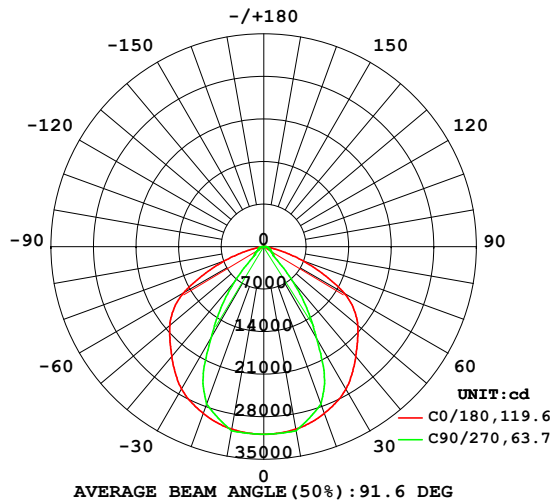


LUMINAIRE PHOTOMETRIC TEST REPORT

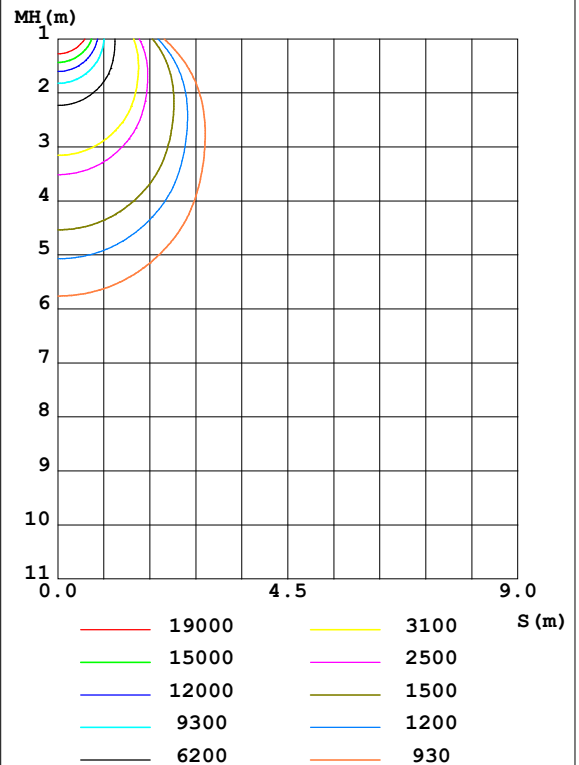
Test:U:229.9V I:1.737A P:387.6W PF:0.9709 Lamp Flux:52323.8x1 lm		
NAME: LHB03-400	TYPE:400W	WEIGHT:
SPEC.:5000K Ra70 60*120DEG L00302	DIM.: 0.906*0.307*0.061	SERIAL No.:
MFR.:	SUR.:0.855*0.274	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 134.99 lm/W			
MODEL	LHB03-400	I _{max} (cd)	30867	S/MH (C0/180)	1.30
NOMINAL POWER(W)	400	LOR(%)	100.0	S/MH (C90/270)	0.95
RATED VOLTAGE(V)	230	TOTAL FLUX (lm)	52324	η UP,DN (C0-180)	0.0,49.9
NOMINAL FLUX(lm)	52323.8	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0,50.1
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:2017-03-02

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	3077	3078	3081	3078	3077	3078	3081	3078	0- 5	736.9	736.9	1.41,1.41
10	3048	3060	3076	3060	3048	3060	3076	3060	5- 10	2196	2933	5.61,5.61
15	2996	3008	2916	3008	2996	3007	2916	3007	10- 15	3584	6517	12.5,12.5
20	2919	2846	2756	2846	2919	2844	2756	2844	15- 20	4799	11316	21.6,21.6
25	2826	2658	2364	2658	2826	2656	2364	2656	20- 25	5759	17075	32.6,32.6
30	2705	2336	1730	2336	2705	2340	1730	2340	25- 30	6233	23308	44.5,44.5
35	2540	1830	1232	1830	2540	1841	1232	1841	30- 35	6093	29401	56.2,56.2
40	2357	1237	734.3	1237	2357	1251	734.3	1251	35- 40	5518	34919	66.7,66.7
45	2184	893.8	282.2	893.8	2184	905.4	282.2	905.4	40- 45	4599	39518	75.5,75.5
50	2020	597.6	195.9	597.6	2020	605.4	195.9	605.4	45- 50	3617	43135	82.4,82.4
55	1817	361.3	155.3	361.3	1817	364.8	155.3	364.8	50- 55	2872	46007	87.9,87.9
60	1528	269.0	114.8	269.0	1528	269.7	114.8	269.7	55- 60	2196	48204	92.1,92.1
65	1088	198.2	101.9	198.2	1088	197.0	101.9	197.0	60- 65	1582	49786	95.1,95.1
70	691.6	143.4	89.06	143.4	691.6	142.2	89.06	142.2	65- 70	1099	50885	97.3,97.3
75	333.1	92.95	75.17	92.95	333.1	92.46	75.17	92.46	70- 75	730.0	51615	98.6,98.6
80	112.1	43.47	52.96	43.47	112.1	43.36	52.96	43.36	75- 80	427.4	52042	99.5,99.5
85	24.50	23.80	29.71	23.80	24.50	23.74	29.71	23.74	80- 85	207.9	52250	99.9,99.9
90	1.786	3.516	6.453	3.516	1.786	3.454	6.453	3.454	85- 90	73.63	52324	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): 39518 lm

%lum = 75.5%

%lamp = 75.5%

Conical surface Flux(120deg): 48204 lm

%lum = 92.1%

%lamp = 92.1%

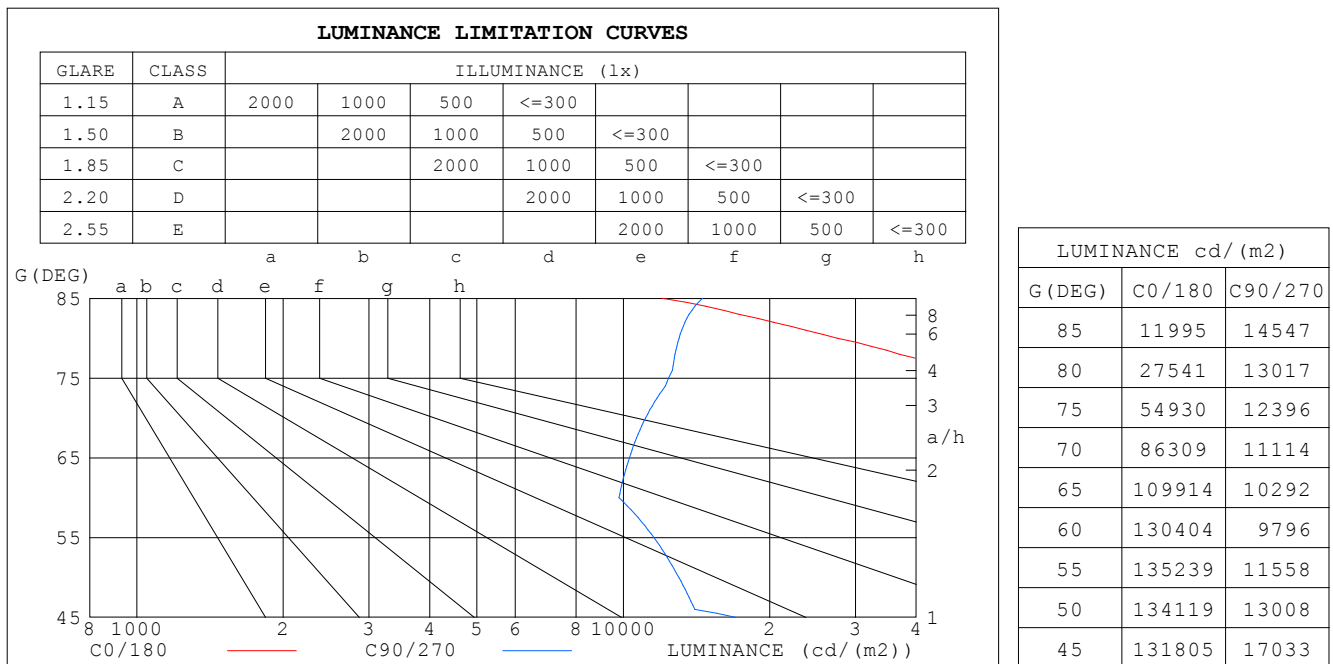
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-03-02

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: 2017-03-02

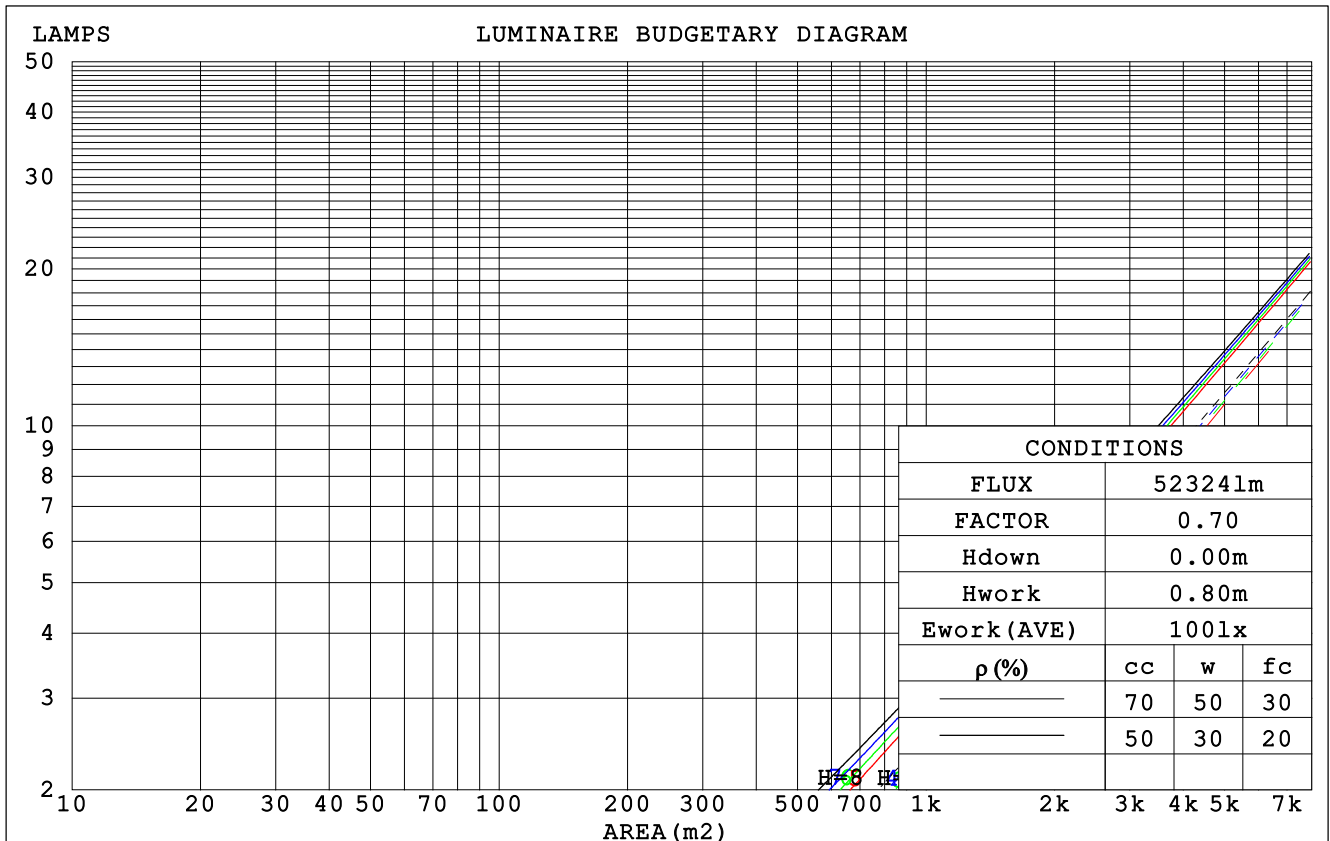
Checker:

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
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	1.08	1.04	1.01	1.05	1.03	.00	1.01	.99	.97	.98	.96	.94	.94	.92	.91	.89
2.0	.97	.92	.87	.95	.90	.86	.92	.88	.84	.89	.85	.82	.86	.83	.81	.79
3.0	.88	.81	.76	.86	.80	.75	.84	.78	.74	.81	.77	.73	.79	.75	.72	.70
4.0	.80	.73	.67	.79	.72	.67	.76	.70	.66	.74	.69	.65	.72	.68	.64	.62
5.0	.73	.65	.60	.72	.65	.59	.70	.64	.59	.68	.63	.58	.66	.62	.58	.56
6.0	.67	.59	.54	.66	.59	.53	.64	.58	.53	.63	.57	.53	.61	.56	.52	.50
7.0	.61	.54	.49	.61	.54	.48	.59	.53	.48	.58	.52	.48	.57	.52	.48	.46
8.0	.57	.49	.44	.56	.49	.44	.55	.49	.44	.54	.48	.44	.53	.47	.44	.42
9.0	.53	.45	.41	.52	.45	.41	.51	.45	.40	.50	.44	.40	.49	.44	.40	.38
10.0	.49	.42	.37	.49	.42	.37	.48	.41	.37	.47	.41	.37	.46	.41	.37	.35



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-03-02

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	.236	.134	.043	.230	.131	.042	.217	.124	.040	.205	.118	.038	.194	.112	.036	
2.0	.228	.125	.038	.222	.122	.038	.211	.117	.036	.201	.113	.035	.191	.108	.034	
3.0	.216	.115	.034	.211	.113	.034	.201	.109	.033	.192	.105	.032	.184	.102	.031	
4.0	.203	.106	.031	.199	.104	.031	.190	.101	.030	.182	.098	.030	.175	.095	.029	
5.0	.192	.098	.028	.188	.096	.028	.180	.094	.028	.173	.091	.027	.166	.089	.027	
6.0	.181	.090	.026	.177	.089	.026	.170	.087	.025	.164	.085	.025	.158	.083	.025	
7.0	.170	.084	.024	.167	.083	.024	.161	.082	.023	.156	.080	.023	.150	.078	.023	
8.0	.161	.079	.022	.158	.078	.022	.153	.076	.022	.148	.075	.022	.143	.074	.021	
9.0	.153	.074	.021	.150	.073	.021	.145	.072	.020	.141	.071	.020	.137	.069	.020	
10.0	.145	.070	.019	.143	.069	.019	.138	.068	.019	.134	.067	.019	.130	.066	.019	

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	.175	.157	.140	.150	.135	.121	.103	.093	.083	.059	.054	.049	.019	.017	.016	
2.0	.164	.132	.106	.140	.114	.091	.096	.079	.064	.055	.046	.037	.018	.015	.012	
3.0	.154	.114	.082	.132	.098	.071	.091	.068	.050	.052	.040	.029	.017	.013	.010	
4.0	.146	.100	.065	.125	.086	.057	.086	.060	.040	.050	.035	.024	.016	.011	.008	
5.0	.138	.089	.053	.118	.077	.046	.082	.054	.033	.047	.032	.019	.015	.010	.006	
6.0	.131	.080	.044	.113	.070	.038	.078	.049	.027	.045	.029	.016	.015	.009	.005	
7.0	.125	.073	.037	.107	.063	.032	.074	.044	.023	.043	.026	.014	.014	.009	.005	
8.0	.119	.067	.032	.102	.058	.028	.071	.041	.020	.041	.024	.012	.013	.008	.004	
9.0	.113	.062	.028	.098	.054	.024	.068	.038	.017	.039	.022	.010	.013	.007	.003	
10.0	.108	.058	.024	.093	.050	.021	.065	.035	.015	.038	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-02

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	28.8	30.0	29.0	30.2	30.4	20.1	21.3	20.3	21.5	21.7
3H	29.8	30.9	30.1	31.1	31.4	20.4	21.5	20.7	21.8	22.0
4H	30.0	31.1	30.3	31.3	31.6	20.7	21.8	21.0	22.0	22.2
6H	30.1	31.1	30.4	31.4	31.6	21.0	22.0	21.3	22.3	22.5
8H	30.1	31.0	30.4	31.3	31.6	21.1	22.1	21.5	22.4	22.7
12H	30.0	31.0	30.4	31.3	31.5	21.3	22.2	21.6	22.5	22.8
4H 2H	28.6	29.7	28.9	29.9	30.1	20.7	21.7	20.9	22.0	22.2
3H	29.6	30.5	29.9	30.8	31.1	21.0	22.0	21.4	22.3	22.6
4H	29.8	30.7	30.2	31.0	31.3	21.4	22.2	21.7	22.5	22.9
6H	29.9	30.7	30.3	31.0	31.4	21.8	22.5	22.2	22.9	23.2
8H	29.9	30.6	30.4	31.0	31.4	22.0	22.7	22.4	23.0	23.4
12H	29.9	30.6	30.3	30.9	31.3	22.2	22.8	22.6	23.2	23.6
8H 4H	29.7	30.4	30.1	30.8	31.2	21.6	22.3	22.0	22.7	23.1
6H	29.9	30.4	30.3	30.8	31.3	22.1	22.7	22.5	23.1	23.5
8H	29.9	30.4	30.3	30.8	31.3	22.4	22.9	22.8	23.3	23.7
12H	29.9	30.3	30.3	30.8	31.2	22.6	23.1	23.1	23.5	24.0
12H 4H	29.7	30.3	30.1	30.7	31.1	21.6	22.3	22.1	22.7	23.0
6H	29.8	30.3	30.3	30.8	31.2	22.1	22.6	22.6	23.1	23.5
8H	29.9	30.3	30.3	30.7	31.2	22.4	22.9	22.9	23.3	23.8
Variations with the observer position at spacings:										
S = 1.0H	+ 1.2 / - 2.0					+ 1.1 / - 1.5				
1.5H	+ 2.2 / - 3.8					+ 1.5 / - 1.4				
2.0H	+ 3.5 / - 6.0					+ 1.2 / - 1.1				

CIE Pub.117 Corrected 52324 lm Total Lamp Luminous Flux.(8log(F/F0) = 13.7)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-02

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) $k(RI) \times RCR = 5$									
$k = 0.60$	71	61	56	70	61	56	69	61	55	50
0.80	80	71	65	79	71	65	78	70	65	59
1.00	87	79	73	86	78	73	84	79	72	67
1.25	93	85	80	92	85	80	90	83	79	73
1.50	97	90	85	96	89	84	93	87	83	77
2.00	102	96	91	101	95	90	97	93	89	83
2.50	105	99	95	103	98	94	100	95	92	85
3.00	107	102	98	105	101	97	102	98	95	88
4.00	110	106	103	108	104	101	104	101	99	91
5.00	112	108	106	110	107	104	105	103	101	92
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

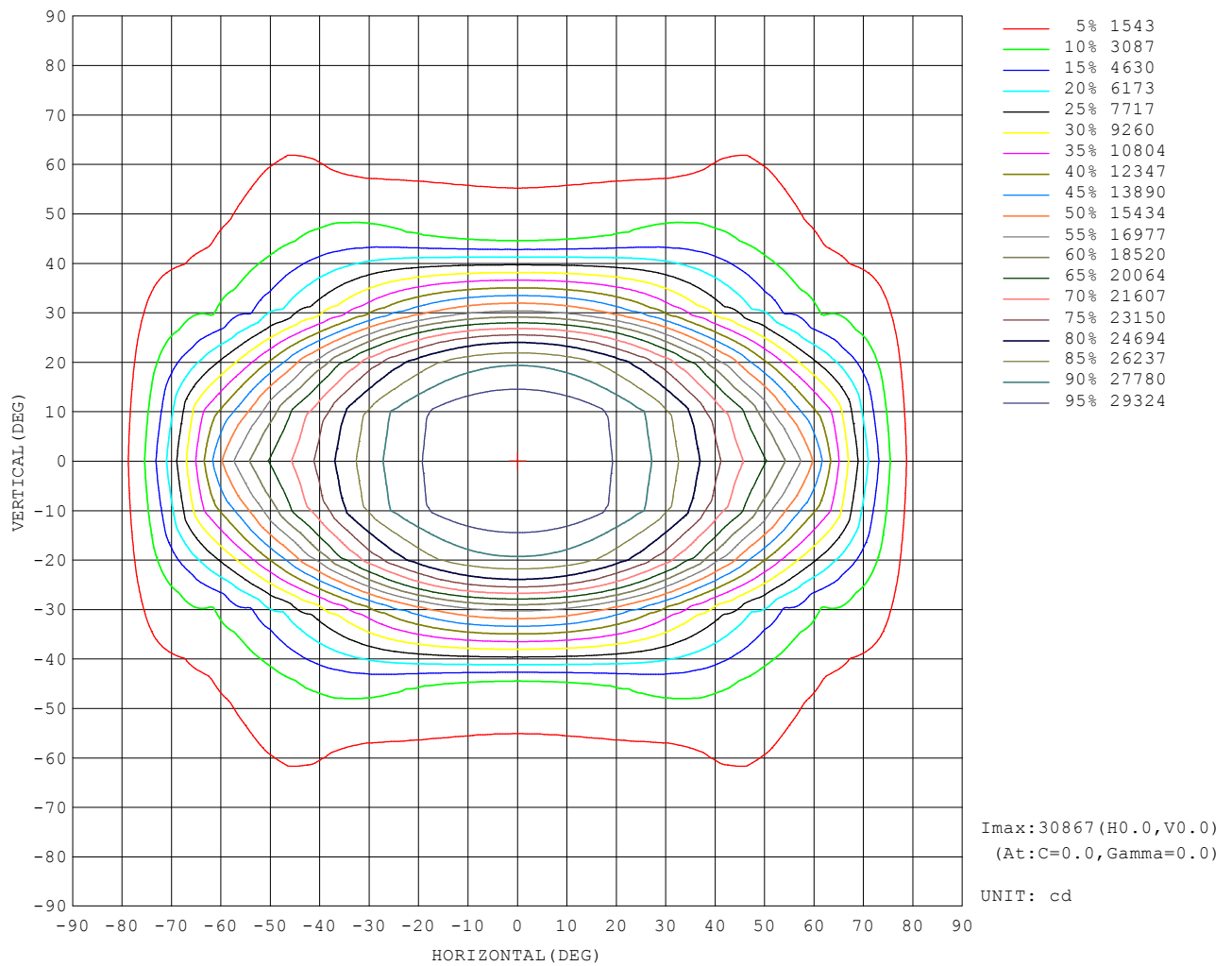
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-03-02

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



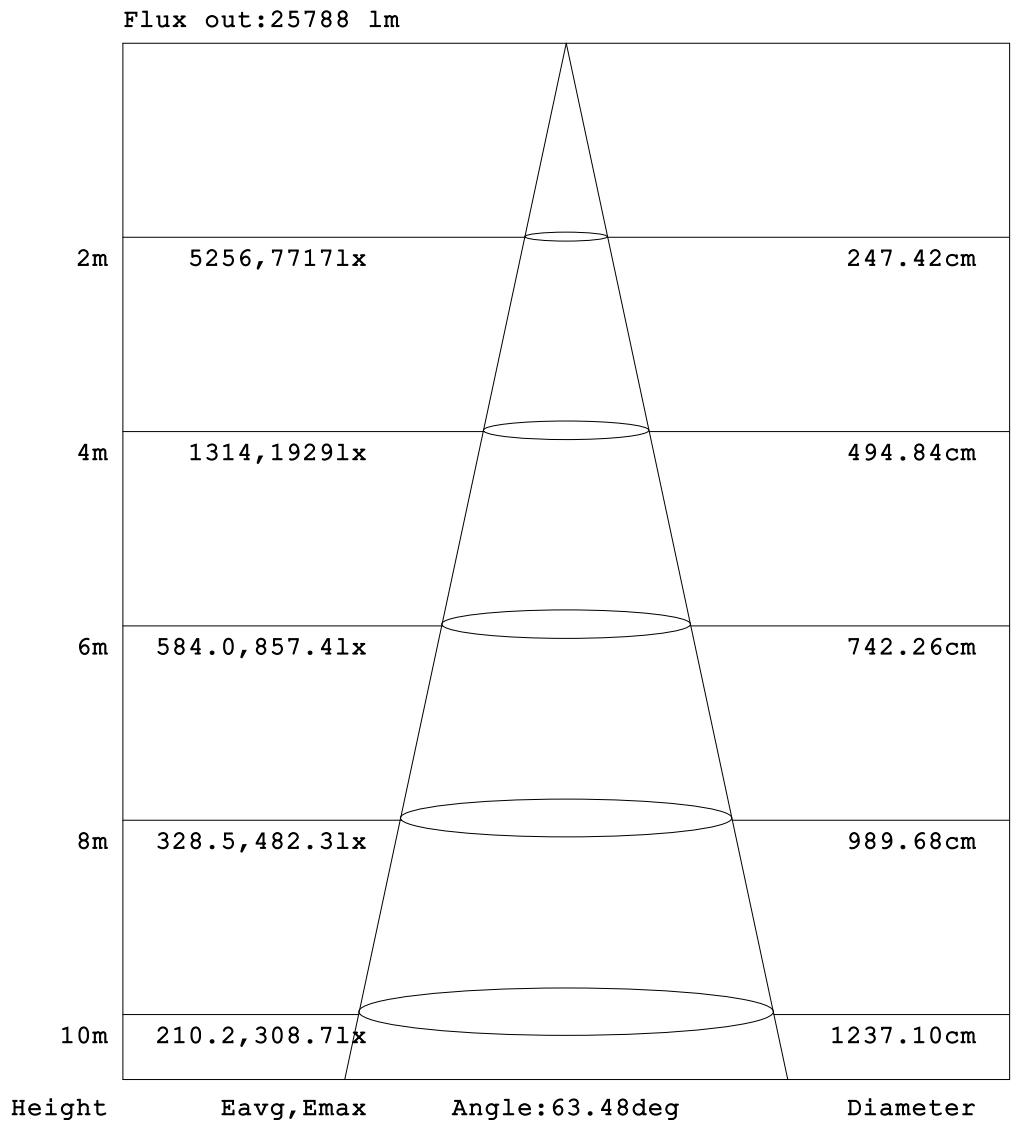
C Range: 0 - 360DEG
C Interval: 5.0DEG
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Operators:
Test Date: 2017-03-02

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.

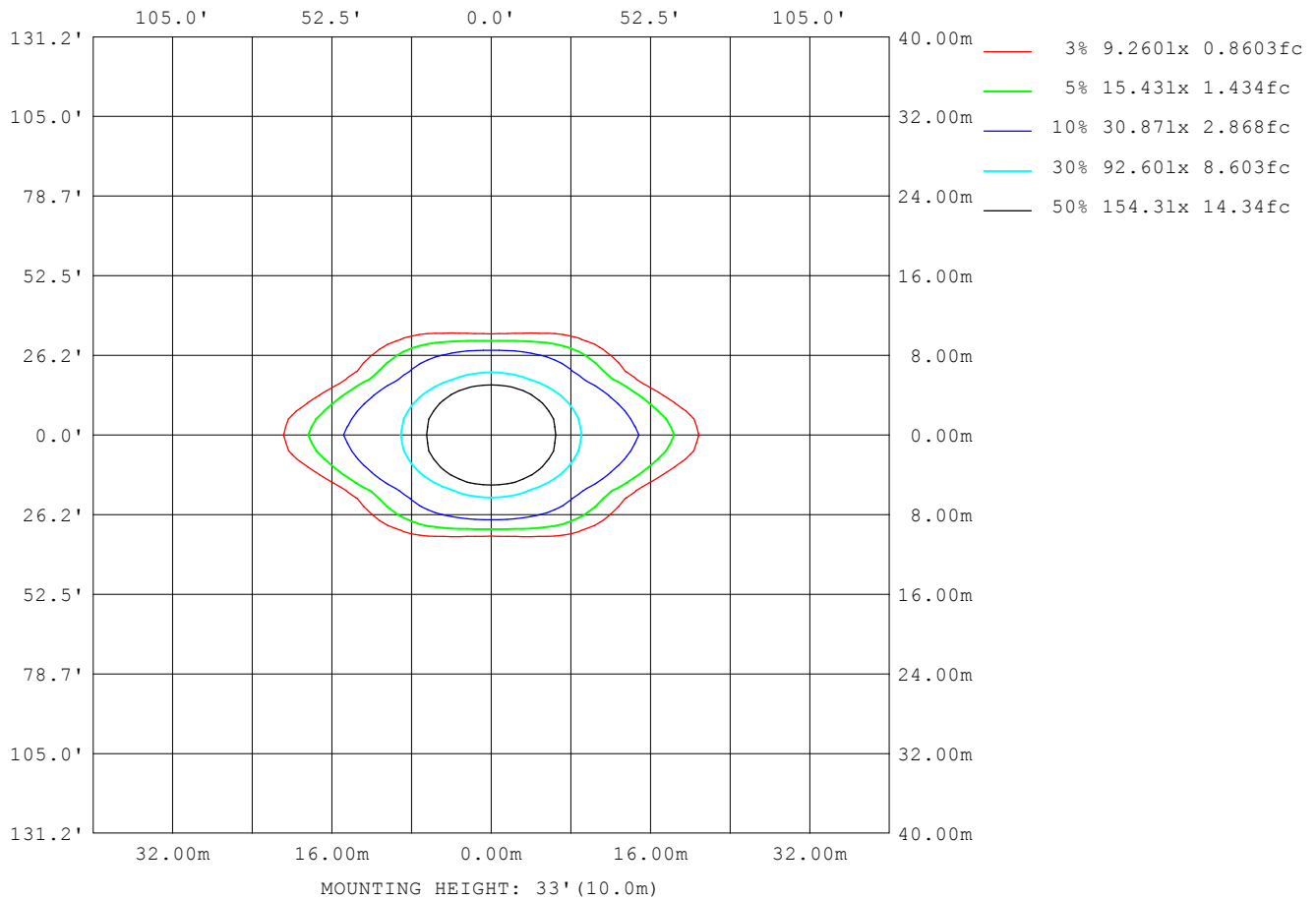
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-02

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



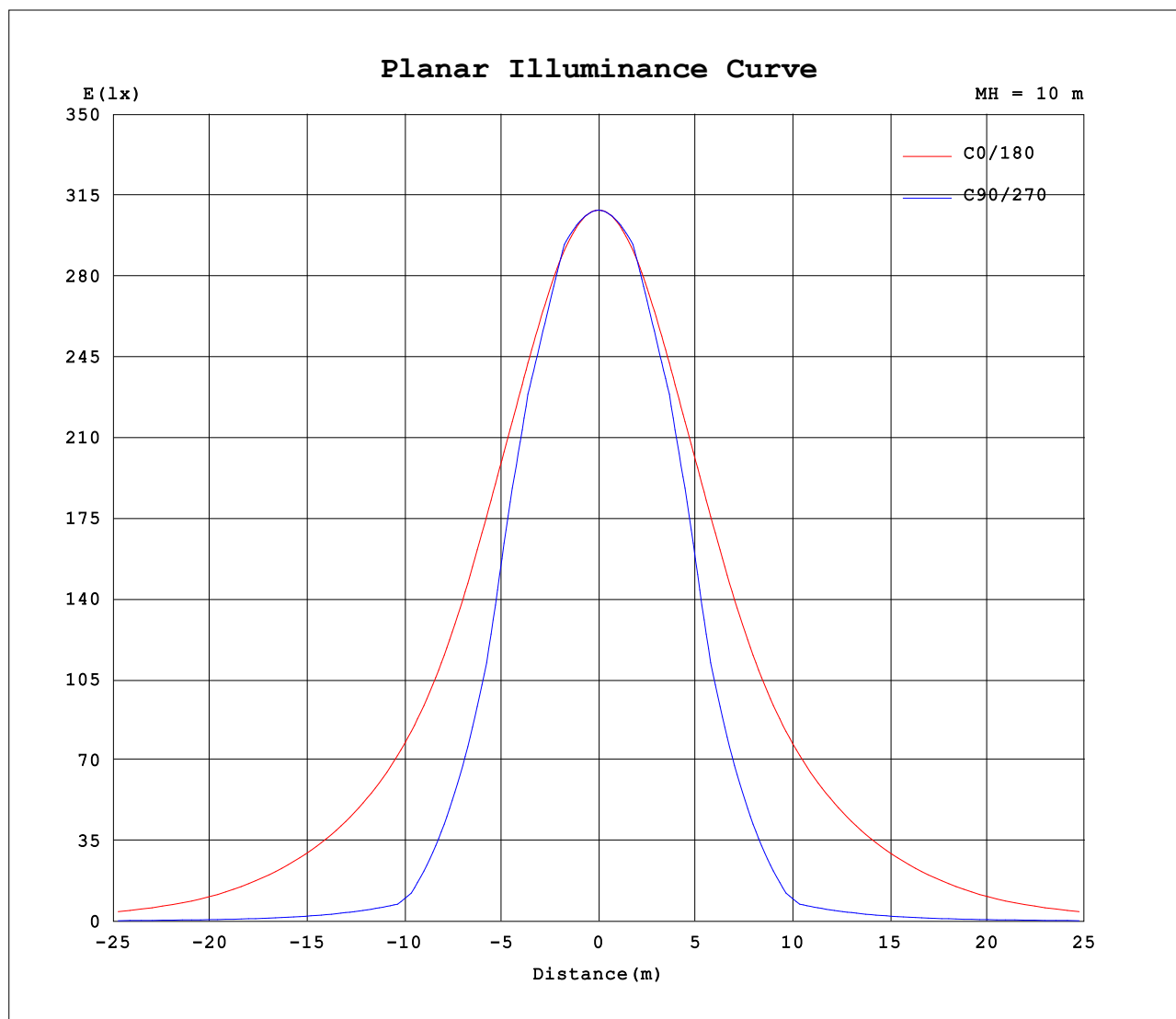
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-02

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:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-02

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:

UNIT: $\times 10 \text{cd}$

Assessor: