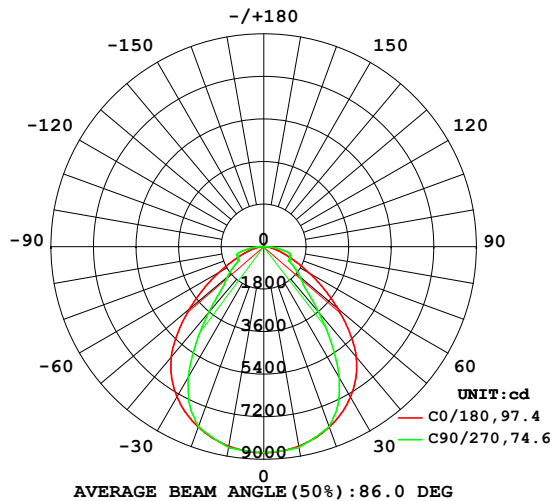


LUMINAIRE PHOTOMETRIC TEST REPORT

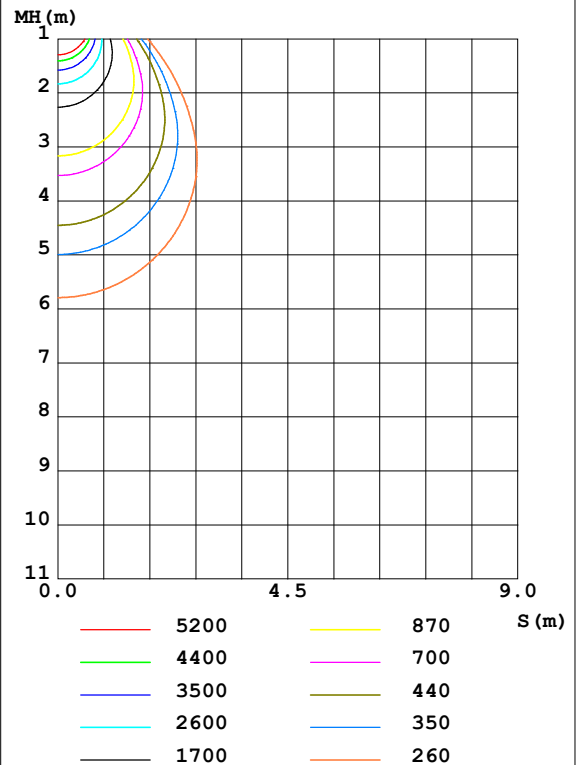
Test:U:230.1V I:0.6625A P:147.2W PF:0.9657 Lamp Flux:17773.3x1 lm		
NAME: LHB03-150	TYPE:150W	WEIGHT:
SPEC.:5000K Ra70 80*100DEG L00303	DIM.: 0.62*0.3*0.06	SERIAL No.:
MFR.:	SUR.:0.57*0.27	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 120.72 lm/W			
MODEL	LHB03-150	I _{max} (cd)	8719	S/MH(C0/180)	1.25
NOMINAL POWER(W)	150	LOR(%)	100.0	S/MH(C90/270)	1.08
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	17773	η UP,DN(C0-180)	0.0,50.0
NOMINAL FLUX(lm)	17773.3	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:2017-03-04

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	8679	8666	8673	8666	8679	8667	8673	8667	0- 5	207.8	207.8	1.17,1.17
10	8567	8575	8627	8575	8567	8576	8627	8576	5- 10	617.1	824.8	4.64,4.64
15	8381	8413	8363	8413	8381	8414	8363	8414	10- 15	1007	1831	10.3,10.3
20	8119	8078	8099	8078	8119	8083	8099	8083	15- 20	1358	3189	17.9,17.9
25	7777	7695	7411	7695	7777	7703	7411	7703	20- 25	1653	4842	27.2,27.2
30	7342	7113	6406	7113	7342	7122	6406	7122	25- 30	1853	6695	37.7,37.7
35	6796	6294	5009	6294	6796	6299	5009	6299	30- 35	1926	8621	48.5,48.5
40	6090	5271	3580	5271	6090	5268	3580	5268	35- 40	1854	10475	58.9,58.9
45	5142	4121	2500	4121	5142	4114	2500	4114	40- 45	1657	12132	68.3,68.3
50	4099	3017	2027	3017	4099	3007	2027	3007	45- 50	1394	13526	76.1,76.1
55	3104	2125	1630	2125	3104	2117	1630	2117	50- 55	1139	14665	82.5,82.5
60	2201	1577	1233	1577	2201	1570	1233	1570	55- 60	893.0	15558	87.5,87.5
65	1462	1085	1212	1085	1462	1080	1212	1080	60- 65	676.7	16235	91.3,91.3
70	949.0	747.0	1191	747.0	949.0	744.1	1191	744.1	65- 70	529.9	16765	94.3,94.3
75	594.5	563.0	1133	563.0	594.5	560.7	1133	560.7	70- 75	430.0	17195	96.7,96.7
80	336.2	370.7	783.5	370.7	336.2	369.1	783.5	369.1	75- 80	325.0	17520	98.6,98.6
85	117.2	188.7	397.2	188.7	117.2	187.9	397.2	187.9	80- 85	189.7	17710	99.6,99.6
90	5.013	12.75	10.89	12.75	5.013	12.90	10.89	12.90	85- 90	63.76	17773	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): 12132 lm

%lum = 68.3%

%lamp = 68.3%

Conical surface Flux(120deg): 15558 lm

%lum = 87.5%

%lamp = 87.5%

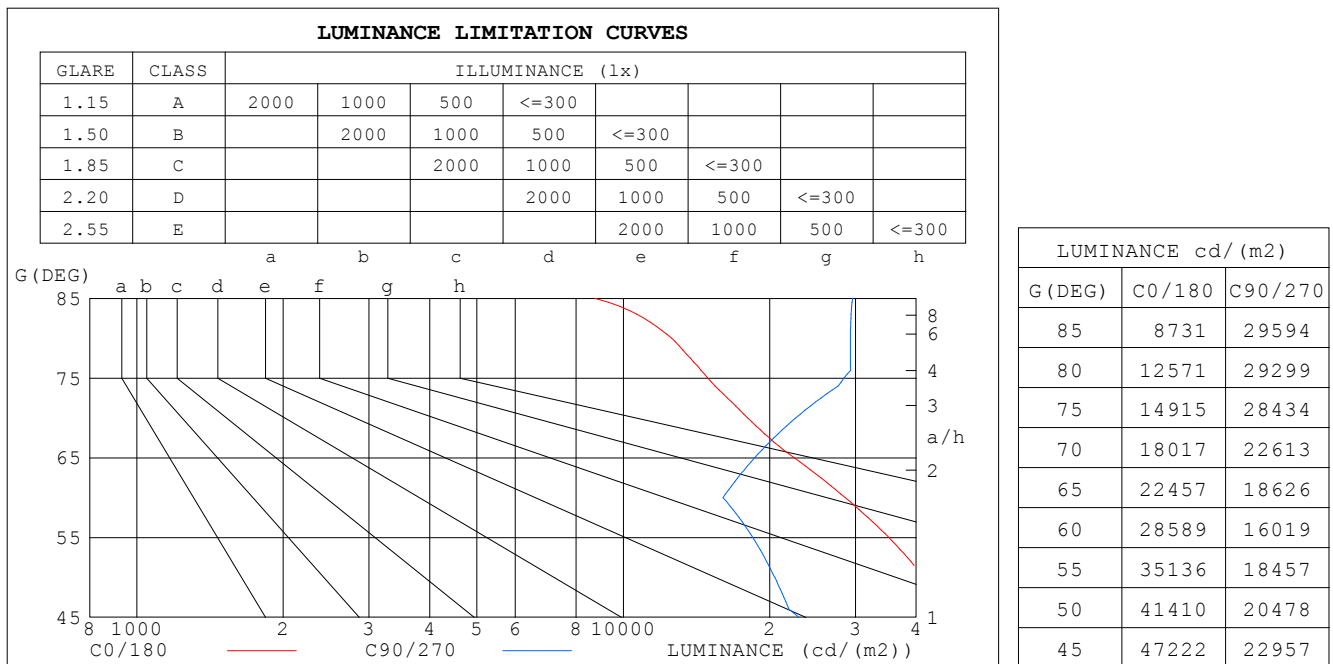
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2017-03-04

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: 2017-03-04

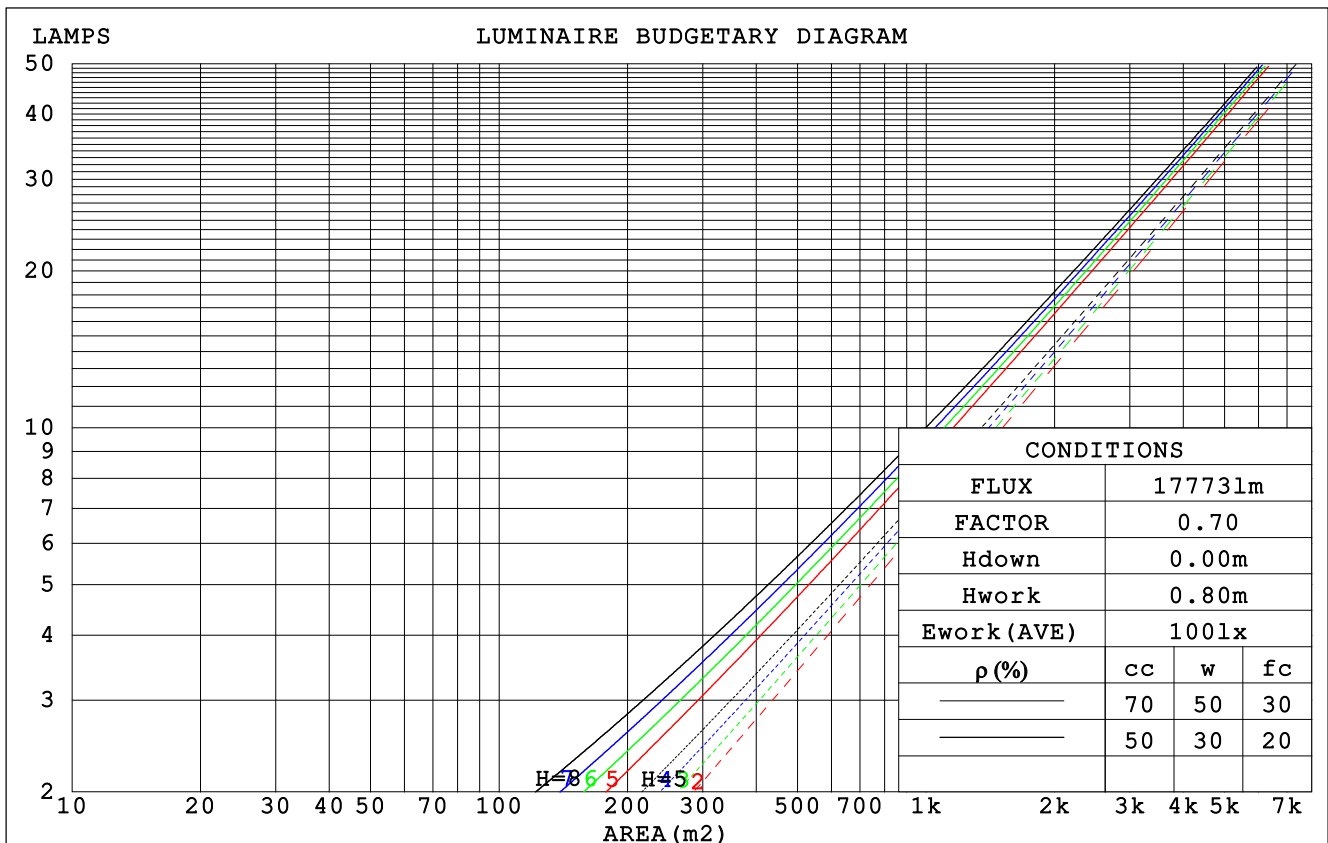
Checker:

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	1.02	.99	1.04	1.01	.97	.00	.97	.94	.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	.77	.72	.83	.76	.71	.80	.75	.70	.78	.73	.69	.75	.71	.68	.66
4.0	.76	.68	.63	.75	.68	.62	.73	.66	.61	.70	.65	.60	.68	.64	.60	.58
5.0	.69	.61	.55	.68	.60	.55	.66	.59	.54	.64	.58	.54	.62	.57	.53	.51
6.0	.63	.55	.49	.62	.54	.49	.60	.54	.48	.59	.53	.48	.57	.52	.48	.46
7.0	.58	.50	.44	.57	.49	.44	.55	.49	.44	.54	.48	.43	.53	.47	.43	.41
8.0	.53	.45	.40	.52	.45	.40	.51	.44	.40	.50	.44	.39	.49	.43	.39	.37
9.0	.49	.41	.36	.48	.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: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-03-04

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	.148	.047	.247	.141	.045	.235	.135	.043	.224	.130	.042	
2.0	.252	.138	.042	.246	.136	.042	.235	.131	.041	.224	.126	.039	.215	.121	.038	
3.0	.236	.126	.038	.231	.124	.037	.221	.120	.036	.212	.116	.036	.203	.112	.035	
4.0	.220	.114	.034	.216	.113	.033	.207	.110	.033	.199	.107	.032	.191	.104	.032	
5.0	.206	.105	.030	.202	.103	.030	.194	.101	.030	.187	.098	.029	.180	.096	.029	
6.0	.193	.097	.028	.189	.095	.027	.182	.093	.027	.176	.091	.027	.170	.089	.027	
7.0	.181	.089	.025	.178	.088	.025	.171	.087	.025	.166	.085	.025	.160	.083	.024	
8.0	.170	.083	.023	.167	.082	.023	.162	.081	.023	.157	.079	.023	.152	.078	.023	
9.0	.161	.078	.022	.158	.077	.022	.153	.076	.021	.148	.074	.021	.144	.073	.021	
10.0	.152	.073	.020	.150	.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	.057	.046	.036	.018	.015	.012	
3.0	.158	.114	.079	.135	.098	.069	.093	.068	.048	.054	.040	.028	.017	.013	.009	
4.0	.150	.100	.063	.128	.087	.054	.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	.129	.074	.036	.111	.064	.031	.076	.045	.022	.044	.026	.013	.014	.009	.004	
8.0	.123	.068	.031	.106	.059	.027	.073	.041	.019	.042	.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:2017-03-04

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	24.7	26.1	25.0	26.3	26.5	21.8	23.2	22.1	23.4	23.6
3H	25.3	26.6	25.6	26.8	27.0	23.4	24.7	23.7	24.9	25.1
4H	25.5	26.7	25.8	26.9	27.2	24.7	25.9	25.0	26.1	26.4
6H	25.6	26.7	25.9	27.0	27.3	25.8	26.9	26.1	27.2	27.4
8H	25.6	26.7	26.0	27.0	27.3	26.2	27.3	26.5	27.5	27.8
12H	25.6	26.6	26.0	26.9	27.2	26.5	27.5	26.8	27.8	28.1
4H 2H	24.8	26.0	25.1	26.2	26.4	22.3	23.5	22.6	23.7	24.0
3H	25.5	26.6	25.9	26.8	27.1	24.0	25.1	24.4	25.4	25.7
4H	25.8	26.8	26.2	27.1	27.4	25.5	26.4	25.9	26.7	27.1
6H	26.0	26.9	26.4	27.2	27.6	26.8	27.6	27.2	28.0	28.3
8H	26.1	26.8	26.5	27.2	27.6	27.3	28.1	27.7	28.4	28.8
12H	26.1	26.8	26.5	27.2	27.6	27.7	28.4	28.1	28.8	29.2
8H 4H	25.9	26.7	26.3	27.0	27.4	25.6	26.4	26.0	26.8	27.1
6H	26.2	26.8	26.6	27.2	27.7	27.1	27.8	27.6	28.2	28.6
8H	26.3	26.9	26.8	27.3	27.7	27.7	28.3	28.2	28.7	29.2
12H	26.4	26.8	26.8	27.3	27.8	28.3	28.8	28.8	29.2	29.7
12H 4H	25.9	26.6	26.4	27.0	27.4	25.6	26.3	26.0	26.7	27.1
6H	26.3	26.8	26.7	27.3	27.7	27.1	27.7	27.6	28.1	28.6
8H	26.4	26.9	26.9	27.3	27.8	27.8	28.3	28.3	28.7	29.2
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 17773 lm Total Lamp Luminous Flux.(8log(F/F0) = 10.0)

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2017-03-04

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	59	75	65	59	73	65	59	53
1.00	83	74	68	82	73	68	80	74	67	61
1.25	90	81	75	88	80	75	86	79	74	67
1.50	94	86	80	92	85	79	90	83	78	72
2.00	100	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	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	98	90
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

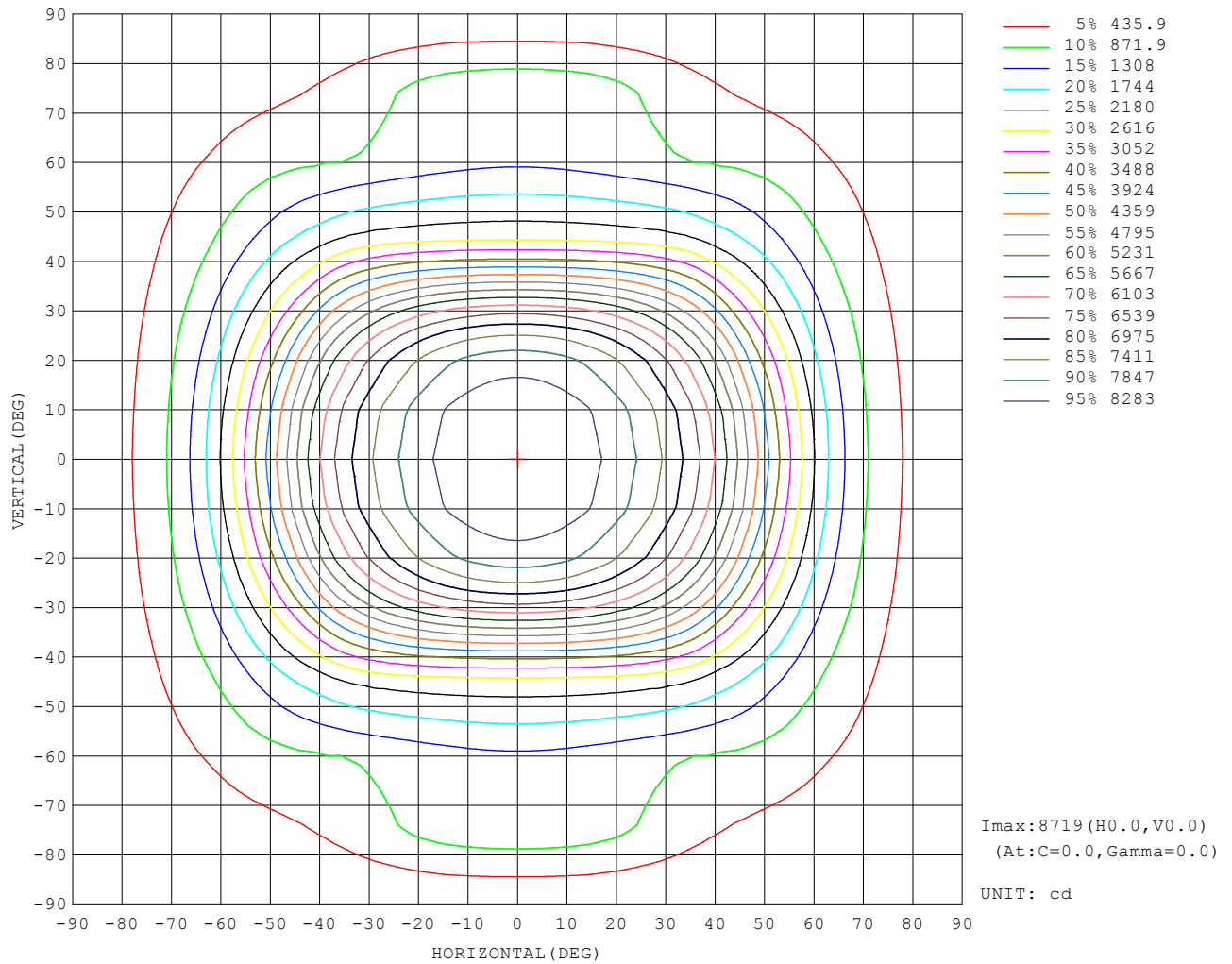
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2017-03-04

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



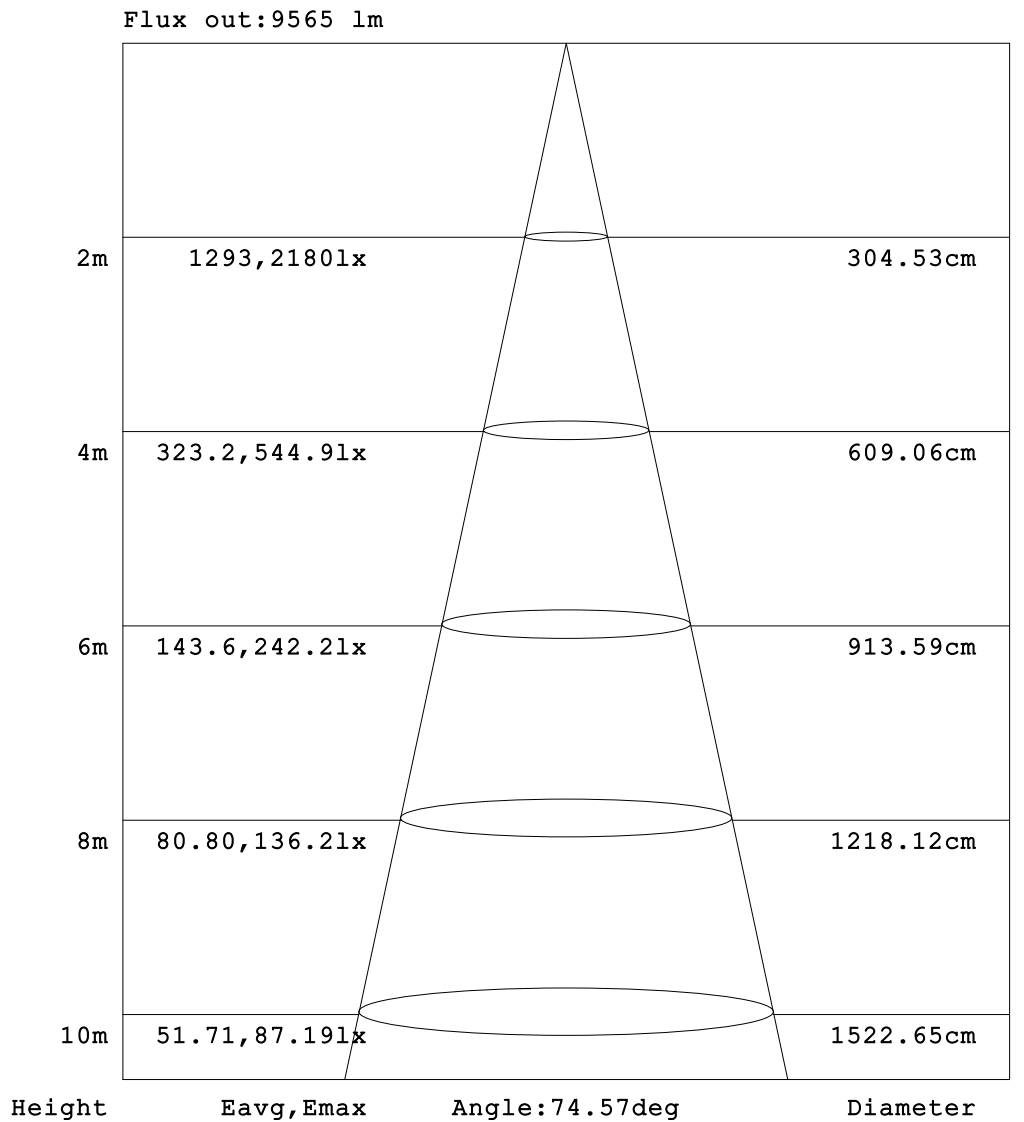
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-04

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.

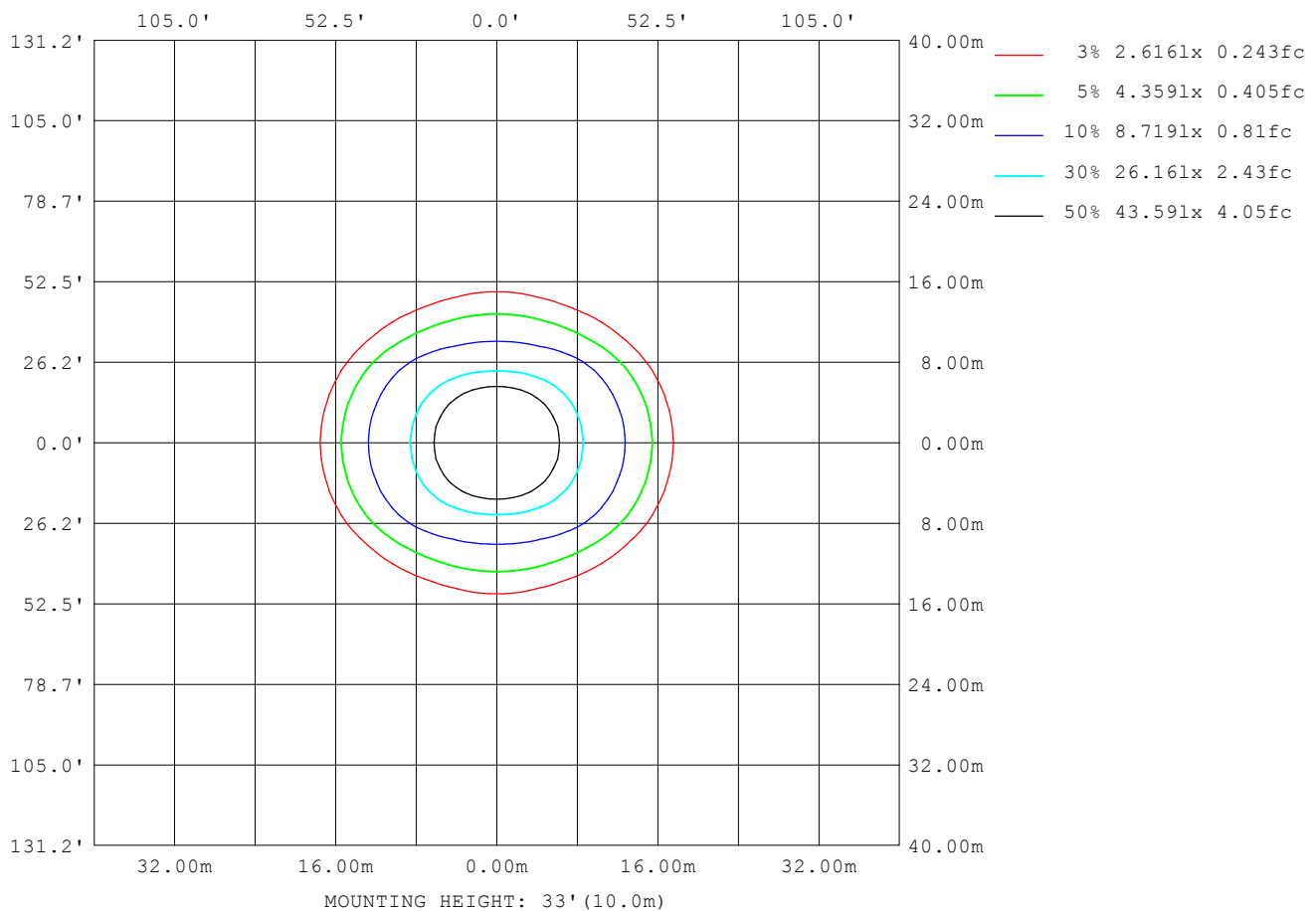
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-04

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



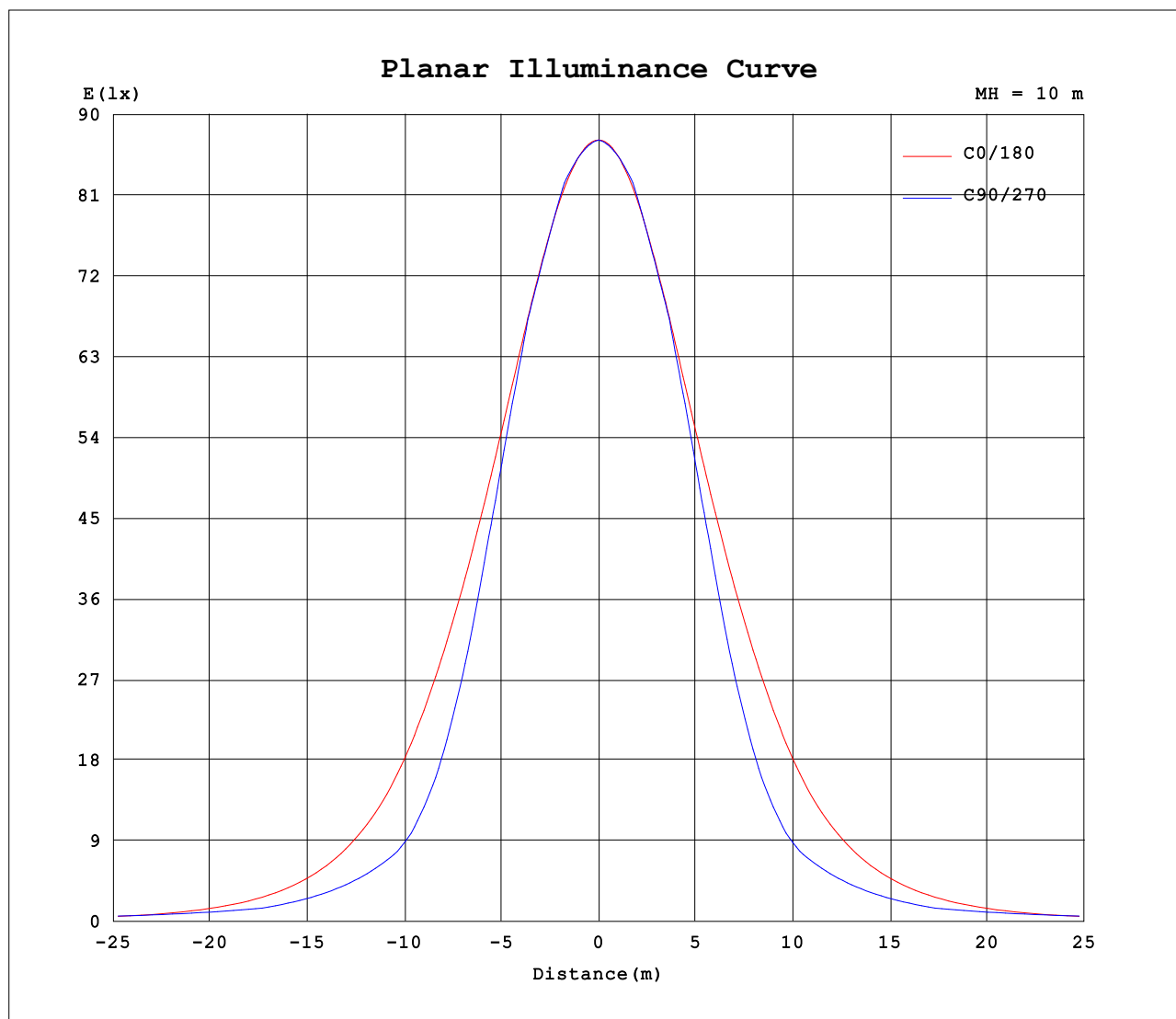
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2017-03-04

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: 2017-03-04

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: cd

Assessor: