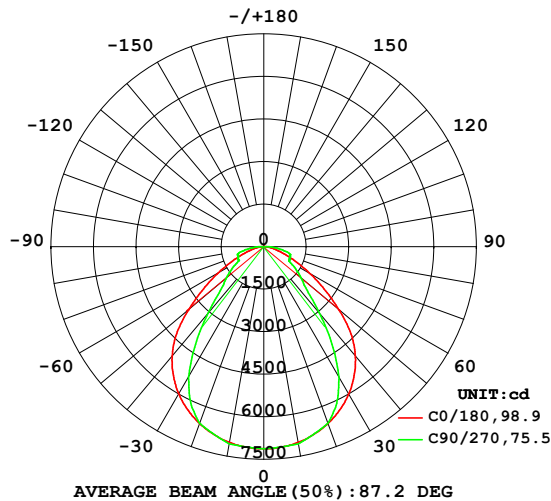


LUMINAIRE PHOTOMETRIC TEST REPORT

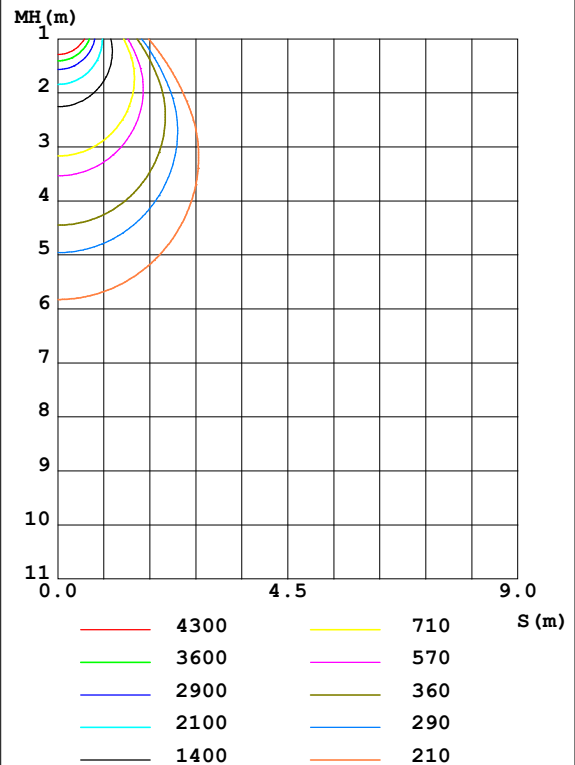
Test:U:230.1V I:0.5324A P:119.1W PF:0.9719 Lamp Flux:14735.2x1 lm		
NAME: LHB03-120	TYPE:120W	WEIGHT:
SPEC.:5000K Ra70 80*100DEG L00303	DIM.: 0.62*0.3*0.06	SERIAL No.:
MFR.:	SUR.:0.57*0.27	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 123.77 lm/W			
MODEL	LHB03-120	I _{max} (cd)	7127	S/MH (C0/180)	1.25
NOMINAL POWER(W)	120	LOR(%)	100.0	S/MH (C90/270)	1.09
RATED VOLTAGE(V)	230	TOTAL FLUX (lm)	14735	η UP,DN (C0-180)	0.0,50.0
NOMINAL FLUX(lm)	14735.2	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: 2017-03-02

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	7098	7087	7092	7087	7098	7087	7092	7087	0- 5	169.9	169.9	1.15,1.15
10	7007	7015	7056	7015	7007	7016	7056	7016	5- 10	504.7	674.6	4.58,4.58
15	6853	6882	6842	6882	6853	6886	6842	6886	10- 15	823.4	1498	10.2,10.2
20	6634	6610	6628	6610	6634	6618	6628	6618	15- 20	1111	2609	17.7,17.7
25	6350	6299	6086	6299	6350	6309	6086	6309	20- 25	1353	3961	26.9,26.9
30	5995	5832	5304	5832	5995	5845	5304	5845	25- 30	1519	5481	37.2,37.2
35	5561	5181	4201	5181	5561	5195	4201	5195	30- 35	1585	7066	48,48
40	5028	4368	3041	4368	5028	4380	3041	4380	35- 40	1537	8603	58.4,58.4
45	4352	3442	2140	3442	4352	3441	2140	3441	40- 45	1388	9990	67.8,67.8
50	3458	2540	1728	2540	3458	2537	1728	2537	45- 50	1183	11173	75.8,75.8
55	2602	1816	1378	1816	2602	1810	1378	1810	50- 55	966.6	12140	82.4,82.4
60	1850	1344	1027	1344	1850	1340	1027	1340	55- 60	753.3	12893	87.5,87.5
65	1237	909.6	1005	909.6	1237	906.5	1005	906.5	60- 65	567.2	13460	91.3,91.3
70	783.4	618.2	982.2	618.2	783.4	615.7	982.2	615.7	65- 70	442.2	13902	94.3,94.3
75	486.5	464.9	930.6	464.9	486.5	463.6	930.6	463.6	70- 75	354.6	14257	96.8,96.8
80	272.5	305.8	647.3	305.8	272.5	305.3	647.3	305.3	75- 80	266.9	14524	98.6,98.6
85	91.13	157.7	335.1	157.7	91.13	157.9	335.1	157.9	80- 85	156.8	14681	99.6,99.6
90	4.105	14.01	22.84	14.01	4.105	15.05	22.84	15.05	85- 90	54.64	14735	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): 9990.4 lm

%lum = 67.8%

%lamp = 67.8%

Conical surface Flux(120deg): 12893 lm

%lum = 87.5%

%lamp = 87.5%

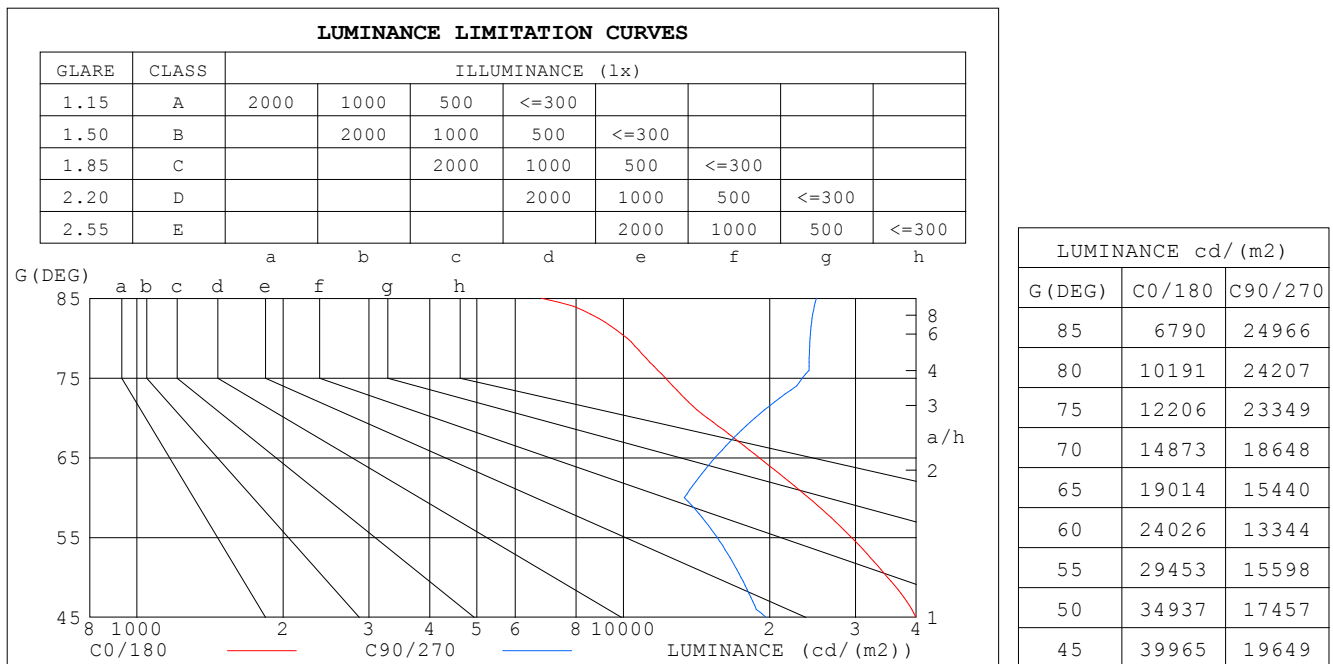
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-03-02

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

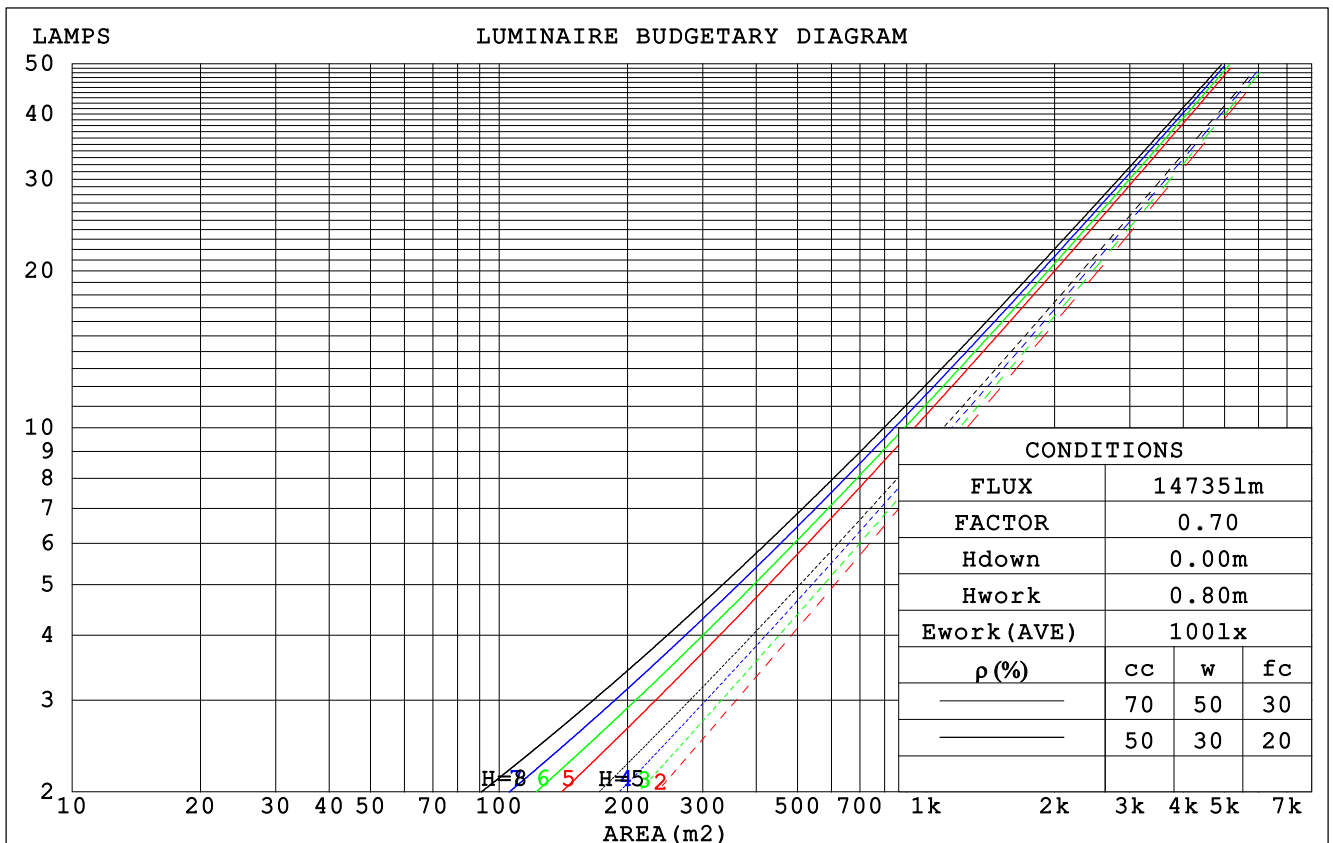
γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 9.500m [K=1.0000]
Remarks:

Checker:

Assessor:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

pcc	80%			70%			50%			30%			10%			0
p _w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
p _{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	1.06	1.02	.99	1.04	1.00	.97	.00	.97	.94	.96	.94	.91	.92	.90	.89	.87
2.0	.94	.89	.83	.93	.87	.83	.89	.85	.81	.86	.82	.79	.83	.80	.77	.75
3.0	.85	.77	.72	.83	.76	.71	.80	.74	.70	.77	.73	.69	.75	.71	.67	.65
4.0	.76	.68	.62	.75	.68	.62	.72	.66	.61	.70	.65	.60	.68	.63	.60	.58
5.0	.69	.61	.55	.68	.60	.55	.66	.59	.54	.64	.58	.53	.62	.57	.53	.51
6.0	.63	.55	.49	.62	.54	.49	.60	.53	.48	.59	.52	.48	.57	.52	.47	.46
7.0	.57	.49	.44	.57	.49	.44	.55	.48	.43	.54	.48	.43	.53	.47	.43	.41
8.0	.53	.45	.40	.52	.45	.39	.51	.44	.39	.50	.44	.39	.49	.43	.39	.37
9.0	.49	.41	.36	.48	.41	.36	.47	.40	.36	.46	.40	.36	.45	.40	.35	.34
10.0	.45	.38	.33	.45	.38	.33	.44	.37	.33	.43	.37	.33	.42	.37	.33	.31



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	.267	.152	.048	.260	.149	.047	.247	.142	.045	.235	.136	.044	.224	.130	.042	
2.0	.253	.139	.043	.247	.136	.042	.236	.131	.041	.225	.126	.040	.216	.122	.038	
3.0	.237	.126	.038	.231	.124	.037	.221	.120	.036	.212	.116	.036	.204	.113	.035	
4.0	.221	.115	.034	.216	.113	.033	.207	.110	.033	.199	.107	.032	.192	.104	.032	
5.0	.206	.105	.030	.202	.104	.030	.195	.101	.030	.187	.099	.029	.181	.096	.029	
6.0	.193	.097	.028	.190	.096	.028	.183	.094	.027	.176	.092	.027	.170	.090	.027	
7.0	.181	.090	.025	.178	.089	.025	.172	.087	.025	.166	.085	.025	.161	.084	.025	
8.0	.171	.083	.023	.168	.083	.023	.162	.081	.023	.157	.080	.023	.152	.078	.023	
9.0	.161	.078	.022	.159	.077	.022	.154	.076	.022	.149	.075	.021	.144	.073	.021	
10.0	.152	.073	.020	.150	.072	.020	.146	.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	.057	.046	.036	.018	.015	.012	
3.0	.158	.114	.079	.136	.098	.068	.093	.068	.048	.054	.040	.028	.017	.013	.009	
4.0	.150	.100	.063	.129	.087	.054	.088	.060	.038	.051	.035	.023	.016	.012	.007	
5.0	.142	.090	.051	.122	.078	.044	.084	.054	.031	.049	.032	.018	.016	.010	.006	
6.0	.135	.081	.042	.116	.070	.037	.080	.049	.026	.047	.029	.015	.015	.009	.005	
7.0	.129	.074	.036	.111	.064	.031	.077	.045	.022	.044	.026	.013	.014	.009	.004	
8.0	.123	.068	.031	.106	.059	.027	.073	.041	.019	.043	.024	.011	.014	.008	.004	
9.0	.117	.063	.027	.101	.055	.023	.070	.039	.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: 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	24.2	25.5	24.4	25.7	25.9	21.3	22.6	21.5	22.8	23.0
3H	24.8	26.0	25.1	26.2	26.5	22.8	24.1	23.1	24.3	24.5
4H	24.9	26.1	25.2	26.4	26.6	24.0	25.2	24.4	25.5	25.7
6H	25.0	26.1	25.4	26.4	26.7	25.1	26.2	25.5	26.5	26.8
8H	25.0	26.1	25.4	26.4	26.7	25.5	26.6	25.9	26.9	27.2
12H	25.0	26.1	25.4	26.3	26.6	25.8	26.9	26.2	27.1	27.4
4H 2H	24.2	25.4	24.5	25.6	25.9	21.7	22.9	22.0	23.2	23.4
3H	25.0	26.0	25.3	26.3	26.6	23.4	24.5	23.8	24.8	25.0
4H	25.2	26.2	25.6	26.5	26.8	24.8	25.8	25.2	26.1	26.4
6H	25.4	26.3	25.8	26.6	27.0	26.1	27.0	26.5	27.3	27.7
8H	25.5	26.2	25.9	26.6	27.0	26.6	27.4	27.0	27.8	28.2
12H	25.5	26.2	25.9	26.6	27.0	27.0	27.7	27.5	28.1	28.5
8H 4H	25.3	26.1	25.7	26.5	26.8	25.0	25.7	25.4	26.1	26.5
6H	25.6	26.2	26.0	26.6	27.1	26.4	27.1	26.9	27.5	27.9
8H	25.7	26.3	26.2	26.7	27.1	27.1	27.6	27.5	28.1	28.5
12H	25.7	26.2	26.2	26.7	27.1	27.6	28.1	28.1	28.6	29.0
12H 4H	25.4	26.1	25.8	26.4	26.8	25.0	25.7	25.4	26.0	26.4
6H	25.7	26.2	26.1	26.7	27.1	26.5	27.0	26.9	27.4	27.9
8H	25.8	26.3	26.3	26.7	27.2	27.1	27.6	27.6	28.1	28.5
Variations with the observer position at spacings:										
S = 1.0H	+ 0.5 / - 0.5					+ 0.3 / - 0.3				
1.5H	+ 0.4 / - 0.7					+ 0.2 / - 0.3				
2.0H	+ 1.3 / - 1.4					+ 0.2 / - 0.4				

CIE Pub.117 Corrected 14735 lm Total Lamp Luminous Flux.(8log(F/F0) = 9.3)

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) $k(RI) \times RCR = 5$									
$k = 0.60$	66	55	49	65	55	49	64	55	49	43
0.80	75	65	59	74	65	59	73	64	58	52
1.00	83	74	67	82	73	67	80	74	67	60
1.25	89	81	75	88	80	74	86	79	73	67
1.50	94	86	80	92	85	79	90	83	78	72
2.00	99	92	87	98	91	86	95	89	85	78
2.50	103	96	91	101	95	90	97	92	88	81
3.00	105	100	95	103	98	94	99	95	92	84
4.00	109	104	100	106	102	98	102	99	96	87
5.00	111	106	103	108	105	101	104	101	98	90
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

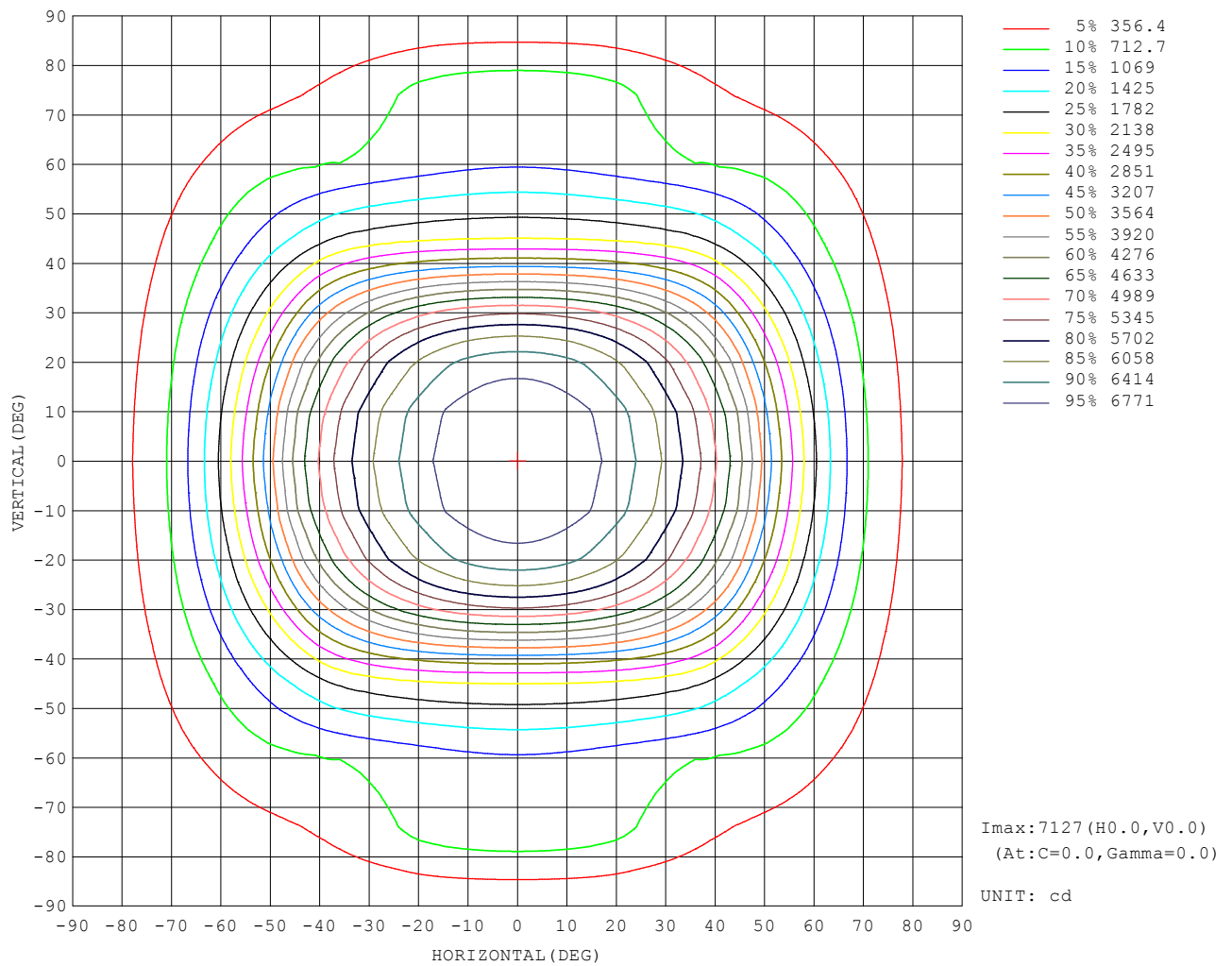
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-02

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



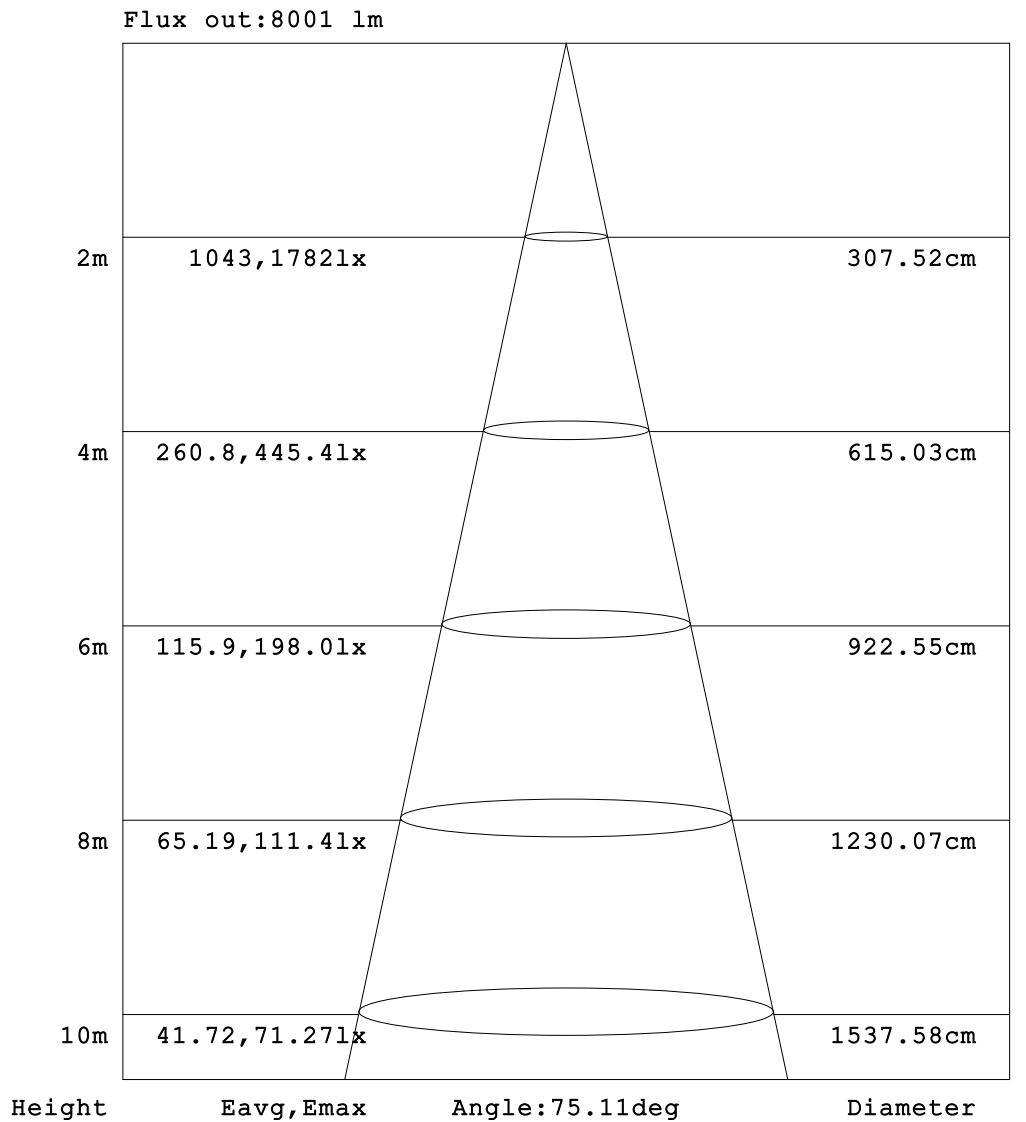
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-02

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:

AAI Figure



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

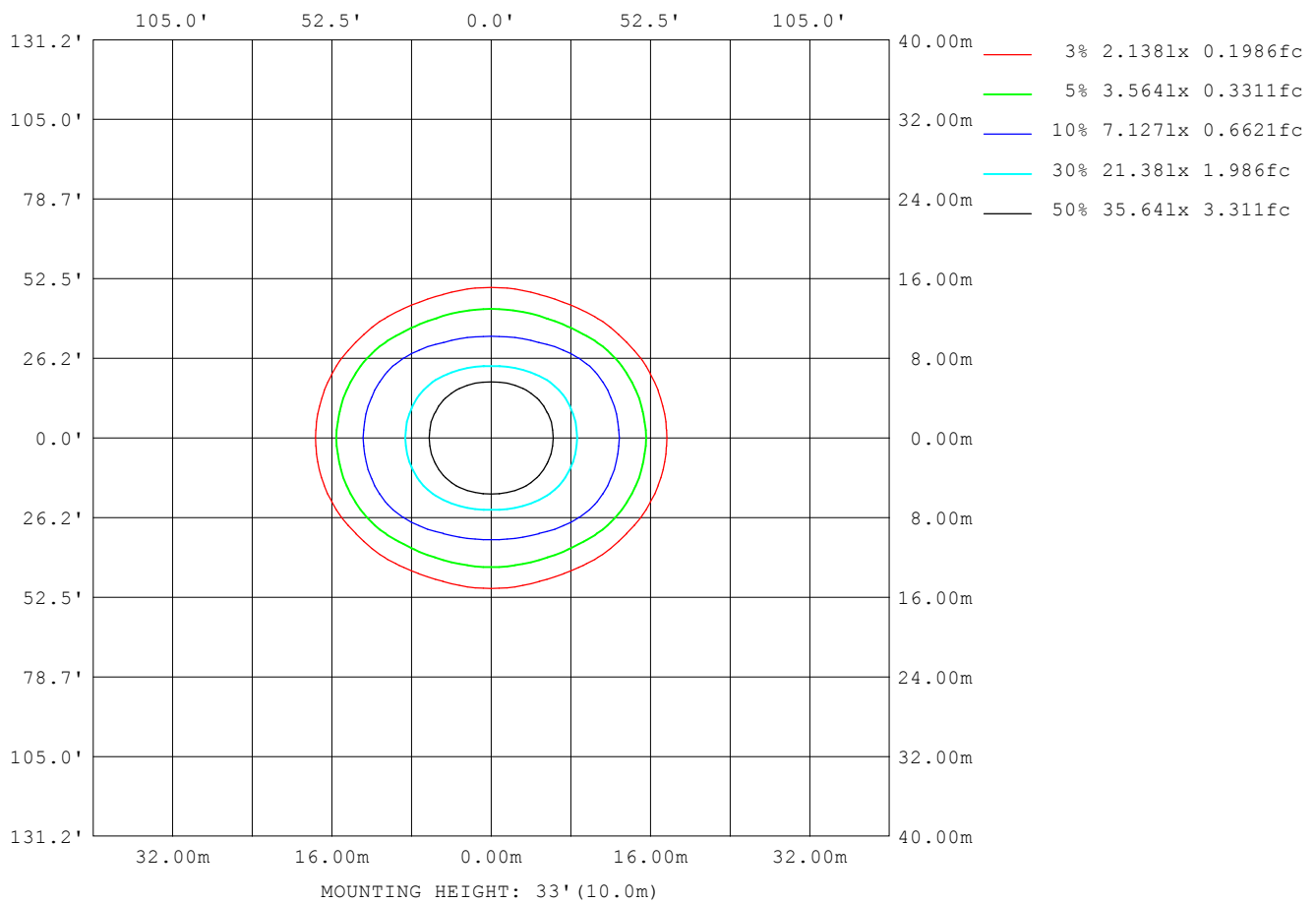
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-02

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



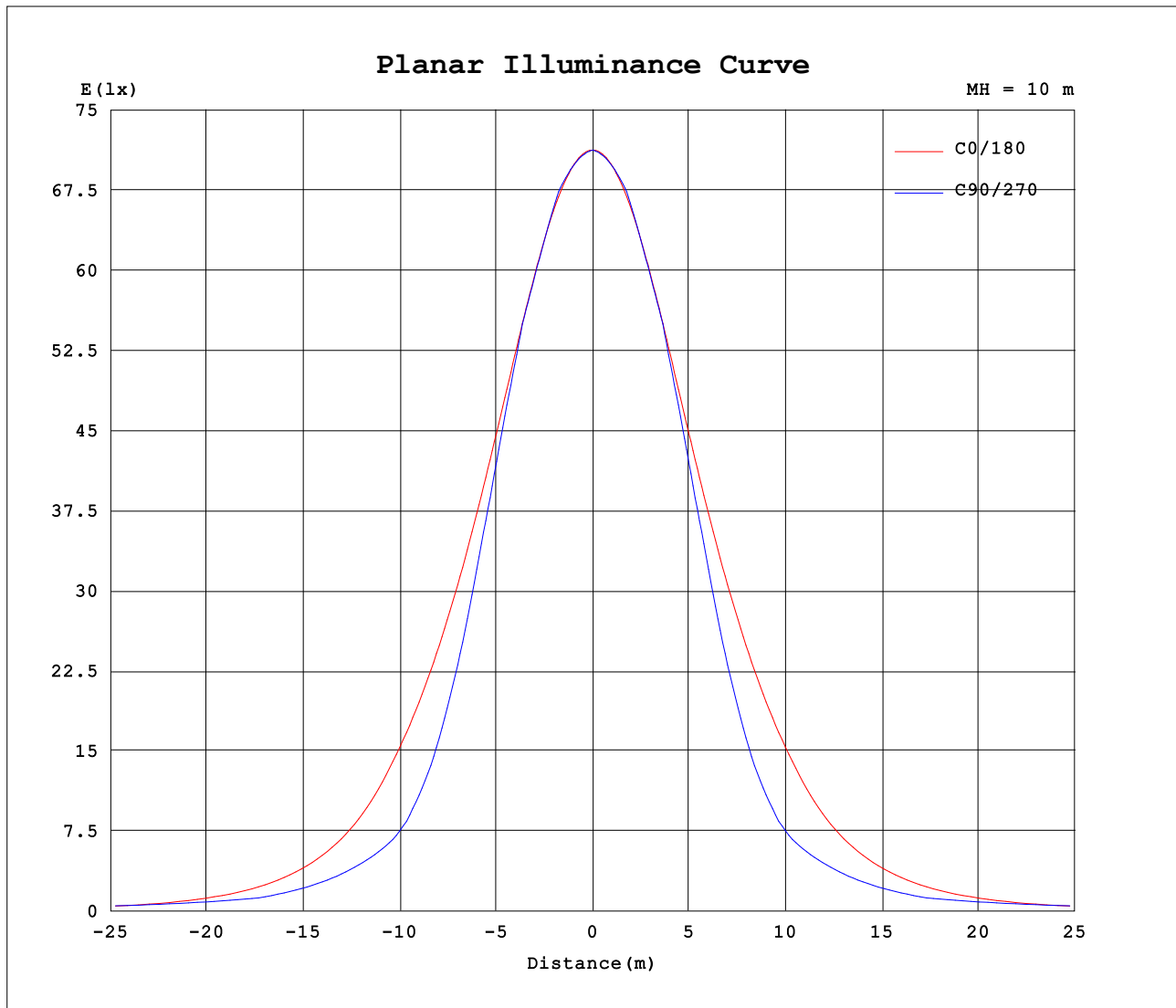
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-03-02

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:

Assessor: