
Nata

LumCAT: 3-2044-M	
Luminaire: 92.70.135.00	
Report No: GC2017103107	Voltage(V): 34.3000
Test No: NT-0010	Current(A): 0.5000
LampCAT: NICHIA NFCWD084B-V2	Power (W): 17.1500
Lamp flux(lm): 2537.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 84	Width(mm): 84
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 2275.61
Efficiency(%): 89.70%
Lumens(lm)/Power(W): 132.69
Central intensity(cd): 8542.413
Maximum intensity(cd): 8542.413
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=24.6
[C90/270]Total=24.6
Field angle(10%Imax): [C0/180]Total=54.0
[C90/270]Total=54.0
Maximum s/h(1/2): C0_180=0.42 C90_270=0.42
Maximum s/h(1/4): C0_180=0.41 C90_270=0.41
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.70%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.516%

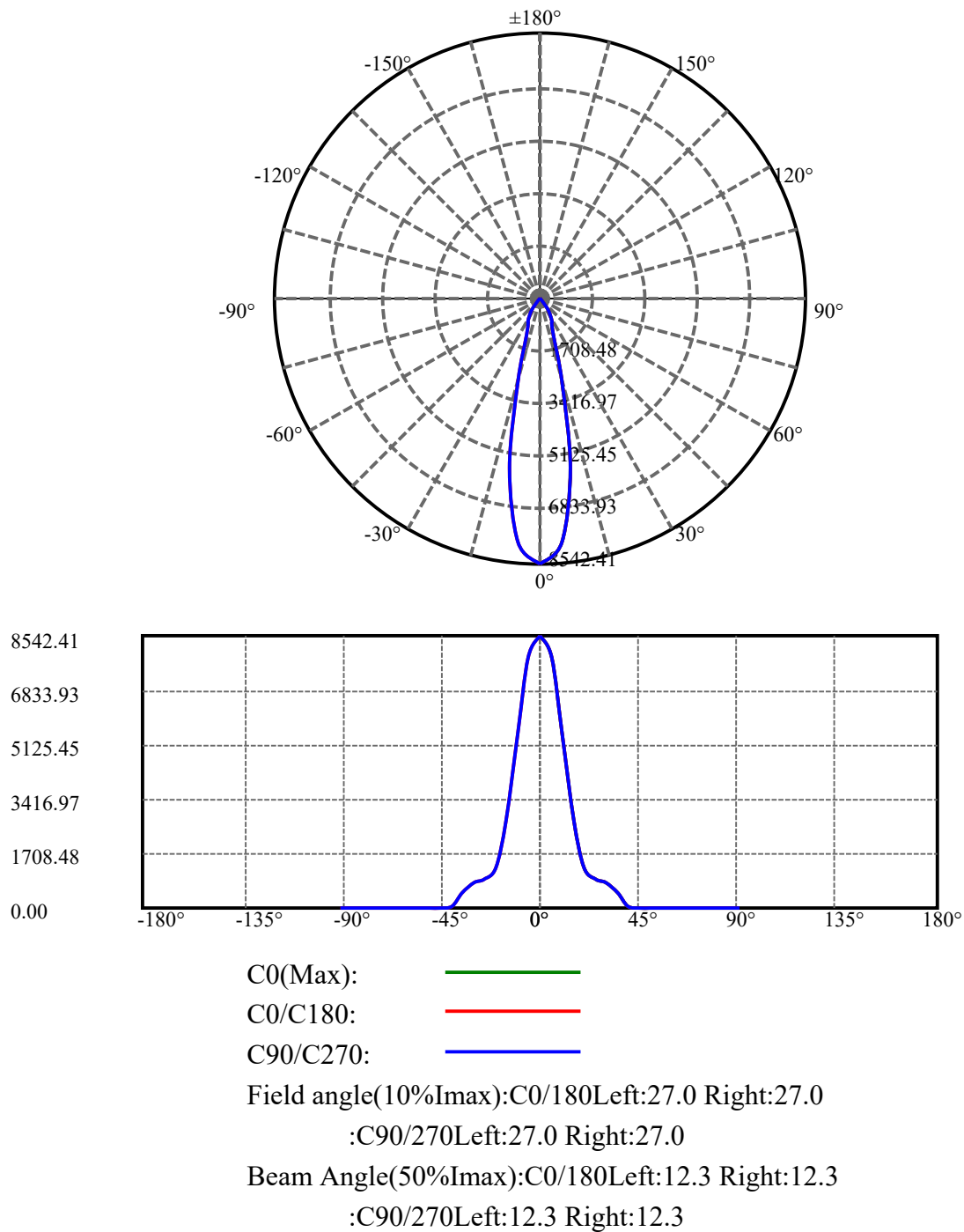
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	8542.413	0.000	0	.000%	.000%
5.0	7850.699	195.975	195.975	7.725%	8.612%
10.0	5524.979	478.490	674.465	18.860%	29.639%
15.0	2770.369	492.074	1166.54	19.396%	51.263%
20.0	1286.276	334.325	1500.864	13.178%	65.954%
25.0	894.212	228.693	1729.557	9.014%	76.004%
30.0	793.280	213.554	1943.111	8.418%	85.389%
35.0	458.117	184.277	2127.388	7.264%	93.487%
40.0	44.162	83.802	2211.189	3.303%	97.169%
45.0	17.694	11.453	2222.642	.451%	97.672%
50.0	15.485	6.704	2229.346	.264%	97.967%
55.0	13.805	6.369	2235.715	.251%	98.247%
60.0	12.656	6.116	2241.832	.241%	98.516%
65.0	11.727	5.928	2247.759	.234%	98.776%
70.0	11.053	5.768	2253.527	.227%	99.030%
75.0	10.509	5.636	2259.163	.222%	99.277%
80.0	10.179	5.535	2264.698	.218%	99.521%
85.0	9.979	5.477	2270.176	.216%	99.761%
90.0	9.862	5.433	2275.608	.214%	100.000%

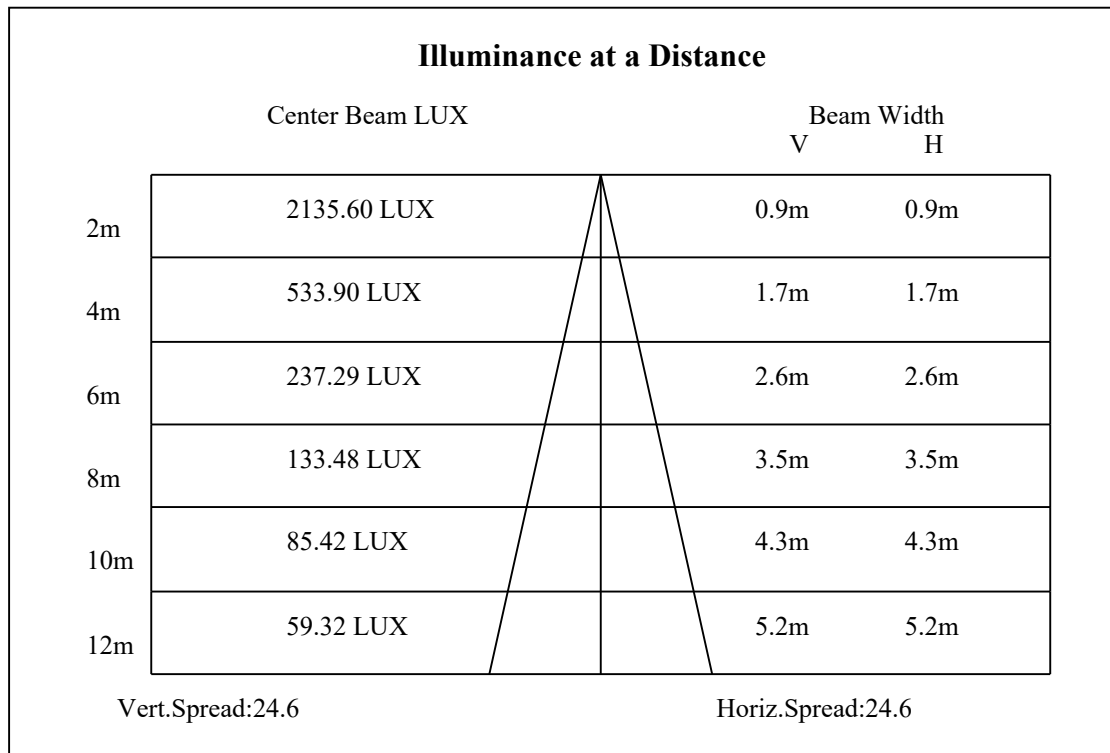
ZONAL LUMEN SUMMARY

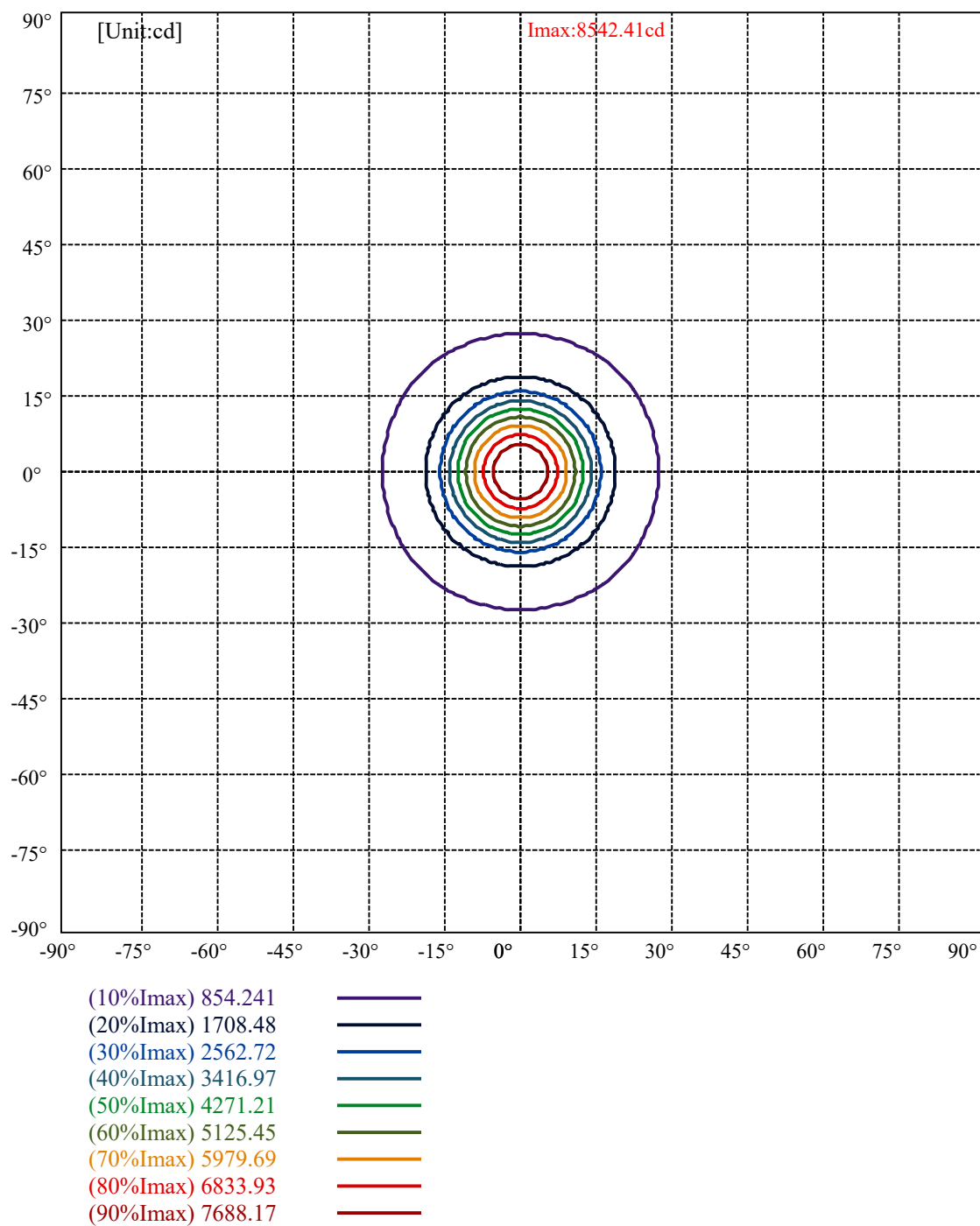
Zone	Lumens	%Lamp	%Fixt
0-30	1943.11	76.59%	85.39%
0-40	2211.19	87.16%	97.17%
0-60	2241.83	88.37%	98.52%
0-90	2270.18	89.48%	99.76%
0-120	2270.18	89.48%	99.76%
0-180	2275.61	89.70%	100.00%
60-90	34.46	1.36%	1.51%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-27.13	1820.49	71.76%	80.00%

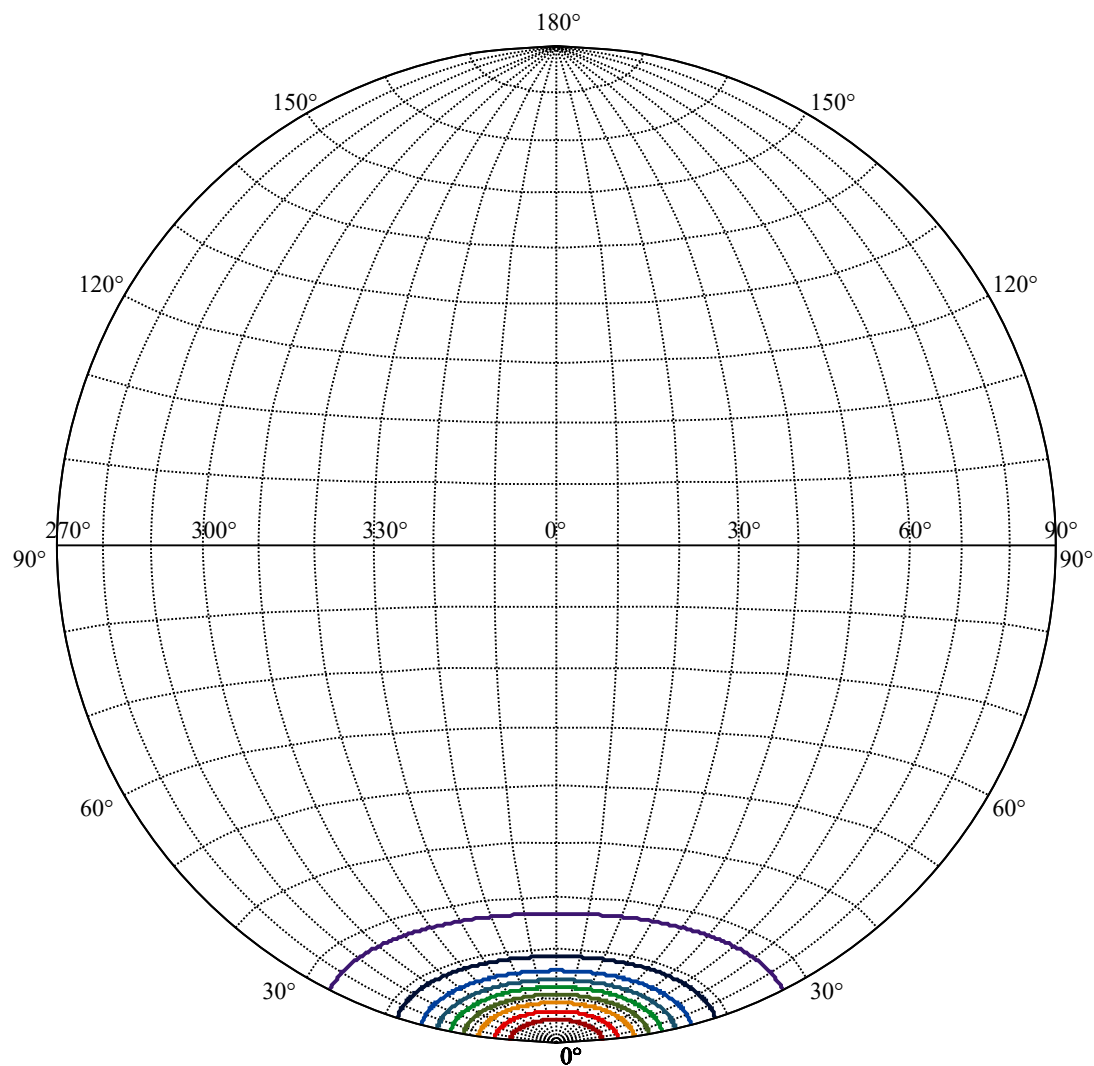
ZONAL LUMEN SUMMARY

0-10	674.47
10-20	826.40
20-30	442.25
30-40	268.08
40-50	18.16
50-60	12.49
60-70	11.70
70-80	11.17
80-90	5.48
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









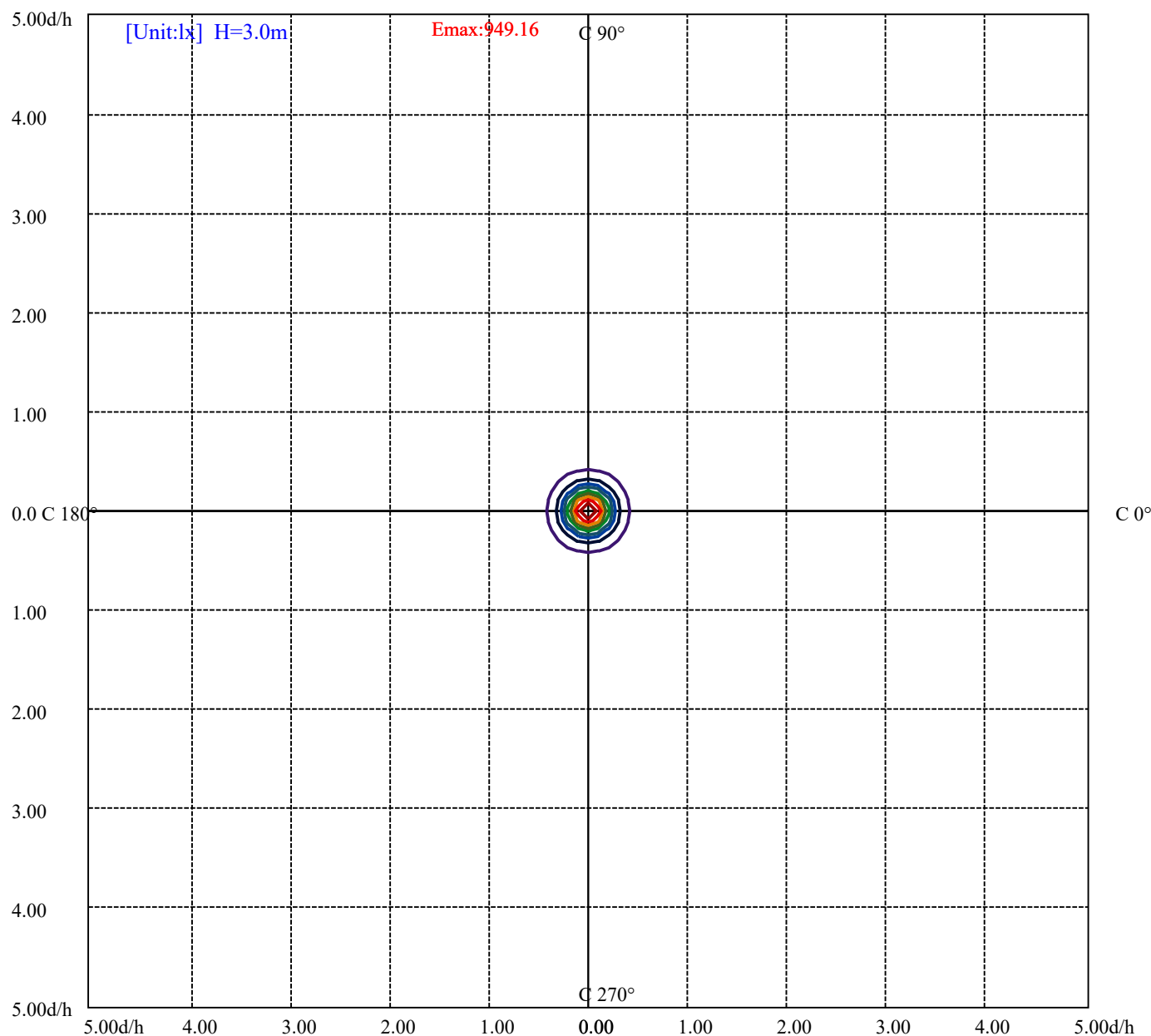
House

[Unit:cd]

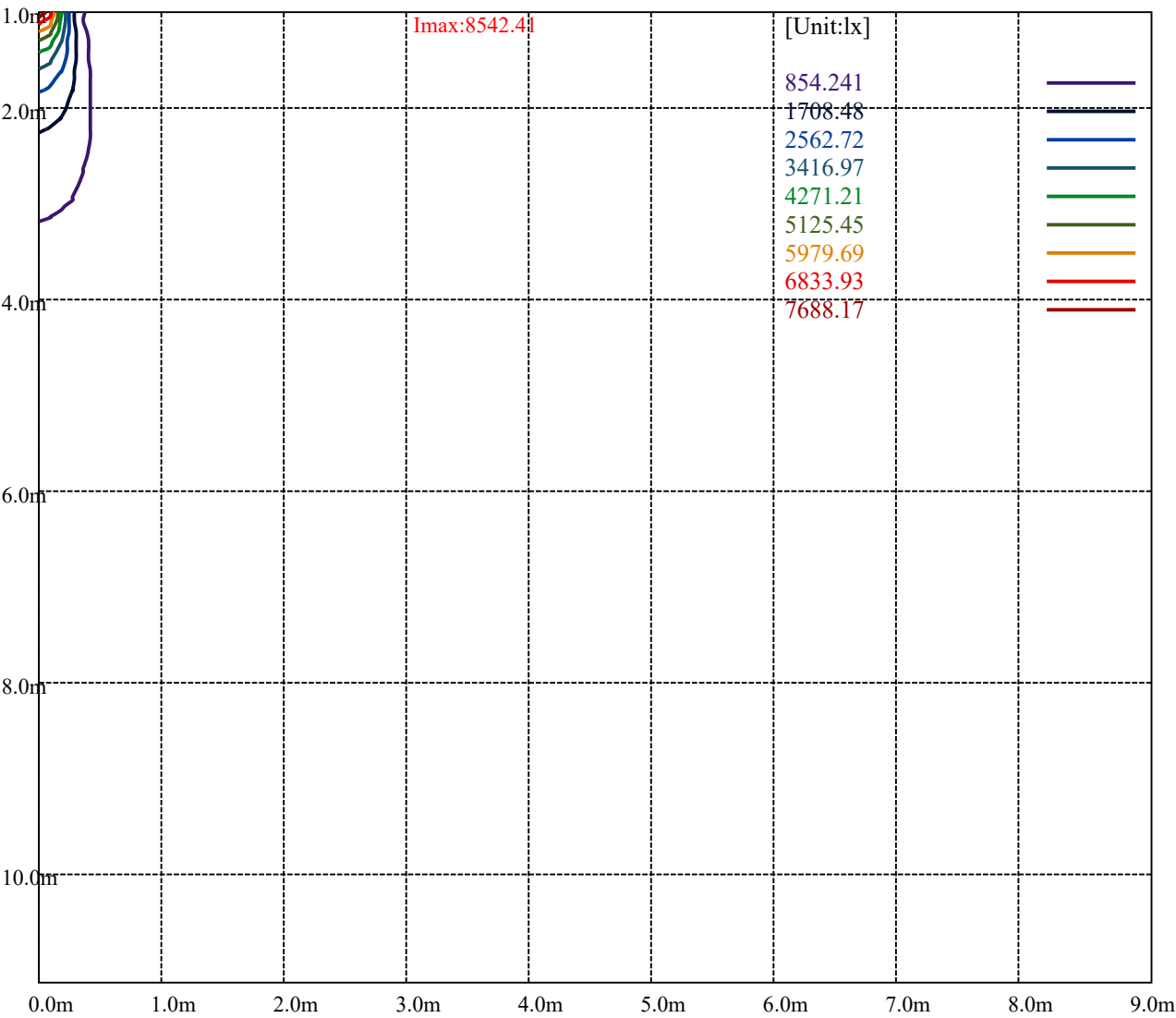
Road

Imax:8542.41

(10%Imax)	854.241	—
(20%Imax)	1708.48	—
(30%Imax)	2562.72	—
(40%Imax)	3416.97	—
(50%Imax)	4271.21	—
(60%Imax)	5125.45	—
(70%Imax)	5979.69	—
(80%Imax)	6833.93	—
(90%Imax)	7688.17	—



(10%Emax)	94.91544	—
(20%Emax)	189.8311	—
(30%Emax)	284.7467	—
(40%Emax)	379.6622	—
(50%Emax)	474.5778	—
(60%Emax)	569.4933	—
(70%Emax)	664.4078	—
(80%Emax)	759.3234	—
(90%Emax)	854.2389	—



Luminance Table

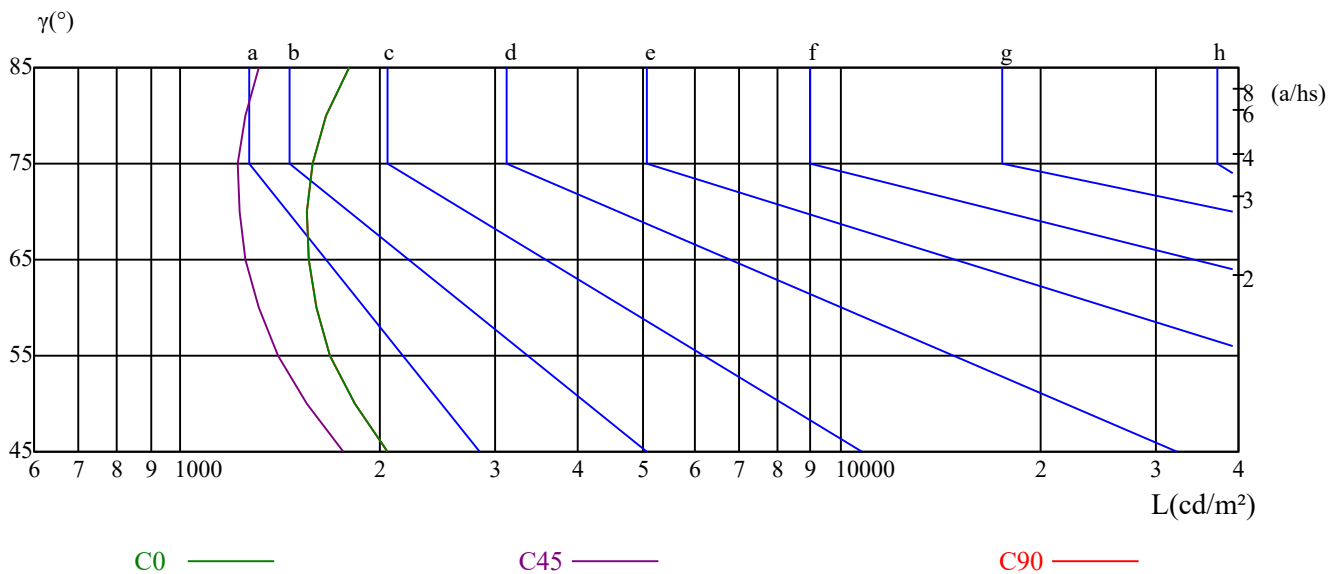
γ	45	50	55	60	65	70	75	80	85
C0	2059	1839	1687	1606	1559	1556	1585	1666	1801
C45	1763	1551	1401	1311	1251	1225	1221	1253	1317
C90	2059	1839	1687	1606	1559	1556	1585	1666	1801

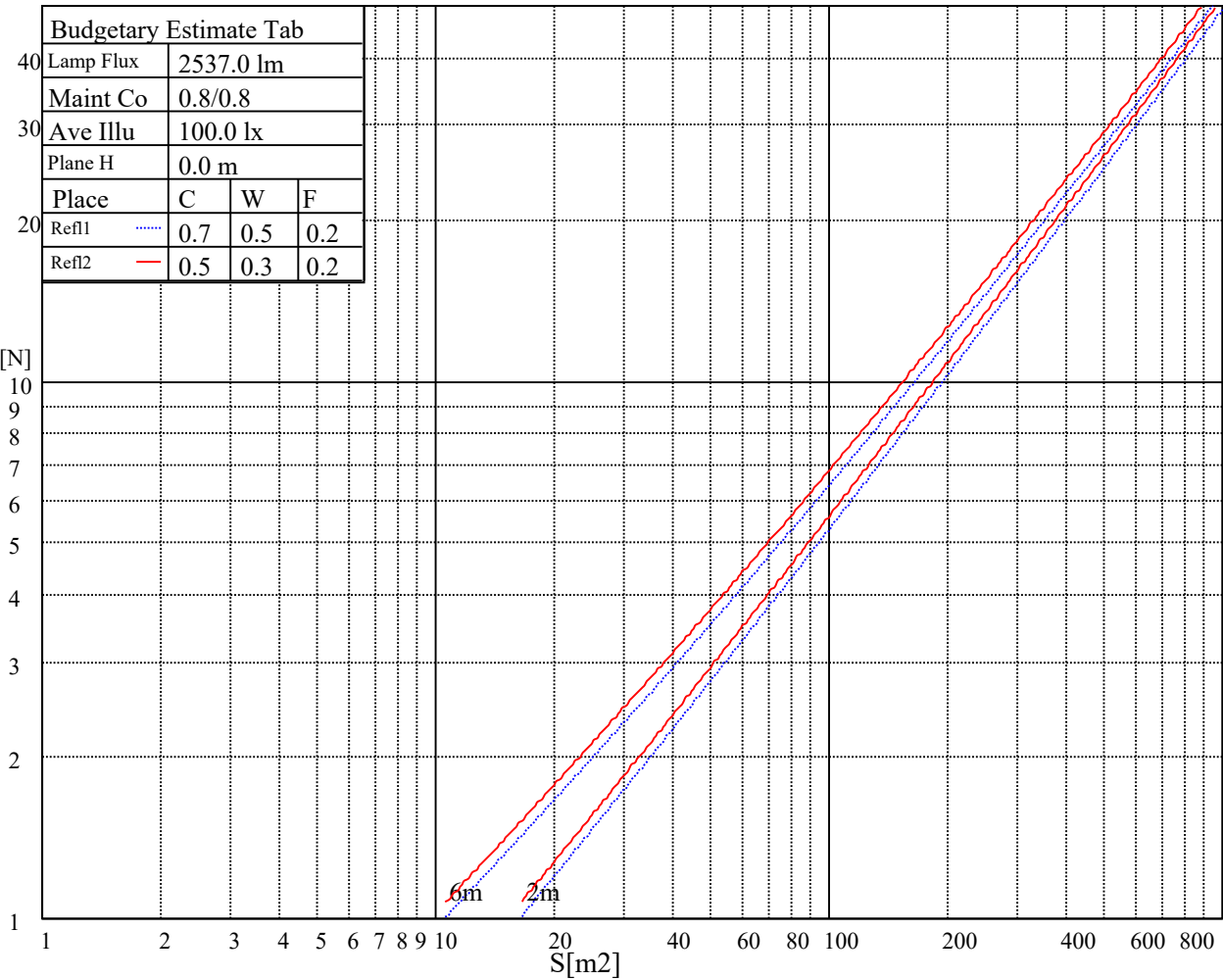
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3841	3841	3841	5620	5620	5620	15847	15847	15847

Glare Table

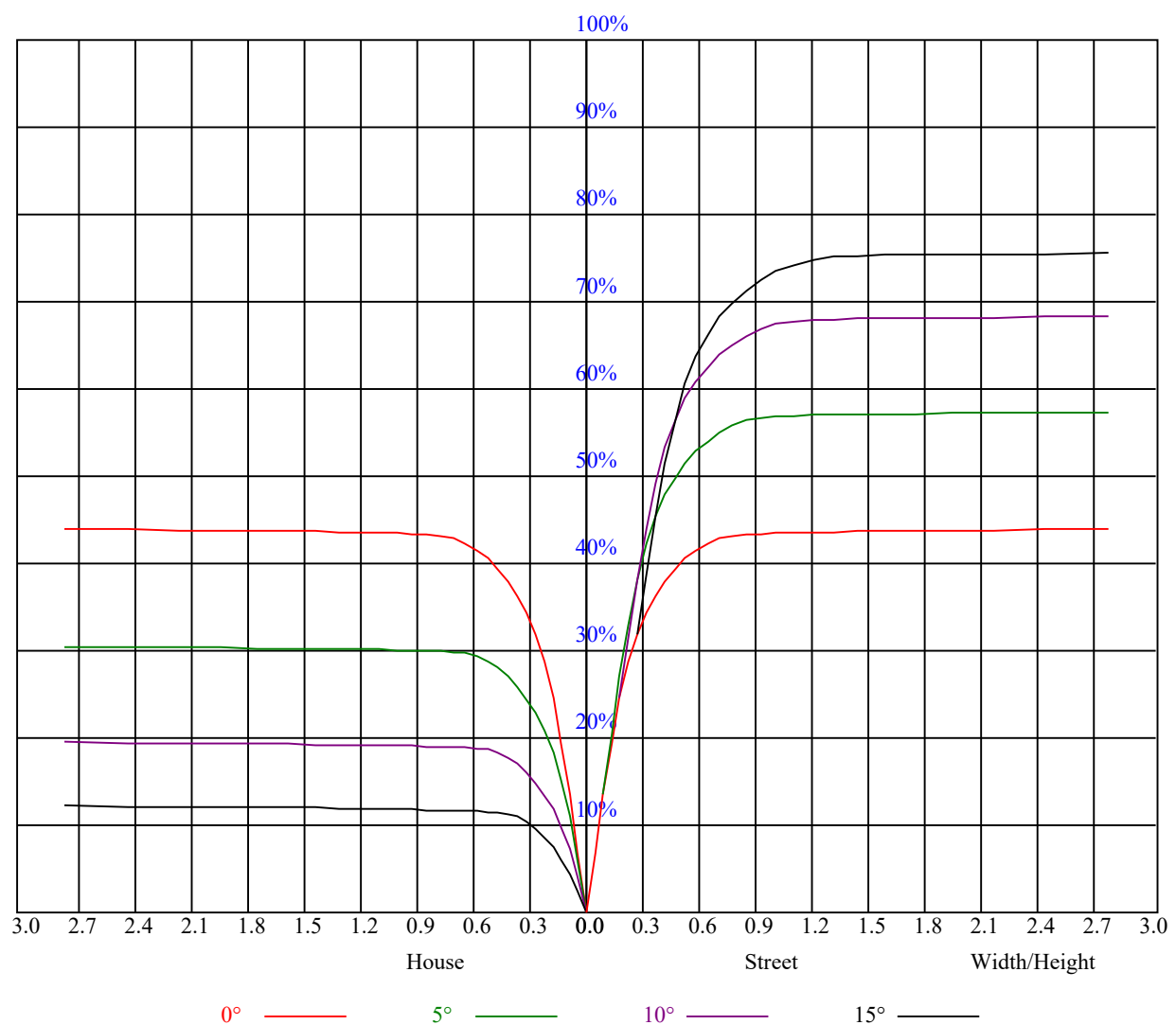
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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 RHOF=20 CU															
0	1.07	1.07	1.07	1.04	1.04	1.04	1.00	1.00	1.00	0.95	0.95	0.95	0.92	0.92	0.92	0.90
1	1.00	0.98	0.97	0.98	0.97	0.95	0.95	0.93	0.92	0.92	0.90	0.89	0.88	0.88	0.87	0.85
2	0.95	0.92	0.89	0.93	0.91	0.88	0.91	0.88	0.86	0.88	0.86	0.84	0.85	0.84	0.83	0.81
3	0.90	0.86	0.83	0.89	0.85	0.83	0.87	0.84	0.81	0.85	0.82	0.80	0.83	0.81	0.79	0.78
4	0.86	0.82	0.79	0.85	0.81	0.78	0.83	0.80	0.77	0.81	0.79	0.76	0.80	0.78	0.76	0.74
5	0.82	0.78	0.75	0.81	0.77	0.74	0.80	0.76	0.74	0.78	0.75	0.73	0.77	0.75	0.73	0.71
6	0.79	0.74	0.71	0.78	0.74	0.71	0.77	0.73	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.69
7	0.76	0.71	0.68	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.66
8	0.73	0.68	0.66	0.72	0.68	0.65	0.71	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.65	0.64
9	0.70	0.66	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.63	0.68	0.65	0.62	0.62
10	0.68	0.64	0.61	0.67	0.63	0.61	0.67	0.63	0.61	0.66	0.63	0.61	0.66	0.63	0.60	0.59



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	8540.35	7995.29	5730.82	2958.18	1588.38	927.70	804.92	512.58	55.99		
45.0	8539.25	7947.39	5729.72	2907.53	1473.31	902.37	792.81	536.80	48.39		
90.0	8560.72	7858.75	5463.25	2659.77	1088.13	874.02	779.65	380.38	35.73		
135.0	8529.34	8158.81	6100.25	3124.45	1460.10	916.69	799.42	518.63	72.56		
180.0	8540.35	7710.65	5212.74	2493.50	1076.79	867.96	788.19	400.98	31.33		
225.0	8539.25	7784.97	5273.85	2443.95	1074.70	877.38	783.18	426.25	32.92		
270.0	8560.72	7922.62	5579.42	3061.69	1436.97	907.88	808.78	502.11	42.45		
315.0	8529.34	7427.11	5109.78	2513.88	1091.82	879.69	789.29	387.21	33.91		
360.0	8540.35	7995.29	5730.82	2958.18	1588.38	927.70	804.92	512.58	55.99		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	19.66	16.85	14.92	13.49	12.33	11.51	10.79	10.30	9.97		
45.0	18.28	16.19	14.31	13.05	12.06	11.34	10.74	10.30	10.02		
90.0	16.74	14.81	13.32	12.33	11.51	10.90	10.46	10.13	9.97		
135.0	16.46	14.48	13.10	12.17	11.40	10.79	10.35	10.13	9.97		
180.0	15.86	14.26	12.83	11.84	11.12	10.63	10.24	10.08	9.91		
225.0	16.90	14.92	13.32	12.28	11.40	10.85	10.41	10.13	10.02		
270.0	18.83	16.02	14.20	12.94	11.95	11.18	10.52	10.19	10.02		
315.0	18.83	16.35	14.42	13.16	12.06	11.23	10.57	10.19	9.97		
360.0	19.66	16.85	14.92	13.49	12.33	11.51	10.79	10.30	9.97		
C/γ(°)	90.0										
0.0	9.80										
45.0	9.91										
90.0	9.86										
135.0	9.86										
180.0	9.86										
225.0	9.91										
270.0	9.86										
315.0	9.86										
360.0	9.80										