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Nata

LumCAT: 1-0804-S
Luminaire: 92.70.208.00
Report No: NATA0100
Test No: GC2019103002
LampCAT: OSRAM 5050
Lamp flux(lm): 878.0
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 34.0000
Current(A): 0.2970
Power (W): 10.1000
PF: 0.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 756.73
Efficiency(%): 86.19%
Lumens(lm)/Power(W): 74.92
Central intensity(cd): 1120.500
Maximum intensity(cd): 1146.375
Angle of maximum intensity: $C=202.5$ $\gamma=5.0$
Beam Angle(50%Imax): [C0/180]Total=49.1
[C90/270]Total=49.0
Field angle(10%Imax): [C0/180]Total=66.6
[C90/270]Total=66.1
Maximum s/h(1/2): C0_180=0.81 C90_270=0.74
Maximum s/h(1/4): C0_180=0.74 C90_270=0.69
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 86.19%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.540%

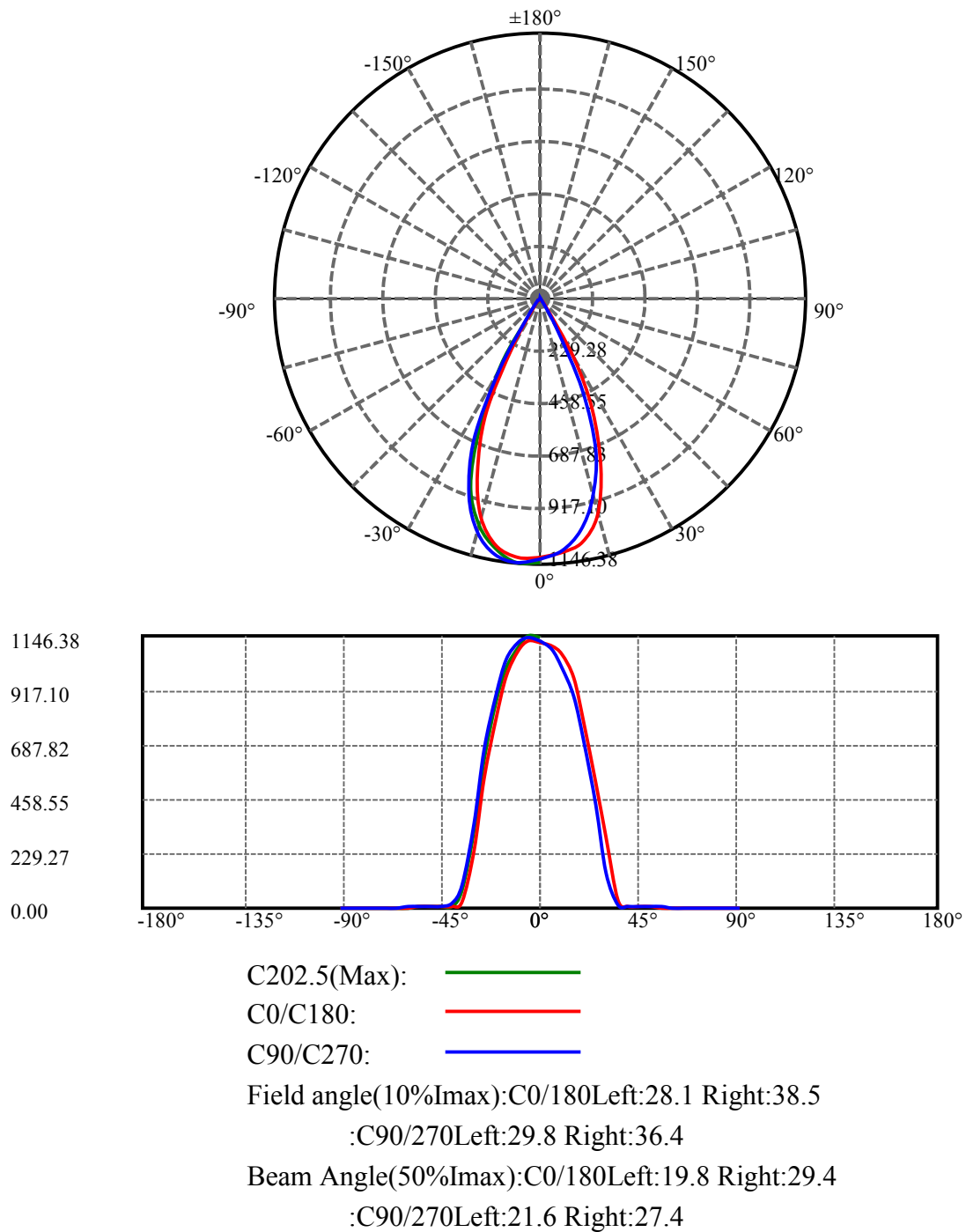
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1128.227	0.000	0	.000%	.000%
5.0	1117.100	26.842	26.842	3.057%	3.547%
10.0	1075.236	78.427	105.269	8.932%	13.911%
15.0	985.946	122.268	227.537	13.926%	30.069%
20.0	829.463	149.615	377.152	17.040%	49.840%
25.0	605.981	150.552	527.704	17.147%	69.735%
30.0	344.855	120.329	648.033	13.705%	85.636%
35.0	108.988	66.831	714.864	7.612%	94.468%
40.0	19.020	21.357	736.221	2.432%	97.290%
45.0	4.704	4.393	740.614	.500%	97.870%
50.0	3.899	1.738	742.352	.198%	98.100%
55.0	3.677	1.647	744	.188%	98.318%
60.0	3.586	1.679	745.679	.191%	98.540%
65.0	3.544	1.733	747.412	.197%	98.769%
70.0	3.530	1.791	749.203	.204%	99.005%
75.0	3.519	1.842	751.045	.210%	99.249%
80.0	3.505	1.879	752.925	.214%	99.497%
85.0	3.495	1.902	754.827	.217%	99.749%
90.0	3.452	1.902	756.729	.217%	100.000%

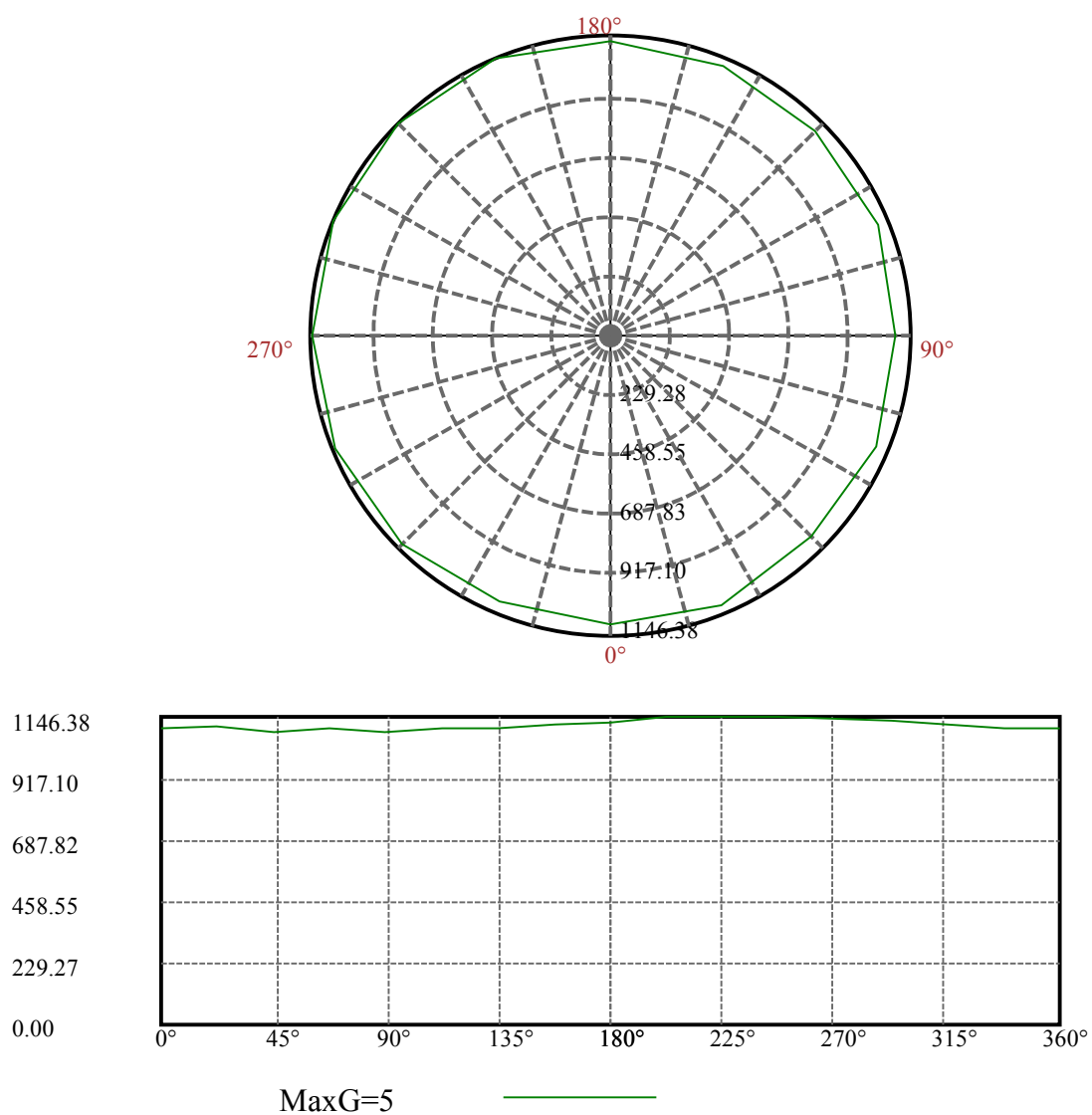
ZONAL LUMEN SUMMARY

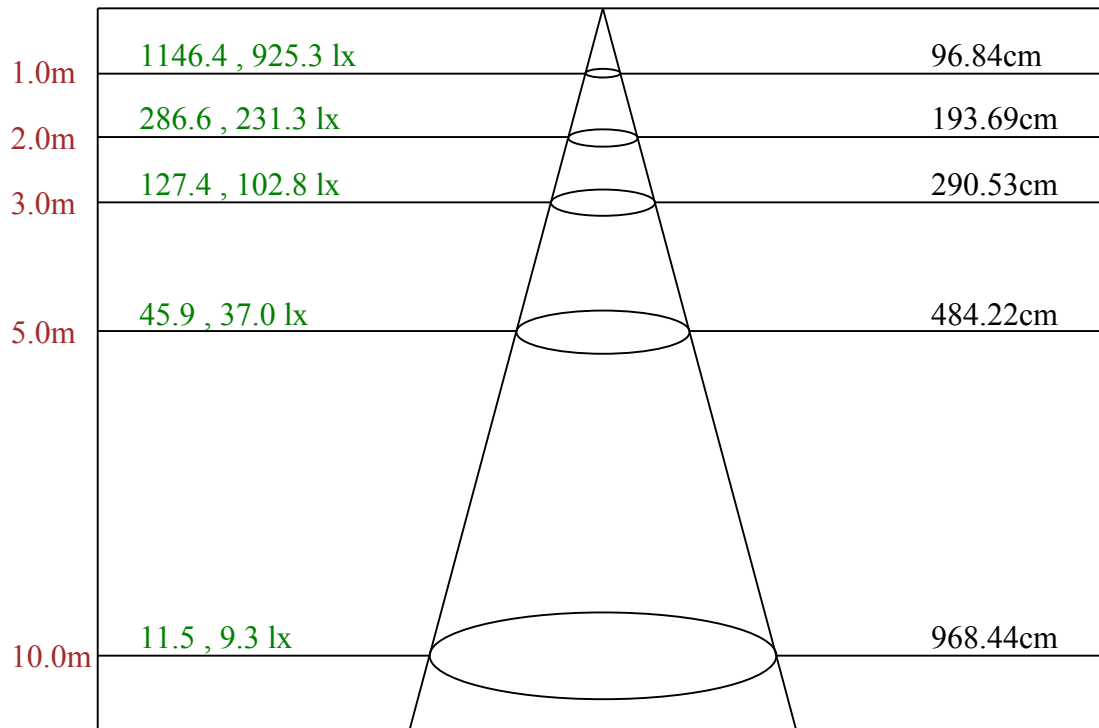
Zone	Lumens	%Lamp	%Fixt
0-30	648.03	73.81%	85.64%
0-40	736.22	83.85%	97.29%
0-60	745.68	84.93%	98.54%
0-90	754.83	85.97%	99.75%
0-120	754.83	85.97%	99.75%
0-180	756.73	86.19%	100.00%
60-90	10.83	1.23%	1.43%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-28.23	605.38	68.95%	80.00%

ZONAL LUMEN SUMMARY

0-10	105.27
10-20	271.88
20-30	270.88
30-40	88.19
40-50	6.13
50-60	3.33
60-70	3.52
70-80	3.72
80-90	1.90
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

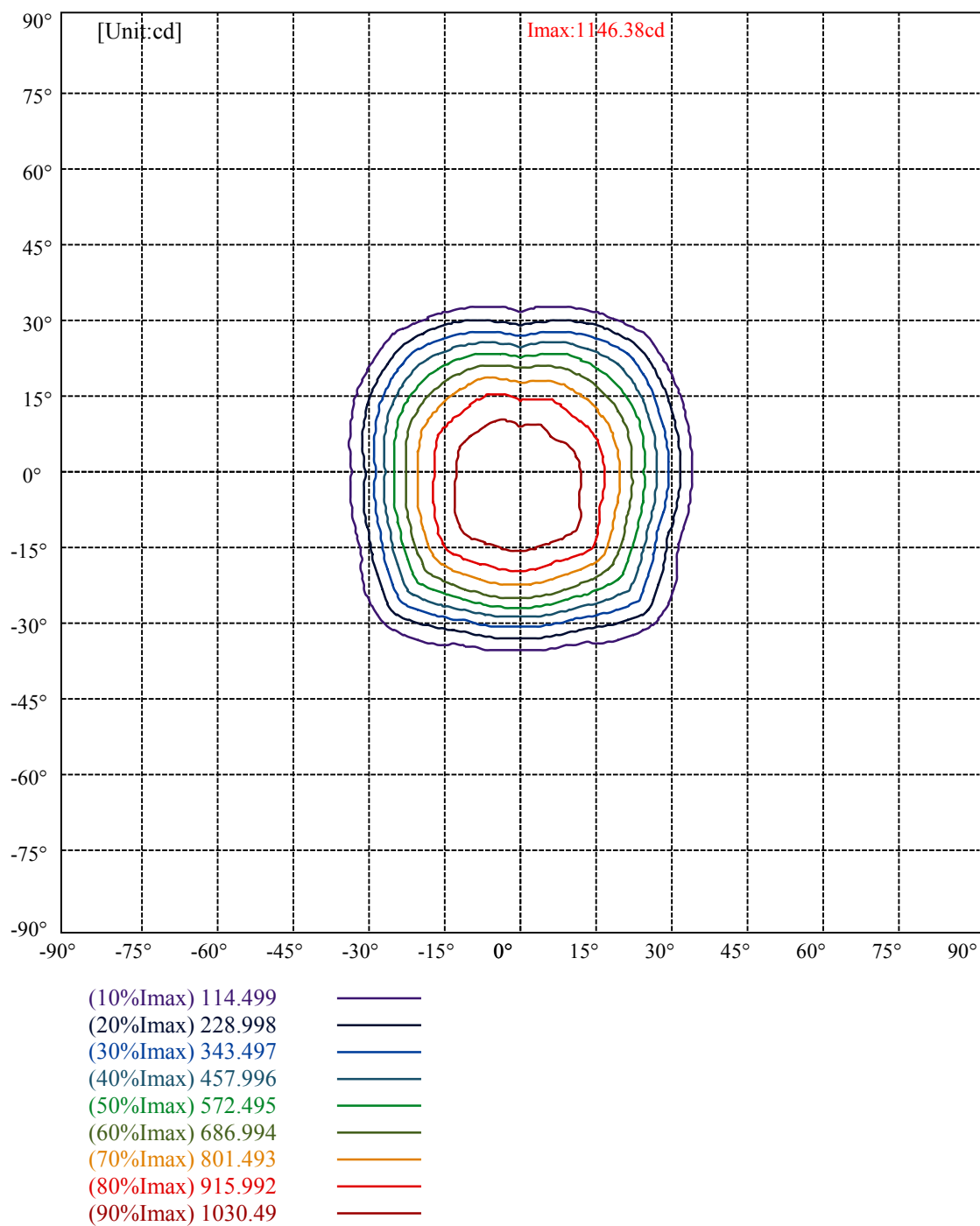


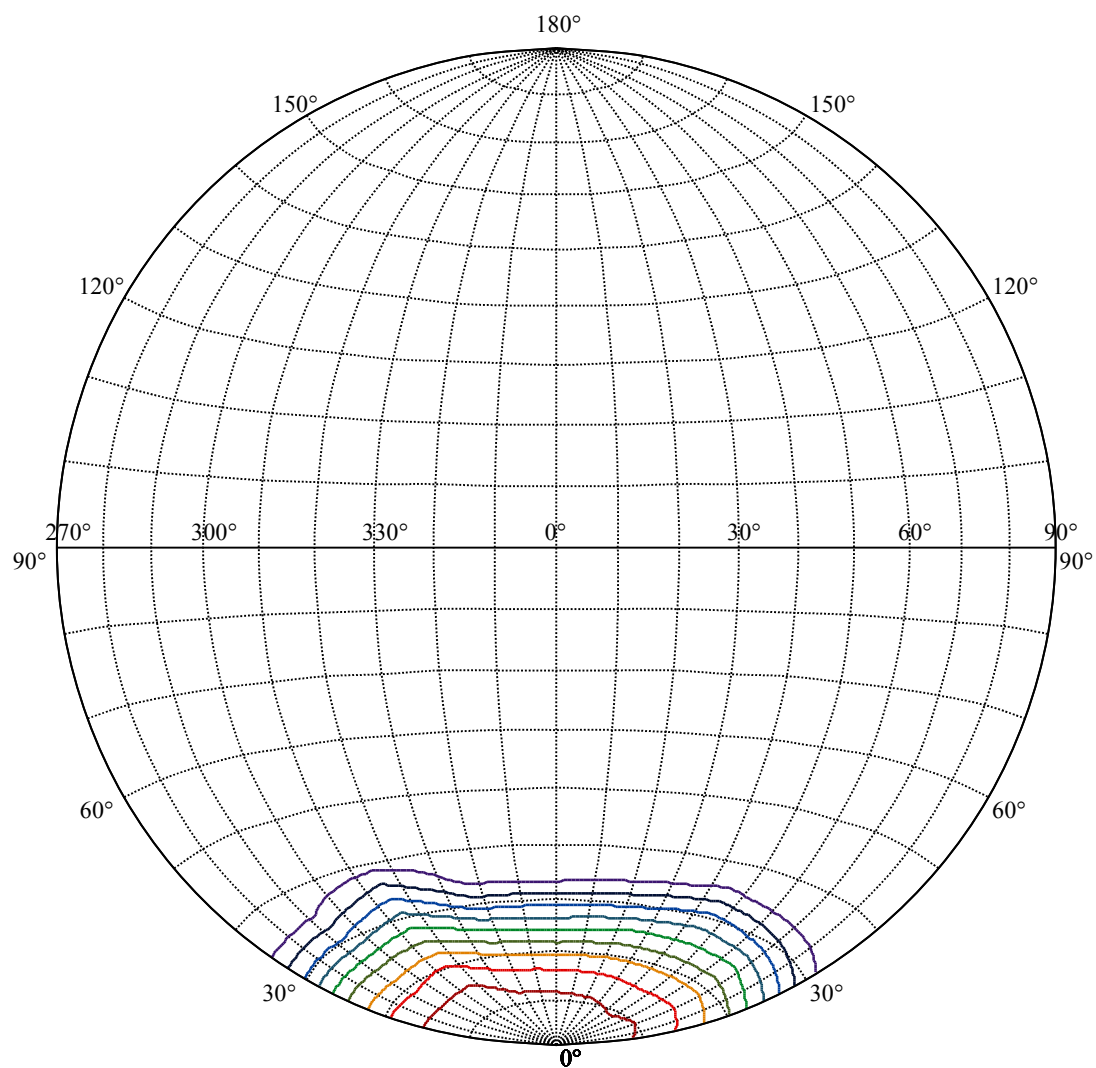




Max , Ave

Beam angle of C202.5 plane 51.67





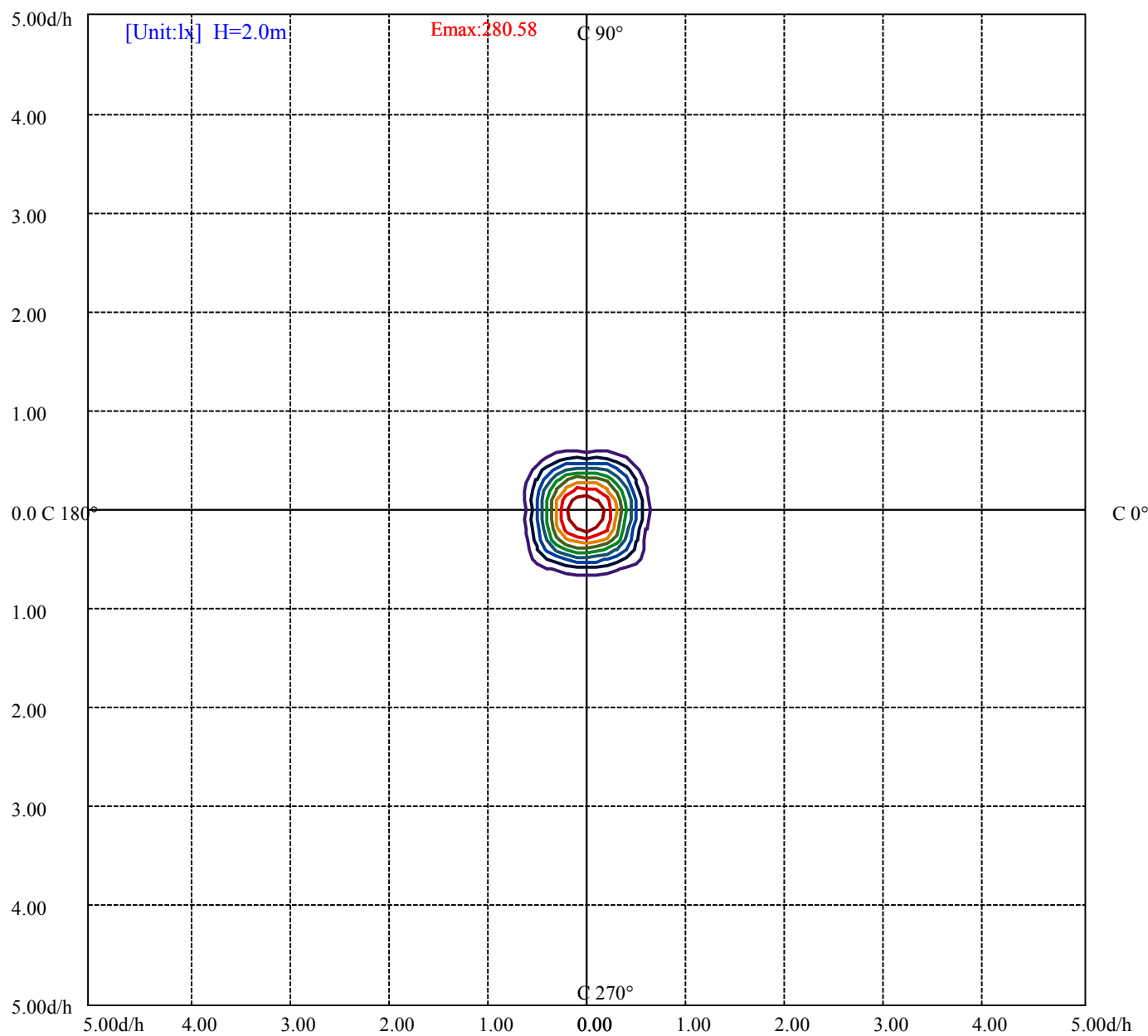
House

[Unit:cd]

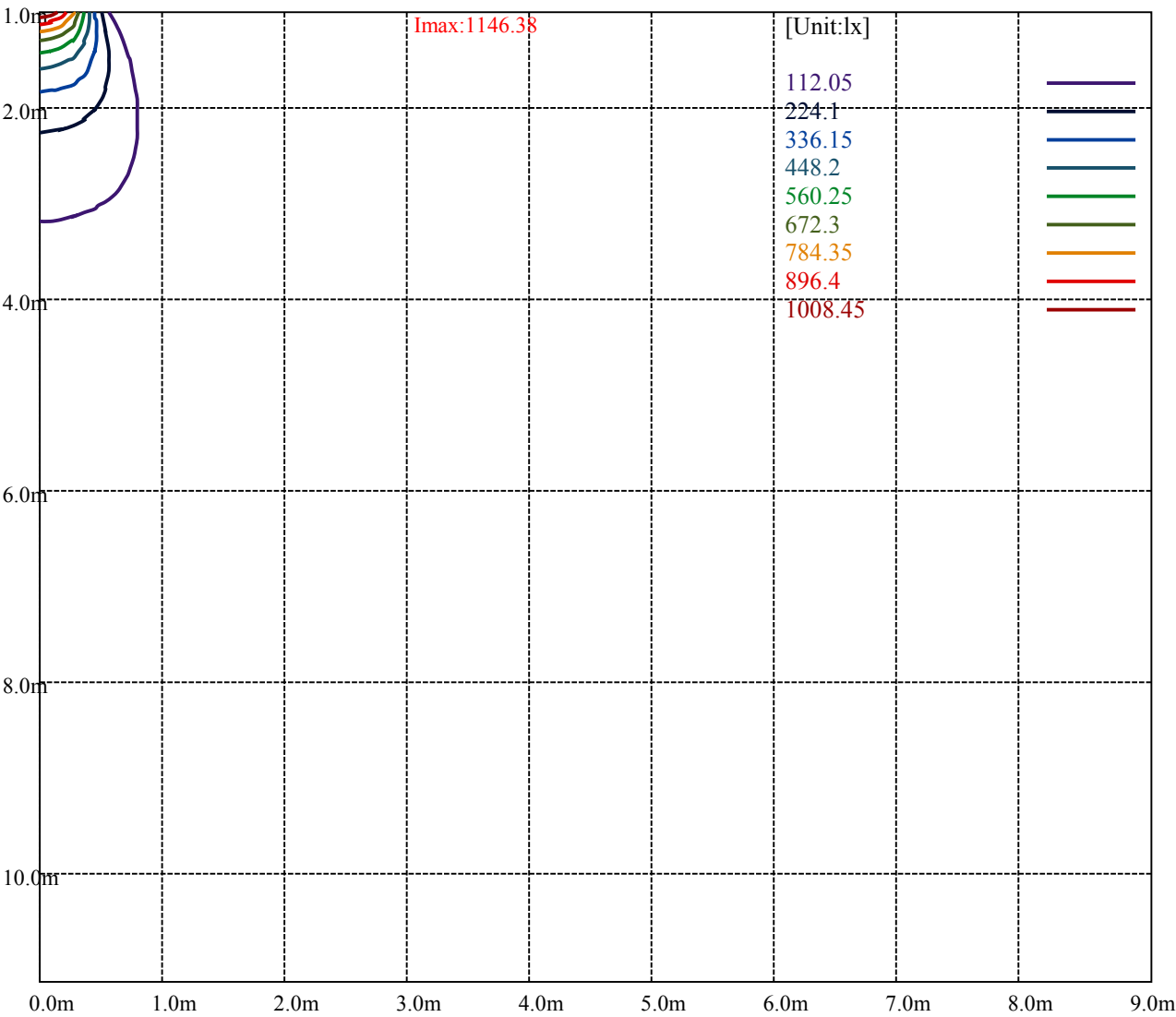
Road

Imax:1146.38

(10%Imax)	114.63	—
(20%Imax)	229.26	—
(30%Imax)	343.89	—
(40%Imax)	458.52	—
(50%Imax)	573.15	—
(60%Imax)	687.78	—
(70%Imax)	802.41	—
(80%Imax)	917.04	—
(90%Imax)	1031.67	—



(10%Emax) 28.0575	—
(20%Emax) 56.115	—
(30%Emax) 84.1725	—
(40%Emax) 112.2302	—
(50%Emax) 140.2878	—
(60%Emax) 168.3452	—
(70%Emax) 196.4028	—
(80%Emax) 224.4603	—
(90%Emax) 252.5175	—



Luminance Table

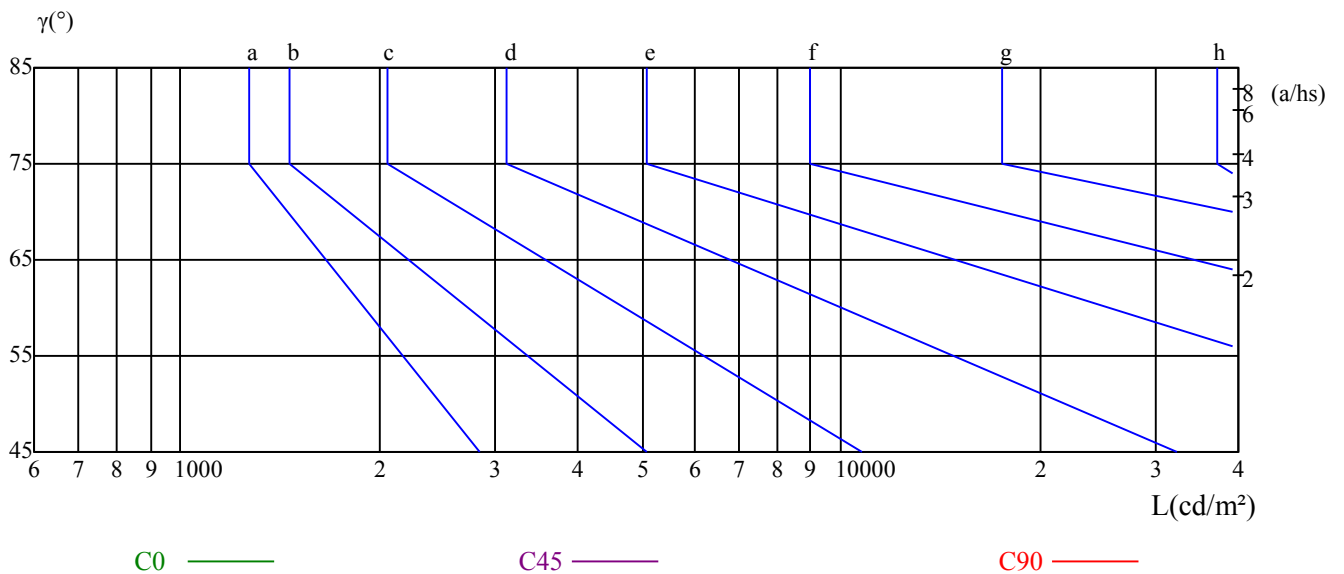
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

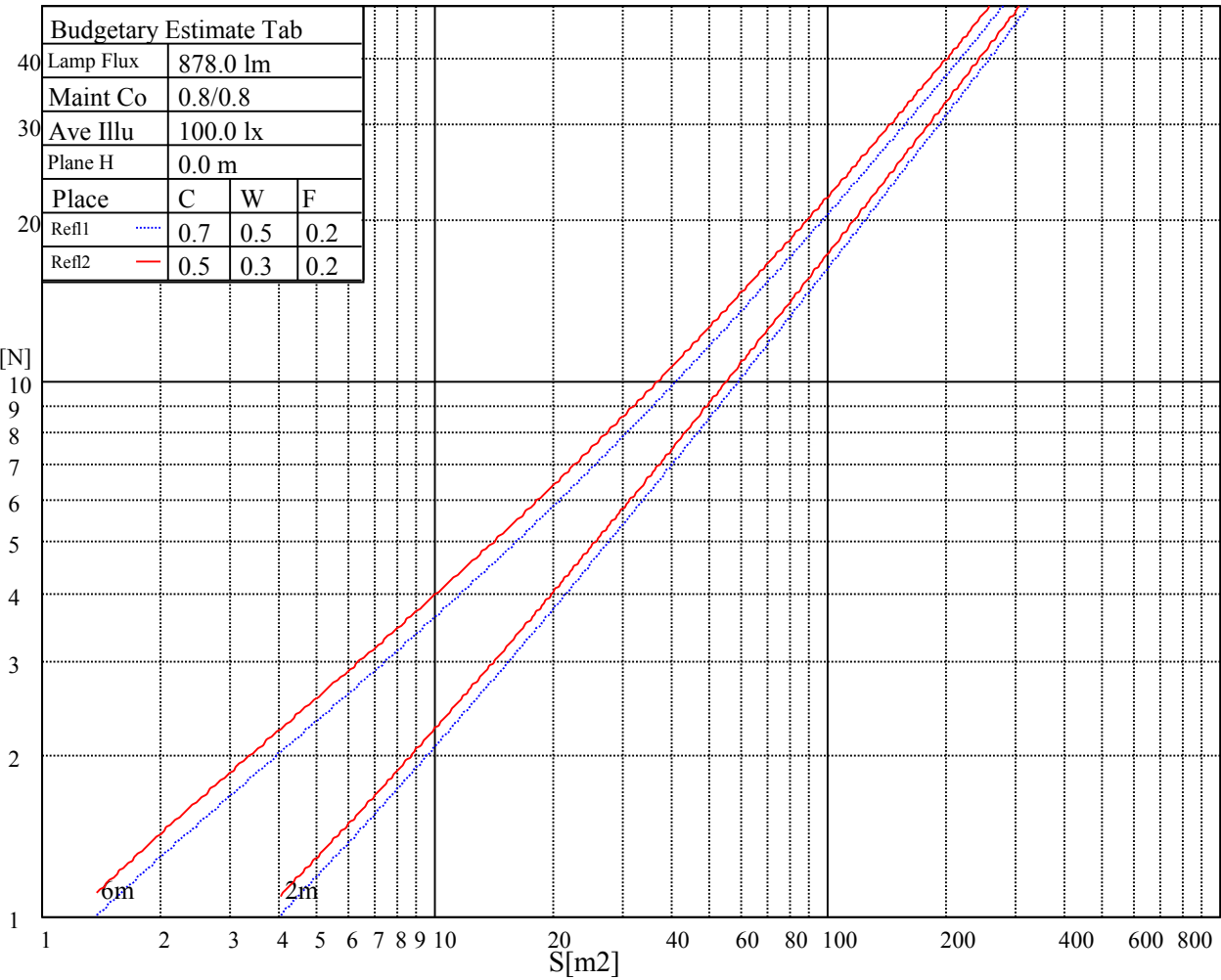
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

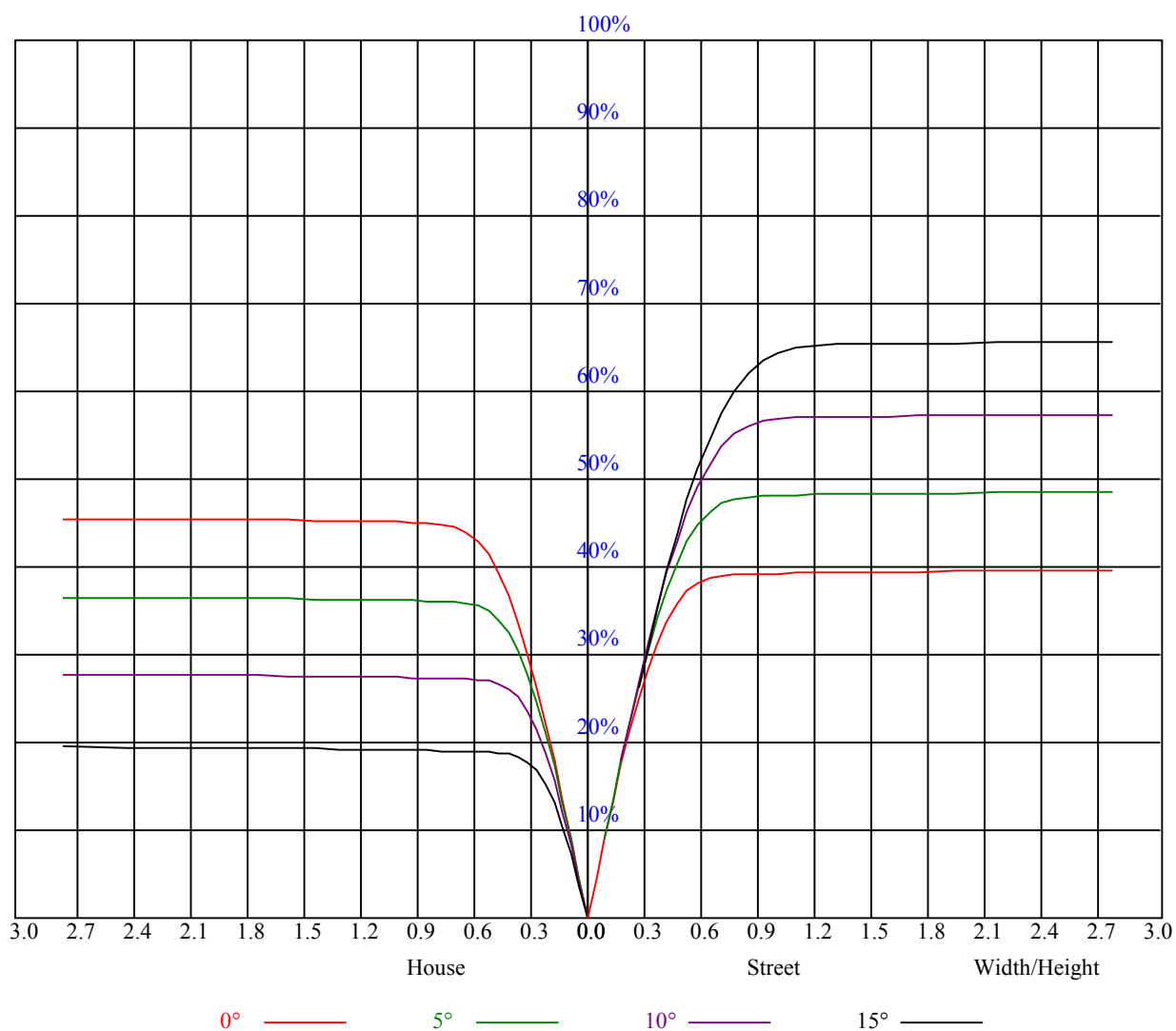
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





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	0.96	0.96	0.96	0.92	0.92	0.92	0.88	0.88	0.88	0.86
1	0.96	0.94	0.92	0.94	0.92	0.90	0.90	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.83	0.81
2	0.90	0.87	0.84	0.88	0.85	0.83	0.86	0.83	0.81	0.83	0.81	0.79	0.81	0.79	0.78	0.76
3	0.85	0.81	0.77	0.83	0.80	0.77	0.81	0.78	0.76	0.79	0.77	0.74	0.77	0.75	0.73	0.72
4	0.80	0.75	0.72	0.79	0.75	0.72	0.77	0.74	0.71	0.75	0.72	0.70	0.74	0.71	0.69	0.68
5	0.76	0.71	0.68	0.75	0.70	0.67	0.73	0.70	0.67	0.72	0.69	0.66	0.71	0.68	0.66	0.64
6	0.72	0.67	0.64	0.71	0.67	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.67	0.64	0.62	0.61
7	0.68	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.59	0.64	0.61	0.59	0.58
8	0.65	0.60	0.57	0.64	0.60	0.57	0.63	0.59	0.56	0.62	0.59	0.56	0.62	0.58	0.56	0.55
9	0.62	0.57	0.54	0.61	0.57	0.54	0.60	0.56	0.54	0.60	0.56	0.53	0.59	0.56	0.53	0.52
10	0.59	0.54	0.51	0.58	0.54	0.51	0.58	0.54	0.51	0.57	0.54	0.51	0.57	0.53	0.51	0.50



Intensity data(cd)										Appendix Page: 15 Total:15	
C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0		
0.0	1120.50	1101.94	1064.81	969.75	777.38	528.75	296.44	35.04	5.01		
22.5	1141.88	1111.50	1054.69	956.25	784.69	582.19	311.63	79.03	9.00		
45.0	1122.30	1087.03	1016.72	918.45	773.44	575.94	390.60	131.34	23.18		
67.5	1139.06	1100.25	1032.75	924.75	767.81	559.69	290.81	61.99	6.41		
90.0	1121.51	1089.17	1013.63	888.58	700.71	431.33	152.27	11.48	4.50		
112.5	1136.81	1107.00	1050.75	961.31	792.56	554.06	295.31	59.85	5.46		
135.0	1122.19	1105.14	1057.56	957.32	799.93	604.01	397.91	138.77	25.76		
157.5	1121.57	1117.63	1083.26	992.08	840.60	620.27	352.01	115.14	9.62		
180.0	1120.50	1121.57	1084.22	973.74	799.71	548.72	239.96	31.89	5.79		
202.5	1141.88	1146.38	1096.93	1012.67	866.31	625.50	330.86	80.21	7.71		
225.0	1122.30	1143.00	1132.88	1063.69	948.38	749.25	542.25	296.44	77.74		
247.5	1139.06	1144.69	1116.68	1041.75	901.29	695.59	394.88	131.51	20.03		
270.0	1121.51	1141.31	1121.06	1045.13	899.44	672.19	357.75	102.54	18.39		
292.5	1136.81	1134.56	1101.32	1031.96	881.10	665.04	373.39	120.88	19.29		
315.0	1122.19	1121.06	1107.56	1050.75	933.19	705.94	502.88	290.25	59.23		
337.5	1121.57	1101.38	1068.98	986.96	804.88	577.24	288.73	57.43	7.20		
360.0	1120.50	1101.94	1064.81	969.75	777.38	528.75	296.44	35.04	5.01		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	3.99	3.66	3.49	3.49	3.49	3.43	3.49	3.43	3.43		
22.5	4.05	3.71	3.60	3.54	3.54	3.49	3.49	3.49	3.49		
45.0	4.11	3.77	3.66	3.60	3.60	3.60	3.60	3.49	3.49		
67.5	3.99	3.77	3.66	3.60	3.49	3.54	3.49	3.49	3.49		
90.0	3.88	3.66	3.60	3.49	3.49	3.49	3.49	3.49	3.43		
112.5	4.05	3.83	3.66	3.60	3.54	3.54	3.54	3.54	3.54		
135.0	4.16	3.88	3.71	3.66	3.66	3.66	3.60	3.54	3.54		
157.5	4.67	3.94	3.71	3.60	3.54	3.54	3.49	3.49	3.54		
180.0	4.33	3.83	3.60	3.54	3.49	3.43	3.43	3.43	3.49		
202.5	4.56	3.88	3.66	3.54	3.49	3.49	3.49	3.49	3.49		
225.0	6.36	4.05	3.77	3.66	3.60	3.60	3.60	3.60	3.49		
247.5	5.79	4.22	3.77	3.60	3.54	3.49	3.49	3.49	3.49		
270.0	5.91	4.33	3.83	3.60	3.49	3.49	3.43	3.49	3.49		
292.5	5.85	4.22	3.77	3.66	3.54	3.54	3.49	3.54	3.49		
315.0	5.51	3.99	3.77	3.66	3.66	3.66	3.66	3.60	3.54		
337.5	4.05	3.66	3.60	3.54	3.54	3.49	3.54	3.49	3.49		
360.0	3.99	3.66	3.49	3.49	3.49	3.43	3.49	3.43	3.43		
C/γ(°)	90.0										
0.0	3.43										
22.5	3.43										
45.0	3.43										
67.5	3.49										
90.0	3.43										
112.5	3.43										
135.0	3.49										
157.5	3.49										
180.0	3.38										
202.5	3.43										
225.0	3.43										
247.5	3.49										
270.0	3.43										
292.5	3.49										
315.0	3.54										
337.5	3.43										
360.0	3.43										