

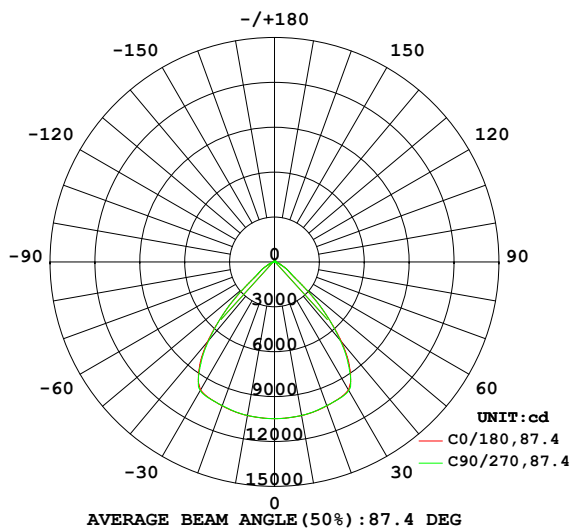
## EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINAIRE PHOTOMETRIC TEST REPORT

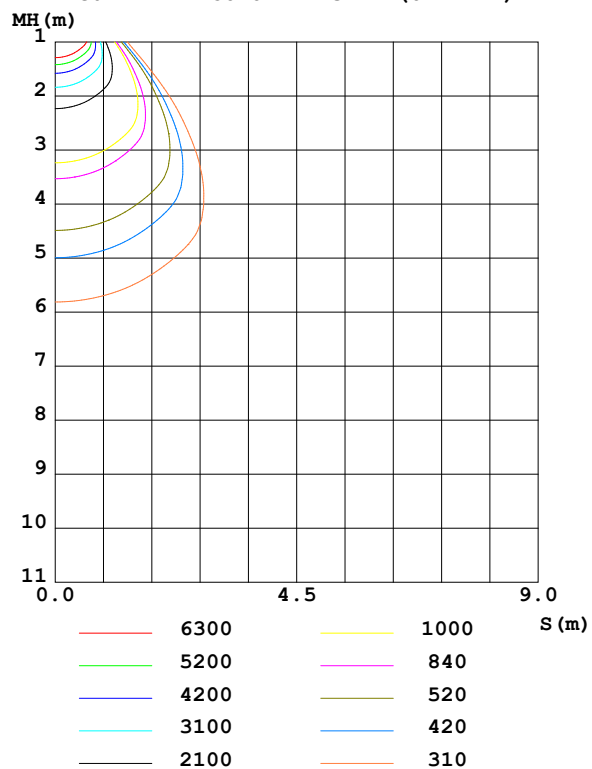
Test:U:230.0V I:0.446A P:99.8W PF:0.973 Freq:50.01Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:19866.1x1 lm		
NAME: HB68-100H-5070-H00195+H00C01A	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 198.98 lm/W			
MODEL	/	Imax (cd)	10476	S/MH (C0/180)	1.26
NOMINAL POWER (W)	/	LOR (%)	100.0	S/MH (C90/270)	1.25
RATED VOLTAGE (V)	/	TOTAL FLUX (lm)	19866	$\eta$ UP, DN (C0-180)	0.5, 49.5
NOMINAL FLUX (lm)	19866.1	CIE CLASS	DIRECT	$\eta$ UP, DN (C180-360)	0.5, 49.5
LAMPS INSIDE	1	$\eta$ up (%)	1.1	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	/	$\eta$ down (%)	98.9	CIBSE SHR MAX	1.30

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: ZZX  
Test Date: 2023-07-17

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.465  
Humidity: 65.0%  
Test Distance: 26.000m [K=0.4556]  
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	1042	1043	1042	1043	1042	1043	1042	1043	0- 10	997.2	997.2	5.02,5.02
20	1023	1024	1022	1024	1023	1024	1022	1024	10- 20	2929	3926	19.8,19.8
30	987.5	992.2	992.2	992.2	987.5	992.2	992.2	992.2	20- 30	4673	8599	43.3,43.3
40	697.4	695.0	681.4	695.0	697.4	695.0	681.4	695.0	30- 40	5408	14007	70.5,70.5
50	240.4	238.6	240.5	238.6	240.4	238.6	240.5	238.6	40- 50	3557	17564	88.4,88.4
60	89.74	88.71	88.88	88.71	89.74	88.71	88.88	88.71	50- 60	1249	18813	94.7,94.7
70	32.67	32.86	32.90	32.86	32.67	32.86	32.90	32.86	60- 70	544.6	19357	97.4,97.4
80	12.23	12.02	11.62	12.02	12.23	12.02	11.62	12.02	70- 80	223.0	19580	98.6,98.6
90	3.603	3.524	3.350	3.524	3.603	3.524	3.350	3.524	80- 90	75.02	19655	98.9,98.9
100	1.907	2.108	2.021	2.108	1.907	2.108	2.021	2.108	90-100	26.71	19682	99.1,99.1
110	2.083	2.178	2.017	2.178	2.083	2.178	2.017	2.178	100-110	20.92	19703	99.2,99.2
120	2.863	3.043	2.770	3.043	2.863	3.043	2.770	3.043	110-120	24.16	19727	99.3,99.3
130	4.002	4.204	4.188	4.204	4.002	4.204	4.188	4.204	120-130	30.82	19758	99.5,99.5
140	4.555	4.649	4.671	4.649	4.555	4.649	4.671	4.649	130-140	34.90	19793	99.6,99.6
150	4.832	4.951	4.982	4.951	4.832	4.951	4.982	4.951	140-150	30.21	19823	99.8,99.8
160	4.731	4.788	4.806	4.788	4.731	4.788	4.806	4.788	150-160	22.65	19846	99.9,99.9
170	5.673	5.686	5.679	5.686	5.673	5.686	5.679	5.686	160-170	14.70	19860	100,100
180	6.121	6.220	6.216	6.220	6.121	6.220	6.216	6.220	170-180	5.717	19866	100,100
DEG	LUMINOUS INTENSITY:X10cd									UNIT:lm		

Conical surface Flux(90deg): 16149 lm

%lum = 81.3%

%lamp = 81.3%

Conical surface Flux(120deg): 18813 lm

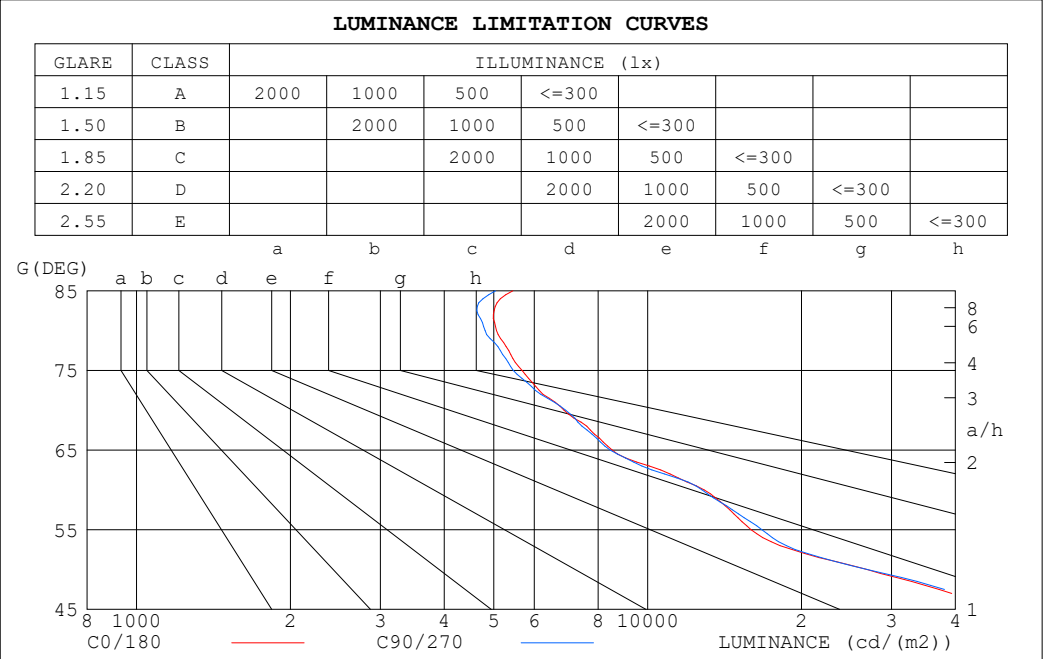
%lum = 94.7%

%lamp = 94.7%

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-07-17

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.465  
Humidity:65.0%  
Test Distance:26.000m [K=0.4556]  
Remarks:

LUMINANCE LIMITATION CURVES



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	5447	5040
80	5062	4808
75	5680	5460
70	6863	6914
65	8526	8448
60	12897	12778
55	15935	16732
50	26876	26898
45	47369	47509

C Range: 0 - 360DEG

C Interval: 22.5DEG

Test Speed: HIGH

Temperature:25.3℃

Operators:ZZX

Test Date:2023-07-17

γ Range: 0 - 180DEG

γ Interval: 0.5DEG

Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.465

Humidity:65.0%

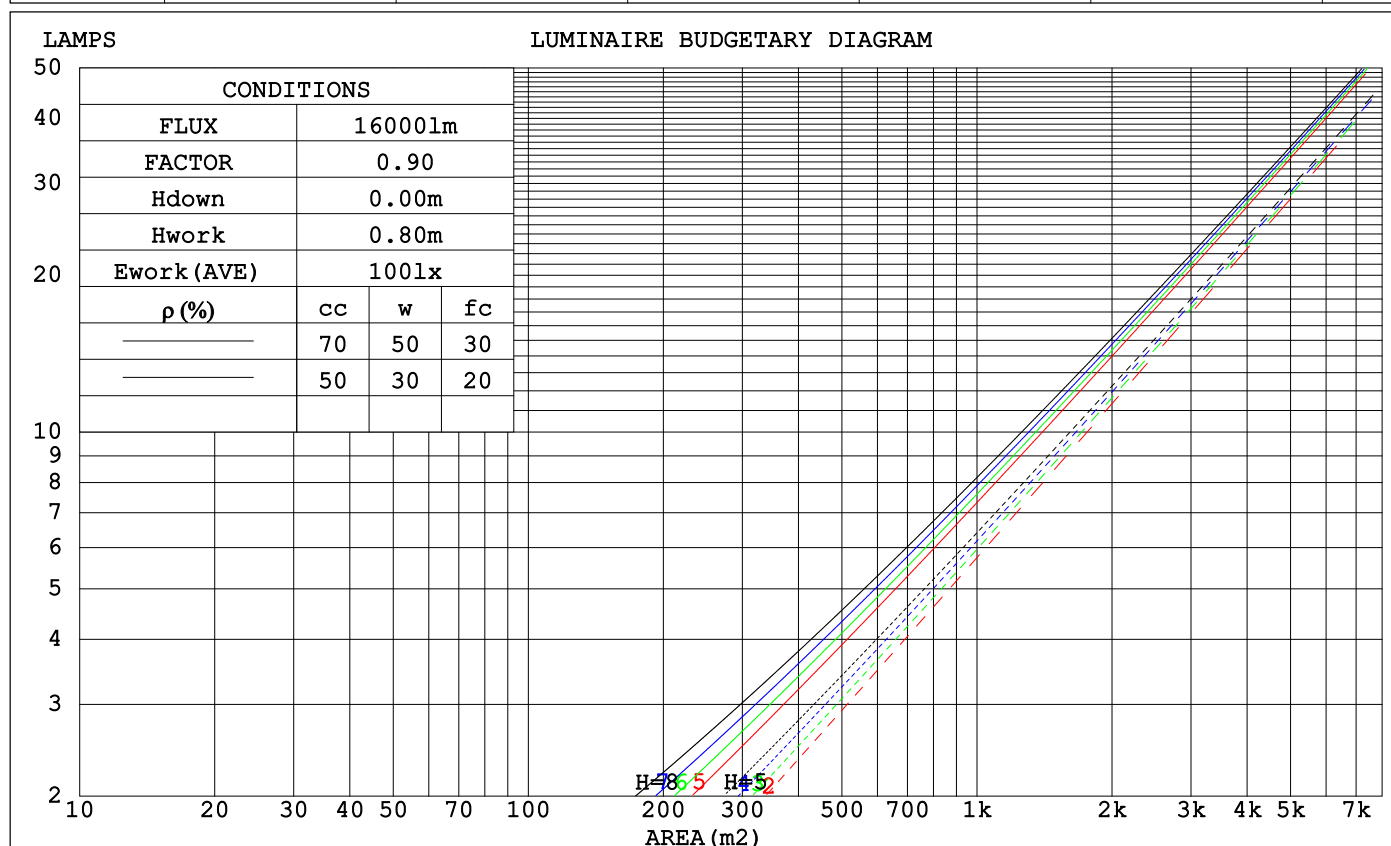
Test Distance:26.000m [K=0.4556]

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	1.01	1.01	1.01	.99
1.0	1.08	1.05	1.02	1.06	1.03	1.01	1.02	.99	.97	.98	.96	.94	.94	.92	.91	.89
2.0	.98	.93	.89	.96	.92	.88	.93	.89	.85	.89	.86	.83	.86	.84	.82	.80
3.0	.89	.83	.78	.88	.82	.77	.85	.80	.76	.82	.78	.74	.79	.76	.73	.71
4.0	.81	.74	.69	.80	.73	.68	.77	.72	.67	.75	.70	.66	.73	.69	.66	.64
5.0	.74	.67	.61	.73	.66	.61	.71	.65	.60	.69	.64	.60	.67	.63	.59	.57
6.0	.68	.61	.55	.67	.60	.55	.65	.59	.54	.64	.58	.54	.62	.57	.53	.52
7.0	.62	.55	.50	.62	.55	.50	.60	.54	.49	.59	.53	.49	.57	.52	.49	.47
8.0	.58	.50	.45	.57	.50	.45	.56	.49	.45	.54	.49	.45	.53	.48	.44	.43
9.0	.53	.46	.41	.53	.46	.41	.52	.45	.41	.51	.45	.41	.50	.44	.41	.39
10.0	.50	.43	.38	.49	.42	.38	.48	.42	.38	.47	.41	.37	.46	.41	.37	.36



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:ZZX  
 Test Date:2023-07-17

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.465  
 Humidity:65.0%  
 Test Distance:26.000m [K=0.4556]  
 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	.223	.127	.040	.216	.123	.039	.202	.116	.037	.190	.110	.035	.179	.104	.033	
2.0	.216	.118	.036	.210	.116	.036	.198	.110	.034	.188	.105	.033	.178	.100	.032	
3.0	.206	.110	.033	.201	.107	.032	.191	.103	.031	.181	.099	.030	.173	.096	.030	
4.0	.196	.102	.030	.191	.100	.030	.182	.097	.029	.174	.093	.028	.166	.090	.027	
5.0	.185	.095	.027	.181	.093	.027	.173	.090	.027	.166	.088	.026	.159	.085	.026	
6.0	.176	.088	.025	.172	.087	.025	.165	.085	.025	.159	.082	.024	.152	.080	.024	
7.0	.167	.083	.023	.164	.082	.023	.157	.080	.023	.151	.078	.023	.146	.076	.022	
8.0	.159	.077	.022	.156	.077	.022	.150	.075	.021	.145	.073	.021	.140	.072	.021	
9.0	.151	.073	.020	.148	.072	.020	.143	.071	.020	.138	.069	.020	.134	.068	.020	
10.0	.144	.069	.019	.141	.068	.019	.137	.067	.019	.132	.066	.019	.128	.064	.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	.199	.199	.199	.170	.170	.170	.116	.116	.116	.067	.067	.067	.021	.021	.021	
1.0	.182	.165	.149	.156	.142	.129	.107	.097	.089	.061	.056	.052	.020	.018	.017	
2.0	.170	.140	.115	.146	.121	.100	.100	.084	.070	.058	.049	.041	.018	.016	.013	
3.0	.160	.122	.092	.138	.105	.079	.094	.073	.056	.055	.043	.033	.018	.014	.011	
4.0	.152	.108	.075	.130	.093	.065	.090	.065	.046	.052	.038	.027	.017	.012	.009	
5.0	.144	.097	.062	.124	.084	.054	.085	.059	.038	.050	.034	.023	.016	.011	.007	
6.0	.138	.088	.053	.118	.077	.046	.082	.054	.033	.047	.032	.019	.015	.010	.006	
7.0	.132	.081	.046	.113	.070	.040	.078	.049	.028	.045	.029	.017	.015	.010	.006	
8.0	.126	.075	.041	.109	.065	.035	.075	.046	.025	.044	.027	.015	.014	.009	.005	
9.0	.121	.070	.036	.104	.061	.032	.072	.043	.022	.042	.025	.013	.014	.008	.004	
10.0	.116	.066	.033	.100	.058	.029	.069	.040	.020	.041	.024	.012	.013	.008	.004	

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3℃  
 Operators:ZZX  
 Test Date:2023-07-17

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.465  
 Humidity:65.0%  
 Test Distance:26.000m [K=0.4556]  
 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	18.0	19.2	18.3	19.6	19.9	18.0	19.3	18.4	19.6	20.0
3H	18.6	19.7	19.0	20.1	20.5	18.6	19.7	19.0	20.1	20.4
4H	18.8	19.8	19.2	20.2	20.6	18.8	19.8	19.2	20.2	20.6
6H	18.9	19.9	19.4	20.3	20.7	18.9	19.8	19.3	20.2	20.6
8H	19.0	19.9	19.4	20.3	20.7	18.9	19.8	19.3	20.2	20.6
12H	19.0	19.8	19.4	20.2	20.7	18.9	19.8	19.4	20.2	20.6
4H 2H	18.1	19.1	18.5	19.5	19.9	18.2	19.2	18.6	19.6	20.0
3H	18.9	19.7	19.3	20.2	20.6	18.9	19.7	19.3	20.1	20.6
4H	19.2	19.9	19.6	20.4	20.8	19.1	19.9	19.6	20.3	20.8
6H	19.4	20.0	19.9	20.5	21.0	19.3	20.0	19.8	20.4	20.9
8H	19.5	20.1	20.0	20.5	21.0	19.4	20.0	19.9	20.4	20.9
12H	19.5	20.1	20.0	20.6	21.1	19.4	19.9	19.9	20.4	20.9
8H 4H	19.2	19.8	19.7	20.3	20.8	19.2	19.7	19.6	20.2	20.7
6H	19.5	20.0	20.0	20.5	21.0	19.4	19.9	19.9	20.4	20.9
8H	19.6	20.0	20.2	20.6	21.1	19.5	20.0	20.1	20.5	21.0
12H	19.7	20.1	20.3	20.6	21.2	19.6	20.0	20.2	20.5	21.1
12H 4H	19.2	19.7	19.7	20.2	20.7	19.1	19.7	19.6	20.2	20.7
6H	19.5	19.9	20.0	20.4	21.0	19.4	19.8	20.0	20.3	20.9
8H	19.6	20.0	20.2	20.5	21.1	19.5	19.9	20.1	20.4	21.0
CIE190: 2010										

CIE190: 2010  
Area: 0.1392 m2

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-07-17

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.465  
Humidity:65.0%  
Test Distance:26.000m [K=0.4556]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

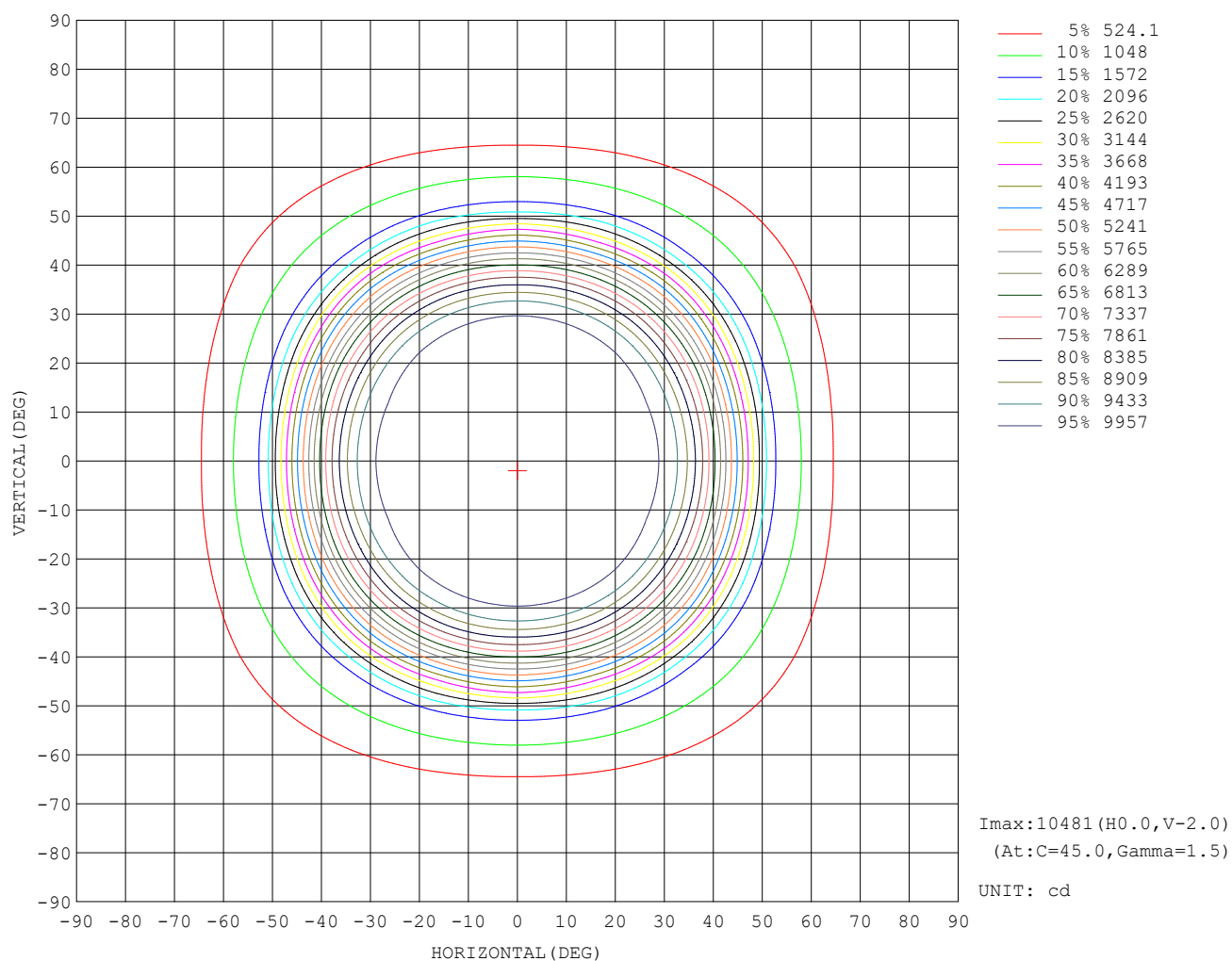
## UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	73	64	59	72	64	59	71	63	58	54
0.80	82	74	68	81	73	68	80	73	68	63
1.00	89	81	76	88	81	76	86	81	75	70
1.25	95	88	83	94	87	82	91	86	82	76
1.50	99	92	87	97	91	87	95	90	86	80
2.00	103	98	93	102	97	93	99	94	91	85
2.50	106	101	97	104	99	96	101	97	94	87
3.00	108	103	100	106	102	99	102	99	96	89
4.00	111	107	104	108	105	102	104	102	99	91
5.00	112	109	106	110	107	105	106	103	101	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  
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 Operators: ZZX  
 Test Date: 2023-07-17

γ Range: 0 - 180DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.465  
 Humidity: 65.0%  
 Test Distance: 26.000m [K=0.4556]  
 Remarks:

# ISOCANDELA DIAGRAM

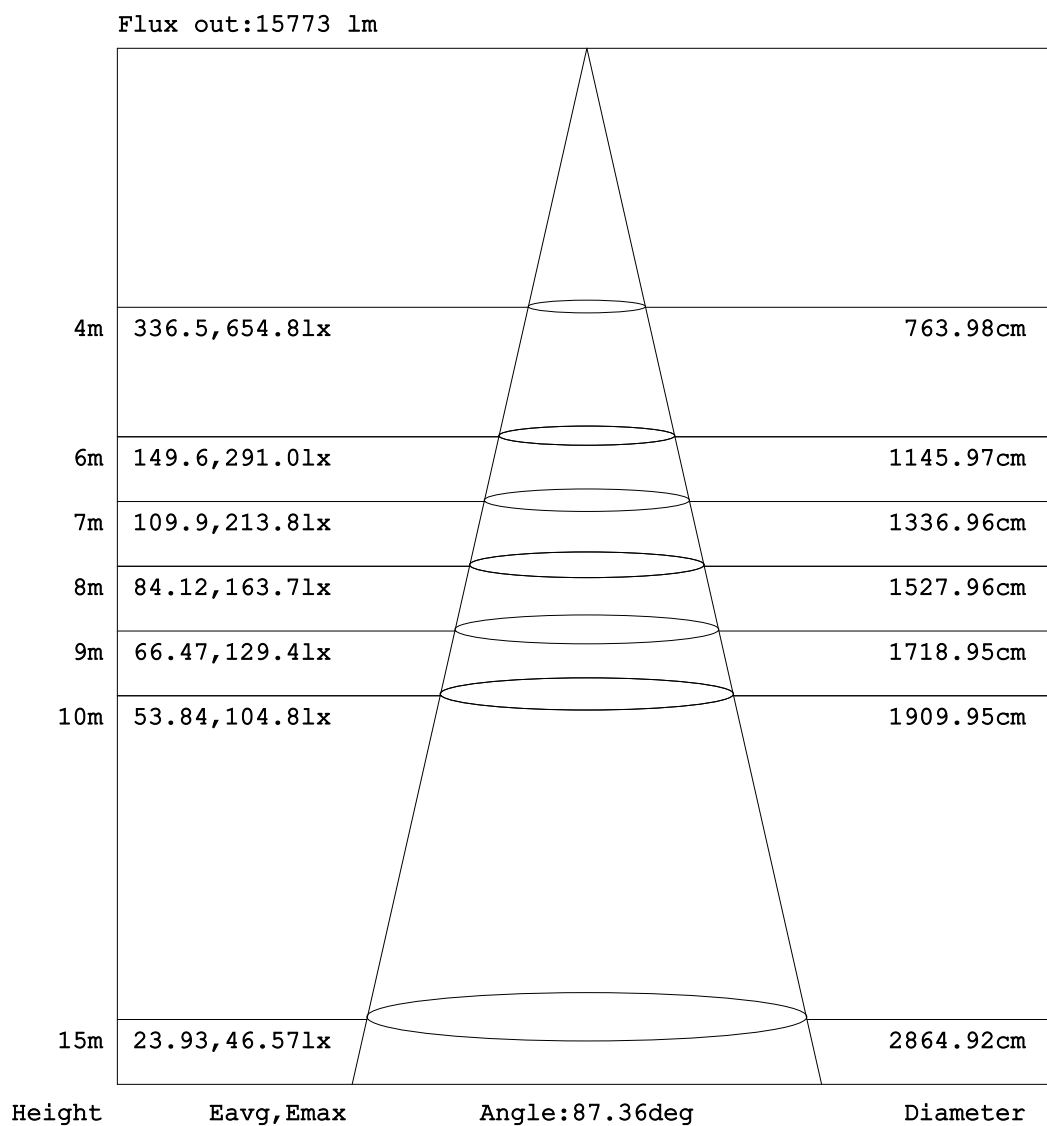


C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:ZZX  
Test Date:2023-07-17

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.465  
Humidity:65.0%  
Test Distance:26.000m [K=0.4556]  
Remarks:



## AAI Figure



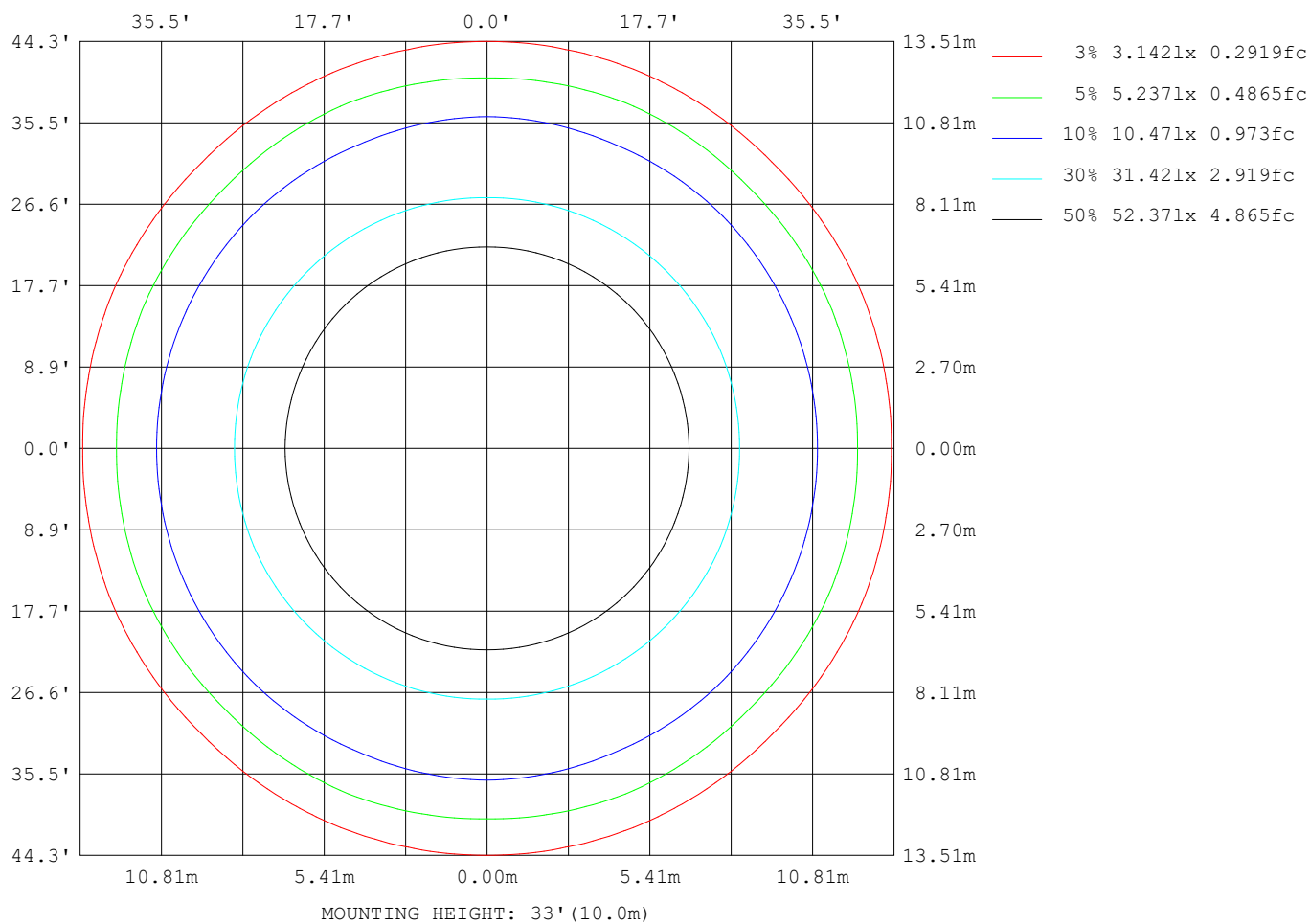
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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C Interval: 22.5DEG  
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Temperature: 25.3°C  
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$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.465  
Humidity: 65.0%  
Test Distance: 26.000m [K=0.4556]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

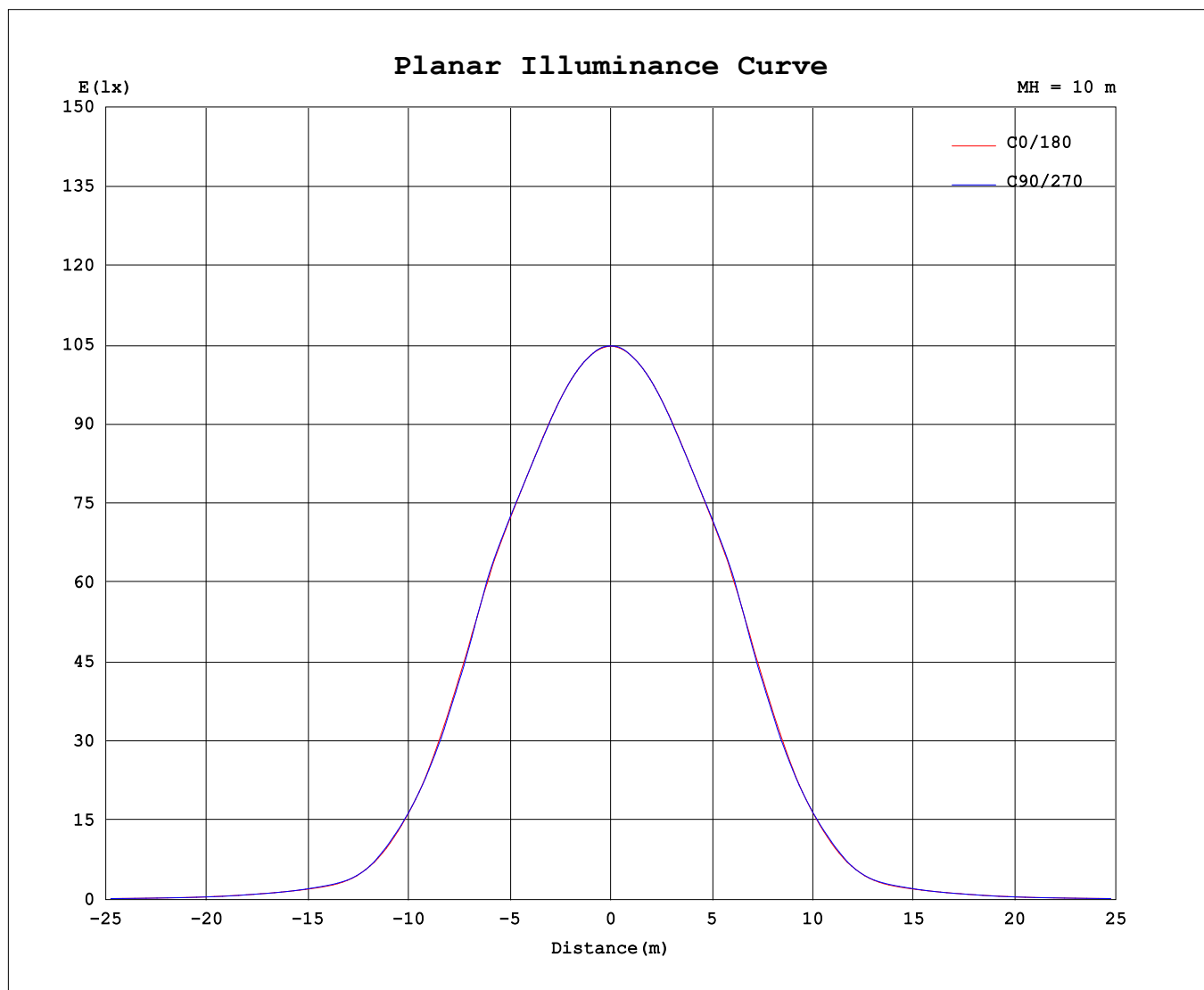
## ISOLUX DIAGRAM



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: ZZX  
Test Date: 2023-07-17

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.465  
Humidity: 65.0%  
Test Distance: 26.000m [K=0.4556]  
Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
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Operators: ZZX  
Test Date: 2023-07-17

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.465  
Humidity: 65.0%  
Test Distance: 26.000m [K=0.4556]  
Remarks: