

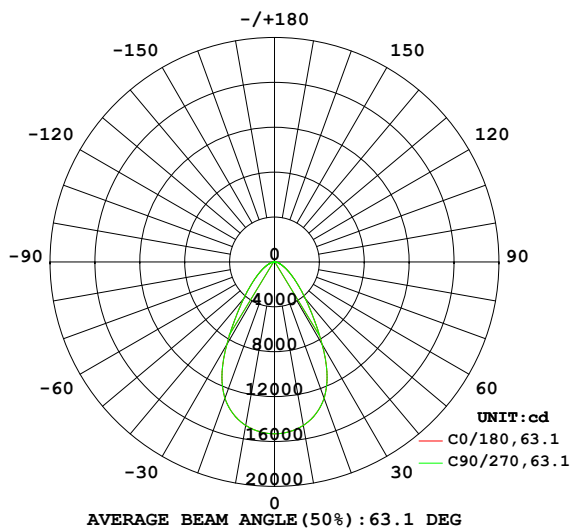
## EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINAIRE PHOTOMETRIC TEST REPORT

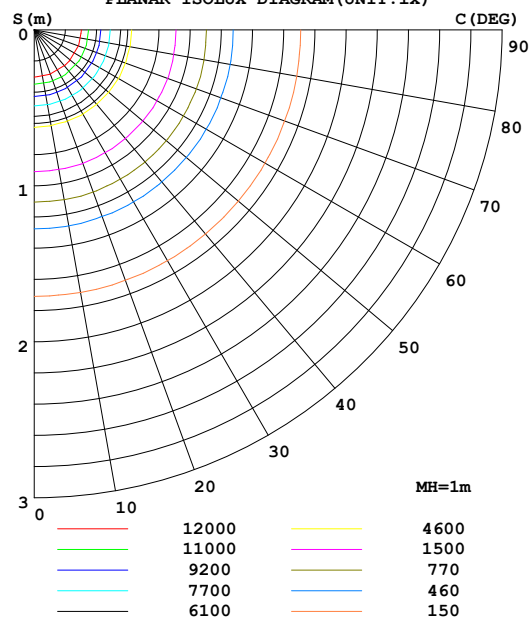
Test:U:230.0V I:0.448A P:100.0W PF:0.970 Freq:50.00Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:19367.9x1 lm		
NAME: HB74-100-5080-H00215	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 193.68 lm/W			
MODEL	/	I <sub>max</sub> (cd)	15314	S/MH (C0/180)	0.94
NOMINAL POWER (W)	/	LOR (%)	100.0	S/MH (C90/270)	0.94
RATED VOLTAGE (V)	/	TOTAL FLUX (lm)	19368	η UP, DN (C0-180)	0.0, 50.0
NOMINAL FLUX (lm)	19367.9	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 50.0
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE (V)	/	η down (%)	100.0	CIBSE SHR MAX	0.95

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



PLANAR ISOLUX DIAGRAM (UNIT: lx)



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: ZZX  
Test Date: 2023-09-26

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=0.4559]  
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	1479	1479	1479	1479	1479	1479	1479	1479	0- 10	1437	1437	7.42,7.42
20	1292	1292	1292	1292	1292	1292	1292	1292	10- 20	3939	5376	27.8,27.8
30	849.6	849.6	849.6	849.6	849.6	849.6	849.6	849.6	20- 30	5002	10379	53.6,53.6
40	429.4	429.4	429.4	429.4	429.4	429.4	429.4	429.4	30- 40	3815	14193	73.3,73.3
50	220.3	220.3	220.3	220.3	220.3	220.3	220.3	220.3	40- 50	2401	16594	85.7,85.7
60	113.4	113.4	113.4	113.4	113.4	113.4	113.4	113.4	50- 60	1438	18032	93.1,93.1
70	53.57	53.57	53.57	53.57	53.57	53.57	53.57	53.57	60- 70	796.3	18828	97.2,97.2
80	24.25	24.25	24.25	24.25	24.25	24.25	24.25	24.25	70- 80	411.8	19240	99.3,99.3
90	1.644	1.644	1.644	1.644	1.644	1.644	1.644	1.644	80- 90	128.1	19368	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): 15541 lm

%lum = 80.2%

%lamp = 80.2%

Conical surface Flux(120deg): 18032 lm

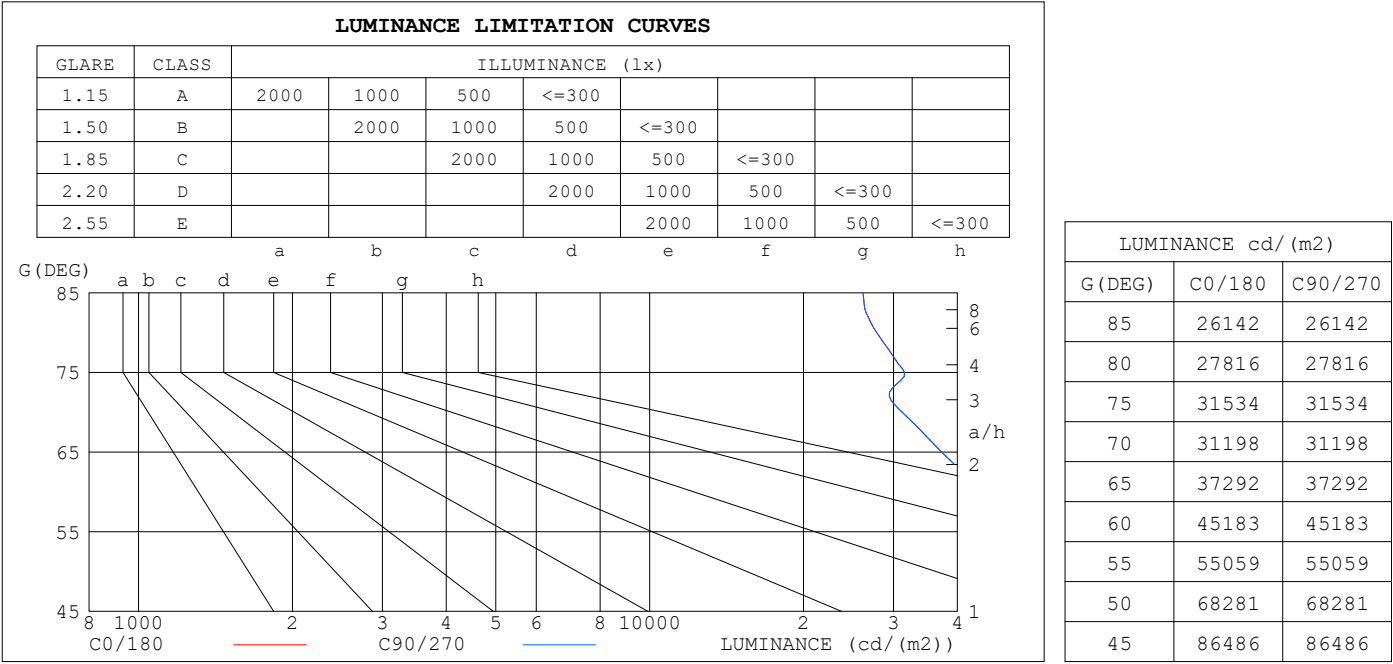
%lum = 93.1%

%lamp = 93.1%

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-09-26

$\gamma$  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=0.4559]  
Remarks:

LUMINANCE LIMITATION CURVES



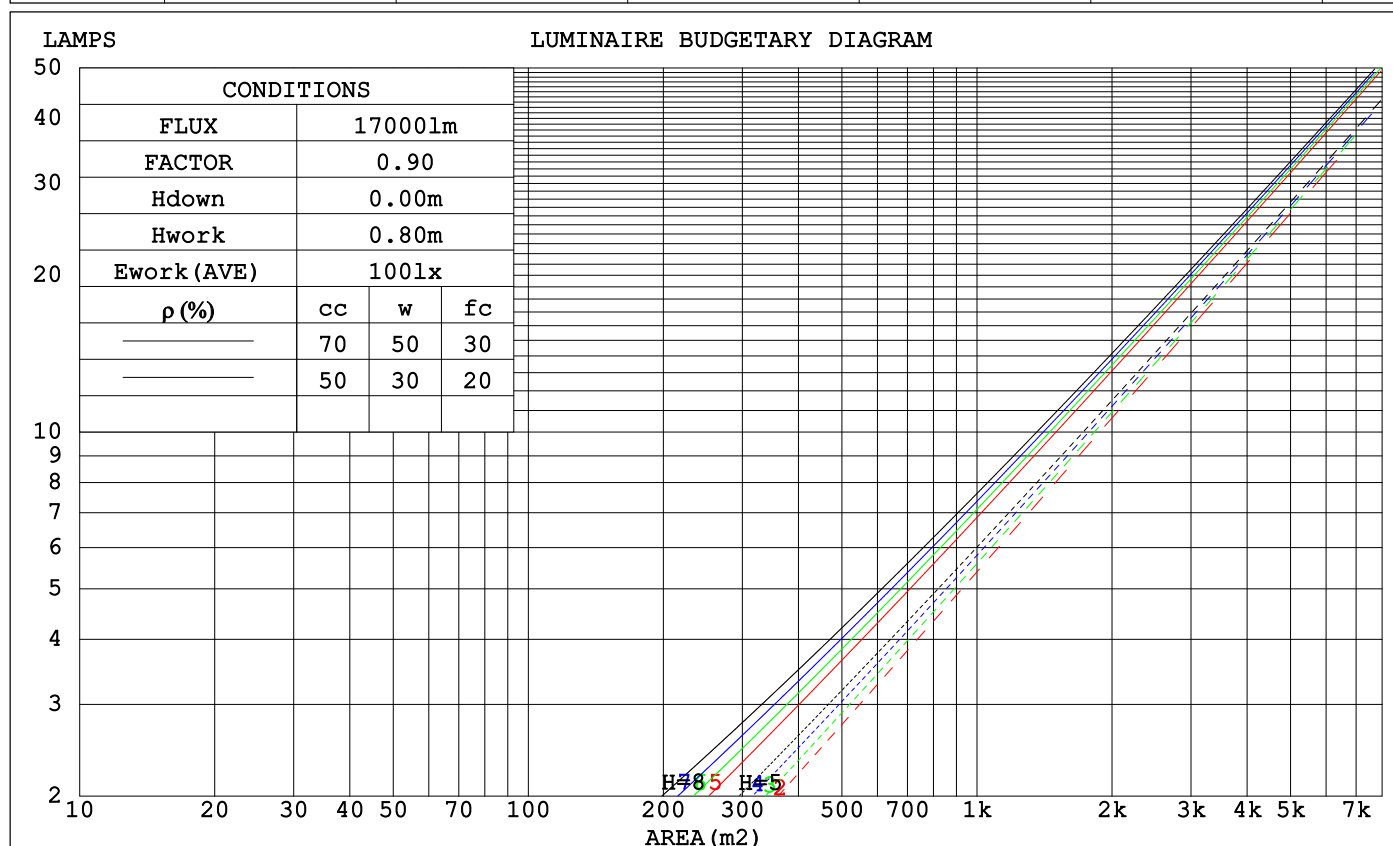
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C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-09-26

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=0.4559]  
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	1.01	1.02	.00	.98	.98	.96	.95	.95	.93	.92	.90
2.0	.98	.93	.89	.97	.92	.88	.93	.90	.86	.90	.87	.84	.87	.85	.83	.81
3.0	.90	.84	.79	.88	.83	.78	.86	.81	.77	.83	.79	.76	.81	.77	.74	.73
4.0	.82	.76	.71	.81	.75	.70	.79	.73	.69	.77	.72	.68	.75	.71	.68	.66
5.0	.76	.69	.64	.75	.68	.63	.73	.67	.63	.71	.66	.62	.70	.65	.62	.60
6.0	.70	.63	.58	.69	.63	.58	.68	.62	.57	.66	.61	.57	.65	.60	.56	.55
7.0	.65	.58	.53	.64	.58	.53	.63	.57	.53	.62	.56	.52	.61	.56	.52	.50
8.0	.61	.54	.49	.60	.53	.49	.59	.53	.49	.58	.52	.48	.57	.52	.48	.47
9.0	.57	.50	.45	.56	.50	.45	.55	.49	.45	.54	.49	.45	.53	.48	.45	.43
10.0	.53	.47	.42	.53	.46	.42	.52	.46	.42	.51	.46	.42	.50	.45	.42	.40



C Range: 0 - 360DEG  
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 Temperature:25.3°C  
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 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.465  
 Humidity:65.0%  
 Test Distance:26.000m [K=0.4559]  
 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	.225	.128	.040	.218	.124	.039	.205	.118	.038	.193	.111	.036	.182	.106	.034	
2.0	.214	.118	.036	.209	.115	.035	.198	.110	.034	.187	.105	.033	.178	.101	.032	
3.0	.202	.108	.032	.197	.106	.032	.188	.102	.031	.179	.098	.030	.171	.095	.029	
4.0	.191	.099	.029	.186	.097	.029	.178	.094	.028	.170	.091	.028	.163	.088	.027	
5.0	.179	.091	.026	.176	.090	.026	.168	.088	.026	.161	.085	.025	.155	.083	.025	
6.0	.169	.085	.024	.166	.084	.024	.159	.082	.024	.153	.080	.023	.148	.078	.023	
7.0	.160	.079	.022	.157	.078	.022	.151	.076	.022	.146	.075	.022	.141	.073	.021	
8.0	.152	.074	.021	.149	.073	.021	.144	.072	.021	.139	.070	.020	.134	.069	.020	
9.0	.144	.070	.019	.142	.069	.019	.137	.068	.019	.133	.066	.019	.128	.065	.019	
10.0	.137	.066	.018	.135	.065	.018	.131	.064	.018	.127	.063	.018	.123	.062	.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	.174	.157	.141	.149	.135	.121	.102	.093	.084	.059	.054	.049	.019	.017	.016	
2.0	.162	.132	.107	.139	.114	.093	.095	.079	.065	.055	.046	.038	.018	.015	.012	
3.0	.151	.114	.084	.130	.098	.073	.089	.068	.051	.051	.040	.030	.017	.013	.010	
4.0	.142	.100	.067	.122	.086	.058	.084	.060	.041	.049	.035	.024	.016	.011	.008	
5.0	.134	.089	.055	.115	.077	.048	.080	.054	.034	.046	.031	.020	.015	.010	.007	
6.0	.127	.080	.046	.109	.069	.040	.075	.048	.028	.044	.028	.017	.014	.009	.006	
7.0	.121	.072	.038	.104	.063	.034	.072	.044	.024	.042	.026	.014	.013	.008	.005	
8.0	.115	.066	.033	.099	.058	.029	.068	.040	.020	.040	.024	.012	.013	.008	.004	
9.0	.110	.061	.029	.094	.053	.025	.065	.037	.018	.038	.022	.011	.012	.007	.004	
10.0	.105	.057	.025	.090	.049	.022	.063	.035	.016	.036	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3℃  
 Operators:ZZX  
 Test Date:2023-09-26

$\gamma$  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=0.4559]  
 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	23.2	24.4	23.5	24.8	25.1	23.2	24.4	23.5	24.8	25.1
3H	24.2	25.3	24.6	25.6	26.0	24.2	25.3	24.6	25.6	26.0
4H	24.6	25.7	25.0	26.0	26.4	24.6	25.7	25.0	26.0	26.4
6H	25.0	25.9	25.4	26.3	26.7	25.0	25.9	25.4	26.3	26.7
8H	25.1	26.0	25.5	26.4	26.8	25.1	26.0	25.5	26.4	26.8
12H	25.2	26.0	25.6	26.4	26.8	25.2	26.0	25.6	26.4	26.8
4H 2H	23.5	24.5	23.9	24.9	25.3	23.5	24.5	23.9	24.9	25.3
3H	24.7	25.5	25.1	25.9	26.3	24.7	25.5	25.1	25.9	26.3
4H	25.3	26.0	25.7	26.5	26.9	25.3	26.0	25.7	26.5	26.9
6H	25.7	26.4	26.2	26.9	27.3	25.7	26.4	26.2	26.9	27.3
8H	25.9	26.5	26.4	27.0	27.4	25.9	26.5	26.4	27.0	27.4
12H	26.0	26.6	26.5	27.0	27.5	26.0	26.6	26.5	27.0	27.5
8H 4H	25.4	26.1	25.9	26.5	27.0	25.4	26.1	25.9	26.5	27.0
6H	26.0	26.5	26.5	27.0	27.5	26.0	26.5	26.5	27.0	27.5
8H	26.3	26.7	26.8	27.2	27.7	26.3	26.7	26.8	27.2	27.7
12H	26.5	26.9	27.0	27.4	27.9	26.5	26.9	27.0	27.4	27.9
12H 4H	25.4	26.0	25.9	26.5	26.9	25.4	26.0	25.9	26.5	26.9
6H	26.1	26.5	26.6	27.0	27.5	26.1	26.5	26.6	27.0	27.5
8H	26.3	26.7	26.9	27.2	27.8	26.3	26.7	26.9	27.2	27.8
CIE190: 2010										

CIE190: 2010  
Area: 0.0502 m2

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Test Date:2023-09-26

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 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.465  
Humidity:65.0%  
Test Distance:26.000m [K=0.4559]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

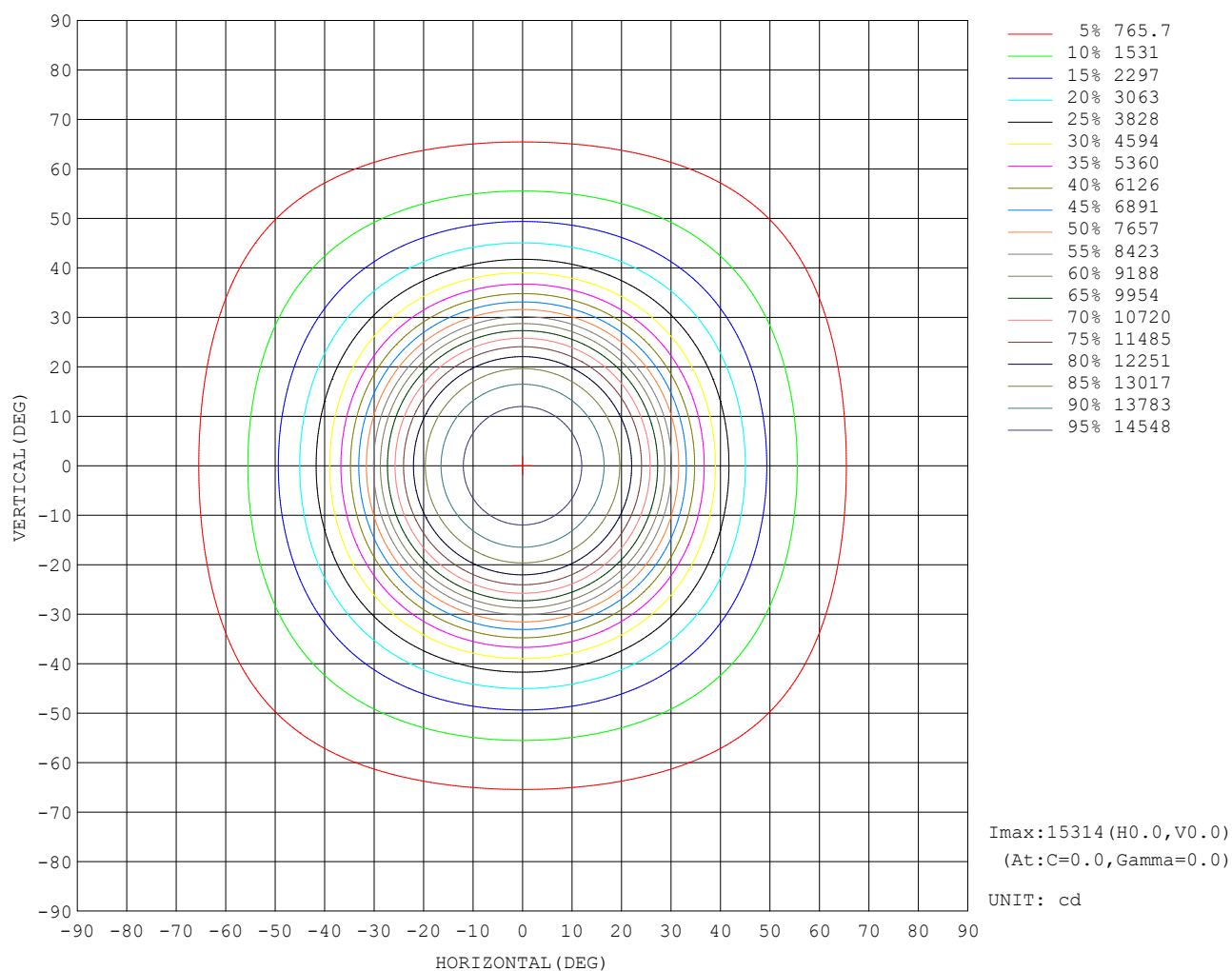
## UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	75	66	61	74	66	61	73	66	61	56
0.80	84	75	70	83	75	70	81	74	70	65
1.00	90	82	77	89	82	77	87	82	76	71
1.25	95	88	83	94	88	83	92	86	82	77
1.50	99	92	88	98	92	87	95	90	86	81
2.00	104	98	93	102	97	93	99	95	91	85
2.50	106	101	97	104	99	96	101	97	94	87
3.00	108	104	100	106	102	99	103	99	97	89
4.00	111	107	104	109	105	103	105	102	100	92
5.00	113	109	107	110	107	105	106	104	102	94
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004						Suspended			SHRNOM = 1.25	

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 $\gamma$  Interval: 0.5DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.465  
 Humidity: 65.0%  
 Test Distance: 26.000m [K=0.4559]  
 Remarks:

## ISOCANDELA DIAGRAM

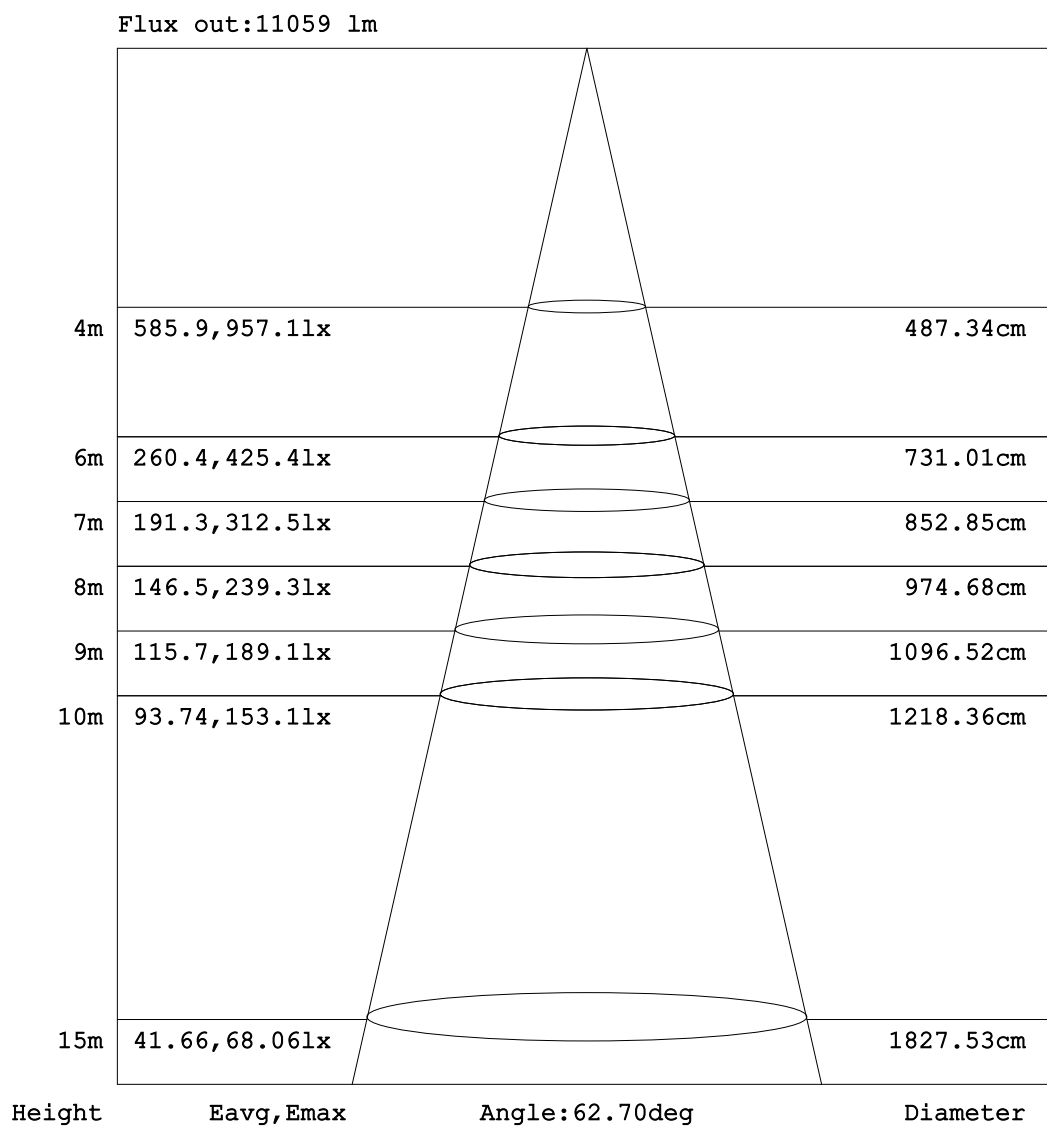


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Humidity:65.0%  
Test Distance:26.000m [K=0.4559]  
Remarks:



## AAI Figure



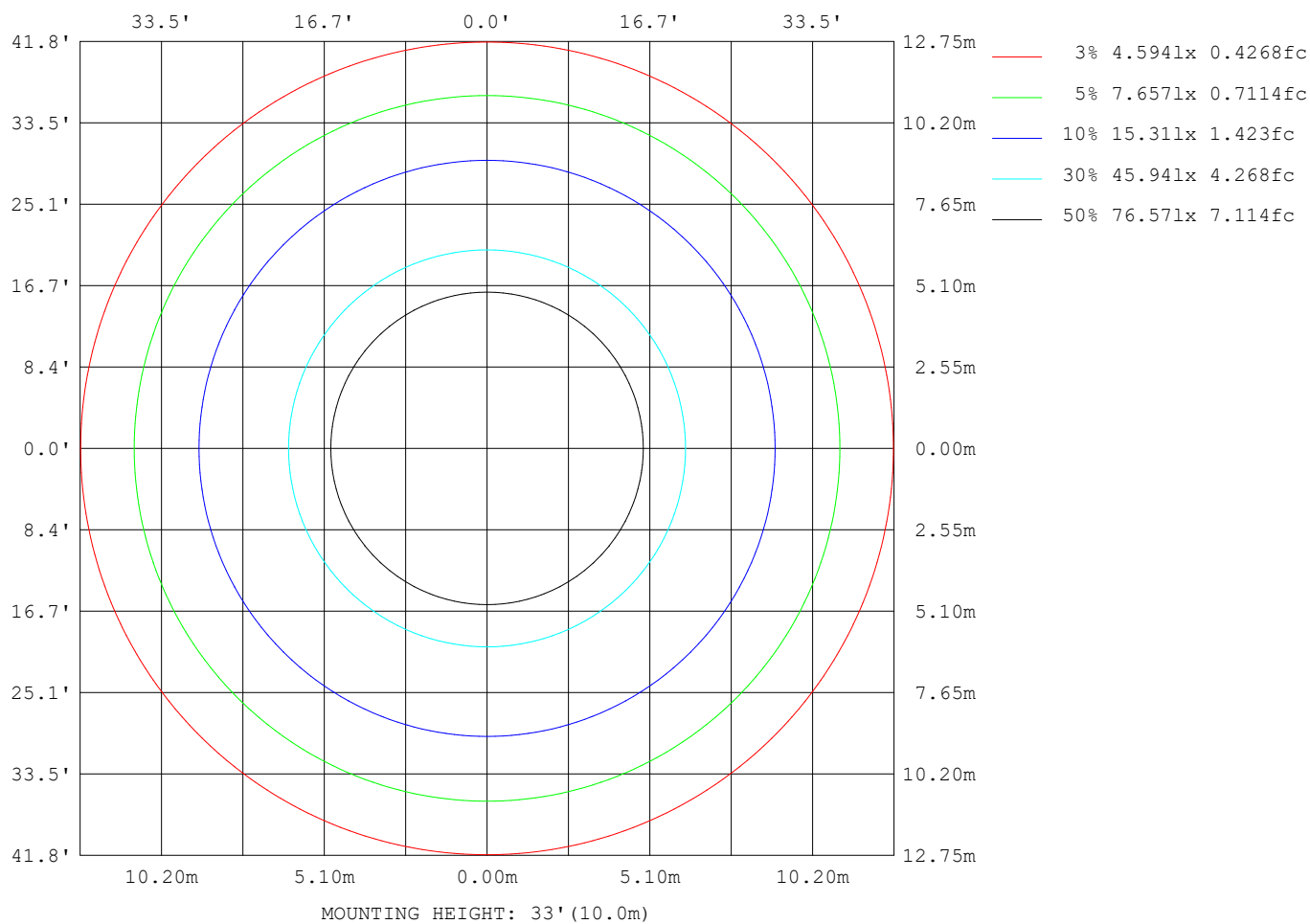
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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Temperature: 25.3°C  
Operators: ZZX  
Test Date: 2023-09-26

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 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.465  
Humidity: 65.0%  
Test Distance: 26.000m [K=0.4559]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

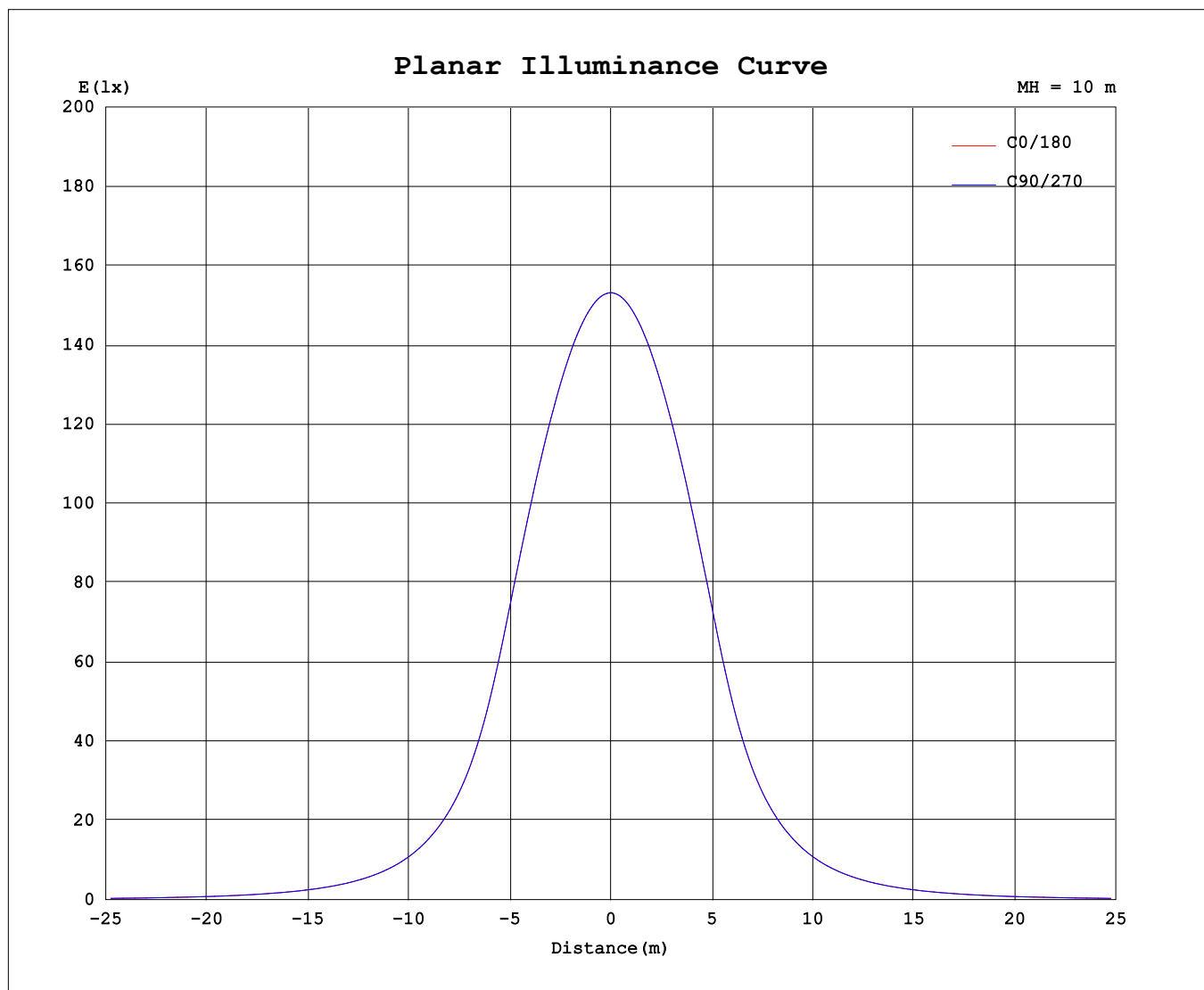
## ISOLUX DIAGRAM



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: ZZX  
Test Date: 2023-09-26

$\gamma$  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=0.4559]  
Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
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Test Speed: HIGH  
Temperature: 25.3°C  
Operators: ZZX  
Test Date: 2023-09-26

$\gamma$  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=0.4559]  
Remarks:

# LUMINOUS DISTRIBUTION INTENSITY DATA

UNIT: X10cd

[illegible]

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: ZZX  
Test Date: 2023-09-26

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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=0.4559]
Remarks:

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