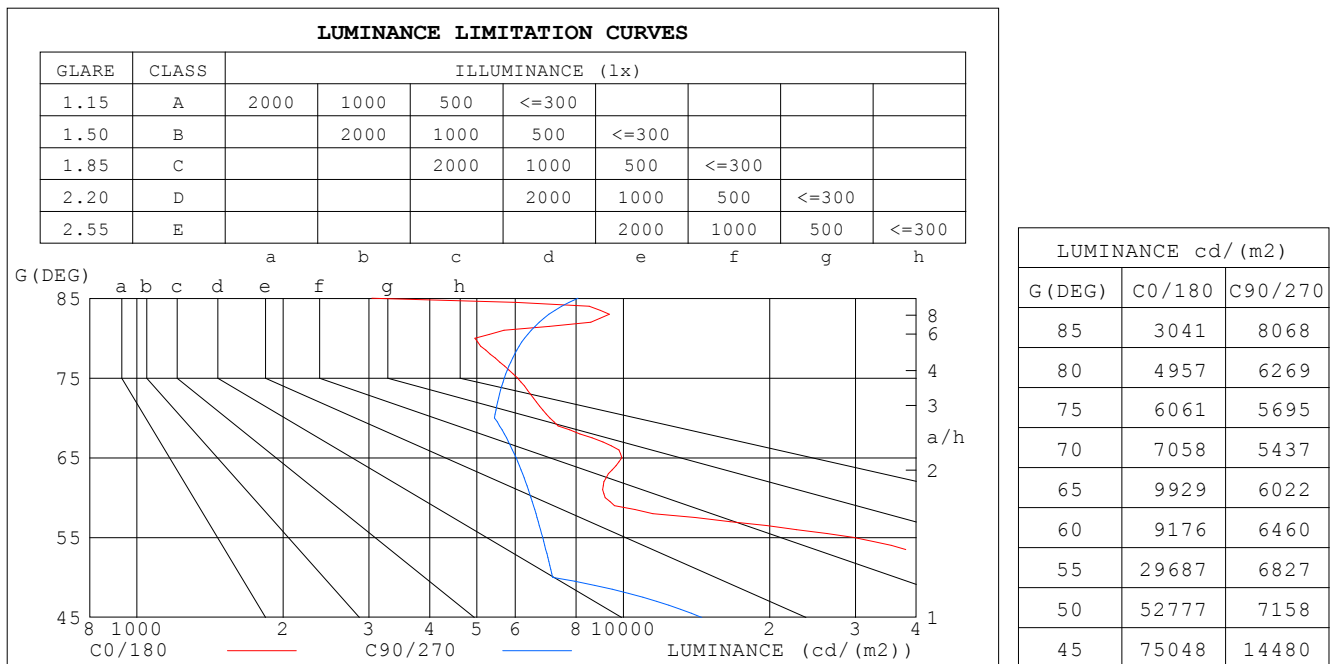
%lum = 96.5%

%lamp = 96.5%

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

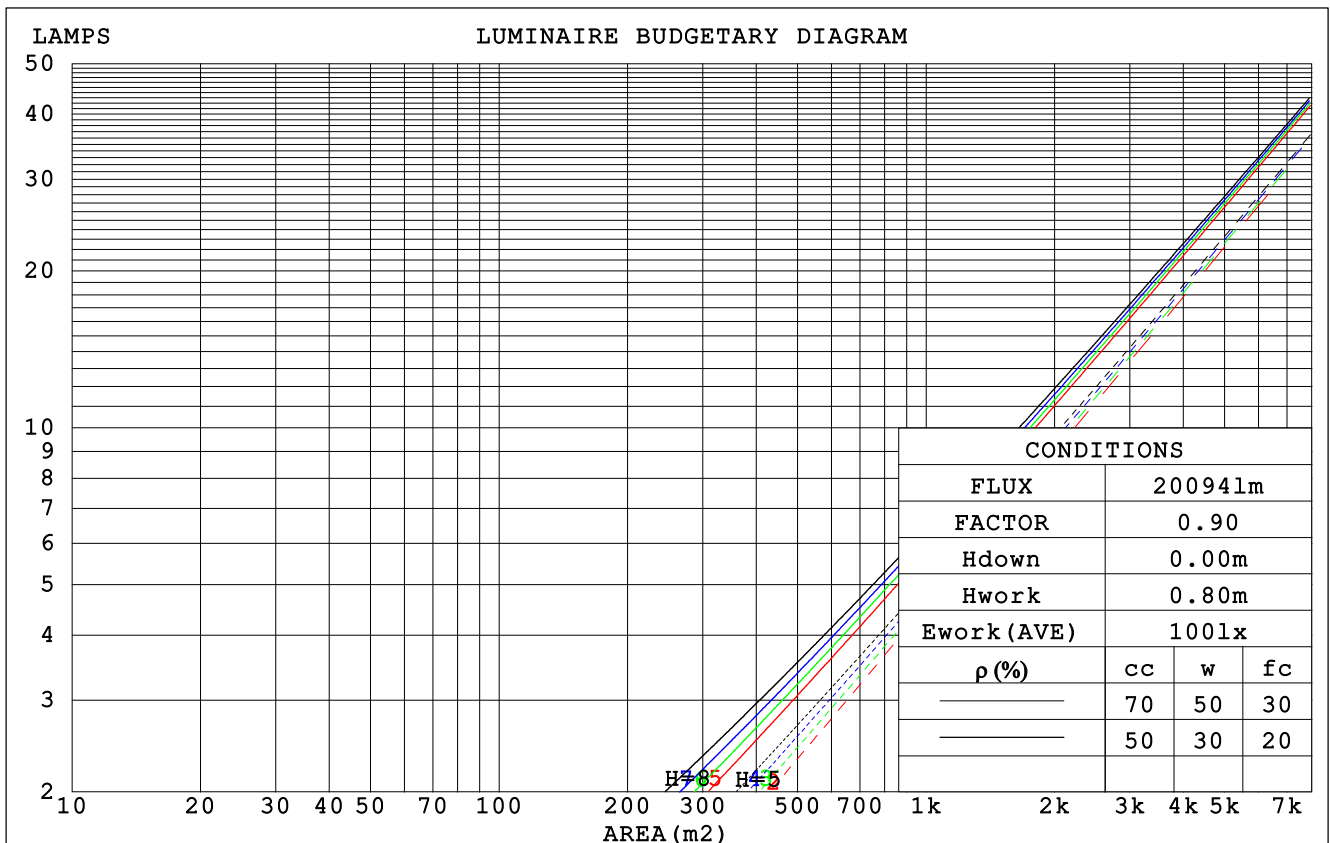


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-24

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	1.09	1.06	1.03	1.07	1.04	1.01	1.02	1.00	.98	.99	.97	.95	.95	.94	.92	.91
2.0	.99	.94	.90	.97	.93	.89	.94	.90	.87	.91	.88	.85	.88	.85	.83	.81
3.0	.90	.84	.79	.89	.83	.79	.86	.81	.77	.83	.79	.76	.81	.78	.75	.73
4.0	.82	.76	.71	.81	.75	.70	.79	.74	.69	.77	.72	.68	.75	.71	.68	.66
5.0	.76	.69	.63	.75	.68	.63	.73	.67	.62	.71	.66	.62	.69	.65	.61	.59
6.0	.70	.62	.57	.69	.62	.57	.67	.61	.57	.66	.60	.56	.64	.59	.56	.54
7.0	.64	.57	.52	.63	.57	.52	.62	.56	.51	.61	.55	.51	.60	.55	.51	.49
8.0	.59	.52	.47	.59	.52	.47	.58	.51	.47	.56	.51	.47	.55	.50	.47	.45
9.0	.55	.48	.44	.55	.48	.43	.54	.48	.43	.53	.47	.43	.52	.47	.43	.41
10.0	.51	.45	.40	.51	.44	.40	.50	.44	.40	.49	.44	.40	.48	.43	.40	.38



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	.217	.123	.039	.210	.120	.038	.197	.113	.036	.185	.107	.034	.175	.101	.033	
2.0	.210	.115	.035	.204	.112	.035	.193	.107	.033	.183	.103	.032	.174	.098	.031	
3.0	.200	.107	.032	.195	.105	.031	.186	.101	.031	.177	.097	.030	.169	.093	.029	
4.0	.190	.099	.029	.186	.097	.029	.178	.094	.028	.170	.091	.028	.163	.088	.027	
5.0	.181	.092	.027	.177	.091	.026	.169	.088	.026	.163	.086	.026	.156	.083	.025	
6.0	.171	.086	.025	.168	.085	.024	.161	.083	.024	.155	.081	.024	.150	.079	.023	
7.0	.163	.080	.023	.160	.080	.023	.154	.078	.022	.148	.076	.022	.143	.074	.022	
8.0	.155	.076	.021	.152	.075	.021	.147	.073	.021	.142	.072	.021	.137	.070	.021	
9.0	.147	.071	.020	.145	.071	.020	.140	.069	.020	.136	.068	.019	.132	.067	.019	
10.0	.140	.067	.019	.138	.067	.019	.134	.066	.018	.130	.065	.018	.126	.063	.018	

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	.174	.157	.142	.149	.135	.122	.102	.093	.084	.059	.054	.049	.019	.017	.016	
2.0	.161	.132	.108	.138	.114	.093	.095	.079	.065	.055	.046	.038	.018	.015	.012	
3.0	.151	.114	.084	.129	.098	.073	.089	.068	.051	.051	.040	.030	.016	.013	.010	
4.0	.142	.100	.067	.122	.086	.058	.084	.060	.041	.049	.035	.024	.016	.011	.008	
5.0	.135	.089	.055	.116	.077	.047	.080	.054	.034	.046	.031	.020	.015	.010	.007	
6.0	.128	.080	.045	.110	.069	.039	.076	.048	.028	.044	.028	.017	.014	.009	.005	
7.0	.122	.073	.038	.105	.063	.033	.072	.044	.024	.042	.026	.014	.014	.009	.005	
8.0	.116	.067	.033	.100	.058	.028	.069	.041	.020	.040	.024	.012	.013	.008	.004	
9.0	.111	.062	.028	.096	.054	.025	.066	.038	.018	.039	.022	.010	.013	.007	.003	
10.0	.106	.057	.025	.092	.050	.022	.064	.035	.015	.037	.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	26.0	27.2	26.2	27.4	27.5	18.1	19.3	18.4	19.5	19.7
3H	25.9	27.0	26.2	27.2	27.4	18.3	19.4	18.6	19.6	19.8
4H	25.8	26.8	26.1	27.1	27.3	18.4	19.5	18.7	19.7	19.9
6H	25.8	26.7	26.1	27.0	27.2	18.6	19.5	18.9	19.8	20.0
8H	25.7	26.6	26.0	26.9	27.2	18.6	19.5	18.9	19.8	20.1
12H	25.7	26.6	26.0	26.8	27.1	18.7	19.6	19.0	19.9	20.1
4H 2H	25.8	26.8	26.1	27.0	27.2	18.5	19.6	18.8	19.8	20.0
3H	25.7	26.6	26.0	26.8	27.1	18.8	19.7	19.2	20.0	20.3
4H	25.7	26.4	26.0	26.8	27.1	19.0	19.8	19.4	20.1	20.4
6H	25.6	26.3	26.0	26.6	27.0	19.2	19.9	19.6	20.3	20.6
8H	25.6	26.2	26.0	26.6	27.0	19.3	20.0	19.7	20.3	20.7
12H	25.6	26.2	26.0	26.5	26.9	19.5	20.0	19.9	20.4	20.8
8H 4H	25.5	26.2	25.9	26.5	26.9	19.1	19.7	19.5	20.1	20.5
6H	25.5	26.1	26.0	26.4	26.9	19.4	19.9	19.8	20.3	20.7
8H	25.5	26.0	26.0	26.4	26.8	19.6	20.0	20.0	20.5	20.9
12H	25.5	25.9	26.0	26.4	26.8	19.8	20.2	20.2	20.6	21.1
12H 4H	25.5	26.1	25.9	26.5	26.9	19.1	19.7	19.5	20.0	20.4
6H	25.5	26.0	25.9	26.4	26.8	19.4	19.9	19.9	20.3	20.7
8H	25.5	25.9	26.0	26.3	26.8	19.6	20.0	20.1	20.5	20.9
Variations with the observer position at spacings:										
S = 1.0H	+ 2.4 / - 4.6					+ 1.5 / - 2.3				
1.5H	+ 2.6 / - 3.7					+ 3.0 / - 2.9				
2.0H	+ 5.4 / - 6.9					+ 3.1 / - 1.3				

CIE Pub.117 Corrected 20094 lm Total Lamp Luminous Flux.(8log(F/F0) = 10.4)

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:

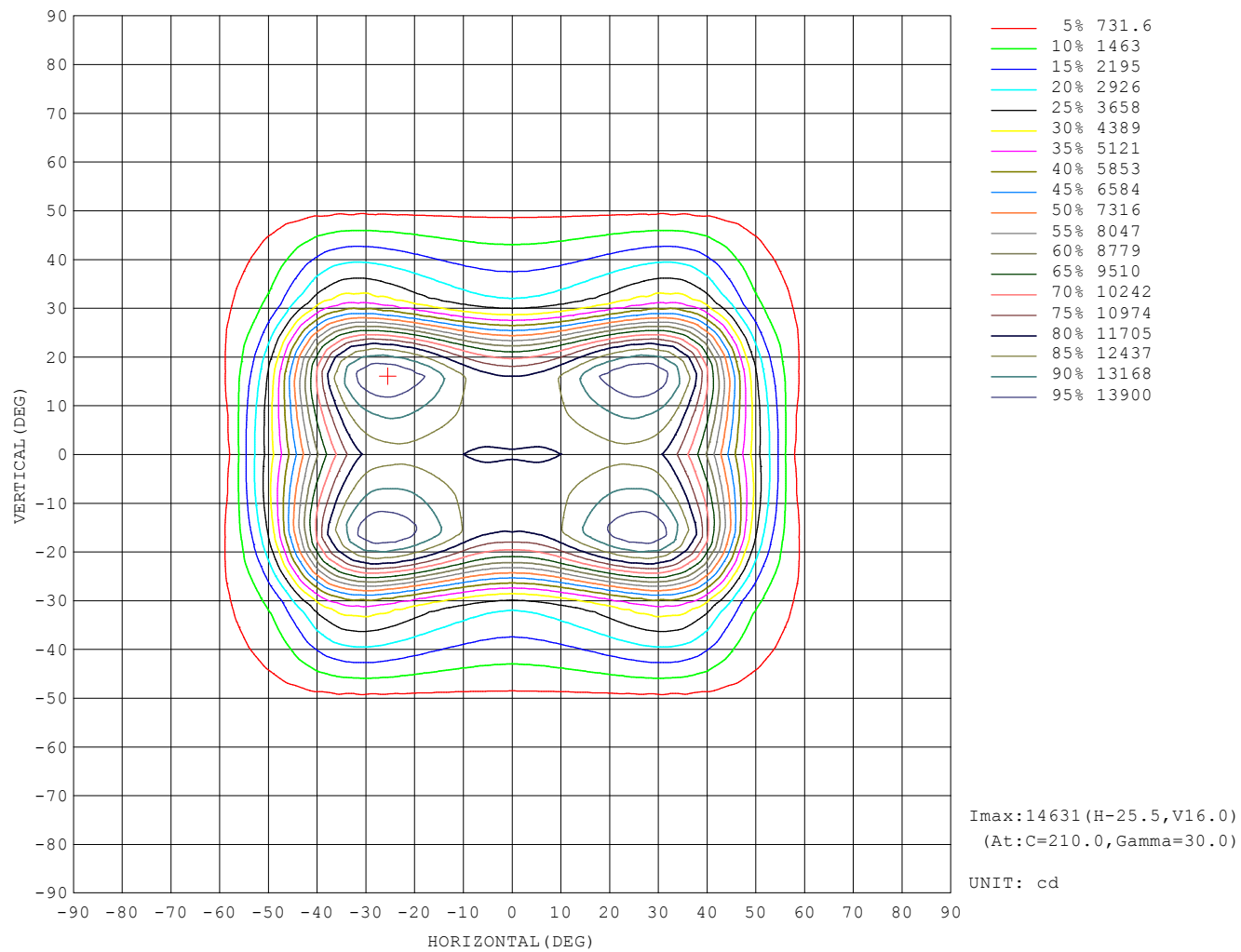
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	74	66	61	74	66	60	73	65	60	55
0.80	84	76	70	83	75	70	81	74	70	65
1.00	91	83	78	90	83	78	88	83	77	72
1.25	96	89	84	95	89	84	93	87	83	78
1.50	100	93	89	99	93	88	96	91	87	82
2.00	104	99	95	103	98	94	100	96	92	86
2.50	107	102	98	105	100	97	102	98	95	88
3.00	109	104	101	107	103	100	103	100	97	90
4.00	111	108	105	109	106	103	105	103	100	93
5.00	113	110	107	111	108	105	106	104	102	94
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:

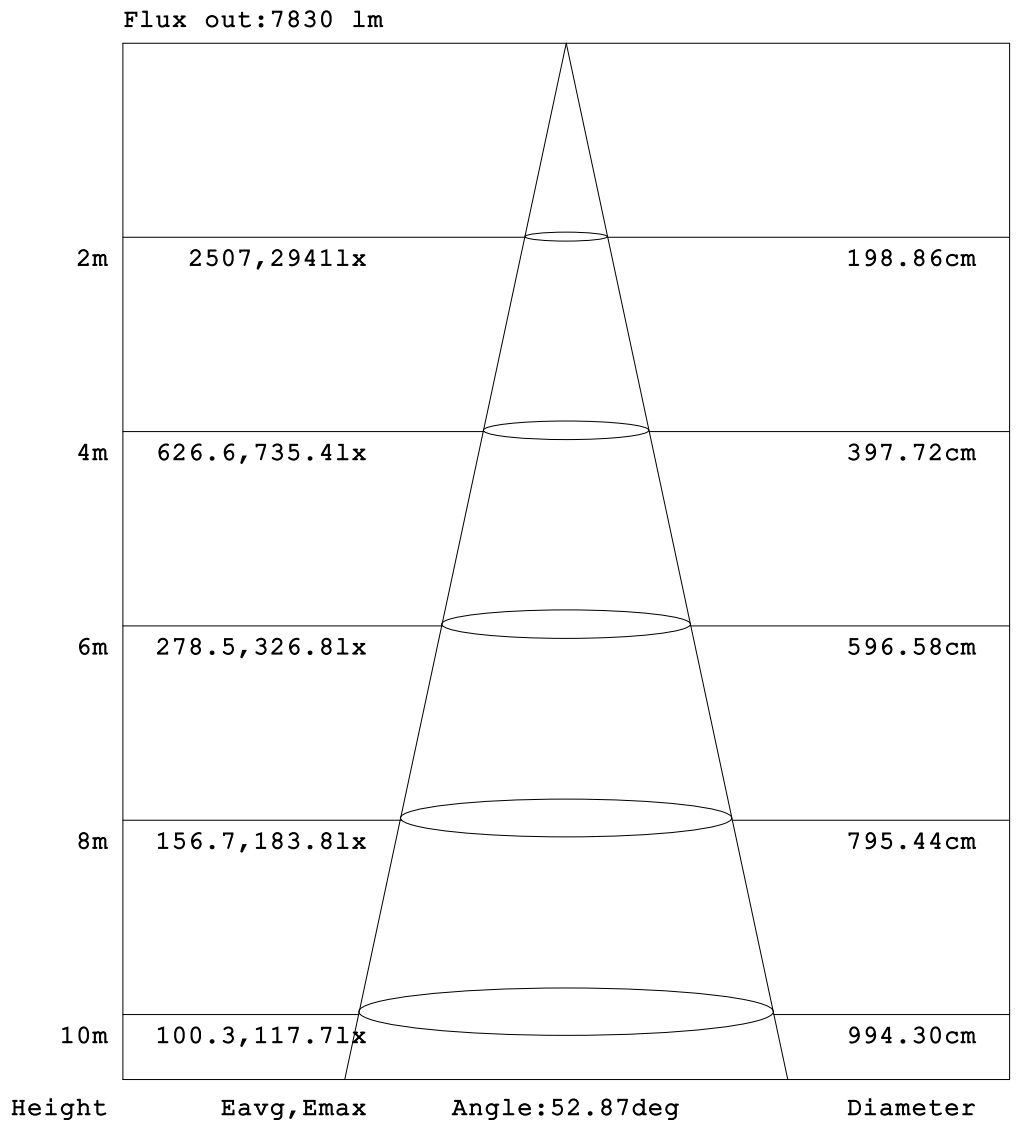
ISOCANDELA DIAGRAM



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

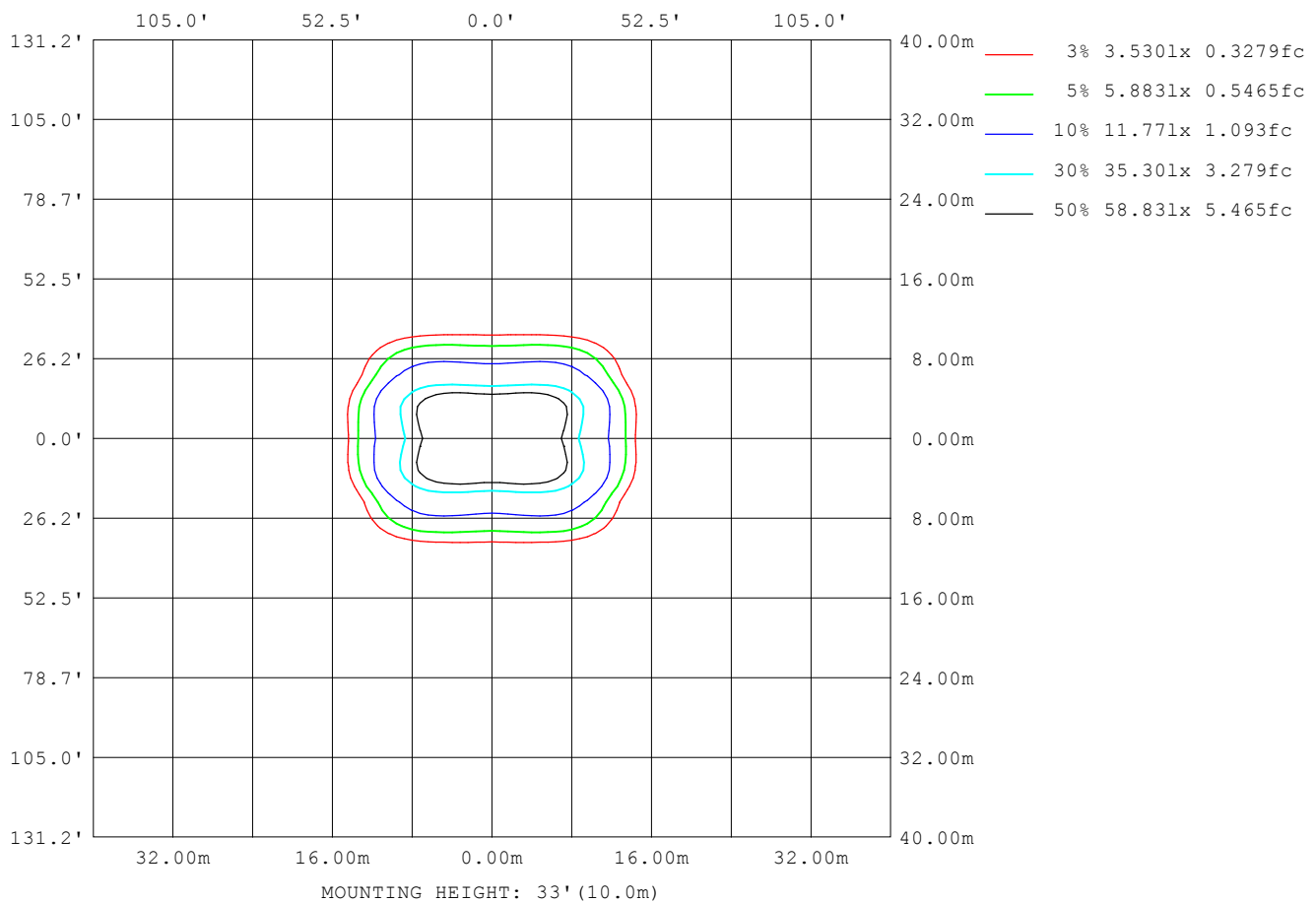


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

γ Range: 0 - 90 DEG
 γ Interval: 0.5 DEG
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:230.0V I:0.6683A P:148.4W PF:0.9656 Lamp Flux:20093.5x1 lm		
NAME: LHB01-150	TYPE:150W	WEIGHT:
SPEC.:5000K Ra70 6090DEG L02802	DIM.: 1.178*0.137*0.102	SERIAL No.:
MFR.:	SUR.:1.17*0.1	Shielding Angle:

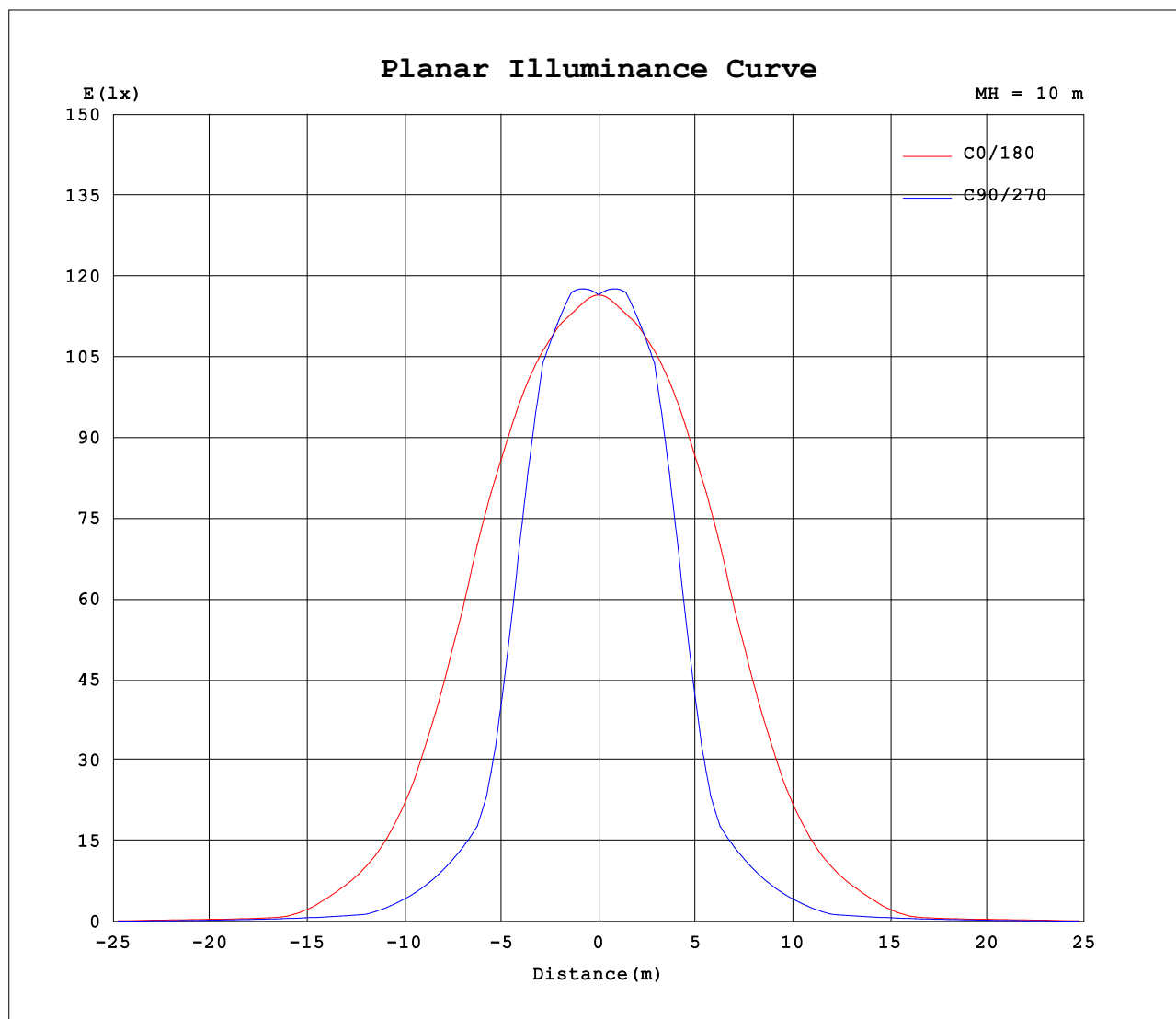
AvgL	cd/m2
L_0~180 (65) av	9929
L_0~180 (75) av	6061
L_0~180 (85) av	3041
L_90~270 (65) av	6022
L_90~270 (75) av	5695
L_90~270 (85) av	8068
L_45 (65) av	7974
L_45 (75) av	5679
L_45 (85) av	5928

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:

```

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:

```

```

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:

```