

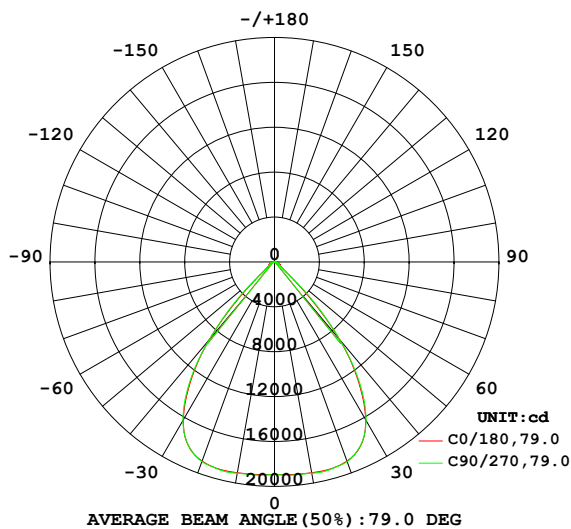
## EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINAIRE PHOTOMETRIC TEST REPORT

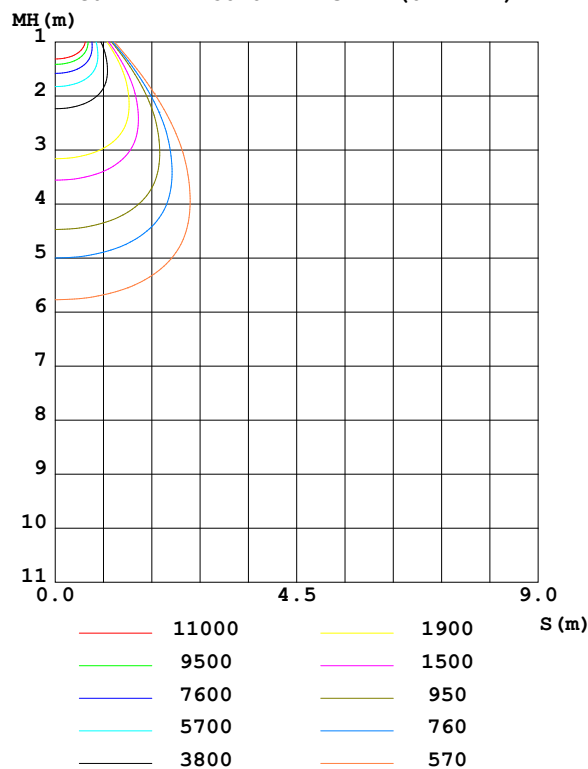
Test:U:230.0V I:0.672A P:150.0W PF:0.971 Freq:50.01Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:28375.7x1 lm		
NAME: LHB09-150H-5070-L03902	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 189.17 lm/W			
MODEL	/	I <sub>max</sub> (cd)	19212	S/MH (C0/180)	1.14
NOMINAL POWER (W)	/	LOR (%)	100.0	S/MH (C90/270)	1.15
RATED VOLTAGE (V)	/	TOTAL FLUX (lm)	28376	η UP,DN (C0-180)	0.0,50.0
NOMINAL FLUX (lm)	28375.7	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0,50.0
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE (V)	/	η down (%)	100.0	CIBSE SHR MAX	1.15

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:LYJ  
Test Date:2023-03-17

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=0.4556]  
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	1907	1910	1912	1910	1907	1910	1912	1910	0- 10	1819	1819	6.41,6.41
20	1888	1902	1893	1902	1888	1902	1893	1902	10- 20	5418	7237	25.5,25.5
30	1624	1648	1632	1648	1624	1648	1632	1648	20- 30	8308	15546	54.8,54.8
40	902.8	884.8	901.5	884.8	902.8	884.8	901.5	884.8	30- 40	8019	23565	83,83
50	110.5	111.8	118.7	111.8	110.5	111.8	118.7	111.8	40- 50	3454	27018	95.2,95.2
60	55.63	46.87	49.49	46.87	55.63	46.87	49.49	46.87	50- 60	606.6	27625	97.4,97.4
70	46.27	26.14	36.71	26.14	46.27	26.14	36.71	26.14	60- 70	391.6	28017	98.7,98.7
80	24.31	16.53	13.43	16.53	24.31	16.53	13.43	16.53	70- 80	267.4	28284	99.7,99.7
90	0.7845	0.3959	0.6730	0.3959	0.7845	0.3959	0.6730	0.3959	80- 90	91.74	28376	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): 26041 lm

%lum = 91.8%

%lamp = 91.8%

Conical surface Flux(120deg): 27625 lm

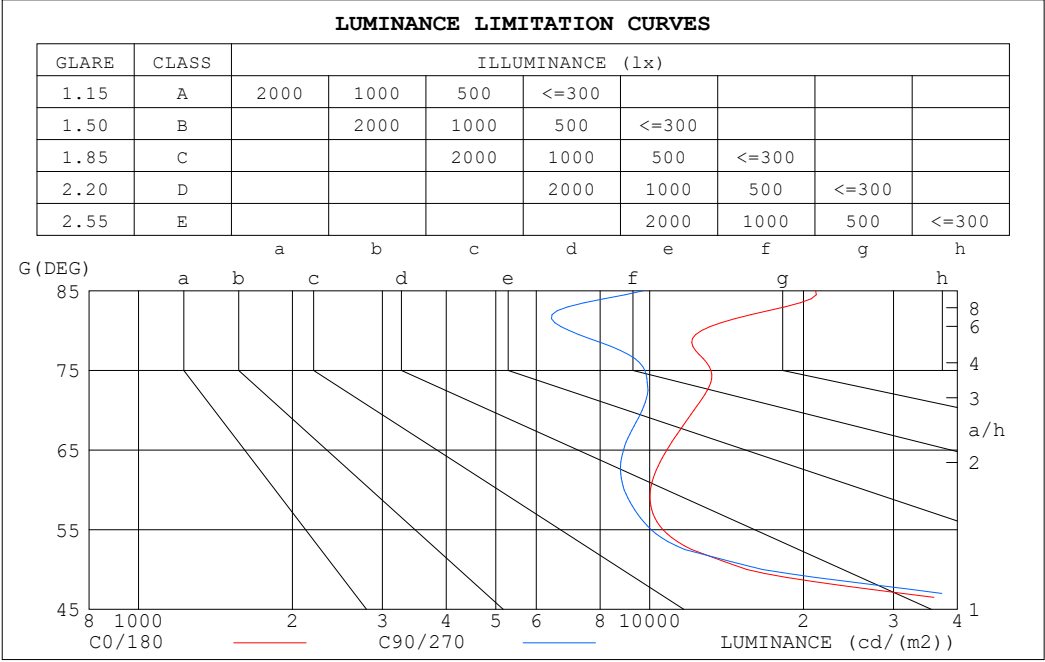
%lum = 97.4%

%lamp = 97.4%

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:LYJ  
Test Date:2023-03-17

$\gamma$  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=0.4556]  
Remarks:

LUMINANCE LIMITATION CURVES



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	21129	9701
80	12628	6965
75	13180	9788
70	12205	9667
65	10805	8893
60	10035	8916
55	10618	10069
50	15501	16637
45	52491	58802

C Range: 0 - 360DEG

C Interval: 15.0DEG

Test Speed: HIGH

Temperature:25.3°C

Operators:LYJ

Test Date:2023-03-17

γ Range: 0 - 90DEG

γ Interval: 0.5DEG

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

Humidity:65.0%

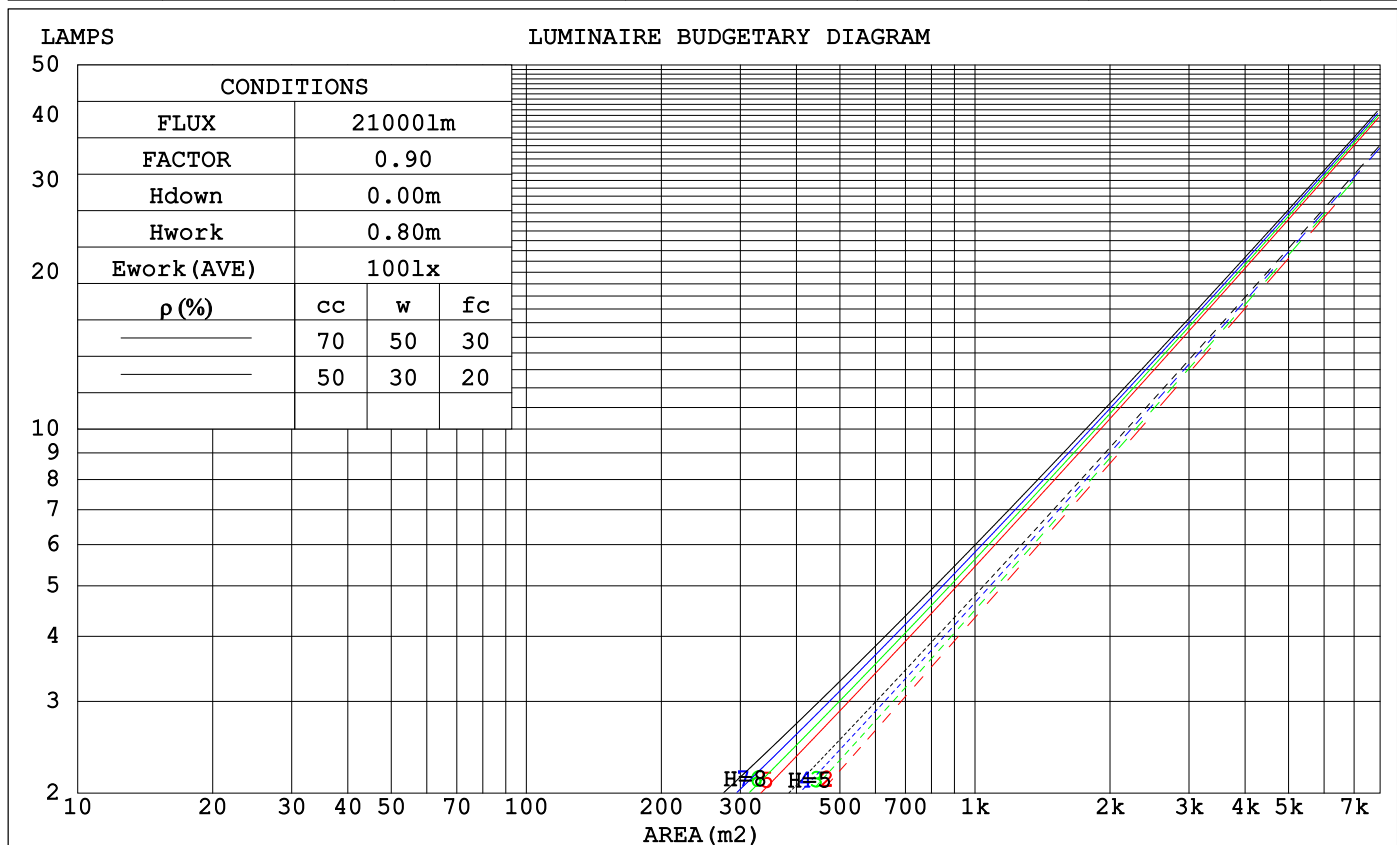
Test Distance:26.000m [K=0.4556]

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	1.02	1.02	1.02	1.00
1.0	1.09	1.07	1.04	1.07	1.05	1.02	1.03	1.01	.99	.99	.98	.96	.96	.95	.93	.92
2.0	1.00	.96	.92	.99	.94	.91	.95	.92	.89	.92	.89	.87	.89	.87	.85	.83
3.0	.92	.87	.82	.91	.86	.81	.88	.84	.80	.86	.82	.79	.83	.80	.78	.76
4.0	.85	.79	.74	.84	.78	.73	.82	.77	.73	.80	.75	.72	.78	.74	.71	.69
5.0	.79	.72	.67	.78	.71	.67	.76	.70	.66	.74	.69	.65	.72	.68	.65	.63
6.0	.73	.66	.61	.72	.66	.61	.70	.65	.60	.69	.64	.60	.67	.63	.60	.58
7.0	.68	.61	.56	.67	.60	.56	.65	.60	.55	.64	.59	.55	.63	.58	.55	.53
8.0	.63	.56	.51	.62	.56	.51	.61	.55	.51	.60	.55	.51	.59	.54	.51	.49
9.0	.59	.52	.47	.58	.52	.47	.57	.51	.47	.56	.51	.47	.55	.50	.47	.45
10.0	.55	.48	.44	.54	.48	.44	.53	.48	.44	.53	.47	.44	.52	.47	.43	.42



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:LYJ  
 Test Date:2023-03-17

$\gamma$  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=0.4556]  
 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	.204	.116	.037	.197	.113	.036	.185	.106	.034	.173	.100	.032	.162	.094	.030	
2.0	.196	.108	.033	.190	.105	.032	.180	.100	.031	.170	.095	.030	.160	.091	.029	
3.0	.187	.100	.030	.182	.098	.029	.173	.094	.028	.164	.090	.028	.156	.086	.027	
4.0	.178	.092	.027	.174	.091	.027	.165	.088	.026	.158	.085	.026	.151	.082	.025	
5.0	.169	.086	.025	.166	.085	.025	.158	.082	.024	.152	.080	.024	.145	.078	.023	
6.0	.161	.081	.023	.158	.080	.023	.152	.078	.023	.146	.076	.022	.140	.074	.022	
7.0	.154	.076	.022	.151	.075	.021	.145	.073	.021	.140	.072	.021	.135	.070	.021	
8.0	.147	.072	.020	.144	.071	.020	.139	.069	.020	.134	.068	.020	.130	.067	.019	
9.0	.140	.068	.019	.138	.067	.019	.133	.066	.019	.129	.065	.018	.125	.063	.018	
10.0	.134	.064	.018	.132	.064	.018	.128	.063	.018	.124	.061	.017	.120	.060	.017	

$\rho_{cc}$	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	.173	.157	.143	.148	.135	.123	.101	.093	.085	.058	.054	.049	.019	.017	.016	
2.0	.160	.132	.110	.137	.114	.095	.094	.079	.066	.054	.046	.039	.017	.015	.013	
3.0	.149	.114	.086	.127	.098	.075	.087	.068	.052	.050	.040	.031	.016	.013	.010	
4.0	.139	.099	.069	.120	.086	.060	.082	.060	.042	.048	.035	.025	.015	.011	.008	
5.0	.131	.088	.056	.113	.076	.049	.078	.053	.035	.045	.031	.020	.015	.010	.007	
6.0	.124	.079	.047	.107	.069	.041	.074	.048	.029	.043	.028	.017	.014	.009	.006	
7.0	.118	.072	.039	.102	.062	.034	.070	.044	.024	.041	.026	.014	.013	.008	.005	
8.0	.113	.066	.034	.097	.057	.029	.067	.040	.021	.039	.024	.012	.013	.008	.004	
9.0	.108	.061	.029	.093	.053	.025	.064	.037	.018	.037	.022	.011	.012	.007	.004	
10.0	.103	.057	.026	.089	.049	.022	.062	.035	.016	.036	.020	.009	.012	.007	.003	

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:LYJ  
 Test Date:2023-03-17

$\gamma$  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=0.4556]  
 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	13.1	14.2	13.5	14.6	14.9	13.0	14.2	13.4	14.5	14.8
3H	15.6	16.6	16.0	16.9	17.3	14.9	15.9	15.3	16.2	16.6
4H	16.8	17.7	17.2	18.1	18.5	15.8	16.7	16.2	17.1	17.5
6H	17.7	18.5	18.1	18.9	19.3	16.4	17.2	16.8	17.6	18.0
8H	18.1	18.9	18.5	19.3	19.7	16.5	17.3	16.9	17.6	18.1
12H	18.6	19.4	19.1	19.8	20.2	16.6	17.4	17.1	17.8	18.2
4H 2H	13.5	14.4	13.9	14.8	15.2	13.4	14.3	13.8	14.7	15.1
3H	16.0	16.8	16.4	17.2	17.6	15.5	16.2	15.9	16.6	17.0
4H	17.3	18.0	17.8	18.4	18.9	16.5	17.2	16.9	17.6	18.0
6H	18.4	18.9	18.8	19.4	19.8	17.2	17.7	17.6	18.2	18.7
8H	18.9	19.4	19.3	19.8	20.3	17.3	17.9	17.8	18.3	18.8
12H	19.5	19.9	20.0	20.4	20.9	17.5	18.0	18.0	18.5	18.9
8H 4H	17.5	18.0	18.0	18.5	19.0	16.8	17.3	17.2	17.7	18.2
6H	18.7	19.1	19.2	19.6	20.1	17.6	18.0	18.1	18.5	19.0
8H	19.2	19.6	19.8	20.1	20.6	17.8	18.2	18.4	18.7	19.2
12H	19.9	20.3	20.4	20.8	21.3	18.1	18.4	18.6	18.9	19.5
12H 4H	17.5	18.0	18.0	18.5	18.9	16.8	17.3	17.3	17.7	18.2
6H	18.7	19.1	19.2	19.5	20.1	17.7	18.1	18.2	18.5	19.1
8H	19.3	19.6	19.8	20.1	20.7	18.0	18.3	18.5	18.8	19.4
CIE190: 2010										

CIE190: 2010  
Area: 0.111 m2

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3℃  
Operators:LYJ  
Test Date:2023-03-17

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=0.4556]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

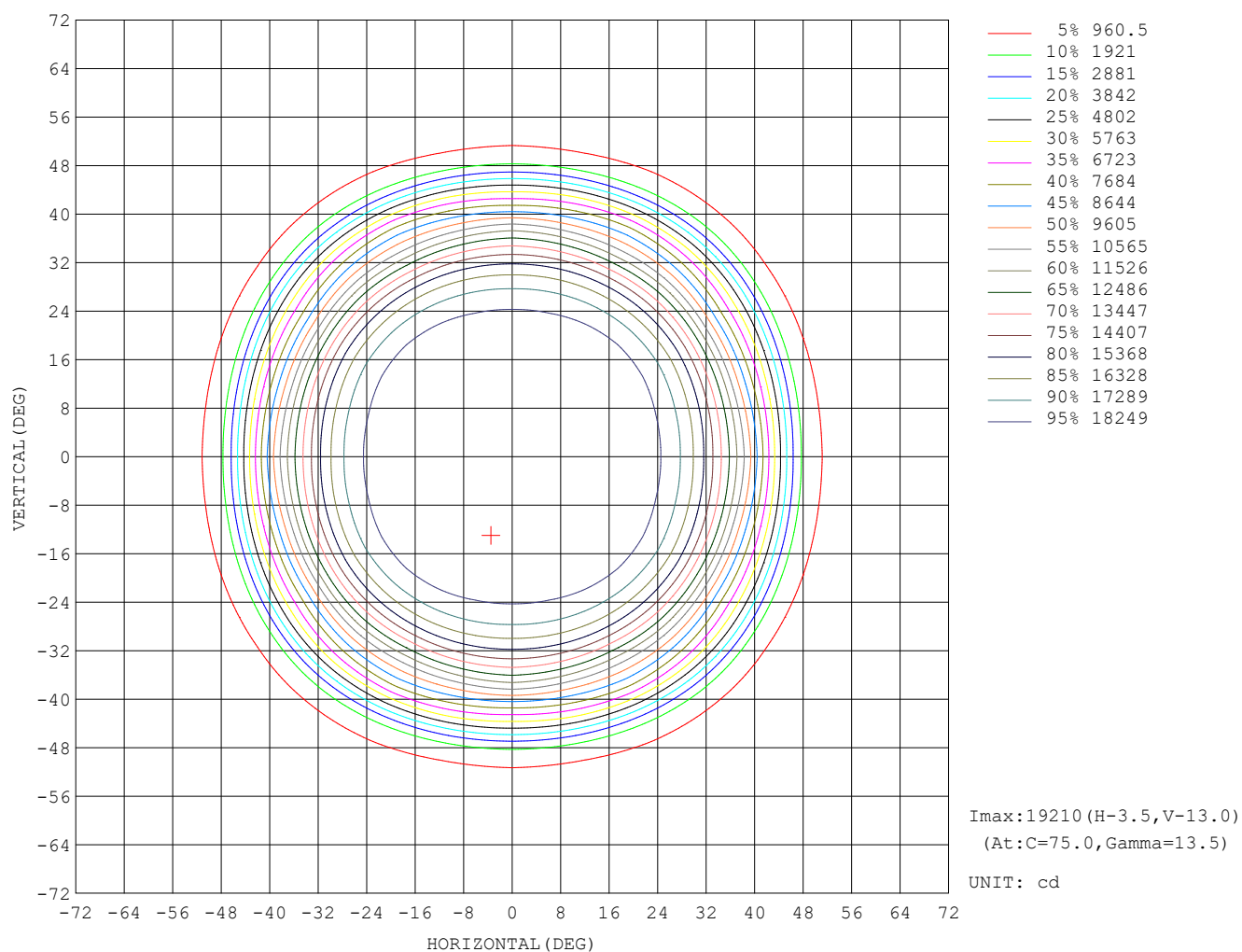
## UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	81	74	69	80	73	69	80	73	69	65
0.80	89	82	78	89	82	78	87	81	77	73
1.00	95	88	84	94	88	84	92	88	83	79
1.25	100	94	89	99	93	89	96	92	88	84
1.50	103	97	93	102	96	93	99	95	92	87
2.00	106	101	98	105	100	97	102	98	96	90
2.50	108	104	100	107	103	100	103	100	98	91
3.00	110	106	103	108	105	102	105	102	100	93
4.00	112	109	107	110	108	105	107	104	102	95
5.00	114	111	109	112	109	107	108	106	104	96
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004						Suspended			SHRNOM = 1.25	

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3°C  
 Operators: LYJ  
 Test Date: 2023-03-17

$\gamma$  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=0.4556]  
 Remarks:

## ISOCANDELA DIAGRAM

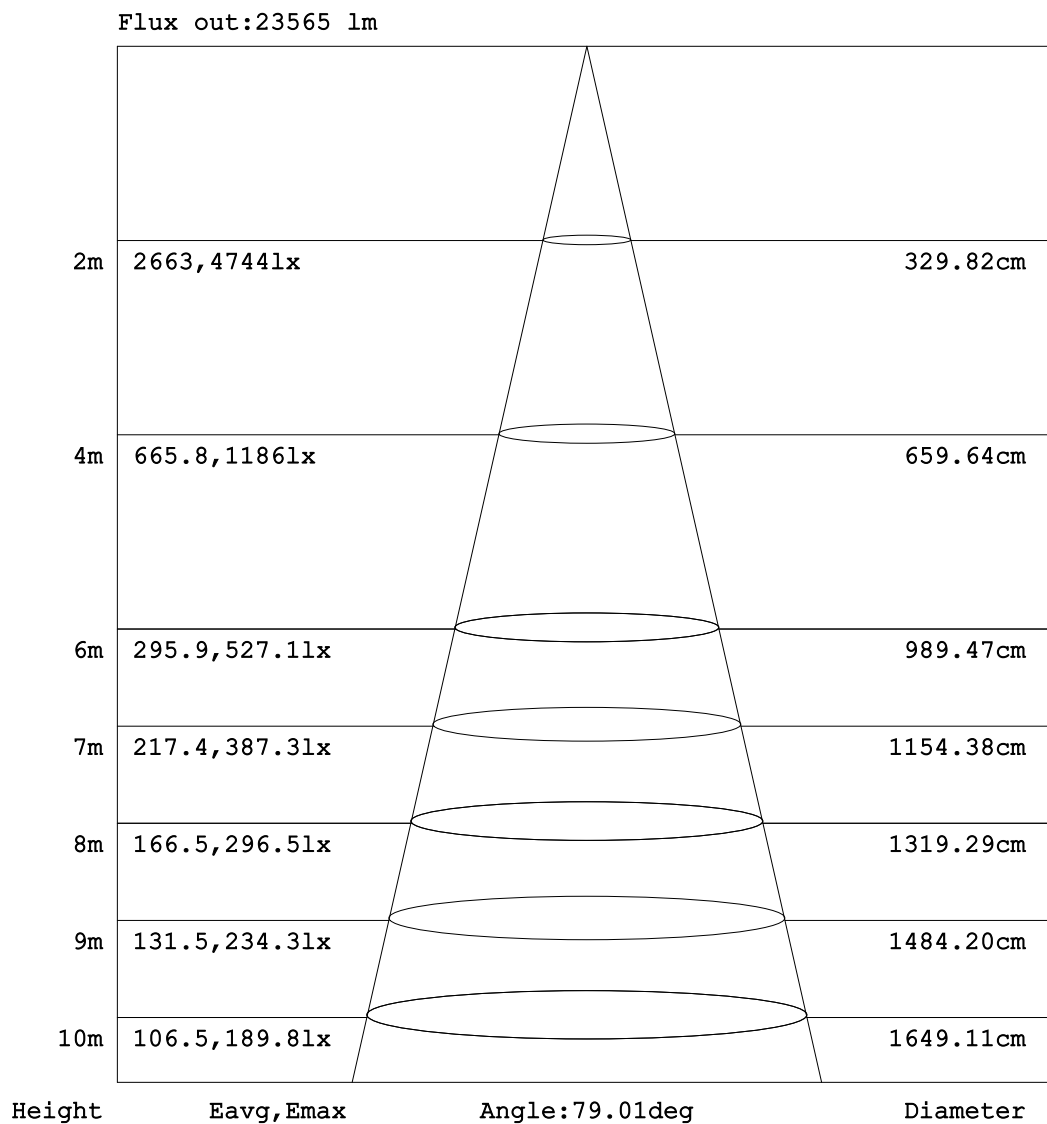


C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:LYJ  
Test Date:2023-03-17

$\gamma$  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=0.4556]  
Remarks:



## AAI Figure



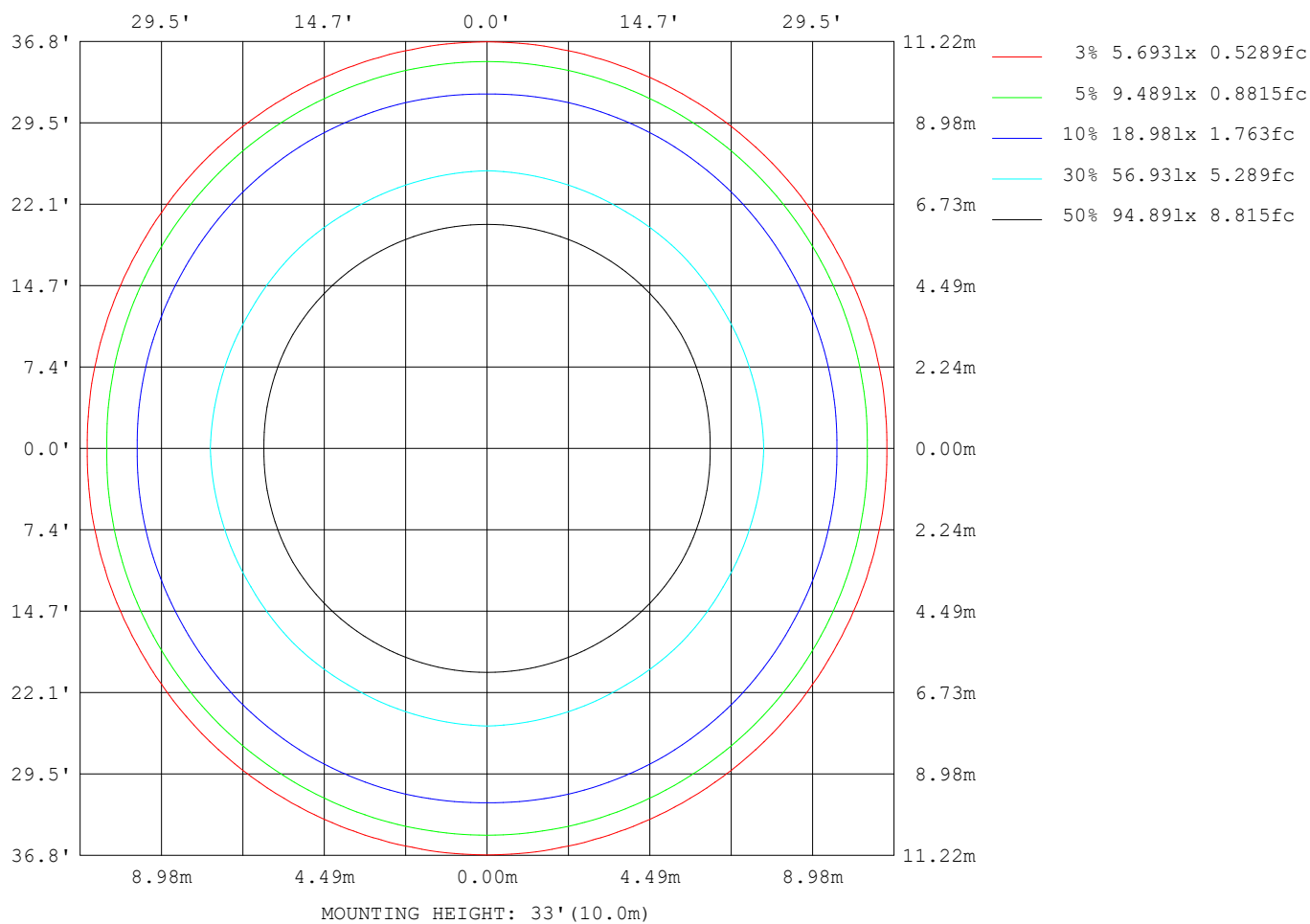
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3°C  
Operators:LYJ  
Test Date:2023-03-17

$\gamma$  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=0.4556]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

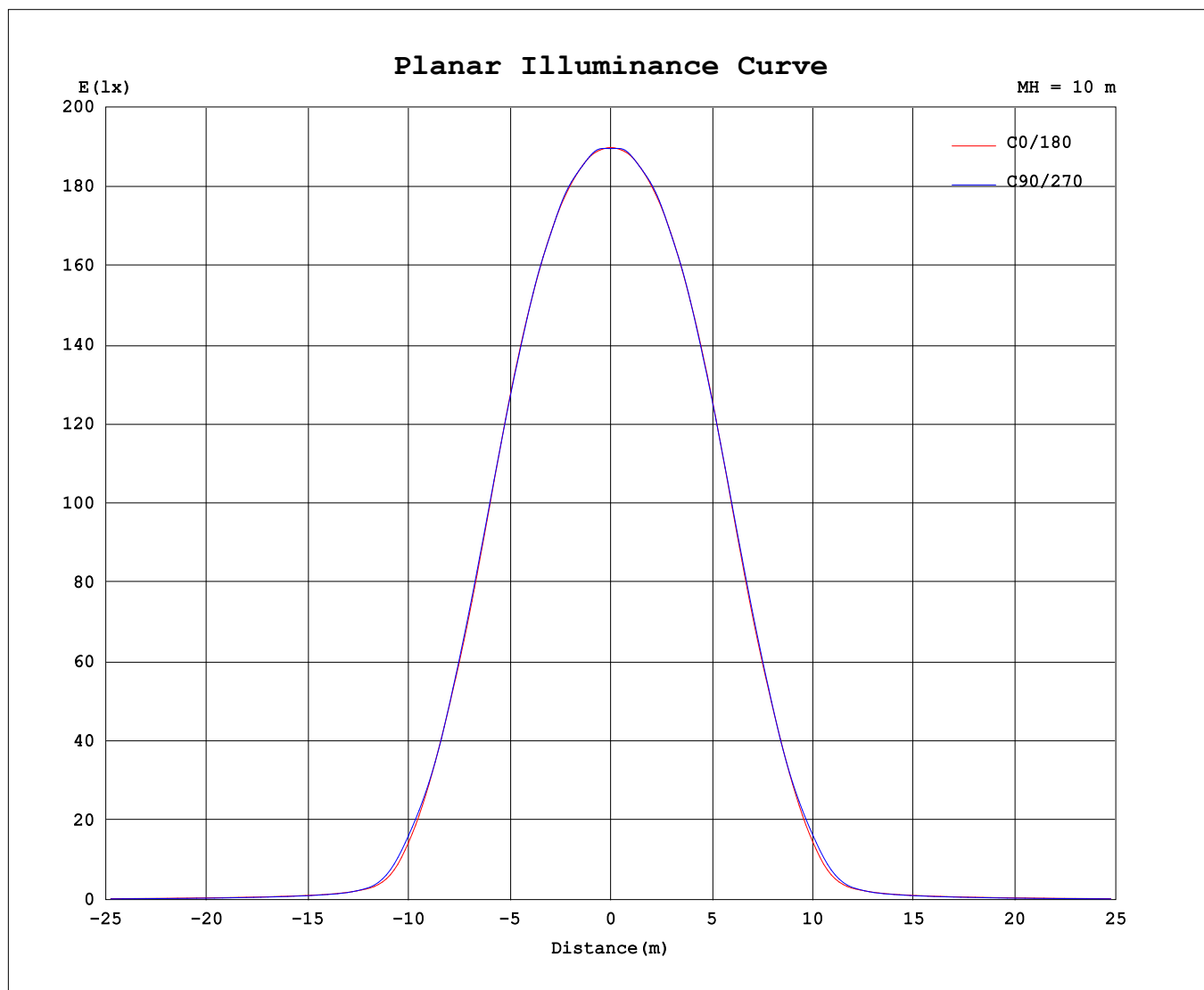
## ISOLUX DIAGRAM



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: LYJ  
Test Date: 2023-03-17

$\gamma$  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=0.4556]  
Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3°C  
Operators: LYJ  
Test Date: 2023-03-17

$\gamma$  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=0.4556]  
Remarks: