

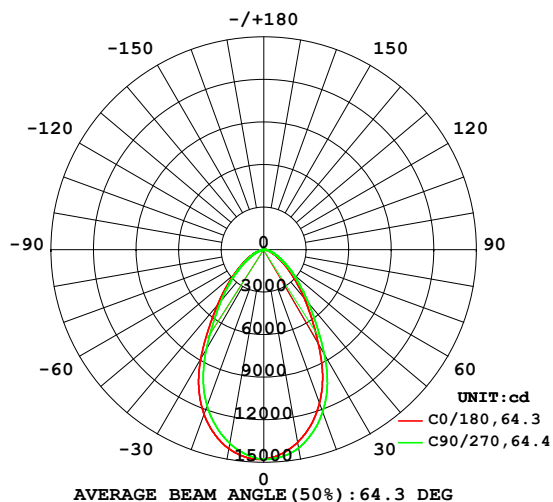
## EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINAIRE PHOTOMETRIC TEST REPORT

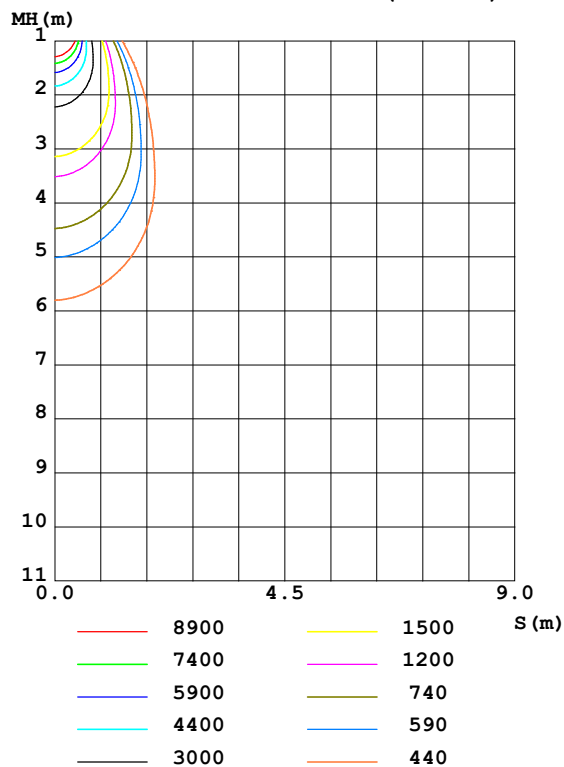
Test:U:229.6V I:0.6560A P:148.6W PF:0.9869 Freq:50.01Hz UTHDi:0.5163% ITHDi:6.622% Lamp Flux:19680.5x1 lm		
NAME: HB39-150-5080-H00129	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 132.41 lm/W			
MODEL	SE303	I <sub>max</sub> (cd)	14804	S/MH(C0/180)	0.99
NOMINAL POWER(W)	150	LOR(%)	100.0	S/MH(C90/270)	0.95
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	19680	η UP,DN(C0-180)	0.0,50.4
NOMINAL FLUX(lm)	19680.5	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,49.6
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	230	η 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:25.3DEG  
Operators:LI  
Test Date:2020-05-04

γ Range: 0 - 90DEG  
γ Interval: 0.1DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
Humidity:65.0%  
Test Distance:26.000m [K=0.4589]  
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	1380	1398	1419	1433	1425	1404	1387	1376	0- 10	1374	1374	6.98,6.98
20	1150	1185	1217	1243	1234	1205	1172	1148	10- 20	3679	5053	25.7,25.7
30	773.3	821.7	856.5	896.0	890.5	863.9	813.1	772.4	20- 30	4712	9765	49.6,49.6
40	442.6	475.5	490.9	517.9	507.7	511.7	465.8	447.3	30- 40	4004	13769	70,70
50	239.2	262.8	271.0	285.3	274.6	282.6	258.9	245.3	40- 50	2806	16575	84.2,84.2
60	121.0	132.3	138.5	146.0	139.5	143.7	130.6	124.5	50- 60	1732	18307	93,93
70	52.00	56.94	60.07	64.60	62.65	62.69	57.45	53.30	60- 70	923.5	19231	97.7,97.7
80	14.52	16.45	18.25	20.30	20.33	19.69	17.44	15.32	70- 80	382.4	19613	99.7,99.7
90	0.0587	0.0600	0.0590	0.0663	0.0810	0.0706	0.0578	0.0615	80- 90	67.15	19680	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): 15319 lm

%lum = 77.8%

%lamp = 77.8%

Conical surface Flux(120deg): 18307 lm

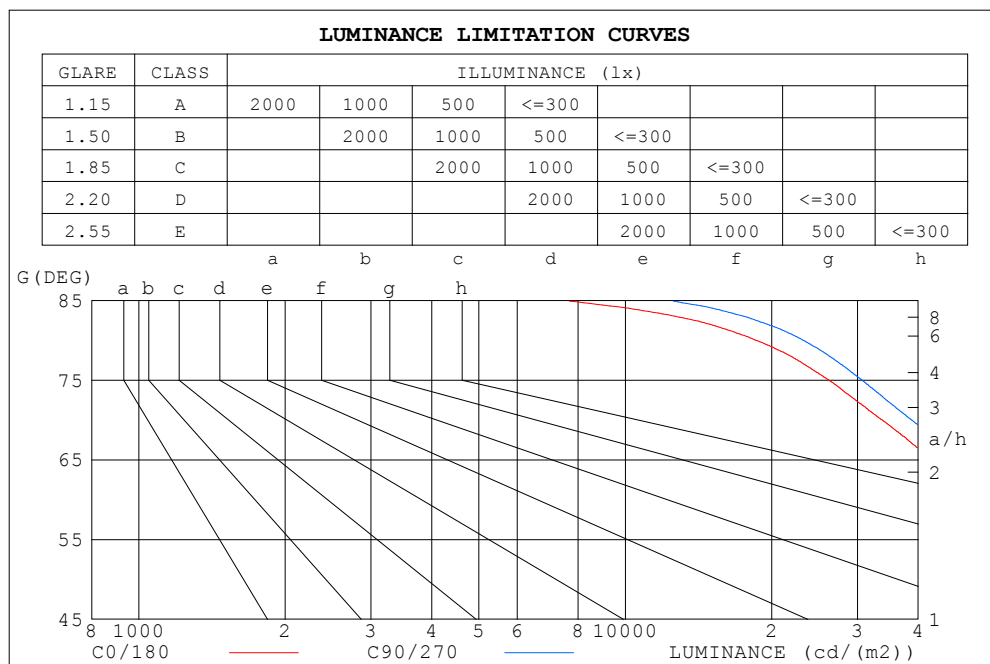
%lum = 93.0%

%lamp = 93.0%

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:LI  
Test Date:2020-05-04

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.1DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
Humidity:65.0%  
Test Distance:26.000m [K=0.4589]  
Remarks:

## LUMINANCE LIMITATION CURVES



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	7835	12803
80	18915	23606
75	26515	30987
70	34072	39130
65	43114	49509
60	54047	61640
55	66916	75976
50	83042	93670
45	103879	114867

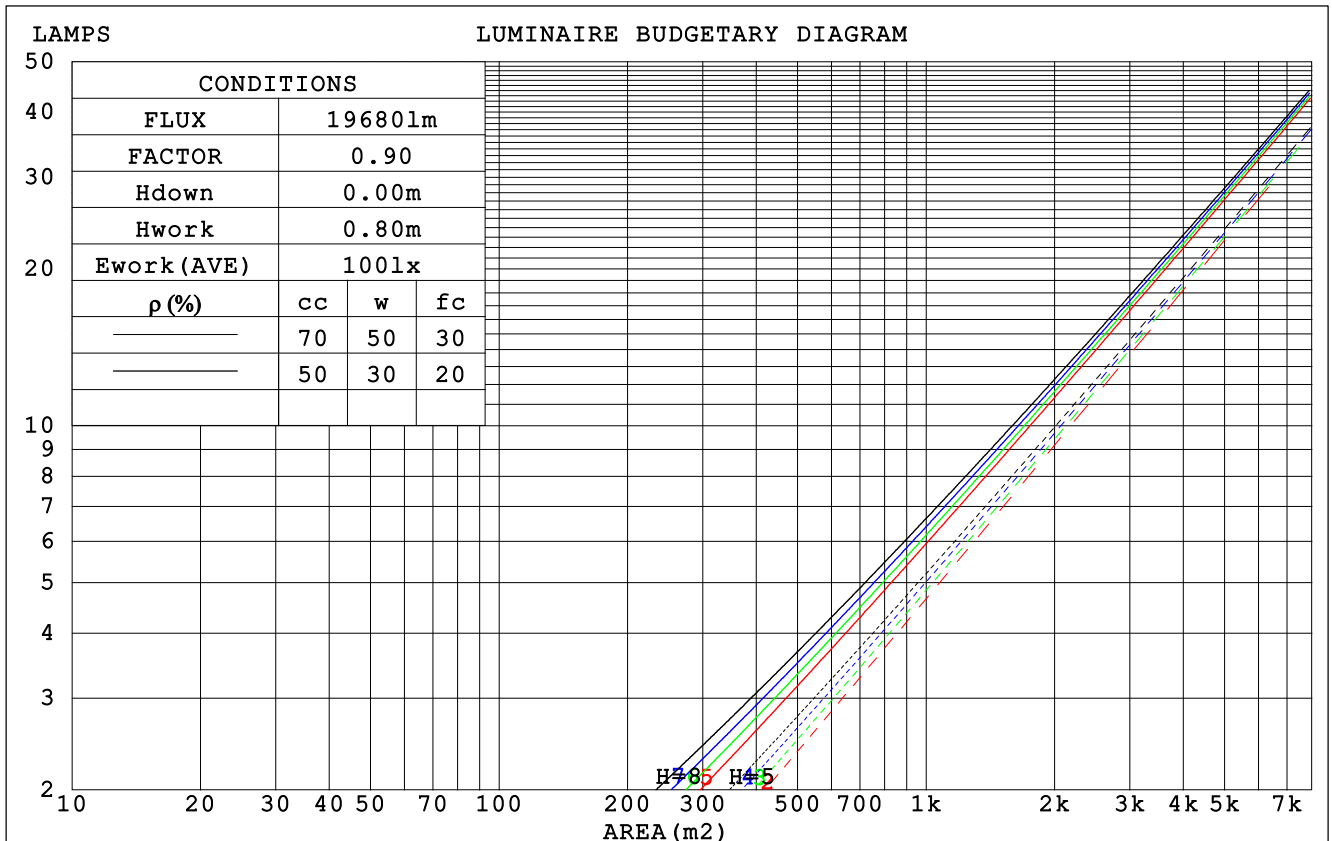
C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: LI  
Test Date: 2020-05-04

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.1DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
Humidity: 65.0%  
Test Distance: 26.000m [K=0.4589]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	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	1.08	1.05	1.02	1.06	1.03	1.01	1.02	.00	.97	.98	.96	.95	.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	.74	.69	.80	.74	.69	.78	.72	.68	.76	.71	.67	.74	.70	.66	.64
5.0	.75	.67	.62	.74	.67	.62	.72	.66	.61	.70	.65	.61	.68	.64	.60	.58
6.0	.69	.62	.56	.68	.61	.56	.66	.60	.56	.65	.59	.55	.63	.59	.55	.53
7.0	.64	.56	.51	.63	.56	.51	.62	.55	.51	.60	.55	.51	.59	.54	.50	.49
8.0	.59	.52	.47	.59	.52	.47	.57	.51	.47	.56	.51	.47	.55	.50	.46	.45
9.0	.55	.48	.43	.55	.48	.43	.54	.47	.43	.53	.47	.43	.52	.47	.43	.41
10.0	.52	.45	.40	.51	.45	.40	.50	.44	.40	.49	.44	.40	.49	.43	.40	.38



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: LI  
Test Date: 2020-05-04

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.1DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
Humidity: 65.0%  
Test Distance: 26.000m [K=0.4589]  
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	.226	.129	.041	.220	.125	.040	.207	.119	.038	.195	.112	.036	.184	.107	.034	
2.0	.219	.120	.037	.213	.117	.036	.202	.112	.035	.191	.107	.034	.182	.103	.032	
3.0	.207	.110	.033	.202	.108	.033	.192	.104	.032	.184	.101	.031	.175	.097	.030	
4.0	.195	.102	.030	.191	.100	.030	.183	.097	.029	.175	.094	.028	.168	.091	.028	
5.0	.184	.094	.027	.180	.093	.027	.173	.090	.027	.166	.088	.026	.160	.085	.026	
6.0	.174	.087	.025	.170	.086	.025	.164	.084	.024	.158	.082	.024	.152	.080	.024	
7.0	.164	.081	.023	.161	.080	.023	.155	.079	.023	.150	.077	.022	.145	.075	.022	
8.0	.155	.076	.021	.153	.075	.021	.147	.074	.021	.143	.072	.021	.138	.071	.021	
9.0	.147	.071	.020	.145	.071	.020	.140	.069	.020	.136	.068	.019	.132	.067	.019	
10.0	.140	.067	.019	.138	.067	.019	.134	.065	.018	.130	.064	.018	.126	.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	.162	.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	.117	.077	.047	.080	.054	.033	.047	.031	.020	.015	.010	.006	
6.0	.129	.080	.045	.111	.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	.096	.054	.025	.066	.038	.018	.039	.022	.010	.013	.007	.003	
10.0	.106	.057	.025	.091	.050	.022	.063	.035	.015	.037	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:LI  
 Test Date:2020-05-04

γ Range: 0 - 90DEG  
 γ Interval: 0.1DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
 Humidity:65.0%  
 Test Distance:26.000m [K=0.4589]  
 Remarks:

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**EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT**

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**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	24.2	25.5	24.6	25.8	26.2	25.3	26.6	25.6	26.9	27.2
3H	25.0	26.2	25.4	26.5	26.9	26.1	27.3	26.5	27.6	28.0
4H	25.2	26.3	25.7	26.7	27.1	26.4	27.4	26.8	27.8	28.2
6H	25.3	26.3	25.8	26.7	27.1	26.5	27.5	26.9	27.8	28.2
8H	25.3	26.3	25.8	26.7	27.1	26.5	27.4	26.9	27.8	28.2
12H	25.3	26.2	25.7	26.6	27.0	26.5	27.4	26.9	27.7	28.2
4H 2H	24.5	25.6	25.0	26.0	26.4	25.6	26.6	26.0	27.0	27.4
3H	25.5	26.4	25.9	26.8	27.2	26.6	27.5	27.0	27.9	28.3
4H	25.8	26.6	26.2	27.0	27.5	26.9	27.7	27.3	28.1	28.5
6H	26.0	26.7	26.4	27.1	27.6	27.1	27.8	27.5	28.2	28.7
8H	26.0	26.6	26.4	27.1	27.5	27.1	27.7	27.6	28.2	28.6
12H	26.0	26.5	26.4	27.0	27.5	27.1	27.6	27.6	28.1	28.6
8H 4H	25.9	26.5	26.4	27.0	27.4	27.0	27.6	27.4	28.0	28.5
6H	26.1	26.6	26.6	27.1	27.6	27.2	27.7	27.7	28.2	28.7
8H	26.1	26.6	26.6	27.1	27.6	27.3	27.7	27.8	28.2	28.7
12H	26.1	26.5	26.6	27.0	27.6	27.3	27.7	27.8	28.2	28.7
12H 4H	25.9	26.4	26.3	26.9	27.4	26.9	27.5	27.4	28.0	28.5
6H	26.1	26.5	26.6	27.0	27.6	27.2	27.7	27.7	28.1	28.7
8H	26.1	26.5	26.6	27.0	27.6	27.3	27.7	27.8	28.2	28.7
CIE190: 2010										

CIE190: 2010  
Area: 0.04524 m2

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:LI  
Test Date:2020-05-04

γ Range: 0 - 90DEG  
γ Interval: 0.1DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
Humidity:65.0%  
Test Distance:26.000m [K=0.4589]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## UTILIZATION FACTORS TABLE

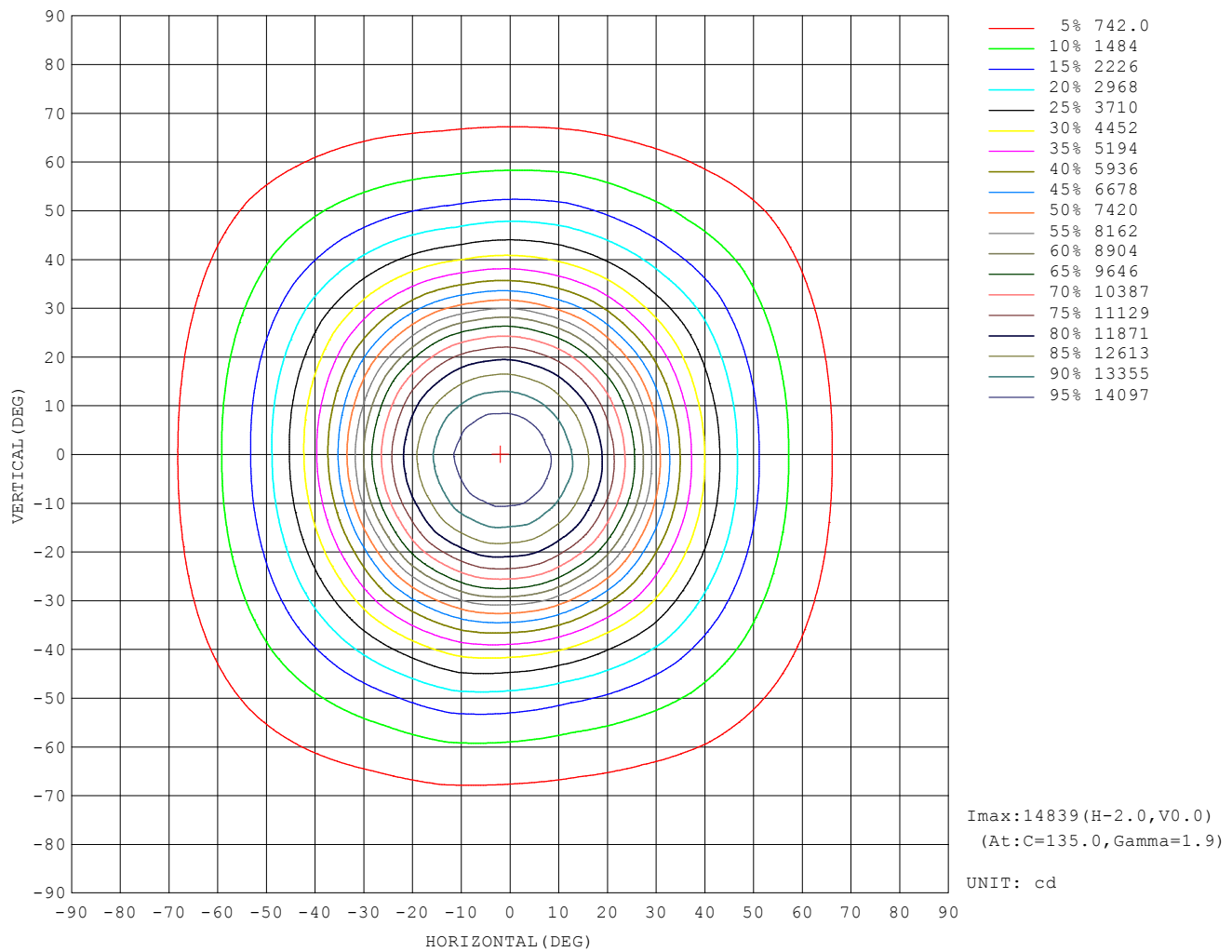
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	73	64	58	72	63	58	71	63	58	53
0.80	82	73	68	81	73	68	80	72	67	62
1.00	89	81	75	88	80	75	86	81	75	69
1.25	94	87	82	93	86	81	91	85	81	75
1.50	98	91	86	97	91	86	94	89	85	79
2.00	103	97	93	101	96	92	98	94	90	84
2.50	106	100	96	104	99	95	100	96	93	86
3.00	108	103	99	106	102	98	102	99	96	89
4.00	111	107	104	109	105	102	105	102	99	92
5.00	112	109	106	110	107	105	106	104	102	93
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: 25.3DEG  
 Operators: LI  
 Test Date: 2020-05-04

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.1DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
 Humidity: 65.0%  
 Test Distance: 26.000m [K=0.4589]  
 Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## ISOCANDELA DIAGRAM

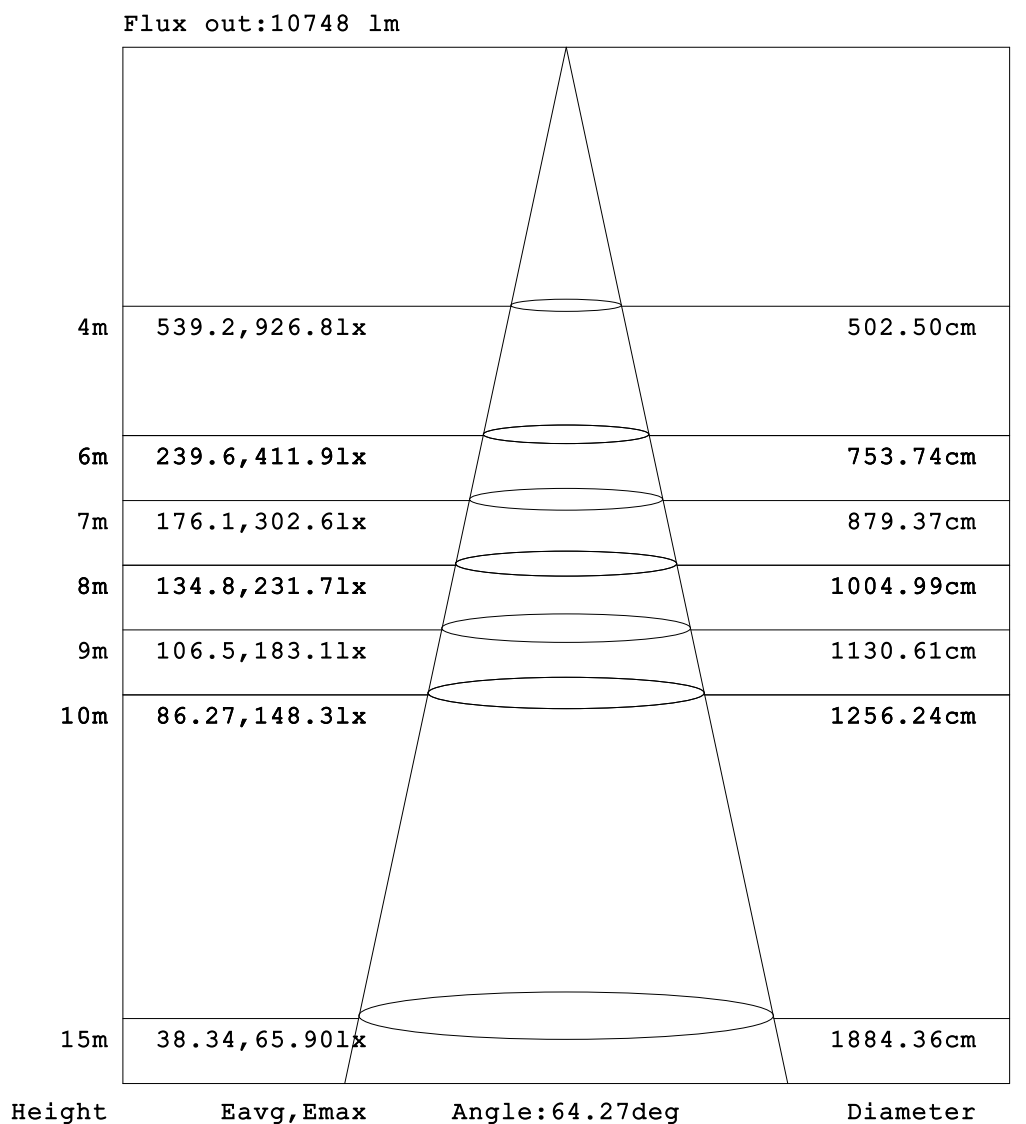


C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:LI  
Test Date:2020-05-04

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.1DEG  
Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
Humidity:65.0%  
Test Distance:26.000m [K=0.4589]  
Remarks:



## AAI Figure



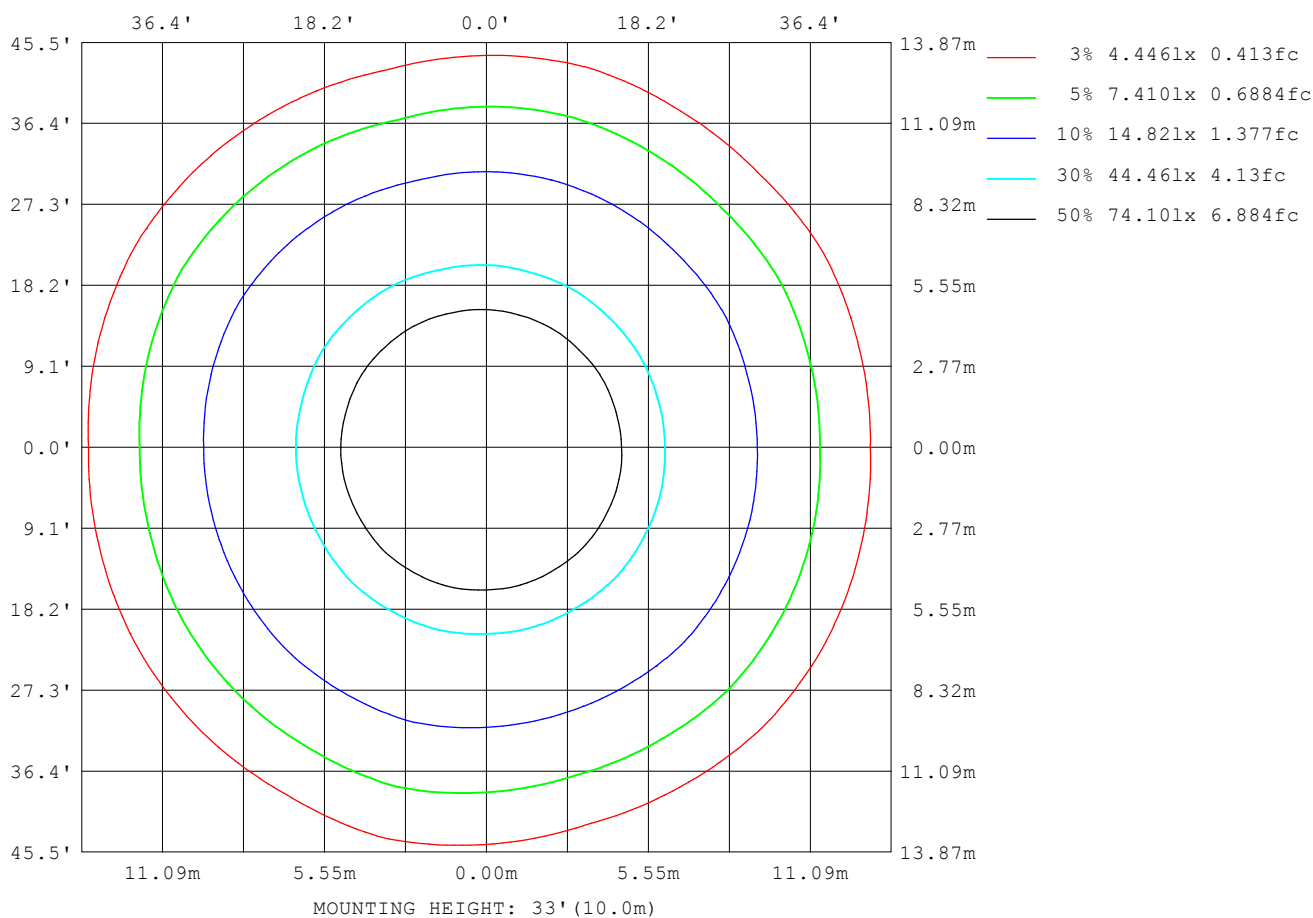
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: LI  
Test Date: 2020-05-04

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.1DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
Humidity: 65.0%  
Test Distance: 26.000m [K=0.4589]  
Remarks:

# EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

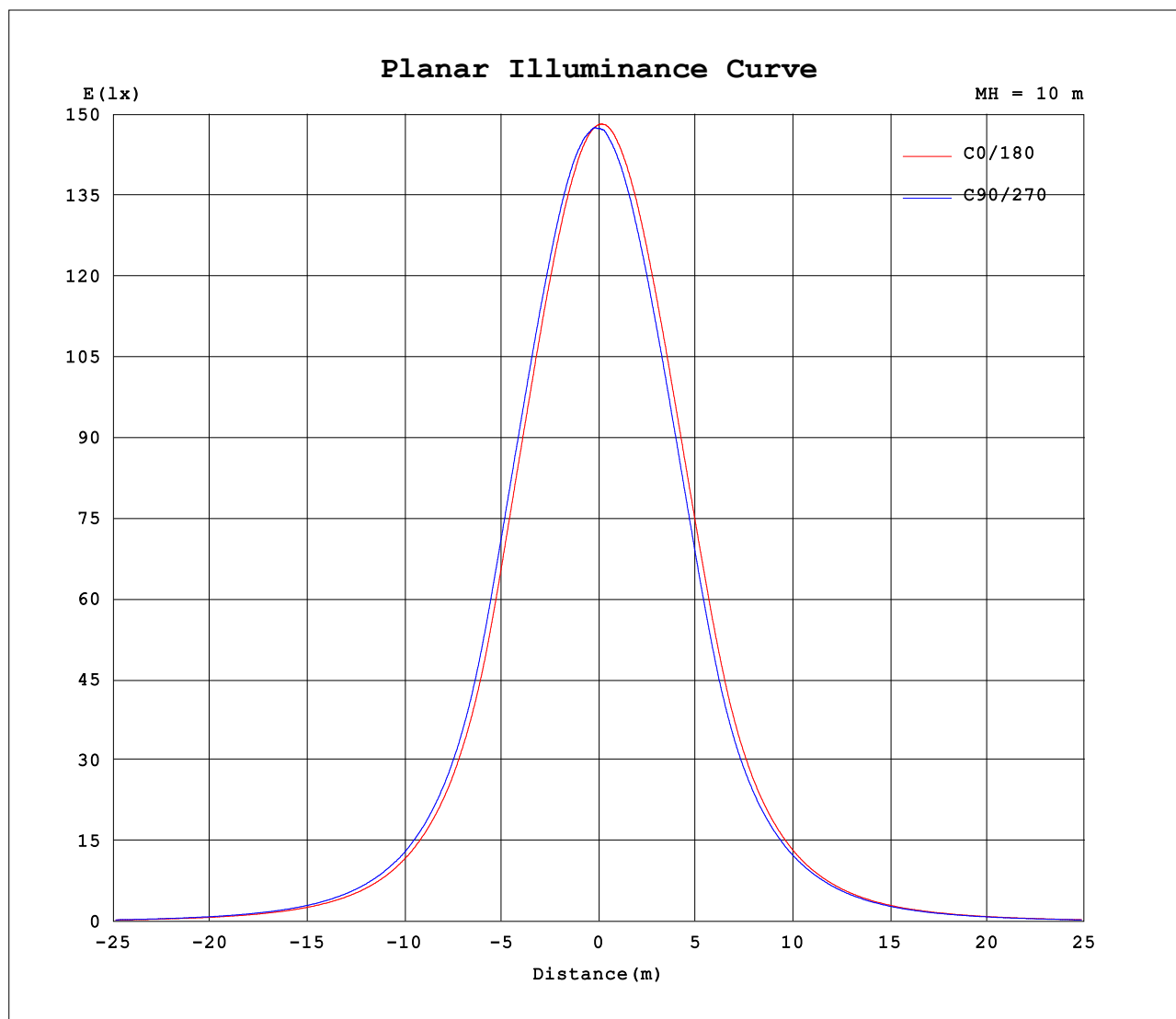
## ISOLUX DIAGRAM



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: LI  
Test Date: 2020-05-04

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.1DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
Humidity: 65.0%  
Test Distance: 26.000m [K=0.4589]  
Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: LI  
Test Date: 2020-05-04

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.1DEG  
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.426  
Humidity: 65.0%  
Test Distance: 26.000m [K=0.4589]  
Remarks: