

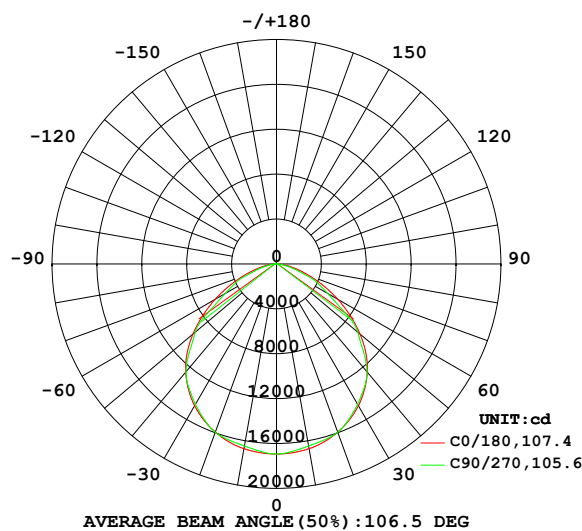
## EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINAIRE PHOTOMETRIC TEST REPORT

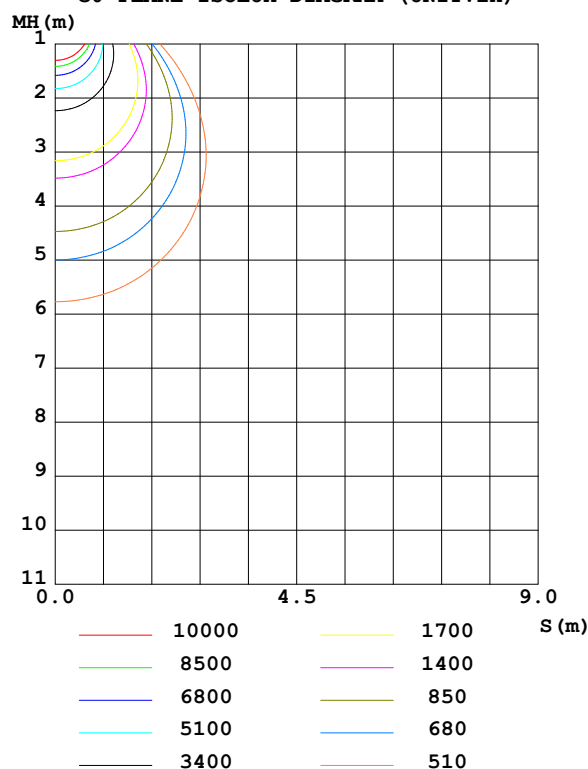
Test:U:229.9V I:1.074A P:243.6W PF:0.987 Freq:50.01Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:43863.8x1 lm		
NAME: LHB09-240H-5070-L00404	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 180.04 lm/W			
MODEL	/	Imax (cd)	16938	S/MH (C0/180)	1.28
NOMINAL POWER (W)	/	LOR (%)	100.0	S/MH (C90/270)	1.27
RATED VOLTAGE (V)	/	TOTAL FLUX (lm)	43864	$\eta$ UP, DN (C0-180)	0.0, 50.0
NOMINAL FLUX (lm)	43863.8	CIE CLASS	DIRECT	$\eta$ UP, DN (C180-360)	0.0, 50.0
LAMPS INSIDE	1	$\eta$ up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	/	$\eta$ down (%)	100.0	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: LYJ  
Test Date: 2022-08-17

$\gamma$  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

## ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	1671	1652	1647	1652	1671	1652	1647	1652	0- 10	1596	1596	3.64,3.64
20	1595	1582	1596	1582	1595	1582	1596	1582	10- 20	4595	6191	14.1,14.1
30	1460	1463	1445	1463	1460	1463	1445	1463	20- 30	7045	13236	30.2,30.2
40	1259	1239	1255	1239	1259	1239	1255	1239	30- 40	8496	21732	49.5,49.5
50	971.0	954.8	944.9	954.8	971.0	954.8	944.9	954.8	40- 50	8549	30281	69,69
60	632.6	627.9	529.7	627.9	632.6	627.9	529.7	627.9	50- 60	6926	37207	84.8,84.8
70	317.3	286.4	254.7	286.4	317.3	286.4	254.7	286.4	60- 70	4320	41527	94.7,94.7
80	109.3	93.42	73.29	93.42	109.3	93.42	73.29	93.42	70- 80	1933	43460	99.1,99.1
90	0.9026	1.150	2.615	1.150	0.9026	1.150	2.615	1.150	80- 90	404.0	43864	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): 26114 lm

%lum = 59.5%

%lamp = 59.5%

Conical surface Flux(120deg): 37207 lm

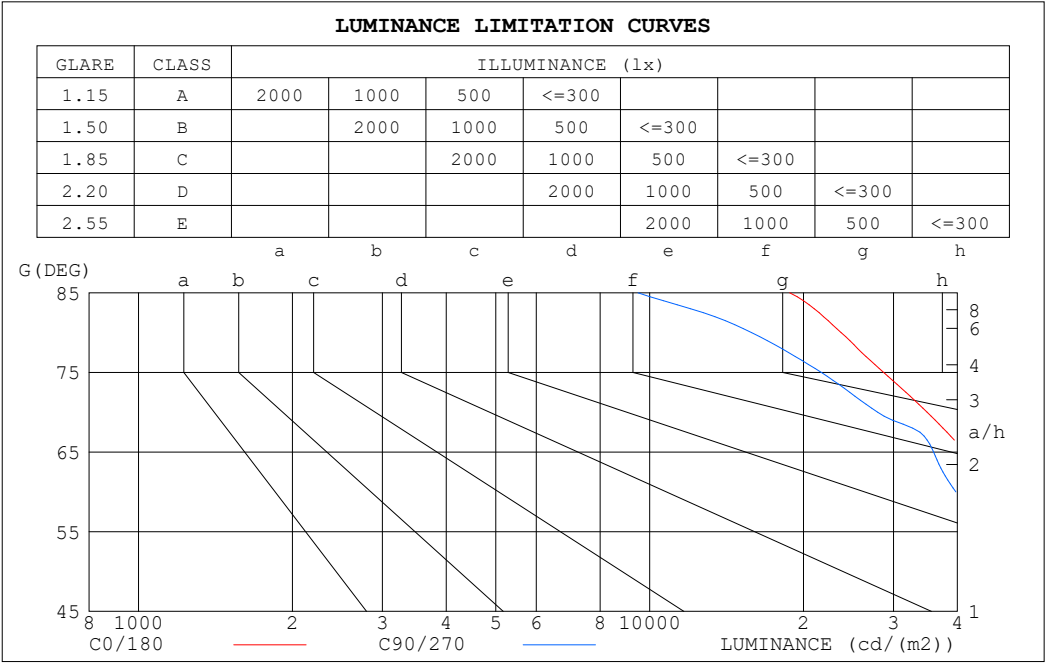
%lum = 84.8%

%lamp = 84.8%

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:LYJ  
Test Date:2022-08-17

$\gamma$  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	18795	9493
80	23693	15828
75	28700	21680
70	34910	27932
65	41387	35944
60	47608	39732
55	52578	47645
50	56844	55127
45	59990	57977

C Range: 0 - 360DEG

C Interval: 15.0DEG

Test Speed: HIGH

Temperature:25.3°C

Operators:LYJ

Test Date:2022-08-17

γ Range: 0 - 90DEG

γ Interval: 0.5DEG

Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.446

Humidity:65.0%

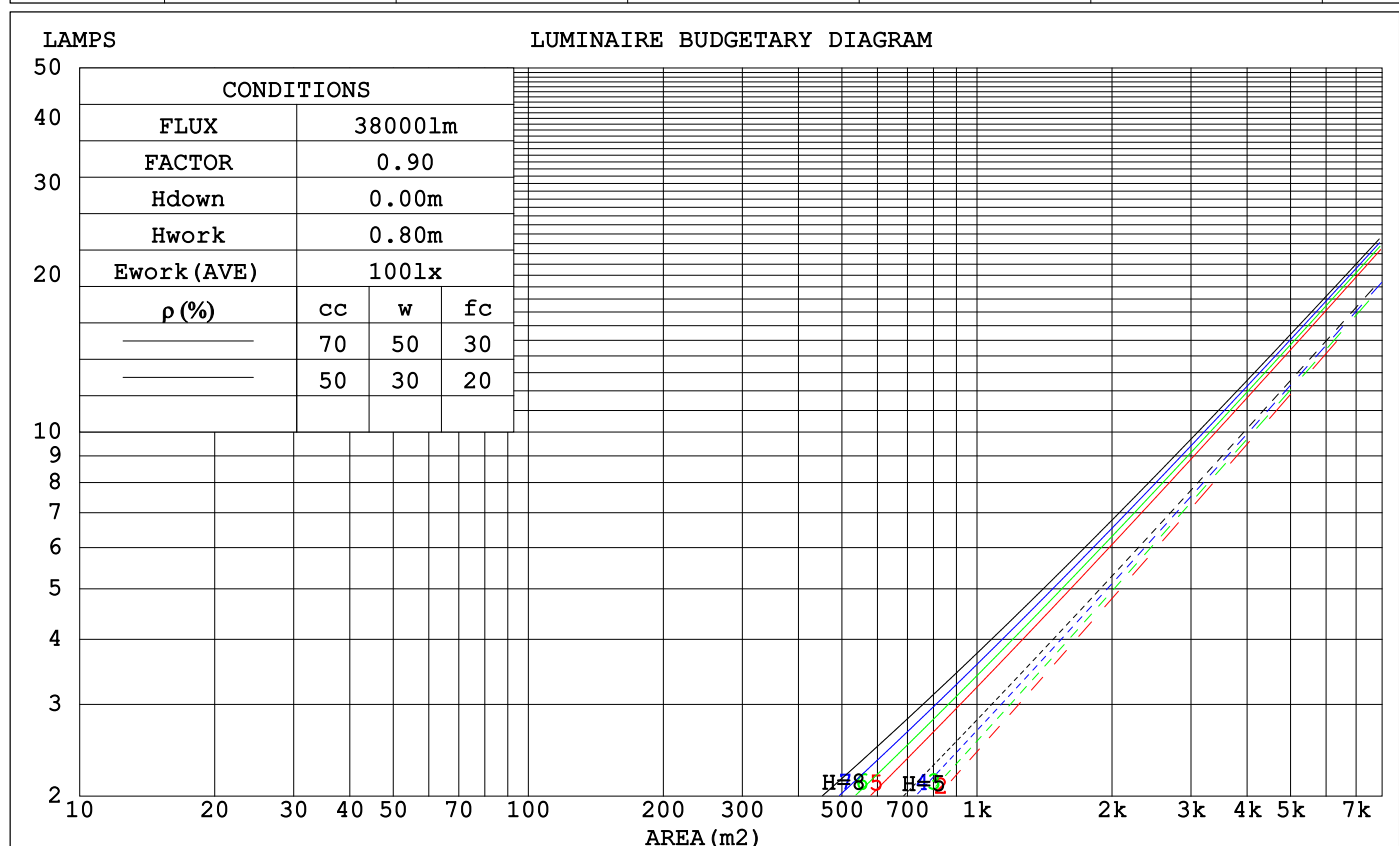
Test Distance:26.000m [K=0.4548]

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	1.05	1.02	.98	1.03	.90	.96	.99	.96	.93	.95	.93	.91	.92	.90	.88	.86
2.0	.93	.87	.81	.91	.85	.80	.87	.83	.78	.84	.80	.77	.81	.78	.75	.73
3.0	.82	.74	.68	.81	.73	.68	.78	.72	.67	.75	.70	.65	.72	.68	.64	.62
4.0	.73	.65	.58	.72	.64	.58	.69	.63	.57	.67	.61	.56	.65	.60	.56	.54
5.0	.66	.57	.51	.64	.56	.50	.62	.55	.50	.60	.54	.49	.59	.53	.49	.47
6.0	.59	.51	.44	.58	.50	.44	.56	.49	.44	.55	.48	.43	.53	.47	.43	.41
7.0	.54	.45	.39	.53	.45	.39	.51	.44	.39	.50	.43	.39	.49	.43	.38	.36
8.0	.49	.41	.35	.48	.40	.35	.47	.40	.35	.46	.39	.35	.45	.39	.34	.32
9.0	.45	.37	.32	.44	.37	.32	.43	.36	.31	.42	.36	.31	.41	.35	.31	.29
10.0	.42	.34	.29	.41	.34	.29	.40	.33	.28	.39	.33	.28	.38	.32	.28	.27



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:LYJ  
 Test Date:2022-08-17

$\gamma$  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	.279	.159	.050	.272	.155	.049	.259	.149	.048	.247	.143	.046	.236	.137	.044		
2.0	.269	.147	.045	.262	.145	.045	.251	.140	.043	.240	.135	.042	.231	.130	.041		
3.0	.252	.134	.040	.247	.132	.040	.237	.128	.039	.227	.125	.038	.219	.121	.037		
4.0	.235	.122	.036	.231	.121	.036	.222	.118	.035	.213	.115	.035	.206	.112	.034		
5.0	.219	.112	.032	.215	.111	.032	.207	.108	.032	.200	.105	.031	.193	.103	.031		
6.0	.205	.103	.029	.201	.102	.029	.194	.099	.029	.187	.097	.029	.181	.095	.028		
7.0	.192	.095	.027	.188	.094	.027	.182	.092	.027	.176	.090	.026	.171	.089	.026		
8.0	.180	.088	.025	.177	.087	.025	.171	.086	.024	.166	.084	.024	.161	.083	.024		
9.0	.169	.082	.023	.167	.081	.023	.161	.080	.023	.157	.079	.022	.152	.077	.022		
10.0	.160	.077	.021	.157	.076	.021	.153	.075	.021	.148	.074	.021	.144	.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	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.178	.156	.137	.152	.134	.118	.104	.092	.081	.060	.053	.047	.019	.017	.015	
2.0	.169	.132	.101	.145	.114	.087	.099	.079	.061	.057	.046	.036	.018	.015	.012	
3.0	.161	.114	.077	.138	.098	.067	.095	.068	.047	.055	.040	.028	.018	.013	.009	
4.0	.153	.101	.060	.132	.087	.052	.091	.061	.037	.052	.036	.022	.017	.012	.007	
5.0	.146	.090	.049	.126	.078	.042	.086	.054	.030	.050	.032	.018	.016	.010	.006	
6.0	.139	.082	.040	.120	.071	.035	.083	.050	.025	.048	.029	.015	.015	.010	.005	
7.0	.133	.075	.034	.114	.065	.030	.079	.045	.021	.046	.027	.013	.015	.009	.004	
8.0	.127	.069	.029	.109	.060	.026	.075	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.121	.064	.026	.104	.056	.022	.072	.039	.016	.042	.023	.010	.014	.008	.003	
10.0	.115	.060	.023	.099	.052	.020	.069	.037	.014	.040	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:LYJ  
 Test Date:2022-08-17

$\gamma$  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	25.8	27.3	26.1	27.6	28.0	24.9	26.5	25.3	26.8	27.1
3H	27.0	28.4	27.4	28.8	29.1	26.2	27.6	26.6	27.9	28.3
4H	27.4	28.8	27.8	29.1	29.5	26.5	27.8	26.9	28.1	28.5
6H	27.7	28.9	28.1	29.3	29.7	26.6	27.8	27.0	28.2	28.6
8H	27.8	28.9	28.2	29.3	29.7	26.6	27.8	27.1	28.2	28.6
12H	27.8	28.9	28.3	29.3	29.8	26.6	27.7	27.1	28.1	28.6
4H 2H	26.1	27.5	26.5	27.8	28.2	25.5	26.8	25.9	27.1	27.5
3H	27.6	28.7	28.0	29.1	29.5	26.9	28.0	27.3	28.4	28.8
4H	28.1	29.1	28.6	29.5	30.0	27.3	28.2	27.7	28.6	29.1
6H	28.5	29.4	29.0	29.8	30.3	27.5	28.3	27.9	28.8	29.2
8H	28.6	29.4	29.1	29.9	30.3	27.5	28.3	28.0	28.7	29.2
12H	28.7	29.4	29.2	29.9	30.4	27.5	28.2	28.0	28.7	29.2
8H 4H	28.3	29.1	28.7	29.5	30.0	27.4	28.2	27.9	28.7	29.2
6H	28.7	29.4	29.2	29.9	30.3	27.7	28.4	28.2	28.9	29.4
8H	28.9	29.5	29.4	30.0	30.5	27.8	28.4	28.3	28.9	29.4
12H	29.0	29.5	29.5	30.0	30.6	27.8	28.3	28.3	28.8	29.4
12H 4H	28.2	29.0	28.7	29.4	29.9	27.5	28.2	27.9	28.6	29.1
6H	28.7	29.3	29.2	29.8	30.3	27.8	28.3	28.3	28.8	29.3
8H	28.9	29.4	29.4	29.9	30.5	27.8	28.4	28.3	28.9	29.4
CIE190: 2010										

CIE190: 2010  
Area: 0.26645 m2

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3℃  
Operators:LYJ  
Test Date:2022-08-17

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

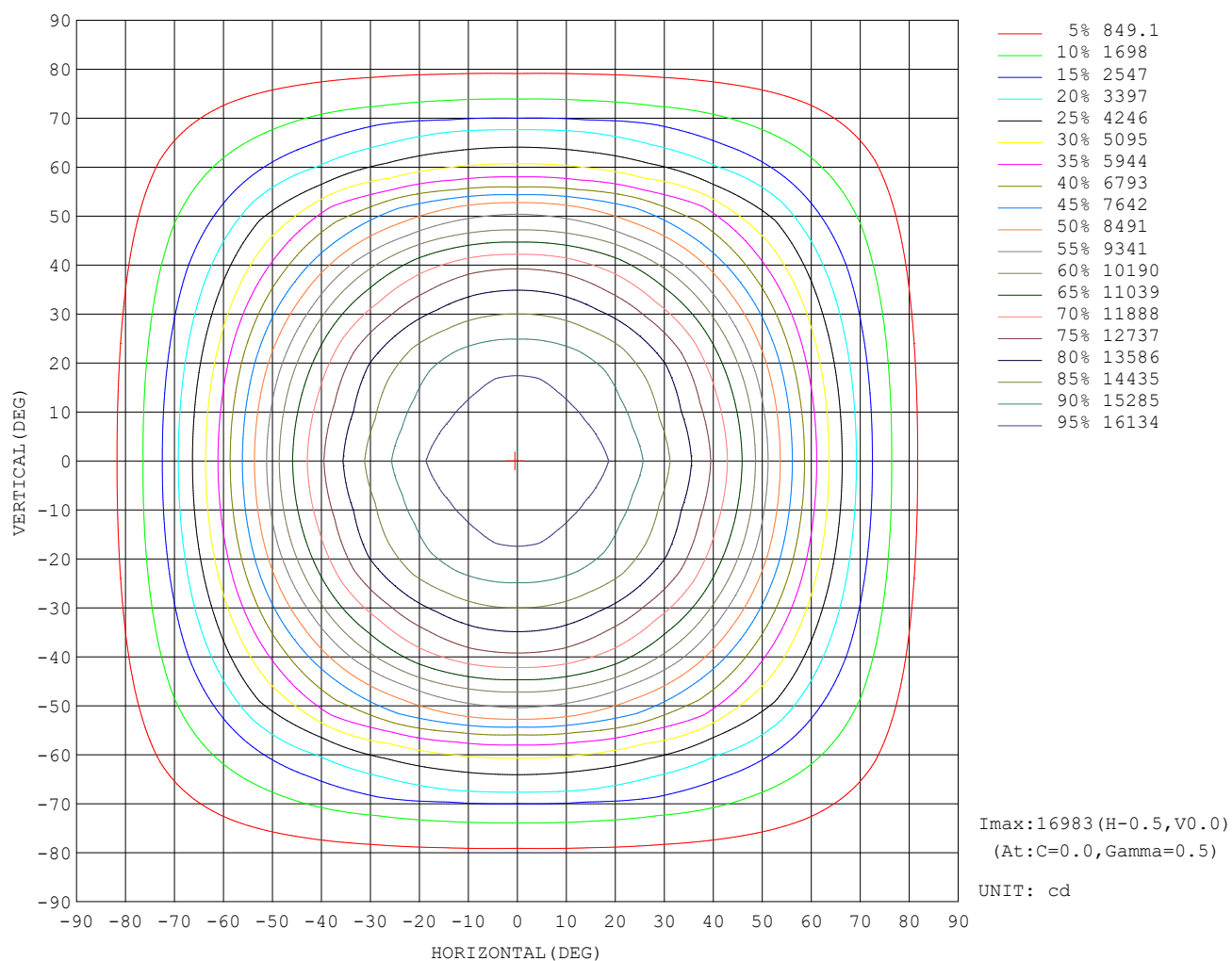
## UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	60	49	42	59	49	42	58	48	42	36
0.80	70	59	52	69	59	52	68	58	52	45
1.00	79	69	62	78	68	61	76	69	61	54
1.25	86	76	70	85	76	69	82	74	68	62
1.50	91	82	75	89	81	75	86	79	74	67
2.00	97	90	84	96	88	83	92	86	81	74
2.50	101	94	88	99	92	87	95	90	86	78
3.00	104	98	93	102	96	92	98	93	90	81
4.00	108	102	98	105	101	97	101	97	94	86
5.00	110	105	102	107	103	100	103	100	97	88
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004						Suspended			SHRNOM = 1.25	

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3°C  
 Operators: LYJ  
 Test Date: 2022-08-17

$\gamma$  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

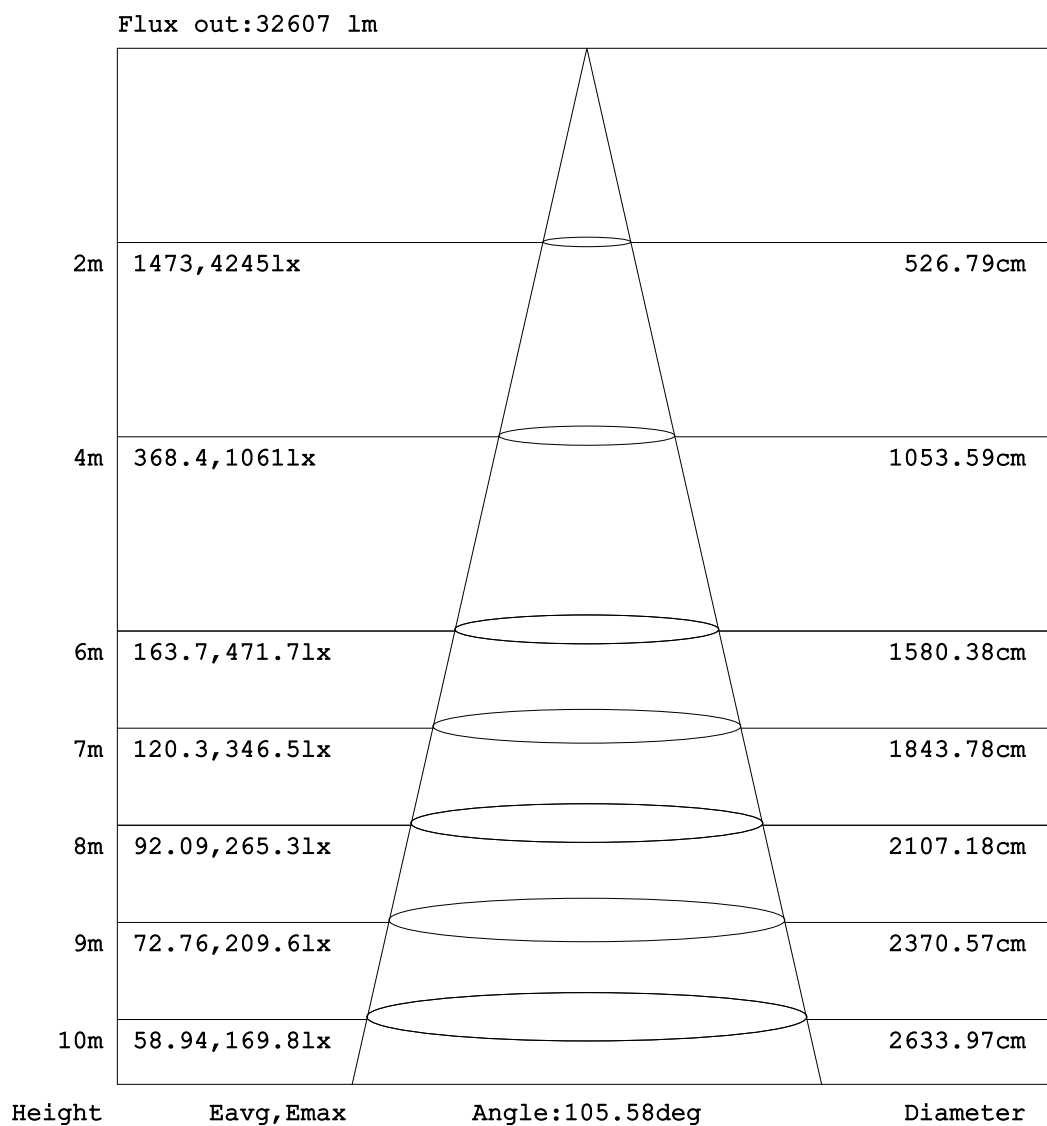


C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:LYJ  
Test Date:2022-08-17

$\gamma$  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



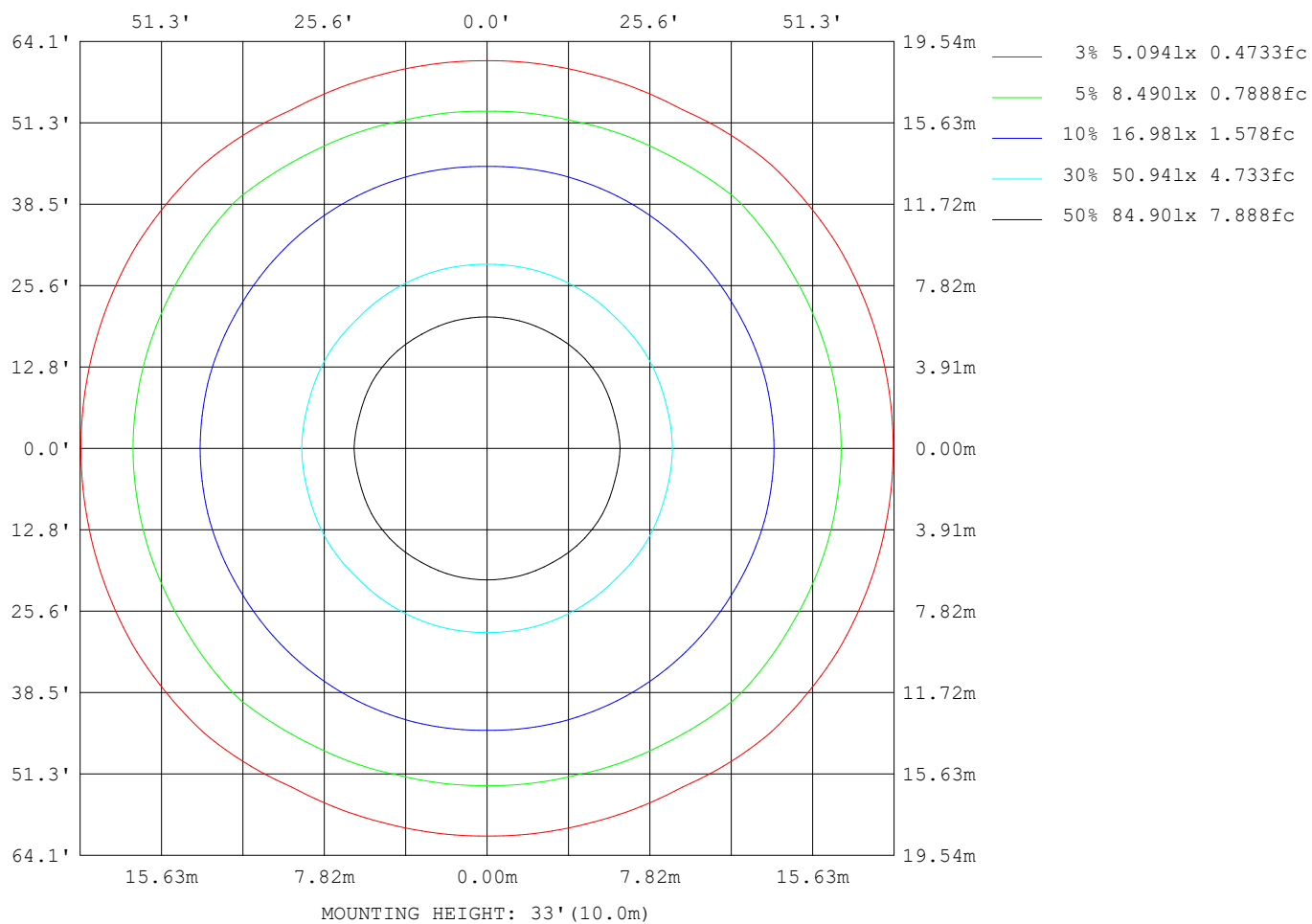
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:LYJ  
Test Date:2022-08-17

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

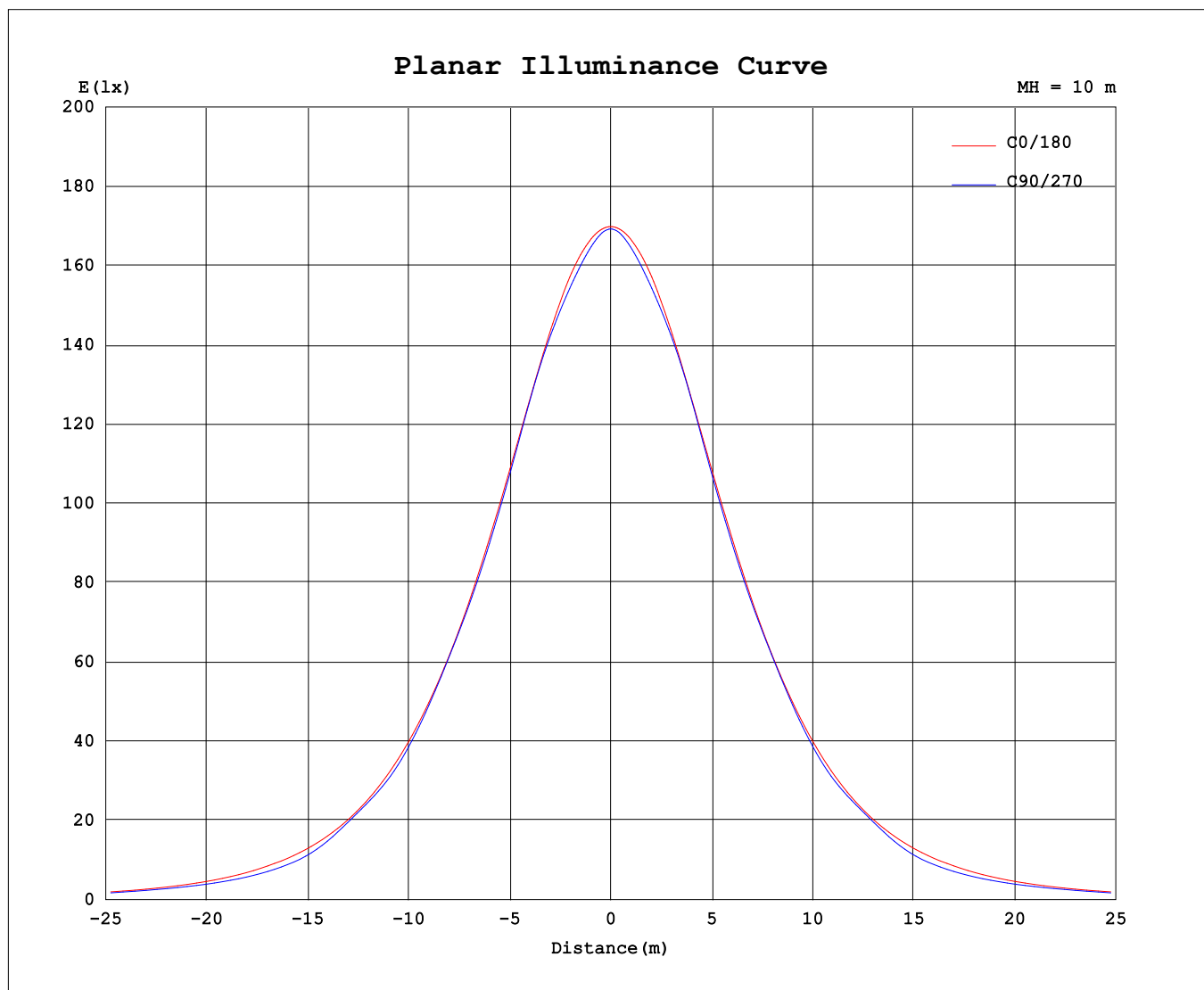
## ISOLUX DIAGRAM



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: LYJ  
Test Date: 2022-08-17

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: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: LYJ  
Test Date: 2022-08-17

$\gamma$  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: 15.0DEG	$\gamma$ 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: 2022-08-17	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: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: LYJ  
Test Date: 2022-08-17

```

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:

```