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Nata

LumCAT: 2-2078-M	
Luminaire: 92.70.131.00	
Report No: NATA0100	Voltage(V):
Test No: GC2019092503	Current(A):
LampCAT: BRIDGELUX V13B LES13	Power (W): 13.2000
Lamp flux(lm): 1938.0	PF:
Number of Lamps: 1	Ballast type:
Length(mm): 0	Width(mm): 0
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1531.54
Efficiency(%): 79.03%
Lumens(lm)/Power(W): 116.03
Central intensity(cd): 5141.110
Maximum intensity(cd): 5141.110
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=32.6
[C90/270]Total=32.6
Field angle(10%Imax): [C0/180]Total=49.1
[C90/270]Total=49.1
Maximum s/h(1/2): C0_180=0.55 C90_270=0.55
Maximum s/h(1/4): C0_180=0.51 C90_270=0.51
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 79.03%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.489%

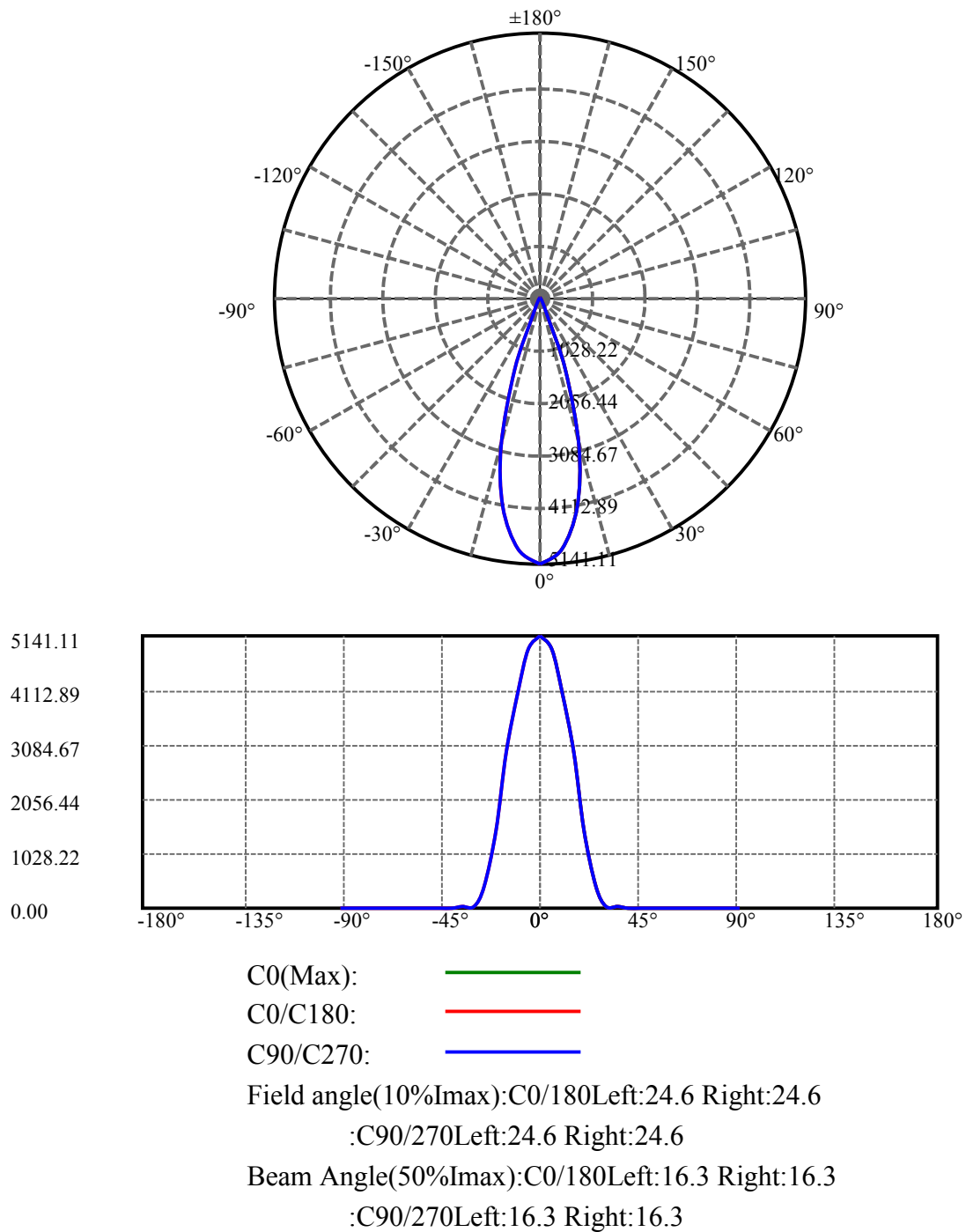
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5141.110	0.000	0	.000%	.000%
5.0	4878.422	119.781	119.781	6.181%	7.821%
10.0	4092.258	320.909	440.69	16.559%	28.774%
15.0	2952.211	417.873	858.563	21.562%	56.059%
20.0	1475.839	364.934	1223.497	18.830%	79.887%
25.0	423.035	199.157	1422.654	10.276%	92.890%
30.0	33.975	57.835	1480.489	2.984%	96.667%
35.0	17.192	7.535	1488.023	.389%	97.159%
40.0	12.466	4.948	1492.972	.255%	97.482%
45.0	10.069	4.173	1497.144	.215%	97.754%
50.0	8.895	3.832	1500.976	.198%	98.004%
55.0	8.199	3.717	1504.693	.192%	98.247%
60.0	7.819	3.702	1508.395	.191%	98.489%
65.0	7.559	3.738	1512.133	.193%	98.733%
70.0	7.432	3.796	1515.929	.196%	98.981%
75.0	7.341	3.861	1519.79	.199%	99.233%
80.0	7.249	3.904	1523.694	.201%	99.488%
85.0	7.193	3.924	1527.619	.202%	99.744%
90.0	7.130	3.922	1531.54	.202%	100.000%

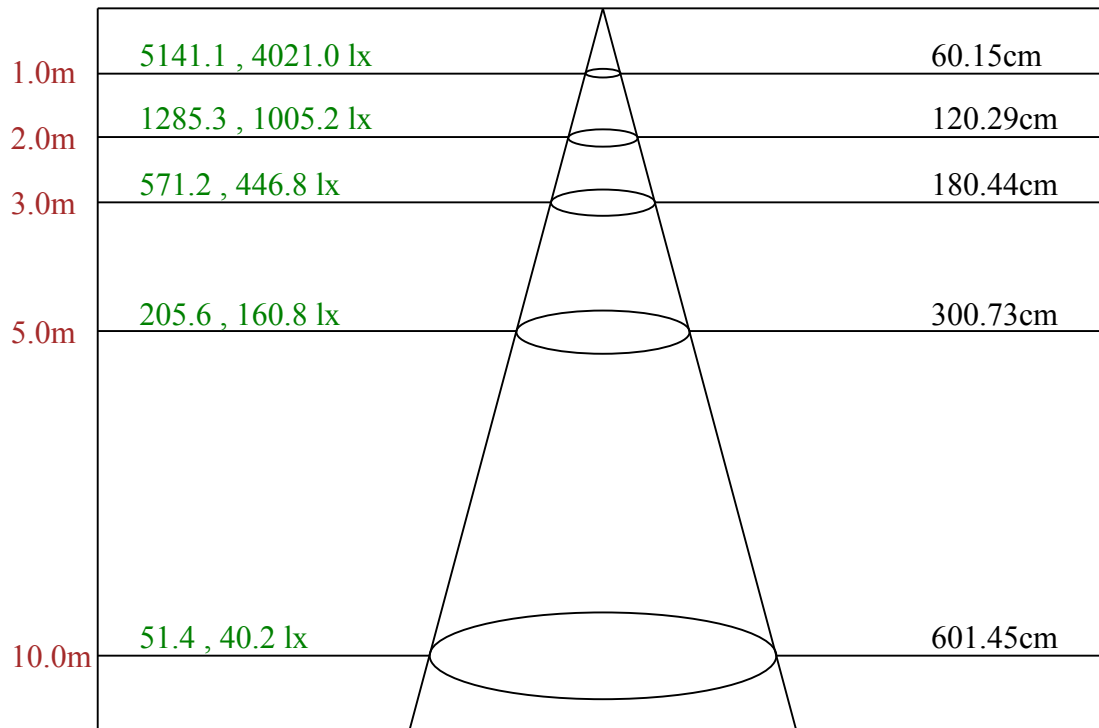
ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1480.49	76.39%	96.67%
0-40	1492.97	77.04%	97.48%
0-60	1508.40	77.83%	98.49%
0-90	1527.62	78.82%	99.74%
0-120	1527.62	78.82%	99.74%
0-180	1531.54	79.03%	100.00%
60-90	22.93	1.18%	1.50%
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%
0-20.04	1225.23	63.22%	80.00%

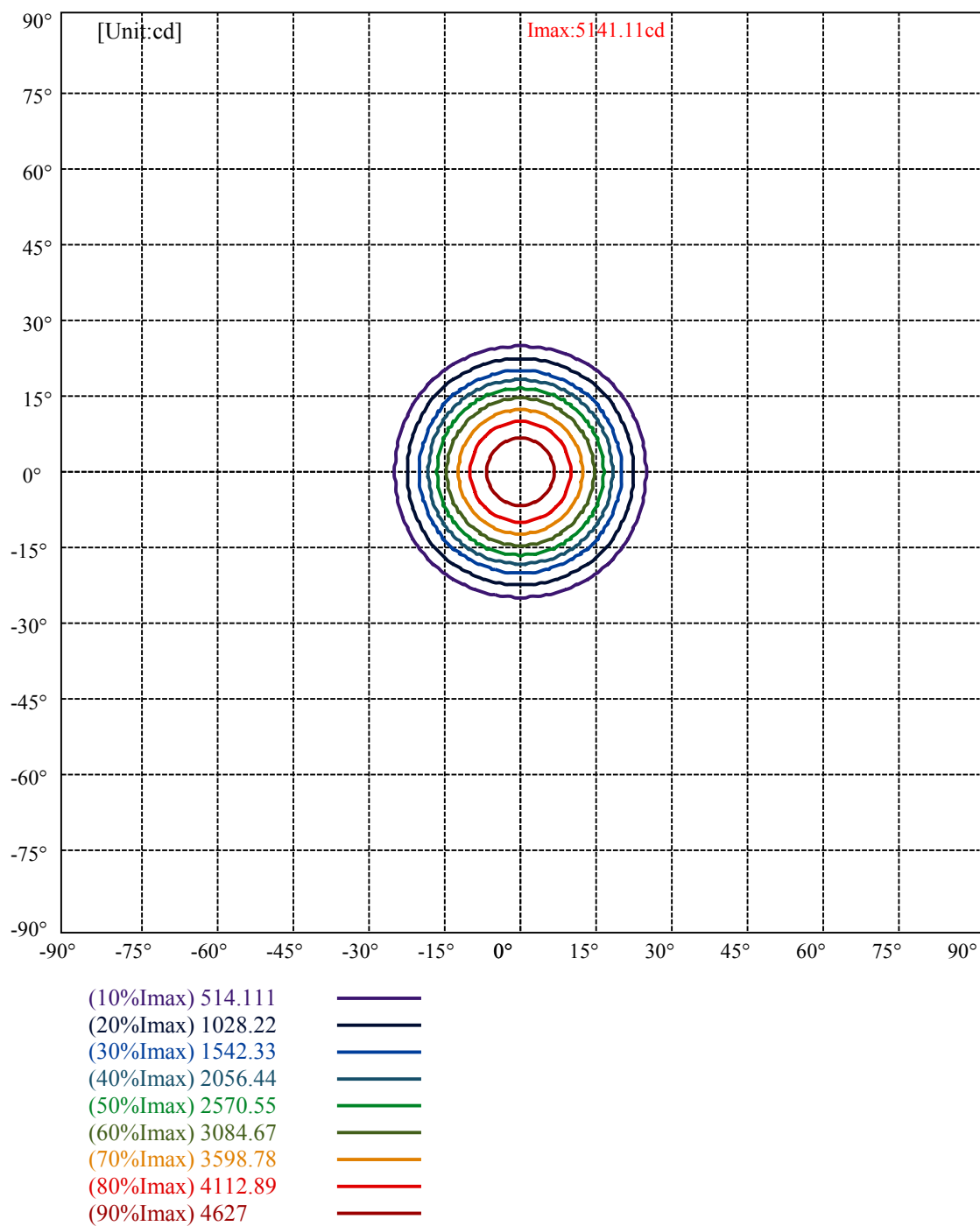
ZONAL LUMEN SUMMARY

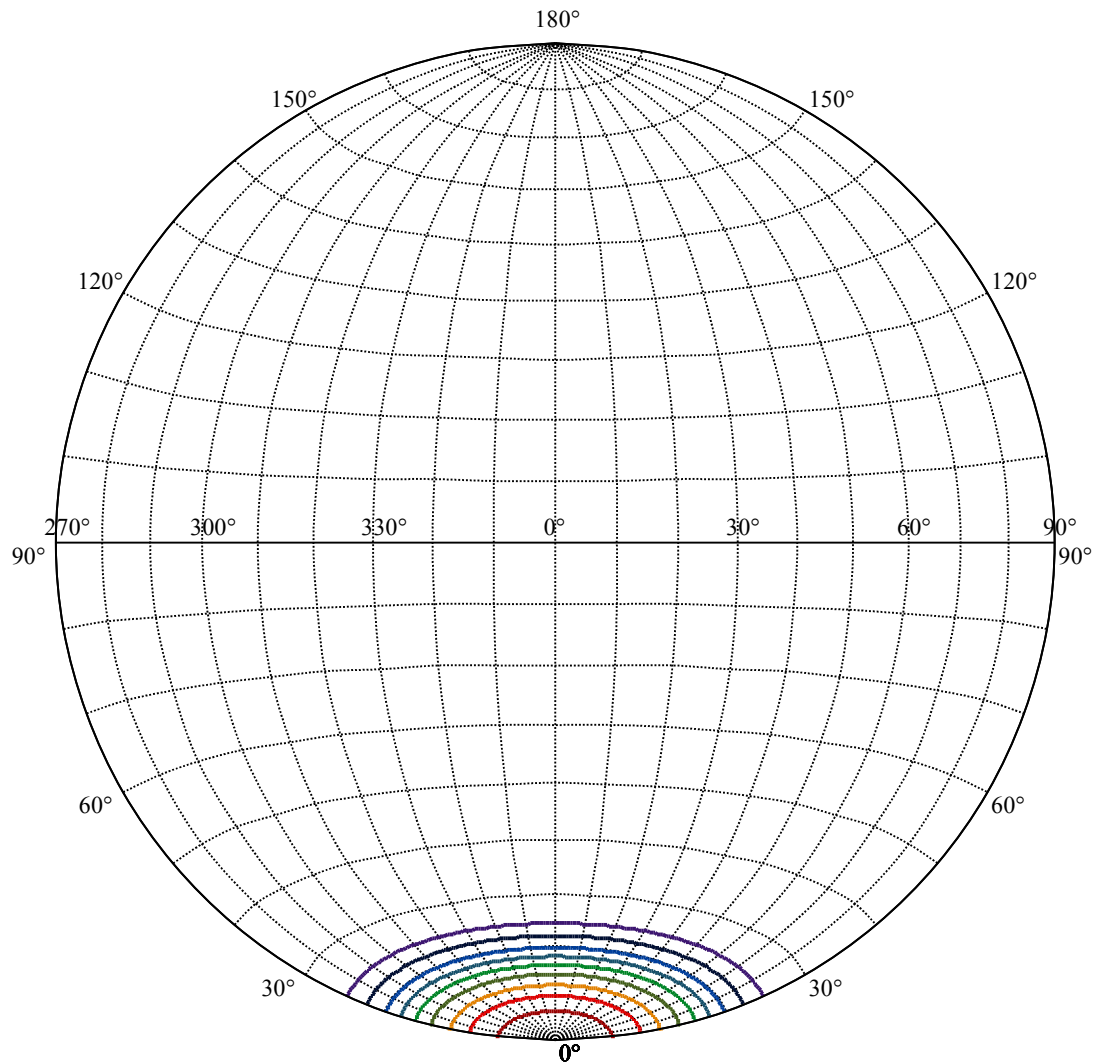
0-10	440.69
10-20	782.81
20-30	256.99
30-40	12.48
40-50	8.00
50-60	7.42
60-70	7.53
70-80	7.77
80-90	3.92
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00





Max , Ave Beam angle of C0 plane 33.47





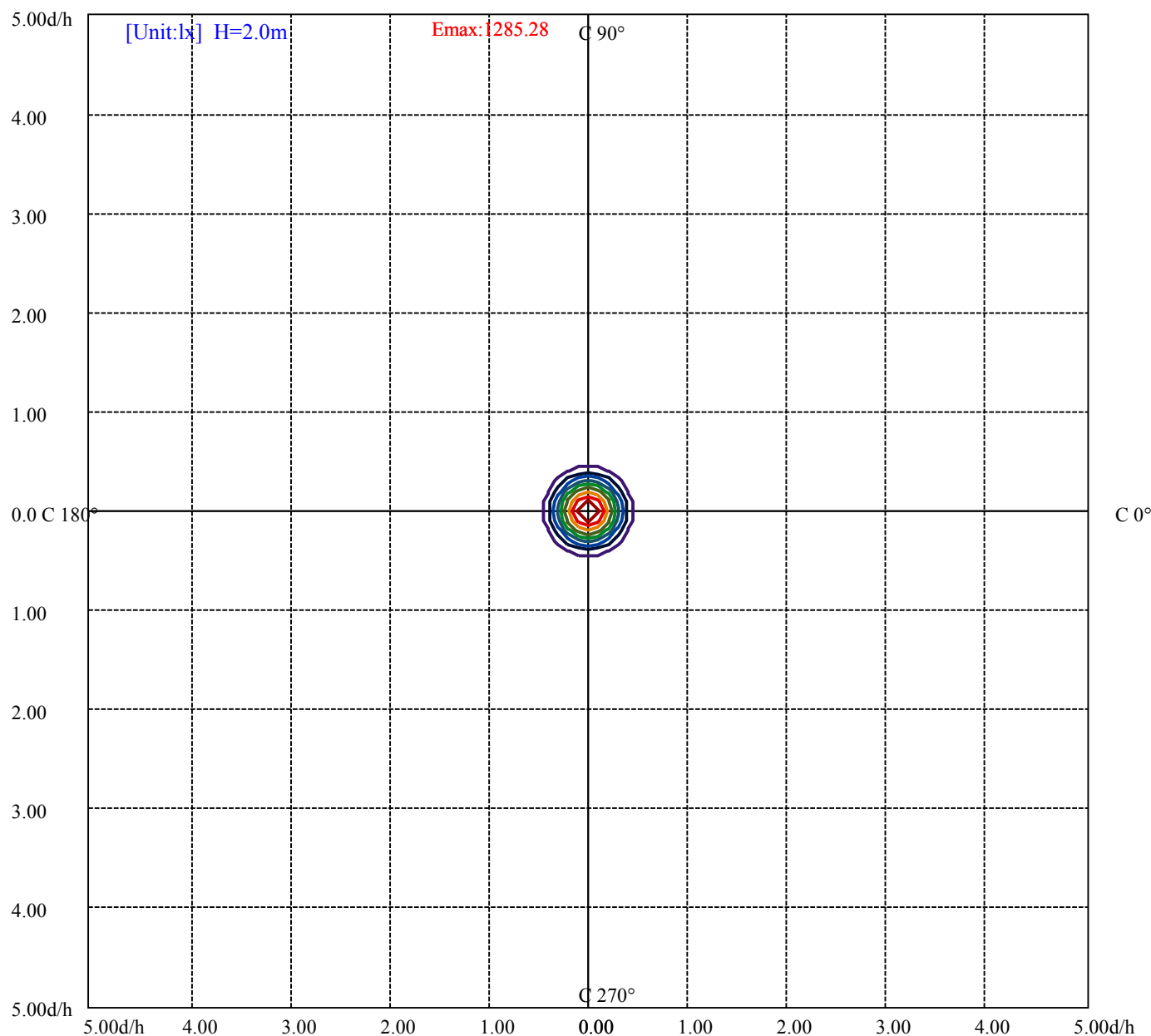
House

[Unit:cd]

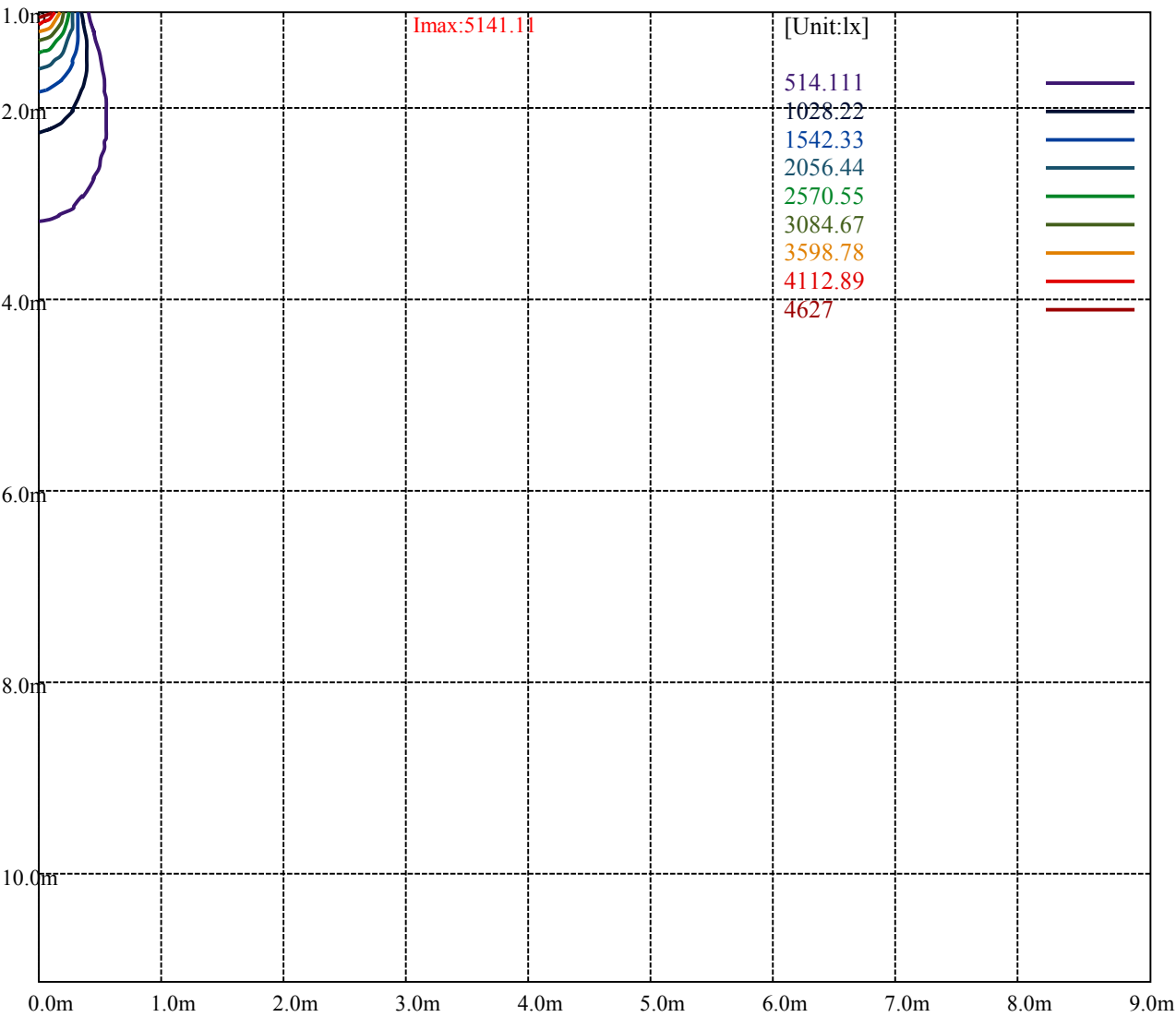
Road

Imax:5141.11

(10%Imax)	514.111	—
(20%Imax)	1028.22	—
(30%Imax)	1542.33	—
(40%Imax)	2056.44	—
(50%Imax)	2570.55	—
(60%Imax)	3084.67	—
(70%Imax)	3598.78	—
(80%Imax)	4112.89	—
(90%Imax)	4627	—



(10%Emax) 128.5275	—
(20%Emax) 257.055	—
(30%Emax) 385.5825	—
(40%Emax) 514.11	—
(50%Emax) 642.6375	—
(60%Emax) 771.165	—
(70%Emax) 899.6925	—
(80%Emax) 1028.22	—
(90%Emax) 1156.748	—



Luminance Table

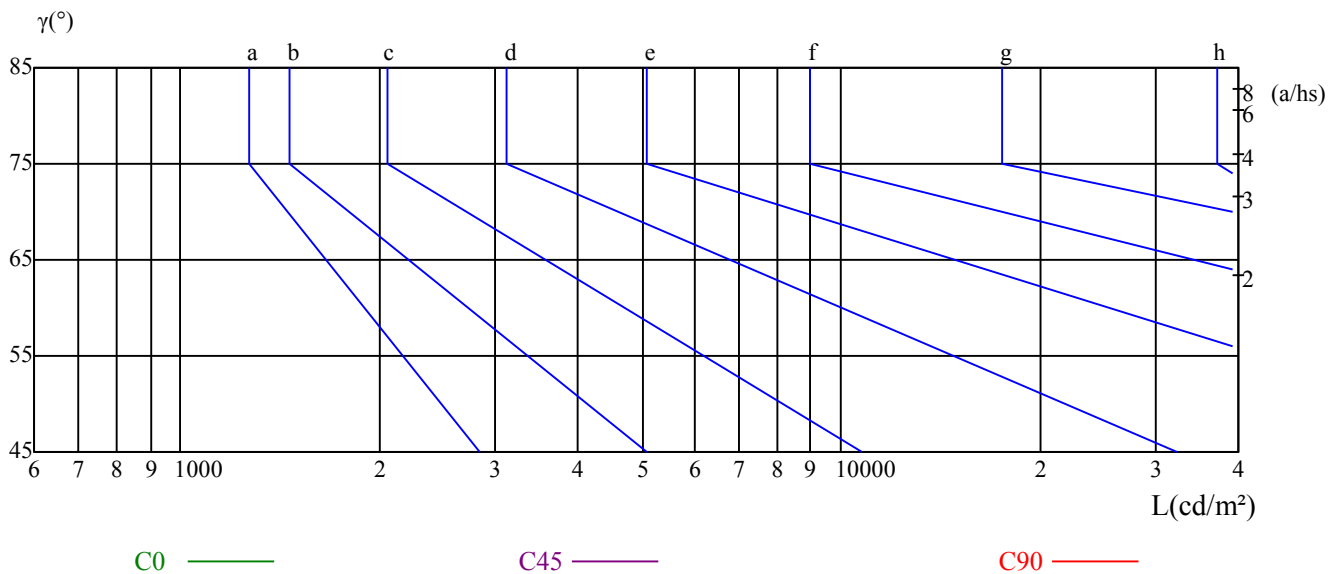
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

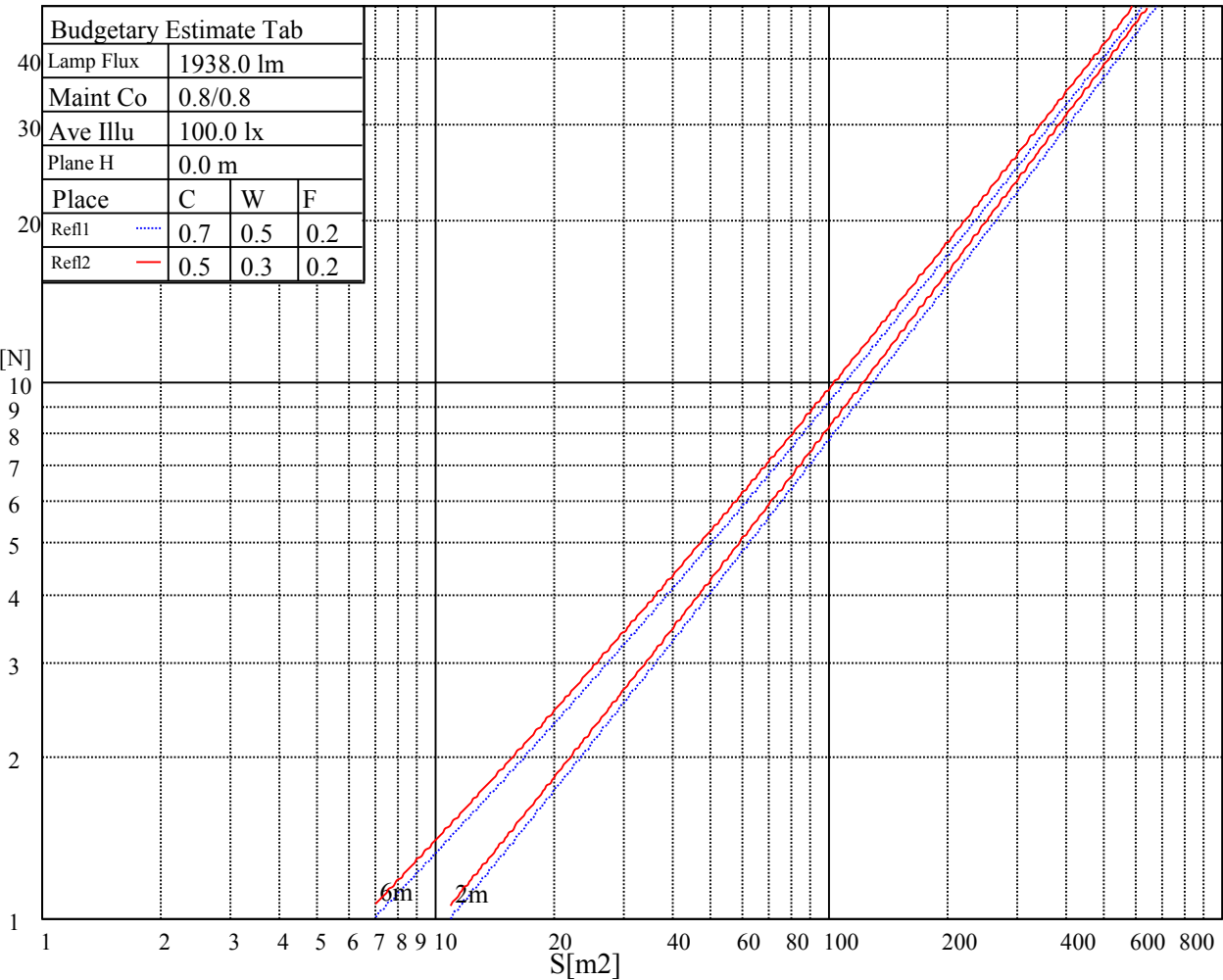
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

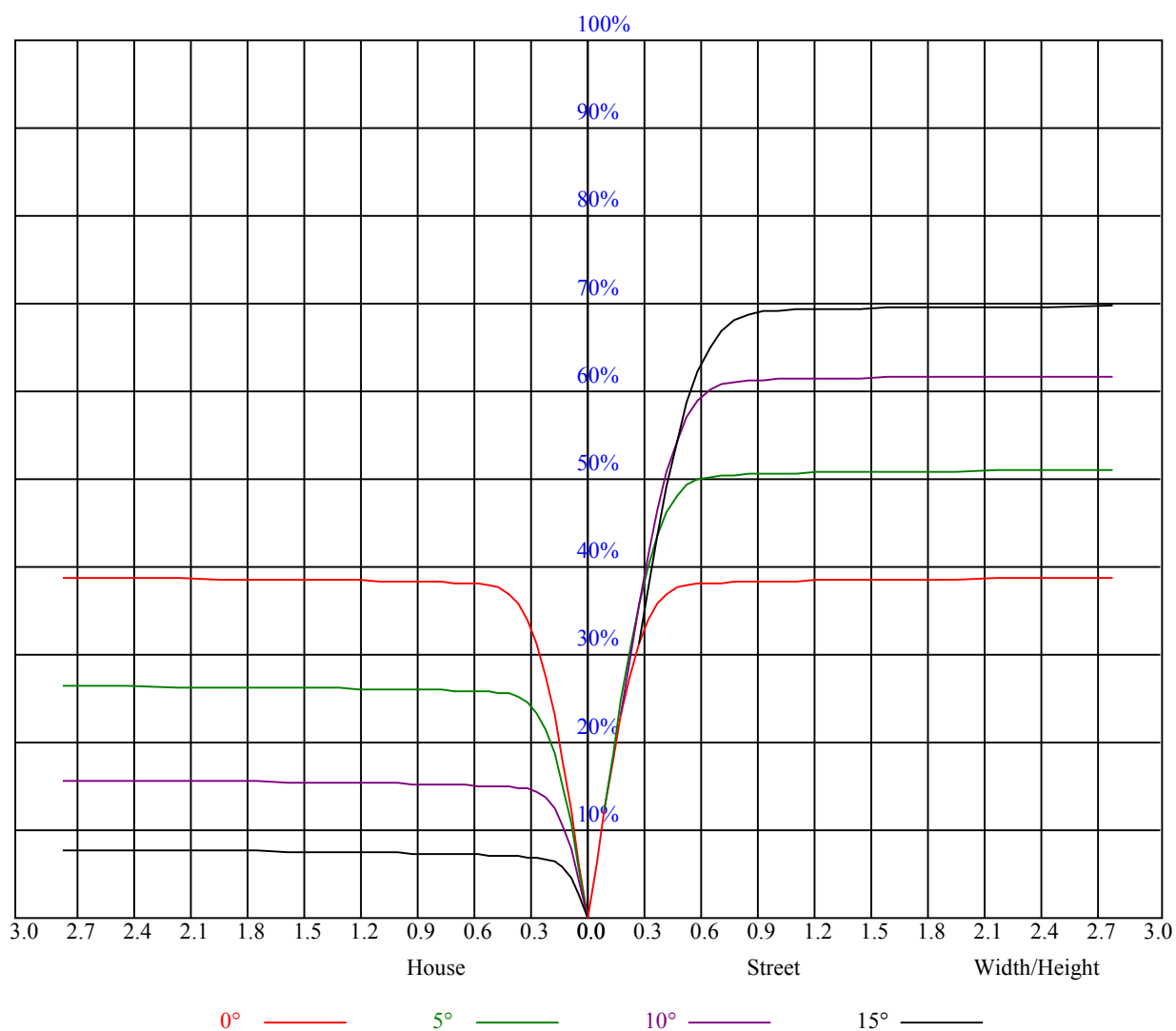
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





RHOCC	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	0.94	0.94	0.94	0.92	0.92	0.92	0.88	0.88	0.88	0.84	0.84	0.84	0.81	0.81	0.81	0.79
1	0.89	0.87	0.86	0.87	0.86	0.84	0.84	0.83	0.82	0.81	0.80	0.79	0.78	0.78	0.77	0.76
2	0.84	0.82	0.80	0.83	0.81	0.79	0.81	0.79	0.77	0.78	0.77	0.76	0.76	0.75	0.74	0.73
3	0.81	0.78	0.75	0.80	0.77	0.75	0.78	0.75	0.73	0.76	0.74	0.72	0.74	0.73	0.71	0.70
4	0.77	0.74	0.72	0.76	0.73	0.71	0.75	0.72	0.70	0.73	0.71	0.70	0.72	0.70	0.69	0.68
5	0.74	0.71	0.68	0.74	0.71	0.68	0.72	0.70	0.68	0.71	0.69	0.67	0.70	0.68	0.67	0.66
6	0.72	0.68	0.66	0.71	0.68	0.66	0.70	0.67	0.65	0.69	0.67	0.65	0.68	0.66	0.64	0.64
7	0.69	0.66	0.63	0.69	0.66	0.63	0.68	0.65	0.63	0.67	0.65	0.63	0.66	0.64	0.62	0.62
8	0.67	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.61	0.65	0.63	0.61	0.65	0.62	0.61	0.60
9	0.65	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.59	0.63	0.61	0.59	0.63	0.60	0.59	0.58
10	0.63	0.60	0.58	0.63	0.60	0.57	0.62	0.59	0.57	0.62	0.59	0.57	0.61	0.59	0.57	0.56



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	5141.81	4951.13	4203.00	3127.50	1823.06	518.06	34.48	18.06	12.88		
45.0	5138.44	4899.94	4145.06	3047.06	1726.31	445.50	34.43	17.10	12.38		
90.0	5135.06	4726.69	3891.94	2662.31	1113.69	267.81	28.07	15.86	11.76		
135.0	5149.13	4932.00	4095.00	2908.69	1590.19	407.81	34.09	17.10	12.60		
180.0	5141.81	4802.06	3965.06	2765.25	1079.33	333.28	30.60	16.54	12.15		
225.0	5138.44	4859.44	4021.88	2834.44	1098.56	381.99	32.12	16.37	12.21		
270.0	5135.06	4988.81	4318.88	3284.44	1931.63	612.00	44.61	19.07	13.16		
315.0	5149.13	4867.31	4097.25	2988.00	1443.94	417.83	33.41	17.44	12.60		
360.0	5141.81	4951.13	4203.00	3127.50	1823.06	518.06	34.48	18.06	12.88		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	10.24	9.00	8.27	7.93	7.65	7.48	7.43	7.31	7.26		
45.0	10.01	8.83	8.16	7.76	7.48	7.37	7.31	7.20	7.20		
90.0	9.79	8.72	8.04	7.71	7.48	7.37	7.26	7.20	7.14		
135.0	10.13	8.94	8.27	7.88	7.59	7.48	7.37	7.26	7.20		
180.0	9.96	8.94	8.21	7.88	7.59	7.48	7.37	7.31	7.26		
225.0	9.90	8.72	8.10	7.71	7.48	7.37	7.31	7.26	7.14		
270.0	10.46	9.06	8.27	7.88	7.59	7.43	7.31	7.20	7.14		
315.0	10.07	8.94	8.27	7.82	7.59	7.48	7.37	7.26	7.20		
360.0	10.24	9.00	8.27	7.93	7.65	7.48	7.43	7.31	7.26		
C/γ(°)	90.0										
0.0	7.26										
45.0	7.03										
90.0	7.09										
135.0	7.20										
180.0	7.20										
225.0	7.03										
270.0	7.09										
315.0	7.14										
360.0	7.26										