

LED Spot Light



Light Output Ratio:	100.0%	
Luminaire Power:	7.4 W	
SHR Nominal:	0.50	Calculated using the TM5
SHR Maximum:	0.55	fine grid method.

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 28DEG
Operators: TGB
Test Date: 2016-01-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.295
Humidity: 85.0%
Test Distance: 8.820m [K=1.0000]
Remarks:

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM

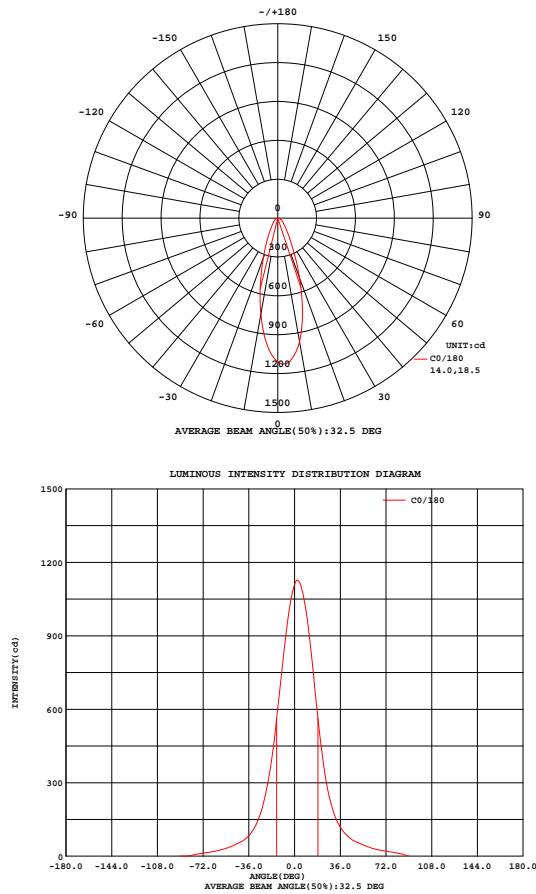


Fig. C0/C180

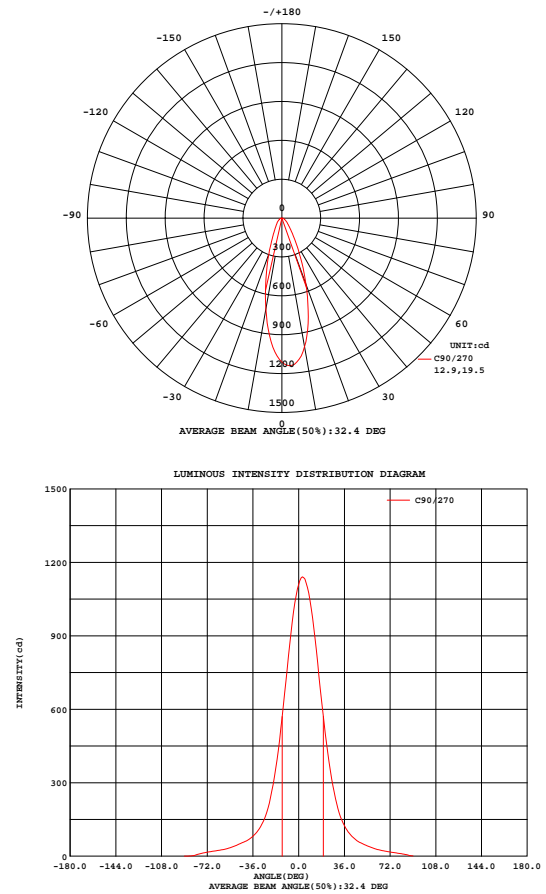


Fig. C90/C270

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:28DEG
Operators:TGB
Test Date:2016-01-15

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.295
Humidity:85.0%
Test Distance:8.820m [K=1.0000]
Remarks:

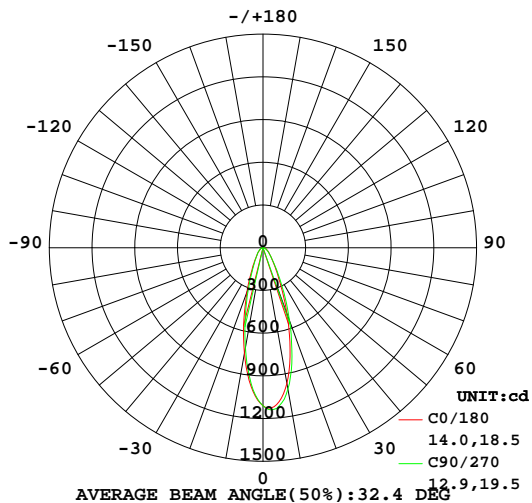
EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINAIRE PHOTOMETRIC TEST REPORT

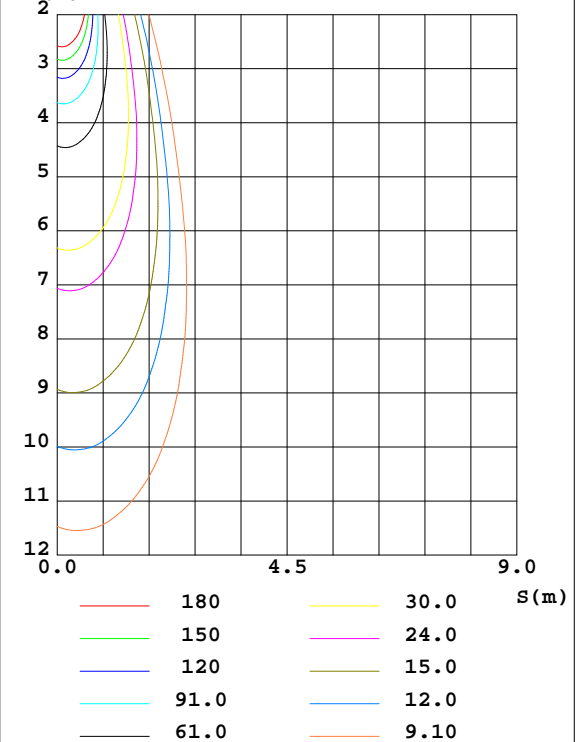
Test:U:12.00V I:0.6200A P:7.400W PF:1.000 Lamp Flux:581.904x1 lm		
NAME: Led Spot Light	TYPE:6000K	WEIGHT:20g
SPEC.:	DIM.: D50x52mm	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 78.64 lm/W			
MODEL	CT-7W-6000K	I _{max} (cd)	1164	S/MH(C0/180)	0.47
NOMINAL POWER(W)	7	LOR(%)	100.0	S/MH(C90/270)	0.44
RATED VOLTAGE(V)	12	TOTAL FLUX(lm)	581.90	η UP,DN(C0-180)	0.0,60.5
NOMINAL FLUX(lm)	581.904	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,39.5
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	12.077	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: 22.5DEG
 Test Speed: HIGH
 Temperature:28DEG
 Operators:TGB
 Test Date:2016-01-15

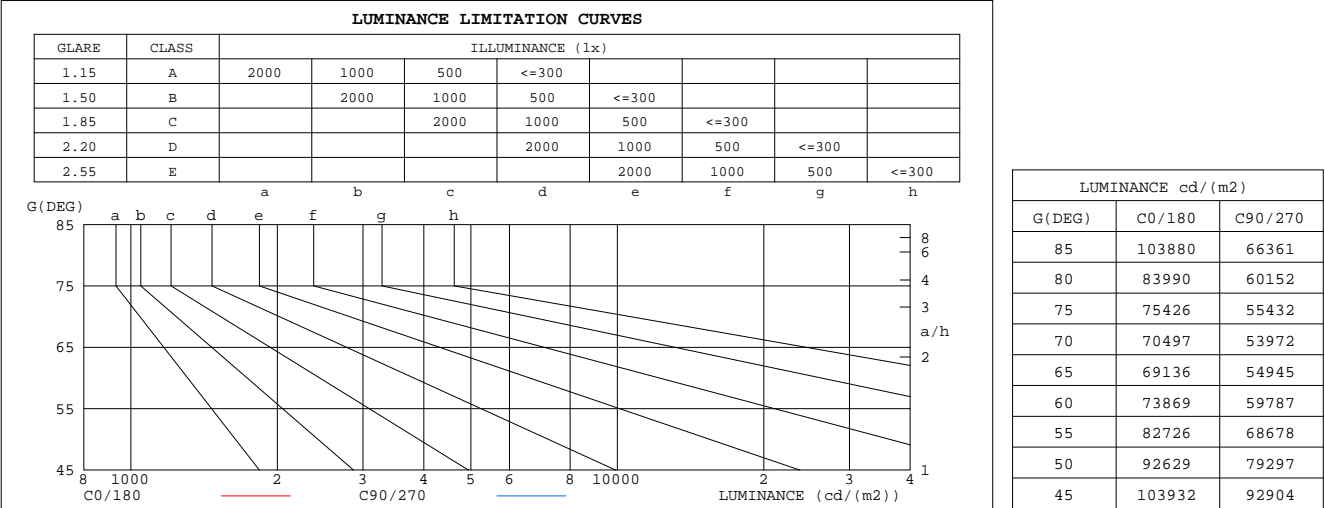
γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.295
 Humidity:85.0%
 Test Distance:8.820m [K=1.0000]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

ZONAL FLUX DIAGRAM
AND LUMINANCE LIMITATION CURVES

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	Φ lum, lamp
10	967.6	977.0	1009	1035	753.6	744.9	712.8	693.6	0- 10	93.68	93.68	16.1,16.1
20	492.7	509.3	548.1	577.9	329.0	314.4	294.6	283.3	10- 20	173.6	267.2	45.9,45.9
30	191.6	195.6	213.2	226.5	132.0	125.4	120.4	117.8	20- 30	123.4	390.6	67.1,67.1
40	91.66	90.57	92.90	97.99	65.27	67.05	65.60	67.59	30- 40	71.71	462.3	79.5,79.5
50	55.21	53.15	52.02	54.01	39.55	40.79	42.09	41.49	40- 50	47.52	509.9	87.6,87.6
60	34.25	31.96	30.51	31.40	23.20	23.87	26.36	24.53	50- 60	33.23	543.1	93.3,93.3
70	22.36	18.43	18.84	18.33	13.78	13.28	18.12	13.67	60- 70	22.02	565.1	97.1,97.1
80	13.52	9.029	10.66	8.793	5.049	4.235	7.019	4.182	70- 80	12.96	578.1	99.3,99.3
90	1.393	1.167	1.175	1.356	0.2270	0.2200	0.2083	0.2160	80- 90	3.826	581.9	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		



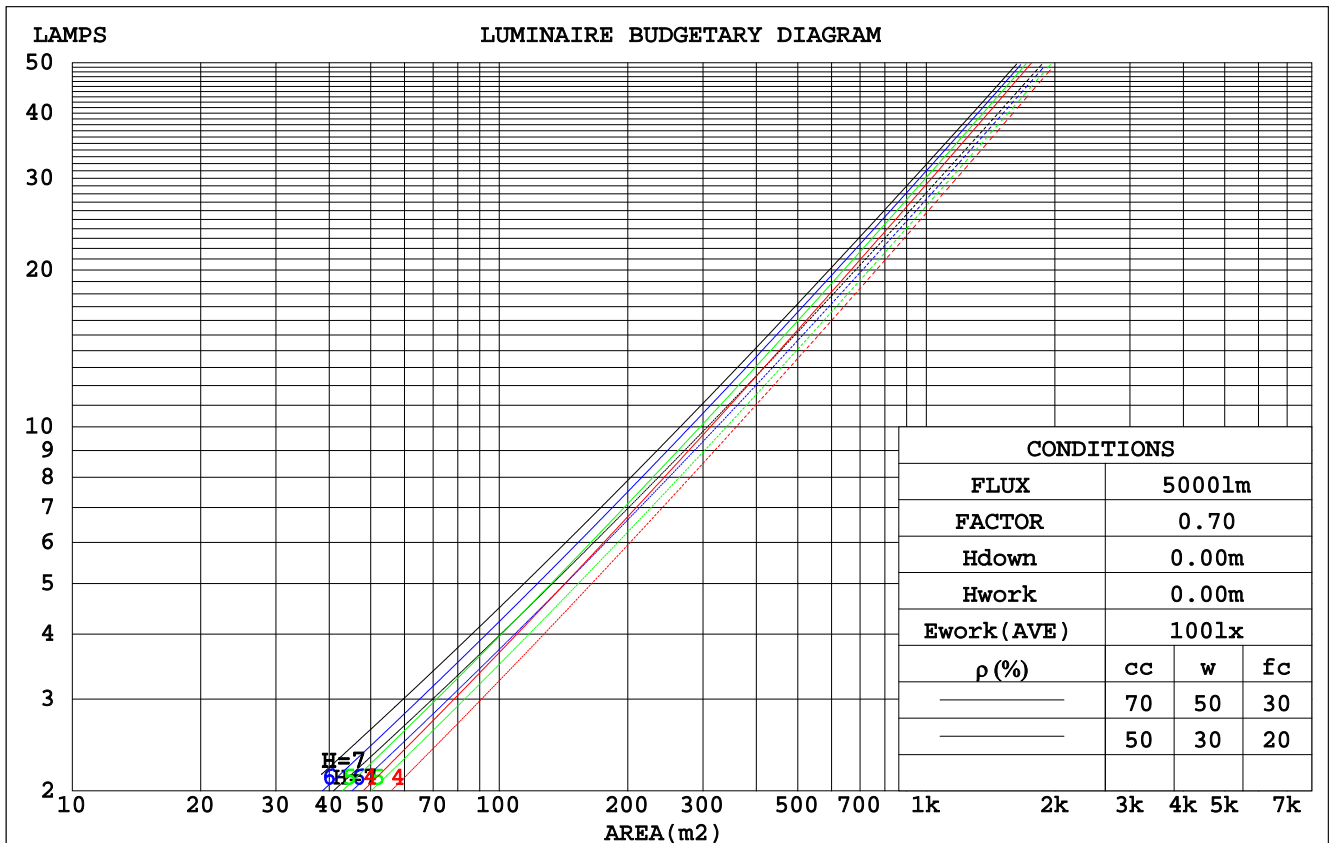
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:28DEG
Operators:TGB
Test Date:2016-01-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.295
Humidity:85.0%
Test Distance:8.820m [K=1.0000]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

pcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	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	1.09	1.07	1.04	1.07	1.05	1.02	1.03	1.01	.99	.99	.98	.96	.96	.95	.93	.92
2.0	1.01	.96	.92	.99	.95	.91	.96	.92	.89	.93	.90	.87	.90	.88	.86	.84
3.0	.93	.88	.84	.92	.87	.83	.89	.85	.81	.87	.83	.80	.84	.82	.79	.77
4.0	.87	.81	.76	.86	.80	.76	.84	.79	.75	.82	.78	.74	.80	.76	.73	.72
5.0	.81	.75	.71	.81	.75	.70	.79	.74	.70	.77	.73	.69	.75	.72	.68	.67
6.0	.77	.70	.66	.76	.70	.66	.74	.69	.65	.73	.68	.65	.72	.67	.64	.63
7.0	.72	.66	.62	.72	.66	.62	.70	.65	.61	.69	.64	.61	.68	.64	.61	.59
8.0	.69	.62	.58	.68	.62	.58	.67	.62	.58	.66	.61	.58	.65	.61	.57	.56
9.0	.65	.59	.55	.65	.59	.55	.64	.58	.55	.63	.58	.55	.62	.58	.54	.53
10.0	.62	.56	.52	.62	.56	.52	.61	.56	.52	.60	.55	.52	.59	.55	.52	.51



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 28DEG
 Operators: TGB
 Test Date: 2016-01-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.295
 Humidity: 85.0%
 Test Distance: 8.820m [K=1.0000]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

WEC AND CCEC

pcc	80%			70%			50%			30%			10%			0	
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
ρfc	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.205	.116	.037	.198	.113	.036	.185	.106	.034	.173	.100	.032	.163	.094	.030		
2.0	.193	.106	.032	.187	.103	.032	.176	.098	.030	.166	.093	.029	.157	.089	.028		
3.0	.180	.096	.029	.175	.094	.028	.166	.090	.027	.157	.086	.026	.149	.083	.026		
4.0	.169	.088	.026	.164	.086	.025	.156	.083	.025	.149	.080	.024	.142	.077	.023		
5.0	.158	.081	.023	.154	.079	.023	.147	.077	.023	.141	.074	.022	.135	.072	.022		
6.0	.149	.075	.021	.145	.073	.021	.139	.071	.021	.134	.069	.020	.128	.067	.020		
7.0	.140	.069	.020	.137	.068	.020	.132	.067	.019	.127	.065	.019	.122	.063	.019		
8.0	.133	.065	.018	.130	.064	.018	.125	.063	.018	.121	.061	.018	.117	.060	.017		
9.0	.126	.061	.017	.124	.060	.017	.119	.059	.017	.115	.058	.017	.111	.057	.016		
10.0	.120	.057	.016	.118	.057	.016	.114	.056	.016	.110	.055	.016	.107	.054	.015		

pcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	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	.173	.157	.143	.148	.135	.123	.101	.093	.085	.058	.054	.049	.019	.017	.016	
2.0	.159	.132	.110	.136	.114	.095	.093	.079	.066	.054	.046	.039	.017	.015	.013	
3.0	.147	.114	.087	.126	.098	.075	.087	.068	.053	.050	.040	.031	.016	.013	.010	
4.0	.137	.099	.070	.118	.086	.061	.081	.060	.043	.047	.035	.025	.015	.011	.008	
5.0	.128	.088	.058	.110	.076	.050	.076	.053	.036	.044	.031	.021	.014	.010	.007	
6.0	.120	.078	.048	.103	.068	.042	.071	.048	.030	.041	.028	.018	.013	.009	.006	
7.0	.113	.071	.041	.097	.061	.036	.067	.043	.025	.039	.025	.015	.013	.008	.005	
8.0	.107	.065	.035	.092	.056	.031	.064	.039	.022	.037	.023	.013	.012	.008	.004	
9.0	.102	.059	.031	.087	.052	.027	.061	.036	.019	.035	.021	.011	.011	.007	.004	
10.0	.097	.055	.027	.083	.048	.024	.058	.034	.017	.034	.020	.010	.011	.007	.003	

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 28DEG
 Operators: TGB
 Test Date: 2016-01-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.295
 Humidity: 85.0%
 Test Distance: 8.820m [K=1.0000]
 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	26.0	27.0	26.2	27.2	27.3	25.1	26.1	25.3	26.3	26.5
3H	27.1	28.1	27.4	28.3	28.5	26.1	27.0	26.3	27.2	27.4
4H	27.8	28.7	28.1	28.9	29.1	26.6	27.5	26.9	27.7	27.9
6H	28.5	29.3	28.8	29.6	29.8	27.1	27.9	27.4	28.2	28.4
8H	28.8	29.6	29.1	29.9	30.1	27.3	28.1	27.6	28.4	28.7
12H	29.1	29.9	29.4	30.1	30.4	27.5	28.3	27.9	28.6	28.9
4H 2H	26.3	27.2	26.6	27.4	27.6	25.6	26.4	25.8	26.7	26.9
3H	27.7	28.4	28.0	28.7	29.0	26.7	27.5	27.1	27.8	28.1
4H	28.5	29.2	28.8	29.5	29.8	27.4	28.1	27.7	28.4	28.7
6H	29.3	30.0	29.7	30.3	30.6	28.0	28.7	28.4	29.0	29.3
8H	29.7	30.3	30.1	30.7	31.1	28.3	28.9	28.7	29.3	29.6
12H	30.1	30.7	30.5	31.0	31.4	28.6	29.1	29.0	29.5	29.9
8H 4H	28.6	29.2	29.0	29.6	29.9	27.7	28.2	28.1	28.6	29.0
6H	29.7	30.1	30.1	30.5	31.0	28.4	28.9	28.9	29.3	29.7
8H	30.2	30.6	30.6	31.0	31.5	28.8	29.3	29.3	29.7	30.1
12H	30.7	31.0	31.1	31.5	32.0	29.2	29.6	29.7	30.0	30.5
12H 4H	28.6	29.2	29.0	29.5	29.9	27.7	28.2	28.1	28.6	29.0
6H	29.7	30.1	30.1	30.5	31.0	28.5	29.0	29.0	29.4	29.8
8H	30.3	30.6	30.7	31.1	31.5	29.0	29.3	29.4	29.8	30.3
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.3					+ 0.3 / - 0.4				
1.5H	+ 0.2 / - 0.2					+ 0.3 / - 0.2				
2.0H	+ 0.4 / - 0.4					+ 0.3 / - 0.4				

CIE Pub.117 Corrected 581.9 lm Total Lamp Luminous Flux.(8log(F/F0) = -1.9)

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:28DEG
Operators:TGB
Test Date:2016-01-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.295
Humidity:85.0%
Test Distance:8.820m [K=1.0000]
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	79	71	66	78	71	66	77	70	66	62
0.80	87	80	75	86	79	75	85	79	74	70
1.00	93	85	81	92	85	81	90	85	80	75
1.25	97	91	86	96	90	86	94	89	85	80
1.50	101	95	90	99	94	90	97	92	89	83
2.00	105	99	95	103	98	94	100	96	93	87
2.50	107	102	98	105	101	97	102	98	95	89
3.00	109	105	101	107	103	100	104	100	98	91
4.00	112	108	105	109	106	104	106	103	101	93
5.00	113	110	108	111	108	106	107	105	103	95
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004				Suspended				SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 28DEG
 Operators: TGB
 Test Date: 2016-01-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.295
 Humidity: 85.0%
 Test Distance: 8.820m [K=1.0000]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOCANDELA DIAGRAM

Conical surface Flux(90deg):

488.18 lm

%lum = 83.9%

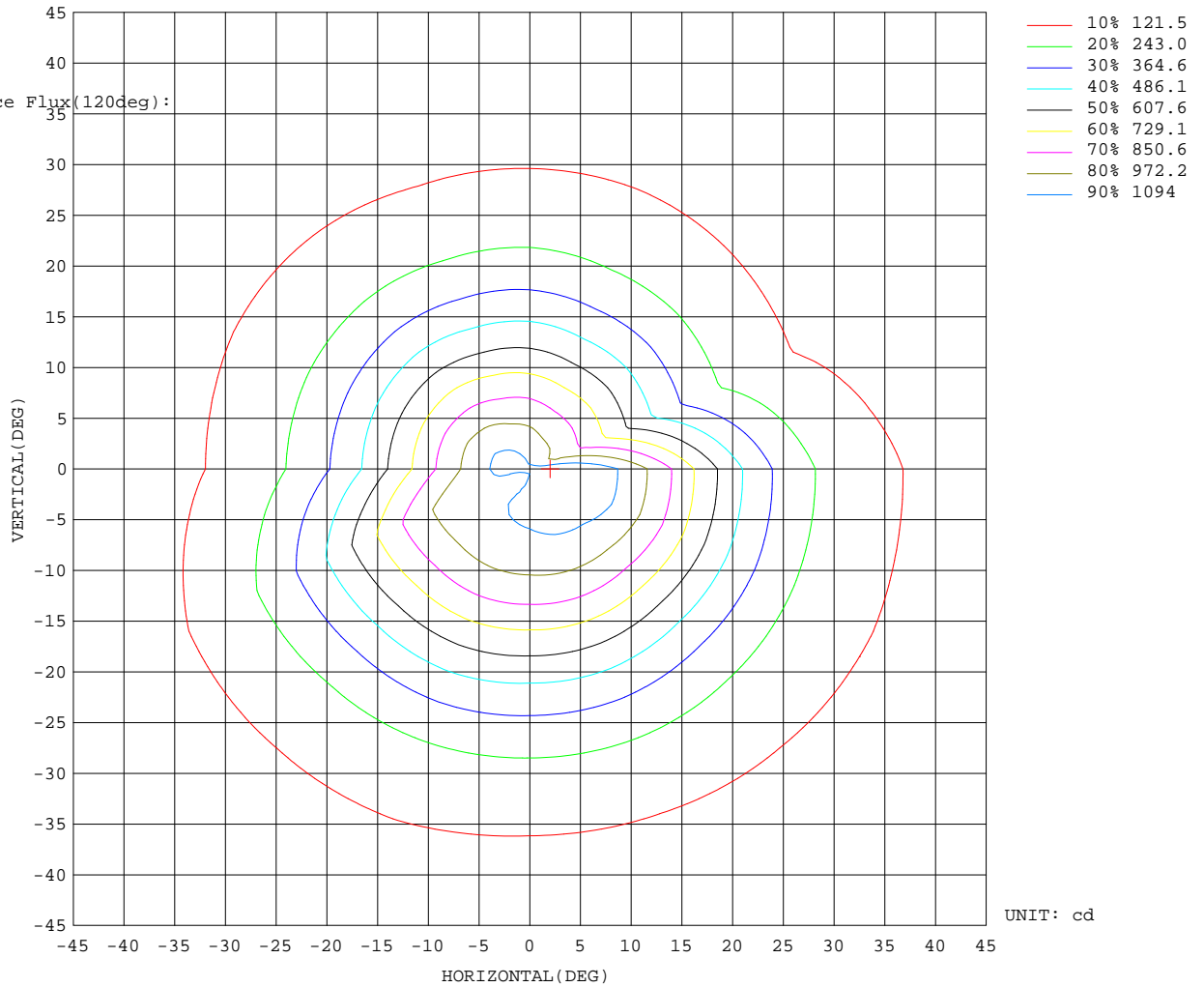
%lamp = 83.9%

Conical surface Flux(120deg):

543.09 lm

%lum = 93.3%

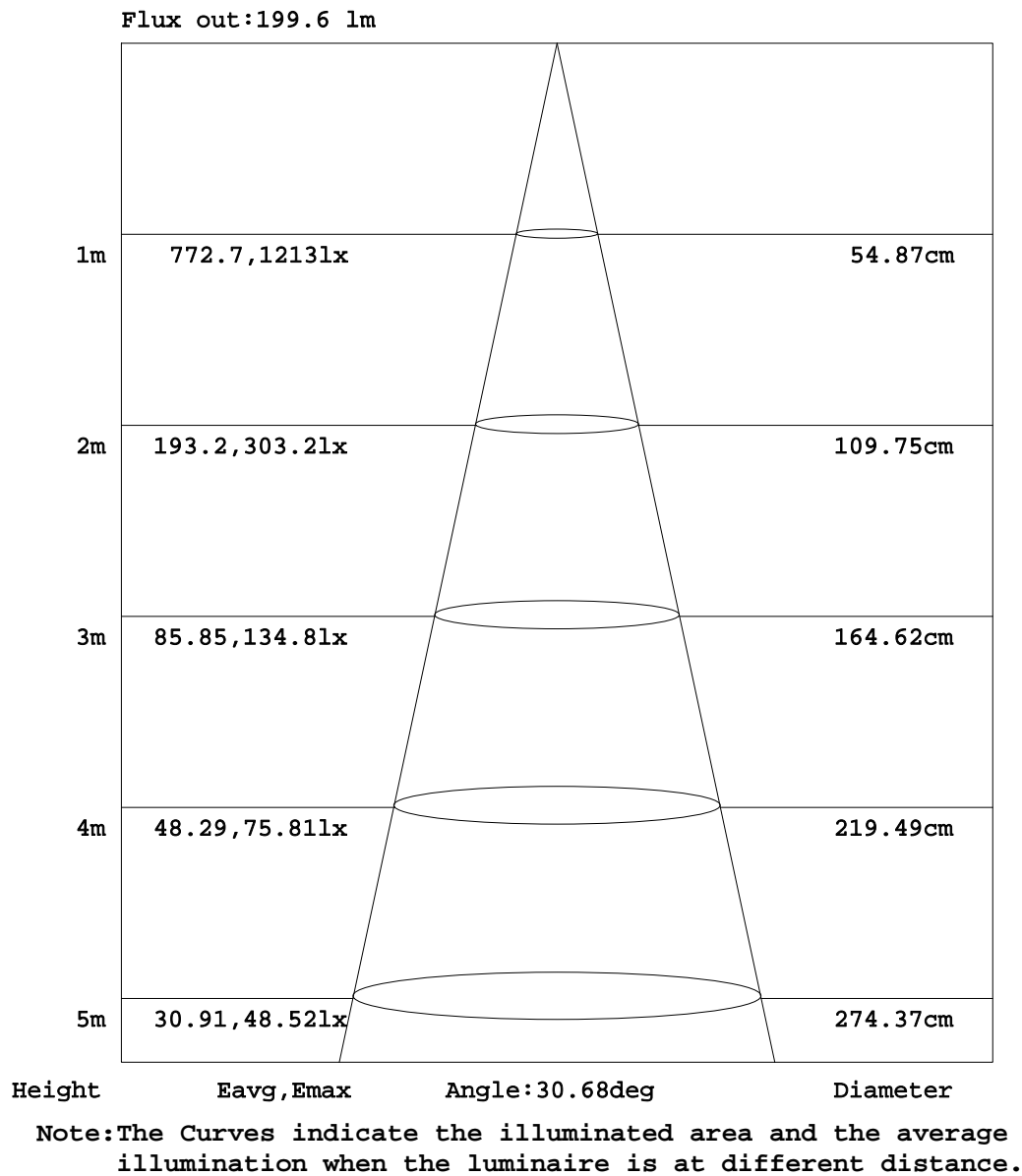
%lamp = 93.3%



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 28DEG
Operators: TGB
Test Date: 2016-01-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.295
Humidity: 85.0%
Test Distance: 8.820m [K=1.0000]
Remarks:

AAI Figure

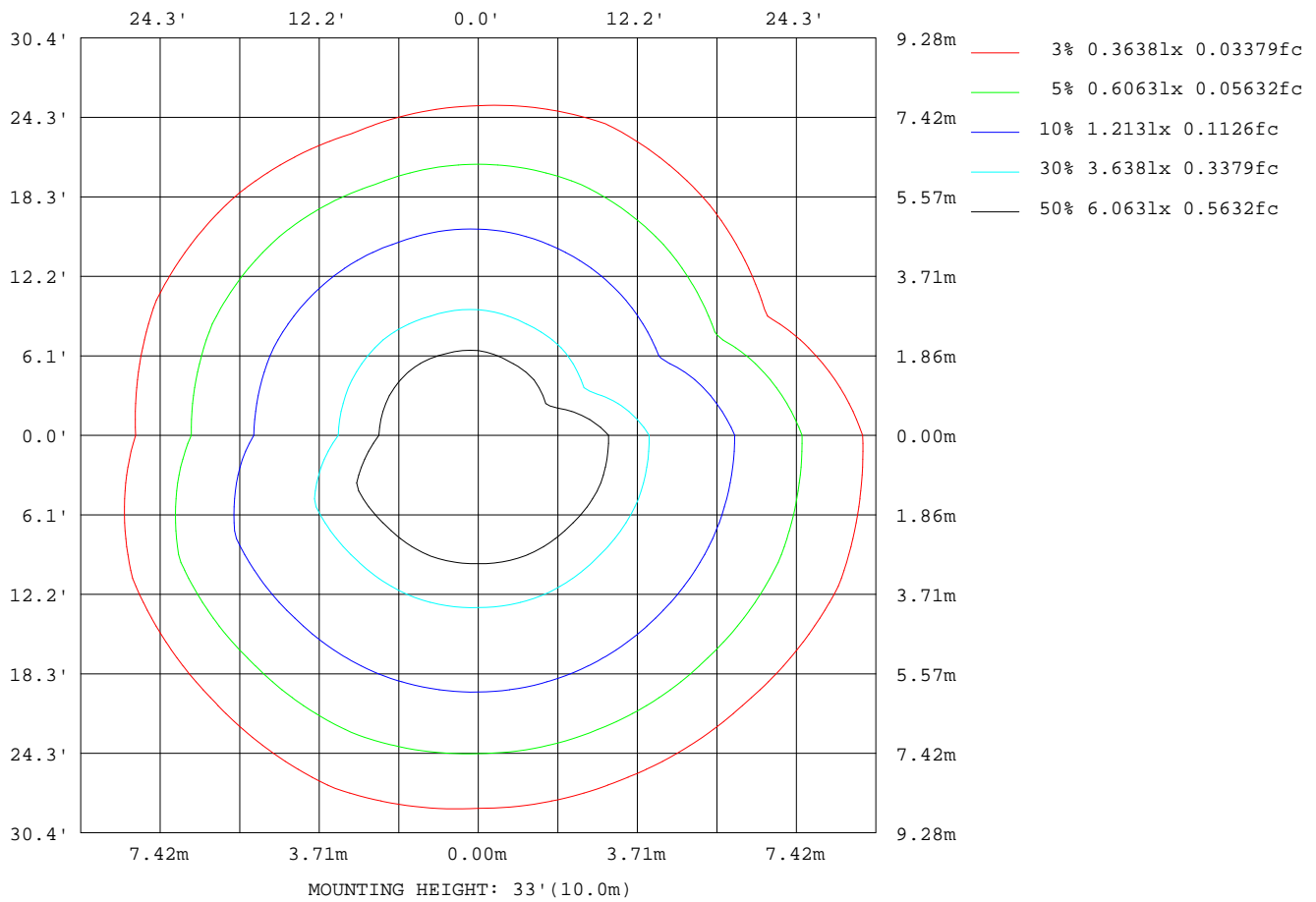


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 28DEG
Operators: TGB
Test Date: 2016-01-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.295
Humidity: 85.0%
Test Distance: 8.820m [K=1.0000]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 28DEG
Operators: TGB
Test Date: 2016-01-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.295
Humidity: 85.0%
Test Distance: 8.820m [K=1.0000]
Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LED Avg.L Report

Test:U:12.00V I:0.6200A P:7.400W PF:1.000 Lamp Flux:581.904x1 lm		
NAME: Led Spot Light	TYPE:6000K	WEIGHT:20g
SPEC.:	DIM.: D50x52mm	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

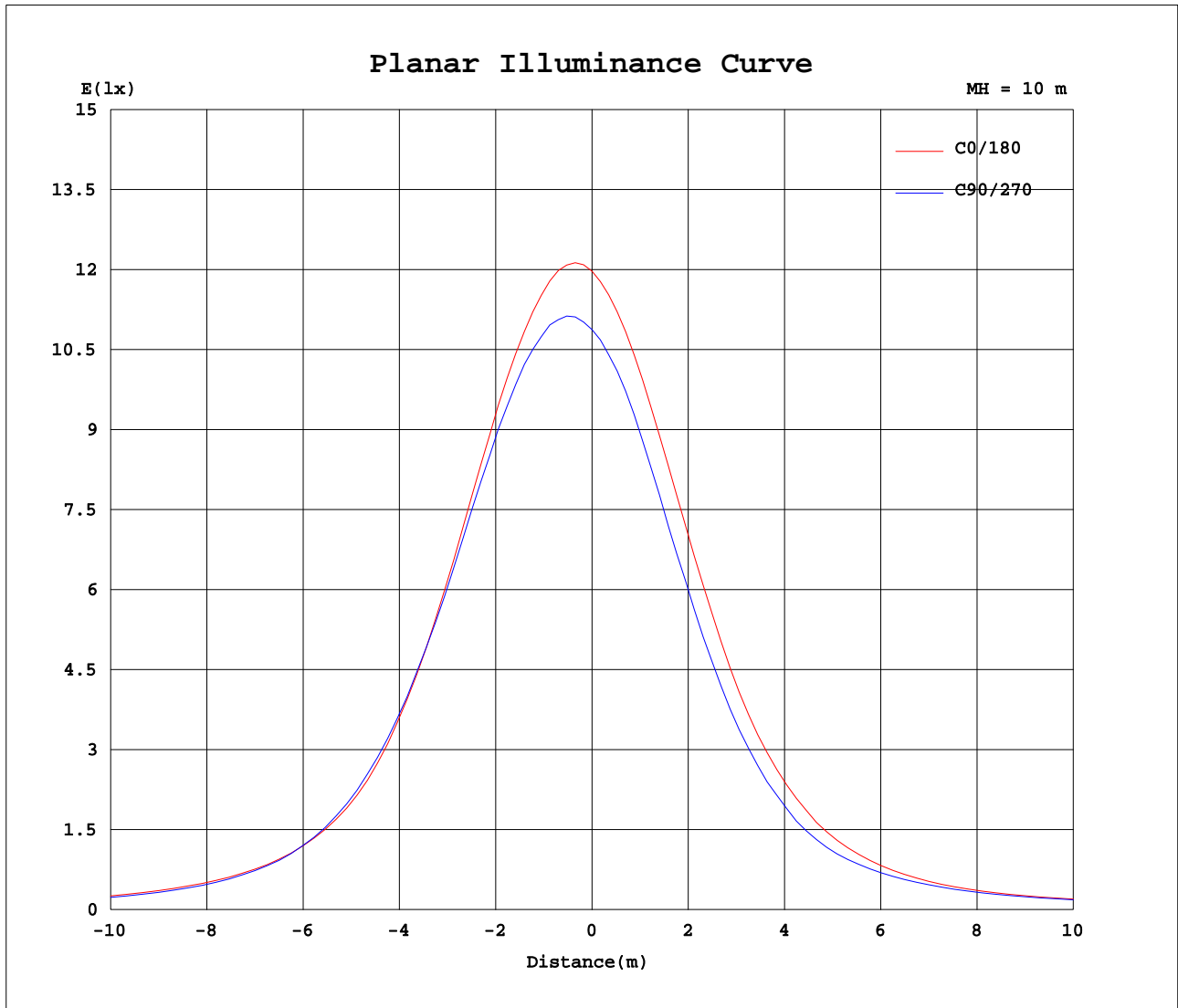
AvgL	cd/m2
L_0~180(65)av	53336
L_0~180(75)av	54025
L_0~180(85)av	52931
L_90~270(65)av	54218
L_90~270(75)av	53649
L_90~270(85)av	40019
L_45(65)av	50866
L_45(75)av	42592
L_45(85)av	32354

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:28DEG
Operators:TGB
Test Date:2016-01-15

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.295
Humidity:85.0%
Test Distance:8.820m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 28DEG
 Operators: TGB
 Test Date: 2016-01-15

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.295
 Humidity: 85.0%
 Test Distance: 8.820m [K=1.0000]
 Remarks:

EVERFINE GONIOPHOTOMETERS SYSTEM TEST REPORT

LUMINOUS DISTRIBUTION INTENSITY DATA

Table--1

UNIT: cd

[illegible]

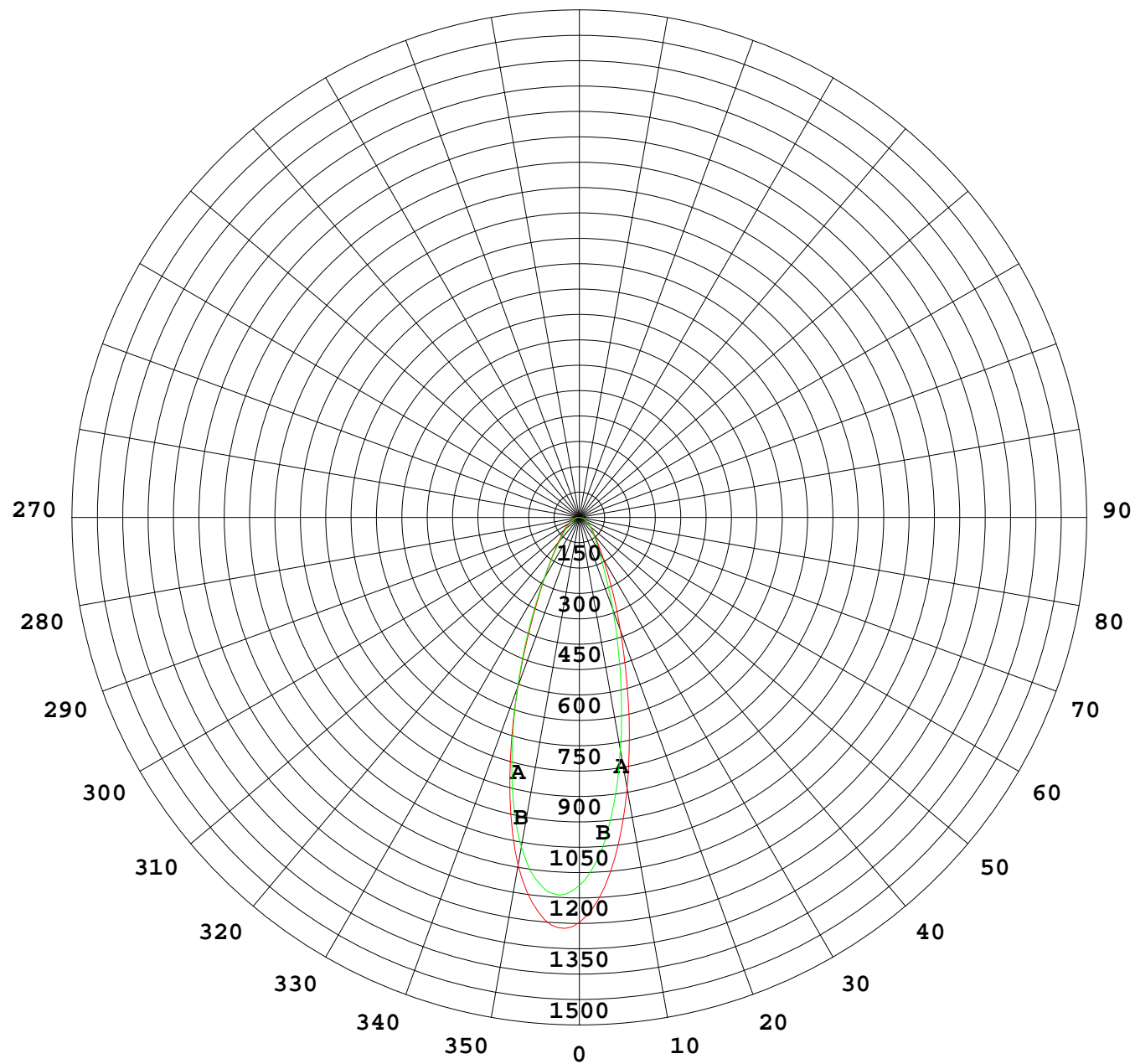
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 28DEG
Operators: TGB
Test Date: 2016-01-15

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.295
Humidity:85.0%
Test Distance:8.820m [K=1.0000]
Remarks:

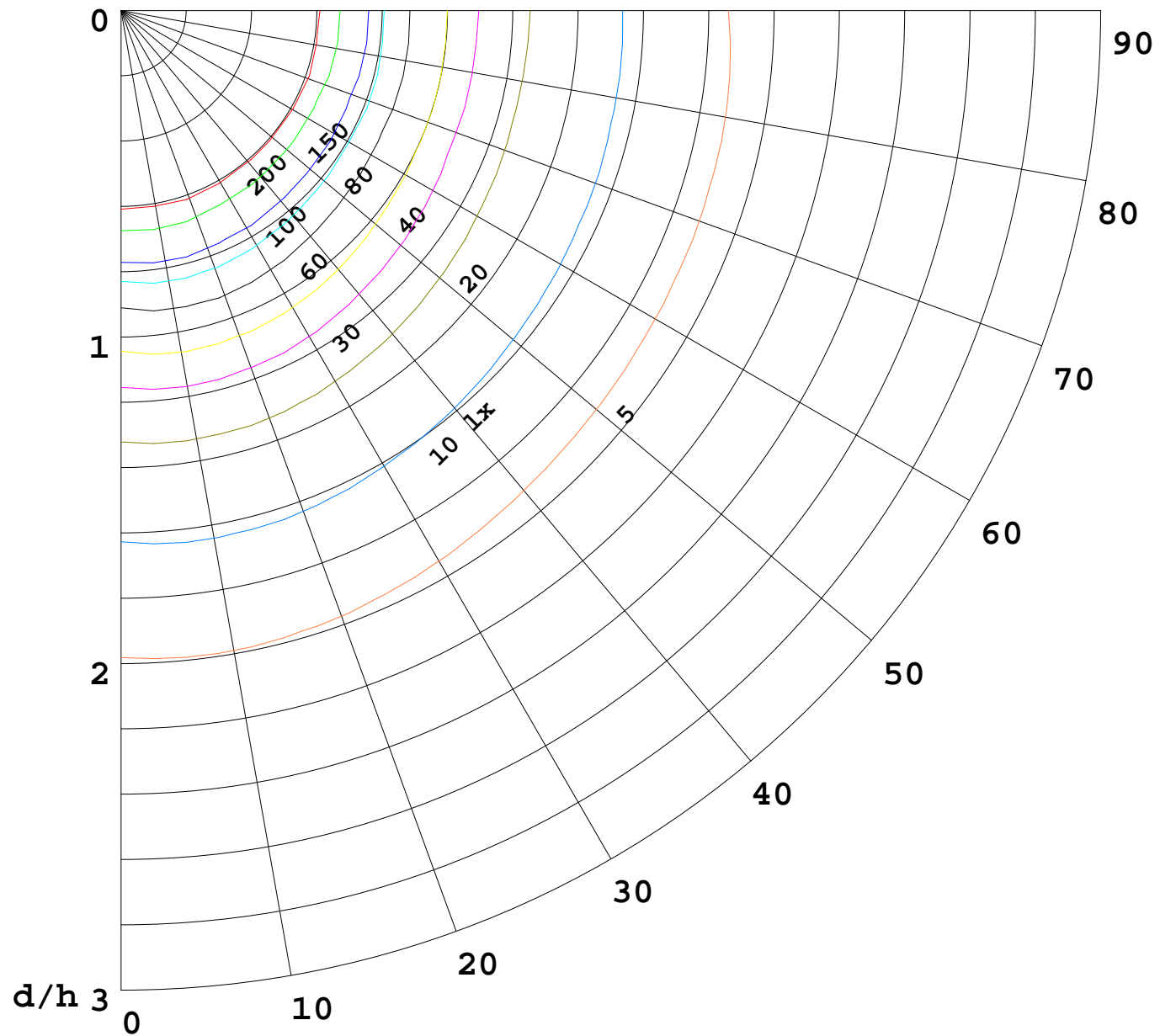
```

I(cd)



1000 lm

$K = 1$



F = 5000 lm
 K = 0.7
 Hcc = 0.0 m
 Hfc = 0.0 m
 Eave = 100 lx

	Pcc	Pw	Pfc
—————	70	50	30
—————	50	30	20

