

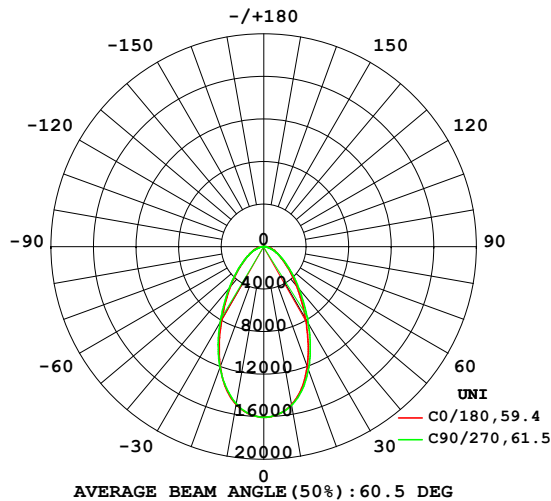
# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINAIRE PHOTOMETRIC TEST REPORT

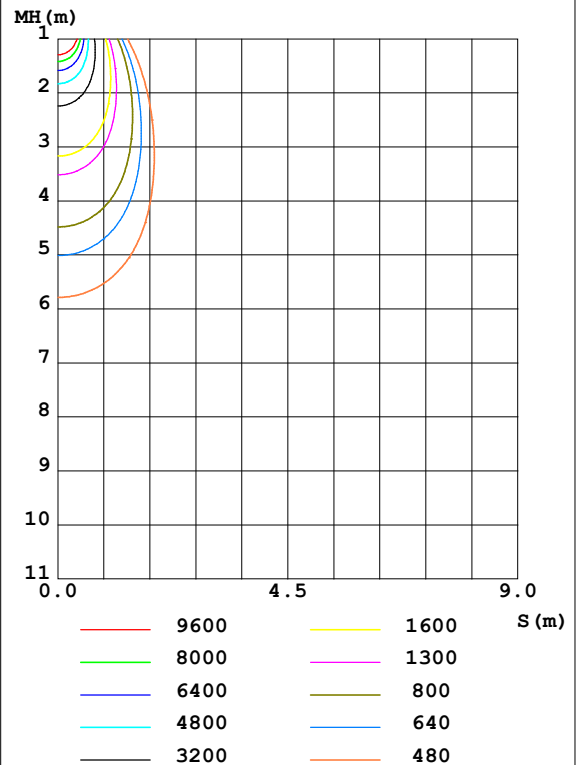
Test:U:229.6V I:0.6500A P:147.6W PF:0.9889 Freq:50.00Hz UTHDi:0.5156% ITHDi:5.417% Lamp Flux:21265.1x1 lm					
NAME: LHB09-150-5070-L04501		TYPE:		WEIGHT:	
SPEC.:		DIM.:		SERIAL No.:	
MFR.:		SUR.:		Shielding Angle:	

DATA OF LAMP		PHOTOMETRIC DATA Eff: 144.07 lm/W			
MODEL	/	Imax(cd)	16047	S/MH(C0/180)	0.88
NOMINAL POWER(W)	150	LOR(%)	100.0	S/MH(C90/270)	0.89
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	21265	$\eta$ UP,DN(C0-180)	0.0,50.3
NOMINAL FLUX(lm)	21265.1	CIE CLASS	DIRECT	$\eta$ UP,DN(C180-360)	0.0,49.7
LAMPS INSIDE	1	$\eta$ up(%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	230	$\eta$ down(%)	100.0	CIBSE SHR MAX	1.00

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:26.6DEG  
Operators:LI  
Test Date:2020-03-11

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
Humidity:44.4%  
Test Distance:1.900m [K=0.6030]  
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	1508	1515	1514	1506	1506	1499	1499	1503	0- 10	1485	1485	6.98,6.98
20	1197	1225	1230	1209	1199	1200	1207	1198	10- 20	3843	5328	25.1,25.1
30	787.6	830.6	840.9	821.3	793.3	812.9	822.6	810.7	20- 30	4620	9949	46.8,46.8
40	480.2	520.5	515.8	516.0	486.7	509.6	503.8	507.8	30- 40	4039	13987	65.8,65.8
50	284.3	312.7	304.6	311.8	288.6	306.4	296.3	304.7	40- 50	3042	17029	80.1,80.1
60	167.6	179.9	173.3	180.2	169.8	176.8	169.2	175.8	50- 60	2068	19098	89.8,89.8
70	99.23	99.58	89.59	99.41	100.0	98.31	88.95	98.35	60- 70	1312	20410	96,96
80	47.59	37.99	28.78	37.67	47.26	36.78	28.72	37.63	70- 80	701.0	21111	99.3,99.3
90	0.0128	0.0087	0.0082	0.0092	0.0156	0.0110	0.0098	0.0110	80- 90	154.0	21265	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): 15638 lm

%lum = 73.5%

%lamp = 73.5%

Conical surface Flux(120deg): 19098 lm

%lum = 89.8%

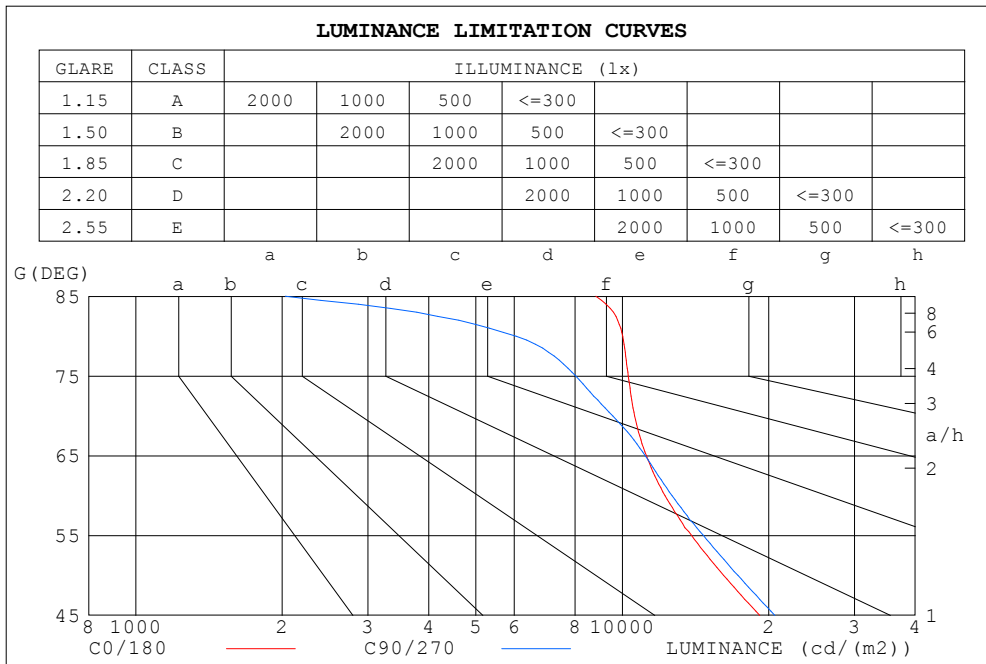
%lamp = 89.8%

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:26.6DEG  
Operators:LI  
Test Date:2020-03-11

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
Humidity:44.4%  
Test Distance:1.900m [K=0.6030]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINANCE LIMITATION CURVES



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	8830	2030
80	10015	6048
75	10291	8023
70	10602	9558
65	11207	11148
60	12248	12651
55	13873	14672
50	16161	17292
45	19157	20568

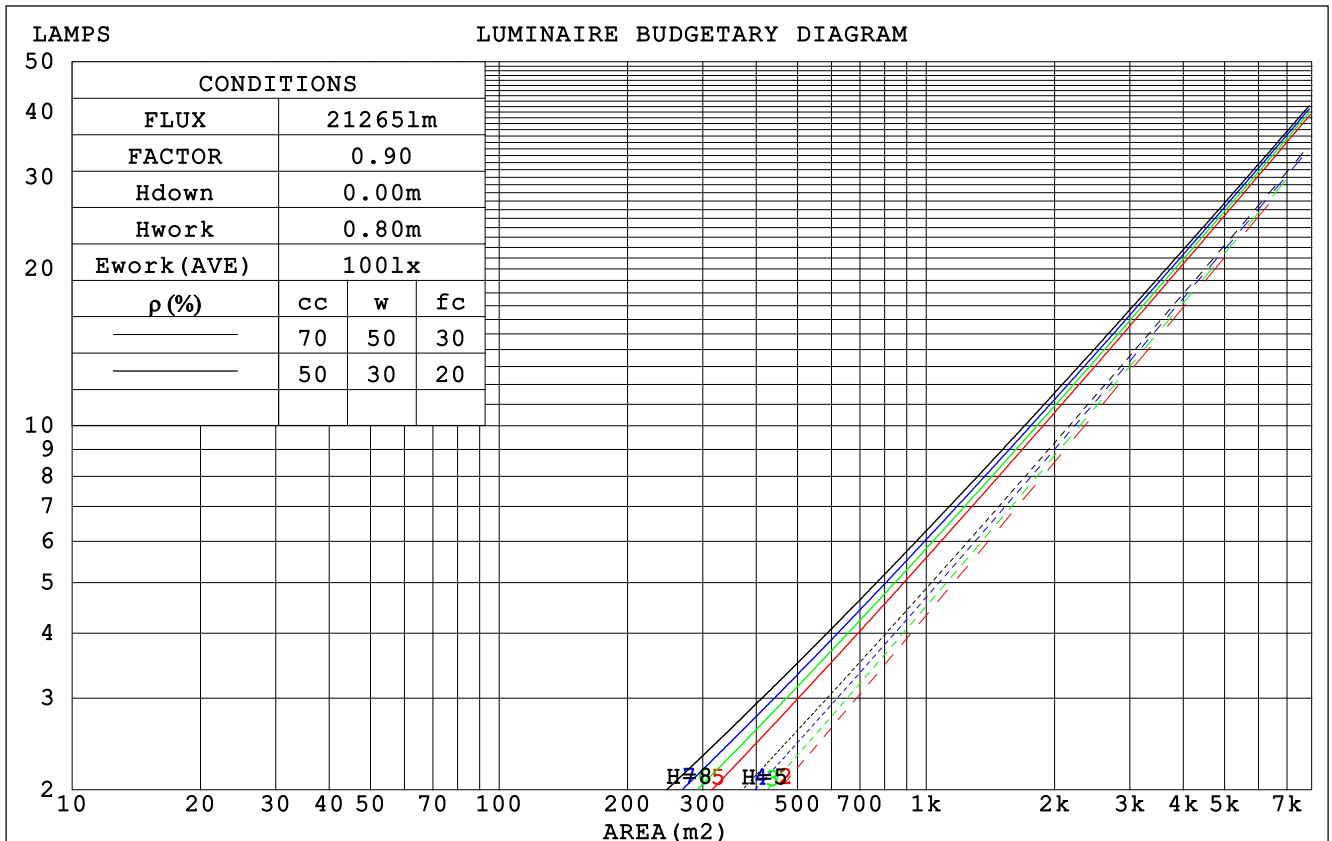
C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature: 26.6DEG  
 Operators: LI  
 Test Date: 2020-03-11

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
 Humidity: 44.4%  
 Test Distance: 1.900m [K=0.6030]  
 Remarks:

# 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	1.07	1.04	1.01	1.05	1.02	.99	1.01	.99	.96	.97	.95	.93	.94	.92	.91	.89
2.0	.97	.91	.87	.95	.90	.86	.91	.87	.84	.88	.85	.82	.85	.83	.80	.78
3.0	.87	.81	.76	.86	.80	.75	.83	.78	.74	.81	.76	.72	.78	.74	.71	.69
4.0	.80	.72	.67	.78	.72	.66	.76	.70	.66	.74	.69	.65	.72	.67	.64	.62
5.0	.73	.65	.60	.72	.65	.59	.70	.64	.59	.68	.63	.58	.66	.62	.58	.56
6.0	.67	.59	.54	.66	.59	.54	.64	.58	.53	.63	.57	.53	.61	.56	.53	.51
7.0	.62	.54	.49	.61	.54	.49	.60	.53	.49	.58	.53	.48	.57	.52	.48	.46
8.0	.57	.50	.45	.57	.50	.45	.56	.49	.45	.54	.49	.45	.53	.48	.44	.43
9.0	.54	.46	.42	.53	.46	.42	.52	.46	.41	.51	.45	.41	.50	.45	.41	.39
10.0	.50	.43	.39	.50	.43	.38	.49	.43	.38	.48	.42	.38	.47	.42	.38	.37



C Range: 0 - 360DEG  
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 Test Speed: HIGH  
 Temperature: 26.6DEG  
 Operators: LI  
 Test Date: 2020-03-11

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
 Humidity: 44.4%  
 Test Distance: 1.900m [K=0.6030]  
 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	.243	.138	.044	.236	.135	.043	.223	.128	.041	.211	.122	.039	.200	.116	.037															
2.0	.232	.127	.039	.226	.125	.038	.215	.120	.037	.205	.115	.036	.195	.110	.035															
3.0	.218	.116	.035	.213	.114	.034	.203	.110	.033	.194	.106	.033	.186	.103	.032															
4.0	.204	.106	.031	.200	.105	.031	.191	.101	.030	.183	.098	.030	.176	.096	.029															
5.0	.191	.098	.028	.187	.096	.028	.180	.094	.028	.173	.091	.027	.166	.089	.027															
6.0	.180	.090	.026	.176	.089	.026	.170	.087	.025	.163	.085	.025	.157	.083	.025															
7.0	.169	.084	.024	.166	.083	.024	.160	.081	.023	.154	.079	.023	.149	.078	.023															
8.0	.160	.078	.022	.157	.077	.022	.151	.076	.022	.146	.074	.021	.142	.073	.021															
9.0	.151	.073	.020	.148	.072	.020	.144	.071	.020	.139	.070	.020	.135	.069	.020															
10.0	.143	.069	.019	.141	.068	.019	.136	.067	.019	.132	.066	.019	.129	.065	.019															

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	.140	.150	.135	.120	.103	.093	.083	.059	.054	.048	.019	.017	.016		
2.0	.164	.132	.105	.141	.114	.091	.096	.079	.063	.056	.046	.037	.018	.015	.012		
3.0	.154	.114	.082	.132	.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	.131	.080	.044	.112	.070	.038	.078	.049	.027	.045	.029	.016	.015	.009	.005		
7.0	.124	.073	.037	.107	.063	.032	.074	.044	.023	.043	.026	.014	.014	.009	.005		
8.0	.118	.067	.032	.102	.058	.028	.070	.041	.020	.041	.024	.012	.013	.008	.004		
9.0	.113	.062	.028	.097	.054	.024	.067	.038	.017	.039	.022	.010	.013	.007	.003		
10.0	.107	.058	.025	.093	.050	.022	.064	.035	.015	.037	.021	.009	.012	.007	.003		

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:26.6DEG  
 Operators:LI  
 Test Date:2020-03-11

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
 Humidity:44.4%  
 Test Distance:1.900m [K=0.6030]  
 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	19.5	20.8	19.8	21.1	21.5	19.7	21.1	20.1	21.4	21.7
3H	20.9	22.2	21.3	22.5	22.8	20.9	22.2	21.3	22.5	22.9
4H	21.6	22.7	22.0	23.0	23.4	21.3	22.5	21.7	22.8	23.2
6H	22.1	23.1	22.5	23.5	23.9	21.6	22.6	22.0	23.0	23.4
8H	22.3	23.3	22.7	23.7	24.1	21.6	22.6	22.0	23.0	23.4
12H	22.4	23.3	22.8	23.7	24.2	21.6	22.5	22.0	22.9	23.3
4H 2H	20.0	21.1	20.4	21.5	21.8	20.2	21.3	20.6	21.6	22.0
3H	21.7	22.6	22.1	23.0	23.4	21.6	22.6	22.0	23.0	23.4
4H	22.4	23.3	22.9	23.7	24.1	22.1	23.0	22.5	23.4	23.8
6H	23.1	23.8	23.5	24.3	24.7	22.4	23.2	22.9	23.6	24.1
8H	23.3	24.0	23.8	24.5	24.9	22.5	23.1	22.9	23.6	24.1
12H	23.5	24.1	24.0	24.6	25.1	22.5	23.1	22.9	23.5	24.0
8H 4H	22.6	23.3	23.1	23.8	24.2	22.3	23.0	22.8	23.5	23.9
6H	23.4	24.0	23.9	24.5	25.0	22.8	23.3	23.3	23.8	24.3
8H	23.7	24.2	24.3	24.8	25.2	22.8	23.3	23.3	23.8	24.3
12H	24.0	24.4	24.5	24.9	25.5	22.8	23.3	23.3	23.8	24.3
12H 4H	22.6	23.2	23.1	23.7	24.2	22.4	23.0	22.9	23.5	23.9
6H	23.4	23.9	24.0	24.4	24.9	22.8	23.3	23.3	23.8	24.3
8H	23.8	24.2	24.3	24.7	25.3	22.9	23.3	23.4	23.8	24.4
CIE190: 2010										

CIE190: 2010  
Area: 0.1105 m2

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$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
Humidity: 44.4%  
Test Distance: 1.900m [K=0.6030]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## UTILIZATION FACTORS TABLE

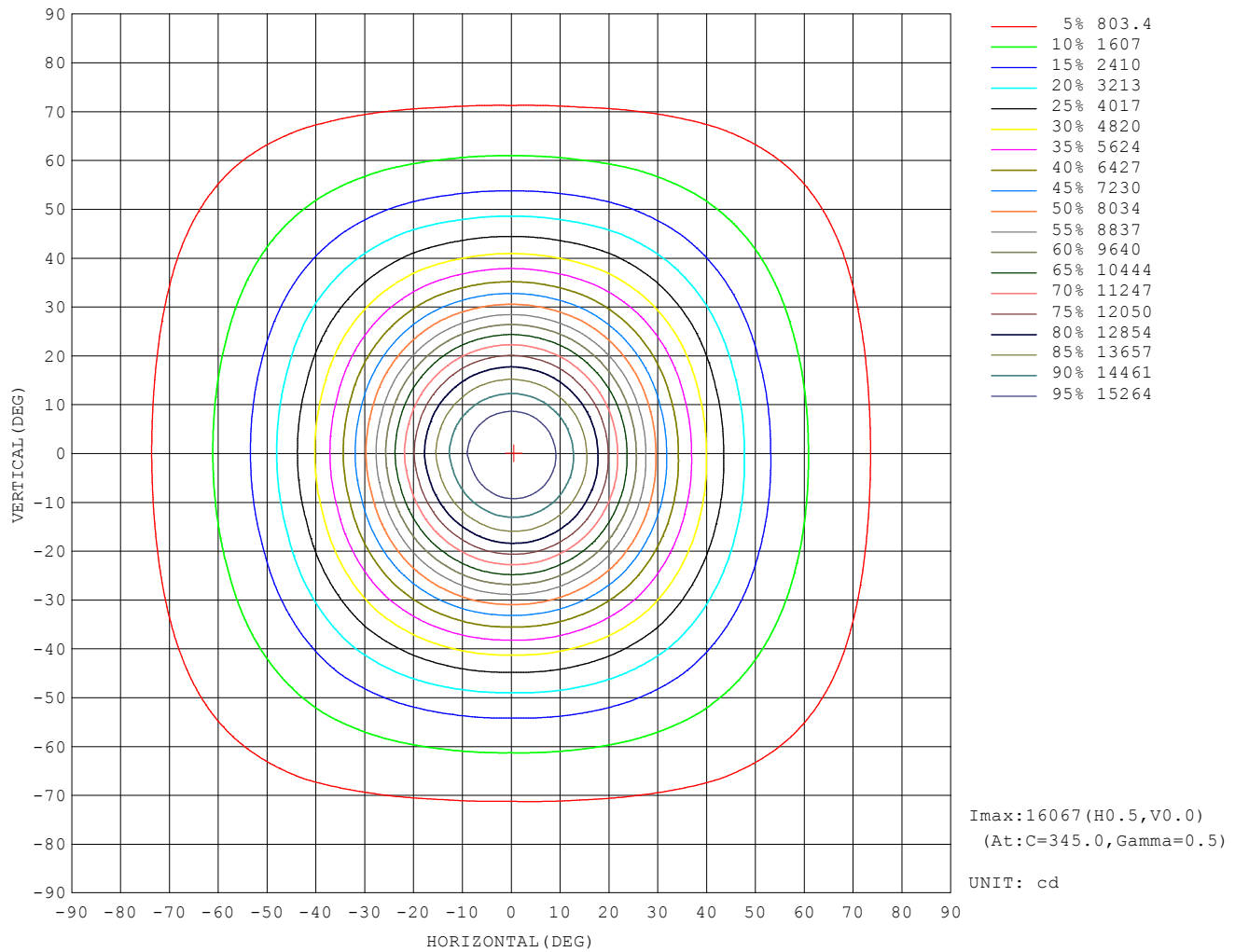
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	70	61	55	70	61	55	69	60	55	50
0.80	79	70	65	79	70	64	77	69	64	59
1.00	86	78	72	85	77	72	83	78	71	66
1.25	92	84	79	91	84	78	89	82	78	72
1.50	96	89	84	95	88	83	92	86	82	76
2.00	101	95	90	100	94	89	97	92	88	81
2.50	104	98	94	102	97	93	99	95	91	84
3.00	107	102	97	105	100	96	101	97	94	87
4.00	110	106	102	108	104	101	104	101	98	90
5.00	112	108	105	109	106	103	105	103	100	92
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

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 $\gamma$  Interval: 0.5DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
 Humidity: 44.4%  
 Test Distance: 1.900m [K=0.6030]  
 Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## ISOCANDELA DIAGRAM

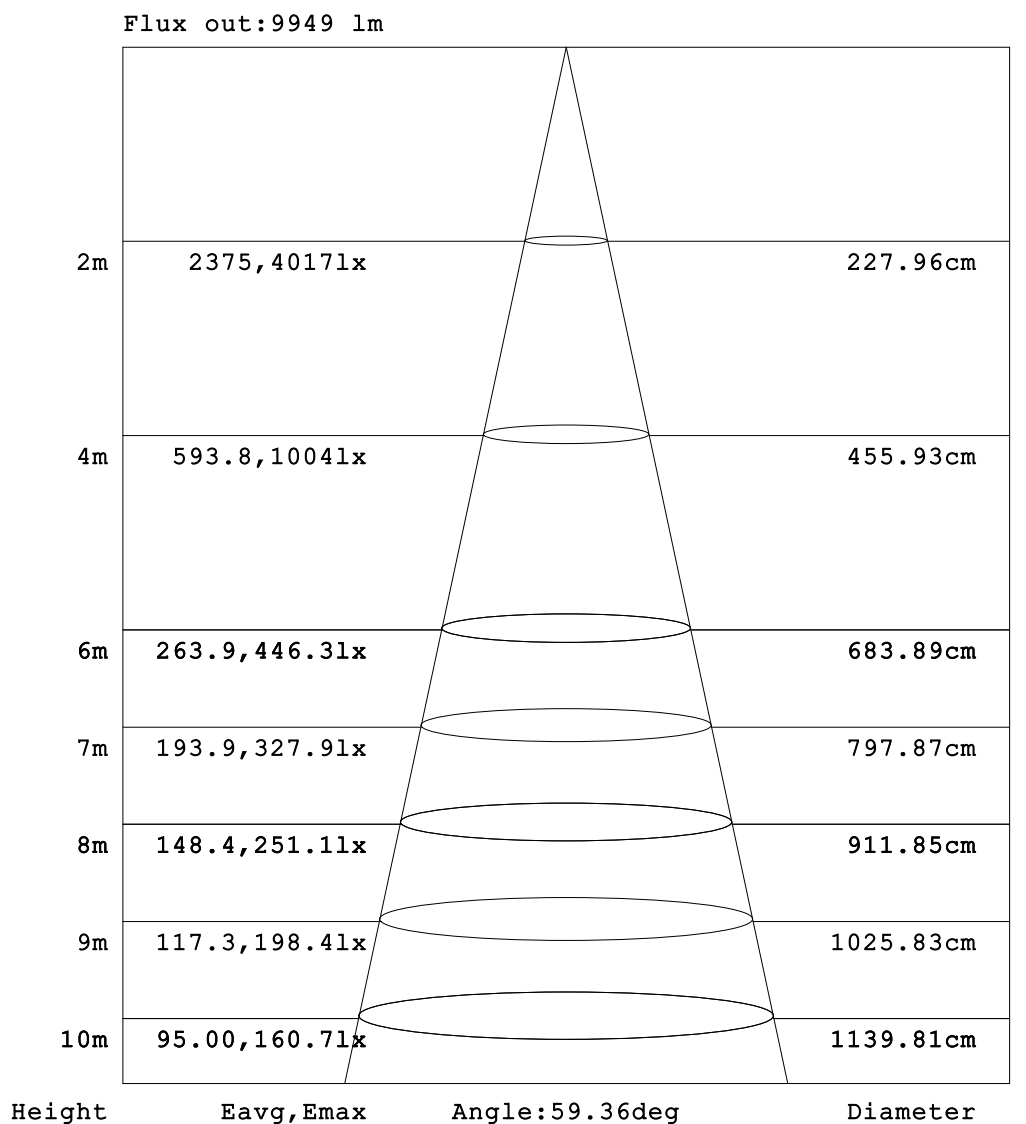


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Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
Humidity:44.4%  
Test Distance:1.900m [K=0.6030]  
Remarks:



## AAI Figure



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

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Test Speed: HIGH  
Temperature:26.6DEG  
Operators:LI  
Test Date:2020-03-11

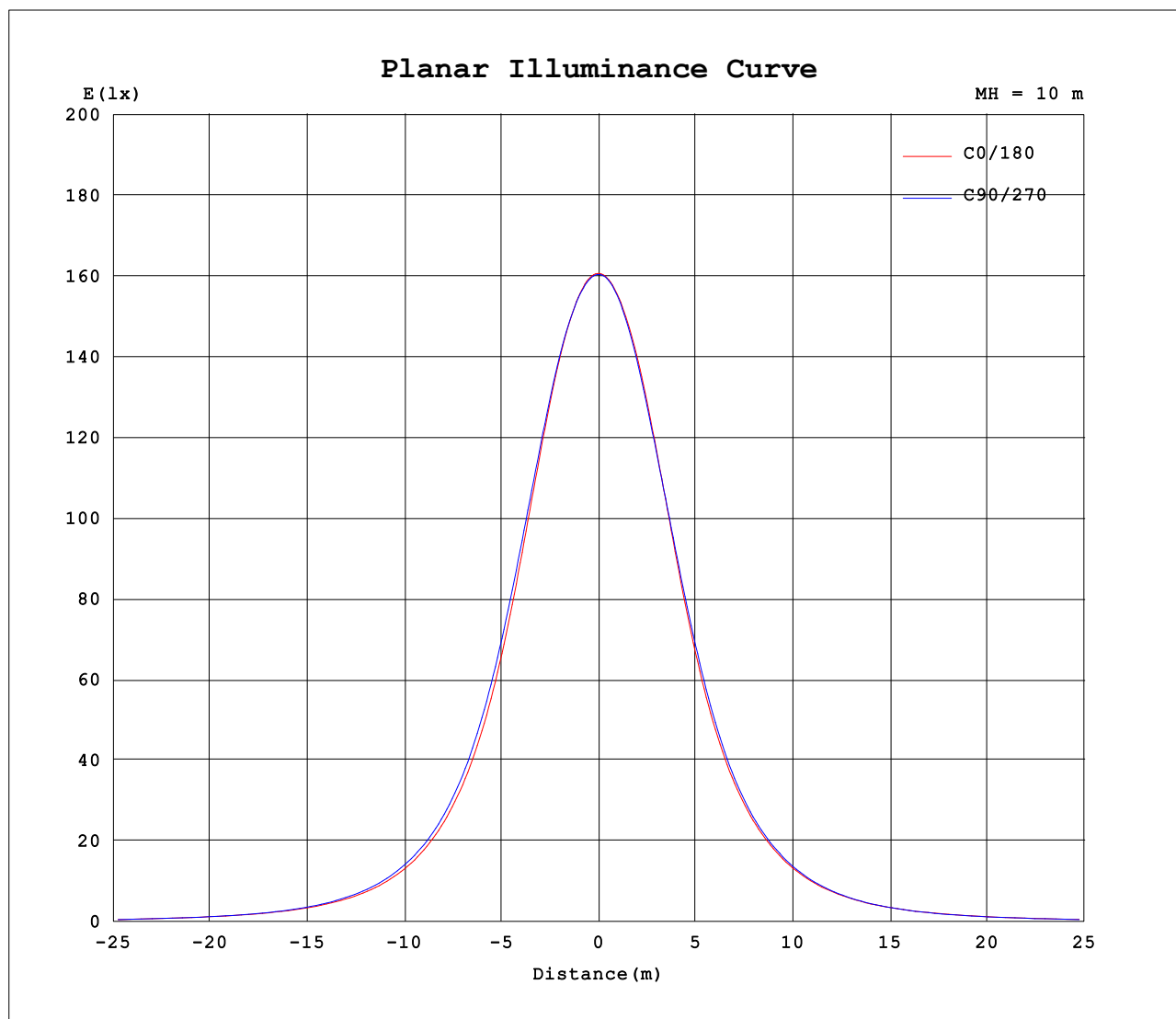
$\gamma$  Range: 0 - 90DEG  
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Humidity:44.4%  
Test Distance:1.900m [K=0.6030]  
Remarks:

The diagram shows a series of concentric circles centered at (0.0, 0.0) on a grid. The grid has vertical lines at 11.22m, 5.61m, 0.00m, 5.61m, and 11.22m, and horizontal lines at 46.0', 36.8', 27.6', 18.4', 9.2', 0.0', 9.2', 18.4', 27.6', 36.8', and 46.0'. The circles are labeled with their respective dimensions and mounting heights:

- Red circle: 3% 4.8201x 0.4478fc
- Green circle: 5% 8.0341x 0.7463fc
- Blue circle: 10% 16.071x 1.493fc
- Cyan circle: 30% 48.201x 4.478fc
- Black circle: 50% 80.341x 7.463fc

Mounting Height: 33' (10.0m)

## Planar Illuminance Curve



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Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
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Remarks: