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Nata

Client:

LumCAT: LM01D03040AE

Luminaire:

Report No: GC2019091909

Voltage(V): 220.6000

Test No: NATA07

Current(A): 0.0180

LampCAT: CREE CXA1304

Power (W): 2.9800

Lamp flux(lm): 231.0

PF: 0.7290

Number of Lamps: 1

Ballast type: AC

Length(mm): 30

Width(mm): 30

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 214.00, Efficiency(%): 92.64% , Luminous Efficacy(lm/W): 71.81

Central intensity(cd): 348.582, Maximum intensity(cd): 348.582

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=39.6

[C90/270]Total=39.6

Field angle(10%Imax): [C0/180]Total=76.0

[C90/270]Total=76.0

Maximum s/h(1/2): C0_180=0.64 C90_270=0.64

Maximum s/h(1/4): C0_180=0.65 C90_270=0.65

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 92.64%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 94.030%

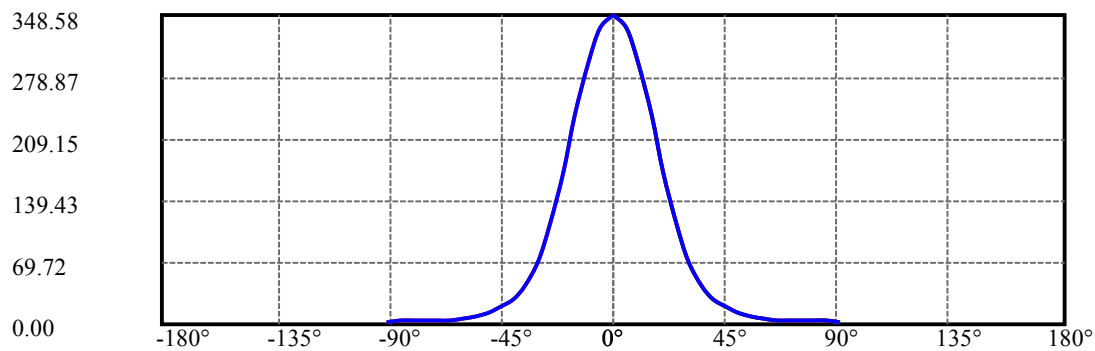
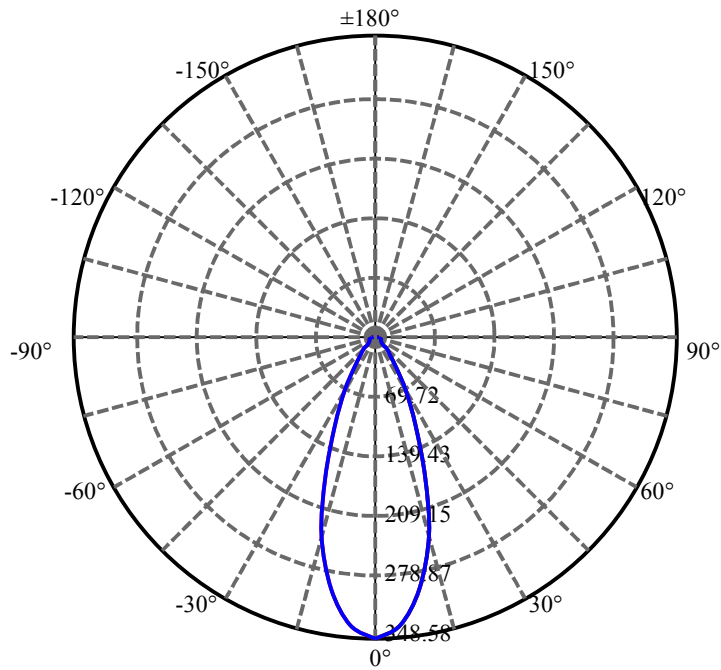
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	348.582	0.000	0	.000%	.000%
5.0	334.452	8.165	8.165	3.535%	3.816%
10.0	294.731	22.508	30.673	9.744%	14.333%
15.0	237.034	31.544	62.217	13.655%	29.073%
20.0	171.623	33.679	95.896	14.580%	44.811%
25.0	111.704	29.716	125.612	12.864%	58.697%
30.0	71.206	23.147	148.76	10.021%	69.513%
35.0	44.188	16.993	165.752	7.356%	77.454%
40.0	28.567	12.139	177.891	5.255%	83.126%
45.0	18.683	8.749	186.639	3.787%	87.214%
50.0	12.610	6.323	192.963	2.737%	90.169%
55.0	8.962	4.690	197.653	2.030%	92.361%
60.0	6.496	3.573	201.226	1.547%	94.030%
65.0	4.832	2.754	203.98	1.192%	95.317%
70.0	4.054	2.250	206.23	.974%	96.369%
75.0	3.776	2.047	208.277	.886%	97.325%
80.0	3.648	1.987	210.264	.860%	98.253%
85.0	3.480	1.937	212.201	.839%	99.158%
90.0	3.097	1.801	214.002	.780%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	148.76	64.40%	69.51%
0-40	177.89	77.01%	83.13%
0-60	201.23	87.11%	94.03%
0-90	212.20	91.86%	99.16%
0-120	212.20	91.86%	99.16%
0-180	214.00	92.64%	100.00%
60-90	14.55	6.30%	6.80%
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%
0-37.24	171.20	74.11%	80.00%

ZONAL LUMEN SUMMARY

0-10	30.67
10-20	65.22
20-30	52.86
30-40	29.13
40-50	15.07
50-60	8.26
60-70	5.00
70-80	4.03
80-90	1.94
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: —————

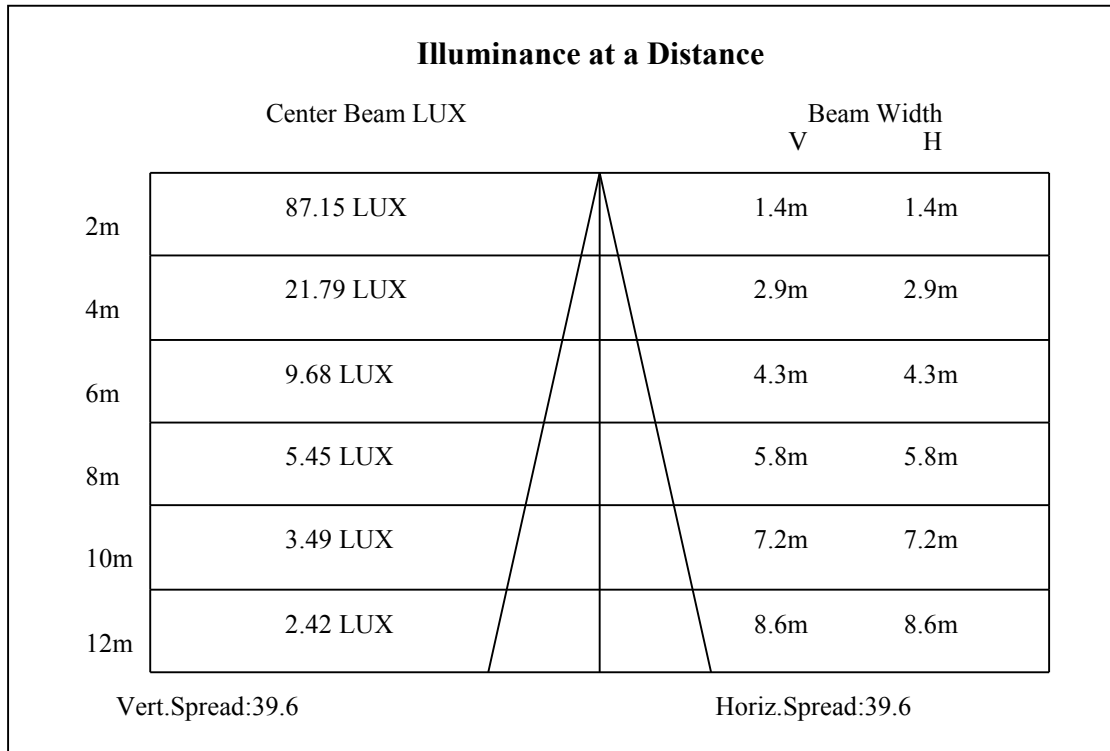
C90/C270: —————

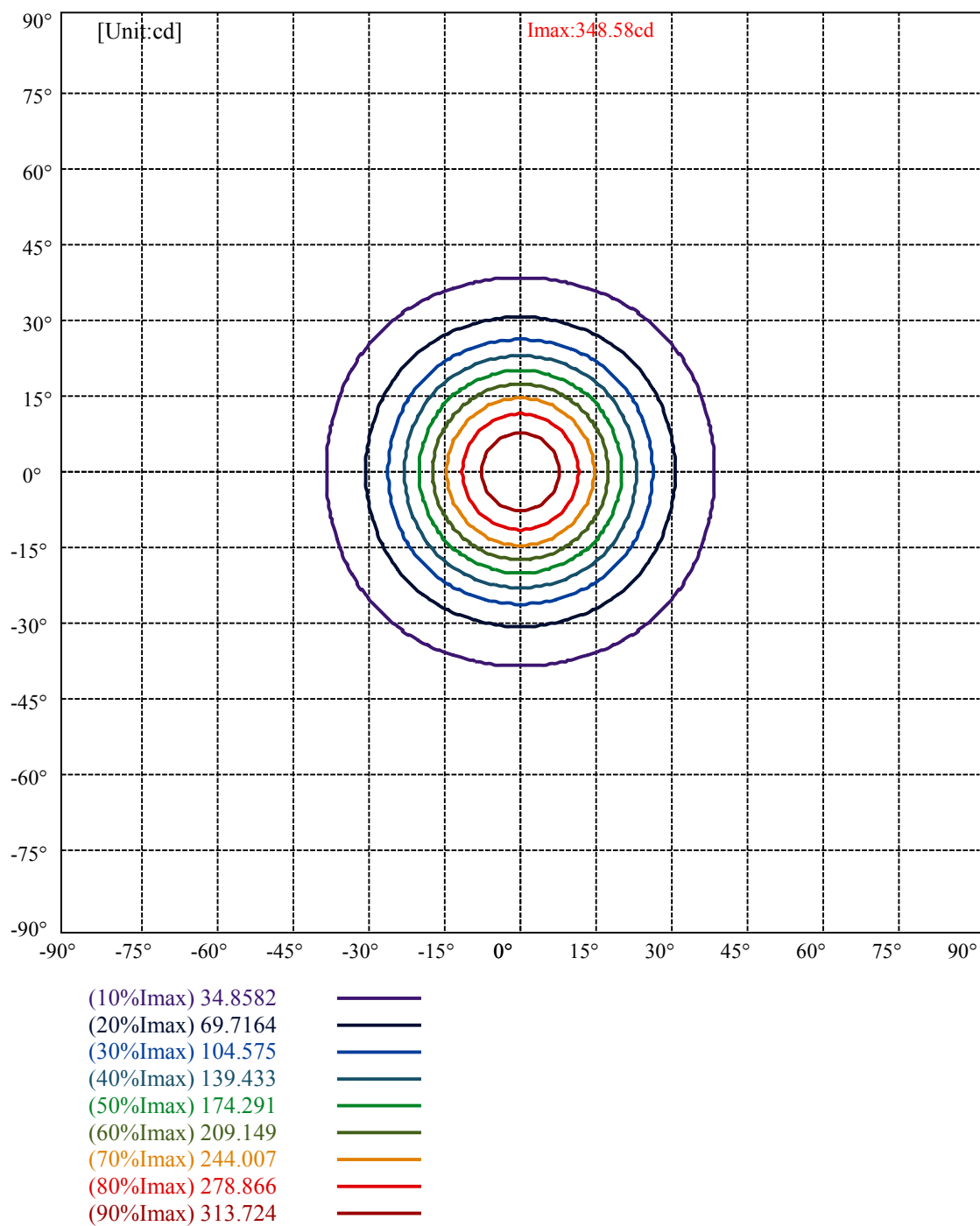
Field angle(10%Imax):C0/180Left:38.0 Right:38.0

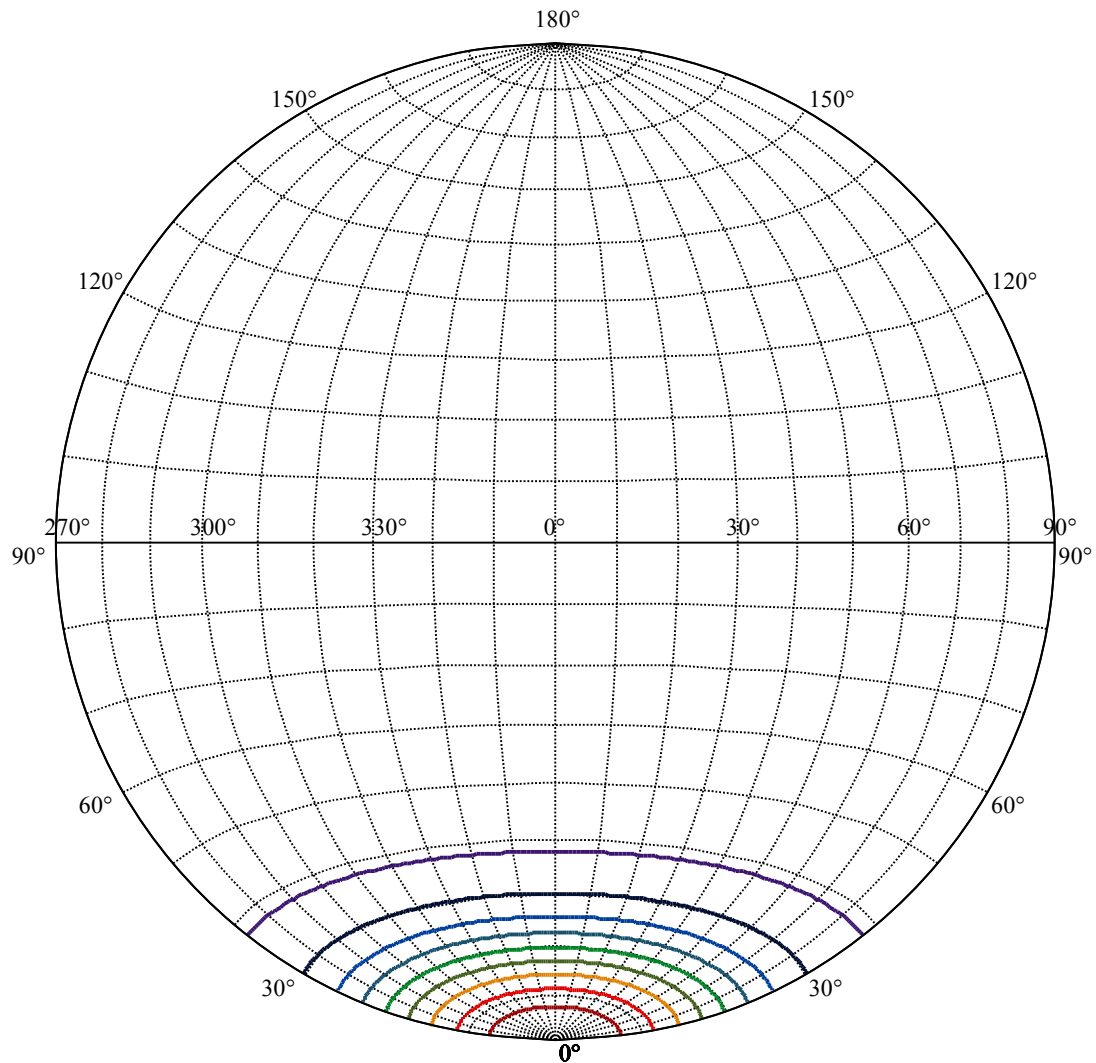
:C90/270Left:38.0 Right:38.0

Beam Angle(50%Imax):C0/180Left:19.8 Right:19.8

:C90/270Left:19.8 Right:19.8







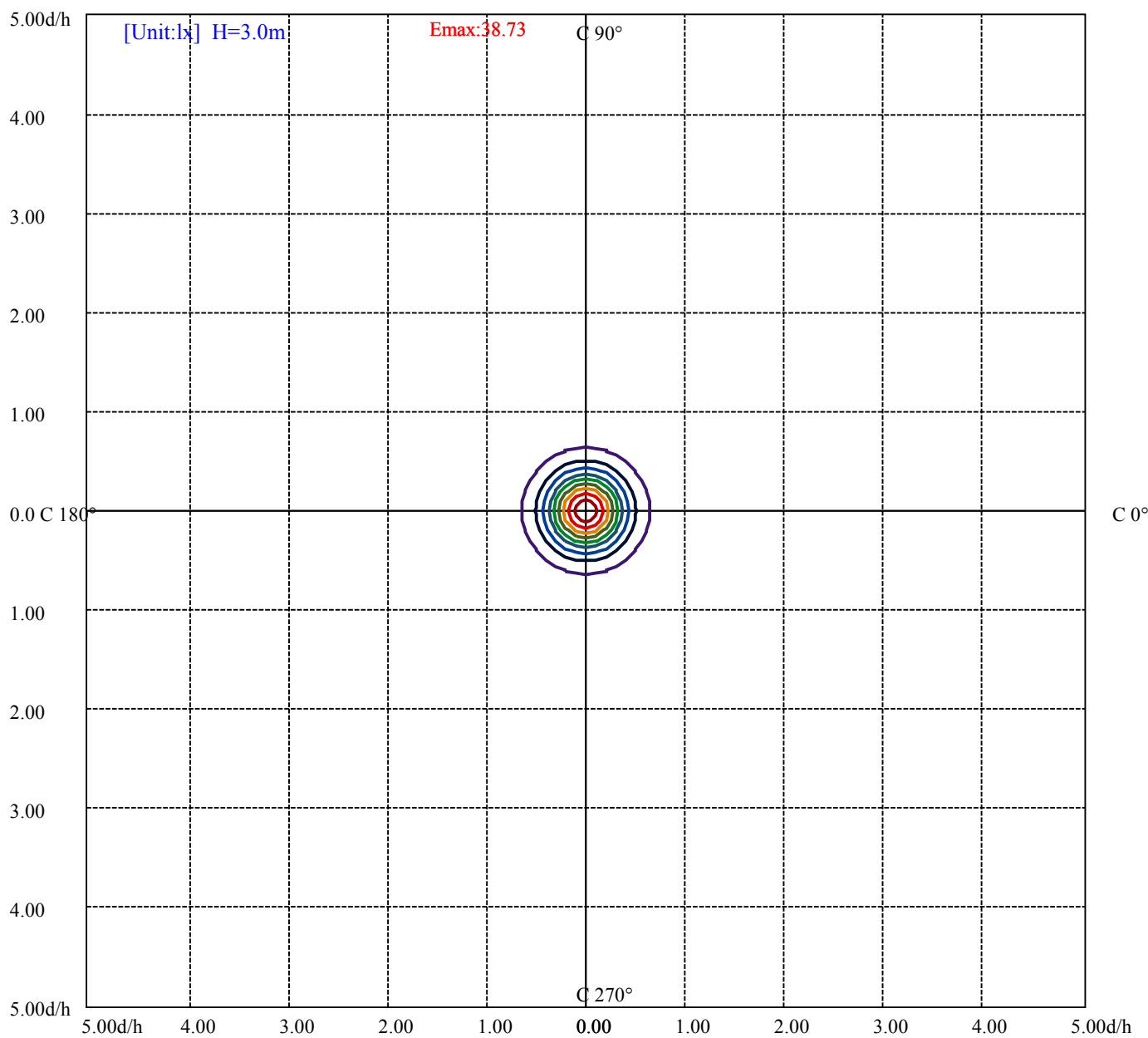
House

[Unit:cd]

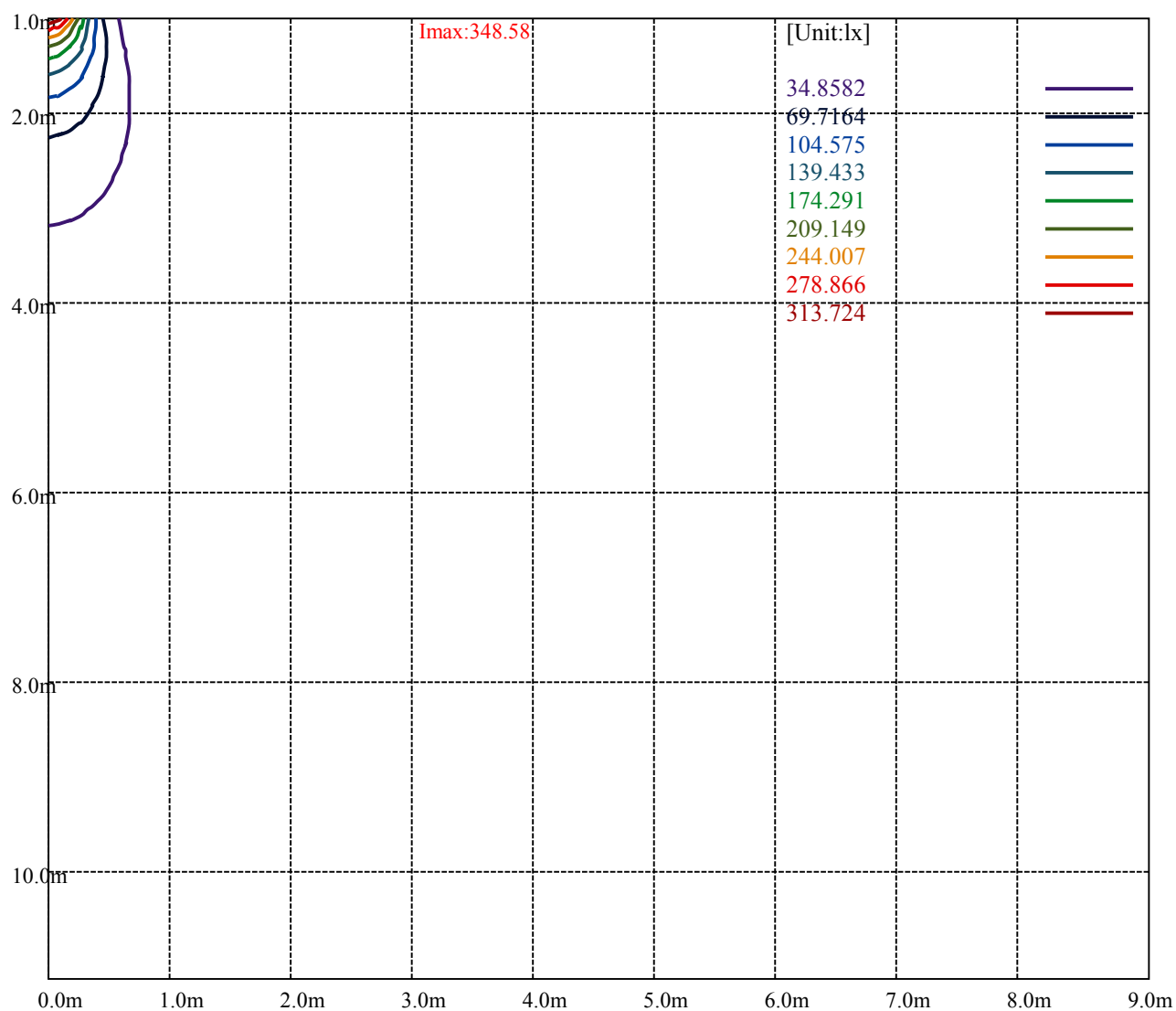
Road

Imax:348.58
 (10%Imax) 34.8582
 (20%Imax) 69.7164
 (30%Imax) 104.575
 (40%Imax) 139.433
 (50%Imax) 174.291
 (60%Imax) 209.149
 (70%Imax) 244.007
 (80%Imax) 278.866
 (90%Imax) 313.724





(10%Emax) 3.873122	—
(20%Emax) 7.746256	—
(30%Emax) 11.61933	—
(40%Emax) 15.49256	—
(50%Emax) 19.36567	—
(60%Emax) 23.23878	—
(70%Emax) 27.11189	—
(80%Emax) 30.985	—
(90%Emax) 34.85811	—



Luminance Table

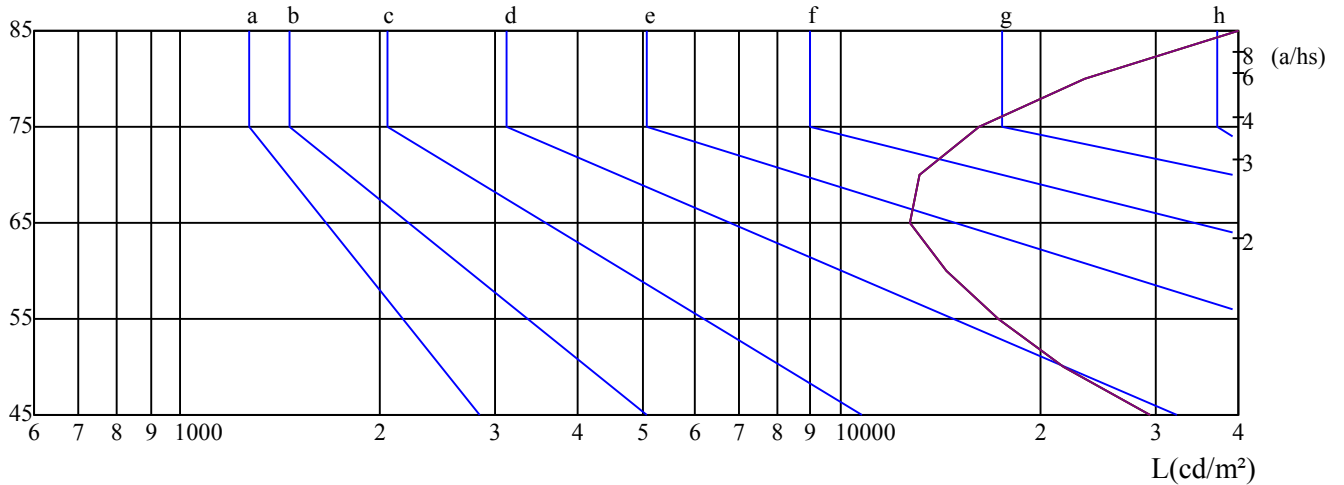
γ	45	50	55	60	65	70	75	80	85
C0	29358	21798	17360	14437	12703	13172	16211	23345	44368
C45	29358	21798	17360	14437	12703	13172	16211	23345	44368
C90	29358	21798	17360	14437	12703	13172	16211	23345	44368

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
12703	12703	12703	16211	16211	16211	44368	44368	44368

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

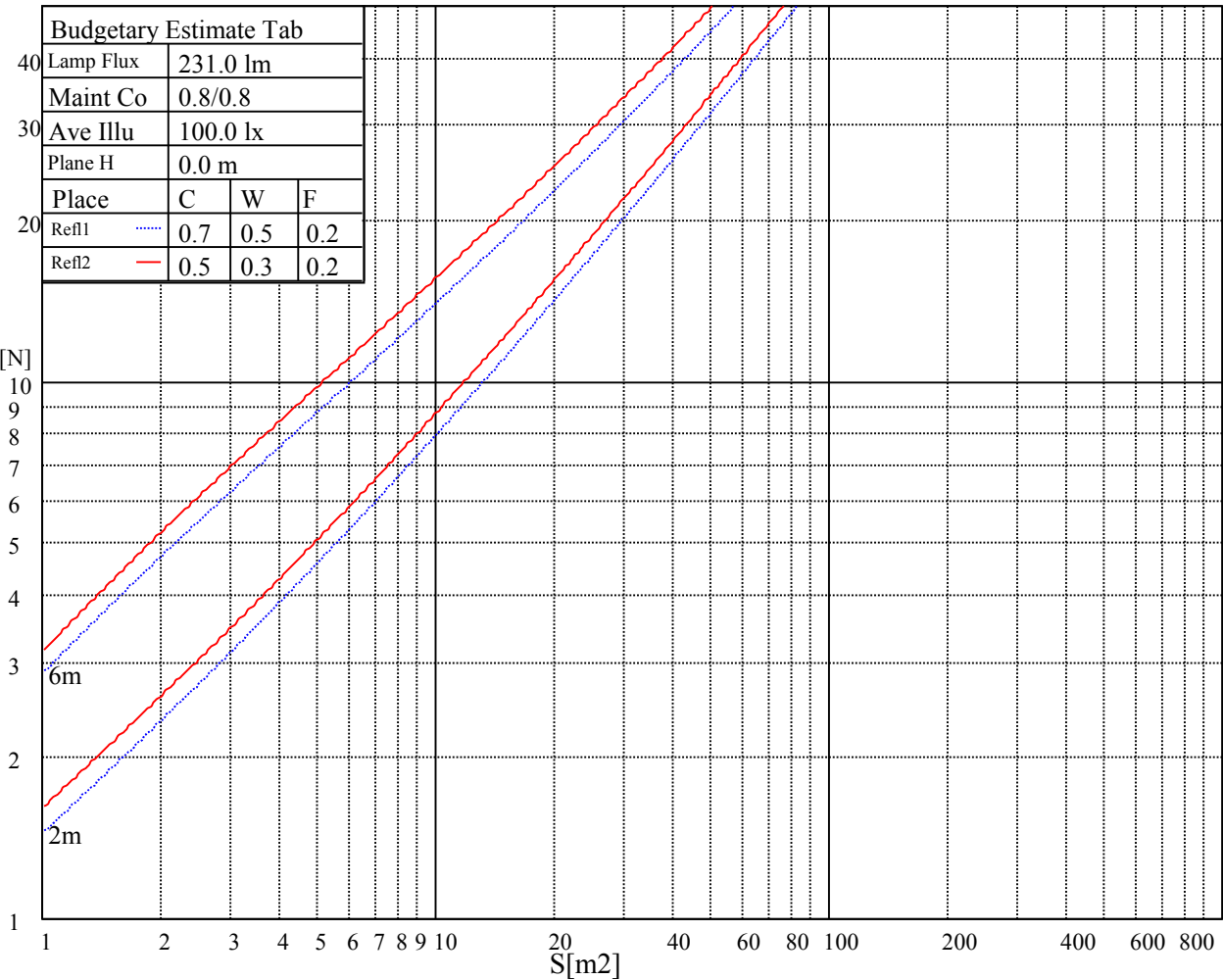
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

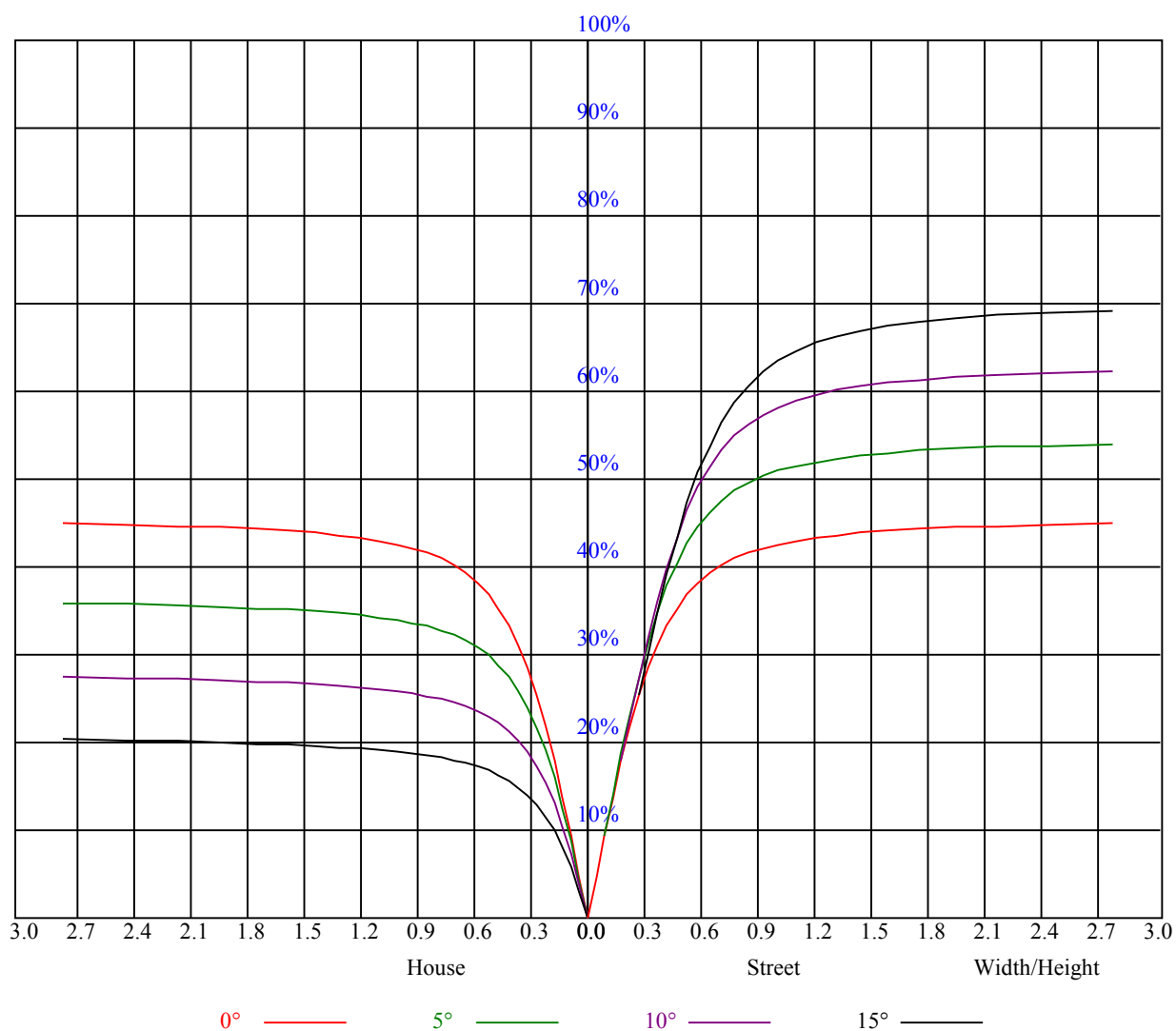
C0 ———

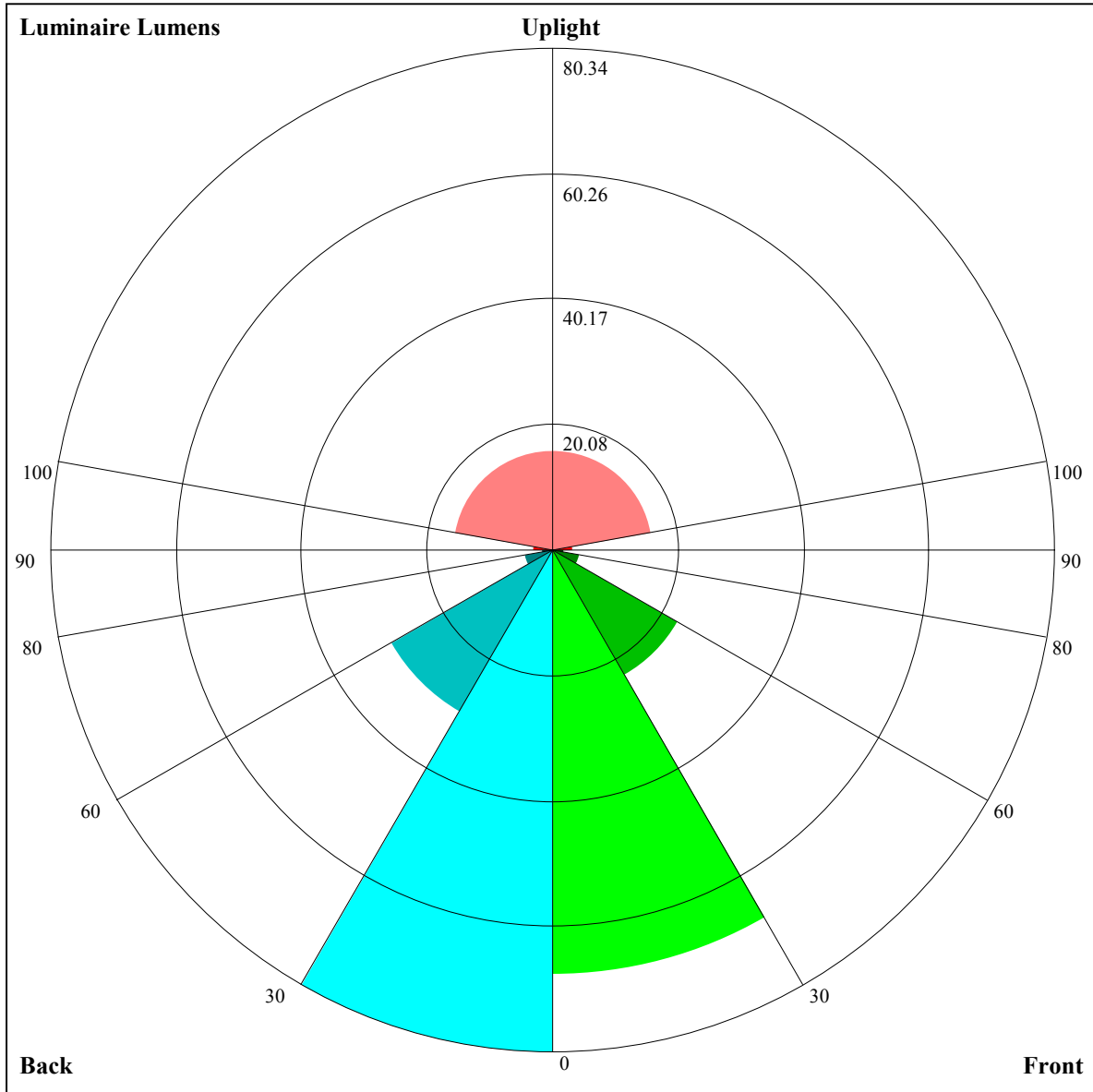
C45 ———

C90 ———



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 RHOFC=20 CU															
0	1.10	1.10	1.10	1.08	1.08	1.08	1.03	1.03	1.03	0.99	0.99	0.99	0.95	0.95	0.95	0.93
1	1.01	0.98	0.96	0.99	0.97	0.94	0.95	0.93	0.92	0.92	0.90	0.89	0.89	0.87	0.86	0.84
2	0.93	0.89	0.86	0.92	0.88	0.85	0.89	0.86	0.83	0.86	0.83	0.81	0.83	0.81	0.79	0.78
3	0.87	0.82	0.78	0.86	0.81	0.77	0.83	0.79	0.76	0.81	0.78	0.75	0.79	0.76	0.74	0.72
4	0.81	0.76	0.72	0.80	0.75	0.71	0.78	0.74	0.70	0.76	0.72	0.69	0.74	0.71	0.69	0.67
5	0.76	0.70	0.66	0.75	0.70	0.66	0.74	0.69	0.65	0.72	0.68	0.65	0.70	0.67	0.64	0.63
6	0.72	0.66	0.62	0.71	0.65	0.62	0.69	0.65	0.61	0.68	0.64	0.61	0.67	0.63	0.60	0.59
7	0.68	0.62	0.58	0.67	0.62	0.58	0.66	0.61	0.57	0.65	0.60	0.57	0.64	0.60	0.57	0.55
8	0.64	0.58	0.55	0.63	0.58	0.54	0.62	0.58	0.54	0.61	0.57	0.54	0.61	0.57	0.54	0.52
9	0.61	0.55	0.52	0.60	0.55	0.51	0.59	0.55	0.51	0.59	0.54	0.51	0.58	0.54	0.51	0.50
10	0.58	0.52	0.49	0.57	0.52	0.49	0.57	0.52	0.49	0.56	0.52	0.49	0.55	0.51	0.48	0.47





Luminaire Lumens:

FL=68.05,FM=23.14,FH=4.45,FVH=1.82

BL=80.34,BM=29.83,BH=4.67,BVH=1.95

UL=3.38,UH=16.08

BUG Rating:B0-U2-G0

Intensity data(cd)										Appendix Page: 15 Total:15	
C/ γ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0		
0.0	346.22	306.26	254.24	189.84	130.30	75.68	48.12	28.40	19.03		
45.0	355.50	325.19	273.41	200.32	131.55	80.88	50.35	29.51	20.28		
90.0	343.90	306.96	251.13	188.12	113.27	71.97	41.44	28.12	18.98		
135.0	348.72	338.98	297.82	240.60	170.81	106.59	67.28	44.59	28.91		
180.0	346.22	351.69	329.28	274.20	217.91	143.02	96.89	60.46	37.26		
225.0	355.50	358.23	332.20	273.92	214.99	147.42	96.01	57.96	37.35		
270.0	343.90	355.59	339.72	302.97	233.73	169.37	108.68	65.89	42.97		
315.0	348.72	332.71	280.04	226.31	160.42	98.70	60.88	38.56	23.76		
360.0	346.22	306.26	254.24	189.84	130.30	75.68	48.12	28.40	19.03		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	12.71	11.23	8.45	5.24	4.13	3.81	4.59	5.75	3.06		
45.0	13.78	9.28	7.15	5.24	3.94	3.53	3.11	3.20	2.88		
90.0	12.48	8.77	6.73	4.97	4.13	3.81	3.43	3.29	3.71		
135.0	18.47	11.97	8.03	6.13	4.69	4.13	3.57	3.16	3.06		
180.0	23.80	15.41	10.67	7.33	5.48	4.27	4.08	3.76	5.52		
225.0	24.55	14.90	10.30	7.38	5.15	4.08	3.67	3.20	3.06		
270.0	28.03	18.24	12.30	8.91	6.36	4.87	4.27	3.71	3.57		
315.0	15.64	11.09	8.07	6.77	4.78	3.94	3.48	3.11	2.97		
360.0	12.71	11.23	8.45	5.24	4.13	3.81	4.59	5.75	3.06		
C/ γ (°)	90.0										
0.0	2.60										
45.0	2.51										
90.0	3.48										
135.0	3.39										
180.0	3.29										
225.0	2.88										
270.0	3.57										
315.0	3.06										
360.0	2.60										