

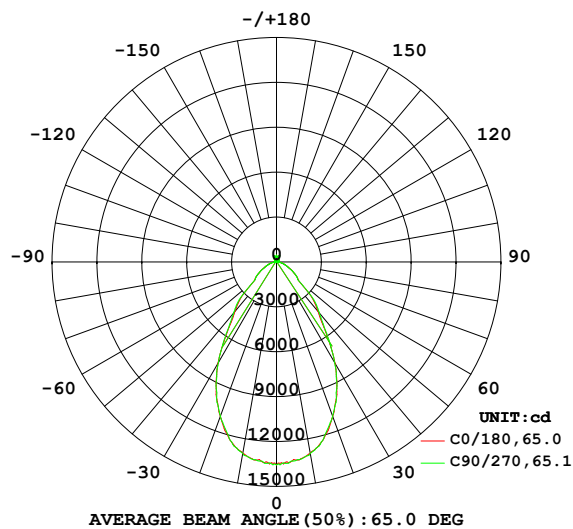
## EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINAIRE PHOTOMETRIC TEST REPORT

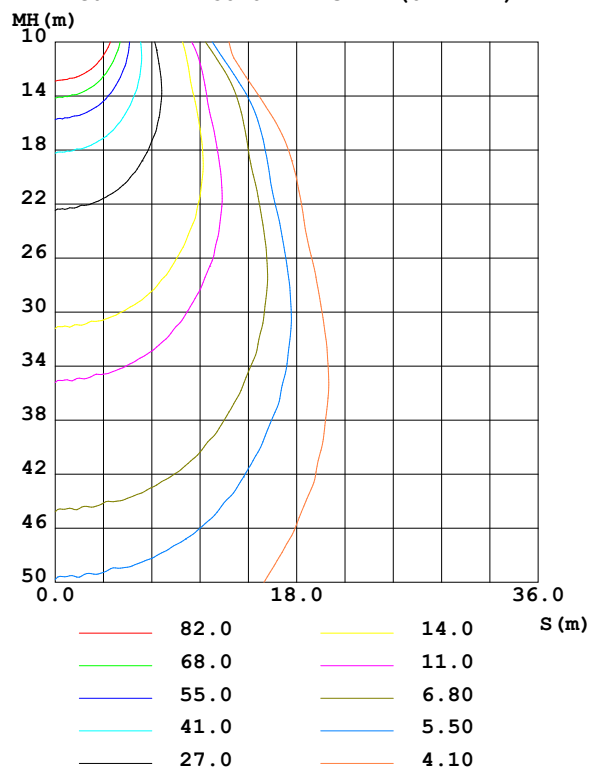
Test:U:230.0V I:0.450A P:100.7W PF:0.973 Freq:50.00Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:19272x1 lm		
NAME: HB68-100H-5070-H00196+H00C01B	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 191.41 lm/W			
MODEL	/	I <sub>max</sub> (cd)	13569	S/MH (C0/180)	0.97
NOMINAL POWER (W)	/	LOR (%)	100.0	S/MH (C90/270)	0.97
RATED VOLTAGE (V)	/	TOTAL FLUX (lm)	19272	η UP,DN (C0-180)	2.9,47.1
NOMINAL FLUX (lm)	19272	CIE CLASS	DIRECT	η UP,DN (C180-360)	2.9,47.1
LAMPS INSIDE	1	η up (%)	5.8	CIBSE SHR NOM	1.00
TEST VOLTAGE (V)	/	η down (%)	94.2	CIBSE SHR MAX	1.00

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

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:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	1298	1304	1300	1304	1298	1304	1300	1304	0- 10	1267	1267	6.58,6.58
20	1098	1100	1097	1100	1098	1100	1097	1100	10- 20	3412	4679	24.3,24.3
30	783.5	779.1	778.2	779.1	783.5	779.1	778.2	779.1	20- 30	4346	9026	46.8,46.8
40	432.8	447.6	445.4	447.6	432.8	447.6	445.4	447.6	30- 40	3672	12698	65.9,65.9
50	191.3	191.8	191.0	191.8	191.3	191.8	191.0	191.8	40- 50	2469	15167	78.7,78.7
60	123.7	122.9	124.2	122.9	123.7	122.9	124.2	122.9	50- 60	1403	16570	86,86
70	66.35	65.21	65.07	65.21	66.35	65.21	65.07	65.21	60- 70	900.7	17471	90.7,90.7
80	31.23	30.39	30.24	30.39	31.23	30.39	30.24	30.39	70- 80	498.6	17970	93.2,93.2
90	8.365	8.113	8.030	8.113	8.365	8.113	8.030	8.113	80- 90	192.7	18162	94.2,94.2
100	8.868	8.752	8.771	8.752	8.868	8.752	8.771	8.752	90-100	79.40	18242	94.7,94.7
110	12.55	12.42	12.56	12.42	12.55	12.42	12.56	12.42	100-110	113.7	18355	95.2,95.2
120	14.31	14.15	14.02	14.15	14.31	14.15	14.02	14.15	110-120	133.6	18489	95.9,95.9
130	15.86	15.67	15.58	15.67	15.86	15.67	15.58	15.67	120-130	131.7	18621	96.6,96.6
140	20.85	20.29	20.29	20.29	20.85	20.29	20.29	20.29	130-140	135.5	18756	97.3,97.3
150	38.99	37.79	37.50	37.79	38.99	37.79	37.50	37.79	140-150	179.6	18936	98.3,98.3
160	44.25	43.92	42.38	43.92	44.25	43.92	42.38	43.92	150-160	200.6	19136	99.3,99.3
170	32.50	30.79	31.31	30.79	32.50	30.79	31.31	30.79	160-170	105.2	19242	99.8,99.8
180	43.91	45.89	46.49	45.89	43.91	45.89	46.49	45.89	170-180	30.30	19272	100,100
DEG	LUMINOUS INTENSITY:X10cd									UNIT:lm		

Conical surface Flux(90deg): 14135 lm

%lum = 73.3%

%lamp = 73.3%

Conical surface Flux(130deg): 17083 lm

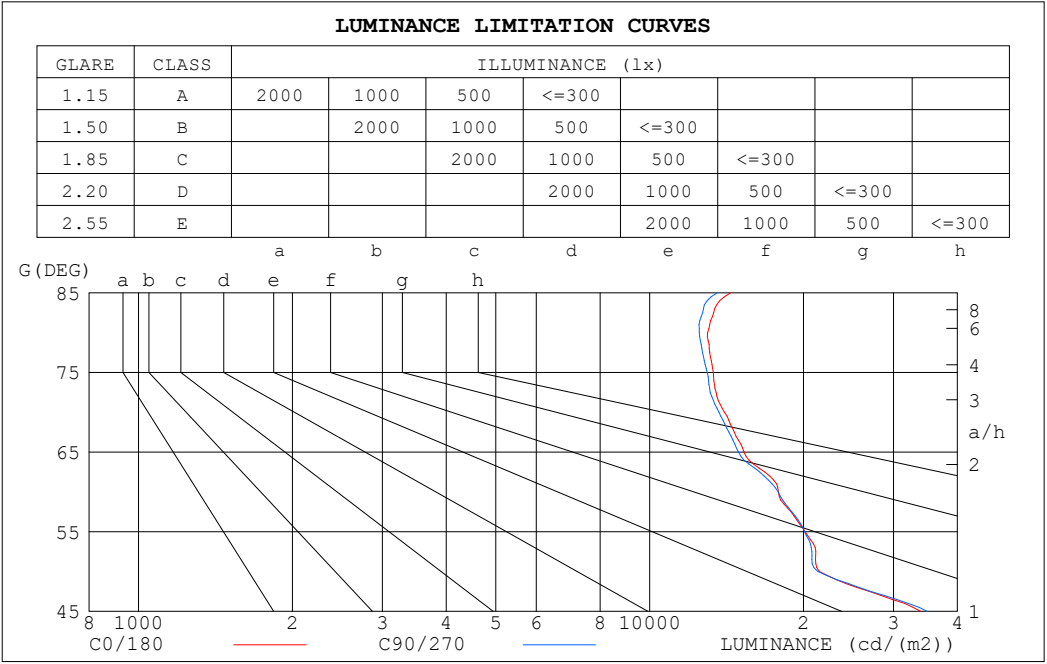
%lum = 88.6%

%lamp = 88.6%

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	14398	13554
80	12986	12507
75	13328	12959
70	14007	13666
65	15302	14923
60	17857	17844
55	20144	20099
50	21490	21343
45	33928	34915

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%

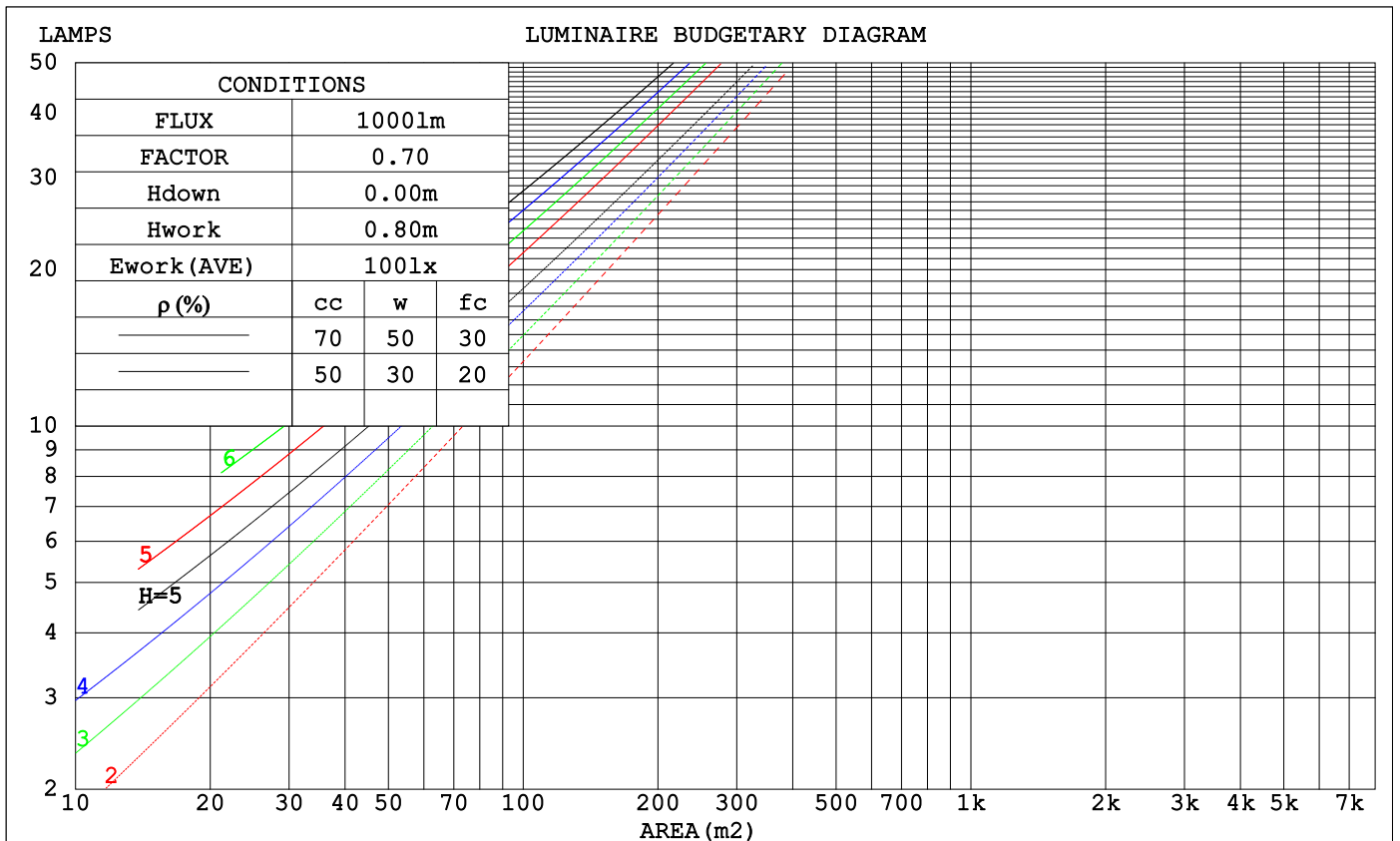
Test Distance:26.000m [K=0.4556]

Remarks:

# 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															



C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3°C  
 Operators: ZZK  
 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	.238	.136	.043	.230	.131	.042	.214	.122	.039	.199	.115	.037	.185	.107	.035	
2.0	.225	.124	.038	.218	.120	.037	.204	.113	.035	.191	.107	.033	.179	.101	.032	
3.0	.211	.112	.034	.205	.110	.033	.192	.104	.032	.181	.099	.030	.170	.094	.029	
4.0	.198	.103	.030	.192	.101	.030	.181	.096	.029	.171	.092	.028	.161	.088	.027	
5.0	.186	.095	.027	.181	.093	.027	.171	.089	.026	.162	.085	.025	.153	.082	.025	
6.0	.175	.088	.025	.170	.086	.025	.161	.083	.024	.153	.079	.023	.145	.076	.023	
7.0	.165	.081	.023	.161	.080	.023	.153	.077	.022	.145	.074	.022	.138	.072	.021	
8.0	.156	.076	.021	.152	.075	.021	.145	.072	.021	.138	.070	.020	.131	.067	.020	
9.0	.148	.071	.020	.144	.070	.020	.137	.068	.019	.131	.066	.019	.125	.064	.018	
10.0	.140	.067	.019	.137	.066	.018	.131	.064	.018	.125	.062	.018	.120	.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	.234	.234	.234	.200	.200	.200	.137	.137	.137	.079	.079	.079	.025	.025	.025	
1.0	.220	.201	.184	.188	.173	.159	.129	.119	.110	.074	.069	.064	.024	.022	.021	
2.0	.208	.177	.151	.178	.152	.130	.122	.105	.091	.070	.061	.053	.023	.020	.017	
3.0	.198	.159	.127	.170	.137	.110	.117	.095	.077	.067	.056	.046	.022	.018	.015	
4.0	.189	.145	.111	.162	.125	.096	.112	.087	.068	.065	.051	.040	.021	.017	.013	
5.0	.181	.134	.099	.156	.116	.086	.107	.081	.061	.062	.048	.036	.020	.016	.012	
6.0	.174	.125	.090	.150	.108	.078	.103	.076	.055	.060	.045	.033	.019	.015	.011	
7.0	.168	.118	.083	.144	.102	.073	.100	.072	.051	.058	.042	.031	.019	.014	.010	
8.0	.162	.112	.078	.140	.097	.068	.097	.068	.048	.056	.040	.029	.018	.013	.010	
9.0	.157	.107	.074	.135	.093	.064	.094	.065	.046	.054	.039	.027	.018	.013	.009	
10.0	.152	.103	.071	.131	.089	.062	.091	.063	.044	.053	.037	.026	.017	.012	.009	

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	2H	19.6	20.8	20.1	21.3	21.7	19.7	20.9	20.1	21.3	21.8
	3H	20.9	22.0	21.4	22.5	23.0	20.9	22.0	21.4	22.5	23.0
	4H	21.5	22.5	22.0	22.9	23.5	21.5	22.5	22.0	22.9	23.4
	6H	21.9	22.8	22.4	23.3	23.9	21.9	22.8	22.4	23.3	23.8
	8H	22.1	23.0	22.6	23.5	24.0	22.0	22.9	22.6	23.4	24.0
	12H	22.2	23.1	22.8	23.6	24.1	22.2	23.0	22.7	23.5	24.1
4H	2H	20.0	21.0	20.5	21.5	22.0	20.0	21.0	20.5	21.5	22.0
	3H	21.5	22.4	22.0	22.9	23.4	21.5	22.4	22.0	22.9	23.4
	4H	22.2	23.0	22.7	23.5	24.1	22.2	22.9	22.7	23.5	24.0
	6H	22.8	23.4	23.4	24.0	24.6	22.8	23.4	23.3	24.0	24.6
	8H	23.0	23.6	23.6	24.2	24.8	23.0	23.6	23.6	24.1	24.7
	12H	23.3	23.8	23.8	24.4	25.0	23.2	23.7	23.8	24.3	24.9
8H	4H	22.4	23.0	23.0	23.6	24.2	22.4	23.0	23.0	23.6	24.2
	6H	23.2	23.7	23.8	24.3	24.9	23.1	23.6	23.7	24.2	24.8
	8H	23.5	23.9	24.1	24.5	25.2	23.4	23.9	24.1	24.5	25.1
	12H	23.8	24.2	24.4	24.8	25.5	23.7	24.1	24.4	24.7	25.4
12H	4H	22.4	23.0	23.0	23.6	24.2	22.4	23.0	23.0	23.5	24.1
	6H	23.2	23.7	23.8	24.2	24.9	23.2	23.6	23.8	24.2	24.9
	8H	23.6	24.0	24.2	24.6	25.3	23.6	23.9	24.2	24.5	25.2
CIE190: 2010											

CIE190: 2010  
Area: 0.1392 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

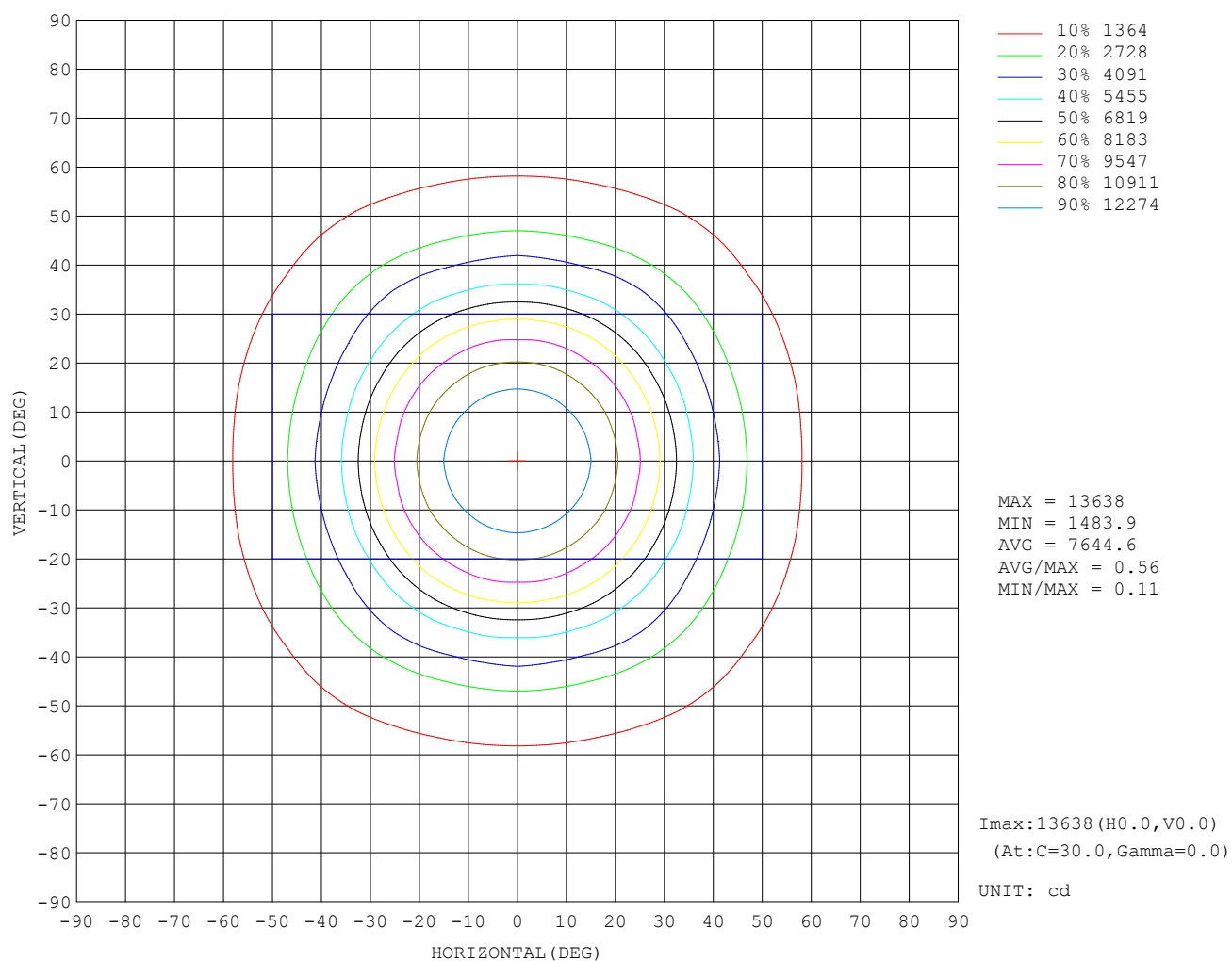
## UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	70	61	56	70	61	56	68	60	55	50
0.80	79	71	65	78	70	65	76	69	64	58
1.00	86	78	72	85	77	72	82	77	71	65
1.25	92	84	78	90	83	78	87	81	77	70
1.50	95	88	83	94	87	82	90	85	81	74
2.00	100	94	89	98	92	88	94	90	86	78
2.50	103	97	93	101	96	91	96	92	89	80
3.00	106	100	96	103	98	95	98	95	92	83
4.00	108	104	101	106	102	99	101	98	95	86
5.00	110	107	104	107	104	102	102	100	98	87
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

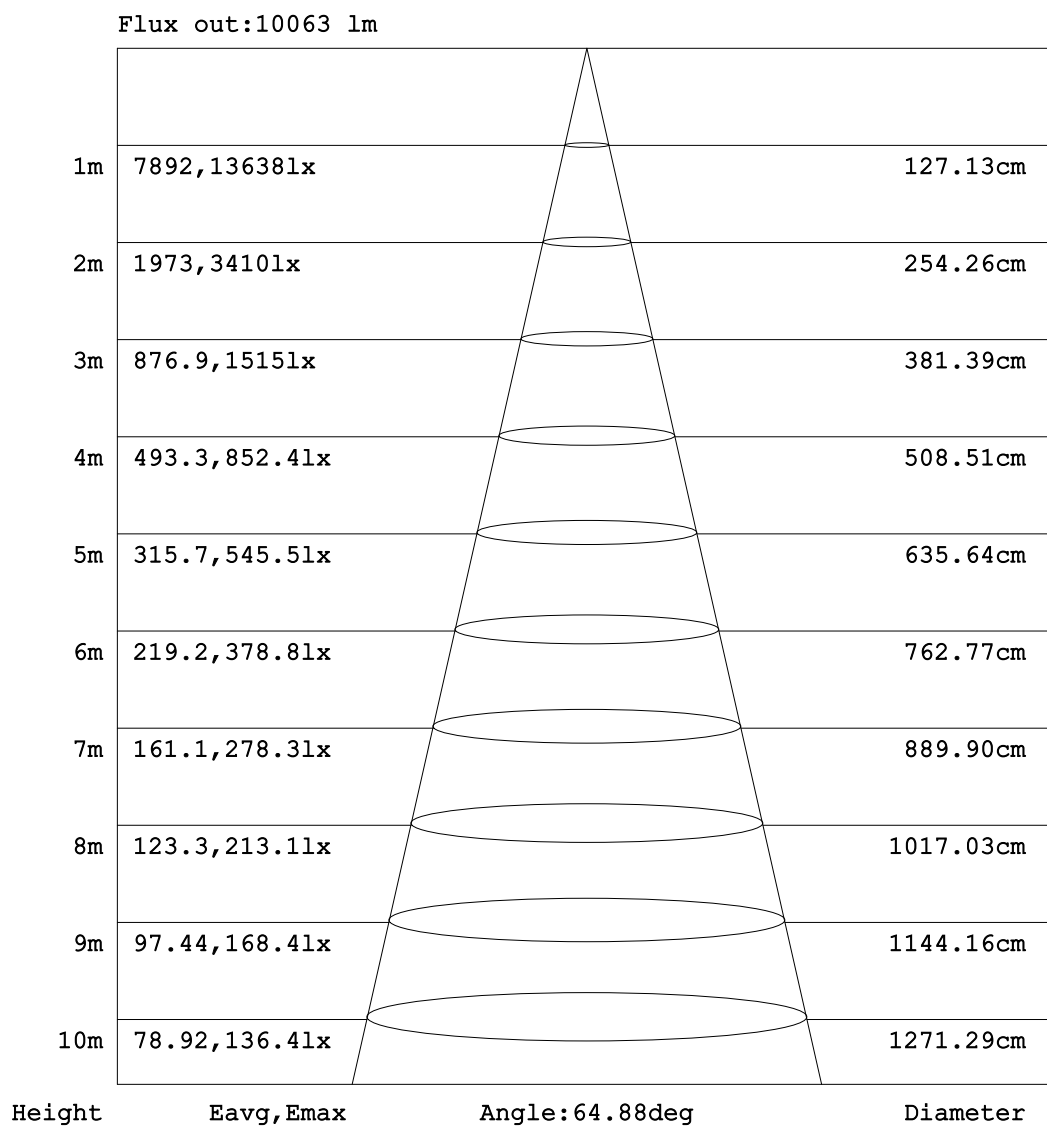


C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-07-03

$\gamma$  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



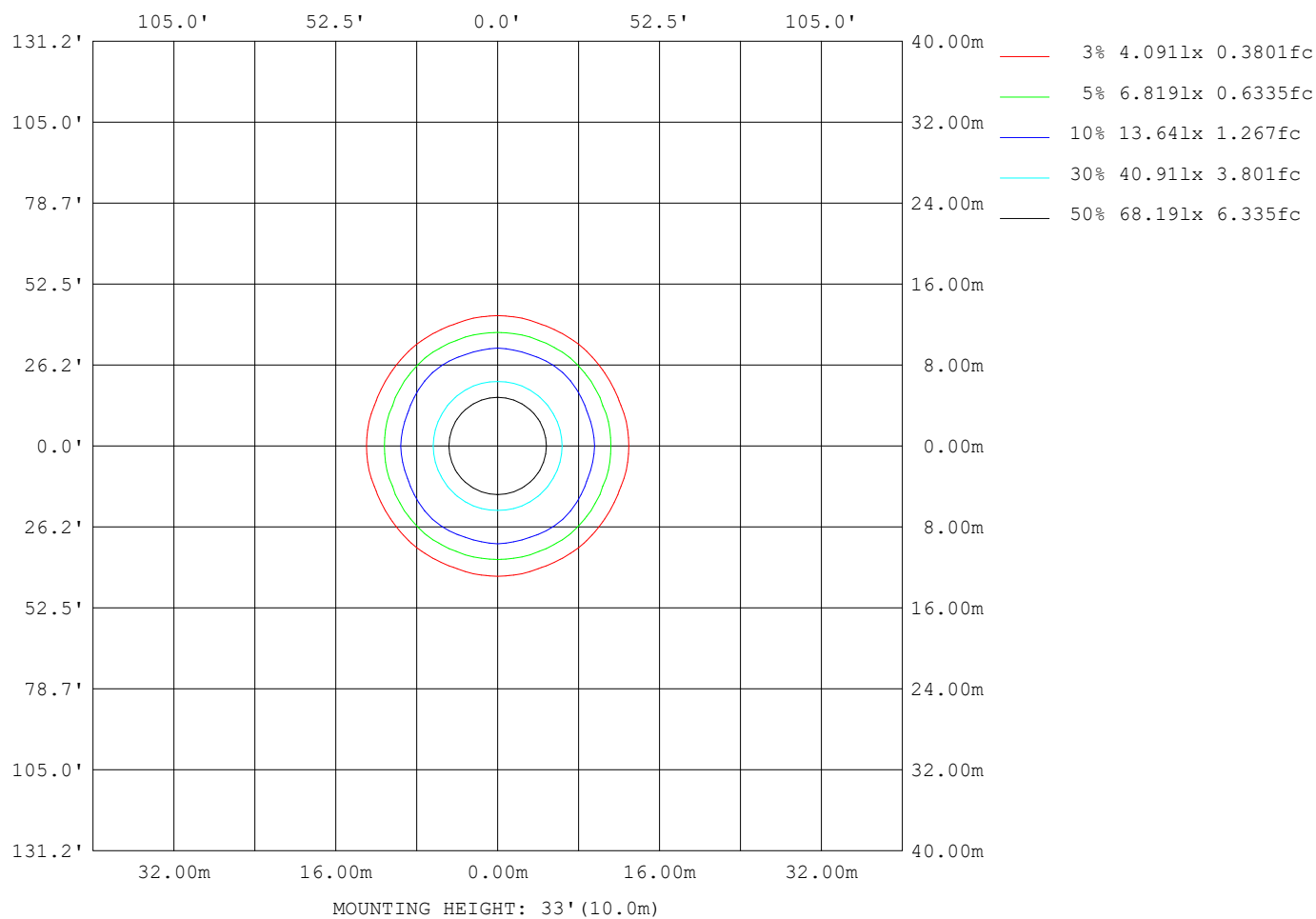
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

$\gamma$  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

## LED Avg.L Report

Test:U:230.0V I:0.450A P:100.7W PF:0.973 Freq:50.00Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:19272x1 lm		
NAME: HB68-100H-5070-H00196+H00C01B	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

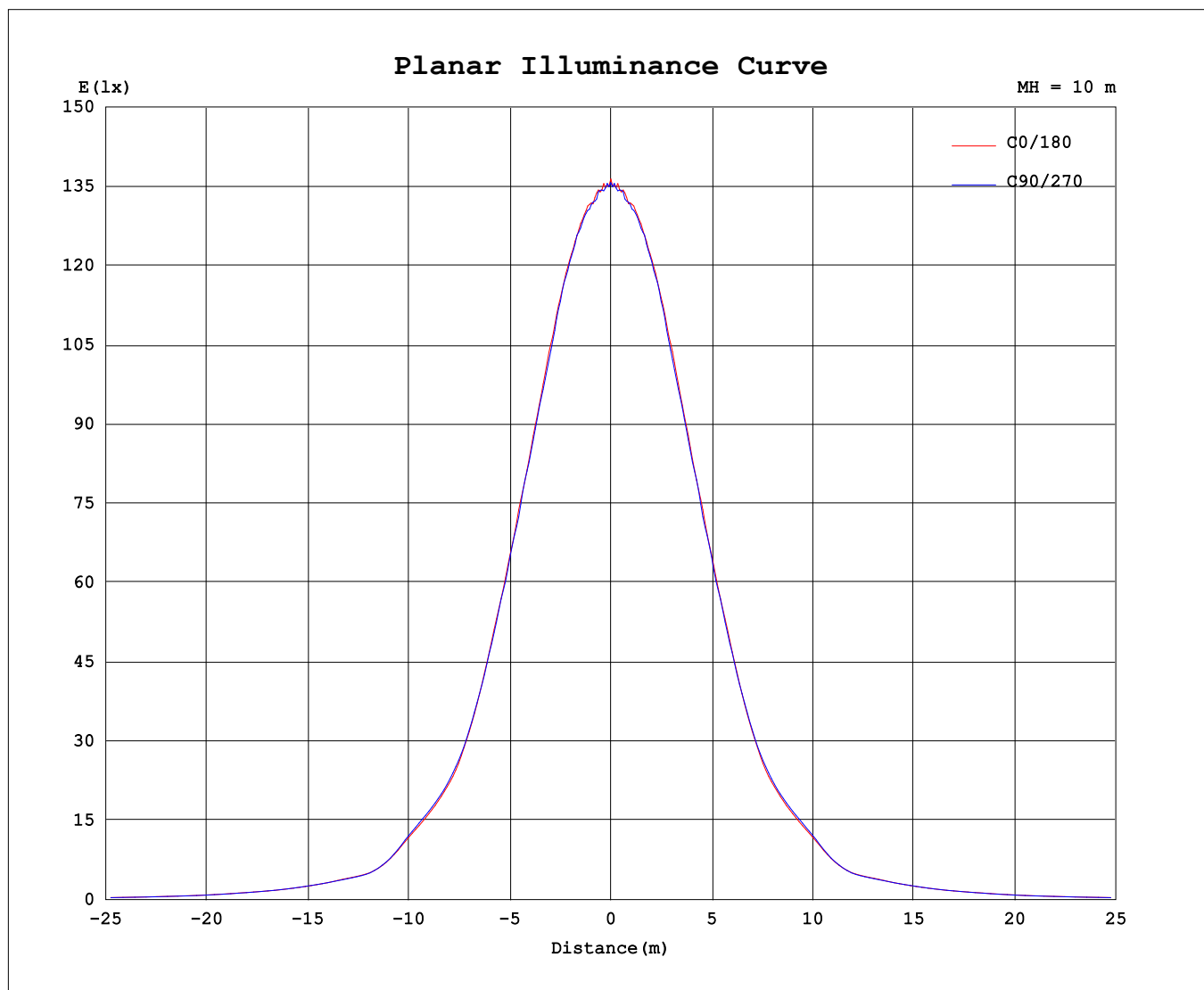
AvgL	cd/m2
L_0~180 (65) av	15224
L_0~180 (75) av	13261
L_0~180 (85) av	14325
L_90~270 (65) av	14926
L_90~270 (75) av	12961
L_90~270 (85) av	13556
L_45 (65) av	14944
L_45 (75) av	13040
L_45 (85) av	13751

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: