
NATA

LumCAT: 3-2040-M
Luminaire: 92.70.135.00
Report No: GC2017061711
Test No: NT-0010
LampCAT: LUMILEDS LUXEON CoB 1208
Lamp flux(lm): 3128.0
Number of Lamps: 1
Length(mm): 79
Phm Type: C

Voltage(V): 35.3000
Current(A): 0.7000
Power (W): 24.7100
PF: 0.0000
Ballast type: DC
Width(mm): 79
Height(mm): 0

Photometric Results

Lumens(lm): 2846.92
Efficiency(%): 91.01%
Lumens(lm)/Power(W): 115.21
Central intensity(cd): 10992.970
Maximum intensity(cd): 10992.970
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=23.0
[C90/270]Total=23.0
Field angle(10%Imax): [C0/180]Total=54.8
[C90/270]Total=54.8
Maximum s/h(1/2): C0_180=0.39 C90_270=0.39
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(%): 91.01%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.783%

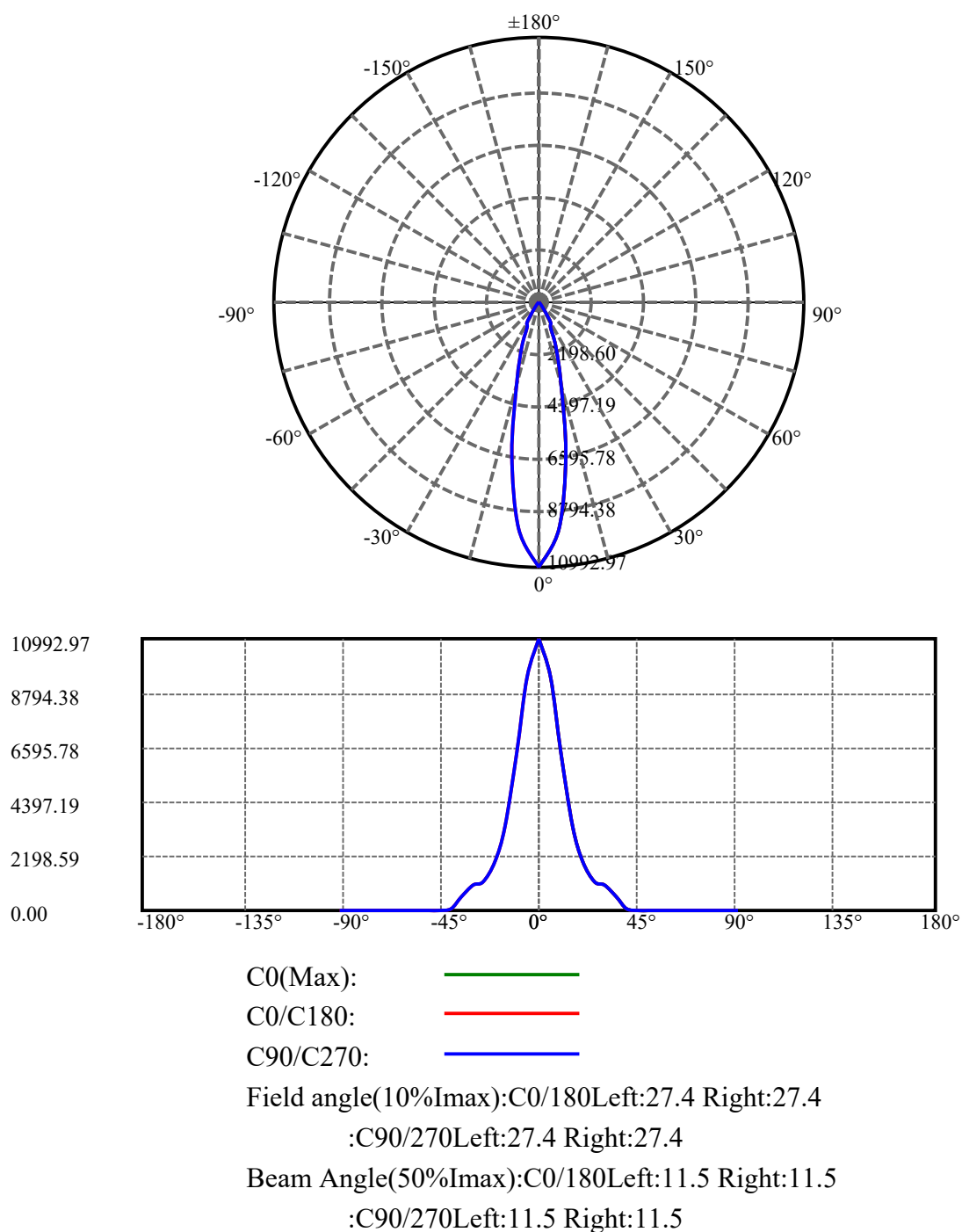
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	10992.974	0.000	0	.000%	.000%
5.0	9431.987	244.175	244.175	7.806%	8.577%
10.0	6406.294	566.585	810.76	18.113%	28.478%
15.0	3412.671	582.454	1393.214	18.621%	48.938%
20.0	1960.971	442.864	1836.078	14.158%	64.493%
25.0	1190.939	330.577	2166.655	10.568%	76.105%
30.0	1000.588	277.340	2443.995	8.866%	85.847%
35.0	546.049	227.753	2671.748	7.281%	93.847%
40.0	85.248	105.327	2777.075	3.367%	97.547%
45.0	15.182	18.595	2795.67	.594%	98.200%
50.0	12.938	5.682	2801.352	.182%	98.399%
55.0	12.112	5.447	2806.799	.174%	98.591%
60.0	11.631	5.488	2812.287	.175%	98.783%
65.0	11.300	5.575	2817.862	.178%	98.979%
70.0	11.080	5.667	2823.529	.181%	99.178%
75.0	10.949	5.758	2829.287	.184%	99.381%
80.0	10.867	5.837	2835.124	.187%	99.586%
85.0	10.798	5.887	2841.011	.188%	99.792%
90.0	10.791	5.911	2846.922	.189%	100.000%

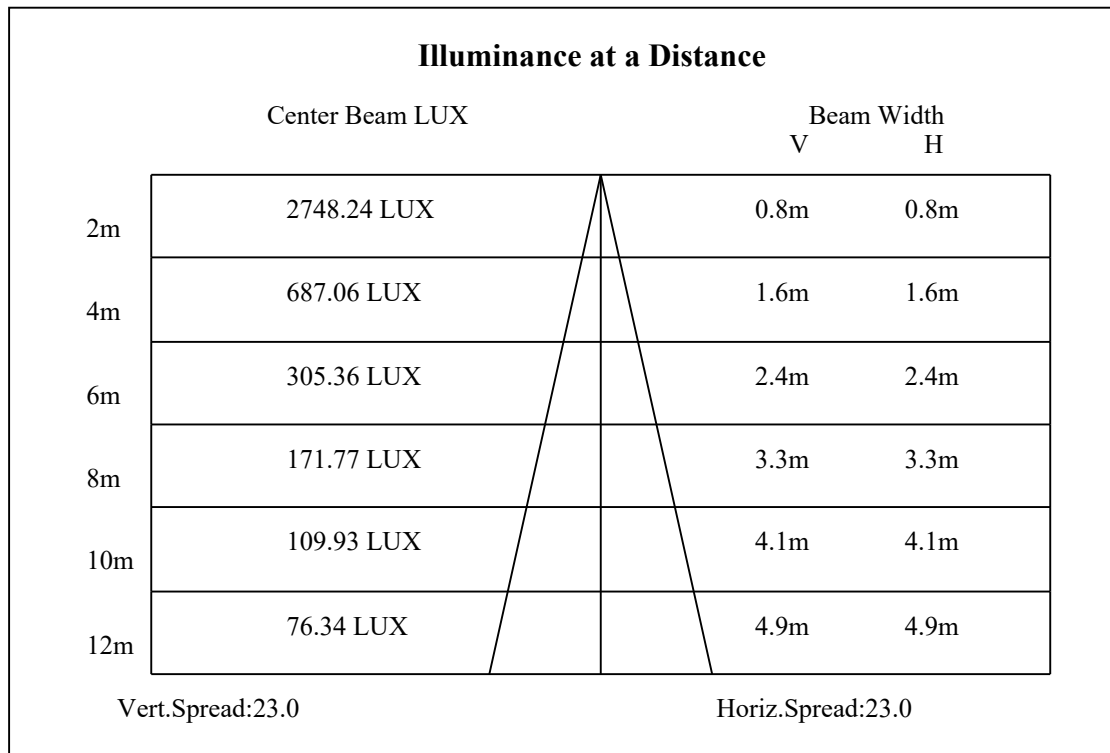
ZONAL LUMEN SUMMARY

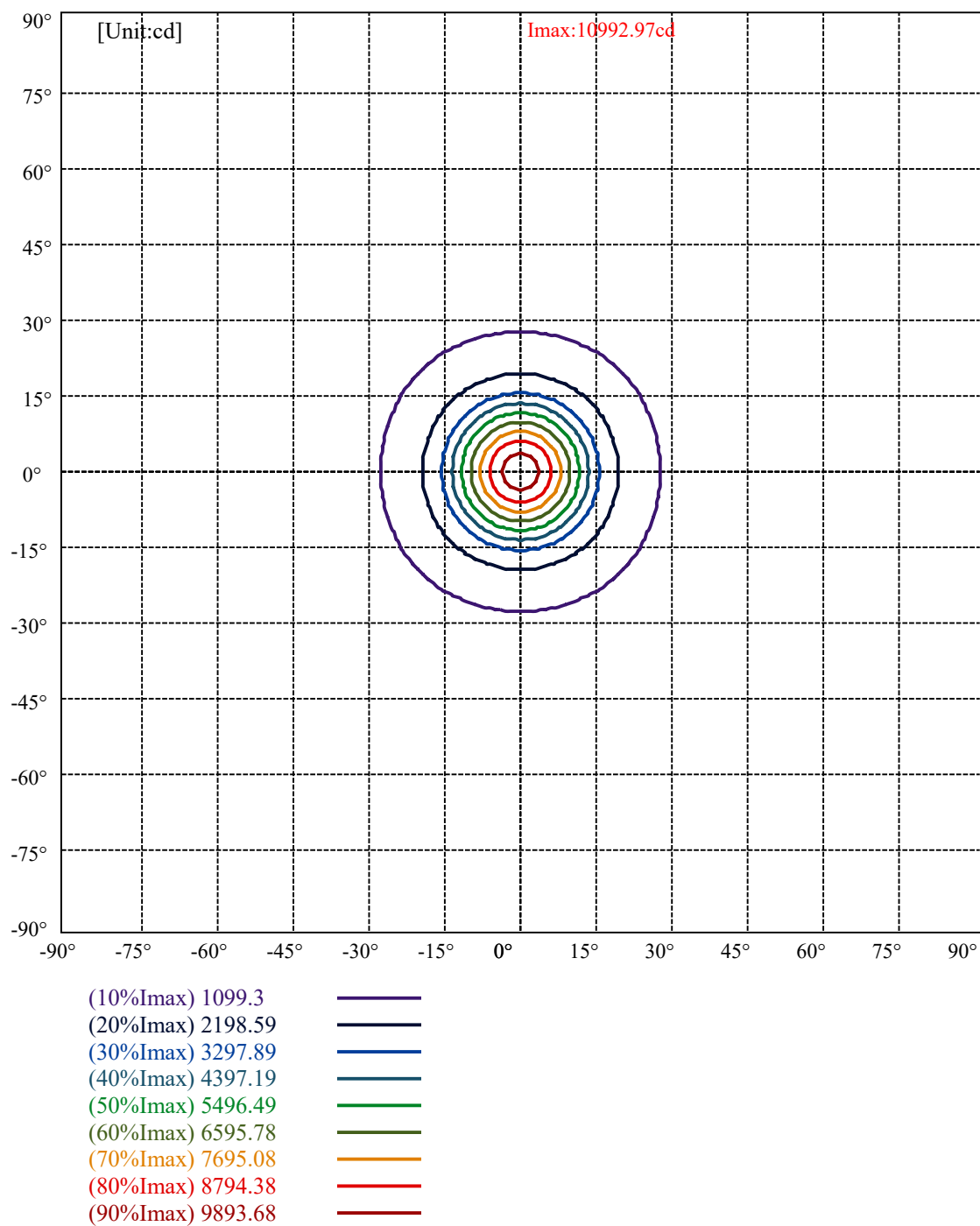
Zone	Lumens	%Lamp	%Fixt
0-30	2443.99	78.13%	85.85%
0-40	2777.07	88.78%	97.55%
0-60	2812.29	89.91%	98.78%
0-90	2841.01	90.83%	99.79%
0-120	2841.01	90.83%	99.79%
0-180	2846.92	91.01%	100.00%
60-90	34.21	1.09%	1.20%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-27.00	2277.54	72.81%	80.00%

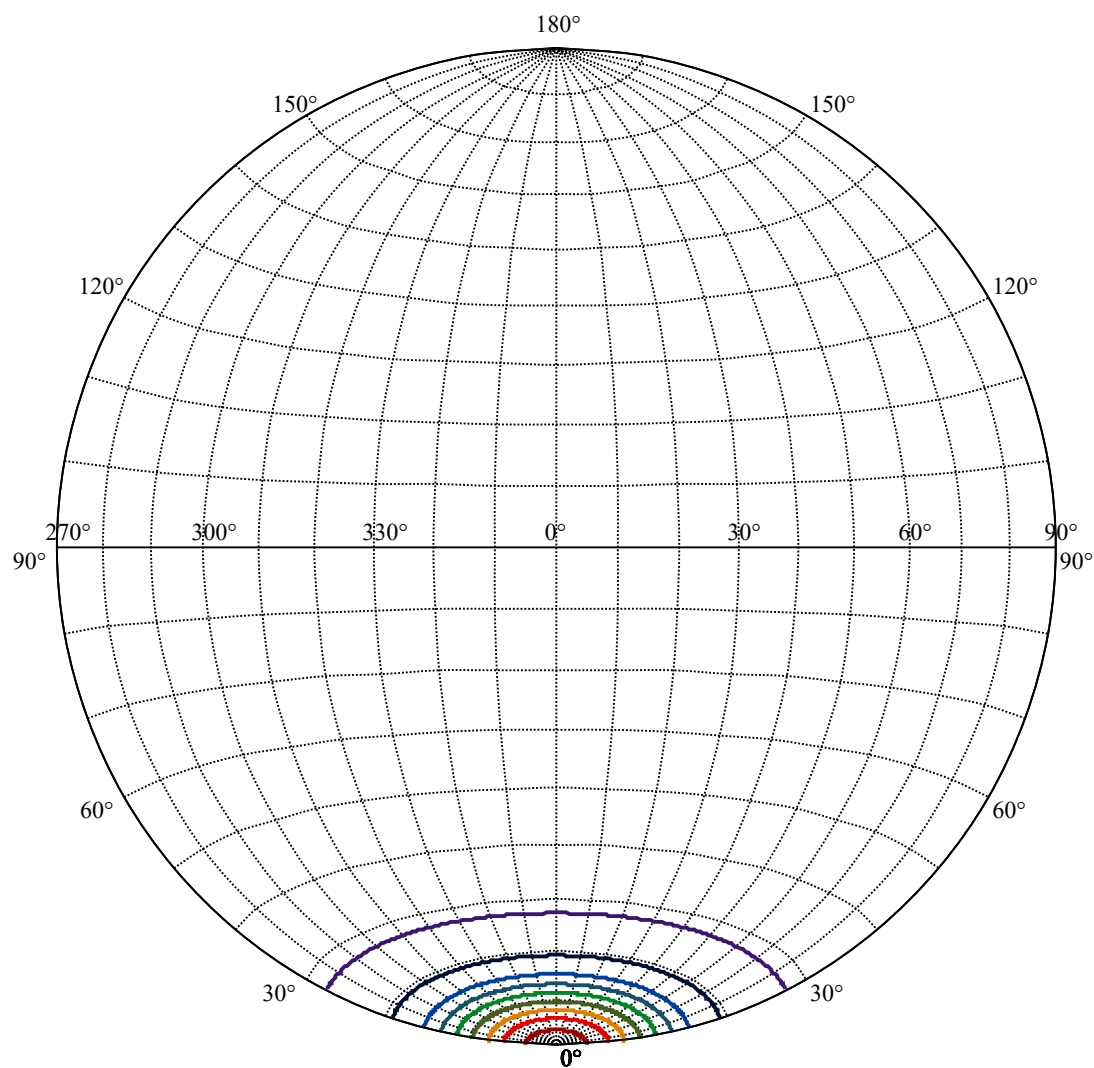
ZONAL LUMEN SUMMARY

0-10	810.76
10-20	1025.32
20-30	607.92
30-40	333.08
40-50	24.28
50-60	10.93
60-70	11.24
70-80	11.60
80-90	5.89
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









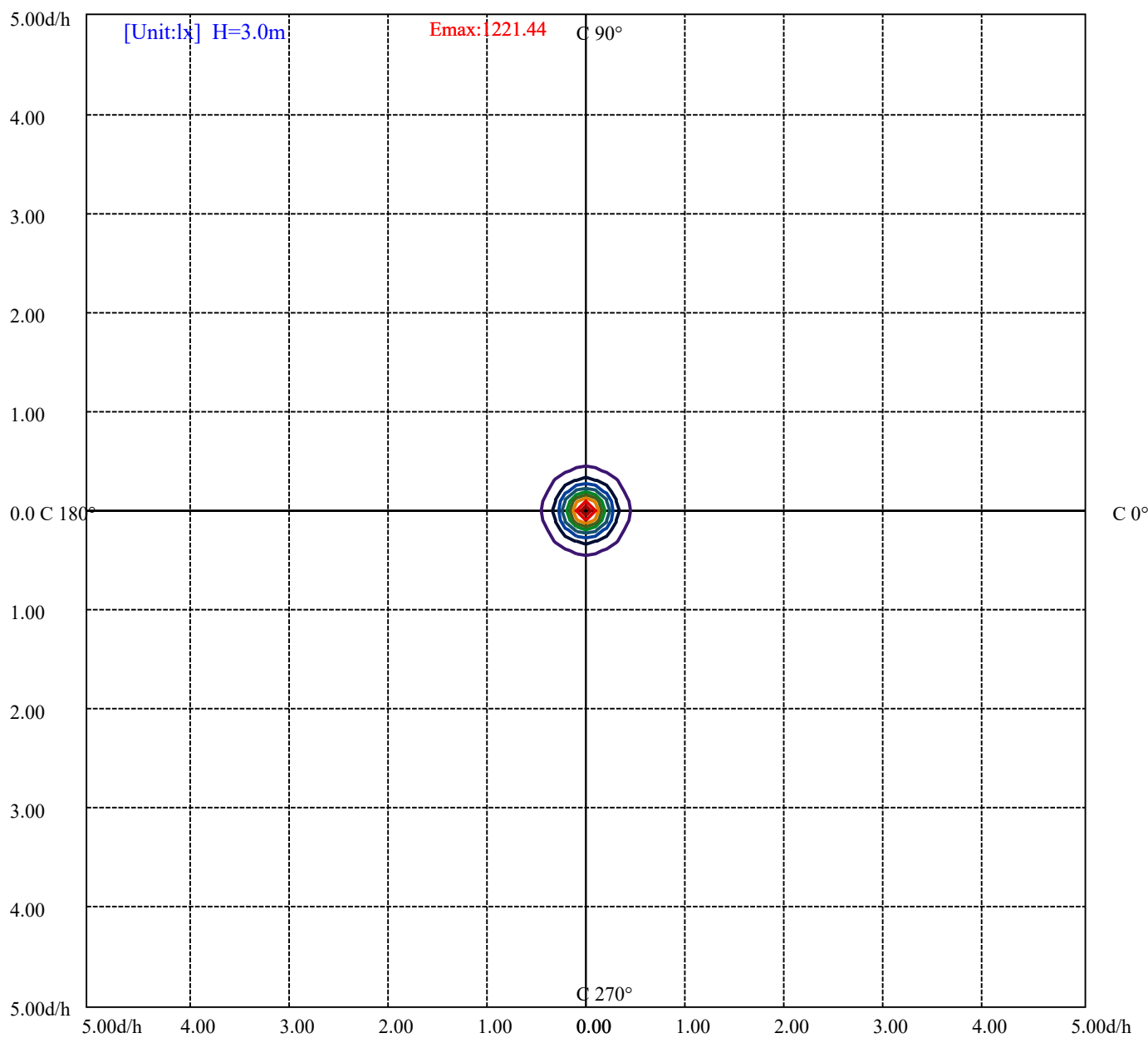
House

[Unit:cd]

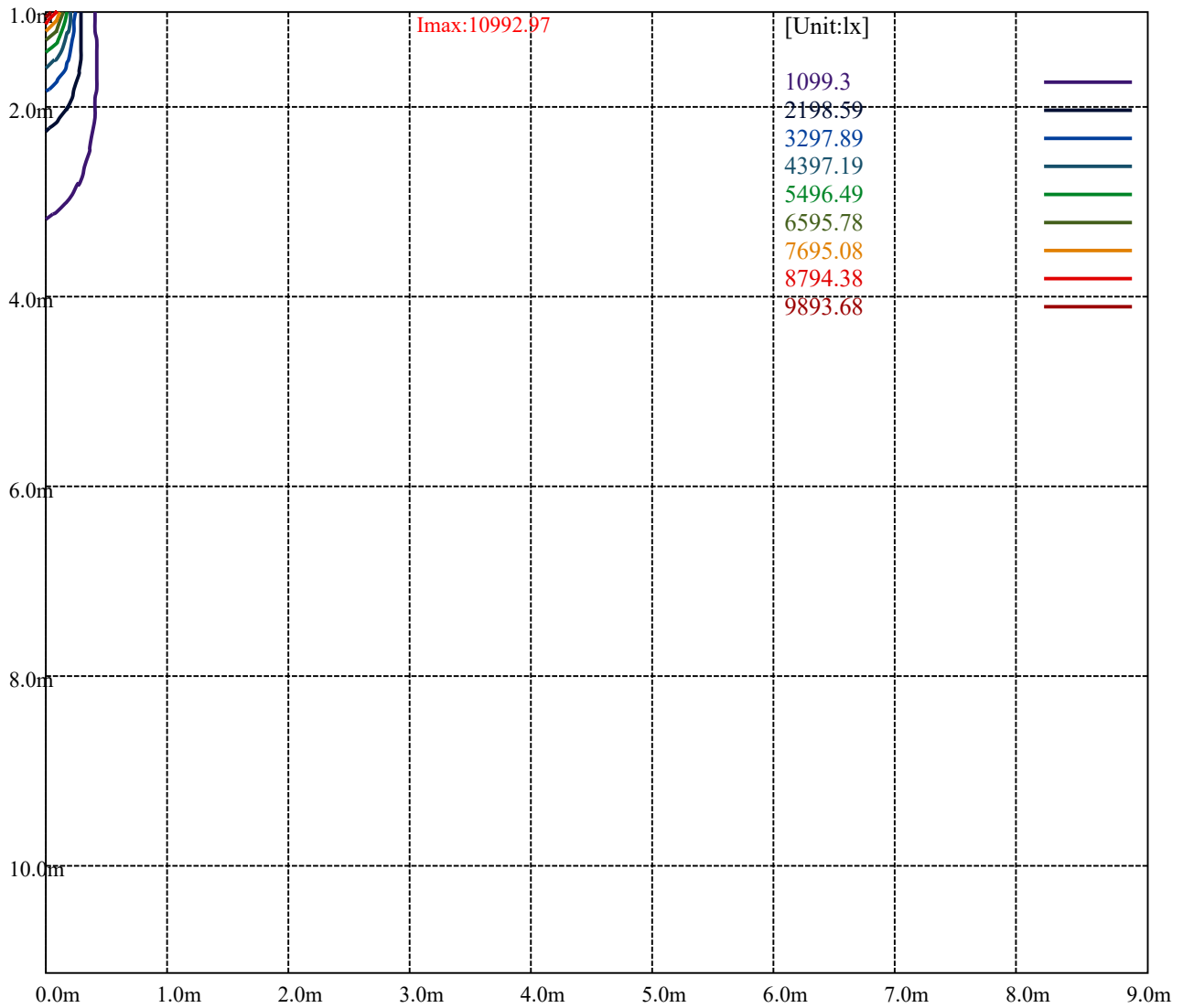
Road

Imax:10992.97

(10%Imax)	1099.3	—
(20%Imax)	2198.59	—
(30%Imax)	3297.89	—
(40%Imax)	4397.19	—
(50%Imax)	5496.49	—
(60%Imax)	6595.78	—
(70%Imax)	7695.08	—
(80%Imax)	8794.38	—
(90%Imax)	9893.68	—



(10%E _{max}) 122.1433	—
(20%E _{max}) 244.2878	—
(30%E _{max}) 366.4311	—
(40%E _{max}) 488.5744	—
(50%E _{max}) 610.7178	—
(60%E _{max}) 732.8622	—
(70%E _{max}) 855.0056	—
(80%E _{max}) 977.1489	—
(90%E _{max}) 1099.292	—



Luminance Table

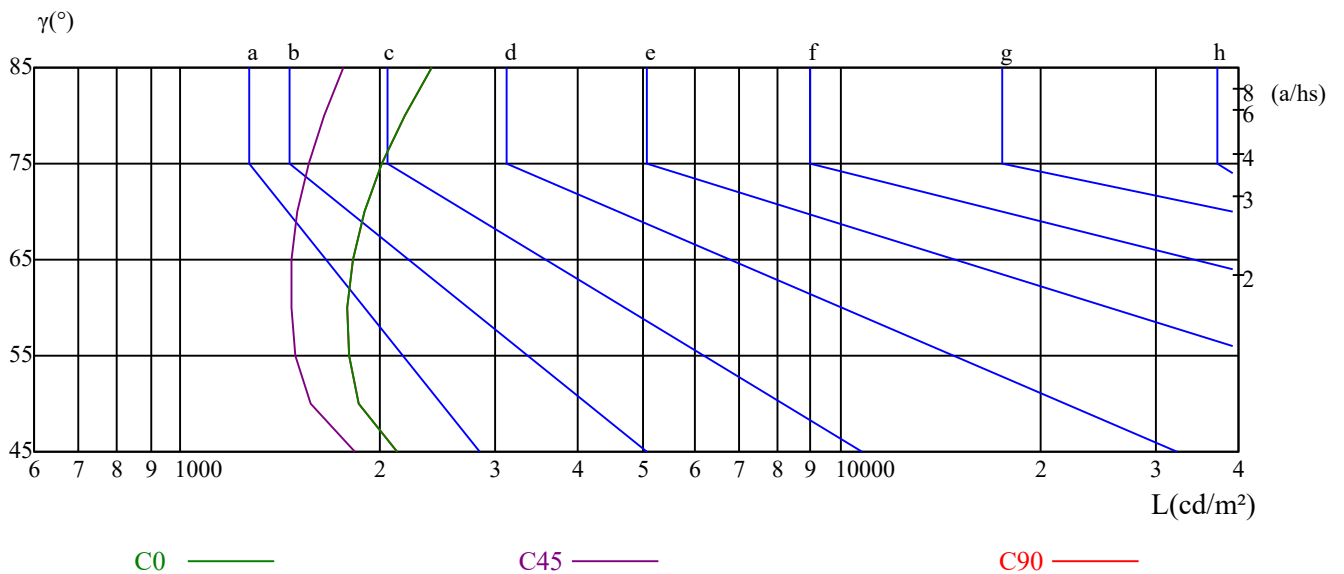
γ	45	50	55	60	65	70	75	80	85
C0	2134	1859	1795	1793	1830	1904	2021	2185	2403
C45	1834	1574	1496	1470	1473	1504	1562	1647	1760
C90	2134	1859	1795	1793	1830	1904	2021	2185	2403

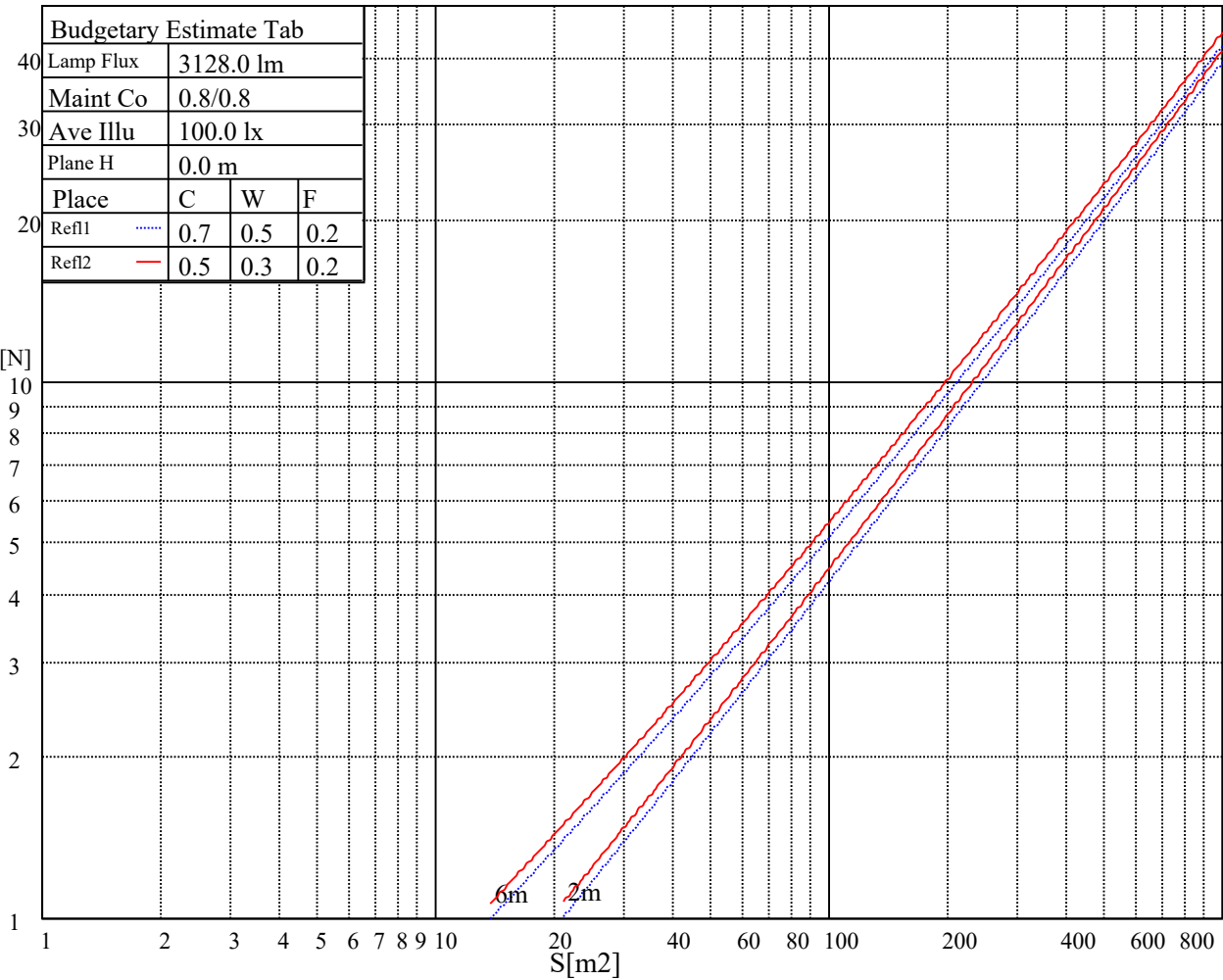
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4395	4395	4395	6953	6953	6953	20364	20364	20364

Glare Table

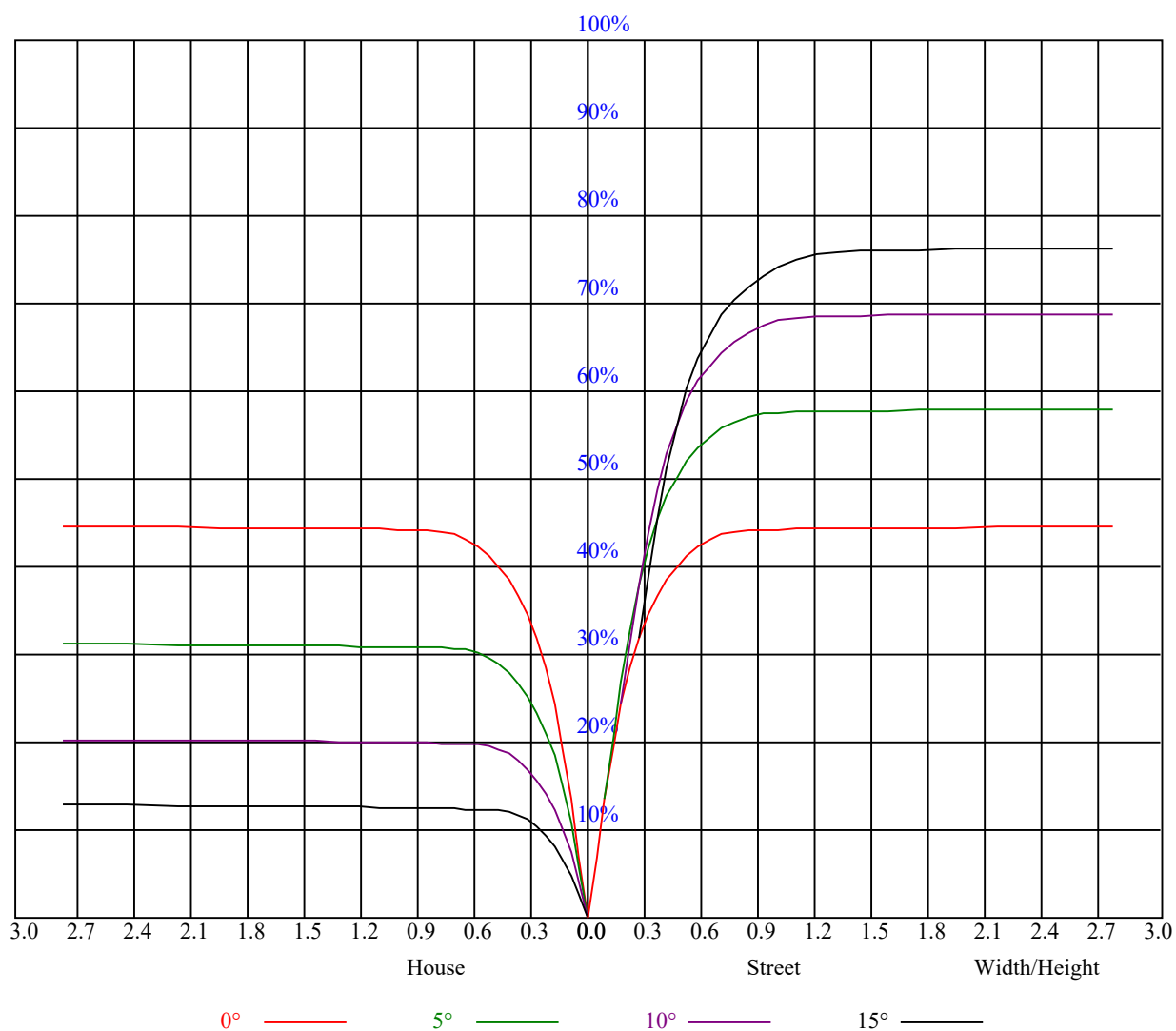
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	1.08	1.08	1.08	1.06	1.06	1.06	1.01	1.01	1.01	0.97	0.97	0.97	0.93	0.93	0.93	0.91
1	1.02	1.00	0.98	1.00	0.98	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.87
2	0.96	0.93	0.91	0.95	0.92	0.90	0.92	0.90	0.88	0.89	0.87	0.86	0.87	0.85	0.84	0.83
3	0.91	0.88	0.85	0.90	0.87	0.84	0.88	0.85	0.83	0.86	0.83	0.81	0.84	0.82	0.80	0.79
4	0.87	0.83	0.80	0.86	0.82	0.79	0.84	0.81	0.78	0.82	0.80	0.78	0.81	0.79	0.77	0.75
5	0.83	0.79	0.76	0.82	0.78	0.75	0.81	0.77	0.75	0.79	0.76	0.74	0.78	0.76	0.73	0.72
6	0.80	0.75	0.72	0.79	0.75	0.72	0.78	0.74	0.71	0.77	0.73	0.71	0.75	0.73	0.71	0.69
7	0.76	0.72	0.69	0.76	0.72	0.69	0.75	0.71	0.68	0.74	0.71	0.68	0.73	0.70	0.68	0.67
8	0.73	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.71	0.68	0.65	0.64
9	0.71	0.67	0.64	0.70	0.66	0.64	0.70	0.66	0.63	0.69	0.66	0.63	0.68	0.65	0.63	0.62
10	0.68	0.64	0.61	0.68	0.64	0.61	0.67	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.61	0.60



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Intensity data(cd)

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C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	11126.90	8787.00	5626.76	2879.45	1686.38	1135.81	954.68	409.62	29.90
45.0	10916.03	9590.82	6694.86	3523.61	1920.37	1251.43	1024.60	588.00	69.65
90.0	10967.23	9329.86	6206.51	3350.18	1836.13	1095.51	1003.62	532.18	51.31
135.0	10961.73	10301.05	7350.03	4200.80	2818.89	1346.68	1053.78	727.30	278.59
180.0	11126.90	10051.65	7283.96	3996.54	2102.05	1284.47	1037.65	677.69	111.10
225.0	10916.03	9187.26	6235.14	3224.10	1732.62	1097.44	990.91	491.93	45.70
270.0	10967.23	9645.88	6485.64	3396.98	1975.42	1225.56	1011.94	556.07	65.90
315.0	10961.73	8562.37	5367.45	2729.70	1615.91	1090.61	927.54	385.62	29.84
360.0	11126.90	8787.00	5626.76	2879.45	1686.38	1135.81	954.68	409.62	29.90

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	13.71	12.61	11.95	11.51	11.18	11.01	10.85	10.79	10.74
45.0	15.47	12.77	12.00	11.62	11.29	11.07	10.96	10.85	10.79
90.0	14.15	12.99	12.11	11.62	11.29	11.12	10.96	10.85	10.85
135.0	18.33	13.60	12.50	11.95	11.51	11.23	11.01	11.01	10.85
180.0	16.57	12.88	12.06	11.56	11.18	11.01	10.90	10.79	10.68
225.0	13.98	12.61	11.89	11.45	11.23	10.96	10.96	10.85	10.74
270.0	15.03	13.16	12.28	11.73	11.45	11.18	11.07	10.96	10.90
315.0	14.20	12.88	12.11	11.62	11.29	11.07	10.90	10.85	10.85
360.0	13.71	12.61	11.95	11.51	11.18	11.01	10.85	10.79	10.74

C/γ(°)	90.0
0.0	10.74
45.0	10.79
90.0	10.79
135.0	10.79
180.0	10.79
225.0	10.79
270.0	10.85
315.0	10.79
360.0	10.74