

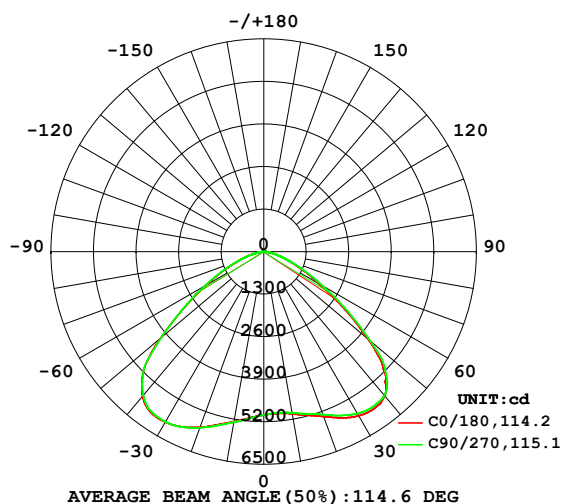
## EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

## LUMINAIRE PHOTOMETRIC TEST REPORT

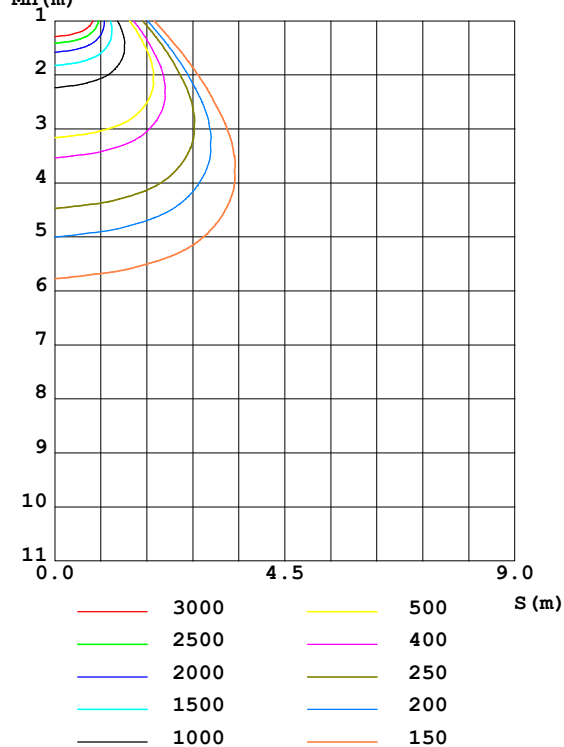
Test:U:229.6V I:0.5438A P:122.9W PF:0.9844 Freq:50.01Hz UTHDi:0.5086% ITHDi:8.265% Lamp Flux:16803.5x1 lm		
NAME: HB39-120-5080-H00128	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 136.72 lm/W			
MODEL	SE303	I <sub>max</sub> (cd)	6045	S/MH(C0/180)	1.63
NOMINAL POWER(W)	120	LOR(%)	100.0	S/MH(C90/270)	1.62
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	16803	η UP,DN(C0-180)	0.0,49.8
NOMINAL FLUX(lm)	16803.5	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.2
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	1.55

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:2020-04-17

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	5034	4948	5000	5137	5280	5334	5293	5170	0- 10	484.1	484.1	2.88,2.88
20	5363	5238	5297	5483	5712	5782	5724	5537	10- 20	1514	1998	11.9,11.9
30	5793	5670	5714	5834	6018	6034	6008	5861	20- 30	2647	4645	27.6,27.6
40	5752	5700	5731	5722	5763	5698	5730	5656	30- 40	3676	8321	49.5,49.5
50	4168	4238	4259	4211	4118	3981	4094	4088	40- 50	3942	12263	73,73
60	1938	1982	2056	2074	2000	1942	2062	1999	50- 60	2671	14934	88.9,88.9
70	773.8	811.7	803.5	842.0	824.7	830.6	827.5	824.6	60- 70	1328	16262	96.8,96.8
80	181.0	182.4	180.0	199.2	197.9	195.7	180.6	185.0	70- 80	485.2	16748	99.7,99.7
90	0.6357	0.6601	0.7076	0.6609	0.8947	0.9077	0.8963	0.9323	80- 90	55.82	16803	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:cd									UNIT:lm		

Conical surface Flux(90deg): 10353 lm

%lum = 61.6%

%lamp = 61.6%

Conical surface Flux(120deg): 14934 lm

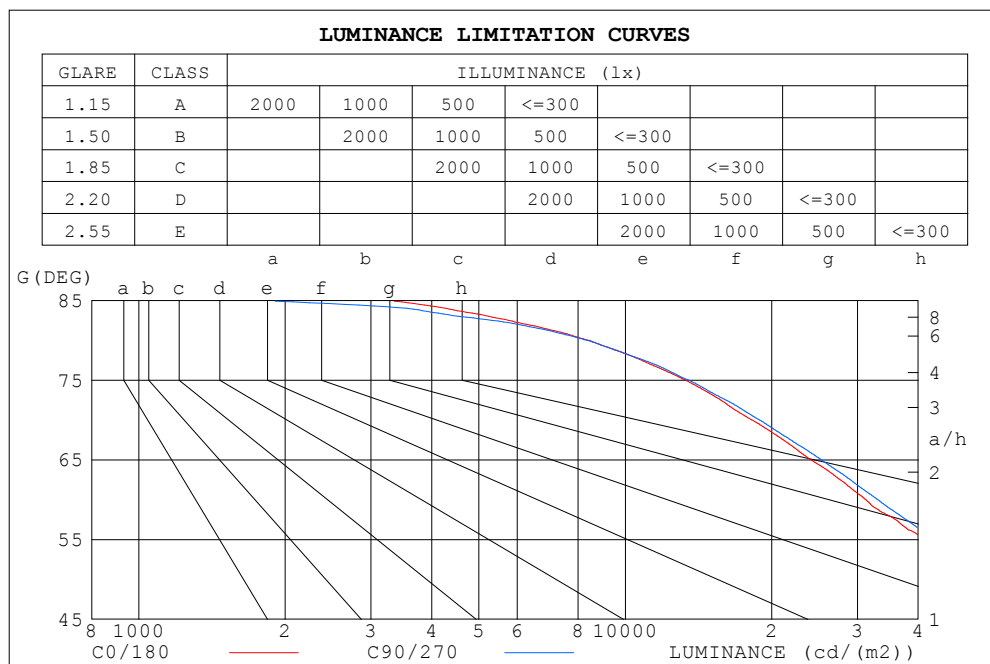
%lum = 88.9%

%lamp = 88.9%

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:LI  
Test Date:2020-04-17

$\gamma$  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	3415	1946
80	8580	8527
75	13463	13693
70	18437	19089
65	24303	25519
60	31434	33307
55	41499	43084
50	52549	53561
45	59825	60211

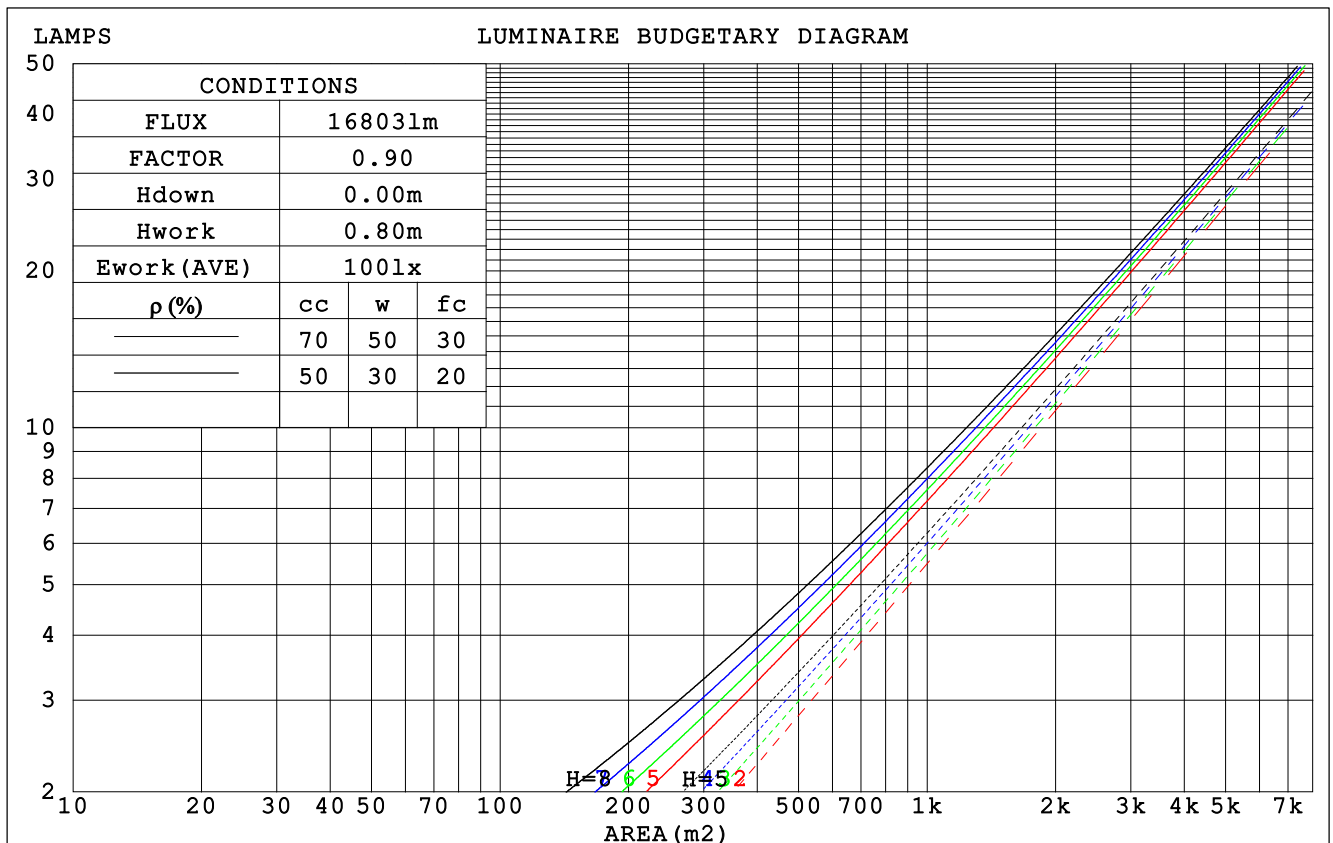
C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: LI  
Test Date: 2020-04-17

$\gamma$  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

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	1.06	1.03	.99	1.04	1.01	.98	.00	.97	.95	.96	.94	.92	.92	.91	.89	.87
2.0	.94	.88	.83	.92	.86	.82	.89	.84	.80	.85	.81	.78	.82	.79	.76	.74
3.0	.83	.76	.70	.82	.75	.69	.79	.73	.68	.76	.71	.67	.73	.69	.66	.63
4.0	.74	.66	.59	.73	.65	.59	.70	.63	.58	.68	.62	.57	.66	.61	.57	.55
5.0	.66	.58	.51	.65	.57	.51	.63	.56	.50	.61	.55	.50	.59	.54	.49	.47
6.0	.59	.51	.45	.58	.50	.44	.57	.49	.44	.55	.49	.44	.54	.48	.43	.41
7.0	.54	.45	.39	.53	.45	.39	.51	.44	.39	.50	.43	.39	.49	.43	.38	.36
8.0	.49	.41	.35	.48	.40	.35	.47	.40	.35	.46	.39	.34	.44	.39	.34	.32
9.0	.45	.37	.31	.44	.36	.31	.43	.36	.31	.42	.35	.31	.41	.35	.31	.29
10.0	.41	.33	.28	.41	.33	.28	.40	.33	.28	.39	.32	.28	.38	.32	.28	.26



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: LI  
Test Date: 2020-04-17

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

## 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	.265	.151	.048	.258	.147	.047	.245	.141	.045	.233	.134	.043	.222	.129	.042		
2.0	.259	.142	.044	.253	.139	.043	.242	.134	.042	.231	.130	.041	.221	.125	.039		
3.0	.246	.131	.039	.241	.129	.039	.231	.125	.038	.221	.121	.037	.213	.118	.036		
4.0	.232	.120	.035	.227	.119	.035	.218	.116	.035	.210	.113	.034	.202	.110	.033		
5.0	.217	.111	.032	.213	.109	.032	.205	.107	.031	.198	.104	.031	.191	.102	.031		
6.0	.204	.102	.029	.200	.101	.029	.193	.099	.029	.187	.097	.029	.180	.095	.028		
7.0	.192	.095	.027	.188	.094	.027	.182	.092	.027	.176	.090	.026	.171	.089	.026		
8.0	.180	.088	.025	.177	.087	.025	.172	.086	.024	.166	.084	.024	.161	.083	.024		
9.0	.170	.082	.023	.167	.082	.023	.162	.080	.023	.157	.079	.023	.153	.078	.022		
10.0	.161	.077	.021	.158	.076	.021	.154	.075	.021	.149	.074	.021	.145	.073	.021		

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	.177	.157	.138	.152	.134	.119	.104	.092	.082	.060	.053	.048	.019	.017	.015		
2.0	.168	.132	.102	.144	.114	.088	.099	.079	.061	.057	.046	.036	.018	.015	.012		
3.0	.160	.114	.078	.137	.098	.067	.094	.068	.047	.054	.040	.028	.017	.013	.009		
4.0	.153	.101	.061	.131	.087	.053	.090	.061	.037	.052	.035	.022	.017	.012	.007		
5.0	.146	.090	.049	.125	.078	.043	.086	.054	.030	.050	.032	.018	.016	.010	.006		
6.0	.139	.082	.041	.119	.071	.035	.082	.050	.025	.048	.029	.015	.015	.010	.005		
7.0	.133	.075	.034	.114	.065	.030	.079	.045	.021	.046	.027	.013	.015	.009	.004		
8.0	.127	.069	.029	.109	.060	.026	.076	.042	.018	.044	.025	.011	.014	.008	.004		
9.0	.121	.064	.026	.104	.056	.022	.072	.039	.016	.042	.023	.009	.014	.008	.003		
10.0	.116	.060	.023	.100	.052	.020	.069	.037	.014	.040	.022	.008	.013	.007	.003		

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:LI  
 Test Date:2020-04-17

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

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	24.5	26.1	24.9	26.4	26.7	24.3	25.9	24.7	26.2	26.5
3H	25.2	26.6	25.6	26.9	27.3	25.1	26.5	25.4	26.8	27.1
4H	25.4	26.7	25.8	27.0	27.4	25.2	26.5	25.6	26.9	27.3
6H	25.4	26.6	25.8	27.0	27.4	25.3	26.5	25.7	26.9	27.3
8H	25.4	26.6	25.8	26.9	27.3	25.3	26.4	25.7	26.8	27.2
12H	25.4	26.5	25.8	26.9	27.3	25.3	26.4	25.7	26.7	27.2
4H 2H	24.8	26.0	25.2	26.4	26.8	24.6	25.9	25.0	26.3	26.7
3H	25.6	26.7	26.0	27.1	27.5	25.5	26.6	25.9	27.0	27.4
4H	25.8	26.8	26.3	27.2	27.6	25.8	26.7	26.2	27.1	27.6
6H	25.9	26.8	26.4	27.2	27.7	25.9	26.7	26.3	27.1	27.6
8H	25.9	26.7	26.4	27.1	27.6	25.9	26.6	26.3	27.1	27.5
12H	25.9	26.6	26.4	27.1	27.5	25.8	26.5	26.3	27.0	27.5
8H 4H	25.9	26.6	26.3	27.1	27.6	25.8	26.6	26.3	27.0	27.5
6H	26.0	26.6	26.5	27.1	27.6	26.0	26.6	26.5	27.1	27.6
8H	26.0	26.5	26.5	27.1	27.5	25.9	26.5	26.5	27.0	27.5
12H	26.0	26.5	26.5	27.0	27.5	25.9	26.4	26.4	26.9	27.5
12H 4H	25.9	26.5	26.3	27.0	27.5	25.8	26.5	26.3	27.0	27.4
6H	26.0	26.5	26.5	27.0	27.5	25.9	26.5	26.5	27.0	27.5
8H	26.0	26.5	26.5	27.0	27.5	25.9	26.4	26.4	26.9	27.5
CIE190: 2010										

CIE190: 2010  
Area: 0.1244 m2

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:LI  
Test Date:2020-04-17

$\gamma$  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

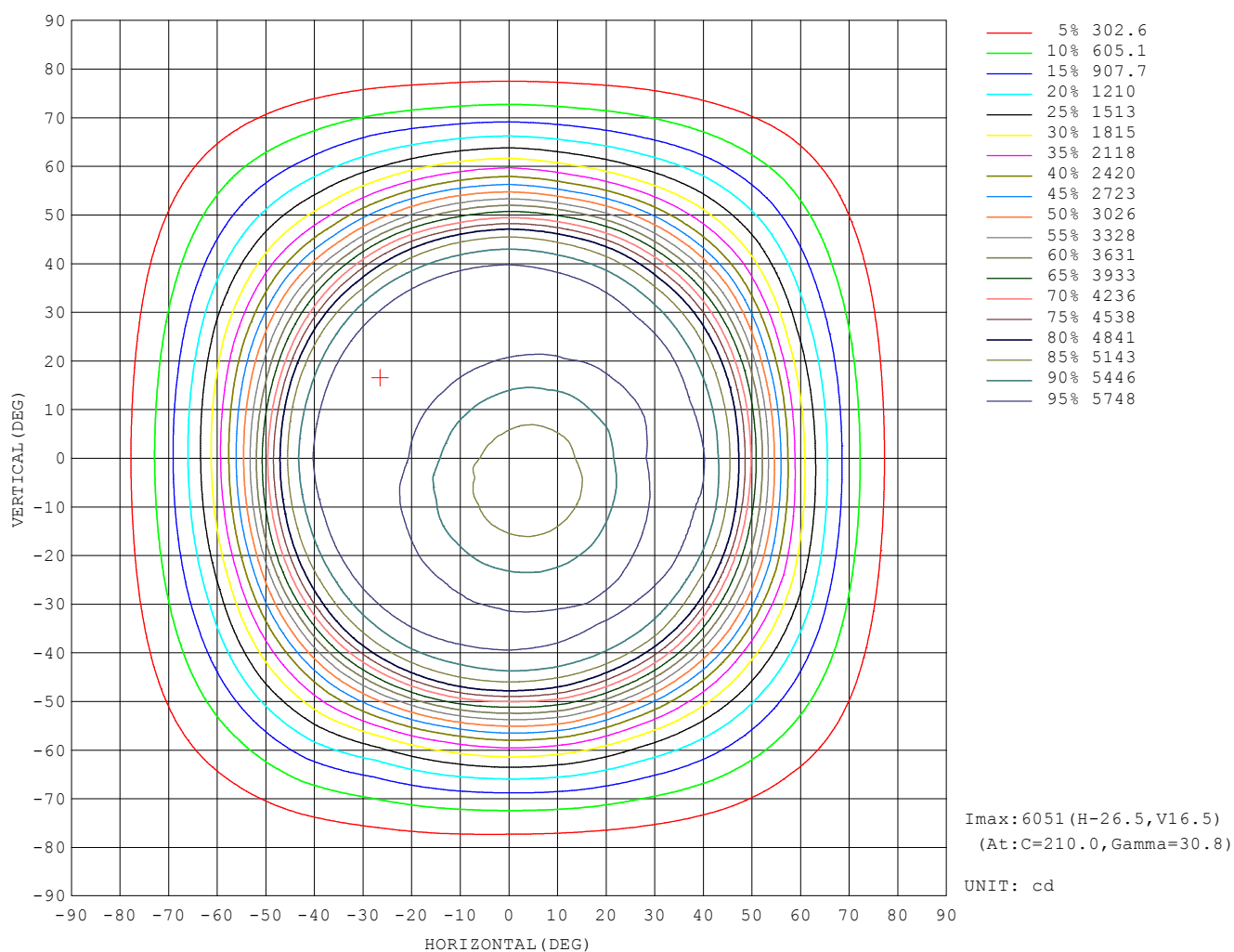
## UTILIZATION FACTORS TABLE

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) $k(RI) \times RCR = 5$									
$k = 0.60$	60	48	42	59	48	41	58	48	41	35
0.80	70	59	52	69	59	52	68	58	52	45
1.00	80	69	63	79	69	62	76	70	62	55
1.25	87	77	71	86	77	71	83	75	70	63
1.50	92	83	77	90	82	76	87	80	75	68
2.00	98	91	85	97	90	85	93	88	83	76
2.50	102	95	90	100	94	89	96	91	87	79
3.00	105	99	94	103	97	93	99	94	91	83
4.00	108	103	99	106	101	98	102	98	95	87
5.00	110	106	102	108	104	101	103	100	98	89
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
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 Temperature: 25.3DEG  
 Operators: LI  
 Test Date: 2020-04-17

$\gamma$  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:

ISOCANDELA DIAGRAM

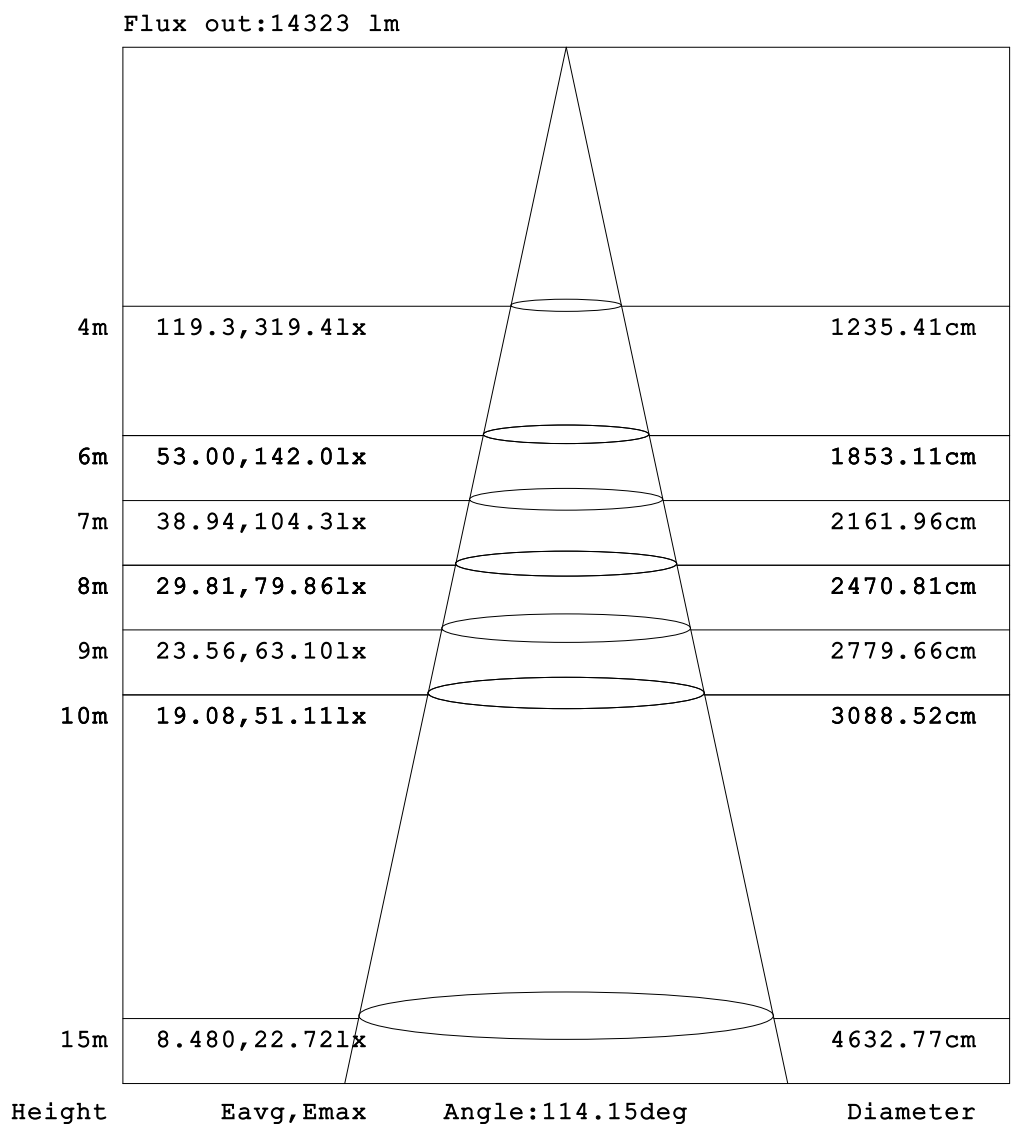


C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: LI  
Test Date: 2020-04-17

$\gamma$  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



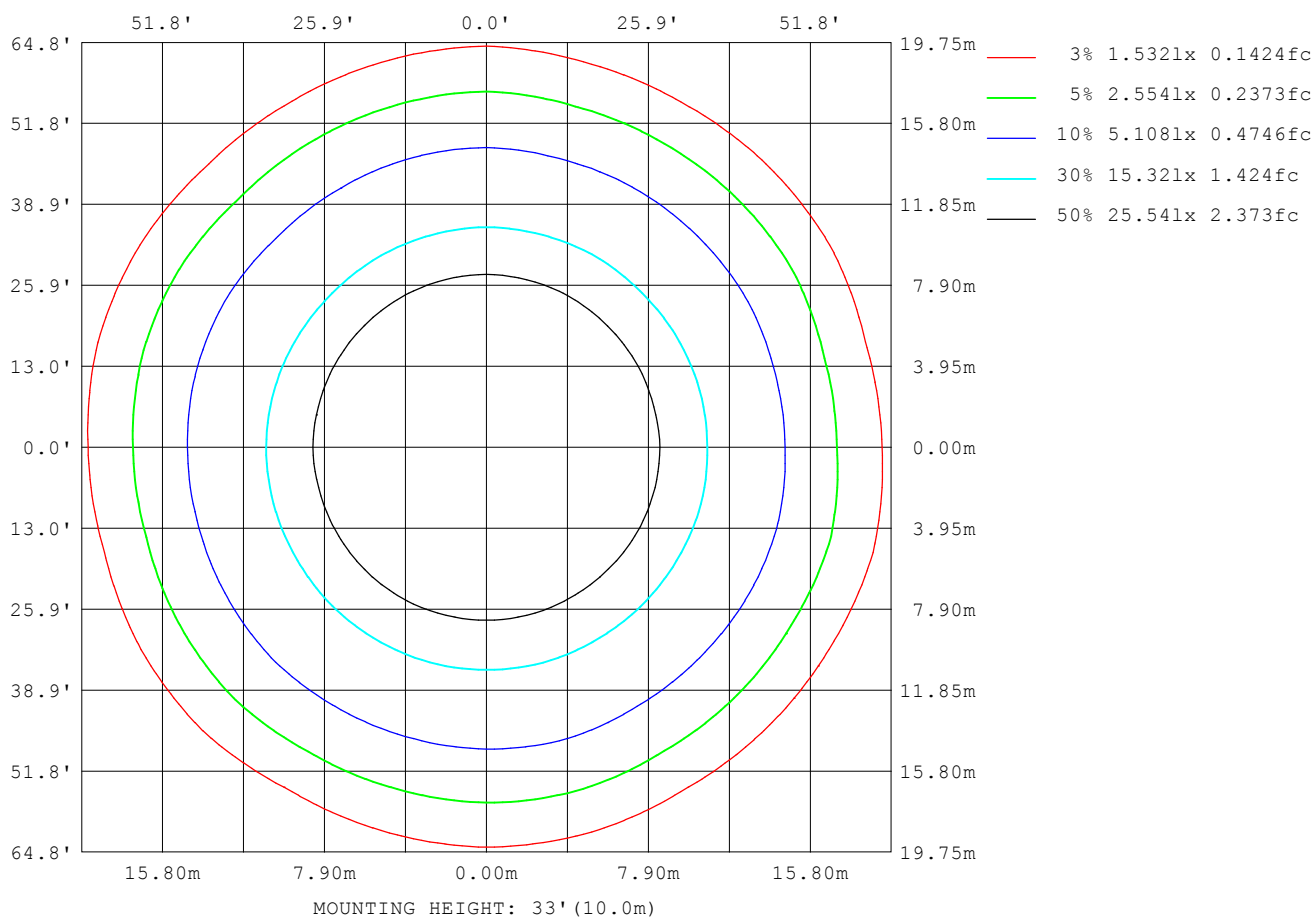
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:LI  
Test Date:2020-04-17

$\gamma$  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

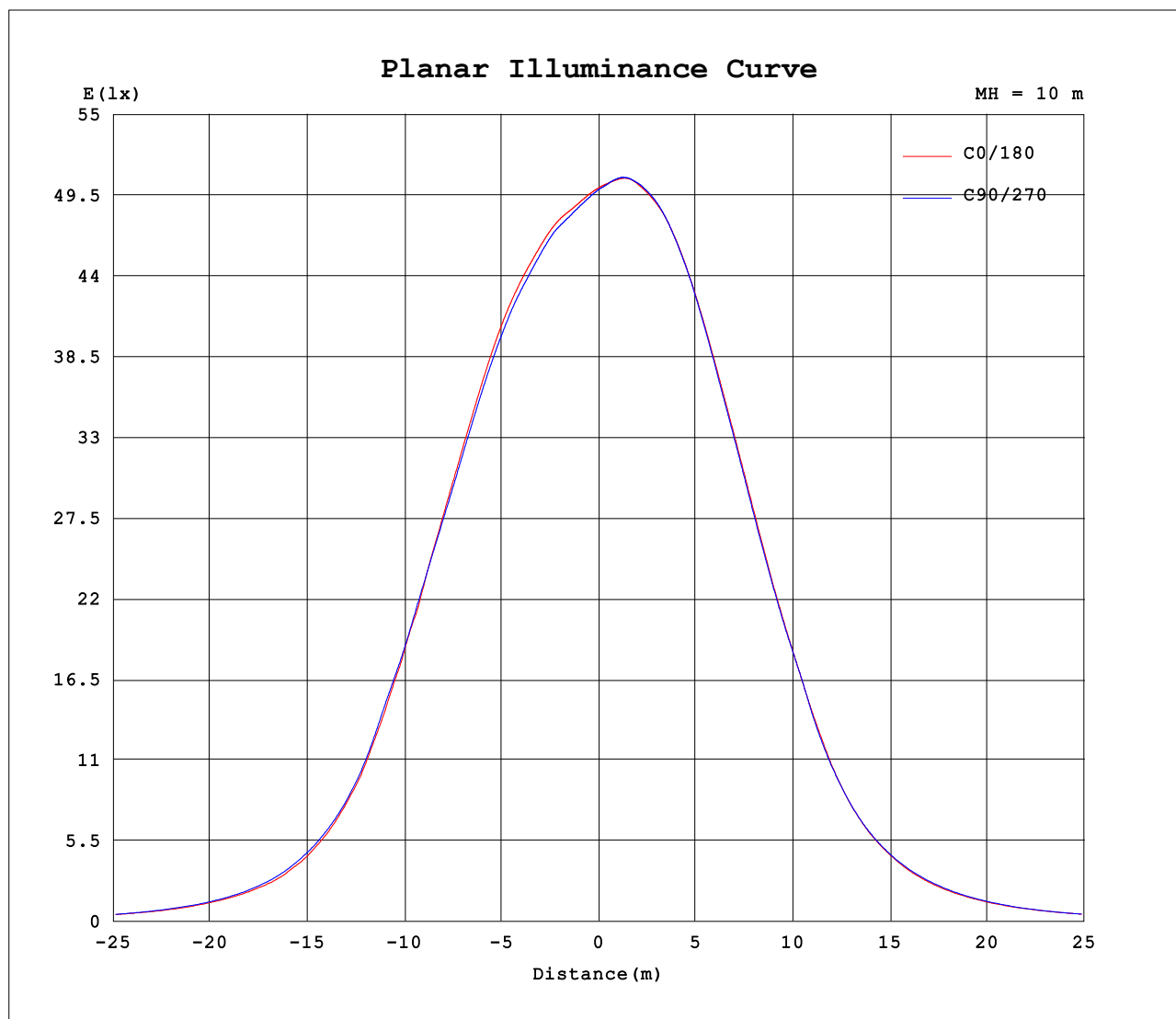
## ISOLUX DIAGRAM



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: LI  
Test Date: 2020-04-17

$\gamma$  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: 2020-04-17

$\gamma$  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: