

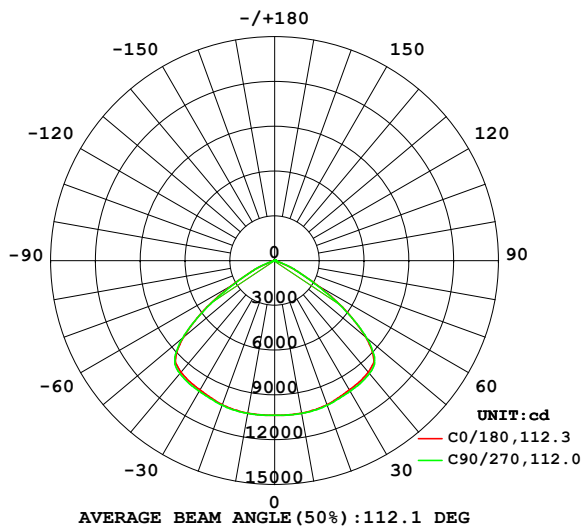
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

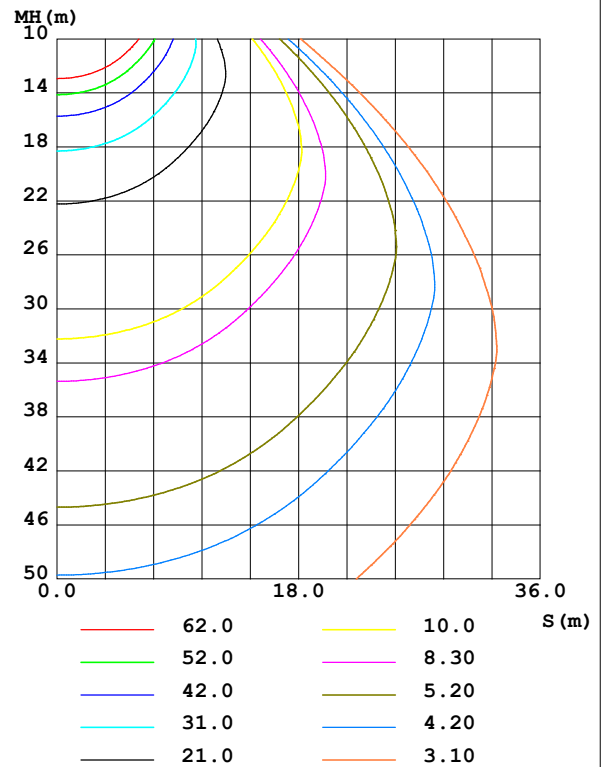
Test:U:230.0V I:0.658A P:149.0W PF:0.985 Freq:50.01Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:29096.1x1 lm		
NAME: HB68-150H-5070-H00197+H00D02	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 195.22 lm/W			
MODEL	/	I _{max} (cd)	10388	S/MH(C0/180)	1.47
NOMINAL POWER(W)	/	LOR(%)	100.0	S/MH(C90/270)	1.49
RATED VOLTAGE(V)	/	TOTAL FLUX(lm)	29096	η UP,DN(C0-180)	0.1,49.9
NOMINAL FLUX(lm)	29096.1	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.1,49.9
LAMPS INSIDE	1	η up (%)	0.3	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)	/	η down (%)	99.7	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℃
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

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	1037	1038	1039	1038	1037	1038	1039	1038	0- 10	990.6	990.6	3.4,3.4
20	1027	1029	1031	1029	1027	1029	1031	1029	10- 20	2933	3923	13.5,13.5
30	1001	1006	1011	1006	1001	1006	1011	1006	20- 30	4704	8627	29.7,29.7
40	976.0	984.0	988.3	984.0	976.0	984.0	988.3	984.0	30- 40	6256	14883	51.2,51.2
50	796.3	805.8	802.8	805.8	796.3	805.8	802.8	805.8	40- 50	7151	22034	75.7,75.7
60	324.9	331.9	316.4	331.9	324.9	331.9	316.4	331.9	50- 60	5100	27134	93.3,93.3
70	42.13	43.45	42.59	43.45	42.13	43.45	42.59	43.45	60- 70	1672	28806	99,99
80	8.821	8.106	7.614	8.106	8.821	8.106	7.614	8.106	70- 80	168.6	28975	99.6,99.6
90	0.0944	0.1215	0.1266	0.1215	0.0944	0.1215	0.1266	0.1215	80- 90	40.85	29016	99.7,99.7
100	0.1584	0.1623	0.1584	0.1623	0.1584	0.1623	0.1584	0.1623	90-100	0.8522	29017	99.7,99.7
110	0.6451	0.6538	0.6501	0.6538	0.6451	0.6538	0.6501	0.6538	100-110	4.002	29021	99.7,99.7
120	1.203	1.217	1.215	1.217	1.203	1.217	1.215	1.217	110-120	9.329	29030	99.8,99.8
130	1.800	1.812	1.807	1.812	1.800	1.812	1.807	1.812	120-130	13.48	29044	99.8,99.8
140	2.264	2.271	2.264	2.271	2.264	2.271	2.264	2.271	130-140	16.09	29060	99.9,99.9
150	2.342	2.333	2.340	2.333	2.342	2.333	2.340	2.333	140-150	14.45	29074	99.9,99.9
160	2.451	2.440	2.444	2.440	2.451	2.440	2.444	2.440	150-160	10.93	29085	100,100
170	3.244	3.234	3.238	3.234	3.244	3.234	3.238	3.234	160-170	7.804	29093	100,100
180	3.449	3.455	3.465	3.455	3.449	3.455	3.465	3.455	170-180	3.258	29096	100,100
DEG	LUMINOUS INTENSITY:X10cd									UNIT:lm		

Conical surface Flux(90deg): 18470 lm

%lum = 63.5%

%lamp = 63.5%

Conical surface Flux(130deg): 28276 lm

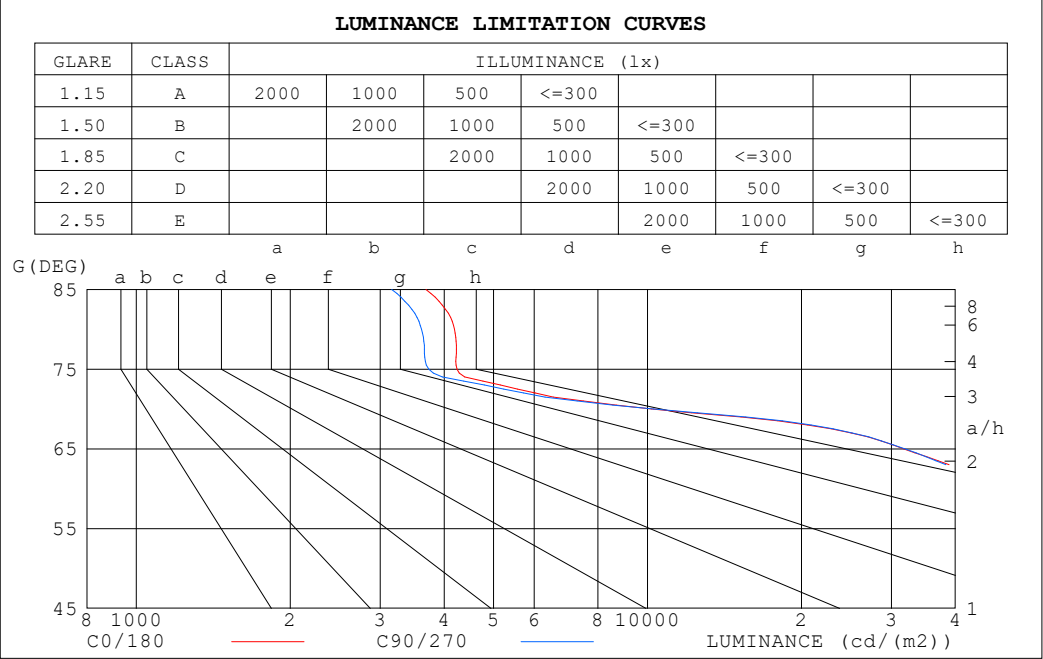
%lum = 97.2%

%lamp = 97.2%

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:

LUMINANCE LIMITATION CURVES



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	3687	3159
80	4192	3615
75	4241	3732
70	10166	10267
65	31721	31903
60	53616	52175
55	82808	81894
50	102233	102967
45	109723	110492

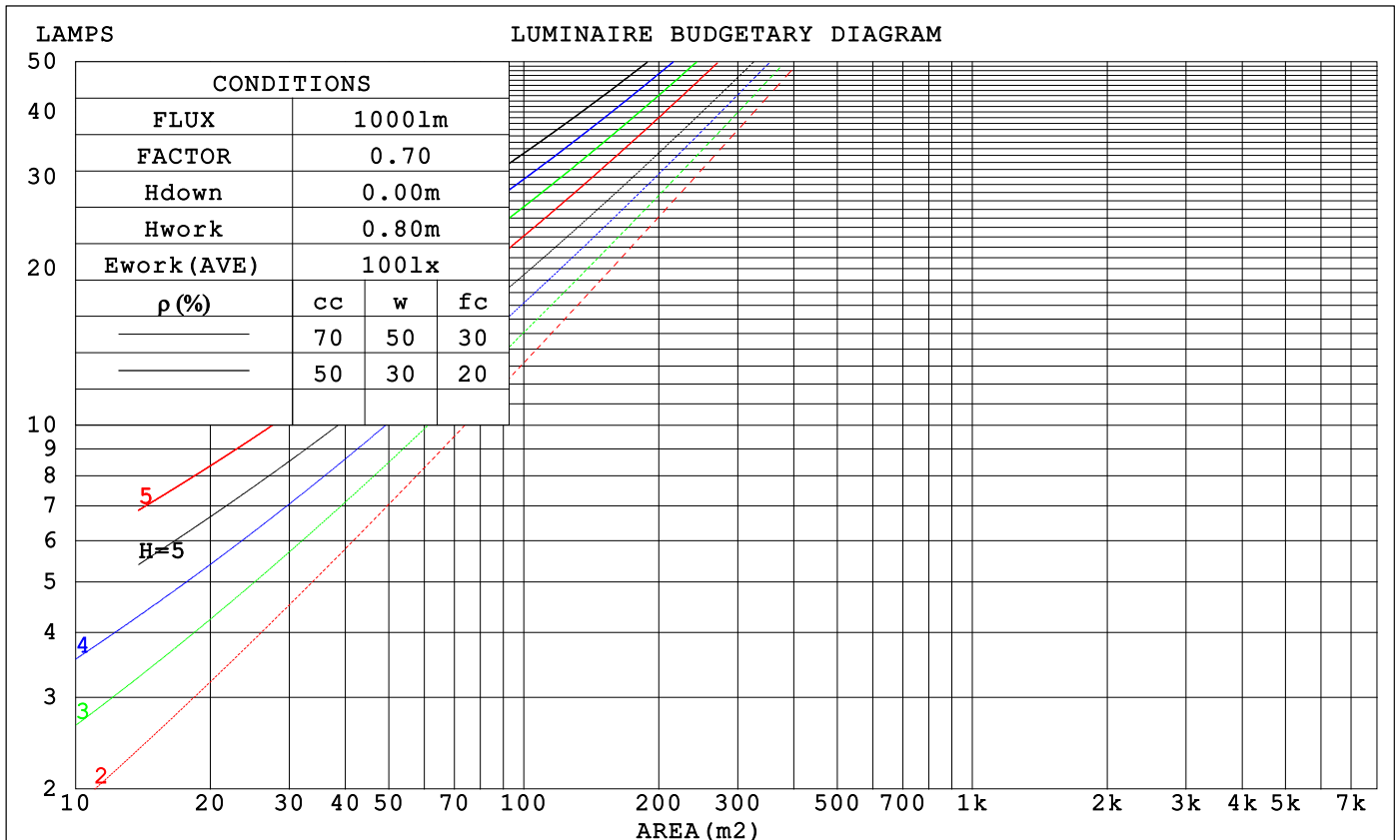
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:ZZX
Test Date:2023-07-13

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	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	.00
1.0	1.07	1.04	1.01	1.05	1.02	.99	1.01	.98	.96	.97	.95	.93	.93	.92	.90	.88
2.0	.95	.90	.85	.93	.88	.84	.90	.86	.82	.87	.83	.80	.84	.81	.78	.76
3.0	.85	.78	.72	.83	.77	.71	.80	.75	.70	.78	.73	.69	.75	.71	.68	.66
4.0	.76	.68	.62	.74	.67	.61	.72	.65	.60	.70	.64	.60	.68	.63	.59	.57
5.0	.68	.60	.53	.67	.59	.53	.65	.58	.53	.63	.57	.52	.61	.56	.51	.49
6.0	.61	.53	.47	.60	.52	.46	.58	.51	.46	.57	.50	.46	.55	.50	.45	.43
7.0	.55	.47	.41	.54	.47	.41	.53	.46	.41	.52	.45	.40	.50	.44	.40	.38
8.0	.50	.42	.37	.50	.42	.36	.48	.41	.36	.47	.41	.36	.46	.40	.36	.34
9.0	.46	.38	.33	.45	.38	.33	.44	.37	.33	.43	.37	.32	.42	.36	.32	.30
10.0	.42	.35	.30	.42	.34	.30	.41	.34	.29	.40	.34	.29	.39	.33	.29	.27



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

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	.247	.141	.045	.240	.137	.044	.227	.130	.042	.215	.124	.040	.204	.118	.038	
2.0	.244	.134	.041	.238	.131	.040	.227	.126	.039	.216	.121	.038	.207	.117	.037	
3.0	.235	.125	.037	.229	.123	.037	.219	.119	.036	.210	.115	.035	.201	.112	.035	
4.0	.223	.116	.034	.218	.114	.034	.209	.111	.033	.201	.108	.033	.193	.105	.032	
5.0	.211	.107	.031	.206	.106	.031	.198	.103	.030	.191	.101	.030	.184	.098	.030	
6.0	.199	.100	.028	.195	.098	.028	.188	.096	.028	.181	.094	.028	.175	.092	.027	
7.0	.187	.093	.026	.184	.092	.026	.178	.090	.026	.172	.088	.026	.166	.086	.025	
8.0	.177	.086	.024	.174	.086	.024	.168	.084	.024	.163	.082	.024	.158	.081	.024	
9.0	.167	.081	.023	.164	.080	.022	.159	.079	.022	.154	.077	.022	.150	.076	.022	
10.0	.158	.076	.021	.156	.075	.021	.151	.074	.021	.146	.073	.021	.142	.072	.021	

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	.178	.159	.141	.152	.136	.122	.104	.094	.084	.060	.054	.049	.019	.017	.016	
2.0	.168	.134	.106	.144	.116	.092	.099	.080	.064	.057	.047	.037	.018	.015	.012	
3.0	.160	.116	.081	.137	.100	.071	.094	.070	.050	.054	.041	.029	.017	.013	.010	
4.0	.153	.103	.064	.131	.089	.056	.090	.062	.039	.052	.036	.023	.017	.012	.008	
5.0	.146	.092	.052	.125	.080	.045	.086	.056	.032	.050	.033	.019	.016	.011	.006	
6.0	.139	.084	.043	.120	.072	.038	.083	.051	.027	.048	.030	.016	.015	.010	.005	
7.0	.133	.077	.037	.115	.066	.032	.079	.047	.023	.046	.027	.014	.015	.009	.004	
8.0	.127	.071	.032	.110	.061	.028	.076	.043	.020	.044	.025	.012	.014	.008	.004	
9.0	.122	.066	.028	.105	.057	.025	.073	.040	.017	.042	.024	.010	.014	.008	.003	
10.0	.117	.062	.025	.101	.054	.022	.070	.038	.016	.041	.022	.009	.013	.007	.003	

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	3H	26.8	28.4	27.2	28.7	29.0	26.6	28.1	27.0	28.4	28.7	
	4H	26.9	28.3	27.3	28.6	29.0	26.7	28.0	27.1	28.3	28.7	
	6H	26.9	28.1	27.3	28.5	28.9	26.6	27.9	27.0	28.2	28.6	
	8H	26.8	28.0	27.2	28.3	28.7	26.6	27.7	27.0	28.1	28.5	
	12H	26.8	27.9	27.2	28.3	28.7	26.5	27.6	27.0	28.0	28.4	
	12H	26.7	27.8	27.2	28.2	28.6	26.5	27.5	26.9	27.9	28.4	
	4H	2H	26.9	28.1	27.3	28.5	28.9	26.7	27.9	27.1	28.3	28.6
		3H	27.0	28.0	27.4	28.4	28.8	26.8	27.8	27.2	28.2	28.6
		4H	26.9	27.8	27.4	28.2	28.7	26.7	27.6	27.1	28.0	28.5
		6H	26.9	27.7	27.3	28.1	28.6	26.6	27.4	27.1	27.9	28.3
		8H	26.8	27.6	27.3	28.0	28.5	26.6	27.3	27.1	27.8	28.3
		12H	26.8	27.4	27.3	27.9	28.4	26.6	27.2	27.1	27.7	28.2
	8H	4H	26.8	27.5	27.3	28.0	28.5	26.6	27.3	27.1	27.8	28.2
		6H	26.7	27.3	27.3	27.8	28.3	26.5	27.1	27.0	27.6	28.1
		8H	26.7	27.2	27.2	27.8	28.2	26.5	27.0	27.0	27.5	28.0
		12H	26.7	27.1	27.2	27.6	28.2	26.4	26.9	26.9	27.4	28.0
	12H	4H	26.8	27.4	27.3	27.9	28.4	26.6	27.2	27.0	27.7	28.2
		6H	26.7	27.2	27.2	27.7	28.3	26.5	27.0	27.0	27.5	28.0
		8H	26.7	27.1	27.2	27.6	28.2	26.4	26.9	26.9	27.4	28.0
	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:2023-07-13

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

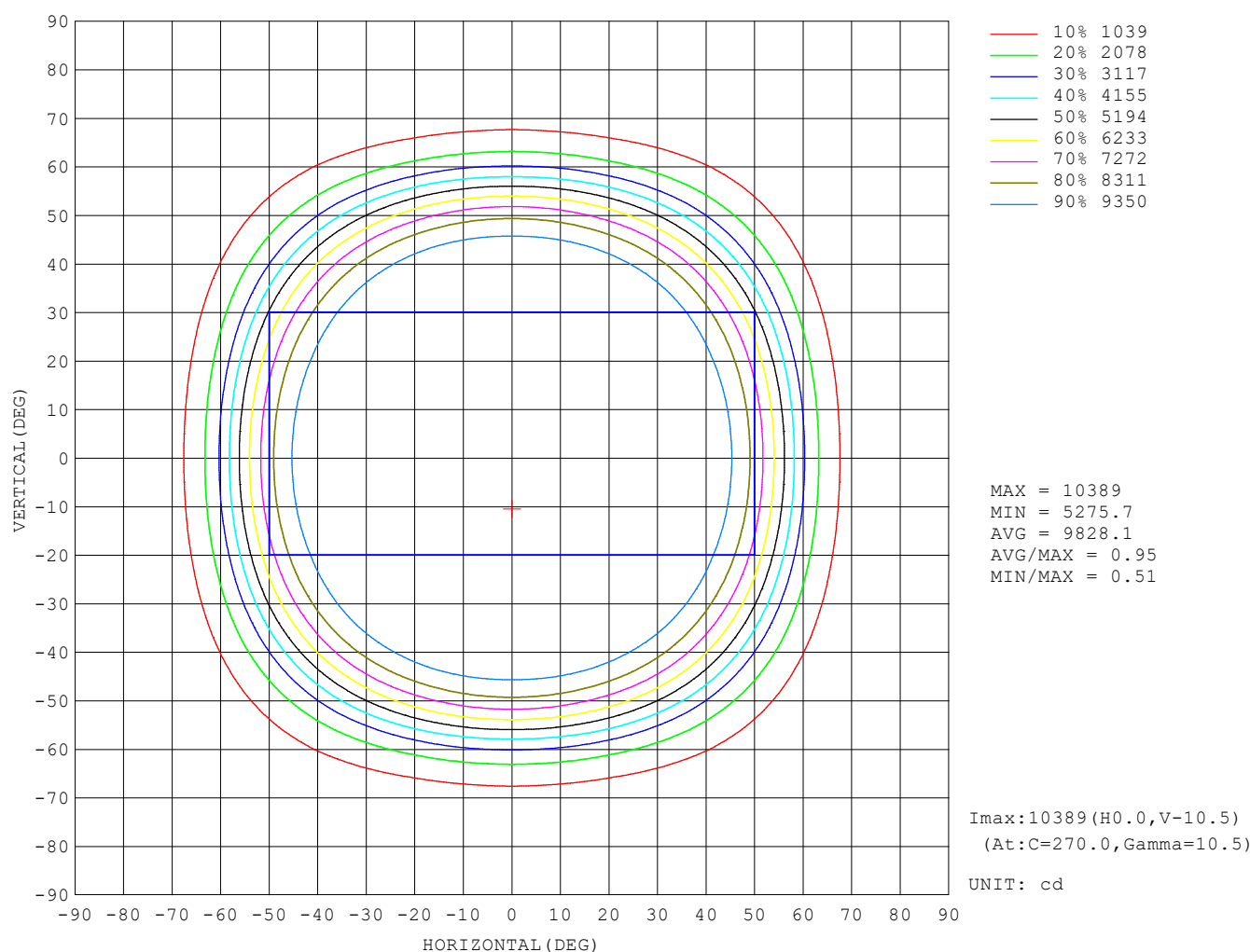
UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	60	49	42	59	48	42	58	48	42	35
0.80	71	60	54	70	60	53	69	59	53	47
1.00	81	71	65	80	70	64	78	72	64	57
1.25	88	79	73	87	79	73	84	77	72	65
1.50	93	85	79	92	84	78	89	82	77	71
2.00	100	93	87	98	91	87	95	89	85	78
2.50	103	96	91	101	95	90	97	92	89	81
3.00	106	100	96	104	99	94	100	96	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: 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:

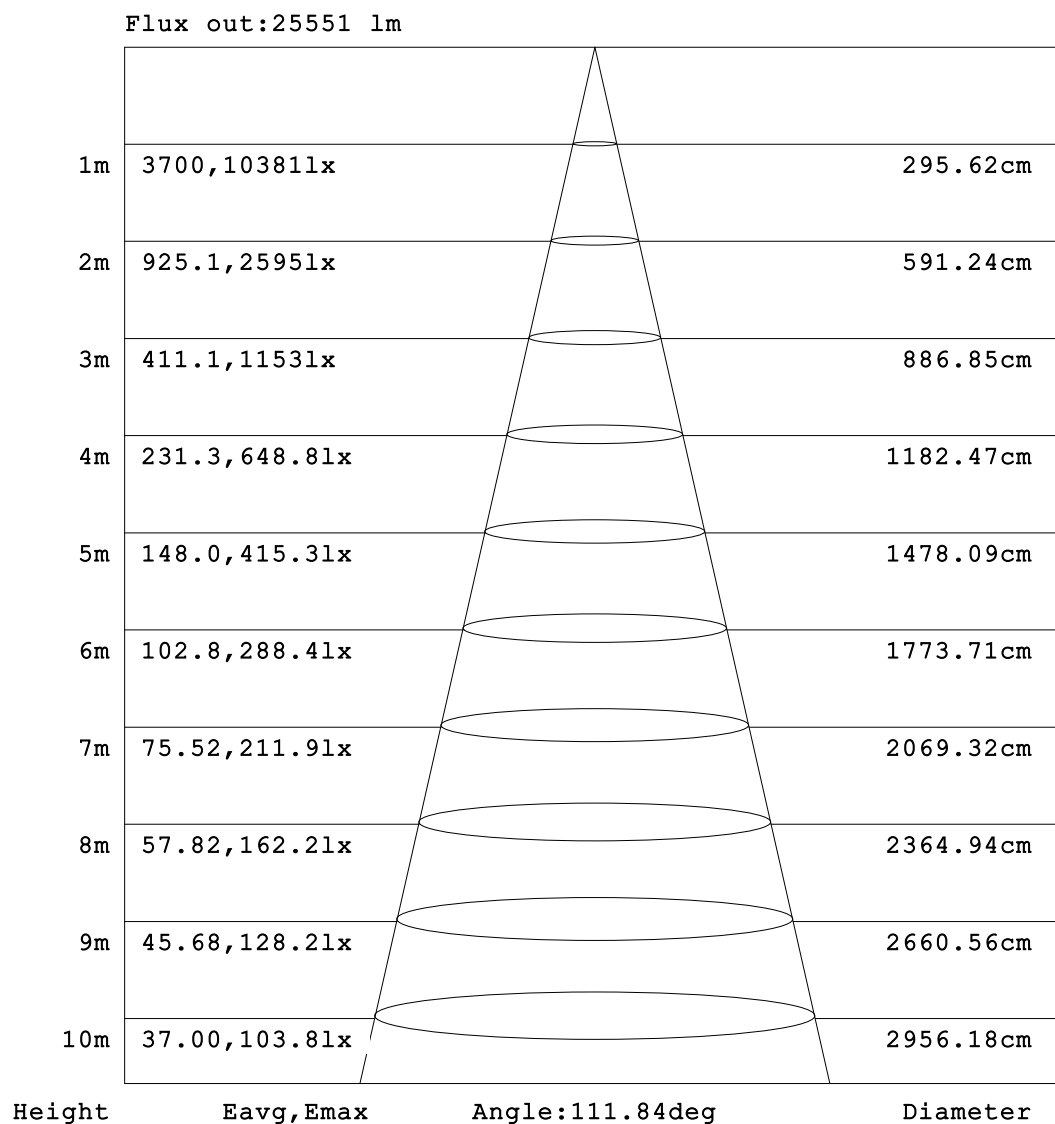
ISOCANDELA DIAGRAM



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

AAI Figure



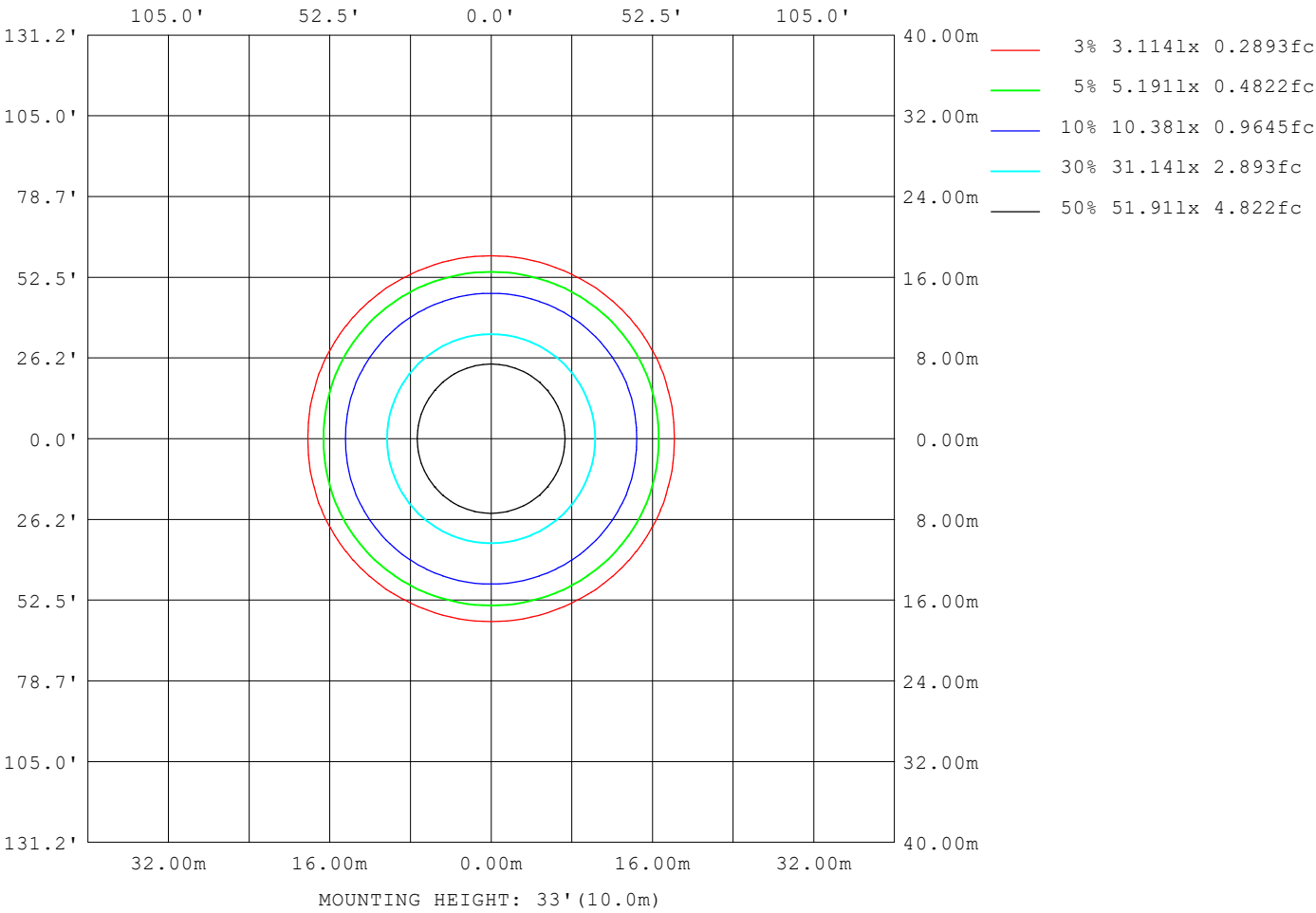
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
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

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°C	Humidity:65.0%
Operators:ZZX	Test Distance:26.000m [K=0.4556]
Test Date:2023-07-13	Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LED Avg.L Report

Test:U:230.0V I:0.658A P:149.0W PF:0.985 Freq:50.01Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:29096.1x1 lm		
NAME: HB68-150H-5070-H00197+H00D02	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

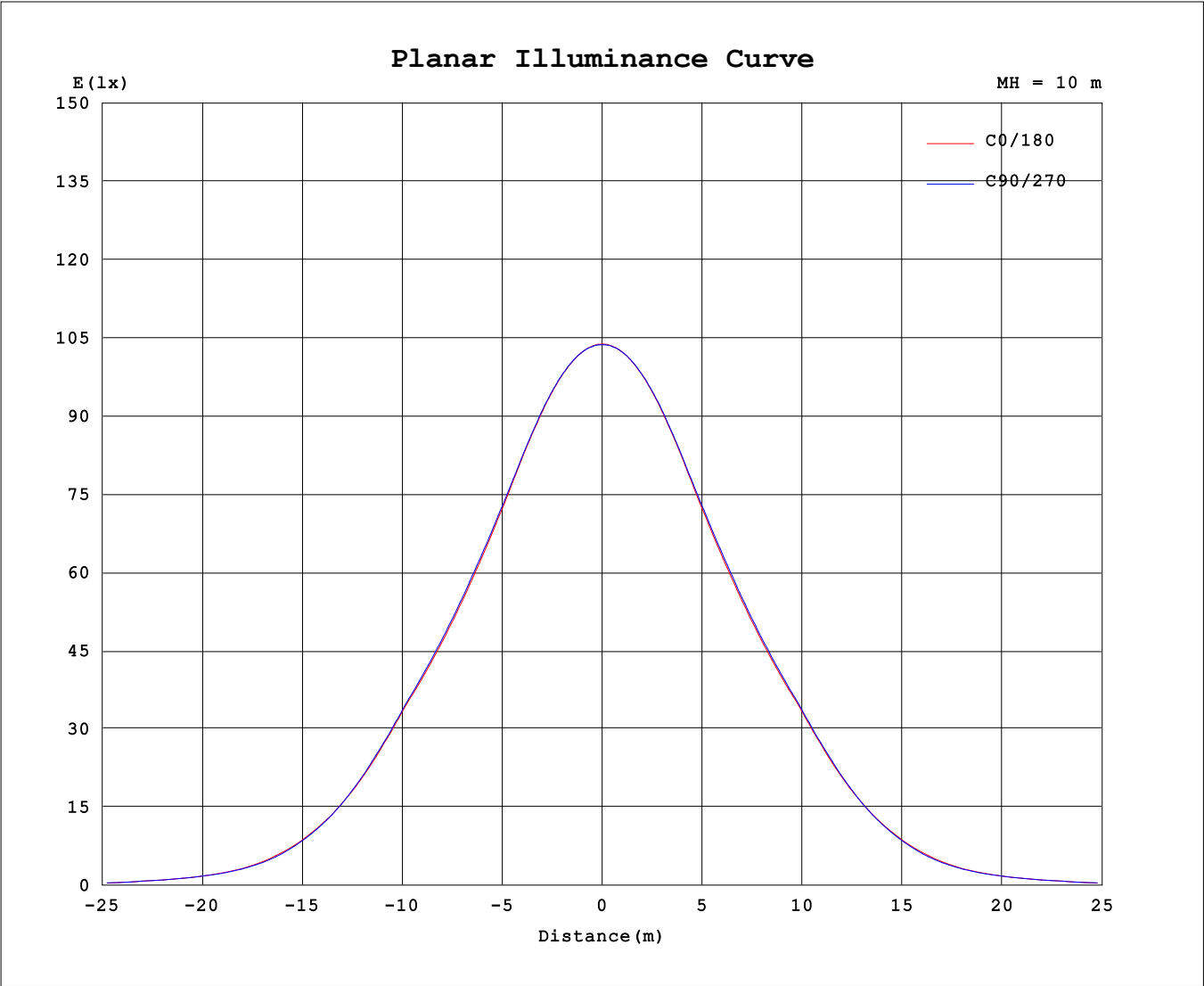
AvgL	cd/m2
L_0~180 (65) av	31688
L_0~180 (75) av	4236
L_0~180 (85) av	3683
L_90~270 (65) av	31901
L_90~270 (75) av	3732
L_90~270 (85) av	3159
L_45 (65) av	32431
L_45 (75) av	3950
L_45 (85) av	3365

Standard: GB/T 29293-2012

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:

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: