

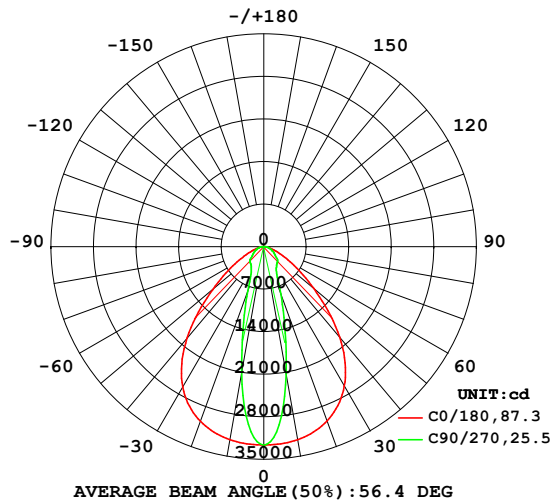
## EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINAIRE PHOTOMETRIC TEST REPORT

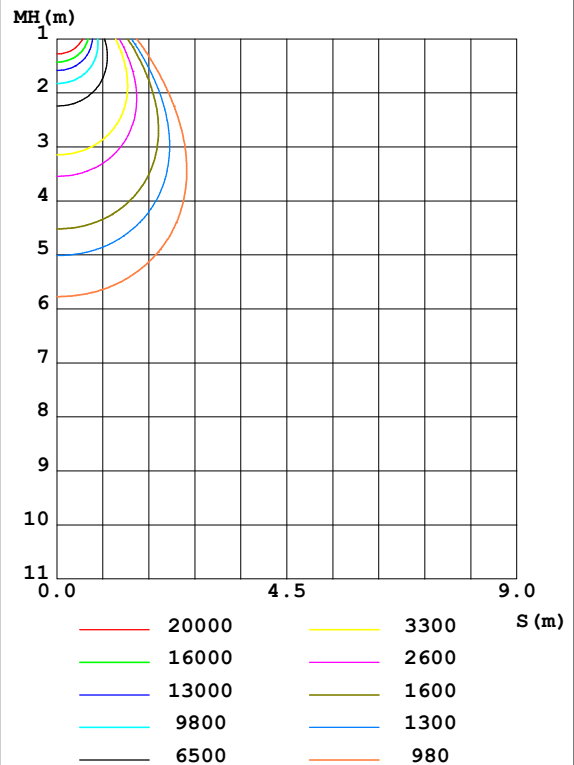
Test:U:229.6V I:0.8683A P:198.0W PF:0.9931 Freq:50.01Hz Lamp Flux:30771.8x1 lm		
NAME: LHB09-200-5070-L00401	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 155.40 lm/W			
MODEL	/	I <sub>max</sub> (cd)	32643	S/MH(C0/180)	1.21
NOMINAL POWER(W)	200	LOR(%)	100.0	S/MH(C90/270)	0.43
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	30772	η UP,DN(C0-180)	0.0,50.4
NOMINAL FLUX(lm)	30771.8	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,49.6
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	230	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: 25.0DEG  
Operators:LI  
Test Date:2020-01-05

Checker: LI

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.420  
Humidity: 48.5%  
Test Distance:26.000m [K=1.0000]  
Remarks:

Assessor:

# 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	3226	2620	2123	2662	3226	2606	2107	2596	0- 10	2809	2809	9.13,9.13
20	3050	1349	818.1	1388	3057	1297	782.8	1301	10- 20	5841	8650	28.1,28.1
30	2653	583.9	419.3	601.6	2669	552.7	412.1	559.4	20- 30	5883	14533	47.2,47.2
40	1942	355.5	347.1	361.6	1965	348.7	348.8	352.6	30- 40	5203	19736	64.1,64.1
50	1079	282.3	264.7	285.5	1099	281.8	260.4	283.6	40- 50	4362	24098	78.3,78.3
60	503.4	212.6	192.3	215.1	512.9	209.9	187.6	211.6	50- 60	3210	27308	88.7,88.7
70	193.3	138.4	123.0	140.5	196.8	136.7	119.1	137.7	60- 70	2077	29385	95.5,95.5
80	58.24	64.23	57.38	65.56	59.64	62.90	57.20	62.99	70- 80	1084	30469	99,99
90	0.2172	0.1366	0.1174	0.1423	0.2542	0.1556	0.1282	0.1543	80- 90	302.7	30772	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:×10cd									UNIT:lm		

Conical surface Flux(90deg): 22038 lm

%lum = 71.6%

%lamp = 71.6%

Conical surface Flux(120deg): 27308 lm

%lum = 88.7%

%lamp = 88.7%

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.0DEG  
Operators:LI  
Test Date:2020-01-05

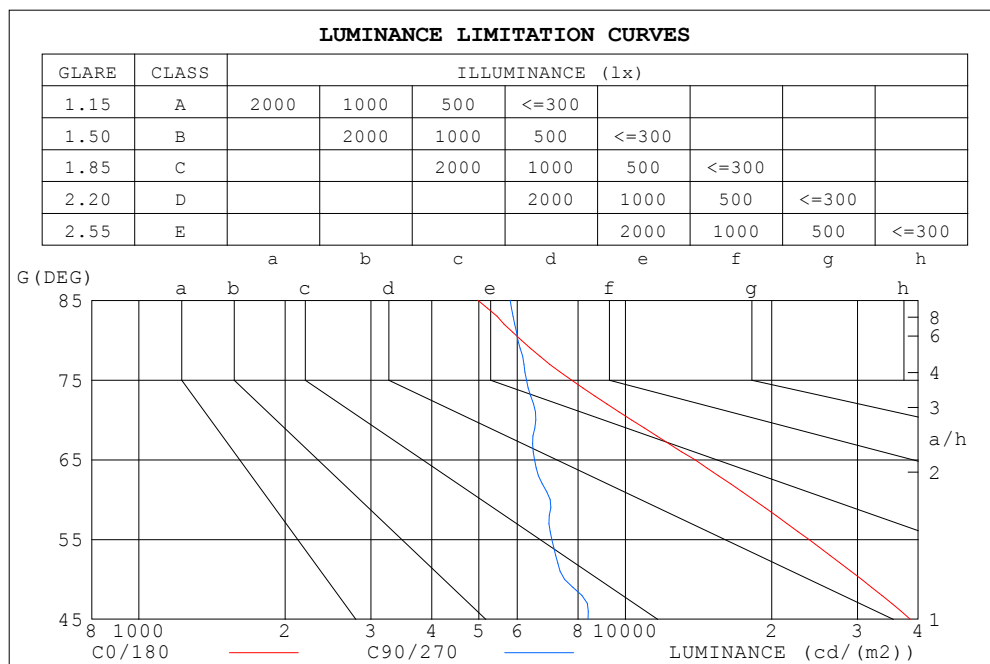
Checker: LI

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.420  
Humidity: 48.5%  
Test Distance:26.000m [K=1.0000]  
Remarks:

Assessor:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINANCE LIMITATION CURVES



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	4980	5800
80	6113	6018
75	7748	6262
70	10304	6551
65	13898	6508
60	18352	7005
55	23842	7061
50	30597	7500
45	38565	8377

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature: 25.0DEG  
 Operators:LI  
 Test Date:2020-01-05

Checker: LI

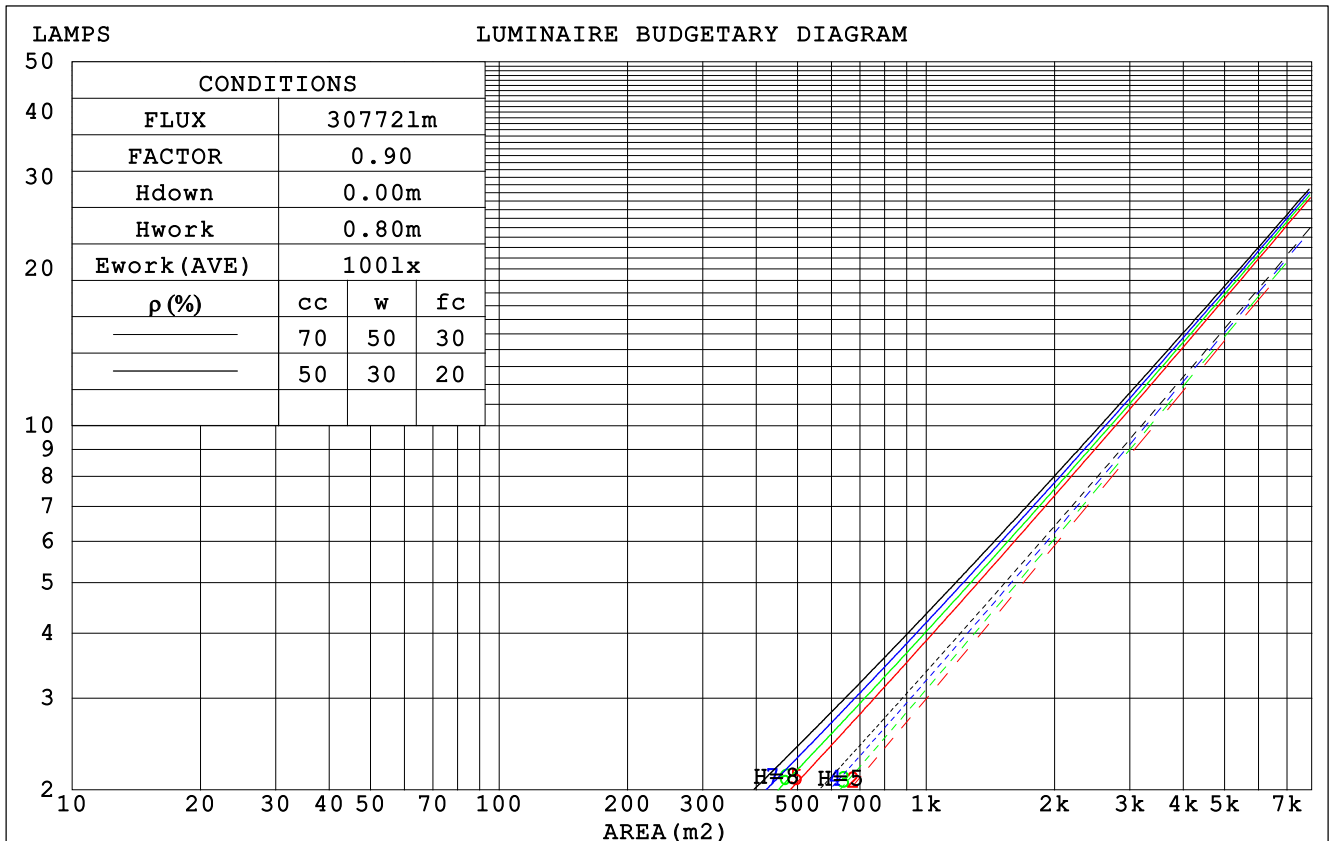
γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.420  
 Humidity: 48.5%  
 Test Distance:26.000m [K=1.0000]  
 Remarks:

Assessor:

# 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	.00
1.0	1.07	1.04	1.01	1.05	1.02	.99	1.01	.98	.96	.97	.95	.93	.93	.92	.90	.88
2.0	.96	.91	.86	.95	.90	.85	.91	.87	.83	.88	.85	.82	.85	.82	.80	.78
3.0	.87	.81	.75	.86	.80	.75	.83	.78	.73	.80	.76	.72	.78	.74	.71	.69
4.0	.80	.72	.67	.78	.72	.66	.76	.70	.65	.74	.69	.65	.72	.67	.64	.62
5.0	.73	.65	.60	.72	.65	.60	.70	.64	.59	.68	.63	.58	.66	.62	.58	.56
6.0	.67	.60	.54	.66	.59	.54	.65	.58	.54	.63	.58	.53	.62	.57	.53	.51
7.0	.62	.55	.50	.62	.55	.50	.60	.54	.49	.59	.53	.49	.58	.53	.49	.47
8.0	.58	.51	.46	.57	.50	.46	.56	.50	.45	.55	.49	.45	.54	.49	.45	.43
9.0	.54	.47	.42	.54	.47	.42	.53	.47	.42	.52	.46	.42	.51	.46	.42	.40
10.0	.51	.44	.40	.51	.44	.40	.50	.44	.39	.49	.43	.39	.48	.43	.39	.38



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature: 25.0DEG  
 Operators:LI  
 Test Date:2020-01-05

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.420  
 Humidity: 48.5%  
 Test Distance:26.000m [K=1.0000]  
 Remarks:

Checker: LI

Assessor:

# 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	.246	.140	.044	.239	.137	.043	.227	.130	.041	.215	.124	.040	.204	.118	.038															
2.0	.234	.128	.039	.228	.126	.039	.217	.121	.037	.206	.116	.036	.197	.111	.035															
3.0	.219	.117	.035	.214	.114	.034	.204	.111	.034	.195	.107	.033	.187	.103	.032															
4.0	.204	.106	.031	.200	.105	.031	.191	.101	.030	.183	.098	.030	.176	.096	.029															
5.0	.191	.097	.028	.187	.096	.028	.179	.093	.028	.172	.091	.027	.166	.089	.027															
6.0	.179	.090	.026	.175	.089	.025	.169	.086	.025	.162	.084	.025	.157	.082	.024															
7.0	.168	.083	.024	.165	.082	.023	.159	.080	.023	.153	.079	.023	.148	.077	.023															
8.0	.158	.077	.022	.155	.076	.022	.150	.075	.021	.145	.074	.021	.140	.072	.021															
9.0	.149	.072	.020	.147	.072	.020	.142	.070	.020	.138	.069	.020	.133	.068	.020															
10.0	.141	.068	.019	.139	.067	.019	.135	.066	.019	.131	.065	.018	.127	.064	.018															

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	.176	.157	.139	.151	.134	.120	.103	.093	.083	.059	.054	.048	.019	.017	.016	
2.0	.165	.132	.105	.141	.114	.091	.097	.079	.063	.056	.046	.037	.018	.015	.012	
3.0	.155	.114	.082	.133	.098	.071	.091	.068	.050	.053	.040	.029	.017	.013	.010	
4.0	.146	.100	.065	.125	.086	.056	.086	.060	.040	.050	.035	.024	.016	.011	.008	
5.0	.138	.089	.053	.118	.077	.046	.082	.054	.033	.047	.032	.019	.015	.010	.006	
6.0	.130	.080	.044	.112	.069	.038	.077	.049	.027	.045	.029	.016	.014	.009	.005	
7.0	.124	.073	.037	.106	.063	.033	.074	.044	.023	.043	.026	.014	.014	.009	.005	
8.0	.118	.067	.032	.101	.058	.028	.070	.041	.020	.041	.024	.012	.013	.008	.004	
9.0	.112	.062	.028	.096	.054	.025	.067	.038	.017	.039	.022	.010	.013	.007	.003	
10.0	.107	.058	.025	.092	.050	.022	.064	.035	.015	.037	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature: 25.0DEG  
 Operators:LI  
 Test Date:2020-01-05

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.420  
 Humidity: 48.5%  
 Test Distance:26.000m [K=1.0000]  
 Remarks:

Checker: LI

Assessor:

# 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	22.2	23.6	22.6	23.9	24.2	16.4	17.8	16.8	18.1	18.5
3H	23.5	24.8	23.9	25.1	25.5	18.2	19.4	18.6	19.8	20.1
4H	23.8	25.0	24.2	25.4	25.7	18.9	20.1	19.3	20.4	20.8
6H	24.0	25.1	24.4	25.4	25.8	19.5	20.6	19.9	20.9	21.3
8H	24.0	25.0	24.5	25.4	25.8	19.7	20.7	20.1	21.1	21.5
12H	24.0	25.0	24.5	25.4	25.8	19.8	20.8	20.3	21.2	21.6
4H 2H	22.2	23.3	22.6	23.7	24.1	17.2	18.4	17.6	18.7	19.1
3H	23.6	24.5	24.0	25.0	25.4	19.2	20.2	19.6	20.6	21.0
4H	24.0	24.9	24.4	25.3	25.7	20.0	20.9	20.5	21.3	21.8
6H	24.3	25.0	24.8	25.5	25.9	20.7	21.5	21.2	21.9	22.4
8H	24.4	25.1	24.8	25.5	26.0	21.0	21.7	21.4	22.1	22.6
12H	24.4	25.0	24.9	25.5	26.0	21.2	21.8	21.7	22.3	22.7
8H 4H	24.0	24.7	24.5	25.2	25.7	20.4	21.1	20.9	21.6	22.0
6H	24.4	25.0	24.9	25.5	25.9	21.3	21.8	21.8	22.3	22.8
8H	24.5	25.0	25.0	25.5	26.0	21.6	22.1	22.1	22.6	23.1
12H	24.6	25.0	25.1	25.5	26.1	21.9	22.3	22.4	22.8	23.4
12H 4H	24.0	24.6	24.5	25.1	25.6	20.5	21.1	20.9	21.6	22.0
6H	24.4	24.9	24.9	25.4	25.9	21.3	21.9	21.9	22.3	22.9
8H	24.5	25.0	25.1	25.5	26.1	21.7	22.2	22.2	22.7	23.2
CIE190: 2010										

CIE190: 2010  
Area: 0.221 m2

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.0DEG  
Operators:LI  
Test Date:2020-01-05

Checker: LI

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.420  
Humidity: 48.5%  
Test Distance:26.000m [K=1.0000]  
Remarks:

Assessor:

# 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) $k(RI) \times RCR = 5$									
$k = 0.60$	69	60	54	69	59	54	68	59	54	48
0.80	79	69	63	78	69	63	76	68	63	57
1.00	86	77	71	85	76	71	83	77	70	64
1.25	92	83	78	90	83	77	88	81	77	71
1.50	96	88	83	94	87	82	92	85	81	75
2.00	101	94	89	99	93	88	96	91	87	80
2.50	104	98	93	102	96	92	98	94	90	83
3.00	106	101	97	104	100	96	101	97	93	86
4.00	109	105	101	107	103	100	103	100	97	89
5.00	111	108	105	109	106	103	105	102	100	91
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

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 Operators: LI  
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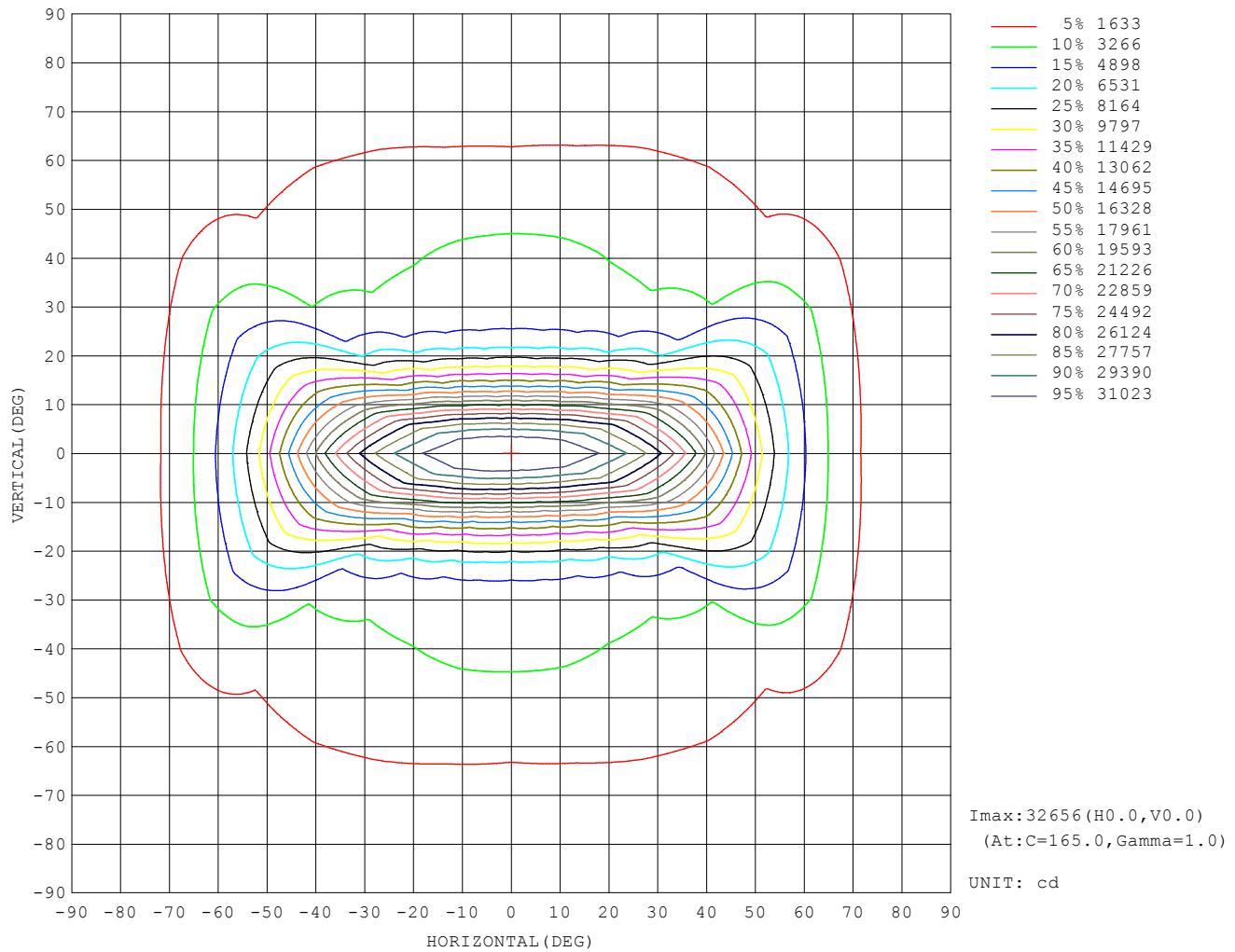
Checker: LI

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.420  
 Humidity: 48.5%  
 Test Distance: 26.000m [K=1.0000]  
 Remarks:

Assessor:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## ISOCANDELA DIAGRAM



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.0DEG  
Operators: LI  
Test Date: 2020-01-05

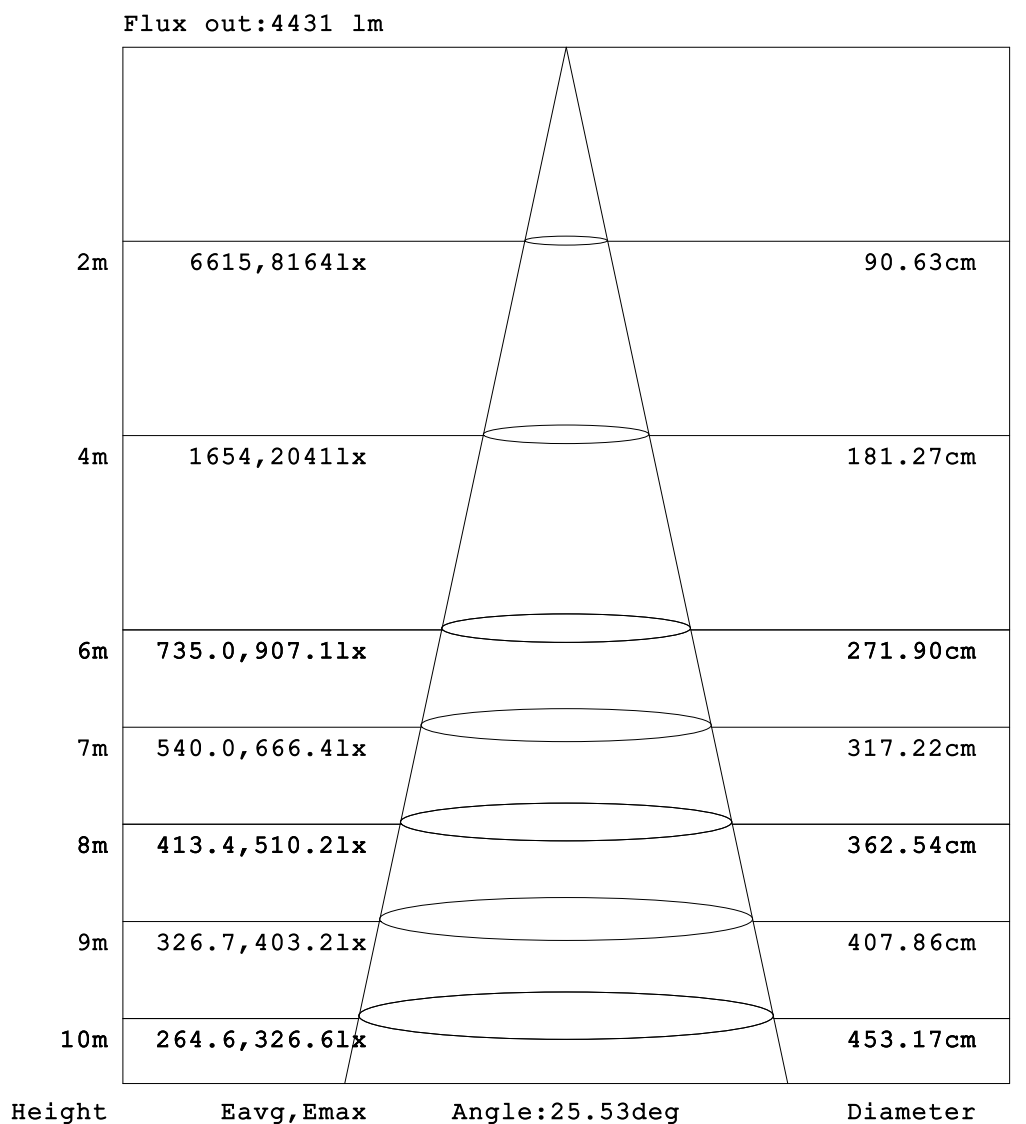
$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.420  
Humidity: 48.5%  
Test Distance: 26.000m [K=1.0000]  
Remarks:

Checker: LI

Assessor:



## 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: 25.0DEG  
Operators:LI  
Test Date:2020-01-05

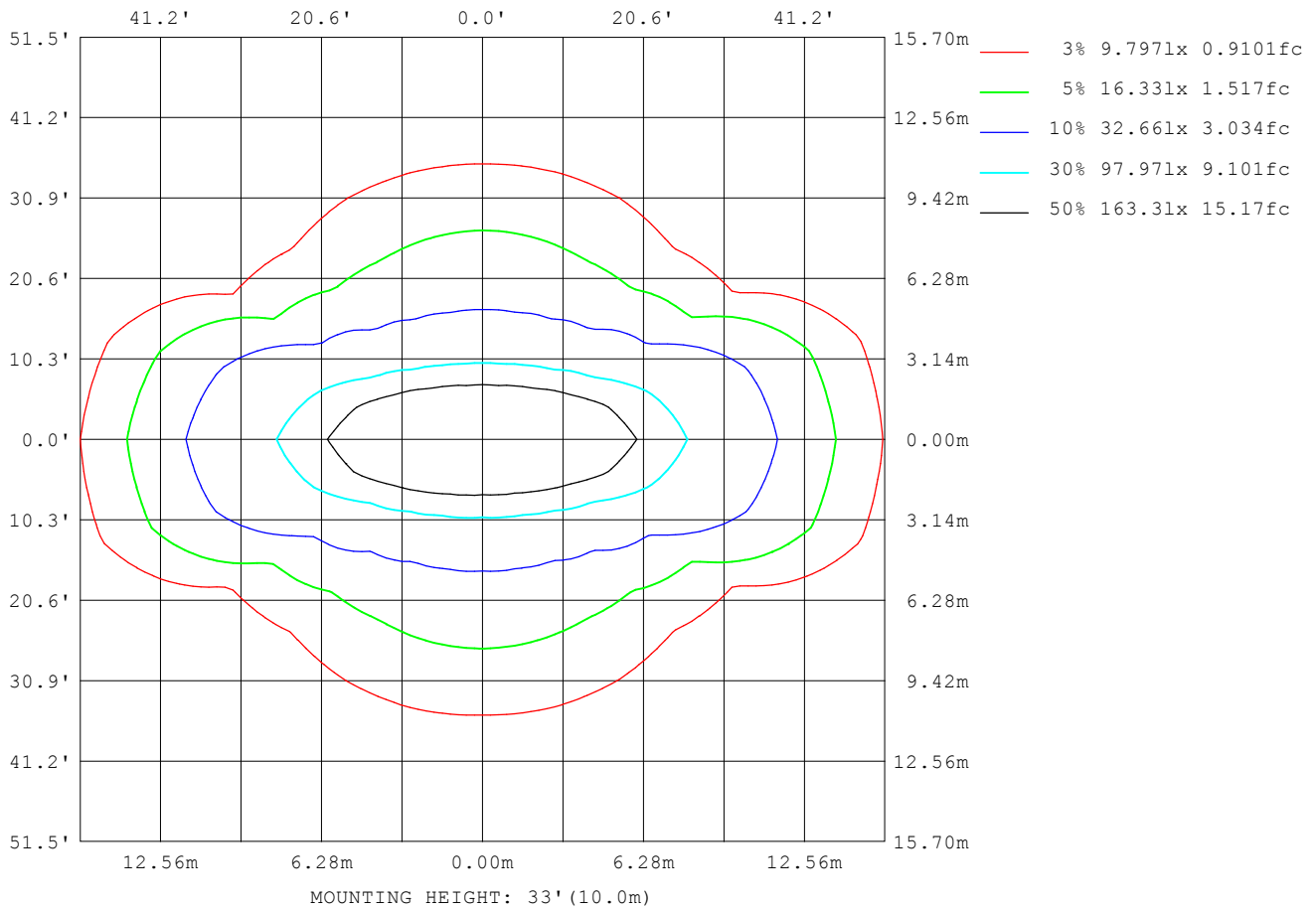
γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.420  
Humidity: 48.5%  
Test Distance:26.000m [K=1.0000]  
Remarks:

Checker: LI

Assessor:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## ISOLUX DIAGRAM



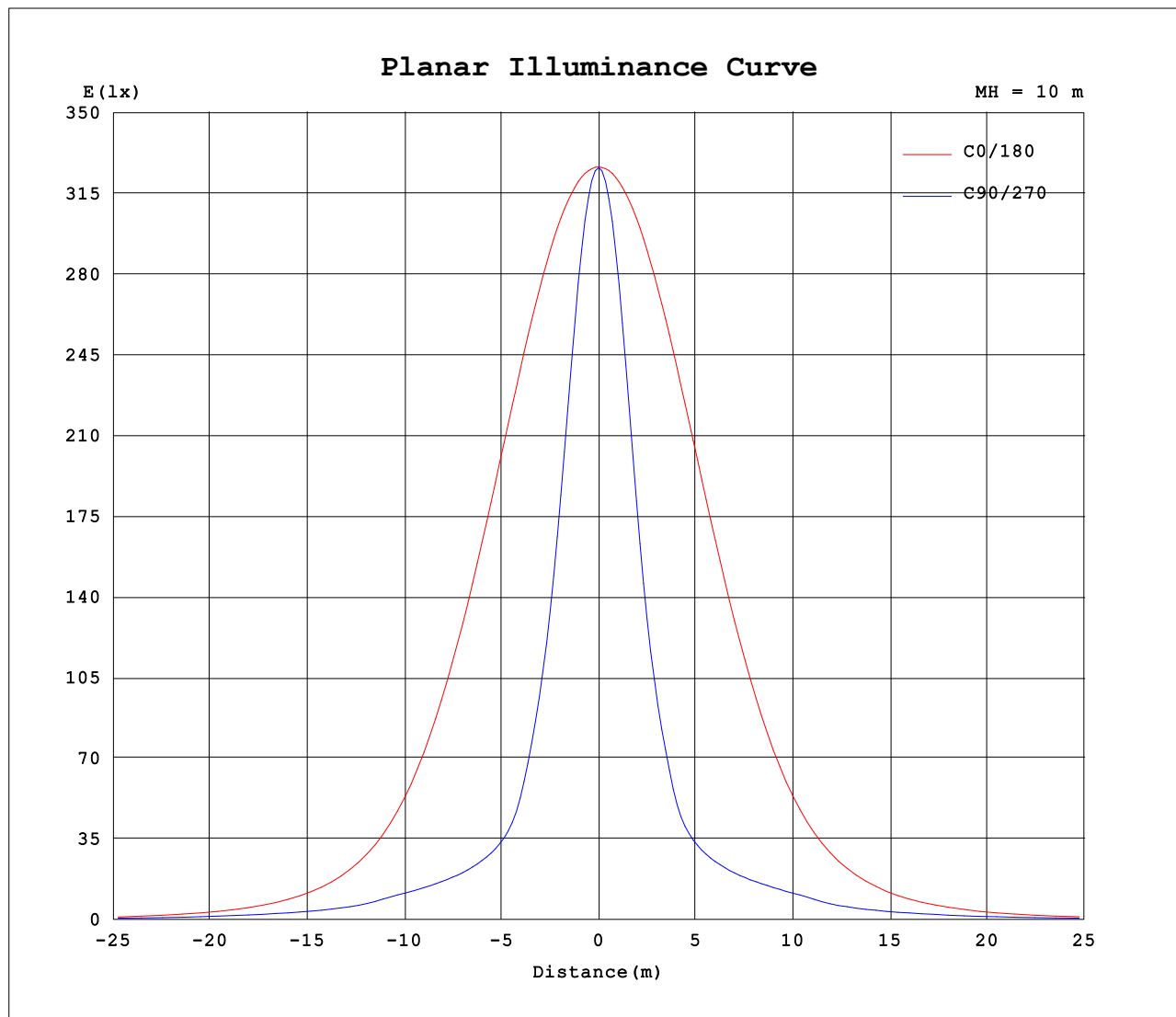
C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.0DEG  
Operators:LI  
Test Date:2020-01-05

Checker: LI

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.420  
Humidity: 48.5%  
Test Distance:26.000m [K=1.0000]  
Remarks:

Assessor:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.0DEG  
Operators:LI  
Test Date:2020-01-05

Checker: LI

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.420  
Humidity: 48.5%  
Test Distance:26.000m [K=1.0000]  
Remarks:

Assessor: