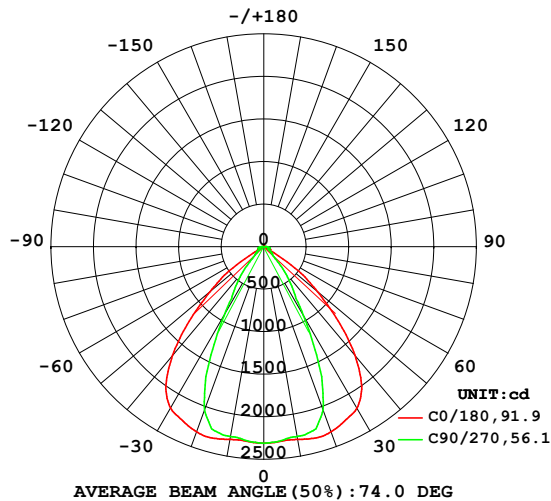


LUMINAIRE PHOTOMETRIC TEST REPORT

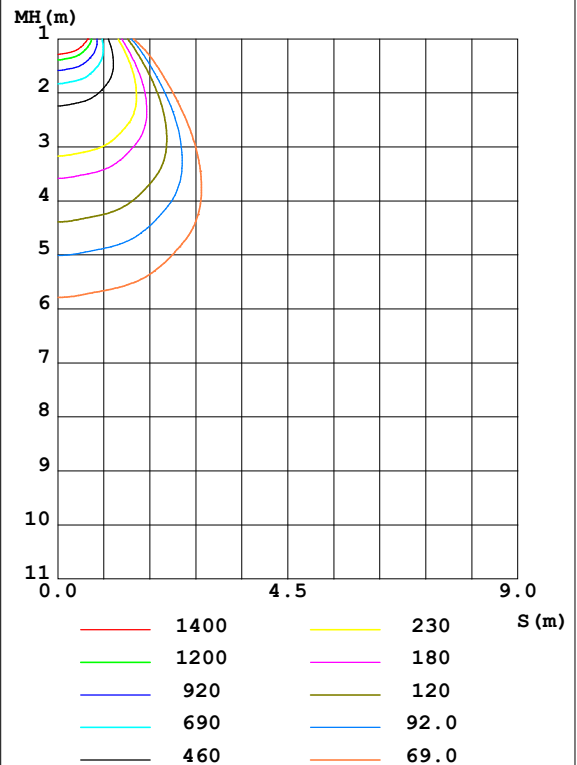
Test:U:230.1V I:0.1377A P:30.77W PF:0.9711 Lamp Flux:3934.83x1 lm		
NAME: LHB01-30	TYPE:30W	WEIGHT:
SPEC.:5000K Ra70 6090DEG L02802	DIM.: 0.28*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.25*0.1	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 127.89 lm/W			
MODEL	LHB01-30	Imax(cd)	2644	S/MH(C0/180)	1.30
NOMINAL POWER(W)	30	LOR(%)	100.0	S/MH(C90/270)	0.83
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	3934.8	η UP,DN(C0-180)	0.0,50.0
NOMINAL FLUX(lm)	3934.83	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.0
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	1.05

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:2017-03-29

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	2295	2291	2289	2291	2295	2291	2289	2291	0- 5	54.98	54.98	1.4,1.4
10	2301	2265	2265	2267	2301	2267	2265	2265	5- 10	163.0	218.0	5.54,5.54
15	2328	2329	2238	2332	2328	2332	2238	2329	10- 15	271.6	489.5	12.4,12.4
20	2315	2445	2044	2456	2315	2456	2044	2445	15- 20	380.8	870.4	22.1,22.1
25	2257	2463	1545	2507	2257	2507	1545	2463	20- 25	471.9	1342	34.1,34.1
30	2192	2258	937.8	2320	2192	2320	937.8	2258	25- 30	518.3	1861	47.3,47.3
35	2006	1791	585.3	1855	2006	1855	585.3	1791	30- 35	514.0	2375	60.3,60.3
40	1668	1192	370.5	1239	1668	1239	370.5	1192	35- 40	476.4	2851	72.5,72.5
45	1240	806.3	173.8	840.6	1240	840.6	173.8	806.3	40- 45	402.1	3253	82.7,82.7
50	825.0	491.1	122.3	509.8	825.0	509.8	122.3	491.1	45- 50	293.9	3547	90.1,90.1
55	503.5	188.5	88.91	186.3	503.5	186.3	88.91	188.5	50- 55	182.6	3730	94.8,94.8
60	87.01	119.4	55.52	117.0	87.01	117.0	55.52	119.4	55- 60	92.18	3822	97.1,97.1
65	76.03	72.34	60.11	70.67	76.03	70.67	60.11	72.34	60- 65	44.76	3867	98.3,98.3
70	38.77	41.01	64.69	39.96	38.77	39.96	64.69	41.01	65- 70	27.75	3894	99,99
75	21.74	27.97	66.84	26.34	21.74	26.34	66.84	27.97	70- 75	18.38	3913	99.4,99.4
80	7.964	15.63	49.51	13.73	7.964	13.73	49.51	15.63	75- 80	12.11	3925	99.7,99.7
85	0.4520	8.868	29.75	7.440	0.4520	7.440	29.75	8.868	80- 85	7.042	3932	99.9,99.9
90	0.5401	2.241	9.985	1.271	0.5401	1.271	9.985	2.241	85- 90	3.015	3935	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): 3253.1 lm

%lum = 82.7%

%lamp = 82.7%

Conical surface Flux(120deg): 3821.8 lm

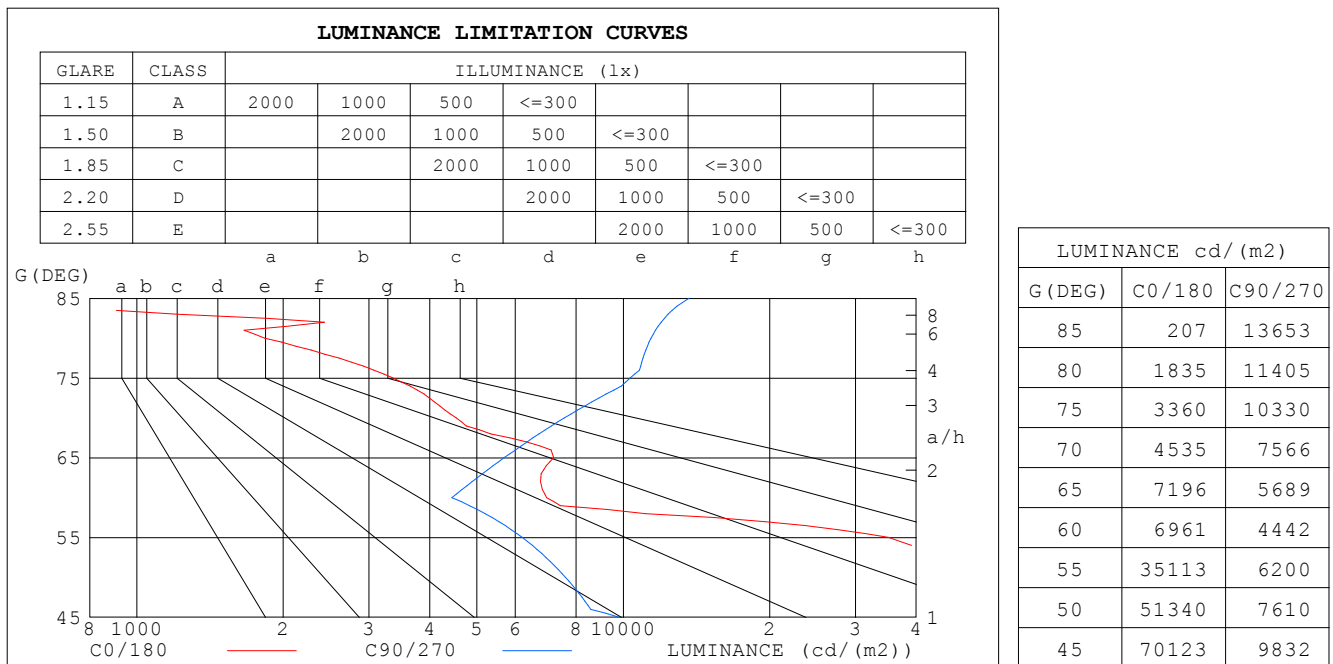
%lum = 97.1%

%lamp = 97.1%

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-03-29

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

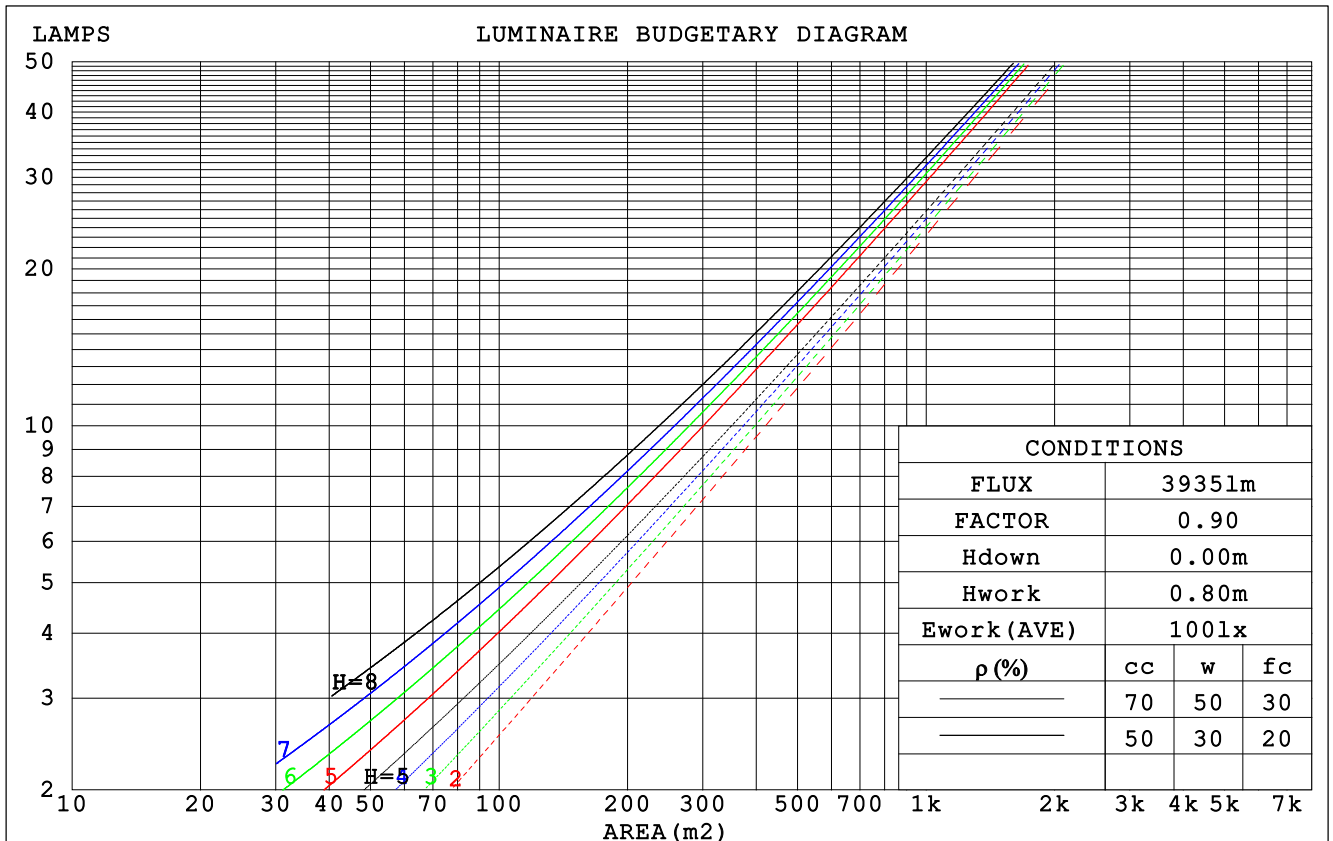


C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-29

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

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	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	1.09	1.06	1.03	1.07	1.04	1.01	1.02	1.00	.98	.99	.97	.95	.95	.94	.93	.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	.70	.81	.75	.70	.79	.73	.69	.77	.72	.68	.75	.71	.67	.66
5.0	.75	.68	.63	.74	.68	.63	.73	.67	.62	.71	.66	.62	.69	.65	.61	.59
6.0	.69	.62	.57	.68	.62	.57	.67	.61	.56	.65	.60	.56	.64	.59	.55	.54
7.0	.64	.57	.52	.63	.56	.51	.62	.56	.51	.60	.55	.51	.59	.54	.51	.49
8.0	.59	.52	.47	.59	.52	.47	.57	.51	.47	.56	.51	.46	.55	.50	.46	.45
9.0	.55	.48	.43	.54	.48	.43	.53	.47	.43	.52	.47	.43	.51	.46	.42	.41
10.0	.51	.44	.40	.51	.44	.40	.50	.44	.39	.49	.43	.39	.48	.43	.39	.38



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-03-29

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	.216	.123	.039	.209	.119	.038	.196	.112	.036	.184	.106	.034	.173	.100	.032	
2.0	.209	.115	.035	.204	.112	.035	.193	.107	.033	.183	.102	.032	.173	.098	.031	
3.0	.200	.107	.032	.195	.105	.031	.186	.101	.031	.177	.097	.030	.169	.093	.029	
4.0	.191	.099	.029	.186	.097	.029	.178	.094	.028	.170	.091	.028	.163	.089	.027	
5.0	.181	.092	.027	.177	.091	.027	.170	.088	.026	.163	.086	.026	.157	.084	.025	
6.0	.172	.086	.025	.169	.085	.025	.162	.083	.024	.156	.081	.024	.150	.079	.023	
7.0	.164	.081	.023	.160	.080	.023	.155	.078	.023	.149	.076	.022	.144	.075	.022	
8.0	.156	.076	.021	.153	.075	.021	.148	.074	.021	.143	.072	.021	.138	.071	.021	
9.0	.148	.072	.020	.146	.071	.020	.141	.070	.020	.136	.068	.020	.132	.067	.019	
10.0	.141	.068	.019	.139	.067	.019	.135	.066	.019	.131	.065	.018	.127	.064	.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	.130	.098	.073	.089	.068	.051	.051	.040	.030	.017	.013	.010	
4.0	.142	.100	.067	.122	.086	.058	.084	.060	.041	.049	.035	.024	.016	.011	.008	
5.0	.135	.089	.054	.116	.077	.047	.080	.054	.033	.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	.073	.044	.023	.042	.026	.014	.014	.009	.005	
8.0	.117	.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	.107	.058	.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:2017-03-29

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	27.3	27.5	17.9	19.1	18.2	19.3	19.5
3H	25.8	26.9	26.1	27.1	27.3	18.0	19.1	18.3	19.3	19.5
4H	25.7	26.8	26.0	27.0	27.2	18.2	19.2	18.4	19.4	19.6
6H	25.7	26.6	26.0	26.9	27.1	18.4	19.4	18.7	19.6	19.9
8H	25.6	26.5	25.9	26.8	27.1	18.6	19.5	18.9	19.7	20.0
12H	25.6	26.4	25.9	26.7	27.0	18.7	19.6	19.1	19.9	20.2
4H 2H	25.7	26.7	26.0	27.0	27.2	18.4	19.4	18.7	19.6	19.9
3H	25.6	26.5	25.9	26.8	27.0	18.5	19.4	18.8	19.7	19.9
4H	25.5	26.3	25.9	26.6	27.0	18.7	19.5	19.0	19.8	20.1
6H	25.5	26.2	25.8	26.5	26.8	18.9	19.6	19.3	19.9	20.3
8H	25.4	26.1	25.8	26.4	26.8	19.1	19.7	19.5	20.1	20.4
12H	25.4	26.0	25.8	26.3	26.7	19.3	19.8	19.7	20.2	20.6
8H 4H	25.4	26.1	25.8	26.4	26.8	18.7	19.3	19.1	19.7	20.0
6H	25.3	25.9	25.8	26.3	26.7	19.0	19.5	19.4	19.9	20.3
8H	25.3	25.8	25.8	26.2	26.6	19.1	19.6	19.6	20.0	20.5
12H	25.3	25.7	25.7	26.1	26.6	19.4	19.8	19.8	20.2	20.7
12H 4H	25.4	26.0	25.8	26.3	26.7	18.6	19.2	19.0	19.6	20.0
6H	25.3	25.8	25.8	26.2	26.6	18.9	19.4	19.4	19.8	20.3
8H	25.3	25.7	25.7	26.1	26.6	19.2	19.6	19.6	20.0	20.5
Variations with the observer position at spacings:										
S = 1.0H	+ 2.2 / - 4.6					+ 1.5 / - 3.2				
1.5H	+ 1.9 / - 3.9					+ 3.2 / - 2.6				
2.0H	+ 4.9 / - 9.6					+ 1.5 / - 2.3				

CIE Pub.117 Corrected 3935 lm Total Lamp Luminous Flux.(8log(F/F0) = 4.8)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-29

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:

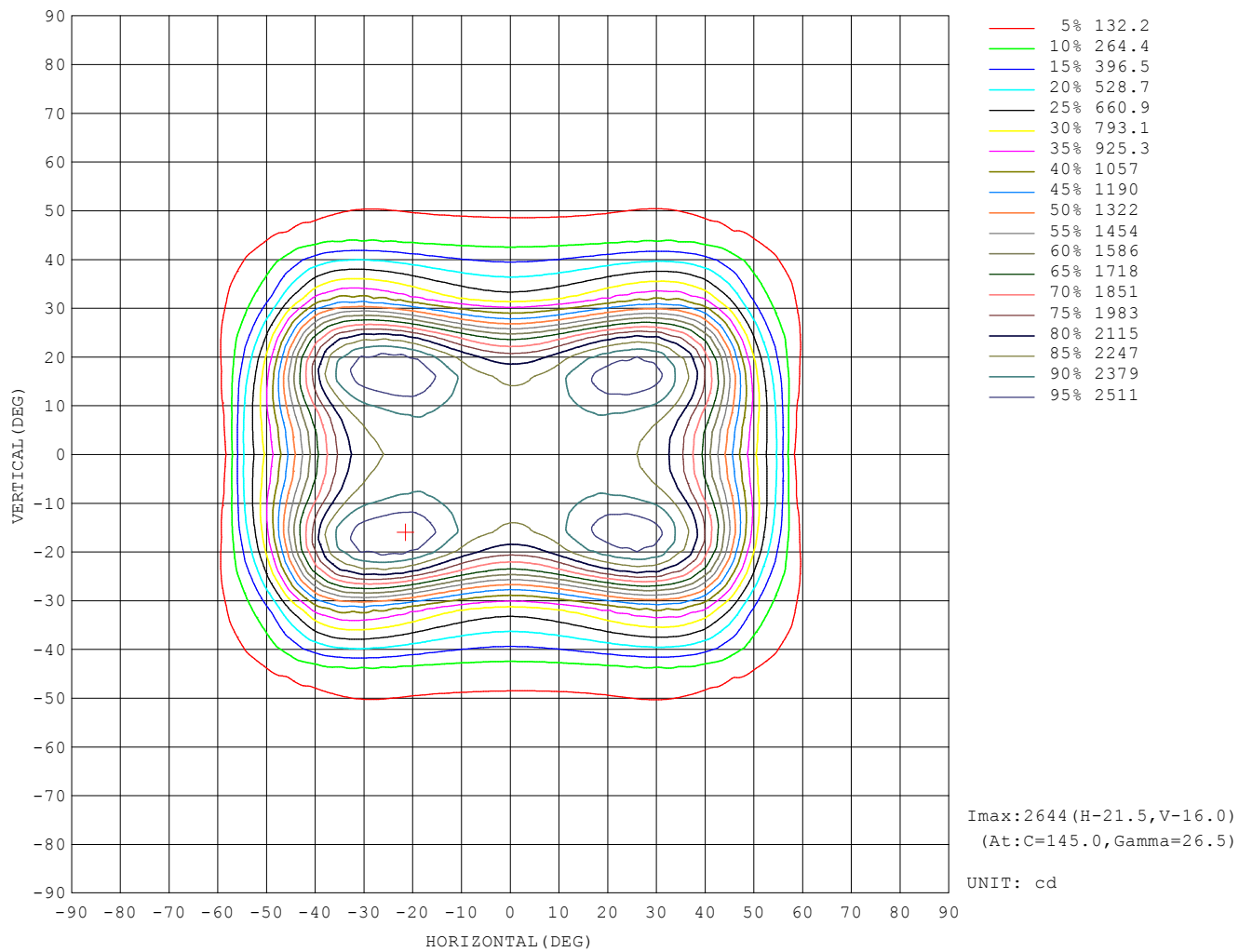
UTILIZATION FACTORS TABLE

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	65	60	73	65	60	72	64	60	55
0.80	83	75	70	83	75	70	81	74	69	64
1.00	90	83	78	90	82	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: 2017-03-29

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:

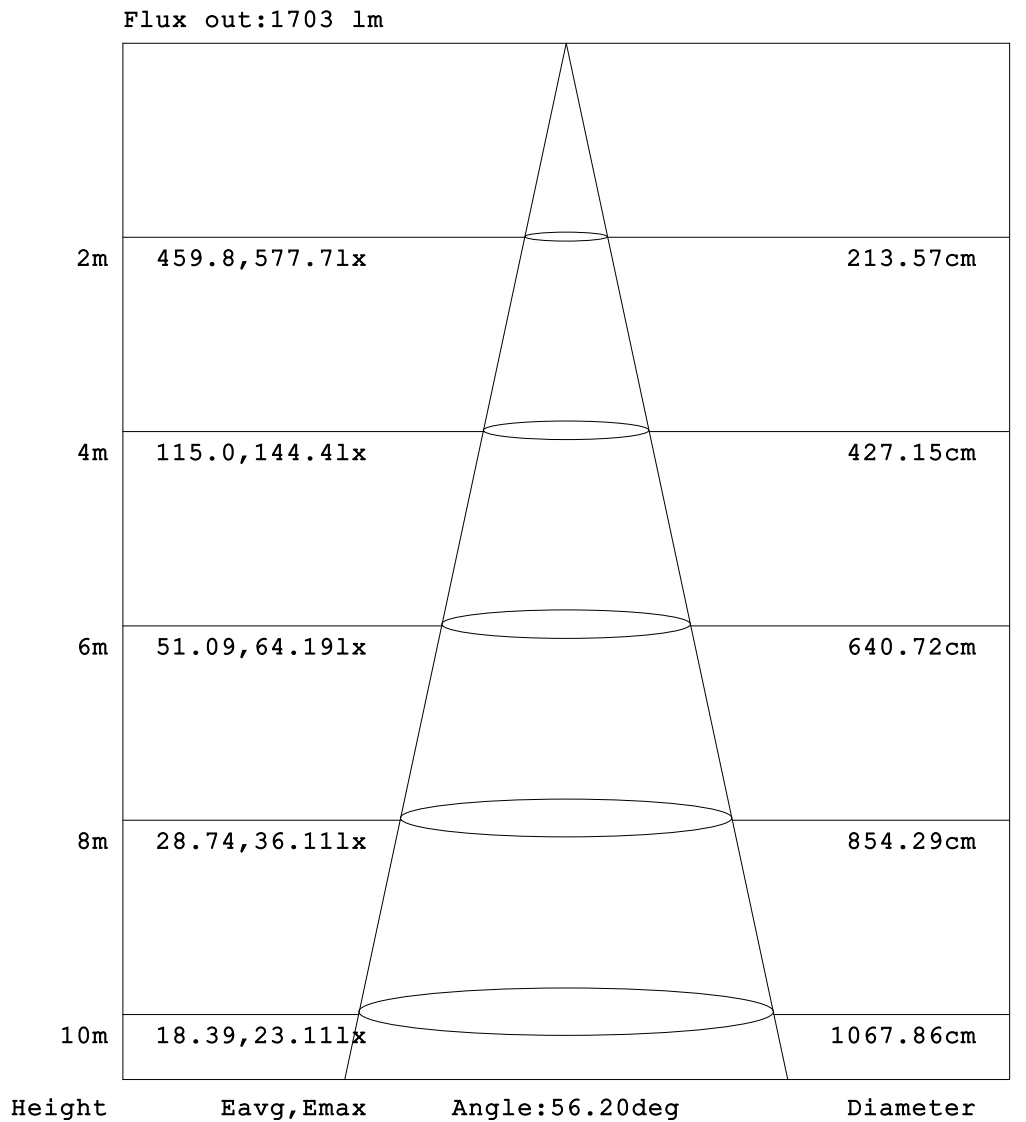
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-29

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

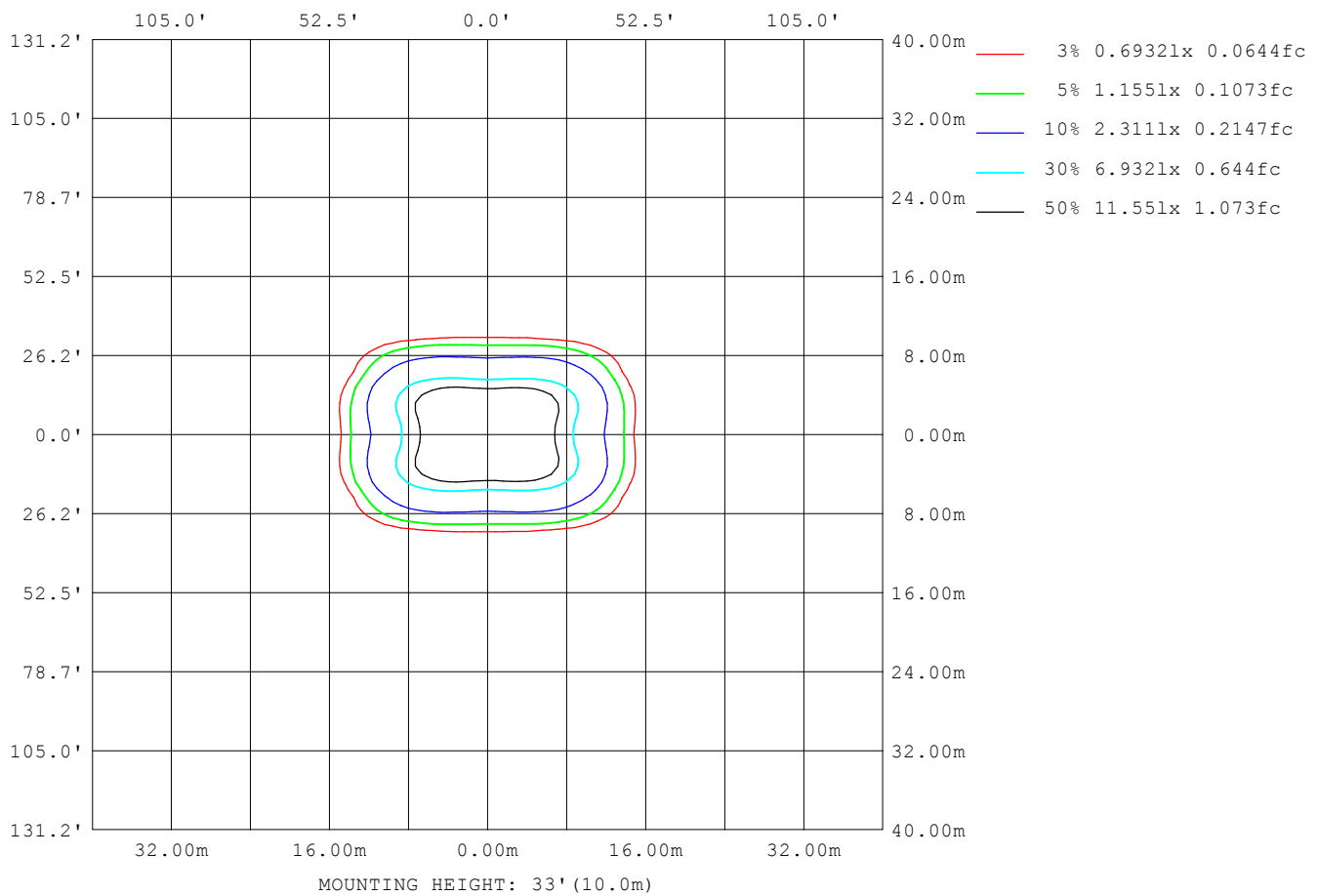


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-29

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:2017-03-29

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:230.1V I:0.1377A P:30.77W PF:0.9711 Lamp Flux:3934.83x1 lm		
NAME: LHB01-30	TYPE:30W	WEIGHT:
SPEC.:5000K Ra70 6090DEG L02802	DIM.: 0.28*0.137*0.102	SERIAL No.:
MFR.:	SUR.:0.25*0.1	Shielding Angle:

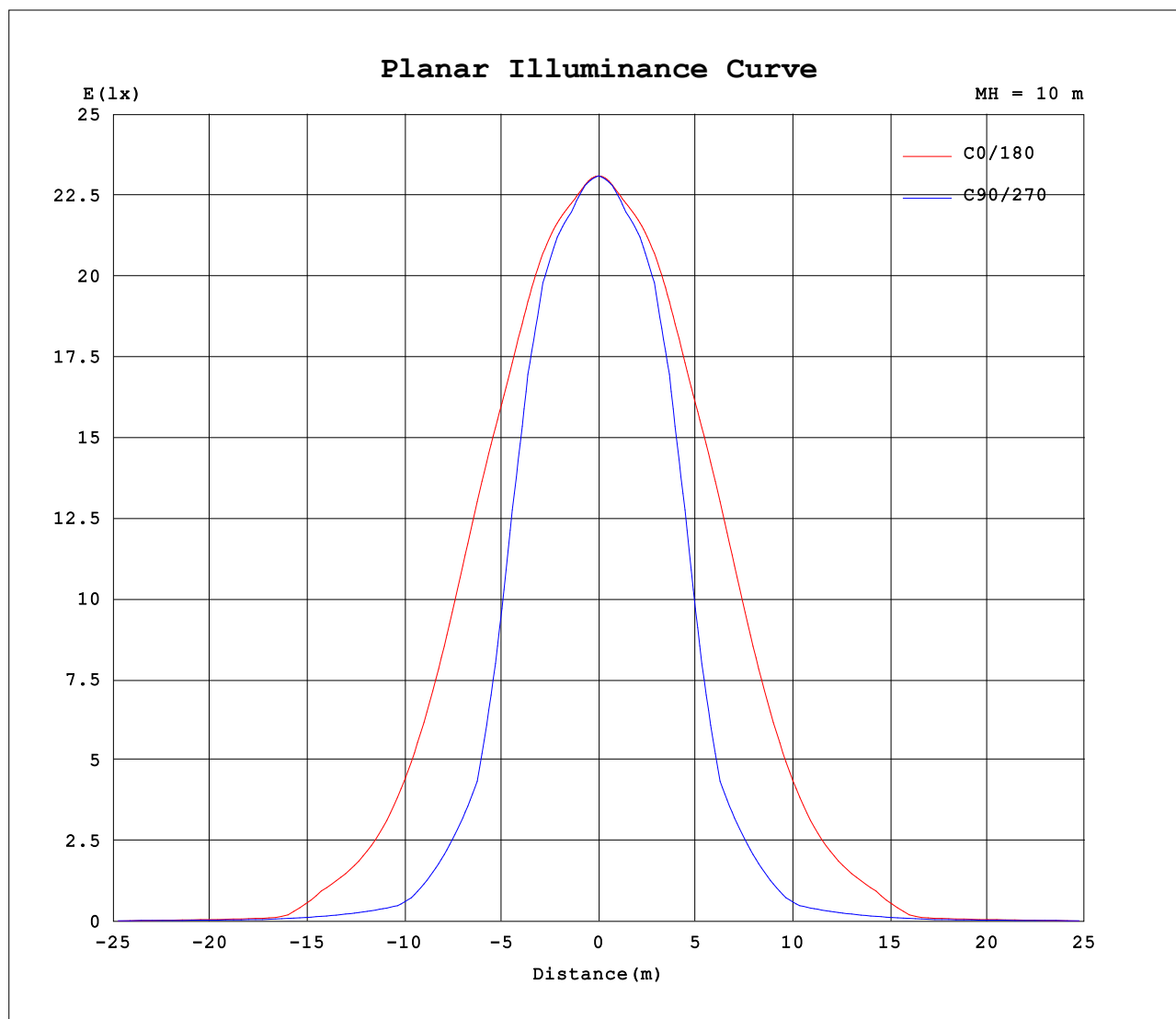
AvgL	cd/m2
L_0~180 (65) av	7196
L_0~180 (75) av	3360
L_0~180 (85) av	207
L_90~270 (65) av	5689
L_90~270 (75) av	10330
L_90~270 (85) av	13653
L_45 (65) av	6768
L_45 (75) av	4197
L_45 (85) av	3742

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-03-29

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: 2017-03-29

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:

