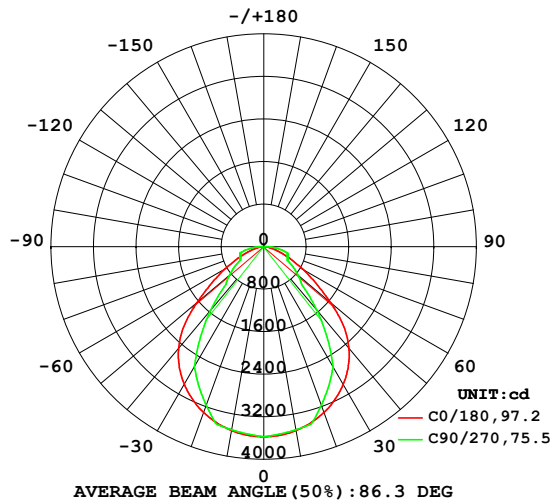


LUMINAIRE PHOTOMETRIC TEST REPORT

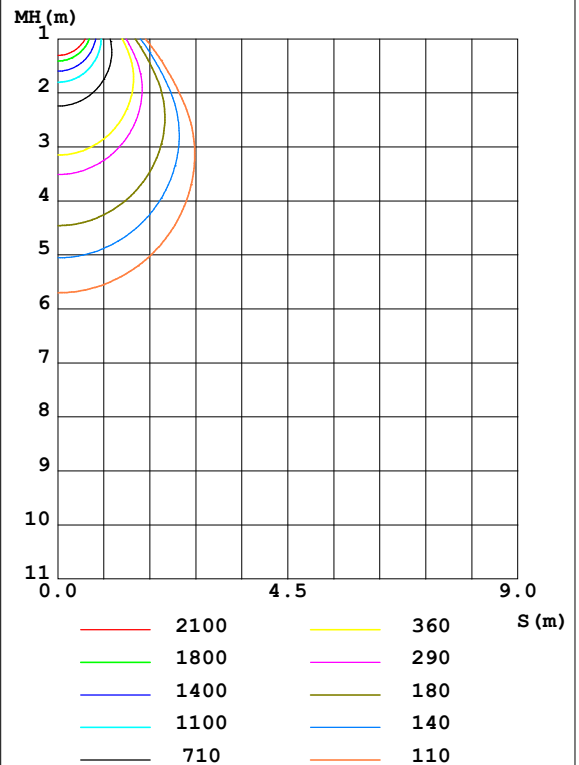
Test:U:220.1V I:0.2802A P:61.03W PF:0.9894 Lamp Flux:7166.24x1 lm		
NAME: LHB03-060	TYPE:60W	WEIGHT:
SPEC.:5000K Ra70 80100DEG L00303	DIM.: 0.34*0.3*0.065	SERIAL No.:
MFR.:	SUR.:0.28*0.27	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 117.43 lm/W			
MODEL	LHB03-060	I _{max} (cd)	3575	S/MH (C0/180)	1.24
NOMINAL POWER(W)	60	LOR(%)	100.0	S/MH (C90/270)	1.09
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	7166.2	η UP,DN(C0-180)	0.0,50.0
NOMINAL FLUX(lm)	7166.24	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)	220	η down (%)	100.0	CIBSE SHR MAX	1.25

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 2.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-01-09

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	3560	3539	3535	3539	3560	3539	3535	3539	0- 5	84.98	84.98	1.19,1.19
10	3510	3487	3496	3487	3510	3487	3496	3487	5- 10	251.6	336.5	4.7,4.7
15	3429	3416	3456	3416	3429	3416	3456	3416	10- 15	410.2	746.7	10.4,10.4
20	3318	3329	3174	3329	3318	3329	3174	3329	15- 20	552.1	1299	18.1,18.1
25	3172	3077	2893	3077	3172	3077	2893	3077	20- 25	662.2	1961	27.4,27.4
30	2990	2784	2611	2784	2990	2784	2611	2784	25- 30	739.4	2700	37.7,37.7
35	2769	2478	2080	2478	2769	2478	2080	2478	30- 35	774.8	3475	48.5,48.5
40	2494	2139	1549	2139	2494	2139	1549	2139	35- 40	753.4	4229	59,59
45	2133	1687	1018	1687	2133	1687	1018	1687	40- 45	680.7	4909	68.5,68.5
50	1643	1260	849.7	1260	1643	1260	849.7	1260	45- 50	573.4	5483	76.5,76.5
55	1194	867.7	681.6	867.7	1194	867.7	681.6	867.7	50- 55	462.9	5946	83,83
60	841.0	644.9	513.5	644.9	841.0	644.9	513.5	644.9	55- 60	357.9	6303	88,88
65	559.4	433.4	496.2	433.4	559.4	433.4	496.2	433.4	60- 65	268.7	6572	91.7,91.7
70	348.1	293.2	478.8	293.2	348.1	293.2	478.8	293.2	65- 70	208.7	6781	94.6,94.6
75	210.3	218.1	461.4	218.1	210.3	218.1	461.4	218.1	70- 75	165.6	6947	96.9,96.9
80	110.3	141.5	314.3	141.5	110.3	141.5	314.3	141.5	75- 80	122.7	7069	98.6,98.6
85	22.76	74.51	167.2	74.51	22.76	74.51	167.2	74.51	80- 85	70.91	7140	99.6,99.6
90	1.891	10.06	20.11	10.06	1.891	10.06	20.11	10.06	85- 90	26.09	7166	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:cd									UNIT:lm		

Conical surface Flux(90deg): 4909.3 lm

%lum = 68.5%

%lamp = 68.5%

Conical surface Flux(120deg): 6303.5 lm

%lum = 88.0%

%lamp = 88.0%

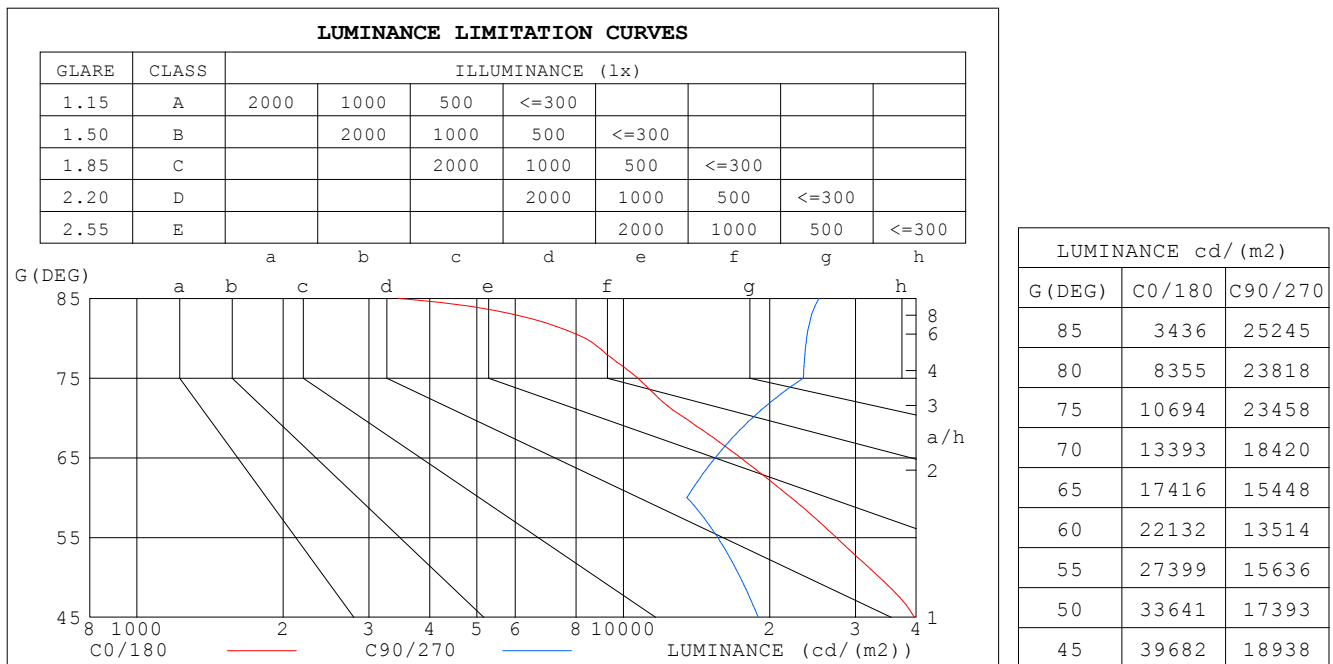
C Range: 0 - 360DEG
 C Interval: 2.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-01-09

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: 2.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-01-09

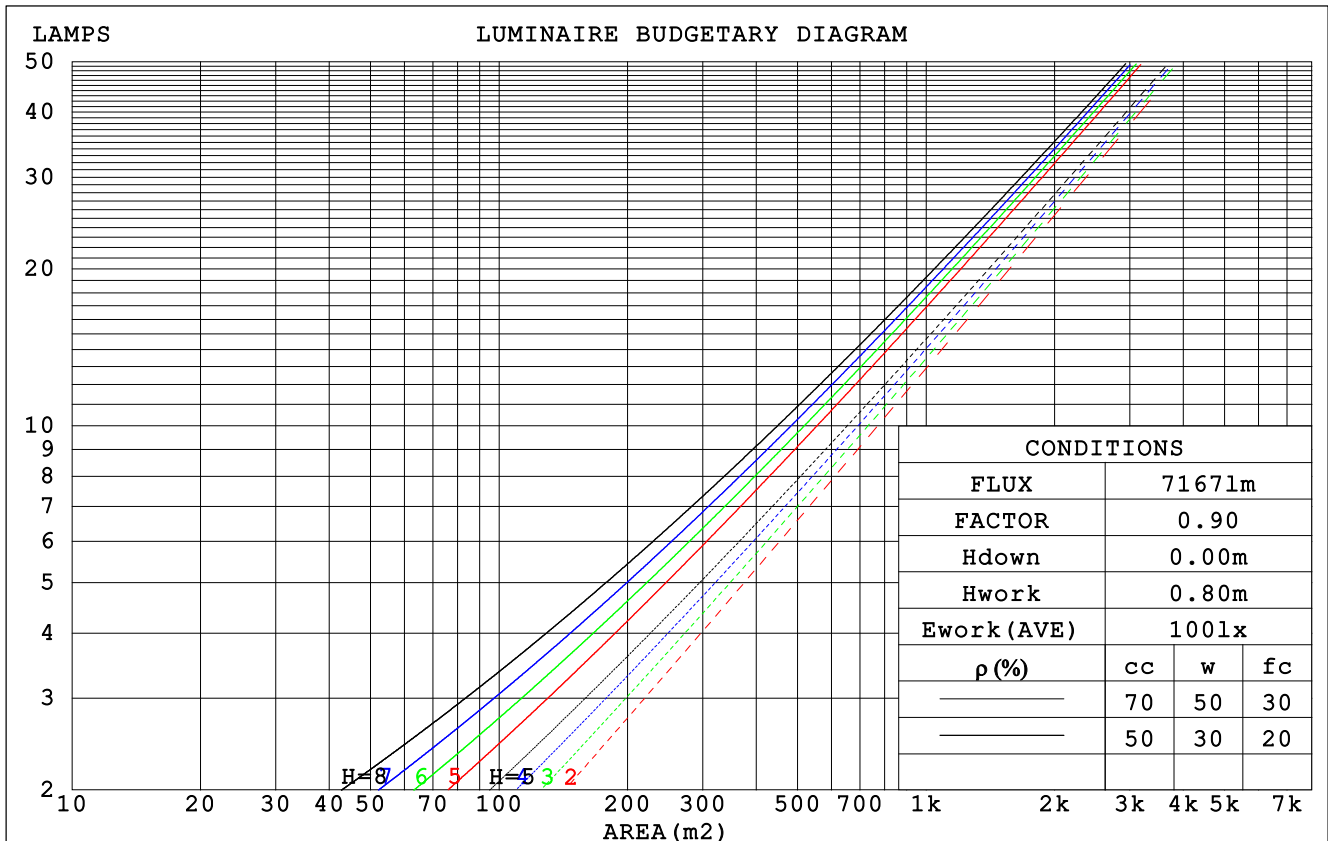
Checker:

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	1.06	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	.58	.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	.49	.44	.56	.49	.44	.54	.48	.43	.53	.47	.43	.41
8.0	.53	.45	.40	.53	.45	.40	.51	.44	.40	.50	.44	.39	.49	.43	.39	.37
9.0	.49	.42	.36	.49	.41	.36	.47	.41	.36	.46	.40	.36	.45	.40	.36	.34
10.0	.46	.38	.33	.45	.38	.33	.44	.38	.33	.43	.37	.33	.42	.37	.33	.31



C Range: 0 - 360DEG
 C Interval: 2.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-01-09

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	.150	.048	.258	.147	.047	.245	.140	.045	.233	.134	.043	.221	.128	.041		
2.0	.251	.137	.042	.245	.135	.042	.233	.130	.040	.223	.125	.039	.213	.121	.038		
3.0	.235	.125	.037	.230	.123	.037	.220	.119	.036	.210	.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	.105	.030	.201	.103	.030	.193	.101	.030	.186	.098	.029	.179	.096	.029		
6.0	.192	.096	.028	.189	.095	.027	.182	.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	.162	.081	.023	.156	.079	.023	.151	.078	.023		
9.0	.160	.078	.022	.158	.077	.022	.153	.076	.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	.078	.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	.111	.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	.112	.059	.024	.096	.051	.021	.067	.036	.015	.039	.021	.009	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 2.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-01-09

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	23.9	25.2	24.1	25.4	25.6	21.3	22.7	21.6	22.9	23.1
3H	24.4	25.6	24.7	25.9	26.1	22.9	24.1	23.2	24.3	24.6
4H	24.5	25.7	24.8	26.0	26.2	24.1	25.2	24.4	25.5	25.7
6H	24.6	25.7	24.9	26.0	26.2	25.1	26.2	25.4	26.5	26.8
8H	24.6	25.6	24.9	25.9	26.2	25.5	26.6	25.9	26.9	27.1
12H	24.5	25.6	24.9	25.8	26.1	25.8	26.9	26.2	27.1	27.4
4H 2H	23.9	25.1	24.2	25.3	25.6	21.8	22.9	22.1	23.2	23.4
3H	24.6	25.6	25.0	25.9	26.2	23.4	24.5	23.8	24.7	25.0
4H	24.8	25.8	25.2	26.1	26.4	24.8	25.7	25.2	26.1	26.4
6H	24.9	25.8	25.3	26.1	26.5	26.1	26.9	26.5	27.3	27.6
8H	24.9	25.7	25.4	26.1	26.5	26.6	27.4	27.0	27.7	28.1
12H	24.9	25.6	25.3	26.0	26.4	27.0	27.7	27.4	28.1	28.5
8H 4H	24.9	25.7	25.3	26.1	26.4	24.9	25.7	25.3	26.0	26.4
6H	25.1	25.8	25.6	26.2	26.6	26.4	27.0	26.8	27.4	27.8
8H	25.2	25.7	25.6	26.1	26.6	27.0	27.6	27.5	28.0	28.4
12H	25.2	25.6	25.6	26.1	26.6	27.6	28.1	28.1	28.5	29.0
12H 4H	25.0	25.7	25.4	26.0	26.4	24.9	25.6	25.3	26.0	26.4
6H	25.2	25.7	25.6	26.2	26.6	26.4	26.9	26.8	27.4	27.8
8H	25.3	25.7	25.7	26.2	26.7	27.0	27.5	27.5	28.0	28.4
Variations with the observer position at spacings:										
S = 1.0H	+ 0.5 / - 0.6					+ 0.3 / - 0.3				
1.5H	+ 0.6 / - 0.7					+ 0.2 / - 0.3				
2.0H	+ 1.6 / - 1.5					+ 0.2 / - 0.3				

CIE Pub.117 Corrected 7166 lm Total Lamp Luminous Flux.(8log(F/F0) = 6.8)

C Range: 0 - 360DEG
C Interval: 2.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-01-09

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	65	56	50	64	55	49	44
0.80	76	66	60	75	65	59	73	65	59	53
1.00	83	74	68	82	74	68	80	74	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	92	87	95	89	85	78
2.50	103	96	91	101	95	90	97	92	89	81
3.00	105	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		

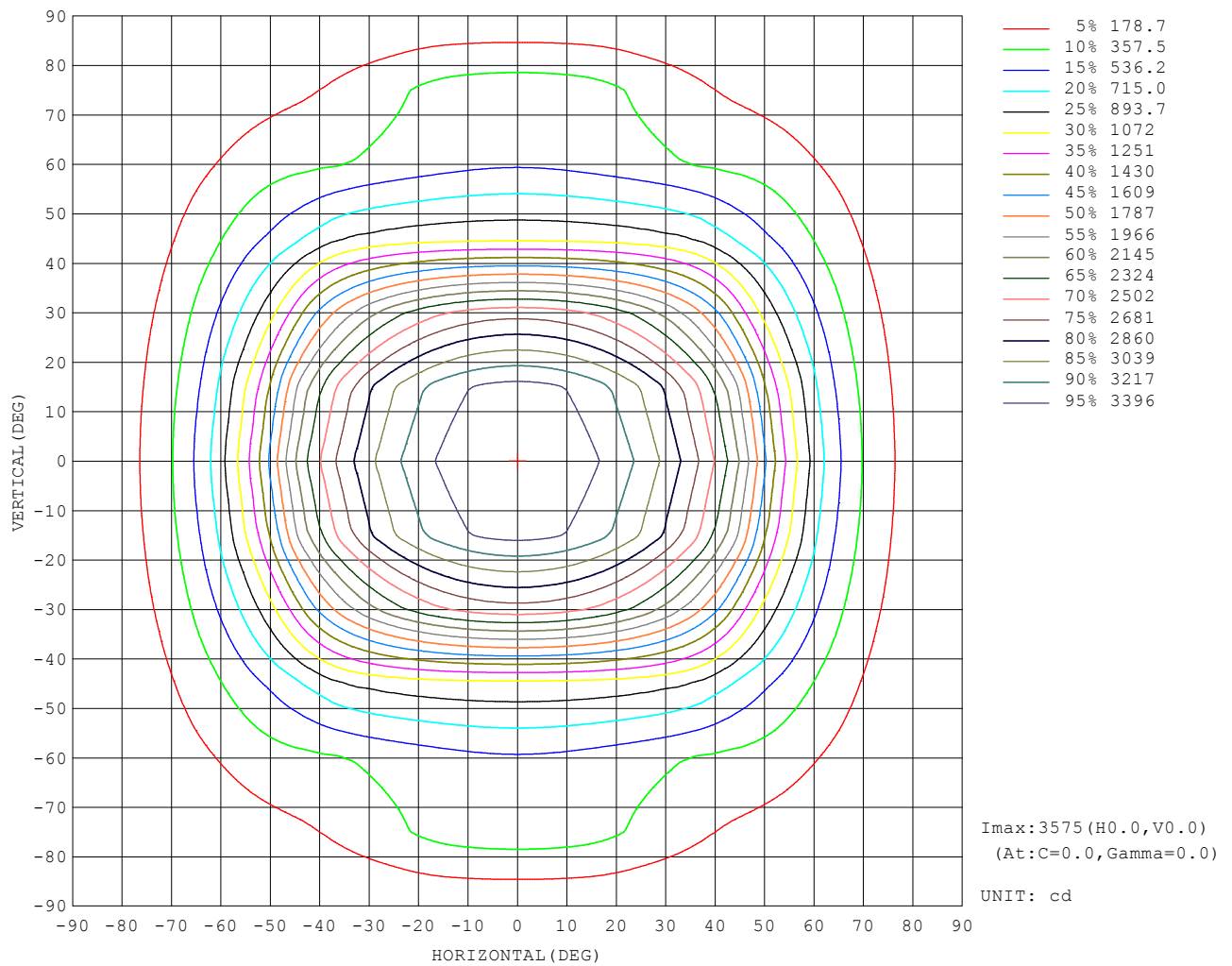
C Range: 0 - 360DEG
 C Interval: 2.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-01-09

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



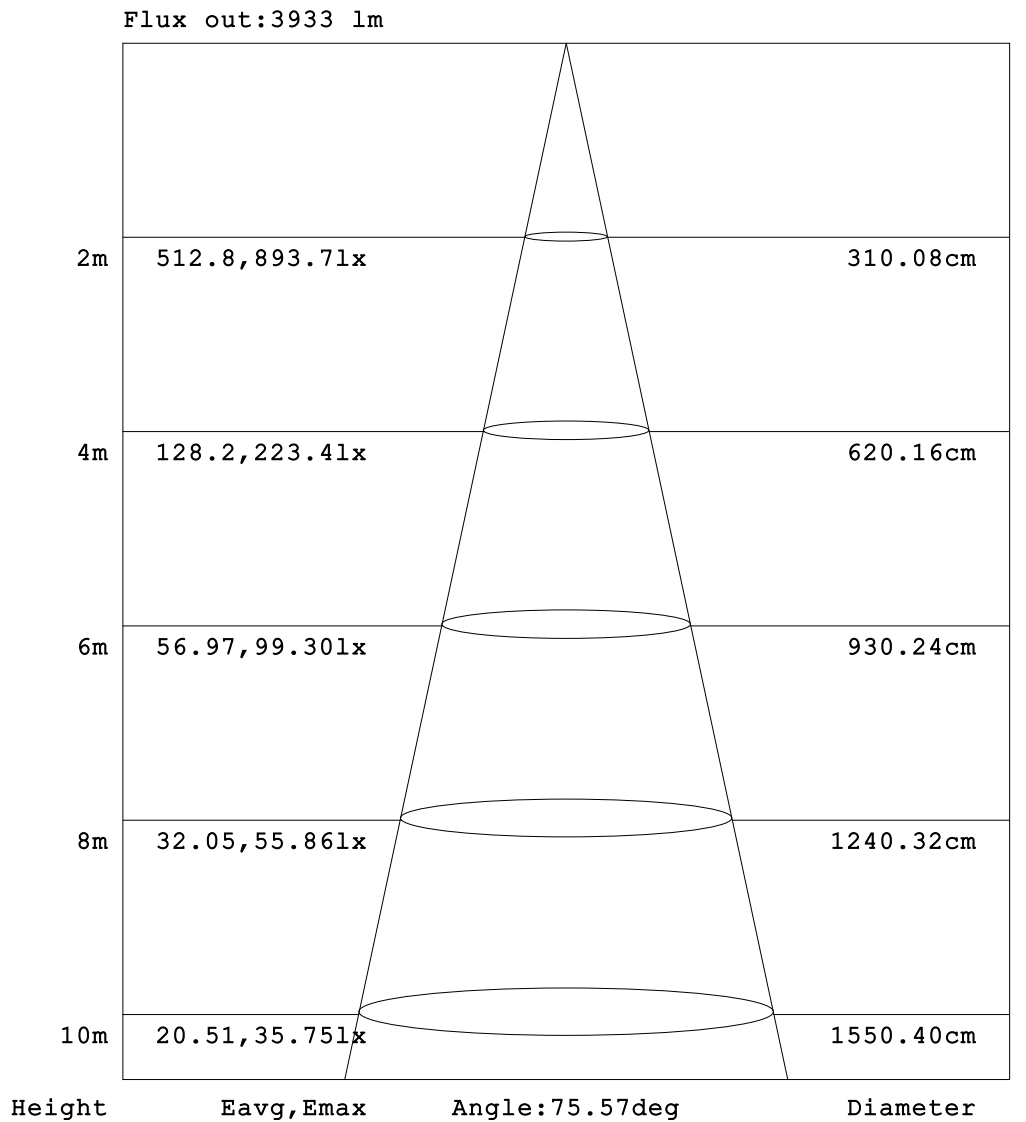
C Range: 0 - 360DEG
C Interval: 2.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-01-09

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.

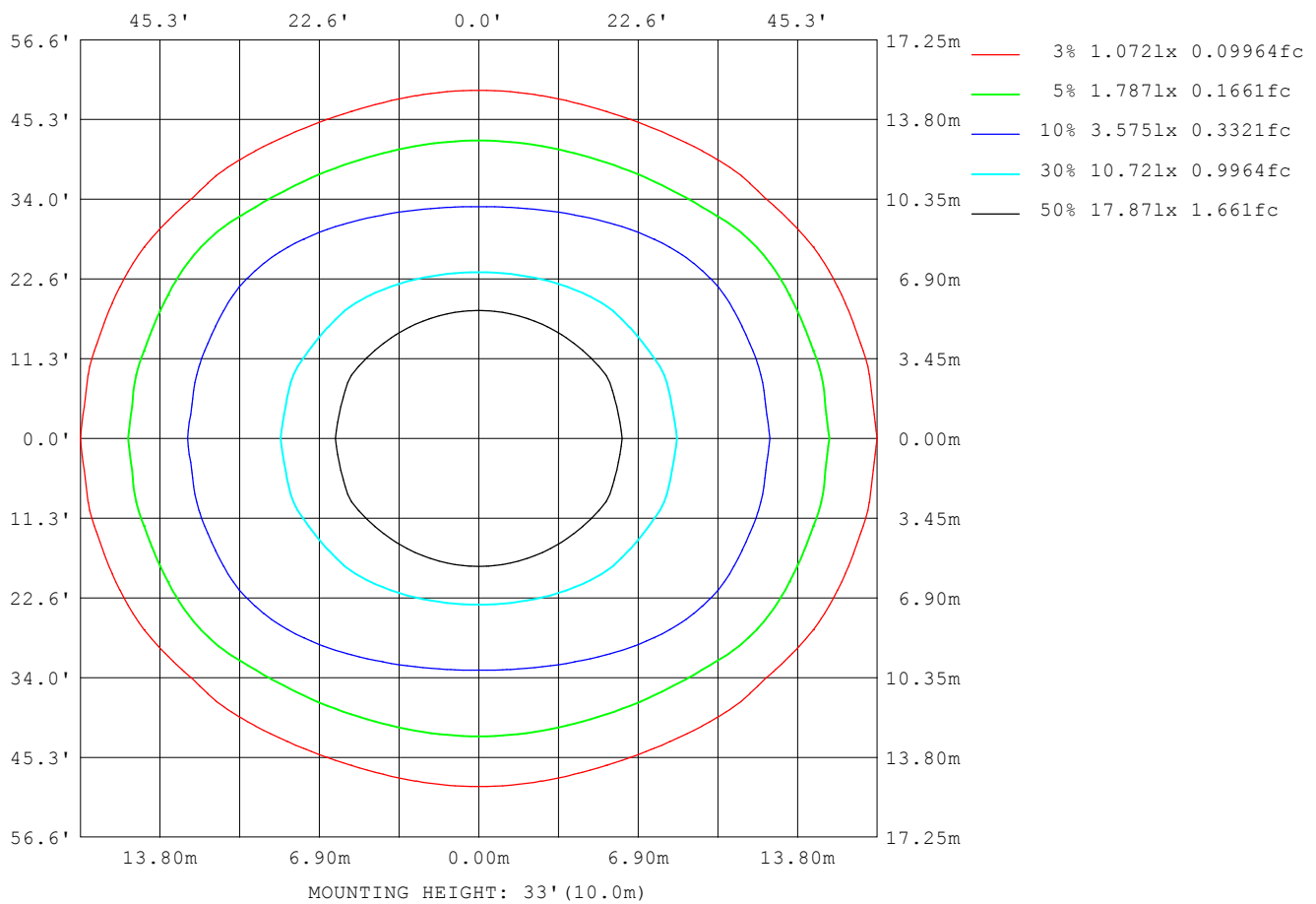
C Range: 0 - 360DEG
C Interval: 2.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-01-09

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



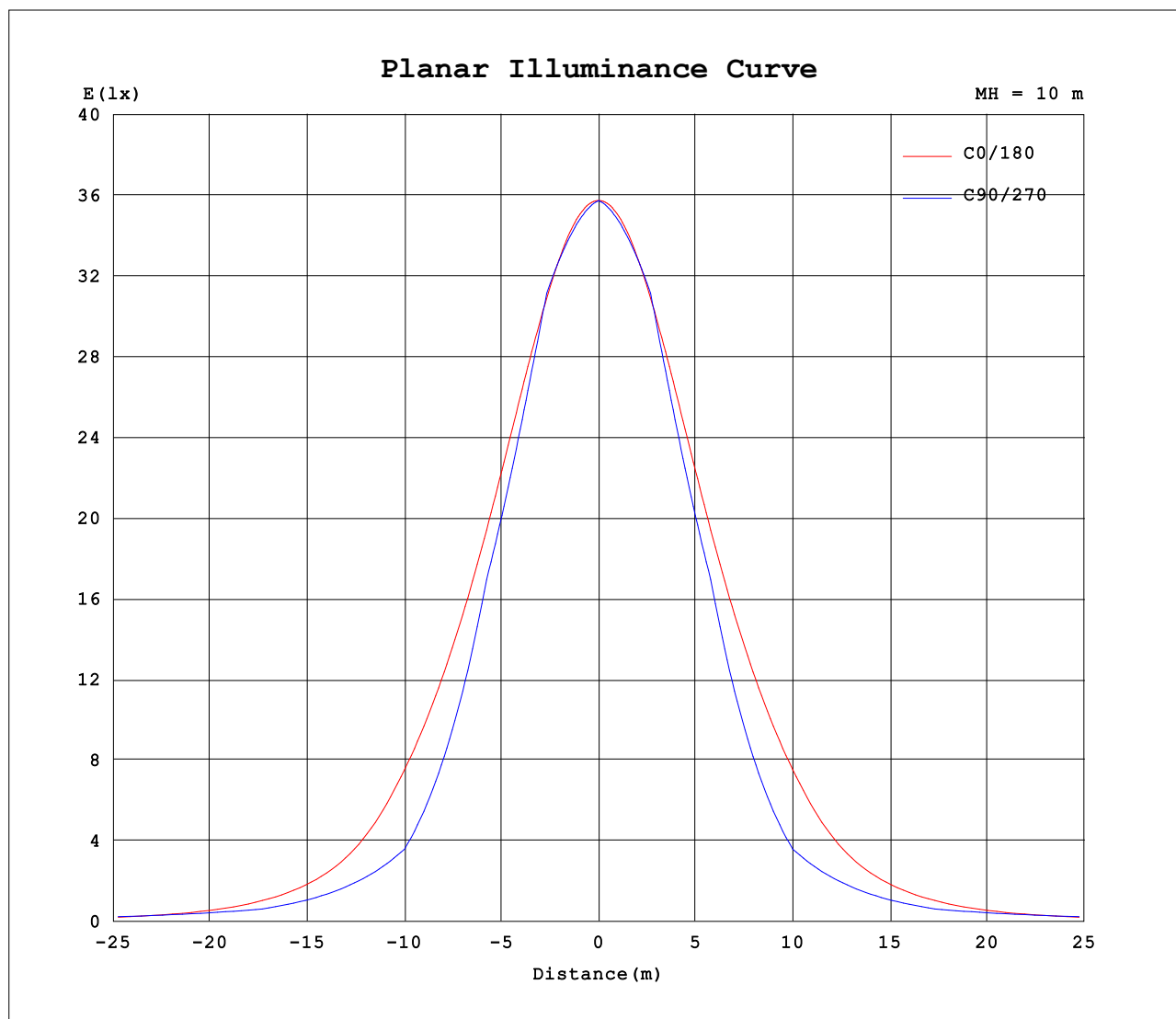
C Range: 0 - 360DEG
C Interval: 2.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-01-09

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: 2.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-01-09

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:

Assessor:

Assessor:

Assessor:

UNIT: cd

Assessor: