

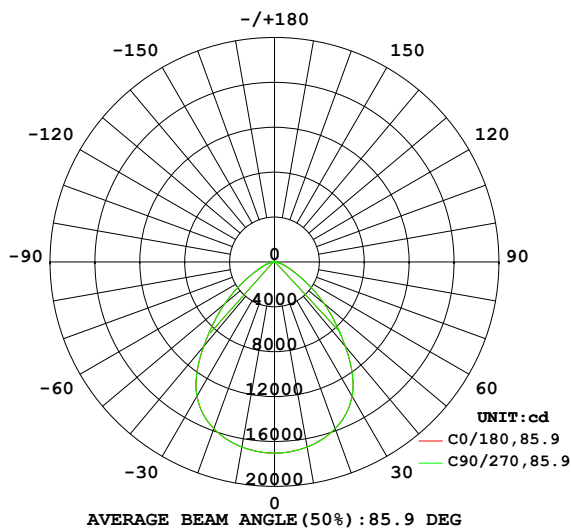
## EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINAIRE PHOTOMETRIC TEST REPORT

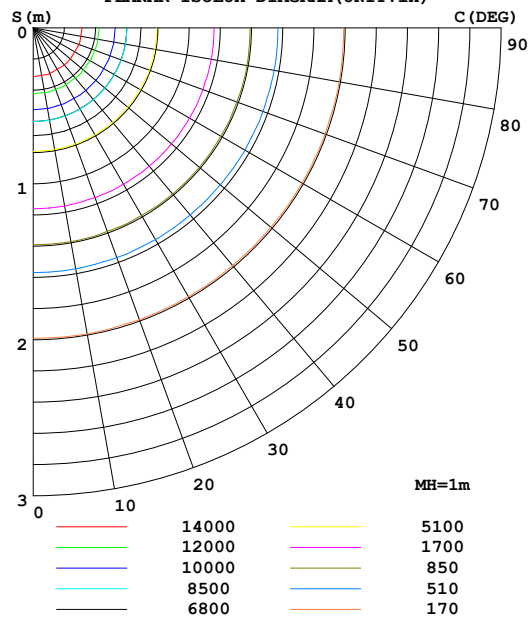
Test:U:230.0V I:0.880A P:200.0W PF:0.988 Freq:50.00Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:32591.6x1 lm		
NAME: HB74-200-5080-H00220	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 162.96 lm/W			
MODEL	/	Imax (cd)	17038	S/MH (C0/180)	1.20
NOMINAL POWER (W)	/	LOR (%)	100.0	S/MH (C90/270)	1.20
RATED VOLTAGE (V)	/	TOTAL FLUX (lm)	32592	$\eta$ UP, DN (C0-180)	0.0, 50.0
NOMINAL FLUX (lm)	32591.6	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	1.25

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: ZZK  
Test Date: 2023-10-06

$\gamma$  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

## ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	1674	1674	1674	1674	1674	1674	1674	1674	0- 10	1612	1612	4.95,4.95
20	1580	1580	1580	1580	1580	1580	1580	1580	10- 20	4617	6229	19.1,19.1
30	1382	1382	1382	1382	1382	1382	1382	1382	20- 30	6885	13113	40.2,40.2
40	981.8	981.8	981.8	981.8	981.8	981.8	981.8	981.8	30- 40	7472	20586	63.2,63.2
50	576.7	576.7	576.7	576.7	576.7	576.7	576.7	576.7	40- 50	5927	26513	81.3,81.3
60	260.2	260.2	260.2	260.2	260.2	260.2	260.2	260.2	50- 60	3625	30138	92.5,92.5
70	99.54	99.54	99.54	99.54	99.54	99.54	99.54	99.54	60- 70	1640	31778	97.5,97.5
80	33.33	33.33	33.33	33.33	33.33	33.33	33.33	33.33	70- 80	659.7	32437	99.5,99.5
90	0.2141	0.2141	0.2141	0.2141	0.2141	0.2141	0.2141	0.2141	80- 90	154.1	32592	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): 23809 lm

%lum = 73.1%

%lamp = 73.1%

Conical surface Flux(130deg): 31135 lm

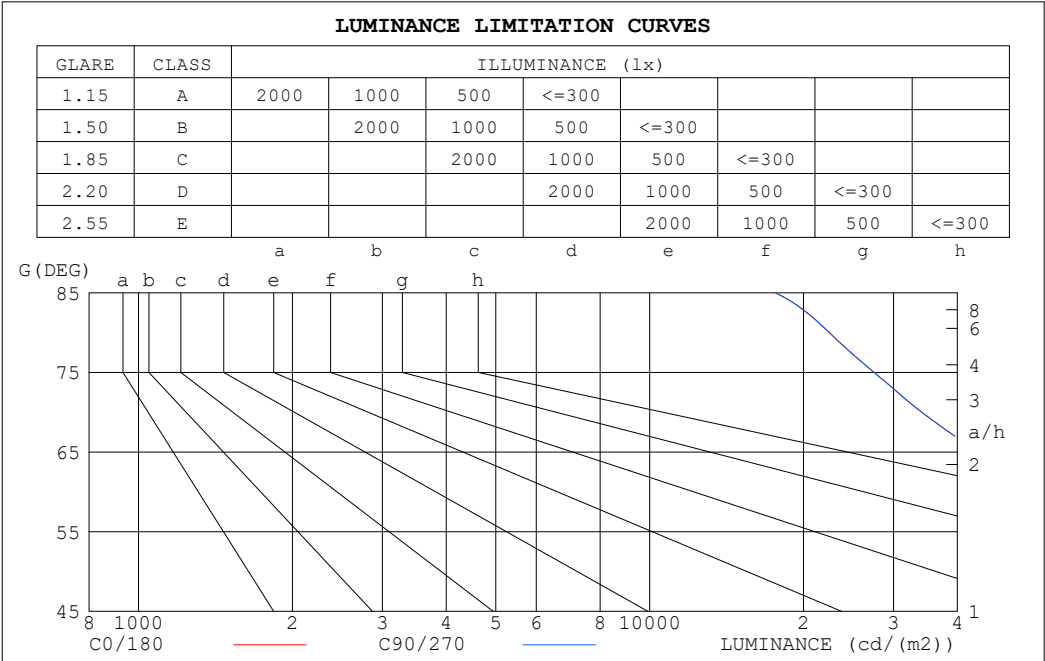
%lum = 95.5%

%lamp = 95.5%

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-10-06

$\gamma$  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



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	17625	17625
80	22477	22477
75	27489	27489
70	34078	34078
65	44198	44198
60	60942	60942
55	81939	81939
50	105048	105048
45	127019	127019

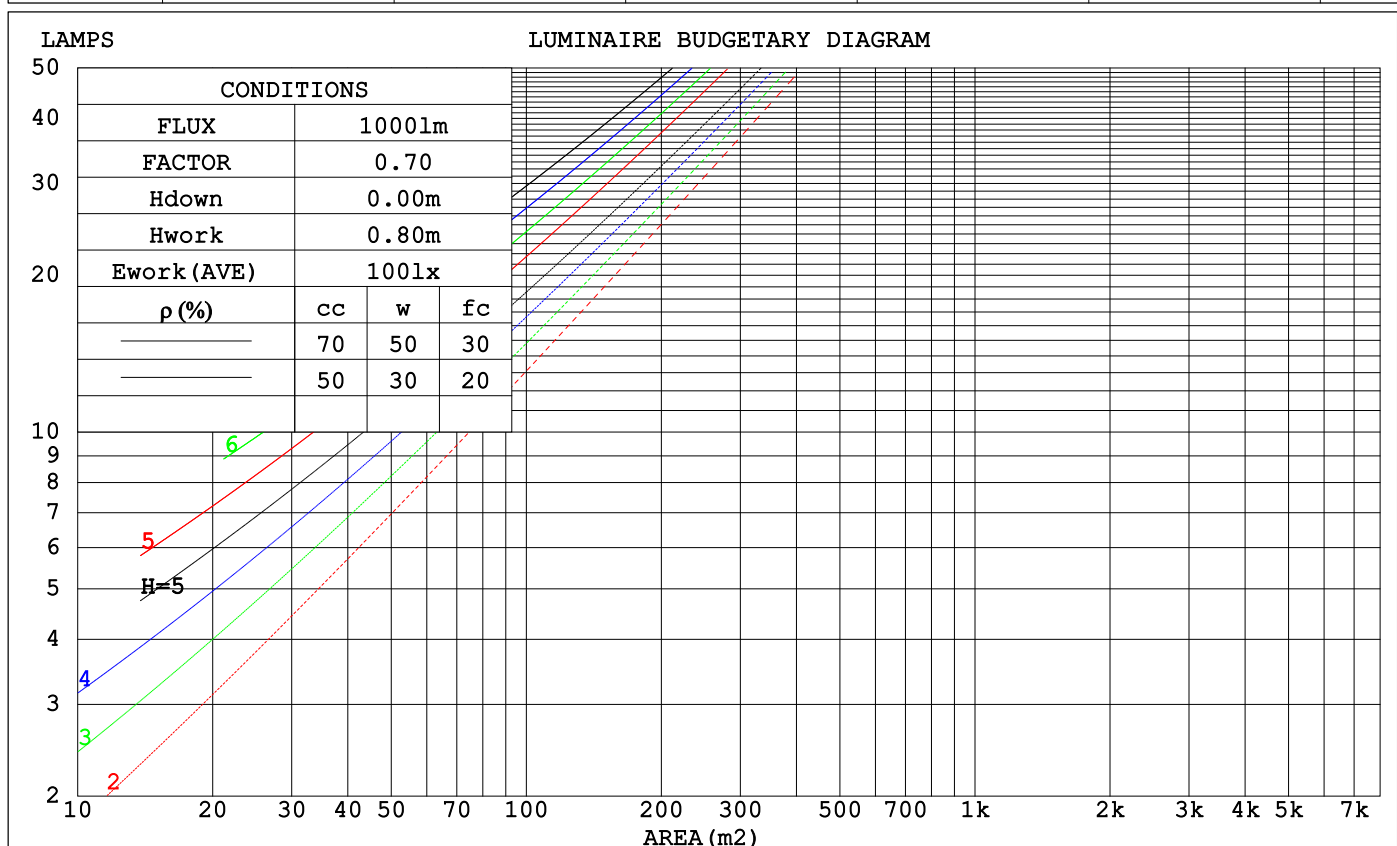
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-10-06

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															



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-10-06

$\gamma$  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

## 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	.136	.043	.233	.133	.042	.220	.126	.040	.208	.120	.039	.197	.114	.037	
2.0	.233	.127	.039	.227	.125	.038	.215	.120	.037	.205	.115	.036	.196	.111	.035	
3.0	.221	.118	.035	.216	.115	.035	.206	.112	.034	.197	.108	.033	.188	.104	.032	
4.0	.208	.108	.032	.204	.107	.032	.195	.104	.031	.187	.101	.030	.180	.098	.030	
5.0	.196	.100	.029	.192	.099	.029	.185	.096	.028	.178	.094	.028	.171	.091	.027	
6.0	.185	.093	.027	.182	.092	.026	.175	.090	.026	.169	.088	.026	.163	.086	.025	
7.0	.175	.086	.025	.172	.086	.024	.166	.084	.024	.160	.082	.024	.155	.080	.024	
8.0	.165	.081	.023	.162	.080	.023	.157	.078	.022	.152	.077	.022	.147	.076	.022	
9.0	.157	.076	.021	.154	.075	.021	.149	.074	.021	.145	.072	.021	.140	.071	.021	
10.0	.149	.071	.020	.146	.071	.020	.142	.069	.020	.138	.068	.019	.134	.067	.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	.063	.056	.046	.037	.018	.015	.012	
3.0	.155	.114	.081	.133	.098	.070	.091	.068	.049	.053	.040	.029	.017	.013	.010	
4.0	.147	.100	.064	.126	.086	.056	.087	.060	.039	.050	.035	.023	.016	.011	.008	
5.0	.139	.089	.052	.120	.077	.045	.082	.054	.032	.048	.032	.019	.015	.010	.006	
6.0	.133	.081	.043	.114	.070	.038	.079	.049	.027	.046	.029	.016	.015	.009	.005	
7.0	.126	.074	.036	.109	.064	.032	.075	.045	.023	.044	.026	.013	.014	.009	.004	
8.0	.121	.068	.031	.104	.059	.027	.072	.041	.019	.042	.024	.012	.014	.008	.004	
9.0	.115	.063	.027	.099	.054	.024	.069	.038	.017	.040	.023	.010	.013	.007	.003	
10.0	.110	.058	.024	.095	.051	.021	.066	.036	.015	.038	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:ZZX  
 Test Date:2023-10-06

$\gamma$  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	25.5	26.9	25.8	27.2	27.5	25.5	26.9	25.8	27.2	27.5
3H	26.1	27.3	26.5	27.7	28.0	26.1	27.3	26.5	27.7	28.0
4H	26.3	27.4	26.7	27.8	28.2	26.3	27.4	26.7	27.8	28.2
6H	26.4	27.4	26.8	27.8	28.2	26.4	27.4	26.8	27.8	28.2
8H	26.4	27.4	26.8	27.8	28.2	26.4	27.4	26.8	27.8	28.2
12H	26.4	27.4	26.8	27.7	28.2	26.4	27.4	26.8	27.7	28.2
4H 2H	25.7	26.8	26.1	27.2	27.5	25.7	26.8	26.1	27.2	27.5
3H	26.4	27.4	26.9	27.8	28.2	26.4	27.4	26.9	27.8	28.2
4H	26.7	27.5	27.1	28.0	28.4	26.7	27.5	27.1	28.0	28.4
6H	26.9	27.6	27.3	28.1	28.5	26.9	27.6	27.3	28.1	28.5
8H	26.9	27.6	27.4	28.0	28.5	26.9	27.6	27.4	28.0	28.5
12H	26.9	27.5	27.4	28.0	28.5	26.9	27.5	27.4	28.0	28.5
8H 4H	26.7	27.4	27.2	27.9	28.3	26.7	27.4	27.2	27.9	28.3
6H	27.0	27.5	27.5	28.0	28.5	27.0	27.5	27.5	28.0	28.5
8H	27.1	27.6	27.6	28.1	28.6	27.1	27.6	27.6	28.1	28.6
12H	27.1	27.6	27.6	28.0	28.6	27.1	27.6	27.6	28.0	28.6
12H 4H	26.7	27.3	27.2	27.8	28.3	26.7	27.3	27.2	27.8	28.3
6H	27.0	27.5	27.5	27.9	28.5	27.0	27.5	27.5	27.9	28.5
8H	27.1	27.5	27.6	28.0	28.6	27.1	27.5	27.6	28.0	28.6
CIE190: 2010										

CIE190: 2010  
Area: 0.0854 m2

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-10-06

$\gamma$  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

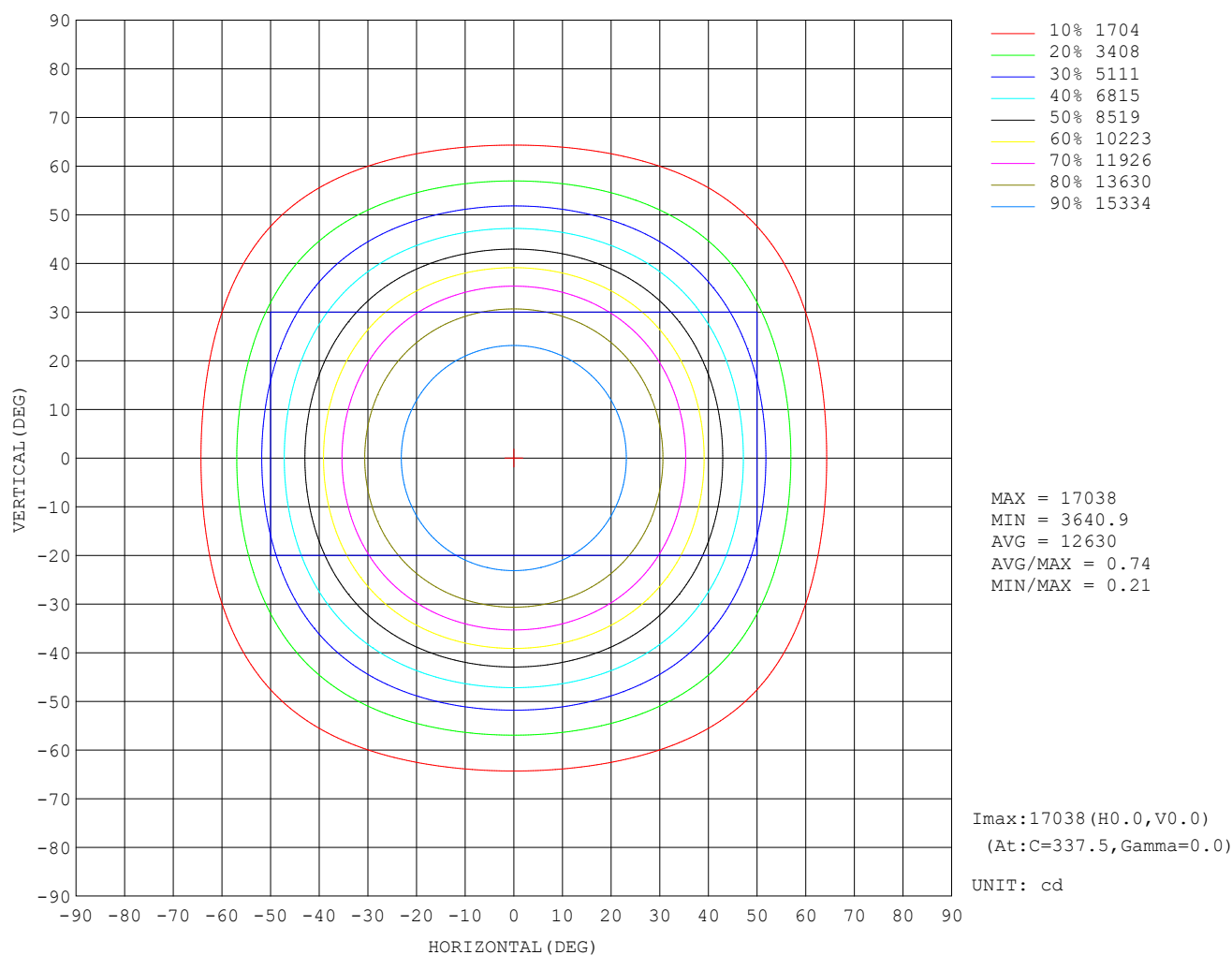
## UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	68	58	53	67	58	52	66	58	52	47
0.80	78	69	63	77	68	63	76	68	62	56
1.00	86	77	71	85	77	71	83	77	71	65
1.25	92	84	78	91	83	78	88	82	77	71
1.50	96	89	83	95	88	83	92	86	82	76
2.00	102	95	90	100	94	90	97	92	88	82
2.50	104	99	94	103	97	93	99	95	91	84
3.00	107	102	98	105	100	97	101	98	94	87
4.00	110	106	102	108	104	101	104	101	98	90
5.00	112	108	105	109	106	103	105	103	100	92
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004						Suspended			SHRNOM = 1.25	

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3°C  
 Operators: ZZX  
 Test Date: 2023-10-06

$\gamma$  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:

## ISOCANDELA DIAGRAM

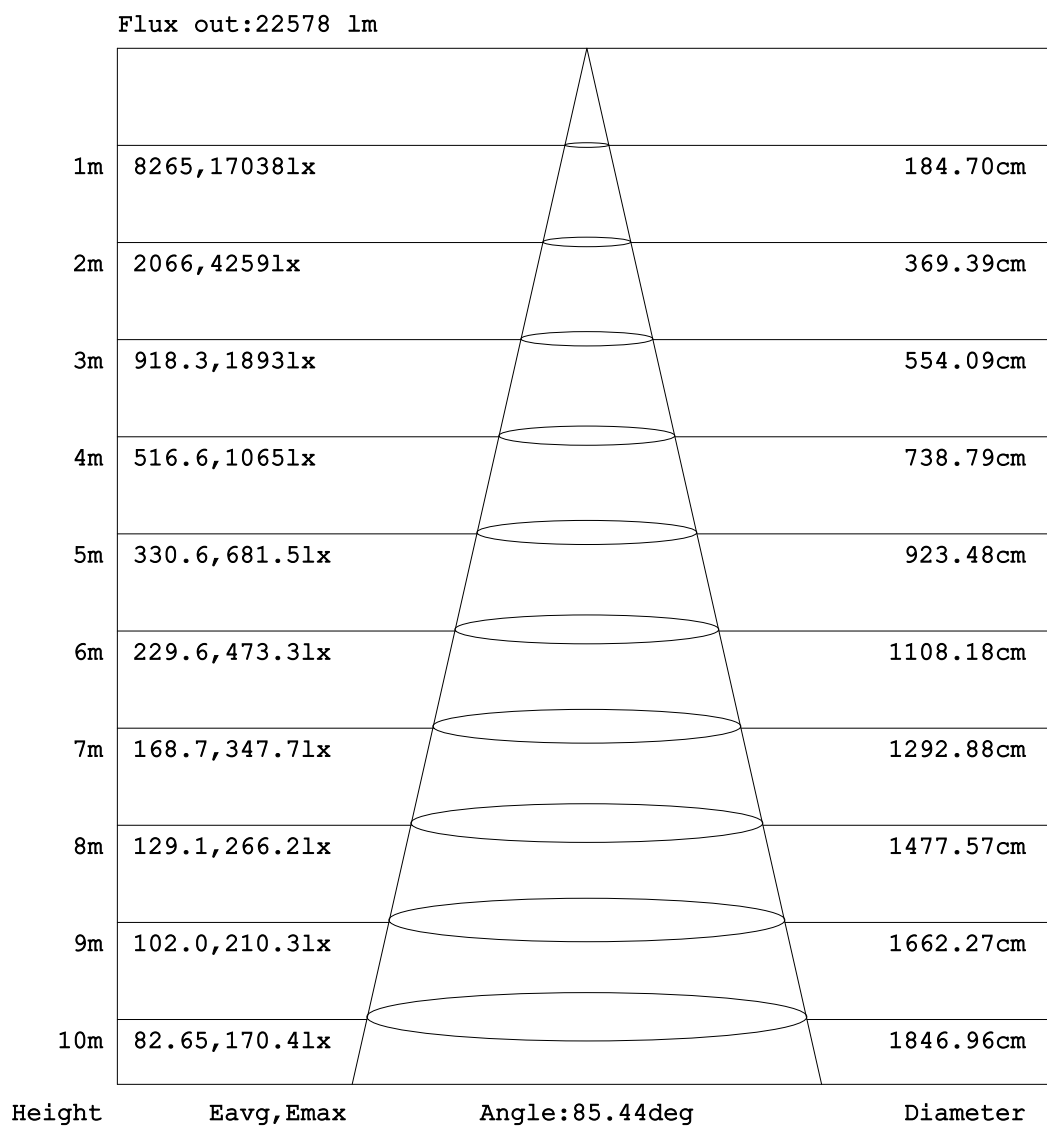


C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-10-06

$\gamma$  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:



## AAI Figure



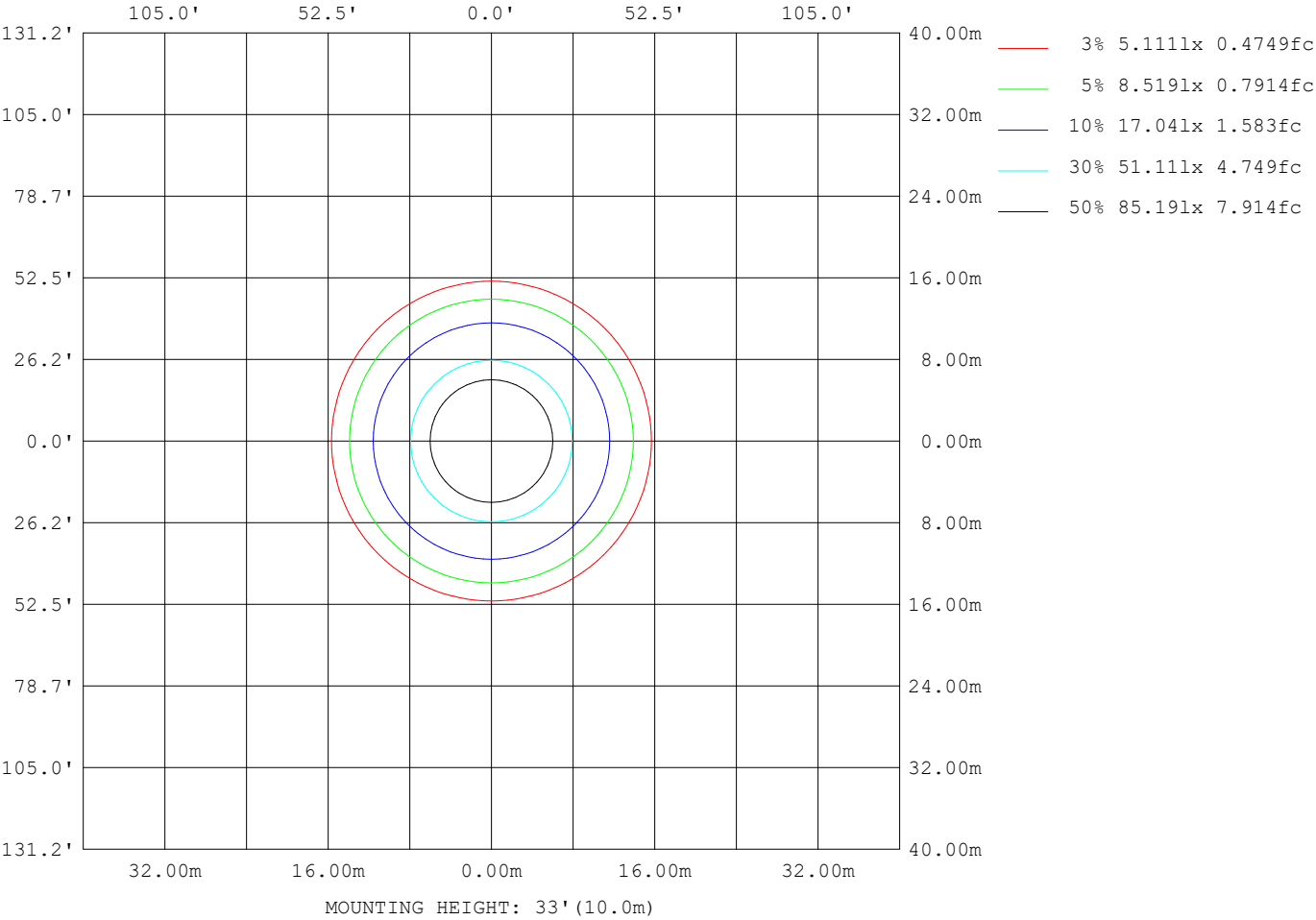
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-10-06

$\gamma$  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

ISOLUX DIAGRAM



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-10-06

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

## LED Avg.L Report

Test:U:230.0V I:0.880A P:200.0W PF:0.988 Freq:50.00Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:32591.6x1 lm		
NAME: HB74-200-5080-H00220	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

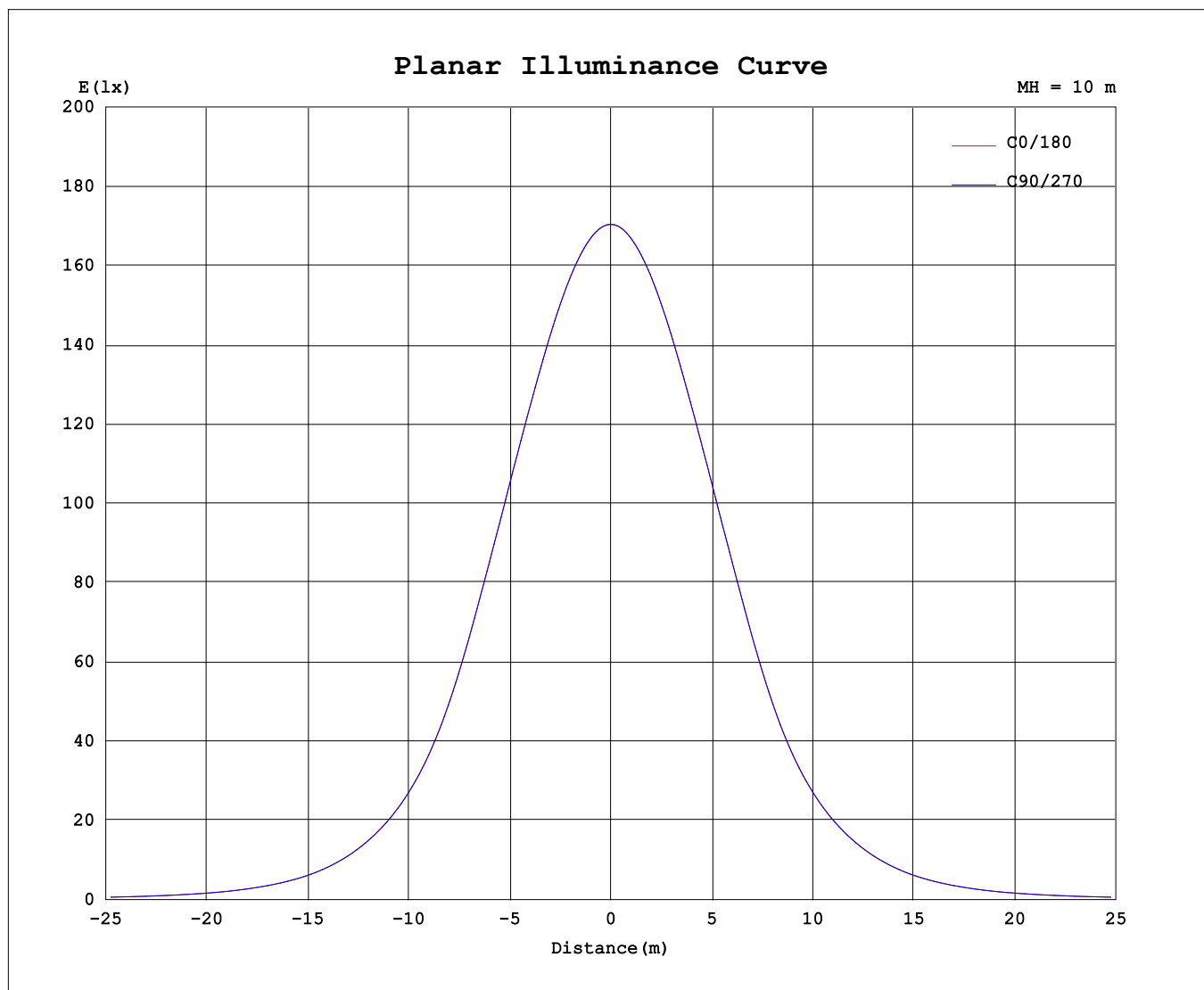
AvgL	cd/m2
L_0~180 (65) av	44198
L_0~180 (75) av	27489
L_0~180 (85) av	17625
L_90~270 (65) av	44198
L_90~270 (75) av	27489
L_90~270 (85) av	17625
L_45 (65) av	44198
L_45 (75) av	27489
L_45 (85) av	17625

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3℃  
Operators:ZZX  
Test Date:2023-10-06

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:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: ZZX  
Test Date: 2023-10-06

$\gamma$  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: 2023-10-06

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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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