

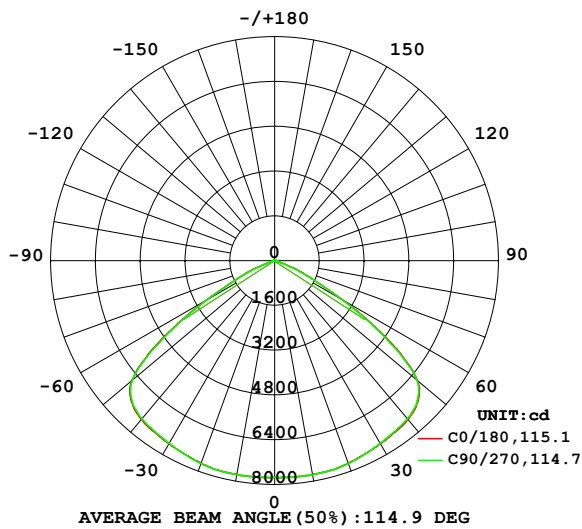
## EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINAIRE PHOTOMETRIC TEST REPORT

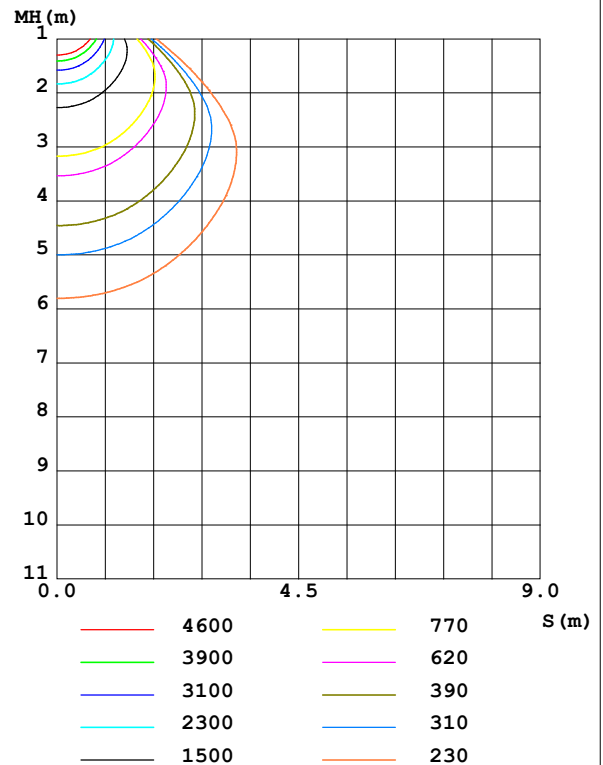
Test:U:230.0V I:0.535A P:119.9W PF:0.975 Freq:50.01Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:22466.2x1 lm		
NAME: HB68-120H-5070-H00194+H00D02	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 187.38 lm/W			
MODEL	/	I <sub>max</sub> (cd)	7768	S/MH(C0/180)	1.49
NOMINAL POWER(W)	/	LOR(%)	100.0	S/MH(C90/270)	1.48
RATED VOLTAGE(V)	/	TOTAL FLUX(lm)	22466	η UP,DN(C0-180)	0.1,49.9
NOMINAL FLUX(lm)	22466.2	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:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	7762	7759	7764	7759	7762	7759	7764	7759	0- 10	740.6	740.6	3.3,3.3
20	7701	7709	7715	7709	7701	7709	7715	7709	10- 20	2195	2936	13.1,13.1
30	7552	7537	7541	7537	7552	7537	7541	7537	20- 30	3529	6464	28.8,28.8
40	7403	7376	7376	7376	7403	7376	7376	7376	30- 40	4690	11155	49.7,49.7
50	6647	6596	6613	6596	6647	6596	6613	6596	40- 50	5515	16670	74.2,74.2
60	2758	2601	2741	2601	2758	2601	2741	2601	50- 60	4286	20955	93.3,93.3
70	323.8	333.5	316.7	333.5	323.8	333.5	316.7	333.5	60- 70	1309	22264	99.1,99.1
80	49.03	52.26	56.94	52.26	49.03	52.26	56.94	52.26	70- 80	110.5	22375	99.6,99.6
90	1.440	1.472	1.935	1.472	1.440	1.472	1.935	1.472	80- 90	27.91	22403	99.7,99.7
100	1.317	1.247	1.280	1.247	1.317	1.247	1.280	1.247	90-100	0.5872	22403	99.7,99.7
110	5.652	5.382	5.487	5.382	5.652	5.382	5.487	5.382	100-110	3.334	22407	99.7,99.7
120	10.06	10.01	9.978	10.01	10.06	10.01	9.978	10.01	110-120	7.762	22414	99.8,99.8
130	15.14	15.00	14.93	15.00	15.14	15.00	14.93	15.00	120-130	11.18	22425	99.8,99.8
140	17.61	17.61	17.50	17.61	17.61	17.61	17.50	17.61	130-140	12.99	22438	99.9,99.9
150	17.82	17.69	17.65	17.69	17.82	17.69	17.65	17.69	140-150	11.05	22449	99.9,99.9
160	18.69	18.56	18.51	18.56	18.69	18.56	18.51	18.56	150-160	8.299	22458	100,100
170	24.72	24.54	24.50	24.54	24.72	24.54	24.50	24.54	160-170	5.931	22464	100,100
180	26.42	26.08	25.99	26.08	26.42	26.08	25.99	26.08	170-180	2.465	22466	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 13859 lm

%lum = 61.7%  
 %lamp = 61.7%

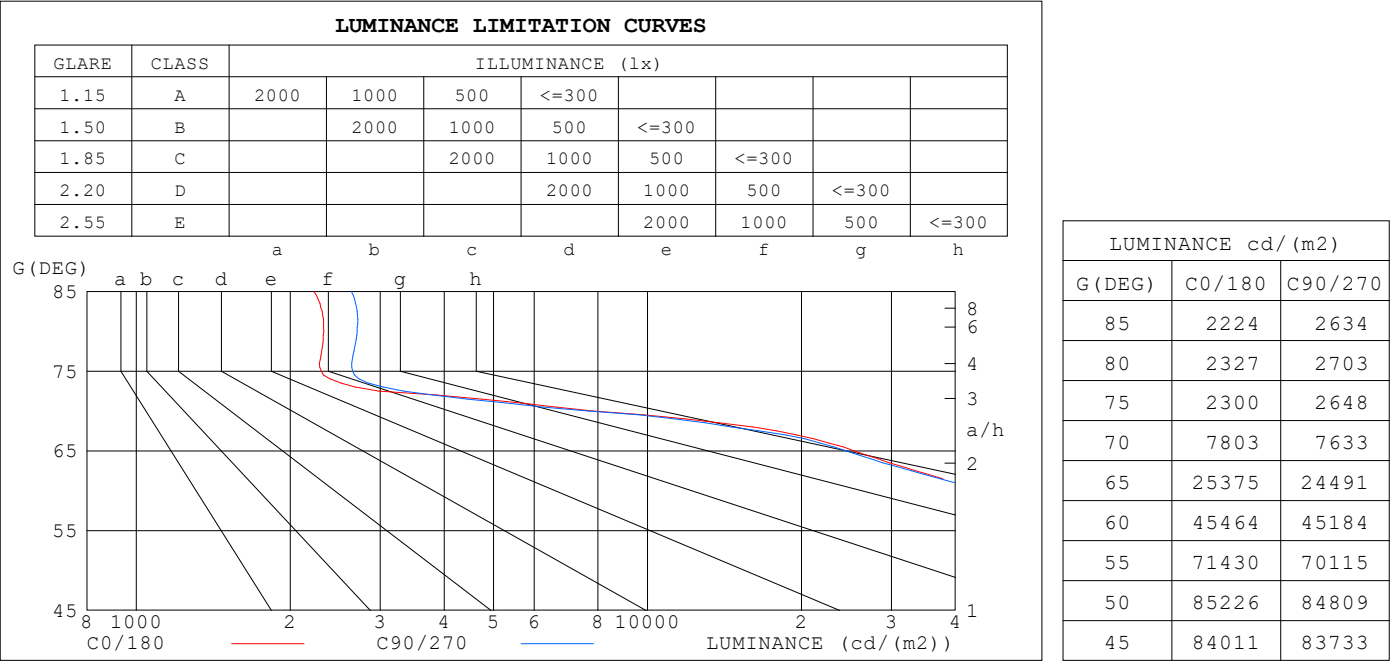
Conical surface Flux(120deg): 20955 lm

%lum = 93.3%  
 %lamp = 93.3%

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

$\gamma$  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



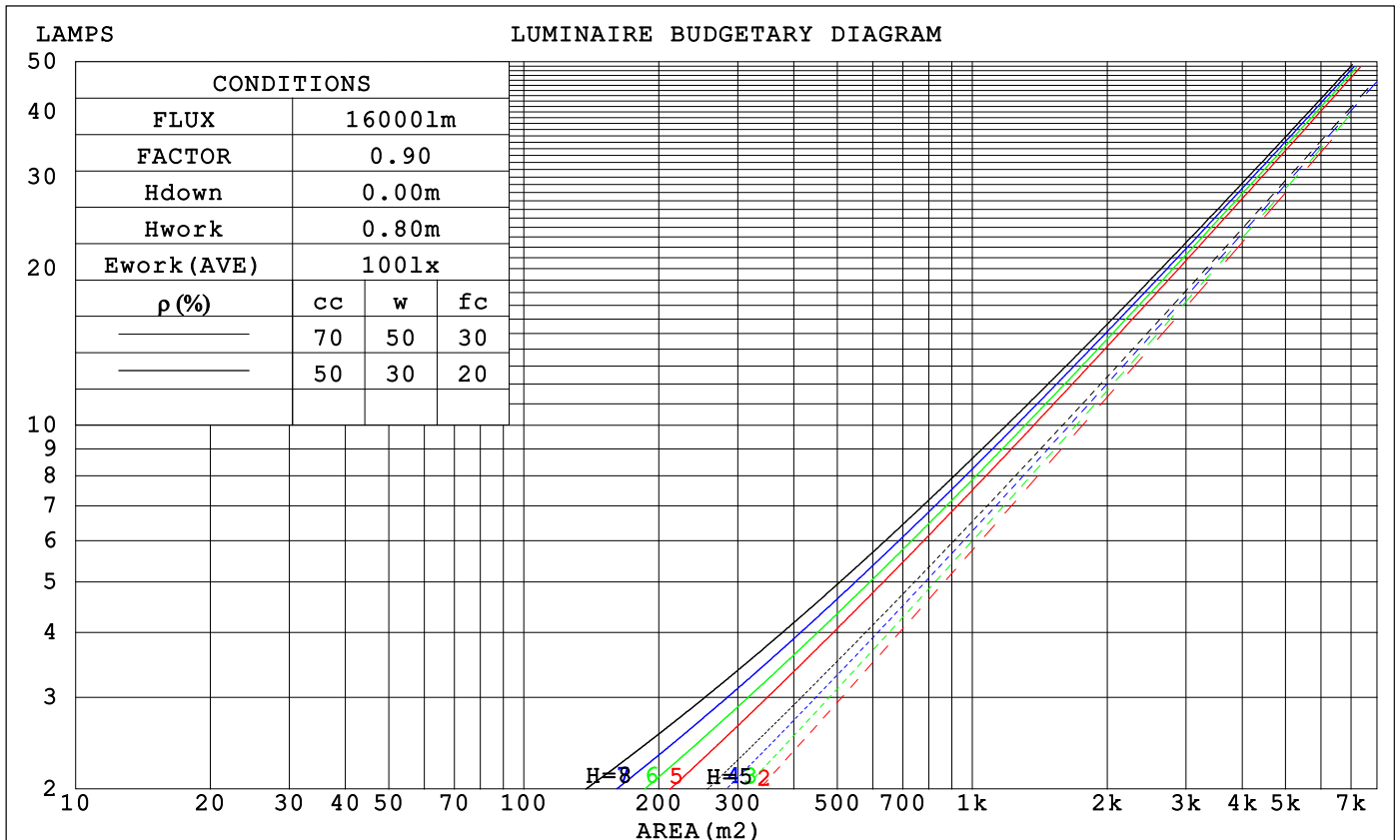
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3℃  
Operators:ZZX  
Test Date:2023-07-13

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

$\rho_{cc}$	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	1.07	1.04	1.00	1.05	1.02	.99	1.01	.98	.96	.97	.95	.93	.93	.91	.90	.88
2.0	.95	.89	.84	.93	.88	.83	.90	.85	.81	.87	.83	.80	.84	.81	.78	.76
3.0	.84	.77	.71	.83	.76	.71	.80	.74	.70	.77	.72	.68	.75	.71	.67	.65
4.0	.75	.67	.61	.74	.66	.61	.71	.65	.60	.69	.64	.59	.67	.62	.58	.56
5.0	.67	.59	.53	.66	.58	.52	.64	.57	.52	.62	.56	.51	.60	.55	.51	.49
6.0	.61	.52	.46	.60	.52	.46	.58	.51	.45	.56	.50	.45	.55	.49	.45	.43
7.0	.55	.46	.40	.54	.46	.40	.52	.45	.40	.51	.45	.40	.50	.44	.39	.38
8.0	.50	.42	.36	.49	.41	.36	.48	.41	.36	.47	.40	.35	.45	.40	.35	.33
9.0	.46	.38	.32	.45	.37	.32	.44	.37	.32	.43	.36	.32	.42	.36	.32	.30
10.0	.42	.34	.29	.41	.34	.29	.40	.33	.29	.39	.33	.29	.38	.33	.28	.27



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

$\gamma$  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	.249	.142	.045	.242	.138	.044	.229	.131	.042	.217	.125	.040	.206	.119	.038	
2.0	.247	.135	.041	.240	.132	.041	.229	.127	.040	.218	.123	.038	.209	.118	.037	
3.0	.237	.126	.038	.232	.124	.037	.221	.120	.036	.212	.116	.036	.203	.113	.035	
4.0	.225	.117	.034	.220	.115	.034	.211	.112	.033	.203	.109	.033	.195	.106	.032	
5.0	.213	.108	.031	.208	.107	.031	.200	.104	.031	.193	.102	.030	.186	.099	.030	
6.0	.200	.100	.029	.197	.099	.029	.189	.097	.028	.183	.095	.028	.177	.093	.028	
7.0	.189	.093	.026	.185	.092	.026	.179	.091	.026	.173	.089	.026	.167	.087	.026	
8.0	.178	.087	.024	.175	.086	.024	.169	.085	.024	.164	.083	.024	.159	.082	.024	
9.0	.168	.081	.023	.165	.081	.023	.160	.079	.022	.155	.078	.022	.151	.077	.022	
10.0	.159	.076	.021	.157	.076	.021	.152	.074	.021	.147	.073	.021	.143	.072	.021	

$\rho_{cc}$	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	.178	.159	.141	.153	.136	.122	.104	.094	.084	.060	.054	.049	.019	.017	.016	
2.0	.168	.134	.106	.144	.116	.091	.099	.080	.064	.057	.047	.037	.018	.015	.012	
3.0	.160	.116	.081	.137	.100	.070	.094	.070	.049	.054	.041	.029	.018	.013	.010	
4.0	.153	.103	.064	.131	.089	.056	.090	.062	.039	.052	.036	.023	.017	.012	.008	
5.0	.146	.092	.052	.126	.080	.045	.087	.056	.032	.050	.033	.019	.016	.011	.006	
6.0	.140	.084	.043	.120	.072	.038	.083	.051	.027	.048	.030	.016	.016	.010	.005	
7.0	.134	.077	.037	.115	.067	.032	.080	.047	.023	.046	.027	.014	.015	.009	.004	
8.0	.128	.071	.032	.110	.062	.028	.076	.043	.020	.044	.026	.012	.014	.008	.004	
9.0	.123	.066	.028	.106	.057	.025	.073	.040	.017	.043	.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

$\gamma$  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	26.4	27.9	26.8	28.3	28.6	26.4	27.9	26.8	28.3	28.6
3H	26.5	27.8	26.8	28.1	28.5	26.5	27.8	26.8	28.1	28.5
4H	26.4	27.7	26.8	28.0	28.4	26.4	27.7	26.8	28.0	28.4
6H	26.3	27.5	26.8	27.9	28.3	26.3	27.5	26.8	27.9	28.3
8H	26.3	27.4	26.7	27.8	28.2	26.3	27.4	26.7	27.8	28.2
12H	26.3	27.3	26.7	27.7	28.2	26.3	27.3	26.7	27.7	28.2
4H 2H	26.4	27.7	26.8	28.1	28.4	26.4	27.7	26.8	28.0	28.4
3H	26.5	27.5	26.9	27.9	28.3	26.5	27.5	26.9	27.9	28.3
4H	26.4	27.3	26.9	27.8	28.2	26.4	27.3	26.9	27.8	28.2
6H	26.4	27.2	26.8	27.6	28.1	26.4	27.2	26.8	27.6	28.1
8H	26.3	27.1	26.8	27.5	28.0	26.3	27.1	26.8	27.5	28.0
12H	26.3	26.9	26.8	27.4	27.9	26.3	26.9	26.8	27.4	27.9
8H 4H	26.3	27.1	26.8	27.5	28.0	26.3	27.1	26.8	27.5	28.0
6H	26.2	26.8	26.7	27.3	27.8	26.2	26.8	26.7	27.3	27.8
8H	26.2	26.7	26.7	27.2	27.7	26.2	26.7	26.7	27.2	27.7
12H	26.1	26.6	26.7	27.1	27.7	26.1	26.6	26.7	27.1	27.7
12H 4H	26.3	26.9	26.8	27.4	27.9	26.3	26.9	26.8	27.4	27.9
6H	26.2	26.7	26.7	27.2	27.8	26.2	26.7	26.7	27.2	27.8
8H	26.1	26.6	26.7	27.1	27.7	26.1	26.6	26.7	27.1	27.7
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

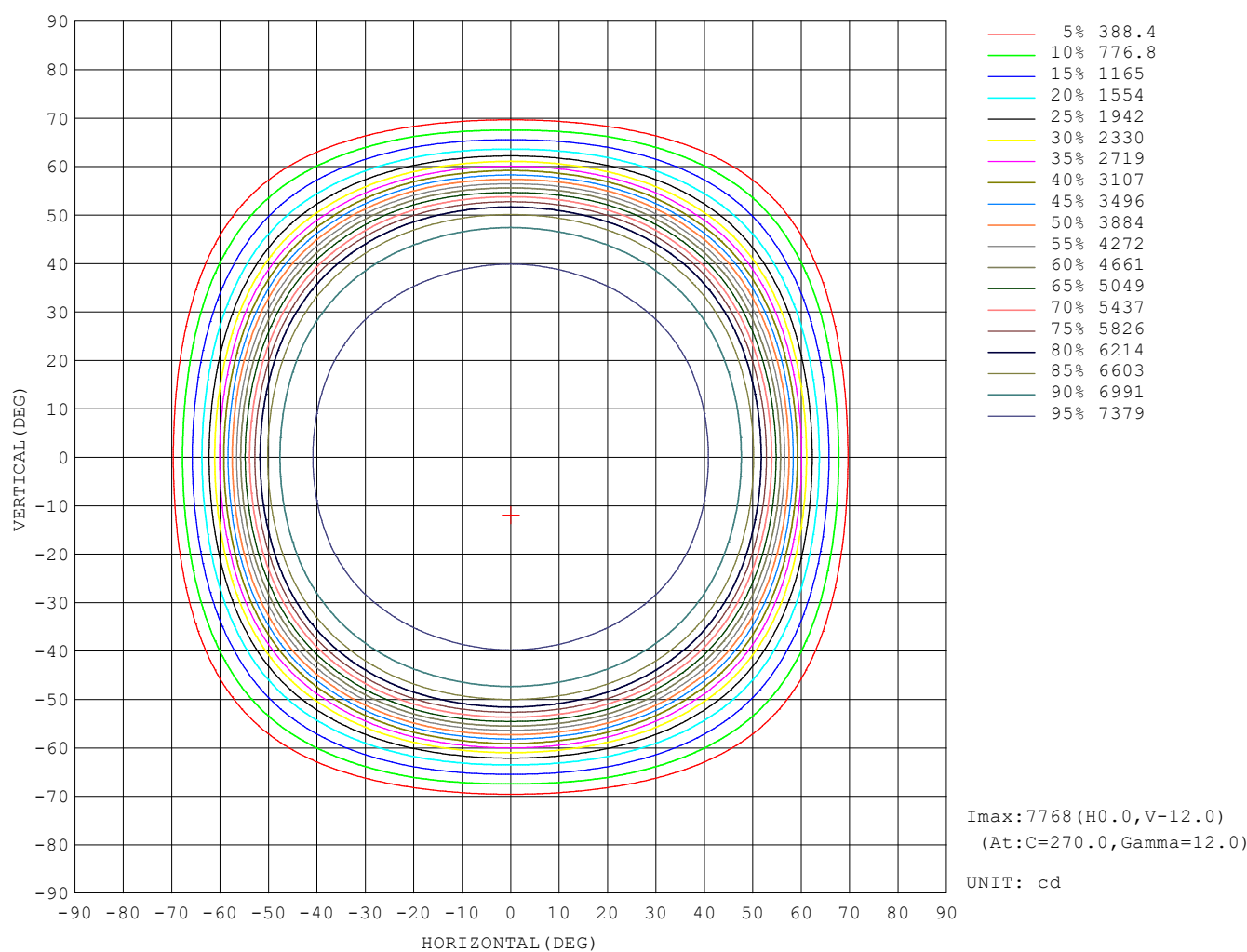
## UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	59	47	41	58	47	40	57	47	40	34
0.80	70	59	52	69	59	52	68	58	52	45
1.00	80	70	64	79	70	63	77	71	63	56
1.25	88	79	72	86	78	72	84	77	71	65
1.50	93	84	78	91	83	78	88	82	77	70
2.00	99	92	87	98	91	86	94	89	85	78
2.50	103	96	91	101	95	90	97	92	88	81
3.00	105	100	95	103	98	94	100	95	92	84
4.00	109	104	100	106	102	99	102	99	96	87
5.00	110	106	103	108	104	101	104	101	98	89
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

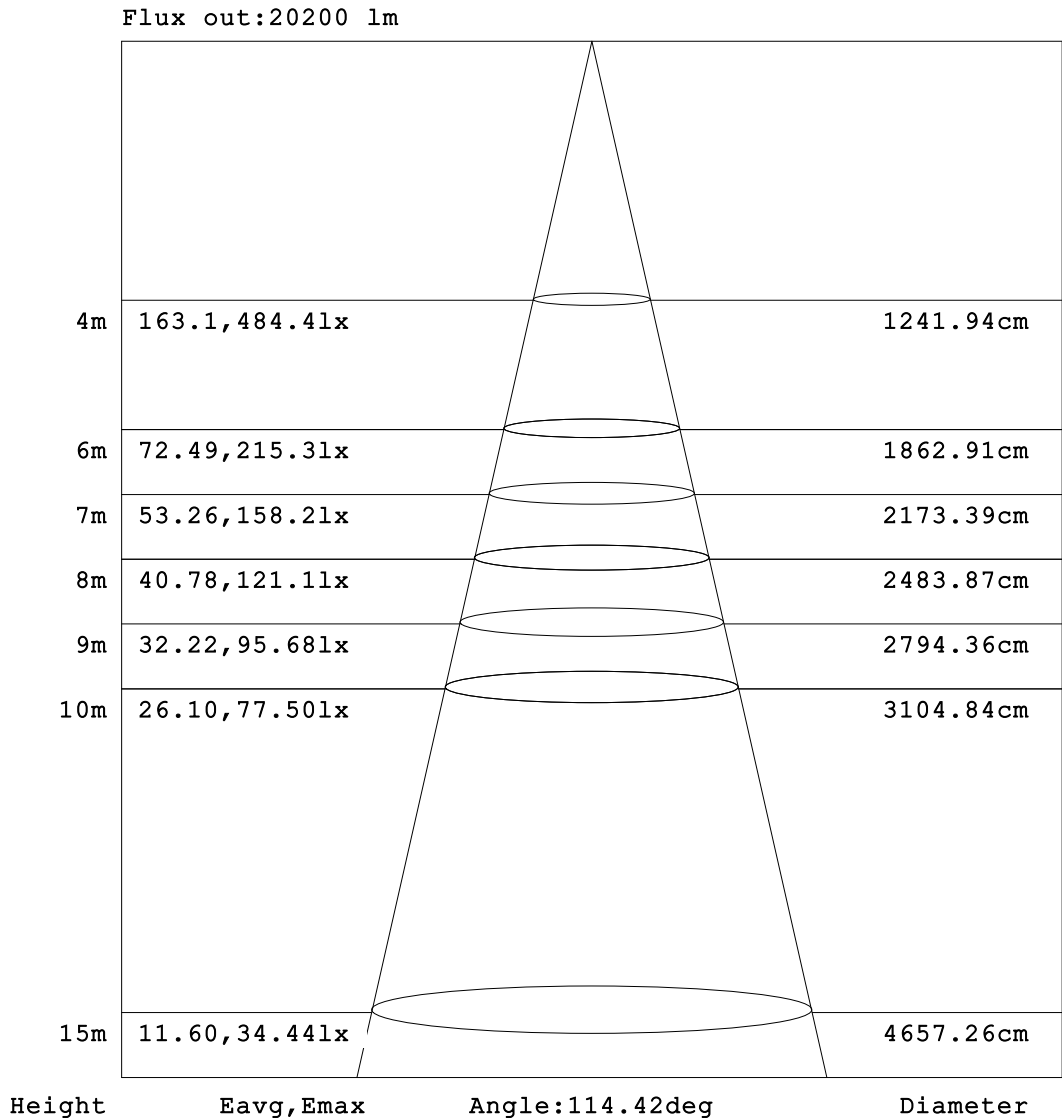


C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: ZZX  
Test Date: 2023-07-13

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



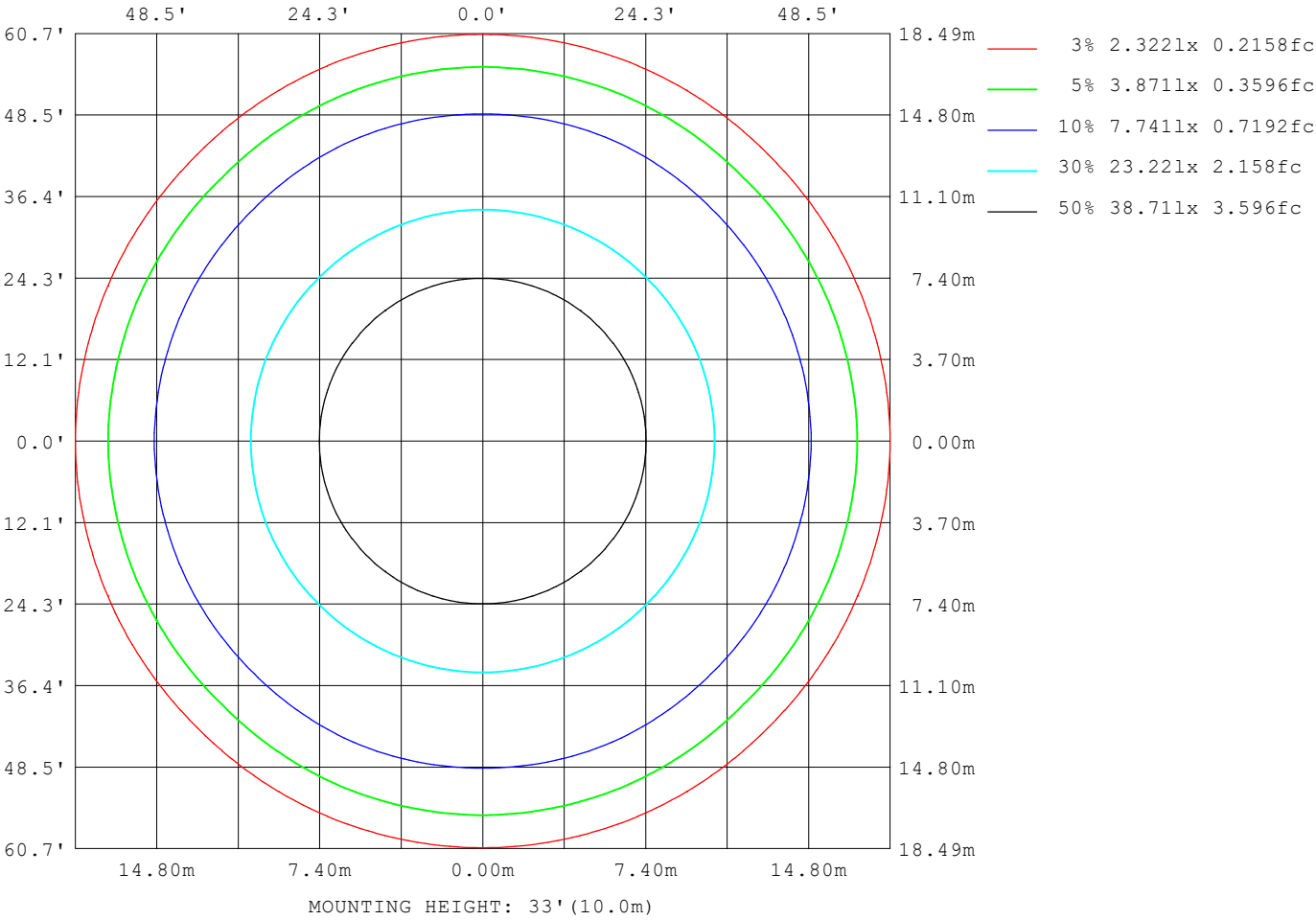
AAI Figure



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

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

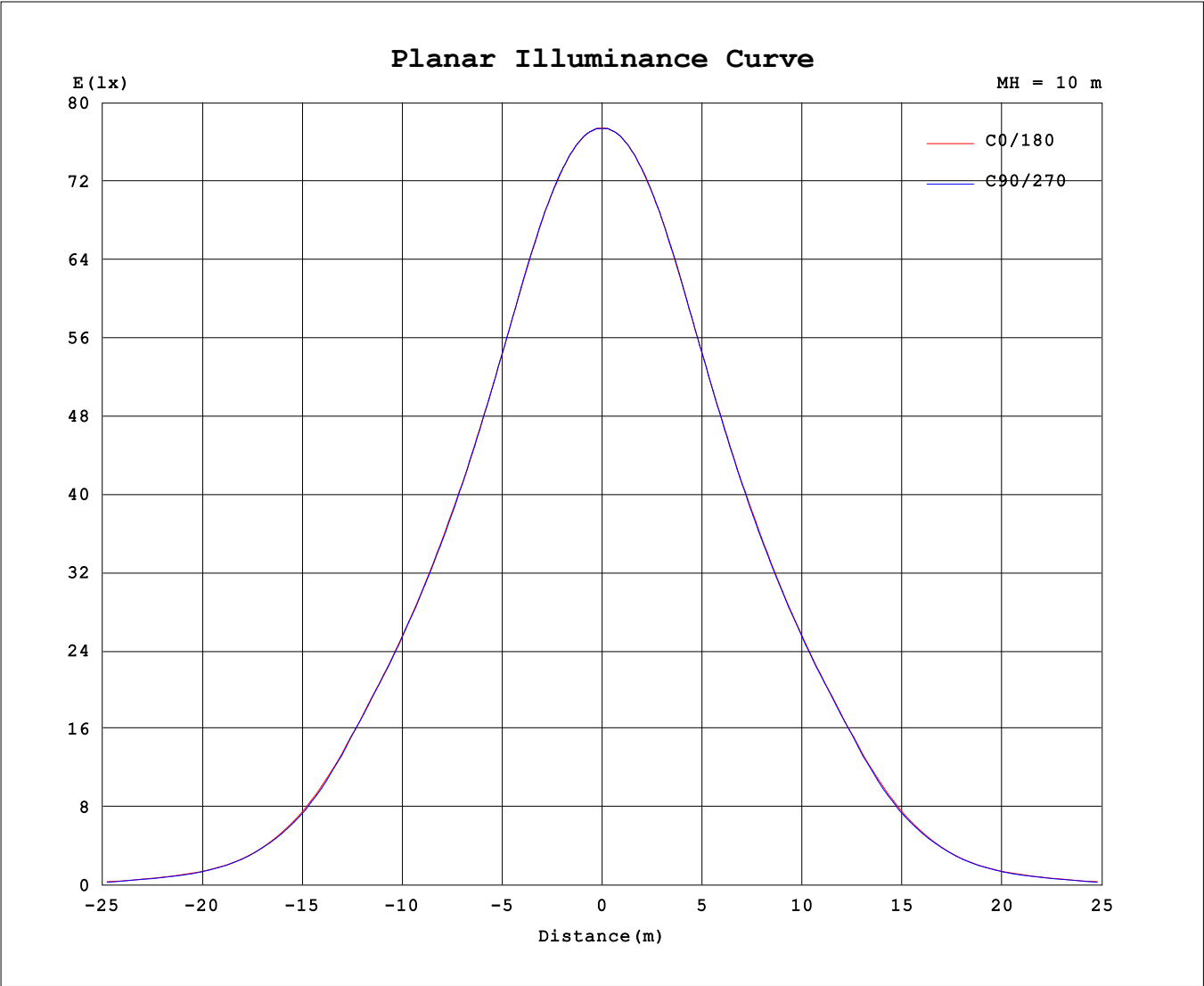
ISOLUX DIAGRAM



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:

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: