
Nata

Client:

LumCAT: 1408-N

Luminaire: 92.70.044.00

Report No: nata-0100

Test No: GC2018060204

LampCAT: NICHIA NFCWS024B-V3

Lamp flux(lm): 1022.7

Number of Lamps: 1

Length(mm): 39

Phm Type: C

Voltage(V): 36.3000

Current(A): 0.3000

Power (W): 10.8900

PF: 0.0000

Ballast type: DC

Width(mm): 39

Height(mm): 0

Photometric Results

Lumens(lm): 883.33, Efficiency(%): 86.37% , Luminous Efficacy(lm/W): 81.11

Central intensity(cd): 857.283, Maximum intensity(cd): 857.283

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=56.8

[C90/270]Total=56.8

Field angle(10%Imax): [C0/180]Total=98.8

[C90/270]Total=98.8

Maximum s/h(1/2): C0_180=0.84 C90_270=0.84

Maximum s/h(1/4): C0_180=0.89 C90_270=0.89

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 86.79%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 95.490%

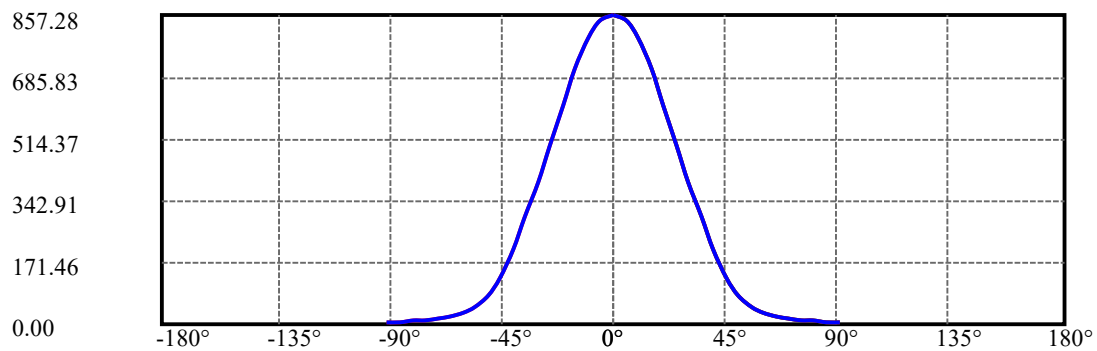
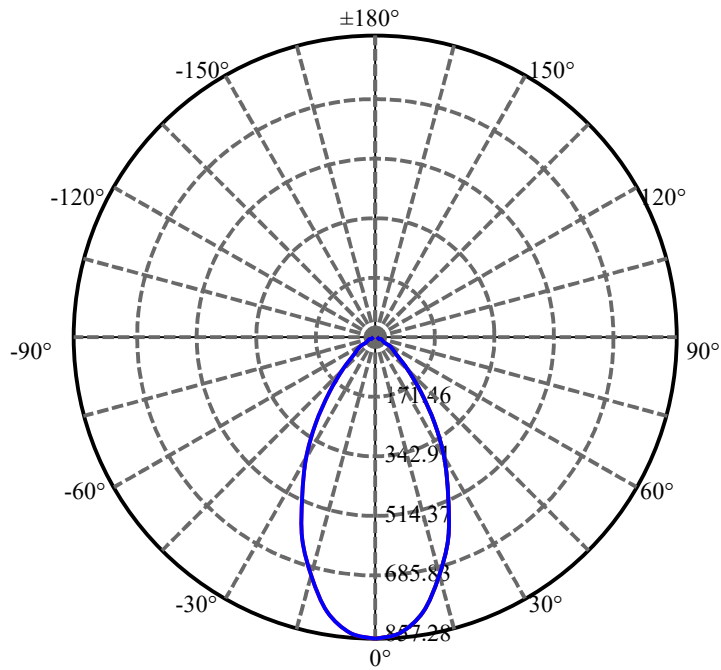
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	857.283	5.127	5.127	.501%	.580%
5.0	842.384	40.243	45.37	3.935%	5.136%
10.0	792.702	75.452	120.822	7.377%	13.678%
15.0	705.926	100.149	220.971	9.792%	25.016%
20.0	608.704	114.116	335.087	11.158%	37.935%
25.0	497.159	115.168	450.255	11.261%	50.973%
30.0	396.069	108.550	558.805	10.614%	63.262%
35.0	297.821	93.634	652.44	9.155%	73.862%
40.0	207.411	73.078	725.518	7.145%	82.135%
45.0	128.412	49.771	775.29	4.867%	87.769%
50.0	80.155	33.657	808.947	3.291%	91.580%
55.0	50.026	22.462	831.408	2.196%	94.123%
60.0	34.066	16.171	847.58	1.581%	95.953%
65.0	23.874	11.860	859.44	1.160%	97.296%
70.0	17.673	9.103	868.543	.890%	98.326%
75.0	12.346	6.537	875.08	.639%	99.066%
80.0	8.265	4.462	879.541	.436%	99.572%
85.0	5.162	2.818	882.36	.276%	99.891%
90.0	3.524	0.966	883.326	.094%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	558.81	54.64%	63.26%
0-40	725.52	70.94%	82.13%
0-60	847.58	82.87%	95.95%
0-90	882.36	86.27%	99.89%
0-120	882.36	86.27%	99.89%
0-180	883.33	86.37%	100.00%
60-90	50.95	4.98%	5.77%
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%
0-38.71	706.66	69.10%	80.00%

ZONAL LUMEN SUMMARY

0-10	120.82
10-20	214.26
20-30	223.72
30-40	166.71
40-50	83.43
50-60	38.63
60-70	20.96
70-80	11.00
80-90	2.82
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:

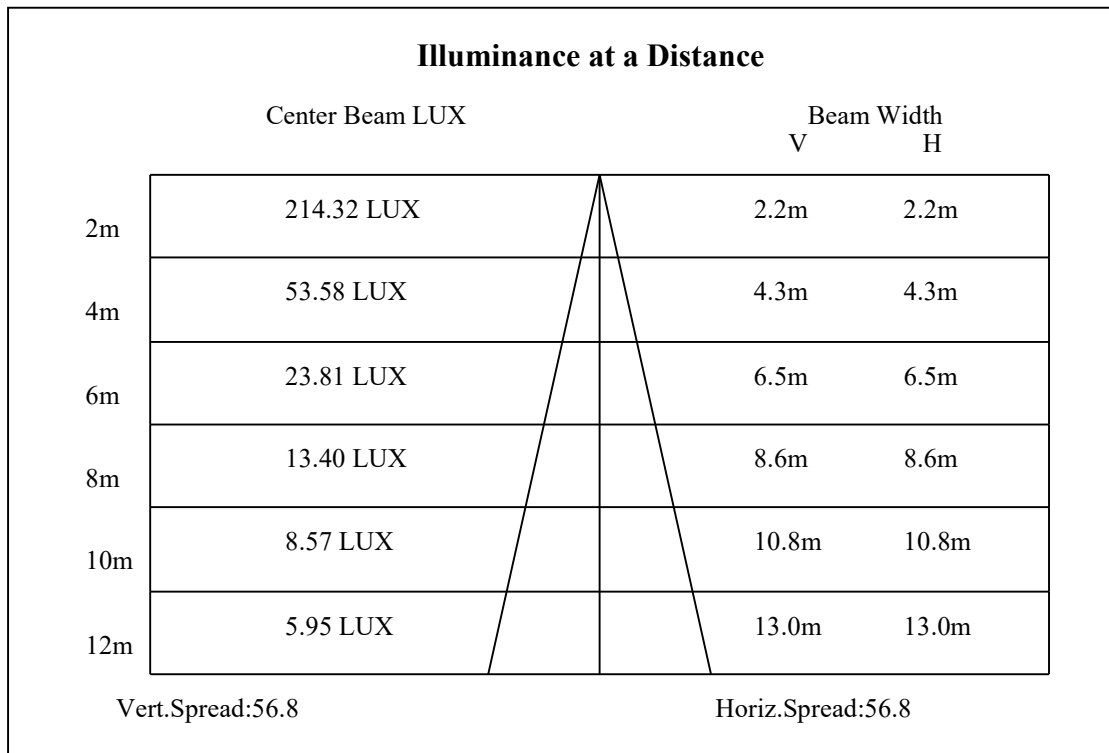
C90/C270:

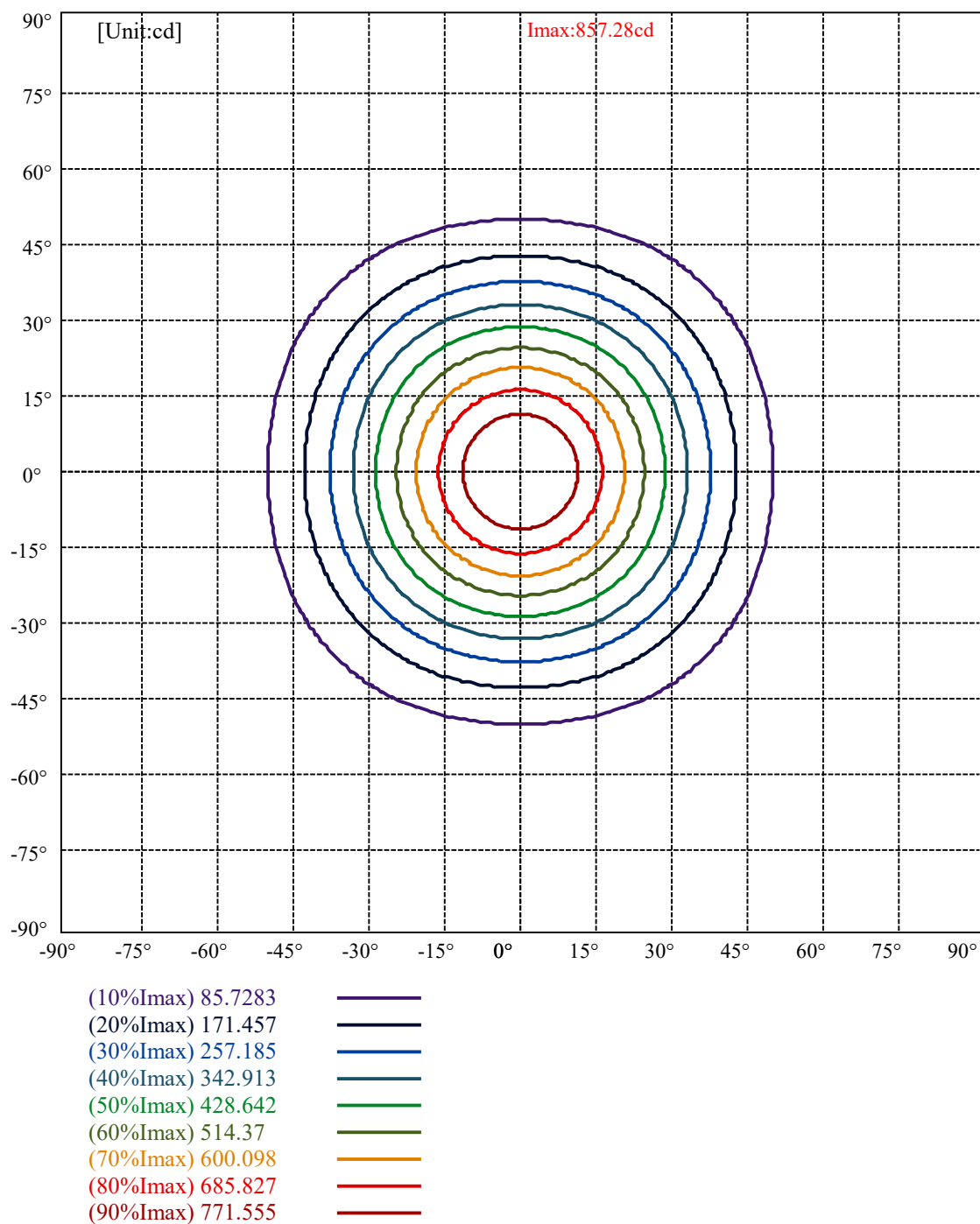
Field angle(10%Imax):C0/180Left:49.4 Right:49.4

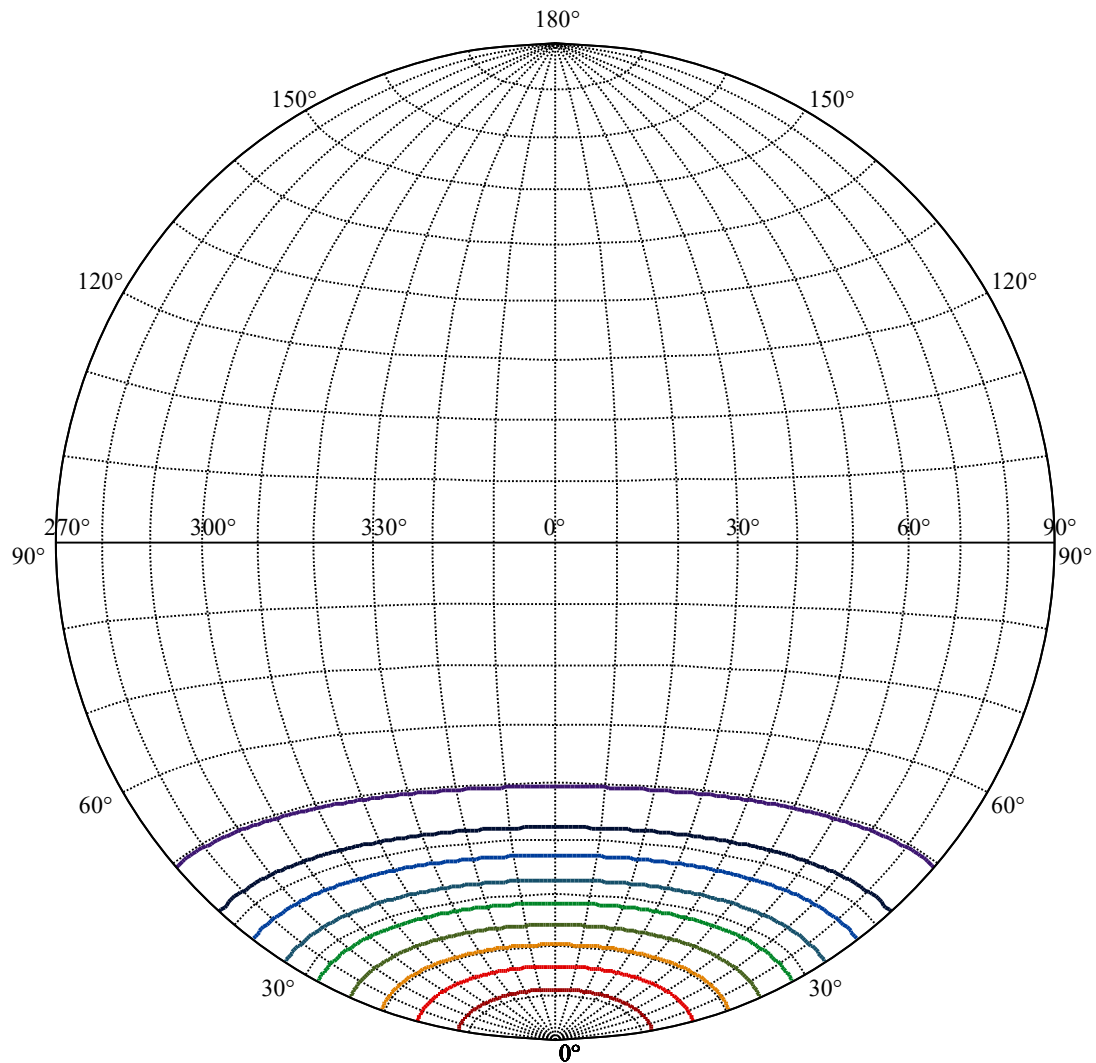
:C90/270Left:49.4 Right:49.4

Beam Angle(50%Imax):C0/180Left:28.4 Right:28.4

:C90/270Left:28.4 Right:28.4







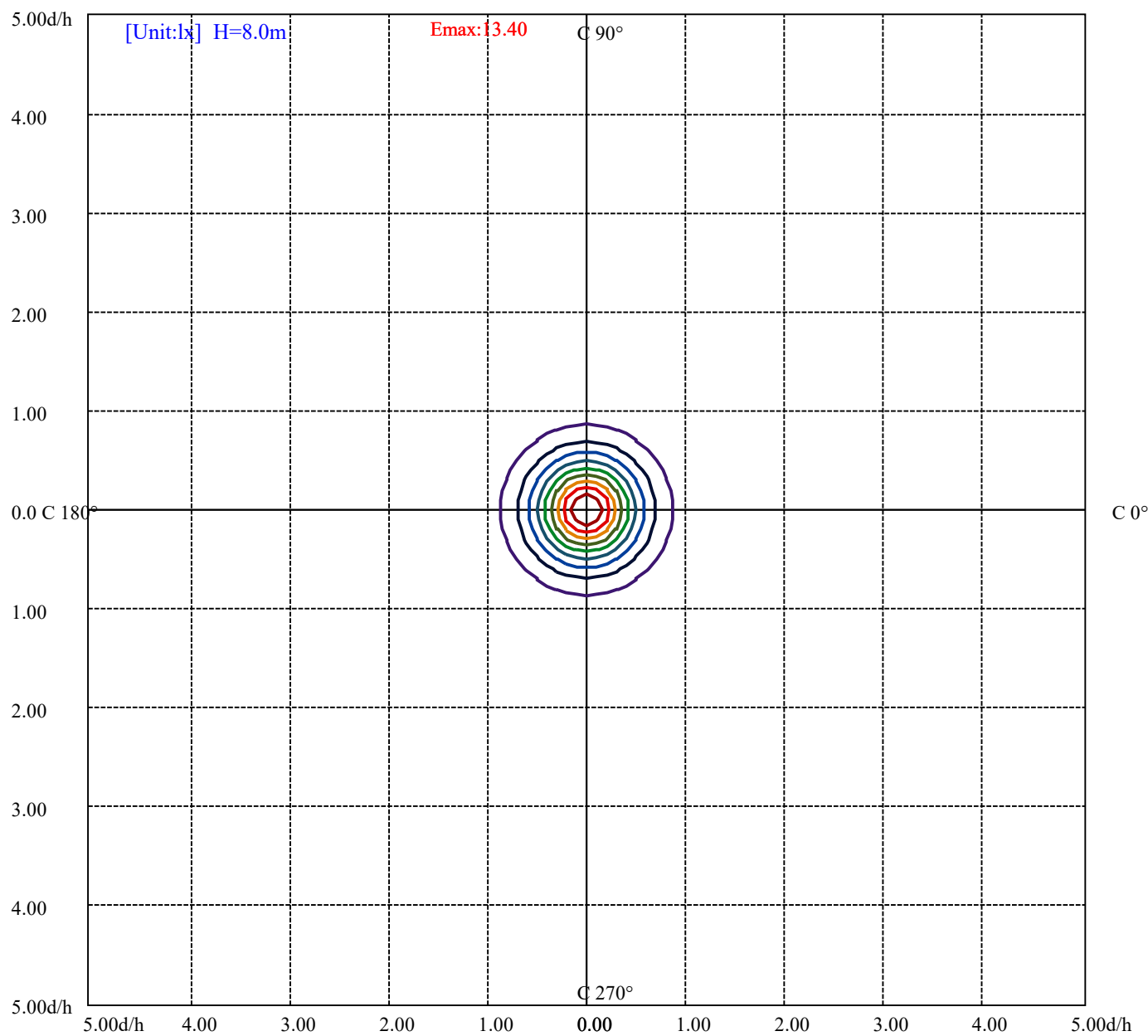
House

[Unit:cd]

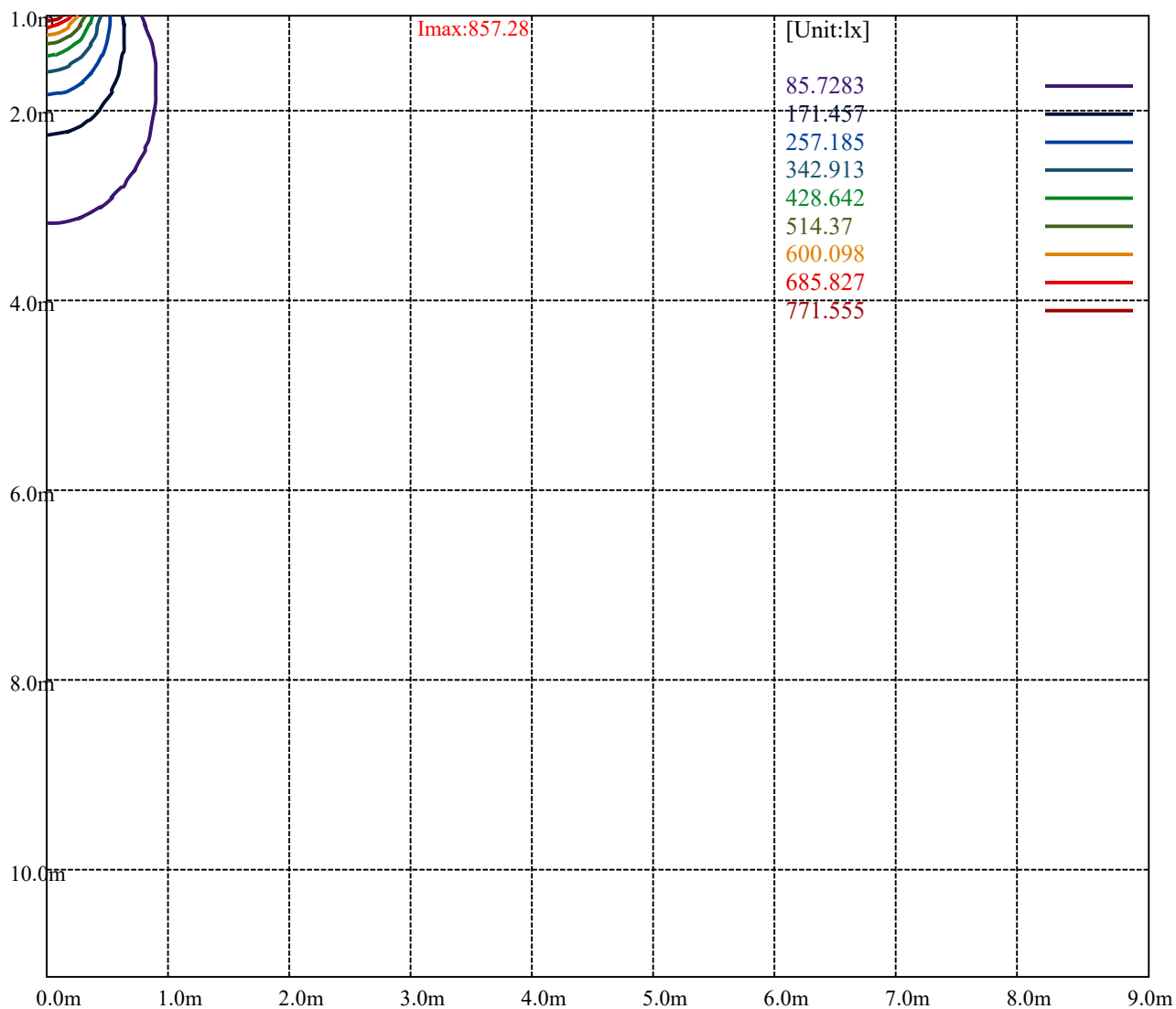
Road

Imax:857.28
(10%Imax) 85.7283
(20%Imax) 171.457
(30%Imax) 257.185
(40%Imax) 342.913
(50%Imax) 428.642
(60%Imax) 514.37
(70%Imax) 600.098
(80%Imax) 685.827
(90%Imax) 771.555





(10%E _{max}) 1.339505	—
(20%E _{max}) 2.679016	—
(30%E _{max}) 4.018516	—
(40%E _{max}) 5.358016	—
(50%E _{max}) 6.697515	—
(60%E _{max}) 8.037031	—
(70%E _{max}) 9.376532	—
(80%E _{max}) 10.71603	—
(90%E _{max}) 12.05555	—



Luminance Table

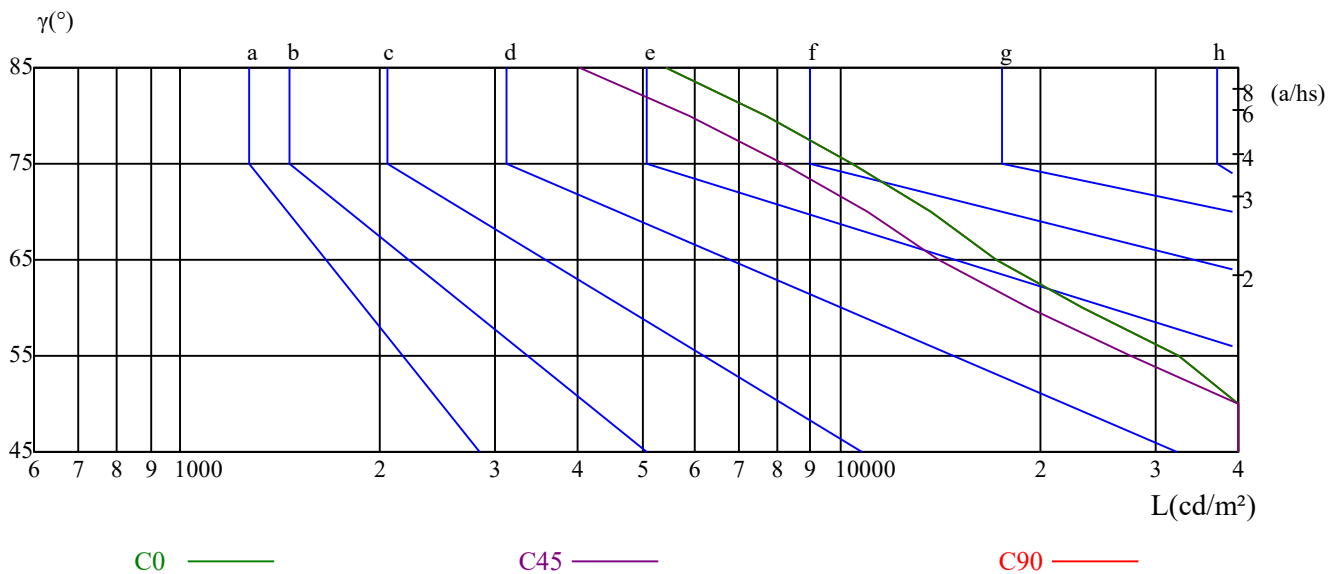
γ	45	50	55	60	65	70	75	80	85
C0	77608	49939	32415	23178	17237	13702	10421	7720	5442
C45	67781	42980	27469	19317	14105	10987	8163	5884	4012
C90	77608	49939	32415	23178	17237	13702	10421	7720	5442

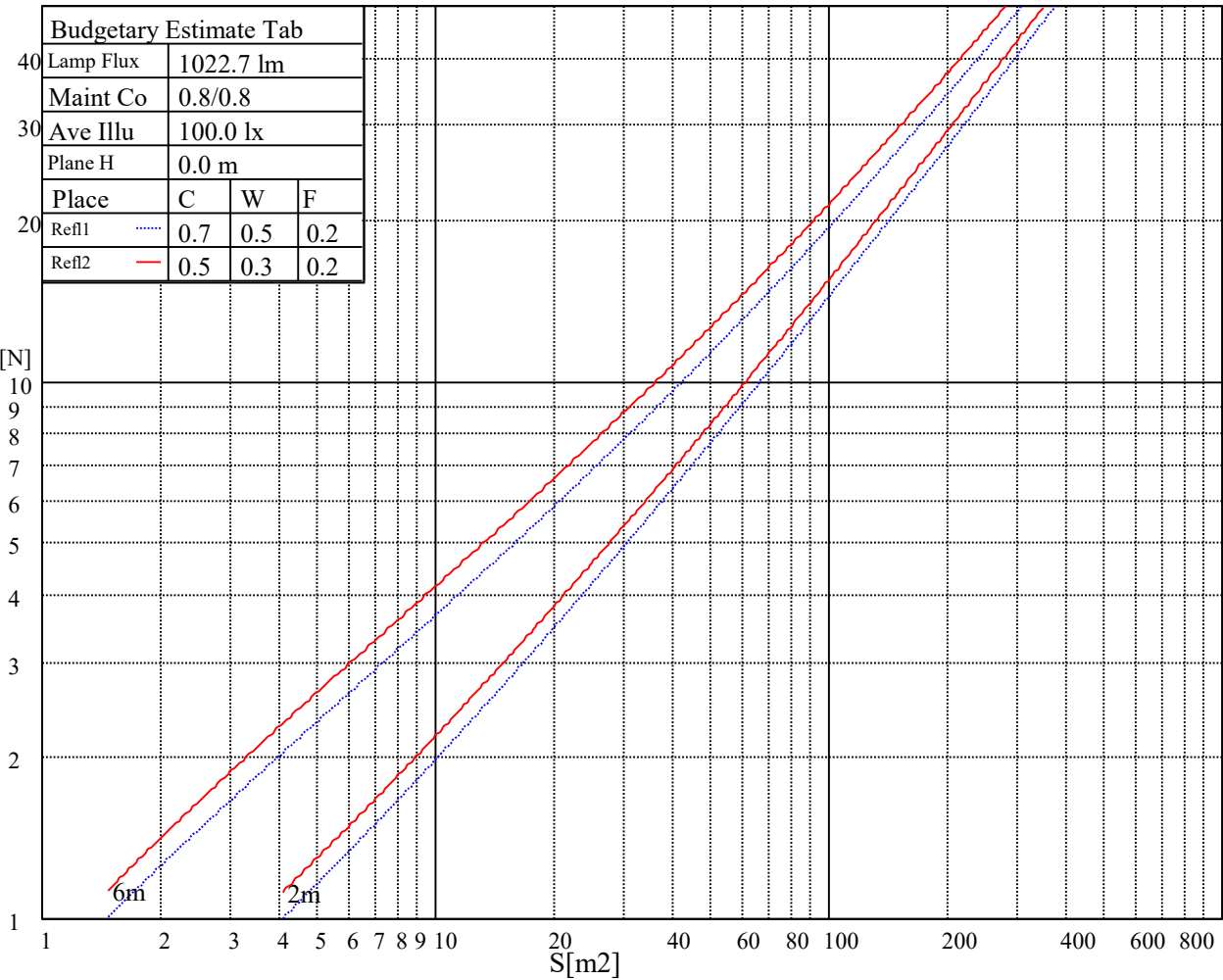
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
37140	37140	37140	31363	31363	31363	38936	38936	38936

Glare Table

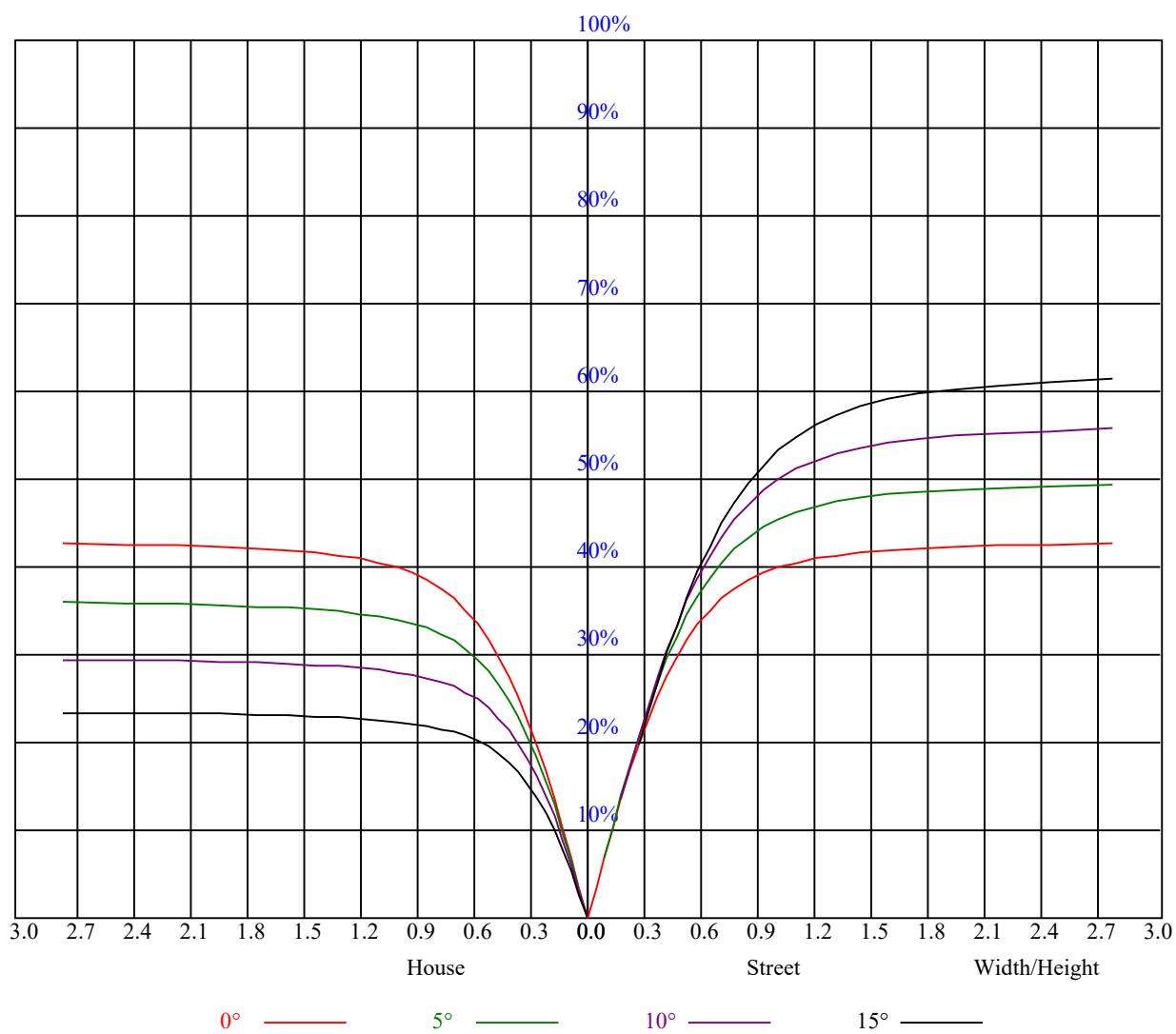
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

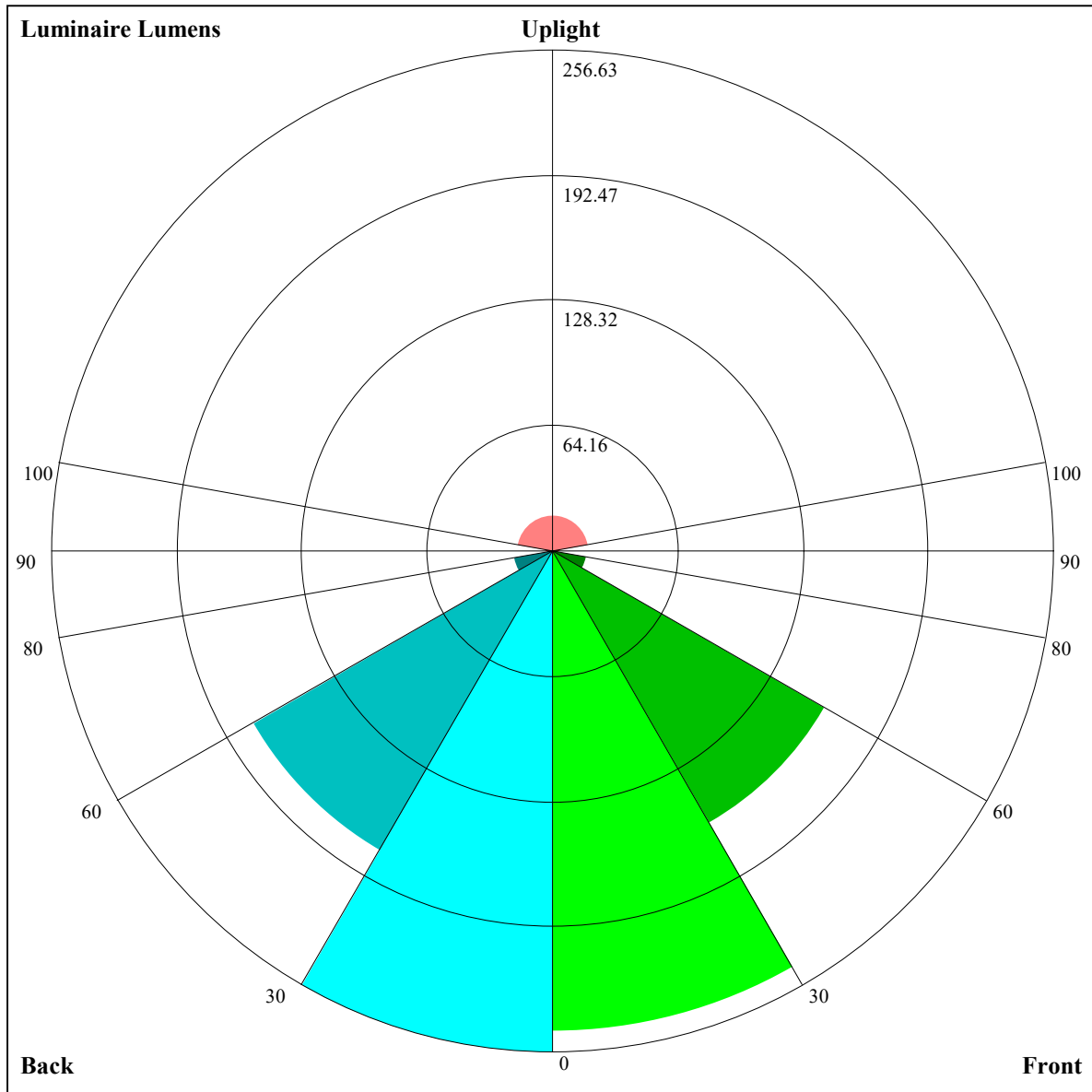
Luminance Limiting Curve





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	1.03	1.03	1.03	1.01	1.01	1.01	0.96	0.96	0.96	0.92	0.92	0.92	0.89	0.89	0.89	0.87
1	0.95	0.92	0.90	0.93	0.90	0.88	0.89	0.87	0.86	0.86	0.84	0.83	0.83	0.82	0.81	0.79
2	0.87	0.83	0.80	0.86	0.82	0.79	0.83	0.80	0.77	0.80	0.78	0.75	0.78	0.76	0.74	0.72
3	0.81	0.76	0.72	0.79	0.75	0.71	0.77	0.73	0.70	0.75	0.72	0.69	0.73	0.70	0.68	0.66
4	0.75	0.70	0.65	0.74	0.69	0.65	0.72	0.68	0.64	0.70	0.66	0.64	0.68	0.65	0.63	0.61
5	0.70	0.64	0.60	0.69	0.64	0.60	0.67	0.63	0.59	0.66	0.62	0.59	0.64	0.61	0.58	0.57
6	0.65	0.60	0.56	0.65	0.59	0.55	0.63	0.58	0.55	0.62	0.58	0.55	0.61	0.57	0.54	0.53
7	0.61	0.56	0.52	0.61	0.55	0.52	0.59	0.55	0.51	0.58	0.54	0.51	0.57	0.54	0.51	0.49
8	0.58	0.52	0.48	0.57	0.52	0.48	0.56	0.51	0.48	0.55	0.51	0.48	0.54	0.50	0.48	0.46
9	0.54	0.49	0.45	0.54	0.49	0.45	0.53	0.48	0.45	0.52	0.48	0.45	0.52	0.48	0.45	0.44
10	0.51	0.46	0.43	0.51	0.46	0.43	0.50	0.46	0.43	0.50	0.45	0.42	0.49	0.45	0.42	0.41





Luminaire Lumens:

FL=246.47,FM=160.7,FH=17.59,FVH=2.78

BL=256.63,BM=176.97,BH=20.25,BVH=3.24

UL=3.84,UH=18.3

BUG Rating:B1-U2-G0

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	858.60	836.31	780.37	684.85	586.52	476.13	375.98	281.23	189.39
45.0	856.73	842.64	792.26	702.13	603.97	495.62	396.46	306.88	209.76
90.0	856.79	843.30	794.30	712.32	608.98	496.72	401.14	299.56	210.65
135.0	857.01	854.92	819.35	742.66	653.63	534.49	430.76	324.78	239.05
180.0	858.60	849.47	807.40	727.96	633.09	520.01	413.91	313.99	223.69
225.0	856.73	844.51	796.01	706.98	617.73	503.33	398.39	299.78	208.11
270.0	856.79	840.99	789.01	700.87	601.44	498.26	397.89	297.91	209.43
315.0	857.01	826.95	762.92	669.65	564.27	452.73	354.01	258.43	169.19
360.0	858.60	836.31	780.37	684.85	586.52	476.13	375.98	281.23	189.39

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	113.20	69.43	43.11	29.57	20.92	15.58	10.74	7.10	4.35
45.0	129.82	81.43	49.83	33.58	23.23	17.01	11.89	7.76	4.84
90.0	131.92	83.80	51.31	34.63	24.61	17.84	12.50	8.75	5.51
135.0	155.70	97.84	61.61	41.24	28.46	21.36	14.87	10.08	6.28
180.0	142.82	91.56	56.65	38.70	26.65	20.21	14.37	9.63	6.11
225.0	129.22	81.26	50.60	34.58	24.06	18.17	12.72	8.53	5.40
270.0	127.07	75.59	48.23	32.92	23.07	16.68	11.78	7.93	4.73
315.0	97.56	60.34	38.87	27.31	19.99	14.53	9.91	6.33	4.07
360.0	113.20	69.43	43.11	29.57	20.92	15.58	10.74	7.10	4.35

C/γ(°)	90.0
0.0	3.47
45.0	3.41
90.0	3.41
135.0	3.74
180.0	3.80
225.0	3.47
270.0	3.47
315.0	3.41
360.0	3.47