
Nata

Client:

LumCAT: 2-1779-L

Luminaire: 92.70.129.00

Report No: NT2018011012

Test No: GC2018011012

LampCAT: CREE CXA1820

Lamp flux(lm): 2182.0

Number of Lamps: 1

Length(mm): 64

Phm Type: C

Voltage(V): 37.1000

Current(A): 0.6500

Power (W): 24.1150

PF: 0.0000

Ballast type: DC

Width(mm): 64

Height(mm): 0

Photometric Results

Lumens(lm): 2122.69, Efficiency(%): 97.28% , Luminous Efficacy(lm/W): 88.02

Central intensity(cd): 4669.609, Maximum intensity(cd): 4669.609

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=37.4

[C90/270]Total=37.4

Field angle(10%Imax): [C0/180]Total=67.4

[C90/270]Total=67.4

Maximum s/h(1/2): C0_180=0.62 C90_270=0.62

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(%): 98.47%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 97.295%

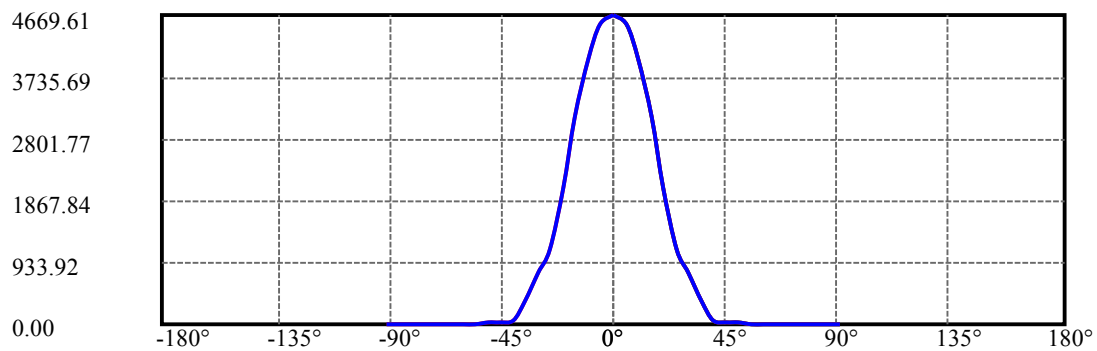
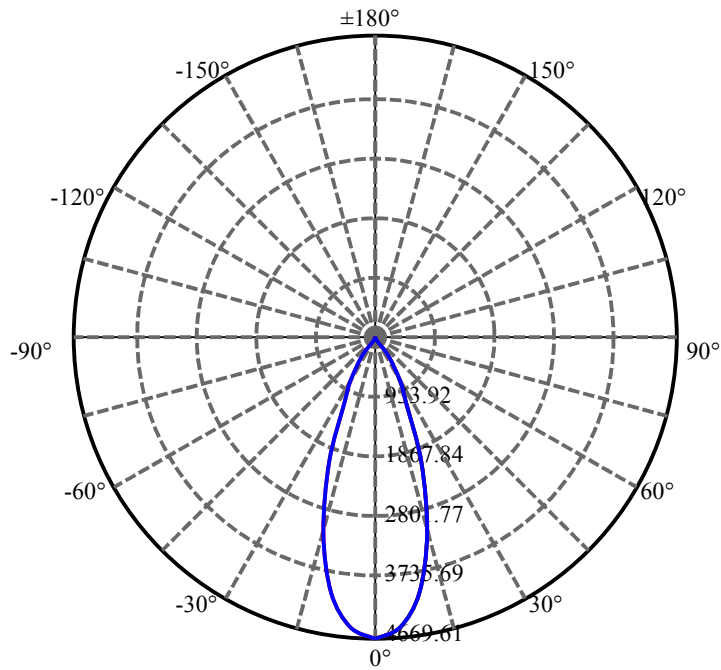
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4669.609	27.925	27.925	1.280%	1.316%
5.0	4514.143	215.656	243.581	9.883%	11.475%
10.0	4013.612	382.028	625.609	17.508%	29.472%
15.0	3135.462	444.823	1070.432	20.386%	50.428%
20.0	2050.369	384.391	1454.823	17.616%	68.537%
25.0	1130.143	261.801	1716.623	11.998%	80.870%
30.0	779.440	213.620	1930.244	9.790%	90.934%
35.0	361.583	113.681	2043.925	5.210%	96.289%
40.0	59.991	21.137	2065.062	.969%	97.285%
45.0	17.501	6.783	2071.845	.311%	97.605%
50.0	14.624	6.141	2077.986	.281%	97.894%
55.0	13.730	6.165	2084.15	.283%	98.184%
60.0	13.337	6.331	2090.482	.290%	98.483%
65.0	12.835	6.376	2096.858	.292%	98.783%
70.0	12.002	6.182	2103.04	.283%	99.074%
75.0	10.867	5.754	2108.794	.264%	99.345%
80.0	10.406	5.617	2114.411	.257%	99.610%
85.0	10.179	5.558	2119.969	.255%	99.872%
90.0	9.924	2.720	2122.688	.125%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1930.24	88.46%	90.93%
0-40	2065.06	94.64%	97.29%
0-60	2090.48	95.81%	98.48%
0-90	2119.97	97.16%	99.87%
0-120	2119.97	97.16%	99.87%
0-180	2122.69	97.28%	100.00%
60-90	35.82	1.64%	1.69%
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%
0-24.65	1698.15	77.83%	80.00%

ZONAL LUMEN SUMMARY

0-10	625.61
10-20	829.21
20-30	475.42
30-40	134.82
40-50	12.92
50-60	12.50
60-70	12.56
70-80	11.37
80-90	5.56
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



C0(Max): —————

C0/C180: —————

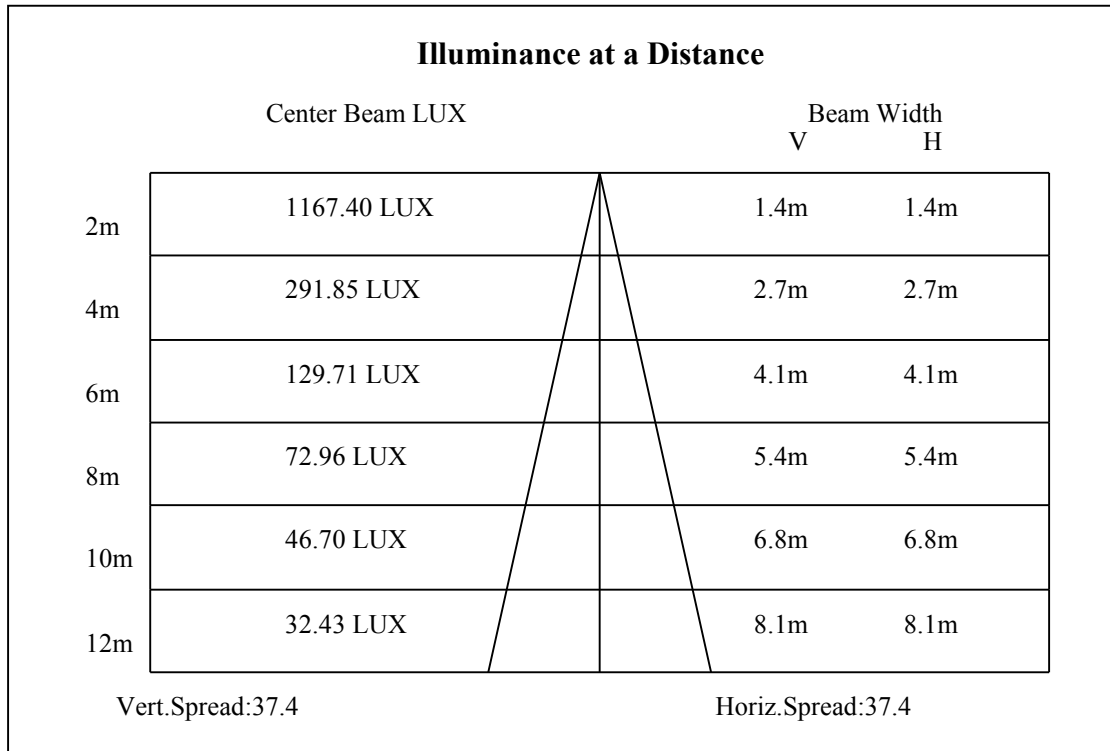
C90/C270: —————

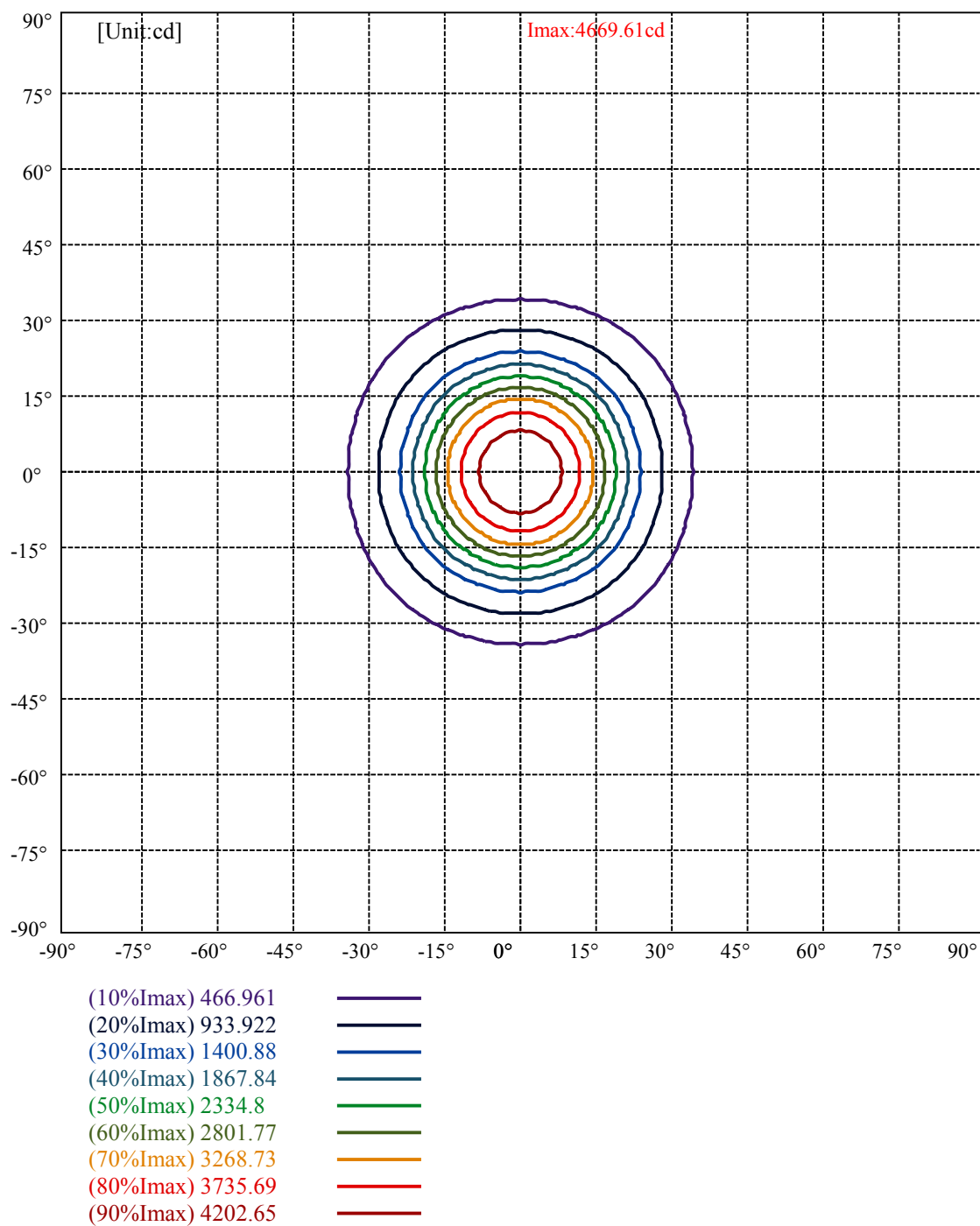
Field angle(10%Imax):C0/180Left:33.7 Right:33.7

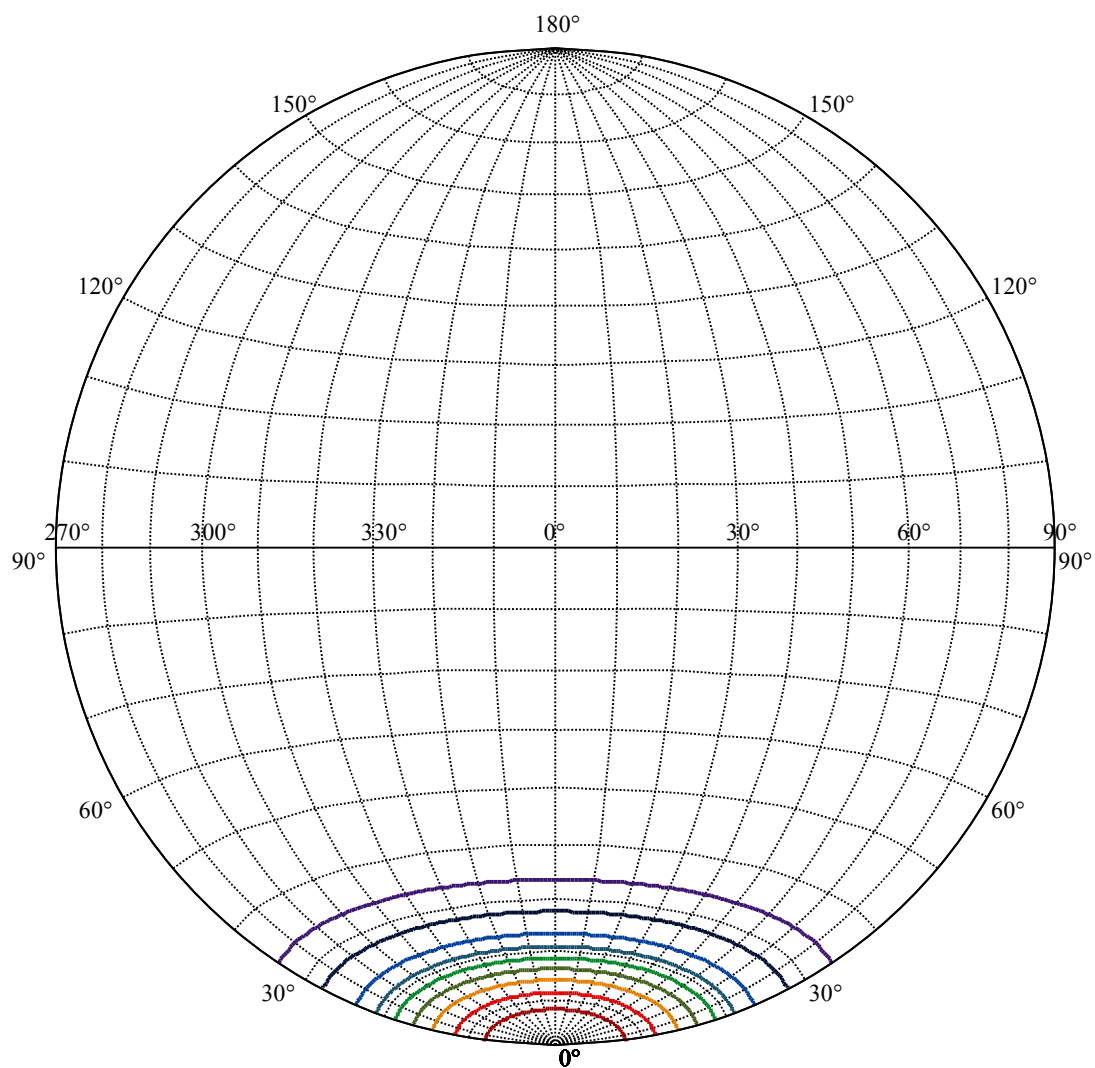
:C90/270Left:33.7 Right:33.7

Beam Angle(50%Imax):C0/180Left:18.7 Right:18.7

:C90/270Left:18.7 Right:18.7







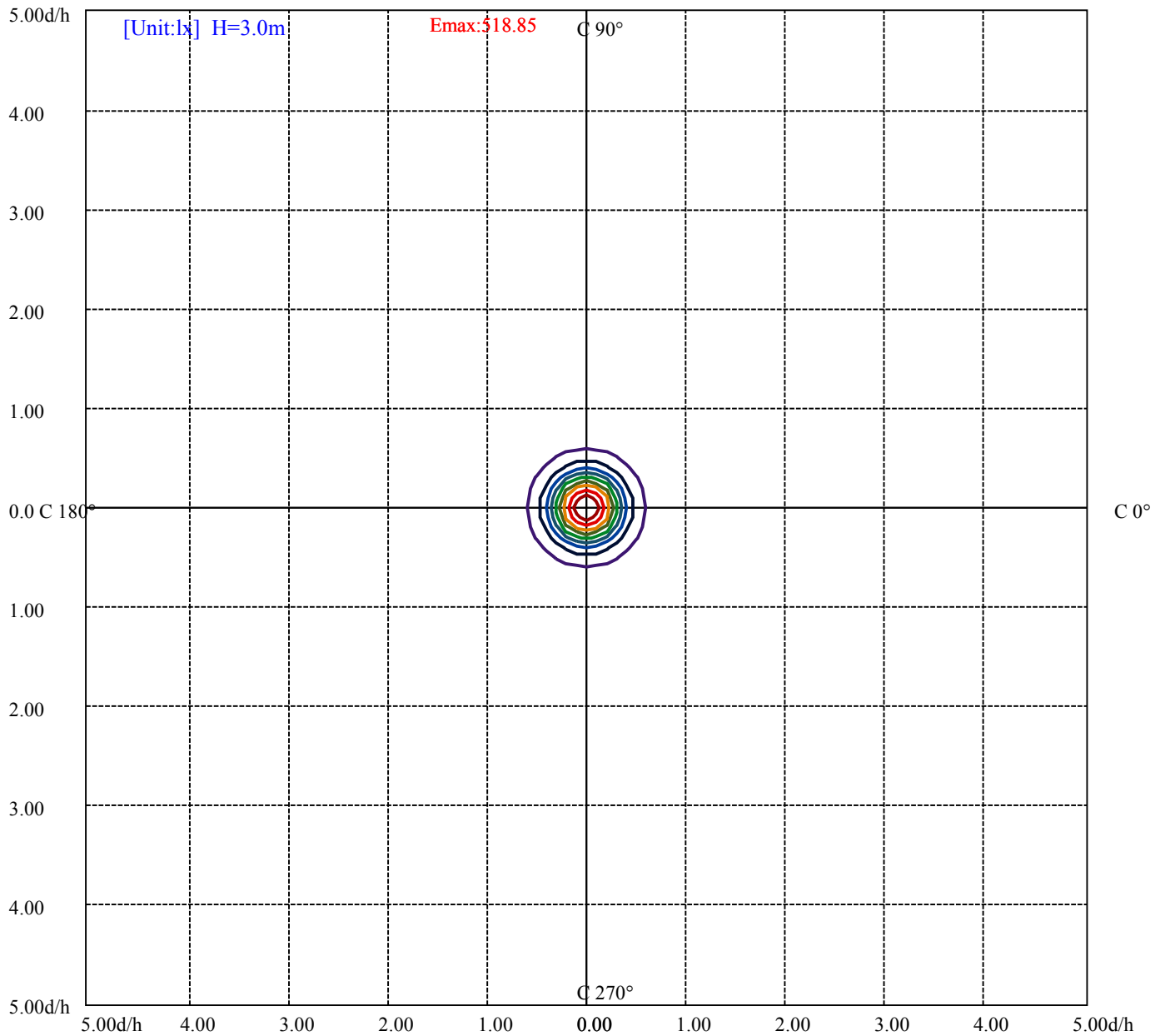
House

[Unit:cd]

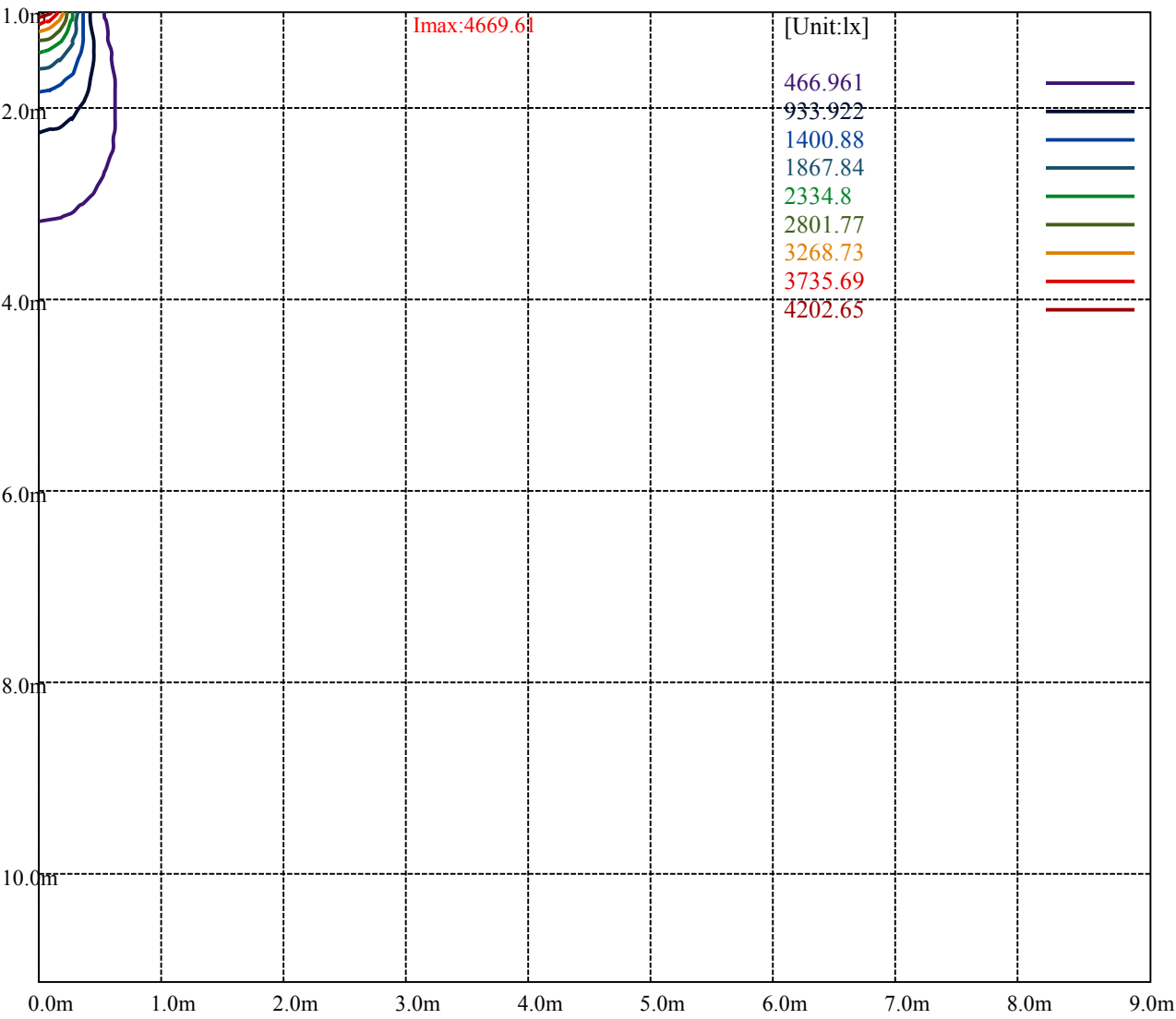
Road

Imax:4669.61

(10%Imax)	466.961	—
(20%Imax)	933.922	—
(30%Imax)	1400.88	—
(40%Imax)	1867.84	—
(50%Imax)	2334.8	—
(60%Imax)	2801.77	—
(70%Imax)	3268.73	—
(80%Imax)	3735.69	—
(90%Imax)	4202.65	—



(10%Emax) 51.88445	—
(20%Emax) 103.769	—
(30%Emax) 155.6533	—
(40%Emax) 207.5378	—
(50%Emax) 259.4222	—
(60%Emax) 311.3067	—
(70%Emax) 363.1911	—
(80%Emax) 415.0756	—
(90%Emax) 466.96	—



Luminance Table

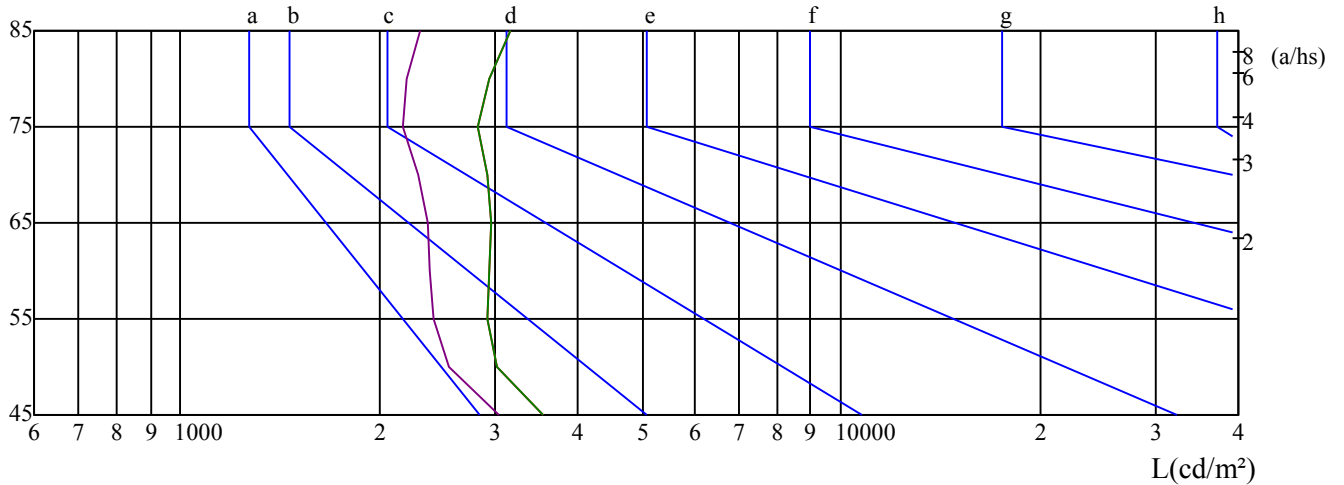
γ	45	50	55	60	65	70	75	80	85
C0	3548	3022	2916	2936	2957	2922	2828	2933	3155
C45	3030	2542	2415	2392	2367	2296	2176	2204	2306
C90	3548	3022	2916	2936	2957	2922	2828	2933	3155

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
7415	7415	7415	10250	10250	10250	28512	28512	28512

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

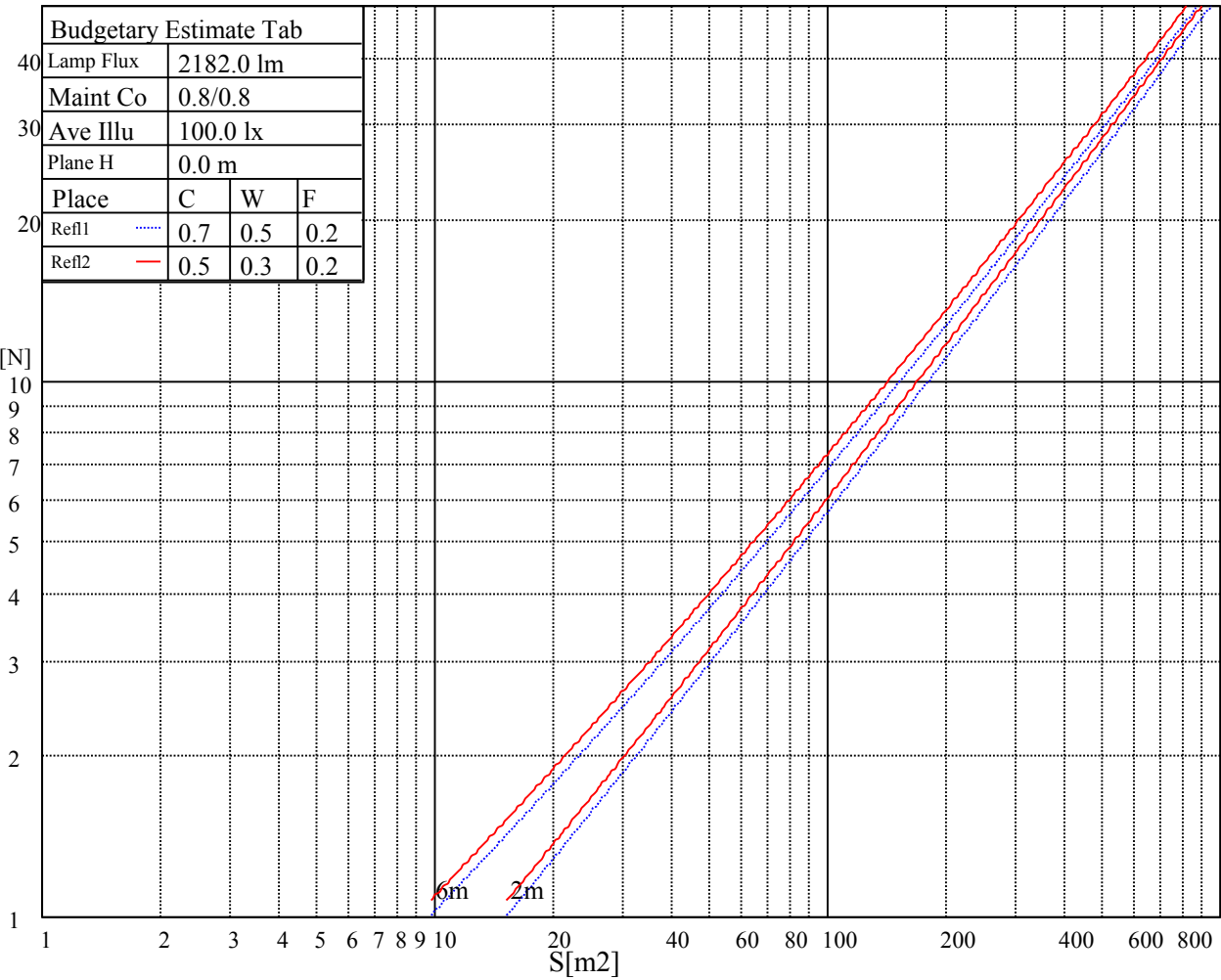
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

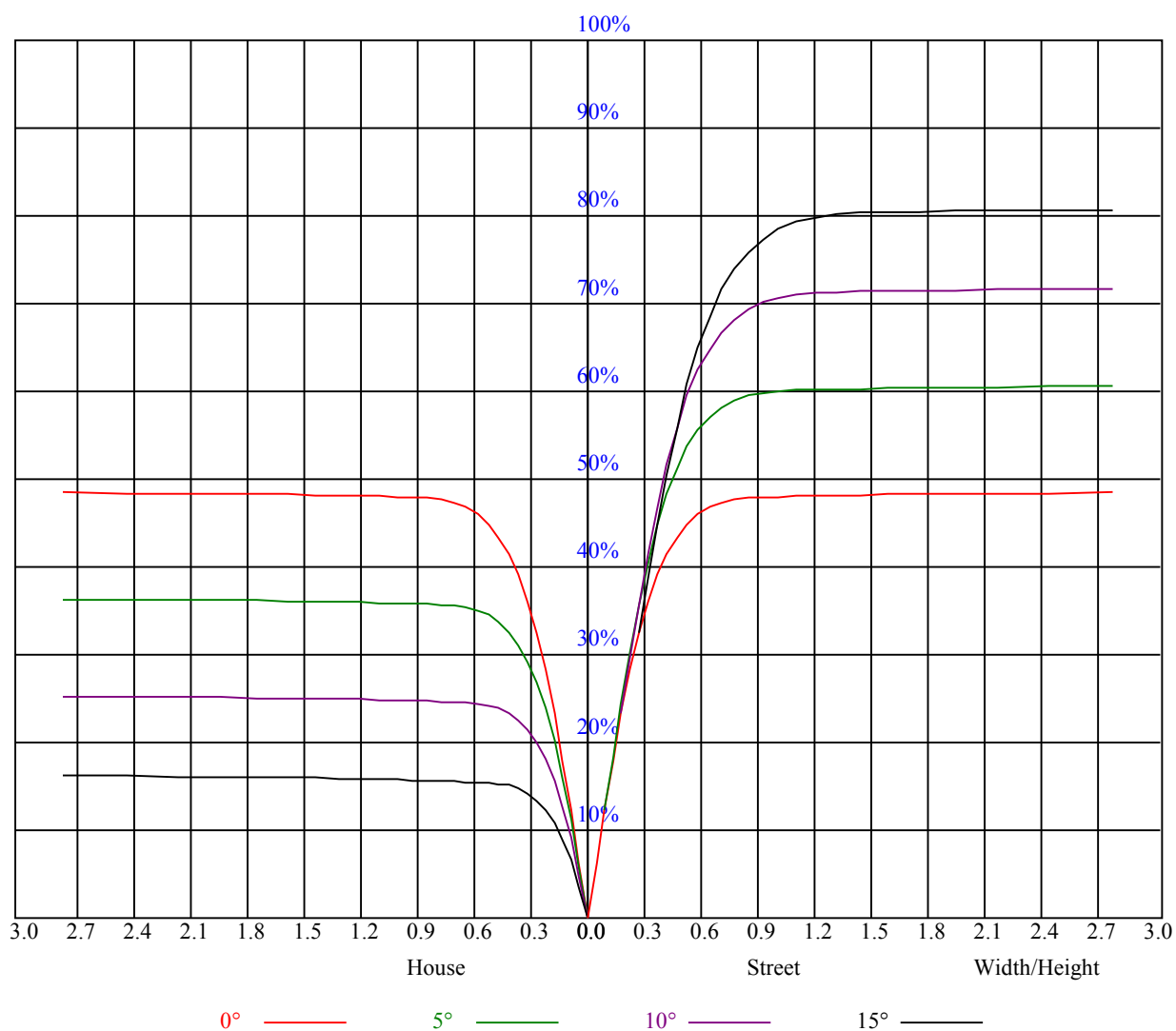
C0 ———

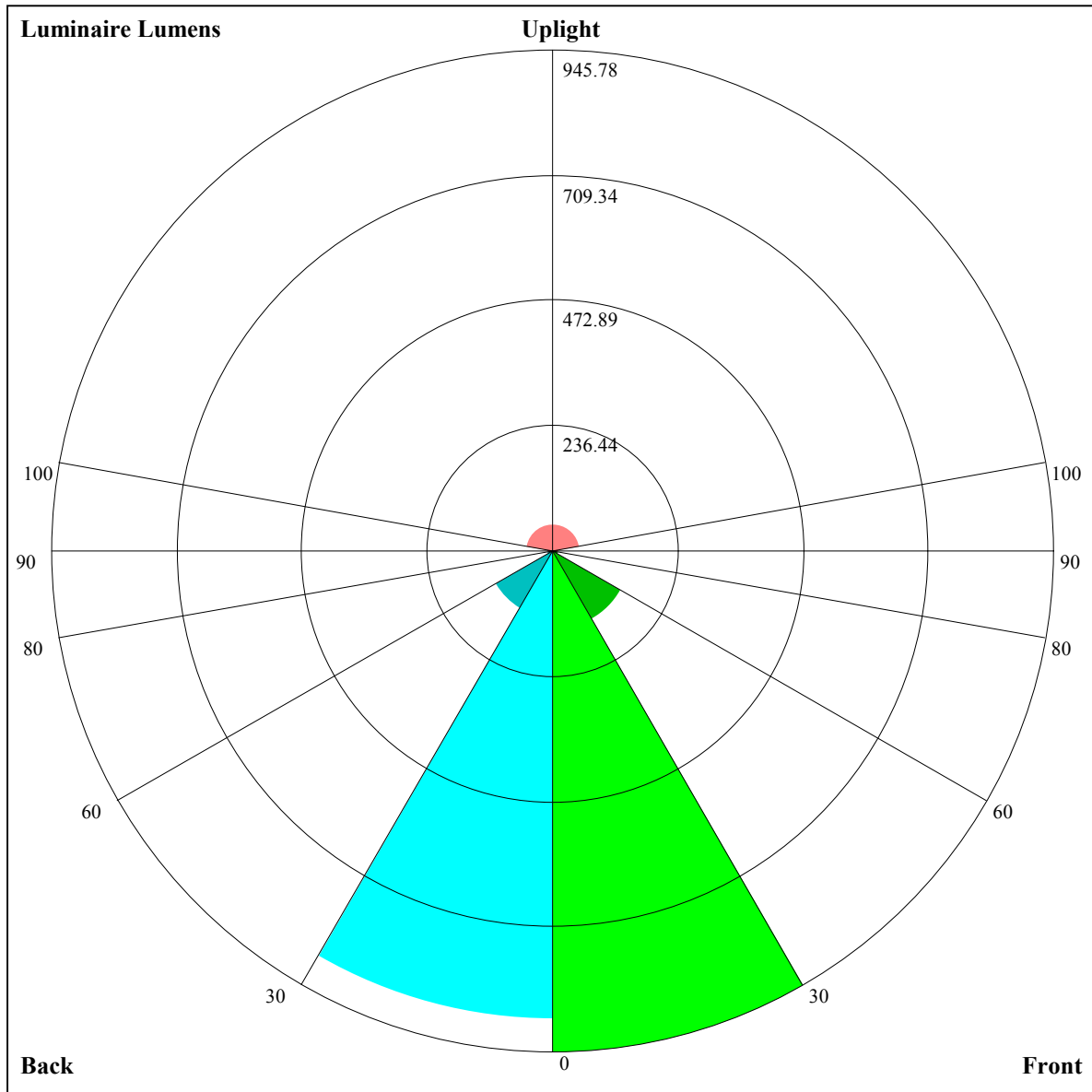
C45 ———

C90 ———



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	1.17	1.17	1.17	1.14	1.14	1.14	1.09	1.09	1.09	1.05	1.05	1.05	1.00	1.00	1.00	0.98
1	1.09	1.06	1.04	1.07	1.04	1.02	1.03	1.01	0.99	0.99	0.97	0.96	0.95	0.94	0.93	0.92
2	1.03	0.99	0.96	1.01	0.98	0.95	0.98	0.95	0.93	0.95	0.93	0.91	0.92	0.91	0.89	0.87
3	0.98	0.93	0.90	0.96	0.92	0.89	0.94	0.91	0.88	0.92	0.89	0.87	0.89	0.87	0.85	0.84
4	0.93	0.89	0.85	0.92	0.88	0.85	0.90	0.86	0.84	0.88	0.85	0.83	0.86	0.84	0.82	0.80
5	0.89	0.84	0.81	0.88	0.84	0.81	0.87	0.83	0.80	0.85	0.82	0.79	0.84	0.81	0.79	0.77
6	0.86	0.81	0.77	0.85	0.80	0.77	0.83	0.80	0.77	0.82	0.79	0.76	0.81	0.78	0.76	0.74
7	0.82	0.77	0.74	0.82	0.77	0.74	0.81	0.76	0.74	0.79	0.76	0.73	0.78	0.75	0.73	0.72
8	0.79	0.75	0.71	0.79	0.74	0.71	0.78	0.74	0.71	0.77	0.73	0.71	0.76	0.73	0.70	0.69
9	0.76	0.72	0.69	0.76	0.72	0.69	0.75	0.71	0.68	0.74	0.71	0.68	0.74	0.70	0.68	0.67
10	0.74	0.69	0.66	0.74	0.69	0.66	0.73	0.69	0.66	0.72	0.69	0.66	0.71	0.68	0.66	0.65





Luminaire Lumens:

FL=945.78,FM=147.35,FH=12.25,FVH=5.56

BL=882.63,BM=124.17,BH=12.02,BVH=5.53

UL=10.83,UH=51.53

BUG Rating:B2-U2-G0

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	4652.27	4640.70	4293.30	3455.89	2385.59	1351.08	864.94	498.81	91.56
45.0	4677.04	4555.37	4104.45	3173.45	2026.08	1020.20	727.30	316.57	26.21
90.0	4661.07	4376.98	3676.67	2762.73	1767.31	1031.32	677.41	218.68	24.00
135.0	4688.05	4385.79	3726.77	2836.51	1861.46	1142.42	806.58	293.45	34.80
180.0	4652.27	4351.11	3682.72	2807.33	1690.78	950.55	665.36	211.31	22.74
225.0	4677.04	4520.68	4079.68	3247.78	2022.22	1003.07	729.88	343.72	28.52
270.0	4661.07	4637.95	4315.32	3510.40	2446.71	1317.50	857.23	526.34	165.94
315.0	4688.05	4644.56	4229.98	3289.62	2202.81	1225.00	906.83	483.78	86.16
360.0	4652.27	4640.70	4293.30	3455.89	2385.59	1351.08	864.94	498.81	91.56
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	19.05	15.58	14.70	14.04	13.32	12.44	11.40	10.63	10.35
45.0	14.65	13.60	13.27	13.05	12.61	11.89	10.68	10.30	10.13
90.0	14.98	13.76	13.65	13.54	12.94	11.95	10.63	10.30	10.08
135.0	19.10	15.36	14.26	13.98	13.38	12.17	10.74	10.41	10.13
180.0	15.25	13.98	13.60	13.27	12.72	11.78	10.68	10.41	10.19
225.0	14.76	13.10	12.39	12.06	11.89	11.56	10.68	10.35	10.13
270.0	18.83	14.92	13.43	12.83	12.39	11.84	11.01	10.41	10.19
315.0	23.40	16.68	14.53	13.93	13.43	12.39	11.12	10.46	10.24
360.0	19.05	15.58	14.70	14.04	13.32	12.44	11.40	10.63	10.35
C/γ(°)	90.0								
0.0	10.02								
45.0	9.86								
90.0	9.86								
135.0	9.91								
180.0	9.91								
225.0	9.91								
270.0	9.97								
315.0	9.97								
360.0	10.02								