

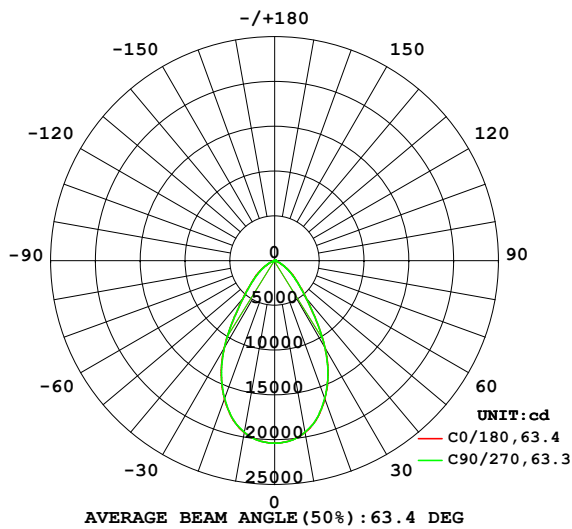
## EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINAIRE PHOTOMETRIC TEST REPORT

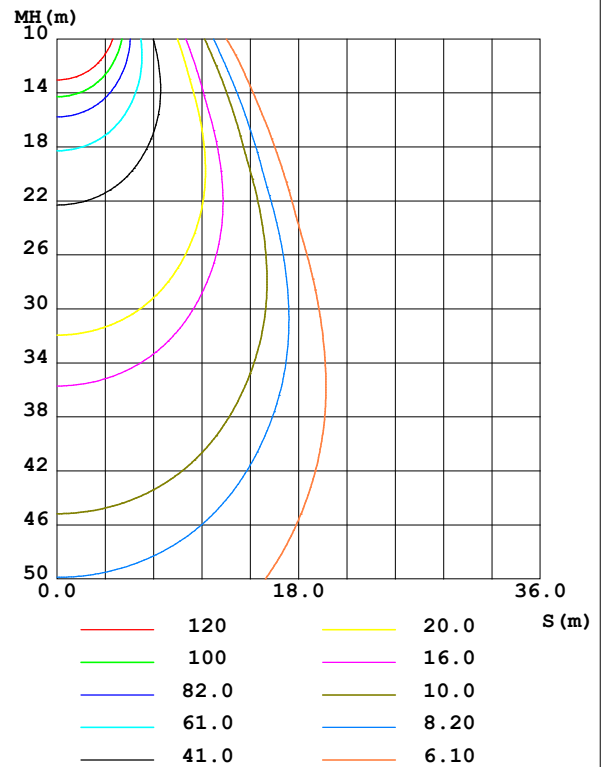
Test:U:230.0V I:0.541A P:121.4W PF:0.975 Freq:50.01Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:23821x1 lm		
NAME: HB68-120H-5070-H00196+H00D02	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 196.29 lm/W			
MODEL	/	Imax (cd)	20389	S/MH(C0/180)	0.95
NOMINAL POWER(W)	/	LOR(%)	100.0	S/MH(C90/270)	0.95
RATED VOLTAGE(V)	/	TOTAL FLUX(lm)	23821	$\eta$ UP,DN(C0-180)	0.2,49.8
NOMINAL FLUX(lm)	23821	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℃  
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	1949	1950	1947	1950	1949	1950	1947	1950	0- 10	1904	1904	7.99,7.99
20	1642	1636	1638	1636	1642	1636	1638	1636	10- 20	5090	6994	29.4,29.4
30	1129	1122	1125	1122	1129	1122	1125	1122	20- 30	6405	13399	56.2,56.2
40	555.3	544.4	549.8	544.4	555.3	544.4	549.8	544.4	30- 40	5031	18430	77.4,77.4
50	286.1	279.3	274.7	279.3	286.1	279.3	274.7	279.3	40- 50	2982	21412	89.9,89.9
60	122.7	119.9	117.3	119.9	122.7	119.9	117.3	119.9	50- 60	1681	23093	96.9,96.9
70	16.50	16.59	16.75	16.59	16.50	16.59	16.75	16.59	60- 70	582.7	23676	99.4,99.4
80	1.862	1.959	2.002	1.959	1.862	1.959	2.002	1.959	70- 80	61.33	23737	99.6,99.6
90	0.0334	0.0424	0.0578	0.0424	0.0334	0.0424	0.0578	0.0424	80- 90	9.502	23747	99.7,99.7
100	0.0849	0.0856	0.0865	0.0856	0.0849	0.0856	0.0865	0.0856	90-100	0.4610	23747	99.7,99.7
110	0.2571	0.2561	0.2595	0.2561	0.2571	0.2561	0.2595	0.2561	100-110	1.678	23749	99.7,99.7
120	0.5725	0.5821	0.5942	0.5821	0.5725	0.5821	0.5942	0.5821	110-120	3.886	23753	99.7,99.7
130	1.225	1.249	1.267	1.249	1.225	1.249	1.267	1.249	120-130	7.932	23761	99.7,99.7
140	2.083	2.104	2.129	2.104	2.083	2.104	2.129	2.104	130-140	12.84	23773	99.8,99.8
150	2.969	2.980	2.996	2.980	2.969	2.980	2.996	2.980	140-150	15.83	23789	99.9,99.9
160	3.659	3.665	3.681	3.665	3.659	3.665	3.681	3.665	150-160	15.48	23805	99.9,99.9
170	4.771	4.769	4.786	4.769	4.771	4.769	4.786	4.769	160-170	11.42	23816	100,100
180	5.388	5.396	5.414	5.396	5.388	5.396	5.414	5.396	170-180	4.906	23821	100,100
DEG	LUMINOUS INTENSITY:X10cd									UNIT:lm		

Conical surface Flux(90deg): 20115 lm

%lum = 84.4%  
%lamp = 84.4%

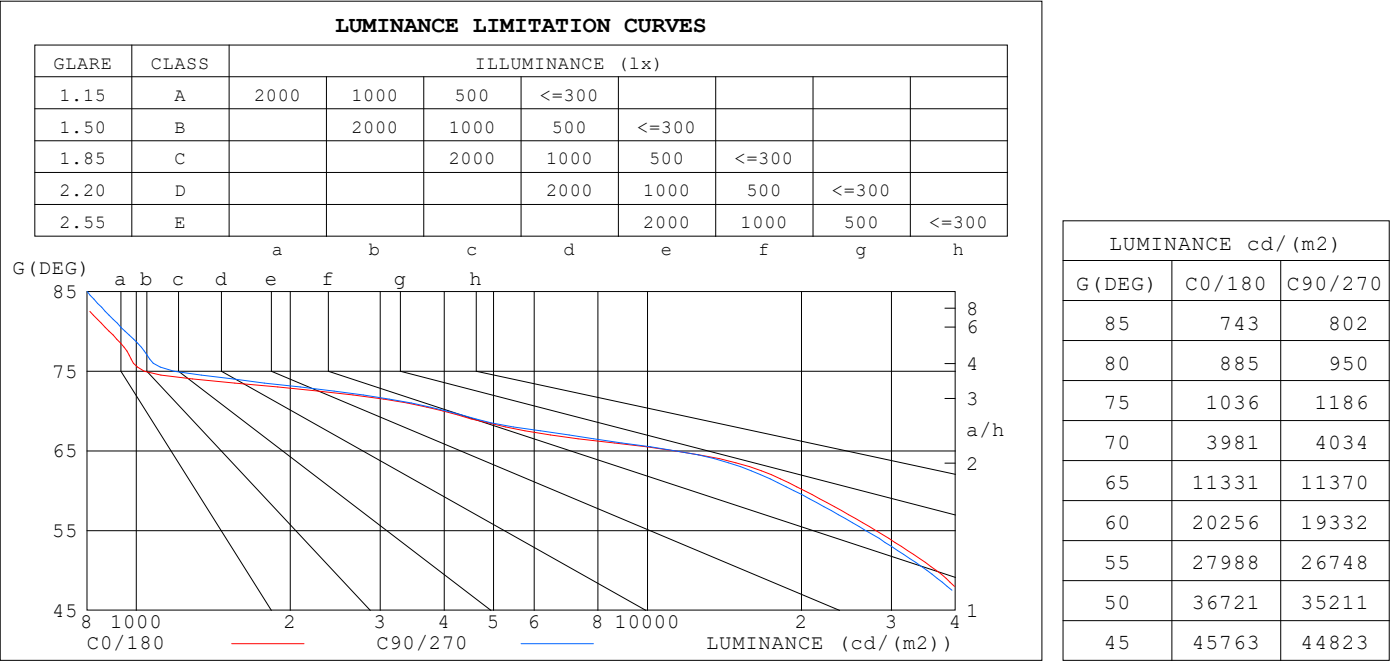
Conical surface Flux(130deg): 23522 lm

%lum = 98.7%  
%lamp = 98.7%

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

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

LUMINANCE LIMITATION CURVES



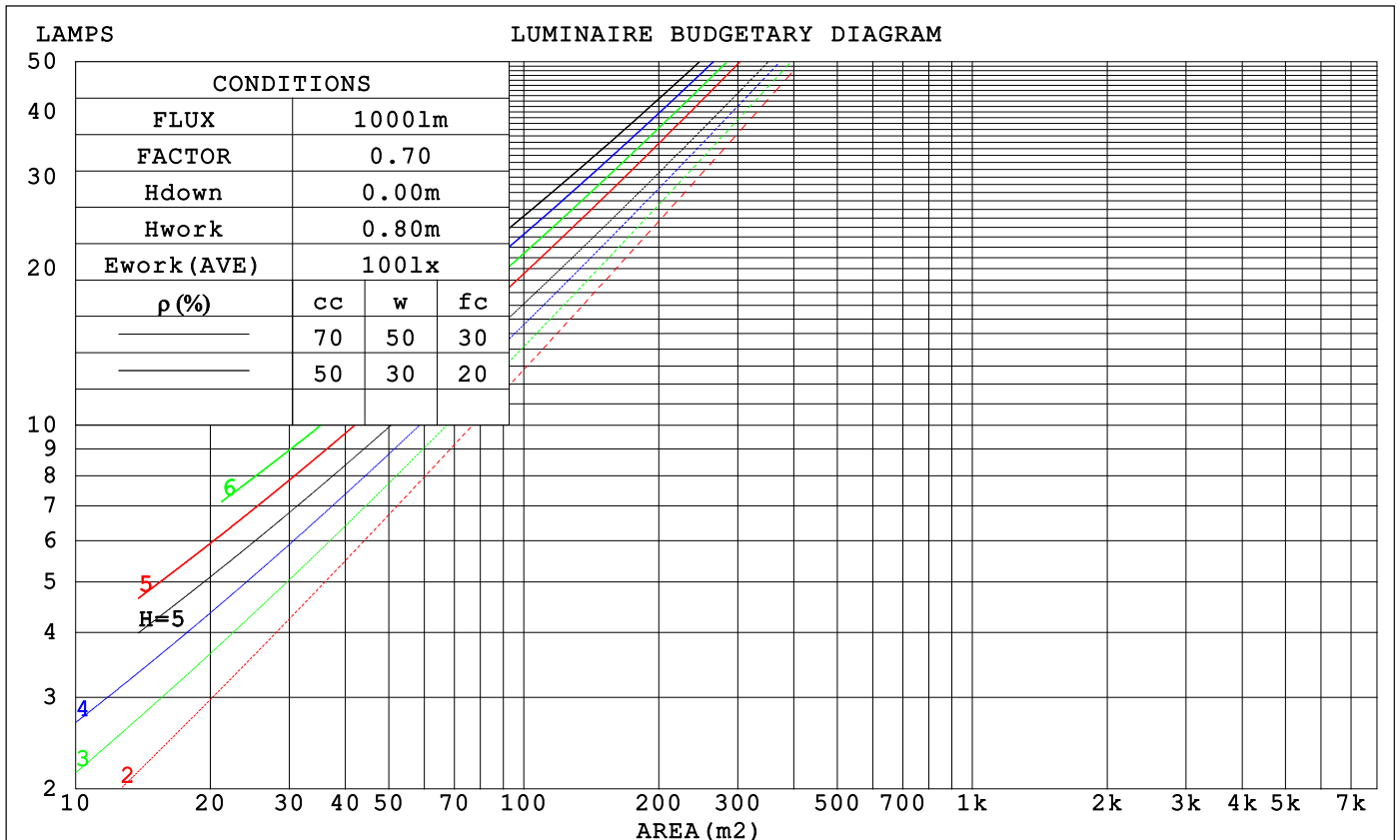
C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3℃  
Operators:ZZX  
Test Date:2023-07-03

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			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℃  
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

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	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	

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	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℃  
 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

## 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	19.7	20.9	20.1	21.2	21.5	20.3	21.5	20.7	21.8	22.2
3H	19.7	20.7	20.1	21.1	21.5	20.3	21.3	20.7	21.7	22.1
4H	19.6	20.6	20.0	20.9	21.3	20.2	21.2	20.6	21.5	21.9
6H	19.5	20.4	20.0	20.8	21.2	20.1	21.0	20.6	21.4	21.8
8H	19.5	20.3	19.9	20.7	21.1	20.1	20.9	20.5	21.3	21.7
12H	19.4	20.2	19.9	20.6	21.1	20.0	20.8	20.5	21.2	21.7
4H 2H	19.8	20.7	20.2	21.1	21.5	20.3	21.3	20.8	21.7	22.1
3H	19.8	20.6	20.2	21.0	21.4	20.3	21.1	20.7	21.5	21.9
4H	19.7	20.4	20.1	20.8	21.3	20.2	20.9	20.7	21.4	21.8
6H	19.6	20.2	20.1	20.6	21.1	20.1	20.7	20.6	21.2	21.7
8H	19.5	20.1	20.0	20.5	21.0	20.1	20.6	20.6	21.1	21.6
12H	19.5	20.0	20.0	20.5	20.9	20.0	20.5	20.5	21.0	21.5
8H 4H	19.5	20.1	20.0	20.5	21.0	20.1	20.6	20.6	21.1	21.6
6H	19.4	19.9	19.9	20.4	20.9	20.0	20.4	20.5	20.9	21.4
8H	19.4	19.8	19.9	20.3	20.8	19.9	20.3	20.4	20.8	21.3
12H	19.3	19.7	19.8	20.2	20.8	19.9	20.2	20.4	20.7	21.3
12H 4H	19.5	20.0	20.0	20.5	20.9	20.0	20.5	20.5	21.0	21.5
6H	19.4	19.8	19.9	20.2	20.8	19.9	20.3	20.5	20.8	21.3
8H	19.3	19.7	19.8	20.2	20.8	19.9	20.2	20.4	20.7	21.3
CIE190: 2010										

CIE190: 2010  
Area: 0.1213 m2

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

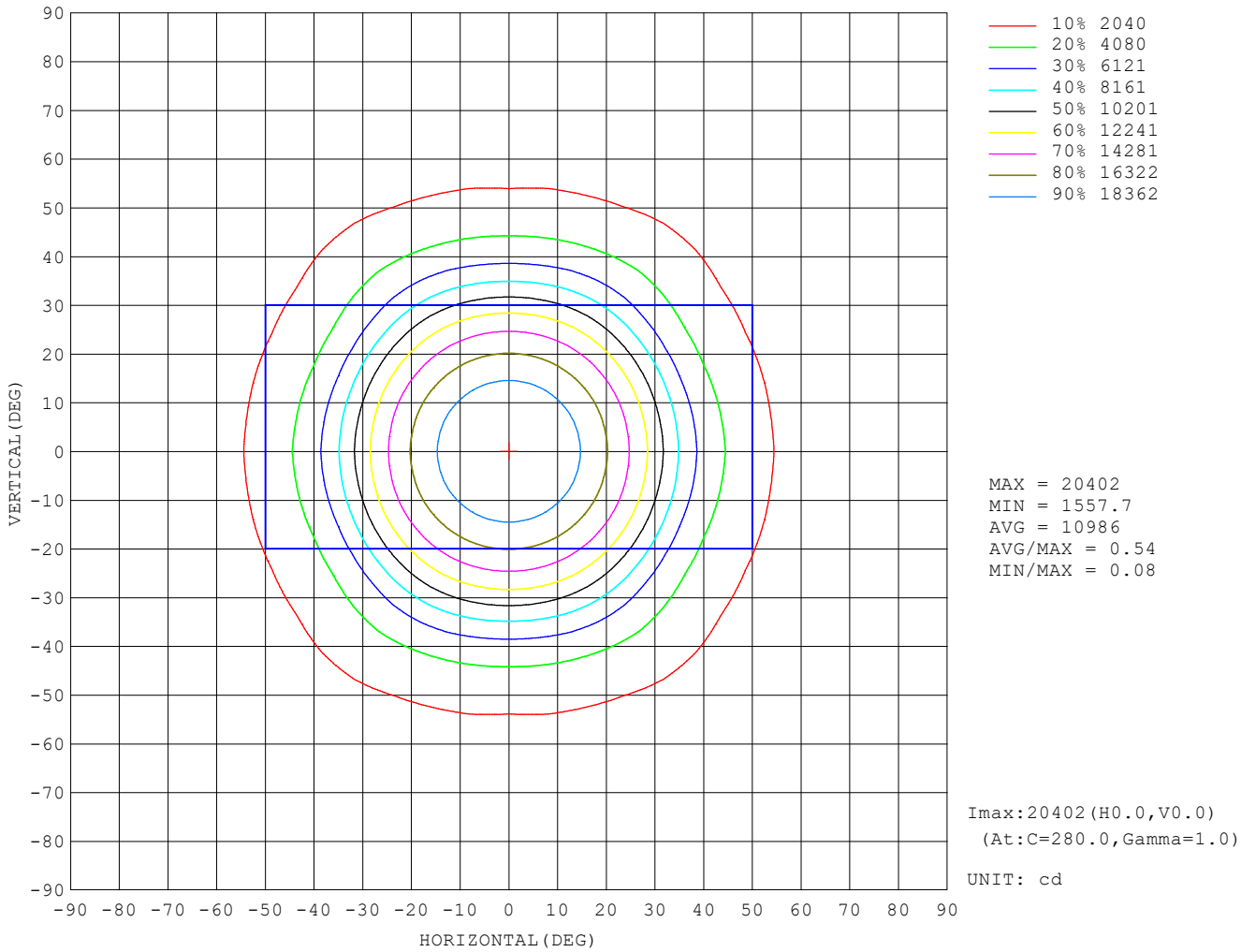
## UTILIZATION FACTORS TABLE

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

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

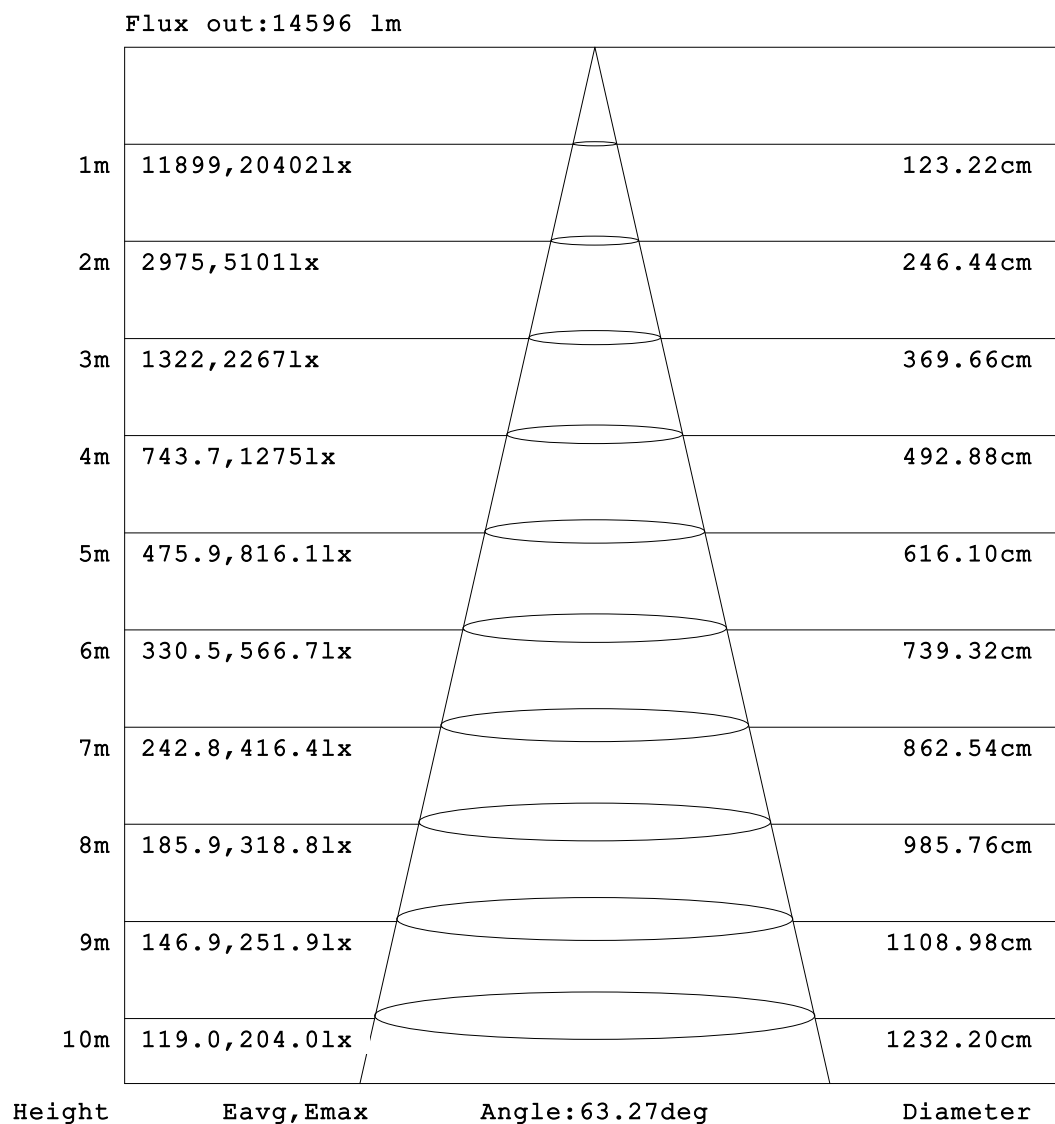


C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-07-03

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:



## AAI Figure

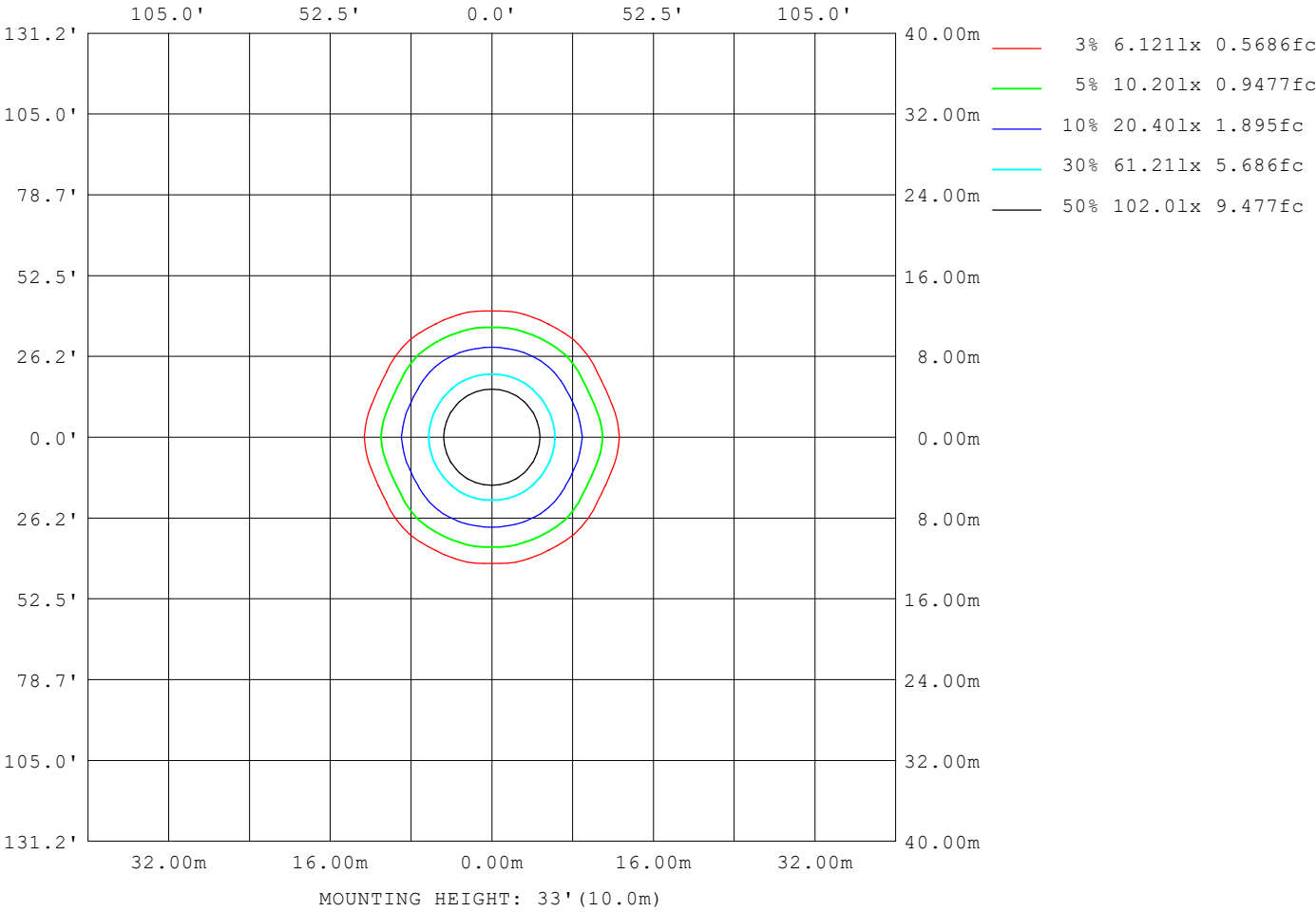


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3℃  
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:

ISOLUX DIAGRAM



C Range: 0 - 360DEG	γ Range: 0 - 180DEG
C Interval: 10.0DEG	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:2023-07-03	Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LED Avg.L Report

Test:U:230.0V I:0.541A P:121.4W PF:0.975 Freq:50.01Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:23821x1 lm		
NAME: HB68-120H-5070-H00196+H00D02	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

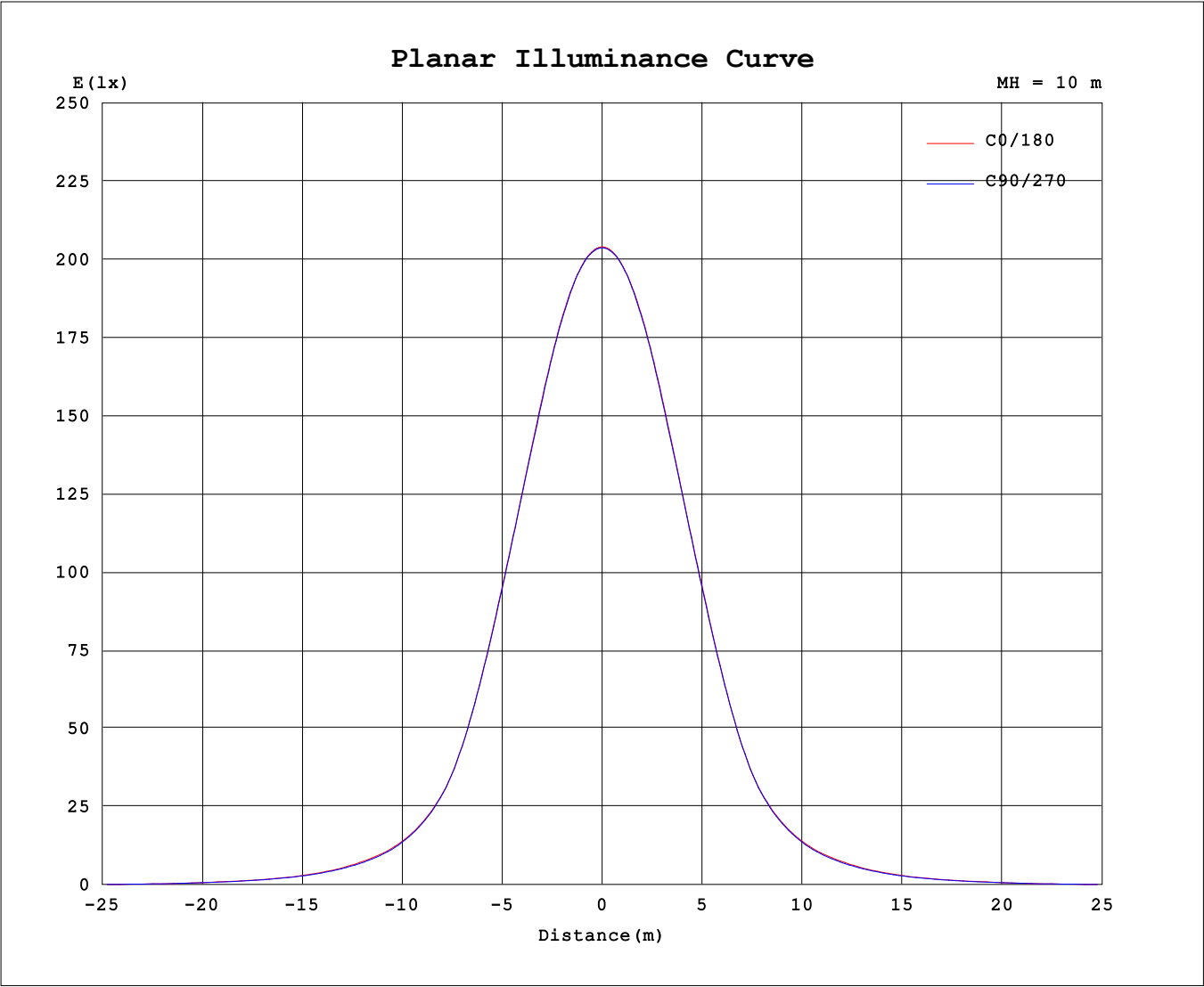
AvgL	cd/m2
L_0~180 (65) av	11322
L_0~180 (75) av	1035
L_0~180 (85) av	742
L_90~270 (65) av	11377
L_90~270 (75) av	1186
L_90~270 (85) av	803
L_45 (65) av	11231
L_45 (75) av	1098
L_45 (85) av	783

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	γ Range: 0 - 180DEG
C Interval: 10.0DEG	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:2023-07-03	Remarks: