

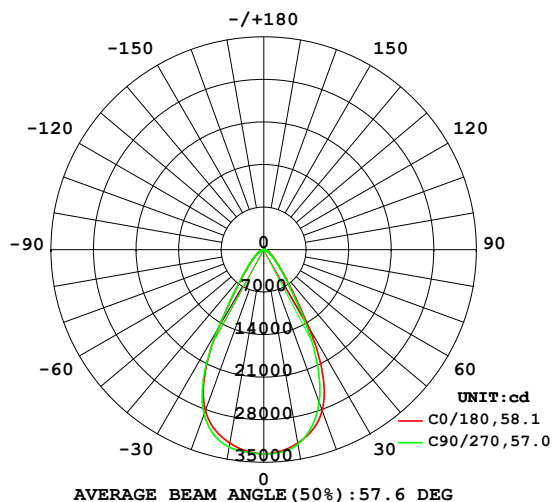
# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINAIRE PHOTOMETRIC TEST REPORT

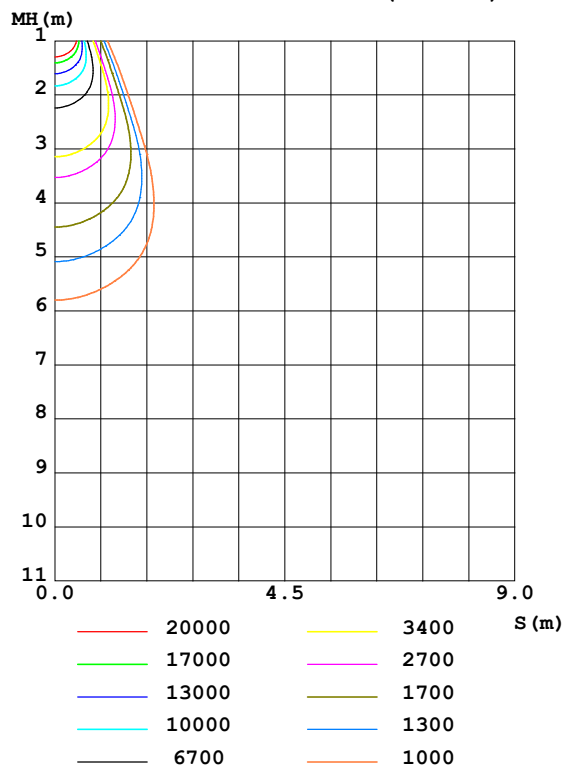
Test:U:119.3V I:1.7134A P:204.21W PF:0.9990 Freq:50.01Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:32049.1x1 lm		
NAME: HA04-200-5770-F01605	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 156.94 lm/W			
MODEL	/	I <sub>max</sub> (cd)	33604	S/MH(C0/180)	0.85
NOMINAL POWER(W)	/	LOR(%)	100.0	S/MH(C90/270)	0.85
RATED VOLTAGE(V)	/	TOTAL FLUX(lm)	32049	η UP,DN(C0-180)	0.0,48.8
NOMINAL FLUX(lm)	32049.1	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,51.2
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	120	η down(%)	100.0	CIBSE SHR MAX	0.85

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:LYJ  
Test Date:2021-11-29

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.446  
Humidity:65.0%  
Test Distance:26.000m [K=0.4536]  
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	3230	3244	3248	3244	3230	3257	3297	3257	0- 10	3157	3157	9.85,9.85
20	2815	2722	2666	2722	2815	2828	2873	2828	10- 20	8606	11763	36.7,36.7
30	1511	1451	1356	1451	1511	1531	1524	1531	20- 30	10092	21855	68.2,68.2
40	483.1	451.9	445.0	451.9	483.1	492.9	514.0	492.9	30- 40	5262	27117	84.6,84.6
50	213.4	204.1	196.7	204.1	213.4	223.8	226.8	223.8	40- 50	2475	29592	92.3,92.3
60	104.6	101.6	94.24	101.6	104.6	113.3	107.7	113.3	50- 60	1364	30956	96.6,96.6
70	46.70	46.34	39.12	46.34	46.70	52.42	46.41	52.42	60- 70	739.2	31695	98.9,98.9
80	14.60	10.45	8.959	10.45	14.60	13.07	13.83	13.07	70- 80	306.3	32002	99.9,99.9
90	0.0567	0.0518	0.0452	0.0518	0.0567	0.1006	0.1137	0.1006	80- 90	47.51	32049	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): 28550 lm

%lum = 89.1%

%lamp = 89.1%

Conical surface Flux(120deg): 30956 lm

%lum = 96.6%

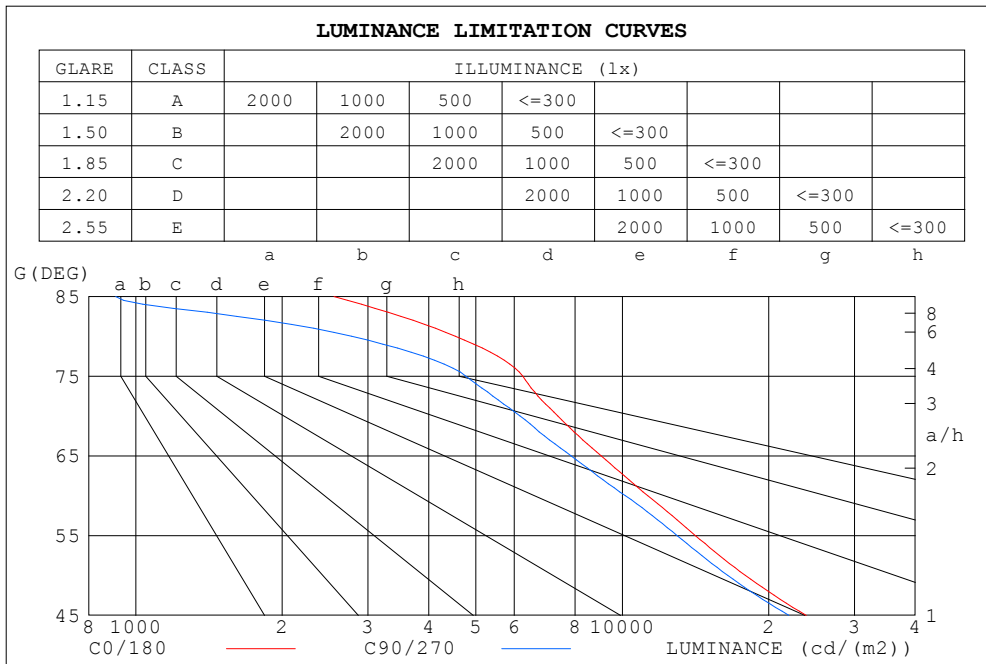
%lamp = 96.6%

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:LYJ  
Test Date:2021-11-29

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.446  
Humidity:65.0%  
Test Distance:26.000m [K=0.4536]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINANCE LIMITATION CURVES



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	2555	910
80	4537	2779
75	6245	4772
70	7366	6161
65	9048	7858
60	11280	10152
55	14130	12960
50	17908	16483
45	23877	22002

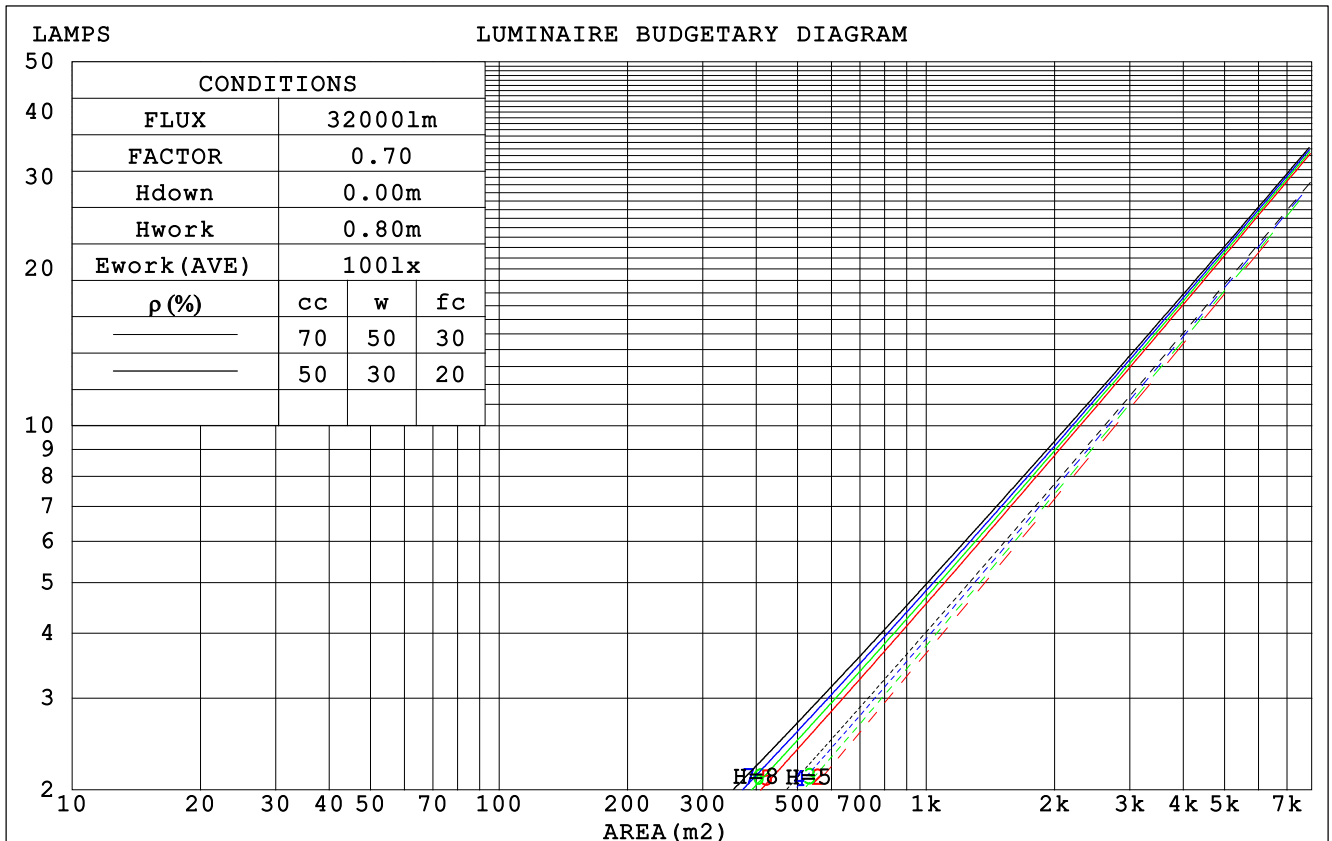
C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: LYJ  
 Test Date: 2021-11-29

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.446  
 Humidity: 65.0%  
 Test Distance: 26.000m [K=0.4536]  
 Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	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	1.10	1.07	1.05	1.08	1.05	1.03	1.04	1.02	.00	.00	.98	.97	.96	.95	.94	.92
2.0	1.01	.97	.93	.00	.96	.92	.96	.93	.90	.93	.91	.88	.91	.88	.86	.85
3.0	.94	.89	.84	.93	.88	.84	.90	.86	.82	.87	.84	.81	.85	.82	.80	.78
4.0	.87	.81	.77	.86	.81	.76	.84	.79	.75	.82	.78	.75	.80	.77	.74	.72
5.0	.81	.75	.71	.80	.75	.70	.79	.74	.70	.77	.72	.69	.75	.71	.68	.67
6.0	.76	.70	.65	.75	.69	.65	.74	.69	.65	.72	.68	.64	.71	.67	.64	.62
7.0	.71	.65	.61	.71	.65	.60	.69	.64	.60	.68	.63	.60	.67	.63	.59	.58
8.0	.67	.61	.57	.67	.61	.56	.65	.60	.56	.64	.60	.56	.63	.59	.56	.54
9.0	.63	.57	.53	.63	.57	.53	.62	.57	.53	.61	.56	.53	.60	.56	.52	.51
10.0	.60	.54	.50	.59	.54	.50	.59	.53	.50	.58	.53	.49	.57	.53	.49	.48



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: LYJ  
 Test Date: 2021-11-29

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.446  
 Humidity: 65.0%  
 Test Distance: 26.000m [K=0.4536]  
 Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## WEC AND CCEC

pcc	80%			70%			50%			30%			10%			0														
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0														
pfc	20%			20%			20%			20%			20%			0														
RCR	RCR:Room Cavity Ratio															Wall Exitance Coefficients(WEC)														
0.0																														
1.0	.194	.110	.035	.187	.107	.034	.175	.100	.032	.163	.094	.030	.152	.088	.028															
2.0	.186	.102	.031	.180	.099	.031	.170	.094	.029	.160	.090	.028	.150	.085	.027															
3.0	.176	.094	.028	.172	.092	.028	.162	.088	.027	.154	.084	.026	.146	.081	.025															
4.0	.167	.087	.026	.163	.085	.025	.155	.082	.025	.147	.079	.024	.141	.076	.023															
5.0	.158	.081	.023	.155	.079	.023	.148	.077	.023	.141	.074	.022	.135	.072	.022															
6.0	.150	.075	.022	.147	.074	.021	.141	.072	.021	.135	.070	.021	.130	.068	.020															
7.0	.143	.071	.020	.140	.070	.020	.135	.068	.020	.129	.066	.019	.125	.065	.019															
8.0	.136	.066	.019	.134	.066	.019	.129	.064	.018	.124	.063	.018	.120	.061	.018															
9.0	.130	.063	.018	.128	.062	.017	.123	.061	.017	.119	.060	.017	.115	.058	.017															
10.0	.124	.059	.017	.122	.059	.016	.118	.058	.016	.114	.057	.016	.111	.056	.016															

pcc	80%			70%			50%			30%			10%			0	
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
pfc	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	.172	.157	.144	.147	.135	.124	.101	.093	.085	.058	.054	.050	.019	.017	.016		
2.0	.158	.132	.111	.135	.114	.096	.093	.079	.067	.054	.046	.039	.017	.015	.013		
3.0	.146	.114	.088	.126	.098	.076	.086	.068	.053	.050	.040	.031	.016	.013	.010		
4.0	.137	.099	.071	.117	.086	.061	.081	.060	.043	.047	.035	.026	.015	.011	.008		
5.0	.128	.088	.058	.110	.076	.050	.076	.053	.036	.044	.031	.021	.014	.010	.007		
6.0	.121	.079	.048	.104	.068	.042	.072	.048	.030	.042	.028	.018	.013	.009	.006		
7.0	.114	.071	.041	.098	.062	.036	.068	.043	.025	.039	.025	.015	.013	.008	.005		
8.0	.108	.065	.035	.093	.056	.031	.065	.040	.022	.038	.023	.013	.012	.008	.004		
9.0	.103	.060	.030	.089	.052	.027	.062	.036	.019	.036	.022	.011	.012	.007	.004		
10.0	.099	.055	.027	.085	.048	.023	.059	.034	.017	.034	.020	.010	.011	.007	.003		

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:LYJ  
 Test Date:2021-11-29

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.446  
 Humidity:65.0%  
 Test Distance:26.000m [K=0.4536]  
 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	16.6	17.7	17.0	18.1	18.4	16.2	17.3	16.6	17.6	17.9
3H	17.5	18.5	17.9	18.8	19.2	16.9	17.9	17.3	18.3	18.6
4H	17.8	18.7	18.2	19.1	19.4	17.1	18.0	17.5	18.4	18.8
6H	17.9	18.7	18.3	19.1	19.5	17.2	18.0	17.6	18.4	18.8
8H	17.9	18.7	18.4	19.1	19.5	17.1	17.9	17.6	18.3	18.7
12H	17.9	18.6	18.3	19.0	19.5	17.1	17.8	17.5	18.2	18.6
4H 2H	16.9	17.8	17.3	18.1	18.5	16.5	17.4	16.9	17.8	18.1
3H	18.0	18.7	18.4	19.1	19.5	17.4	18.2	17.9	18.6	19.0
4H	18.3	19.0	18.7	19.4	19.8	17.7	18.3	18.1	18.8	19.2
6H	18.5	19.0	18.9	19.5	20.0	17.8	18.3	18.2	18.8	19.2
8H	18.5	19.0	19.0	19.5	19.9	17.7	18.2	18.2	18.7	19.2
12H	18.5	18.9	19.0	19.4	19.9	17.7	18.1	18.2	18.6	19.1
8H 4H	18.3	18.8	18.8	19.3	19.8	17.7	18.2	18.2	18.7	19.2
6H	18.5	18.9	19.0	19.4	19.9	17.8	18.2	18.3	18.7	19.2
8H	18.5	18.9	19.1	19.4	19.9	17.8	18.2	18.3	18.7	19.2
12H	18.6	18.9	19.1	19.4	20.0	17.8	18.1	18.3	18.6	19.2
12H 4H	18.3	18.7	18.7	19.2	19.7	17.7	18.1	18.2	18.6	19.1
6H	18.5	18.9	19.0	19.3	19.9	17.8	18.2	18.3	18.6	19.2
8H	18.5	18.8	19.0	19.3	19.9	17.8	18.1	18.3	18.6	19.2
CIE190: 2010										

CIE190: 2010  
Area: 0.18564 m2

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:LYJ  
Test Date:2021-11-29

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.446  
Humidity:65.0%  
Test Distance:26.000m [K=0.4536]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## UTILIZATION FACTORS TABLE

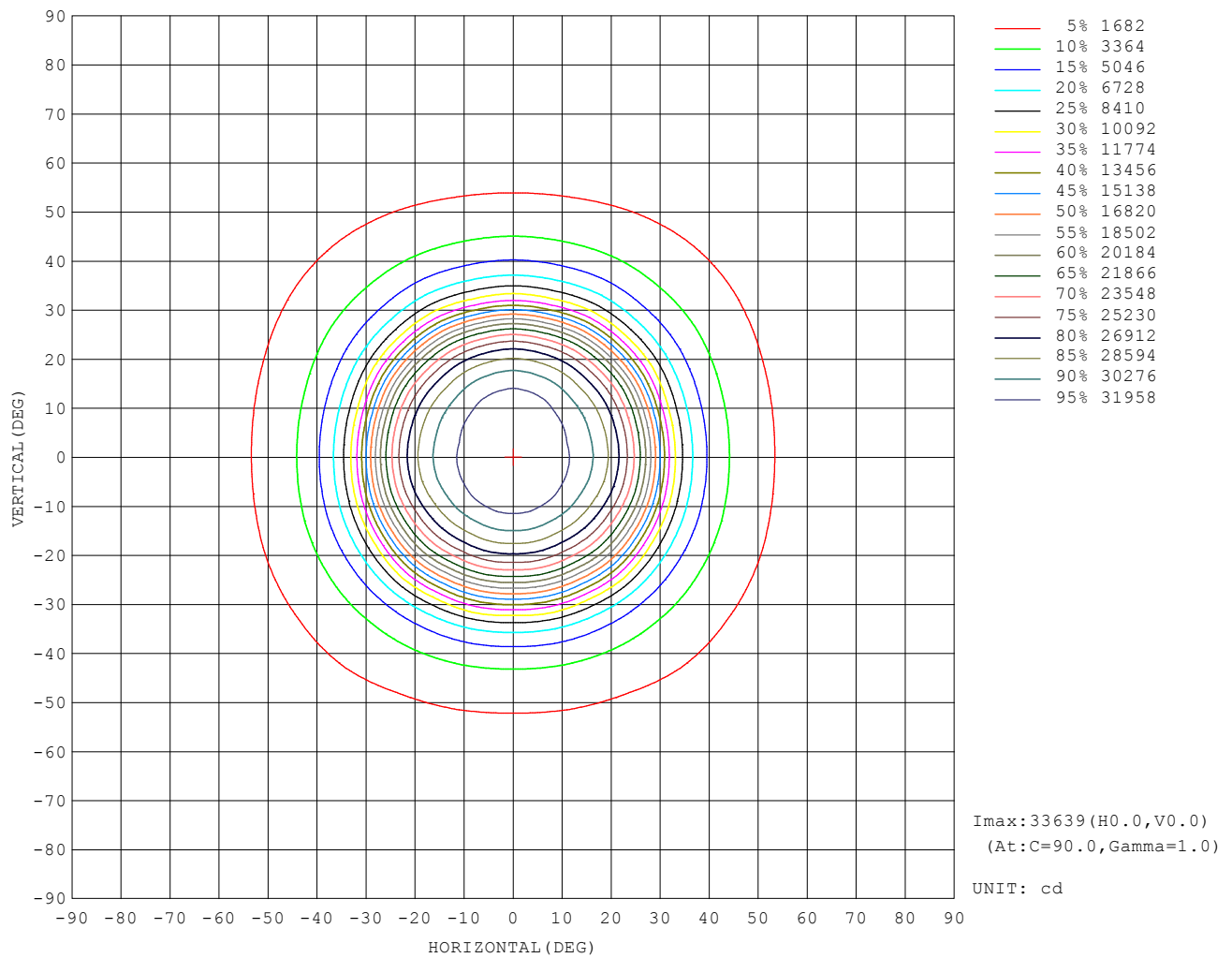
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	82	75	70	81	74	70	80	74	70	66
0.80	90	83	79	89	83	79	88	82	78	74
1.00	95	89	85	94	88	84	93	88	84	79
1.25	100	94	90	99	93	89	97	92	89	84
1.50	103	97	94	102	97	93	99	95	92	87
2.00	106	102	98	105	101	97	102	99	96	90
2.50	108	104	101	107	103	100	104	100	98	92
3.00	110	106	103	108	105	102	105	102	100	93
4.00	113	109	107	111	108	105	107	105	103	95
5.00	114	111	109	112	110	108	108	106	105	97
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: 25.3DEG  
 Operators: LYJ  
 Test Date: 2021-11-29

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.446  
 Humidity: 65.0%  
 Test Distance: 26.000m [K=0.4536]  
 Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## ISOCANDELA DIAGRAM

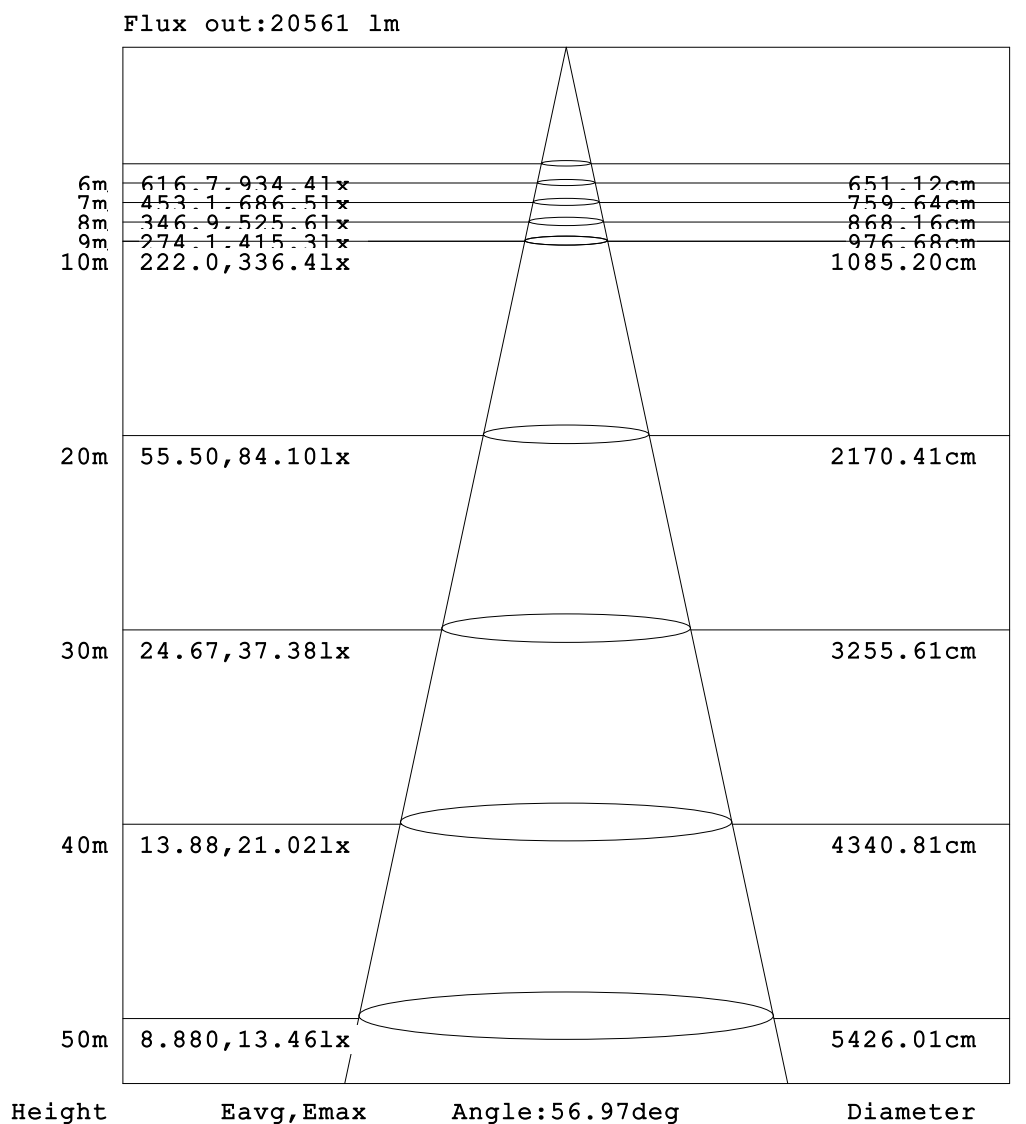


C Range: 0 - 360DEG  
C Interval: 15.0DEG  
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Temperature: 25.3DEG  
Operators: LYJ  
Test Date: 2021-11-29

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.446  
Humidity: 65.0%  
Test Distance: 26.000m [K=0.4536]  
Remarks:



## AAI Figure



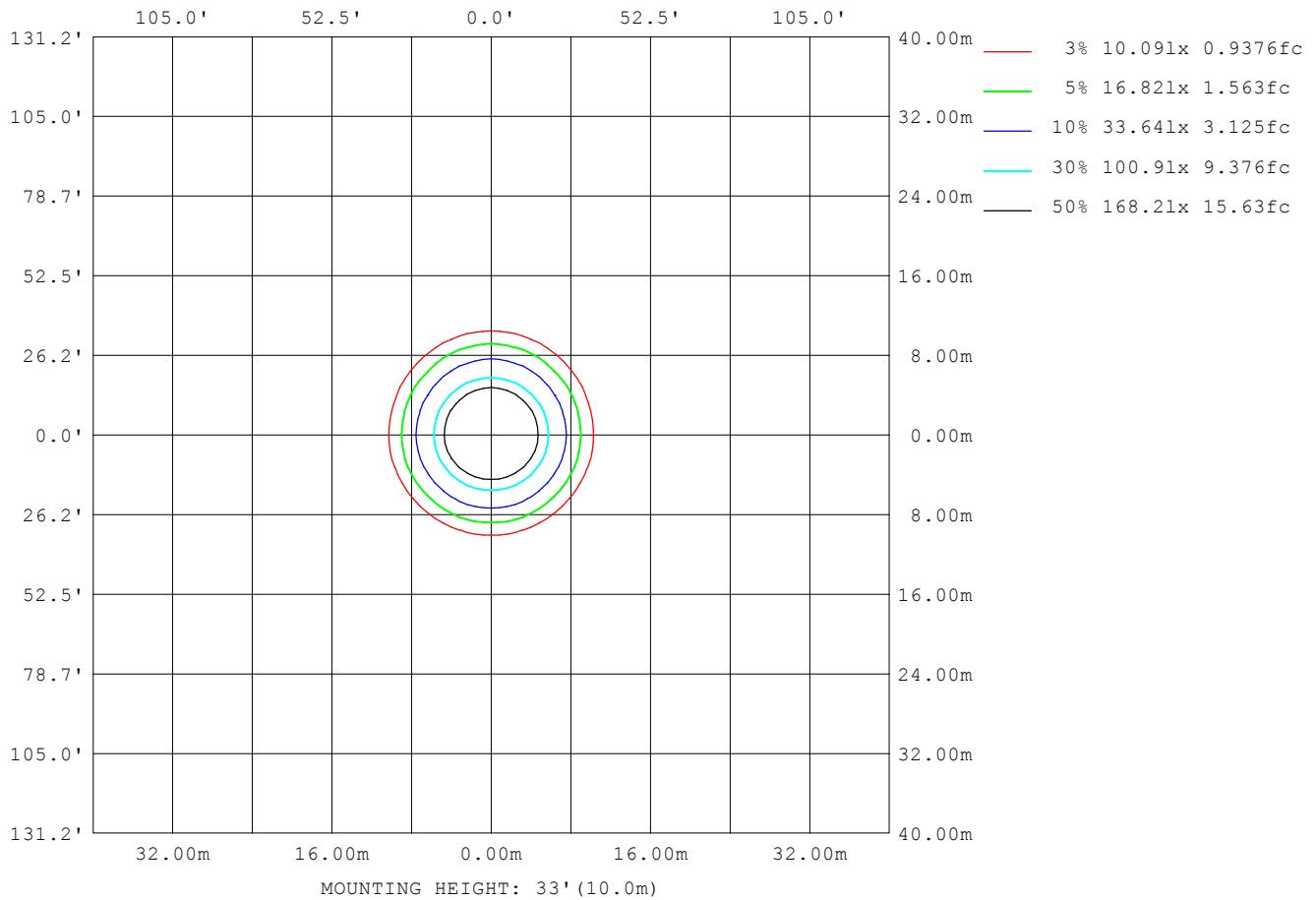
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: LYJ  
Test Date: 2021-11-29

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.446  
Humidity: 65.0%  
Test Distance: 26.000m [K=0.4536]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

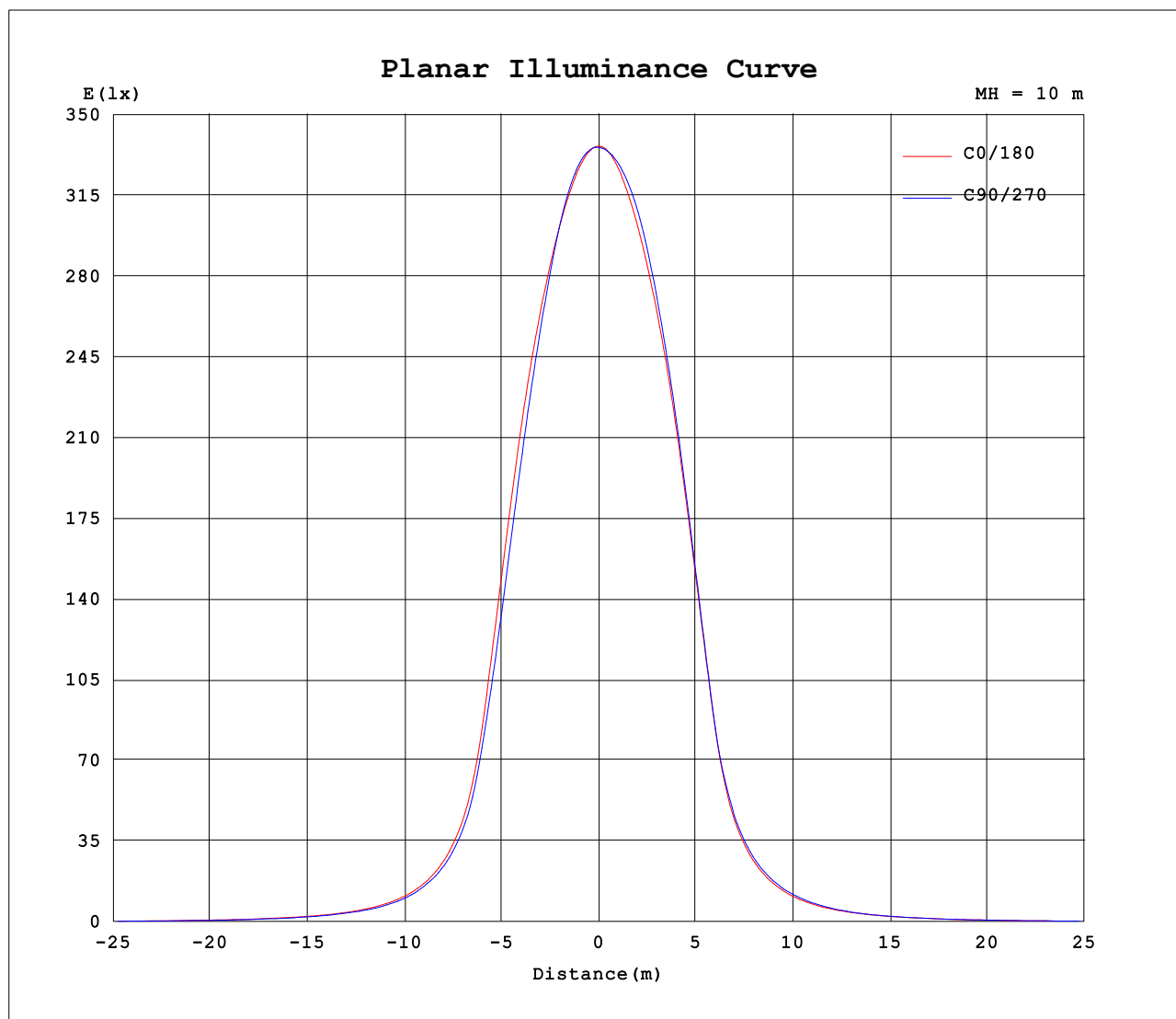
## ISOLUX DIAGRAM



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: LYJ  
Test Date: 2021-11-29

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.446  
Humidity: 65.0%  
Test Distance: 26.000m [K=0.4536]  
Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: LYJ  
Test Date: 2021-11-29

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.446  
Humidity: 65.0%  
Test Distance: 26.000m [K=0.4536]  
Remarks: