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Nata

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LumCAT: LM40L25060100AU

Luminaire:

Report No: NATA0100

Voltage(V): 54.2000

Test No: GC20180712001

Current(A): 0.1000

LampCAT: LUMILEDS LUXEON 3030 2D(ROUND LES) Power (W): 5.4200

Lamp flux(lm): 827.7

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 70

Width(mm): 250

Phm Type: C

Height(mm): 0

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Photometric Results

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Lumens(lm): 757.78

Efficiency(%): 91.56%

Lumens(lm)/Power(W): 139.93

Central intensity(cd): 425.971

Maximum intensity(cd): 436.267

Angle of maximum intensity: C=105.0  $\gamma$ =3.0

Beam Angle(50%Imax): [C0/180]Total=97.6

[C90/270]Total=60.4

Field angle(10%Imax): [C0/180]Total=144.9

[C90/270]Total=125.0

Maximum s/h(1/2): C0\_180=1.12 C90\_270=0.96

Maximum s/h(1/4): C0\_180=1.24 C90\_270=1.02

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 91.64%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 89.291%

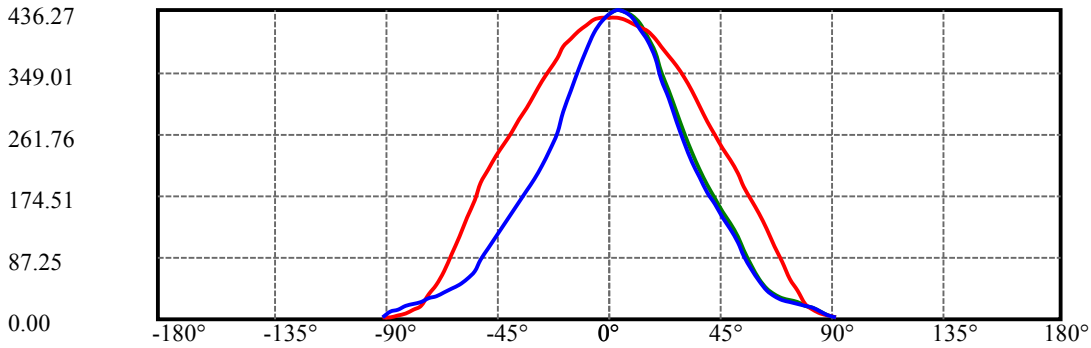
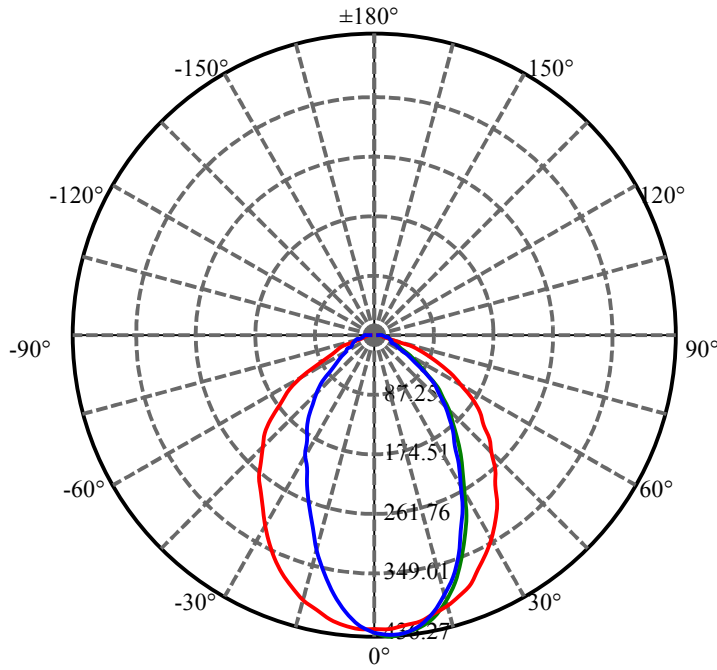
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	429.045	0.924	0.924	.112%	.122%
3.0	426.793	7.348	8.271	.888%	1.092%
6.0	420.062	14.444	22.715	1.745%	2.998%
9.0	409.487	21.072	43.787	2.546%	5.778%
12.0	395.408	27.043	70.83	3.267%	9.347%
15.0	378.444	32.220	103.05	3.893%	13.599%
18.0	358.736	36.466	139.516	4.406%	18.411%
21.0	337.145	39.744	179.26	4.802%	23.656%
24.0	314.923	42.135	221.395	5.091%	29.216%
27.0	292.441	43.673	265.068	5.277%	34.980%
30.0	270.361	44.468	309.536	5.373%	40.848%
33.0	248.720	44.560	354.096	5.384%	46.728%
36.0	228.243	44.131	398.227	5.332%	52.552%
39.0	209.081	43.283	441.51	5.230%	58.264%
42.0	190.825	42.003	483.513	5.075%	63.807%
45.0	172.737	40.179	523.692	4.855%	69.109%
48.0	154.734	37.826	561.518	4.570%	74.101%
51.0	136.012	34.770	596.288	4.201%	78.689%
54.0	116.921	31.116	627.404	3.760%	82.795%
57.0	98.099	27.064	654.467	3.270%	86.367%
60.0	79.880	22.756	677.223	2.749%	89.370%
63.0	64.145	18.801	696.024	2.272%	91.851%
66.0	50.604	15.207	711.231	1.837%	93.858%
69.0	39.608	12.164	723.395	1.470%	95.463%
72.0	31.281	9.786	733.181	1.182%	96.754%
75.0	24.950	7.928	741.109	.958%	97.800%
78.0	19.616	6.312	747.42	.763%	98.633%
81.0	14.989	4.870	752.29	.588%	99.276%
84.0	10.376	3.394	755.685	.410%	99.724%
87.0	4.820	1.583	757.268	.191%	99.933%
90.0	3.095	0.509	757.777	.061%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	309.54	37.40%	40.85%
0-40	441.51	53.35%	58.26%
0-60	677.22	81.82%	89.37%
0-90	757.27	91.50%	99.93%
0-120	757.27	91.50%	99.93%
0-180	757.78	91.56%	100.00%
60-90	102.80	12.42%	13.57%
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%
0-51.96	606.22	73.25%	80.00%

ZONAL LUMEN SUMMARY

0-10	43.79
10-20	95.73
20-30	170.02
30-40	131.97
40-50	120.01
50-60	115.71
60-70	46.17
70-80	24.03
80-90	9.85
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

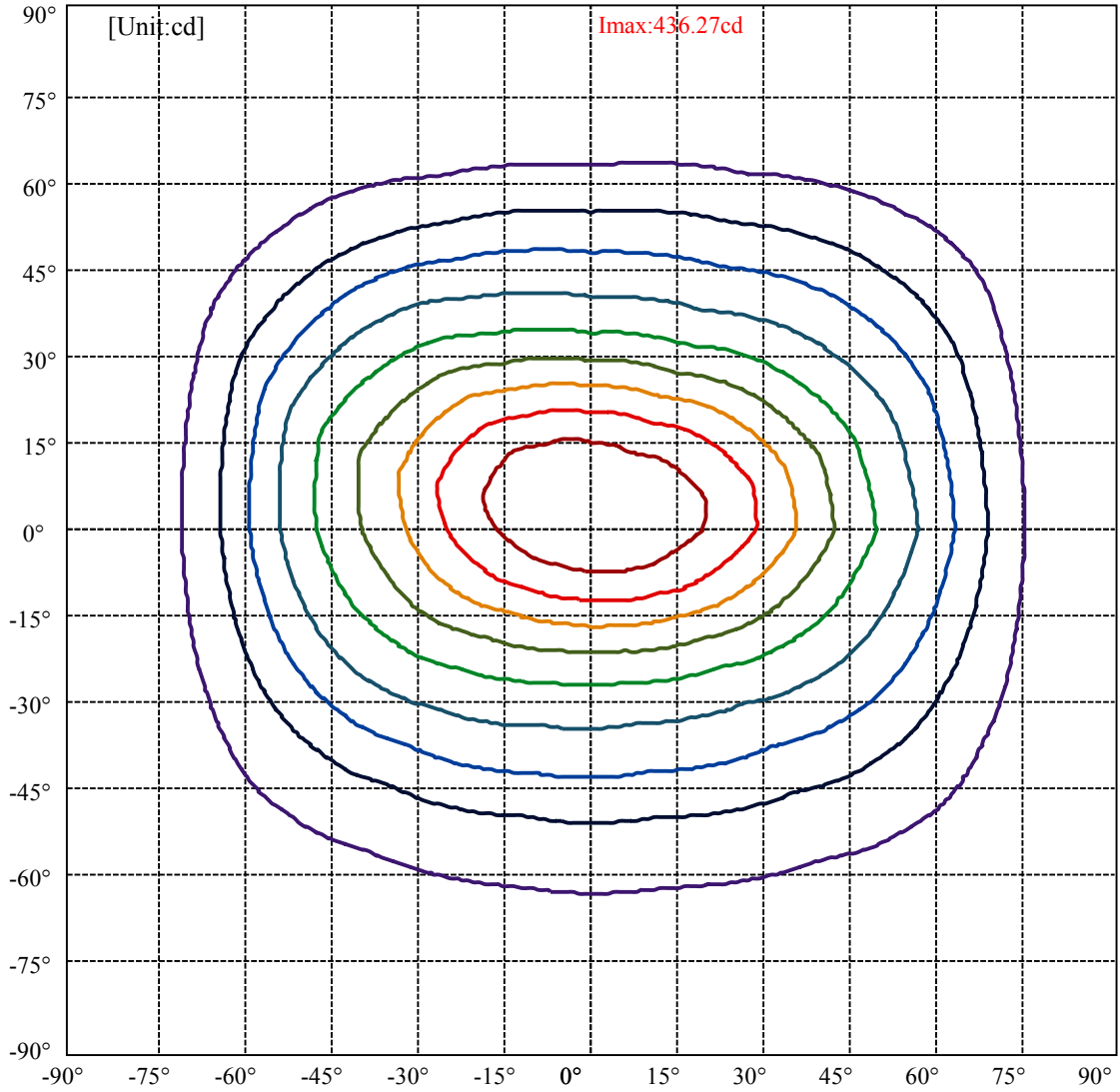


C105(Max): ———  
 C0/C180: ———  
 C90/C270: ———

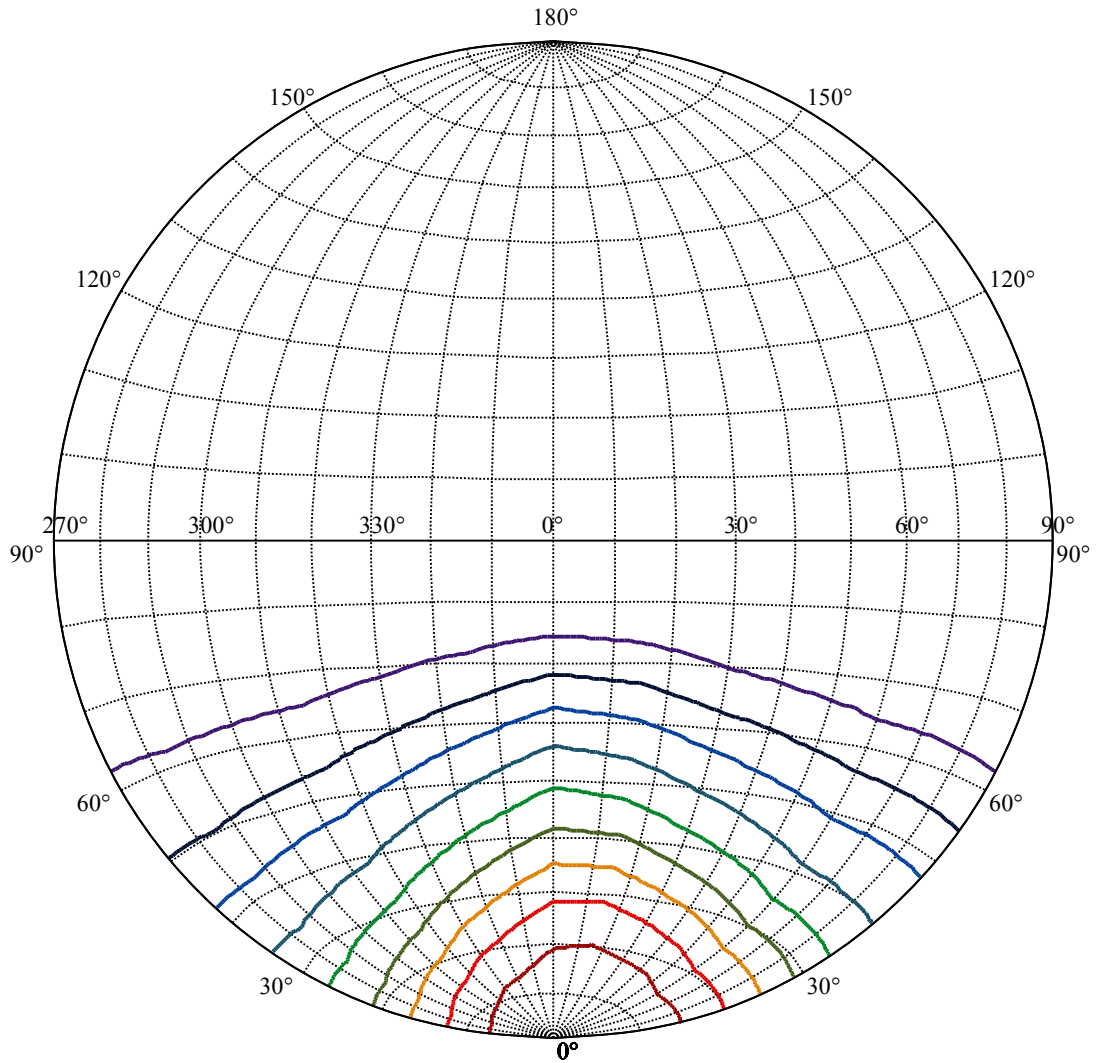
Field angle(10%Imax):C0/180Left:70.3 Right:74.6  
 :C90/270Left:65.5 Right:59.4

Beam Angle(50%Imax):C0/180Left:47.9 Right:49.8  
 :C90/270Left:29.8 Right:30.7





(10%Imax) 43.5827	—
(20%Imax) 87.1655	—
(30%Imax) 130.748	—
(40%Imax) 174.331	—
(50%Imax) 217.914	—
(60%Imax) 261.496	—
(70%Imax) 305.079	—
(80%Imax) 348.662	—
(90%Imax) 392.245	—



House

[Unit:cd]

Road

**Imax:436.27**

(10%Imax) 43.6267

(20%Imax) 87.2534

(30%Imax) 130.88

(40%Imax) 174.507

(50%Imax) 218.133

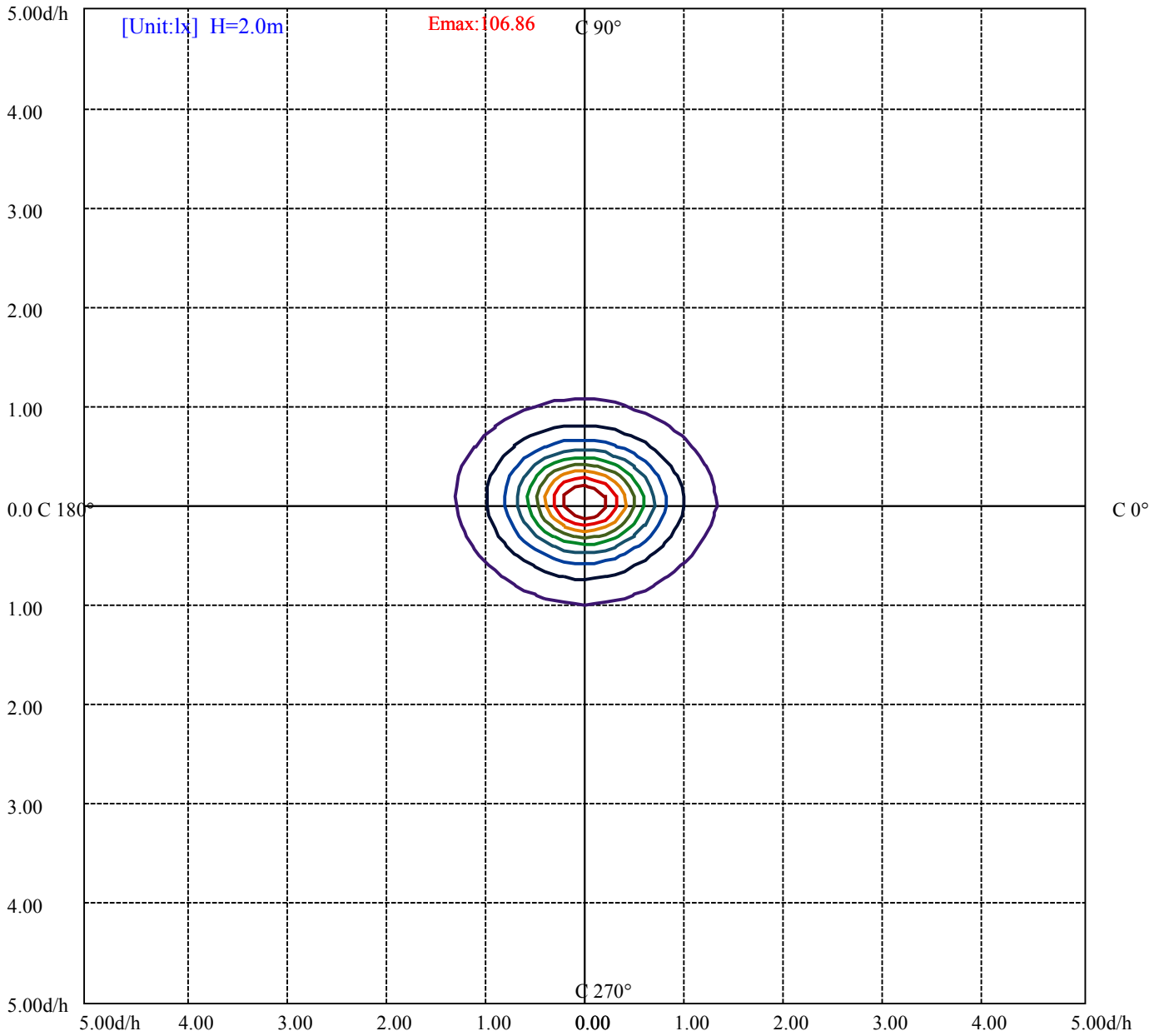
(60%Imax) 261.76

(70%Imax) 305.387

(80%Imax) 349.014

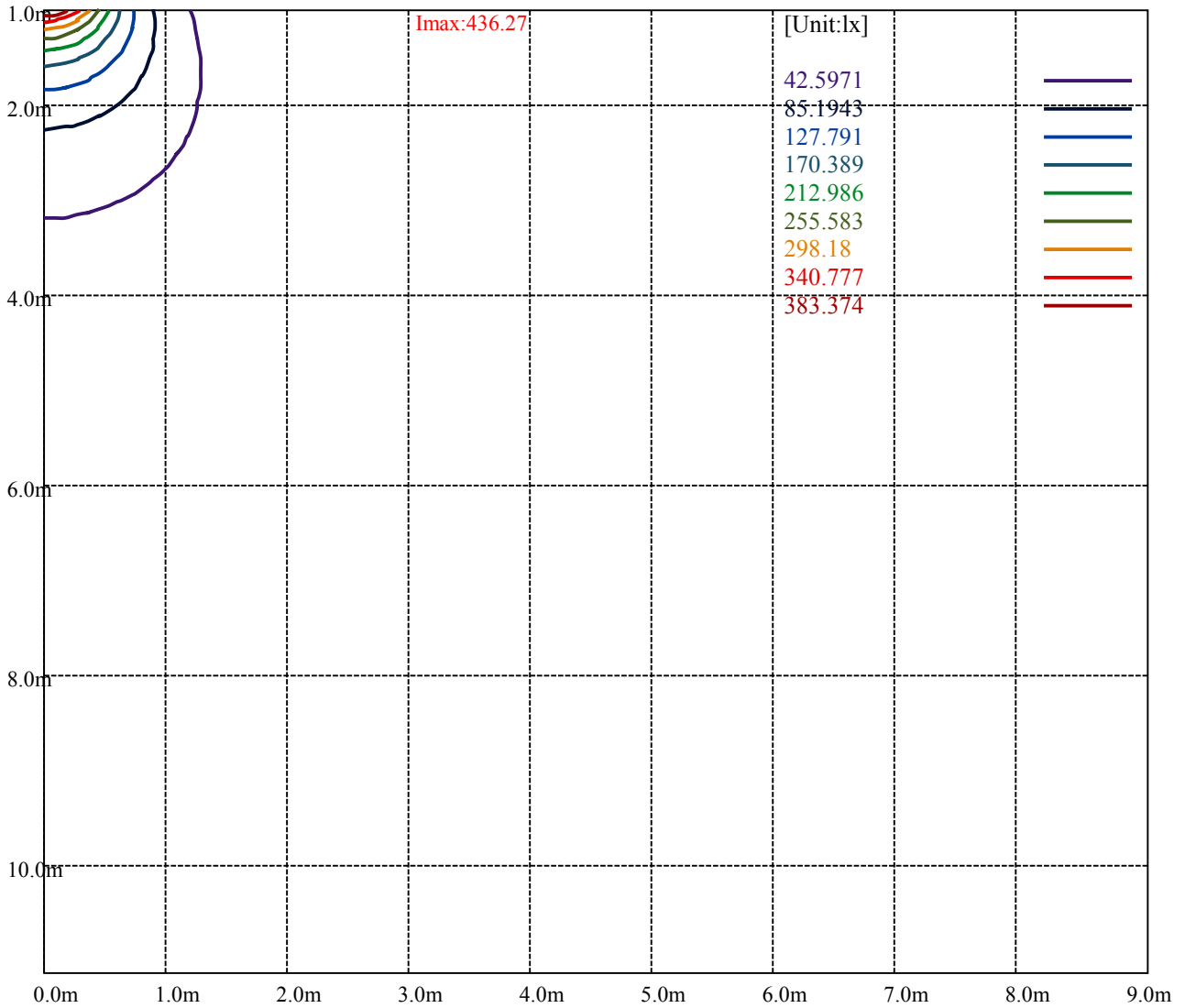
(90%Imax) 392.64





(10%Emax) 10.68645	—
(20%Emax) 21.3729	—
(30%Emax) 32.05925	—
(40%Emax) 42.74575	—
(50%Emax) 53.43225	—
(60%Emax) 64.11875	—
(70%Emax) 74.80525	—
(80%Emax) 85.4915	—
(90%Emax) 96.178	—





Luminance Table

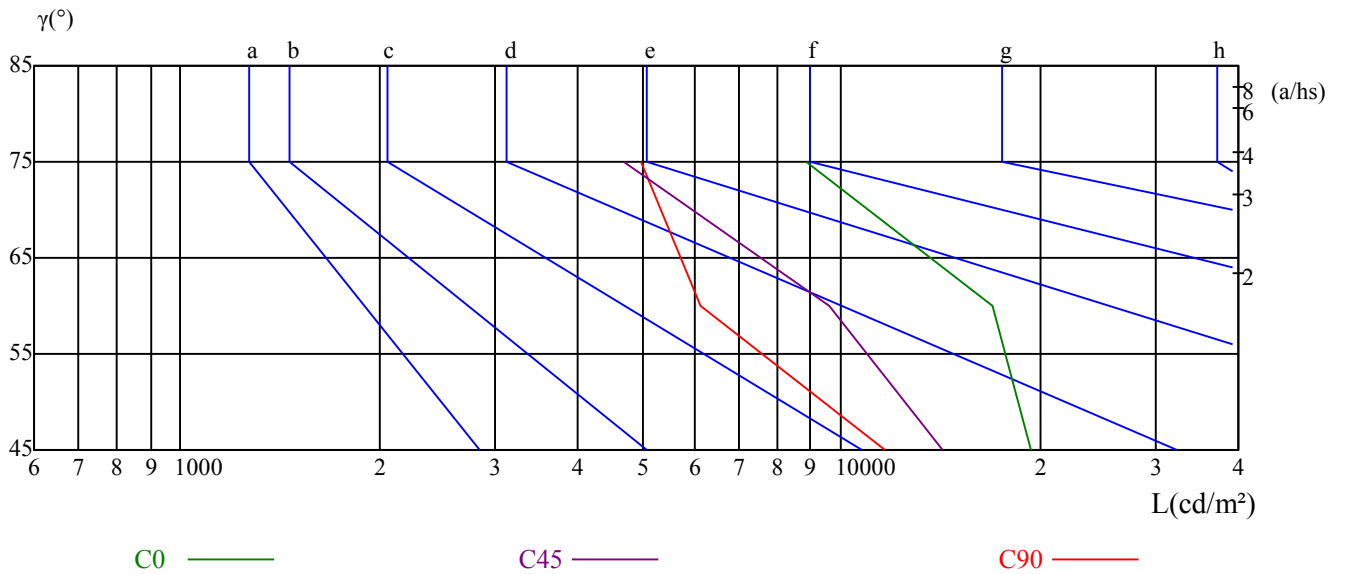
$\gamma$	45	50	55	60	65	70	75	80	85
C0	19465	0	0	16989	0	0	8861	0	0
C45	14273	0	0	9608	0	0	4680	0	0
C90	11679	0	0	6135	0	0	4972	0	0

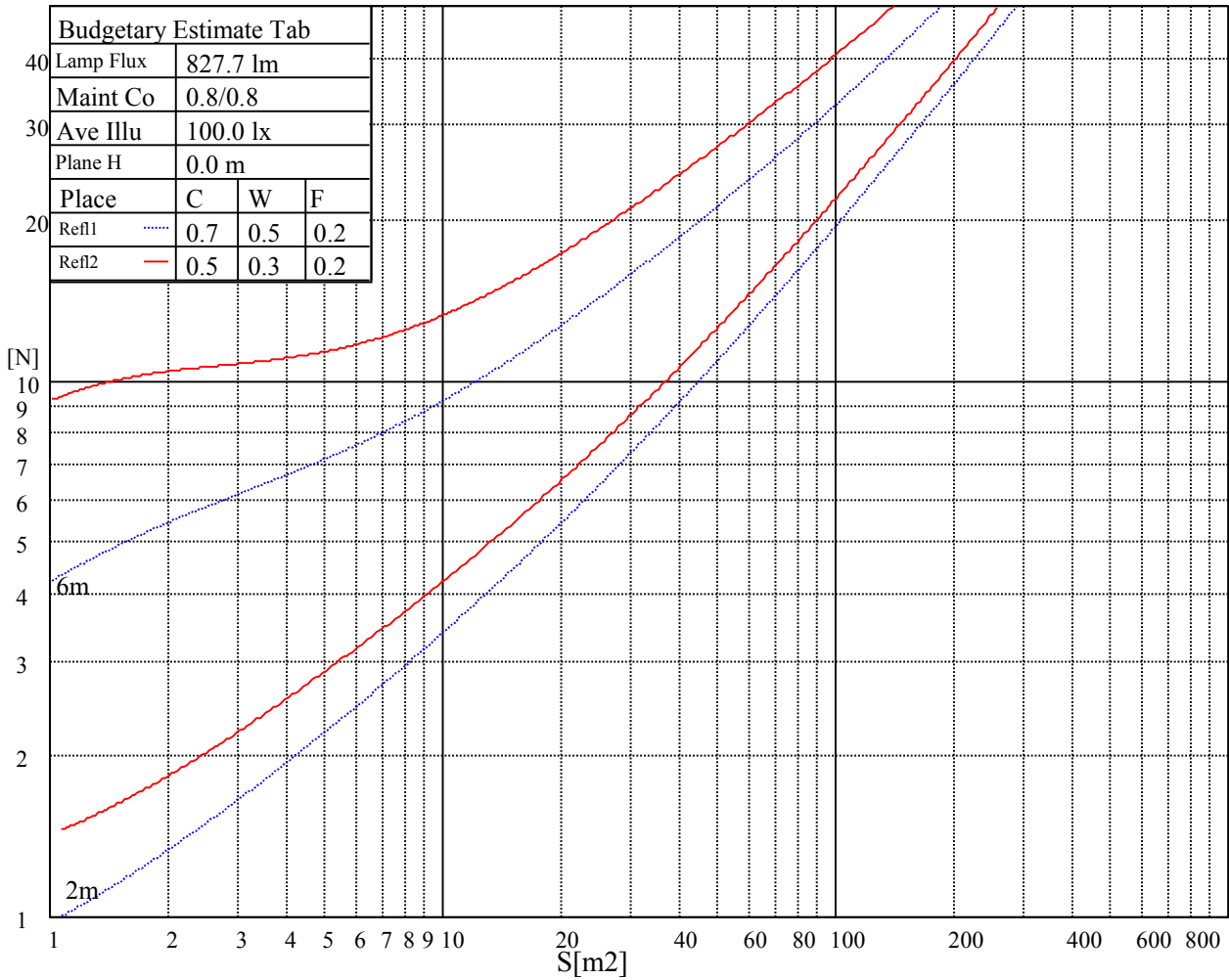
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
13962	14044	14012	6667	5239	4765	6606	7977	7364

Glare Table

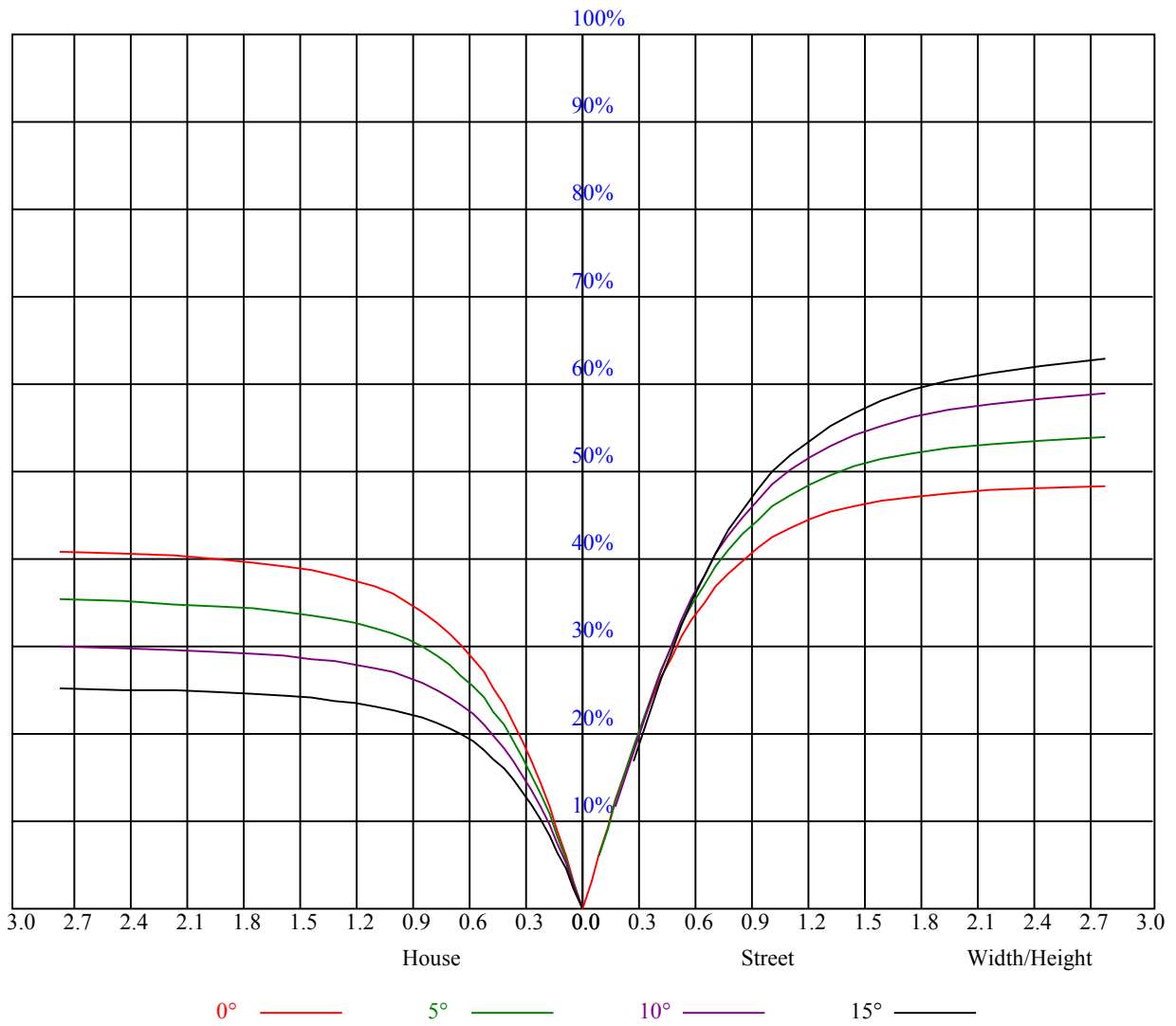
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.09	1.09	1.09	1.07	1.07	1.07	1.02	1.02	1.02	0.97	0.97	0.97	0.94	0.94	0.94	0.92
1	0.92	0.88	0.84	0.90	0.86	0.82	0.86	0.83	0.80	0.83	0.80	0.77	0.79	0.77	0.75	0.73
2	0.81	0.74	0.68	0.79	0.73	0.67	0.76	0.70	0.66	0.73	0.68	0.64	0.70	0.66	0.63	0.61
3	0.71	0.63	0.56	0.69	0.62	0.56	0.66	0.60	0.55	0.64	0.58	0.54	0.61	0.57	0.53	0.51
4	0.62	0.54	0.47	0.61	0.53	0.47	0.59	0.52	0.46	0.56	0.50	0.46	0.54	0.49	0.45	0.43
5	0.55	0.46	0.40	0.54	0.46	0.40	0.52	0.45	0.39	0.50	0.44	0.39	0.48	0.43	0.38	0.36
6	0.49	0.40	0.34	0.48	0.40	0.34	0.46	0.39	0.34	0.45	0.38	0.33	0.43	0.38	0.33	0.31
7	0.44	0.35	0.30	0.43	0.35	0.29	0.42	0.34	0.29	0.40	0.34	0.29	0.39	0.33	0.29	0.27
8	0.40	0.32	0.26	0.39	0.31	0.26	0.38	0.31	0.26	0.37	0.30	0.25	0.36	0.30	0.25	0.23
9	0.36	0.28	0.23	0.36	0.28	0.23	0.35	0.28	0.23	0.34	0.27	0.23	0.33	0.27	0.23	0.21
10	0.33	0.26	0.21	0.33	0.25	0.21	0.32	0.25	0.20	0.31	0.25	0.20	0.30	0.24	0.20	0.19



Intensity data(cd)

C/γ(°)	0.0	3.0	6.0	9.0	12.0	15.0	18.0	21.0	24.0
0.0	425.97	425.26	422.06	418.04	412.87	405.93	396.85	385.67	372.13
15.0	426.58	426.25	424.21	420.63	415.73	409.73	401.53	389.91	374.22
30.0	426.91	427.79	425.86	421.40	414.68	405.82	394.15	378.90	361.61
45.0	427.46	430.60	428.50	422.78	414.91	402.85	386.99	367.17	343.55
60.0	427.62	429.99	426.80	418.76	406.65	391.45	370.97	347.02	321.58
75.0	430.16	432.63	429.83	421.57	409.18	391.67	369.59	343.28	314.54
90.0	431.97	435.17	432.80	424.54	410.45	391.67	367.72	339.42	310.52
105.0	431.97	436.27	434.28	428.01	416.45	399.43	377.36	350.43	321.31
120.0	431.26	434.78	433.51	428.01	417.11	402.52	382.31	358.58	332.49
135.0	431.42	435.55	435.83	432.19	424.10	412.65	396.96	377.08	355.22
150.0	431.42	434.12	432.69	429.16	421.02	411.49	398.50	382.31	363.65
165.0	425.81	427.29	426.74	423.99	417.77	409.01	398.22	384.79	368.71
180.0	425.97	424.59	421.62	415.79	407.42	396.68	383.69	368.77	352.75
195.0	426.58	423.77	417.27	407.80	395.25	381.54	365.13	347.24	330.78
210.0	426.91	422.39	412.98	400.26	384.51	365.68	345.09	323.90	302.26
225.0	427.46	419.64	407.36	389.36	367.78	344.65	319.33	294.39	271.92
240.0	427.62	419.53	403.84	383.47	359.41	332.43	304.68	278.64	254.20
255.0	430.16	419.25	401.47	377.74	350.49	320.76	290.97	263.83	239.83
270.0	431.97	421.24	402.79	379.01	351.70	321.20	291.41	263.06	237.95
285.0	431.97	421.51	404.39	381.65	353.68	324.28	293.95	265.59	240.05
300.0	431.26	422.28	407.80	388.70	366.18	339.37	310.57	282.44	255.96
315.0	431.42	423.93	412.76	396.63	376.53	353.74	328.52	302.15	276.99
330.0	431.42	426.80	418.54	407.58	393.98	377.47	357.70	335.35	312.45
345.0	425.81	422.39	417.55	410.61	401.97	390.63	377.47	361.56	343.50
360.0	425.97	425.26	422.06	418.04	412.87	405.93	396.85	385.67	372.13
C/γ(°)	27.0	30.0	33.0	36.0	39.0	42.0	45.0	48.0	51.0
0.0	356.77	340.08	321.20	300.66	279.74	260.09	240.87	223.58	205.58
15.0	358.31	341.29	320.37	297.41	275.39	253.53	232.06	213.01	194.07
30.0	340.96	317.95	294.44	269.45	245.50	223.64	202.77	183.56	164.62
45.0	319.22	293.89	266.47	241.70	218.46	196.44	176.62	159.17	141.44
60.0	292.90	263.94	236.36	211.91	190.27	171.34	153.61	136.82	119.80
75.0	284.92	257.33	229.03	204.70	183.39	164.84	148.05	131.58	114.96
90.0	280.02	250.01	222.65	199.41	179.15	161.54	144.52	127.90	109.67
105.0	291.74	263.89	235.42	211.36	190.16	170.84	152.78	136.04	117.05
120.0	306.50	278.64	252.05	227.38	205.53	185.60	166.44	146.95	126.68
135.0	332.16	309.20	283.98	259.76	236.69	214.28	193.96	173.04	151.63
150.0	344.27	322.63	301.27	277.98	257.99	237.68	216.87	196.61	174.42
165.0	351.65	332.32	312.17	293.29	276.00	257.39	239.66	221.38	201.34
180.0	334.96	315.80	297.36	280.57	263.17	246.49	229.59	212.13	192.09
195.0	310.74	291.25	272.25	253.26	236.30	219.62	202.17	183.23	162.80
210.0	281.12	261.90	242.91	224.91	207.07	189.50	172.49	153.28	131.53
225.0	250.67	231.13	212.74	195.56	178.88	162.64	143.92	124.21	103.84
240.0	231.68	212.08	195.84	179.26	162.91	146.45	128.83	110.72	92.05
255.0	218.19	198.92	182.18	166.27	150.74	134.89	117.49	99.60	82.36
270.0	215.99	197.54	180.64	165.28	149.70	133.90	117.22	100.59	83.58
285.0	217.53	197.54	179.76	163.85	148.54	133.57	117.16	99.93	83.58
300.0	232.23	210.81	192.15	175.24	159.28	144.14	128.72	111.82	94.64
315.0	252.43	229.92	209.71	191.05	174.47	158.67	142.27	125.58	108.52
330.0	289.21	266.42	245.11	225.18	206.19	188.46	171.89	154.76	137.31
345.0	324.45	304.19	283.21	262.40	242.41	224.30	205.75	188.13	170.73
360.0	356.77	340.08	321.20	300.66	279.74	260.09	240.87	223.58	205.58

Intensity data(cd)

C/γ(°)	54.0	57.0	60.0	63.0	66.0	69.0	72.0	75.0	78.0
0.0	187.52	168.80	148.65	127.07	103.51	80.05	58.19	40.14	22.74
15.0	175.19	156.53	135.93	115.89	93.10	70.42	50.98	36.28	25.71
30.0	145.84	127.40	106.42	85.56	63.87	47.29	34.85	25.60	20.04
45.0	123.05	103.95	84.07	65.13	48.28	34.91	26.26	21.20	17.56
60.0	101.80	83.74	65.08	48.89	37.05	29.51	24.45	21.31	17.95
75.0	96.57	77.02	58.69	45.37	35.62	29.57	25.60	22.85	19.32
90.0	89.69	70.69	53.68	41.07	33.53	28.24	24.89	22.52	19.05
105.0	97.23	76.53	57.59	44.32	35.18	29.62	26.04	23.40	19.38
120.0	104.88	82.91	63.20	46.58	35.51	28.46	24.00	20.70	17.40
135.0	128.28	102.90	78.29	60.95	44.71	32.26	25.00	20.70	17.29
150.0	150.47	125.42	98.94	74.27	54.45	39.37	28.96	22.46	17.34
165.0	178.16	152.56	124.81	99.27	73.45	51.70	36.28	25.60	18.11
180.0	168.91	144.36	117.33	91.06	67.88	49.17	34.41	20.26	12.99
195.0	140.23	117.10	93.32	71.96	54.73	41.24	31.88	25.44	19.82
210.0	110.00	89.03	70.03	55.28	43.88	35.68	29.23	24.33	20.04
225.0	84.84	68.55	54.84	44.76	36.50	29.57	25.11	21.75	17.95
240.0	75.15	61.22	50.54	42.89	37.05	31.99	27.31	23.40	18.61
255.0	67.83	56.43	47.84	41.57	37.00	32.98	29.07	24.94	20.65
270.0	69.04	57.42	48.72	42.56	37.71	32.98	28.85	24.94	21.36
285.0	68.99	57.53	48.56	41.90	37.11	32.87	28.85	25.05	21.14
300.0	78.57	64.53	53.18	44.76	38.32	33.20	28.63	24.67	20.48
315.0	91.28	75.15	60.89	49.33	40.36	32.21	26.70	22.68	19.16
330.0	119.53	100.75	82.42	66.07	52.41	41.57	33.14	26.54	22.13
345.0	153.06	133.84	114.08	92.99	73.28	55.77	42.06	32.04	24.56
360.0	187.52	168.80	148.65	127.07	103.51	80.05	58.19	40.14	22.74

C/γ(°)	81.0	84.0	87.0	90.0
0.0	14.04	8.48	4.68	2.86
15.0	17.89	11.51	5.12	2.70
30.0	15.36	10.57	4.51	2.70
45.0	14.04	10.19	5.12	2.81
60.0	14.09	10.08	4.18	2.86
75.0	15.86	12.06	5.01	2.92
90.0	15.86	11.40	4.35	3.03
105.0	15.47	11.67	5.12	3.41
120.0	13.49	9.97	4.29	3.63
135.0	13.43	9.25	4.51	3.69
150.0	13.16	8.48	3.58	3.47
165.0	12.17	7.38	3.63	2.97
180.0	8.75	5.29	2.86	2.92
195.0	14.48	8.48	3.36	2.70
210.0	15.42	9.86	3.74	2.70
225.0	13.38	8.97	3.30	2.75
240.0	14.53	10.35	3.91	2.86
255.0	16.08	11.34	3.52	2.86
270.0	17.95	12.88	10.79	3.08
285.0	16.96	12.55	4.73	3.25
300.0	16.35	12.28	6.28	3.74
315.0	15.31	11.29	5.89	3.80
330.0	17.78	12.88	6.94	3.36
345.0	17.89	11.84	6.22	3.19
360.0	14.04	8.48	4.68	2.86