

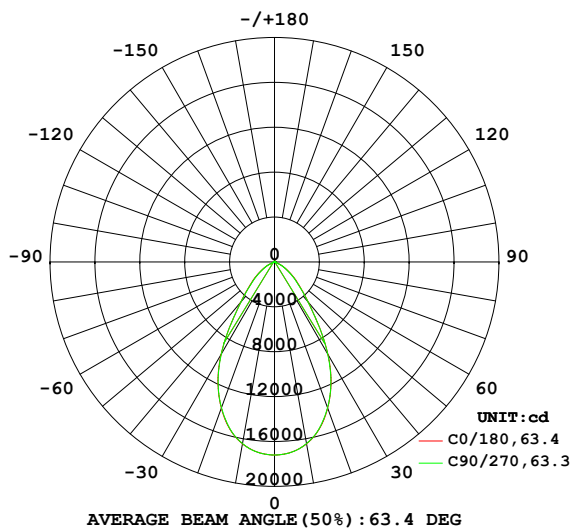
## EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINAIRE PHOTOMETRIC TEST REPORT

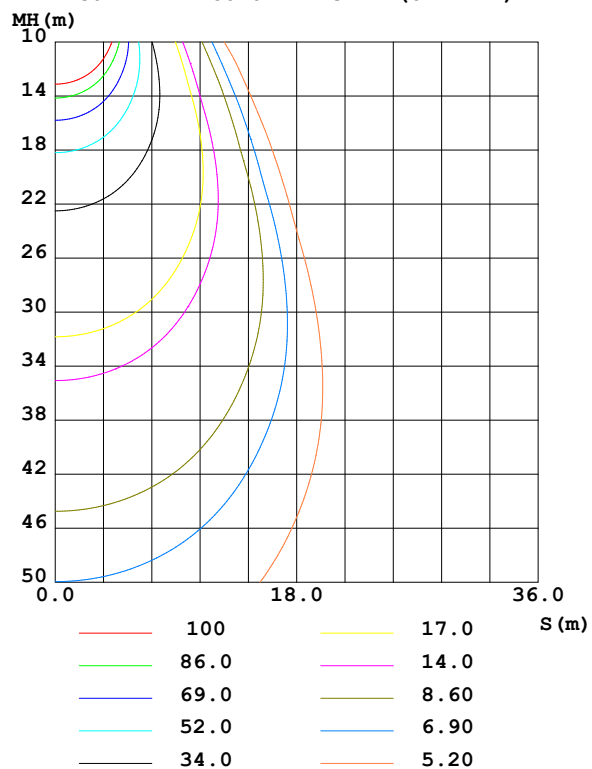
Test:U:230.0V I:0.449A P:100.4W PF:0.973 Freq:50.01Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:20102.1x1 lm		
NAME: HB68-100H-5070-H00196+H00D02	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 200.13 lm/W			
MODEL	/	Imax (cd)	17206	S/MH (C0/180)	0.95
NOMINAL POWER (W)	/	LOR (%)	100.0	S/MH (C90/270)	0.95
RATED VOLTAGE (V)	/	TOTAL FLUX (lm)	20102	$\eta$ UP,DN (C0-180)	0.2,49.8
NOMINAL FLUX (lm)	20102.1	CIE CLASS	DIRECT	$\eta$ UP,DN (C180-360)	0.2,49.8
LAMPS INSIDE	1	$\eta$ up (%)	0.3	CIBSE SHR NOM	0.75
TEST VOLTAGE (V)	/	$\eta$ down (%)	99.7	CIBSE SHR MAX	0.95

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-07-03

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  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:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	1645	1645	1643	1645	1645	1645	1643	1645	0- 10	1607	1607	7.99,7.99
20	1386	1381	1382	1381	1386	1381	1382	1381	10- 20	4295	5902	29.4,29.4
30	952.7	947.0	949.4	947.0	952.7	947.0	949.4	947.0	20- 30	5405	11307	56.2,56.2
40	468.6	459.4	464.0	459.4	468.6	459.4	464.0	459.4	30- 40	4245	15553	77.4,77.4
50	241.4	235.7	231.8	235.7	241.4	235.7	231.8	235.7	40- 50	2517	18069	89.9,89.9
60	103.6	101.2	99.00	101.2	103.6	101.2	99.00	101.2	50- 60	1418	19488	96.9,96.9
70	13.92	14.00	14.13	14.00	13.92	14.00	14.13	14.00	60- 70	491.7	19980	99.4,99.4
80	1.571	1.653	1.690	1.653	1.571	1.653	1.690	1.653	70- 80	51.76	20031	99.6,99.6
90	0.0282	0.0358	0.0488	0.0358	0.0282	0.0358	0.0488	0.0358	80- 90	8.018	20039	99.7,99.7
100	0.0717	0.0722	0.0730	0.0722	0.0717	0.0722	0.0730	0.0722	90-100	0.3890	20040	99.7,99.7
110	0.2170	0.2162	0.2190	0.2162	0.2170	0.2162	0.2190	0.2162	100-110	1.416	20041	99.7,99.7
120	0.4832	0.4912	0.5014	0.4912	0.4832	0.4912	0.5014	0.4912	110-120	3.280	20044	99.7,99.7
130	1.033	1.054	1.069	1.054	1.033	1.054	1.069	1.054	120-130	6.694	20051	99.7,99.7
140	1.758	1.776	1.796	1.776	1.758	1.776	1.796	1.776	130-140	10.83	20062	99.8,99.8
150	2.505	2.515	2.529	2.515	2.505	2.515	2.529	2.515	140-150	13.36	20075	99.9,99.9
160	3.088	3.093	3.106	3.093	3.088	3.093	3.106	3.093	150-160	13.07	20088	99.9,99.9
170	4.026	4.024	4.039	4.024	4.026	4.024	4.039	4.024	160-170	9.635	20098	100,100
180	4.547	4.553	4.569	4.553	4.547	4.553	4.569	4.553	170-180	4.140	20102	100,100
DEG	LUMINOUS INTENSITY:X10cd									UNIT:lm		

Conical surface Flux(90deg): 16974 lm

%lum = 84.4%

%lamp = 84.4%

Conical surface Flux(130deg): 19850 lm

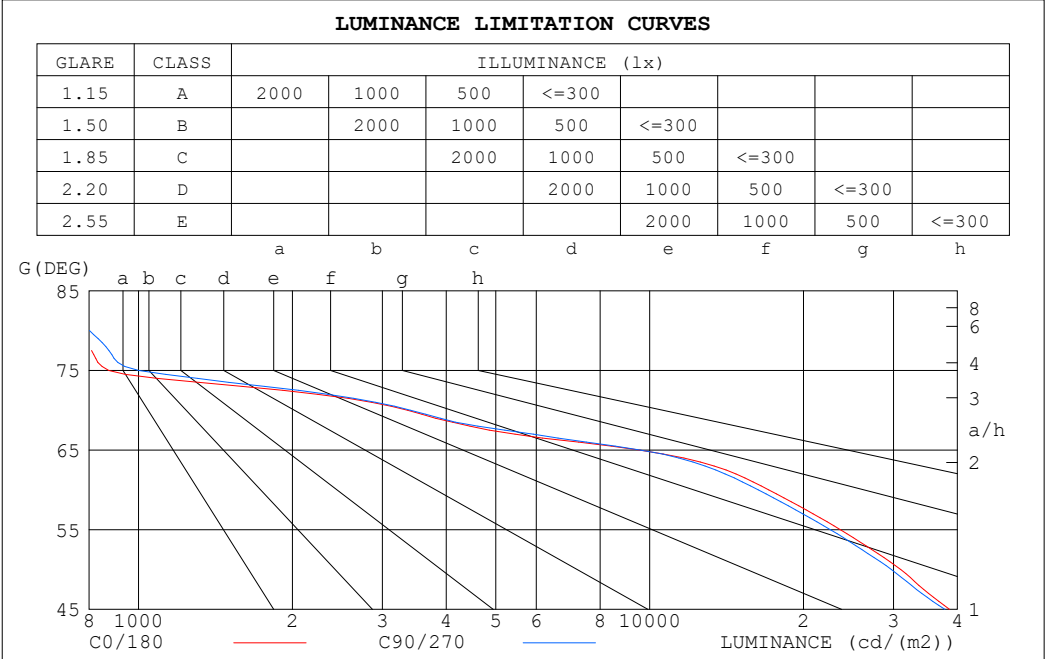
%lum = 98.7%

%lamp = 98.7%

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-07-03

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  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	627	677
80	747	802
75	874	1000
70	3359	3404
65	9562	9595
60	17094	16314
55	23618	22572
50	30989	29714
45	38619	37825

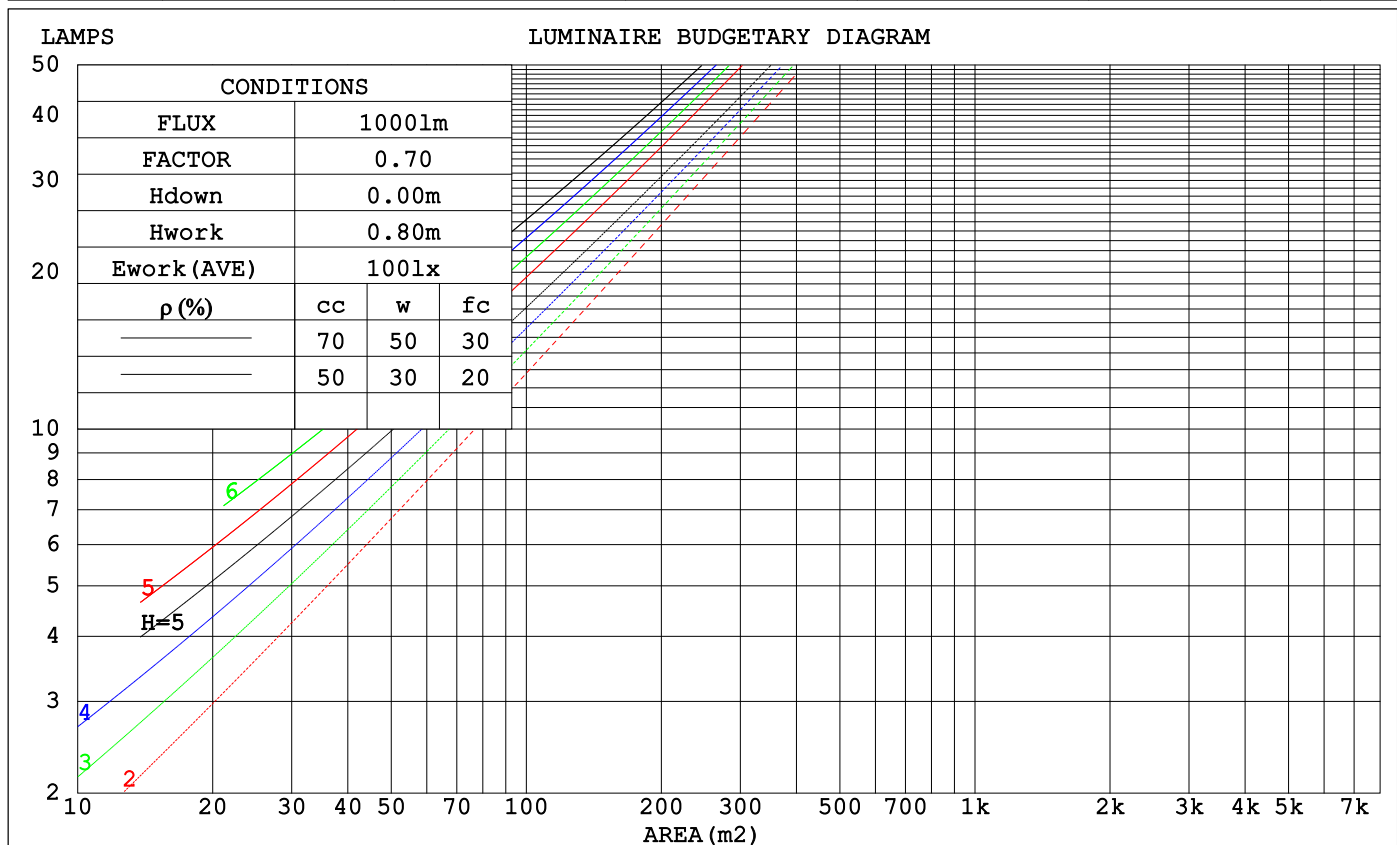
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C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-07-03

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

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	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	1.07	1.04	1.07	1.05	1.02	1.03	1.01	.99	.99	.98	.96	.96	.94	.93	.91
2.0	1.00	.96	.92	.98	.94	.91	.95	.92	.89	.92	.89	.87	.89	.87	.85	.83
3.0	.92	.86	.82	.90	.85	.81	.88	.83	.80	.85	.81	.78	.83	.80	.77	.75
4.0	.85	.78	.73	.83	.77	.73	.81	.76	.72	.79	.75	.71	.77	.73	.70	.68
5.0	.78	.71	.66	.77	.71	.66	.75	.70	.65	.73	.69	.65	.72	.68	.64	.63
6.0	.72	.66	.61	.72	.65	.60	.70	.64	.60	.68	.63	.59	.67	.63	.59	.57
7.0	.67	.60	.56	.67	.60	.55	.65	.59	.55	.64	.59	.55	.63	.58	.54	.53
8.0	.63	.56	.51	.62	.56	.51	.61	.55	.51	.60	.55	.51	.59	.54	.50	.49
9.0	.59	.52	.48	.58	.52	.48	.57	.51	.47	.56	.51	.47	.55	.50	.47	.45
10.0	.55	.49	.44	.55	.48	.44	.54	.48	.44	.53	.48	.44	.52	.47	.44	.42



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-07-03

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  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

$\rho_{cc}$	80%			70%			50%			30%			10%			0		
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0		
$\rho_{fc}$	20%			20%			20%			20%			20%			0		
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients (WEC)											
0.0																		
1.0	.203	.115	.037	.196	.112	.036	.183	.105	.034	.171	.099	.032	.160	.093	.030			
2.0	.197	.108	.033	.191	.105	.032	.180	.100	.031	.170	.096	.030	.161	.091	.029			
3.0	.189	.101	.030	.184	.098	.030	.174	.094	.029	.165	.091	.028	.157	.087	.027			
4.0	.180	.093	.027	.175	.092	.027	.167	.089	.026	.159	.086	.026	.152	.083	.025			
5.0	.171	.087	.025	.167	.086	.025	.160	.083	.024	.153	.081	.024	.146	.078	.023			
6.0	.162	.081	.023	.159	.080	.023	.152	.078	.023	.146	.076	.022	.140	.074	.022			
7.0	.154	.076	.022	.151	.075	.021	.145	.073	.021	.140	.072	.021	.135	.070	.021			
8.0	.147	.072	.020	.144	.071	.020	.139	.069	.020	.134	.068	.020	.129	.066	.019			
9.0	.140	.068	.019	.137	.067	.019	.133	.066	.019	.128	.064	.018	.124	.063	.018			
10.0	.133	.064	.018	.131	.063	.018	.127	.062	.017	.123	.061	.017	.119	.060	.017			

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	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	.175	.159	.145	.150	.137	.125	.103	.094	.086	.059	.054	.050	.019	.018	.016	
2.0	.162	.135	.112	.139	.116	.097	.095	.080	.067	.055	.047	.040	.018	.015	.013	
3.0	.151	.116	.088	.130	.100	.076	.089	.070	.054	.051	.041	.032	.017	.013	.010	
4.0	.142	.102	.071	.122	.088	.062	.084	.061	.043	.049	.036	.026	.016	.012	.008	
5.0	.134	.091	.058	.115	.078	.051	.079	.055	.036	.046	.032	.021	.015	.010	.007	
6.0	.127	.082	.049	.109	.071	.043	.075	.050	.030	.044	.029	.018	.014	.010	.006	
7.0	.121	.074	.042	.104	.064	.036	.072	.045	.026	.042	.027	.015	.013	.009	.005	
8.0	.115	.068	.036	.099	.059	.032	.069	.042	.022	.040	.025	.013	.013	.008	.004	
9.0	.110	.063	.032	.095	.055	.028	.066	.039	.020	.038	.023	.012	.012	.007	.004	
10.0	.105	.059	.028	.091	.051	.025	.063	.036	.017	.037	.021	.010	.012	.007	.003	

C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:ZZX  
 Test Date:2023-07-03

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  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	19.1	20.3	19.5	20.6	20.9	19.7	20.9	20.1	21.2	21.6
3H	19.1	20.2	19.5	20.5	20.9	19.7	20.8	20.1	21.1	21.5
4H	19.0	20.0	19.4	20.4	20.8	19.6	20.6	20.0	21.0	21.4
6H	18.9	19.8	19.4	20.2	20.6	19.5	20.4	20.0	20.8	21.2
8H	18.9	19.7	19.3	20.1	20.5	19.5	20.3	19.9	20.7	21.1
12H	18.8	19.6	19.3	20.0	20.5	19.4	20.2	19.9	20.6	21.1
4H 2H	19.2	20.1	19.6	20.5	20.9	19.8	20.7	20.2	21.1	21.5
3H	19.2	20.0	19.6	20.4	20.8	19.7	20.5	20.2	20.9	21.3
4H	19.1	19.8	19.5	20.2	20.7	19.6	20.3	20.1	20.8	21.2
6H	19.0	19.6	19.5	20.1	20.5	19.6	20.2	20.0	20.6	21.1
8H	18.9	19.5	19.4	20.0	20.4	19.5	20.0	20.0	20.5	21.0
12H	18.9	19.4	19.4	19.9	20.4	19.4	19.9	19.9	20.4	20.9
8H 4H	18.9	19.5	19.4	20.0	20.4	19.5	20.0	20.0	20.5	21.0
6H	18.8	19.3	19.4	19.8	20.3	19.4	19.8	19.9	20.3	20.8
8H	18.8	19.2	19.3	19.7	20.2	19.3	19.7	19.9	20.3	20.8
12H	18.7	19.1	19.3	19.6	20.2	19.3	19.6	19.8	20.1	20.7
12H 4H	18.9	19.4	19.4	19.9	20.4	19.4	19.9	19.9	20.4	20.9
6H	18.8	19.2	19.3	19.7	20.2	19.3	19.7	19.9	20.2	20.8
8H	18.7	19.1	19.3	19.6	20.2	19.3	19.6	19.8	20.1	20.7
CIE190: 2010										

CIE190: 2010  
Area: 0.1213 m2

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-07-03

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  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

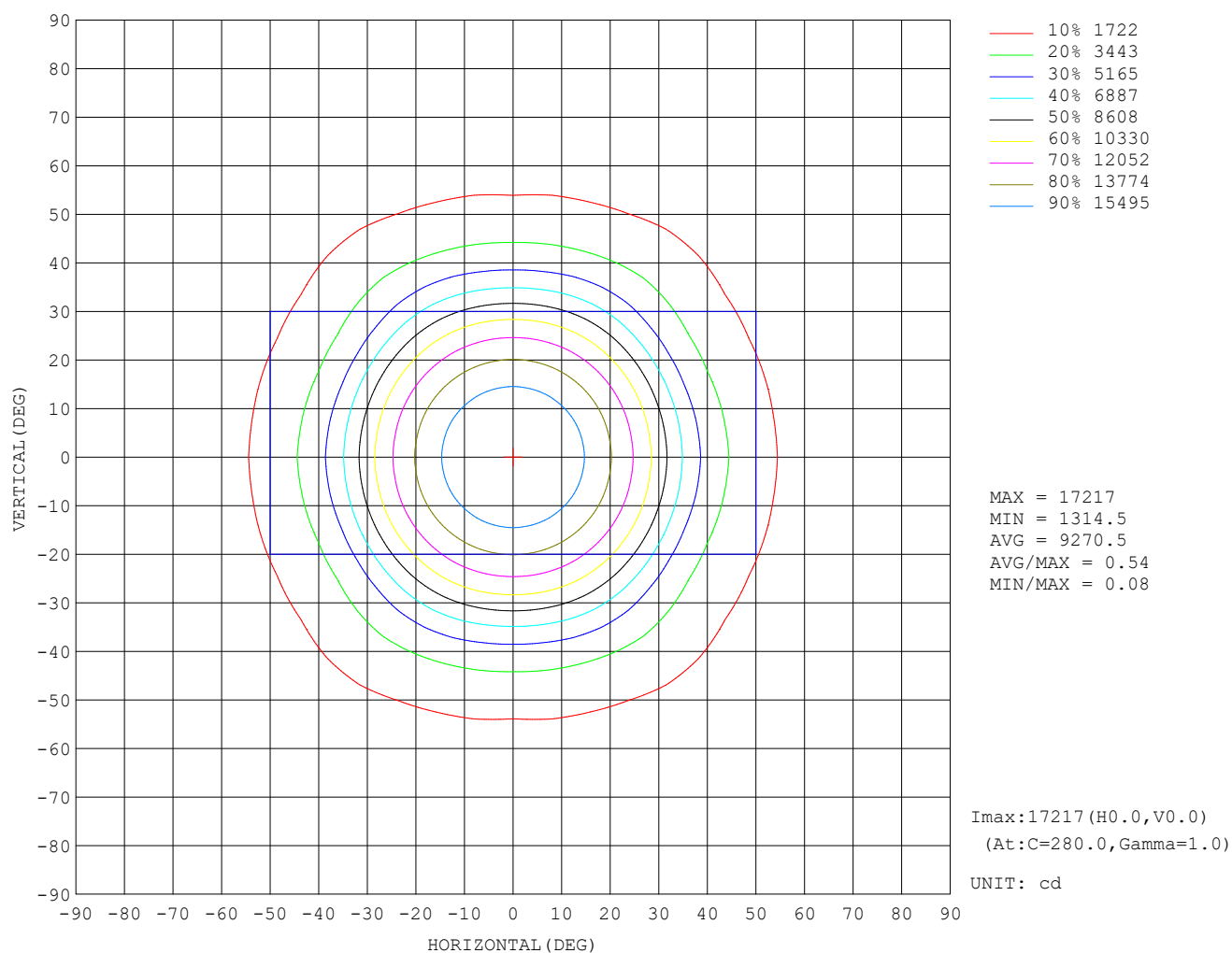
## UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	77	69	64	76	69	64	75	68	64	59
0.80	86	78	73	85	78	73	84	77	73	68
1.00	92	85	80	91	85	80	90	85	80	75
1.25	98	91	87	96	90	86	94	89	85	80
1.50	101	95	91	100	94	90	97	93	89	84
2.00	105	100	96	104	99	95	101	97	94	88
2.50	107	103	99	106	101	98	102	99	96	90
3.00	109	105	102	108	104	101	104	101	99	92
4.00	112	108	106	110	107	104	106	104	102	94
5.00	113	110	108	111	109	106	107	105	103	95
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004						Suspended			SHRNOM = 1.25	

C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3°C  
 Operators: ZZX  
 Test Date: 2023-07-03

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  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

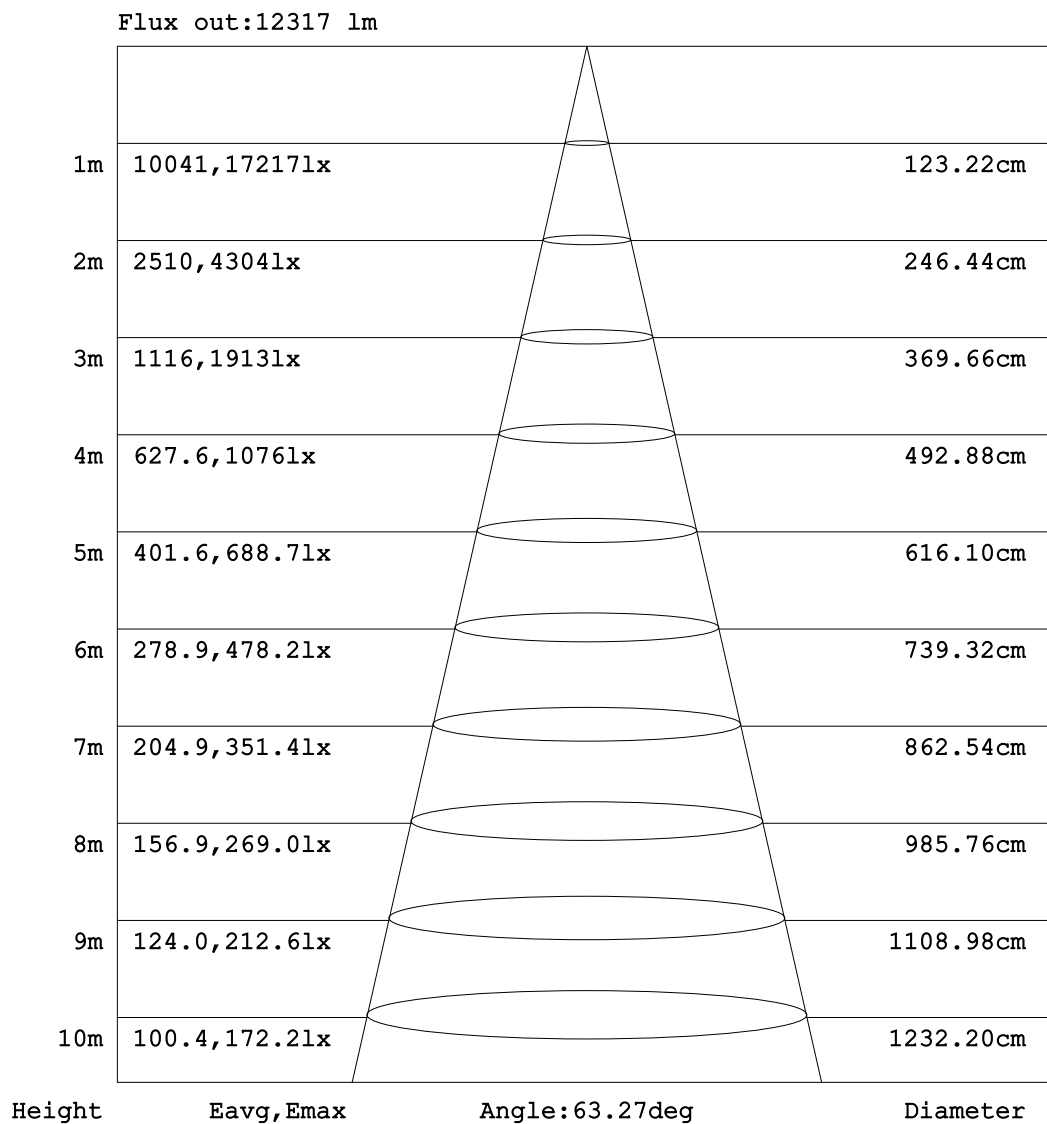


C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-07-03

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  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



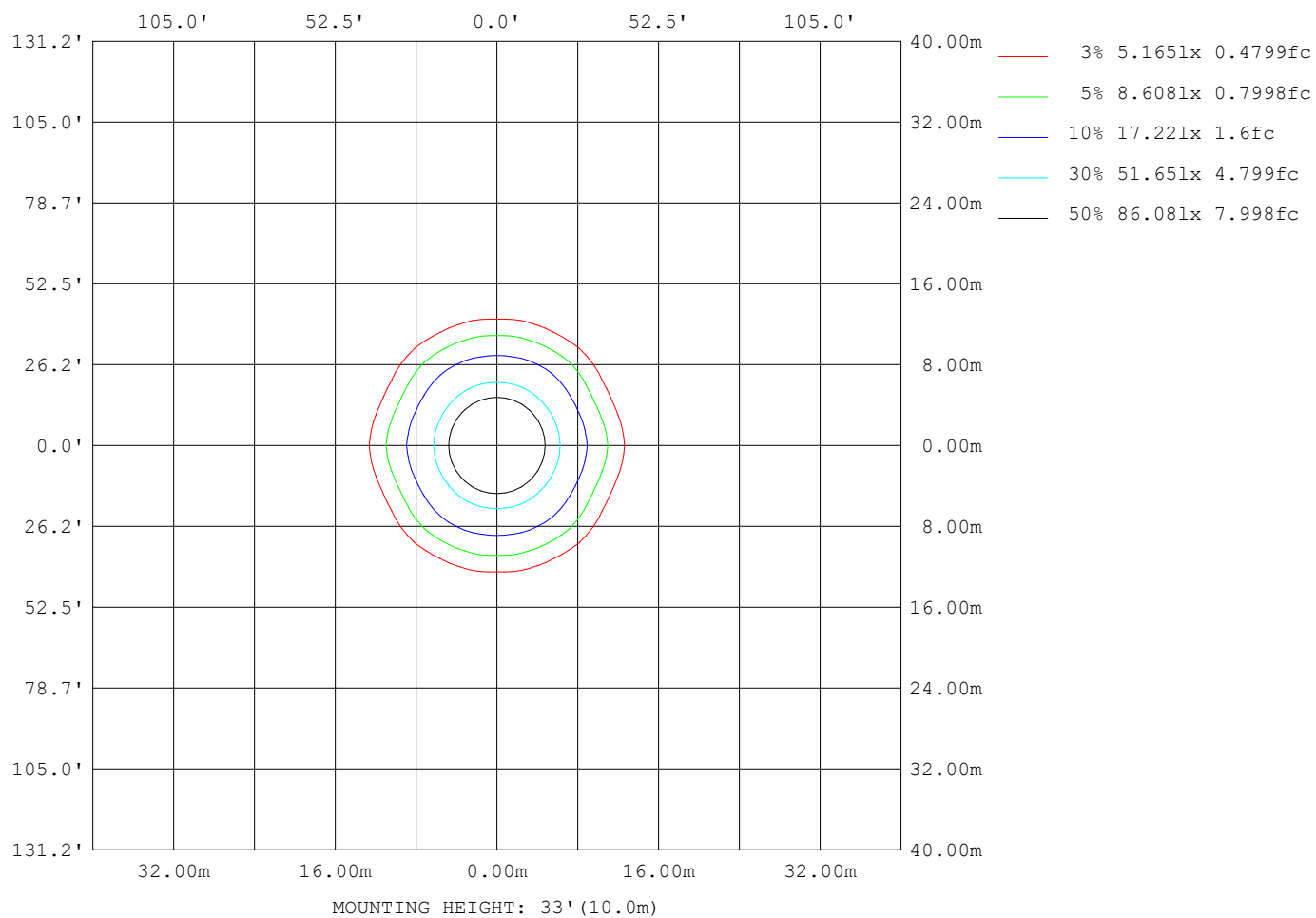
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-07-03

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  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  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: ZZX  
Test Date: 2023-07-03

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

## LED Avg.L Report

Test:U:230.0V I:0.449A P:100.4W PF:0.973 Freq:50.01Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:20102.1x1 lm		
NAME: HB68-100H-5070-H00196+H00D02	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

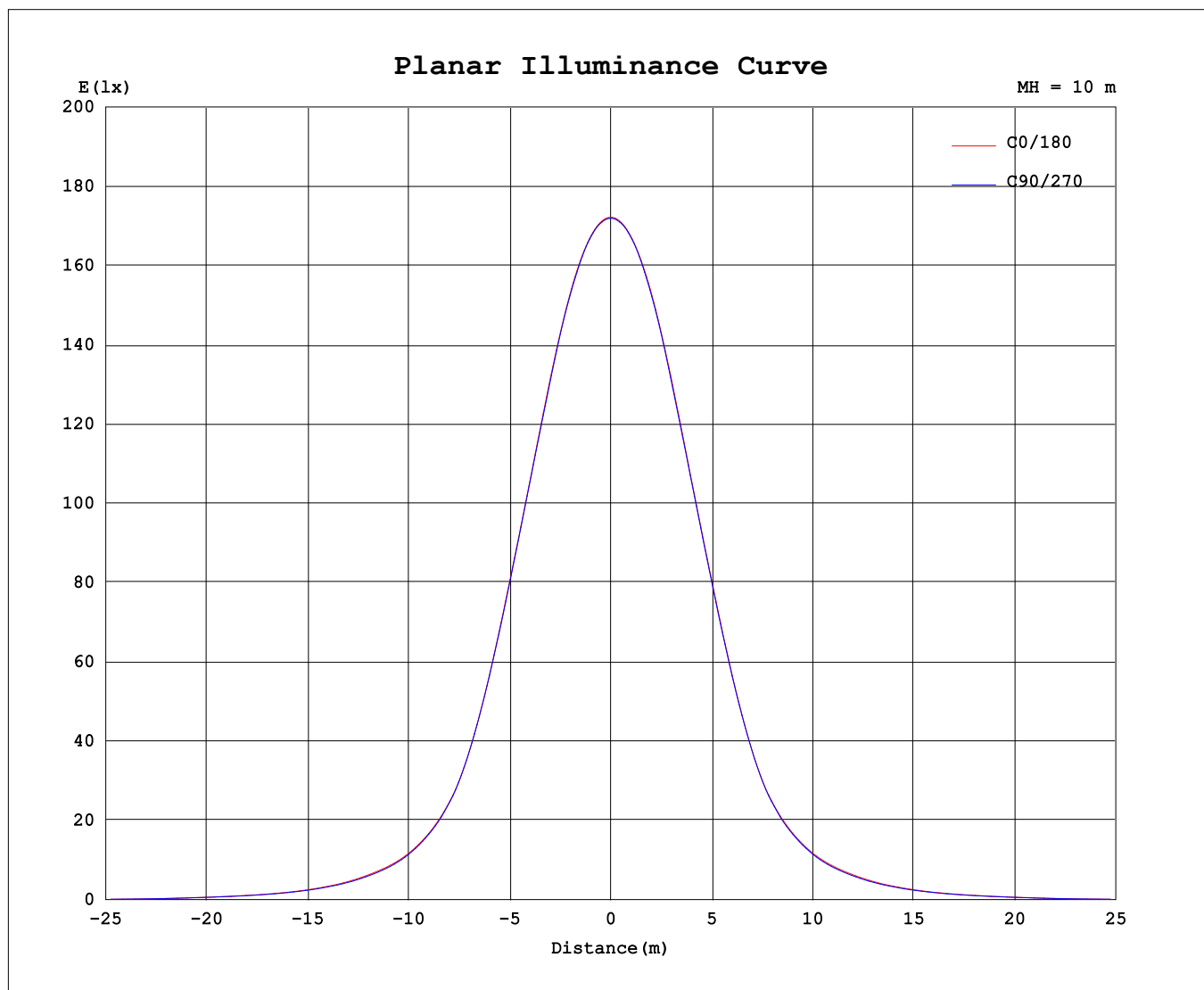
AvgL	cd/m2
L_0~180 (65) av	9554
L_0~180 (75) av	874
L_0~180 (85) av	627
L_90~270 (65) av	9601
L_90~270 (75) av	1001
L_90~270 (85) av	677
L_45 (65) av	9478
L_45 (75) av	927
L_45 (85) av	661

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3℃  
Operators:ZZX  
Test Date:2023-07-03

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: 10.0DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: ZZX  
Test Date: 2023-07-03

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.465  
Humidity: 65.0%  
Test Distance: 26.000m [K=0.4556]  
Remarks: