

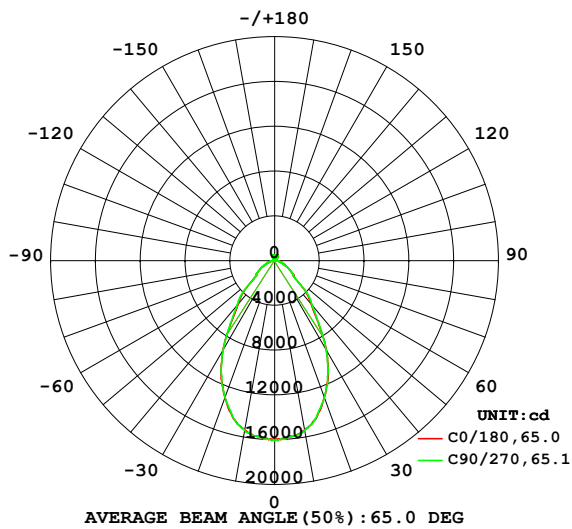
## EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINAIRE PHOTOMETRIC TEST REPORT

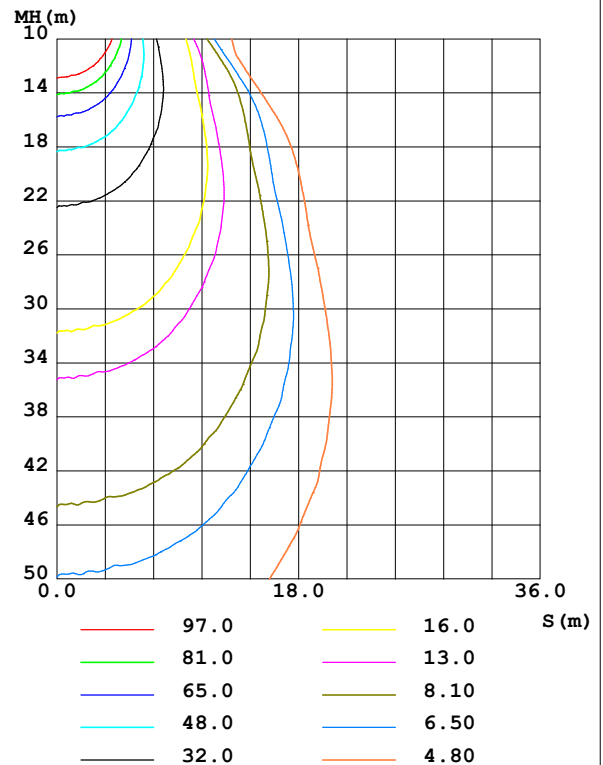
Test:U:230.0V I:0.542A P:121.6W PF:0.975 Freq:50.00Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:22837.3x1 lm		
NAME: HB68-120H-5070-H00196+H00C01B	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 187.73 lm/W			
MODEL	/	Imax (cd)	16080	S/MH(C0/180)	0.97
NOMINAL POWER(W)	/	LOR(%)	100.0	S/MH(C90/270)	0.97
RATED VOLTAGE(V)	/	TOTAL FLUX(lm)	22837	$\eta$ UP,DN(C0-180)	2.9,47.1
NOMINAL FLUX(lm)	22837.3	CIE CLASS	DIRECT	$\eta$ UP,DN(C180-360)	2.9,47.1
LAMPS INSIDE	1	$\eta$ up (%)	5.8	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	/	$\eta$ 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℃  
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	1538	1546	1540	1546	1538	1546	1540	1546	0- 10	1502	1502	6.58,6.58
20	1301	1304	1300	1304	1301	1304	1300	1304	10- 20	4043	5545	24.3,24.3
30	928.5	923.2	922.2	923.2	928.5	923.2	922.2	923.2	20- 30	5150	10695	46.8,46.8
40	512.9	530.3	527.8	530.3	512.9	530.3	527.8	530.3	30- 40	4352	15047	65.9,65.9
50	226.7	227.3	226.3	227.3	226.7	227.3	226.3	227.3	40- 50	2926	17973	78.7,78.7
60	146.5	145.6	147.2	145.6	146.5	145.6	147.2	145.6	50- 60	1663	19636	86,86
70	78.63	77.27	77.11	77.27	78.63	77.27	77.11	77.27	60- 70	1067	20703	90.7,90.7
80	37.01	36.01	35.83	36.01	37.01	36.01	35.83	36.01	70- 80	590.9	21294	93.2,93.2
90	9.912	9.613	9.516	9.613	9.912	9.613	9.516	9.613	80- 90	228.4	21522	94.2,94.2
100	10.51	10.37	10.39	10.37	10.51	10.37	10.39	10.37	90-100	94.09	21617	94.7,94.7
110	14.87	14.71	14.89	14.71	14.87	14.71	14.89	14.71	100-110	134.7	21751	95.2,95.2
120	16.95	16.77	16.62	16.77	16.95	16.77	16.62	16.77	110-120	158.3	21909	95.9,95.9
130	18.79	18.57	18.46	18.57	18.79	18.57	18.46	18.57	120-130	156.1	22066	96.6,96.6
140	24.71	24.05	24.04	24.05	24.71	24.05	24.04	24.05	130-140	160.6	22226	97.3,97.3
150	46.20	44.78	44.44	44.78	46.20	44.78	44.44	44.78	140-150	212.9	22439	98.3,98.3
160	52.44	52.05	50.22	52.05	52.44	52.05	50.22	52.05	150-160	237.7	22677	99.3,99.3
170	38.51	36.49	37.11	36.49	38.51	36.49	37.11	36.49	160-170	124.7	22801	99.8,99.8
180	52.03	54.38	55.10	54.38	52.03	54.38	55.10	54.38	170-180	35.90	22837	100,100
DEG	LUMINOUS INTENSITY:X10cd									UNIT:lm		

Conical surface Flux(90deg): 16750 lm

%lum = 73.3%

%lamp = 73.3%

Conical surface Flux(130deg): 20243 lm

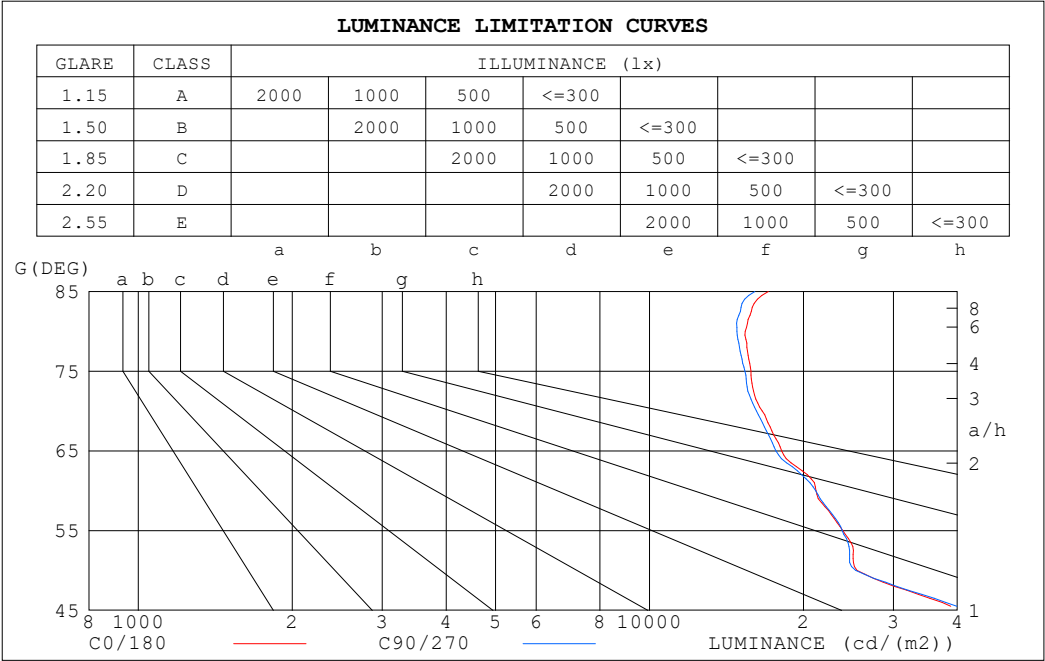
%lum = 88.6%

%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	17061	16062
80	15388	14820
75	15794	15356
70	16599	16195
65	18133	17684
60	21161	21145
55	23871	23817
50	25465	25292
45	40204	41374

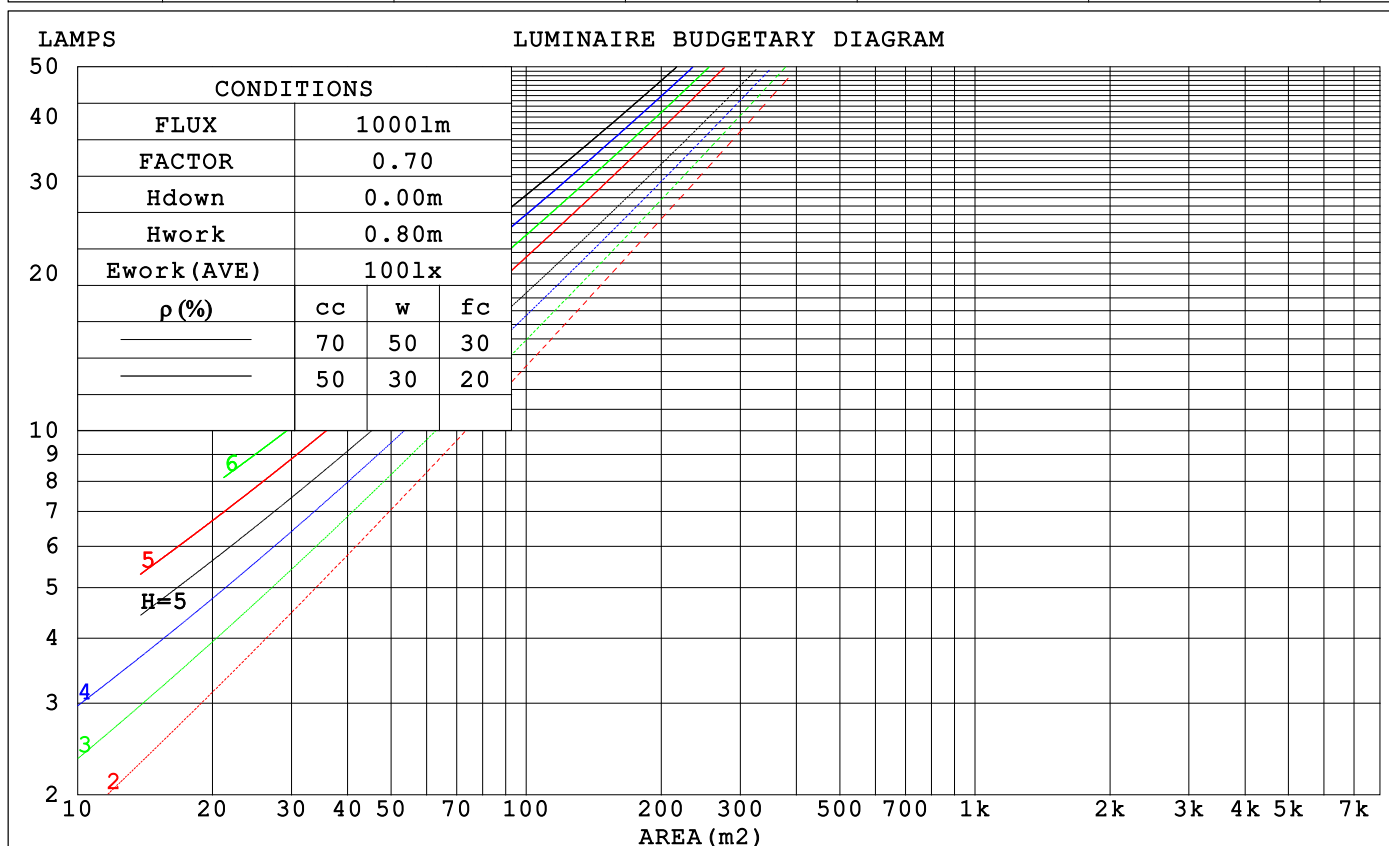
C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3℃  
Operators:ZZX  
Test Date:2023-07-03

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	1.18	1.18	1.18	1.14	1.14	1.14	1.08	1.08	1.08	1.02	1.02	1.02	.97	.97	.97	.94
1.0	1.06	1.03	.00	1.03	1.00	.98	.98	.96	.94	.93	.92	.90	.89	.88	.86	.84
2.0	.96	.91	.86	.94	.89	.85	.89	.85	.82	.85	.82	.79	.82	.79	.77	.75
3.0	.87	.81	.76	.85	.79	.75	.82	.77	.73	.78	.74	.71	.75	.72	.69	.67
4.0	.79	.72	.67	.78	.71	.66	.75	.69	.65	.72	.67	.63	.69	.65	.62	.60
5.0	.73	.66	.60	.71	.65	.60	.69	.63	.59	.66	.61	.57	.64	.60	.56	.54
6.0	.67	.60	.54	.66	.59	.54	.64	.58	.53	.62	.56	.52	.60	.55	.51	.50
7.0	.62	.55	.50	.61	.54	.49	.59	.53	.49	.57	.52	.48	.56	.51	.47	.45
8.0	.58	.50	.46	.57	.50	.45	.55	.49	.45	.53	.48	.44	.52	.47	.44	.42
9.0	.54	.47	.42	.53	.46	.42	.51	.45	.41	.50	.45	.41	.49	.44	.40	.39
10.0	.50	.43	.39	.50	.43	.39	.48	.42	.38	.47	.42	.38	.46	.41	.38	.36



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

$\rho_{cc}$	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℃  
 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	20.2	21.4	20.7	21.9	22.3	20.2	21.5	20.7	21.9	22.3
3H	21.5	22.6	22.0	23.0	23.6	21.5	22.6	22.0	23.0	23.6
4H	22.1	23.1	22.6	23.5	24.1	22.0	23.0	22.5	23.5	24.0
6H	22.5	23.4	23.0	23.9	24.5	22.5	23.4	23.0	23.9	24.4
8H	22.7	23.6	23.2	24.1	24.6	22.6	23.5	23.2	24.0	24.6
12H	22.8	23.7	23.4	24.2	24.7	22.8	23.6	23.3	24.1	24.7
4H 2H	20.6	21.6	21.1	22.1	22.6	20.6	21.6	21.1	22.1	22.6
3H	22.1	22.9	22.6	23.5	24.0	22.1	22.9	22.6	23.5	24.0
4H	22.8	23.5	23.3	24.1	24.6	22.8	23.5	23.3	24.1	24.6
6H	23.4	24.0	24.0	24.6	25.2	23.4	24.0	23.9	24.6	25.2
8H	23.6	24.2	24.2	24.8	25.4	23.6	24.2	24.1	24.7	25.3
12H	23.8	24.4	24.4	25.0	25.6	23.8	24.3	24.4	24.9	25.5
8H 4H	23.0	23.6	23.6	24.2	24.8	23.0	23.6	23.6	24.2	24.8
6H	23.8	24.2	24.3	24.8	25.5	23.7	24.2	24.3	24.8	25.4
8H	24.1	24.5	24.7	25.1	25.8	24.0	24.5	24.6	25.1	25.7
12H	24.4	24.8	25.0	25.4	26.1	24.3	24.7	24.9	25.3	26.0
12H 4H	23.0	23.6	23.6	24.1	24.7	23.0	23.5	23.6	24.1	24.7
6H	23.8	24.3	24.4	24.8	25.5	23.8	24.2	24.4	24.8	25.5
8H	24.2	24.6	24.8	25.2	25.9	24.1	24.5	24.8	25.1	25.8
CIE190: 2010										

CIE190: 2010  
Area: 0.1392 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

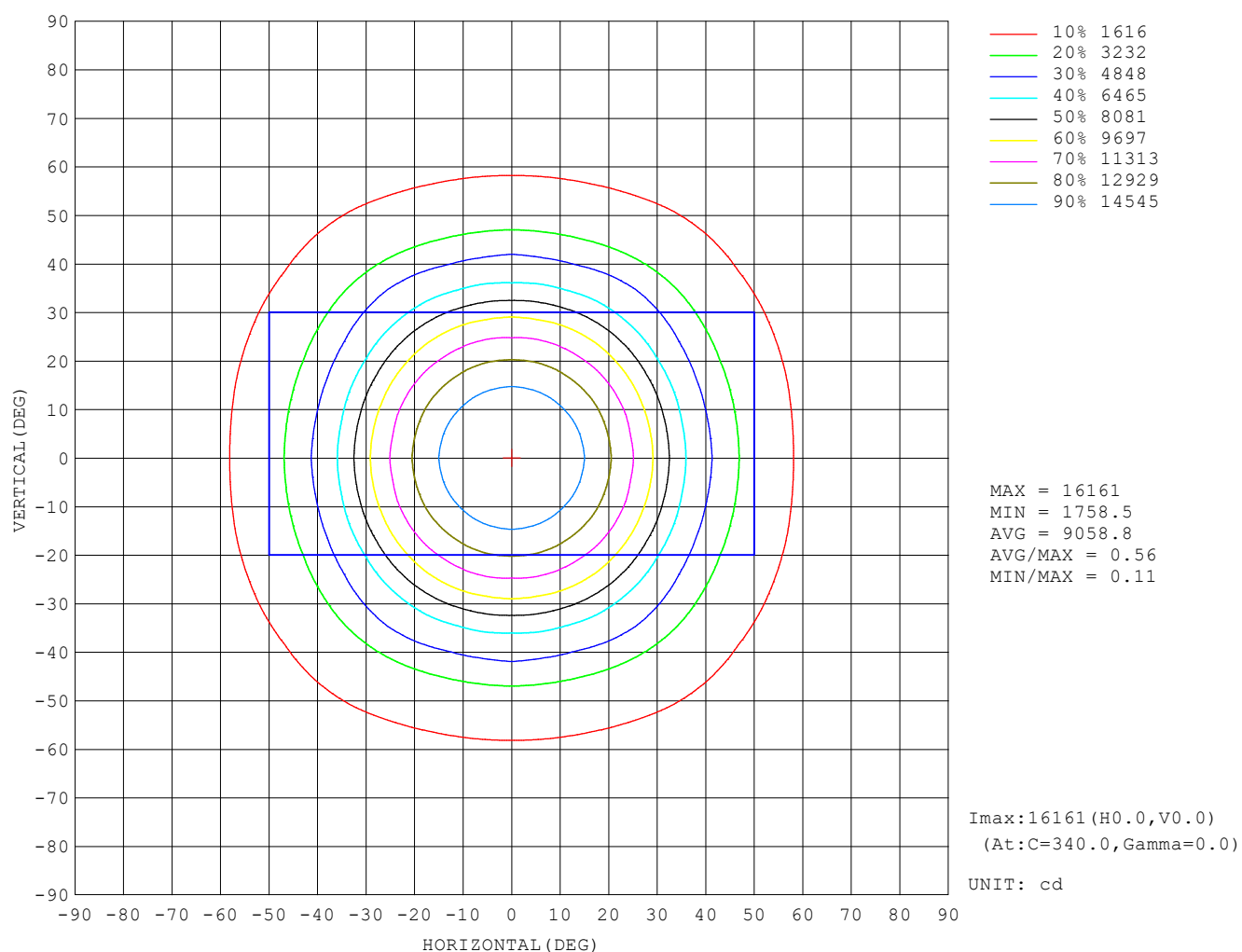
## UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	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

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

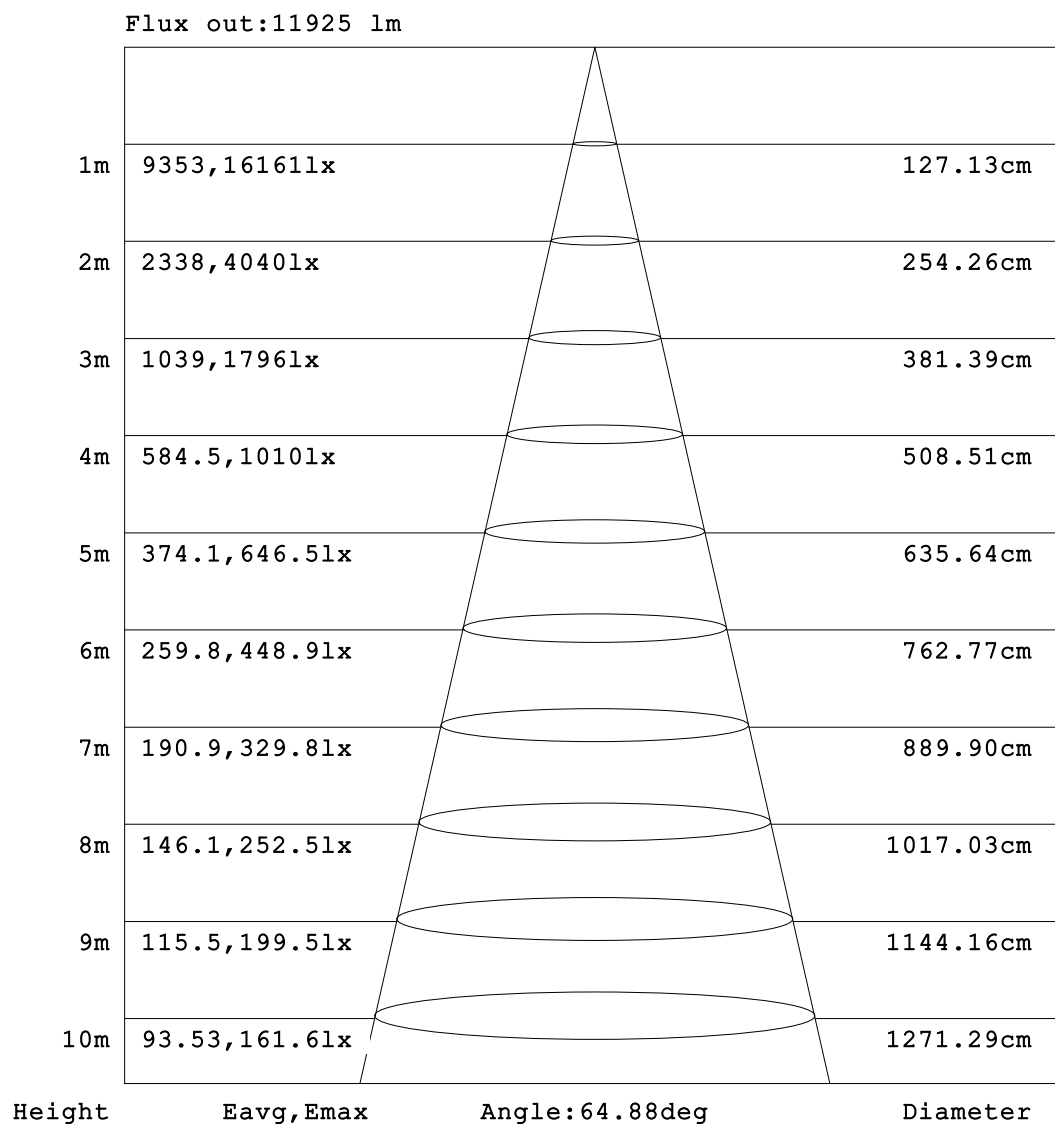


C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: ZZK  
Test Date: 2023-07-03

$\gamma$  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:



## AAI Figure



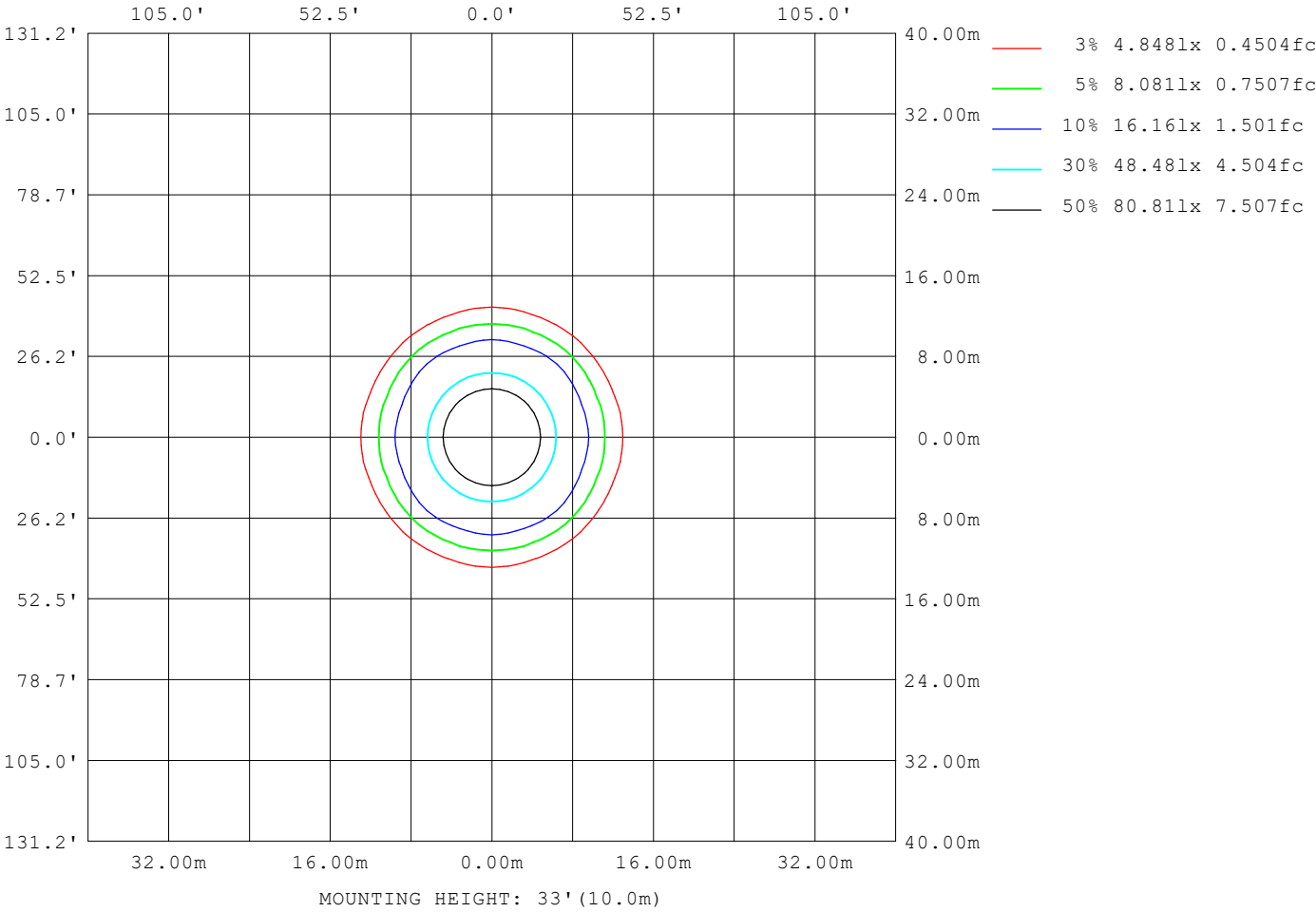
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

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  
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:0.542A P:121.6W PF:0.975 Freq:50.00Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:22837.3x1 lm		
NAME: HB68-120H-5070-H00196+H00C01B	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

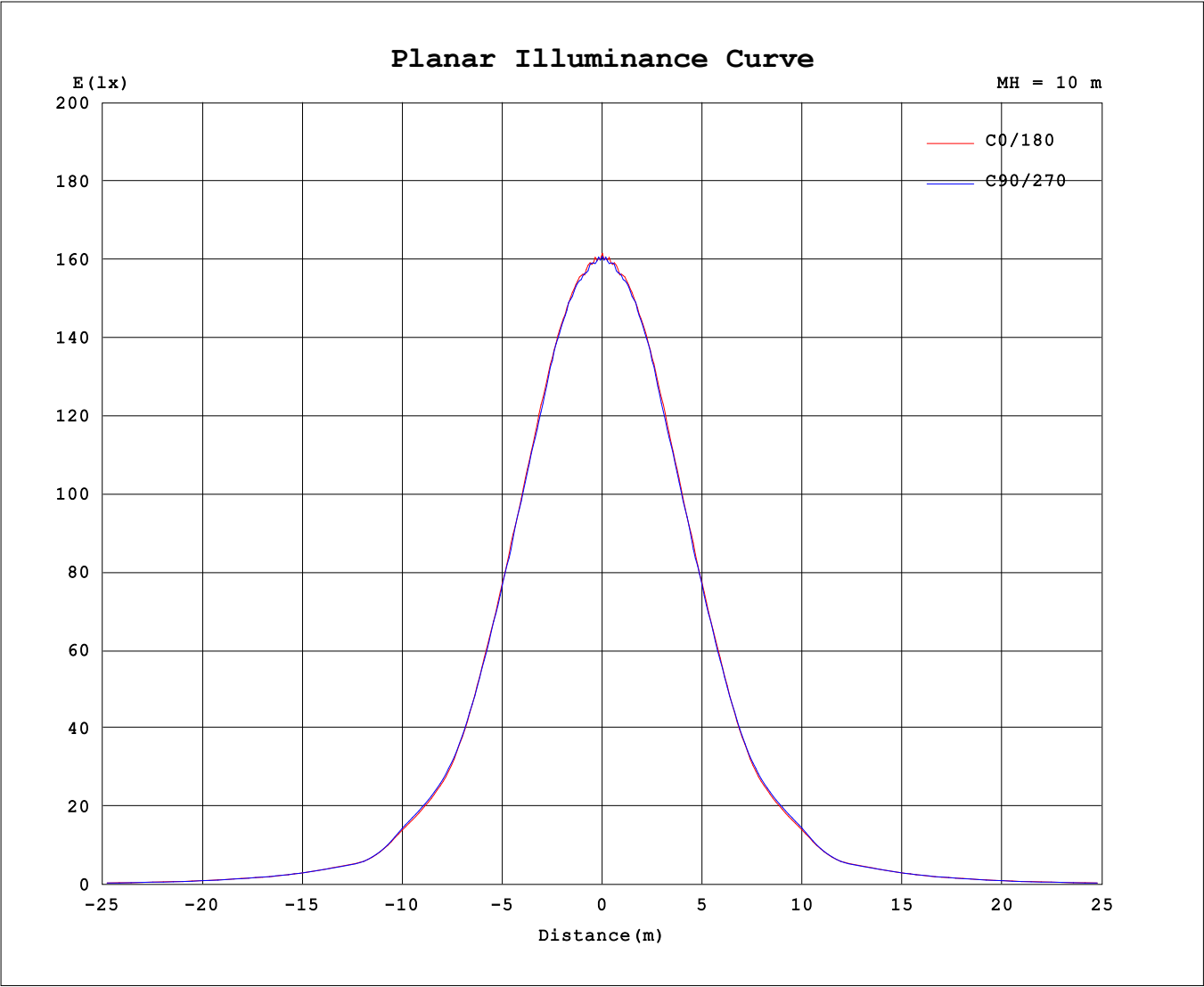
AvgL	cd/m2
L_0~180 (65) av	18041
L_0~180 (75) av	15714
L_0~180 (85) av	16975
L_90~270 (65) av	17687
L_90~270 (75) av	15359
L_90~270 (85) av	16064
L_45 (65) av	17709
L_45 (75) av	15452
L_45 (85) av	16295

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: