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NATA

LumCAT: 3-1700-N
Luminaire: 92.70.045.00+92.70.089.00
Report No: NATA0100
Test No: GC2018110811
LampCAT: PHILIPS 1205 G7
Lamp flux(lm): 2969.0
Number of Lamps: 1
Length(mm): 79
Phm Type: C

Voltage(V): 35.8000
Current(A): 0.6000
Power (W): 21.4800
PF: 0.0000
Ballast type: DC
Width(mm): 79
Height(mm): 0

Photometric Results

Lumens(lm): 2347.74
Efficiency(%): 79.07%
Lumens(lm)/Power(W): 110.58
Central intensity(cd): 4971.516
Maximum intensity(cd): 4971.516
Angle of maximum intensity: $C=0.0$ $\gamma=0.0$
Beam Angle(50%Imax): [C0/180]Total=37.2
[C90/270]Total=37.2
Field angle(10%Imax): [C0/180]Total=65.7
[C90/270]Total=65.7
Maximum s/h(1/2): C0_180=0.61 C90_270=0.61
Maximum s/h(1/4): C0_180=0.60 C90_270=0.60
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 80.00%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 96.827%

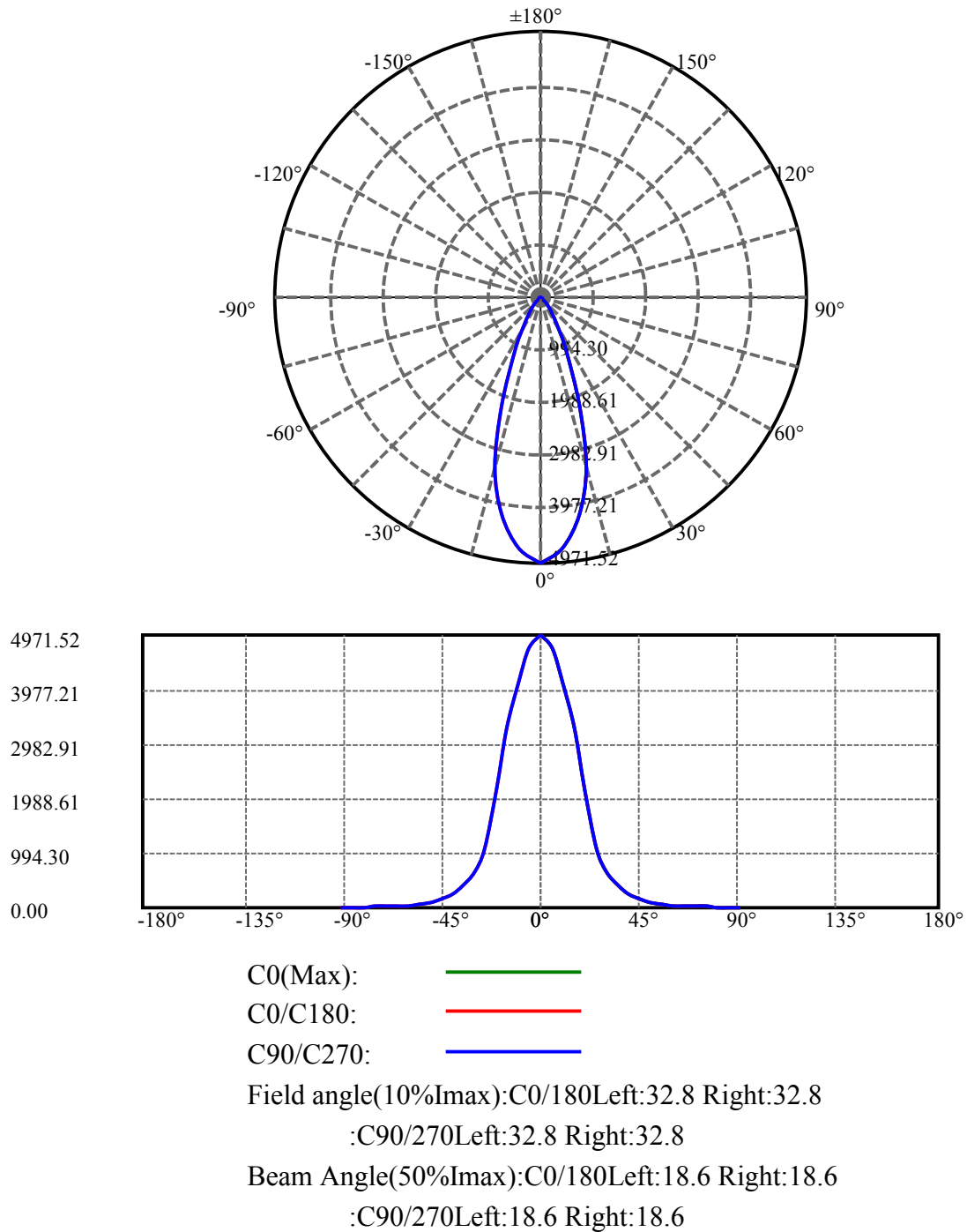
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4971.516	29.731	29.731	1.001%	1.266%
5.0	4720.078	225.494	255.224	7.595%	10.871%
10.0	4119.047	392.063	647.288	13.205%	27.571%
15.0	3284.367	465.948	1113.236	15.694%	47.417%
20.0	2168.156	406.473	1519.709	13.691%	64.731%
25.0	1095.391	253.751	1773.459	8.547%	75.539%
30.0	636.370	174.409	1947.869	5.874%	82.968%
35.0	391.409	123.058	2070.927	4.145%	88.210%
40.0	253.533	89.329	2160.256	3.009%	92.014%
45.0	152.888	59.258	2219.514	1.996%	94.538%
50.0	95.119	39.940	2259.454	1.345%	96.240%
55.0	54.865	24.635	2284.088	.830%	97.289%
60.0	33.251	15.784	2299.873	.532%	97.961%
65.0	24.413	12.128	2312	.408%	98.478%
70.0	20.215	10.412	2322.413	.351%	98.921%
75.0	16.833	8.912	2331.325	.300%	99.301%
80.0	14.020	7.568	2338.893	.255%	99.623%
85.0	11.355	6.201	2345.094	.209%	99.887%
90.0	9.640	2.642	2347.736	.089%	100.000%

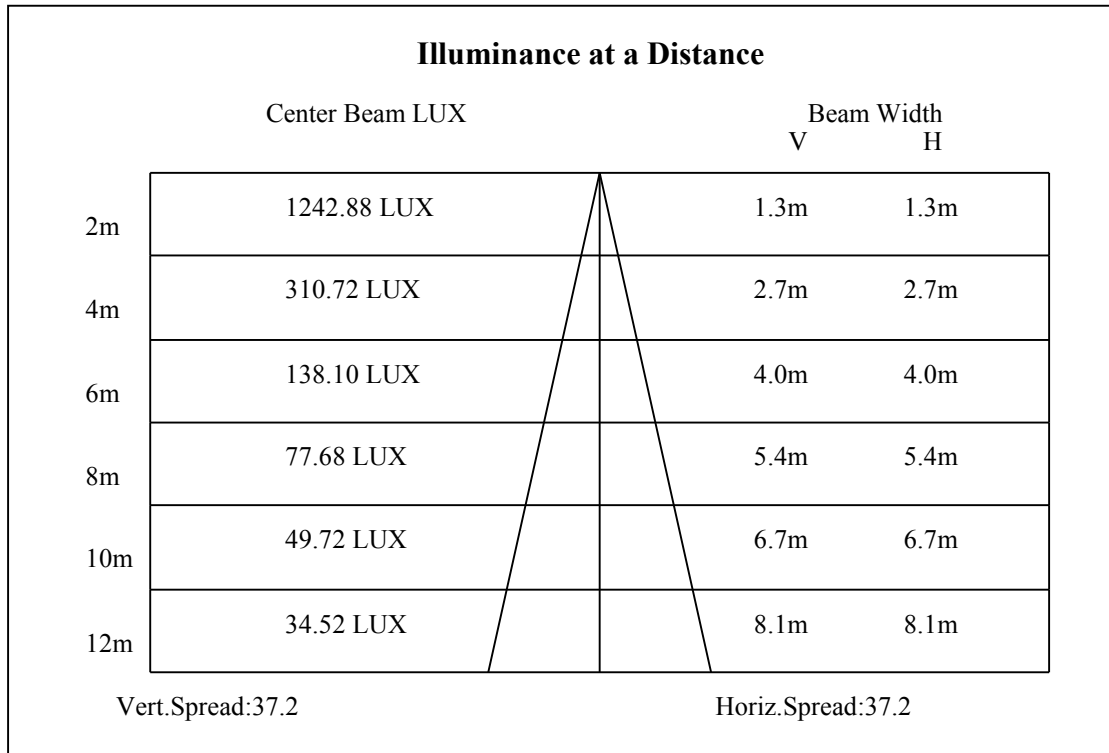
ZONAL LUMEN SUMMARY

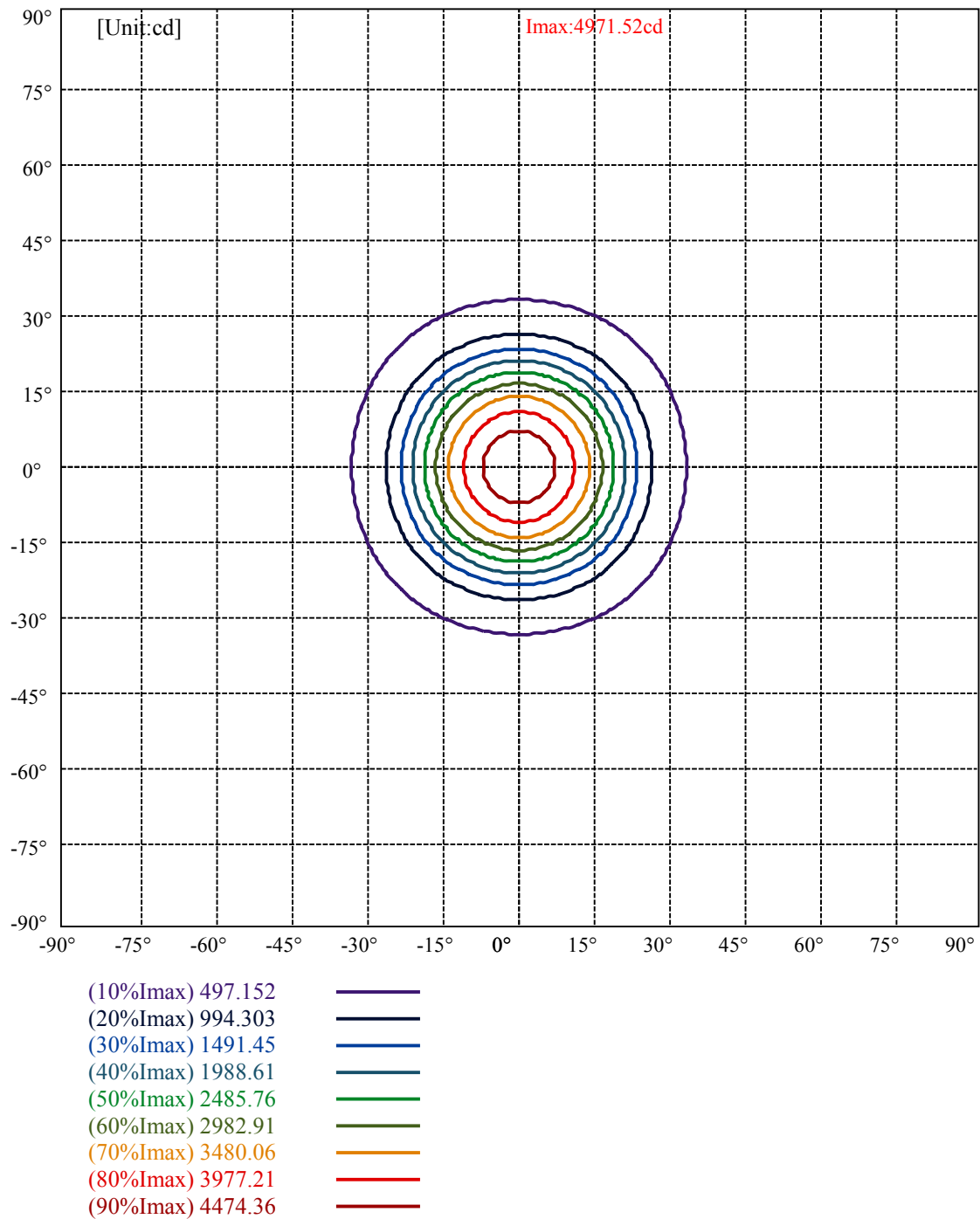
Zone	Lumens	%Lamp	%Fixt
0-30	1947.87	65.61%	82.97%
0-40	2160.26	72.76%	92.01%
0-60	2299.87	77.46%	97.96%
0-90	2345.09	78.99%	99.89%
0-120	2345.09	78.99%	99.89%
0-180	2347.74	79.07%	100.00%
60-90	61.01	2.05%	2.60%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-28.00	1878.19	63.26%	80.00%

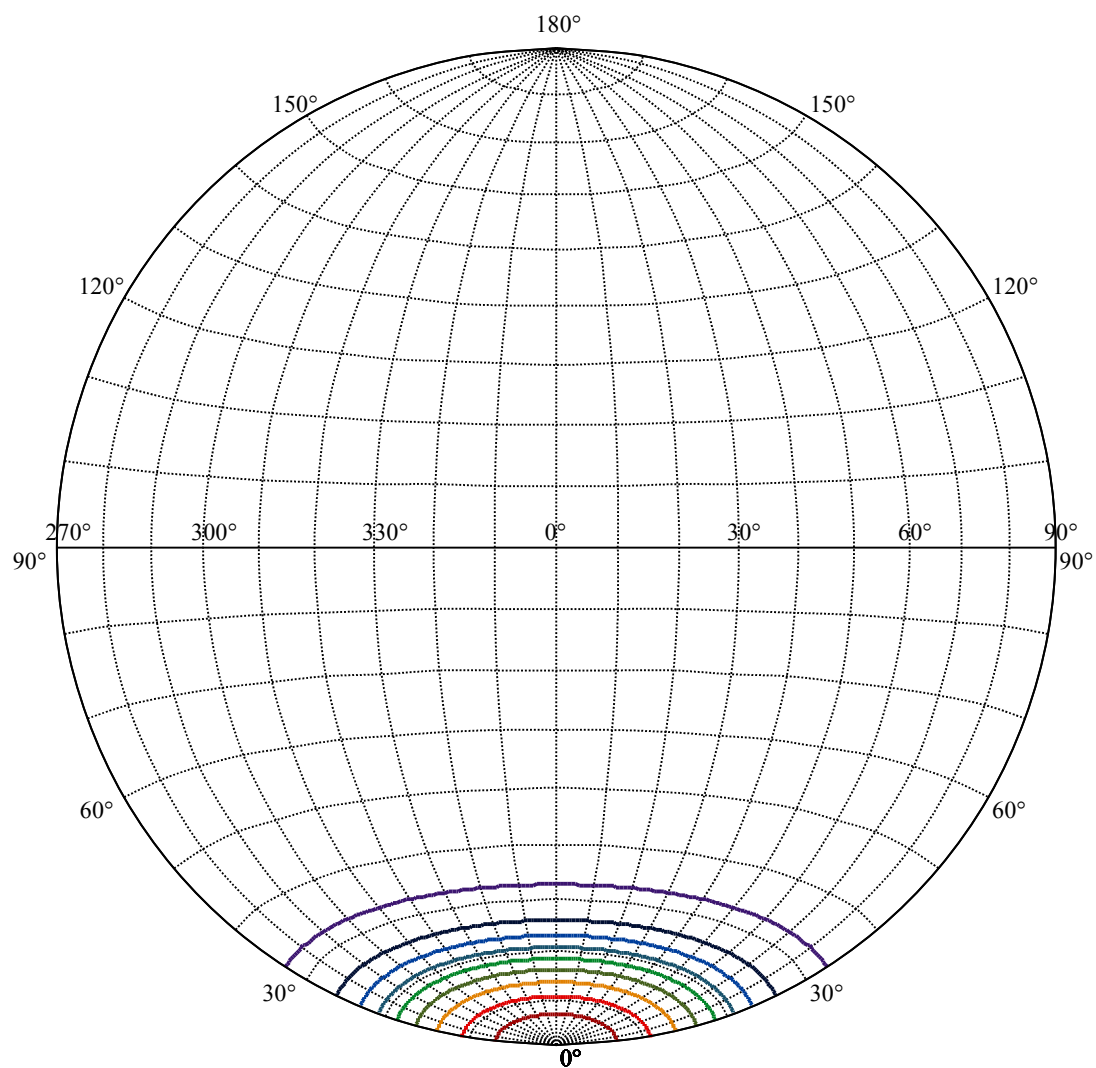
ZONAL LUMEN SUMMARY

0-10	647.29
10-20	872.42
20-30	428.16
30-40	212.39
40-50	99.20
50-60	40.42
60-70	22.54
70-80	16.48
80-90	6.20
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









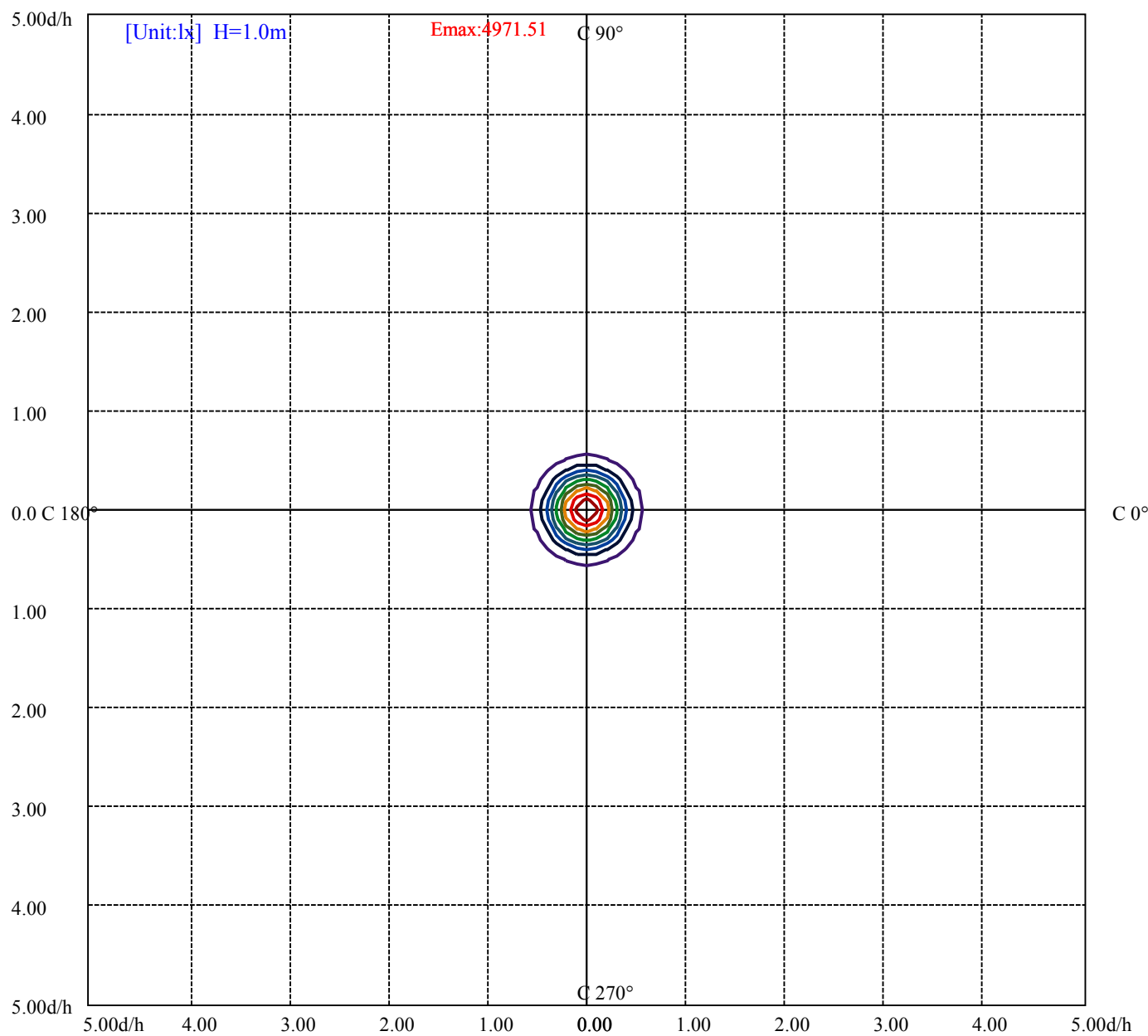
House

[Unit:cd]

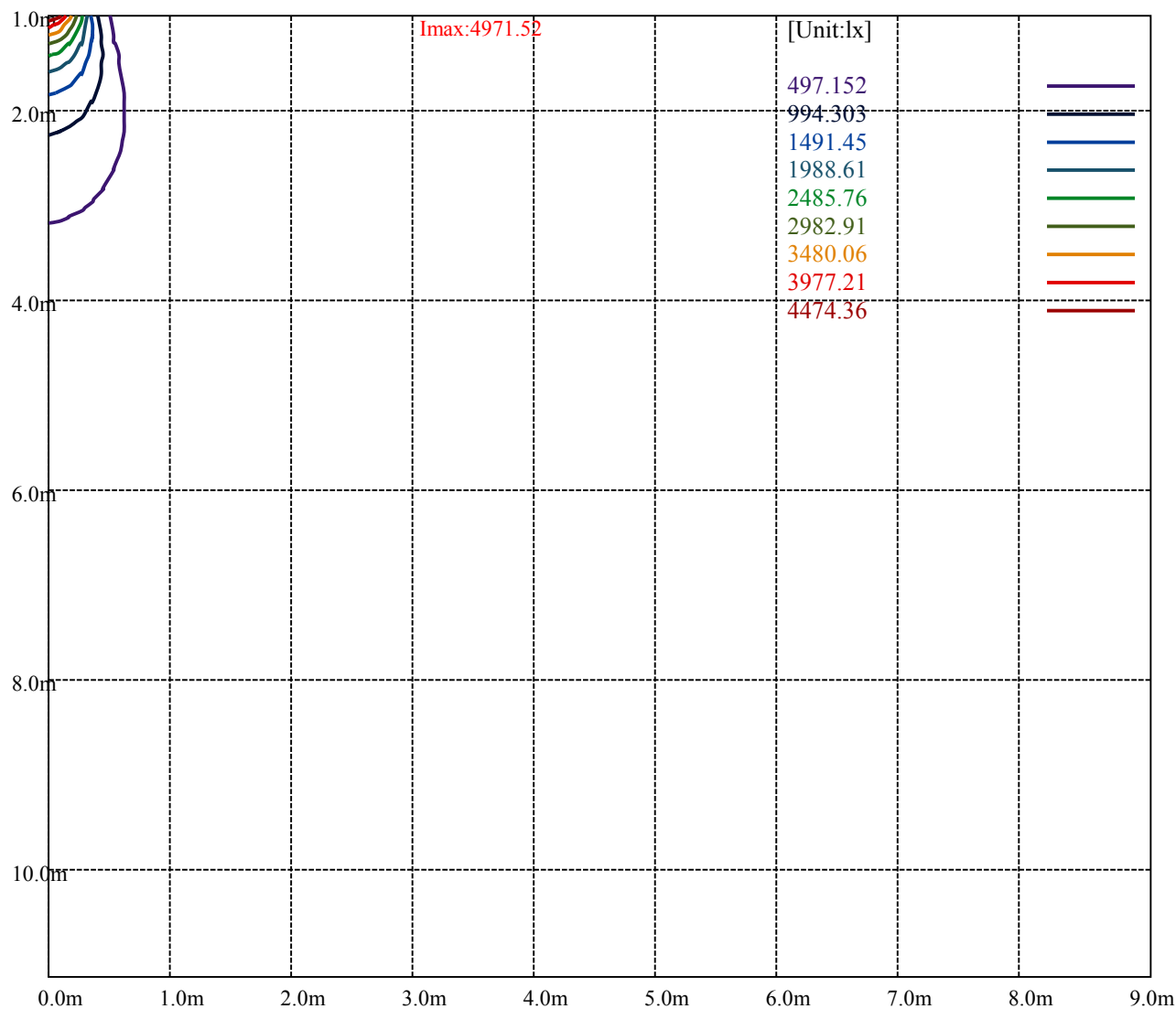
Road

Imax:4971.52

(10%Imax)	497.152	—
(20%Imax)	994.303	—
(30%Imax)	1491.45	—
(40%Imax)	1988.61	—
(50%Imax)	2485.76	—
(60%Imax)	2982.91	—
(70%Imax)	3480.06	—
(80%Imax)	3977.21	—
(90%Imax)	4474.36	—



(10%Emax) 497.151	—
(20%Emax) 994.302	—
(30%Emax) 1491.45	—
(40%Emax) 1988.6	—
(50%Emax) 2485.75	—
(60%Emax) 2982.9	—
(70%Emax) 3480.06	—
(80%Emax) 3977.21	—
(90%Emax) 4474.36	—



Luminance Table

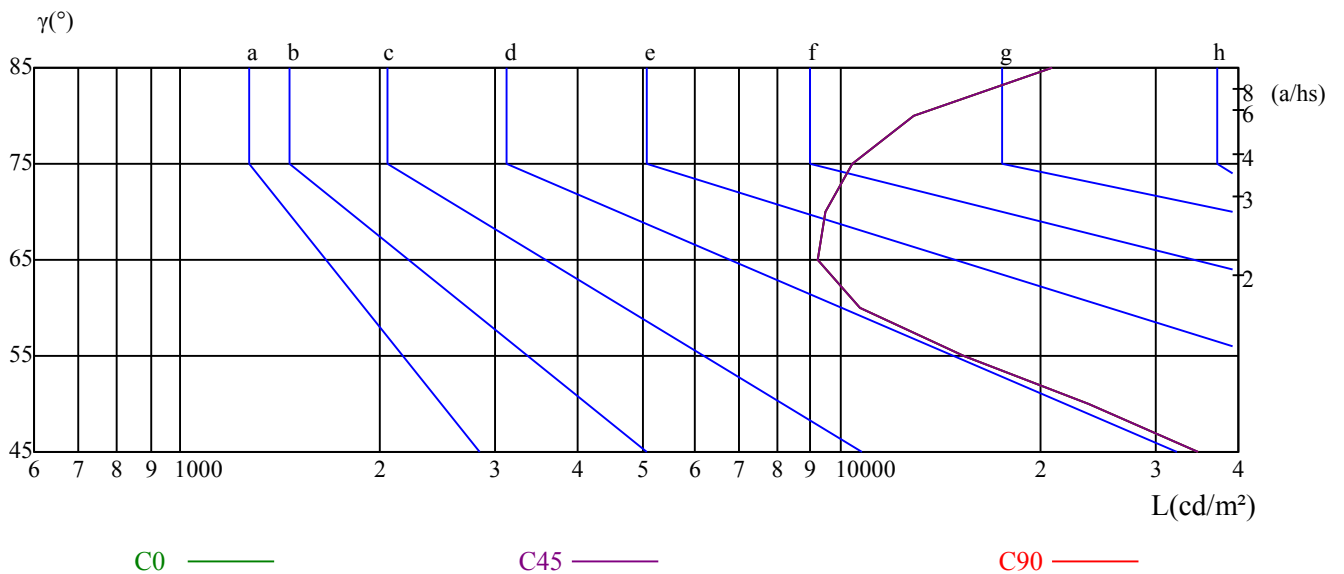
γ	45	50	55	60	65	70	75	80	85
C0	34644	23711	15327	10656	9256	9470	10421	12937	20876
C45	34644	23711	15327	10656	9256	9470	10421	12937	20876
C90	34644	23711	15327	10656	9256	9470	10421	12937	20876

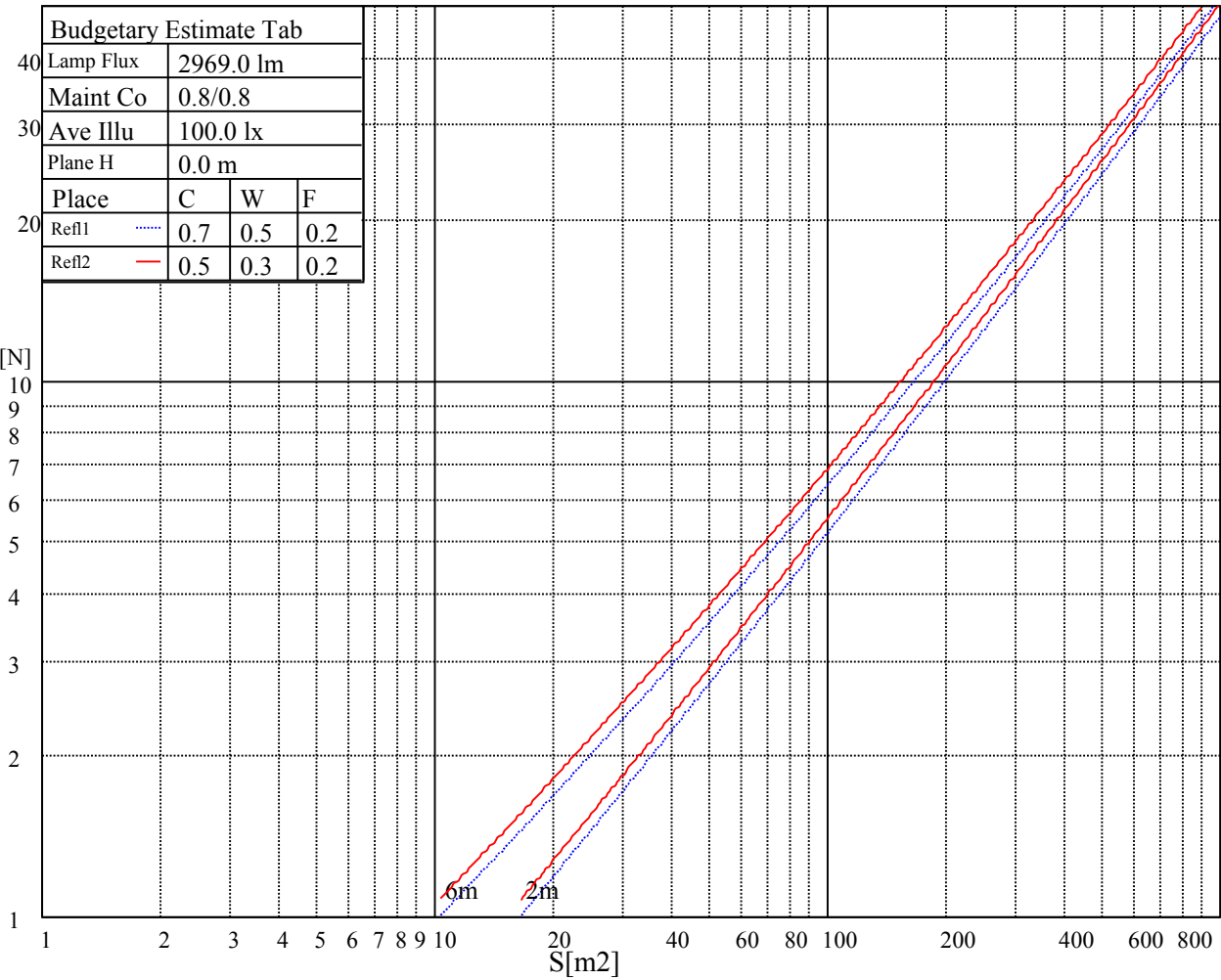
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
9256	9256	9256	10421	10421	10421	20876	20876	20876

Glare Table

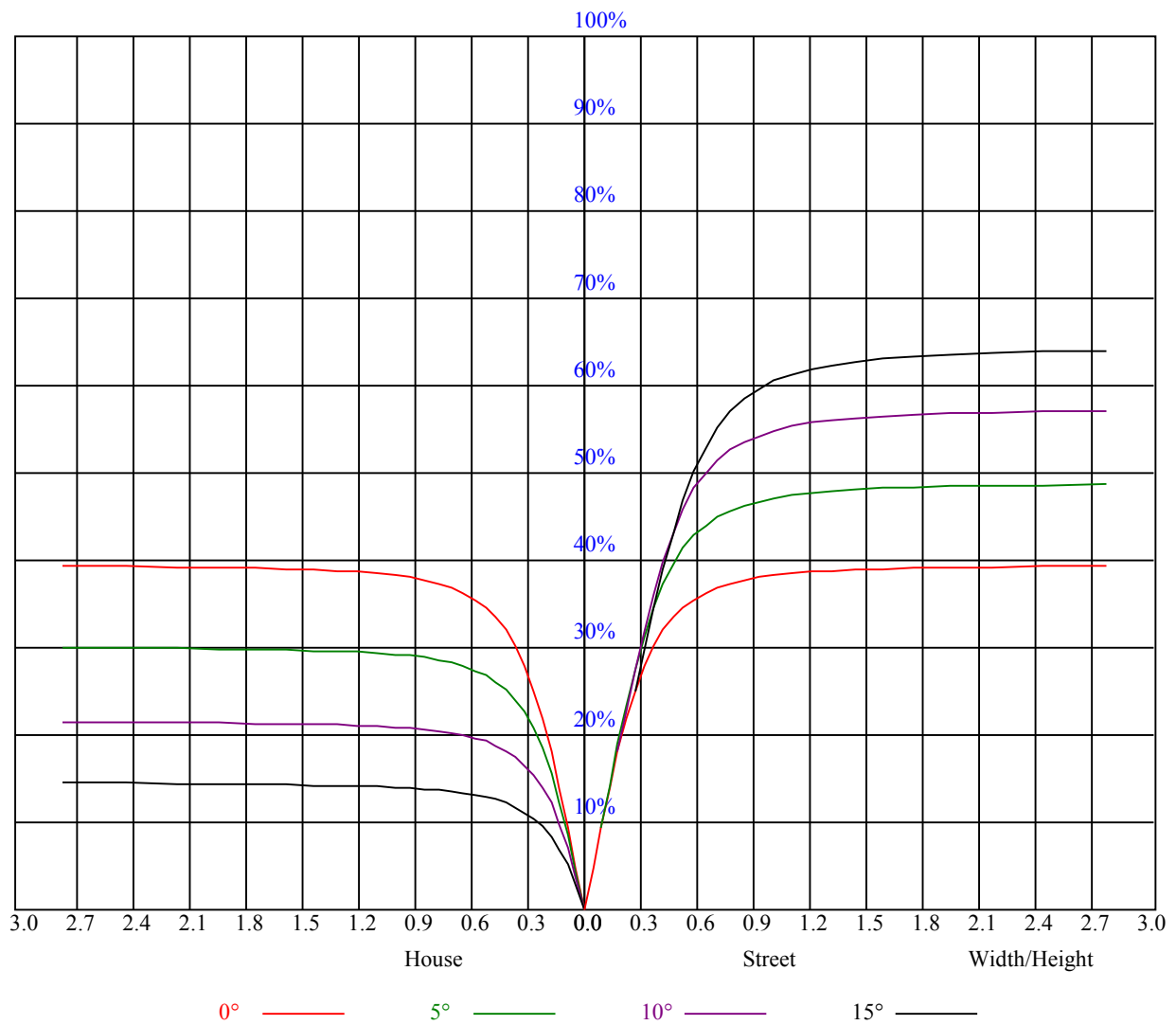
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	0.95	0.95	0.95	0.93	0.93	0.93	0.89	0.89	0.89	0.85	0.85	0.85	0.82	0.82	0.82	0.80
1	0.88	0.86	0.84	0.86	0.84	0.82	0.83	0.81	0.80	0.80	0.79	0.78	0.77	0.76	0.75	0.74
2	0.83	0.80	0.77	0.81	0.78	0.76	0.79	0.76	0.74	0.76	0.74	0.73	0.74	0.73	0.71	0.70
3	0.78	0.74	0.71	0.77	0.74	0.71	0.75	0.72	0.70	0.73	0.71	0.69	0.71	0.69	0.68	0.66
4	0.74	0.70	0.67	0.73	0.70	0.67	0.72	0.68	0.66	0.70	0.67	0.65	0.69	0.66	0.64	0.63
5	0.71	0.66	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.67	0.64	0.62	0.66	0.64	0.62	0.60
6	0.67	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
7	0.65	0.60	0.58	0.64	0.60	0.57	0.63	0.60	0.57	0.62	0.59	0.57	0.61	0.59	0.57	0.56
8	0.62	0.58	0.55	0.62	0.58	0.55	0.61	0.57	0.55	0.60	0.57	0.55	0.59	0.56	0.54	0.53
9	0.60	0.56	0.53	0.59	0.55	0.53	0.59	0.55	0.53	0.58	0.55	0.53	0.57	0.54	0.52	0.51
10	0.58	0.54	0.51	0.57	0.53	0.51	0.57	0.53	0.51	0.56	0.53	0.51	0.56	0.53	0.51	0.50



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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	4946.63	4845.94	4367.81	3660.75	2662.88	1505.25	785.25	477.00	297.00		
45.0	4991.06	4708.13	4128.19	3313.13	2188.13	1121.63	642.38	392.63	284.06		
90.0	4960.69	4609.69	3936.38	2998.69	1869.19	910.41	549.28	348.53	222.64		
135.0	4987.69	4659.75	4020.19	3159.00	1972.69	943.88	592.31	357.75	227.93		
180.0	4946.63	4551.75	3872.25	2891.81	1679.63	822.66	520.09	322.26	201.77		
225.0	4991.06	4742.44	4087.13	3259.69	2118.38	1021.39	608.06	375.47	240.58		
270.0	4960.69	4837.50	4312.13	3553.31	2563.88	1344.94	717.75	457.88	288.56		
315.0	4987.69	4805.44	4228.31	3438.56	2290.50	1092.99	675.84	399.77	265.73		
360.0	4946.63	4845.94	4367.81	3660.75	2662.88	1505.25	785.25	477.00	297.00		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	182.64	113.01	64.35	38.98	26.44	21.49	18.00	15.02	12.26		
45.0	154.52	95.63	56.53	33.08	24.64	20.53	17.10	14.29	11.36		
90.0	134.27	83.42	47.14	29.36	22.95	19.41	16.14	13.44	10.80		
135.0	141.81	87.41	50.68	30.66	23.91	19.69	16.31	13.61	10.86		
180.0	125.78	76.33	43.88	29.08	22.73	18.96	15.81	12.88	10.46		
225.0	151.09	93.66	54.62	33.13	24.36	19.97	16.65	13.95	11.25		
270.0	169.20	110.64	61.99	36.73	25.43	21.04	17.44	14.63	12.09		
315.0	163.80	100.86	59.74	34.99	24.86	20.64	17.21	14.34	11.76		
360.0	182.64	113.01	64.35	38.98	26.44	21.49	18.00	15.02	12.26		
C/γ(°)	90.0										
0.0	9.90										
45.0	9.56										
90.0	9.56										
135.0	9.56										
180.0	9.68										
225.0	9.56										
270.0	9.62										
315.0	9.68										
360.0	9.90										