

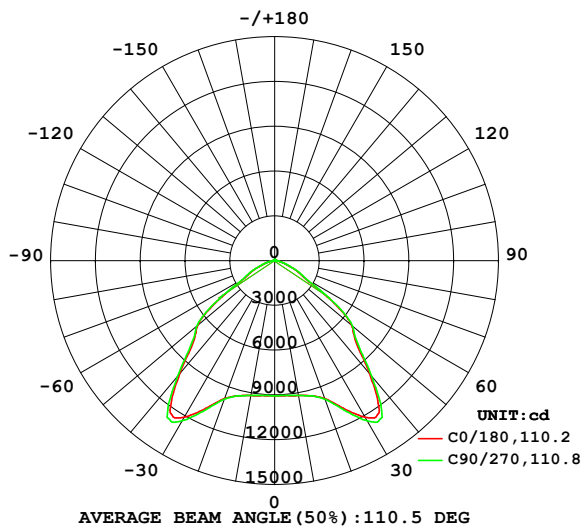
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

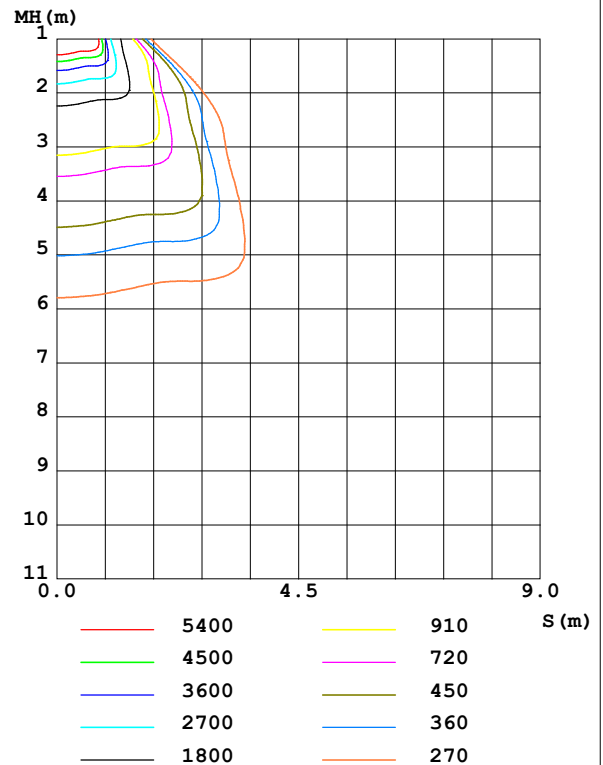
Test:U:230.0V I:0.659A P:149.2W PF:0.985 Freq:50.00Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:29273.8x1 lm		
NAME: HB68-150H-5070-H00197+H00C01A	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 196.24 lm/W			
MODEL	/	I _{max} (cd)	12936	S/MH(C0/180)	1.53
NOMINAL POWER(W)	/	LOR(%)	100.0	S/MH(C90/270)	1.54
RATED VOLTAGE(V)	/	TOTAL FLUX(lm)	29274	η UP,DN(C0-180)	0.6,49.4
NOMINAL FLUX(lm)	29273.8	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.6,49.4
LAMPS INSIDE	1	η up (%)	1.2	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)	/	η down (%)	98.8	CIBSE SHR MAX	1.55

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators: ZZK
Test Date: 2023-07-13

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	917.7	918.3	917.0	918.3	917.7	918.3	917.0	918.3	0- 10	870.1	870.1	2.97,2.97
20	984.5	984.8	988.7	984.8	984.5	984.8	988.7	984.8	10- 20	2681	3551	12.1,12.1
30	1211	1227	1239	1227	1211	1227	1239	1227	20- 30	5133	8684	29.7,29.7
40	992.9	1002	1016	1002	992.9	1002	1016	1002	30- 40	7467	16151	55.2,55.2
50	672.6	683.0	680.3	683.0	672.6	683.0	680.3	683.0	40- 50	6208	22359	76.4,76.4
60	229.6	236.5	242.4	236.5	229.6	236.5	242.4	236.5	50- 60	4114	26473	90.4,90.4
70	96.33	96.32	102.2	96.32	96.33	96.32	102.2	96.32	60- 70	1658	28131	96.1,96.1
80	29.19	27.48	28.95	27.48	29.19	27.48	28.95	27.48	70- 80	626.1	28757	98.2,98.2
90	6.040	6.351	6.534	6.351	6.040	6.351	6.534	6.351	80- 90	161.7	28919	98.8,98.8
100	3.760	3.972	3.857	3.972	3.760	3.972	3.857	3.972	90-100	47.79	28967	99,99
110	4.067	4.029	3.961	4.029	4.067	4.029	3.961	4.029	100-110	39.74	29007	99.1,99.1
120	5.938	6.286	6.051	6.286	5.938	6.286	6.051	6.286	110-120	49.66	29056	99.3,99.3
130	6.179	6.368	6.419	6.368	6.179	6.368	6.419	6.368	120-130	57.11	29113	99.5,99.5
140	7.414	7.729	7.736	7.729	7.414	7.729	7.736	7.729	130-140	53.36	29167	99.6,99.6
150	7.232	7.343	7.307	7.343	7.232	7.343	7.307	7.343	140-150	47.57	29214	99.8,99.8
160	6.551	6.543	6.501	6.543	6.551	6.543	6.501	6.543	150-160	31.91	29246	99.9,99.9
170	7.603	7.559	7.572	7.559	7.603	7.559	7.572	7.559	160-170	19.91	29266	100,100
180	8.537	8.544	8.551	8.544	8.537	8.544	8.551	8.544	170-180	7.703	29274	100,100
DEG	LUMINOUS INTENSITY:X10cd									UNIT:lm		

Conical surface Flux(90deg): 19410 lm

%lum = 66.3%
%lamp = 66.3%

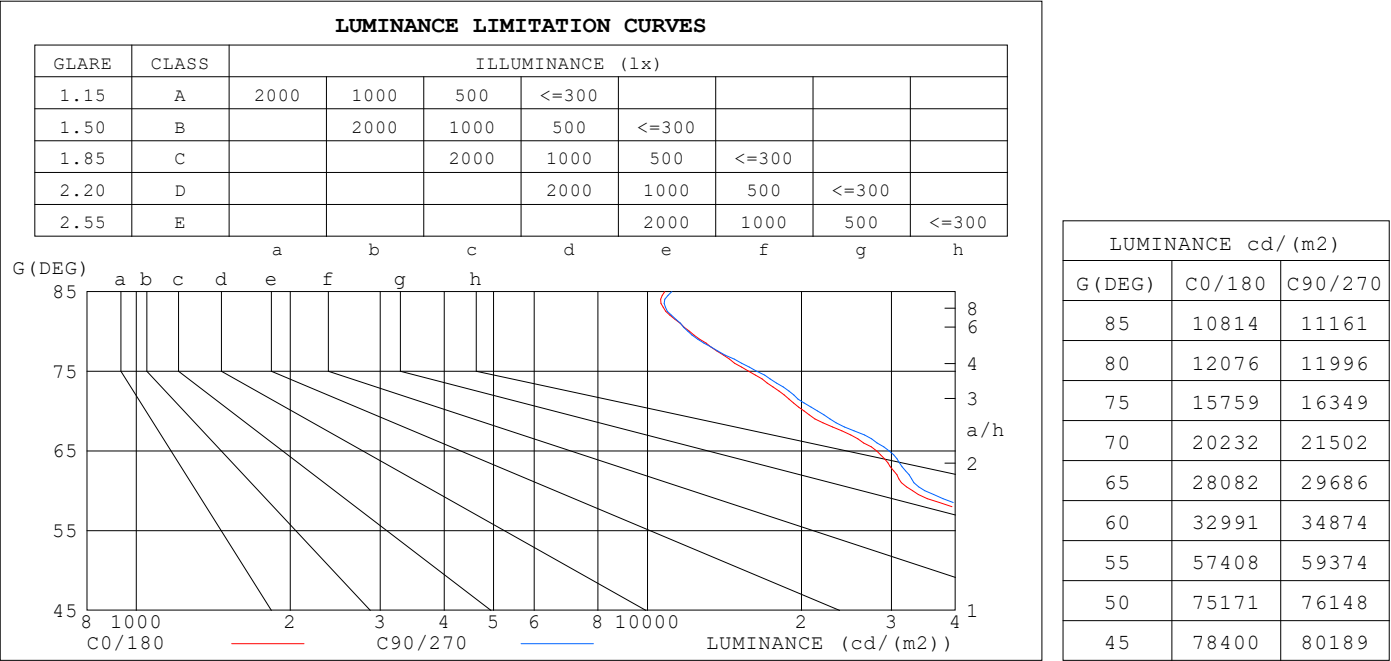
Conical surface Flux(120deg): 26473 lm

%lum = 90.4%
%lamp = 90.4%

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:ZZX
Test Date:2023-07-13

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

LUMINANCE LIMITATION CURVES



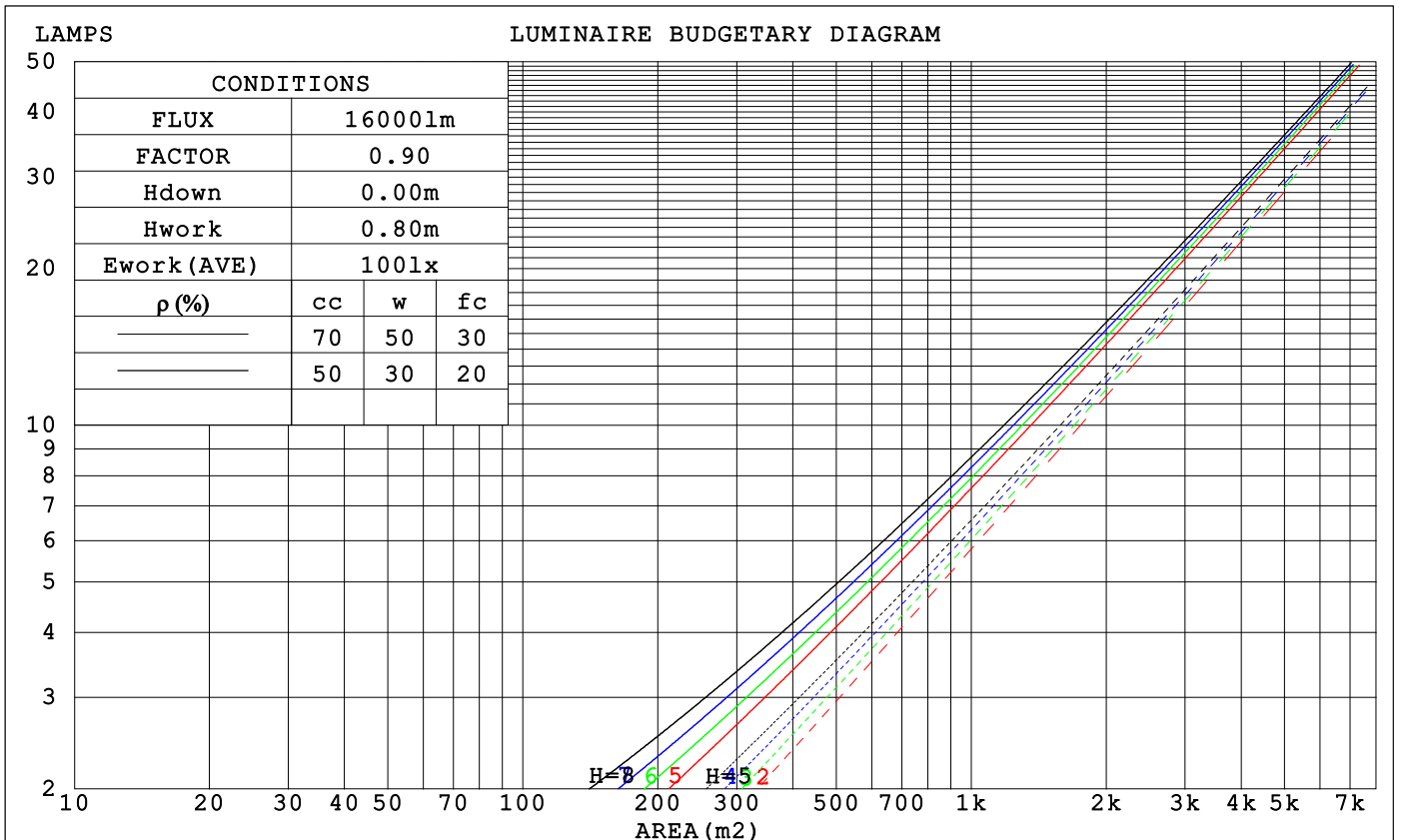
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:ZZX
Test Date:2023-07-13

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

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			Coefficients of Utilization(CU)												
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.10	1.10	1.10	1.05	1.05	1.05	1.01	1.01	1.01	.99
1.0	1.06	1.03	.00	1.04	1.01	.98	.00	.97	.95	.96	.94	.92	.92	.90	.89	.87
2.0	.95	.89	.84	.93	.87	.83	.89	.85	.81	.86	.82	.79	.83	.80	.77	.75
3.0	.84	.77	.71	.83	.76	.71	.80	.74	.69	.77	.72	.68	.74	.70	.67	.65
4.0	.75	.68	.61	.74	.67	.61	.72	.65	.60	.69	.64	.59	.67	.62	.58	.56
5.0	.68	.60	.53	.67	.59	.53	.64	.58	.52	.62	.56	.52	.60	.55	.51	.49
6.0	.61	.53	.47	.60	.52	.47	.58	.51	.46	.57	.50	.46	.55	.49	.45	.43
7.0	.55	.47	.41	.55	.47	.41	.53	.46	.41	.51	.45	.40	.50	.44	.40	.38
8.0	.51	.42	.37	.50	.42	.37	.48	.41	.36	.47	.41	.36	.46	.40	.36	.34
9.0	.46	.38	.33	.46	.38	.33	.44	.38	.33	.43	.37	.32	.42	.36	.32	.30
10.0	.43	.35	.30	.42	.35	.30	.41	.34	.30	.40	.34	.29	.39	.33	.29	.27



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:ZZX
Test Date:2023-07-13

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	.255	.145	.046	.248	.141	.045	.234	.134	.043	.222	.128	.041	.210	.122	.039	
2.0	.248	.136	.042	.242	.133	.041	.230	.128	.040	.219	.123	.038	.209	.118	.037	
3.0	.236	.126	.038	.230	.123	.037	.220	.119	.036	.210	.115	.035	.201	.111	.034	
4.0	.223	.116	.034	.218	.114	.034	.209	.111	.033	.200	.107	.032	.192	.104	.032	
5.0	.210	.107	.031	.205	.105	.031	.197	.103	.030	.189	.100	.030	.182	.097	.029	
6.0	.198	.099	.028	.194	.098	.028	.186	.095	.028	.179	.093	.027	.173	.091	.027	
7.0	.186	.092	.026	.183	.091	.026	.176	.089	.026	.170	.087	.025	.164	.085	.025	
8.0	.176	.086	.024	.173	.085	.024	.167	.083	.024	.161	.081	.024	.155	.080	.023	
9.0	.166	.080	.022	.163	.080	.022	.158	.078	.022	.153	.076	.022	.148	.075	.022	
10.0	.157	.075	.021	.155	.075	.021	.150	.073	.021	.145	.072	.020	.141	.071	.020	

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	.200	.200	.200	.171	.171	.171	.116	.116	.116	.067	.067	.067	.021	.021	.021	
1.0	.186	.166	.148	.159	.142	.127	.109	.098	.088	.063	.057	.051	.020	.018	.017	
2.0	.176	.141	.113	.151	.122	.097	.103	.084	.068	.059	.049	.040	.019	.016	.013	
3.0	.167	.123	.089	.143	.107	.077	.099	.074	.054	.057	.043	.032	.018	.014	.010	
4.0	.160	.110	.072	.137	.095	.062	.094	.066	.044	.055	.039	.026	.018	.013	.009	
5.0	.153	.099	.060	.131	.086	.052	.090	.060	.037	.052	.035	.022	.017	.011	.007	
6.0	.146	.091	.051	.126	.079	.044	.087	.055	.031	.050	.032	.019	.016	.011	.006	
7.0	.140	.084	.044	.121	.073	.039	.083	.051	.027	.048	.030	.016	.016	.010	.005	
8.0	.134	.078	.040	.116	.068	.034	.080	.048	.024	.047	.028	.015	.015	.009	.005	
9.0	.129	.073	.036	.111	.064	.031	.077	.045	.022	.045	.026	.013	.015	.009	.004	
10.0	.124	.069	.033	.107	.060	.029	.074	.042	.020	.043	.025	.012	.014	.008	.004	

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3℃
 Operators:ZZX
 Test Date:2023-07-13

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	23.9	25.4	24.3	25.7	26.1	24.1	25.6	24.5	25.9	26.3
3H	24.6	25.9	25.0	26.3	26.6	24.8	26.1	25.2	26.4	26.8
4H	24.8	26.0	25.2	26.4	26.8	24.9	26.1	25.4	26.5	26.9
6H	24.9	26.0	25.3	26.4	26.8	25.0	26.1	25.4	26.5	26.9
8H	24.9	25.9	25.3	26.4	26.8	25.0	26.1	25.5	26.5	26.9
12H	24.9	25.9	25.3	26.3	26.8	25.0	26.0	25.5	26.4	26.9
4H 2H	24.2	25.4	24.6	25.7	26.2	24.3	25.5	24.8	25.9	26.3
3H	25.0	26.0	25.4	26.4	26.8	25.1	26.1	25.6	26.5	27.0
4H	25.3	26.1	25.7	26.6	27.0	25.4	26.2	25.8	26.7	27.1
6H	25.4	26.2	25.9	26.6	27.1	25.5	26.2	26.0	26.7	27.2
8H	25.4	26.1	25.9	26.6	27.1	25.5	26.2	26.0	26.7	27.2
12H	25.5	26.1	26.0	26.6	27.1	25.5	26.2	26.0	26.7	27.2
8H 4H	25.3	26.0	25.8	26.5	27.0	25.4	26.1	25.9	26.6	27.0
6H	25.5	26.1	26.0	26.6	27.1	25.5	26.1	26.1	26.6	27.1
8H	25.5	26.0	26.1	26.6	27.1	25.6	26.1	26.1	26.6	27.2
12H	25.6	26.0	26.1	26.6	27.2	25.6	26.1	26.2	26.6	27.2
12H 4H	25.3	25.9	25.8	26.4	26.9	25.4	26.0	25.9	26.5	27.0
6H	25.5	26.0	26.0	26.5	27.0	25.5	26.0	26.1	26.5	27.1
8H	25.5	26.0	26.1	26.5	27.1	25.6	26.1	26.1	26.6	27.2
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:2023-07-13

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

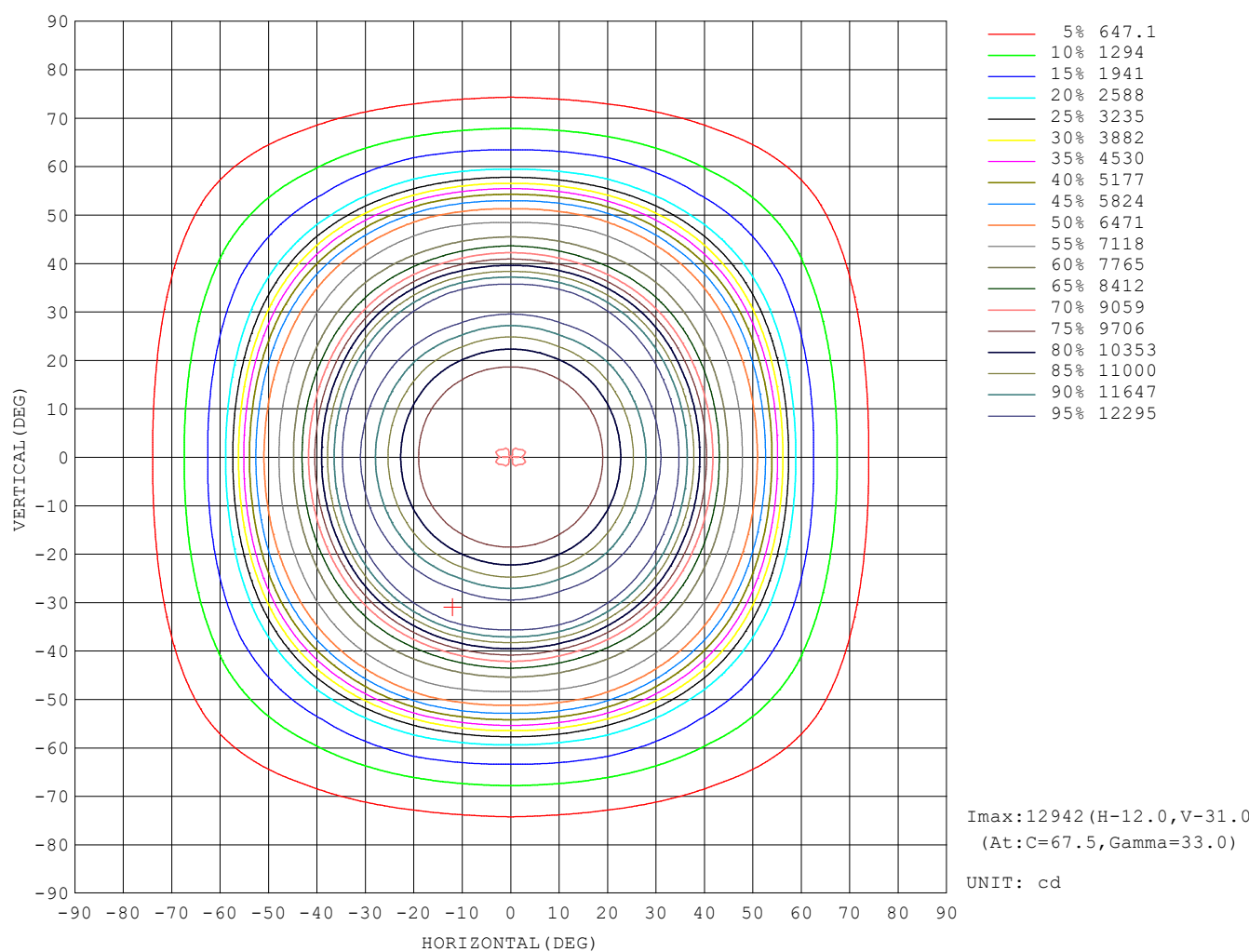
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	63	52	46	62	52	46	61	52	46	40
0.80	74	63	57	73	63	57	71	62	56	50
1.00	82	73	66	81	72	66	79	73	65	59
1.25	89	80	74	88	79	74	85	78	73	66
1.50	94	85	80	92	85	79	89	83	78	71
2.00	100	93	87	98	91	87	94	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	99	102	99	96	87
5.00	110	106	103	108	104	101	103	101	98	89
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: 2023-07-13

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:

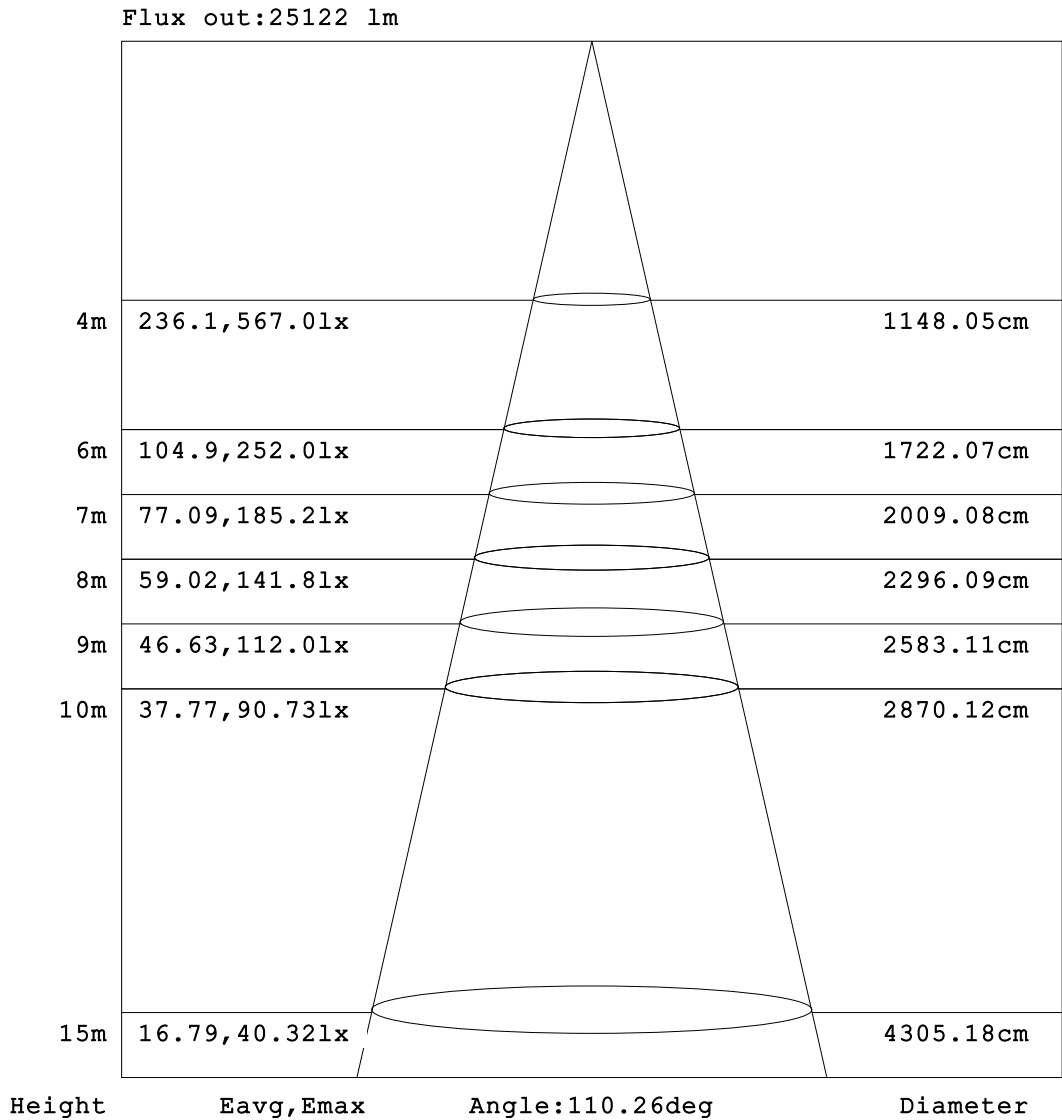
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3°C
Operators: ZZK
Test Date: 2023-07-13

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:

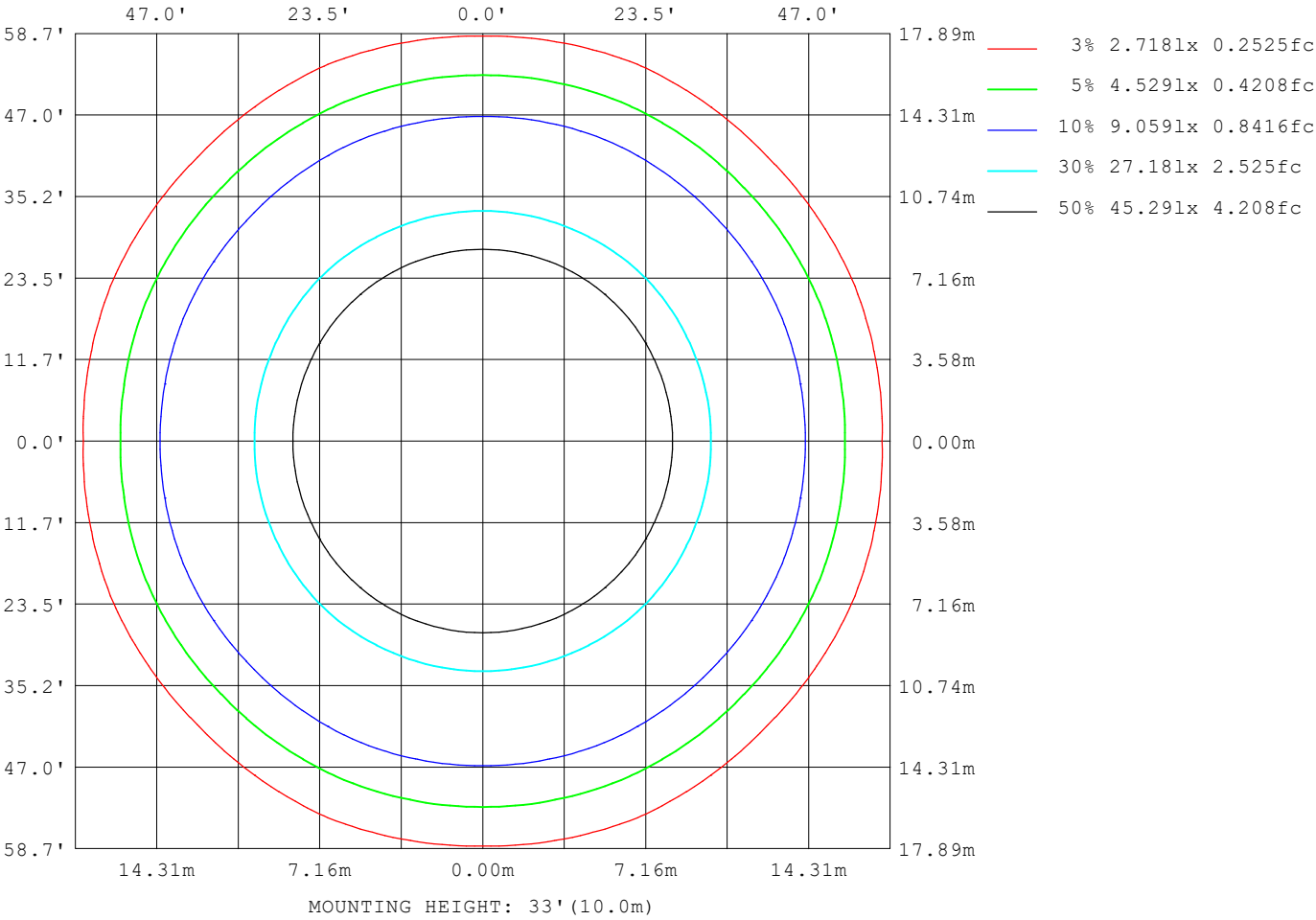
AAI Figure



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

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

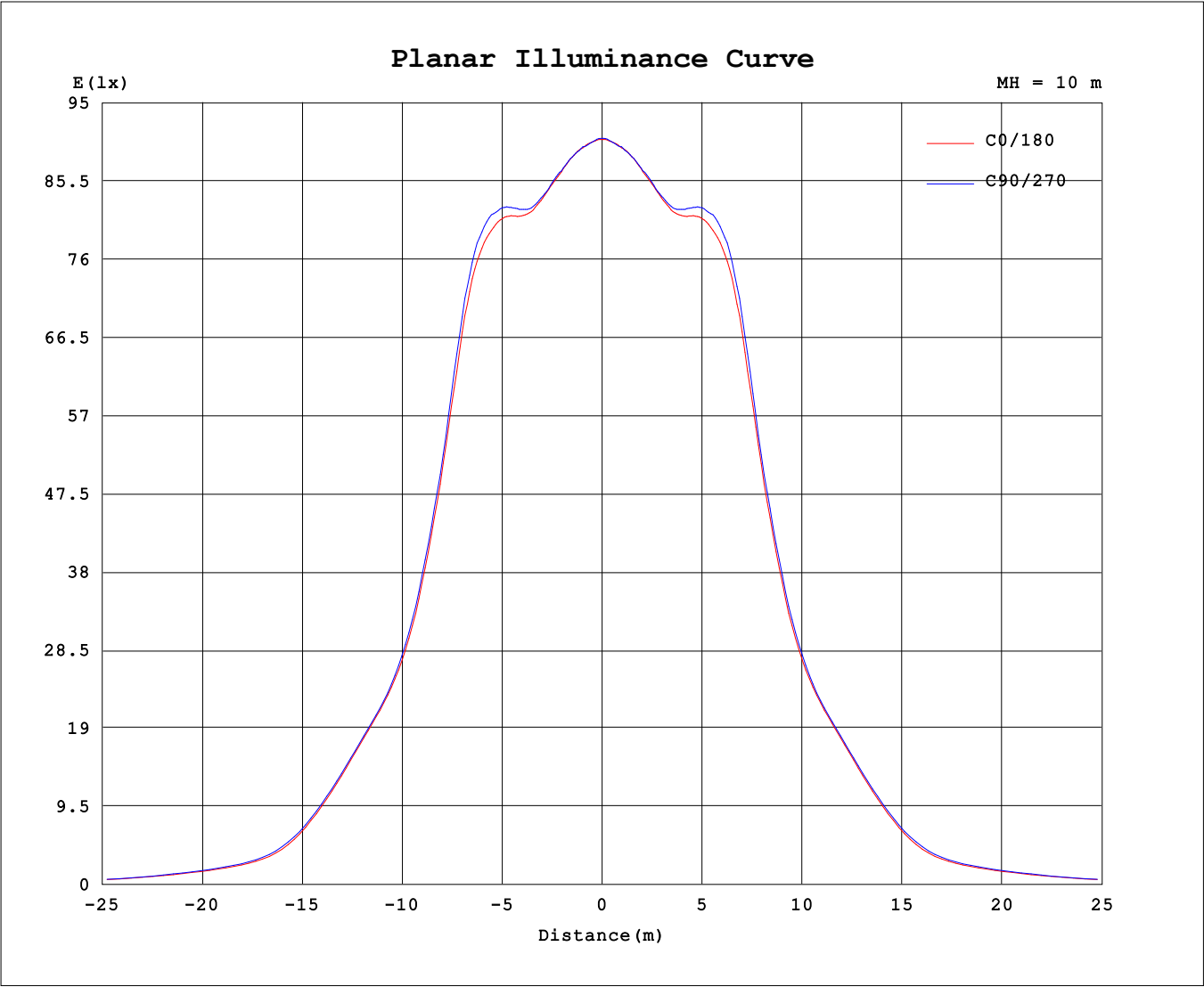
ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3°C
Operators:ZZX
Test Date:2023-07-13

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	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:2023-07-13	Remarks: