

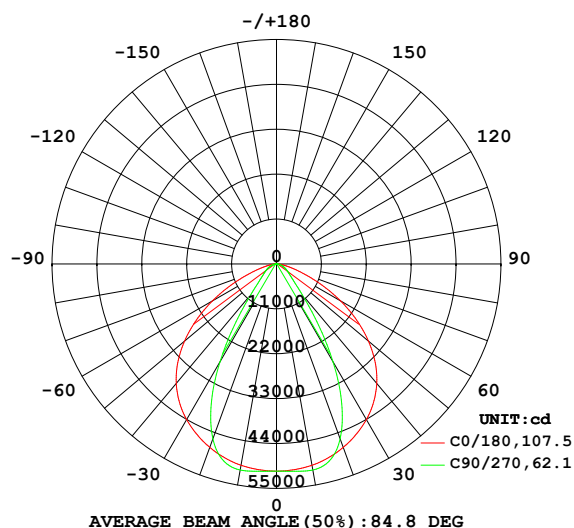
## EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINAIRE PHOTOMETRIC TEST REPORT

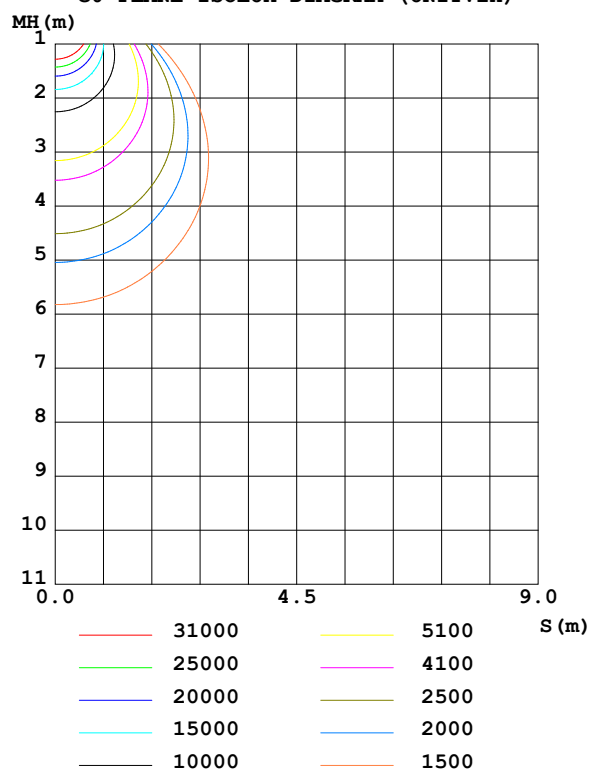
Test:U:229.9V I:2.110A P:478.7W PF:0.987 Freq:50.01Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:86433x1 lm		
NAME: LHB09-480H-5070-L00402	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 180.57 lm/W			
MODEL	/	I <sub>max</sub> (cd)	51275	S/MH(C0/180)	1.29
NOMINAL POWER(W)	/	LOR(%)	100.0	S/MH(C90/270)	0.92
RATED VOLTAGE(V)	/	TOTAL FLUX(lm)	86433	η UP,DN(C0-180)	0.0,50.0
NOMINAL FLUX(lm)	86433	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.0
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	/	η down(%)	100.0	CIBSE SHR MAX	1.05

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: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	5009	5081	5127	5081	5009	5081	5127	5081	0- 10	4850	4850	5.61,5.61
20	4782	4828	4558	4828	4782	4828	4558	4828	10- 20	14029	18878	21.8,21.8
30	4405	3749	2772	3749	4405	3749	2772	3749	20- 30	19659	38538	44.6,44.6
40	3821	2115	973.7	2115	3821	2115	973.7	2115	30- 40	18453	56990	65.9,65.9
50	2941	1103	441.0	1103	2941	1103	441.0	1103	40- 50	13307	70297	81.3,81.3
60	1815	577.2	278.6	577.2	1815	577.2	278.6	577.2	50- 60	8506	78803	91.2,91.2
70	729.7	301.4	164.3	301.4	729.7	301.4	164.3	301.4	60- 70	4843	83646	96.8,96.8
80	190.4	114.9	60.03	114.9	190.4	114.9	60.03	114.9	70- 80	2285	85931	99.4,99.4
90	1.671	1.093	1.920	1.093	1.671	1.093	1.920	1.093	80- 90	502.1	86433	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): 64305 lm

%lum = 74.4%

%lamp = 74.4%

Conical surface Flux(120deg): 78803 lm

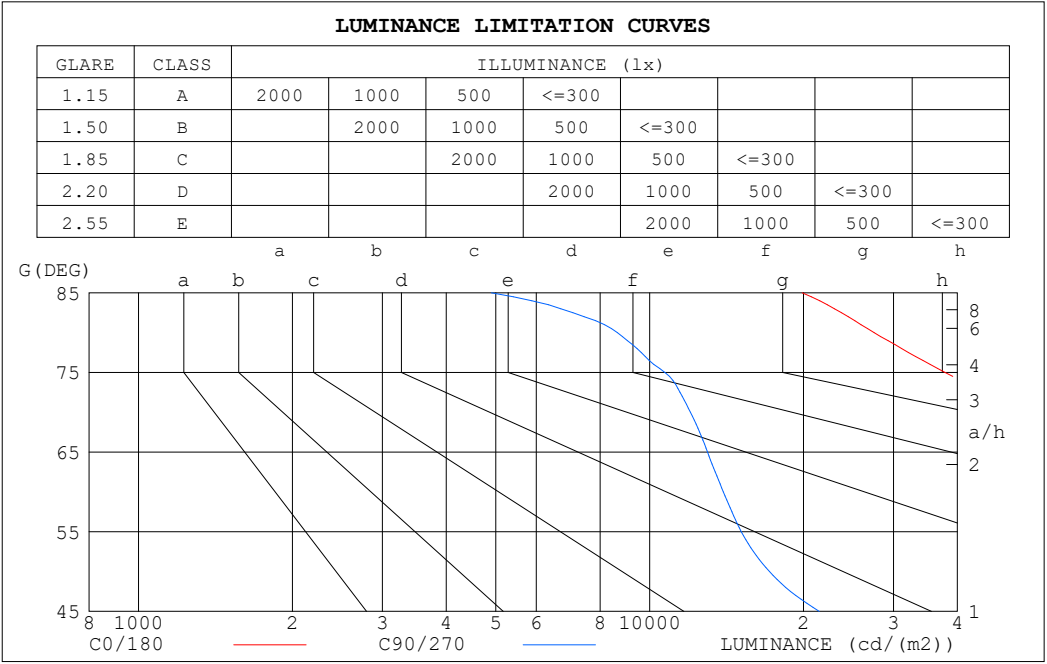
%lum = 91.2%

%lamp = 91.2%

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	19886	4904
80	27484	8645
75	37851	10710
70	53472	12017
65	73025	12981
60	90968	13934
55	104784	15108
50	114678	17156
45	121360	21468

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%

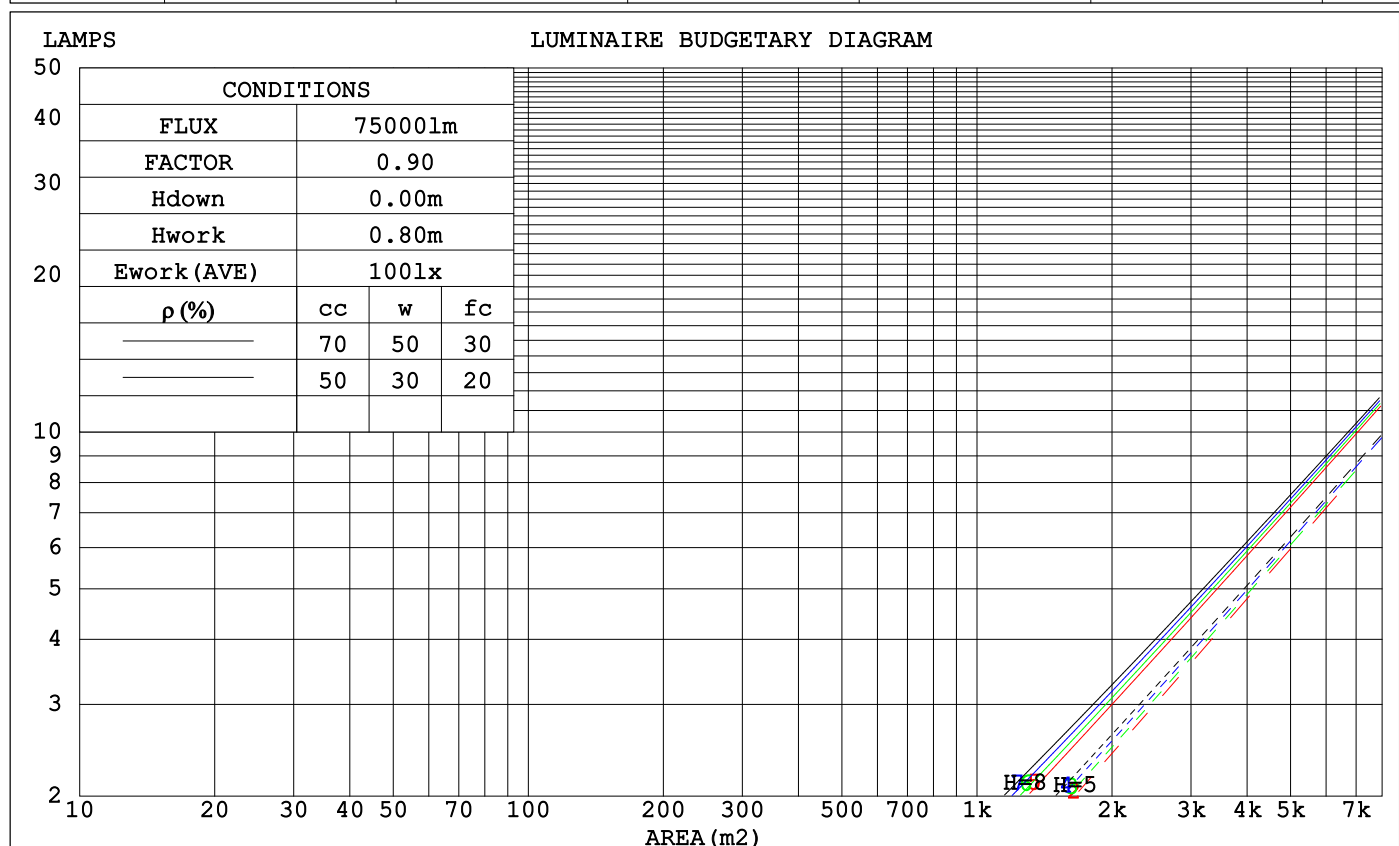
Test Distance:26.000m [K=0.4548]

Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## 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	1.04	1.01	1.05	1.02	.00	1.01	.99	.96	.97	.95	.94	.94	.92	.91	.89
2.0	.97	.91	.87	.95	.90	.86	.92	.87	.84	.88	.85	.82	.86	.83	.80	.78
3.0	.87	.81	.76	.86	.80	.75	.83	.78	.74	.81	.76	.72	.78	.74	.71	.69
4.0	.79	.72	.67	.78	.71	.66	.76	.70	.65	.74	.69	.64	.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	.59	.53	.66	.58	.53	.64	.57	.53	.62	.57	.52	.61	.56	.52	.50
7.0	.61	.54	.48	.60	.53	.48	.59	.53	.48	.58	.52	.48	.56	.51	.47	.45
8.0	.57	.49	.44	.56	.49	.44	.55	.48	.44	.54	.48	.43	.52	.47	.43	.42
9.0	.53	.45	.40	.52	.45	.40	.51	.45	.40	.50	.44	.40	.49	.44	.40	.38
10.0	.49	.42	.37	.48	.42	.37	.48	.41	.37	.47	.41	.37	.46	.41	.37	.35



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	.240	.137	.043	.233	.133	.042	.220	.126	.040	.208	.120	.039	.198	.114	.037		
2.0	.231	.127	.039	.225	.124	.038	.214	.119	.037	.204	.114	.036	.194	.110	.035		
3.0	.218	.116	.035	.213	.114	.034	.203	.110	.033	.194	.106	.033	.186	.103	.032		
4.0	.205	.107	.031	.201	.105	.031	.192	.102	.030	.184	.099	.030	.177	.096	.029		
5.0	.193	.098	.028	.189	.097	.028	.181	.094	.028	.174	.092	.027	.168	.090	.027		
6.0	.182	.091	.026	.178	.090	.026	.171	.088	.026	.165	.086	.025	.159	.084	.025		
7.0	.171	.085	.024	.168	.084	.024	.162	.082	.024	.156	.080	.023	.151	.079	.023		
8.0	.162	.079	.022	.159	.078	.022	.154	.077	.022	.149	.075	.022	.144	.074	.022		
9.0	.153	.074	.021	.151	.073	.021	.146	.072	.020	.141	.071	.020	.137	.070	.020		
10.0	.145	.070	.019	.143	.069	.019	.139	.068	.019	.135	.067	.019	.131	.066	.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	.120	.103	.093	.083	.059	.054	.048	.019	.017	.016	
2.0	.164	.132	.105	.141	.114	.091	.096	.079	.064	.056	.046	.037	.018	.015	.012	
3.0	.154	.114	.082	.132	.098	.071	.091	.068	.050	.053	.040	.029	.017	.013	.010	
4.0	.146	.100	.065	.125	.086	.056	.086	.060	.040	.050	.035	.023	.016	.011	.008	
5.0	.138	.089	.053	.119	.077	.046	.082	.054	.032	.047	.032	.019	.015	.010	.006	
6.0	.131	.080	.044	.113	.070	.038	.078	.049	.027	.045	.029	.016	.015	.009	.005	
7.0	.125	.073	.037	.108	.063	.032	.074	.045	.023	.043	.026	.014	.014	.009	.004	
8.0	.119	.067	.032	.103	.058	.028	.071	.041	.020	.041	.024	.012	.013	.008	.004	
9.0	.114	.062	.028	.098	.054	.024	.068	.038	.017	.040	.022	.010	.013	.007	.003	
10.0	.109	.058	.024	.094	.050	.021	.065	.035	.015	.038	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature:25.3℃  
 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	2H	25.4	26.7	25.7	27.0	27.4	17.1	18.5	17.5	18.8	19.1
	3H	26.7	27.9	27.0	28.2	28.6	18.6	19.8	18.9	20.1	20.5
	4H	27.1	28.2	27.5	28.5	28.9	19.1	20.2	19.5	20.6	20.9
	6H	27.3	28.4	27.8	28.7	29.1	19.4	20.4	19.8	20.8	21.2
	8H	27.4	28.4	27.8	28.8	29.2	19.5	20.4	19.9	20.8	21.2
	12H	27.4	28.4	27.9	28.8	29.2	19.5	20.4	19.9	20.8	21.2
	4H	25.4	26.5	25.8	26.9	27.2	18.8	19.9	19.2	20.3	20.7
	3H	26.9	27.8	27.3	28.2	28.6	20.2	21.1	20.6	21.5	21.9
	4H	27.4	28.3	27.9	28.7	29.1	20.7	21.6	21.2	22.0	22.4
	6H	27.8	28.5	28.3	29.0	29.4	21.1	21.8	21.5	22.2	22.7
	8H	27.9	28.6	28.4	29.0	29.5	21.1	21.8	21.6	22.3	22.7
	12H	28.0	28.6	28.5	29.0	29.5	21.2	21.7	21.6	22.2	22.7
	8H	27.4	28.1	27.9	28.5	29.0	21.5	22.2	22.0	22.6	23.1
	6H	27.9	28.4	28.4	28.9	29.4	21.9	22.5	22.4	23.0	23.4
	8H	28.0	28.5	28.6	29.0	29.5	22.0	22.5	22.5	23.0	23.5
	12H	28.2	28.6	28.7	29.1	29.7	22.1	22.5	22.6	23.0	23.5
	12H	27.4	28.0	27.9	28.5	28.9	21.6	22.2	22.1	22.7	23.2
	6H	27.9	28.4	28.4	28.8	29.4	22.1	22.6	22.6	23.0	23.6
	8H	28.0	28.5	28.6	29.0	29.5	22.2	22.7	22.7	23.1	23.7
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

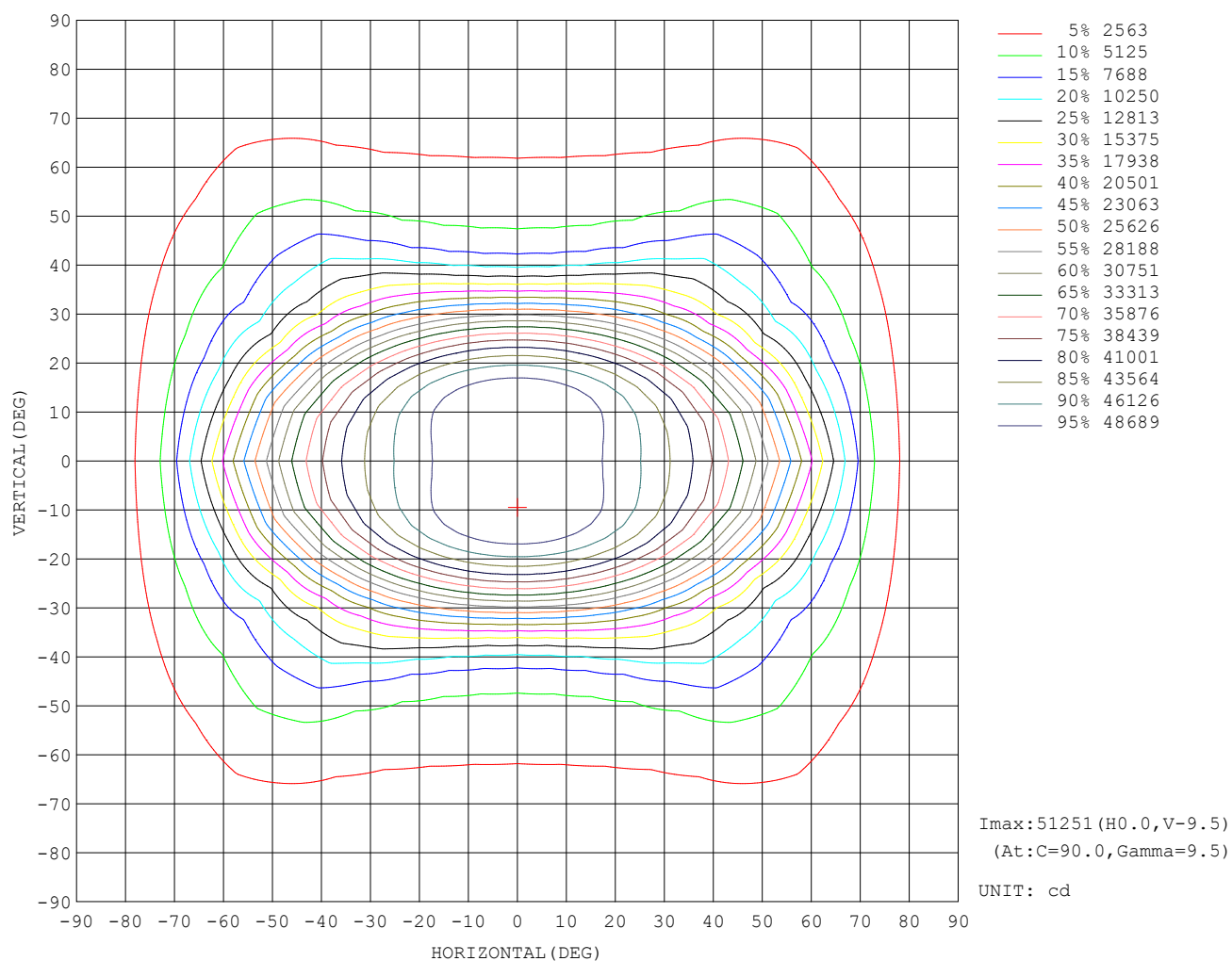
## UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	70	61	55	70	61	55	69	60	55	50
0.80	80	70	65	79	70	65	77	69	64	59
1.00	87	78	73	86	78	72	84	78	72	66
1.25	93	85	79	91	84	79	89	83	78	72
1.50	97	89	84	95	89	84	93	87	83	77
2.00	102	95	91	100	94	90	97	92	88	82
2.50	105	99	94	103	97	93	99	95	92	84
3.00	107	102	98	105	100	97	101	98	95	87
4.00	110	106	102	108	104	101	104	101	98	90
5.00	112	108	105	110	106	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  
 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

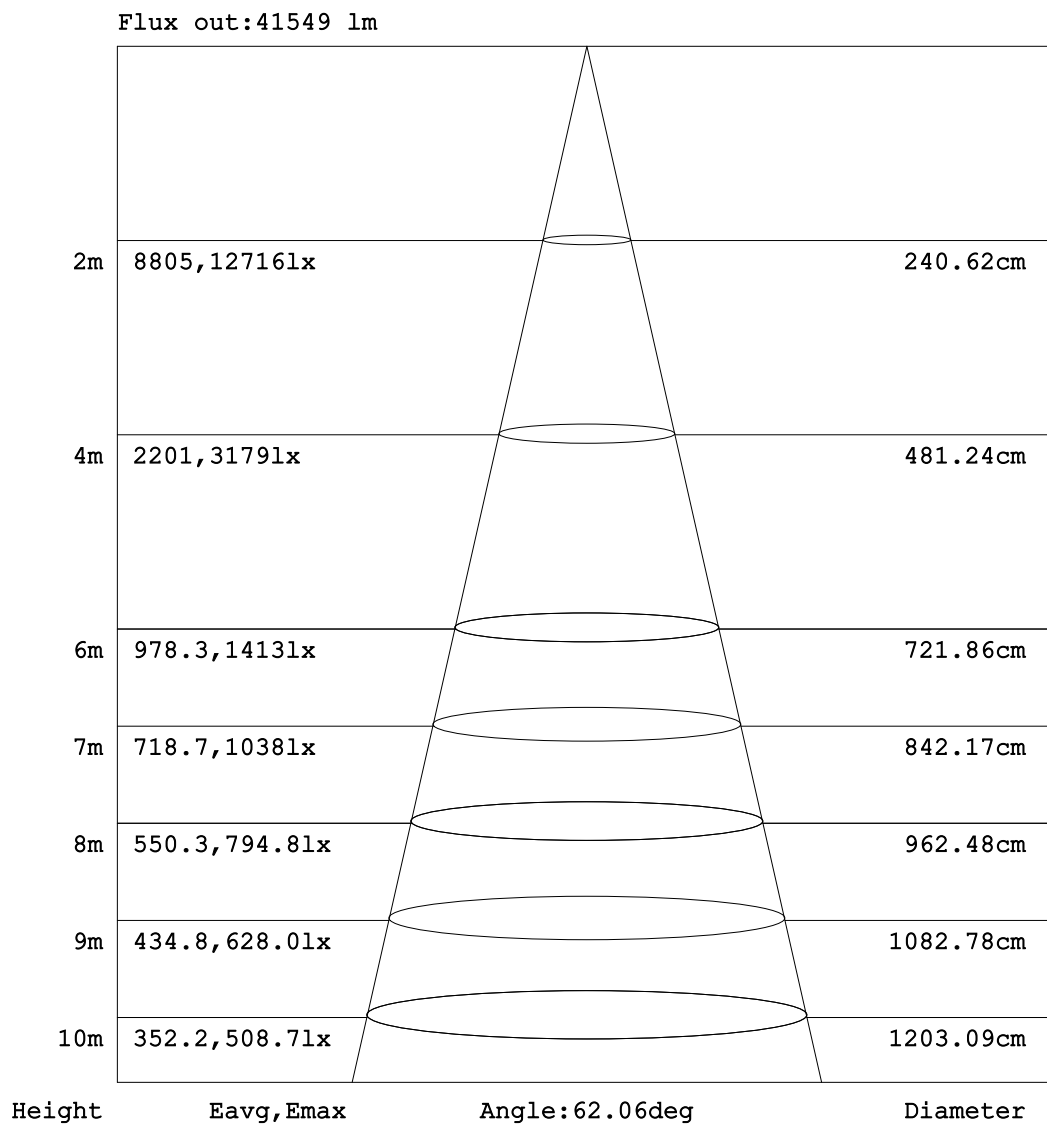


C Range: 0 - 360DEG  
C Interval: 10.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:LYJ  
Test Date:2022-08-02

$\gamma$  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



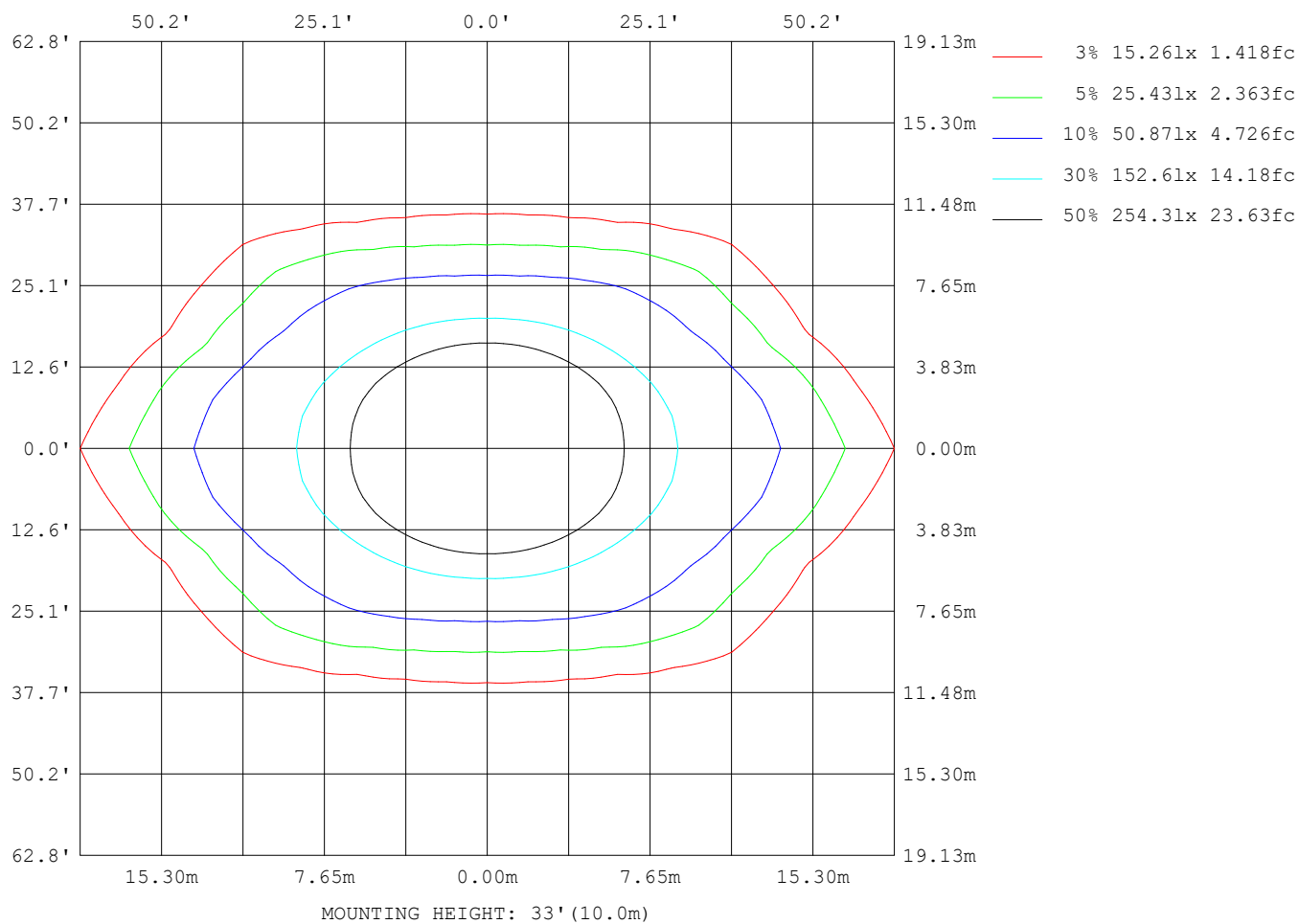
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

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

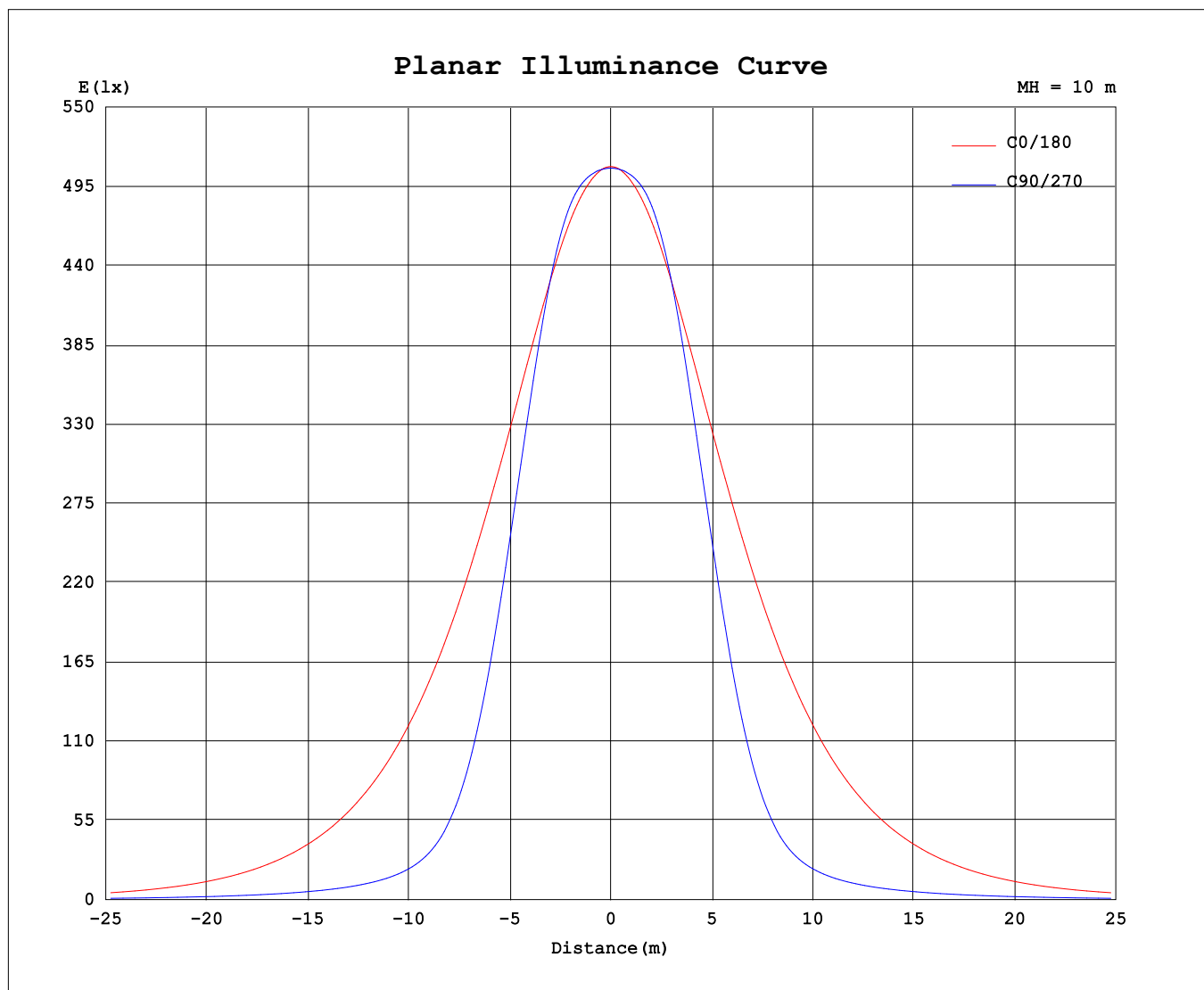
## ISOLUX DIAGRAM



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:

## 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°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:

```