
Nata

LumCAT: 1657-S

Luminaire: 92.70.124.00

Report No: NT2018040901

Test No: nata-0100

LampCAT: SEOUL SAWX10

Lamp flux(lm): 1663.0

Number of Lamps: 1

Length(mm): 47

Phm Type: C

Voltage(V): 34.8000

Current(A): 0.3500

Power (W): 12.0400

PF: 0.0000

Ballast type: DC

Width(mm): 47

Height(mm): 0

Photometric Results

Lumens(lm): 1542.43

Efficiency(%): 92.75%

Lumens(lm)/Power(W): 128.11

Central intensity(cd): 6188.752

Maximum intensity(cd): 6188.752

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=23.5

[C90/270]Total=23.5

Field angle(10%Imax): [C0/180]Total=51.8

[C90/270]Total=51.8

Maximum s/h(1/2): C0_180=0.40 C90_270=0.40

Maximum s/h(1/4): C0_180=0.40 C90_270=0.40

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 94.89%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 96.530%

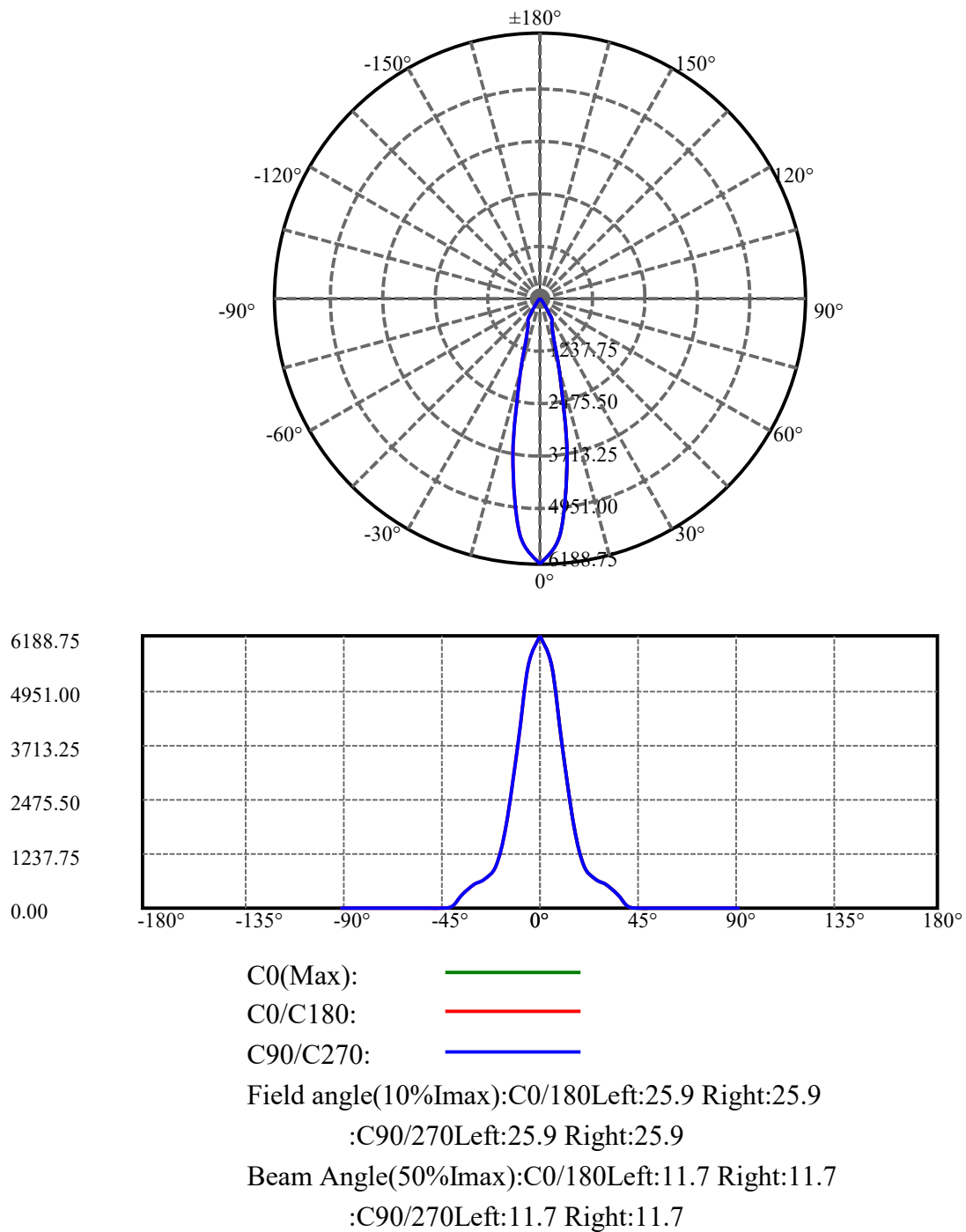
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6188.752	37.010	37.01	2.225%	2.399%
5.0	5500.960	262.799	299.809	15.803%	19.437%
10.0	3732.411	355.262	655.071	21.363%	42.470%
15.0	1899.239	269.442	924.513	16.202%	59.939%
20.0	961.581	180.271	1104.785	10.840%	71.626%
25.0	635.681	147.257	1252.042	8.855%	81.173%
30.0	542.753	148.752	1400.794	8.945%	90.817%
35.0	292.425	91.938	1492.732	5.528%	96.778%
40.0	48.518	17.095	1509.827	1.028%	97.886%
45.0	9.119	3.534	1513.361	.213%	98.116%
50.0	7.756	3.257	1516.618	.196%	98.327%
55.0	7.281	3.269	1519.887	.197%	98.539%
60.0	6.992	3.319	1523.206	.200%	98.754%
65.0	6.827	3.392	1526.598	.204%	98.974%
70.0	6.710	3.456	1530.054	.208%	99.198%
75.0	6.634	3.513	1533.567	.211%	99.426%
80.0	6.552	3.537	1537.103	.213%	99.655%
85.0	6.510	3.555	1540.658	.214%	99.885%
90.0	6.455	1.769	1542.428	.106%	100.000%

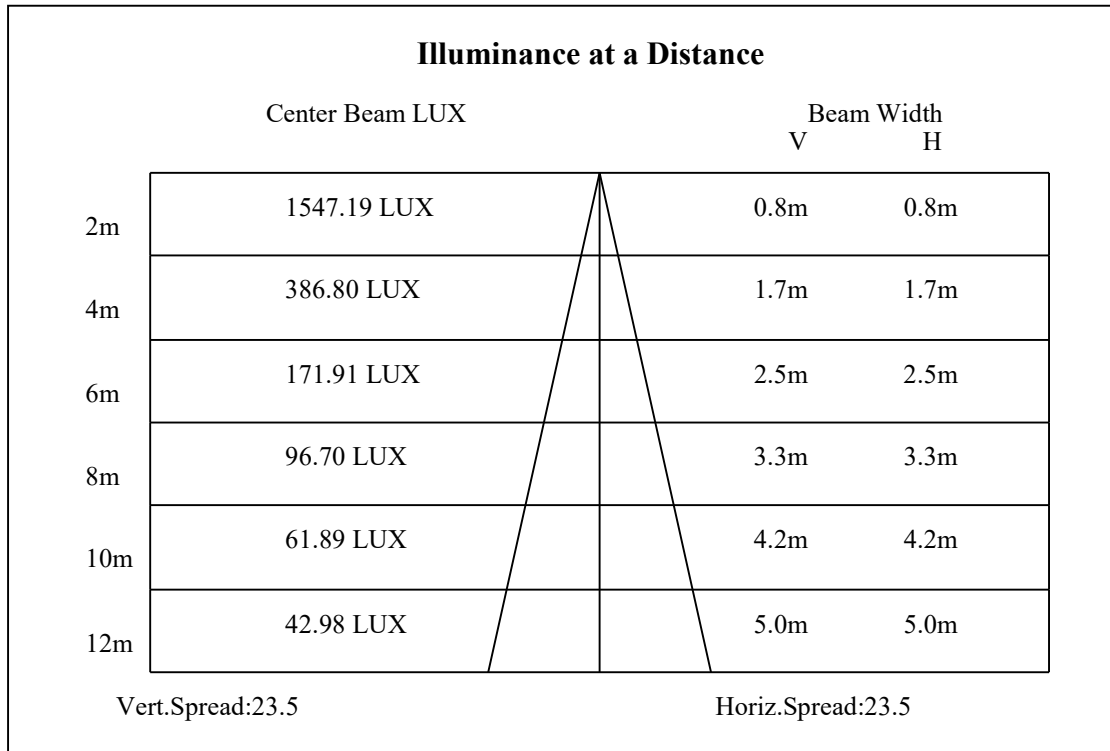
ZONAL LUMEN SUMMARY

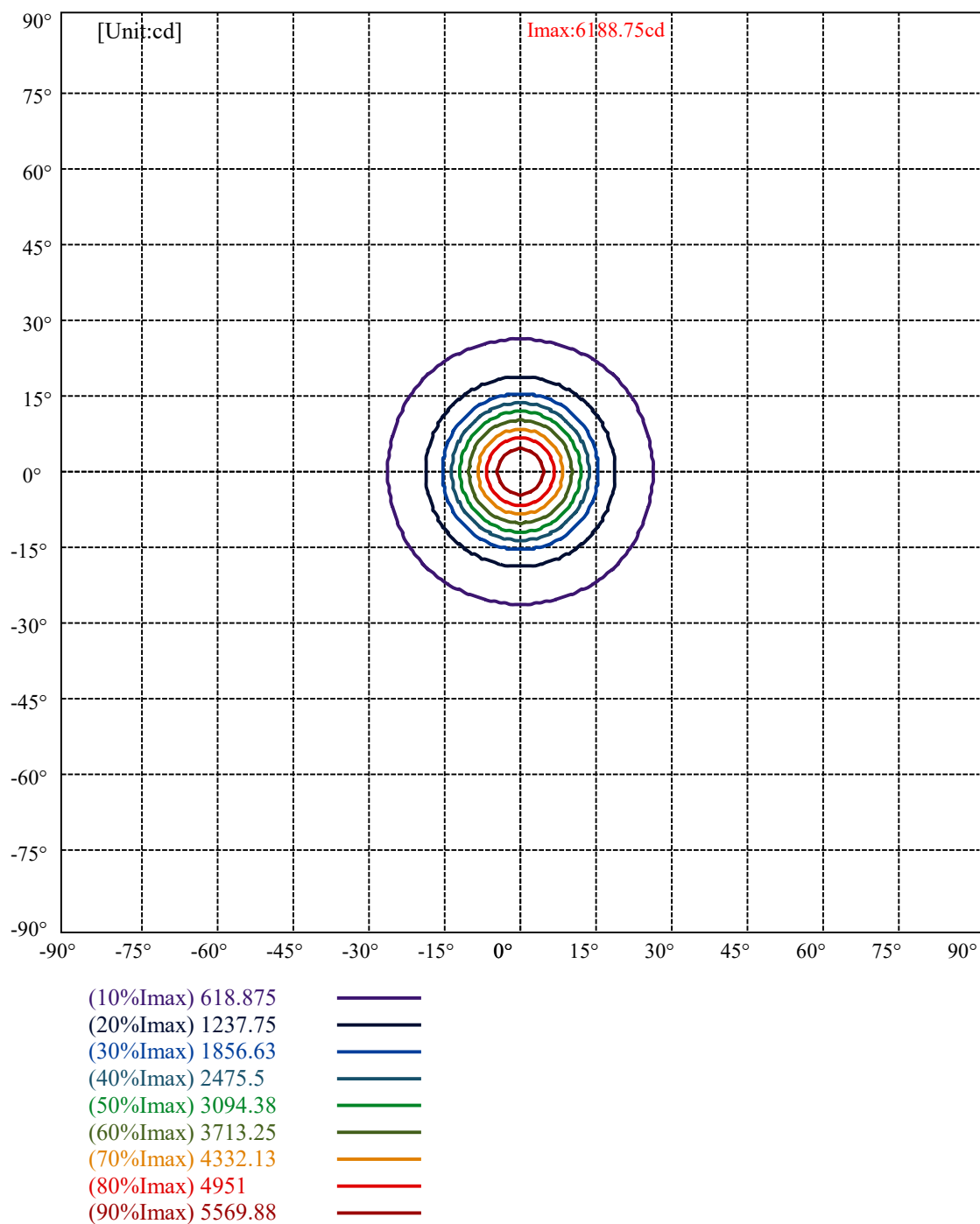
Zone	Lumens	%Lamp	%Fixt
0-30	1400.79	84.23%	90.82%
0-40	1509.83	90.79%	97.89%
0-60	1523.21	91.59%	98.75%
0-90	1540.66	92.64%	99.89%
0-120	1540.66	92.64%	99.89%
0-180	1542.43	92.75%	100.00%
60-90	20.77	1.25%	1.35%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-24.39	1233.94	74.20%	80.00%

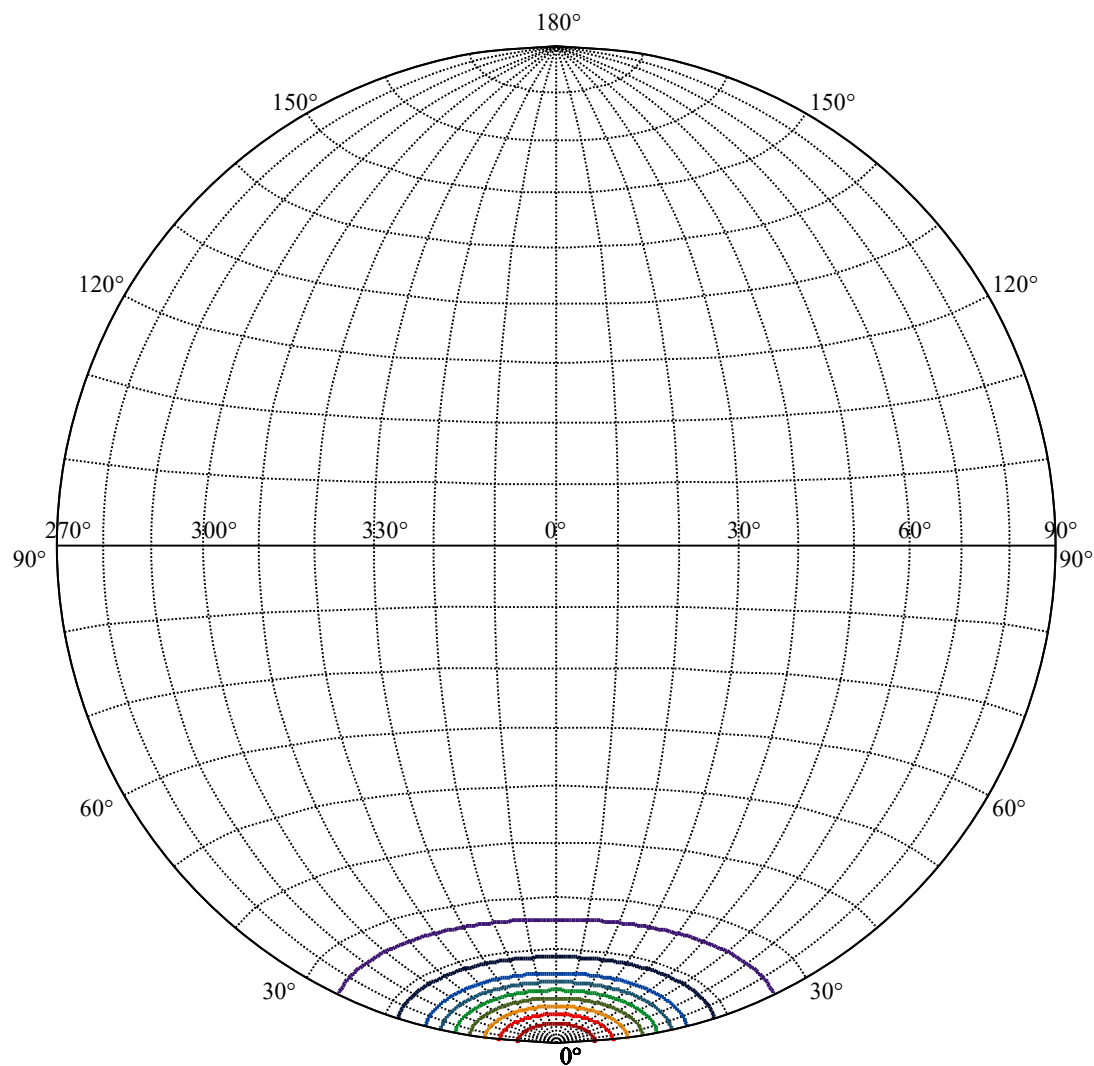
ZONAL LUMEN SUMMARY

0-10	655.07
10-20	449.71
20-30	296.01
30-40	109.03
40-50	6.79
50-60	6.59
60-70	6.85
70-80	7.05
80-90	3.56
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







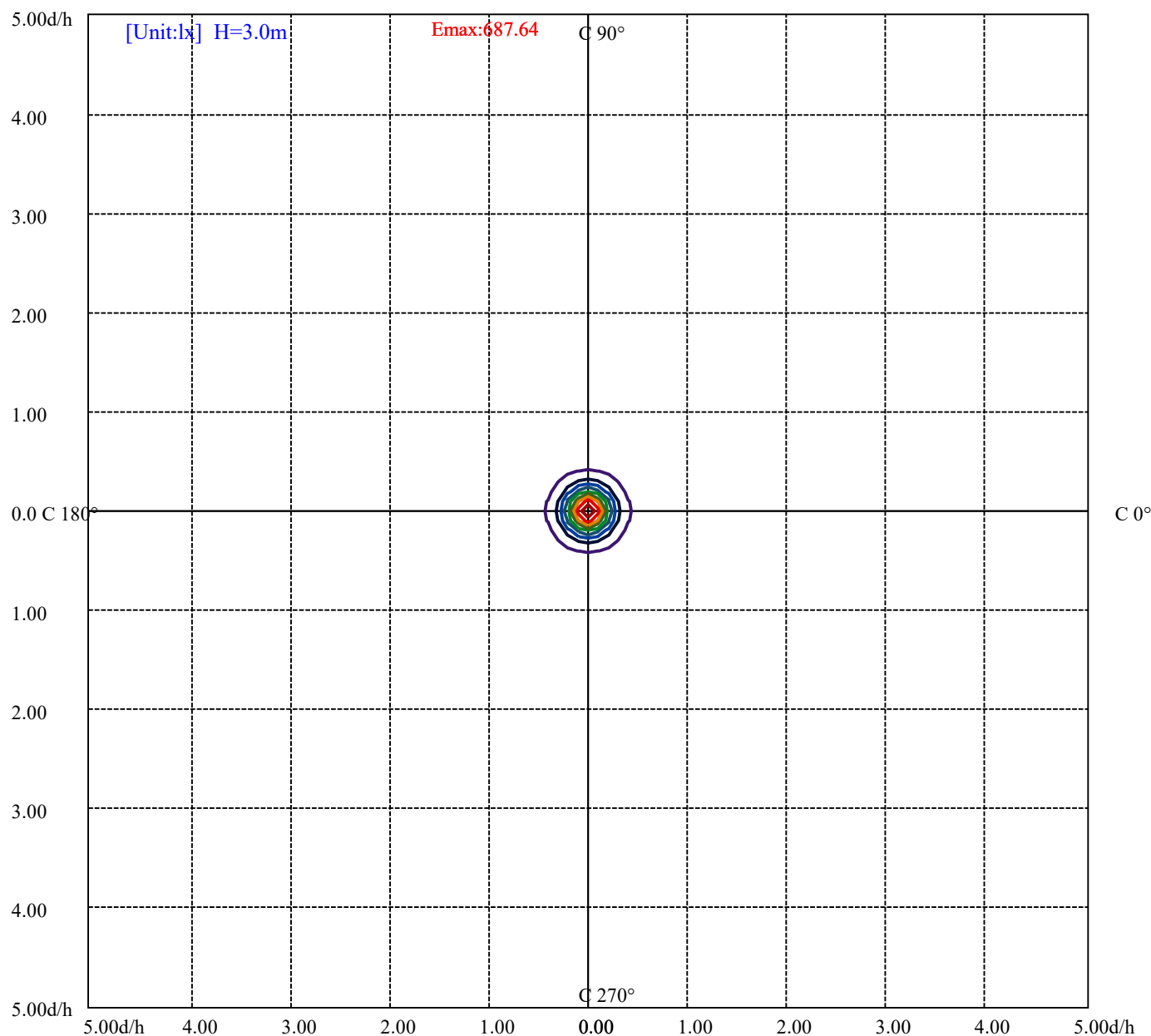


House

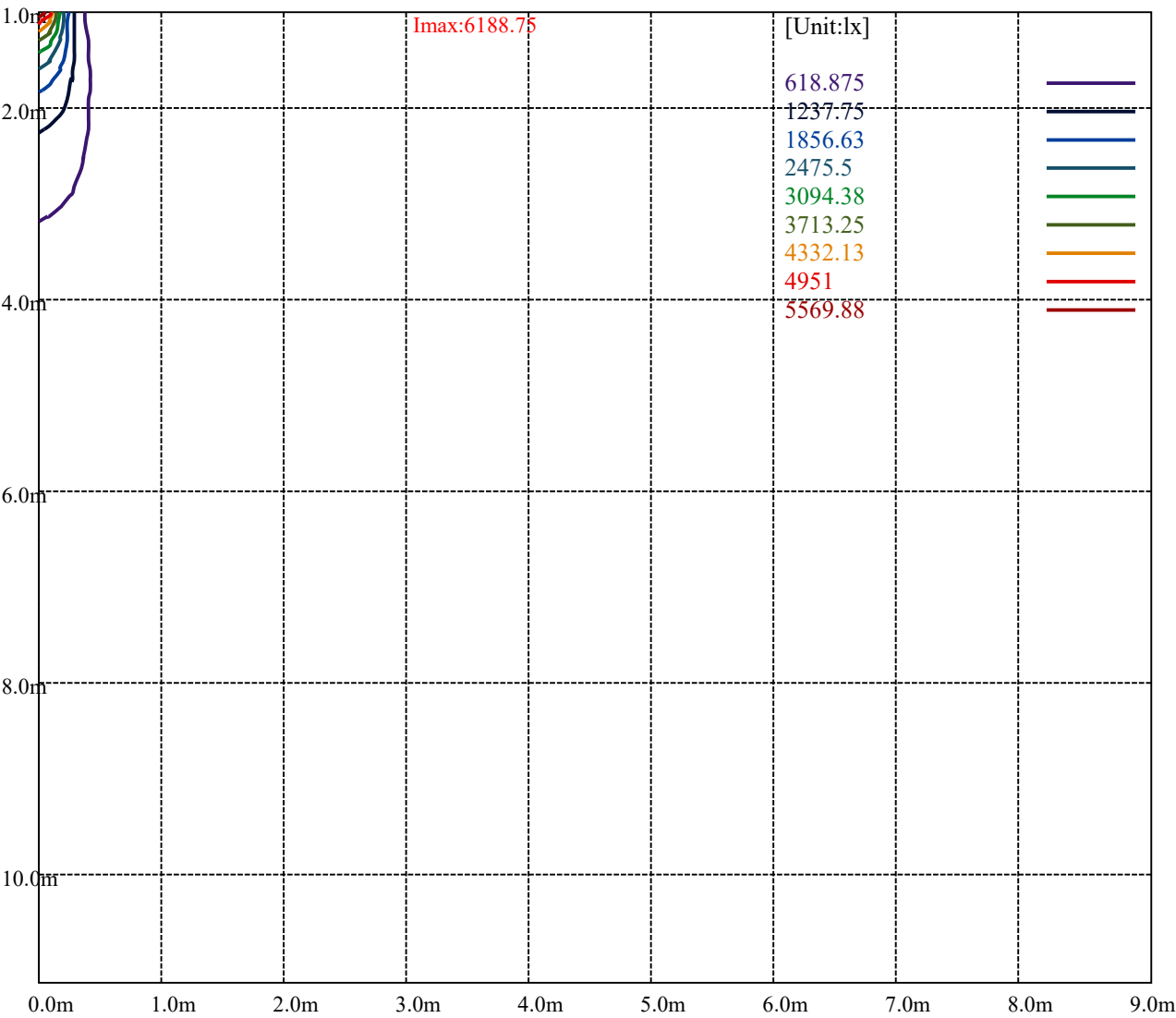
[Unit:cd]

Road

Imax:6188.75	
(10%Imax) 618.875	
(20%Imax) 1237.75	
(30%Imax) 1856.63	
(40%Imax) 2475.5	
(50%Imax) 3094.38	
(60%Imax) 3713.25	
(70%Imax) 4332.13	
(80%Imax) 4951	
(90%Imax) 5569.88	



(10%Emax)	68.76366	—
(20%Emax)	137.5278	—
(30%Emax)	206.2911	—
(40%Emax)	275.0544	—
(50%Emax)	343.8189	—
(60%Emax)	412.5822	—
(70%Emax)	481.3456	—
(80%Emax)	550.11	—
(90%Emax)	618.8733	—



Luminance Table

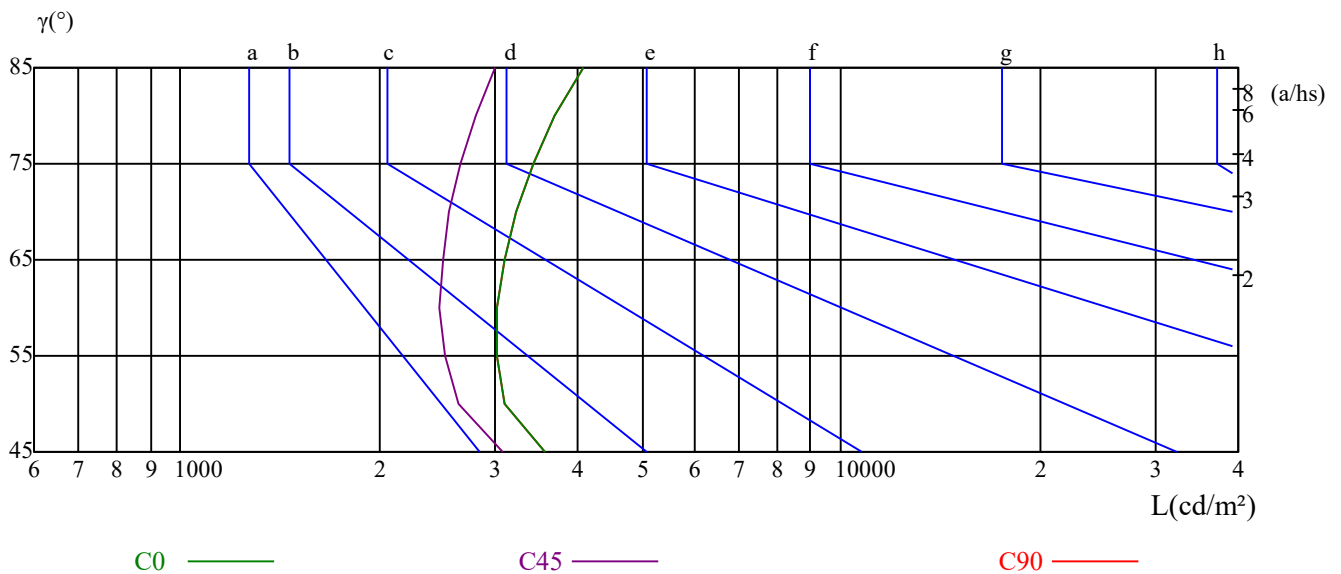
γ	45	50	55	60	65	70	75	80	85
C0	3563	3102	3006	3007	3087	3225	3431	3697	4076
C45	3068	2631	2510	2470	2491	2552	2656	2791	2988
C90	3563	3102	3006	3007	3087	3225	3431	3697	4076

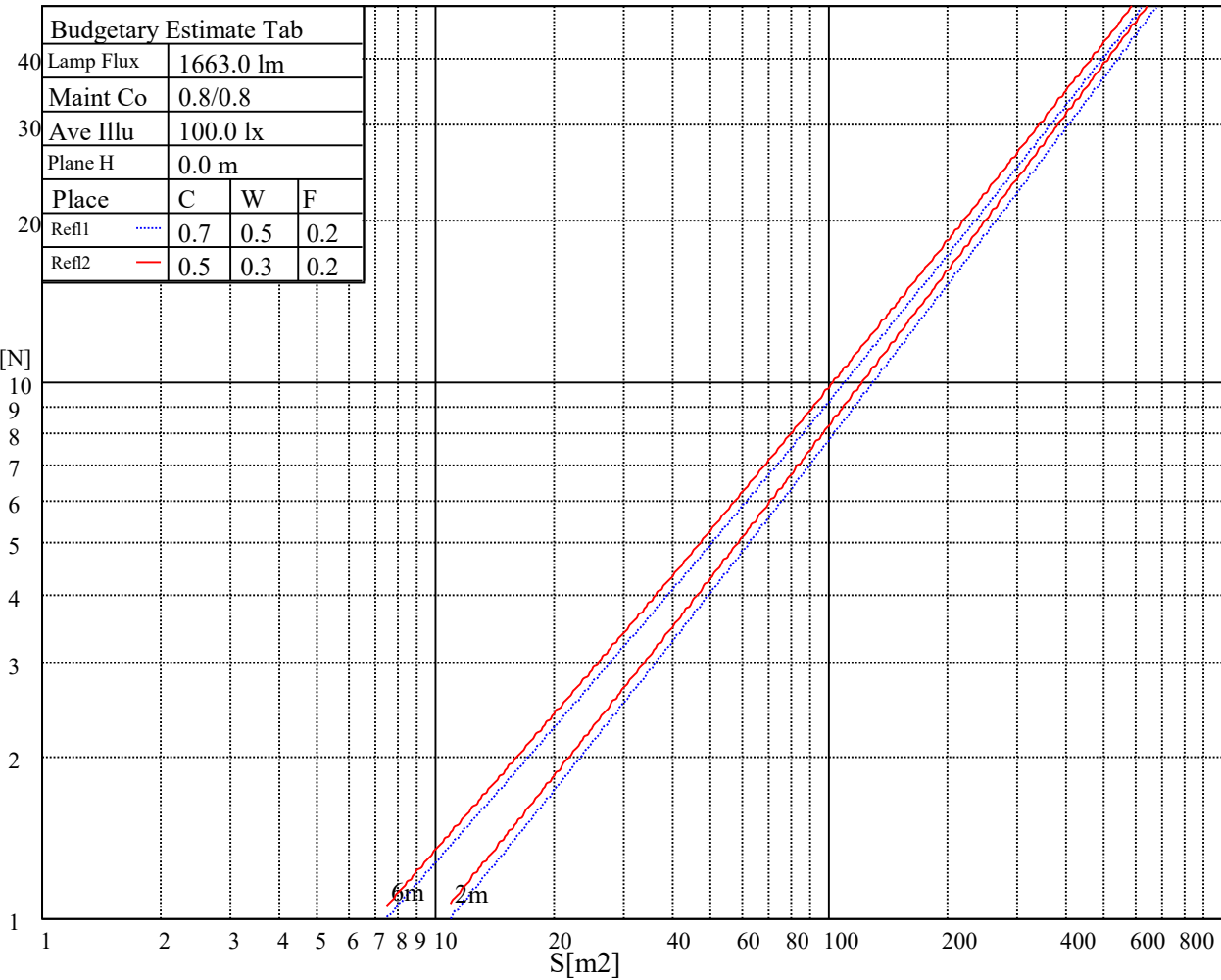
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
7313	7313	7313	11604	11604	11604	33816	33816	33816

Glare Table

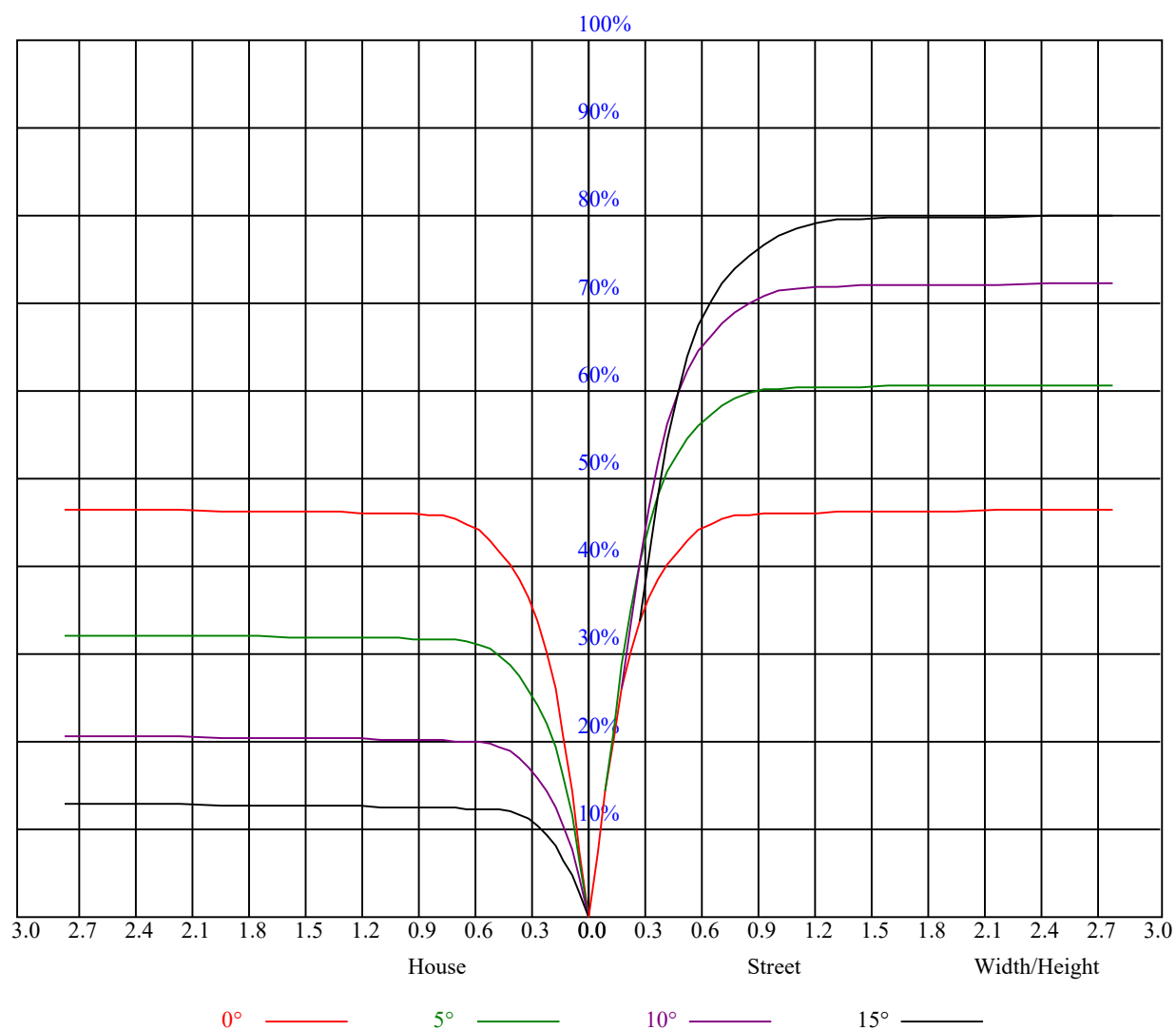
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	1.13	1.13	1.13	1.10	1.10	1.10	1.05	1.05	1.05	1.01	1.01	1.01	0.97	0.97	0.97	0.95
1	1.04	1.01	0.99	1.02	0.99	0.97	0.98	0.96	0.94	0.94	0.93	0.91	0.91	0.90	0.89	0.87
2	0.99	0.95	0.92	0.97	0.94	0.91	0.94	0.91	0.89	0.91	0.89	0.87	0.88	0.87	0.85	0.84
3	0.94	0.90	0.87	0.93	0.89	0.86	0.90	0.87	0.85	0.88	0.85	0.83	0.86	0.84	0.82	0.81
4	0.90	0.86	0.82	0.89	0.85	0.82	0.87	0.84	0.81	0.85	0.82	0.80	0.84	0.81	0.79	0.78
5	0.87	0.82	0.79	0.86	0.82	0.79	0.84	0.81	0.78	0.83	0.80	0.77	0.81	0.79	0.77	0.75
6	0.84	0.79	0.76	0.83	0.79	0.76	0.82	0.78	0.75	0.80	0.77	0.75	0.79	0.76	0.74	0.73
7	0.81	0.76	0.73	0.80	0.76	0.73	0.79	0.75	0.73	0.78	0.75	0.72	0.77	0.74	0.72	0.71
8	0.78	0.74	0.71	0.78	0.74	0.71	0.77	0.73	0.70	0.76	0.73	0.70	0.75	0.72	0.70	0.69
9	0.76	0.72	0.69	0.75	0.71	0.69	0.75	0.71	0.68	0.74	0.71	0.68	0.73	0.70	0.68	0.67
10	0.74	0.70	0.67	0.73	0.69	0.67	0.73	0.69	0.67	0.72	0.69	0.66	0.71	0.68	0.66	0.65



Nata 1657-S

Appendix Page: 14 Total:14

Intensity data(cd)									
C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	6191.09	5470.95	3741.63	1886.78	976.70	636.45	547.81	298.41	39.09
45.0	6214.77	5330.56	3464.70	1771.71	890.26	617.18	539.55	285.74	30.50
90.0	6151.45	5101.53	3159.14	1531.12	795.56	596.54	487.14	198.37	20.43
135.0	6197.70	5516.65	3788.98	1908.81	977.80	634.25	547.26	283.54	43.49
180.0	6191.09	5529.31	3649.69	1815.21	932.49	622.69	536.03	291.80	41.02
225.0	6214.77	5751.74	3992.69	2018.92	1032.09	656.00	560.25	322.41	70.91
270.0	6151.45	5833.23	4417.17	2361.92	1142.97	692.61	575.89	377.69	106.42
315.0	6197.70	5473.71	3645.28	1899.45	944.77	629.74	548.09	281.45	36.28
360.0	6191.09	5470.95	3741.63	1886.78	976.70	636.45	547.81	298.41	39.09
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	8.48	7.65	7.27	6.94	6.83	6.72	6.61	6.55	6.50
45.0	8.64	7.76	7.32	7.05	6.83	6.72	6.66	6.55	6.50
90.0	8.81	7.93	7.38	7.05	6.88	6.72	6.66	6.55	6.50
135.0	9.25	8.20	7.54	7.21	6.94	6.77	6.66	6.55	6.50
180.0	8.59	7.76	7.27	6.99	6.83	6.72	6.61	6.55	6.50
225.0	9.36	7.60	7.16	6.88	6.72	6.66	6.61	6.55	6.50
270.0	11.67	7.65	7.21	6.94	6.83	6.72	6.66	6.55	6.55
315.0	8.15	7.49	7.10	6.88	6.77	6.66	6.61	6.55	6.55
360.0	8.48	7.65	7.27	6.94	6.83	6.72	6.61	6.55	6.50
C/γ(°)	90.0								
0.0	6.44								
45.0	6.44								
90.0	6.44								
135.0	6.44								
180.0	6.44								
225.0	6.44								
270.0	6.50								
315.0	6.50								
360.0	6.44								