

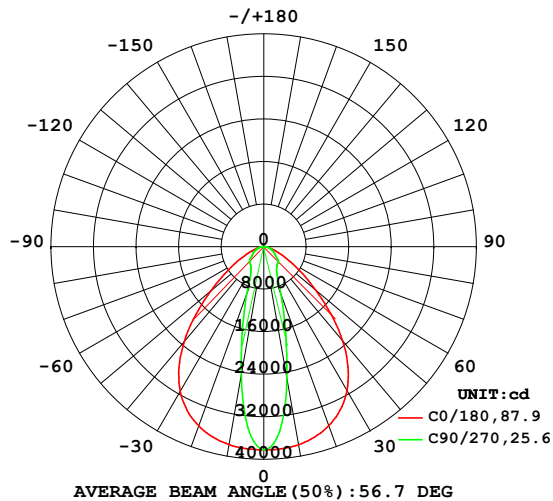
## EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINAIRE PHOTOMETRIC TEST REPORT

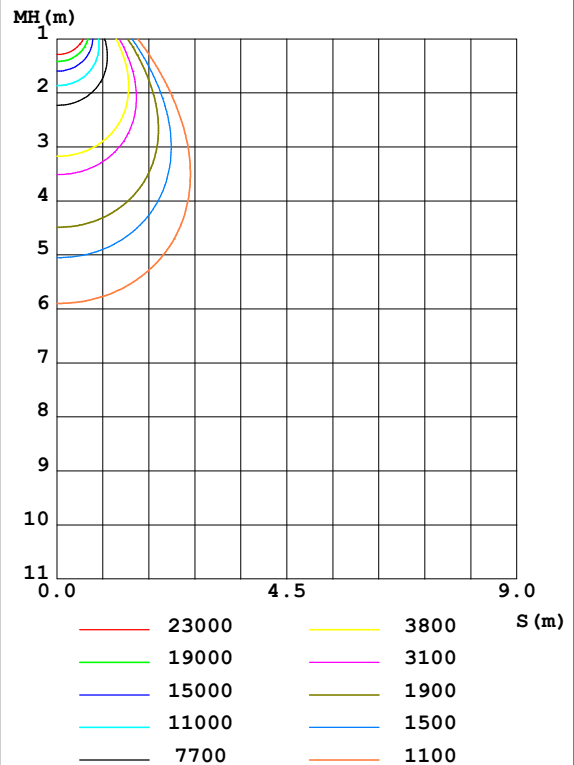
Test:U:229.6V I:1.056A P:238.9W PF:0.9854 Freq:50.00Hz Lamp Flux:36192.2x1 lm		
NAME: LHB09-240-5070-L00401	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 151.52 lm/W			
MODEL	/	I <sub>max</sub> (cd)	38234	S/MH(C0/180)	1.22
NOMINAL POWER(W)	240	LOR(%)	100.0	S/MH(C90/270)	0.43
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	36192	η UP,DN(C0-180)	0.0,50.4
NOMINAL FLUX(lm)	36192.2	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: 23.2DEG  
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: 61.2%  
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	3781	3112	2515	3155	3780	3034	2446	3013	0- 10	3295	3295	9.1,9.1
20	3583	1576	934.9	1616	3586	1543	932.6	1545	10- 20	6861	10156	28.1,28.1
30	3129	671.2	490.7	686.9	3141	662.1	487.7	667.4	20- 30	6915	17071	47.2,47.2
40	2310	415.8	414.2	421.4	2329	412.6	406.4	416.8	30- 40	6122	23193	64.1,64.1
50	1286	333.7	321.5	338.2	1307	331.6	311.4	333.4	40- 50	5142	28336	78.3,78.3
60	597.2	249.4	226.4	253.0	607.2	247.0	224.5	248.4	50- 60	3784	32120	88.7,88.7
70	227.8	163.3	141.5	166.6	232.9	160.3	141.2	160.7	60- 70	2448	34568	95.5,95.5
80	68.10	74.33	67.23	76.57	70.76	72.65	65.41	72.36	70- 80	1273	35841	99,99
90	0.2562	0.1586	0.1374	0.1729	0.2964	0.1833	0.1516	0.1836	80- 90	351.3	36192	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): 25905 lm

%lum = 71.6%

%lamp = 71.6%

Conical surface Flux(120deg): 32120 lm

%lum = 88.7%

%lamp = 88.7%

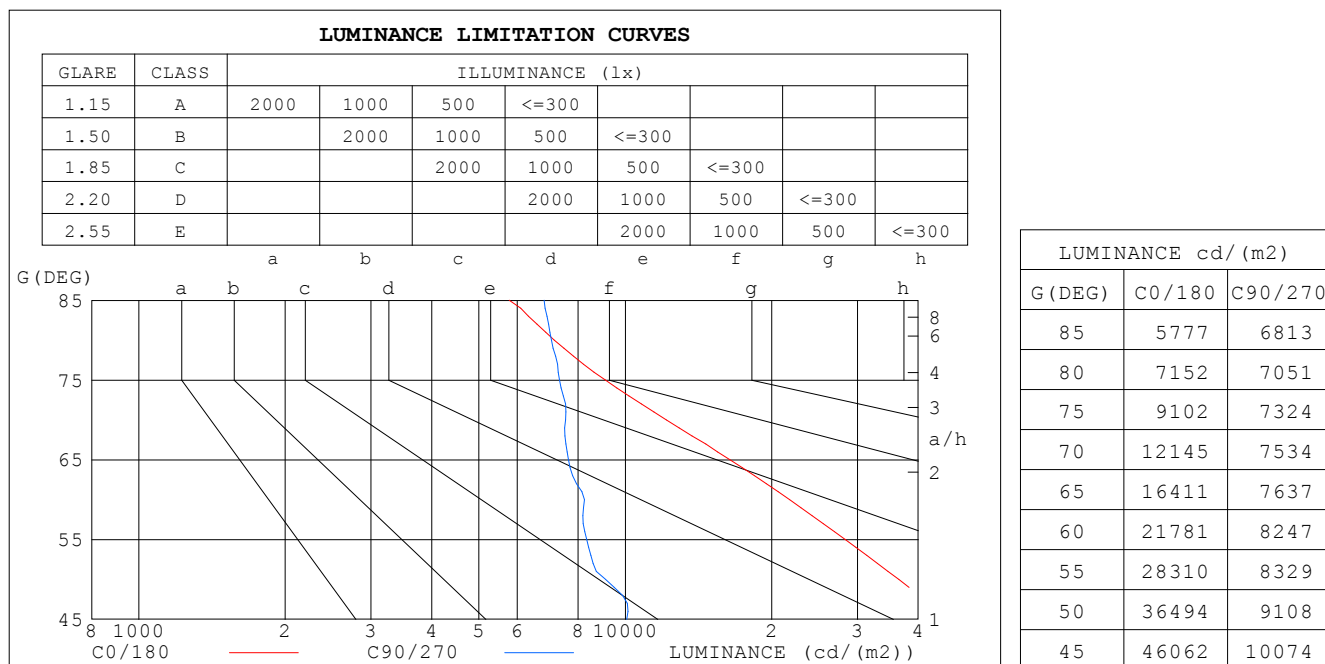
C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 23.2DEG  
Operators:LI  
Test Date:2020-01-05

Checker: LI

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.420  
Humidity: 61.2%  
Test Distance:26.000m [K=1.0000]  
Remarks:

Assessor:

## LUMINANCE LIMITATION CURVES



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 23.2DEG  
Operators: LI  
Test Date: 2020-01-05

Checker: LI

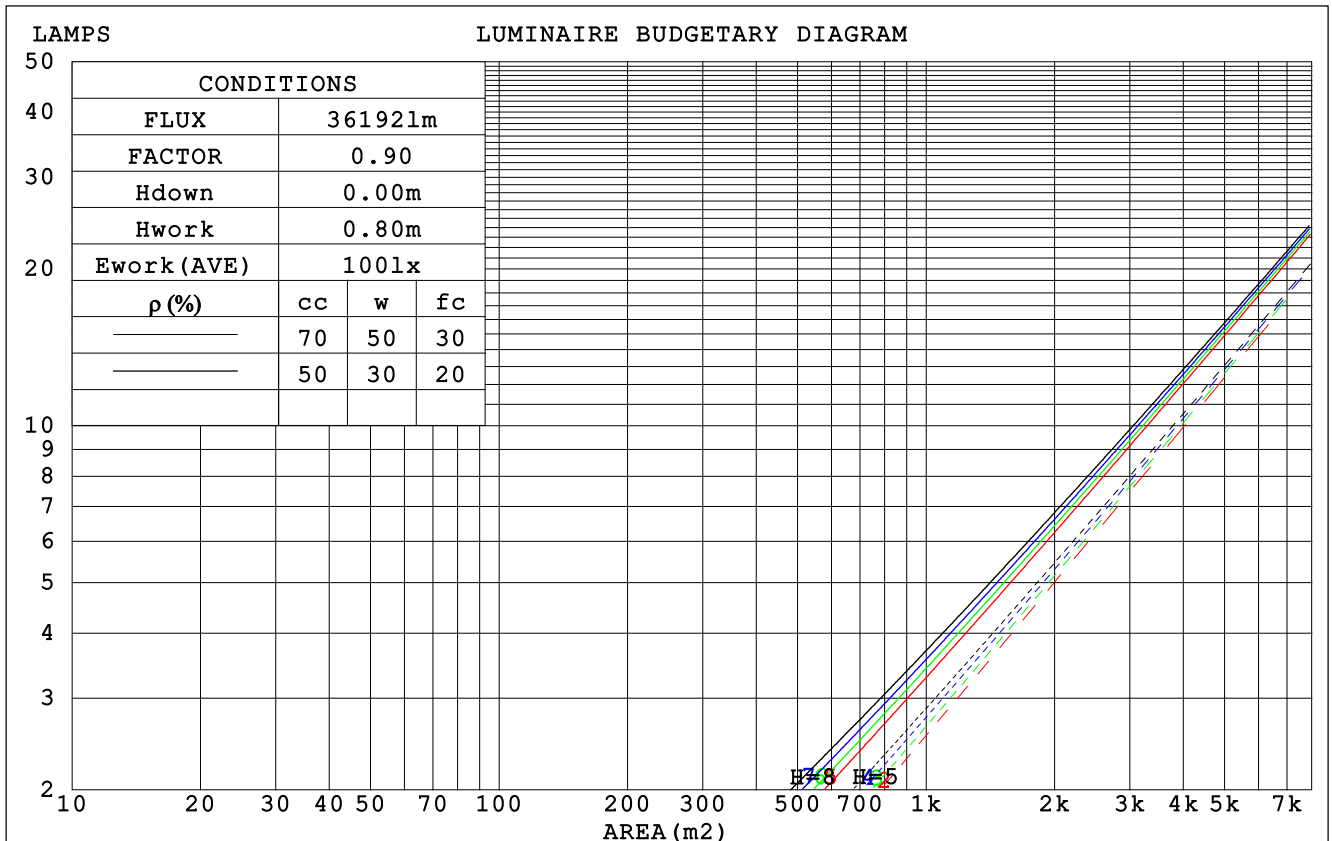
$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.420  
Humidity: 61.2%  
Test Distance: 26.000m [K=1.0000]  
Remarks:

Assessor:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

pcc	80%			70%			50%			30%			10%			0
p <sub>w</sub>	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
p <sub>fc</sub>	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	1.07	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	.49	.60	.54	.49	.59	.53	.49	.58	.52	.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	.46	.42	.52	.46	.42	.51	.46	.42	.40
10.0	.51	.44	.40	.50	.44	.39	.50	.44	.39	.49	.43	.39	.48	.43	.39	.38



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 23.2DEG  
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: 61.2%  
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	.226	.130	.041	.215	.124	.040	.204	.118	.038	
2.0	.234	.128	.039	.228	.126	.039	.217	.121	.037	.207	.116	.036	.197	.111	.035	
3.0	.219	.117	.035	.214	.115	.034	.204	.111	.034	.195	.107	.033	.187	.103	.032	
4.0	.204	.106	.031	.200	.105	.031	.191	.102	.030	.183	.099	.030	.176	.096	.029	
5.0	.191	.097	.028	.187	.096	.028	.180	.093	.028	.173	.091	.027	.166	.089	.027	
6.0	.179	.090	.026	.175	.089	.026	.169	.086	.025	.163	.084	.025	.157	.083	.025	
7.0	.168	.083	.024	.165	.082	.023	.159	.080	.023	.153	.079	.023	.148	.077	.023	
8.0	.158	.077	.022	.155	.077	.022	.150	.075	.021	.145	.074	.021	.141	.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: 23.2DEG  
 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: 61.2%  
 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	22.7	24.1	23.1	24.4	24.7	17.0	18.4	17.4	18.7	19.0
3H	24.0	25.3	24.4	25.6	26.0	18.8	20.0	19.1	20.3	20.7
4H	24.4	25.5	24.8	25.9	26.3	19.5	20.6	19.9	21.0	21.4
6H	24.5	25.6	24.9	26.0	26.4	20.0	21.1	20.4	21.5	21.9
8H	24.5	25.6	25.0	26.0	26.4	20.2	21.2	20.7	21.6	22.0
12H	24.6	25.5	25.0	25.9	26.3	20.4	21.3	20.8	21.7	22.2
4H 2H	22.7	23.8	23.1	24.2	24.6	17.8	18.9	18.2	19.3	19.7
3H	24.1	25.1	24.5	25.5	25.9	19.8	20.7	20.2	21.1	21.5
4H	24.5	25.4	25.0	25.8	26.3	20.6	21.5	21.0	21.9	22.3
6H	24.8	25.6	25.3	26.0	26.5	21.3	22.0	21.7	22.5	22.9
8H	24.9	25.6	25.4	26.0	26.5	21.5	22.2	22.0	22.7	23.1
12H	24.9	25.5	25.4	26.0	26.5	21.7	22.3	22.2	22.8	23.3
8H 4H	24.6	25.3	25.0	25.7	26.2	21.0	21.7	21.4	22.1	22.6
6H	24.9	25.5	25.4	26.0	26.5	21.8	22.4	22.3	22.9	23.3
8H	25.0	25.5	25.5	26.1	26.5	22.1	22.6	22.6	23.2	23.6
12H	25.1	25.6	25.6	26.1	26.6	22.4	22.9	22.9	23.4	23.9
12H 4H	24.5	25.2	25.0	25.6	26.1	21.0	21.6	21.5	22.1	22.6
6H	24.9	25.4	25.4	25.9	26.4	21.9	22.4	22.4	22.9	23.4
8H	25.1	25.5	25.6	26.0	26.6	22.3	22.7	22.8	23.2	23.8
CIE190: 2010										

CIE190: 2010  
Area: 0.221 m2

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 23.2DEG  
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: 61.2%  
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	78	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	91	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		

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature: 23.2DEG  
 Operators: LI  
 Test Date: 2020-01-05

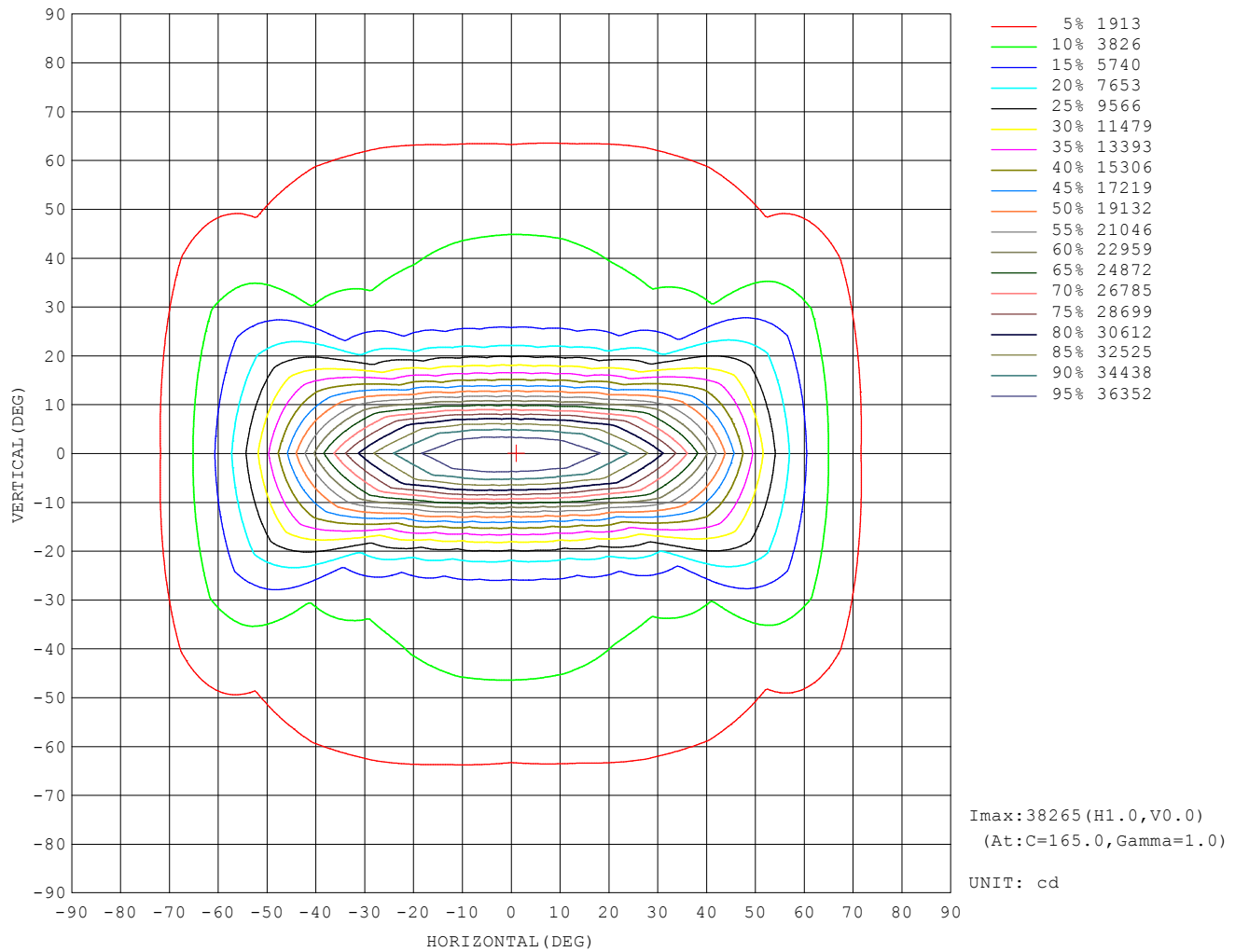
Checker: LI

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.420  
 Humidity: 61.2%  
 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: 23.2DEG  
Operators: LI  
Test Date: 2020-01-05

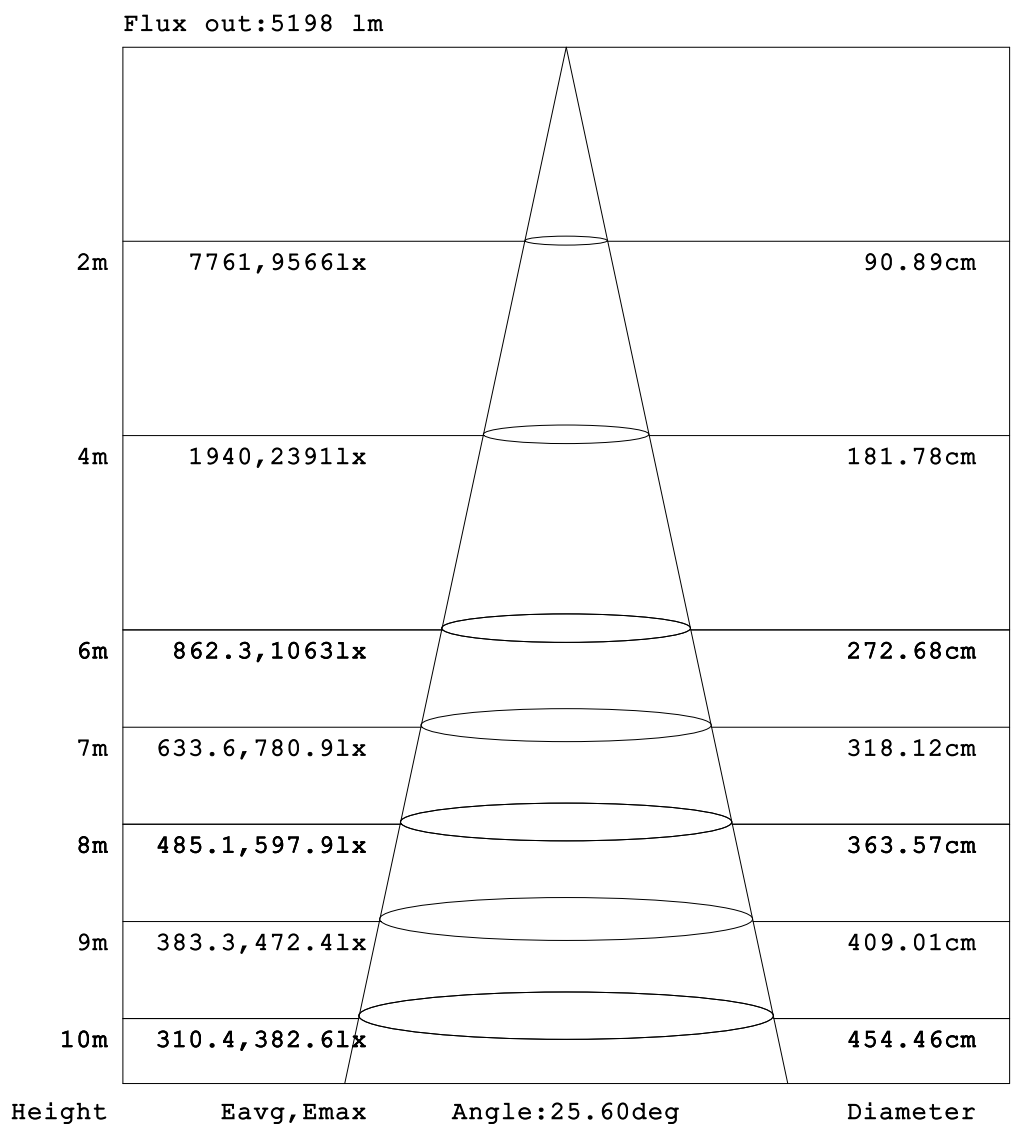
$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.420  
Humidity: 61.2%  
Test Distance: 26.000m [K=1.0000]  
Remarks:

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: 23.2DEG  
Operators: LI  
Test Date: 2020-01-05

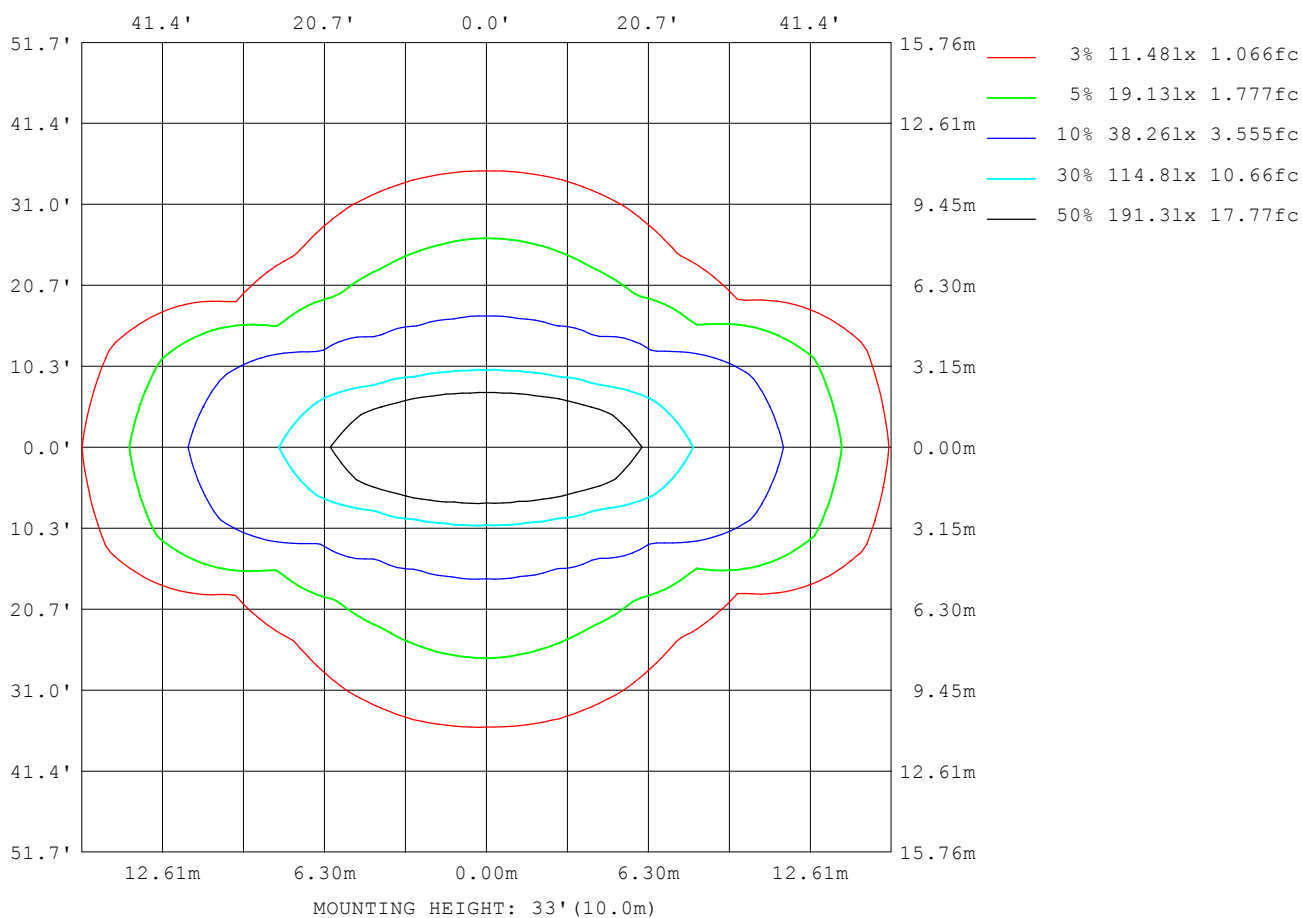
$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.420  
Humidity: 61.2%  
Test Distance: 26.000m [K=1.0000]  
Remarks:

Checker: LI

Assessor:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## ISOLUX DIAGRAM



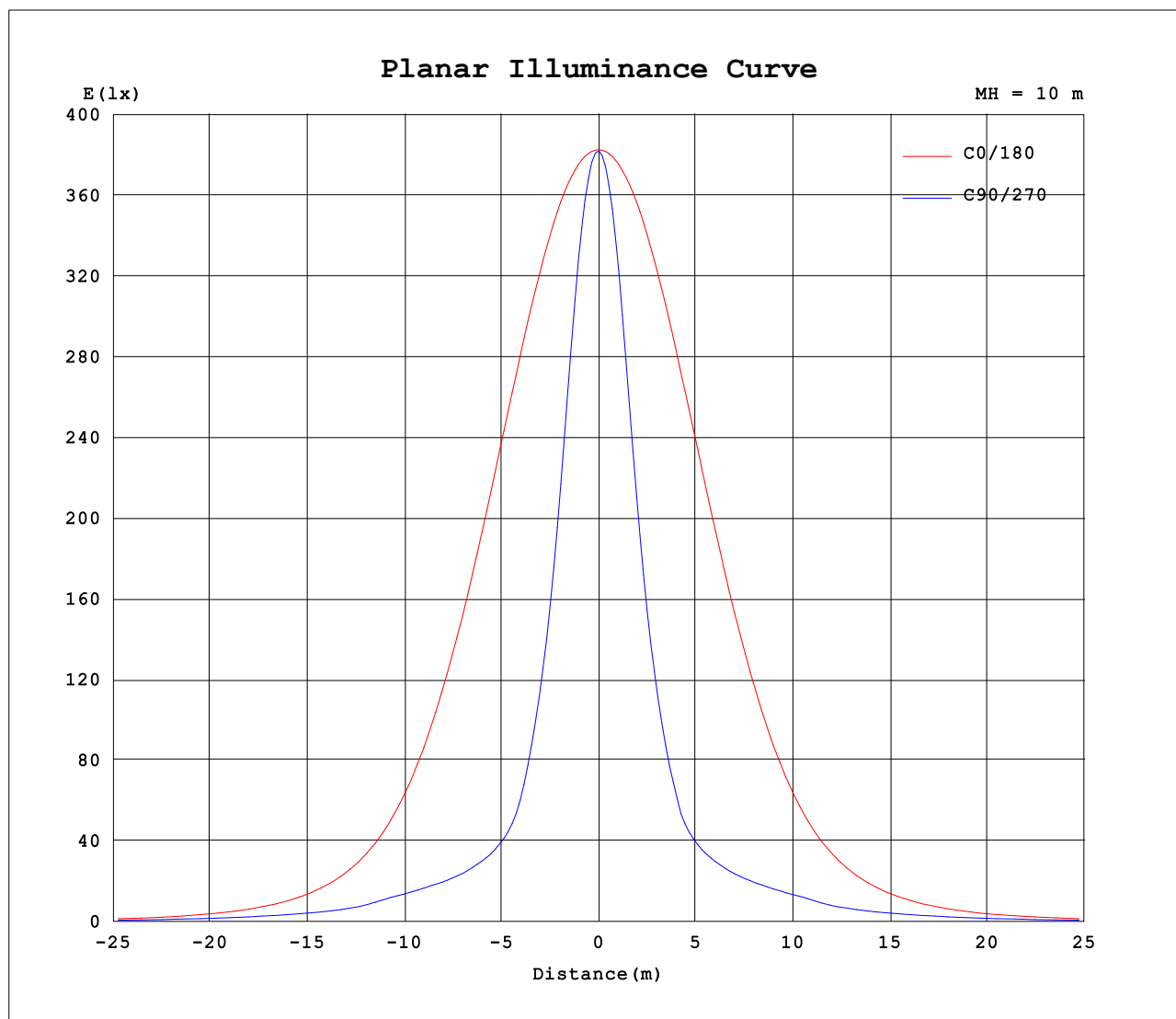
C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 23.2DEG  
Operators:LI  
Test Date:2020-01-05

Checker: LI

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.420  
Humidity: 61.2%  
Test Distance:26.000m [K=1.0000]  
Remarks:

Assessor:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 23.2DEG  
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: 61.2%  
Test Distance:26.000m [K=1.0000]  
Remarks:

Assessor: