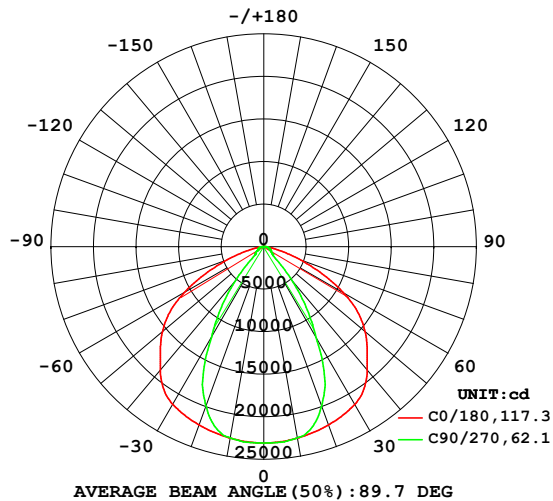


LUMINAIRE PHOTOMETRIC TEST REPORT

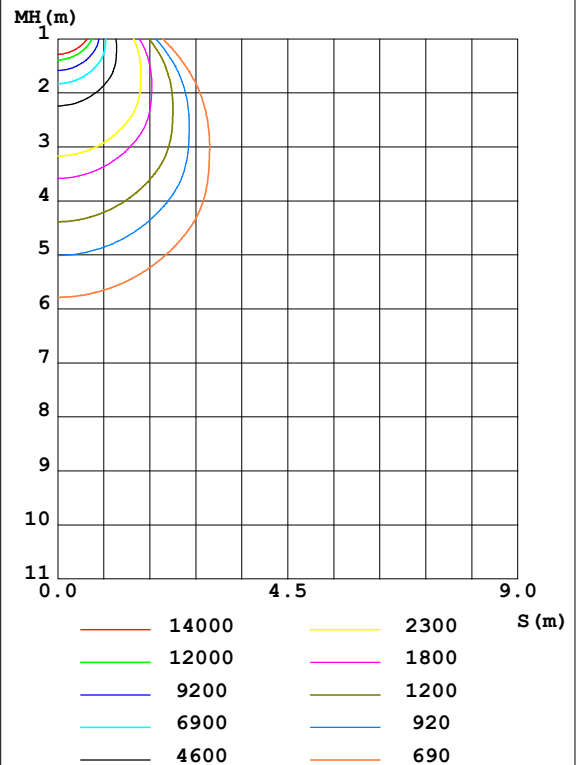
Test:U:229.8V I:1.322A P:296.7W PF:0.9762 Lamp Flux:39015.4x1 lm		
NAME: LHB03-300	TYPE:300W	WEIGHT:
SPEC.:5000K Ra80 60120DEG L00302	DIM.: 0.906*0.307*0.061	SERIAL No.:
MFR.:	SUR.:0.855*0.27	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 131.49 lm/W			
MODEL	LHB03-300	I _{max} (cd)	23084	S/MH (C0/180)	1.38
NOMINAL POWER(W)	300	LOR(%)	100.0	S/MH (C90/270)	0.93
RATED VOLTAGE(V)	230	TOTAL FLUX (lm)	39015	η UP,DN (C0-180)	0.0,50.0
NOMINAL FLUX(lm)	39015.4	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:2017-07-03

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:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
5	2302	2304	2307	2304	2302	2304	2307	2304	0- 5	551.4	551.4	1.41,1.41
10	2285	2287	2282	2287	2285	2287	2282	2287	5- 10	1642	2194	5.62,5.62
15	2261	2250	2196	2250	2261	2249	2196	2249	10- 15	2688	4881	12.5,12.5
20	2229	2162	1991	2162	2229	2160	1991	2160	15- 20	3610	8491	21.8,21.8
25	2190	1992	1698	1992	2190	1987	1698	1987	20- 25	4311	12802	32.8,32.8
30	2141	1741	1229	1741	2141	1736	1229	1736	25- 30	4681	17483	44.8,44.8
35	2051	1347	871.2	1347	2051	1341	871.2	1341	30- 35	4610	22094	56.6,56.6
40	1893	901.5	513.9	901.5	1893	896.9	513.9	896.9	35- 40	4195	26288	67.4,67.4
45	1721	656.9	189.8	656.9	1721	654.7	189.8	654.7	40- 45	3475	29763	76.3,76.3
50	1555	443.8	132.5	443.8	1555	444.1	132.5	444.1	45- 50	2694	32457	83.2,83.2
55	1354	272.2	108.4	272.2	1354	273.5	108.4	273.5	50- 55	2103	34560	88.6,88.6
60	1078	197.4	84.37	197.4	1078	198.1	84.37	198.1	55- 60	1571	36131	92.6,92.6
65	754.7	141.3	74.96	141.3	754.7	141.6	74.96	141.6	60- 65	1107	37238	95.4,95.4
70	467.7	101.5	65.56	101.5	467.7	101.8	65.56	101.8	65- 70	767.4	38005	97.4,97.4
75	228.0	66.46	55.28	66.46	228.0	66.47	55.28	66.47	70- 75	512.6	38518	98.7,98.7
80	75.94	31.63	38.03	31.63	75.94	31.39	38.03	31.39	75- 80	301.1	38819	99.5,99.5
85	15.84	17.30	19.91	17.30	15.84	17.17	19.91	17.17	80- 85	146.1	38965	99.9,99.9
90	1.273	2.566	1.798	2.566	1.273	2.572	1.798	2.572	85- 90	50.58	39015	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): 29763 lm

%lum = 76.3%

%lamp = 76.3%

Conical surface Flux(120deg): 36131 lm

%lum = 92.6%

%lamp = 92.6%

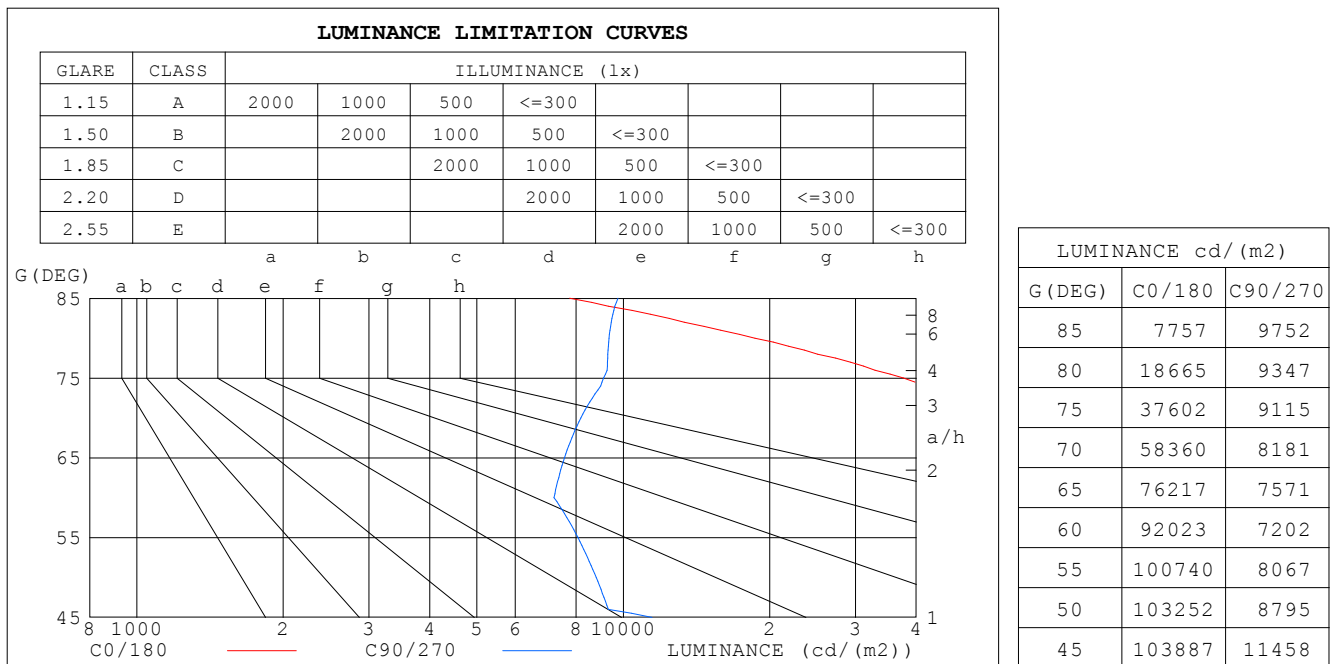
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-07-03

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

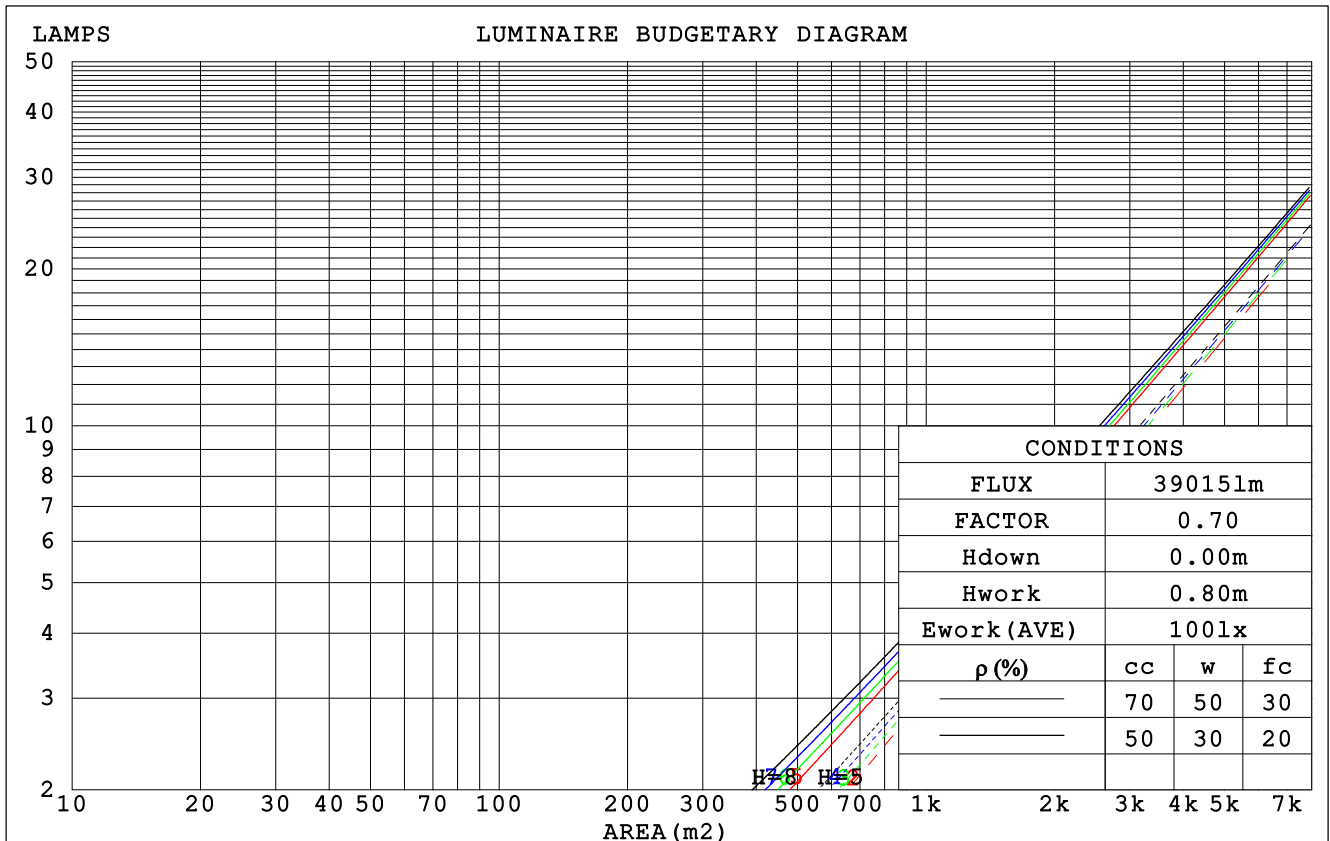
Checker:

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

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	1.08	1.05	1.02	1.06	1.03	.00	1.01	.99	.97	.98	.96	.94	.94	.93	.91	.89
2.0	.97	.92	.87	.95	.91	.86	.92	.88	.85	.89	.86	.83	.86	.83	.81	.79
3.0	.88	.82	.76	.87	.81	.76	.84	.79	.74	.81	.77	.73	.79	.75	.72	.70
4.0	.80	.73	.67	.79	.72	.67	.76	.71	.66	.74	.69	.65	.72	.68	.64	.63
5.0	.73	.66	.60	.72	.65	.60	.70	.64	.59	.68	.63	.59	.67	.62	.58	.56
6.0	.67	.59	.54	.66	.59	.54	.64	.58	.53	.63	.57	.53	.61	.56	.53	.51
7.0	.62	.54	.49	.61	.54	.49	.60	.53	.48	.58	.52	.48	.57	.52	.48	.46
8.0	.57	.50	.45	.56	.49	.44	.55	.49	.44	.54	.48	.44	.53	.48	.44	.42
9.0	.53	.46	.41	.52	.46	.41	.51	.45	.41	.50	.45	.40	.49	.44	.40	.39
10.0	.49	.42	.38	.49	.42	.38	.48	.42	.37	.47	.41	.37	.46	.41	.37	.36



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	.234	.133	.042	.227	.130	.041	.215	.123	.039	.203	.117	.038	.192	.111	.036		
2.0	.226	.124	.038	.220	.121	.037	.209	.116	.036	.199	.111	.035	.189	.107	.034		
3.0	.214	.114	.034	.209	.112	.034	.199	.108	.033	.190	.104	.032	.182	.101	.031		
4.0	.202	.105	.031	.198	.103	.031	.189	.100	.030	.181	.097	.029	.174	.094	.029		
5.0	.190	.097	.028	.186	.096	.028	.179	.093	.027	.172	.091	.027	.165	.088	.027		
6.0	.180	.090	.026	.176	.089	.026	.169	.087	.025	.163	.085	.025	.157	.083	.025		
7.0	.170	.084	.024	.167	.083	.024	.161	.081	.023	.155	.079	.023	.150	.078	.023		
8.0	.161	.078	.022	.158	.078	.022	.152	.076	.022	.147	.075	.022	.143	.073	.021		
9.0	.152	.074	.021	.150	.073	.020	.145	.072	.020	.140	.070	.020	.136	.069	.020		
10.0	.145	.069	.019	.142	.069	.019	.138	.068	.019	.134	.066	.019	.130	.065	.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	.102	.093	.084	.059	.054	.049	.019	.017	.016	
2.0	.163	.132	.106	.140	.114	.092	.096	.079	.064	.055	.046	.037	.018	.015	.012	
3.0	.154	.114	.082	.132	.098	.071	.090	.068	.050	.052	.040	.029	.017	.013	.010	
4.0	.145	.100	.065	.125	.086	.057	.086	.060	.040	.050	.035	.024	.016	.011	.008	
5.0	.138	.089	.053	.118	.077	.046	.081	.054	.033	.047	.032	.019	.015	.010	.006	
6.0	.131	.080	.044	.112	.070	.038	.078	.049	.027	.045	.029	.016	.015	.009	.005	
7.0	.124	.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:2017-07-03

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	27.7	29.0	28.0	29.2	29.3	18.8	20.1	19.1	20.3	20.5
3H	28.6	29.7	28.8	29.9	30.1	19.2	20.3	19.5	20.5	20.8
4H	28.8	29.9	29.1	30.1	30.3	19.5	20.5	19.8	20.8	21.0
6H	28.8	29.8	29.1	30.1	30.4	19.8	20.8	20.1	21.1	21.3
8H	28.8	29.8	29.1	30.1	30.3	19.9	20.9	20.2	21.2	21.4
12H	28.8	29.7	29.1	30.0	30.3	20.0	21.0	20.4	21.2	21.5
4H 2H	27.5	28.6	27.8	28.8	29.0	19.4	20.5	19.7	20.7	20.9
3H	28.4	29.3	28.7	29.6	29.9	19.8	20.7	20.1	21.0	21.3
4H	28.6	29.4	29.0	29.8	30.1	20.2	21.0	20.5	21.3	21.6
6H	28.7	29.4	29.1	29.8	30.1	20.6	21.3	21.0	21.7	22.0
8H	28.7	29.4	29.1	29.7	30.1	20.8	21.4	21.2	21.8	22.2
12H	28.7	29.3	29.1	29.7	30.1	20.9	21.6	21.3	21.9	22.3
8H 4H	28.5	29.2	28.9	29.5	29.9	20.4	21.1	20.8	21.4	21.8
6H	28.6	29.2	29.0	29.6	30.0	20.9	21.4	21.3	21.8	22.3
8H	28.6	29.1	29.1	29.5	30.0	21.1	21.6	21.6	22.1	22.5
12H	28.6	29.0	29.1	29.5	29.9	21.4	21.8	21.8	22.2	22.7
12H 4H	28.4	29.1	28.9	29.5	29.9	20.4	21.0	20.8	21.4	21.8
6H	28.6	29.1	29.0	29.5	29.9	20.9	21.4	21.4	21.8	22.3
8H	28.6	29.0	29.1	29.5	29.9	21.2	21.6	21.7	22.1	22.5
Variations with the observer position at spacings:										
S = 1.0H	+ 1.2 / - 2.3					+ 1.1 / - 1.5				
1.5H	+ 2.3 / - 4.1					+ 1.4 / - 1.5				
2.0H	+ 3.5 / - 6.4					+ 1.4 / - 1.1				

CIE Pub.117 Corrected 39015 lm Total Lamp Luminous Flux.(8log(F/F0) = 12.7)

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) $k(RI) \times RCR = 5$									
$k = 0.60$	71	62	56	70	62	56	69	61	56	51
0.80	80	71	66	80	71	66	78	70	65	60
1.00	88	79	74	87	79	74	85	79	73	67
1.25	94	86	81	92	85	80	90	84	79	74
1.50	97	90	85	96	89	85	93	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	103	99	106	101	97	102	98	95	88
4.00	110	106	103	108	105	102	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		

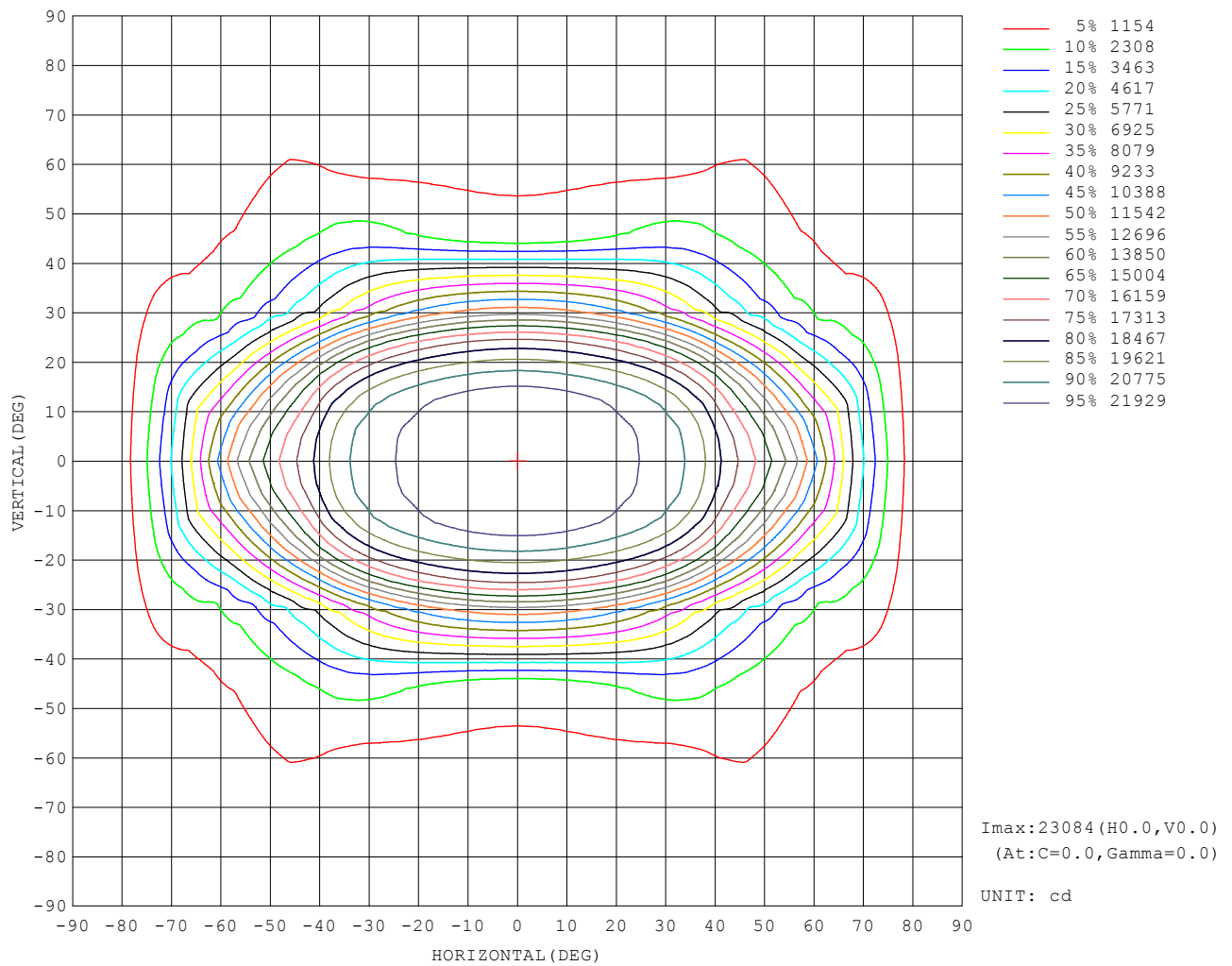
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-07-03

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



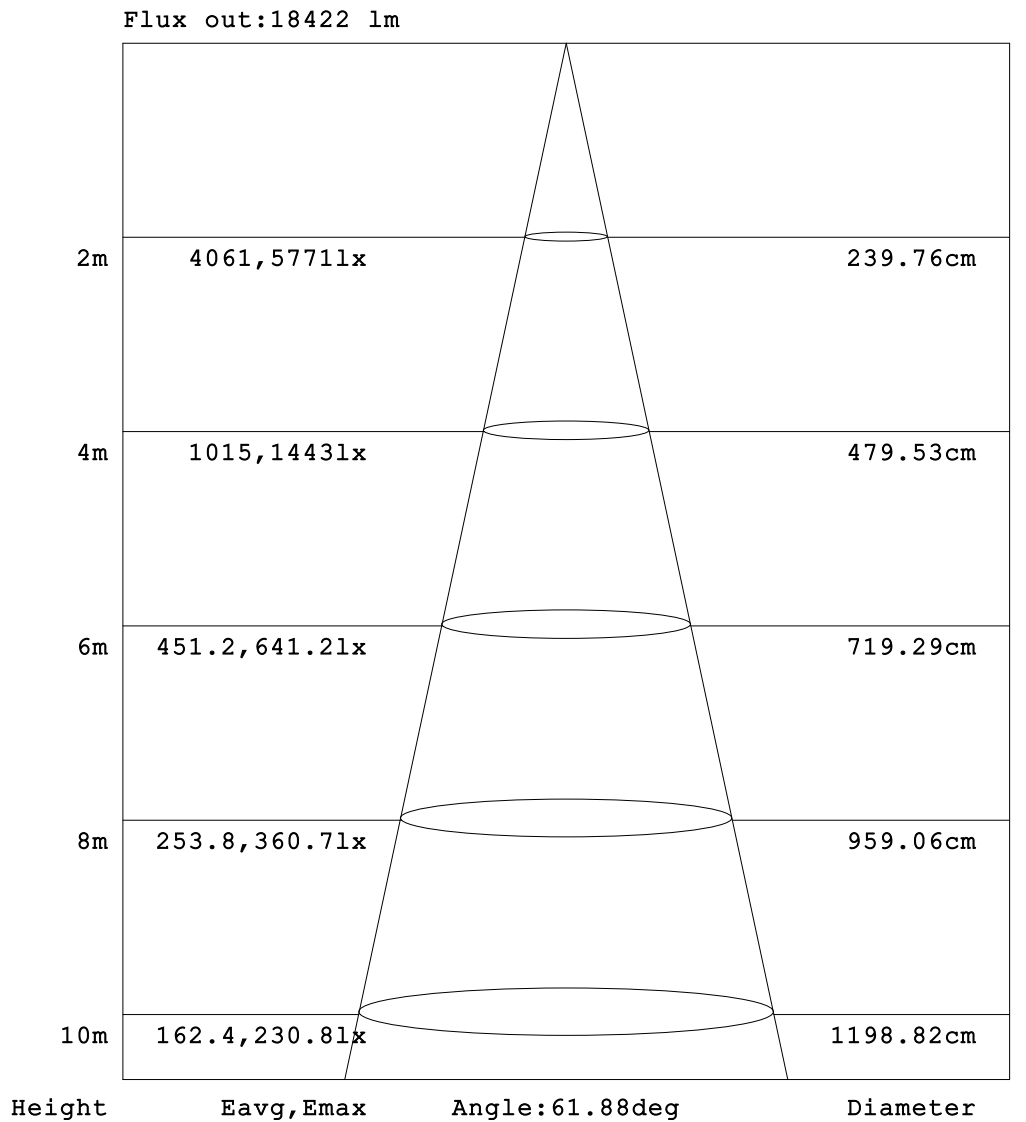
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-07-03

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.

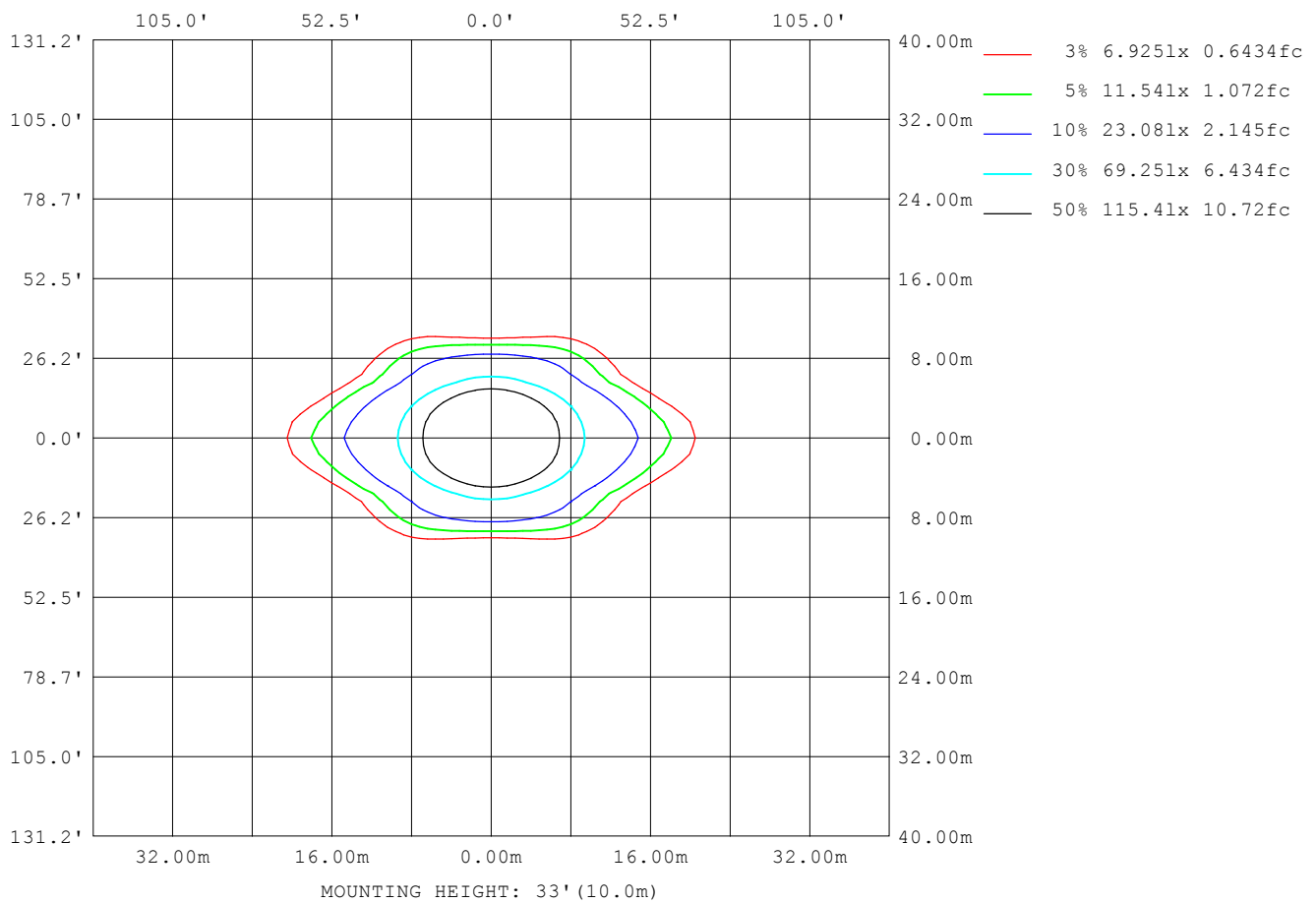
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-07-03

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:

ISOLUX DIAGRAM



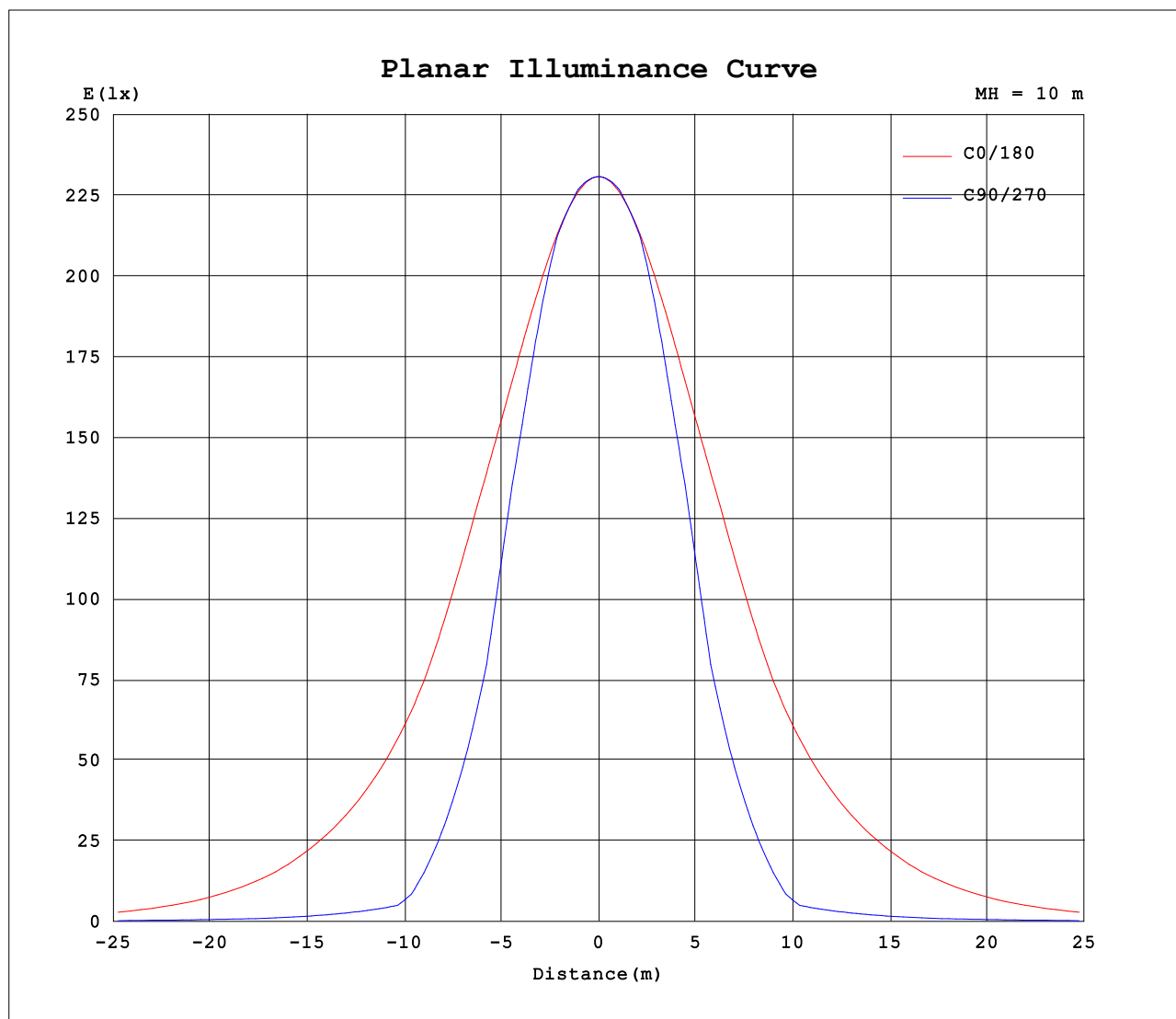
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-07-03

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: