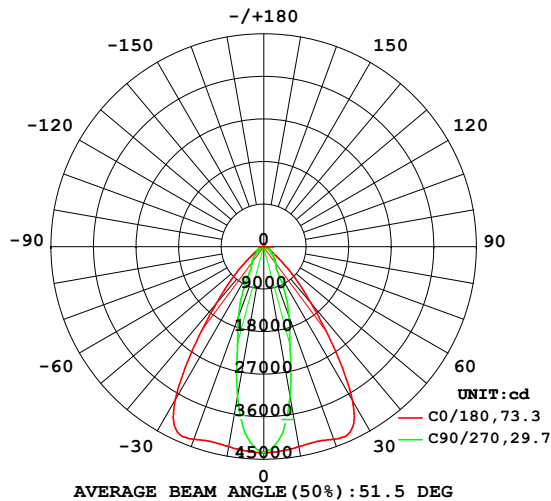


LUMINAIRE PHOTOMETRIC TEST REPORT

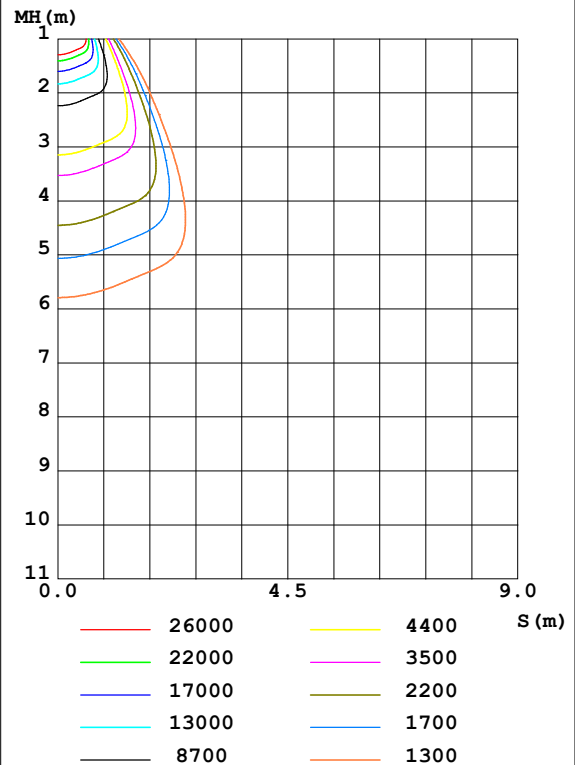
Test:U:229.9V I:1.059A P:238.3W PF:0.9787 Lamp Flux:38100.1x1 lm		
NAME: LHB01-240H	TYPE:240W	WEIGHT:
SPEC.:5000K Ra70 3070DEG L06401	DIM.: 0.948*0.275*0.102	SERIAL No.:
MFR.:	SUR.:0.92*0.2	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 159.86 lm/W			
MODEL	LHB01-240H	I _{max} (cd)	43668	S/MH (C0/180)	1.06
NOMINAL POWER(W)	240	LOR(%)	100.0	S/MH (C90/270)	0.49
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	38100	η UP,DN(C0-180)	0.0,49.9
NOMINAL FLUX(lm)	38100.1	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.1
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:2017-06-02

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:

Checker:

Assessor:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
5	4340	4171	4046	4171	4340	4175	4046	4175	0- 5	1018	1018	2.67,2.67
10	4297	3728	3218	3728	4297	3739	3218	3739	5- 10	2832	3850	10.1,10.1
15	4273	3036	2158	3036	4273	3047	2158	3047	10- 15	4050	7900	20.7,20.7
20	4335	2269	1577	2269	4335	2266	1577	2266	15- 20	4711	12611	33.1,33.1
25	4328	1821	1057	1821	4328	1800	1057	1800	20- 25	5142	17753	46.6,46.6
30	3750	1425	538.2	1425	3750	1395	538.2	1395	25- 30	5097	22851	60,60
35	2567	938.7	453.2	938.7	2567	925.6	453.2	925.6	30- 35	4298	27148	71.3,71.3
40	1551	468.3	368.2	468.3	1551	472.5	368.2	472.5	35- 40	3186	30334	79.6,79.6
45	938.5	379.4	283.2	379.4	938.5	381.4	283.2	381.4	40- 45	2283	32617	85.6,85.6
50	498.7	295.5	198.2	295.5	498.7	294.9	198.2	294.9	45- 50	1637	34253	89.9,89.9
55	259.3	214.8	171.8	214.8	259.3	212.4	171.8	212.4	50- 55	1139	35393	92.9,92.9
60	157.8	142.6	145.5	142.6	157.8	139.4	145.5	139.4	55- 60	827.2	36220	95.1,95.1
65	107.3	111.4	119.1	111.4	107.3	109.0	119.1	109.0	60- 65	629.4	36849	96.7,96.7
70	73.28	79.99	92.73	79.99	73.28	78.55	92.73	78.55	65- 70	478.6	37328	98,98
75	49.92	49.17	69.97	49.17	49.92	48.91	69.97	48.91	70- 75	348.3	37676	98.9,98.9
80	28.08	31.69	47.21	31.69	28.08	31.73	47.21	31.73	75- 80	235.3	37911	99.5,99.5
85	6.780	16.46	24.45	16.46	6.780	16.64	24.45	16.64	80- 85	138.3	38050	99.9,99.9
90	0.5845	1.559	1.693	1.559	0.5845	1.840	1.693	1.840	85- 90	50.42	38100	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): 32617 lm

%lum = 85.6%

%lamp = 85.6%

Conical surface Flux(120deg): 36220 lm

%lum = 95.1%

%lamp = 95.1%

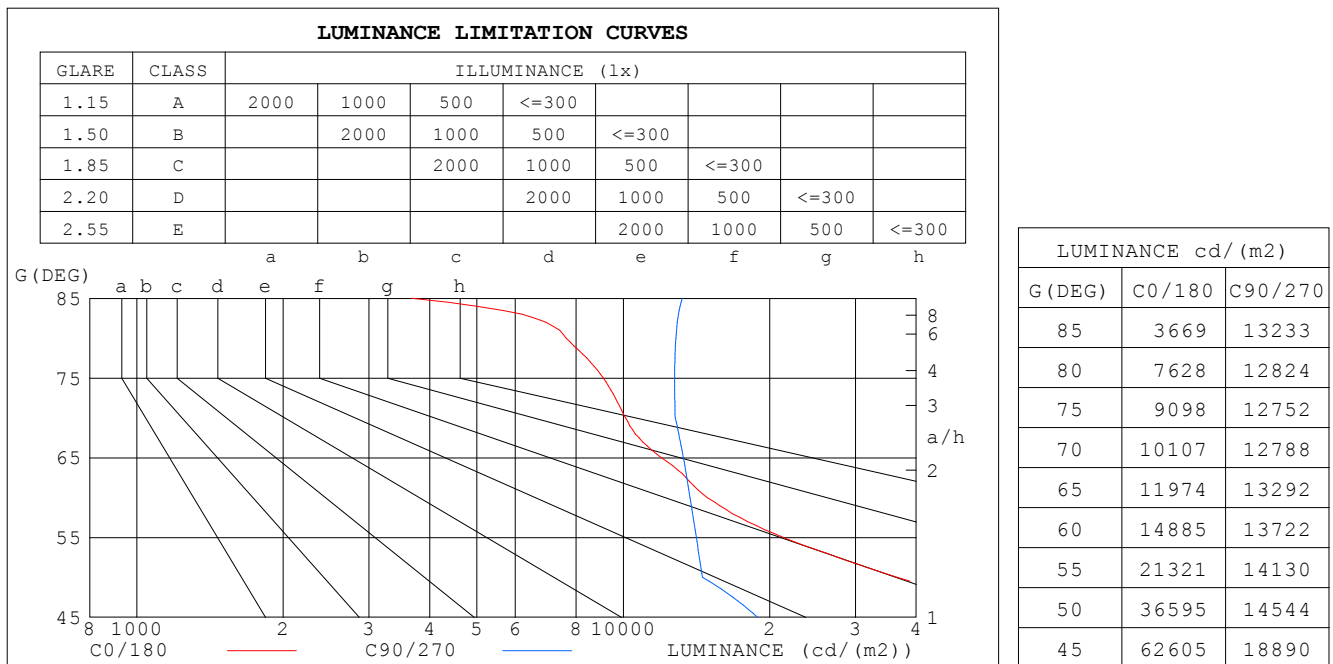
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-06-02

Checker:

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:

Assessor:

LUMINANCE LIMITATION CURVES



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-06-02

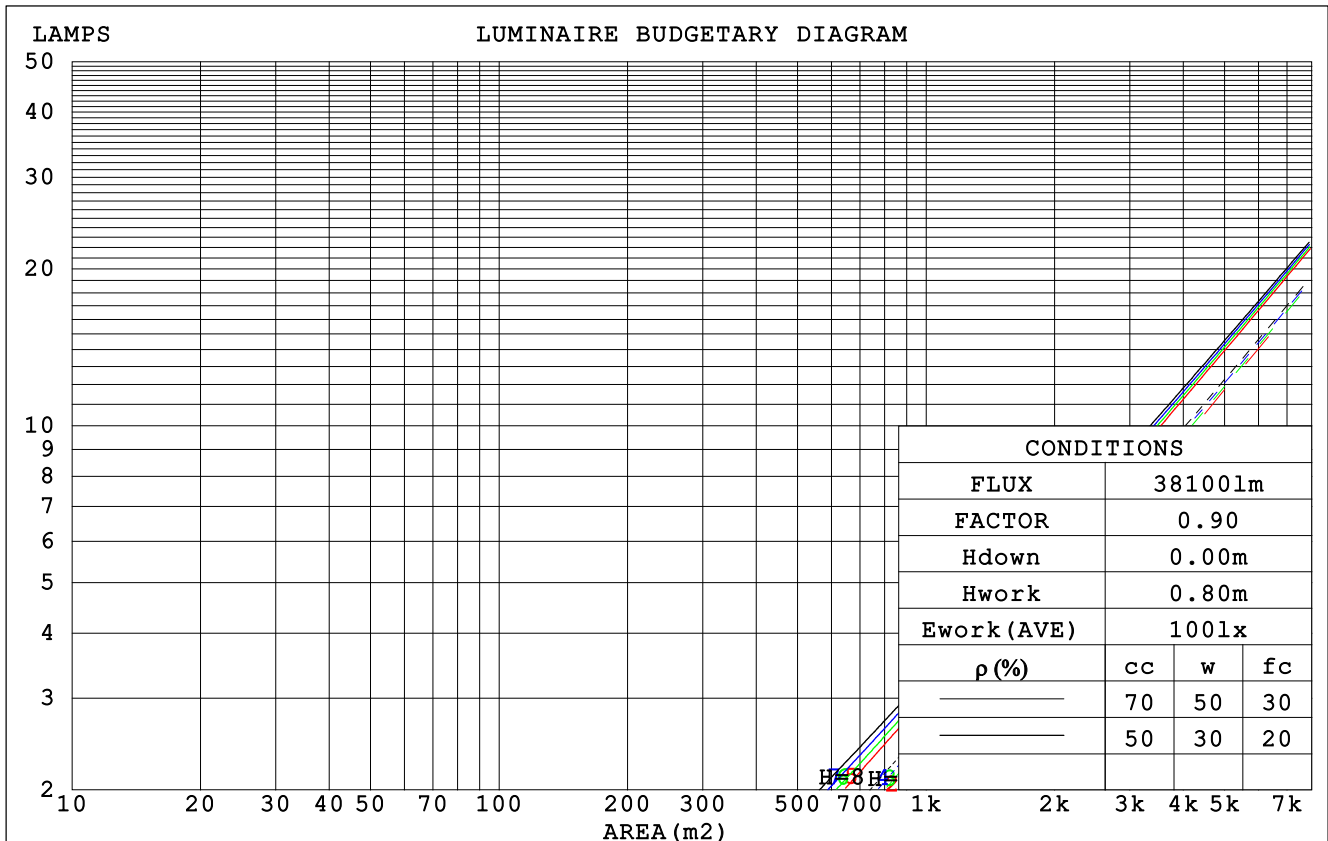
Checker:

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:

Assessor:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

pcc	80%			70%			50%			30%			10%			0
p _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
p _{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	1.04	1.07	1.04	1.02	1.03	1.01	.99	.99	.97	.96	.96	.94	.93	.91
2.0	1.00	.95	.92	.98	.94	.90	.95	.92	.88	.92	.89	.87	.89	.87	.85	.83
3.0	.92	.86	.82	.91	.85	.81	.88	.84	.80	.86	.82	.79	.83	.80	.77	.76
4.0	.85	.79	.74	.84	.78	.74	.82	.77	.73	.80	.75	.72	.78	.74	.71	.69
5.0	.79	.73	.68	.78	.72	.67	.76	.71	.67	.74	.70	.66	.73	.69	.65	.64
6.0	.74	.67	.62	.73	.67	.62	.71	.66	.62	.70	.65	.61	.68	.64	.61	.59
7.0	.69	.62	.57	.68	.62	.57	.67	.61	.57	.66	.60	.57	.64	.60	.56	.55
8.0	.64	.58	.53	.64	.58	.53	.63	.57	.53	.62	.57	.53	.61	.56	.53	.51
9.0	.61	.54	.50	.60	.54	.50	.59	.53	.50	.58	.53	.49	.57	.53	.49	.48
10.0	.57	.51	.47	.57	.51	.47	.56	.50	.46	.55	.50	.46	.54	.50	.46	.45



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-06-02

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:

Checker:

Assessor:

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	.208	.118	.038	.201	.115	.036	.189	.108	.035	.177	.102	.033	.166	.096	.031		
2.0	.199	.109	.033	.193	.106	.033	.182	.101	.031	.172	.096	.030	.163	.092	.029		
3.0	.188	.100	.030	.183	.098	.029	.173	.094	.029	.165	.090	.028	.157	.087	.027		
4.0	.177	.092	.027	.173	.090	.027	.165	.087	.026	.157	.084	.025	.150	.082	.025		
5.0	.167	.085	.025	.164	.084	.024	.156	.081	.024	.150	.079	.024	.144	.077	.023		
6.0	.158	.079	.023	.155	.078	.023	.149	.076	.022	.143	.074	.022	.137	.072	.021		
7.0	.150	.074	.021	.147	.073	.021	.142	.072	.021	.136	.070	.020	.131	.068	.020		
8.0	.143	.070	.020	.140	.069	.019	.135	.067	.019	.130	.066	.019	.126	.065	.019		
9.0	.136	.066	.018	.133	.065	.018	.129	.064	.018	.125	.062	.018	.121	.061	.018		
10.0	.129	.062	.017	.127	.061	.017	.123	.060	.017	.119	.059	.017	.116	.058	.017		

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	.173	.157	.142	.148	.135	.123	.101	.093	.085	.058	.054	.049	.019	.017	.016		
2.0	.160	.132	.109	.137	.114	.094	.094	.079	.066	.054	.046	.039	.017	.015	.013		
3.0	.149	.114	.086	.127	.098	.075	.087	.068	.052	.051	.040	.031	.016	.013	.010		
4.0	.139	.099	.069	.119	.086	.060	.082	.060	.042	.047	.035	.025	.015	.011	.008		
5.0	.131	.088	.057	.112	.076	.049	.077	.053	.035	.045	.031	.021	.014	.010	.007		
6.0	.124	.079	.047	.106	.068	.041	.073	.048	.029	.042	.028	.017	.014	.009	.006		
7.0	.117	.072	.040	.101	.062	.035	.070	.044	.025	.040	.026	.015	.013	.008	.005		
8.0	.111	.066	.034	.096	.057	.030	.066	.040	.021	.039	.024	.013	.012	.008	.004		
9.0	.106	.060	.030	.091	.052	.026	.063	.037	.018	.037	.022	.011	.012	.007	.004		
10.0	.101	.056	.026	.087	.049	.023	.060	.034	.016	.035	.020	.010	.011	.007	.003		

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-06-02

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:

Checker:

Assessor:

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	23.7	24.8	23.9	24.9	25.1	18.2	19.3	18.4	19.4	19.6
3H	23.7	24.7	24.0	24.9	25.2	19.4	20.4	19.7	20.6	20.8
4H	23.8	24.7	24.0	24.9	25.2	20.0	20.9	20.3	21.2	21.4
6H	23.7	24.6	24.0	24.9	25.1	20.5	21.4	20.8	21.7	21.9
8H	23.7	24.6	24.0	24.8	25.1	20.7	21.6	21.0	21.8	22.1
12H	23.7	24.5	24.0	24.8	25.1	20.9	21.7	21.2	22.0	22.3
4H 2H	23.6	24.5	23.8	24.7	25.0	18.7	19.6	19.0	19.9	20.1
3H	23.7	24.5	24.1	24.8	25.1	20.0	20.8	20.3	21.1	21.4
4H	23.8	24.5	24.1	24.8	25.2	20.7	21.5	21.1	21.8	22.1
6H	23.8	24.5	24.2	24.8	25.2	21.4	22.0	21.8	22.4	22.7
8H	23.8	24.4	24.2	24.8	25.2	21.7	22.3	22.1	22.6	23.0
12H	23.8	24.4	24.2	24.7	25.1	21.9	22.5	22.3	22.8	23.2
8H 4H	23.8	24.4	24.2	24.7	25.1	20.8	21.4	21.2	21.8	22.2
6H	23.8	24.3	24.3	24.7	25.2	21.6	22.1	22.1	22.5	23.0
8H	23.9	24.3	24.3	24.7	25.2	22.0	22.5	22.5	22.9	23.3
12H	23.9	24.3	24.4	24.7	25.2	22.4	22.8	22.9	23.2	23.7
12H 4H	23.7	24.3	24.1	24.7	25.1	20.8	21.4	21.2	21.8	22.1
6H	23.8	24.3	24.3	24.7	25.1	21.7	22.1	22.1	22.5	23.0
8H	23.9	24.3	24.4	24.7	25.2	22.1	22.5	22.6	22.9	23.4
Variations with the observer position at spacings:										
S = 1.0H	+ 3.0 / - 2.6					+ 0.4 / - 0.5				
1.5H	+ 4.3 / - 3.0					+ 0.3 / - 0.5				
2.0H	+ 4.5 / - 2.1					+ 0.4 / - 0.3				

CIE Pub.117 Corrected 38100 lm Total Lamp Luminous Flux.(8log(F/F0) = 12.6)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-06-02

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:

Checker:

Assessor:

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) $k(RI) \times RCR = 5$									
$k = 0.60$	79	71	66	78	71	66	77	70	66	62
0.80	87	80	75	86	79	75	85	79	74	70
1.00	93	86	81	92	85	81	90	86	81	76
1.25	98	91	87	97	91	87	95	90	86	81
1.50	101	95	91	100	94	91	98	93	89	84
2.00	105	100	96	104	99	95	101	97	94	88
2.50	107	103	99	106	101	98	102	99	96	90
3.00	109	105	102	107	104	101	104	101	98	92
4.00	112	108	106	110	107	104	106	103	101	94
5.00	113	110	108	111	109	106	107	105	103	95
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

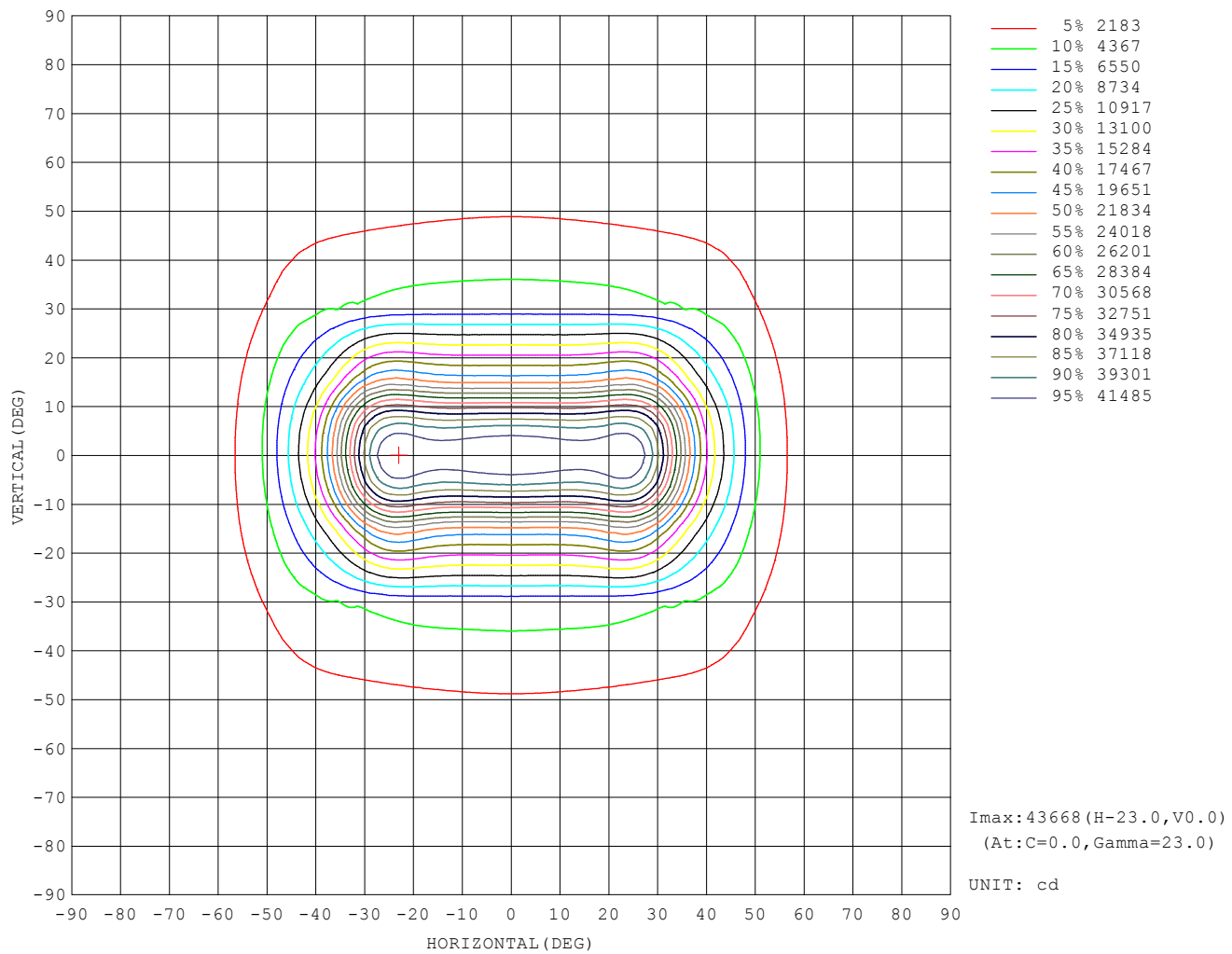
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-06-02

Checker:

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:

Assessor:

ISOCANDELA DIAGRAM



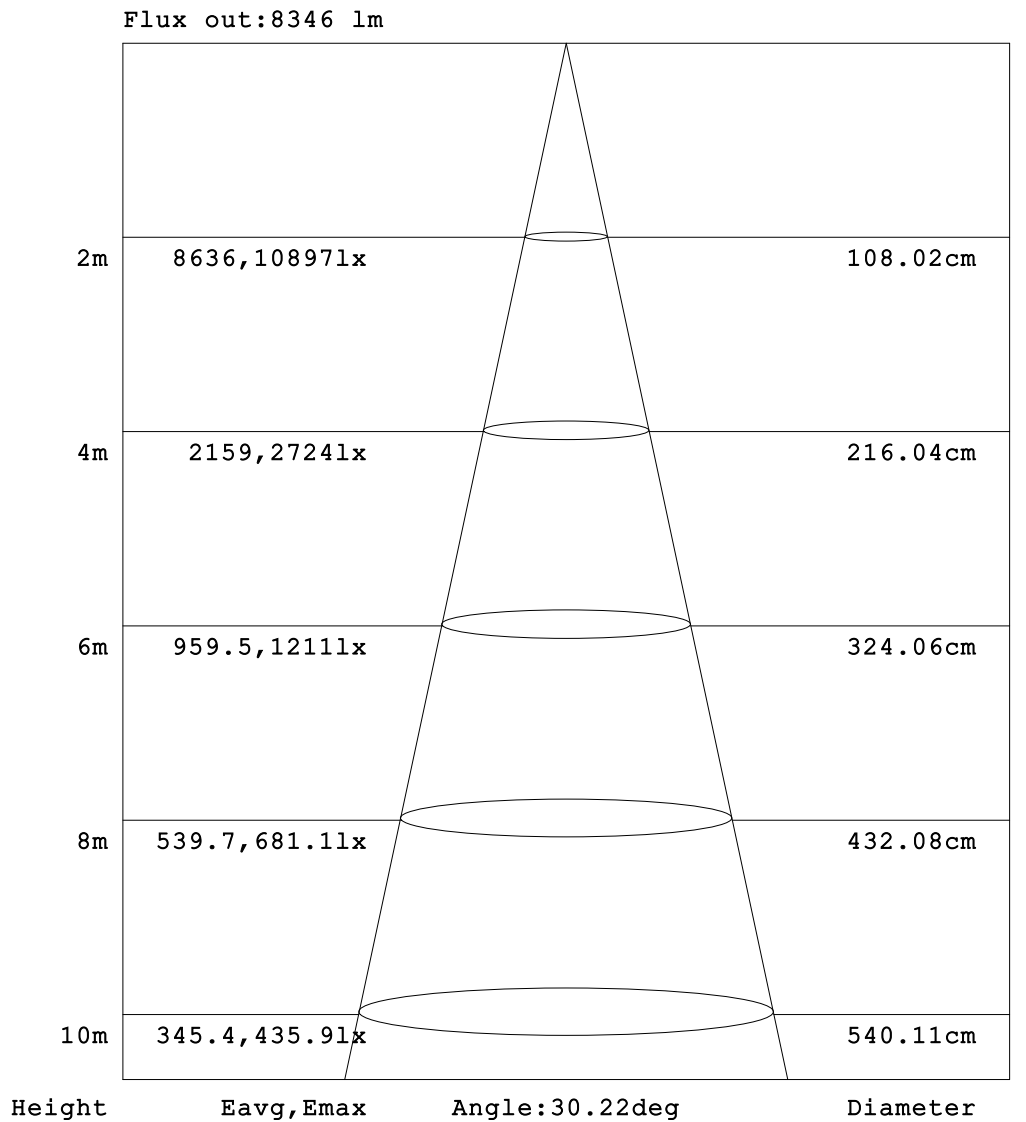
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-06-02

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:

Checker:

Assessor:

AAI Figure



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

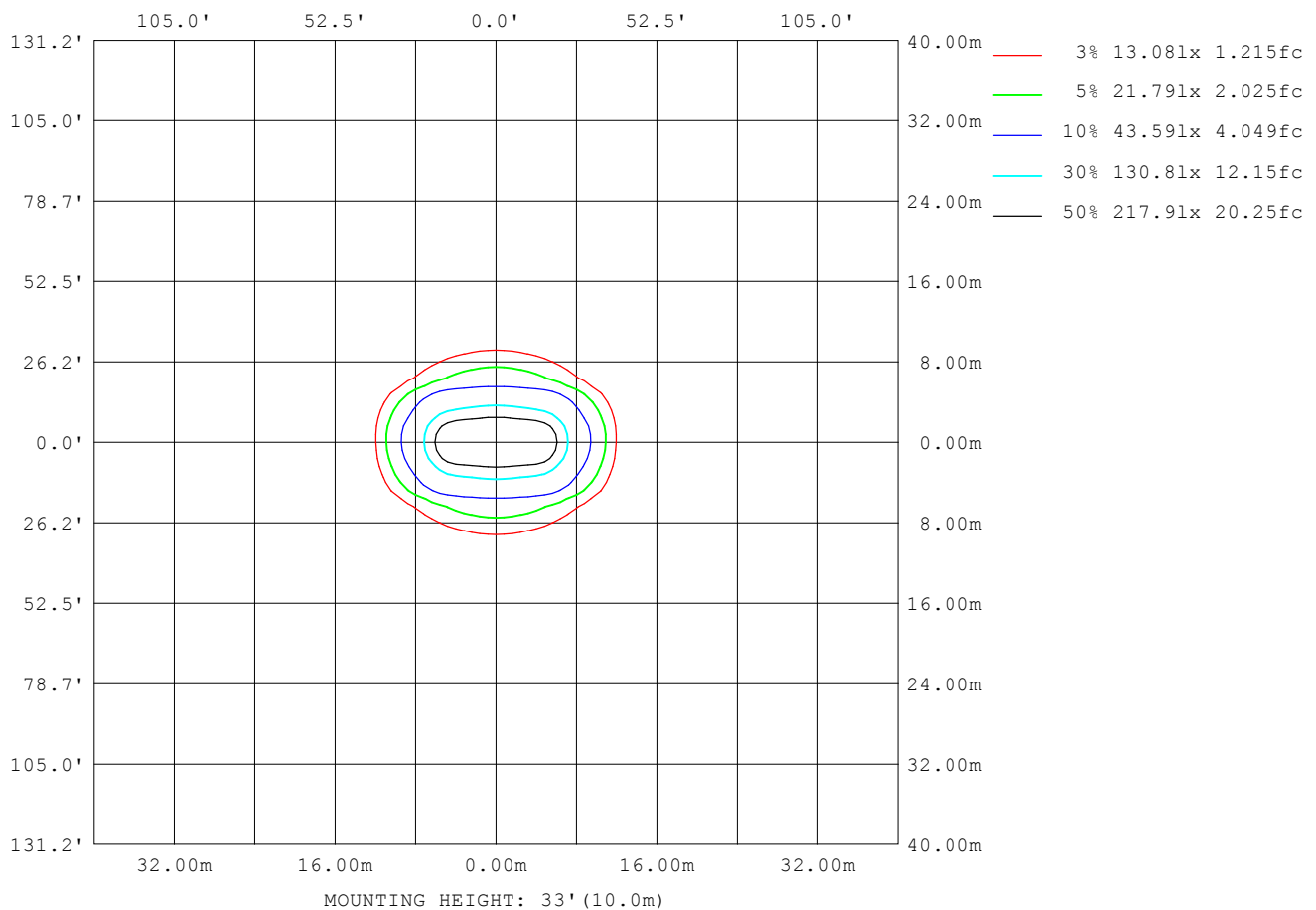
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-06-02

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:

Checker:

Assessor:

ISOLUX DIAGRAM



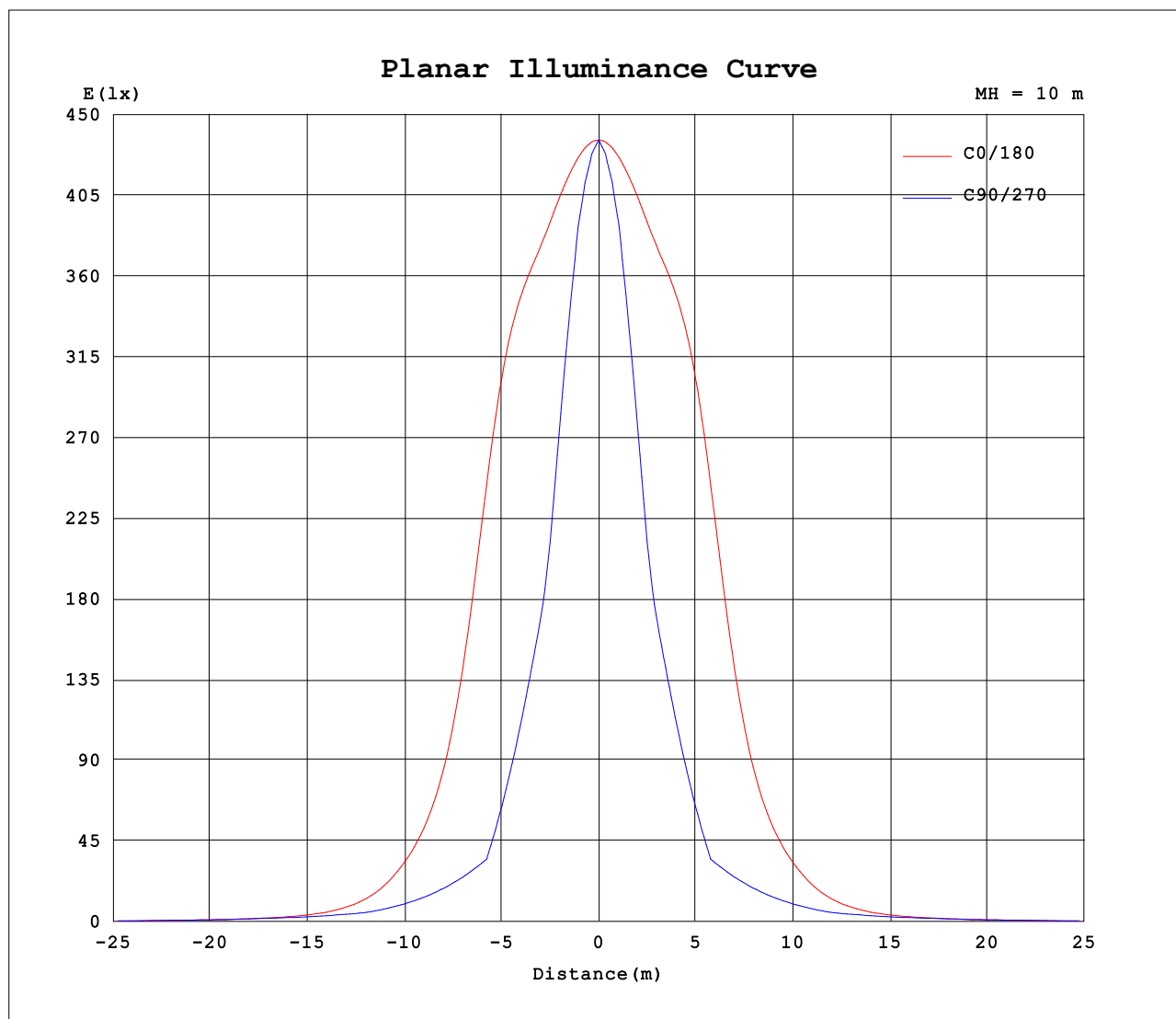
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-06-02

Checker:

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:

Assessor:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-06-02

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:

Checker:

Assessor:

Assessor:

Assessor:

Assessor:

Assessor: