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Nata

LumCAT: 1-0923-M
Luminaire: 92.70.125.00
Report No: NATA0100
Test No: GC2020021910
LampCAT: LUMILEDS LUXEON COB 1202SP
Lamp flux(lm): 1310.0
Number of Lamps: 1
Length(mm): 30
Phm Type: C
Voltage(V): 37.3200
Current(A): 0.3000
Power (W): 11.2080
PF: 0.0000
Ballast type: DC
Width(mm): 30
Height(mm): 28

Photometric Results

Lumens(lm): 1021.68
Efficiency(%): 77.99%
Lumens(lm)/Power(W): 91.16
Central intensity(cd): 4701.375
Maximum intensity(cd): 4701.375
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=24.9
[C90/270]Total=24.9
Field angle(10%Imax): [C0/180]Total=46.4
[C90/270]Total=46.4
Maximum s/h(1/2): C0_180=0.42 C90_270=0.42
Maximum s/h(1/4): C0_180=0.43 C90_270=0.43
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 77.99%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.692%

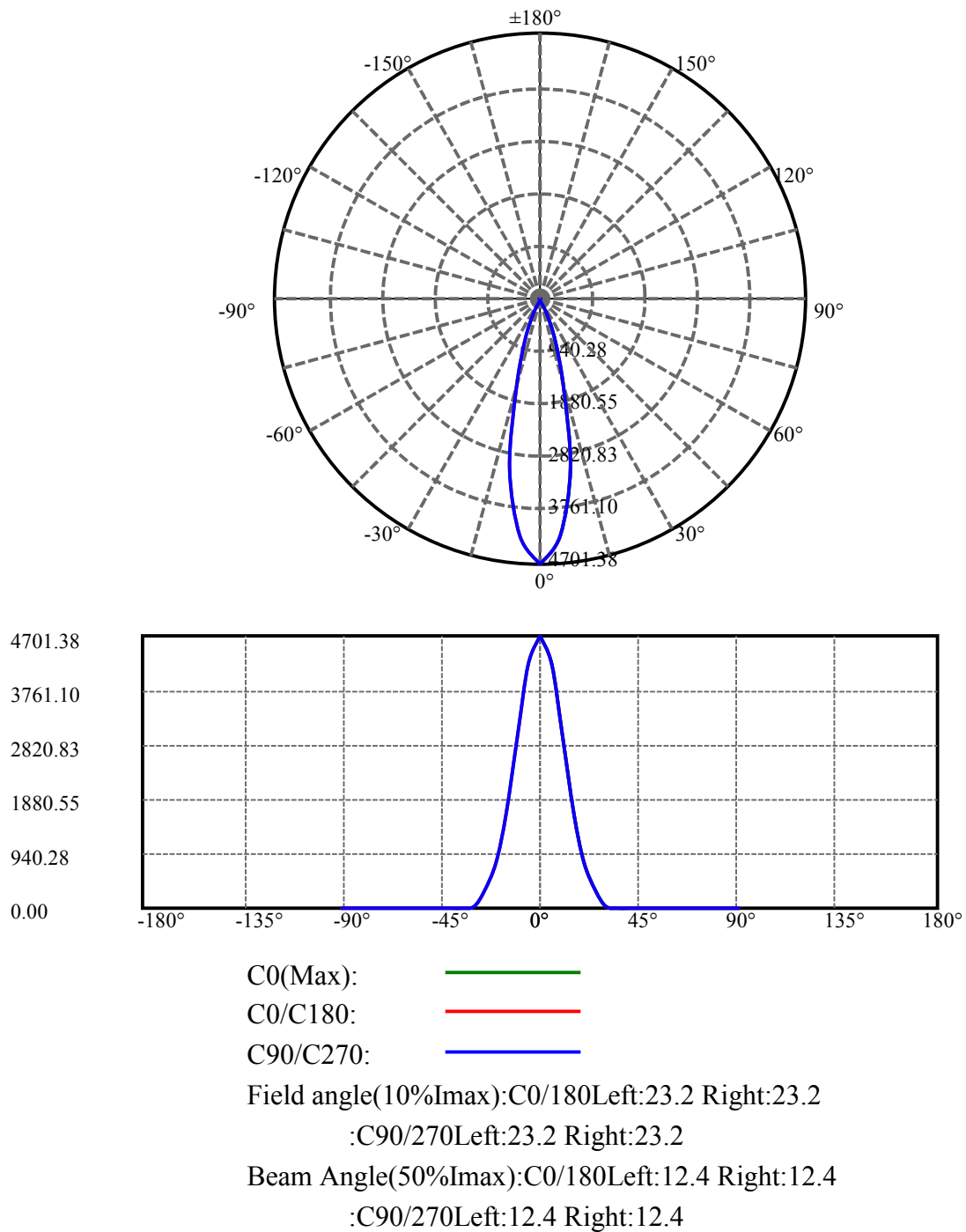
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4701.375	0.000	0	.000%	.000%
5.0	4193.508	106.336	106.336	8.117%	10.408%
10.0	3044.461	258.925	365.261	19.765%	35.751%
15.0	1628.452	277.194	642.455	21.160%	62.882%
20.0	789.096	199.240	841.695	15.209%	82.383%
25.0	287.986	112.966	954.661	8.623%	93.440%
30.0	22.648	39.311	993.972	3.001%	97.288%
35.0	6.792	4.335	998.307	.331%	97.712%
40.0	5.590	2.066	1000.373	.158%	97.915%
45.0	4.978	1.957	1002.329	.149%	98.106%
50.0	4.683	1.952	1004.282	.149%	98.297%
55.0	4.472	1.991	1006.272	.152%	98.492%
60.0	4.366	2.043	1008.315	.156%	98.692%
65.0	4.303	2.108	1010.423	.161%	98.898%
70.0	4.254	2.167	1012.589	.165%	99.110%
75.0	4.219	2.215	1014.804	.169%	99.327%
80.0	4.226	2.260	1017.063	.172%	99.548%
85.0	4.268	2.308	1019.371	.176%	99.774%
90.0	4.163	2.308	1021.68	.176%	100.000%

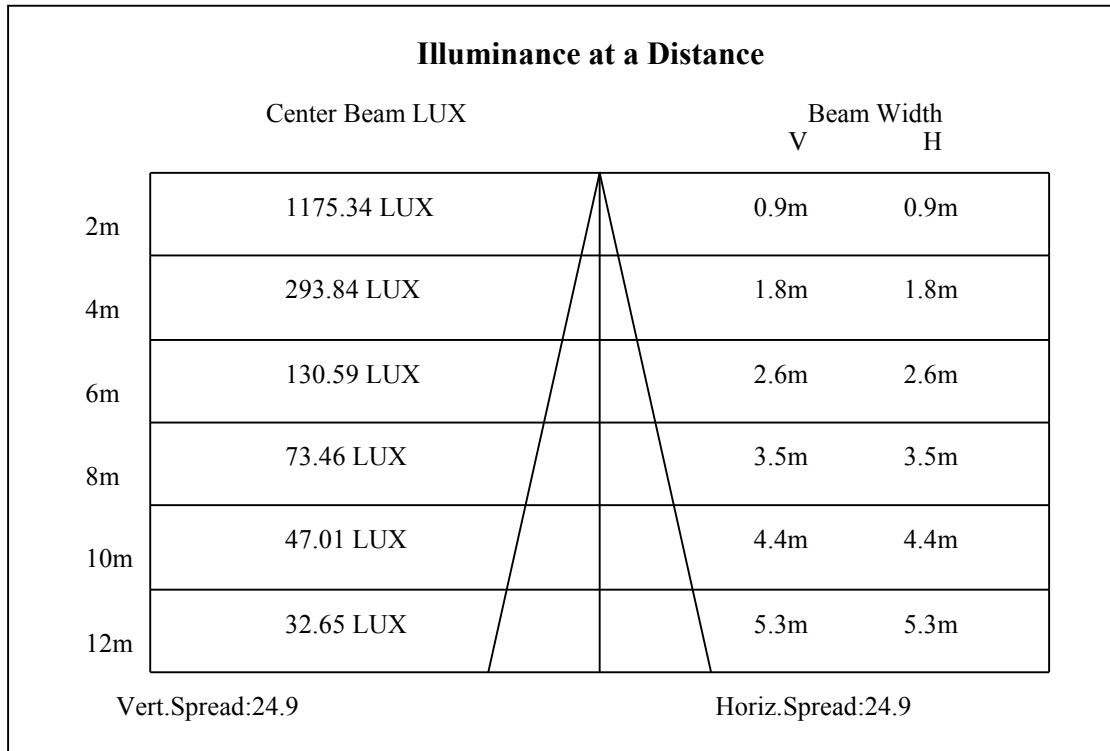
ZONAL LUMEN SUMMARY

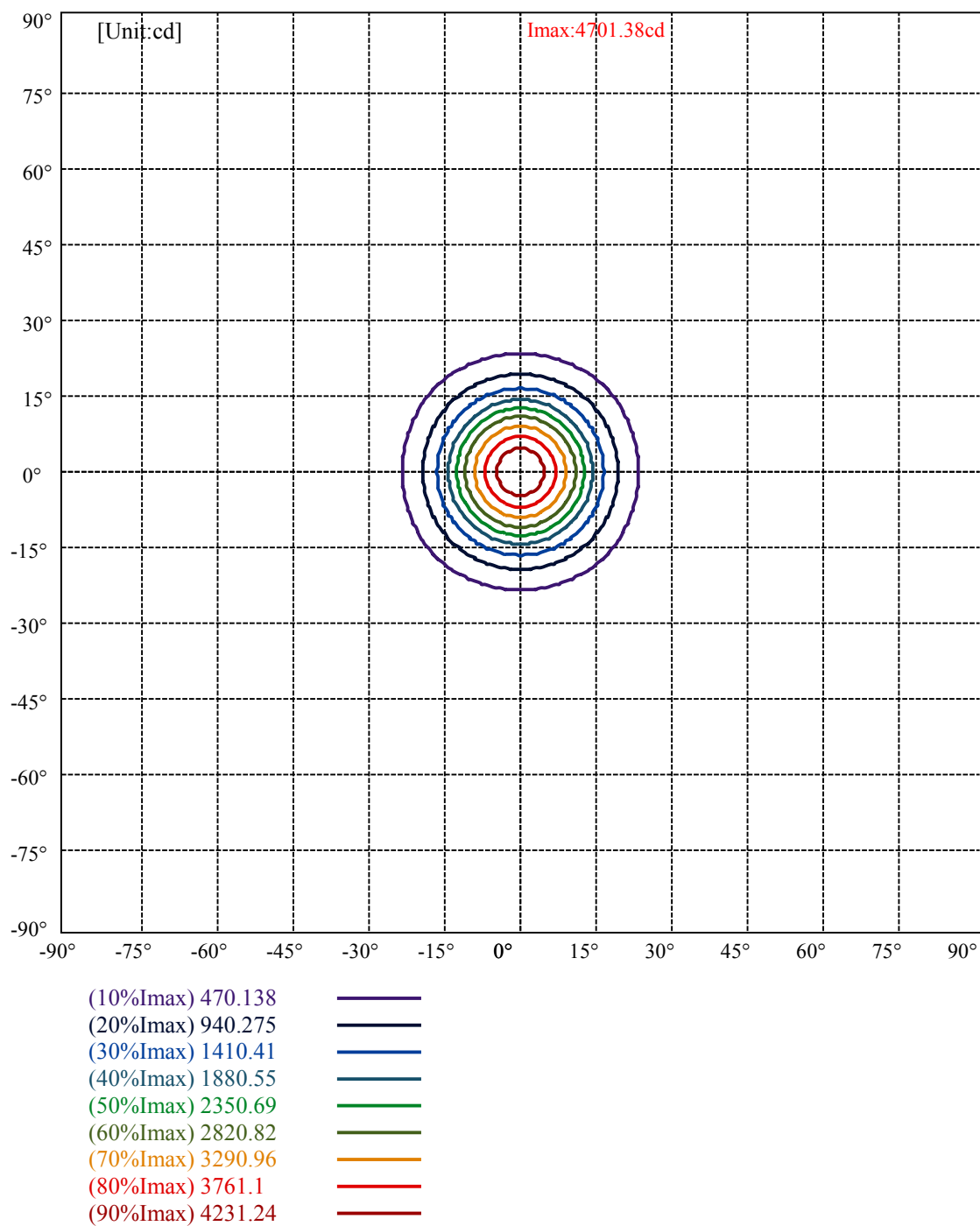
Zone	Lumens	%Lamp	%Fixt
0-30	993.97	75.88%	97.29%
0-40	1000.37	76.36%	97.91%
0-60	1008.32	76.97%	98.69%
0-90	1019.37	77.81%	99.77%
0-120	1019.37	77.81%	99.77%
0-180	1021.68	77.99%	100.00%
60-90	13.10	1.00%	1.28%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-19.39	817.34	62.39%	80.00%

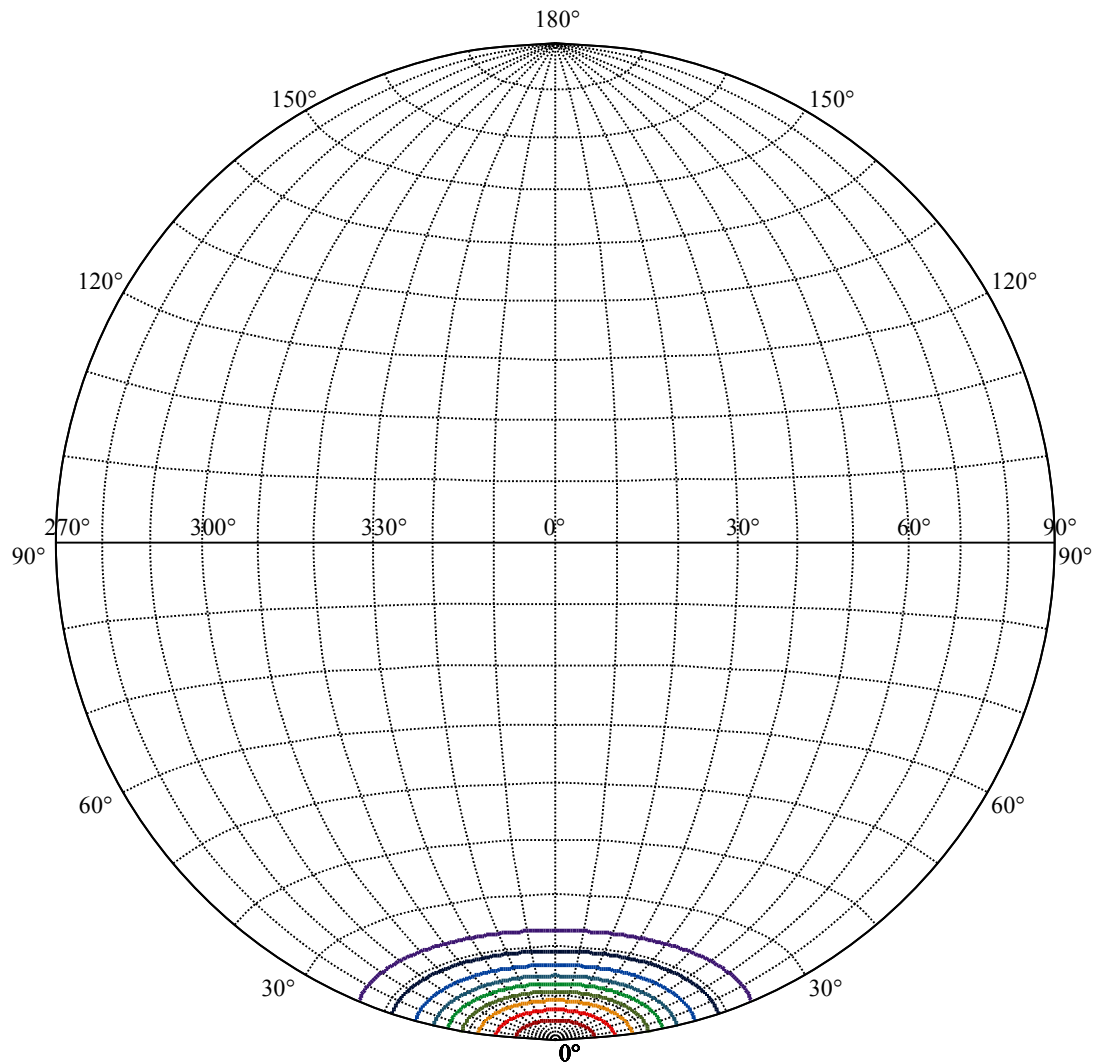
ZONAL LUMEN SUMMARY

0-10	365.26
10-20	476.43
20-30	152.28
30-40	6.40
40-50	3.91
50-60	4.03
60-70	4.27
70-80	4.47
80-90	2.31
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









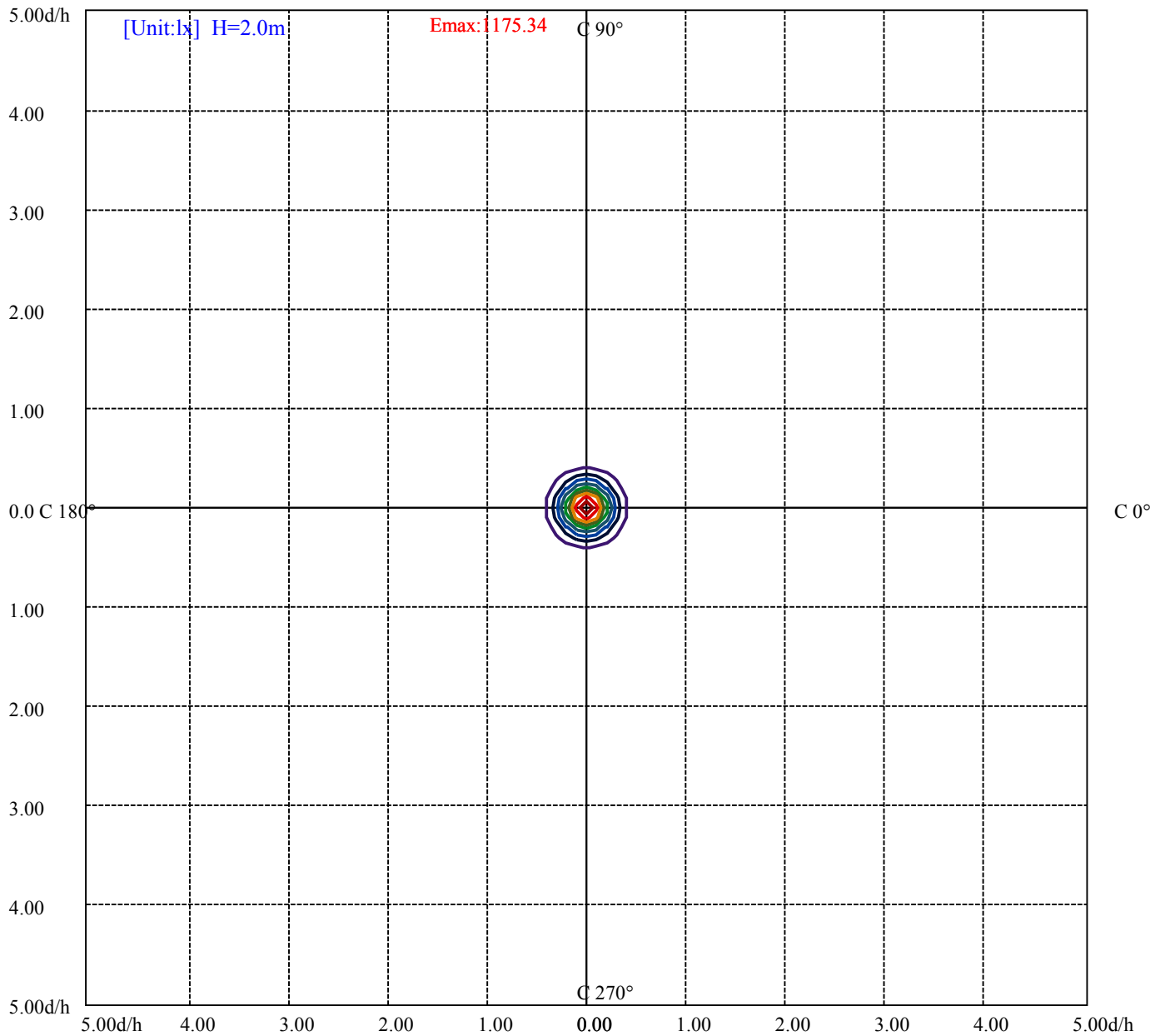
House

[Unit:cd]

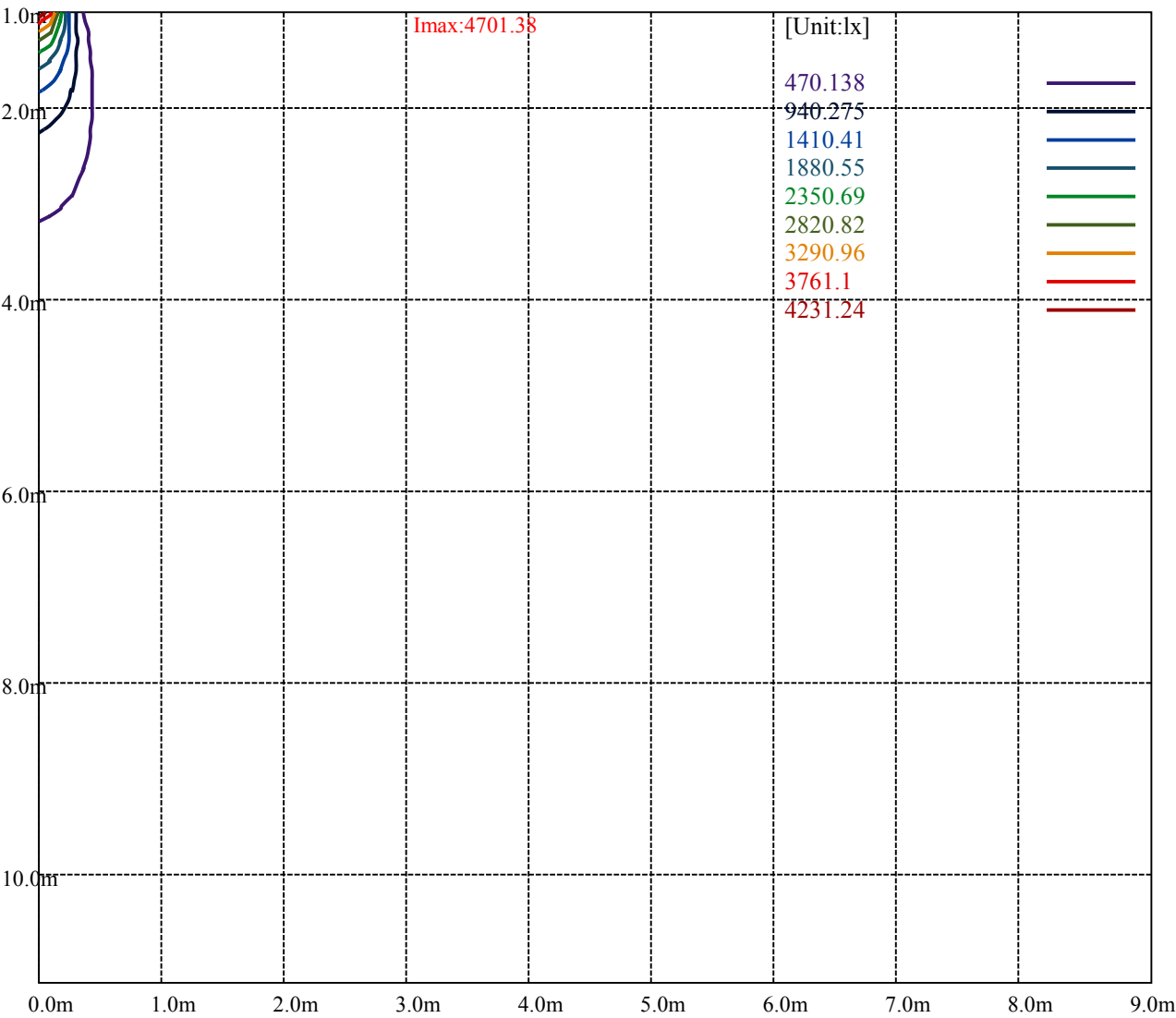
Road

Imax:4701.38

(10%Imax)	470.138	
(20%Imax)	940.275	
(30%Imax)	1410.41	
(40%Imax)	1880.55	
(50%Imax)	2350.69	
(60%Imax)	2820.82	
(70%Imax)	3290.96	
(80%Imax)	3761.1	
(90%Imax)	4231.24	



(10%Emax)	117.534	—
(20%Emax)	235.068	—
(30%Emax)	352.6025	—
(40%Emax)	470.135	—
(50%Emax)	587.67	—
(60%Emax)	705.205	—
(70%Emax)	822.7375	—
(80%Emax)	940.2725	—
(90%Emax)	1057.805	—



Luminance Table

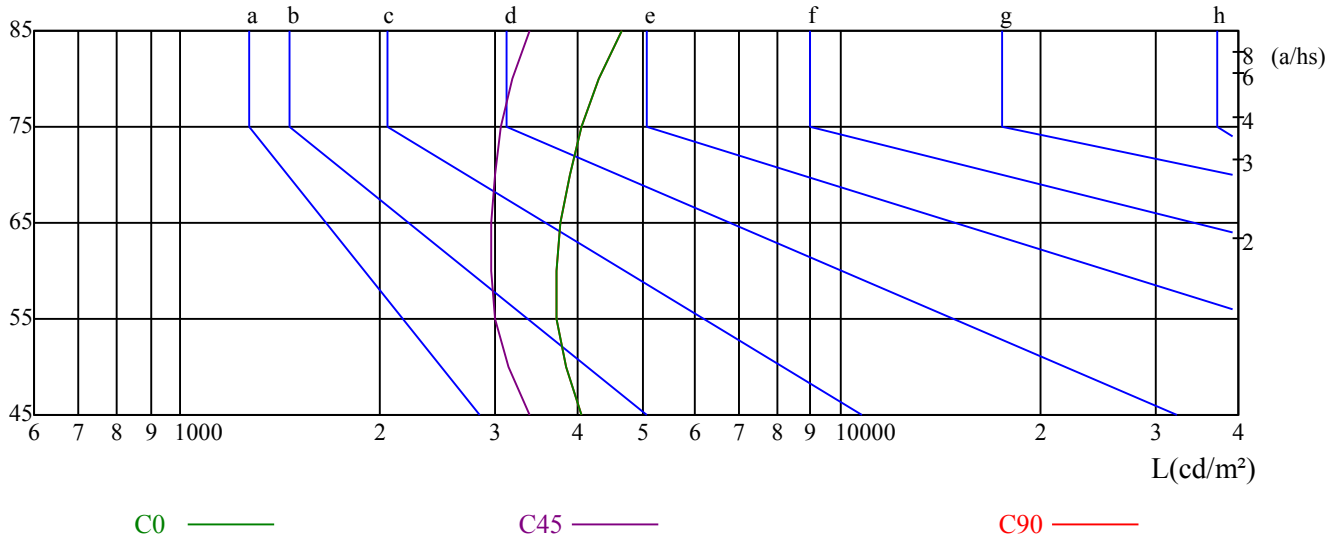
γ	45	50	55	60	65	70	75	80	85
C0	4046	3832	3713	3708	3769	3877	4040	4297	4663
C45	3372	3146	3003	2953	2953	2987	3056	3186	3382
C90	4046	3832	3713	3708	3769	3877	4040	4297	4663

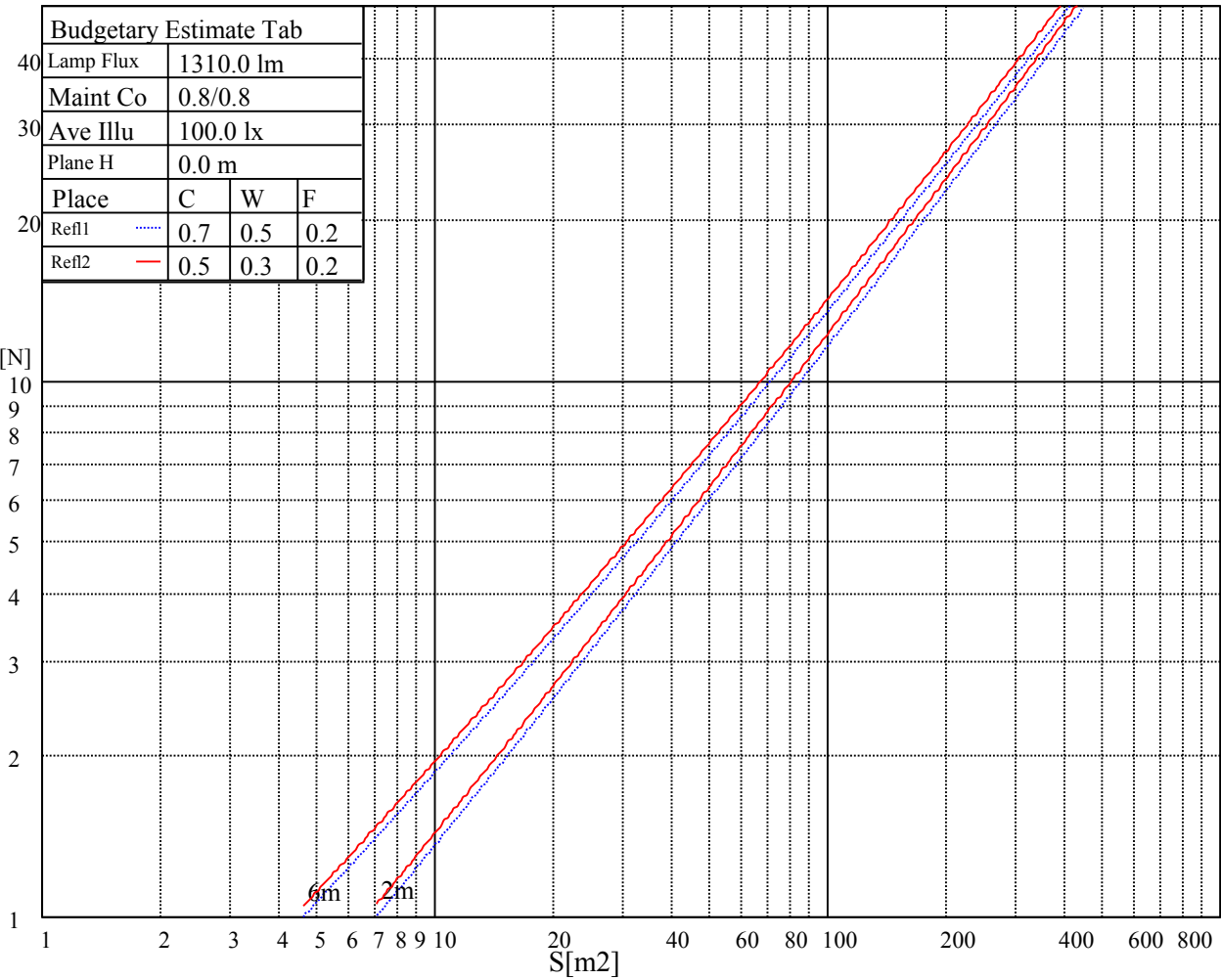
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
11313	11313	11313	18111	18111	18111	54410	54410	54410

Glare Table

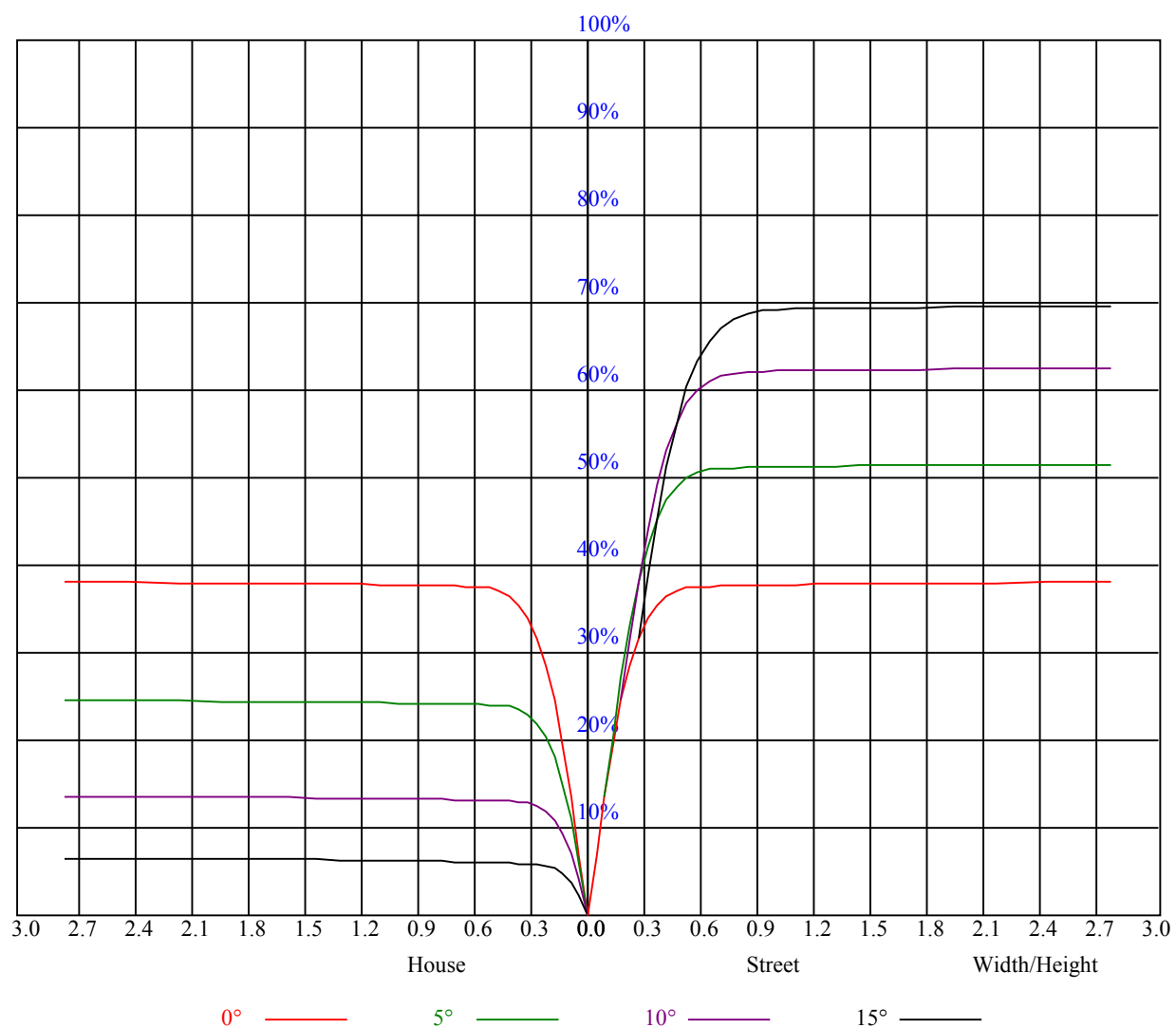
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve

 $\gamma(^{\circ})$ 



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	0.93	0.93	0.93	0.91	0.91	0.91	0.87	0.87	0.87	0.83	0.83	0.83	0.80	0.80	0.80	0.78
1	0.88	0.86	0.85	0.86	0.85	0.84	0.83	0.82	0.81	0.80	0.79	0.79	0.78	0.77	0.76	0.75
2	0.84	0.81	0.79	0.82	0.80	0.79	0.80	0.78	0.77	0.78	0.76	0.75	0.76	0.75	0.74	0.73
3	0.80	0.77	0.75	0.79	0.77	0.75	0.77	0.75	0.73	0.76	0.74	0.72	0.74	0.72	0.71	0.70
4	0.77	0.74	0.72	0.76	0.74	0.71	0.75	0.72	0.71	0.73	0.71	0.70	0.72	0.70	0.69	0.68
5	0.75	0.71	0.69	0.74	0.71	0.69	0.73	0.70	0.68	0.71	0.69	0.68	0.70	0.69	0.67	0.66
6	0.72	0.69	0.67	0.72	0.69	0.66	0.71	0.68	0.66	0.70	0.67	0.66	0.69	0.67	0.65	0.64
7	0.70	0.67	0.64	0.69	0.66	0.64	0.69	0.66	0.64	0.68	0.65	0.64	0.67	0.65	0.63	0.63
8	0.68	0.65	0.62	0.67	0.64	0.62	0.67	0.64	0.62	0.66	0.64	0.62	0.65	0.63	0.62	0.61
9	0.66	0.63	0.61	0.66	0.63	0.61	0.65	0.62	0.60	0.64	0.62	0.60	0.64	0.62	0.60	0.59
10	0.64	0.61	0.59	0.64	0.61	0.59	0.63	0.61	0.59	0.63	0.60	0.59	0.62	0.60	0.59	0.58



Nata 1-0923-M

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	4730.63	4127.06	2990.25	1597.50	747.00	287.44	12.04	6.75	5.57
45.0	4716.56	3981.94	2783.25	1432.13	660.38	322.88	9.23	6.19	5.34
90.0	4654.13	3906.56	2602.69	1078.43	631.80	159.13	8.16	6.24	5.29
135.0	4704.19	4294.13	3171.94	1821.38	826.88	321.19	25.20	6.92	5.68
180.0	4730.63	4300.31	3070.69	1814.63	818.33	297.68	25.76	6.81	5.57
225.0	4716.56	4376.81	3368.81	1933.31	920.70	354.09	42.19	7.20	5.79
270.0	4654.13	4472.44	3424.50	1986.75	992.25	375.75	46.86	7.48	5.91
315.0	4704.19	4088.81	2943.56	1363.50	715.44	185.74	11.76	6.75	5.57
360.0	4730.63	4127.06	2990.25	1597.50	747.00	287.44	12.04	6.75	5.57
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	4.89	4.67	4.44	4.33	4.22	4.22	4.16	4.16	4.16
45.0	4.84	4.61	4.44	4.33	4.28	4.22	4.16	4.16	4.11
90.0	4.89	4.67	4.50	4.39	4.33	4.28	4.28	4.33	4.56
135.0	5.06	4.67	4.50	4.39	4.33	4.28	4.22	4.22	4.22
180.0	5.01	4.67	4.44	4.33	4.28	4.22	4.16	4.16	4.11
225.0	5.06	4.73	4.44	4.33	4.28	4.22	4.16	4.16	4.16
270.0	5.12	4.78	4.56	4.44	4.39	4.39	4.39	4.39	4.61
315.0	4.95	4.67	4.44	4.39	4.33	4.22	4.22	4.22	4.22
360.0	4.89	4.67	4.44	4.33	4.22	4.22	4.16	4.16	4.16
C/γ(°)	90.0								
0.0	4.11								
45.0	4.16								
90.0	4.22								
135.0	4.16								
180.0	4.16								
225.0	4.16								
270.0	4.16								
315.0	4.16								
360.0	4.11								