

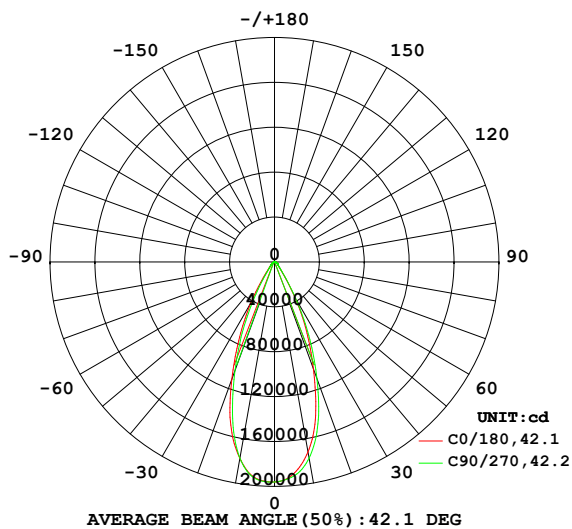
## EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINAIRE PHOTOMETRIC TEST REPORT

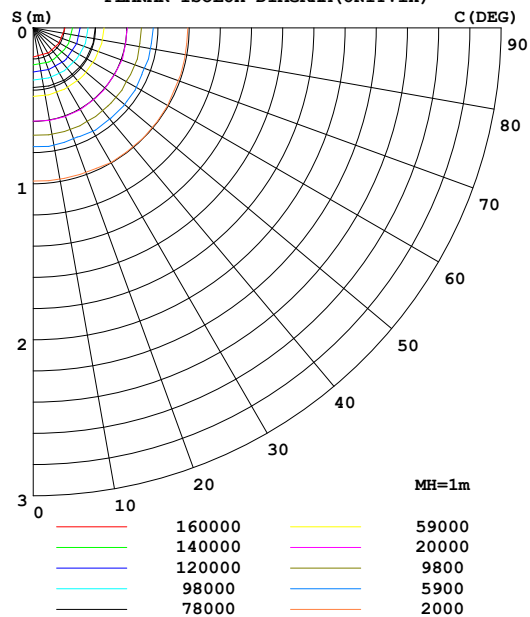
Test:U:230.0V I:3.538A P:800.0W PF:0.983 Freq:50.00Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:111012x1 lm		
NAME: SP04-800-5770-F04045X	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 138.76 lm/W			
MODEL	/	Imax (cd)	196402	S/MH (C0/180)	0.69
NOMINAL POWER (W)	/	LOR (%)	100.0	S/MH (C90/270)	0.66
RATED VOLTAGE (V)	/	TOTAL FLUX (lm)	111012	$\eta$ UP, DN (C0-180)	0.0, 50.7
NOMINAL FLUX (lm)	111012	CIE CLASS	DIRECT	$\eta$ UP, DN (C180-360)	0.0, 49.3
LAMPS INSIDE	1	$\eta$ up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE (V)	/	$\eta$ down (%)	100.0	CIBSE SHR MAX	0.70

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



PLANAR ISOLUX DIAGRAM (UNIT: lx)



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: ZZX  
Test Date: 2023-12-01

$\gamma$  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=0.4621]  
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	1719	1746	1775	1791	1778	1794	1775	1731	0- 10	17853	17853	16.1,16.1
20	1013	1070	1106	1125	1112	1084	1029	1014	10- 20	39858	57711	52,52
30	363.0	362.7	380.3	394.7	419.6	366.3	333.7	334.4	20- 30	31337	89048	80.2,80.2
40	77.86	83.01	81.99	90.24	87.30	84.79	74.25	79.93	30- 40	11310	100358	90.4,90.4
50	39.71	44.32	41.60	46.29	42.37	44.85	39.85	43.85	40- 50	4373	104731	94.3,94.3
60	26.54	28.31	27.64	29.57	28.25	28.54	27.18	27.63	50- 60	3106	107837	97.1,97.1
70	14.97	15.30	15.46	15.48	15.45	14.74	14.41	14.59	60- 70	2093	109930	99,99
80	4.265	4.074	4.084	4.001	4.297	3.602	3.510	3.689	70- 80	941.6	110872	99.9,99.9
90	0.0317	0.0349	0.0303	0.0250	0.0267	0.0235	0.0206	0.0242	80- 90	139.9	111012	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:X100cd									UNIT:lm		

Conical surface Flux(90deg): 1.028e+005 lm

%lum = 92.6%

%lamp = 92.6%

Conical surface Flux(120deg): 1.0784e+005 lm

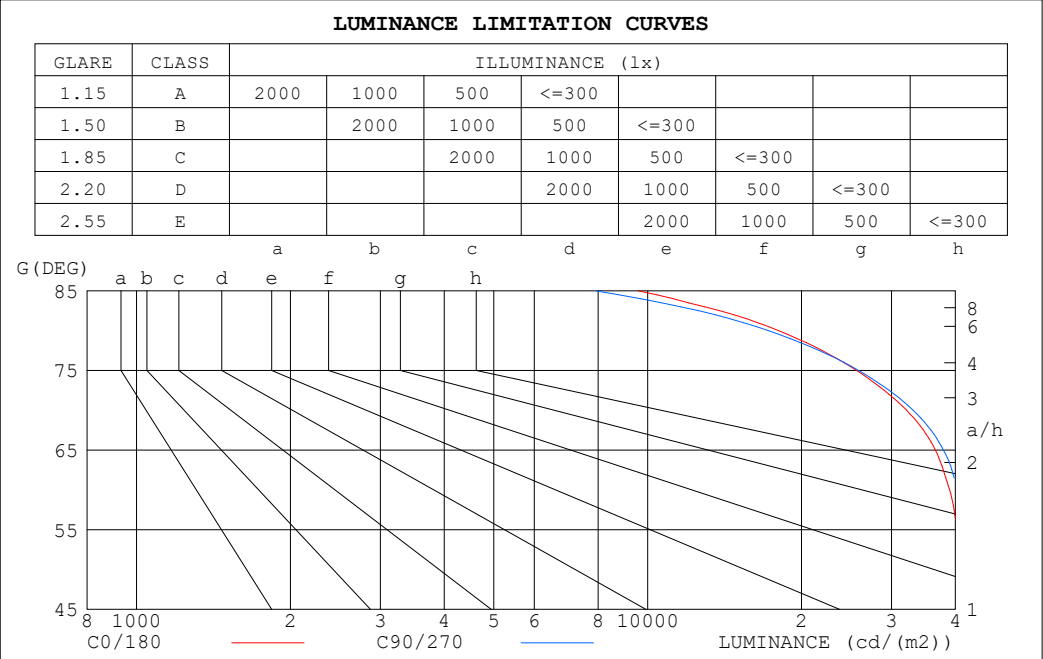
%lum = 97.1%

%lamp = 97.1%

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-12-01

$\gamma$  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=0.4621]  
Remarks:

LUMINANCE LIMITATION CURVES



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	9580	7912
80	18031	17214
75	25632	25858
70	32129	33074
65	36543	37896
60	38978	40460
55	40342	41947
50	45353	47368
45	54219	56473

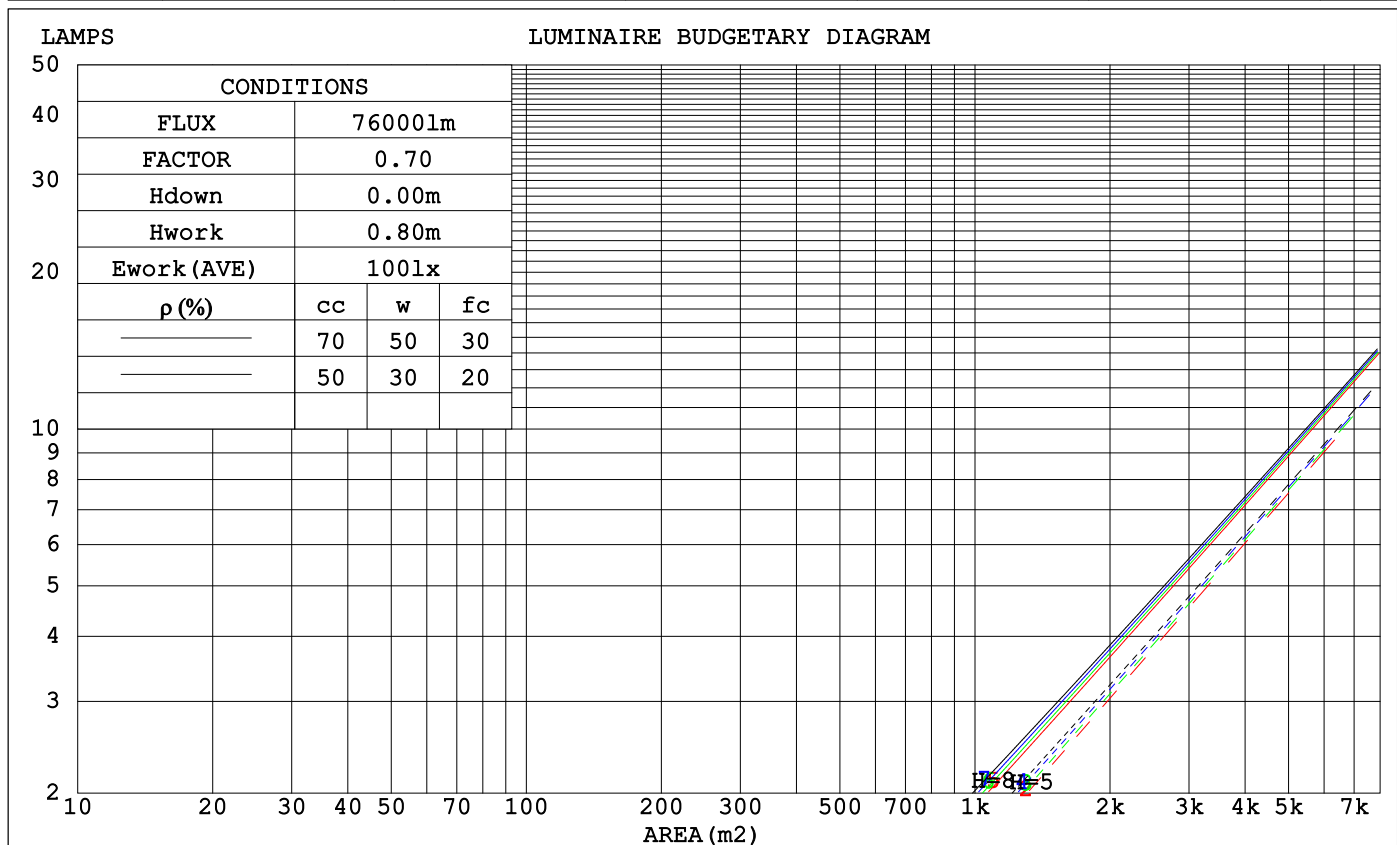
C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3℃  
Operators:ZZX  
Test Date:2023-12-01

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=0.4621]  
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	1.11	1.08	1.06	1.09	1.07	1.05	1.05	1.03	1.01	1.01	.00	.98	.98	.96	.95	.94
2.0	1.03	.00	.96	1.02	.98	.95	.99	.96	.93	.96	.93	.91	.93	.91	.89	.88
3.0	.97	.92	.88	.96	.91	.88	.93	.89	.86	.91	.88	.85	.88	.86	.84	.82
4.0	.91	.86	.82	.90	.85	.82	.88	.84	.81	.86	.82	.80	.84	.81	.79	.77
5.0	.86	.81	.77	.85	.80	.76	.83	.79	.76	.82	.78	.75	.80	.77	.74	.73
6.0	.82	.76	.72	.81	.76	.72	.79	.75	.71	.78	.74	.71	.77	.73	.70	.69
7.0	.77	.72	.68	.77	.72	.68	.76	.71	.67	.74	.70	.67	.73	.70	.67	.65
8.0	.74	.68	.64	.73	.68	.64	.72	.67	.64	.71	.67	.64	.70	.66	.63	.62
9.0	.70	.65	.61	.70	.65	.61	.69	.64	.61	.68	.64	.61	.67	.63	.61	.59
10.0	.67	.62	.58	.67	.62	.58	.66	.61	.58	.65	.61	.58	.65	.61	.58	.57



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-12-01

$\gamma$  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=0.4621]  
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	.176	.100	.032	.169	.096	.031	.157	.090	.029	.145	.084	.027	.134	.078	.025	
2.0	.167	.091	.028	.161	.089	.027	.150	.084	.026	.141	.079	.025	.132	.074	.023	
3.0	.157	.084	.025	.152	.082	.025	.143	.078	.024	.135	.074	.023	.127	.070	.022	
4.0	.148	.077	.023	.144	.075	.022	.136	.072	.022	.129	.069	.021	.122	.067	.020	
5.0	.140	.071	.021	.136	.070	.020	.130	.068	.020	.124	.065	.019	.118	.063	.019	
6.0	.133	.067	.019	.130	.065	.019	.124	.063	.018	.118	.061	.018	.113	.060	.018	
7.0	.126	.062	.018	.123	.061	.018	.118	.060	.017	.113	.058	.017	.109	.057	.017	
8.0	.120	.059	.017	.118	.058	.016	.113	.057	.016	.109	.055	.016	.105	.054	.016	
9.0	.115	.056	.015	.113	.055	.015	.109	.054	.015	.105	.052	.015	.101	.051	.015	
10.0	.110	.053	.015	.108	.052	.015	.104	.051	.014	.101	.050	.014	.097	.049	.014	

$\rho_{cc}$	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	.171	.157	.145	.146	.135	.125	.100	.093	.086	.058	.054	.050	.018	.017	.016	
2.0	.156	.133	.113	.133	.114	.098	.091	.079	.068	.053	.046	.040	.017	.015	.013	
3.0	.143	.114	.090	.122	.098	.078	.084	.068	.055	.049	.040	.032	.016	.013	.011	
4.0	.132	.099	.073	.113	.085	.064	.078	.059	.045	.045	.035	.027	.014	.011	.009	
5.0	.123	.087	.061	.105	.075	.053	.073	.053	.037	.042	.031	.022	.014	.010	.007	
6.0	.115	.078	.051	.099	.067	.044	.068	.047	.031	.040	.028	.019	.013	.009	.006	
7.0	.108	.070	.043	.093	.061	.038	.064	.042	.027	.037	.025	.016	.012	.008	.005	
8.0	.102	.063	.037	.088	.055	.032	.061	.039	.023	.035	.023	.014	.011	.007	.005	
9.0	.097	.058	.032	.083	.050	.028	.058	.035	.020	.034	.021	.012	.011	.007	.004	
10.0	.092	.054	.028	.079	.047	.025	.055	.033	.018	.032	.019	.010	.010	.006	.003	

C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:ZZX  
 Test Date:2023-12-01

$\gamma$  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=0.4621]  
 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	19.3	20.3	19.7	20.7	21.0	19.5	20.5	19.9	20.8	21.1
3H	20.9	21.8	21.3	22.1	22.5	21.0	21.9	21.3	22.2	22.6
4H	21.3	22.1	21.7	22.5	22.9	21.4	22.2	21.8	22.6	22.9
6H	21.5	22.3	21.9	22.6	23.0	21.5	22.3	21.9	22.7	23.1
8H	21.5	22.2	21.9	22.6	23.0	21.5	22.2	22.0	22.6	23.0
12H	21.5	22.2	21.9	22.6	23.0	21.5	22.2	21.9	22.6	23.0
4H 2H	19.9	20.7	20.3	21.1	21.5	20.1	20.9	20.5	21.3	21.7
3H	21.6	22.3	22.0	22.7	23.1	21.6	22.3	22.1	22.7	23.1
4H	22.1	22.7	22.5	23.1	23.6	22.1	22.7	22.5	23.1	23.6
6H	22.3	22.9	22.8	23.3	23.8	22.3	22.8	22.8	23.3	23.8
8H	22.4	22.8	22.8	23.3	23.8	22.3	22.8	22.8	23.2	23.7
12H	22.3	22.8	22.8	23.3	23.7	22.3	22.7	22.8	23.2	23.7
8H 4H	22.2	22.7	22.6	23.1	23.6	22.2	22.7	22.7	23.1	23.6
6H	22.5	22.9	23.0	23.4	23.9	22.4	22.8	23.0	23.3	23.8
8H	22.5	22.9	23.1	23.4	23.9	22.5	22.8	23.0	23.3	23.8
12H	22.6	22.8	23.1	23.3	23.9	22.5	22.8	23.0	23.3	23.8
12H 4H	22.1	22.6	22.6	23.0	23.5	22.1	22.6	22.6	23.1	23.5
6H	22.5	22.8	23.0	23.3	23.8	22.4	22.8	23.0	23.2	23.8
8H	22.5	22.8	23.1	23.3	23.9	22.5	22.8	23.0	23.3	23.8
CIE190: 2010										

CIE190: 2010  
Area: 0.1365 m2

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-12-01

$\gamma$  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=0.4621]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

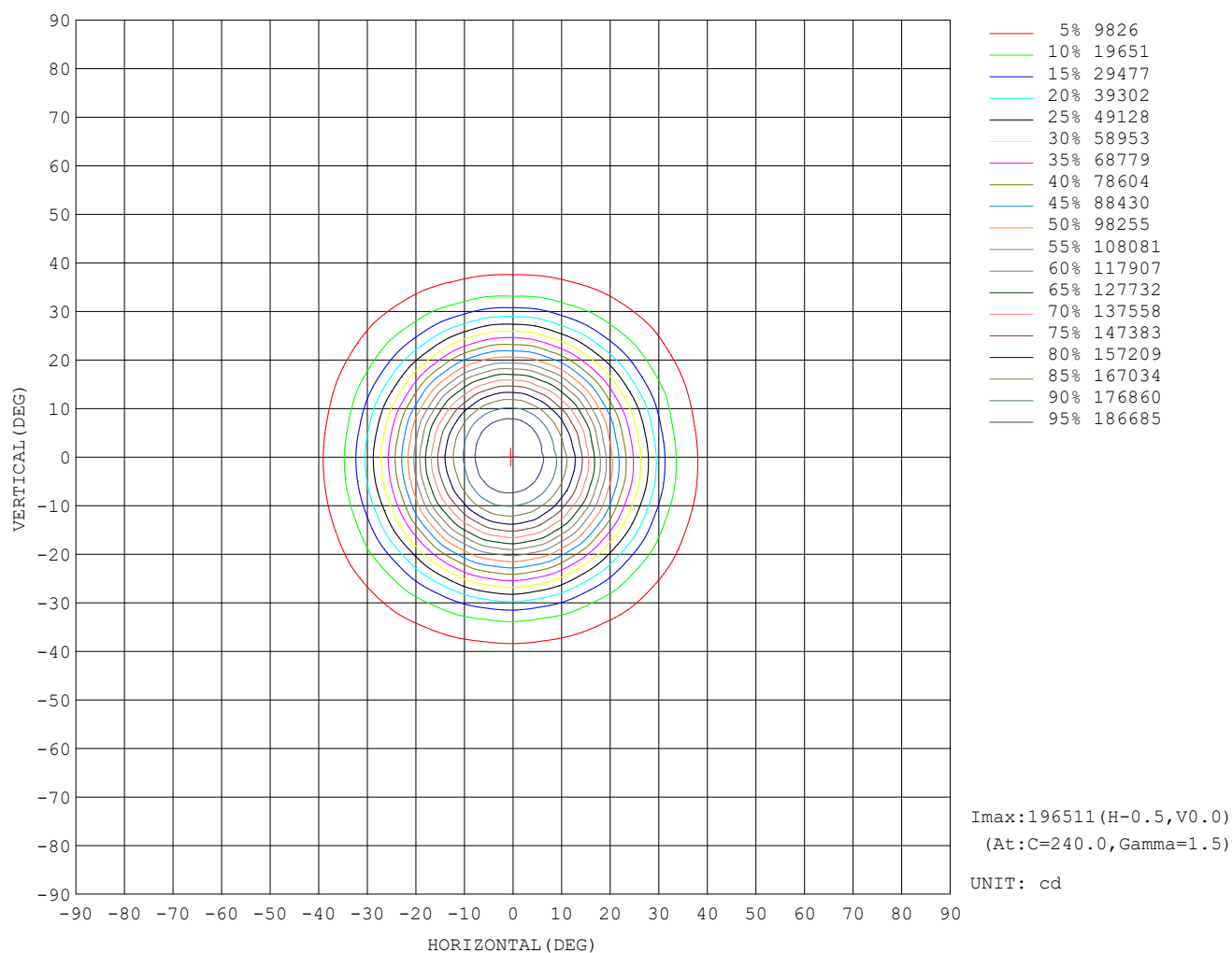
## UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	86	79	75	85	79	75	84	78	75	71
0.80	93	87	83	92	87	83	91	86	82	79
1.00	98	92	88	97	91	88	95	91	87	83
1.25	102	96	93	101	96	92	99	95	91	87
1.50	105	100	96	103	99	96	101	97	94	90
2.00	108	103	100	106	102	99	103	100	97	92
2.50	109	105	102	108	104	101	105	102	99	93
3.00	111	108	105	109	106	104	106	103	101	95
4.00	113	110	108	111	109	107	108	106	104	97
5.00	115	112	110	113	110	109	109	107	106	98
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004						Suspended			SHRNOM = 1.25	

C Range: 0 - 360DEG  
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 Operators: ZZX  
 Test Date: 2023-12-01

$\gamma$  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=0.4621]  
 Remarks:

## ISOCANDELA DIAGRAM

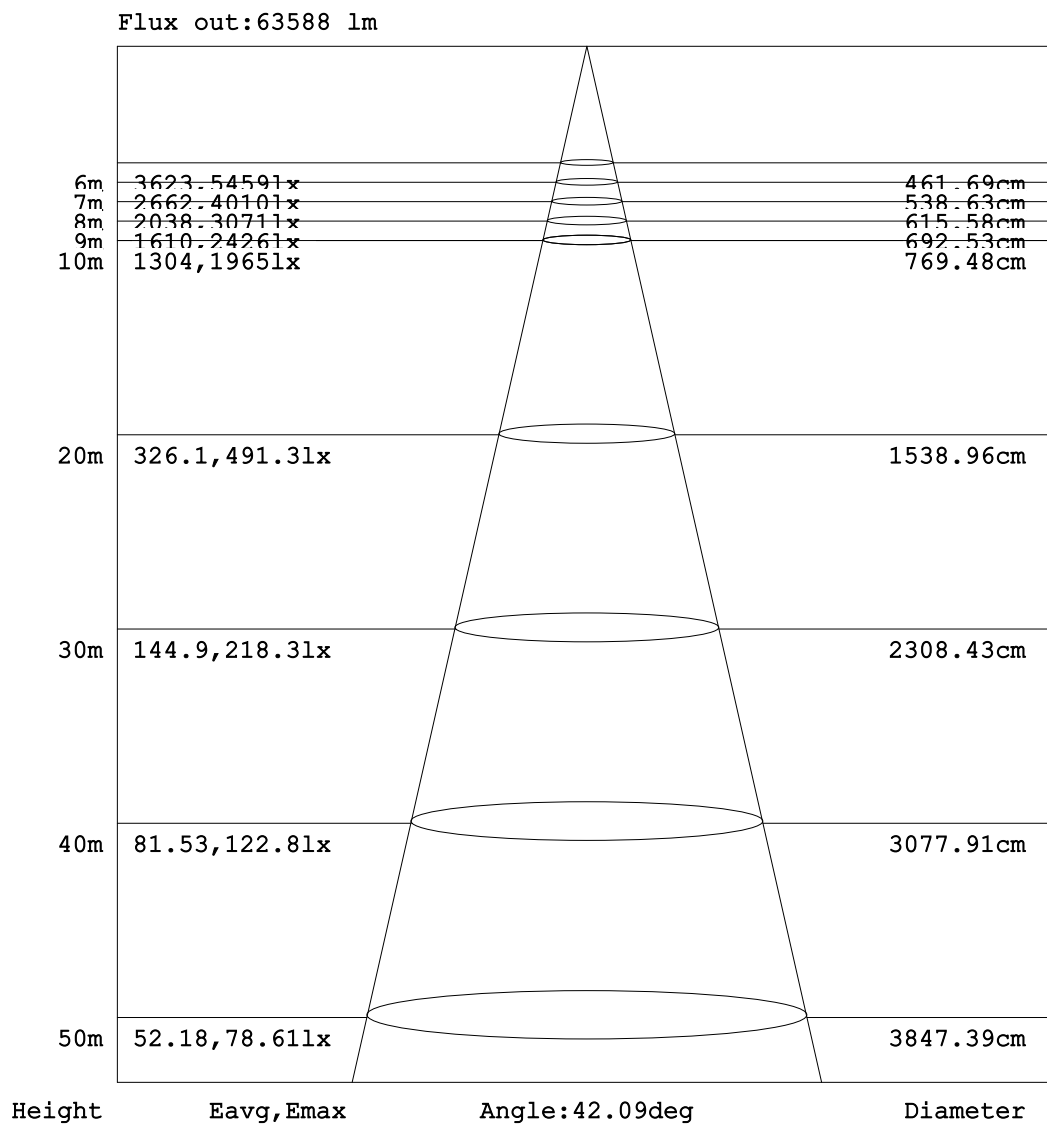


C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-12-01

$\gamma$  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=0.4621]  
Remarks:



## AAI Figure



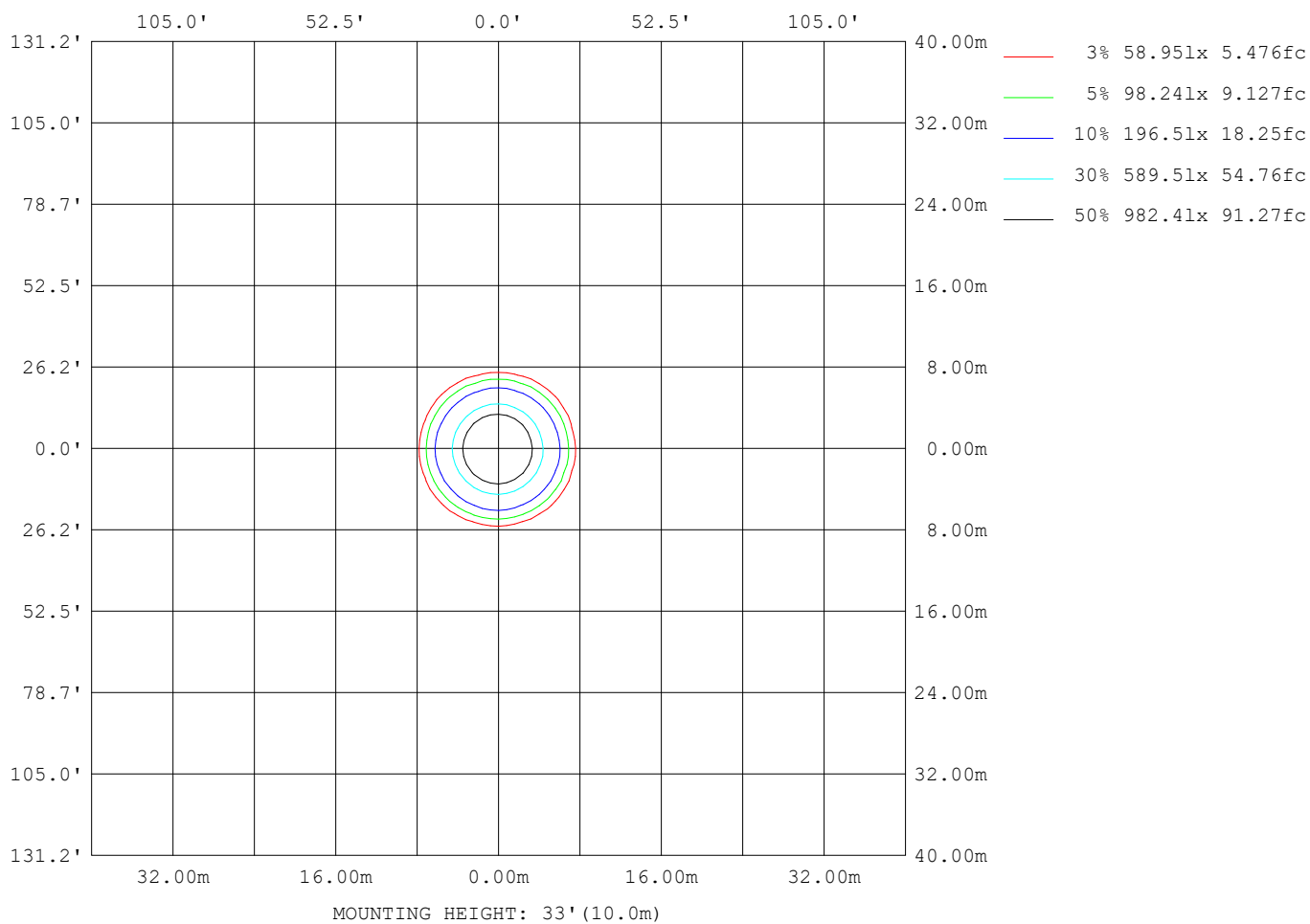
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: ZZX  
Test Date: 2023-12-01

$\gamma$  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=0.4621]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

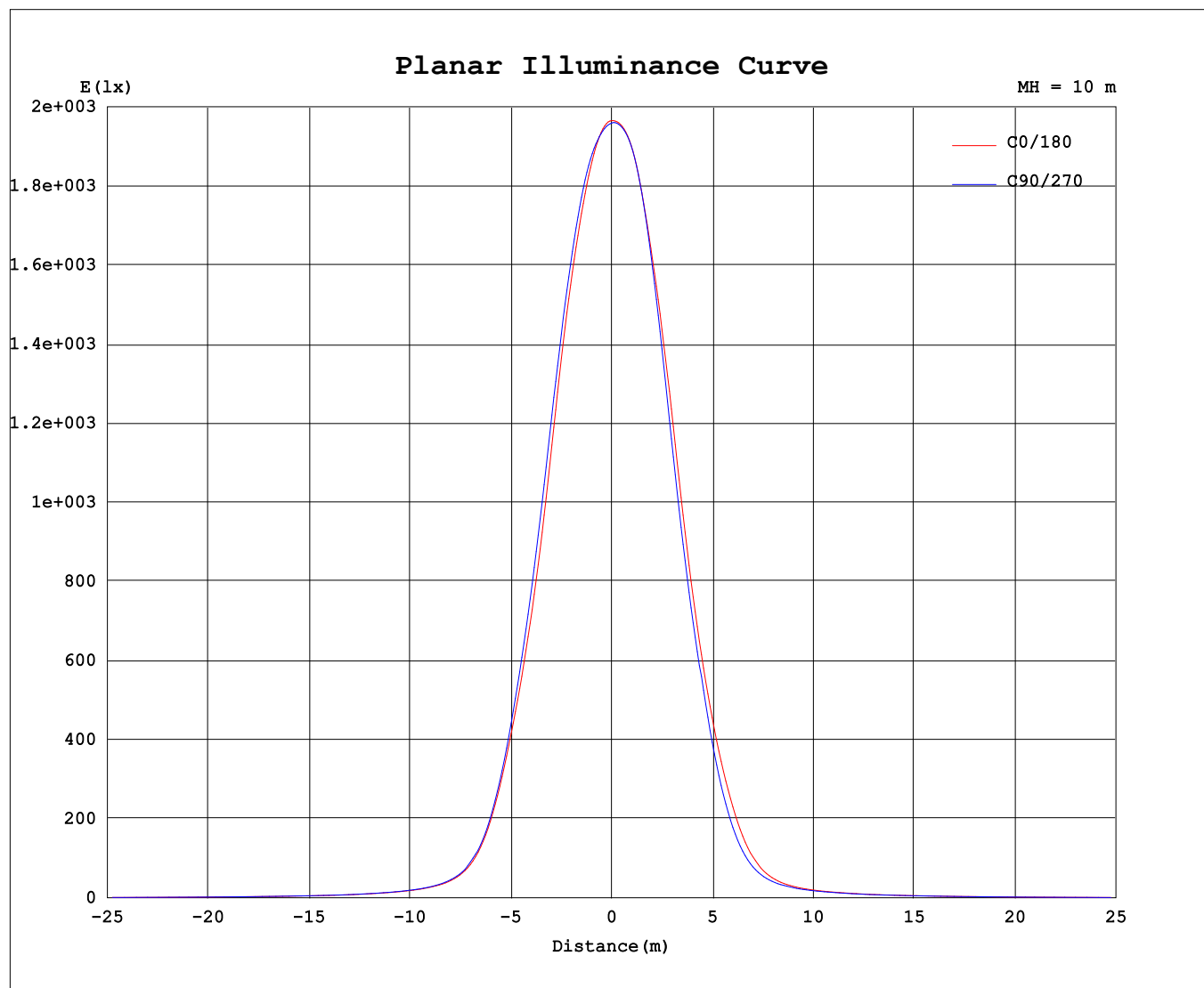
## ISOLUX DIAGRAM



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: ZZX  
Test Date: 2023-12-01

$\gamma$  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=0.4621]  
Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: ZZX  
Test Date: 2023-12-01

$\gamma$  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=0.4621]  
Remarks:

# LUMINOUS DISTRIBUTION INTENSITY DATA

Table--1

UNIT: X100cd

[illegible]

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: ZZX  
Test Date: 2023-12-01

```

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=0.4621]
Remarks:

```

## LUMINOUS DISTRIBUTION INTENSITY DATA

Table--2

UNIT: X100cd

[illegible]

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: ZZX  
Test Date: 2023-12-01

```

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=0.4621]
Remarks:

```