
Nata

LumCAT: 2-1132-M

Luminaire:

Report No: NT2014122401

Voltage(V): 219.9000

Test No: GC2014142401

Current(A): 0.0790

LampCAT: XICATO XTM 19

Power (W): 14.5000

Lamp flux(lm): 1294.0

PF: 0.8270

Number of Lamps: 1

Ballast type: DC

Length(mm): 68

Width(mm): 68

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1105.70

Efficiency(%): 85.45%

Lumens(lm)/Power(W): 76.25

Central intensity(cd): 3212.672

Maximum intensity(cd): 3212.672

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=29.2

[C90/270]Total=29.2

Field angle(10%Imax): [C0/180]Total=59.8

[C90/270]Total=59.8

Maximum s/h(1/2): C0_180=0.49 C90_270=0.49

Maximum s/h(1/4): C0_180=0.51 C90_270=0.51

Up flux rate of lamp(%): 3.34%

Down flux rate of lamp(%): 83.51%

Up flux rate of LUM(%): 5.31%

Down flux rate of LUM(%): 96.15%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 92.799%

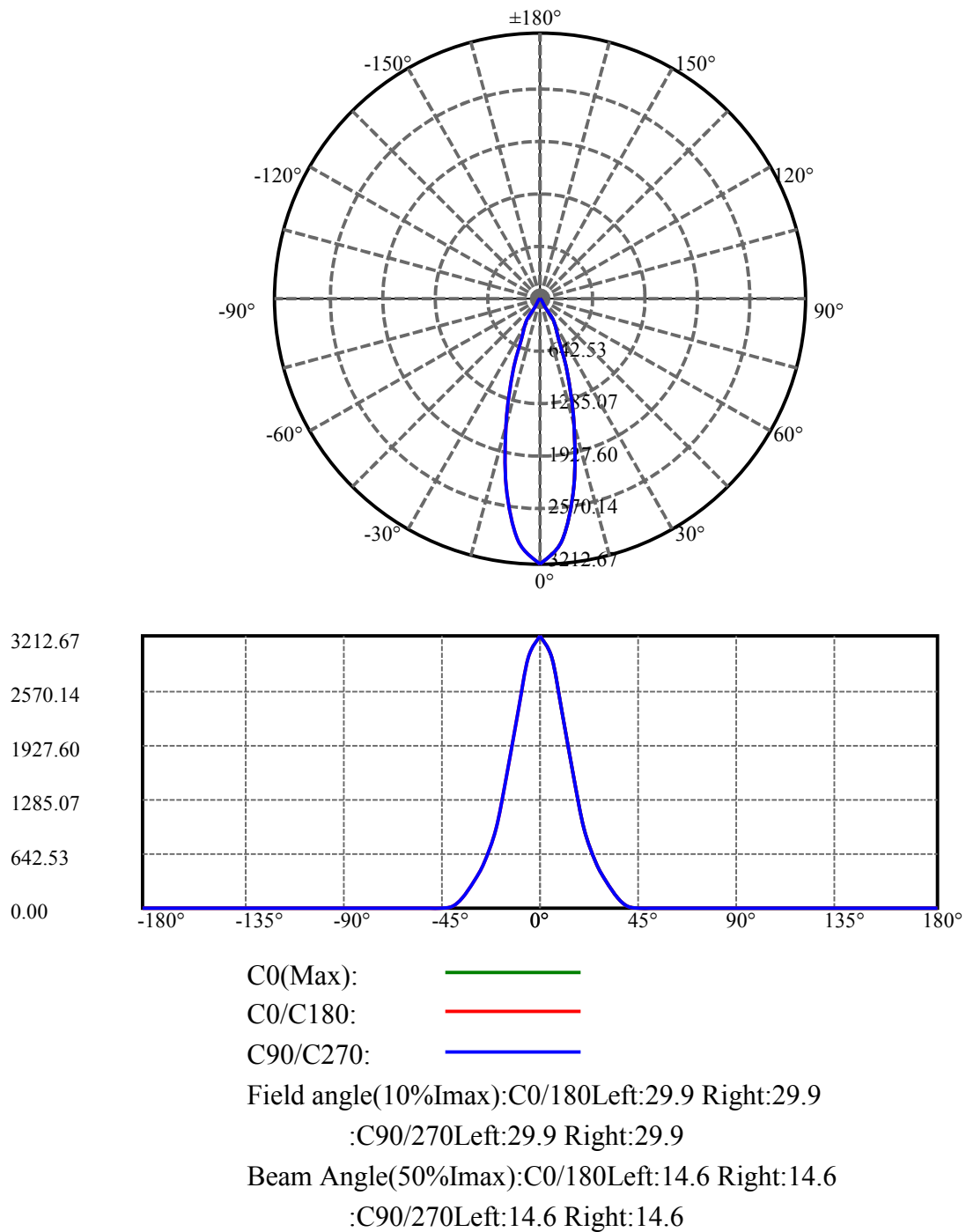
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3212.672	19.212	19.212	1.485%	1.738%
5.0	2946.418	140.760	159.973	10.878%	14.468%
10.0	2313.059	220.164	380.137	17.014%	34.380%
15.0	1546.105	219.343	599.48	16.951%	54.217%
20.0	943.310	176.846	776.326	13.667%	70.211%
25.0	541.180	125.366	901.692	9.688%	81.550%
30.0	316.190	86.658	988.35	6.697%	89.387%
35.0	117.202	36.848	1025.198	2.848%	92.720%
40.0	16.701	5.884	1031.083	.455%	93.252%
45.0	7.113	2.757	1033.839	.213%	93.501%
50.0	6.917	2.904	1036.744	.224%	93.764%
55.0	6.798	3.052	1039.796	.236%	94.040%
60.0	6.721	3.190	1042.987	.247%	94.328%
65.0	6.707	3.332	1046.318	.257%	94.630%
70.0	6.672	3.437	1049.755	.266%	94.941%
75.0	6.651	3.521	1053.277	.272%	95.259%
80.0	6.658	3.594	1056.871	.278%	95.584%
85.0	6.938	3.788	1060.659	.293%	95.927%
90.0	6.623	3.630	1064.29	.281%	96.255%
95.0	6.630	3.620	1067.91	.280%	96.583%
100.0	6.616	3.571	1071.481	.276%	96.906%
105.0	6.616	3.503	1074.984	.271%	97.222%
110.0	6.602	3.401	1078.385	.263%	97.530%
115.0	6.609	3.283	1081.668	.254%	97.827%
120.0	6.602	3.134	1084.802	.242%	98.110%
125.0	6.616	2.971	1087.773	.230%	98.379%
130.0	6.637	2.787	1090.56	.215%	98.631%
135.0	6.658	2.581	1093.141	.199%	98.864%
140.0	6.707	2.363	1095.504	.183%	99.078%
145.0	6.819	2.144	1097.648	.166%	99.272%
150.0	7.106	1.947	1099.595	.150%	99.448%
155.0	7.714	1.787	1101.382	.138%	99.610%
160.0	8.449	1.584	1102.966	.122%	99.753%
165.0	9.092	1.290	1104.256	.100%	99.870%
170.0	9.561	0.910	1105.166	.070%	99.952%
175.0	9.868	0.471	1105.637	.036%	99.995%
180.0	9.959	0.060	1105.697	.005%	100.000%

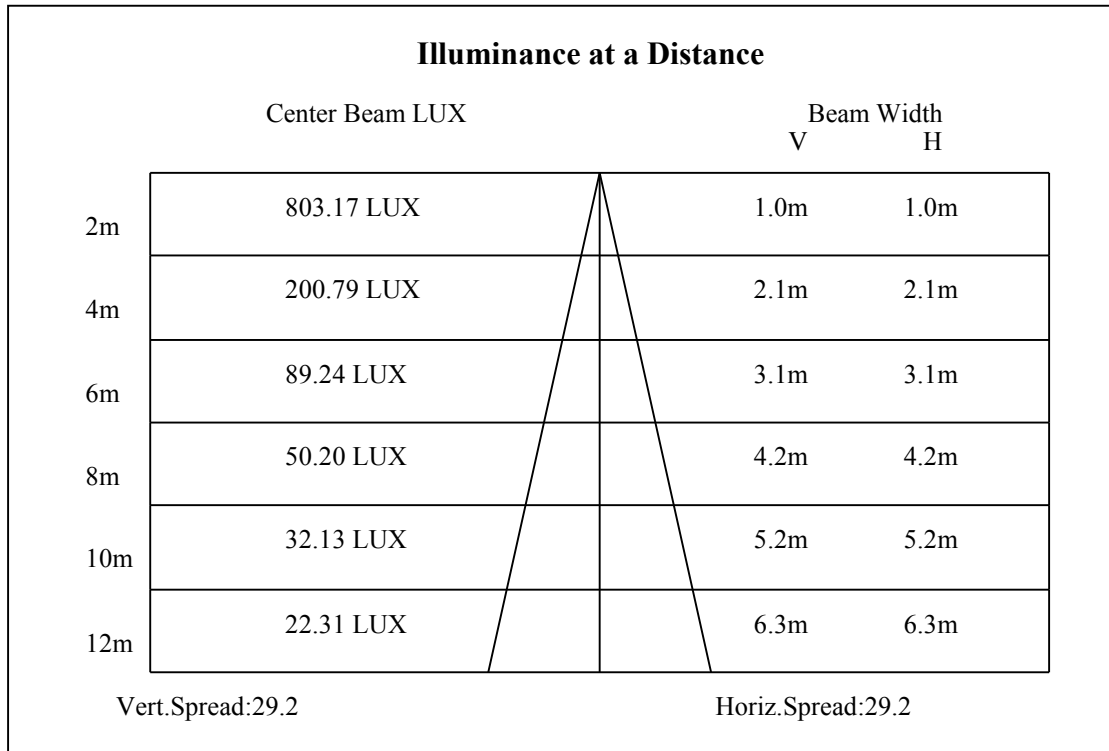
ZONAL LUMEN SUMMARY

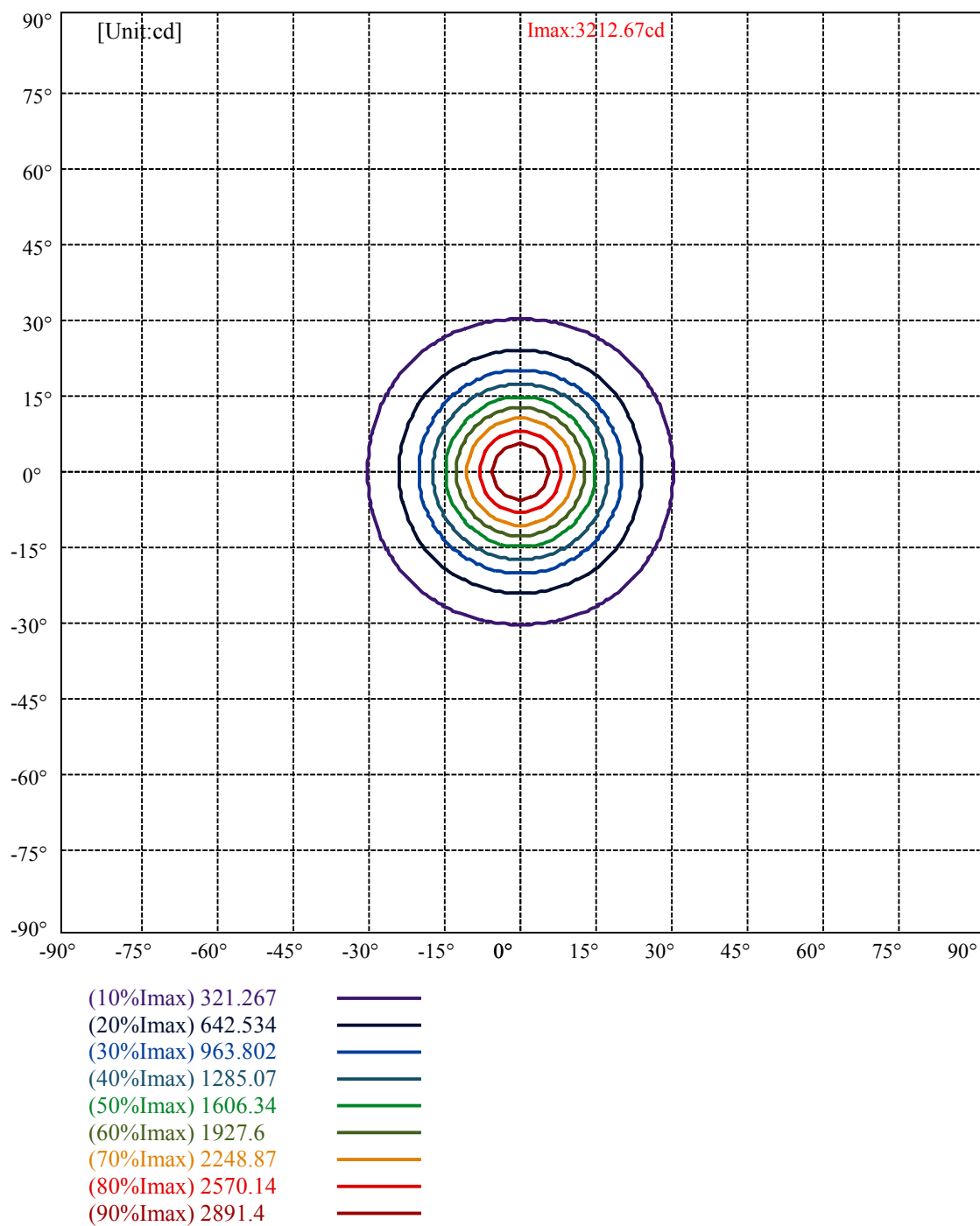
Zone	Lumens	%Lamp	%Fixt
0-30	988.35	76.38%	89.39%
0-40	1031.08	79.68%	93.25%
0-60	1042.99	80.60%	94.33%
0-90	1064.29	82.25%	96.26%
0-120	1084.80	83.83%	98.11%
0-180	1105.70	85.45%	100.00%
60-90	24.49	1.89%	2.22%
90-120	24.14	1.87%	2.18%
90-130	29.90	2.31%	2.70%
90-150	38.94	3.01%	3.52%
90-180	44.98	3.48%	4.07%
0-24.32	884.56	68.36%	80.00%

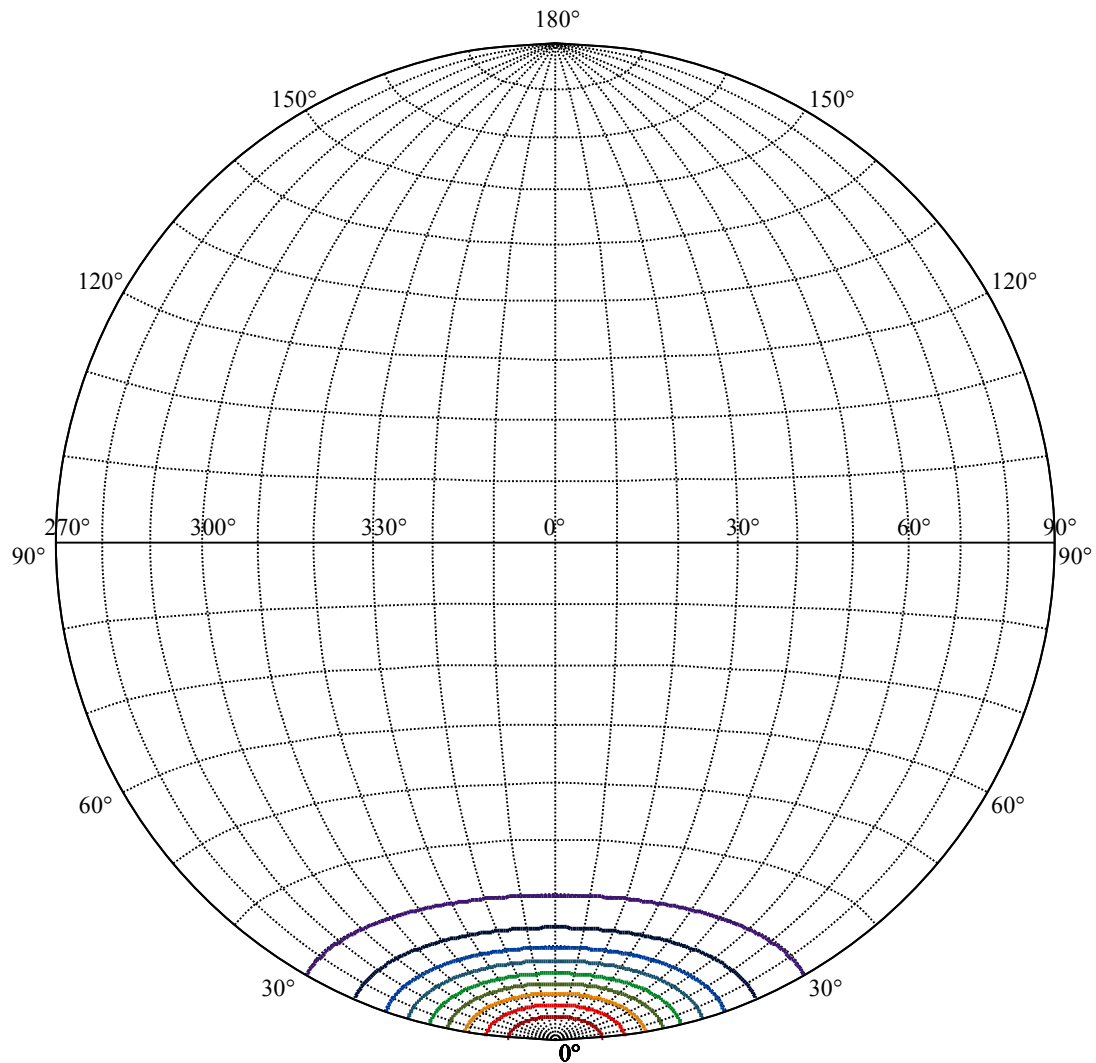
ZONAL LUMEN SUMMARY

0-10	380.14
10-20	396.19
20-30	212.02
30-40	42.73
40-50	5.66
50-60	6.24
60-70	6.77
70-80	7.12
80-90	7.42
90-100	7.19
100-110	6.90
110-120	6.42
120-130	5.76
130-140	4.94
140-150	4.09
150-160	3.37
160-170	2.20
170-180	0.47









House

[Unit:cd]

Road

Imax:3212.67

(10%Imax) 321.267

(20%Imax) 642.534

(30%Imax) 963.802

(40%Imax) 1285.07

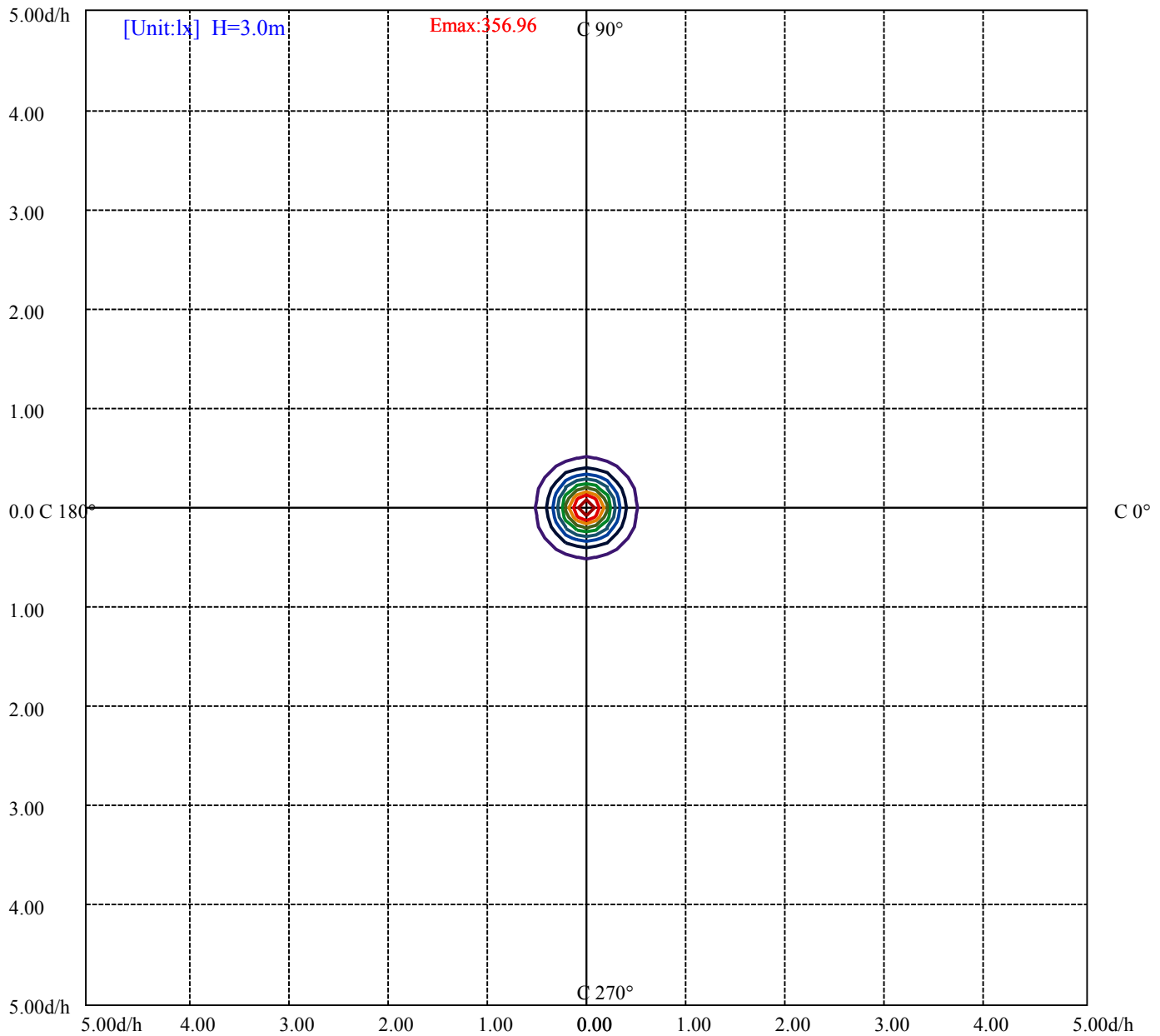
(50%Imax) 1606.34

(60%Imax) 1927.6

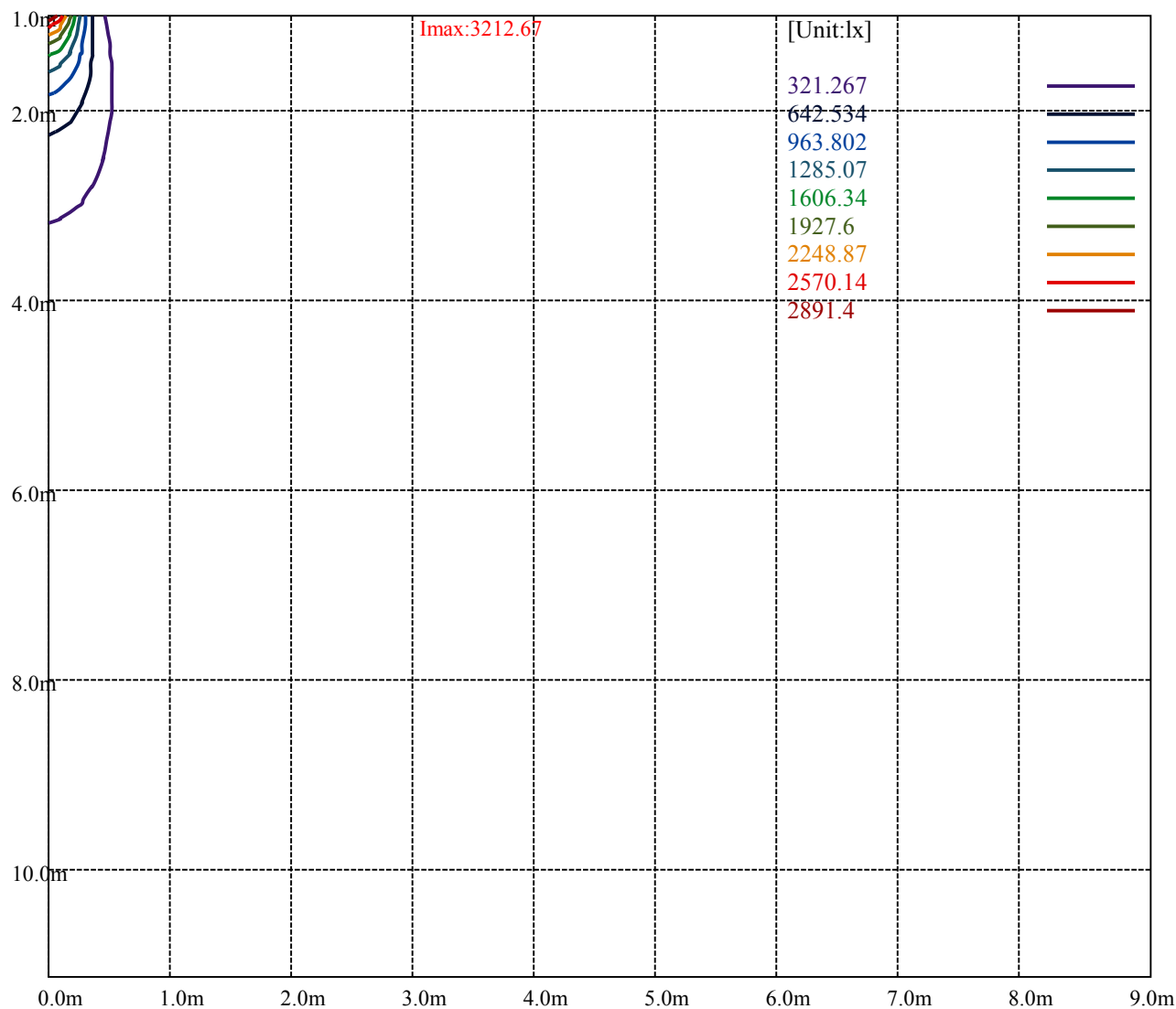
(70%Imax) 2248.87

(80%Imax) 2570.14

(90%Imax) 2891.4



(10%Emax)	35.69622	—
(20%Emax)	71.39256	—
(30%Emax)	107.0888	—
(40%Emax)	142.7856	—
(50%Emax)	178.4811	—
(60%Emax)	214.1778	—
(70%Emax)	249.8734	—
(80%Emax)	285.57	—
(90%Emax)	321.2667	—



Luminance Table

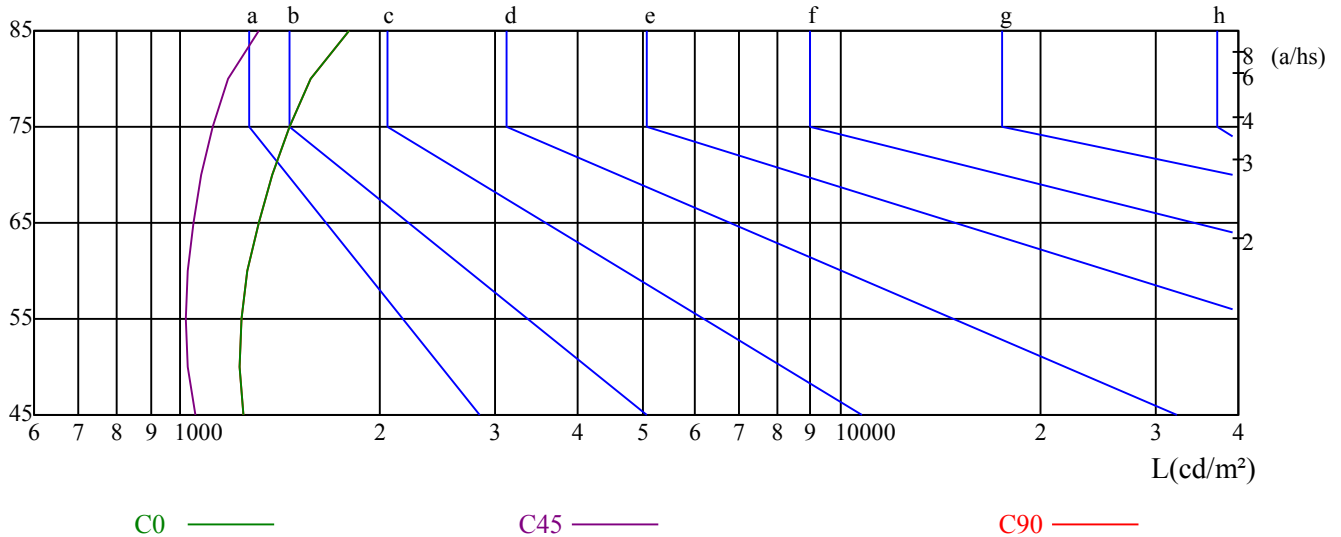
γ	45	50	55	60	65	70	75	80	85
C0	1243	1229	1238	1264	1316	1378	1463	1578	1798
C45	1056	1028	1019	1025	1048	1078	1121	1182	1312
C90	1243	1229	1238	1264	1316	1378	1463	1578	1798

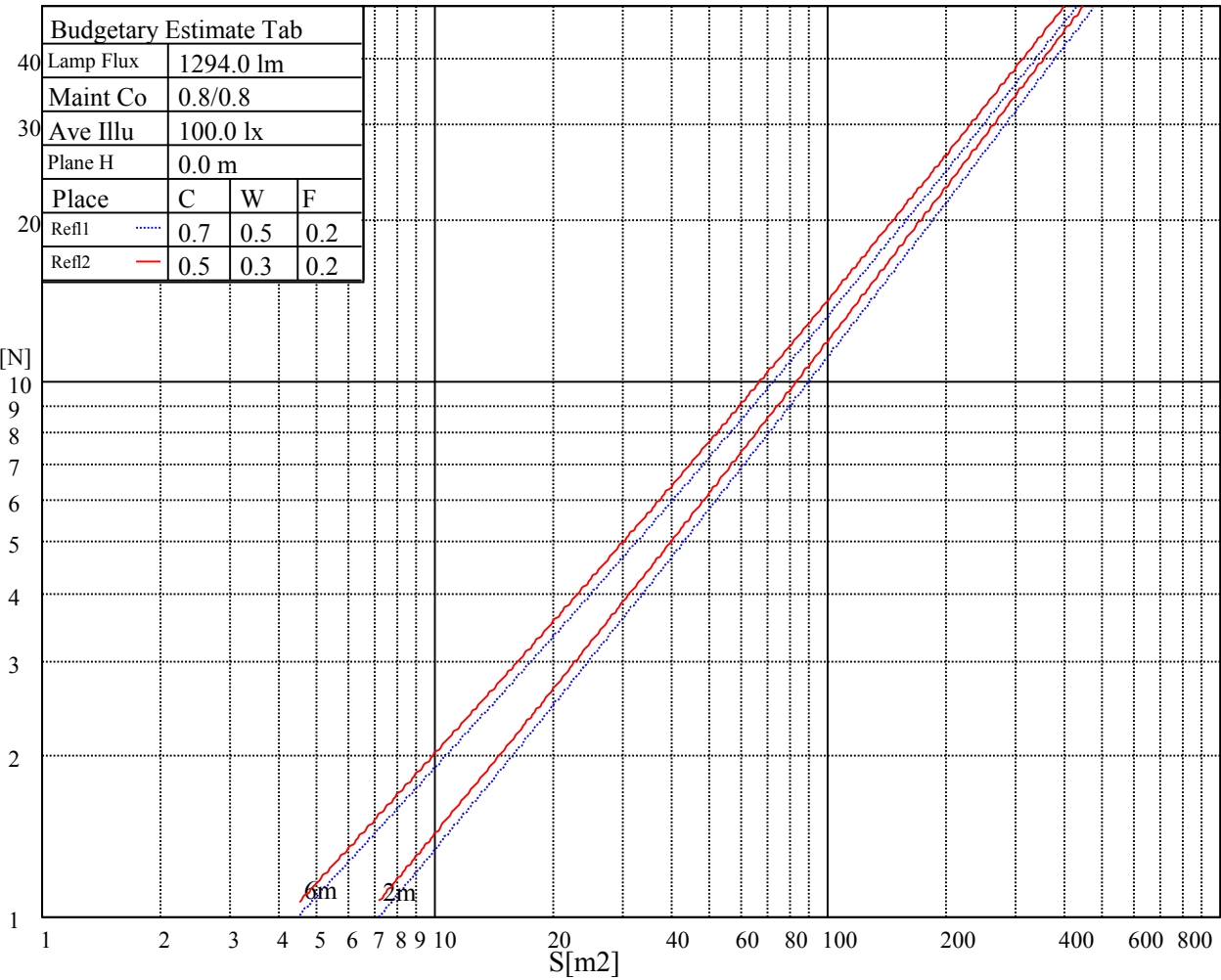
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3432	3432	3432	5558	5558	5558	17215	17215	17215

Glare Table

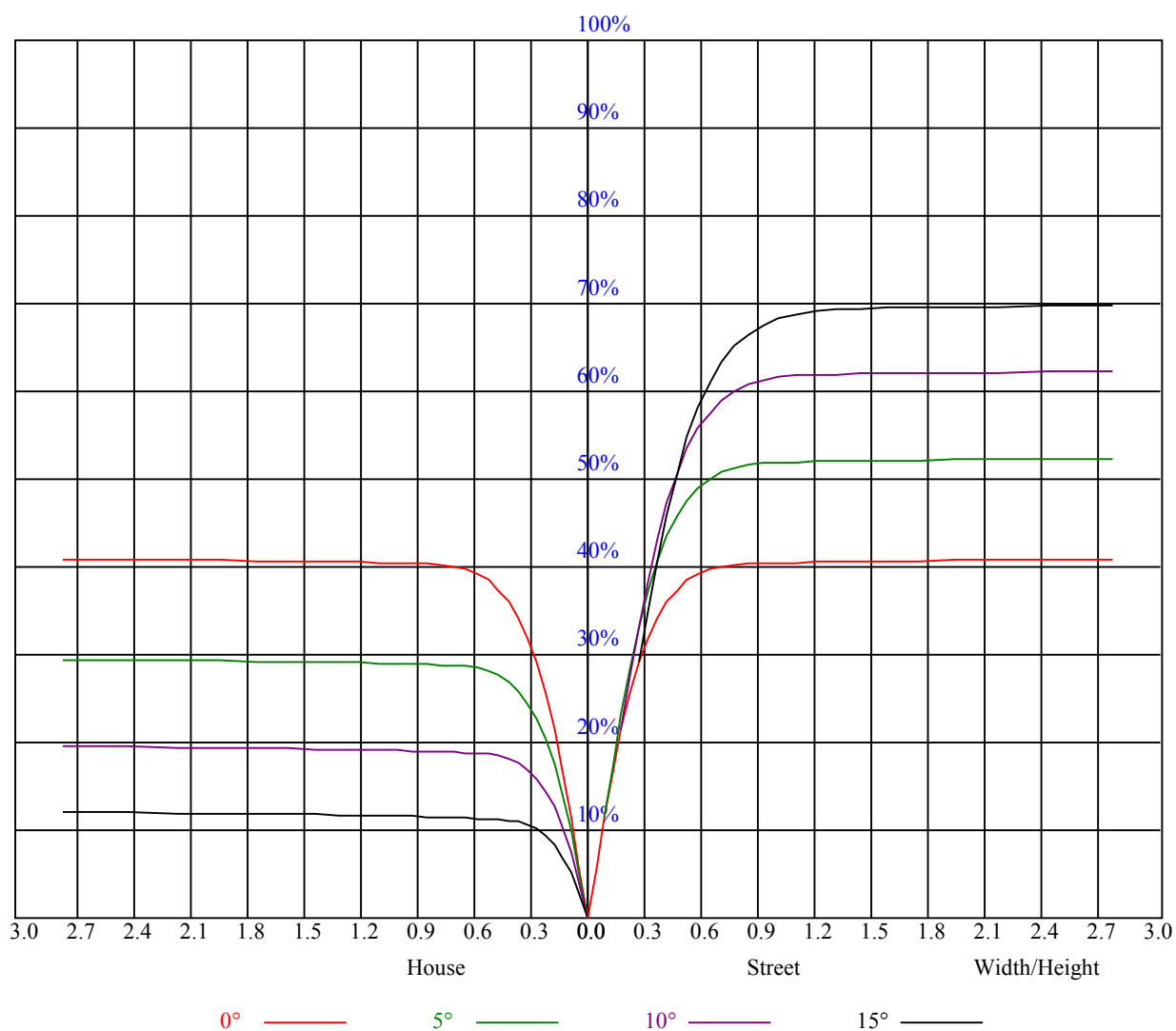
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve

 $\gamma(^{\circ})$ 



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	1.03	1.03	1.03	1.00	1.00	1.00	0.95	0.95	0.95	0.90	0.90	0.90	0.86	0.86	0.86	0.84
1	0.95	0.92	0.90	0.92	0.90	0.88	0.88	0.86	0.85	0.84	0.83	0.82	0.81	0.80	0.79	0.77
2	0.89	0.86	0.83	0.88	0.85	0.82	0.84	0.82	0.80	0.81	0.79	0.78	0.78	0.77	0.76	0.74
3	0.85	0.81	0.78	0.84	0.80	0.77	0.81	0.78	0.76	0.78	0.76	0.74	0.76	0.74	0.73	0.71
4	0.81	0.77	0.74	0.80	0.76	0.73	0.78	0.75	0.72	0.76	0.73	0.71	0.74	0.72	0.70	0.69
5	0.78	0.74	0.71	0.77	0.73	0.70	0.75	0.72	0.69	0.73	0.71	0.68	0.72	0.69	0.68	0.66
6	0.75	0.71	0.68	0.74	0.70	0.67	0.73	0.69	0.67	0.71	0.68	0.66	0.70	0.67	0.65	0.64
7	0.72	0.68	0.65	0.72	0.68	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.68	0.65	0.63	0.62
8	0.70	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.62	0.67	0.64	0.62	0.66	0.63	0.61	0.60
9	0.67	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.60	0.65	0.62	0.60	0.64	0.62	0.60	0.59
10	0.65	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.59	0.63	0.60	0.58	0.63	0.60	0.58	0.57



Nata 2-1132-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	3202.60	2947.47	2419.85	1637.11	1001.51	567.34	340.18	124.43	15.11		
45.0	3223.86	2906.62	2266.55	1507.30	925.98	514.18	302.13	91.87	12.70		
90.0	3203.16	2762.27	2027.08	1104.91	748.56	450.34	230.57	64.68	10.18		
135.0	3221.06	2893.75	2240.25	1464.78	855.48	507.47	293.18	88.12	12.48		
180.0	3202.60	2894.87	2203.89	1515.14	858.34	500.20	293.91	104.01	12.70		
225.0	3223.86	3005.10	2361.67	1581.16	972.59	554.24	326.81	138.20	14.94		
270.0	3203.16	3150.01	2601.69	1848.60	1159.29	656.30	402.28	180.44	39.00		
315.0	3221.06	3011.25	2383.49	1709.84	1024.73	579.37	340.46	145.86	16.51		
360.0	3202.60	2947.47	2419.85	1637.11	1001.51	567.34	340.18	124.43	15.11		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	7.22	6.99	6.88	6.83	6.77	6.71	6.71	6.71	6.83		
45.0	6.94	6.83	6.71	6.60	6.60	6.55	6.55	6.55	6.77		
90.0	6.99	6.83	6.71	6.66	6.66	6.66	6.60	6.66	6.60		
135.0	7.11	6.94	6.83	6.77	6.77	6.77	6.71	6.71	7.11		
180.0	7.11	6.94	6.88	6.83	6.77	6.77	6.71	6.71	7.22		
225.0	7.05	6.83	6.71	6.60	6.60	6.55	6.55	6.55	6.77		
270.0	7.27	6.99	6.83	6.71	6.71	6.66	6.66	6.66	7.27		
315.0	7.22	6.99	6.83	6.77	6.77	6.71	6.71	6.71	6.94		
360.0	7.22	6.99	6.88	6.83	6.77	6.71	6.71	6.71	6.83		
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0		
0.0	6.71	6.71	6.66	6.71	6.71	6.71	6.71	6.71	6.71		
45.0	6.55	6.55	6.49	6.49	6.49	6.49	6.49	6.49	6.55		
90.0	6.55	6.60	6.60	6.60	6.55	6.60	6.55	6.60	6.60		
135.0	6.66	6.71	6.71	6.66	6.66	6.66	6.66	6.66	6.66		
180.0	6.71	6.66	6.66	6.66	6.66	6.66	6.66	6.66	6.71		
225.0	6.55	6.55	6.55	6.55	6.49	6.49	6.49	6.55	6.55		
270.0	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60		
315.0	6.66	6.66	6.66	6.66	6.66	6.66	6.66	6.66	6.71		
360.0	6.71	6.71	6.66	6.71	6.71	6.71	6.71	6.71	6.71		
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0		
0.0	6.77	6.88	7.05	7.33	7.83	8.45	8.95	9.29	9.34		
45.0	6.49	6.49	6.66	6.99	7.78	8.62	9.51	10.07	10.63		
90.0	6.60	6.60	6.71	7.11	7.78	8.56	9.18	9.62	9.96		
135.0	6.66	6.66	6.71	6.88	7.39	8.00	8.56	8.90	9.29		
180.0	6.66	6.71	6.71	6.88	7.27	7.78	8.34	8.67	8.95		
225.0	6.66	6.66	6.88	7.27	8.06	9.06	9.79	10.57	10.91		
270.0	6.66	6.77	6.88	7.11	7.78	8.56	9.34	9.85	10.24		
315.0	6.77	6.88	6.94	7.27	7.83	8.56	9.06	9.51	9.62		
360.0	6.77	6.88	7.05	7.33	7.83	8.45	8.95	9.29	9.34		
C/γ(°)	180.0										
0.0	9.23										
45.0	10.91										
90.0	10.24										
135.0	9.46										
180.0	9.23										
225.0	10.91										
270.0	10.24										
315.0	9.46										
360.0	9.23										