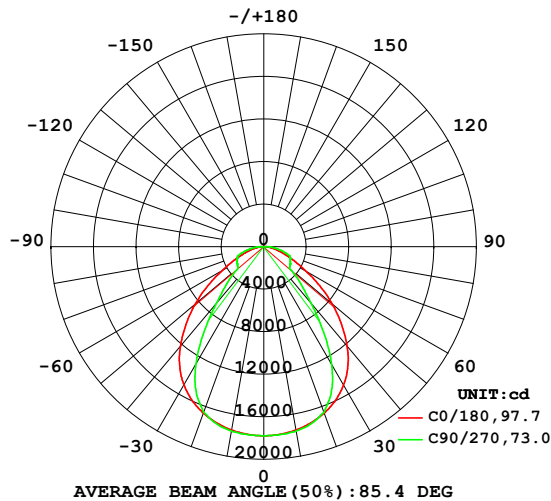


LUMINAIRE PHOTOMETRIC TEST REPORT

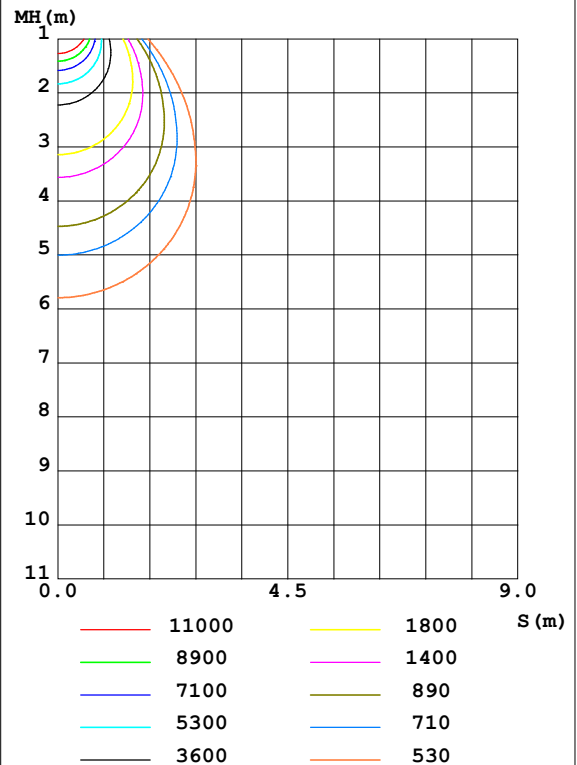
Test:U:229.9V I:1.321A P:296.6W PF:0.9766 Lamp Flux:35899.9x1 lm		
NAME: LHB03-300	TYPE:300W	WEIGHT:
SPEC.:5000K Ra80 80100DEG L00303	DIM.: 0.906*0.307*0.061	SERIAL No.:
MFR.:	SUR.:0.855*0.27	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 121.03 lm/W			
MODEL	LHB03-300	I _{max} (cd)	17783	S/MH (C0/180)	1.25
NOMINAL POWER(W)	300	LOR(%)	100.0	S/MH (C90/270)	1.06
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	35900	η UP,DN(C0-180)	0.0,50.0
NOMINAL FLUX(lm)	35899.9	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.0
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230	η down (%)	100.0	CIBSE SHR MAX	1.30

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:2017-07-03

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	1771	1772	1774	1772	1771	1772	1774	1772	0- 5	424.4	424.4	1.18, 1.18
10	1750	1755	1762	1755	1750	1755	1762	1755	5- 10	1262	1686	4.7, 4.7
15	1715	1724	1724	1724	1715	1724	1724	1724	10- 15	2063	3750	10.4, 10.4
20	1664	1670	1655	1670	1664	1670	1655	1670	15- 20	2791	6541	18.2, 18.2
25	1595	1586	1506	1586	1595	1584	1506	1584	20- 25	3393	9934	27.7, 27.7
30	1502	1458	1278	1458	1502	1455	1278	1455	25- 30	3792	13726	38.2, 38.2
35	1379	1285	982.2	1285	1379	1281	982.2	1281	30- 35	3911	17637	49.1, 49.1
40	1221	1060	688.9	1060	1221	1057	688.9	1057	35- 40	3721	21358	59.5, 59.5
45	1037	815.8	492.3	815.8	1037	813.7	492.3	813.7	40- 45	3292	24650	68.7, 68.7
50	843.5	585.9	317.0	585.9	843.5	584.3	317.0	584.3	45- 50	2755	27405	76.3, 76.3
55	643.7	414.9	303.6	414.9	643.7	413.9	303.6	413.9	50- 55	2202	29607	82.5, 82.5
60	457.2	280.0	290.2	280.0	457.2	279.6	290.2	279.6	55- 60	1776	31383	87.4, 87.4
65	312.5	223.8	276.7	223.8	312.5	223.3	276.7	223.3	60- 65	1431	32814	91.4, 91.4
70	206.4	164.7	263.3	164.7	206.4	164.1	263.3	164.1	65- 70	1146	33960	94.6, 94.6
75	132.6	104.4	198.3	104.4	132.6	103.8	198.3	103.8	70- 75	873.3	34834	97, 97
80	77.96	67.83	133.2	67.83	77.96	67.45	133.2	67.45	75- 80	596.3	35430	98.7, 98.7
85	30.45	35.12	68.17	35.12	30.45	34.92	68.17	34.92	80- 85	349.4	35779	99.7, 99.7
90	1.166	2.766	3.118	2.766	1.166	2.724	3.118	2.724	85- 90	120.7	35900	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): 24650 lm

%lum = 68.7%

%lamp = 68.7%

Conical surface Flux(120deg): 31383 lm

%lum = 87.4%

%lamp = 87.4%

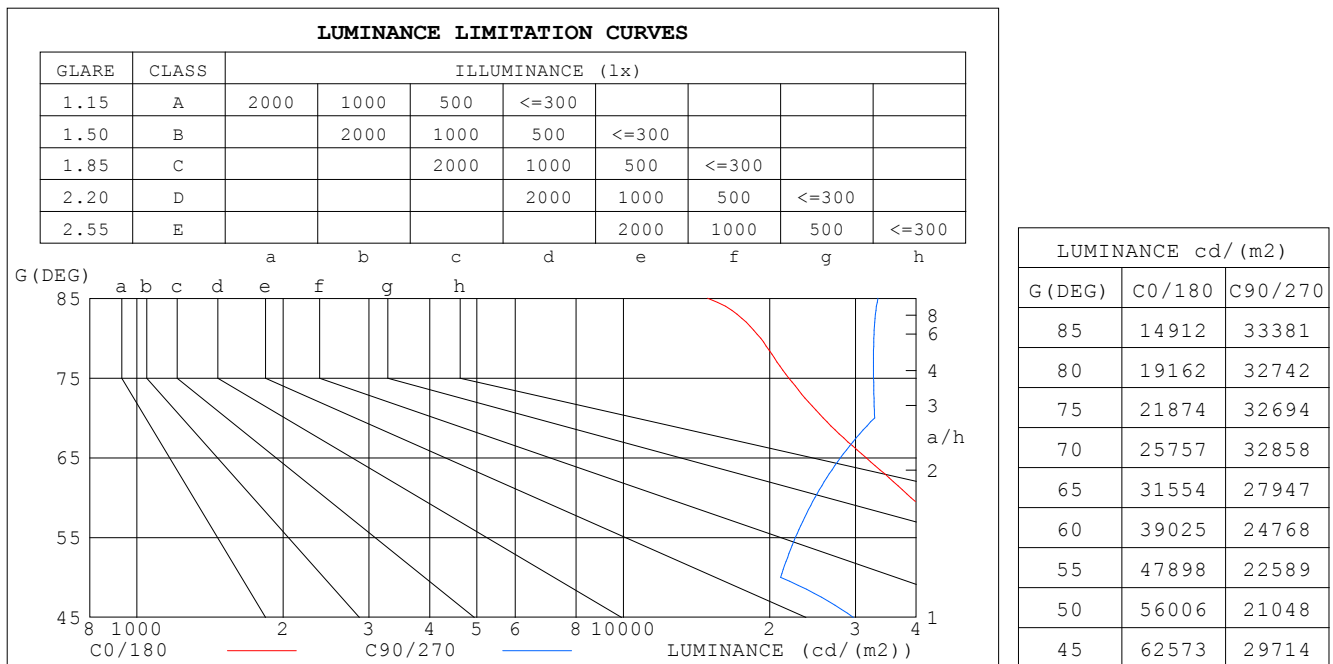
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-07-03

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: 2017-07-03

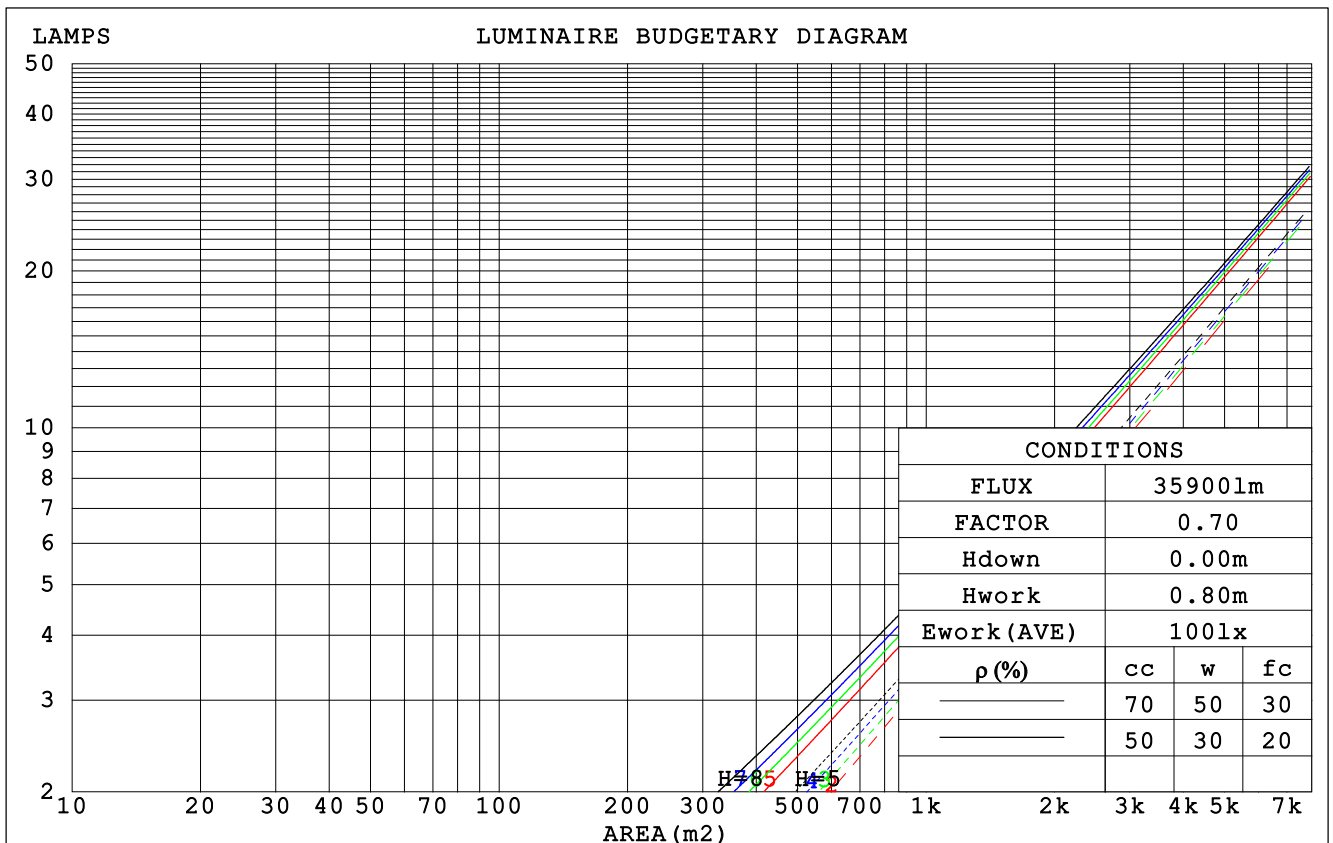
Checker:

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	1.06	1.03	.99	1.04	1.01	.98	.00	.97	.95	.96	.94	.92	.92	.91	.89	.87
2.0	.95	.89	.84	.93	.87	.83	.89	.85	.81	.86	.82	.79	.83	.80	.77	.75
3.0	.85	.78	.72	.83	.77	.71	.80	.75	.70	.78	.73	.69	.75	.71	.68	.66
4.0	.76	.69	.63	.75	.68	.62	.73	.66	.61	.71	.65	.61	.68	.64	.60	.58
5.0	.69	.61	.55	.68	.61	.55	.66	.60	.54	.64	.59	.54	.63	.57	.53	.51
6.0	.63	.55	.49	.62	.55	.49	.61	.54	.49	.59	.53	.48	.57	.52	.48	.46
7.0	.58	.50	.44	.57	.50	.44	.56	.49	.44	.54	.48	.44	.53	.47	.43	.41
8.0	.53	.45	.40	.53	.45	.40	.51	.45	.40	.50	.44	.40	.49	.44	.39	.38
9.0	.49	.42	.37	.49	.41	.36	.48	.41	.36	.47	.41	.36	.46	.40	.36	.34
10.0	.46	.38	.34	.45	.38	.33	.44	.38	.33	.43	.37	.33	.43	.37	.33	.31



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-07-03

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	.265	.151	.048	.258	.147	.047	.245	.140	.045	.233	.134	.043	.222	.128	.041		
2.0	.251	.138	.042	.245	.135	.042	.234	.130	.040	.223	.125	.039	.214	.121	.038		
3.0	.235	.125	.037	.230	.123	.037	.220	.119	.036	.211	.115	.035	.202	.112	.035		
4.0	.219	.114	.034	.215	.112	.033	.206	.109	.033	.198	.106	.032	.190	.103	.031		
5.0	.205	.104	.030	.201	.103	.030	.193	.101	.030	.186	.098	.029	.179	.096	.029		
6.0	.192	.096	.028	.188	.095	.027	.181	.093	.027	.175	.091	.027	.169	.089	.026		
7.0	.180	.089	.025	.177	.088	.025	.171	.086	.025	.165	.085	.025	.160	.083	.024		
8.0	.170	.083	.023	.167	.082	.023	.161	.081	.023	.156	.079	.023	.151	.078	.023		
9.0	.160	.077	.022	.158	.077	.022	.153	.075	.021	.148	.074	.021	.144	.073	.021		
10.0	.152	.073	.020	.149	.072	.020	.145	.071	.020	.141	.070	.020	.137	.069	.020		

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	.177	.157	.138	.152	.134	.119	.104	.092	.082	.060	.053	.048	.019	.017	.015		
2.0	.167	.132	.103	.143	.114	.089	.098	.079	.062	.056	.046	.036	.018	.015	.012		
3.0	.158	.114	.079	.135	.098	.069	.093	.068	.048	.054	.040	.028	.017	.013	.009		
4.0	.149	.100	.063	.128	.087	.055	.088	.060	.038	.051	.035	.023	.016	.012	.007		
5.0	.142	.090	.051	.122	.077	.044	.084	.054	.031	.049	.032	.019	.016	.010	.006		
6.0	.135	.081	.042	.116	.070	.037	.080	.049	.026	.046	.029	.015	.015	.009	.005		
7.0	.128	.074	.036	.110	.064	.031	.076	.045	.022	.044	.026	.013	.014	.009	.004		
8.0	.122	.068	.031	.105	.059	.027	.073	.041	.019	.042	.024	.011	.014	.008	.004		
9.0	.117	.063	.027	.101	.055	.023	.070	.038	.017	.041	.023	.010	.013	.007	.003		
10.0	.111	.059	.024	.096	.051	.021	.067	.036	.015	.039	.021	.009	.013	.007	.003		

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-07-03

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	25.8	27.1	26.0	27.3	27.5	22.7	24.1	23.0	24.2	24.4
3H	26.5	27.7	26.7	27.9	28.1	24.6	25.8	24.9	26.1	26.3
4H	26.7	27.9	27.0	28.1	28.3	25.6	26.7	25.9	27.0	27.2
6H	26.8	27.9	27.2	28.2	28.5	26.4	27.5	26.7	27.7	28.0
8H	26.9	27.9	27.2	28.2	28.5	26.7	27.7	27.0	28.0	28.3
12H	26.9	27.9	27.2	28.2	28.5	26.9	27.9	27.3	28.2	28.5
4H 2H	25.8	27.0	26.1	27.2	27.5	23.2	24.4	23.5	24.7	24.9
3H	26.7	27.7	27.0	28.0	28.3	25.2	26.2	25.5	26.5	26.8
4H	27.0	27.9	27.4	28.2	28.6	26.3	27.2	26.6	27.5	27.8
6H	27.3	28.1	27.6	28.4	28.8	27.2	28.1	27.6	28.4	28.8
8H	27.3	28.1	27.7	28.5	28.8	27.6	28.4	28.1	28.8	29.2
12H	27.4	28.1	27.8	28.5	28.9	28.0	28.7	28.4	29.1	29.5
8H 4H	27.1	27.8	27.5	28.2	28.6	26.4	27.1	26.8	27.5	27.9
6H	27.4	28.1	27.9	28.5	28.9	27.5	28.1	27.9	28.5	28.9
8H	27.6	28.1	28.0	28.5	29.0	28.0	28.6	28.4	29.0	29.4
12H	27.7	28.1	28.1	28.6	29.1	28.4	28.9	28.9	29.4	29.8
12H 4H	27.1	27.8	27.5	28.1	28.5	26.4	27.1	26.8	27.5	27.9
6H	27.4	28.0	27.9	28.4	28.9	27.5	28.1	27.9	28.5	28.9
8H	27.6	28.1	28.1	28.5	29.0	28.0	28.5	28.5	29.0	29.4
Variations with the observer position at spacings:										
S = 1.0H	+ 0.4 / - 0.5					+ 0.4 / - 0.4				
1.5H	+ 0.4 / - 0.7					+ 0.3 / - 0.4				
2.0H	+ 1.2 / - 1.5					+ 0.3 / - 0.3				

CIE Pub.117 Corrected 35900 lm Total Lamp Luminous Flux.(8log(F/F0) = 12.4)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-07-03

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) $k(RI) \times RCR = 5$									
$k = 0.60$	66	56	50	66	56	50	65	56	50	44
0.80	76	66	60	75	66	60	73	65	59	53
1.00	84	74	68	82	74	68	80	75	67	61
1.25	90	81	75	88	80	75	86	79	74	68
1.50	94	86	80	93	85	80	90	83	79	72
2.00	100	93	87	98	91	87	95	89	85	78
2.50	103	96	91	101	95	90	97	92	89	81
3.00	106	100	95	103	98	94	100	95	92	84
4.00	109	104	100	106	102	99	102	99	96	88
5.00	111	107	103	108	105	102	104	101	99	90
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

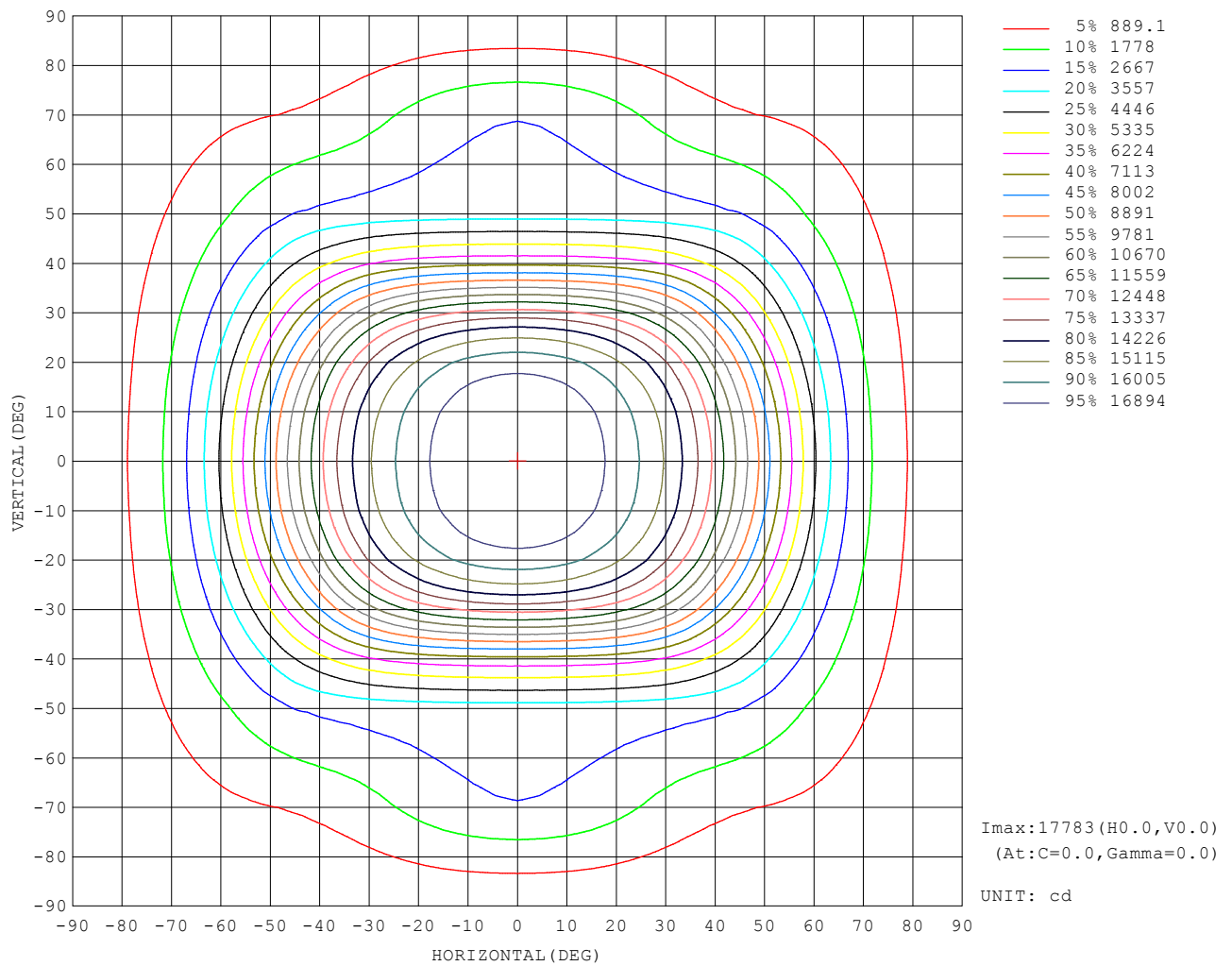
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-07-03

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



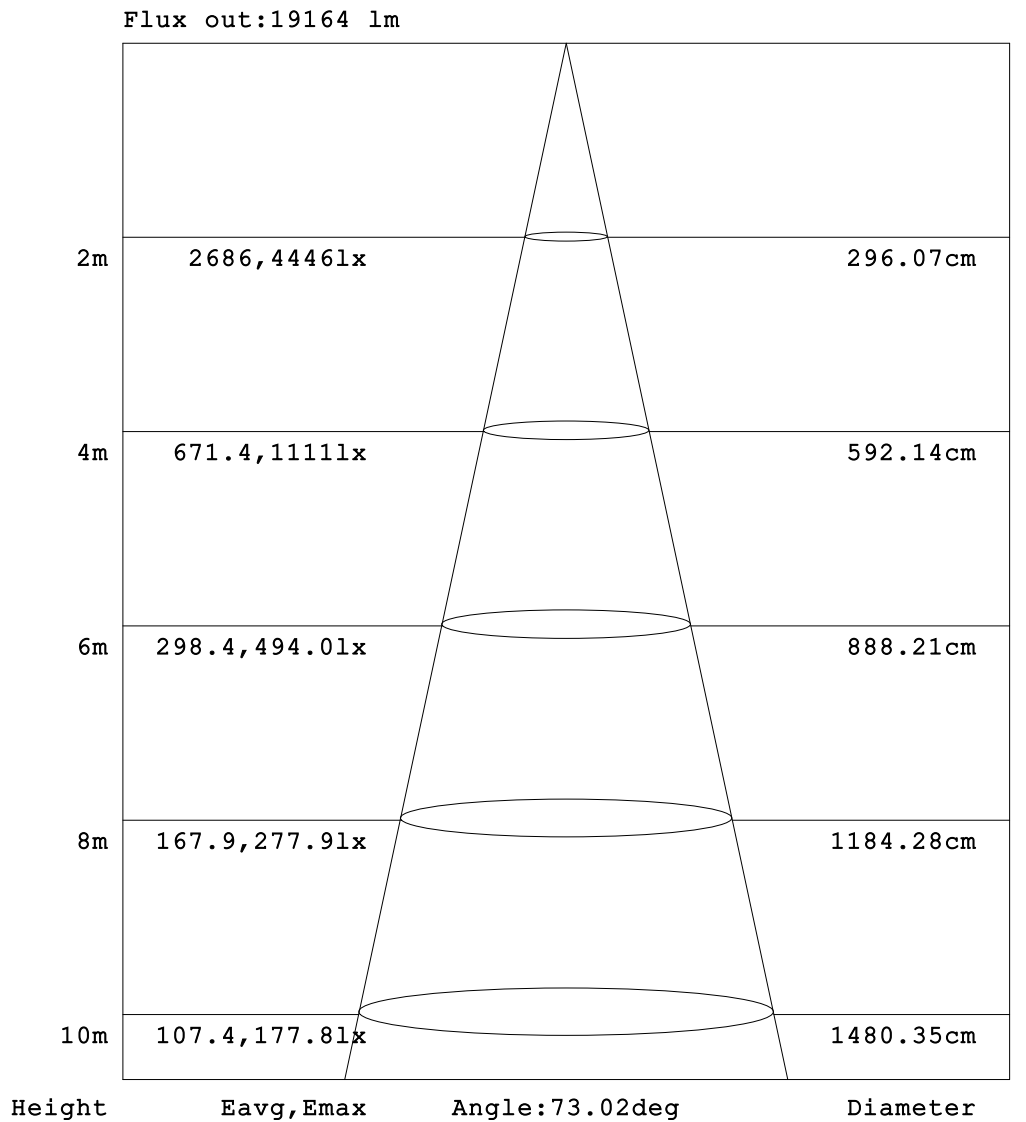
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-07-03

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.

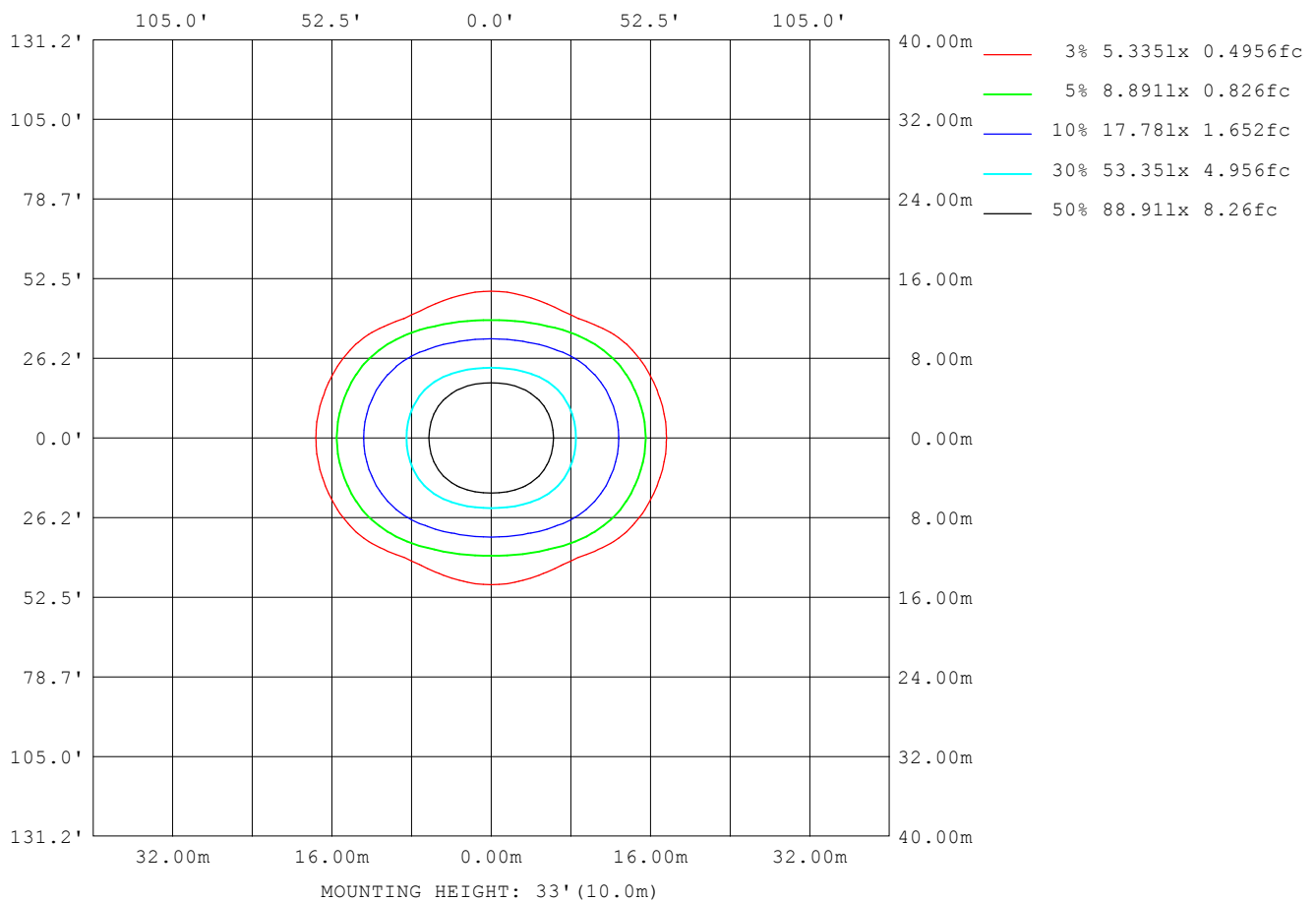
C Range: 0 - 360 DEG
C Interval: 5.0 DEG
Test Speed: HIGH
Temperature: 25.3 DEG
Operators:
Test Date: 2017-07-03

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:

Checker:

Assessor:

ISOLUX DIAGRAM



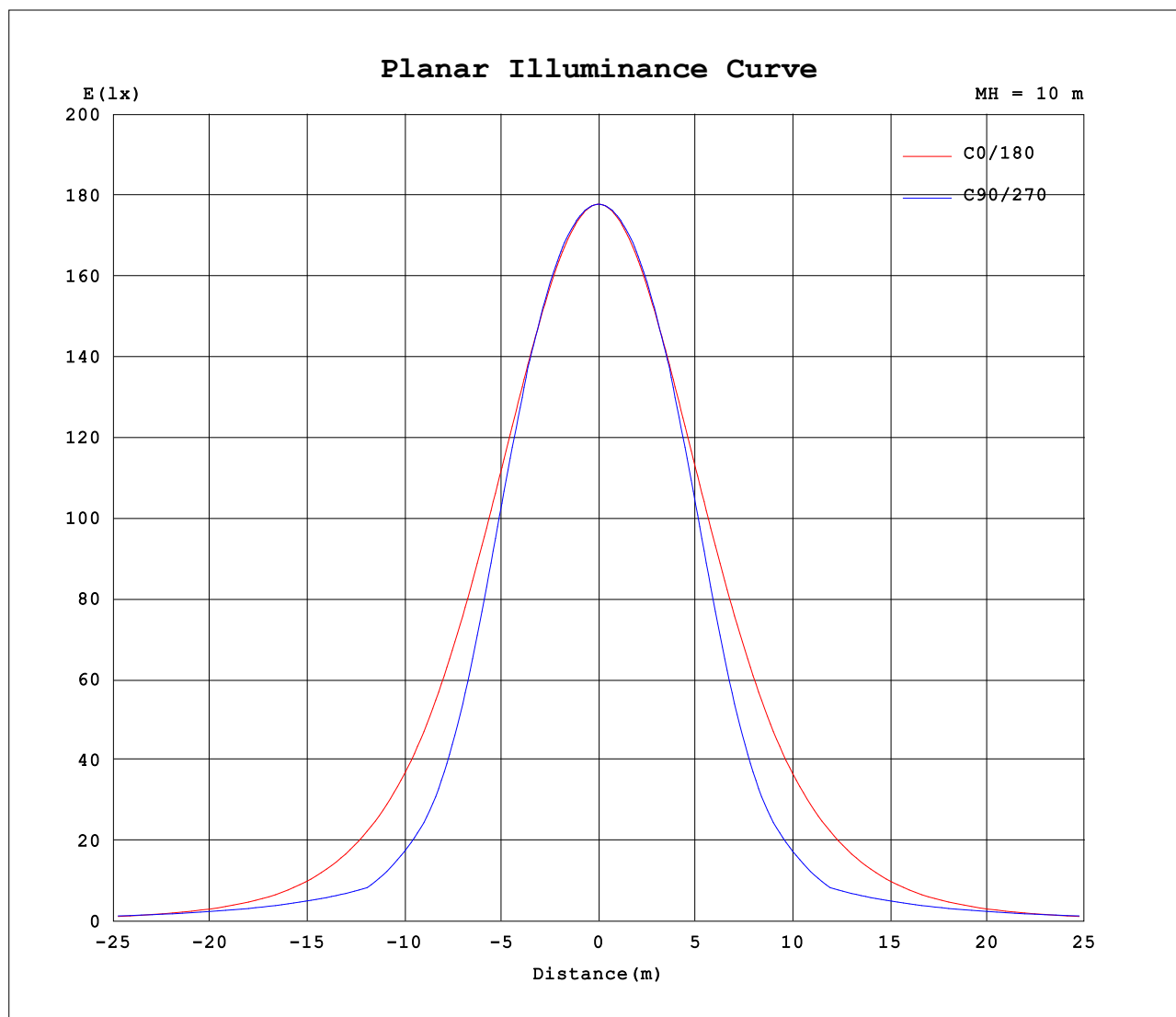
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-07-03

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: 2017-07-03

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: