
Nata

LumCAT: 1407-N	
Luminaire: 92.70.064.00	
Report No: NT2018041124	Voltage(V): 36.8000
Test No: nata-0100	Current(A): 0.2400
LampCAT: SAMSUNG LC008	Power (W): 8.8320
Lamp flux(lm): 1044.2	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 39	Width(mm): 39
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 910.98
Efficiency(%): 87.24%
Lumens(lm)/Power(W): 103.15
Central intensity(cd): 1131.134
Maximum intensity(cd): 1131.134
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=45.2
[C90/270]Total=45.2
Field angle(10%Imax): [C0/180]Total=92.3
[C90/270]Total=92.3
Maximum s/h(1/2): C0_180=0.69 C90_270=0.69
Maximum s/h(1/4): C0_180=0.77 C90_270=0.77
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 87.80%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 95.909%

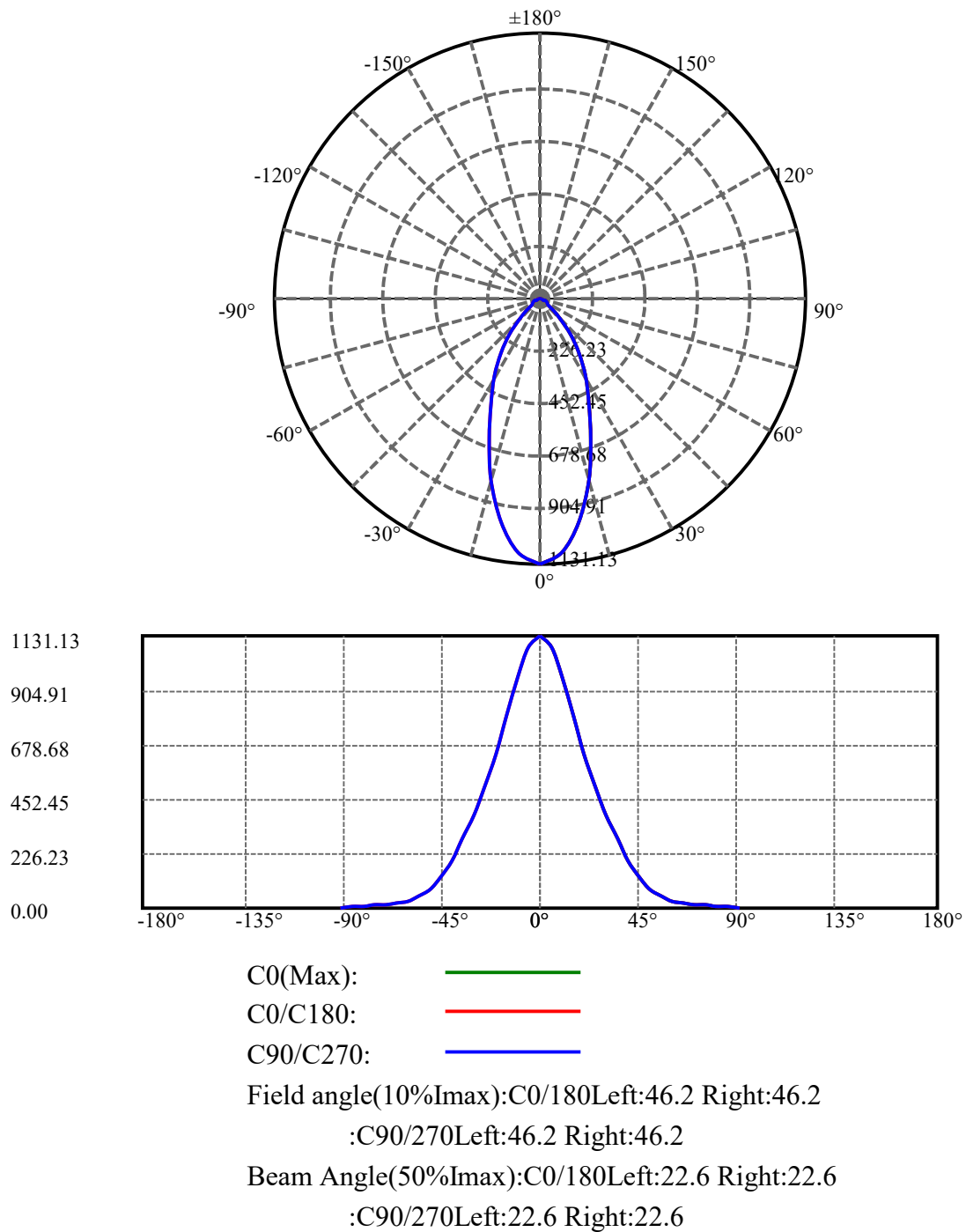
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1131.134	6.764	6.764	.648%	.743%
5.0	1083.565	51.765	58.53	4.957%	6.425%
10.0	963.872	91.744	150.274	8.786%	16.496%
15.0	796.721	113.030	263.304	10.824%	28.903%
20.0	639.700	119.927	383.231	11.485%	42.068%
25.0	498.040	115.372	498.603	11.049%	54.732%
30.0	385.175	105.564	604.168	10.109%	66.320%
35.0	285.688	89.820	693.988	8.602%	76.180%
40.0	198.588	69.970	763.957	6.701%	83.861%
45.0	124.483	48.248	812.206	4.620%	89.157%
50.0	75.758	31.810	844.016	3.046%	92.649%
55.0	46.082	20.691	864.707	1.981%	94.920%
60.0	30.887	14.662	879.369	1.404%	96.530%
65.0	21.197	10.530	889.9	1.008%	97.686%
70.0	15.416	7.940	897.84	.760%	98.557%
75.0	10.736	5.684	903.524	.544%	99.181%
80.0	7.323	3.953	907.477	.379%	99.615%
85.0	4.680	2.555	910.032	.245%	99.896%
90.0	3.469	0.951	910.983	.091%	100.000%

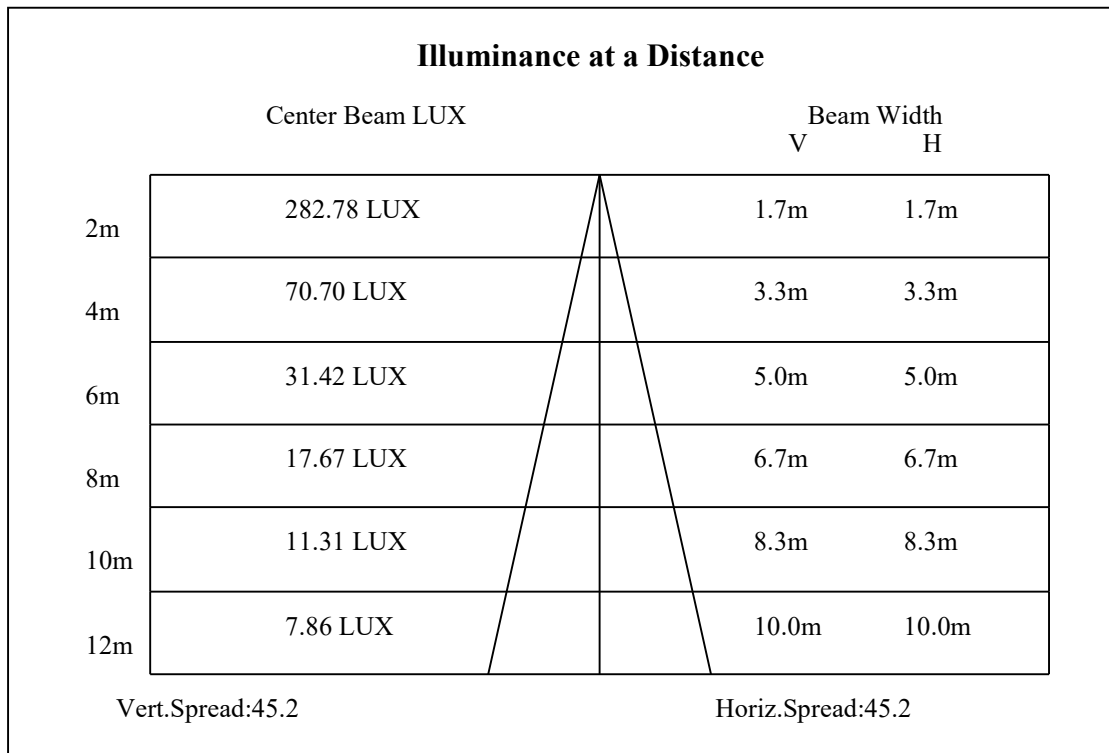
ZONAL LUMEN SUMMARY

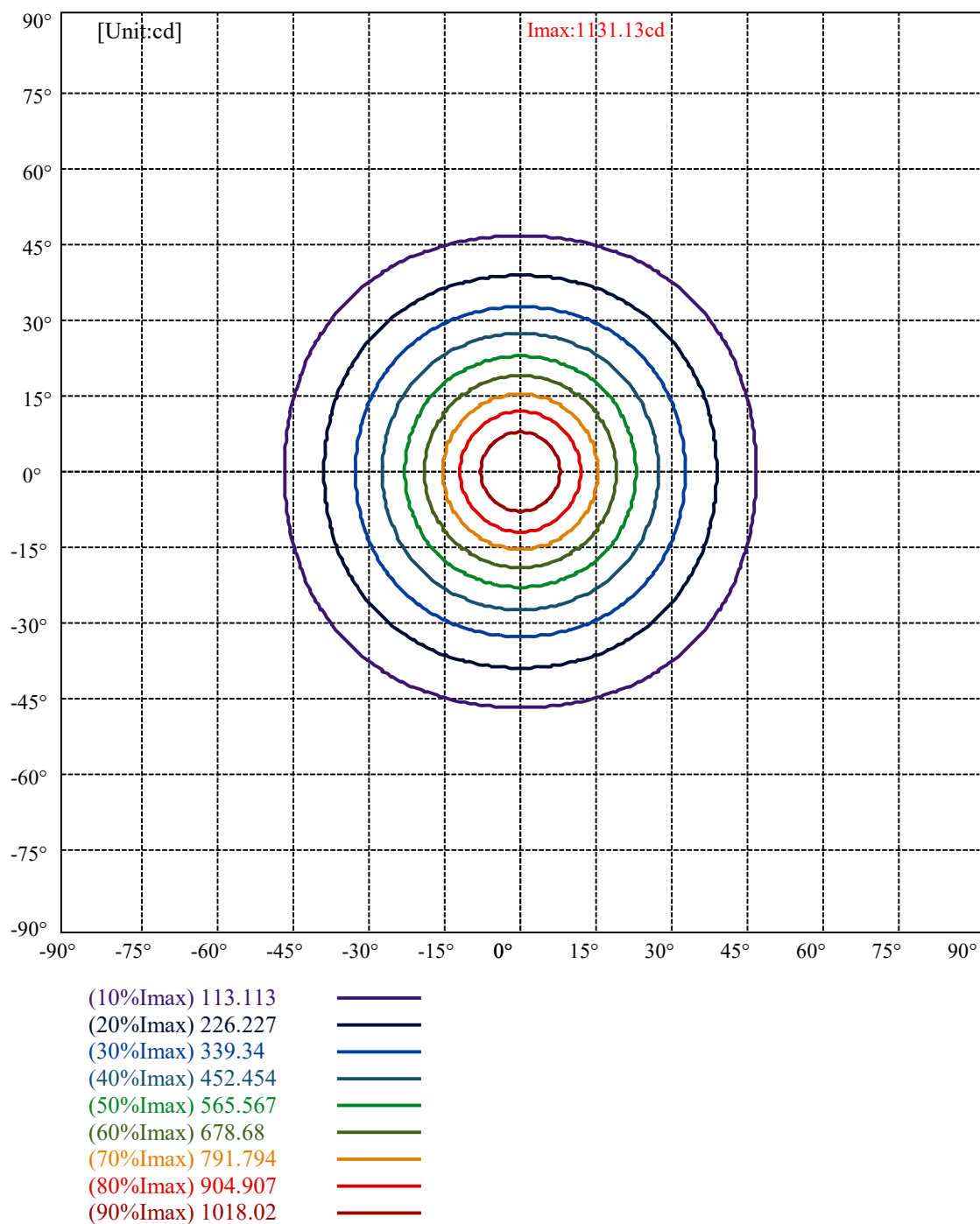
Zone	Lumens	%Lamp	%Fixt
0-30	604.17	57.86%	66.32%
0-40	763.96	73.16%	83.86%
0-60	879.37	84.21%	96.53%
0-90	910.03	87.15%	99.90%
0-120	910.03	87.15%	99.90%
0-180	910.98	87.24%	100.00%
60-90	45.32	4.34%	4.98%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-37.49	728.79	69.79%	80.00%

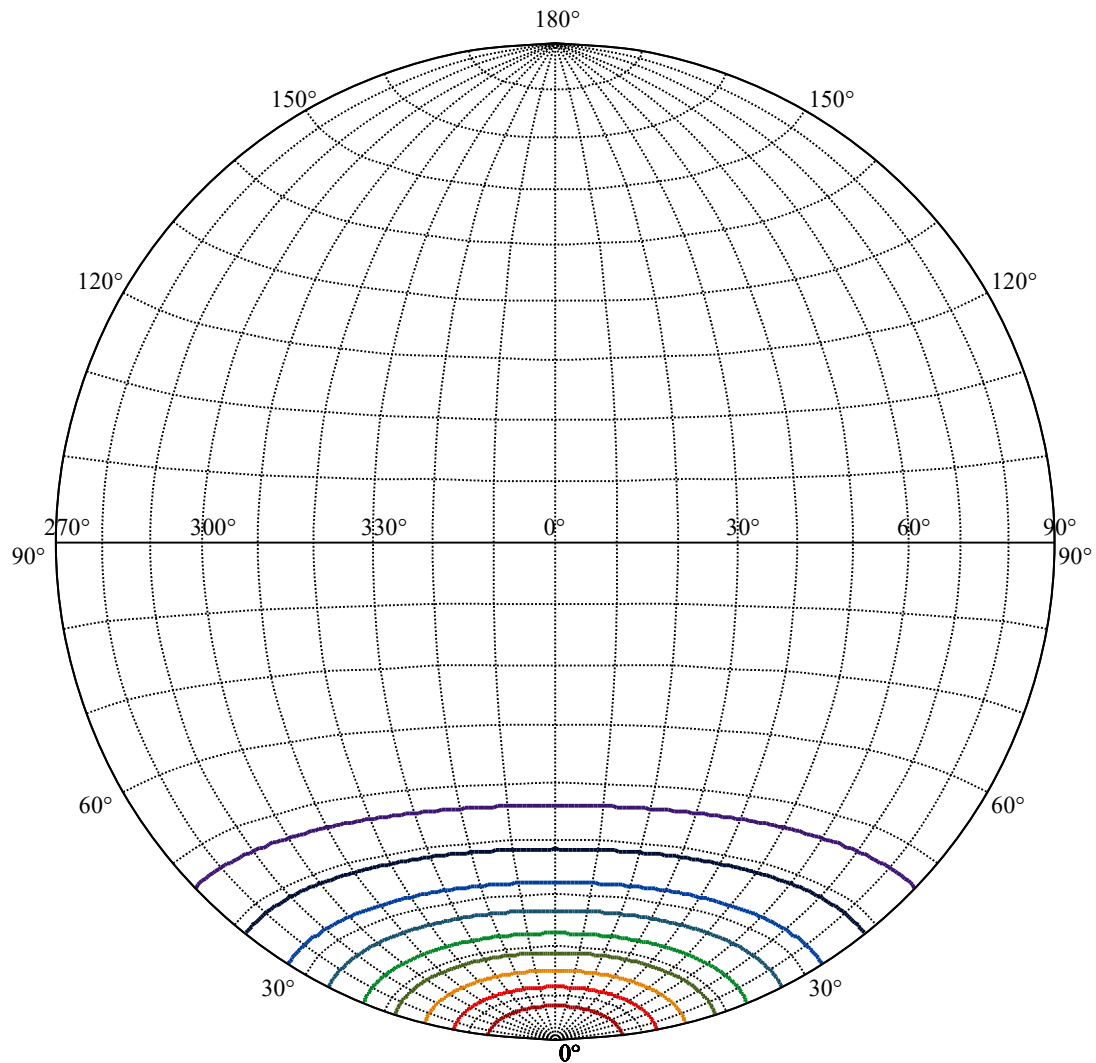
ZONAL LUMEN SUMMARY

0-10	150.27
10-20	232.96
20-30	220.94
30-40	159.79
40-50	80.06
50-60	35.35
60-70	18.47
70-80	9.64
80-90	2.56
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00









House

[Unit:cd]

Road

Imax:1131.13

(10%Imax) 113.113

(20%Imax) 226.227

(30%Imax) 339.34

(40%Imax) 452.454

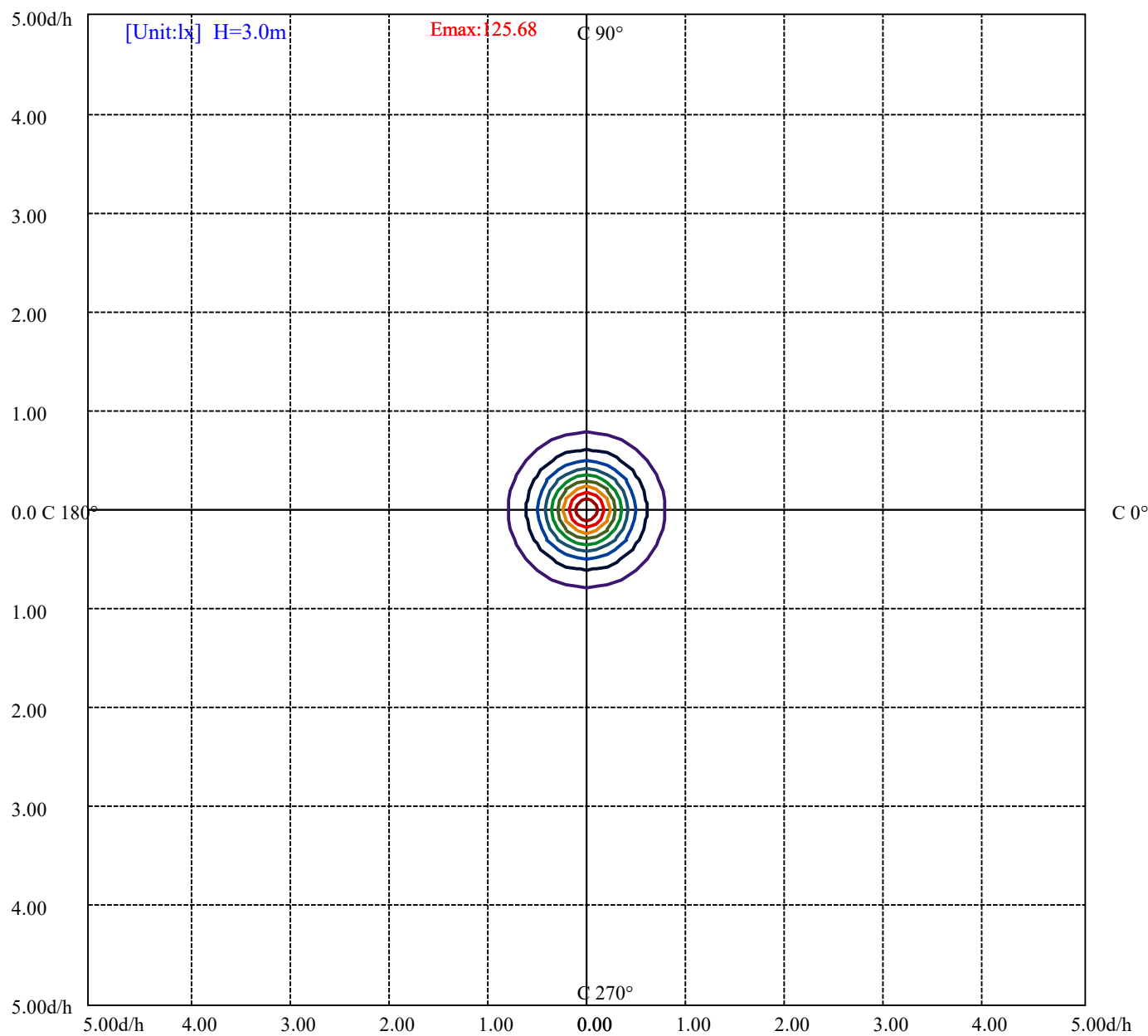
(50%Imax) 565.567

(60%Imax) 678.68

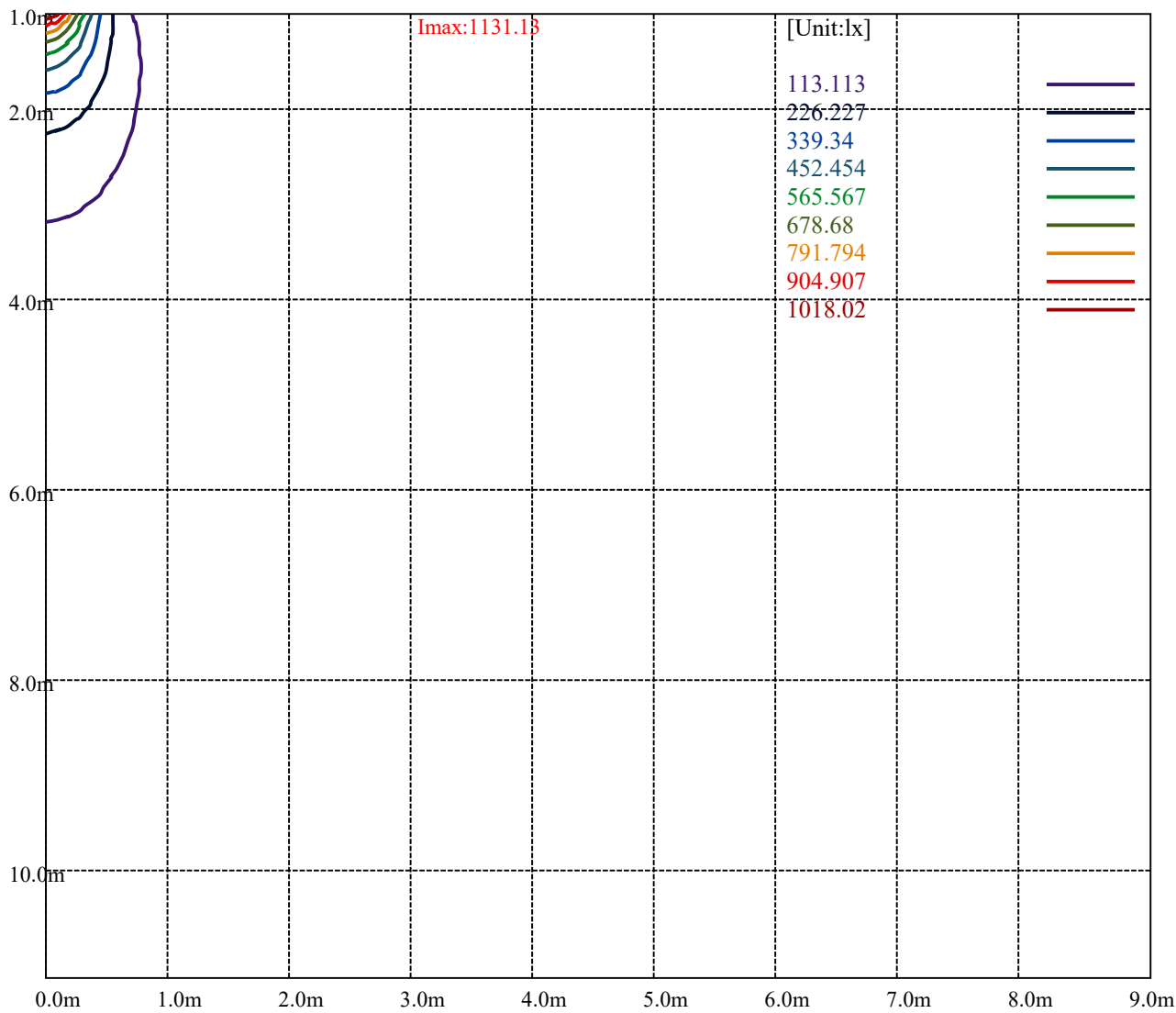
(70%Imax) 791.794

(80%Imax) 904.907

(90%Imax) 1018.02



(10%E _{max}) 12.56811	—
(20%E _{max}) 25.13622	—
(30%E _{max}) 37.70444	—
(40%E _{max}) 50.27256	—
(50%E _{max}) 62.84066	—
(60%E _{max}) 75.40878	—
(70%E _{max}) 87.97701	—
(80%E _{max}) 100.5451	—
(90%E _{max}) 113.1133	—



Luminance Table

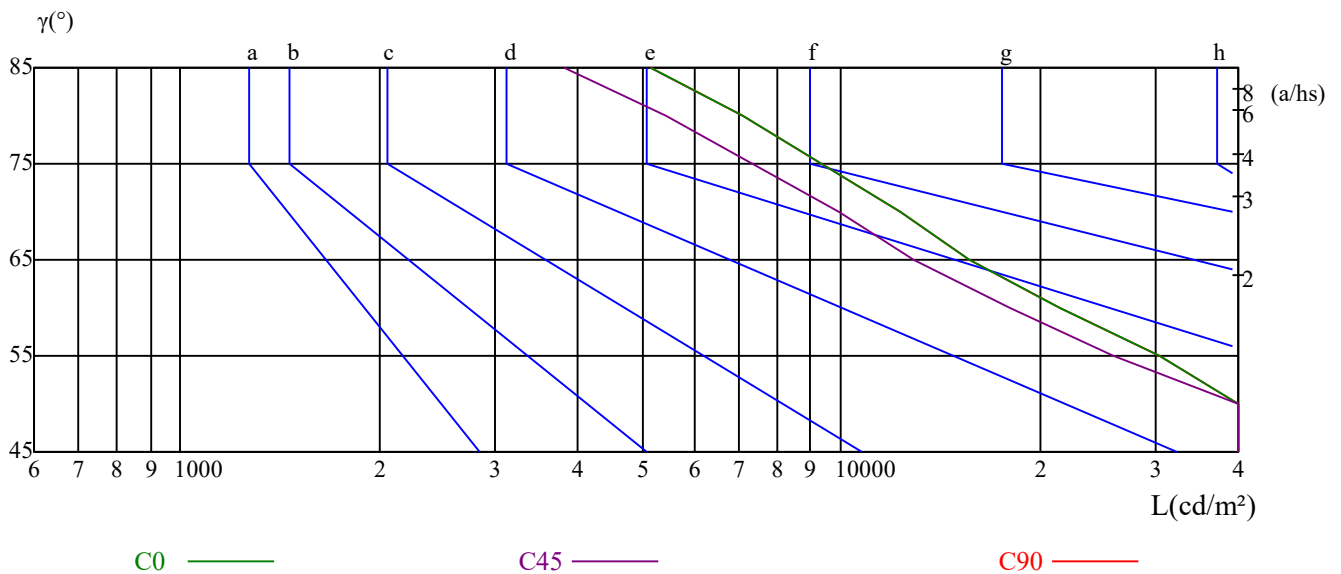
γ	45	50	55	60	65	70	75	80	85
C0	76508	48094	30491	21509	15705	12301	9359	7094	5145
C45	67088	41564	25947	18001	12905	9902	7358	5422	3800
C90	76508	48094	30491	21509	15705	12301	9359	7094	5145

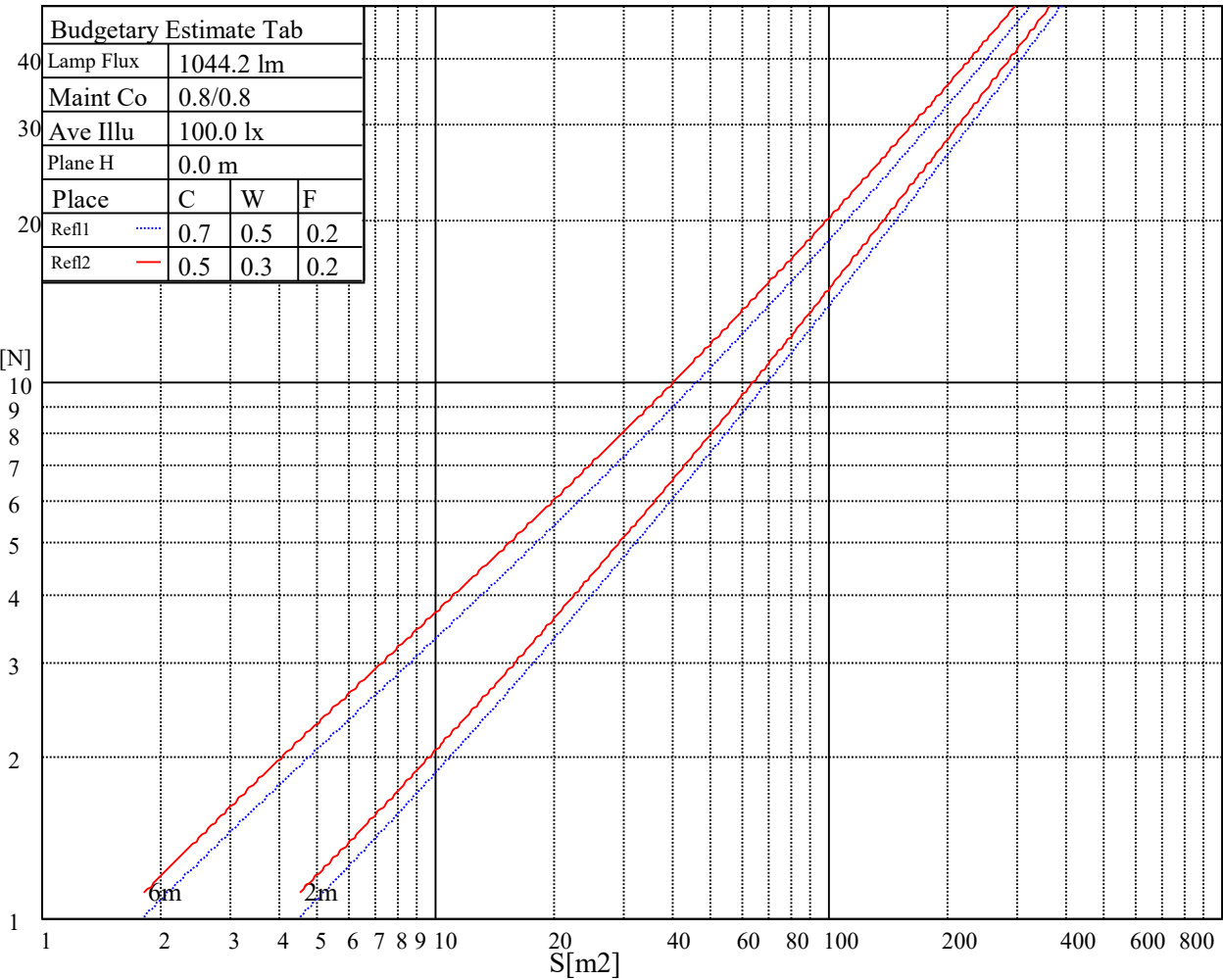
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
32975	32975	32975	27272	27272	27272	35302	35302	35302

Glare Table

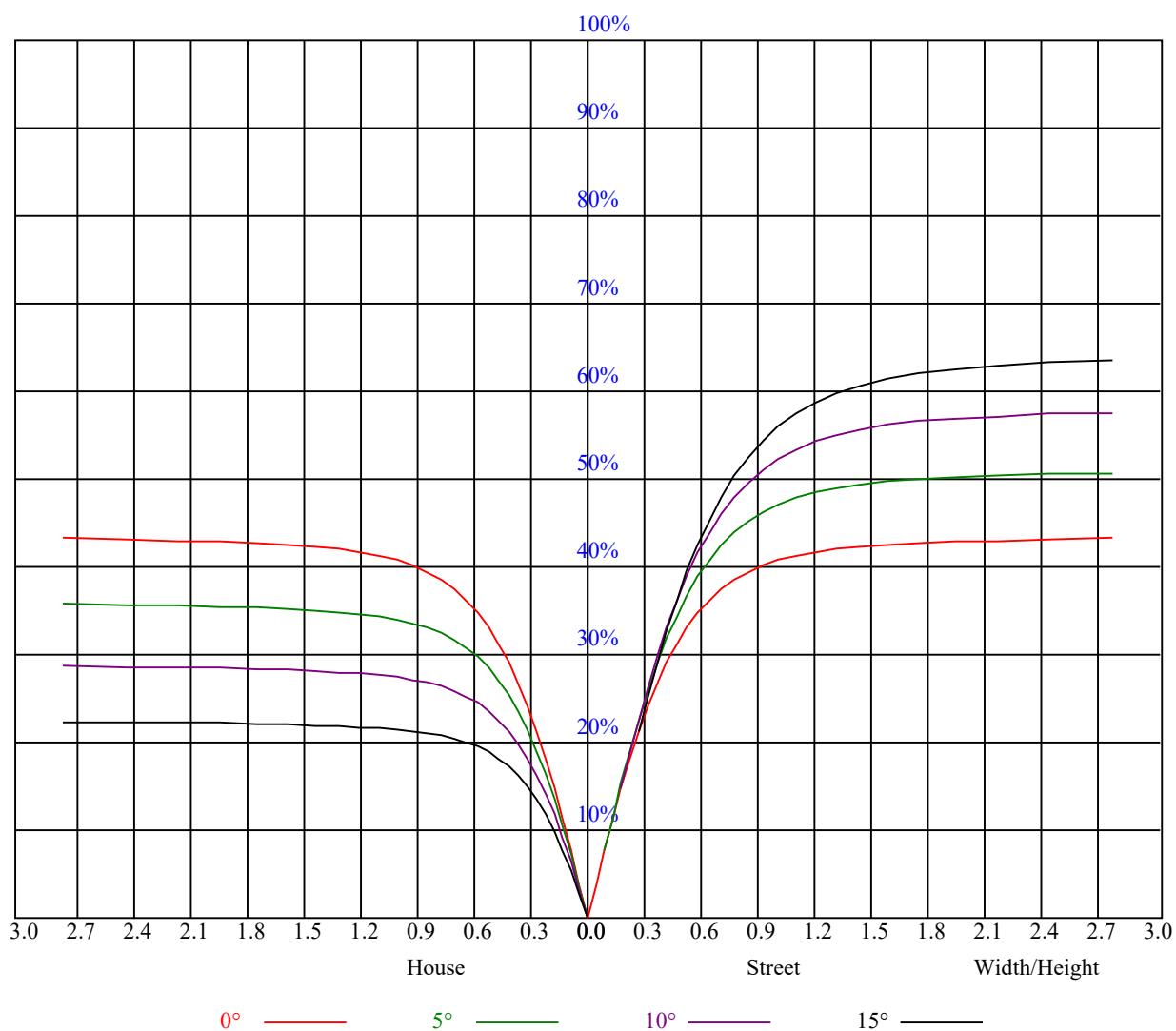
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





RHOC	80			70			50			30			10			0
RHOW	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR	COEFFICIENTS OF UTILIZATION RHOFC=20 CU															
0	1.05	1.05	1.05	1.02	1.02	1.02	0.98	0.98	0.98	0.93	0.93	0.93	0.90	0.90	0.90	0.88
1	0.96	0.93	0.91	0.94	0.92	0.89	0.90	0.88	0.87	0.87	0.85	0.84	0.84	0.83	0.82	0.80
2	0.89	0.85	0.81	0.87	0.83	0.80	0.84	0.81	0.79	0.82	0.79	0.77	0.79	0.77	0.75	0.74
3	0.82	0.78	0.74	0.81	0.77	0.73	0.79	0.75	0.72	0.77	0.73	0.71	0.75	0.72	0.70	0.68
4	0.77	0.71	0.68	0.76	0.71	0.67	0.74	0.70	0.66	0.72	0.68	0.66	0.70	0.67	0.65	0.63
5	0.72	0.66	0.62	0.71	0.66	0.62	0.69	0.65	0.61	0.68	0.64	0.61	0.66	0.63	0.60	0.59
6	0.67	0.62	0.58	0.67	0.61	0.58	0.65	0.61	0.57	0.64	0.60	0.57	0.63	0.59	0.57	0.55
7	0.63	0.58	0.54	0.63	0.58	0.54	0.62	0.57	0.54	0.61	0.57	0.53	0.60	0.56	0.53	0.52
8	0.60	0.55	0.51	0.59	0.54	0.51	0.58	0.54	0.51	0.58	0.53	0.50	0.57	0.53	0.50	0.49
9	0.57	0.52	0.48	0.56	0.51	0.48	0.56	0.51	0.48	0.55	0.51	0.48	0.54	0.50	0.47	0.46
10	0.54	0.49	0.45	0.54	0.49	0.45	0.53	0.48	0.45	0.52	0.48	0.45	0.52	0.48	0.45	0.44



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Intensity data(cd)										Appendix Page: 14 Total:14	
C/ γ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0		
0.0	1131.13	1083.57	963.87	796.72	639.70	498.04	385.17	285.69	198.59		
45.0	1131.13	1083.57	963.87	796.72	639.70	498.04	385.17	285.69	198.59		
90.0	1131.13	1083.57	963.87	796.72	639.70	498.04	385.17	285.69	198.59		
135.0	1131.13	1083.57	963.87	796.72	639.70	498.04	385.17	285.69	198.59		
180.0	1131.13	1083.57	963.87	796.72	639.70	498.04	385.17	285.69	198.59		
225.0	1131.13	1083.57	963.87	796.72	639.70	498.04	385.17	285.69	198.59		
270.0	1131.13	1083.57	963.87	796.72	639.70	498.04	385.17	285.69	198.59		
315.0	1131.13	1083.57	963.87	796.72	639.70	498.04	385.17	285.69	198.59		
360.0	1131.13	1083.57	963.87	796.72	639.70	498.04	385.17	285.69	198.59		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	124.48	75.76	46.08	30.89	21.20	15.42	10.74	7.32	4.68		
45.0	124.48	75.76	46.08	30.89	21.20	15.42	10.74	7.32	4.68		
90.0	124.48	75.76	46.08	30.89	21.20	15.42	10.74	7.32	4.68		
135.0	124.48	75.76	46.08	30.89	21.20	15.42	10.74	7.32	4.68		
180.0	124.48	75.76	46.08	30.89	21.20	15.42	10.74	7.32	4.68		
225.0	124.48	75.76	46.08	30.89	21.20	15.42	10.74	7.32	4.68		
270.0	124.48	75.76	46.08	30.89	21.20	15.42	10.74	7.32	4.68		
315.0	124.48	75.76	46.08	30.89	21.20	15.42	10.74	7.32	4.68		
360.0	124.48	75.76	46.08	30.89	21.20	15.42	10.74	7.32	4.68		
C/ γ (°)	90.0										
0.0	3.47										
45.0	3.47										
90.0	3.47										
135.0	3.47										
180.0	3.47										
225.0	3.47										
270.0	3.47										
315.0	3.47										
360.0	3.47										