

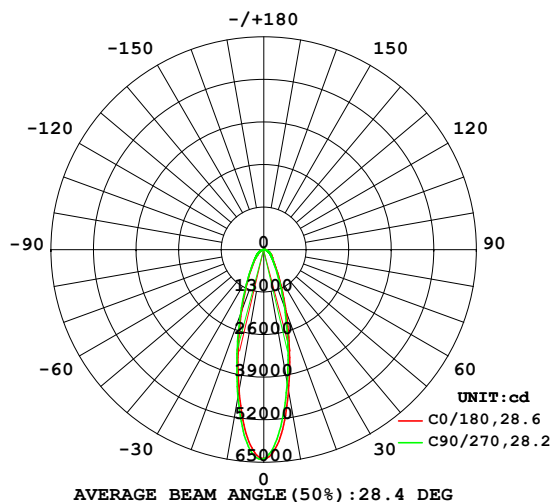
## EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINAIRE PHOTOMETRIC TEST REPORT

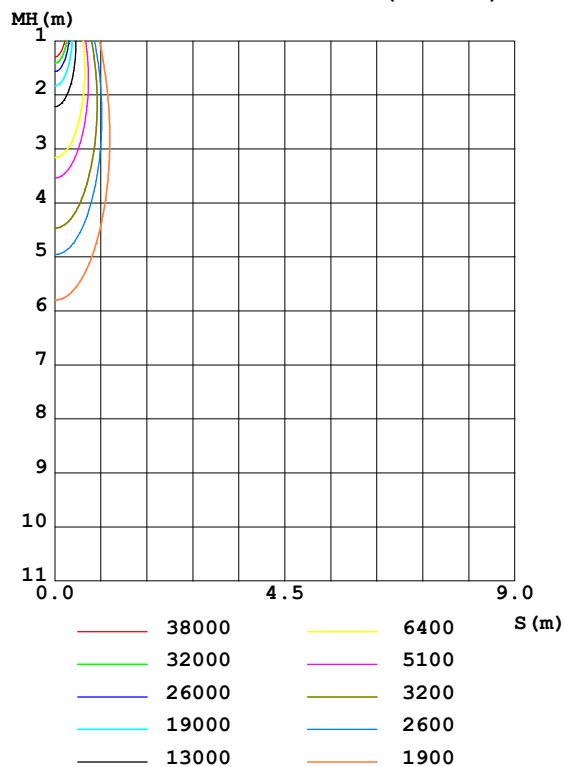
Test:U:119.3V I:1.7132A P:204.18W PF:0.9990 Freq:50.01Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:30620.2x1 lm		
NAME: HA04-200-5770-F01604	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 149.97 lm/W			
MODEL	/	I <sub>max</sub> (cd)	64040	S/MH(C0/180)	0.47
NOMINAL POWER(W)	/	LOR(%)	100.0	S/MH(C90/270)	0.49
RATED VOLTAGE(V)	/	TOTAL FLUX(lm)	30620	η UP,DN(C0-180)	0.0,48.5
NOMINAL FLUX(lm)	30620.2	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,51.5
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	120	η down(%)	100.0	CIBSE SHR MAX	0.55

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	4375	4250	4136	4250	4375	4479	4564	4479	0- 10	5033	5033	16.4,16.4
20	1996	1942	1863	1942	1996	2055	2085	2055	10- 20	8324	13357	43.6,43.6
30	884.4	862.9	818.4	862.9	884.4	914.1	926.1	914.1	20- 30	6102	19459	63.5,63.5
40	468.4	453.9	434.3	453.9	468.4	483.7	491.3	483.7	30- 40	3972	23431	76.5,76.5
50	299.7	281.4	279.4	281.4	299.7	304.4	314.0	304.4	40- 50	2857	26288	85.9,85.9
60	196.3	178.1	181.8	178.1	196.3	195.2	205.1	195.2	50- 60	2148	28436	92.9,92.9
70	107.5	91.90	96.21	91.90	107.5	102.3	110.7	102.3	60- 70	1434	29870	97.6,97.6
80	31.04	23.39	22.20	23.39	31.04	28.64	31.23	28.64	70- 80	653.6	30524	99.7,99.7
90	0.1080	0.0911	0.0875	0.0911	0.1080	0.1983	0.2436	0.1983	80- 90	96.50	30620	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): 24959 lm

%lum = 81.5%

%lamp = 81.5%

Conical surface Flux(120deg): 28436 lm

%lum = 92.9%

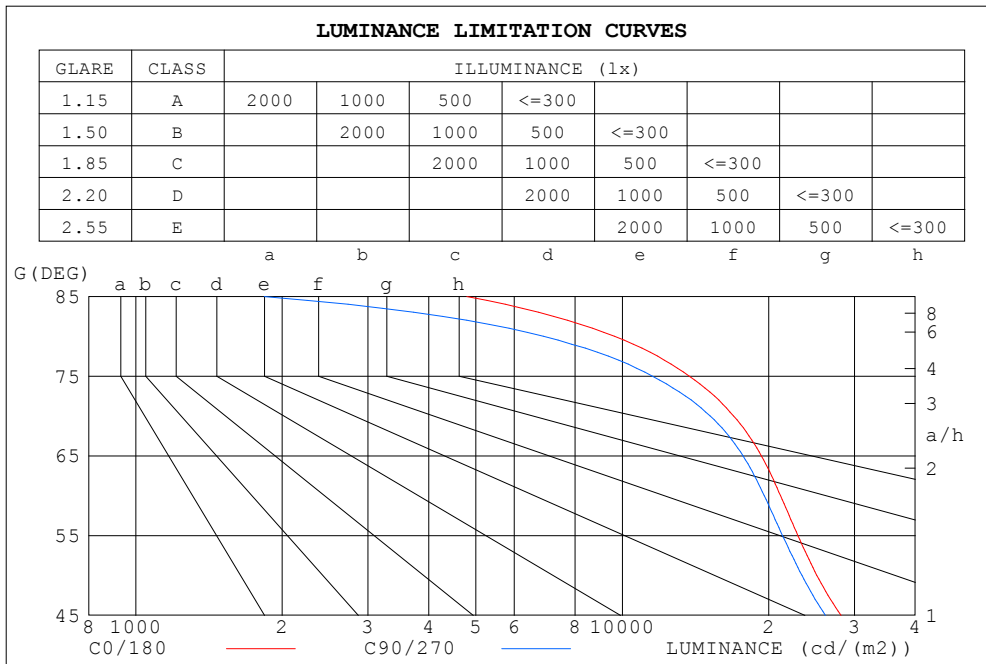
%lamp = 92.9%

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	4792	1838
80	9633	6884
75	13745	11535
70	16937	15147
65	19315	17714
60	21153	19581
55	22958	21346
50	25121	23402
45	28160	26166

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	.206	.117	.037	.200	.114	.036	.187	.107	.034	.175	.101	.032	.164	.095	.031															
2.0	.197	.108	.033	.191	.105	.032	.180	.100	.031	.170	.095	.030	.161	.091	.029															
3.0	.185	.098	.029	.180	.096	.029	.171	.092	.028	.162	.089	.027	.154	.085	.026															
4.0	.173	.090	.026	.169	.088	.026	.161	.085	.025	.153	.082	.025	.146	.080	.024															
5.0	.162	.083	.024	.159	.081	.024	.152	.079	.023	.145	.077	.023	.139	.074	.022															
6.0	.153	.077	.022	.149	.076	.022	.143	.073	.021	.137	.071	.021	.132	.070	.021															
7.0	.144	.071	.020	.141	.070	.020	.136	.069	.020	.130	.067	.019	.126	.065	.019															
8.0	.136	.067	.019	.134	.066	.019	.129	.064	.018	.124	.063	.018	.120	.061	.018															
9.0	.129	.062	.017	.127	.062	.017	.122	.060	.017	.118	.059	.017	.114	.058	.017															
10.0	.123	.059	.016	.120	.058	.016	.117	.057	.016	.113	.056	.016	.109	.055	.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	.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	.148	.114	.086	.127	.098	.075	.087	.068	.053	.050	.040	.031	.016	.013	.010	
4.0	.138	.099	.070	.119	.086	.060	.082	.060	.043	.047	.035	.025	.015	.011	.008	
5.0	.129	.088	.057	.111	.076	.050	.077	.053	.035	.044	.031	.021	.014	.010	.007	
6.0	.122	.079	.048	.105	.068	.042	.072	.048	.030	.042	.028	.018	.014	.009	.006	
7.0	.115	.071	.041	.099	.062	.035	.068	.043	.025	.040	.025	.015	.013	.008	.005	
8.0	.109	.065	.035	.093	.056	.031	.065	.040	.022	.038	.023	.013	.012	.008	.004	
9.0	.103	.060	.031	.089	.052	.027	.061	.036	.019	.036	.022	.011	.012	.007	.004	
10.0	.098	.055	.027	.084	.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	20.3	21.5	20.7	21.8	22.2	20.0	21.2	20.3	21.5	21.8
3H	21.7	22.8	22.1	23.2	23.5	21.3	22.4	21.7	22.7	23.1
4H	22.2	23.2	22.6	23.5	23.9	21.7	22.7	22.1	23.0	23.4
6H	22.4	23.3	22.8	23.7	24.1	21.8	22.7	22.2	23.1	23.5
8H	22.4	23.3	22.8	23.7	24.1	21.8	22.7	22.2	23.0	23.5
12H	22.4	23.2	22.8	23.6	24.0	21.7	22.6	22.2	23.0	23.4
4H 2H	20.7	21.7	21.1	22.0	22.4	20.4	21.4	20.8	21.7	22.1
3H	22.2	23.1	22.7	23.5	23.9	21.9	22.7	22.3	23.1	23.5
4H	22.8	23.5	23.2	23.9	24.4	22.3	23.0	22.7	23.5	23.9
6H	23.0	23.7	23.5	24.1	24.6	22.5	23.1	22.9	23.6	24.0
8H	23.1	23.7	23.5	24.1	24.6	22.5	23.1	22.9	23.5	24.0
12H	23.0	23.6	23.5	24.1	24.5	22.4	23.0	22.9	23.4	23.9
8H 4H	22.8	23.4	23.3	23.9	24.3	22.4	23.0	22.9	23.4	23.9
6H	23.1	23.6	23.6	24.1	24.6	22.6	23.1	23.1	23.6	24.1
8H	23.2	23.6	23.7	24.1	24.6	22.6	23.0	23.1	23.6	24.1
12H	23.2	23.6	23.7	24.1	24.6	22.6	23.0	23.1	23.5	24.0
12H 4H	22.8	23.3	23.3	23.8	24.3	22.4	22.9	22.9	23.4	23.9
6H	23.1	23.5	23.6	24.0	24.5	22.6	23.0	23.1	23.5	24.0
8H	23.2	23.5	23.7	24.0	24.6	22.6	23.0	23.1	23.5	24.1
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

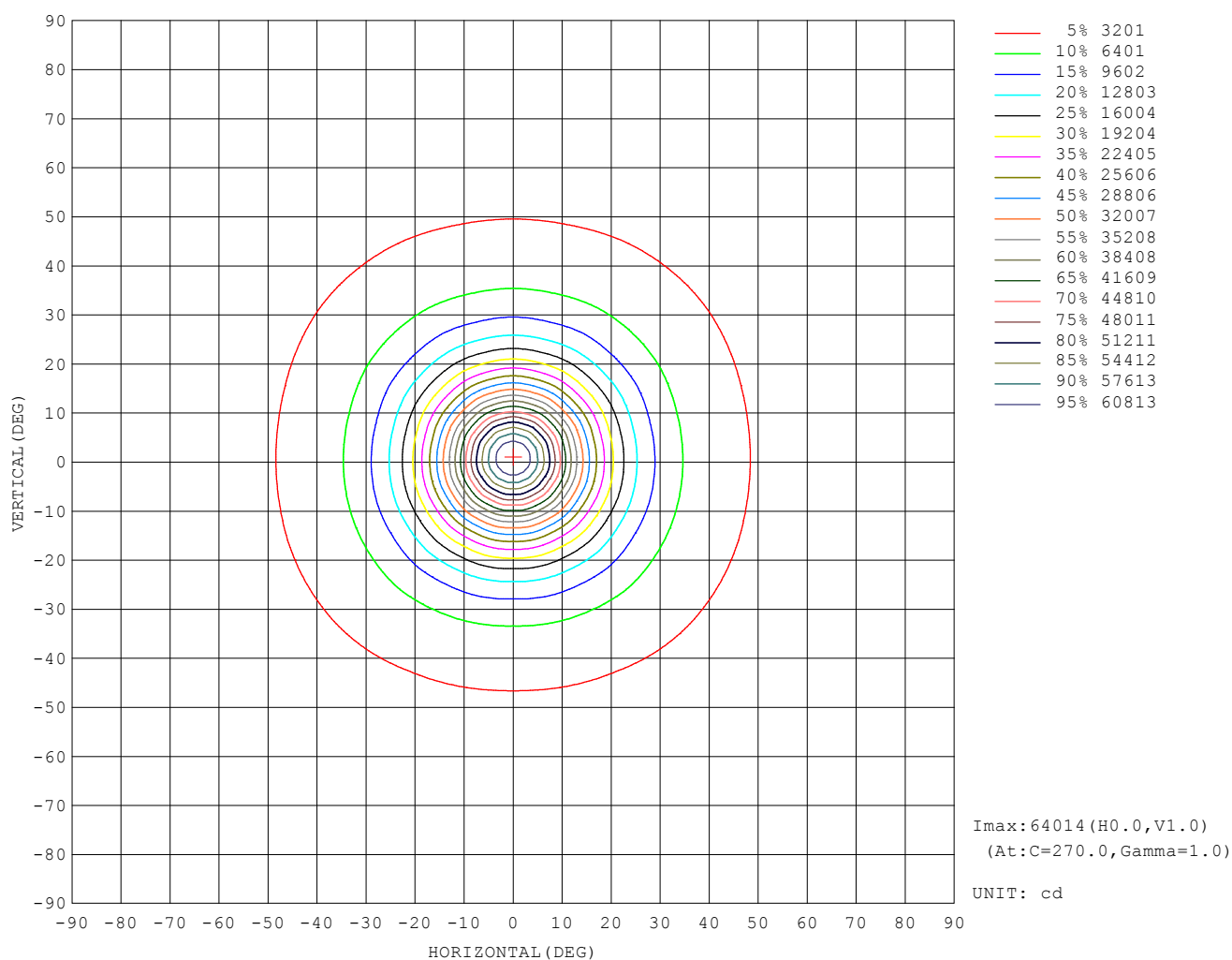
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	77	69	64	76	69	64	75	68	64	59
0.80	85	78	73	85	77	72	83	77	72	67
1.00	91	84	79	90	83	79	89	84	78	73
1.25	96	90	85	95	89	84	93	88	84	78
1.50	100	94	89	99	93	89	96	91	87	82
2.00	104	99	94	103	97	94	100	95	92	86
2.50	107	101	98	105	100	97	101	98	95	88
3.00	109	104	101	107	103	100	103	100	97	90
4.00	111	108	105	109	106	103	105	103	101	93
5.00	113	110	107	111	108	106	107	105	103	95
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004				Suspended				SHRNOM = 1.25		

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 C Interval: 15.0DEG  
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 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

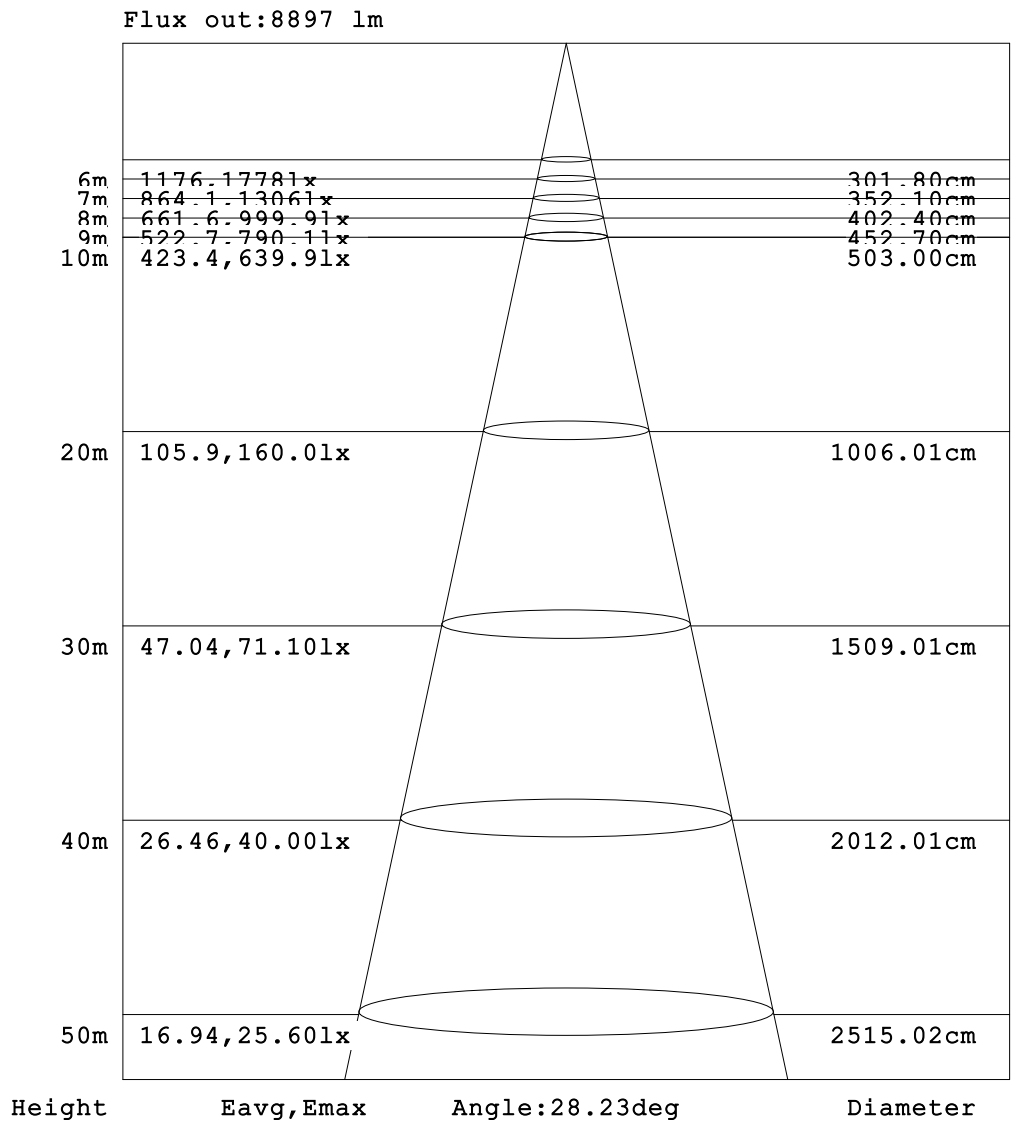
## ISOCANDELA DIAGRAM



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
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:

## AAI Figure



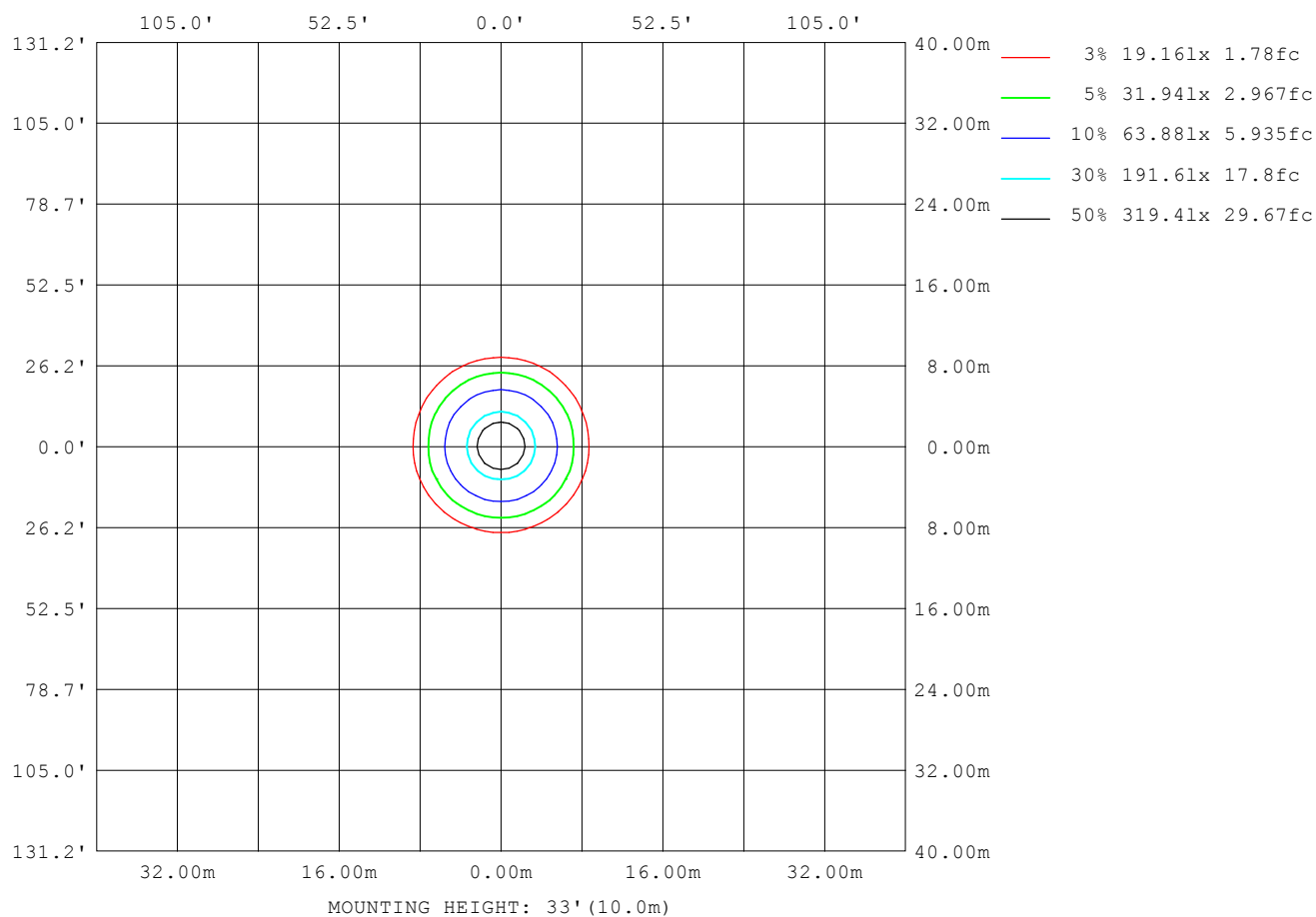
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

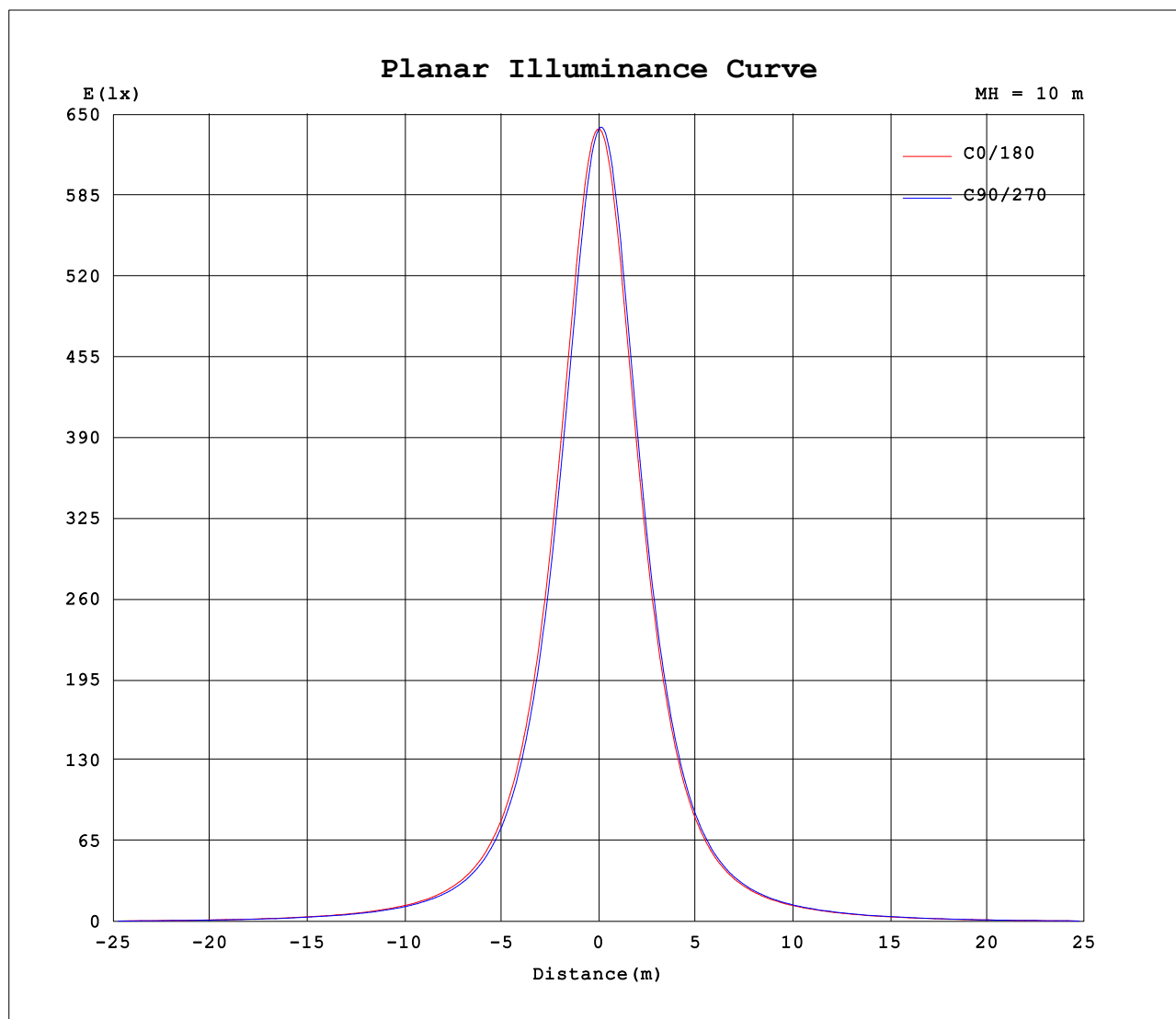
## ISOLUX DIAGRAM



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  
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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: