

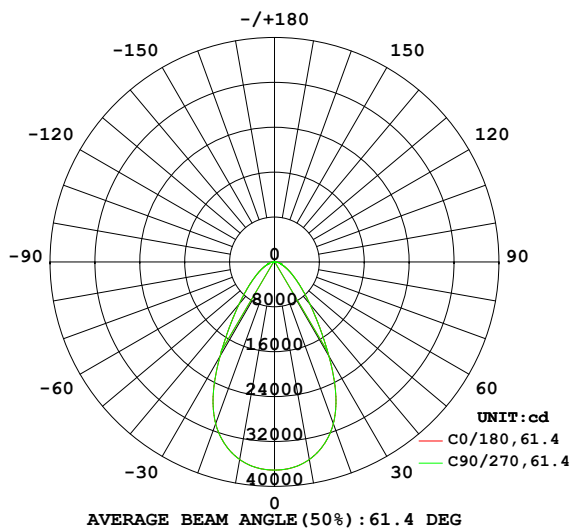
## EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINAIRE PHOTOMETRIC TEST REPORT

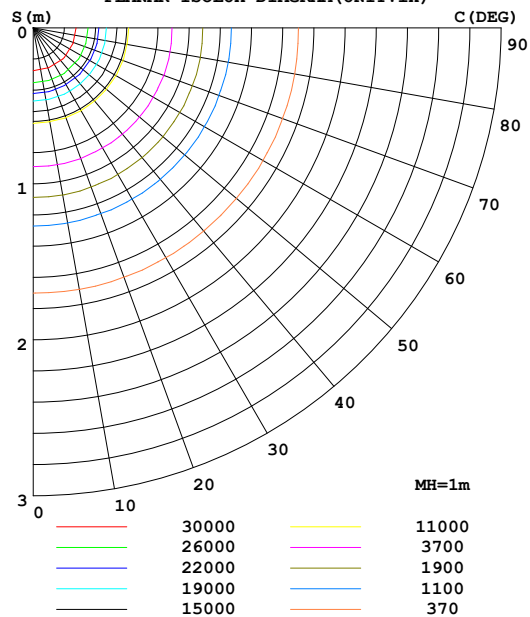
Test:U:230.0V I:1.054A P:240.0W PF:0.990 Freq:50.00Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:45730.8x1 lm		
NAME: HB74-240H-5080-H00221	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 190.55 lm/W			
MODEL	/	I <sub>max</sub> (cd)	37090	S/MH (C0/180)	0.92
NOMINAL POWER (W)	/	LOR (%)	100.0	S/MH (C90/270)	0.92
RATED VOLTAGE (V)	/	TOTAL FLUX (lm)	45731	η UP, DN (C0-180)	0.0, 50.0
NOMINAL FLUX (lm)	45730.8	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: 2023-09-27

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:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	3574	3574	3574	3574	3574	3574	3574	3574	0- 10	3479	3479	7.61,7.61
20	3067	3067	3067	3067	3067	3067	3067	3067	10- 20	9444	12924	28.3,28.3
30	1942	1942	1942	1942	1942	1942	1942	1942	20- 30	11652	24576	53.7,53.7
40	983.7	983.7	983.7	983.7	983.7	983.7	983.7	983.7	30- 40	8721	33297	72.8,72.8
50	514.5	514.5	514.5	514.5	514.5	514.5	514.5	514.5	40- 50	5538	38835	84.9,84.9
60	275.5	275.5	275.5	275.5	275.5	275.5	275.5	275.5	50- 60	3418	42253	92.4,92.4
70	134.1	134.1	134.1	134.1	134.1	134.1	134.1	134.1	60- 70	1960	44214	96.7,96.7
80	71.39	71.39	71.39	71.39	71.39	71.39	71.39	71.39	70- 80	1151	45365	99.2,99.2
90	2.617	2.617	2.617	2.617	2.617	2.617	2.617	2.617	80- 90	366.2	45731	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): 36394 lm

%lum = 79.6%

%lamp = 79.6%

Conical surface Flux(130deg): 43387 lm

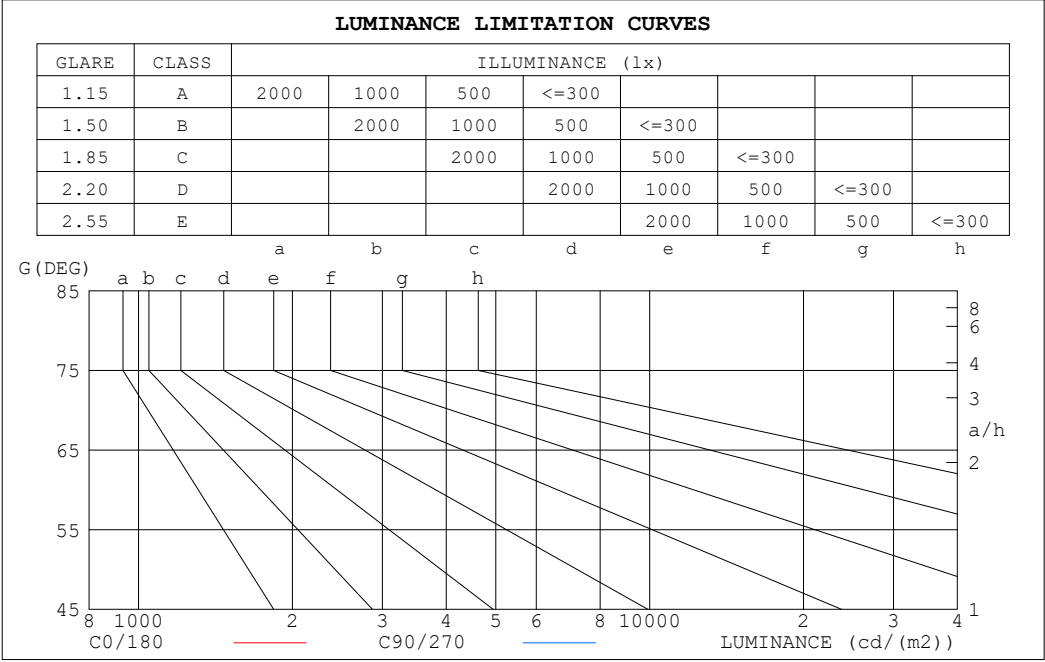
%lum = 94.9%

%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

$\gamma$  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	42647	42647
80	46717	46717
75	52039	52039
70	44559	44559
65	52548	52548
60	62621	62621
55	74797	74797
50	90961	90961
45	113837	113837

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%

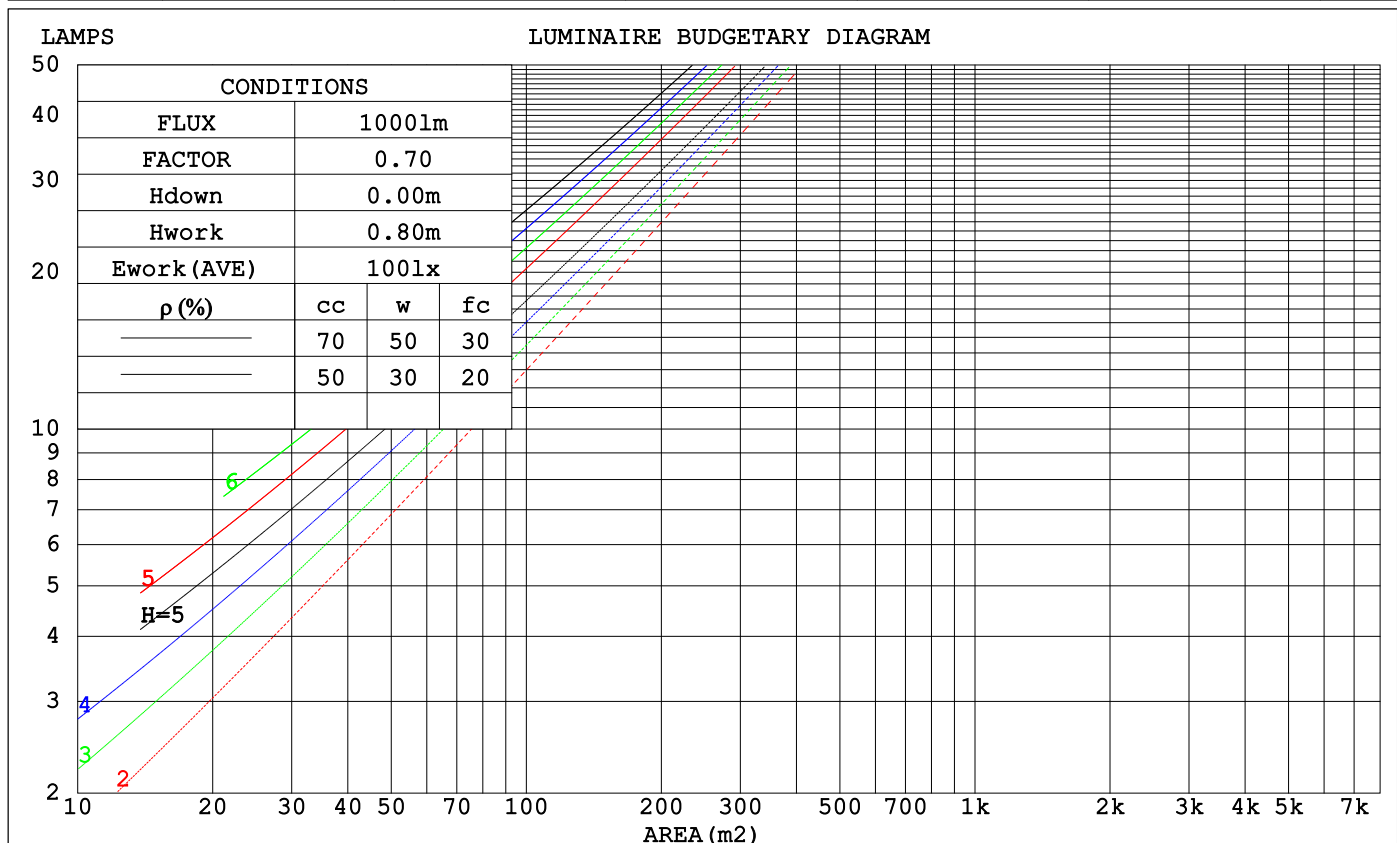
Test Distance:26.000m [K=0.4559]

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  
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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	24.3	25.6	24.7	25.9	26.2	24.3	25.6	24.7	25.9	26.2
3H	25.4	26.5	25.8	26.9	27.2	25.4	26.5	25.8	26.9	27.2
4H	26.0	27.1	26.4	27.4	27.8	26.0	27.1	26.4	27.4	27.8
6H	26.5	27.5	26.9	27.9	28.3	26.5	27.5	26.9	27.9	28.3
8H	26.7	27.6	27.1	28.0	28.4	26.7	27.6	27.1	28.0	28.4
12H	26.8	27.7	27.2	28.0	28.5	26.8	27.7	27.2	28.0	28.5
4H 2H	24.7	25.7	25.1	26.1	26.5	24.7	25.7	25.1	26.1	26.5
3H	25.9	26.8	26.3	27.2	27.6	25.9	26.8	26.3	27.2	27.6
4H	26.8	27.5	27.2	27.9	28.4	26.8	27.5	27.2	27.9	28.4
6H	27.4	28.1	27.9	28.5	29.0	27.4	28.1	27.9	28.5	29.0
8H	27.6	28.3	28.1	28.7	29.2	27.6	28.3	28.1	28.7	29.2
12H	27.8	28.3	28.3	28.8	29.3	27.8	28.3	28.3	28.8	29.3
8H 4H	27.0	27.7	27.5	28.1	28.6	27.0	27.7	27.5	28.1	28.6
6H	27.8	28.3	28.3	28.8	29.3	27.8	28.3	28.3	28.8	29.3
8H	28.1	28.6	28.6	29.1	29.6	28.1	28.6	28.6	29.1	29.6
12H	28.4	28.8	28.9	29.3	29.8	28.4	28.8	28.9	29.3	29.8
12H 4H	27.0	27.6	27.5	28.1	28.6	27.0	27.6	27.5	28.1	28.6
6H	27.9	28.3	28.4	28.8	29.4	27.9	28.3	28.4	28.8	29.4
8H	28.2	28.6	28.7	29.1	29.7	28.2	28.6	28.7	29.1	29.7
CIE190: 2010										

CIE190: 2010  
Area: 0.088 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

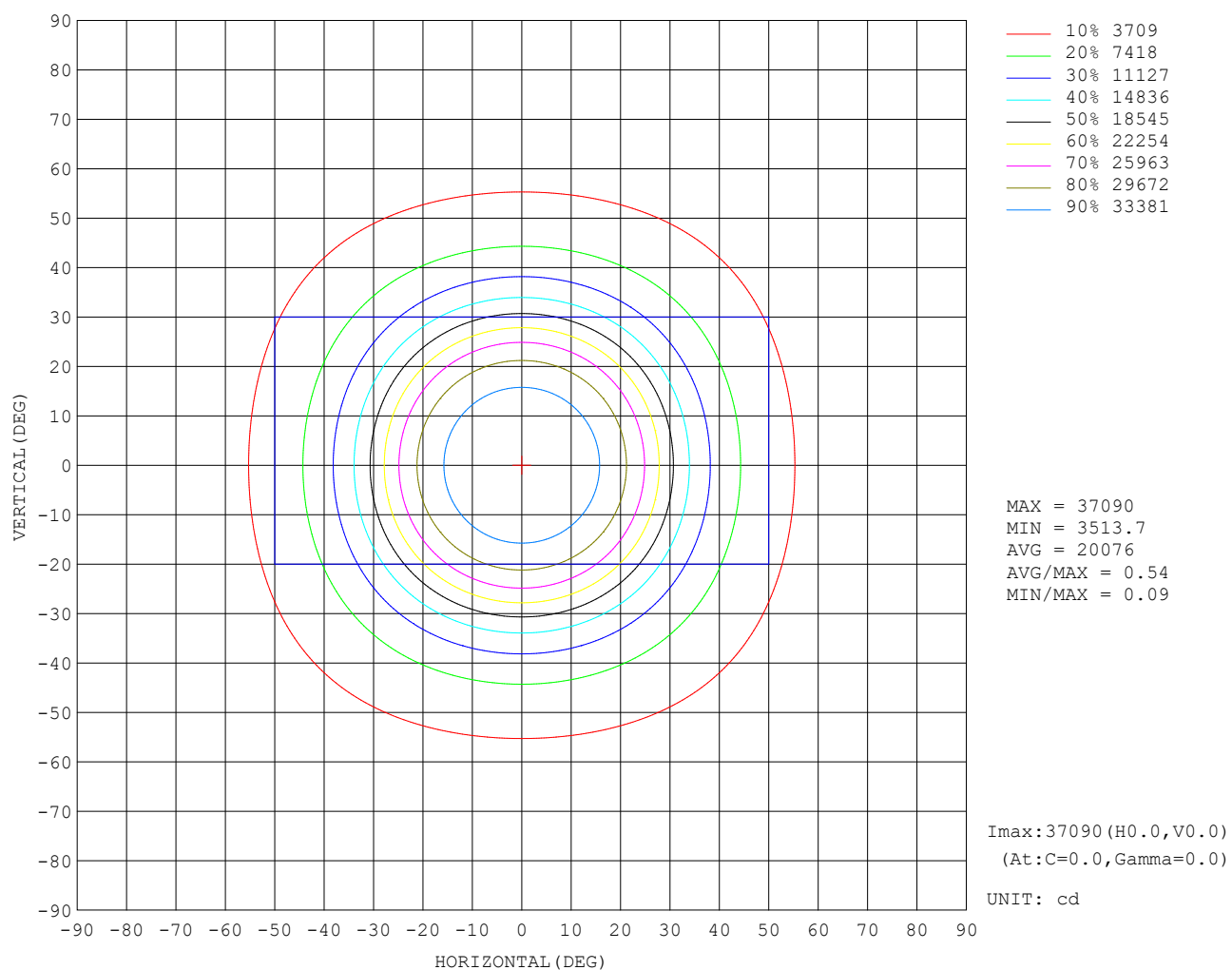
## UTILIZATION FACTORS TABLE

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

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:

## ISOCANDELA DIAGRAM

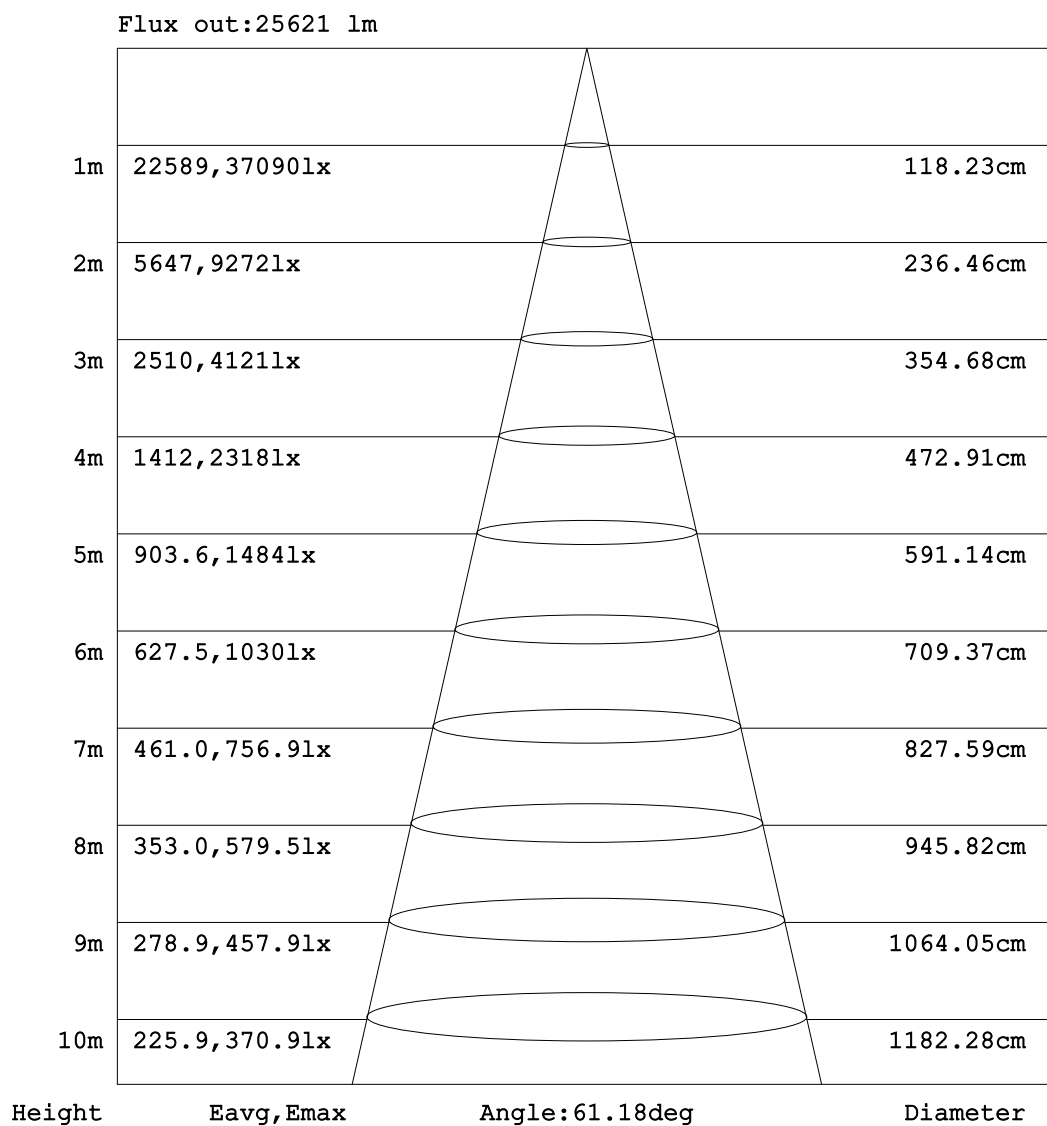


C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: ZZK  
Test Date: 2023-09-27

$\gamma$  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



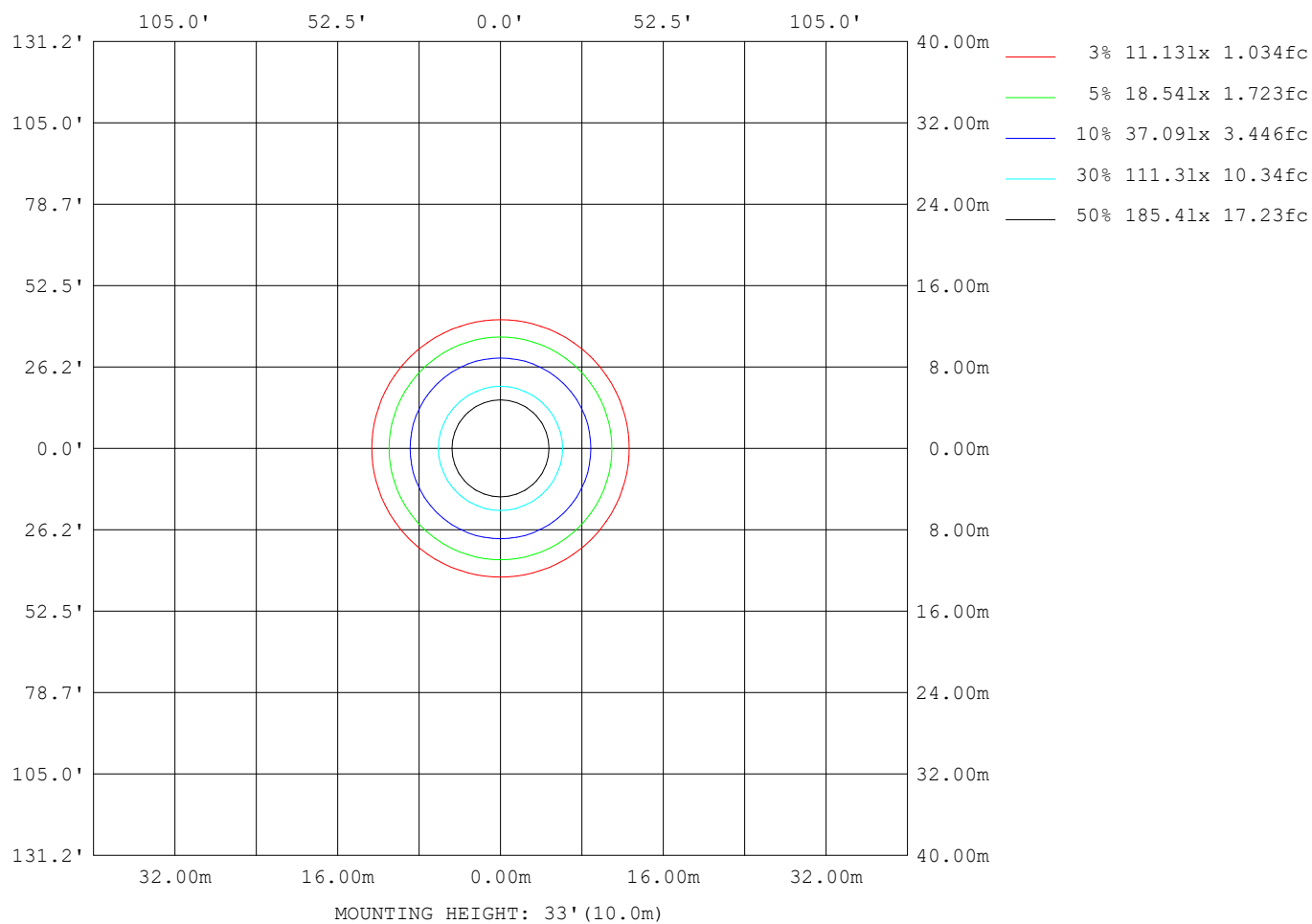
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:1.054A P:240.0W PF:0.990 Freq:50.00Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:45730.8x1 lm		
NAME: HB74-240H-5080-H00221	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

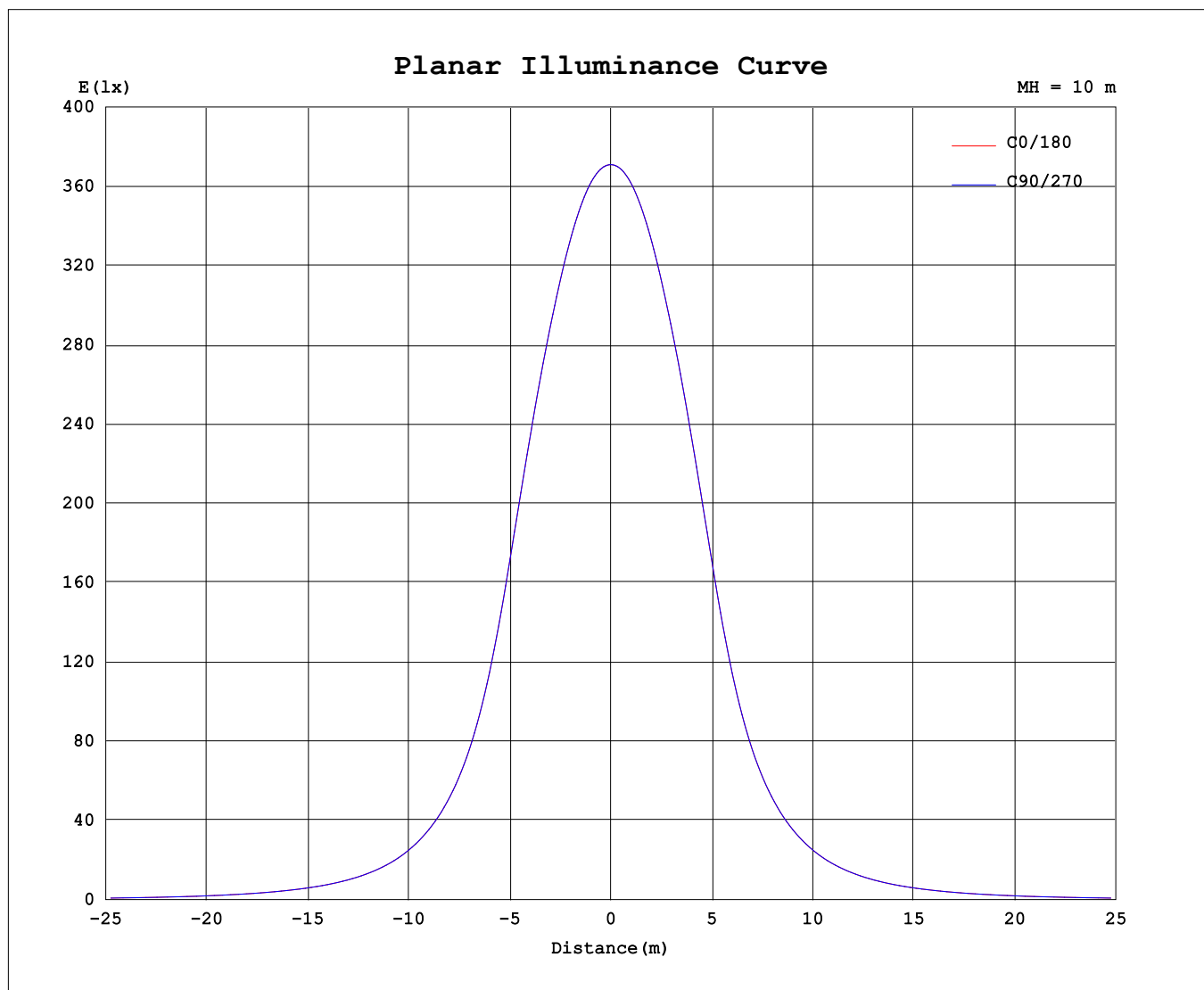
AvgL	cd/m2
L_0~180 (65) av	52548
L_0~180 (75) av	52039
L_0~180 (85) av	42647
L_90~270 (65) av	52548
L_90~270 (75) av	52039
L_90~270 (85) av	42647
L_45 (65) av	52548
L_45 (75) av	52039
L_45 (85) av	42647

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

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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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