

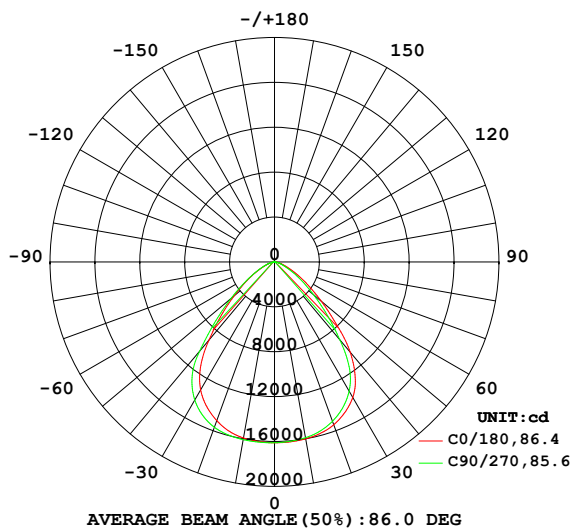
## EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINAIRE PHOTOMETRIC TEST REPORT

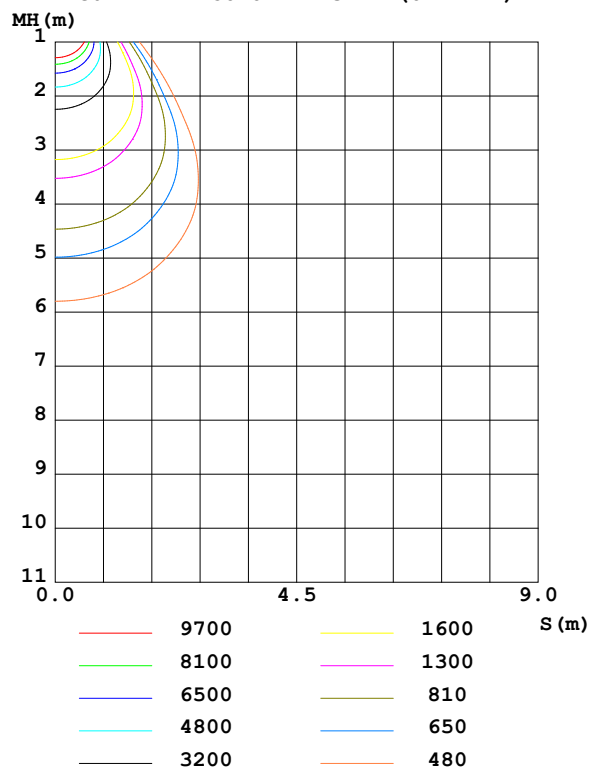
Test:U:229.8V I:0.658A P:148.5W PF:0.982 Freq:50.01Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:30710.9x1 lm		
NAME: HB68-150H-5070-H00198	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 206.84 lm/W			
MODEL	/	I <sub>max</sub> (cd)	16123	S/MH (C0/180)	1.20
NOMINAL POWER (W)	/	LOR (%)	100.0	S/MH (C90/270)	1.25
RATED VOLTAGE (V)	/	TOTAL FLUX (lm)	30711	η UP,DN (C0-180)	0.0,49.3
NOMINAL FLUX (lm)	30710.9	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0,50.7
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	/	η down (%)	100.0	CIBSE SHR MAX	1.25

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-06-12

γ Range: 0 - 90DEG  
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:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	1601	1595	1590	1588	1592	1602	1608	1606	0- 10	1532	1532	4.99,4.99
20	1544	1525	1511	1498	1504	1539	1567	1565	10- 20	4445	5977	19.5,19.5
30	1395	1364	1330	1311	1317	1368	1421	1421	20- 30	6728	12705	41.4,41.4
40	1049	1006	905.3	884.7	906.6	954.3	1038	1071	30- 40	7483	20187	65.7,65.7
50	544.6	505.4	453.3	409.5	468.8	469.7	505.9	530.0	40- 50	5480	25667	83.6,83.6
60	249.3	220.2	197.5	164.5	209.2	205.1	218.4	222.9	50- 60	3001	28669	93.4,93.4
70	94.28	80.25	73.25	63.76	77.81	77.22	84.12	86.46	60- 70	1373	30042	97.8,97.8
80	32.31	29.79	26.31	25.31	26.77	27.15	29.45	31.71	70- 80	549.3	30591	99.6,99.6
90	0.4942	0.3881	0.2781	0.2538	0.2425	0.2510	0.3177	0.4226	80- 90	119.6	30711	100,100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:X10cd									UNIT:lm		

Conical surface Flux(90deg): 23291 lm

%lum = 75.8%

%lamp = 75.8%

Conical surface Flux(120deg): 28669 lm

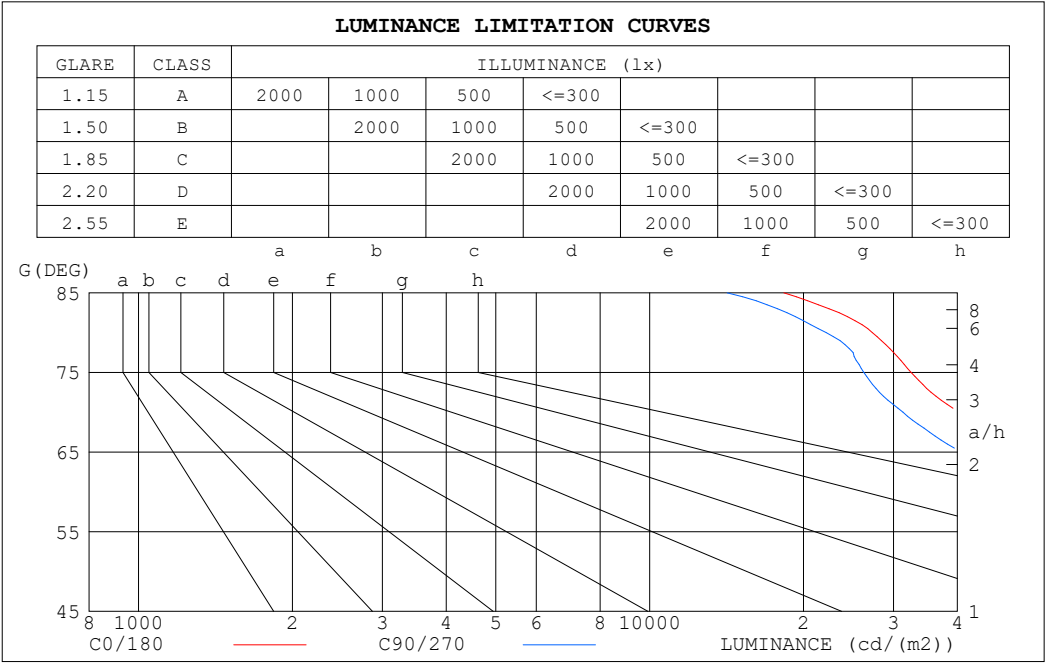
%lum = 93.4%

%lamp = 93.4%

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-06-12

γ Range: 0 - 90DEG  
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:

LUMINANCE LIMITATION CURVES



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	18311	14181
80	27270	22158
75	32478	26248
70	40399	31321
65	54732	40783
60	73057	57770
55	95074	78096
50	124171	103135
45	160026	135805

C Range: 0 - 360DEG

C Interval: 22.5DEG

Test Speed: HIGH

Temperature:25.3℃

Operators:ZZX

Test Date:2023-06-12

γ Range: 0 - 90DEG

γ Interval: 0.5DEG

Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.465

Humidity:65.0%

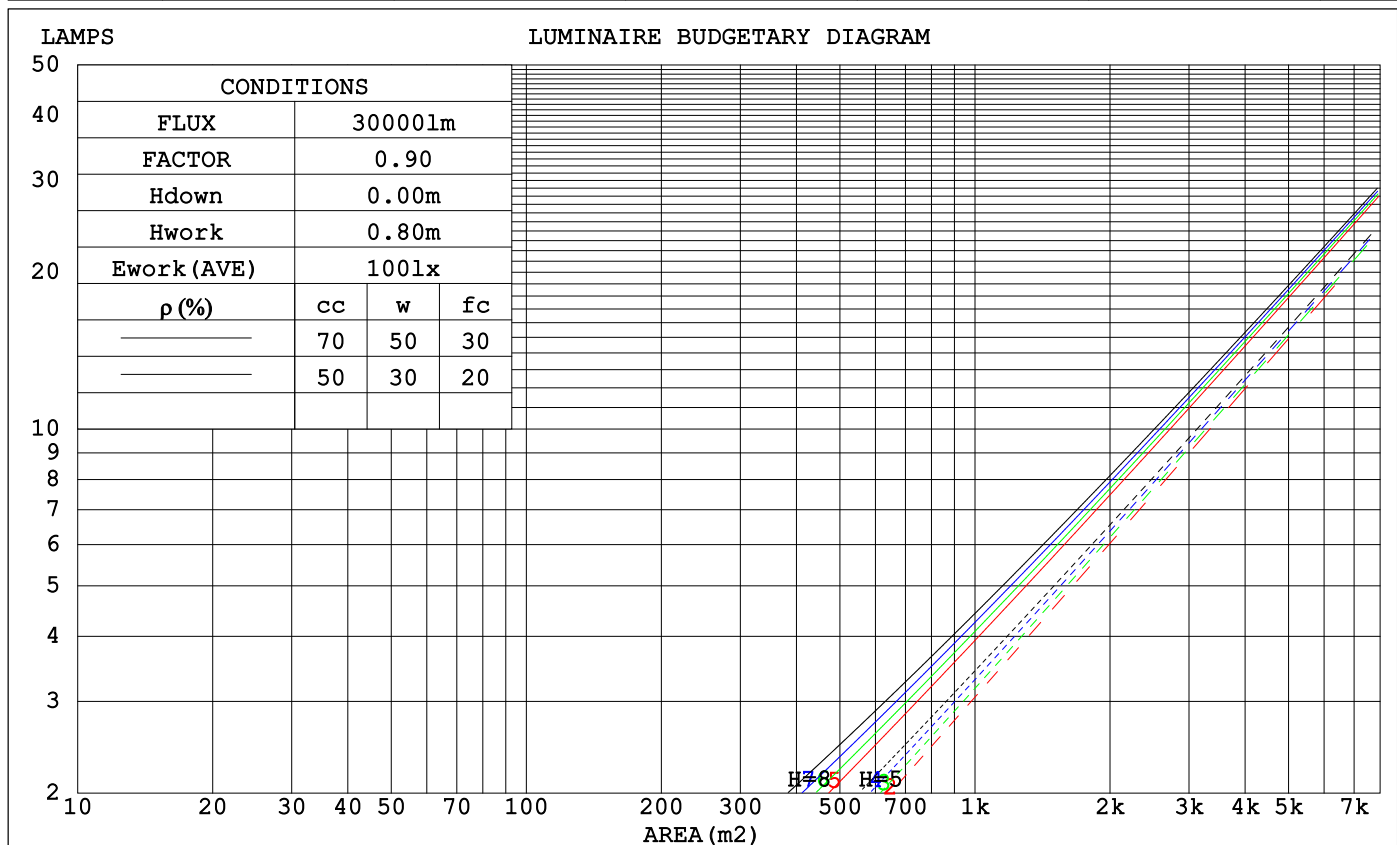
Test Distance:26.000m [K=0.4556]

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	1.00
1.0	1.08	1.05	1.02	1.06	1.03	.00	1.01	.99	.97	.98	.96	.94	.94	.93	.91	.89
2.0	.97	.92	.87	.95	.90	.86	.92	.88	.84	.89	.85	.82	.86	.83	.81	.79
3.0	.88	.81	.76	.86	.80	.75	.83	.78	.74	.81	.76	.73	.78	.75	.72	.70
4.0	.80	.72	.67	.78	.72	.66	.76	.70	.65	.74	.69	.65	.72	.67	.64	.62
5.0	.72	.65	.59	.71	.64	.59	.69	.63	.58	.68	.62	.58	.66	.61	.57	.55
6.0	.66	.58	.53	.65	.58	.53	.64	.57	.52	.62	.56	.52	.61	.55	.52	.50
7.0	.61	.53	.48	.60	.53	.48	.59	.52	.47	.57	.51	.47	.56	.51	.47	.45
8.0	.56	.48	.43	.55	.48	.43	.54	.48	.43	.53	.47	.43	.52	.46	.42	.41
9.0	.52	.44	.39	.51	.44	.39	.50	.44	.39	.49	.43	.39	.48	.43	.39	.37
10.0	.48	.41	.36	.48	.41	.36	.47	.40	.36	.46	.40	.36	.45	.40	.36	.34



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-06-12

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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	.235	.133	.042	.228	.130	.041	.215	.123	.039	.203	.117	.038	.192	.111	.036	
2.0	.227	.125	.038	.222	.122	.038	.210	.117	.036	.200	.112	.035	.191	.108	.034	
3.0	.216	.115	.034	.211	.113	.034	.202	.109	.033	.193	.105	.032	.184	.102	.032	
4.0	.205	.106	.031	.200	.105	.031	.192	.102	.030	.184	.099	.030	.176	.096	.029	
5.0	.193	.098	.029	.189	.097	.028	.182	.095	.028	.175	.092	.027	.168	.090	.027	
6.0	.182	.091	.026	.179	.090	.026	.172	.088	.026	.166	.086	.025	.160	.084	.025	
7.0	.172	.085	.024	.169	.084	.024	.163	.083	.024	.158	.081	.024	.152	.079	.023	
8.0	.163	.080	.022	.160	.079	.022	.155	.077	.022	.150	.076	.022	.145	.075	.022	
9.0	.155	.075	.021	.152	.074	.021	.147	.073	.021	.143	.072	.020	.139	.070	.020	
10.0	.147	.070	.020	.145	.070	.020	.140	.069	.019	.136	.068	.019	.132	.067	.019	

$\rho_{cc}$	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	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.175	.157	.140	.150	.135	.121	.102	.093	.084	.059	.054	.049	.019	.017	.016	
2.0	.164	.132	.106	.140	.114	.091	.096	.079	.064	.055	.046	.037	.018	.015	.012	
3.0	.154	.114	.082	.132	.098	.071	.091	.068	.050	.052	.040	.029	.017	.013	.010	
4.0	.146	.100	.065	.125	.086	.056	.086	.060	.040	.050	.035	.024	.016	.011	.008	
5.0	.138	.089	.053	.119	.077	.046	.082	.054	.032	.047	.032	.019	.015	.010	.006	
6.0	.132	.080	.044	.113	.070	.038	.078	.049	.027	.045	.029	.016	.015	.009	.005	
7.0	.125	.073	.037	.108	.064	.032	.075	.045	.023	.043	.026	.014	.014	.009	.004	
8.0	.120	.067	.032	.103	.059	.028	.071	.041	.020	.041	.024	.012	.013	.008	.004	
9.0	.114	.062	.027	.099	.054	.024	.068	.038	.017	.040	.023	.010	.013	.007	.003	
10.0	.109	.058	.024	.094	.051	.021	.065	.036	.015	.038	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:ZZX  
 Test Date:2023-06-12

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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	25.8	27.2	26.2	27.5	27.8	25.1	26.5	25.5	26.8	27.1
	3H	26.5	27.7	26.9	28.0	28.4	25.7	26.9	26.0	27.2	27.5
	4H	26.7	27.8	27.1	28.1	28.5	25.8	26.9	26.2	27.3	27.7
	6H	26.8	27.8	27.2	28.2	28.6	25.9	26.9	26.3	27.3	27.7
	8H	26.8	27.8	27.2	28.2	28.6	25.9	26.9	26.4	27.3	27.7
	12H	26.8	27.7	27.2	28.1	28.5	25.9	26.8	26.3	27.2	27.7
	4H	2H	25.9	27.1	26.3	27.4	27.8	25.1	26.3	25.5	26.6
	3H	26.7	27.7	27.2	28.1	28.5	25.8	26.7	26.2	27.1	27.5
	4H	27.0	27.8	27.4	28.2	28.7	26.1	26.9	26.5	27.3	27.7
	6H	27.2	27.9	27.7	28.4	28.8	26.3	27.0	26.7	27.4	27.9
	8H	27.3	27.9	27.7	28.4	28.8	26.3	26.9	26.8	27.4	27.9
	12H	27.3	27.8	27.8	28.3	28.8	26.3	26.9	26.8	27.3	27.8
	8H	4H	27.0	27.7	27.5	28.1	28.6	26.1	26.7	26.6	27.2
	6H	27.3	27.8	27.8	28.3	28.8	26.3	26.9	26.8	27.4	27.8
	8H	27.4	27.8	27.9	28.4	28.8	26.4	26.9	26.9	27.4	27.9
	12H	27.4	27.8	27.9	28.3	28.9	26.4	26.8	26.9	27.3	27.9
	12H	4H	27.0	27.6	27.5	28.1	28.5	26.1	26.6	26.6	27.1
	6H	27.3	27.8	27.8	28.2	28.8	26.3	26.8	26.8	27.3	27.8
	8H	27.4	27.8	27.9	28.3	28.9	26.4	26.8	26.9	27.3	27.9
CIE190: 2010											

CIE190: 2010  
Area: 0.06835 m2

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Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-06-12

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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

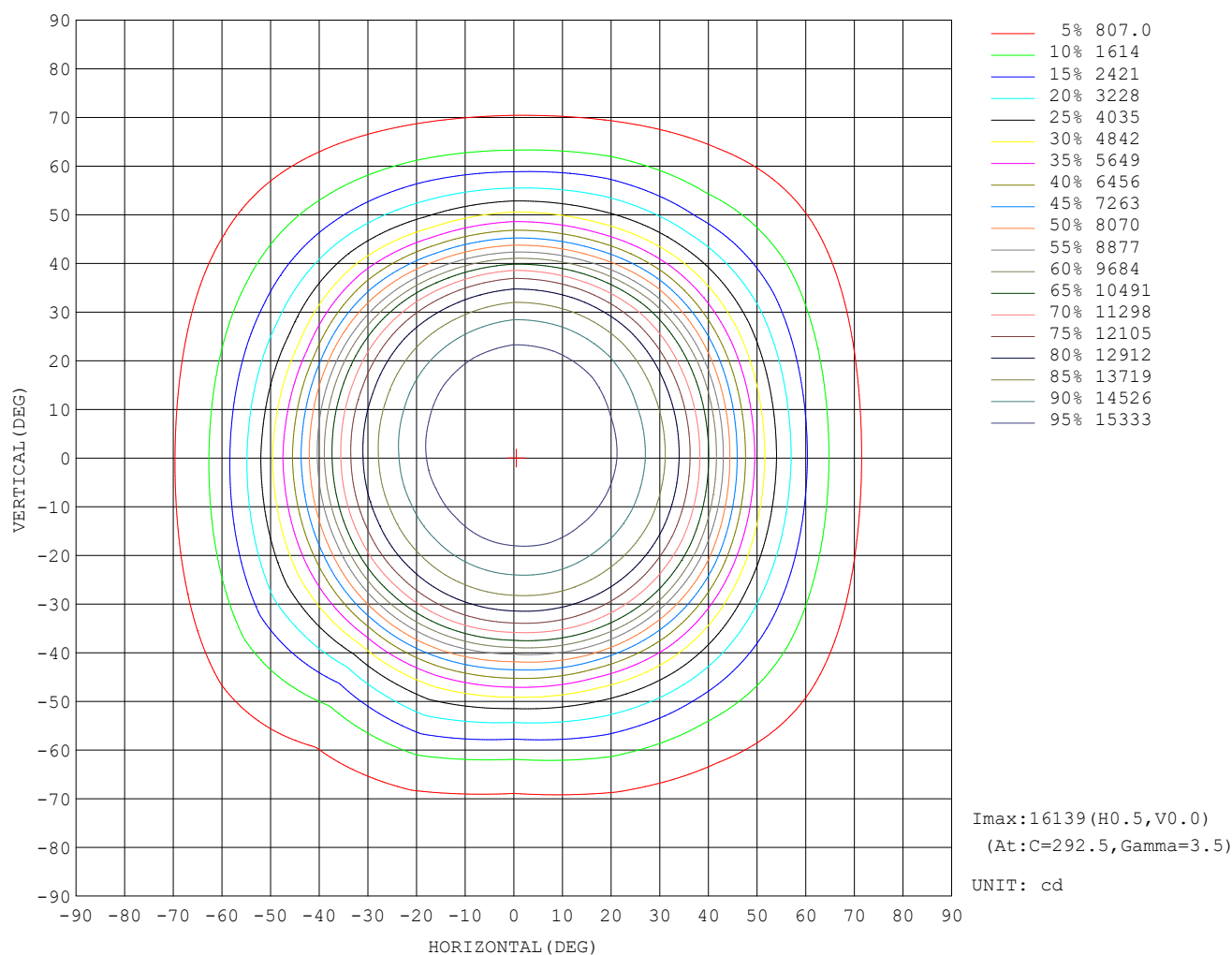
## UTILIZATION FACTORS TABLE

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	60	55	69	60	55	68	60	54	49
0.80	80	70	65	79	70	65	77	69	64	59
1.00	87	79	73	86	78	73	84	79	72	67
1.25	93	85	80	92	85	80	90	83	79	73
1.50	97	90	85	96	89	84	93	88	83	77
2.00	102	96	91	101	95	91	98	93	89	83
2.50	105	99	95	103	98	94	100	96	92	85
3.00	107	102	98	105	101	97	102	98	95	88
4.00	110	106	103	108	104	101	104	101	99	91
5.00	112	108	105	110	107	104	105	103	101	92
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004						Suspended			SHRNOM = 1.25	

C Range: 0 - 360DEG  
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 Temperature: 25.3°C  
 Operators: ZZX  
 Test Date: 2023-06-12

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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

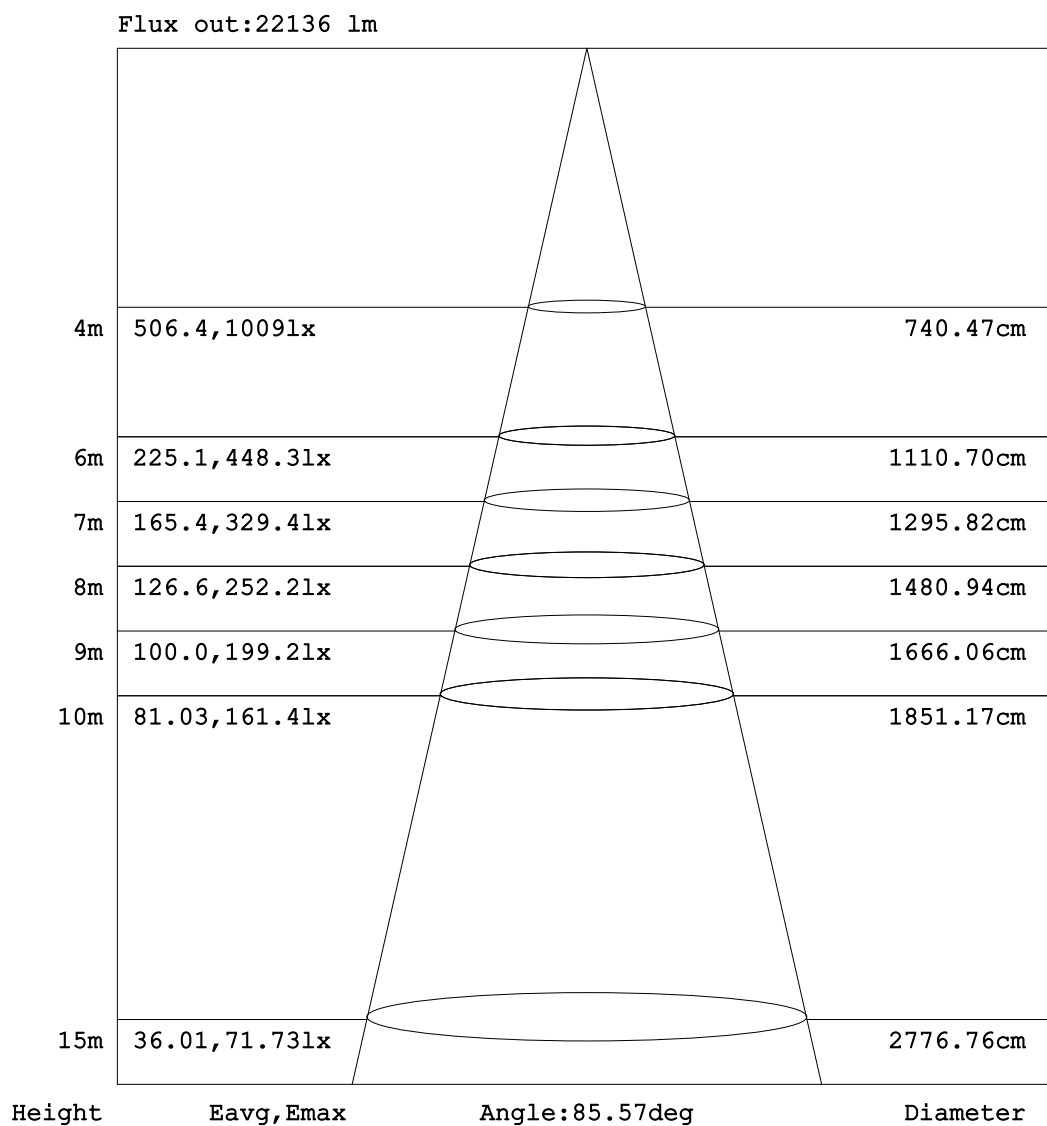


C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-06-12

$\gamma$  Range: 0 - 90DEG  
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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



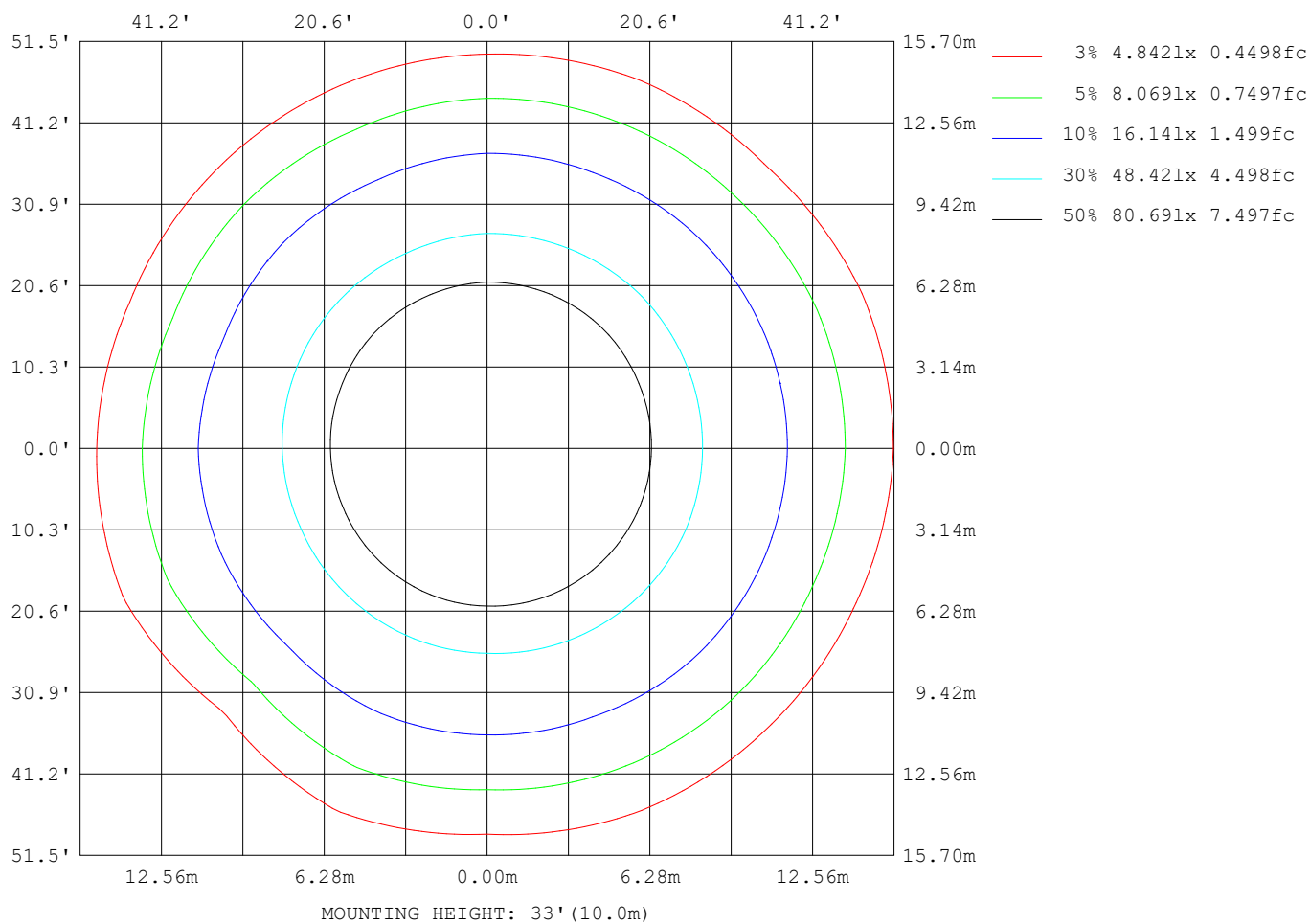
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: ZZX  
Test Date: 2023-06-12

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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

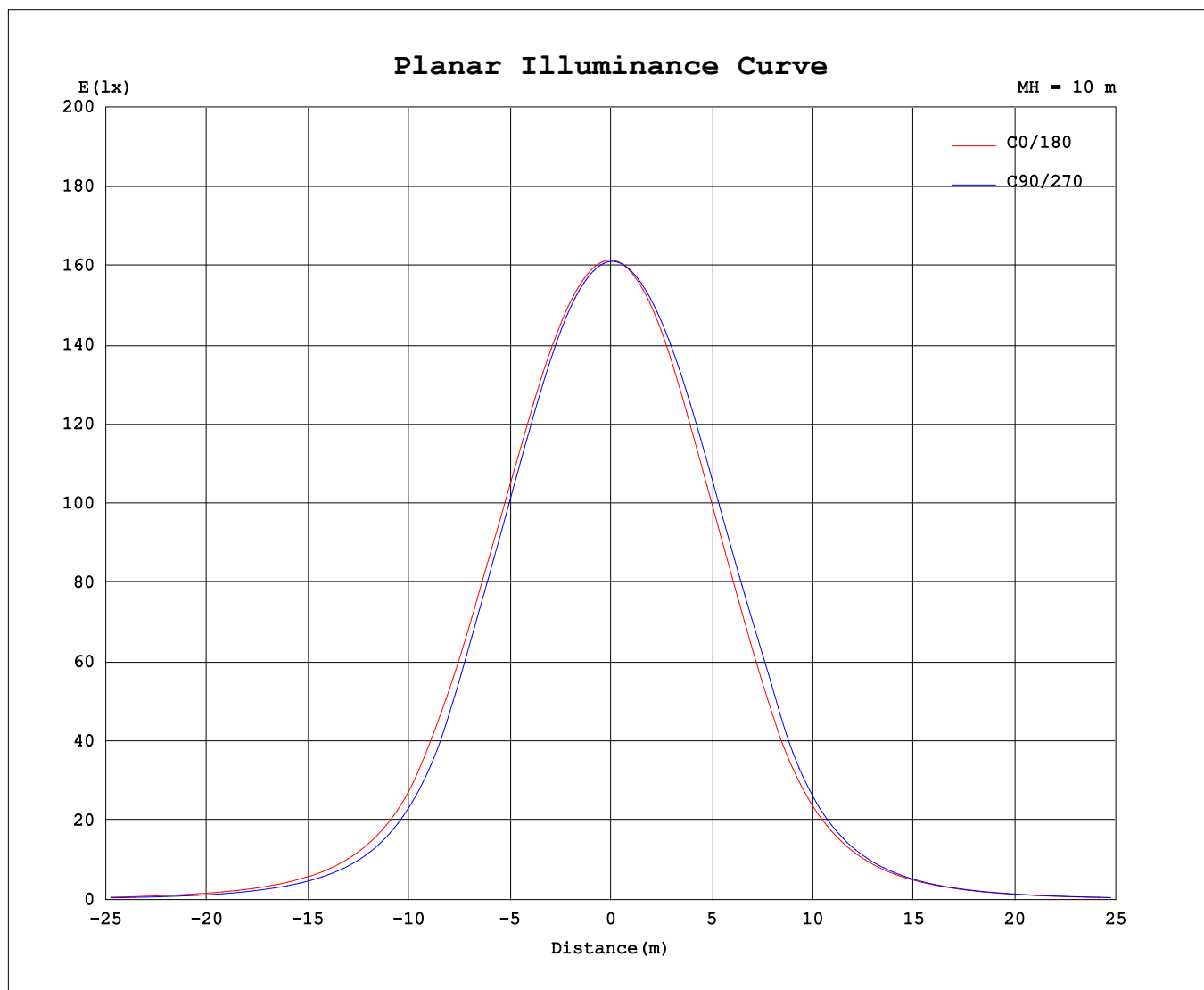
## ISOLUX DIAGRAM



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: ZZX  
Test Date: 2023-06-12

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.465  
Humidity: 65.0%  
Test Distance: 26.000m [K=0.4556]  
Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: ZZX  
Test Date: 2023-06-12

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.465  
Humidity: 65.0%  
Test Distance: 26.000m [K=0.4556]  
Remarks: