

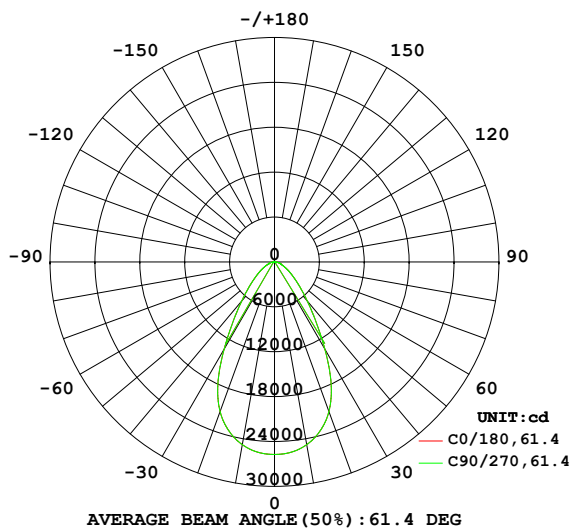
## EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINAIRE PHOTOMETRIC TEST REPORT

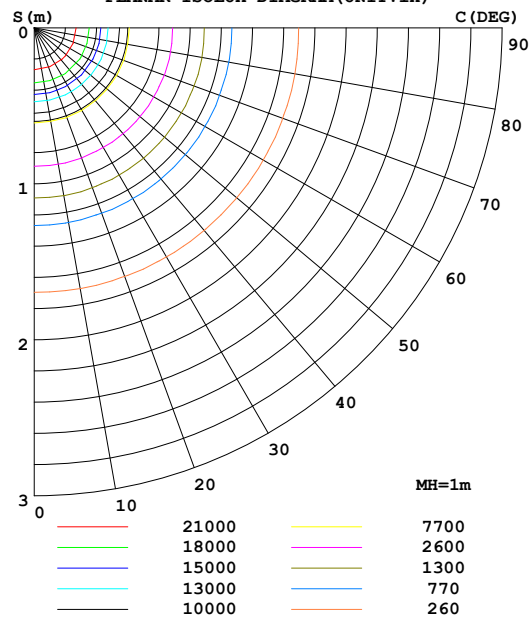
Test:U:230.0V I:0.880A P:200.0W PF:0.988 Freq:50.00Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:31726.2x1 lm		
NAME: HB74-200-5080-H00221	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 158.63 lm/W			
MODEL	/	I <sub>max</sub> (cd)	25731	S/MH (C0/180)	0.92
NOMINAL POWER (W)	/	LOR (%)	100.0	S/MH (C90/270)	0.92
RATED VOLTAGE (V)	/	TOTAL FLUX (lm)	31726	η UP, DN (C0-180)	0.0, 50.0
NOMINAL FLUX (lm)	31726.2	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: ZZK  
Test Date: 2023-09-27

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:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	2480	2480	2480	2480	2480	2480	2480	2480	0- 10	2414	2414	7.61,7.61
20	2127	2127	2127	2127	2127	2127	2127	2127	10- 20	6552	8966	28.3,28.3
30	1347	1347	1347	1347	1347	1347	1347	1347	20- 30	8084	17049	53.7,53.7
40	682.4	682.4	682.4	682.4	682.4	682.4	682.4	682.4	30- 40	6051	23100	72.8,72.8
50	357.0	357.0	357.0	357.0	357.0	357.0	357.0	357.0	40- 50	3842	26942	84.9,84.9
60	191.2	191.2	191.2	191.2	191.2	191.2	191.2	191.2	50- 60	2371	29314	92.4,92.4
70	93.04	93.04	93.04	93.04	93.04	93.04	93.04	93.04	60- 70	1360	30674	96.7,96.7
80	49.53	49.53	49.53	49.53	49.53	49.53	49.53	49.53	70- 80	798.3	31472	99.2,99.2
90	1.816	1.816	1.816	1.816	1.816	1.816	1.816	1.816	80- 90	254.1	31726	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): 25248 lm

%lum = 79.6%

%lamp = 79.6%

Conical surface Flux(130deg): 30100 lm

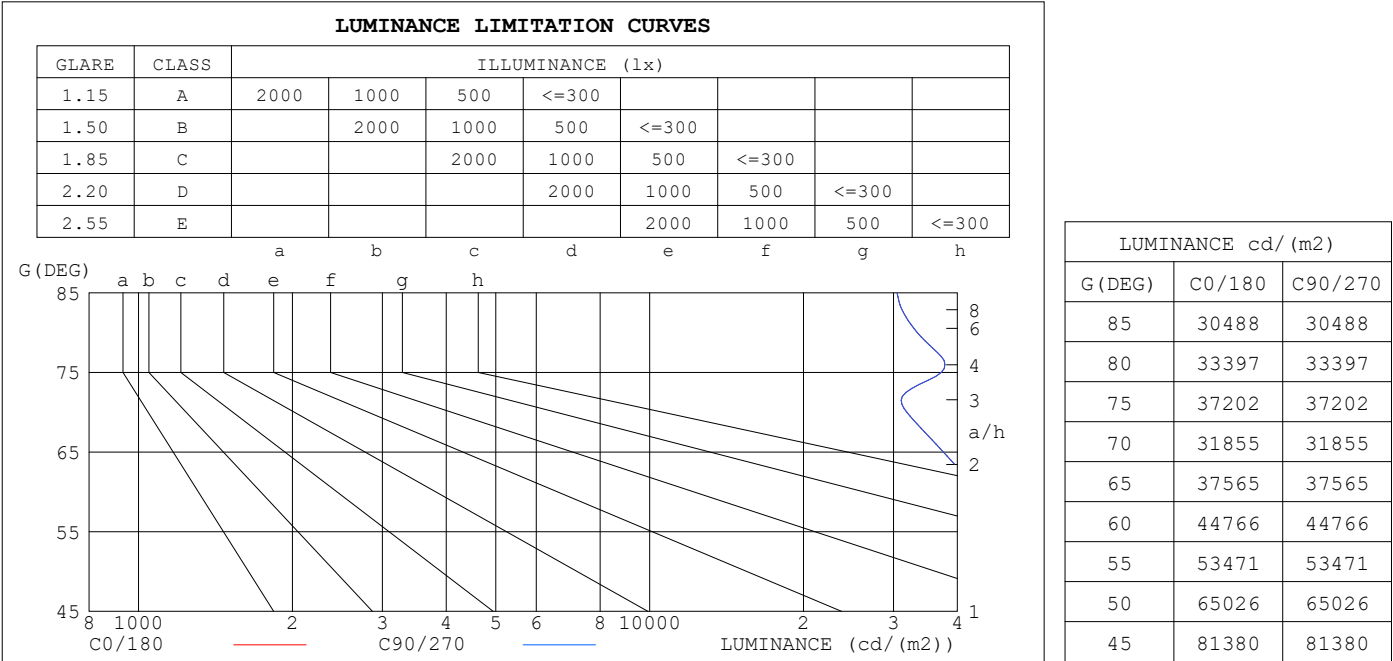
%lum = 94.9%

%lamp = 94.9%

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-09-27

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:

LUMINANCE LIMITATION CURVES



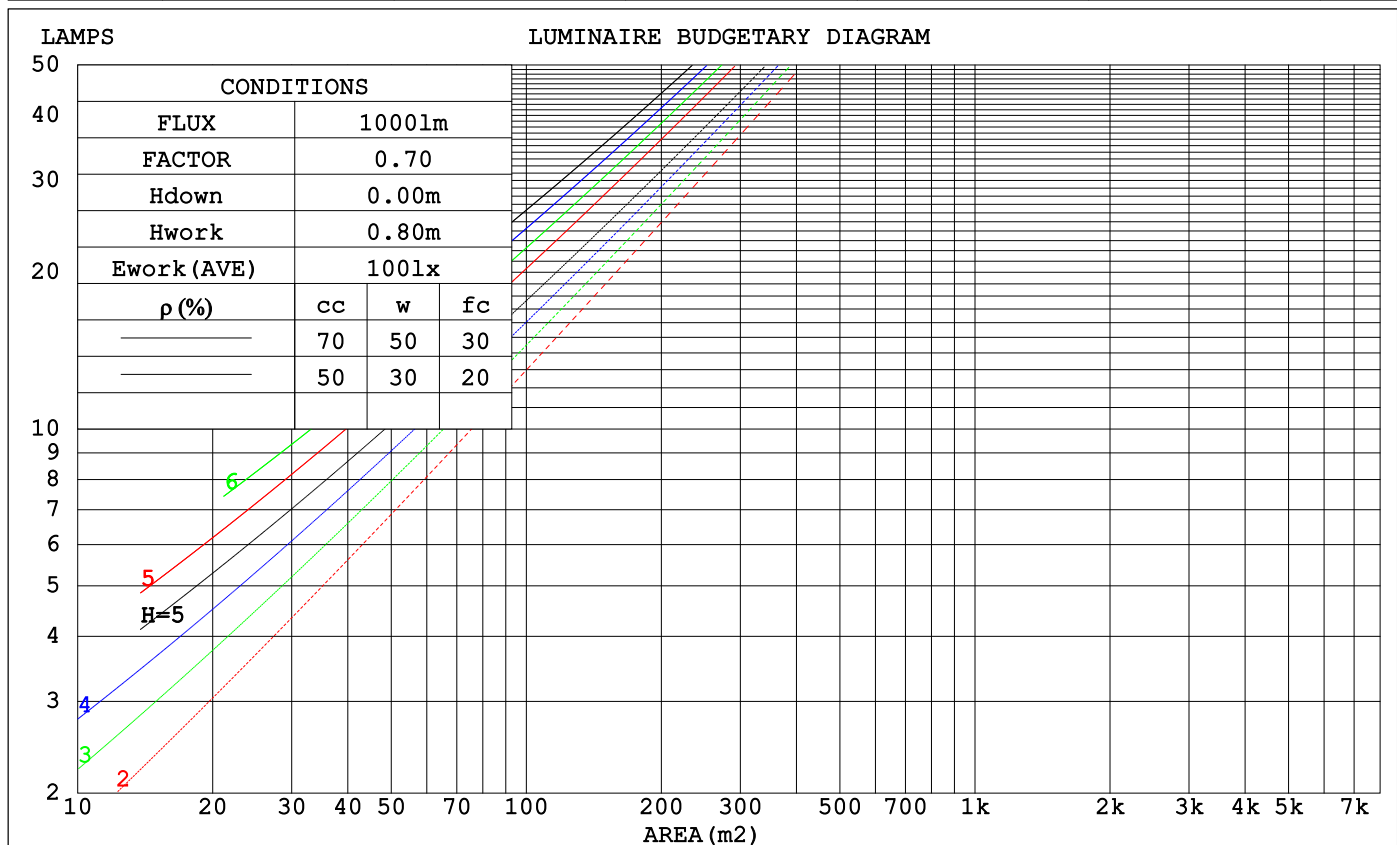
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-09-27

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	1.00	1.02	.99	.97	.98	.96	.94	.95	.93	.92	.90
2.0	.98	.93	.89	.96	.92	.88	.93	.89	.86	.90	.87	.84	.87	.85	.82	.80
3.0	.90	.83	.78	.88	.82	.78	.85	.81	.77	.83	.79	.75	.81	.77	.74	.72
4.0	.82	.75	.70	.81	.75	.70	.79	.73	.69	.77	.72	.68	.75	.71	.67	.65
5.0	.76	.69	.63	.75	.68	.63	.73	.67	.63	.71	.66	.62	.69	.65	.61	.60
6.0	.70	.63	.58	.69	.62	.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	.60	.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  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-09-27

$\gamma$  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	.228	.130	.041	.221	.126	.040	.208	.120	.038	.197	.113	.036	.186	.108	.035		
2.0	.217	.119	.036	.211	.116	.036	.200	.111	.035	.190	.106	.033	.180	.102	.032		
3.0	.204	.109	.033	.199	.107	.032	.189	.103	.031	.180	.099	.030	.172	.095	.030		
4.0	.192	.100	.029	.187	.098	.029	.179	.095	.028	.171	.092	.028	.164	.089	.027		
5.0	.180	.092	.027	.176	.090	.026	.169	.088	.026	.162	.086	.025	.156	.083	.025		
6.0	.170	.085	.024	.166	.084	.024	.160	.082	.024	.154	.080	.023	.148	.078	.023		
7.0	.160	.079	.022	.157	.078	.022	.152	.077	.022	.146	.075	.022	.141	.073	.022		
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	.175	.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	.152	.114	.084	.130	.098	.073	.089	.068	.051	.052	.040	.030	.017	.013	.010	
4.0	.143	.100	.067	.122	.086	.058	.084	.060	.041	.049	.035	.024	.016	.011	.008	
5.0	.135	.089	.055	.116	.077	.048	.080	.054	.034	.046	.031	.020	.015	.010	.007	
6.0	.127	.080	.045	.109	.069	.040	.076	.048	.028	.044	.028	.017	.014	.009	.005	
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°C  
 Operators:ZZX  
 Test Date:2023-09-27

$\gamma$  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	25.4	24.6	25.7	26.1	24.2	25.4	24.6	25.7	26.1
4H	24.8	25.9	25.2	26.2	26.6	24.8	25.9	25.2	26.2	26.6
6H	25.4	26.3	25.8	26.7	27.1	25.4	26.3	25.8	26.7	27.1
8H	25.5	26.4	25.9	26.8	27.2	25.5	26.4	25.9	26.8	27.2
12H	25.6	26.5	26.1	26.9	27.3	25.6	26.5	26.1	26.9	27.3
4H 2H	23.5	24.6	23.9	24.9	25.3	23.5	24.6	23.9	24.9	25.3
3H	24.8	25.6	25.2	26.0	26.4	24.8	25.6	25.2	26.0	26.4
4H	25.6	26.4	26.0	26.8	27.2	25.6	26.4	26.0	26.8	27.2
6H	26.3	26.9	26.7	27.4	27.8	26.3	26.9	26.7	27.4	27.8
8H	26.5	27.1	26.9	27.5	28.0	26.5	27.1	26.9	27.5	28.0
12H	26.6	27.2	27.1	27.7	28.1	26.6	27.2	27.1	27.7	28.1
8H 4H	25.9	26.5	26.3	26.9	27.4	25.9	26.5	26.3	26.9	27.4
6H	26.7	27.2	27.2	27.7	28.2	26.7	27.2	27.2	27.7	28.2
8H	27.0	27.4	27.5	27.9	28.4	27.0	27.4	27.5	27.9	28.4
12H	27.2	27.6	27.7	28.1	28.7	27.2	27.6	27.7	28.1	28.7
12H 4H	25.9	26.4	26.4	26.9	27.4	25.9	26.4	26.4	26.9	27.4
6H	26.7	27.2	27.2	27.6	28.2	26.7	27.2	27.2	27.6	28.2
8H	27.1	27.5	27.6	28.0	28.5	27.1	27.5	27.6	28.0	28.5
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:2023-09-27

$\gamma$  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

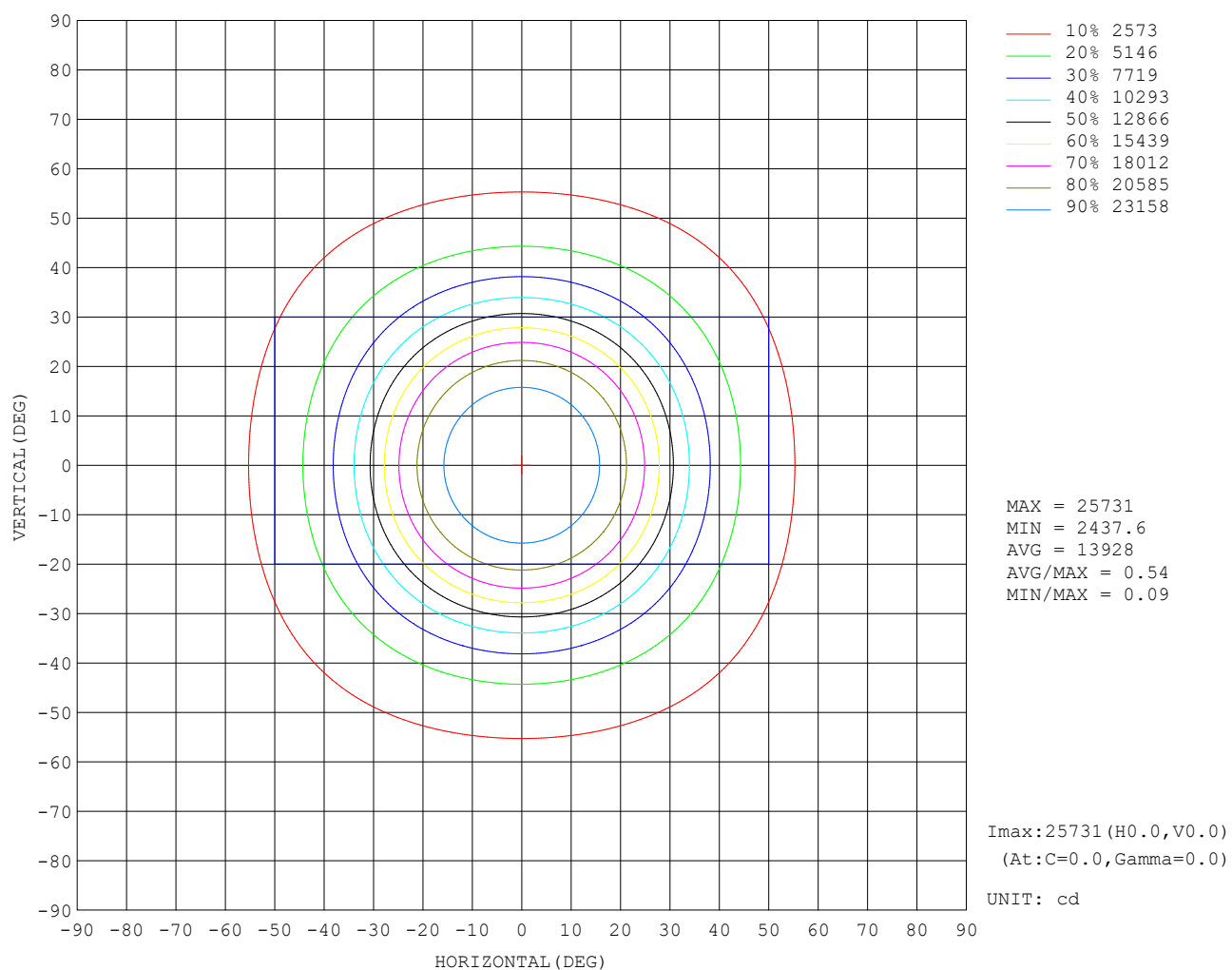
## UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	75	66	61	74	66	61	73	65	61	56
0.80	83	75	70	83	75	70	81	74	69	64
1.00	90	82	77	89	81	77	87	82	76	71
1.25	95	88	83	94	87	83	92	86	82	76
1.50	99	92	87	97	91	87	95	90	86	80
2.00	103	97	93	102	96	92	99	94	91	84
2.50	106	100	96	104	99	95	101	97	93	87
3.00	108	103	99	106	102	98	102	99	96	89
4.00	111	107	104	109	105	102	105	102	100	92
5.00	112	109	106	110	107	105	106	104	102	93
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: 2023-09-27

$\gamma$  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

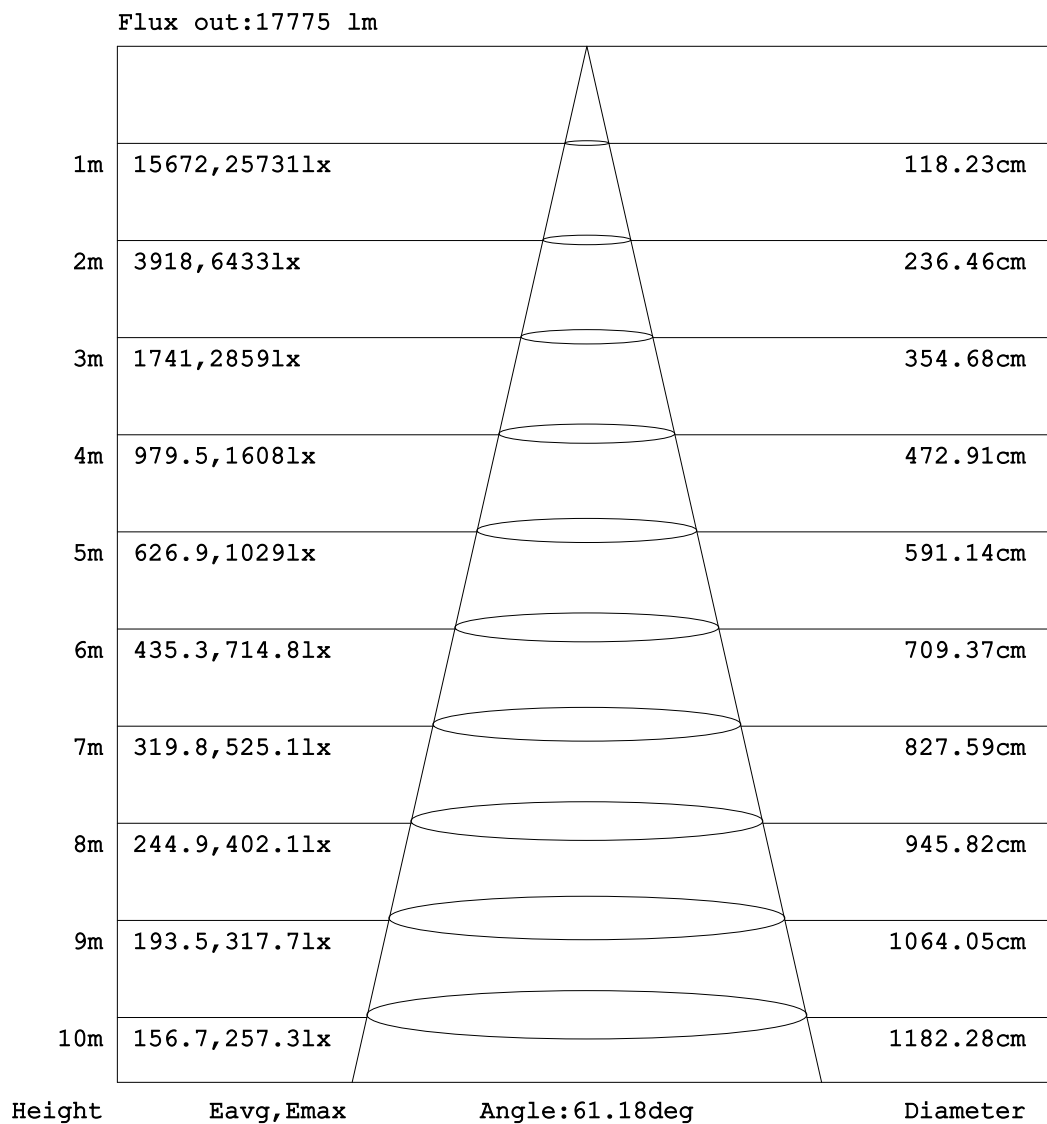


C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-09-27

$\gamma$  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



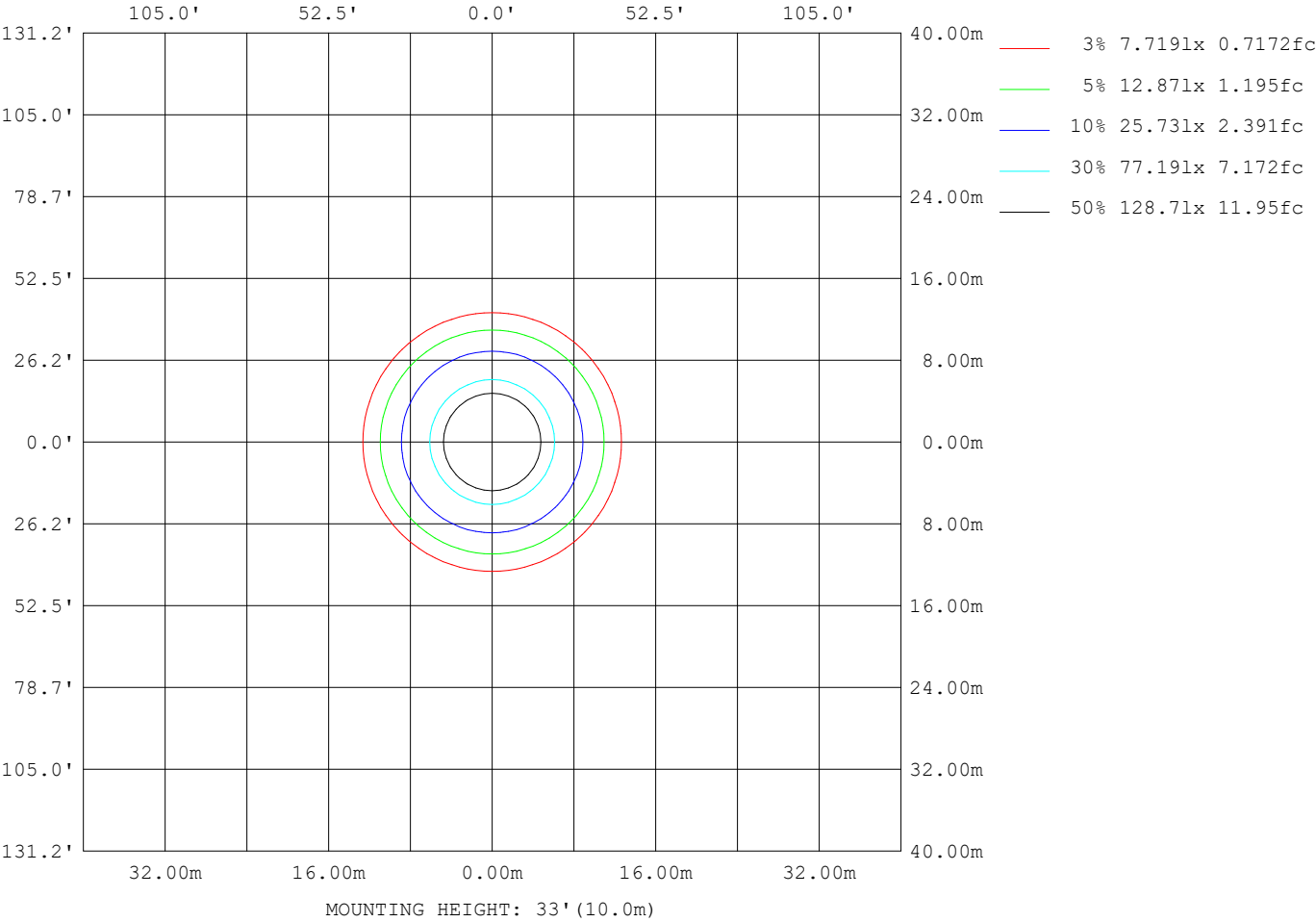
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-09-27

$\gamma$  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:2023-09-27

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:31726.2x1 lm		
NAME: HB74-200-5080-H00221	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

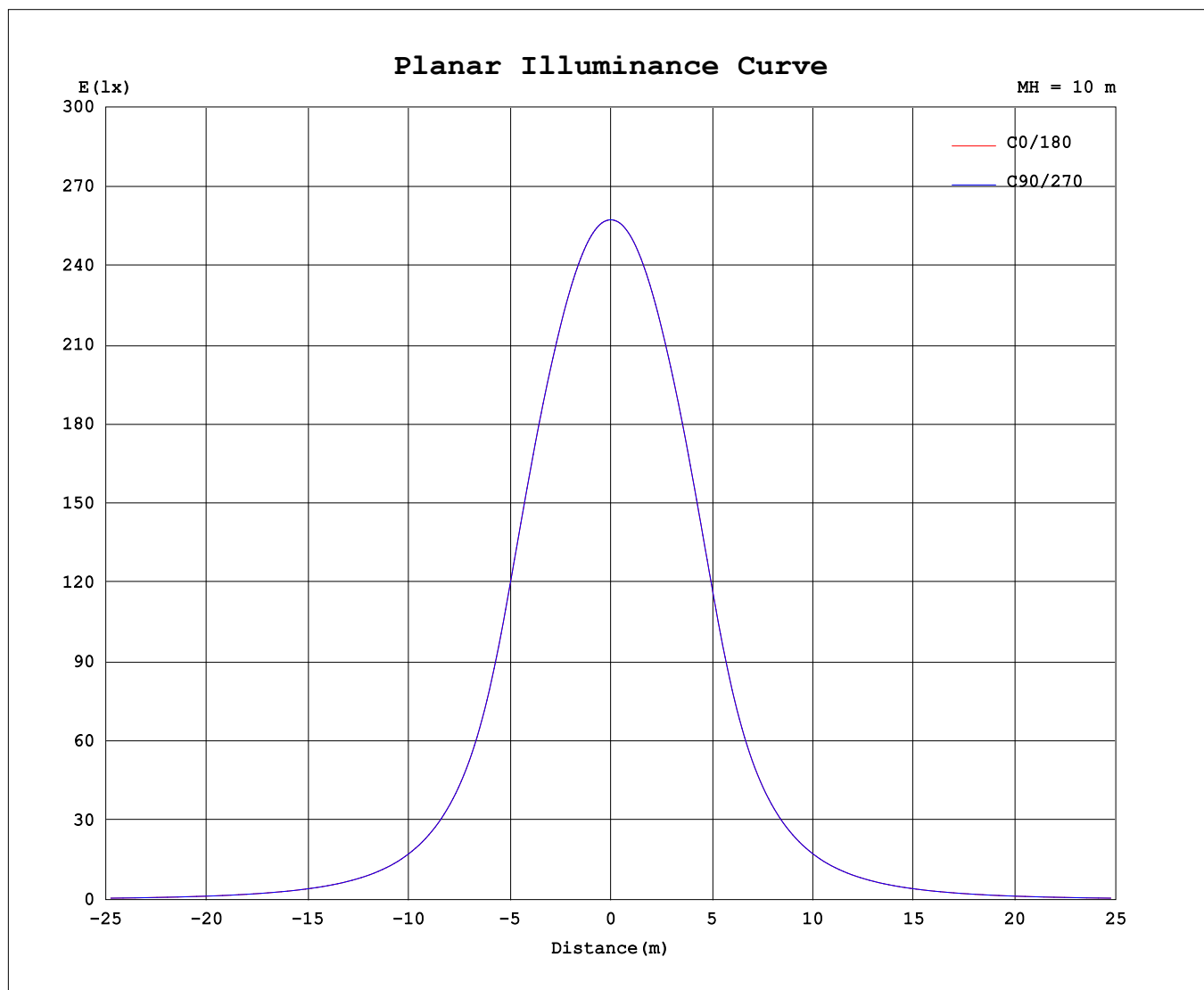
AvgL	cd/m2
L_0~180 (65) av	37565
L_0~180 (75) av	37202
L_0~180 (85) av	30487
L_90~270 (65) av	37565
L_90~270 (75) av	37202
L_90~270 (85) av	30487
L_45 (65) av	37565
L_45 (75) av	37202
L_45 (85) av	30487

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3℃  
Operators:ZZX  
Test Date:2023-09-27

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: 2023-09-27

$\gamma$  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: 2023-09-27

```

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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