

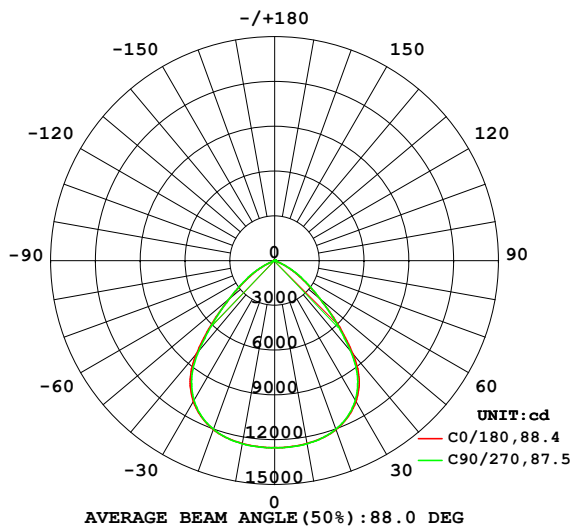
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

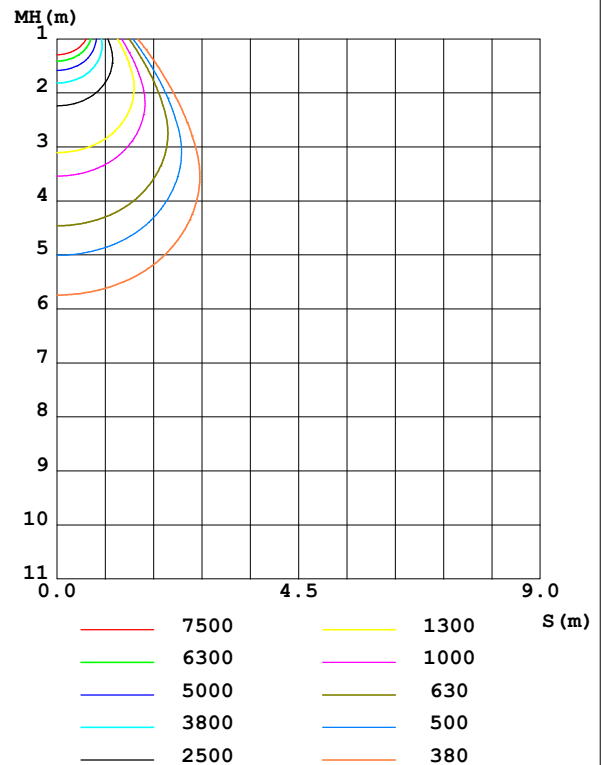
Test:U:230.0V I:0.538A P:120.6W PF:0.975 Freq:50.01Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:23656.8x1 lm		
NAME: HB68-120H-5070-H00195+H00D02	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 196.12 lm/W			
MODEL	/	I _{max} (cd)	12541	S/MH(C0/180)	1.26
NOMINAL POWER(W)	/	LOR(%)	100.0	S/MH(C90/270)	1.24
RATED VOLTAGE(V)	/	TOTAL FLUX(lm)	23657	η UP,DN(C0-180)	0.1,49.9
NOMINAL FLUX(lm)	23656.8	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.1,49.9
LAMPS INSIDE	1	η up (%)	0.3	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	/	η down (%)	99.7	CIBSE SHR MAX	1.30

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:ZZX
Test Date:2023-07-17

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity:65.0%
Test Distance:26.000m [K=0.4556]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	1244	1244	1246	1244	1244	1244	1246	1244	0- 10	1192	1192	5.04,5.04
20	1204	1203	1202	1203	1204	1203	1202	1203	10- 20	3475	4667	19.7,19.7
30	1090	1086	1080	1086	1090	1086	1080	1086	20- 30	5315	9982	42.2,42.2
40	817.2	805.8	791.0	805.8	817.2	805.8	791.0	805.8	30- 40	6049	16032	67.8,67.8
50	392.8	393.3	395.6	393.3	392.8	393.3	395.6	393.3	40- 50	4517	20549	86.9,86.9
60	153.1	160.4	162.6	160.4	153.1	160.4	162.6	160.4	50- 60	2344	22893	96.8,96.8
70	9.777	10.03	10.64	10.03	9.777	10.03	10.64	10.03	60- 70	640.5	23533	99.5,99.5
80	2.001	2.122	2.307	2.122	2.001	2.122	2.307	2.122	70- 80	45.29	23579	99.7,99.7
90	0.0859	0.0501	0.0586	0.0501	0.0859	0.0501	0.0586	0.0501	80- 90	11.04	23590	99.7,99.7
100	0.0656	0.0698	0.0697	0.0698	0.0656	0.0698	0.0697	0.0698	90-100	0.3106	23590	99.7,99.7
110	0.2922	0.2957	0.2939	0.2957	0.2922	0.2957	0.2939	0.2957	100-110	1.735	23592	99.7,99.7
120	0.7359	0.7343	0.7208	0.7343	0.7359	0.7343	0.7208	0.7343	110-120	4.888	23596	99.7,99.7
130	1.356	1.351	1.342	1.351	1.356	1.351	1.342	1.351	120-130	9.256	23606	99.8,99.8
140	1.953	1.966	1.959	1.966	1.953	1.966	1.959	1.966	130-140	12.80	23619	99.8,99.8
150	2.435	2.465	2.461	2.465	2.435	2.465	2.461	2.465	140-150	13.88	23632	99.9,99.9
160	2.660	2.702	2.705	2.702	2.660	2.702	2.705	2.702	150-160	11.93	23644	99.9,99.9
170	3.629	3.688	3.699	3.688	3.629	3.688	3.699	3.688	160-170	8.717	23653	100,100
180	3.926	3.966	3.967	3.966	3.926	3.966	3.967	3.966	170-180	3.724	23657	100,100
DEG	LUMINOUS INTENSITY:X10cd									UNIT:lm		

Conical surface Flux(90deg): 18585 lm

%lum = 78.6%

%lamp = 78.6%

Conical surface Flux(120deg): 22893 lm

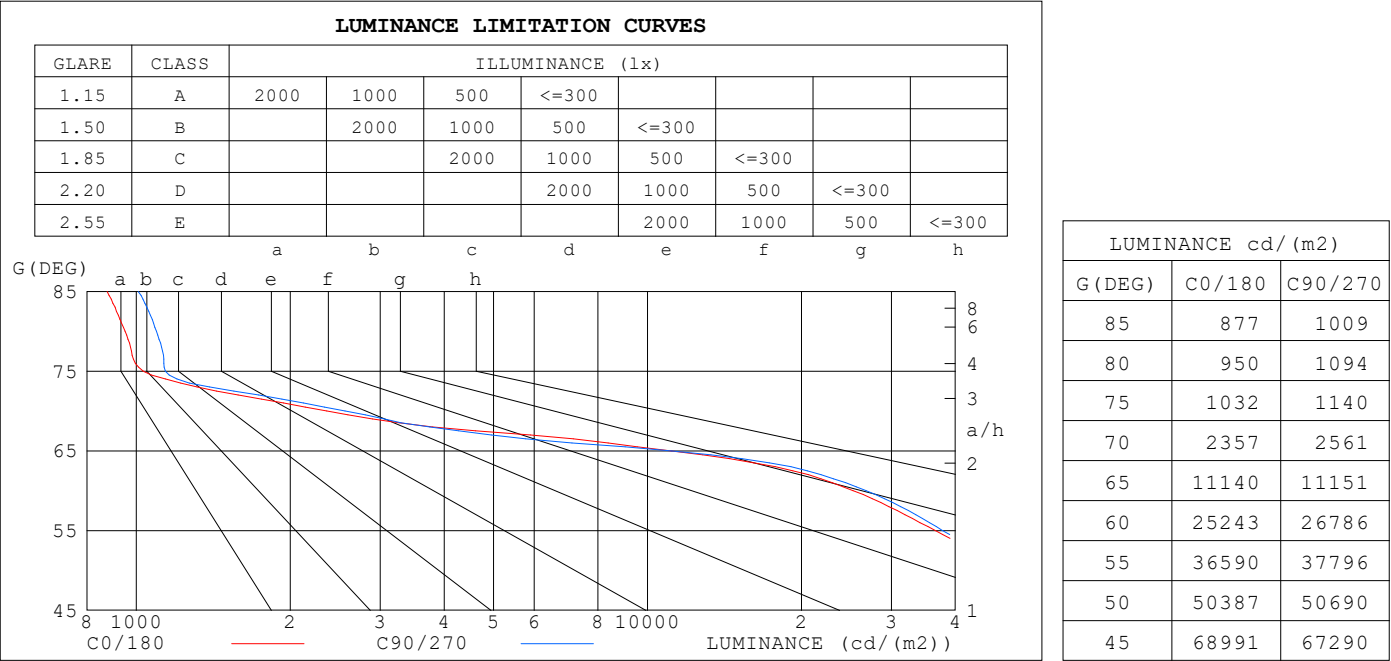
%lum = 96.8%

%lamp = 96.8%

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:ZZX
Test Date:2023-07-17

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity:65.0%
Test Distance:26.000m [K=0.4556]
Remarks:

LUMINANCE LIMITATION CURVES



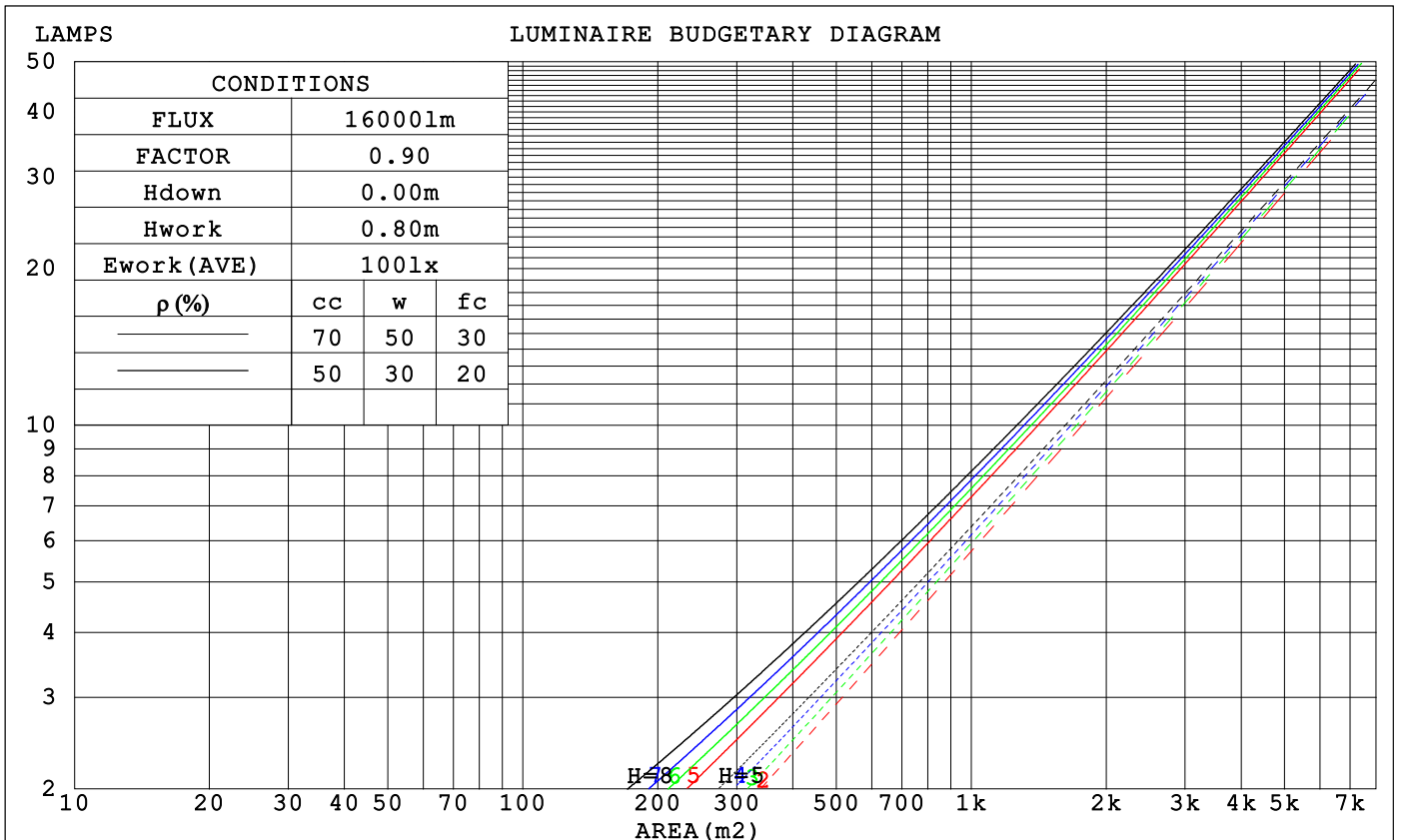
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C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:ZZX
Test Date:2023-07-17

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity:65.0%
Test Distance:26.000m [K=0.4556]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

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	.00
1.0	1.09	1.05	1.03	1.06	1.04	1.01	1.02	.00	.98	.98	.97	.95	.95	.93	.92	.90
2.0	.98	.93	.89	.97	.92	.88	.93	.89	.86	.90	.87	.84	.87	.84	.82	.80
3.0	.89	.83	.78	.88	.82	.77	.85	.80	.76	.82	.78	.75	.80	.76	.73	.71
4.0	.81	.74	.69	.80	.73	.68	.77	.72	.67	.75	.70	.66	.73	.69	.66	.64
5.0	.74	.66	.61	.73	.66	.61	.71	.65	.60	.69	.64	.59	.67	.62	.59	.57
6.0	.67	.60	.55	.67	.59	.54	.65	.59	.54	.63	.58	.53	.62	.57	.53	.51
7.0	.62	.54	.49	.61	.54	.49	.60	.53	.49	.58	.53	.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	.45	.41	.52	.45	.40	.51	.45	.40	.50	.44	.40	.49	.44	.40	.38
10.0	.49	.42	.37	.48	.42	.37	.47	.41	.37	.47	.41	.37	.46	.40	.37	.35



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
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 Test Date:2023-07-17

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
 Humidity:65.0%
 Test Distance:26.000m [K=0.4556]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

WEC AND CCEC

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						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.219	.125	.039	.212	.121	.038	.199	.114	.037	.187	.108	.035	.176	.102	.033	
2.0	.215	.118	.036	.209	.115	.036	.198	.110	.034	.188	.105	.033	.178	.101	.032	
3.0	.207	.110	.033	.202	.108	.033	.192	.104	.032	.183	.100	.031	.175	.097	.030	
4.0	.198	.103	.030	.193	.101	.030	.184	.098	.029	.176	.095	.029	.169	.092	.028	
5.0	.188	.096	.028	.184	.094	.027	.176	.092	.027	.169	.089	.027	.162	.087	.026	
6.0	.178	.089	.026	.175	.088	.025	.168	.086	.025	.162	.084	.025	.156	.082	.024	
7.0	.169	.084	.024	.166	.083	.024	.160	.081	.023	.154	.079	.023	.149	.077	.023	
8.0	.161	.078	.022	.158	.078	.022	.152	.076	.022	.147	.075	.022	.142	.073	.021	
9.0	.153	.074	.021	.150	.073	.021	.145	.072	.020	.141	.070	.020	.136	.069	.020	
10.0	.145	.070	.019	.143	.069	.019	.139	.068	.019	.134	.067	.019	.130	.066	.019	

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						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.193	.193	.193	.165	.165	.165	.112	.112	.112	.065	.065	.065	.021	.021	.021	
1.0	.176	.159	.144	.151	.137	.124	.103	.094	.086	.059	.054	.050	.019	.018	.016	
2.0	.164	.134	.109	.141	.116	.095	.096	.080	.066	.056	.047	.039	.018	.015	.013	
3.0	.155	.116	.085	.133	.100	.074	.091	.070	.052	.053	.041	.031	.017	.013	.010	
4.0	.146	.102	.068	.126	.088	.059	.086	.061	.042	.050	.036	.025	.016	.012	.008	
5.0	.139	.091	.056	.119	.079	.048	.082	.055	.034	.048	.032	.020	.015	.011	.007	
6.0	.132	.082	.046	.114	.071	.040	.079	.050	.029	.046	.029	.017	.015	.010	.006	
7.0	.126	.075	.039	.109	.065	.034	.075	.046	.024	.044	.027	.015	.014	.009	.005	
8.0	.121	.069	.034	.104	.060	.030	.072	.042	.021	.042	.025	.013	.014	.008	.004	
9.0	.116	.065	.030	.100	.056	.026	.069	.039	.019	.040	.023	.011	.013	.008	.004	
10.0	.111	.060	.027	.096	.052	.023	.066	.037	.017	.039	.022	.010	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3℃
 Operators:ZZX
 Test Date:2023-07-17

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
 Humidity:65.0%
 Test Distance:26.000m [K=0.4556]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

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	22.3	23.6	22.7	23.9	24.2	21.9	23.2	22.2	23.5	23.8
3H	22.2	23.3	22.6	23.7	24.0	21.8	22.9	22.2	23.3	23.6
4H	22.1	23.2	22.5	23.5	23.9	21.7	22.8	22.1	23.1	23.5
6H	22.0	23.0	22.5	23.4	23.8	21.6	22.6	22.0	23.0	23.4
8H	22.0	22.9	22.4	23.3	23.7	21.6	22.5	22.0	22.9	23.3
12H	21.9	22.8	22.4	23.2	23.7	21.5	22.4	22.0	22.8	23.2
4H 2H	22.2	23.3	22.6	23.7	24.0	21.8	22.9	22.2	23.3	23.6
3H	22.1	23.0	22.5	23.4	23.8	21.7	22.6	22.2	23.0	23.4
4H	22.0	22.8	22.5	23.2	23.7	21.6	22.4	22.1	22.8	23.3
6H	22.0	22.6	22.4	23.1	23.5	21.6	22.2	22.0	22.7	23.1
8H	21.9	22.5	22.4	23.0	23.4	21.5	22.1	22.0	22.6	23.1
12H	21.9	22.4	22.3	22.9	23.4	21.5	22.0	22.0	22.5	23.0
8H 4H	21.9	22.5	22.4	23.0	23.4	21.5	22.1	22.0	22.6	23.0
6H	21.8	22.3	22.3	22.8	23.3	21.4	21.9	21.9	22.4	22.9
8H	21.7	22.2	22.3	22.7	23.2	21.3	21.8	21.9	22.3	22.8
12H	21.7	22.1	22.2	22.6	23.2	21.3	21.7	21.8	22.2	22.8
12H 4H	21.9	22.4	22.3	22.9	23.4	21.5	22.0	21.9	22.5	23.0
6H	21.7	22.2	22.3	22.7	23.2	21.3	21.8	21.9	22.3	22.8
8H	21.7	22.1	22.2	22.6	23.2	21.3	21.7	21.8	22.2	22.8
CIE190: 2010										

CIE190: 2010
Area: 0.1213 m2

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:ZZX
Test Date:2023-07-17

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity:65.0%
Test Distance:26.000m [K=0.4556]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

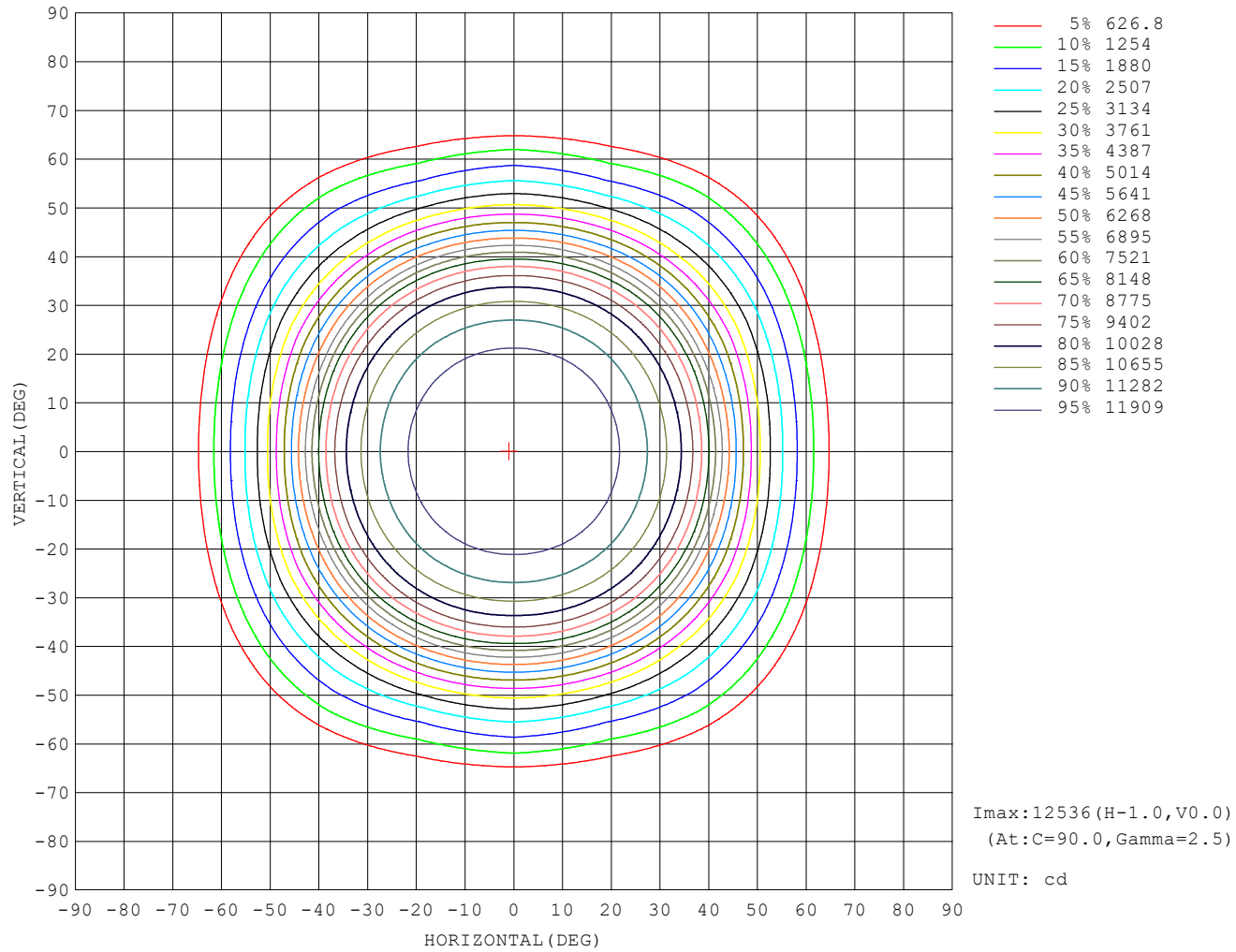
UTILIZATION FACTORS TABLE

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	61	56	70	61	56	69	61	56	50
0.80	81	72	66	80	71	66	78	71	66	60
1.00	88	80	75	87	80	75	86	80	74	69
1.25	95	87	82	93	86	82	91	85	81	75
1.50	99	92	87	97	91	86	95	89	85	80
2.00	103	98	93	102	97	93	99	94	91	85
2.50	106	101	97	104	99	96	101	97	94	87
3.00	108	104	100	106	102	99	103	99	97	89
4.00	111	107	104	109	105	102	105	102	100	92
5.00	112	109	106	110	107	105	106	104	102	93
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 22.5DEG
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 Operators: ZZX
 Test Date: 2023-07-17

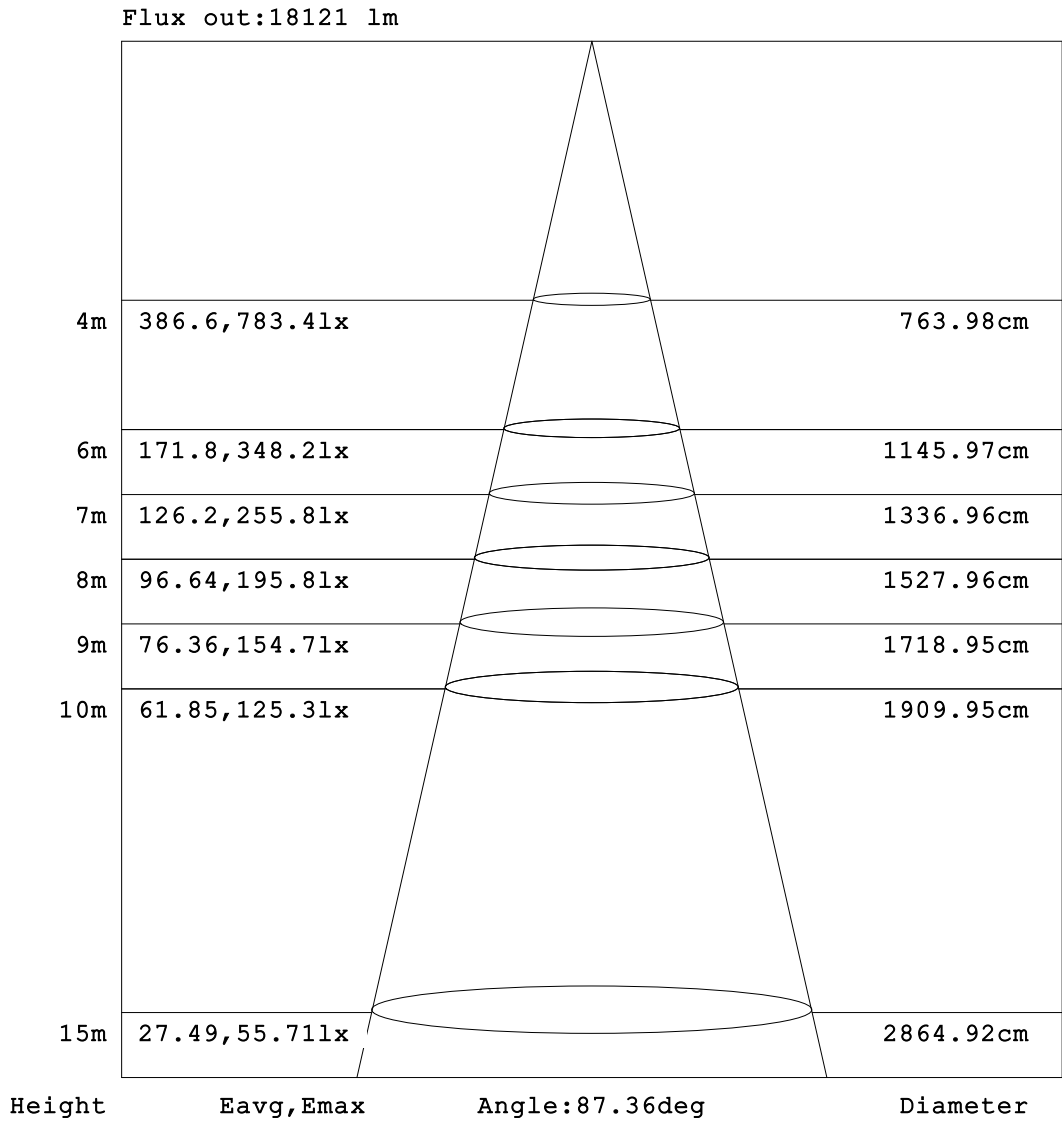
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 γ Interval: 0.5DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.465
 Humidity: 65.0%
 Test Distance: 26.000m [K=0.4556]
 Remarks:

ISOCANDELA DIAGRAM



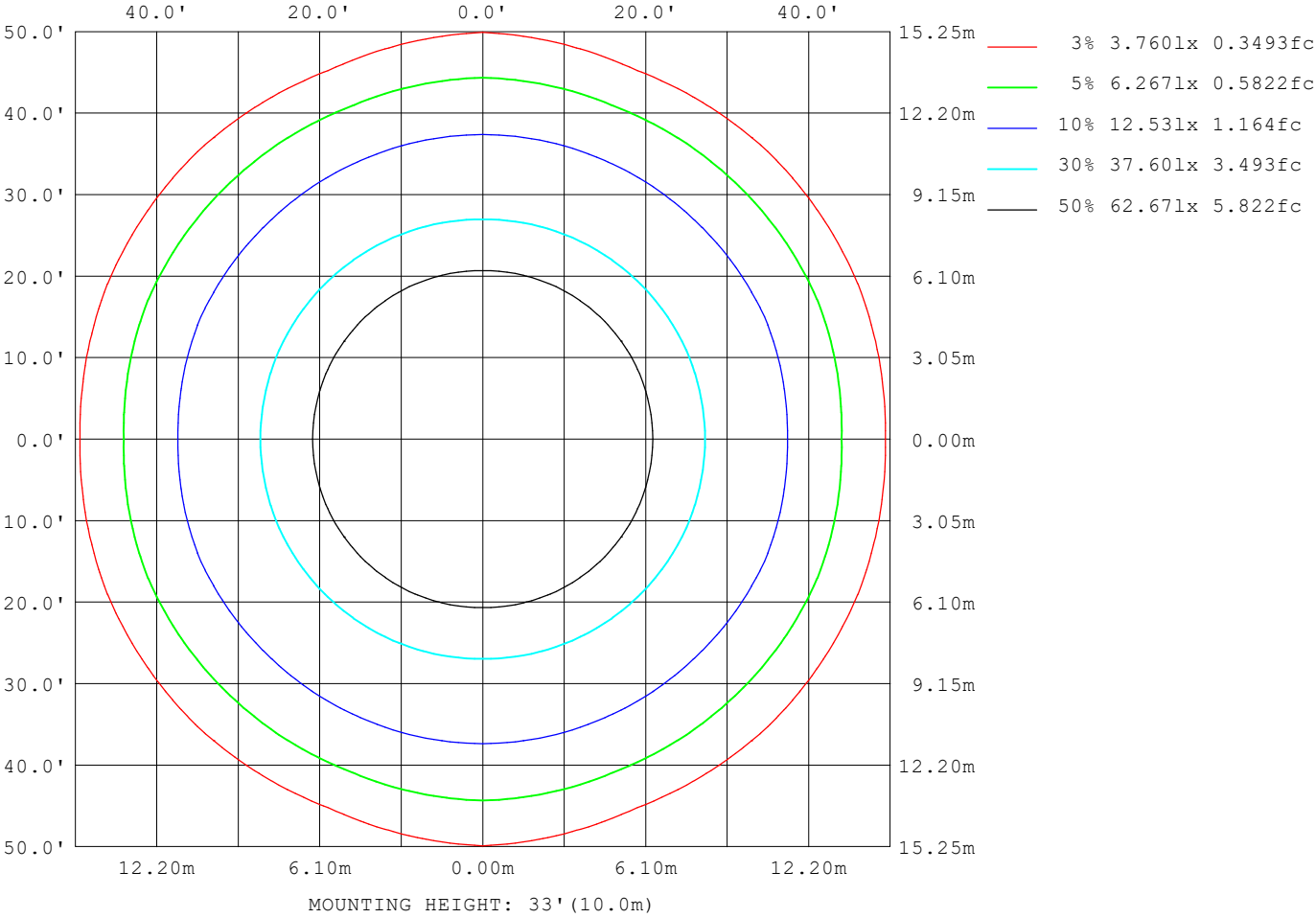
C Range: 0 - 360DEG	γ Range: 0 - 180DEG
C Interval: 22.5DEG	γ Interval: 0.5DEG
Test Speed: HIGH	Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Temperature:25.3°C	Humidity:65.0%
Operators:ZZX	Test Distance:26.000m [K=0.4556]
Test Date:2023-07-17	Remarks:

AAI Figure



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

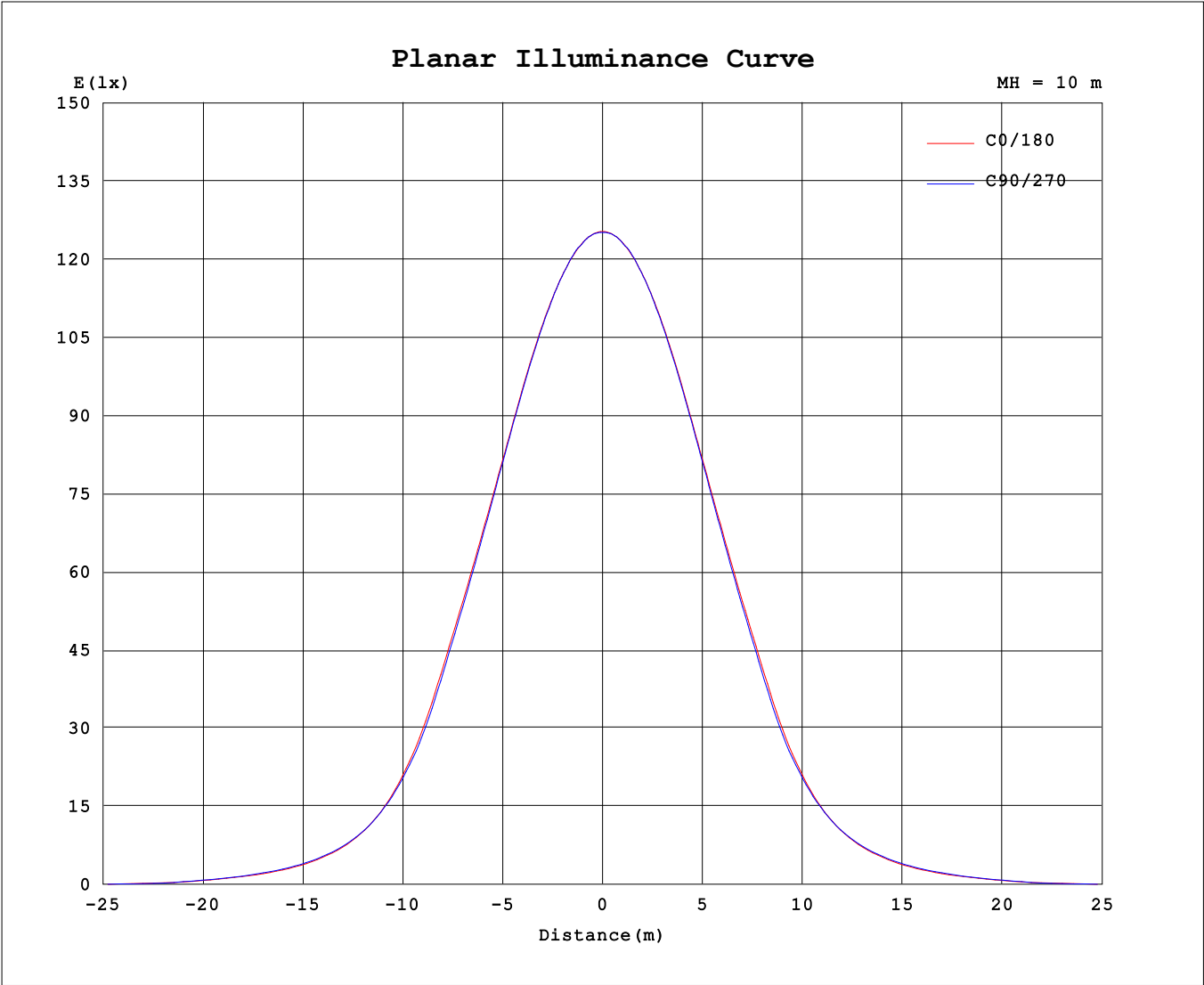
ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:ZZX
Test Date:2023-07-17

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity:65.0%
Test Distance:26.000m [K=0.4556]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:ZZX
Test Date:2023-07-17

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity:65.0%
Test Distance:26.000m [K=0.4556]
Remarks: