

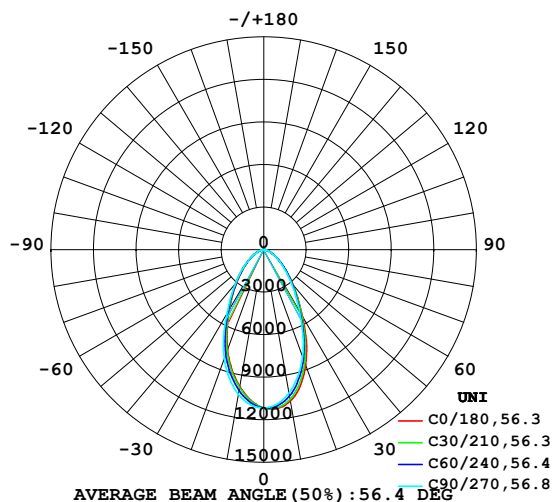
## EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINAIRE PHOTOMETRIC TEST REPORT

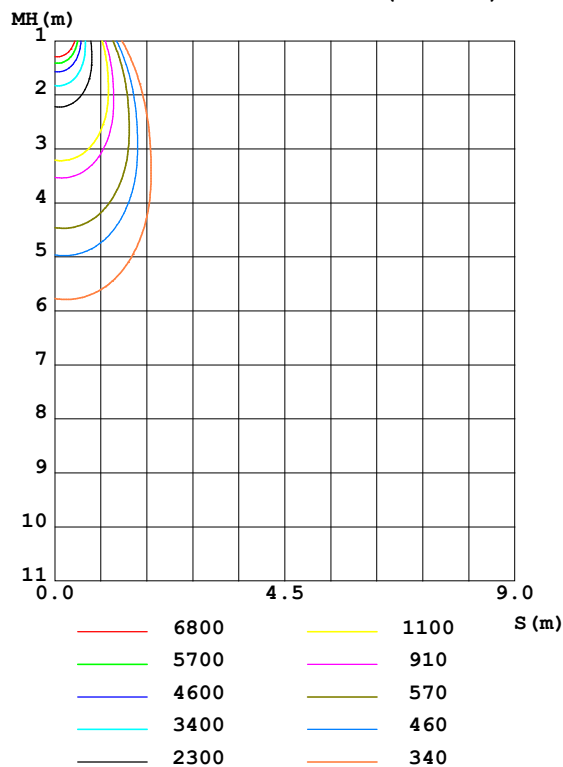
Test:U:230.1V I:0.4393A P:99.95W PF:0.9888 Freq:50.00Hz Lamp Flux:13244.5x1 lm		
NAME: HB39-100-5080-H00129	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 132.51 lm/W			
MODEL	/	Imax(cd)	11266	S/MH(C0/180)	0.80
NOMINAL POWER(W)	/	LOR(%)	100.0	S/MH(C90/270)	0.87
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	13244	$\eta$ UP,DN(C0-180)	0.0,49.9
NOMINAL FLUX(lm)	13244.5	CIE CLASS	DIRECT	$\eta$ UP,DN(C180-360)	0.0,50.1
LAMPS INSIDE	1	$\eta$ up(%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	230	$\eta$ down(%)	100.0	CIBSE SHR MAX	0.95

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: WJH  
Test Date: 2020-06-24

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity: 65.0%  
Test Distance: 9.350m [K=1.0000]  
Remarks:

Checker: LI

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	1084	1060	1027	998.6	980.1	998.2	1036	1077	0- 10	1025	1025	7.74,7.74
20	865.5	833.0	802.8	777.3	750.4	772.6	817.4	873.5	10- 20	2607	3632	27.4,27.4
30	549.0	525.0	507.7	501.8	485.6	499.7	520.8	567.5	20- 30	3042	6674	50.4,50.4
40	320.5	312.2	299.3	304.4	292.0	305.3	311.5	334.3	30- 40	2538	9213	69.6,69.6
50	179.0	178.4	169.9	177.6	168.5	177.4	177.7	188.2	40- 50	1843	11056	83.5,83.5
60	93.61	95.29	92.30	95.28	92.12	96.28	95.90	99.58	50- 60	1189	12244	92.4,92.4
70	42.40	43.07	41.85	43.14	41.88	43.81	43.75	45.35	60- 70	663.4	12907	97.5,97.5
80	13.18	13.08	12.66	13.00	13.04	13.73	13.77	14.21	70- 80	286.4	13194	99.6,99.6
90	0.3481	0.3583	0.3617	0.3701	0.3715	0.3619	0.3548	0.3570	80- 90	50.59	13244	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): 10222 lm

%lum = 77.2%

%lamp = 77.2%

Conical surface Flux(120deg): 12244 lm

%lum = 92.4%

%lamp = 92.4%

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:WJH  
Test Date:2020-06-24

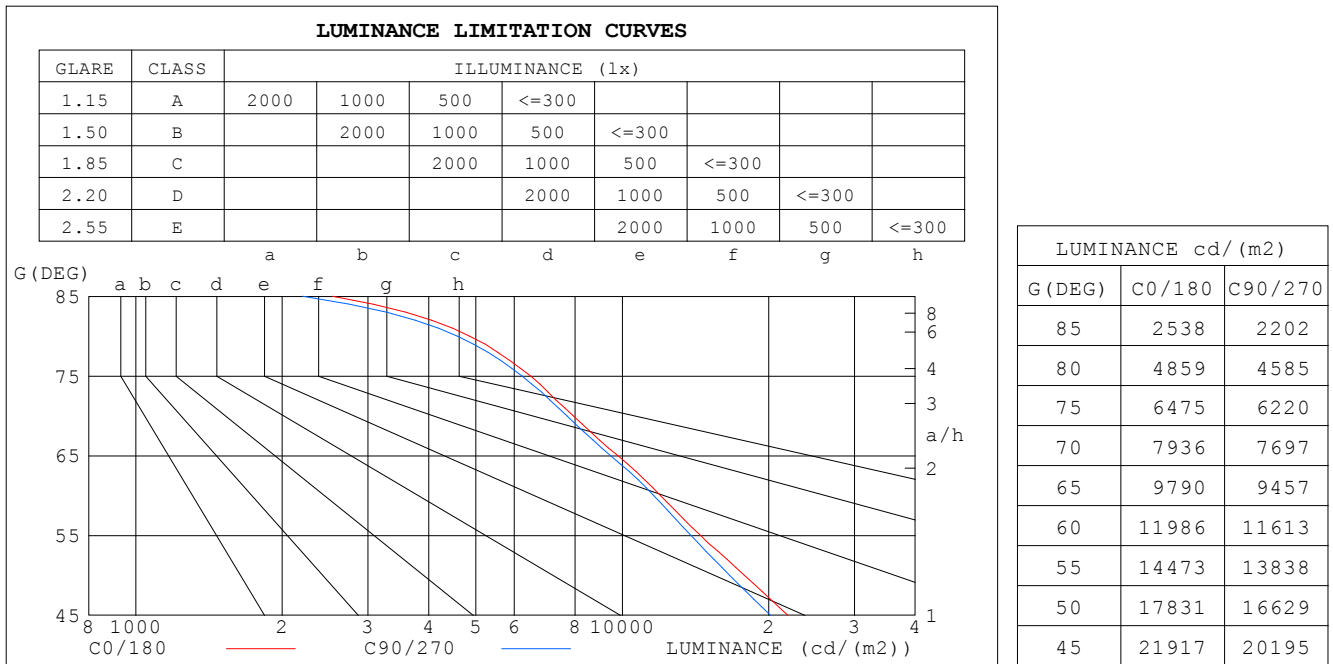
$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:9.350m [K=1.0000]  
Remarks:

Checker: LI

Assessor:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINANCE LIMITATION CURVES



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: WJH  
Test Date: 2020-06-24

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity: 65.0%  
Test Distance: 9.350m [K=1.0000]  
Remarks:

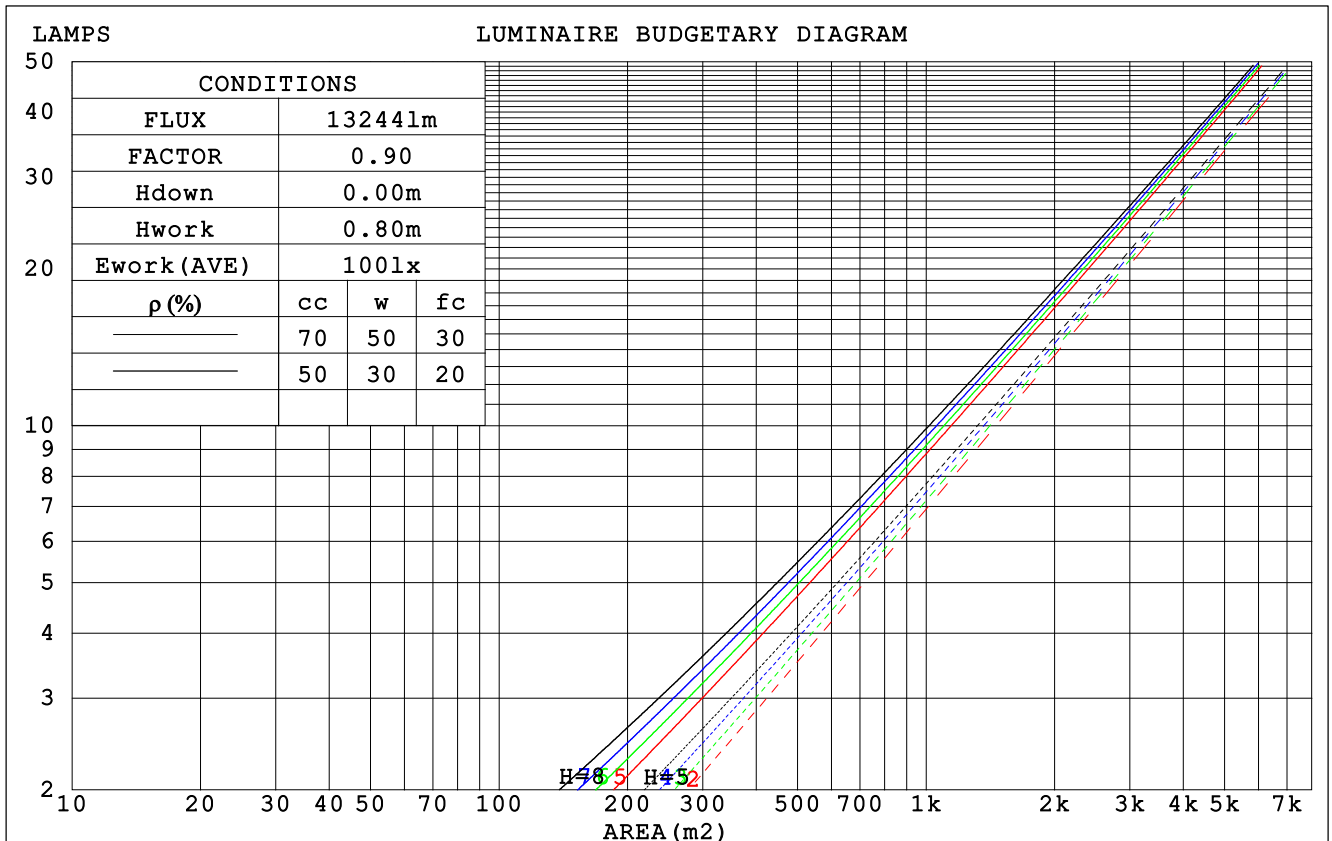
Checker: LI

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	.00
1.0	1.08	1.05	1.02	1.06	1.03	1.01	1.02	.00	.97	.98	.96	.94	.95	.93	.92	.90
2.0	.98	.93	.89	.96	.92	.88	.93	.89	.86	.90	.87	.84	.87	.84	.82	.80
3.0	.89	.83	.78	.88	.82	.77	.85	.80	.76	.82	.78	.75	.80	.76	.73	.72
4.0	.81	.75	.69	.80	.74	.69	.78	.72	.68	.76	.71	.67	.74	.70	.66	.65
5.0	.75	.68	.62	.74	.67	.62	.72	.66	.61	.70	.65	.61	.68	.64	.60	.58
6.0	.69	.62	.57	.68	.61	.56	.67	.60	.56	.65	.60	.55	.64	.59	.55	.53
7.0	.64	.57	.52	.63	.56	.52	.62	.56	.51	.61	.55	.51	.59	.54	.51	.49
8.0	.60	.52	.48	.59	.52	.47	.58	.52	.47	.57	.51	.47	.56	.51	.47	.45
9.0	.56	.49	.44	.55	.48	.44	.54	.48	.44	.53	.48	.44	.52	.47	.43	.42
10.0	.52	.45	.41	.52	.45	.41	.51	.45	.41	.50	.44	.41	.49	.44	.40	.39



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:WJH  
Test Date:2020-06-24

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:9.350m [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	.227	.129	.041	.221	.126	.040	.208	.119	.038	.196	.113	.036	.185	.107	.035		
2.0	.219	.120	.037	.213	.117	.036	.202	.112	.035	.192	.108	.034	.182	.103	.033		
3.0	.207	.110	.033	.202	.108	.033	.192	.104	.032	.184	.101	.031	.175	.097	.030		
4.0	.195	.101	.030	.191	.100	.029	.182	.097	.029	.174	.094	.028	.167	.091	.028		
5.0	.184	.094	.027	.180	.092	.027	.172	.090	.026	.165	.087	.026	.159	.085	.026		
6.0	.173	.087	.025	.170	.086	.025	.163	.084	.024	.157	.082	.024	.151	.080	.024		
7.0	.163	.081	.023	.160	.080	.023	.154	.078	.022	.149	.076	.022	.144	.075	.022		
8.0	.155	.076	.021	.152	.075	.021	.147	.073	.021	.142	.072	.021	.137	.070	.020		
9.0	.146	.071	.020	.144	.070	.020	.139	.069	.020	.135	.068	.019	.131	.066	.019		
10.0	.139	.067	.019	.137	.066	.018	.133	.065	.018	.129	.064	.018	.125	.063	.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	.175	.157	.141	.149	.135	.121	.102	.093	.084	.059	.054	.049	.019	.017	.016		
2.0	.163	.132	.107	.139	.114	.092	.095	.079	.064	.055	.046	.038	.018	.015	.012		
3.0	.152	.114	.083	.131	.098	.072	.090	.068	.051	.052	.040	.030	.017	.013	.010		
4.0	.144	.100	.066	.123	.086	.058	.085	.060	.041	.049	.035	.024	.016	.011	.008		
5.0	.136	.089	.054	.116	.077	.047	.080	.054	.033	.046	.031	.020	.015	.010	.006		
6.0	.129	.080	.045	.110	.069	.039	.076	.048	.028	.044	.028	.016	.014	.009	.005		
7.0	.122	.073	.038	.105	.063	.033	.073	.044	.023	.042	.026	.014	.014	.009	.005		
8.0	.116	.067	.033	.100	.058	.028	.069	.041	.020	.040	.024	.012	.013	.008	.004		
9.0	.111	.062	.028	.095	.053	.025	.066	.038	.018	.038	.022	.011	.012	.007	.003		
10.0	.106	.057	.025	.091	.050	.022	.063	.035	.016	.037	.021	.009	.012	.007	.003		

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:WJH  
 Test Date:2020-06-24

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
 Humidity:65.0%  
 Test Distance:9.350m [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	20.8	22.0	21.1	22.2	22.4	20.6	21.8	20.9	22.0	22.2
3H	21.4	22.5	21.6	22.7	22.9	21.1	22.2	21.4	22.5	22.7
4H	21.5	22.6	21.8	22.8	23.0	21.3	22.4	21.6	22.6	22.8
6H	21.6	22.6	21.9	22.8	23.1	21.4	22.4	21.7	22.6	22.9
8H	21.6	22.5	21.9	22.8	23.1	21.4	22.3	21.7	22.6	22.9
12H	21.6	22.5	21.9	22.7	23.0	21.3	22.2	21.7	22.5	22.8
4H 2H	21.0	22.1	21.3	22.3	22.6	20.9	21.9	21.2	22.1	22.4
3H	21.7	22.6	22.1	22.9	23.2	21.5	22.4	21.9	22.7	23.0
4H	22.0	22.8	22.3	23.1	23.4	21.8	22.6	22.1	22.9	23.2
6H	22.1	22.8	22.5	23.2	23.5	21.9	22.6	22.3	23.0	23.3
8H	22.1	22.8	22.5	23.2	23.5	21.9	22.6	22.3	23.0	23.3
12H	22.1	22.7	22.5	23.1	23.5	21.9	22.5	22.3	22.9	23.3
8H 4H	22.0	22.7	22.4	23.0	23.4	21.8	22.5	22.2	22.9	23.2
6H	22.2	22.8	22.6	23.2	23.6	22.0	22.6	22.5	23.0	23.4
8H	22.2	22.7	22.7	23.2	23.6	22.1	22.6	22.5	23.0	23.4
12H	22.2	22.7	22.7	23.1	23.6	22.1	22.5	22.5	22.9	23.4
12H 4H	22.0	22.6	22.4	23.0	23.4	21.8	22.4	22.2	22.8	23.2
6H	22.2	22.7	22.6	23.1	23.5	22.0	22.5	22.5	22.9	23.4
8H	22.2	22.7	22.7	23.1	23.6	22.1	22.5	22.5	22.9	23.4
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.6 / - 0.9					+ 0.6 / - 0.8				
1.5H	+ 0.5 / - 0.4					+ 0.5 / - 0.5				
2.0H	+ 1.3 / - 1.0					+ 1.2 / - 1.0				

CIE Pub.117, 13245 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 9.0)  
Area: 0.1584 m2

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:WJH  
Test Date:2020-06-24

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:9.350m [K=1.0000]  
Remarks:

Checker: LI

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) $k(RI) \times RCR = 5$									
$k = 0.60$	72	63	58	72	63	58	71	63	58	53
0.80	82	73	67	81	73	67	79	72	67	62
1.00	88	80	75	87	80	75	86	80	74	69
1.25	94	87	81	93	86	81	91	85	80	75
1.50	98	91	86	97	90	86	94	89	84	79
2.00	103	97	92	101	96	91	98	94	90	84
2.50	105	100	96	104	99	95	100	96	93	86
3.00	108	103	99	106	101	98	102	99	96	89
4.00	111	107	103	108	105	102	105	102	99	91
5.00	112	109	106	110	107	105	106	104	101	93
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

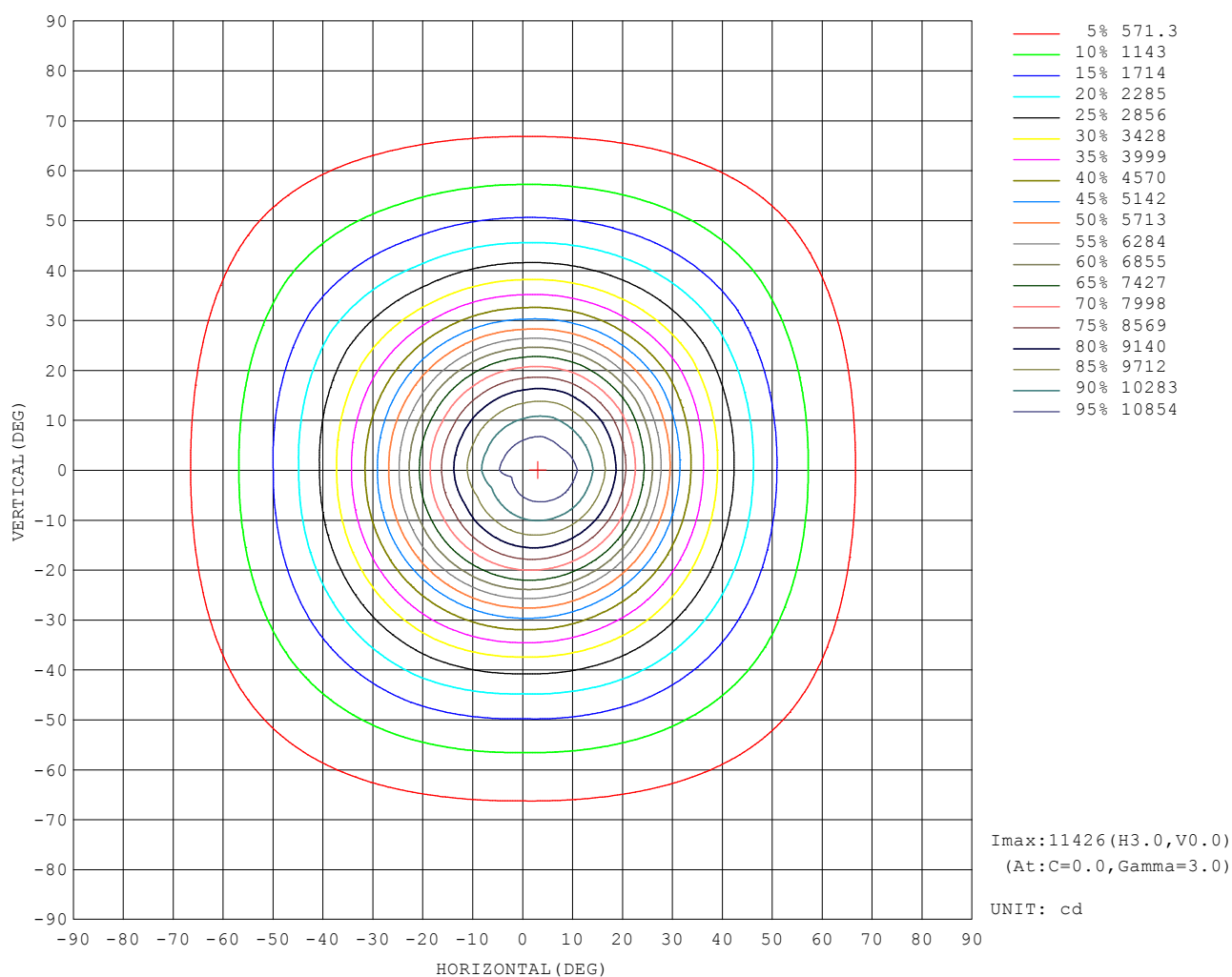
C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: WJH  
 Test Date: 2020-06-24

Checker: LI

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
 Humidity: 65.0%  
 Test Distance: 9.350m [K=1.0000]  
 Remarks:

Assessor:

## ISOCANDELA DIAGRAM



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:WJH  
Test Date:2020-06-24

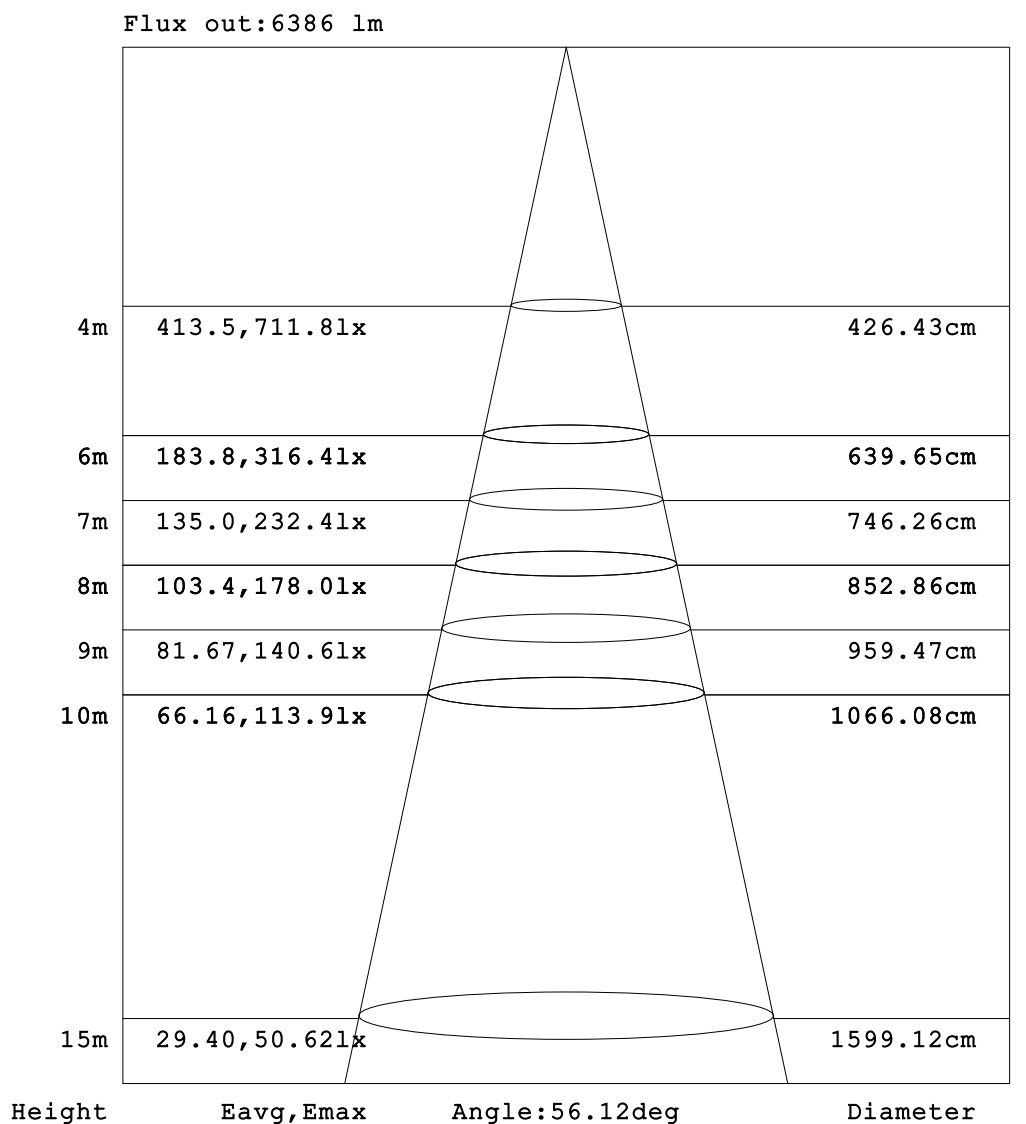
$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:9.350m [K=1.0000]  
Remarks:

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: 30.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: WJH  
Test Date: 2020-06-24

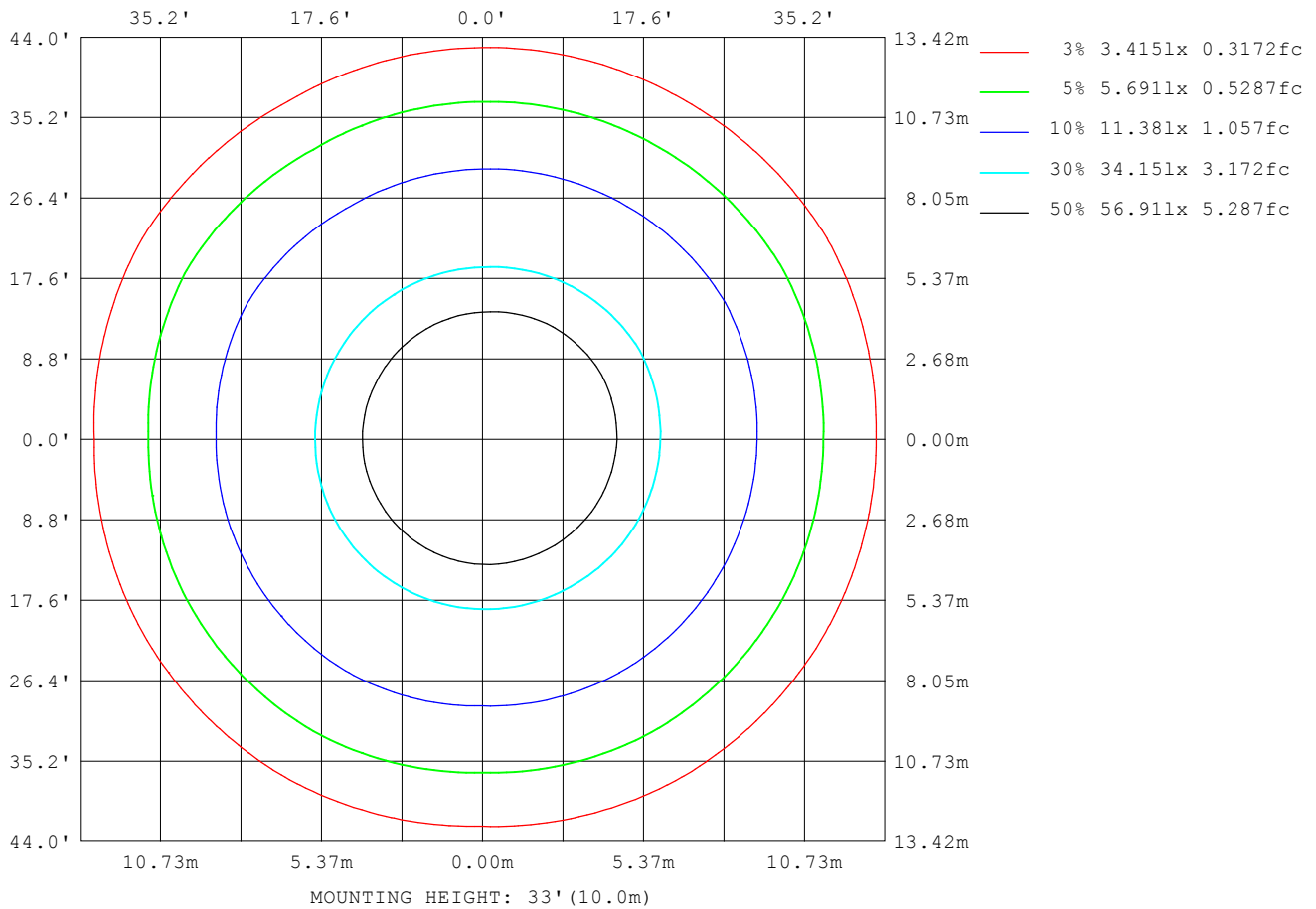
$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity: 65.0%  
Test Distance: 9.350m [K=1.0000]  
Remarks:

Checker: LI

Assessor:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## ISOLUX DIAGRAM



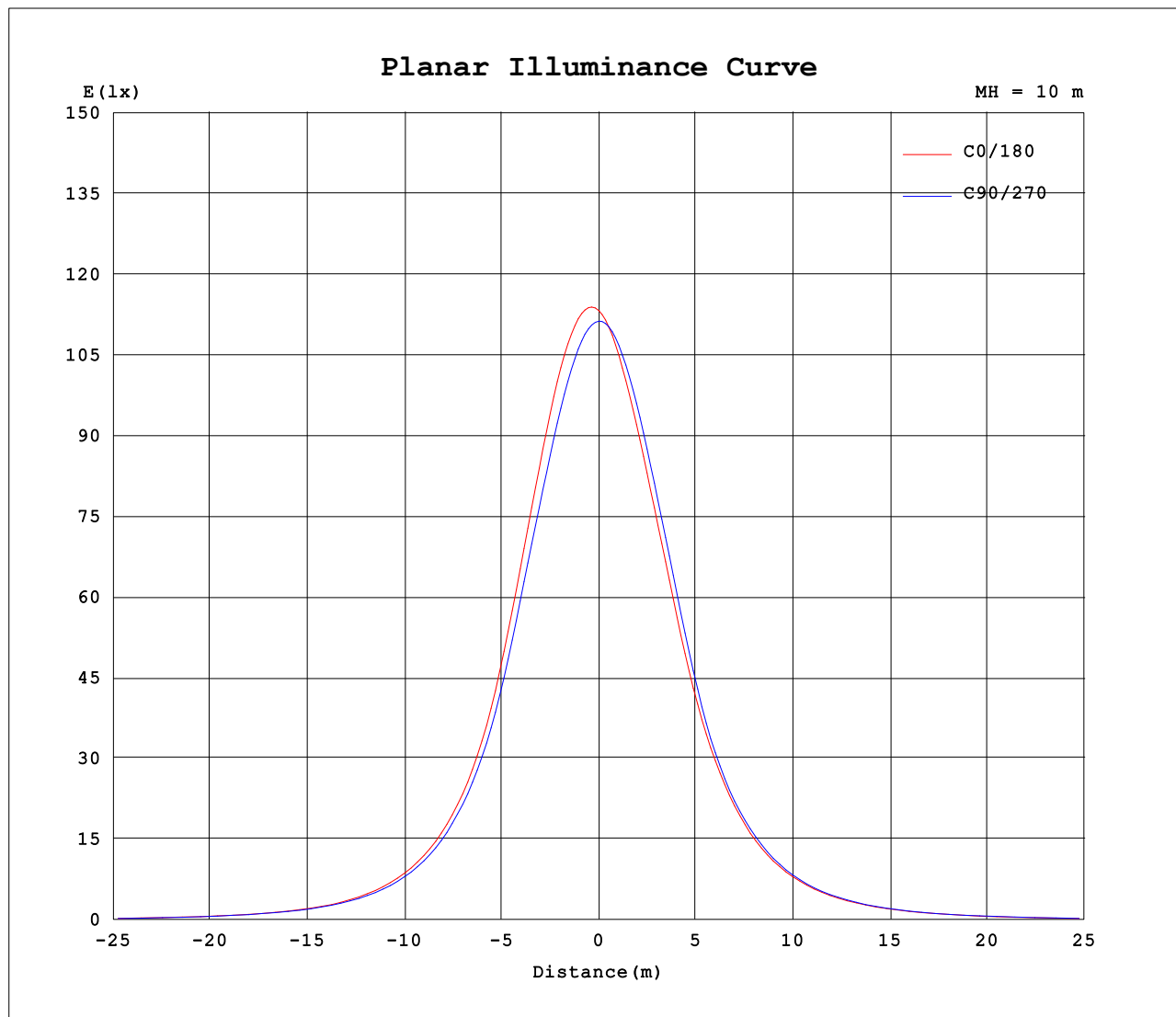
C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: WJH  
Test Date: 2020-06-24

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity: 65.0%  
Test Distance: 9.350m [K=1.0000]  
Remarks:

Checker: LI

Assessor:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: WJH  
Test Date: 2020-06-24

Checker: LI

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity: 65.0%  
Test Distance: 9.350m [K=1.0000]  
Remarks:

Assessor: