

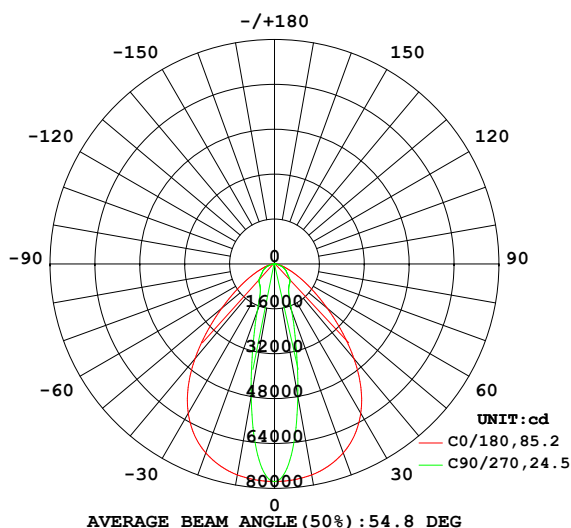
## EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINAIRE PHOTOMETRIC TEST REPORT

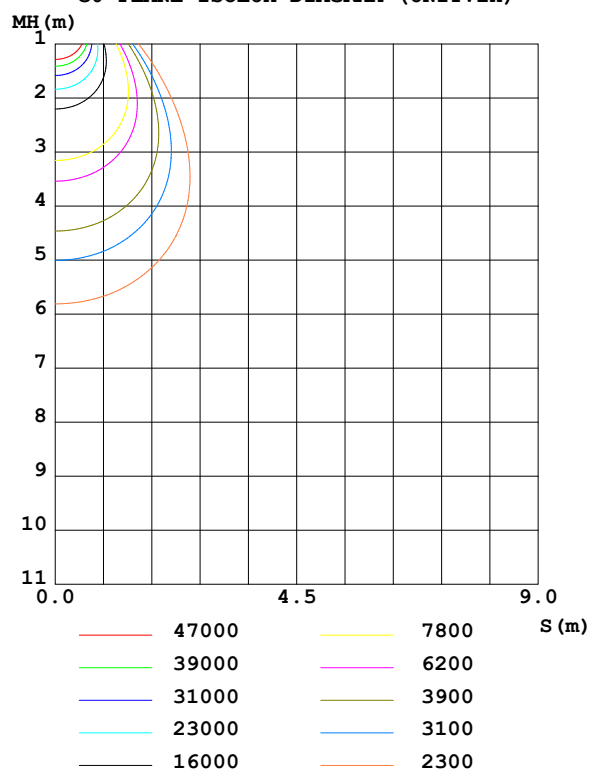
Test:U:229.9V I:1.752A P:397.4W PF:0.987 Freq:50.01Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:70602x1 lm		
NAME: LHB09-400H-5070-L00401	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 177.64 lm/W			
MODEL	/	I <sub>max</sub> (cd)	77551	S/MH (C0/180)	1.18
NOMINAL POWER (W)	/	LOR (%)	100.0	S/MH (C90/270)	0.41
RATED VOLTAGE (V)	/	TOTAL FLUX (lm)	70602	η UP,DN (C0-180)	0.0,50.0
NOMINAL FLUX (lm)	70602	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0,50.0
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE (V)	/	η down (%)	100.0	CIBSE SHR MAX	0.50

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: LYJ  
Test Date: 2022-08-02

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.446  
Humidity: 65.0%  
Test Distance: 26.000m [K=0.4548]  
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	7636	6010	4790	6010	7636	6010	4790	6010	0- 10	6566	6566	9.3,9.3
20	7165	3019	1806	3019	7165	3019	1806	3019	10- 20	13354	19920	28.2,28.2
30	6149	1394	1016	1394	6149	1394	1016	1394	20- 30	13446	33365	47.3,47.3
40	4407	883.2	854.2	883.2	4407	883.2	854.2	883.2	30- 40	11979	45344	64.2,64.2
50	2452	700.0	631.2	700.0	2452	700.0	631.2	700.0	40- 50	10002	55346	78.4,78.4
60	1151	508.4	475.2	508.4	1151	508.4	475.2	508.4	50- 60	7377	62723	88.8,88.8
70	454.3	331.5	286.7	331.5	454.3	331.5	286.7	331.5	60- 70	4838	67561	95.7,95.7
80	143.4	133.0	103.1	133.0	143.4	133.0	103.1	133.0	70- 80	2488	70049	99.2,99.2
90	1.426	1.438	2.650	1.438	1.426	1.438	2.650	1.438	80- 90	553.2	70602	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): 50639 lm

%lum = 71.7%

%lamp = 71.7%

Conical surface Flux(120deg): 62723 lm

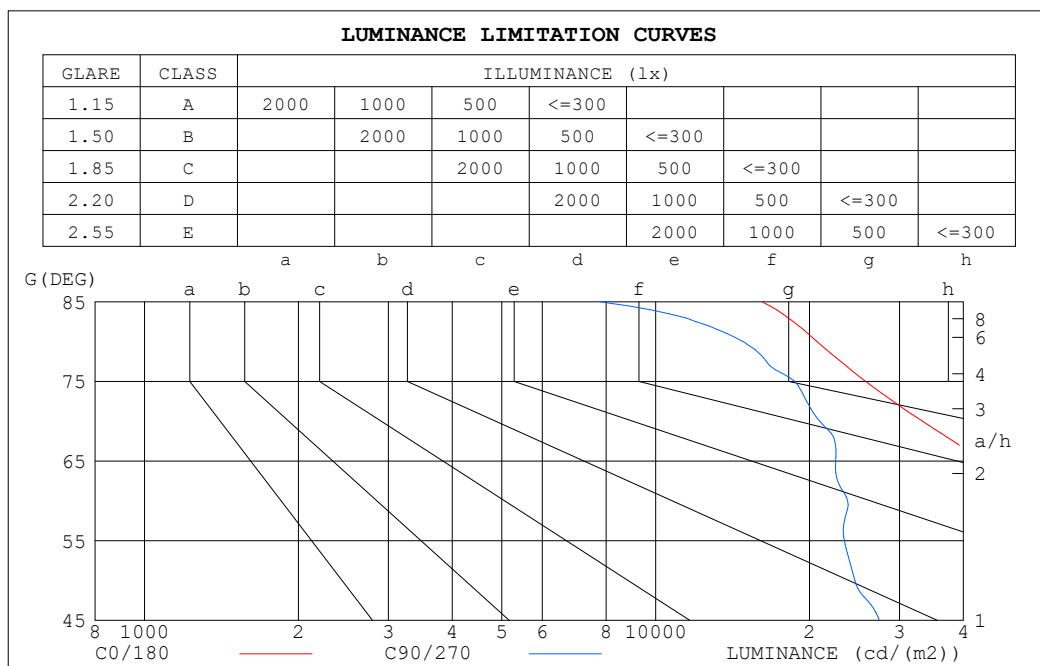
%lum = 88.8%

%lamp = 88.8%

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:LYJ  
Test Date:2022-08-02

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.446  
Humidity:65.0%  
Test Distance:26.000m [K=0.4548]  
Remarks:

## LUMINANCE LIMITATION CURVES



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	16158	7793
80	20691	14837
75	25764	18729
70	33284	20944
65	43918	22512
60	57668	23745
55	74685	23411
50	95574	24536
45	119965	27394

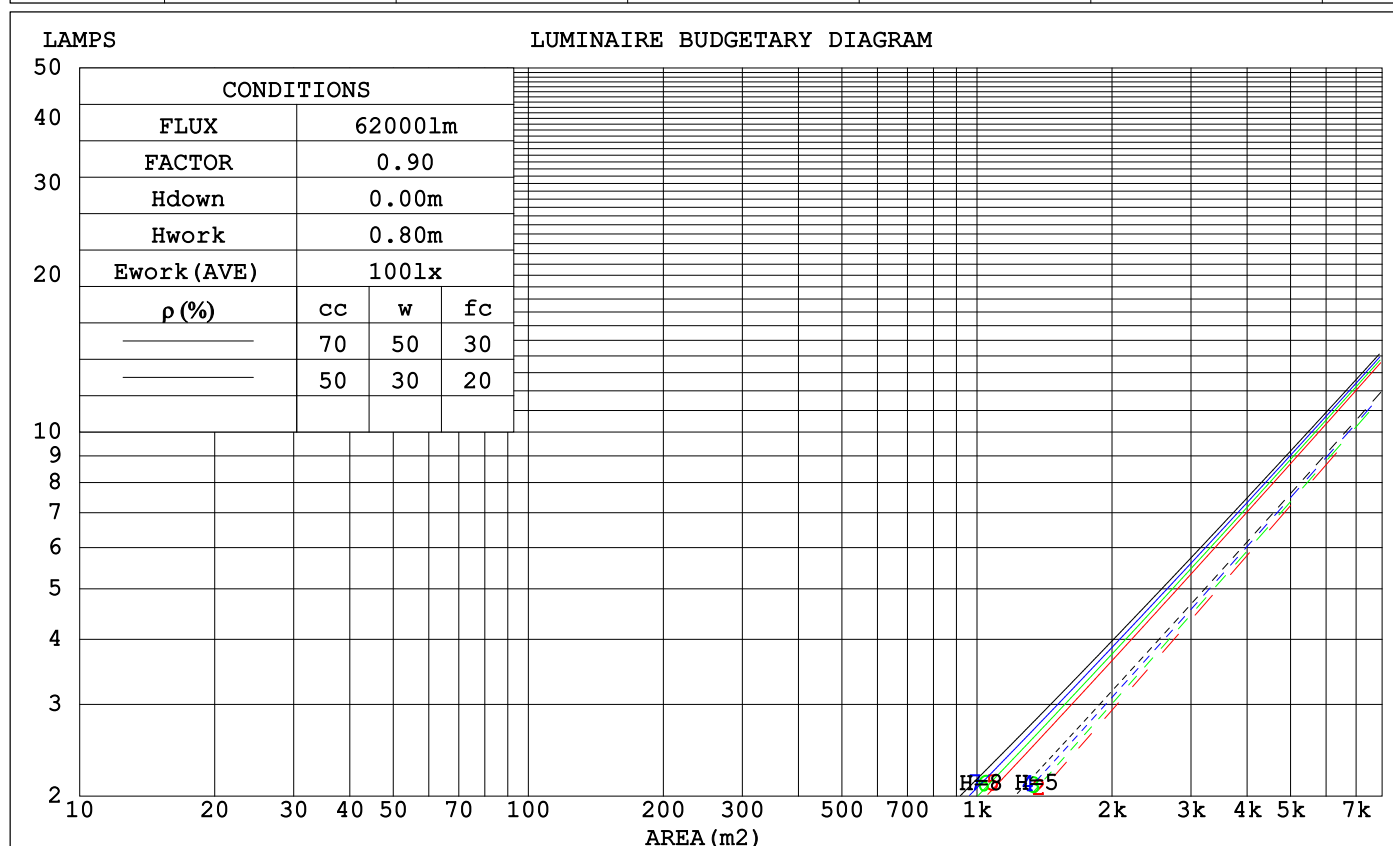
C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:LYJ  
Test Date:2022-08-02

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.446  
Humidity:65.0%  
Test Distance:26.000m [K=0.4548]  
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	1.07	1.04	1.01	1.05	1.02	.99	1.01	.98	.96	.97	.95	.93	.94	.92	.90	.89
2.0	.97	.91	.86	.95	.90	.85	.91	.87	.84	.88	.85	.82	.85	.82	.80	.78
3.0	.87	.81	.75	.86	.80	.75	.83	.78	.74	.81	.76	.72	.78	.74	.71	.69
4.0	.80	.72	.67	.78	.72	.66	.76	.70	.66	.74	.69	.65	.72	.68	.64	.62
5.0	.73	.66	.60	.72	.65	.60	.70	.64	.59	.68	.63	.59	.66	.62	.58	.56
6.0	.67	.60	.54	.66	.59	.54	.65	.58	.54	.63	.58	.53	.62	.57	.53	.51
7.0	.62	.55	.50	.62	.55	.50	.60	.54	.49	.59	.53	.49	.58	.53	.49	.47
8.0	.58	.51	.46	.58	.51	.46	.56	.50	.46	.55	.49	.45	.54	.49	.45	.43
9.0	.54	.47	.43	.54	.47	.42	.53	.47	.42	.52	.46	.42	.51	.46	.42	.40
10.0	.51	.44	.40	.51	.44	.40	.50	.44	.39	.49	.43	.39	.48	.43	.39	.38



C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:LYJ  
 Test Date:2022-08-02

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.446  
 Humidity:65.0%  
 Test Distance:26.000m [K=0.4548]  
 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	.244	.139	.044	.237	.135	.043	.225	.129	.041	.213	.123	.039	.202	.117	.038		
2.0	.233	.128	.039	.227	.125	.039	.216	.120	.037	.206	.115	.036	.196	.111	.035		
3.0	.218	.116	.035	.213	.114	.034	.203	.110	.034	.194	.107	.033	.186	.103	.032		
4.0	.204	.106	.031	.199	.104	.031	.191	.101	.030	.183	.098	.030	.176	.095	.029		
5.0	.191	.097	.028	.187	.096	.028	.179	.093	.027	.172	.091	.027	.166	.089	.027		
6.0	.179	.090	.026	.175	.088	.025	.168	.086	.025	.162	.084	.025	.156	.082	.024		
7.0	.168	.083	.024	.165	.082	.023	.159	.080	.023	.153	.079	.023	.148	.077	.023		
8.0	.158	.077	.022	.155	.076	.022	.150	.075	.021	.145	.073	.021	.140	.072	.021		
9.0	.149	.072	.020	.147	.071	.020	.142	.070	.020	.137	.069	.020	.133	.068	.020		
10.0	.141	.068	.019	.139	.067	.019	.135	.066	.019	.131	.065	.018	.127	.064	.018		

$\rho_{cc}$	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	.176	.157	.140	.150	.135	.120	.103	.093	.083	.059	.054	.048	.019	.017	.016		
2.0	.164	.132	.105	.141	.114	.091	.096	.079	.063	.056	.046	.037	.018	.015	.012		
3.0	.155	.114	.082	.132	.098	.071	.091	.068	.050	.053	.040	.029	.017	.013	.010		
4.0	.146	.100	.065	.125	.086	.057	.086	.060	.040	.050	.035	.024	.016	.011	.008		
5.0	.138	.089	.053	.118	.077	.046	.081	.054	.033	.047	.032	.019	.015	.010	.006		
6.0	.130	.080	.044	.112	.069	.038	.077	.049	.027	.045	.029	.016	.014	.009	.005		
7.0	.124	.073	.037	.106	.063	.033	.074	.044	.023	.043	.026	.014	.014	.009	.005		
8.0	.118	.067	.032	.101	.058	.028	.070	.041	.020	.041	.024	.012	.013	.008	.004		
9.0	.112	.062	.028	.096	.054	.025	.067	.038	.017	.039	.022	.010	.013	.007	.003		
10.0	.107	.058	.025	.092	.050	.022	.064	.035	.015	.037	.021	.009	.012	.007	.003		

C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:LYJ  
 Test Date:2022-08-02

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.446  
 Humidity:65.0%  
 Test Distance:26.000m [K=0.4548]  
 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	24.9	26.3	25.3	26.6	26.9	20.7	22.1	21.1	22.5	22.8
3H	26.5	27.7	26.9	28.1	28.4	22.6	23.8	23.0	24.2	24.5
4H	26.9	28.1	27.3	28.4	28.8	23.2	24.3	23.6	24.7	25.1
6H	27.1	28.2	27.5	28.6	29.0	23.5	24.6	23.9	25.0	25.4
8H	27.2	28.2	27.6	28.6	29.0	23.6	24.6	24.0	25.0	25.4
12H	27.2	28.2	27.6	28.6	29.0	23.6	24.6	24.0	25.0	25.4
4H 2H	25.0	26.2	25.4	26.5	26.9	21.5	22.6	21.9	23.0	23.4
3H	26.7	27.7	27.1	28.1	28.5	23.6	24.5	24.0	24.9	25.3
4H	27.2	28.1	27.7	28.5	29.0	24.3	25.1	24.7	25.5	26.0
6H	27.6	28.4	28.1	28.8	29.3	24.7	25.4	25.1	25.9	26.3
8H	27.7	28.4	28.2	28.9	29.3	24.8	25.5	25.2	25.9	26.4
12H	27.8	28.4	28.3	28.9	29.3	24.8	25.4	25.3	25.9	26.4
8H 4H	27.3	28.0	27.8	28.5	28.9	24.6	25.3	25.1	25.7	26.2
6H	27.8	28.3	28.3	28.8	29.3	25.1	25.7	25.6	26.2	26.7
8H	27.9	28.4	28.5	29.0	29.4	25.3	25.8	25.8	26.3	26.8
12H	28.0	28.5	28.6	29.0	29.6	25.3	25.8	25.8	26.3	26.8
12H 4H	27.3	27.9	27.8	28.4	28.9	24.6	25.3	25.1	25.7	26.2
6H	27.8	28.3	28.3	28.7	29.3	25.2	25.7	25.7	26.2	26.7
8H	28.0	28.4	28.5	28.9	29.5	25.4	25.8	25.9	26.3	26.9
CIE190: 2010										

CIE190: 2010  
Area: 0.39968 m2

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3℃  
Operators:LYJ  
Test Date:2022-08-02

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.446  
Humidity:65.0%  
Test Distance:26.000m [K=0.4548]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

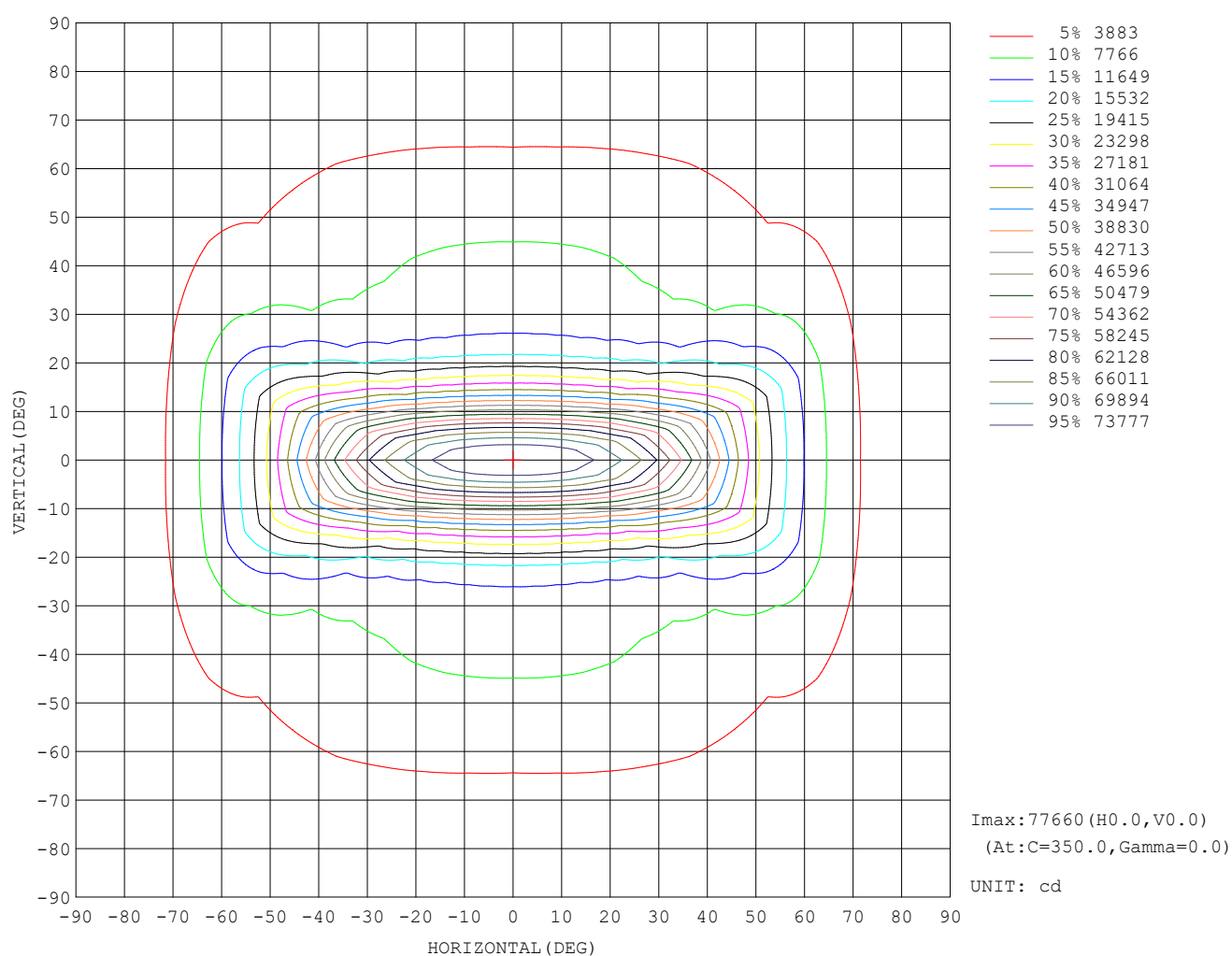
## UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	69	60	54	69	60	54	68	59	54	48
0.80	79	69	63	78	69	63	76	68	63	57
1.00	86	77	71	85	76	71	83	77	70	64
1.25	92	83	78	90	83	77	88	81	77	71
1.50	96	88	83	94	87	82	92	86	81	75
2.00	101	94	89	99	93	89	96	91	87	80
2.50	104	98	93	102	97	92	99	94	90	83
3.00	106	101	97	104	100	96	101	97	94	86
4.00	110	105	102	107	103	100	103	100	98	89
5.00	111	108	105	109	106	103	105	102	100	92
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: LYJ  
 Test Date: 2022-08-02

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.446  
 Humidity: 65.0%  
 Test Distance: 26.000m [K=0.4548]  
 Remarks:

## ISOCANDELA DIAGRAM

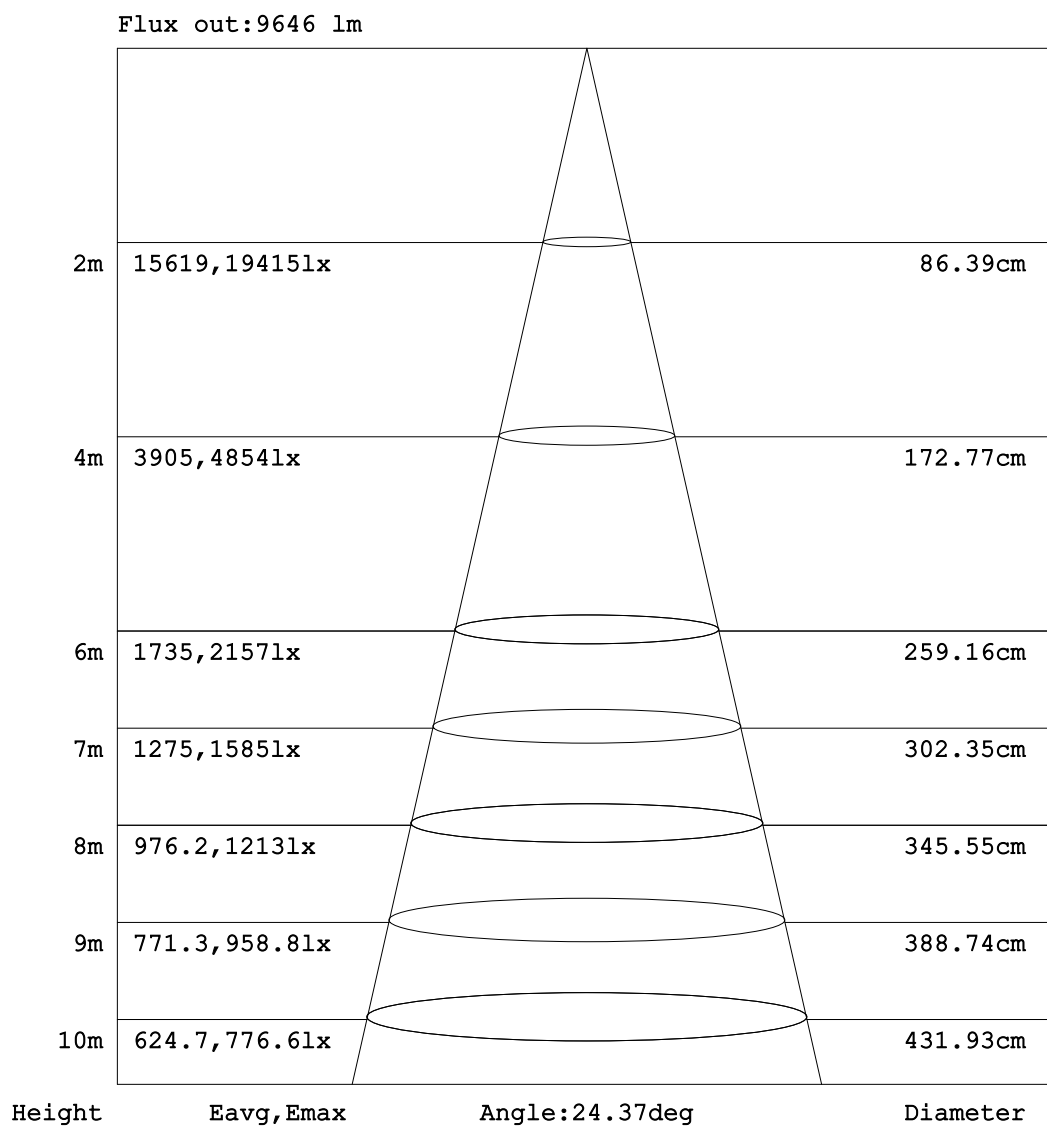


C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: LYJ  
Test Date: 2022-08-02

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.446  
Humidity: 65.0%  
Test Distance: 26.000m [K=0.4548]  
Remarks:



## AAI Figure



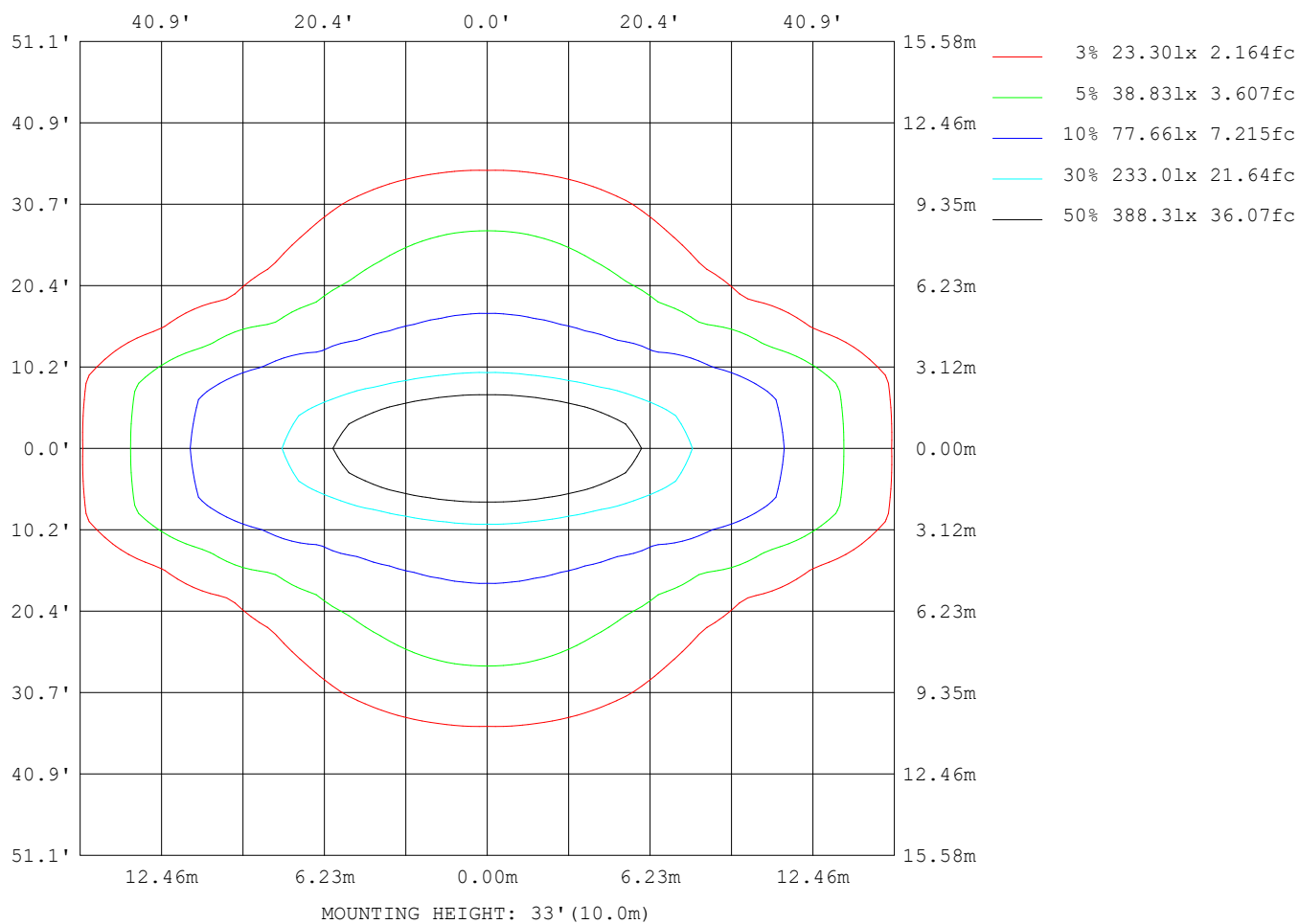
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:LYJ  
Test Date:2022-08-02

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.446  
Humidity:65.0%  
Test Distance:26.000m [K=0.4548]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

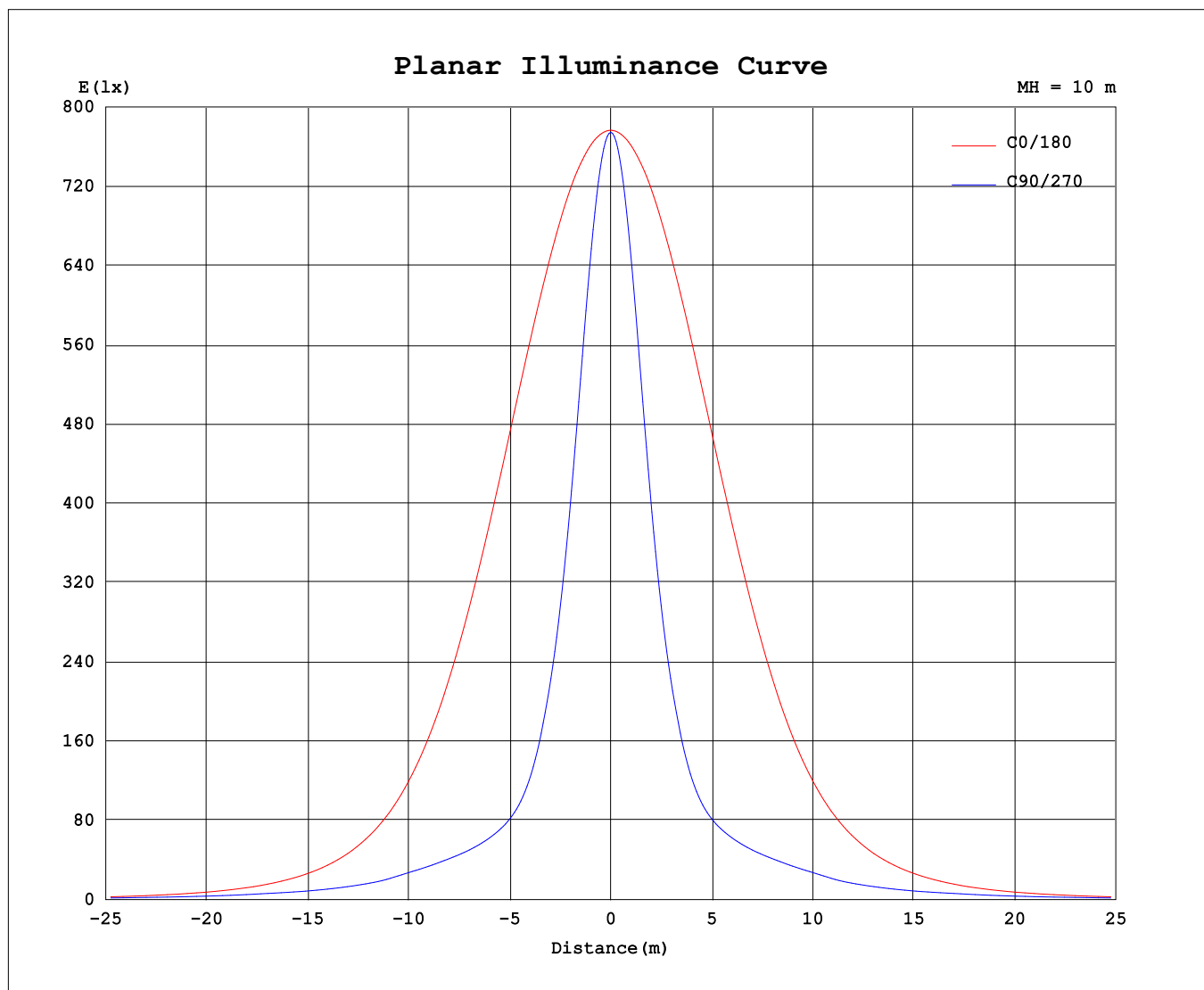
## ISOLUX DIAGRAM



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: LYJ  
Test Date: 2022-08-02

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.446  
Humidity: 65.0%  
Test Distance: 26.000m [K=0.4548]  
Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: LYJ  
Test Date: 2022-08-02

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.446  
Humidity: 65.0%  
Test Distance: 26.000m [K=0.4548]  
Remarks:

\_\_\_\_\_

UNIT: X10cd

C Range: 0 - 360DEG	$\gamma$ Range: 0 - 90DEG
C Interval: 10.0DEG	$\gamma$ Interval: 0.5DEG
Test Speed: HIGH	Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Temperature: 25.3°C	Humidity: 65.0%
Operators: LYJ	Test Distance: 26.000m [K=0.4548]
Test Date: 2022-08-02	Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:26.000m [K=0.4548]
Remarks:

```

## LUMINOUS DISTRIBUTION INTENSITY DATA

Table--2

UNIT: X10cd

[illegible]

C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3℃  
Operators:LYJ  
Test Date:2022-08-02

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:26.000m [K=0.4548]
Remarks:

```