

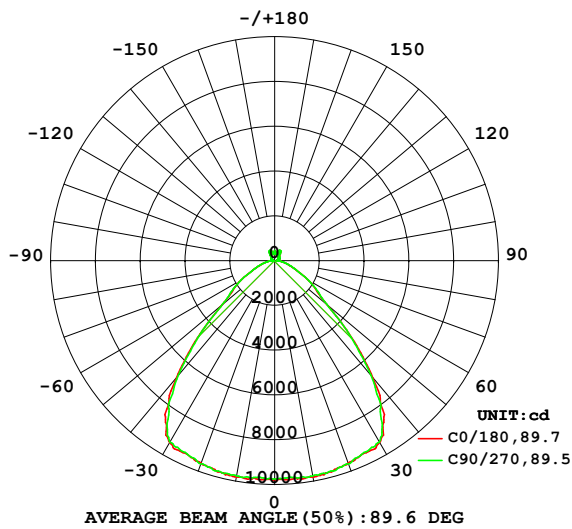
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

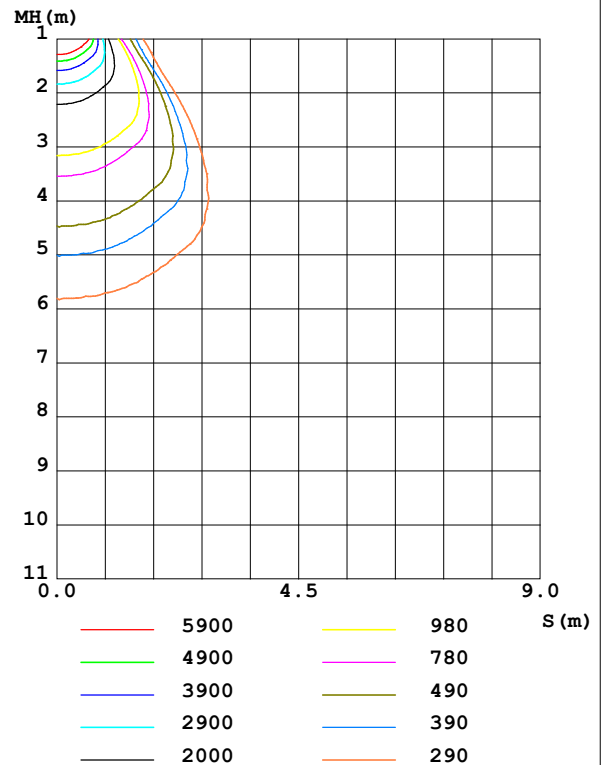
Test:U:230.0V I:0.539A P:120.9W PF:0.975 Freq:50.01Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:22543.4x1 lm		
NAME: HB68-120H-5070-H00195+H00C01B	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 186.44 lm/W			
MODEL	/	I _{max} (cd)	9854	S/MH(C0/180)	1.28
NOMINAL POWER(W)	/	LOR(%)	100.0	S/MH(C90/270)	1.27
RATED VOLTAGE(V)	/	TOTAL FLUX(lm)	22543	η UP,DN(C0-180)	3.2,46.8
NOMINAL FLUX(lm)	22543.4	CIE CLASS	DIRECT	η UP,DN(C180-360)	3.2,46.8
LAMPS INSIDE	1	η up (%)	6.4	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	/	η down (%)	93.6	CIBSE SHR MAX	1.35

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	9807	9813	9765	9813	9807	9813	9765	9813	0- 10	934.2	934.2	4.14,4.14
20	9621	9637	9657	9637	9621	9637	9657	9637	10- 20	2761	3695	16.4,16.4
30	9378	9395	9354	9395	9378	9395	9354	9395	20- 30	4405	8100	35.9,35.9
40	6822	6775	6693	6775	6822	6775	6693	6775	30- 40	5181	13282	58.9,58.9
50	3048	2985	3044	2985	3048	2985	3044	2985	40- 50	3722	17003	75.4,75.4
60	1748	1723	1738	1723	1748	1723	1738	1723	50- 60	2048	19052	84.5,84.5
70	818.2	822.1	837.9	822.1	818.2	822.1	837.9	822.1	60- 70	1196	20248	89.8,89.8
80	363.9	360.5	364.8	360.5	363.9	360.5	364.8	360.5	70- 80	607.8	20856	92.5,92.5
90	114.3	114.3	112.8	114.3	114.3	114.3	112.8	114.3	80- 90	236.9	21092	93.6,93.6
100	123.4	125.3	124.4	125.3	123.4	125.3	124.4	125.3	90-100	114.6	21207	94.1,94.1
110	175.8	176.3	174.7	176.3	175.8	176.3	174.7	176.3	100-110	160.1	21367	94.8,94.8
120	202.7	204.6	204.0	204.6	202.7	204.6	204.0	204.6	110-120	190.6	21558	95.6,95.6
130	220.7	223.0	226.0	223.0	220.7	223.0	226.0	223.0	120-130	190.4	21748	96.5,96.5
140	290.0	290.4	297.0	290.4	290.0	290.4	297.0	290.4	130-140	191.8	21940	97.3,97.3
150	474.2	487.3	494.4	487.3	474.2	487.3	494.4	487.3	140-150	245.4	22185	98.4,98.4
160	423.7	440.5	436.5	440.5	423.7	440.5	436.5	440.5	150-160	226.3	22412	99.4,99.4
170	305.7	311.9	303.9	311.9	305.7	311.9	303.9	311.9	160-170	101.1	22513	99.9,99.9
180	430.3	475.7	418.6	475.7	430.3	475.7	418.6	475.7	170-180	30.65	22543	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 15426 lm

%lum = 68.4%

%lamp = 68.4%

Conical surface Flux(120deg): 19052 lm

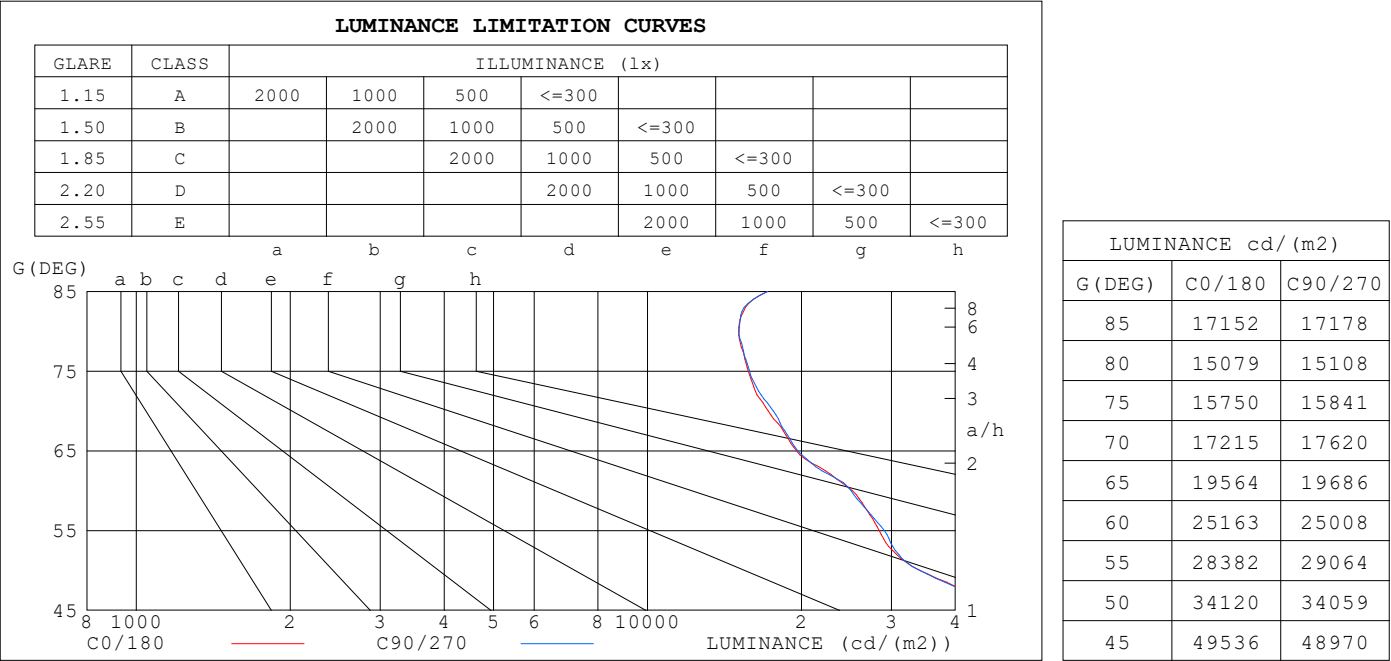
%lum = 84.5%

%lamp = 84.5%

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



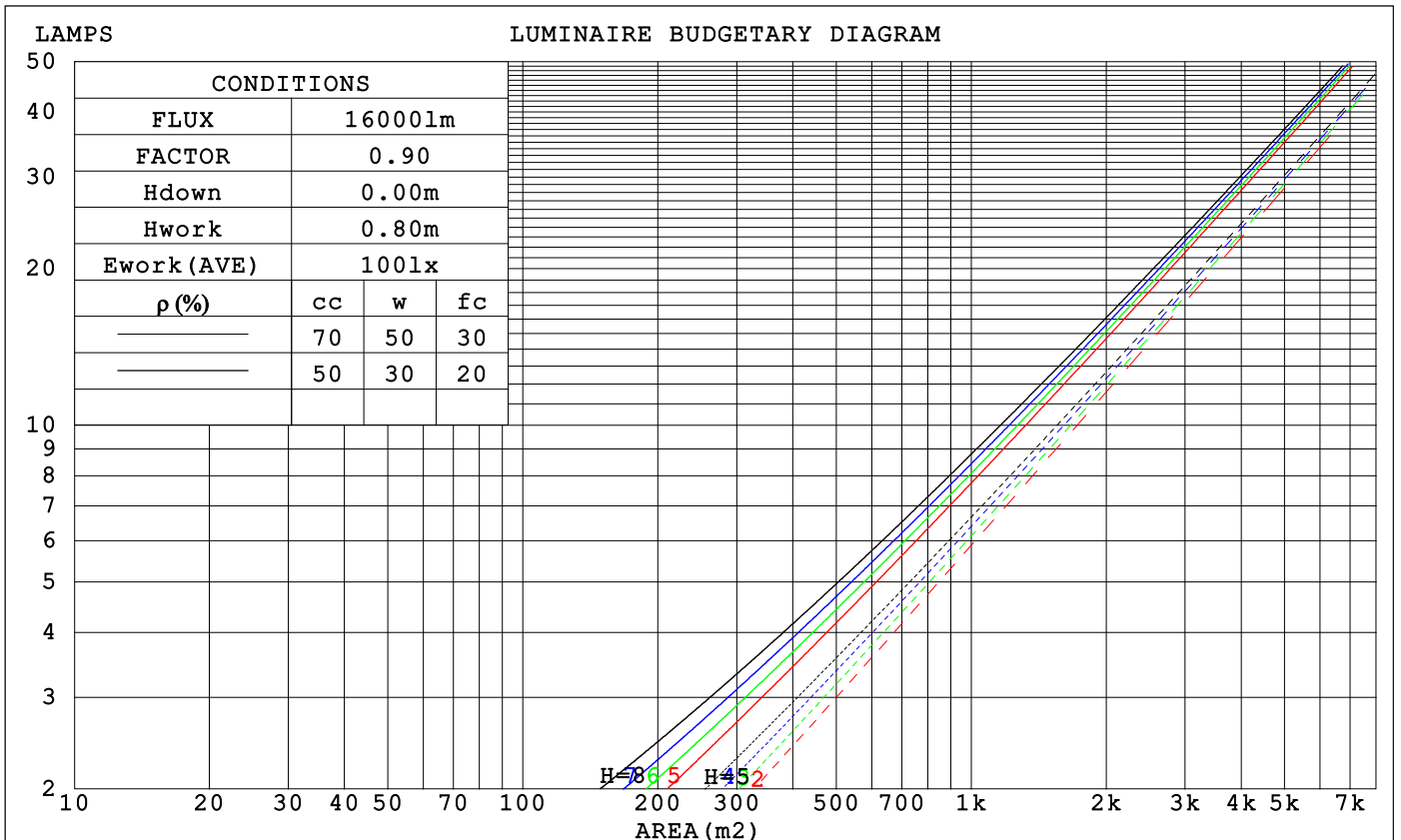
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:ZZX
Test Date:2023-07-17

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

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	1.18	1.18	1.18	1.14	1.14	1.14	1.08	1.08	1.08	1.02	1.02	1.02	.96	.96	.96	.94
1.0	1.05	1.02	.99	1.02	.99	.96	.97	.95	.92	.92	.90	.88	.88	.86	.85	.82
2.0	.94	.89	.84	.92	.87	.82	.87	.83	.79	.83	.80	.77	.80	.77	.74	.72
3.0	.85	.78	.72	.83	.76	.71	.79	.74	.69	.75	.71	.67	.72	.69	.65	.63
4.0	.76	.69	.63	.75	.68	.62	.71	.66	.61	.69	.63	.59	.66	.62	.58	.56
5.0	.69	.61	.56	.68	.61	.55	.65	.59	.54	.63	.57	.53	.60	.55	.52	.50
6.0	.63	.55	.50	.62	.54	.49	.59	.53	.48	.57	.52	.47	.55	.50	.46	.44
7.0	.58	.50	.44	.57	.49	.44	.55	.48	.43	.53	.47	.43	.51	.46	.42	.40
8.0	.53	.45	.40	.52	.45	.40	.50	.44	.39	.49	.43	.39	.47	.42	.38	.36
9.0	.49	.41	.36	.48	.41	.36	.47	.40	.36	.45	.39	.35	.44	.38	.35	.33
10.0	.45	.38	.33	.45	.38	.33	.43	.37	.33	.42	.36	.32	.41	.36	.32	.30



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

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	.253	.144	.046	.244	.139	.044	.227	.130	.042	.212	.122	.039	.198	.115	.037	
2.0	.240	.132	.040	.233	.128	.039	.218	.121	.038	.205	.115	.036	.192	.109	.034	
3.0	.226	.120	.036	.219	.117	.035	.206	.112	.034	.194	.106	.033	.183	.101	.031	
4.0	.212	.110	.032	.206	.108	.032	.195	.103	.031	.184	.099	.030	.174	.094	.029	
5.0	.199	.102	.029	.194	.099	.029	.183	.095	.028	.174	.092	.027	.165	.088	.026	
6.0	.187	.094	.027	.182	.092	.027	.173	.089	.026	.164	.085	.025	.156	.082	.024	
7.0	.176	.087	.025	.172	.086	.024	.163	.083	.024	.156	.080	.023	.148	.077	.023	
8.0	.167	.081	.023	.162	.080	.023	.155	.077	.022	.147	.075	.022	.141	.072	.021	
9.0	.158	.076	.021	.154	.075	.021	.147	.073	.021	.140	.070	.020	.134	.068	.020	
10.0	.149	.072	.020	.146	.070	.020	.139	.068	.019	.133	.066	.019	.128	.064	.018	

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	.240	.240	.240	.205	.205	.205	.140	.140	.140	.080	.080	.080	.026	.026	.026	
1.0	.226	.206	.188	.193	.177	.162	.132	.122	.112	.076	.070	.065	.024	.023	.021	
2.0	.215	.182	.154	.184	.157	.133	.126	.108	.093	.073	.063	.054	.023	.020	.018	
3.0	.206	.164	.131	.177	.142	.113	.121	.098	.079	.070	.057	.047	.023	.019	.015	
4.0	.198	.150	.114	.170	.130	.099	.117	.091	.070	.068	.053	.041	.022	.017	.014	
5.0	.191	.140	.102	.164	.121	.089	.113	.084	.063	.065	.050	.037	.021	.016	.012	
6.0	.184	.131	.094	.158	.114	.081	.109	.080	.058	.063	.047	.034	.020	.015	.011	
7.0	.178	.124	.087	.153	.108	.076	.106	.076	.054	.061	.045	.032	.020	.015	.011	
8.0	.172	.119	.082	.148	.103	.071	.102	.072	.051	.060	.043	.030	.019	.014	.010	
9.0	.166	.114	.078	.143	.099	.068	.099	.069	.048	.058	.041	.029	.019	.013	.010	
10.0	.161	.109	.075	.139	.095	.065	.097	.067	.046	.056	.040	.028	.018	.013	.009	

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	2H	21.5	22.7	21.9	23.2	23.7	21.4	22.7	21.9	23.2	23.6
	3H	22.5	23.7	23.0	24.1	24.6	22.5	23.6	23.0	24.1	24.6
	4H	22.9	24.0	23.4	24.5	25.0	22.9	24.0	23.4	24.4	25.0
	6H	23.3	24.2	23.8	24.7	25.3	23.2	24.2	23.8	24.7	25.3
	8H	23.4	24.3	23.9	24.8	25.4	23.4	24.3	23.9	24.8	25.4
	12H	23.5	24.4	24.0	24.9	25.5	23.5	24.4	24.0	24.9	25.5
4H	2H	21.8	22.8	22.3	23.3	23.8	21.7	22.8	22.3	23.3	23.8
	3H	23.1	23.9	23.6	24.5	25.0	23.0	23.9	23.5	24.4	25.0
	4H	23.6	24.4	24.1	24.9	25.5	23.5	24.3	24.1	24.9	25.5
	6H	24.1	24.7	24.6	25.3	25.9	24.0	24.7	24.6	25.3	25.9
	8H	24.2	24.9	24.8	25.4	26.0	24.2	24.8	24.8	25.4	26.0
	12H	24.4	25.0	25.0	25.6	26.2	24.4	24.9	25.0	25.5	26.1
8H	4H	23.8	24.4	24.3	24.9	25.6	23.7	24.3	24.3	24.9	25.5
	6H	24.3	24.9	24.9	25.5	26.1	24.3	24.8	24.9	25.4	26.1
	8H	24.6	25.1	25.2	25.7	26.3	24.6	25.0	25.2	25.7	26.3
	12H	24.9	25.3	25.5	25.9	26.6	24.9	25.3	25.5	25.9	26.6
12H	4H	23.8	24.3	24.3	24.9	25.5	23.7	24.3	24.3	24.9	25.5
	6H	24.4	24.8	25.0	25.4	26.1	24.3	24.8	25.0	25.4	26.1
	8H	24.7	25.1	25.3	25.7	26.4	24.7	25.1	25.3	25.7	26.4
CIE190: 2010											

CIE190: 2010
Area: 0.1392 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

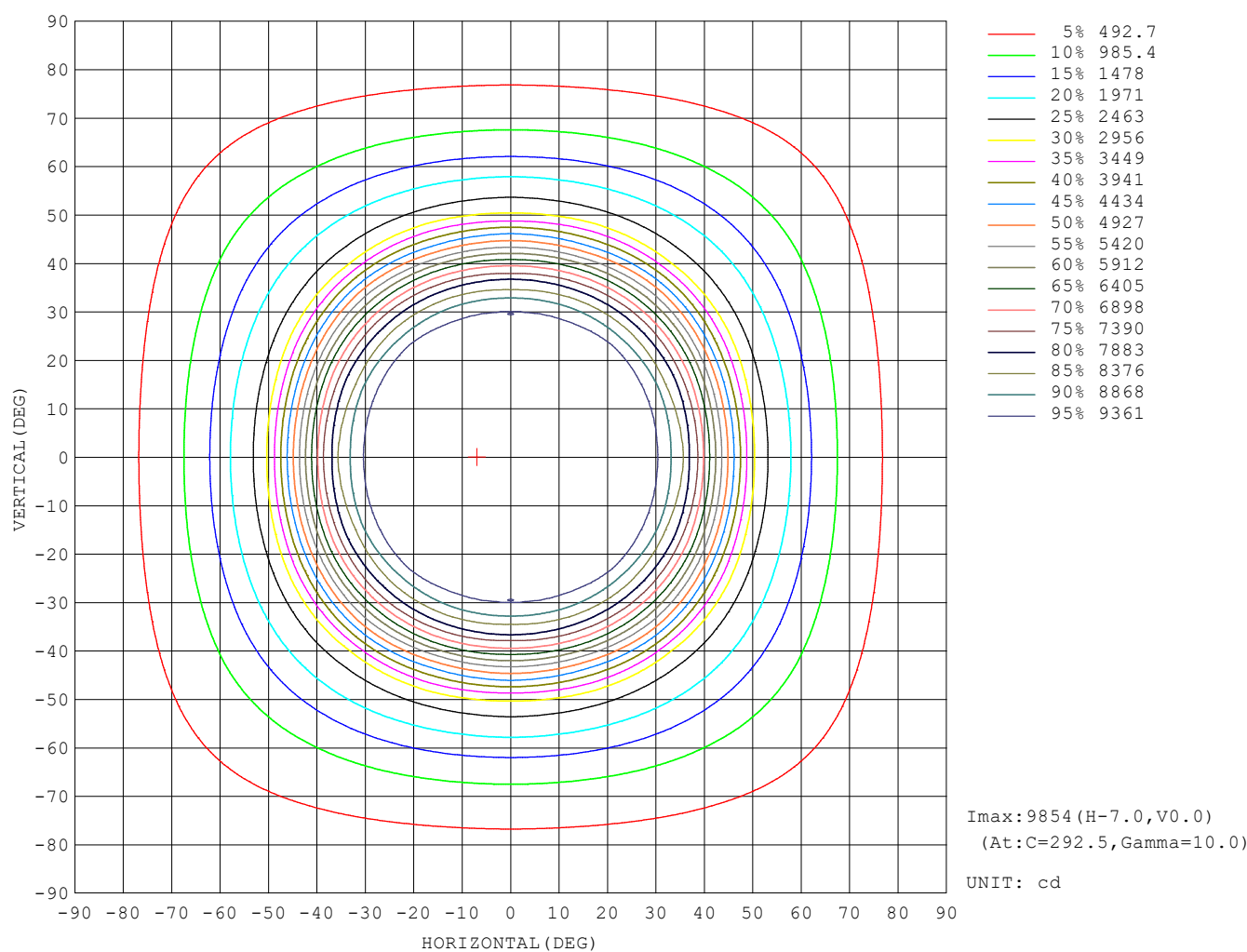
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	66	56	50	65	56	50	64	55	50	44
0.80	75	66	60	74	65	60	72	64	59	53
1.00	83	74	68	81	73	67	79	73	66	60
1.25	89	81	75	87	80	74	84	78	73	66
1.50	93	85	80	91	84	79	88	82	77	70
2.00	99	92	87	97	90	85	92	87	83	75
2.50	102	95	91	99	94	89	95	90	87	78
3.00	104	99	94	102	97	93	97	93	90	80
4.00	107	103	99	105	101	97	100	96	94	83
5.00	109	105	102	106	103	100	101	98	96	85
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

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:

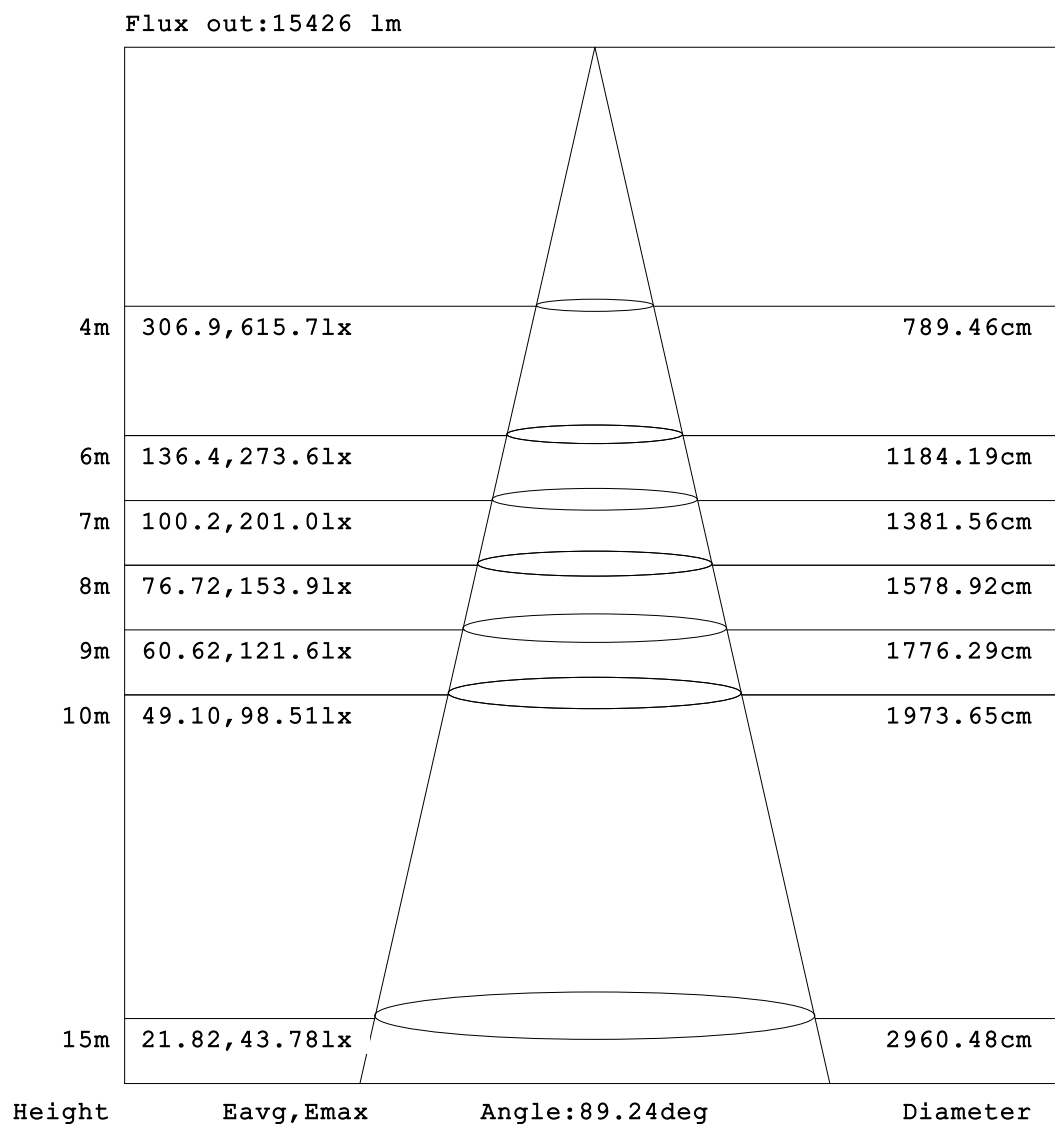
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators: ZZK
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:

AAI Figure

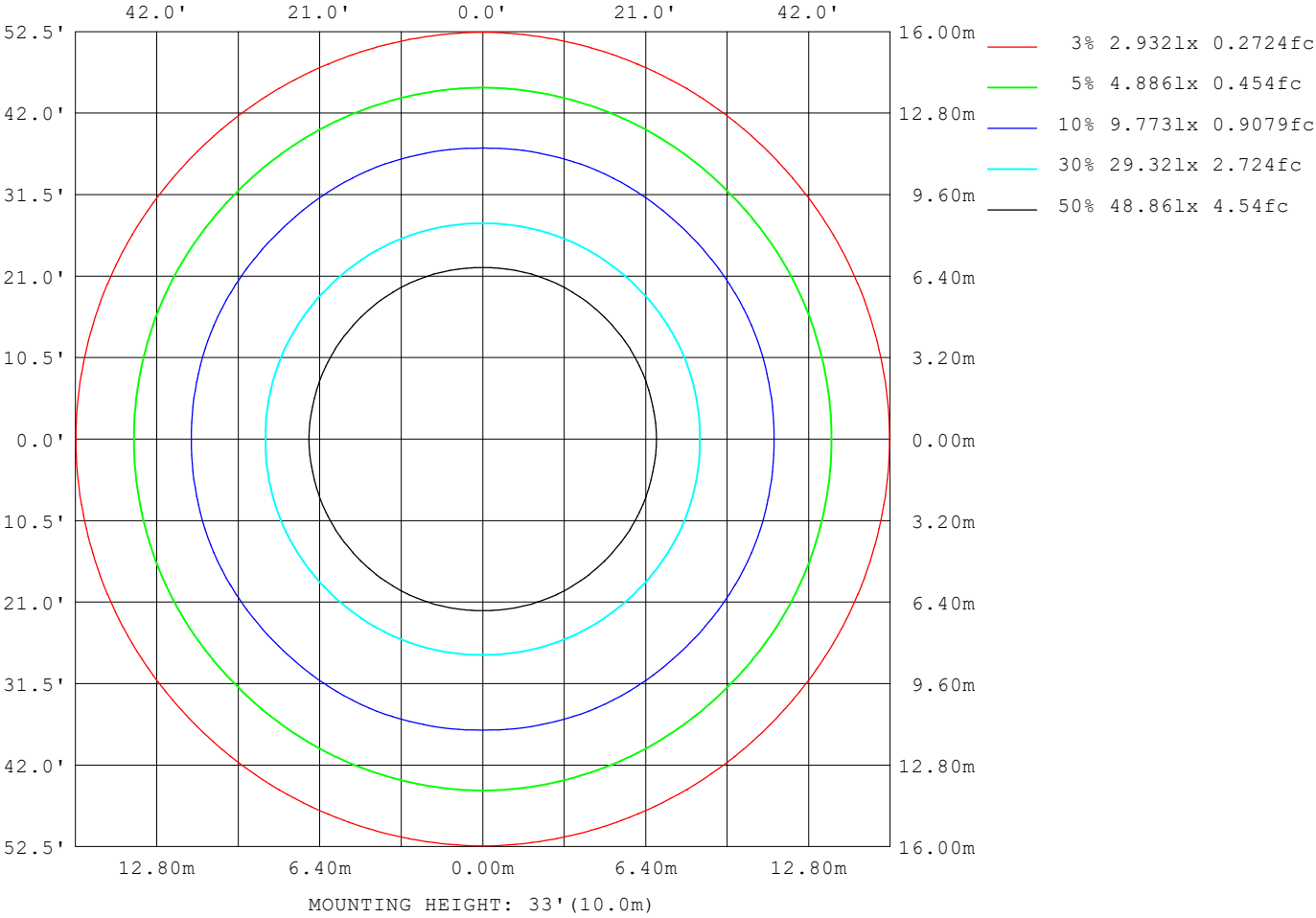


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

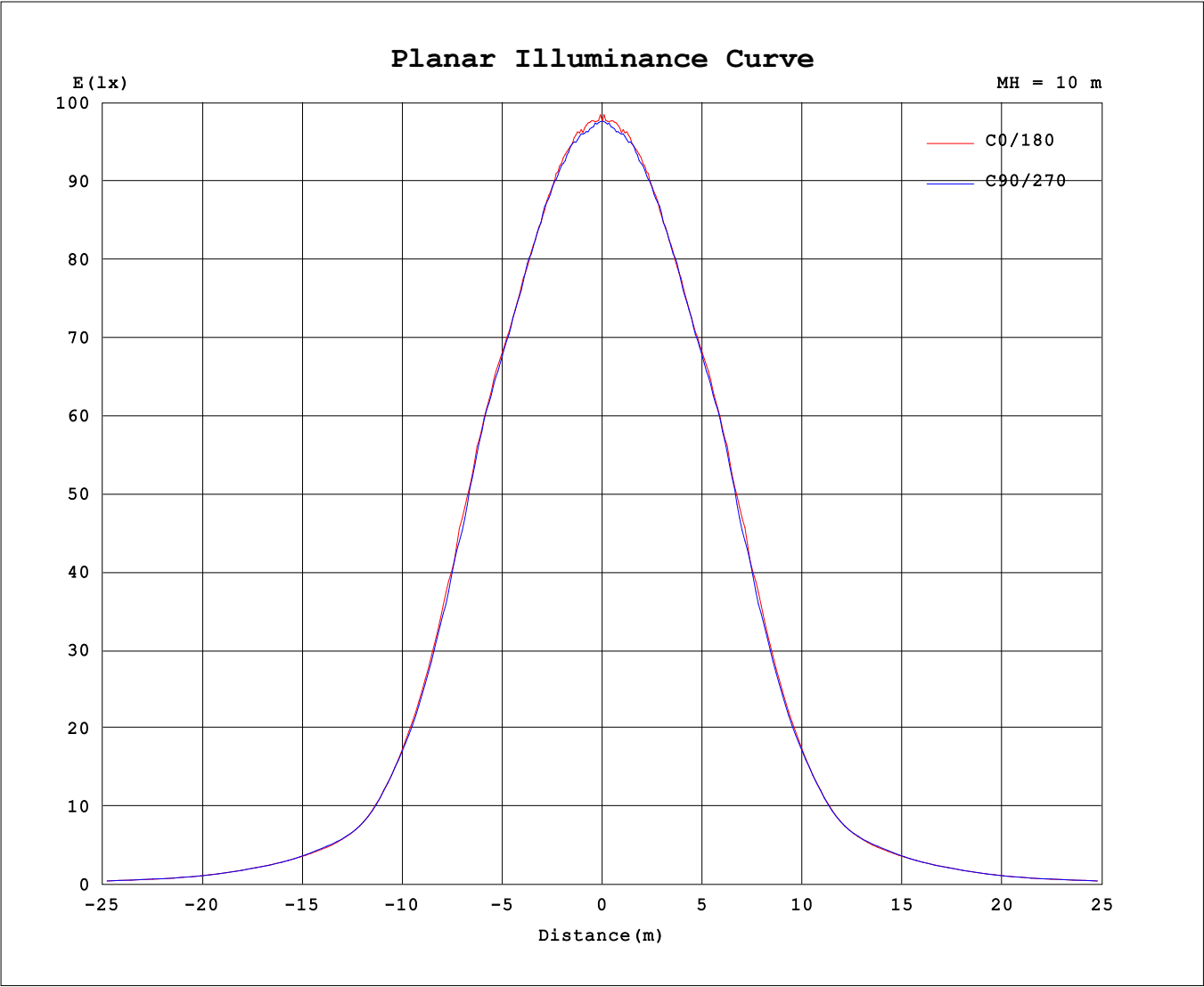
γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.465
Humidity: 65.0%
Test Distance: 26.000m [K=0.4556]
Remarks:

ISOLUX 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℃	Humidity:65.0%
Operators:ZZX	Test Distance:26.000m [K=0.4556]
Test Date:2023-07-17	Remarks:

Planar Illuminance Curve



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℃	Humidity:65.0%
Operators:ZZX	Test Distance:26.000m [K=0.4556]
Test Date:2023-07-17	Remarks: