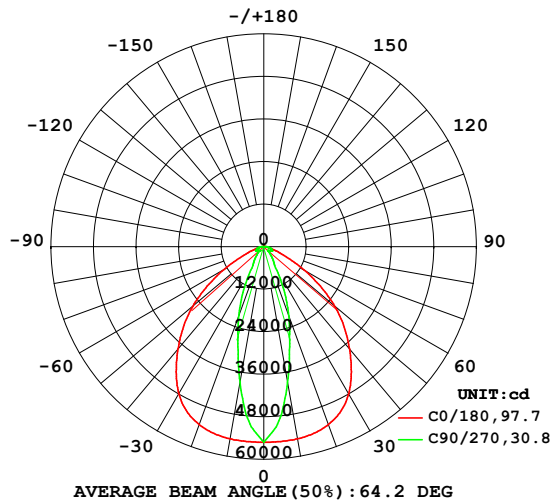


LUMINAIRE PHOTOMETRIC TEST REPORT

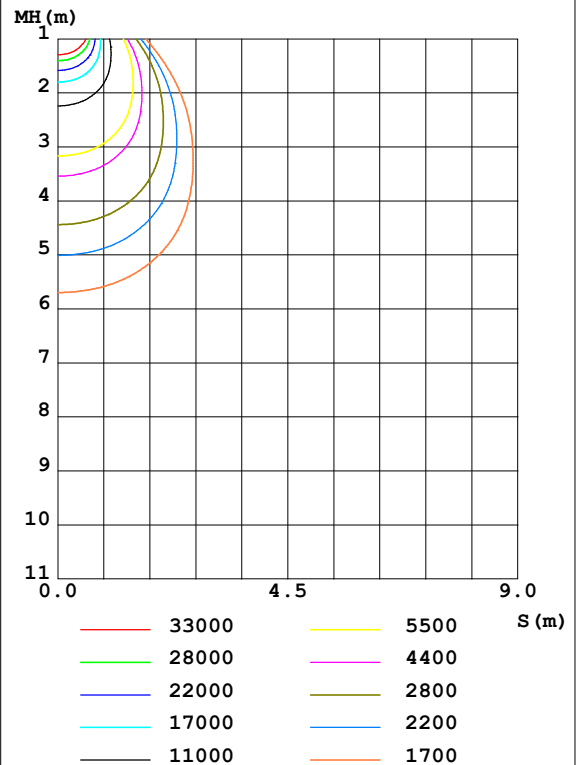
Test:U:229.9V I:1.740A P:388.4W PF:0.9709 Lamp Flux:53363.8x1 lm		
NAME: LHB03-400	TYPE:400W	WEIGHT:
SPEC.:5000K Ra70 30*100DEG L00301	DIM.: 0.906*0.307*0.061	SERIAL No.:
MFR.:	SUR.:0.855*0.274	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 137.38 lm/W			
MODEL	LHB03-400	Imax(cd)	55165	S/MH(C0/180)	1.27
NOMINAL POWER(W)	400	LOR(%)	100.0	S/MH(C90/270)	0.50
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	53364	η UP,DN(C0-180)	0.0,49.9
NOMINAL FLUX(lm)	53363.8	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	0.60

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	5516	5143	4935	5143	5516	5142	4935	5142	0- 5	1265	1265	2.37,2.37
10	5504	4503	3884	4503	5504	4501	3884	4501	5- 10	3473	4739	8.88,8.88
15	5454	3661	2830	3661	5454	3664	2830	3664	10- 15	4975	9714	18.2,18.2
20	5337	2842	2070	2842	5337	2856	2070	2856	15- 20	5798	15512	29.1,29.1
25	5134	2197	1347	2197	5134	2221	1347	2221	20- 25	6093	21605	40.5,40.5
30	4795	1600	623.9	1600	4795	1622	623.9	1622	25- 30	5829	27434	51.4,51.4
35	4311	1004	465.9	1004	4311	1017	465.9	1017	30- 35	5184	32618	61.1,61.1
40	3764	481.9	307.9	481.9	3764	483.7	307.9	483.7	35- 40	4534	37152	69.6,69.6
45	3215	353.0	169.4	353.0	3215	353.3	169.4	353.3	40- 45	3826	40978	76.8,76.8
50	2614	226.7	186.7	226.7	2614	227.1	186.7	227.1	45- 50	3120	44098	82.6,82.6
55	1950	117.1	223.6	117.1	1950	117.9	223.6	117.9	50- 55	2512	46610	87.3,87.3
60	1310	104.5	260.4	104.5	1310	105.4	260.4	105.4	55- 60	2004	48614	91.1,91.1
65	729.5	95.88	235.8	95.88	729.5	96.93	235.8	96.93	60- 65	1604	50218	94.1,94.1
70	414.6	82.54	211.2	82.54	414.6	83.83	211.2	83.83	65- 70	1203	51421	96.4,96.4
75	204.9	67.26	183.1	67.26	204.9	68.60	183.1	68.60	70- 75	888.3	52310	98,98
80	78.70	50.99	127.0	50.99	78.70	52.21	127.0	52.21	75- 80	603.3	52913	99.2,99.2
85	18.93	27.10	67.36	27.10	18.93	27.82	67.36	27.82	80- 85	332.1	53245	99.8,99.8
90	1.775	4.728	7.736	4.728	1.775	4.938	7.736	4.938	85- 90	118.9	53364	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): 40978 lm

%lum = 76.8%

%lamp = 76.8%

Conical surface Flux(120deg): 48614 lm

%lum = 91.1%

%lamp = 91.1%

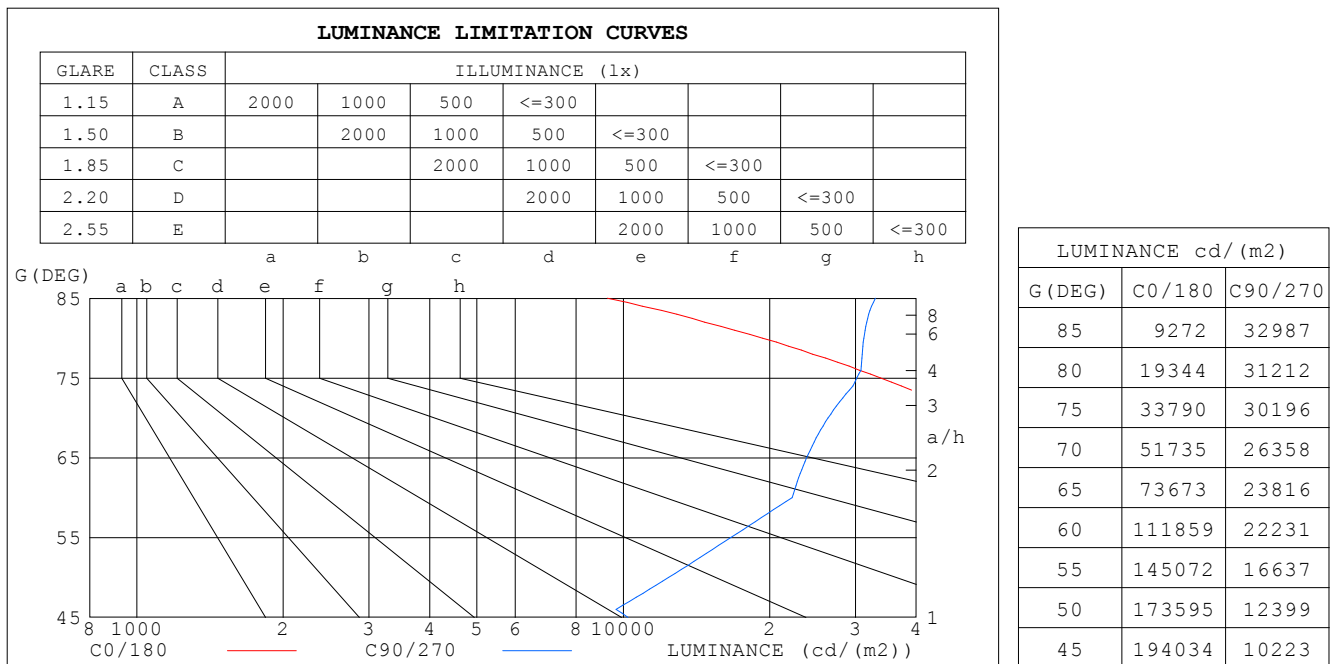
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-03-02

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

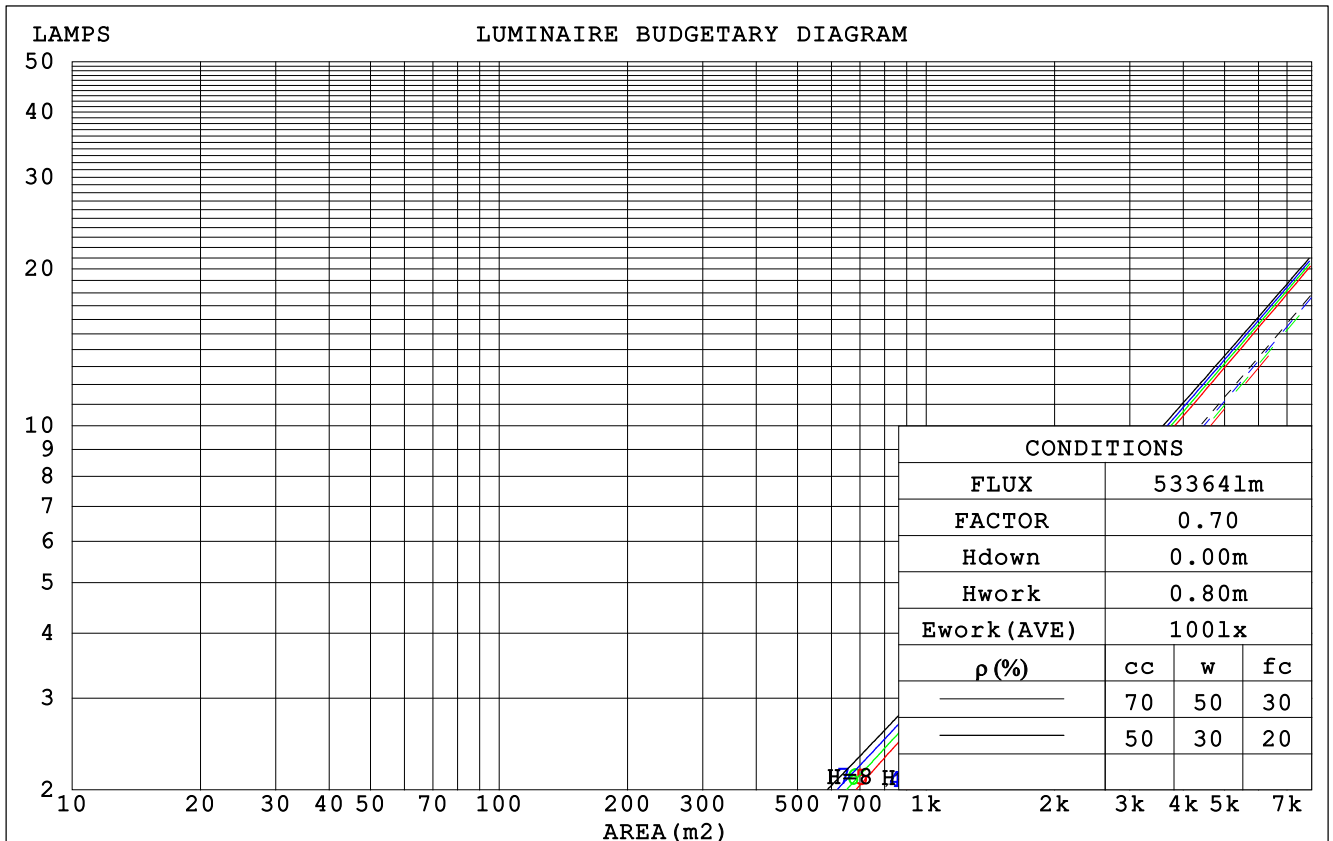
Checker:

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	1.00
1.0	1.08	1.05	1.02	1.06	1.03	1.00	1.02	.99	.97	.98	.96	.94	.94	.93	.91	.89
2.0	.98	.92	.88	.96	.91	.87	.93	.89	.85	.89	.86	.83	.87	.84	.81	.80
3.0	.89	.83	.78	.87	.82	.77	.85	.80	.76	.82	.78	.74	.80	.76	.73	.71
4.0	.81	.75	.69	.80	.74	.69	.78	.72	.68	.76	.71	.67	.74	.70	.66	.64
5.0	.75	.68	.62	.74	.67	.62	.72	.66	.62	.70	.65	.61	.69	.64	.60	.59
6.0	.69	.62	.57	.68	.62	.57	.67	.61	.56	.65	.60	.56	.64	.59	.55	.54
7.0	.64	.57	.52	.64	.57	.52	.62	.56	.52	.61	.55	.51	.60	.55	.51	.49
8.0	.60	.53	.48	.59	.53	.48	.58	.52	.48	.57	.52	.48	.56	.51	.47	.46
9.0	.56	.49	.45	.56	.49	.45	.55	.49	.44	.54	.48	.44	.53	.48	.44	.43
10.0	.53	.46	.42	.52	.46	.42	.51	.46	.41	.51	.45	.41	.50	.45	.41	.40



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	.234	.133	.042	.227	.129	.041	.214	.123	.039	.202	.116	.037	.191	.111	.036	
2.0	.222	.122	.037	.216	.119	.037	.205	.114	.035	.195	.109	.034	.185	.105	.033	
3.0	.208	.111	.033	.203	.109	.033	.194	.105	.032	.185	.101	.031	.177	.098	.030	
4.0	.195	.102	.030	.191	.100	.030	.182	.097	.029	.175	.094	.028	.167	.091	.028	
5.0	.183	.093	.027	.179	.092	.027	.172	.090	.026	.165	.087	.026	.159	.085	.025	
6.0	.172	.086	.025	.169	.085	.025	.162	.083	.024	.156	.081	.024	.150	.079	.024	
7.0	.162	.080	.023	.159	.079	.023	.153	.078	.022	.148	.076	.022	.143	.074	.022	
8.0	.153	.075	.021	.151	.074	.021	.145	.073	.021	.141	.071	.021	.136	.070	.020	
9.0	.145	.070	.020	.143	.070	.020	.138	.068	.019	.134	.067	.019	.130	.066	.019	
10.0	.138	.066	.018	.136	.065	.018	.131	.064	.018	.127	.063	.018	.124	.062	.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	.175	.157	.140	.150	.135	.121	.102	.093	.084	.059	.054	.049	.019	.017	.016	
2.0	.163	.132	.106	.140	.114	.092	.096	.079	.064	.055	.046	.038	.018	.015	.012	
3.0	.153	.114	.083	.131	.098	.072	.090	.068	.050	.052	.040	.030	.017	.013	.010	
4.0	.144	.100	.066	.123	.086	.058	.085	.060	.041	.049	.035	.024	.016	.011	.008	
5.0	.136	.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	.072	.044	.024	.042	.026	.014	.014	.009	.005	
8.0	.116	.067	.033	.100	.058	.029	.069	.041	.020	.040	.024	.012	.013	.008	.004	
9.0	.110	.061	.029	.095	.053	.025	.066	.037	.018	.038	.022	.011	.012	.007	.004	
10.0	.105	.057	.025	.091	.050	.022	.063	.035	.016	.037	.021	.009	.012	.007	.003	

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

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	29.3	30.5	29.6	30.7	30.9	17.8	19.0	18.1	19.2	19.4
3H	30.1	31.2	30.4	31.4	31.6	20.9	22.0	21.2	22.2	22.4
4H	30.3	31.3	30.6	31.6	31.8	22.4	23.5	22.7	23.7	23.9
6H	30.3	31.3	30.6	31.6	31.8	23.6	24.6	23.9	24.9	25.1
8H	30.3	31.2	30.6	31.5	31.8	24.1	25.0	24.4	25.3	25.6
12H	30.2	31.2	30.6	31.4	31.7	24.4	25.3	24.7	25.6	25.9
4H 2H	29.0	30.1	29.3	30.3	30.5	18.2	19.3	18.5	19.5	19.7
3H	29.8	30.7	30.2	31.0	31.3	21.4	22.3	21.7	22.6	22.9
4H	30.1	30.9	30.4	31.2	31.5	23.2	24.0	23.5	24.3	24.6
6H	30.2	30.9	30.6	31.3	31.6	24.6	25.4	25.0	25.7	26.1
8H	30.2	30.9	30.6	31.2	31.6	25.2	25.9	25.6	26.2	26.6
12H	30.2	30.8	30.6	31.2	31.5	25.6	26.3	26.0	26.6	27.0
8H 4H	30.0	30.6	30.4	31.0	31.4	23.3	24.0	23.7	24.3	24.7
6H	30.1	30.6	30.5	31.0	31.5	24.9	25.5	25.4	25.9	26.3
8H	30.1	30.6	30.6	31.0	31.5	25.6	26.1	26.1	26.6	27.0
12H	30.1	30.5	30.6	31.0	31.4	26.2	26.7	26.7	27.1	27.6
12H 4H	29.9	30.5	30.3	30.9	31.3	23.3	23.9	23.7	24.3	24.6
6H	30.1	30.6	30.5	31.0	31.4	24.9	25.4	25.4	25.9	26.3
8H	30.1	30.5	30.6	30.9	31.4	25.7	26.1	26.2	26.6	27.0
Variations with the observer position at spacings:										
S = 1.0H	+ 1.3 / - 1.3					+ 0.2 / - 0.2				
1.5H	+ 2.6 / - 3.3					+ 0.2 / - 0.2				
2.0H	+ 4.0 / - 5.4					+ 0.3 / - 0.4				

CIE Pub.117 Corrected 53364 lm Total Lamp Luminous Flux.(8log(F/F0) = 13.8)

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) $k(RI) \times RCR = 5$									
$k = 0.60$	73	64	58	72	63	58	71	63	58	53
0.80	82	73	67	81	73	67	79	72	67	62
1.00	88	80	75	87	80	74	85	80	74	68
1.25	94	86	81	93	86	81	90	84	80	74
1.50	98	91	86	96	90	85	94	88	84	78
2.00	102	96	92	101	95	91	98	93	89	83
2.50	105	99	95	103	98	94	100	96	92	85
3.00	107	102	98	105	101	97	102	98	95	88
4.00	110	106	103	108	105	101	104	101	99	91
5.00	112	109	106	110	107	104	106	103	101	93
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

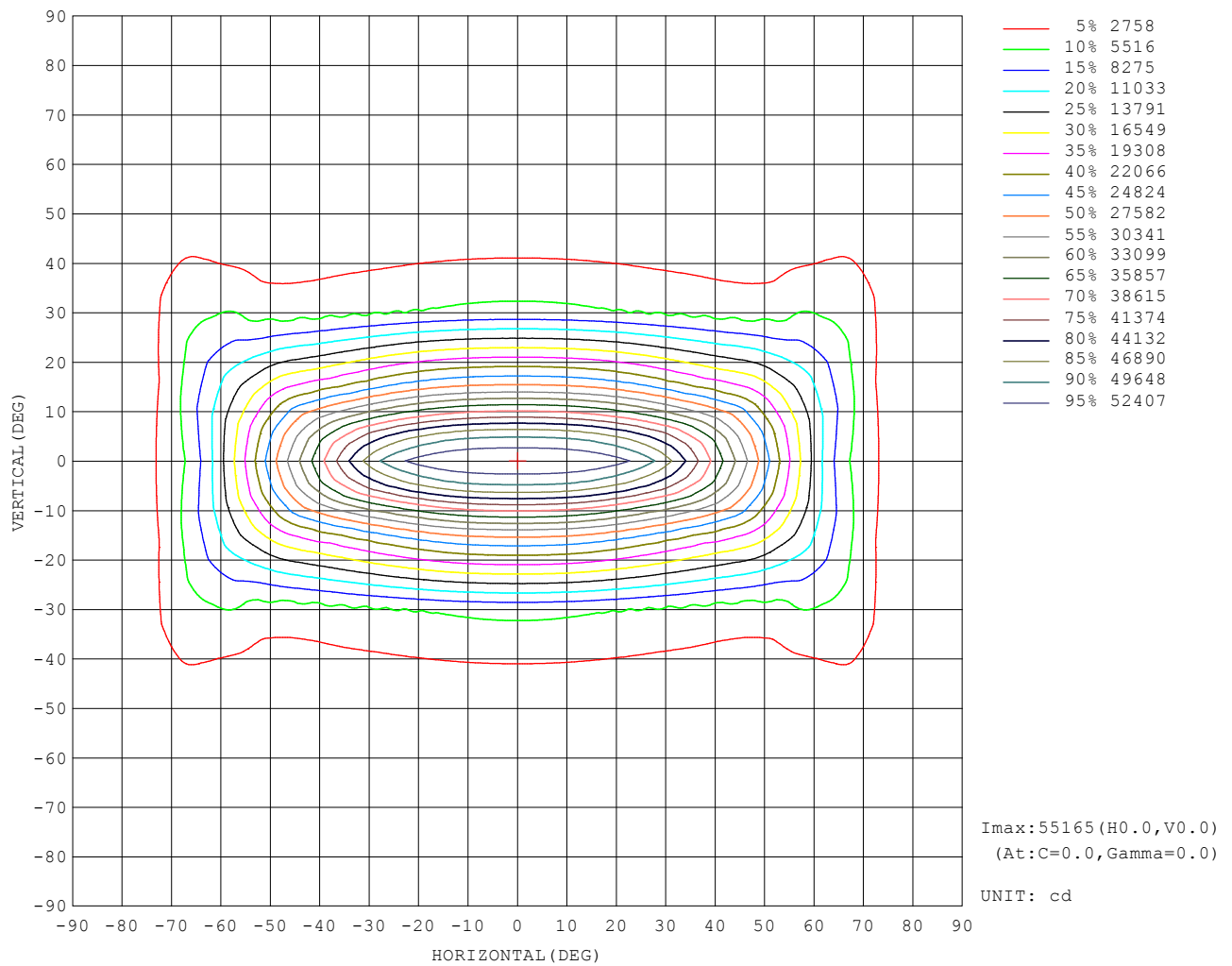
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-03-02

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



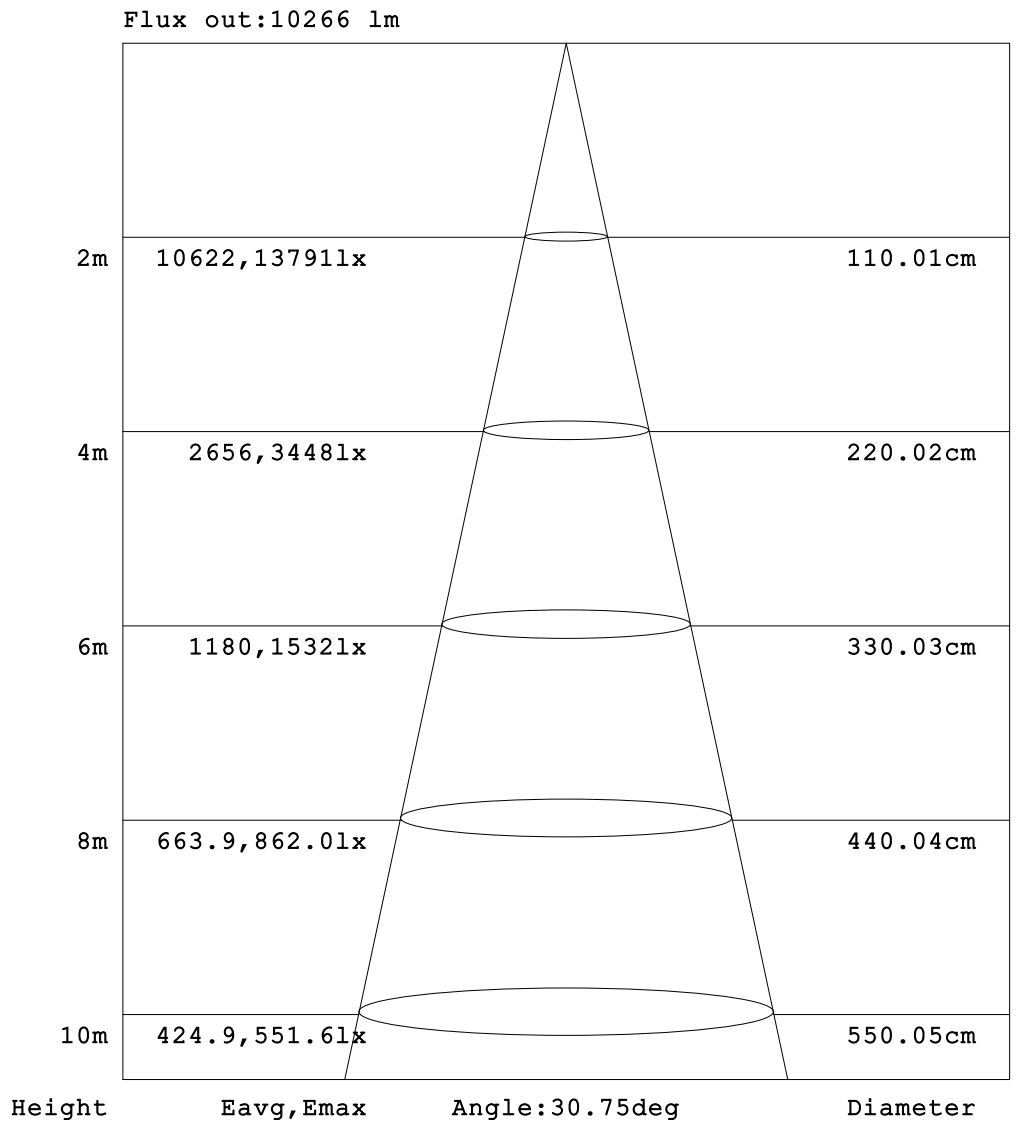
C Range: 0 - 360DEG
C Interval: 5.0DEG
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Temperature:25.3DEG
Operators:
Test Date:2017-03-02

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:

AAI Figure



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

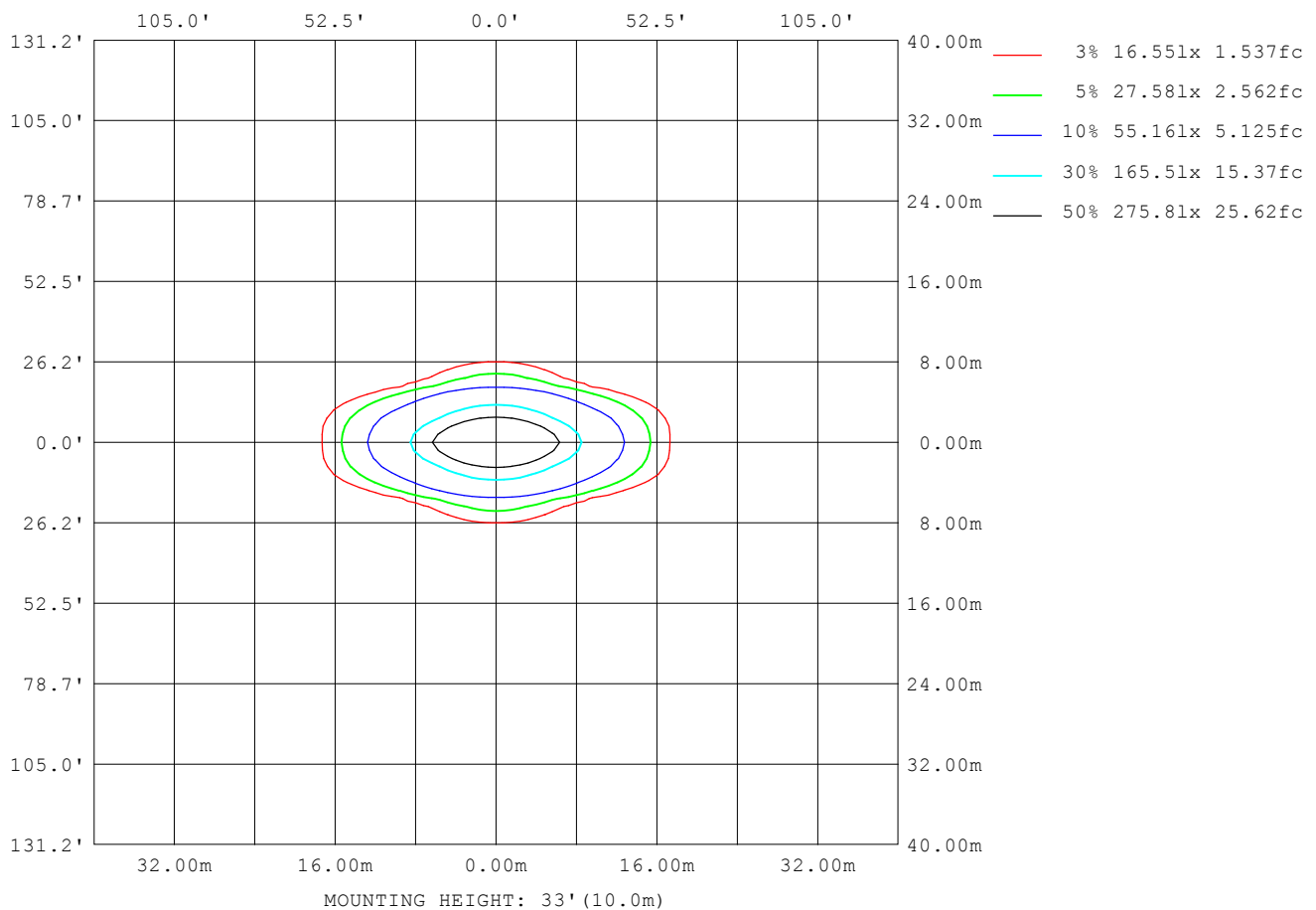
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-02

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



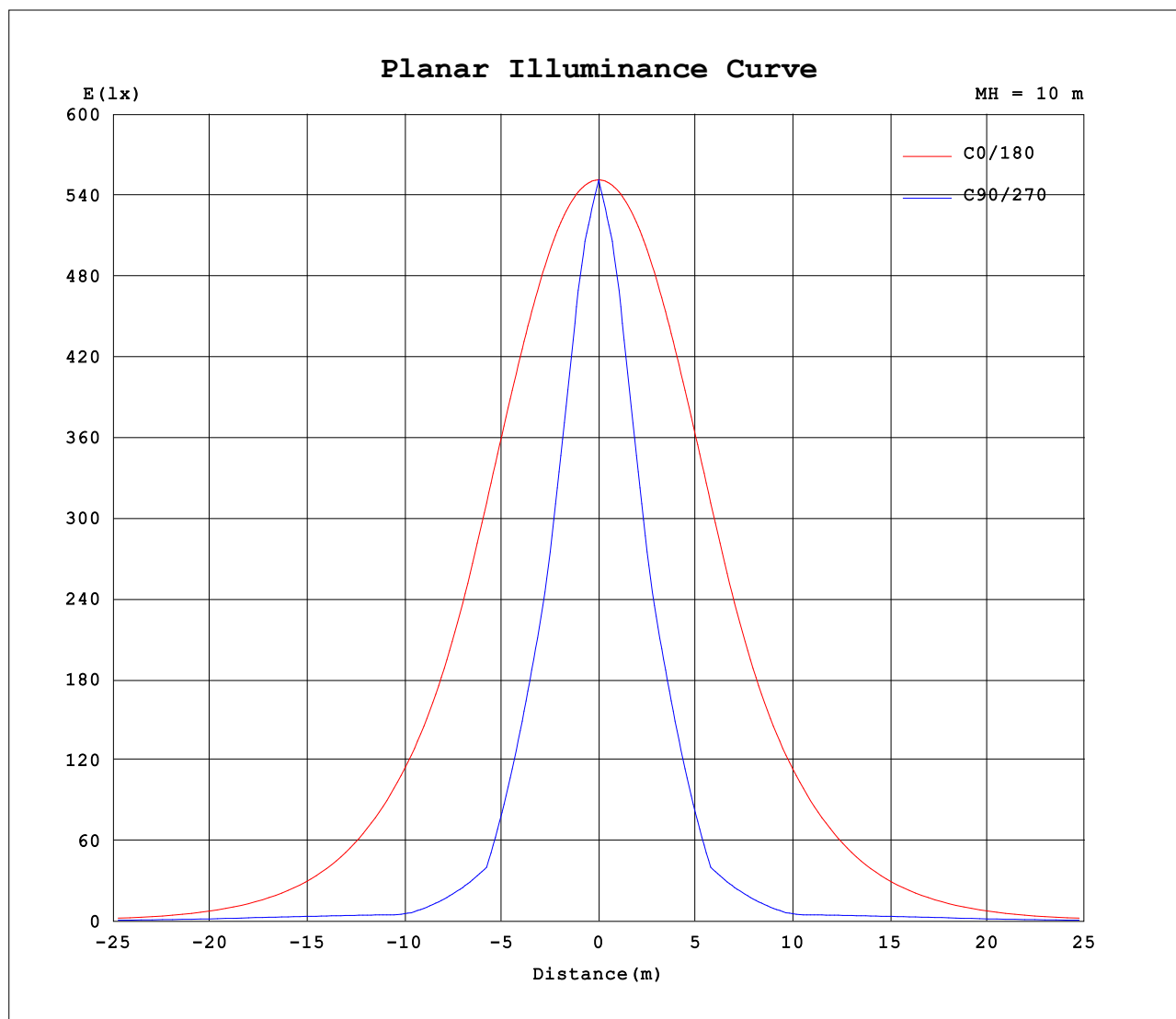
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-02

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: 2017-03-02

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:

Assessor: