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Nata

LumCAT: 4-2267-M	
Luminaire: 92.70.135.00	
Report No: NATA0100	Voltage(V): 33.8000
Test No: GC2018062013	Current(A): 0.4900
LampCAT: NICHIA NFCW108B-V3	Power (W): 16.5620
Lamp flux(lm): 2207.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 100	Width(mm): 100
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1979.97
Efficiency(%): 89.71%
Lumens(lm)/Power(W): 121.02
Central intensity(cd): 4400.383
Maximum intensity(cd): 4400.383
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=35.3
[C90/270]Total=35.3
Field angle(10%Imax): [C0/180]Total=70.1
[C90/270]Total=70.1
Maximum s/h(1/2): C0_180=0.57 C90_270=0.57
Maximum s/h(1/4): C0_180=0.61 C90_270=0.61
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 90.82%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.392%

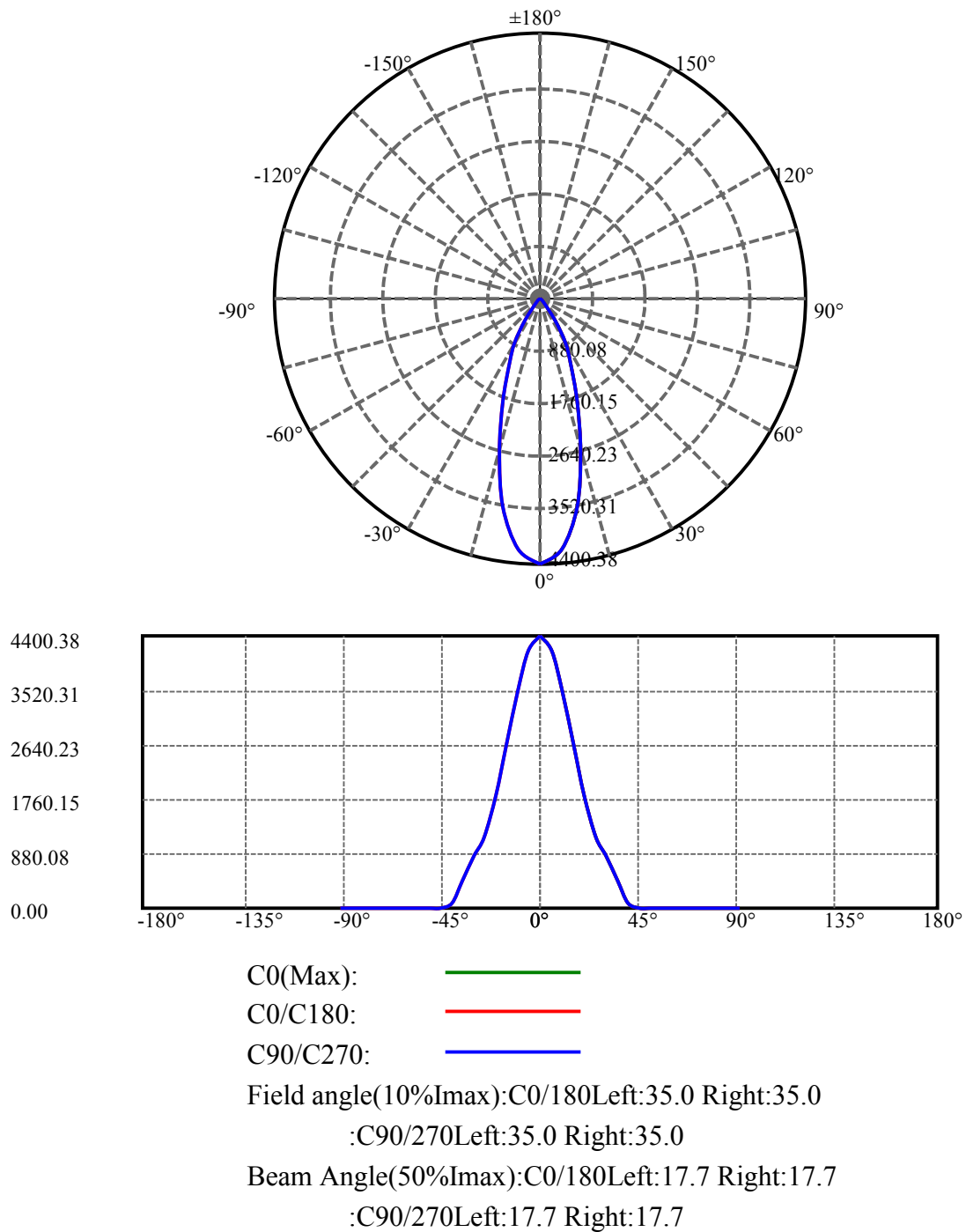
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4400.383	26.315	26.315	1.192%	1.329%
5.0	4154.212	198.460	224.776	8.992%	11.352%
10.0	3513.355	334.412	559.188	15.152%	28.242%
15.0	2630.939	373.247	932.435	16.912%	47.093%
20.0	1820.922	341.376	1273.81	15.468%	64.335%
25.0	1160.795	268.902	1542.712	12.184%	77.916%
30.0	835.144	228.887	1771.598	10.371%	89.476%
35.0	442.819	139.222	1910.82	6.308%	96.508%
40.0	69.791	24.590	1935.41	1.114%	97.750%
45.0	11.121	4.311	1939.72	.195%	97.967%
50.0	9.731	4.086	1943.807	.185%	98.174%
55.0	9.160	4.113	1947.919	.186%	98.381%
60.0	8.878	4.214	1952.134	.191%	98.594%
65.0	8.802	4.373	1956.507	.198%	98.815%
70.0	8.857	4.562	1961.069	.207%	99.045%
75.0	11.720	6.205	1967.274	.281%	99.359%
80.0	10.254	5.535	1972.809	.251%	99.638%
85.0	8.775	4.791	1977.601	.217%	99.880%
90.0	8.637	2.367	1979.968	.107%	100.000%

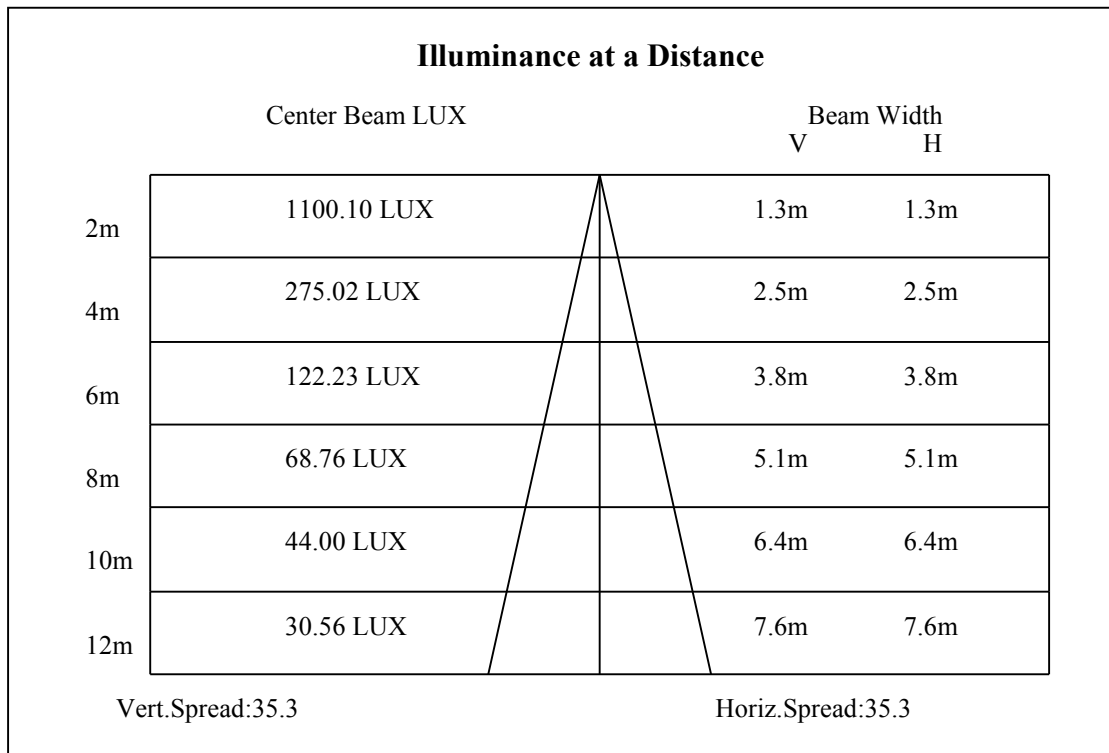
ZONAL LUMEN SUMMARY

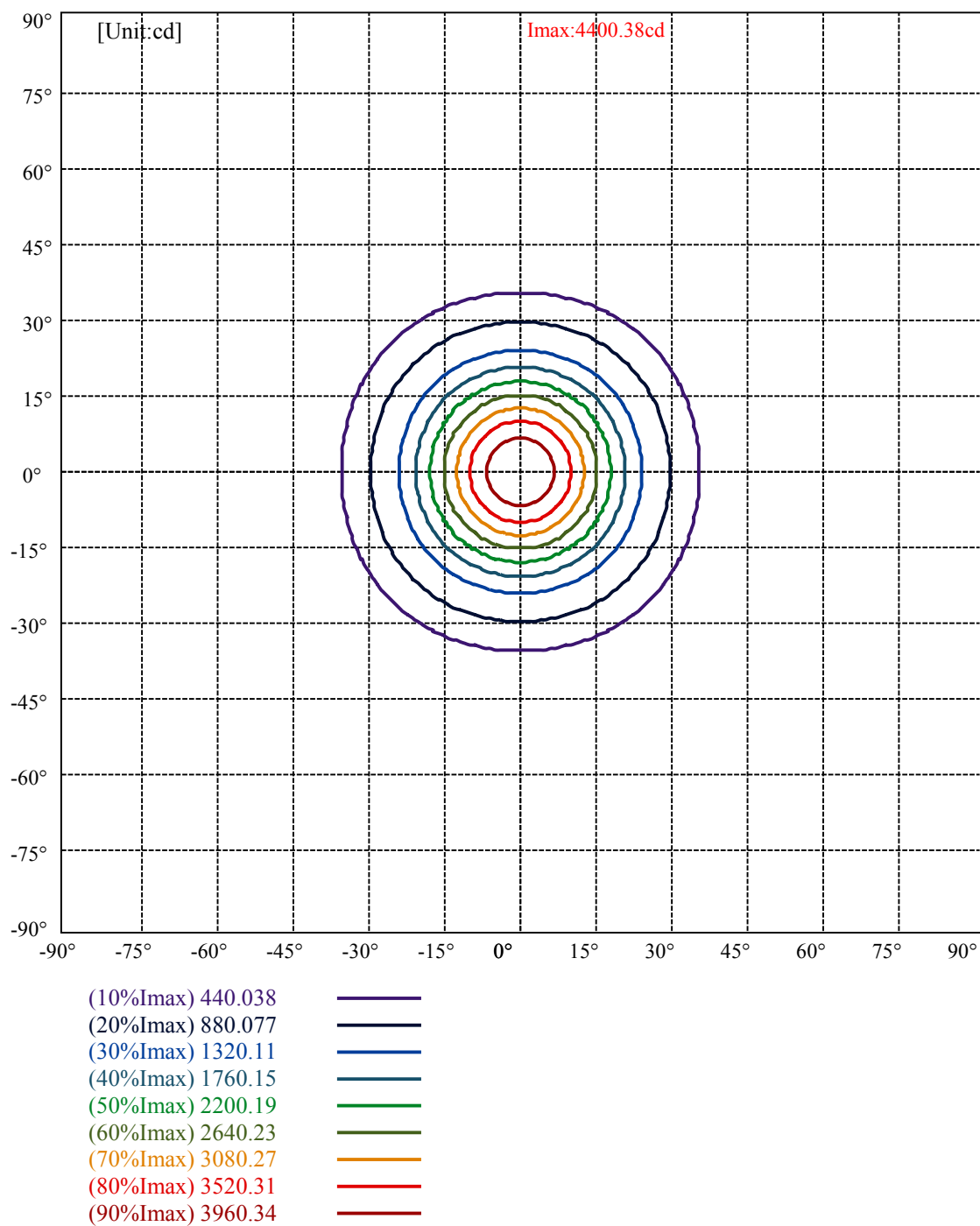
Zone	Lumens	%Lamp	%Fixt
0-30	1771.60	80.27%	89.48%
0-40	1935.41	87.69%	97.75%
0-60	1952.13	88.45%	98.59%
0-90	1977.60	89.61%	99.88%
0-120	1977.60	89.61%	99.88%
0-180	1979.97	89.71%	100.00%
60-90	29.68	1.34%	1.50%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-25.90	1583.97	71.77%	80.00%

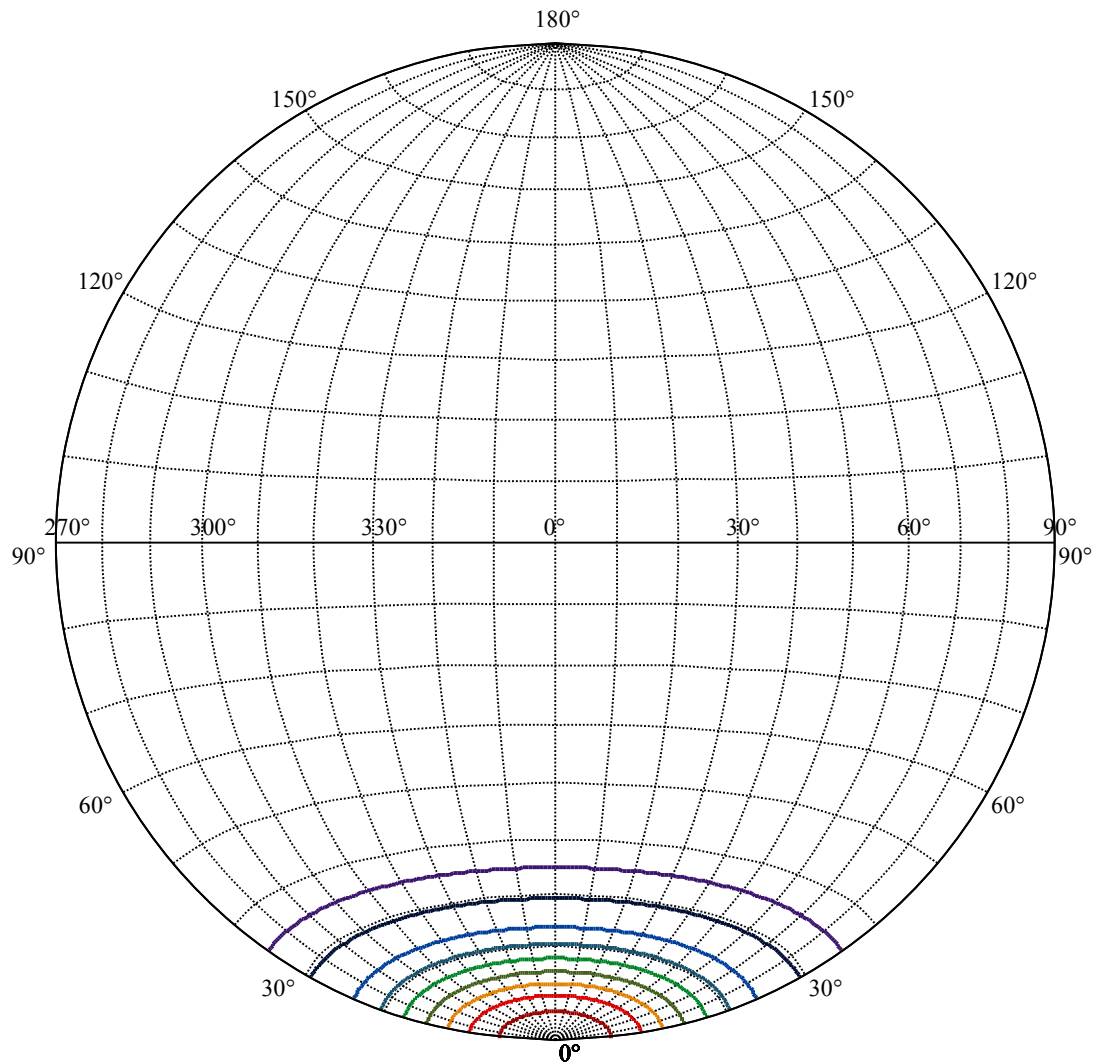
ZONAL LUMEN SUMMARY

0-10	559.19
10-20	714.62
20-30	497.79
30-40	163.81
40-50	8.40
50-60	8.33
60-70	8.93
70-80	11.74
80-90	4.79
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









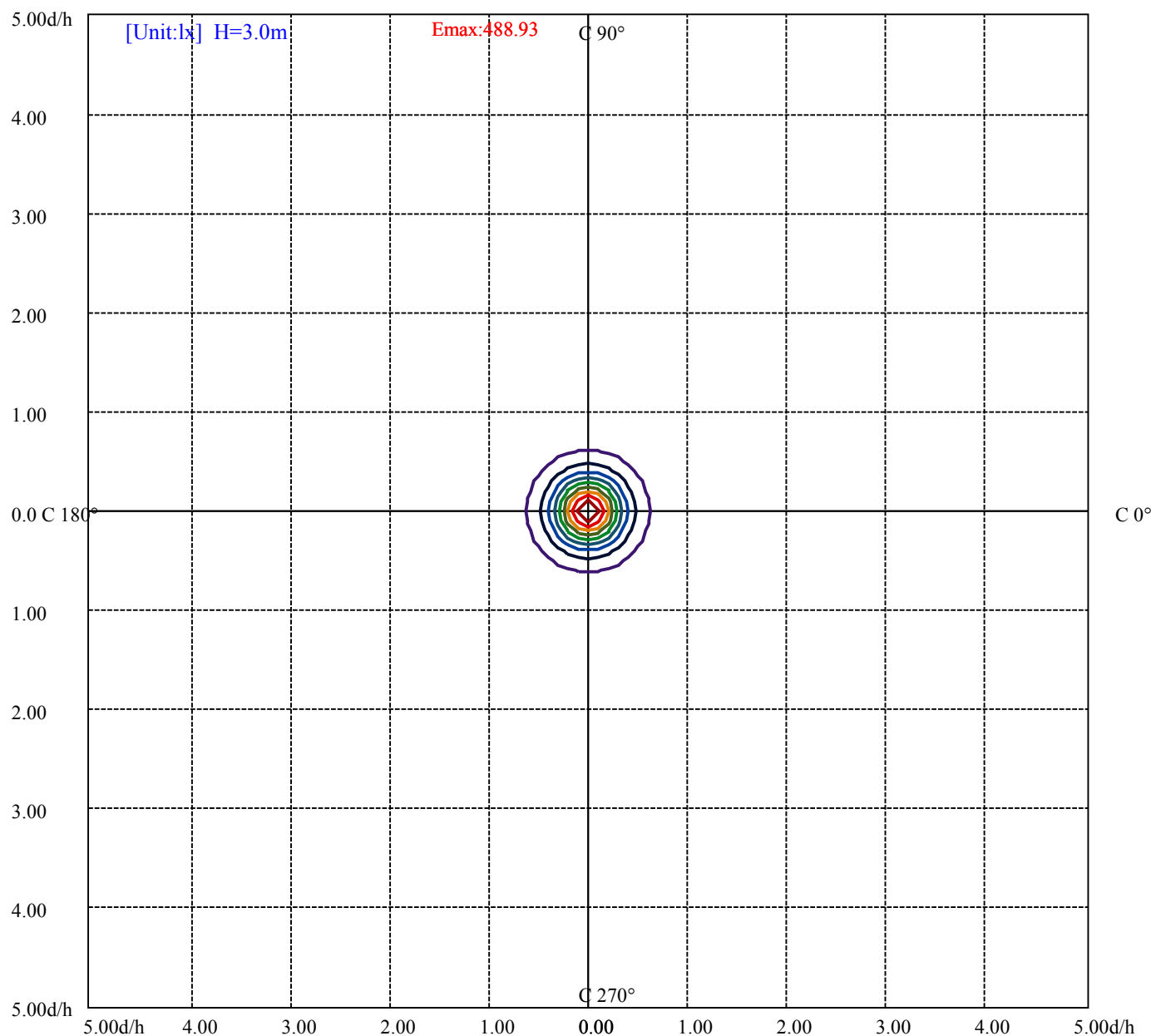
House

[Unit:cd]

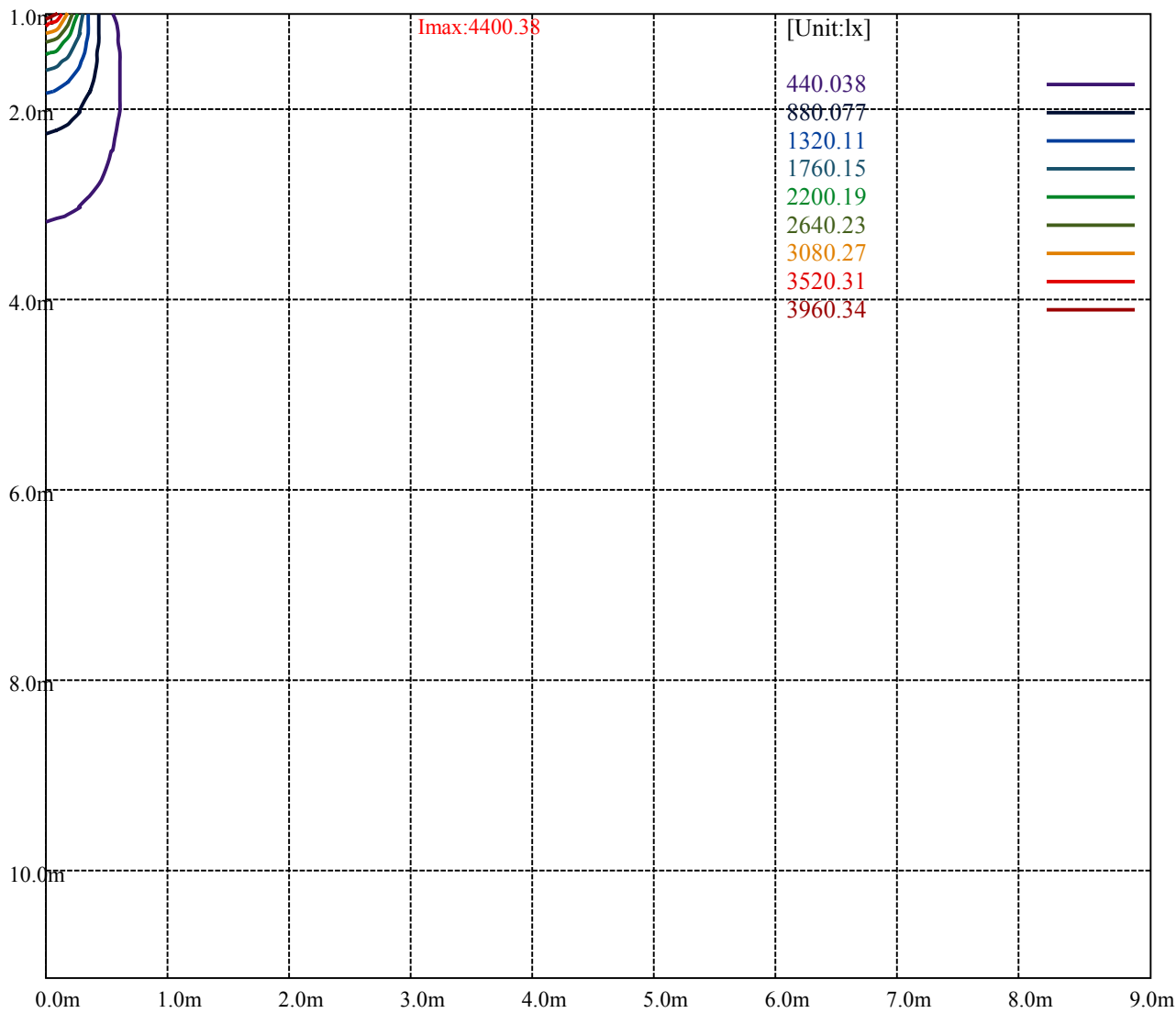
Road

Imax:4400.38

(10%Imax)	440.038	—
(20%Imax)	880.077	—
(30%Imax)	1320.11	—
(40%Imax)	1760.15	—
(50%Imax)	2200.19	—
(60%Imax)	2640.23	—
(70%Imax)	3080.27	—
(80%Imax)	3520.31	—
(90%Imax)	3960.34	—



(10%Emax) 48.89311	—
(20%Emax) 97.78611	—
(30%Emax) 146.6789	—
(40%Emax) 195.5722	—
(50%Emax) 244.4655	—
(60%Emax) 293.3589	—
(70%Emax) 342.2511	—
(80%Emax) 391.1444	—
(90%Emax) 440.0378	—



Luminance Table

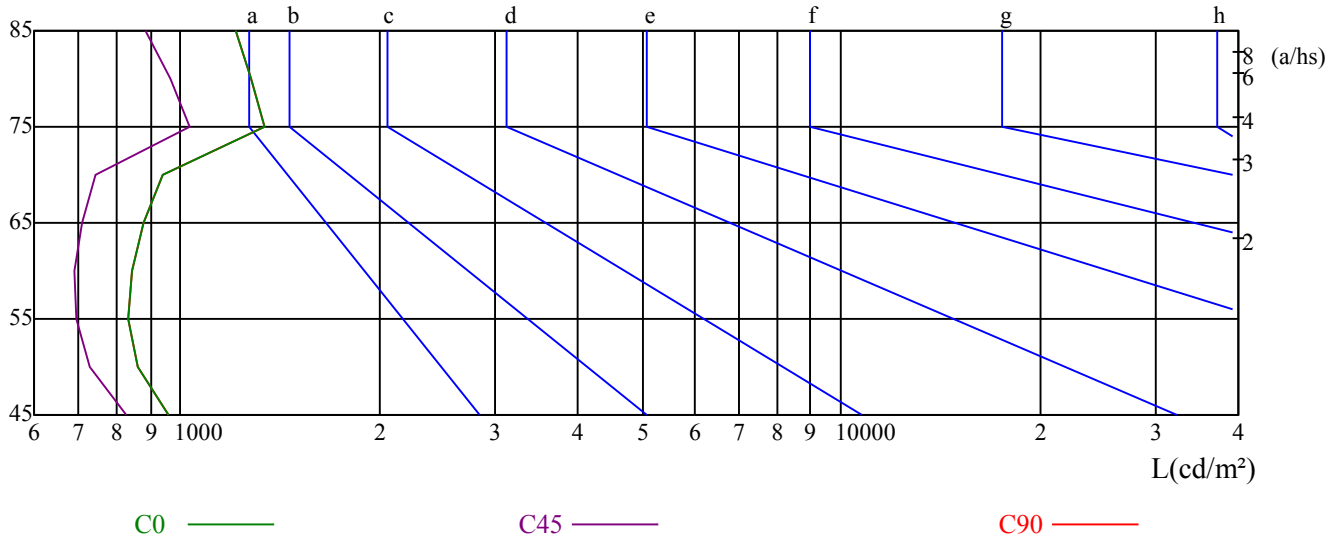
γ	45	50	55	60	65	70	75	80	85
C0	959	859	834	842	878	939	1336	1276	1211
C45	826	728	697	692	708	743	1034	963	887
C90	959	859	834	842	878	939	1336	1276	1211

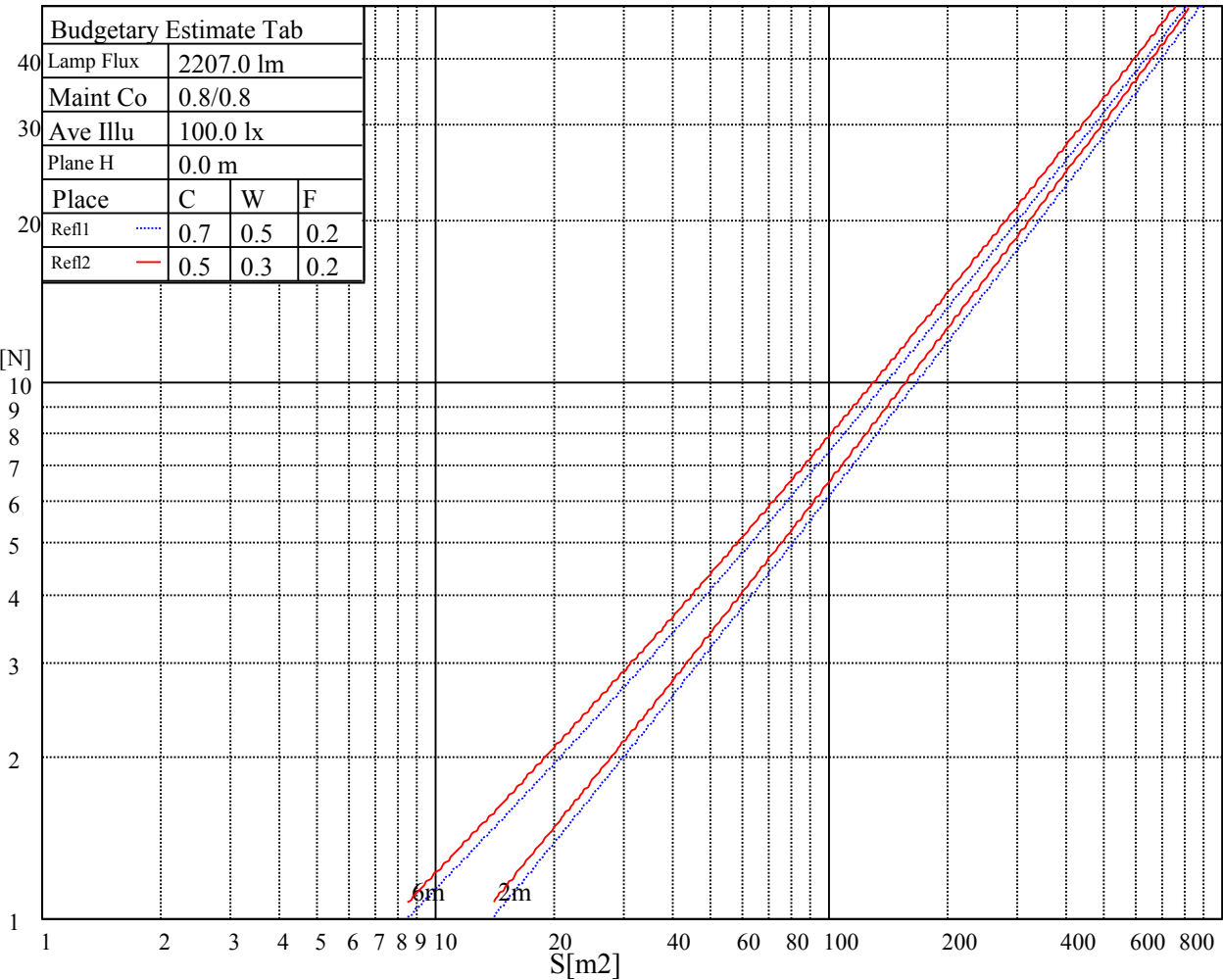
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2083	2083	2083	4528	4528	4528	10068	10068	10068

Glare Table

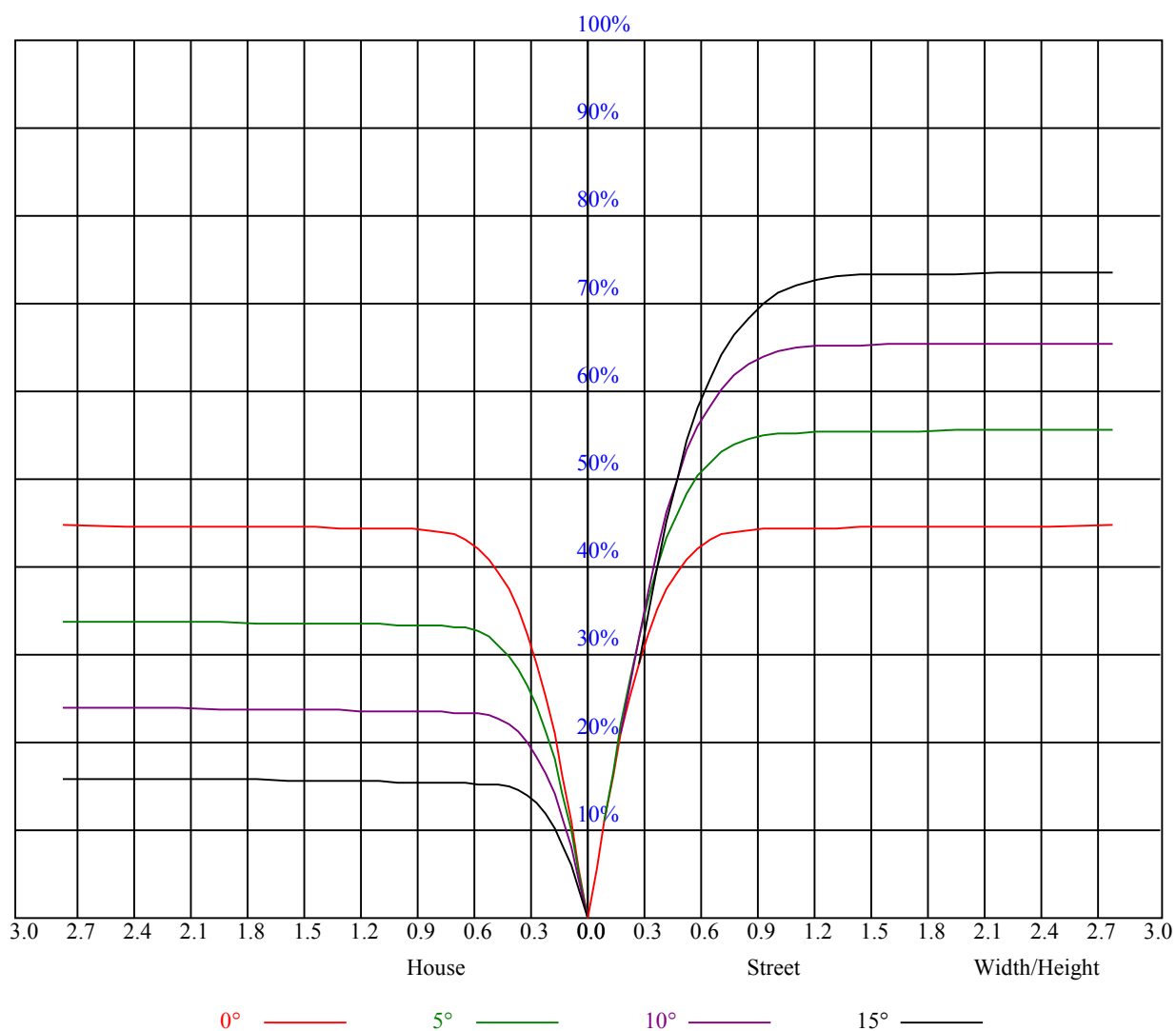
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve

 $\gamma(^{\circ})$ 



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	1.00	0.98	0.96	0.98	0.96	0.94	0.94	0.93	0.91	0.91	0.90	0.88	0.88	0.87	0.86	0.84
2	0.95	0.91	0.88	0.93	0.90	0.87	0.90	0.88	0.85	0.87	0.85	0.84	0.85	0.83	0.82	0.80
3	0.90	0.86	0.82	0.88	0.85	0.82	0.86	0.83	0.81	0.84	0.81	0.79	0.82	0.80	0.78	0.77
4	0.85	0.81	0.78	0.84	0.80	0.77	0.83	0.79	0.76	0.81	0.78	0.76	0.79	0.77	0.75	0.73
5	0.82	0.77	0.74	0.81	0.77	0.73	0.79	0.76	0.73	0.78	0.75	0.72	0.76	0.74	0.72	0.70
6	0.78	0.74	0.70	0.77	0.73	0.70	0.76	0.72	0.70	0.75	0.72	0.69	0.74	0.71	0.69	0.68
7	0.75	0.70	0.67	0.74	0.70	0.67	0.73	0.70	0.67	0.72	0.69	0.66	0.71	0.68	0.66	0.65
8	0.72	0.68	0.65	0.72	0.67	0.64	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.63
9	0.69	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.62	0.68	0.64	0.62	0.67	0.64	0.61	0.60
10	0.67	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.59	0.65	0.62	0.59	0.58



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Intensity data(cd)									
C/ γ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	4377.53	4288.89	3791.73	3000.02	2137.29	1365.40	939.26	598.46	304.46
45.0	4409.47	4210.16	3619.96	2732.45	1881.28	1232.16	867.69	487.25	60.56
90.0	4402.31	4102.80	3374.96	2528.74	1723.82	1093.53	810.93	401.14	24.28
135.0	4412.22	4150.70	3480.12	2572.24	1790.43	1160.04	828.60	439.35	32.65
180.0	4377.53	3979.48	3215.84	2288.69	1524.51	1033.46	720.30	275.39	19.93
225.0	4409.47	4093.44	3443.78	2520.48	1711.70	1087.14	812.03	388.81	24.06
270.0	4402.31	4215.67	3621.61	2733.00	1925.87	1233.26	870.44	490.55	52.41
315.0	4412.22	4192.54	3558.85	2671.89	1872.47	1081.36	831.90	461.59	39.97
360.0	4377.53	4288.89	3791.73	3000.02	2137.29	1365.40	939.26	598.46	304.46
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	13.05	9.91	9.19	8.92	8.75	8.75	9.97	12.39	8.81
45.0	11.07	9.86	9.25	8.92	8.86	8.92	12.00	10.46	8.81
90.0	10.68	9.74	9.19	8.92	8.86	8.92	12.83	10.41	8.75
135.0	10.96	9.80	9.25	8.97	8.92	9.03	12.61	10.63	8.81
180.0	10.35	9.52	9.14	8.92	8.86	9.08	13.27	8.97	8.75
225.0	10.96	9.69	9.08	8.81	8.75	8.75	9.97	9.36	8.81
270.0	11.18	9.74	9.14	8.81	8.70	8.70	11.34	9.30	8.75
315.0	10.74	9.58	9.03	8.75	8.70	8.70	11.78	10.52	8.70
360.0	13.05	9.91	9.19	8.92	8.75	8.75	9.97	12.39	8.81
C/ γ (°)	90.0								
0.0	8.64								
45.0	8.64								
90.0	8.64								
135.0	8.64								
180.0	8.64								
225.0	8.64								
270.0	8.64								
315.0	8.59								
360.0	8.64								