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Nata

Client:

LumCAT: PH24L28090AW

Luminaire:

Report No:

Voltage(V): 12.2600

Test No: GC2019091204

Current(A): 0.4480

LampCAT: SAMSUNG 5630

Power (W): 5.4900

Lamp flux(lm): 895.0

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 22

Width(mm): 280

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 711.46, Efficiency(%): 79.49% , Luminous Efficacy(lm/W): 129.59

Central intensity(cd): 282.909, Maximum intensity(cd): 282.909

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=97.4

[C90/270]Total=97.4

Field angle(10%Imax): [C0/180]Total=161.2

[C90/270]Total=161.2

Maximum s/h(1/2): C0_180=1.18 C90_270=1.18

Maximum s/h(1/4): C0_180=1.27 C90_270=1.27

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 79.49%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 79.338%

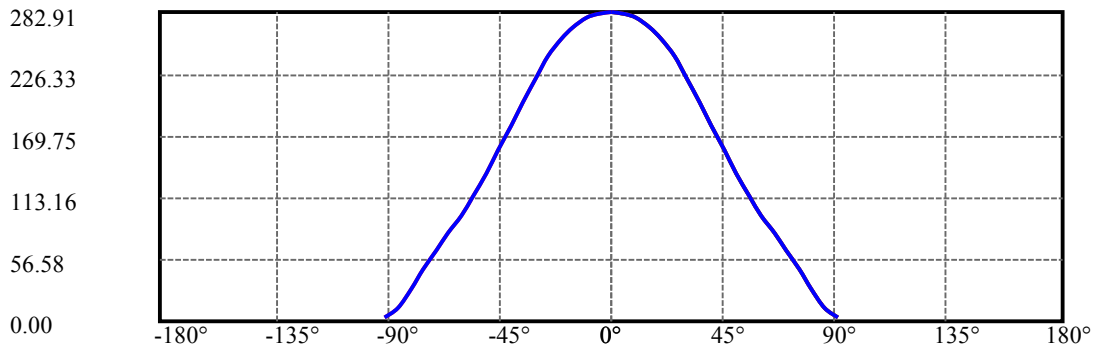
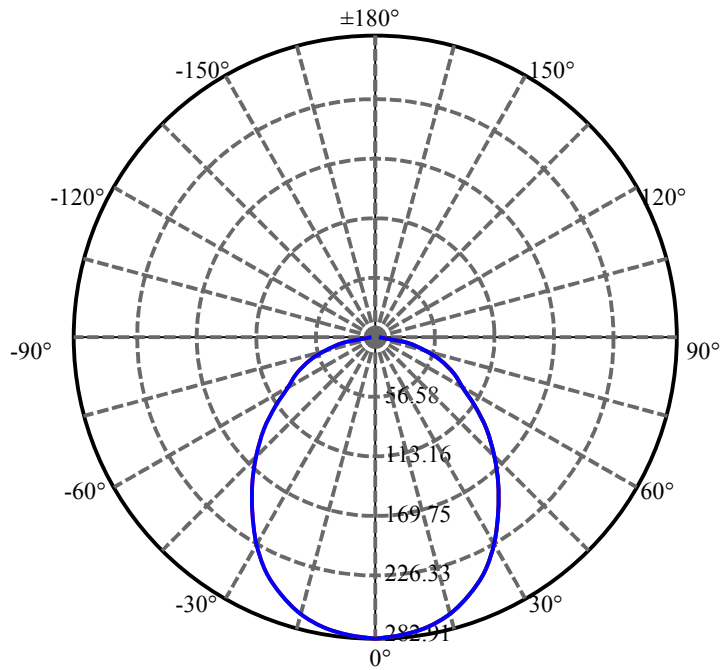
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	282.909	0.000	0	.000%	.000%
5.0	280.835	6.739	6.739	.753%	.947%
10.0	277.066	19.958	26.697	2.230%	3.752%
15.0	269.388	32.415	59.113	3.622%	8.309%
20.0	257.730	43.442	102.555	4.854%	14.415%
25.0	242.037	52.416	154.971	5.857%	21.782%
30.0	223.327	58.892	213.863	6.580%	30.060%
35.0	201.073	62.496	276.359	6.983%	38.844%
40.0	179.564	63.506	339.865	7.096%	47.770%
45.0	157.022	62.322	402.187	6.963%	56.530%
50.0	135.717	59.152	461.339	6.609%	64.844%
55.0	114.272	54.356	515.695	6.073%	72.485%
60.0	96.666	48.758	564.453	5.448%	79.338%
65.0	80.641	43.104	607.556	4.816%	85.396%
70.0	65.700	37.055	644.611	4.140%	90.605%
75.0	47.820	29.672	674.283	3.315%	94.775%
80.0	30.291	20.900	695.183	2.335%	97.713%
85.0	13.036	11.773	706.956	1.315%	99.368%
90.0	3.396	4.499	711.455	.503%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	213.86	23.90%	30.06%
0-40	339.87	37.97%	47.77%
0-60	564.45	63.07%	79.34%
0-90	706.96	78.99%	99.37%
0-120	706.96	78.99%	99.37%
0-180	711.46	79.49%	100.00%
60-90	191.26	21.37%	26.88%
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%
0-60.55	569.16	63.59%	80.00%

ZONAL LUMEN SUMMARY

0-10	26.70
10-20	75.86
20-30	111.31
30-40	126.00
40-50	121.47
50-60	103.11
60-70	80.16
70-80	50.57
80-90	11.77
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: —————

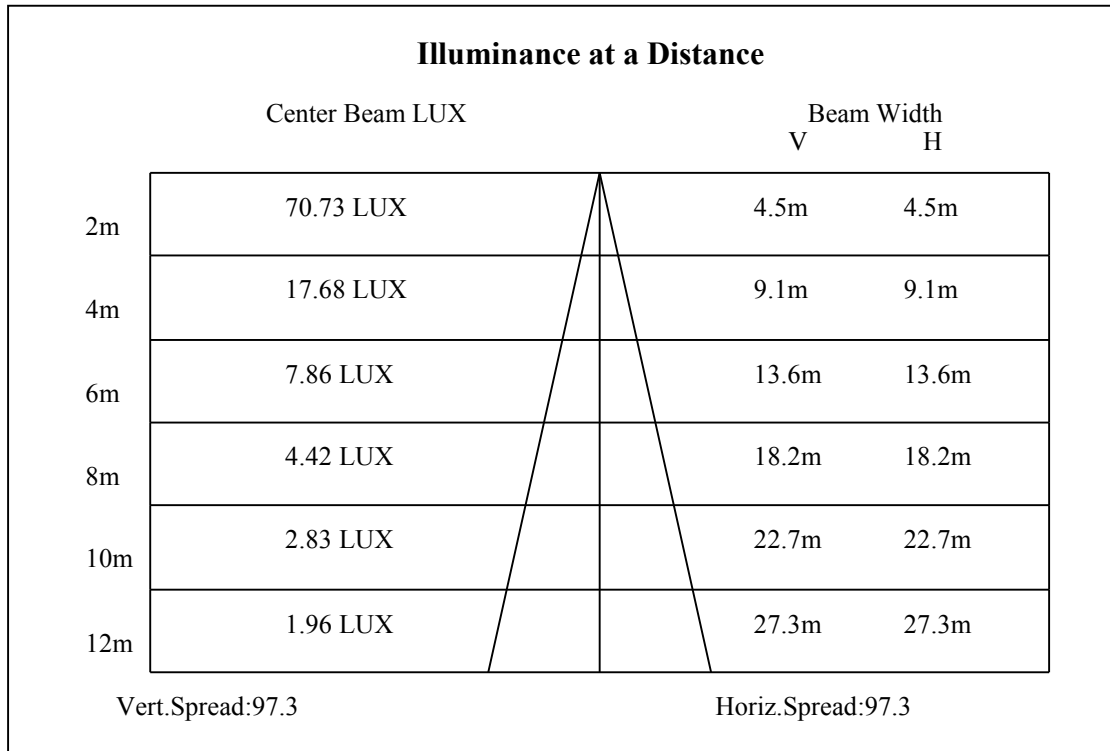
C90/C270: —————

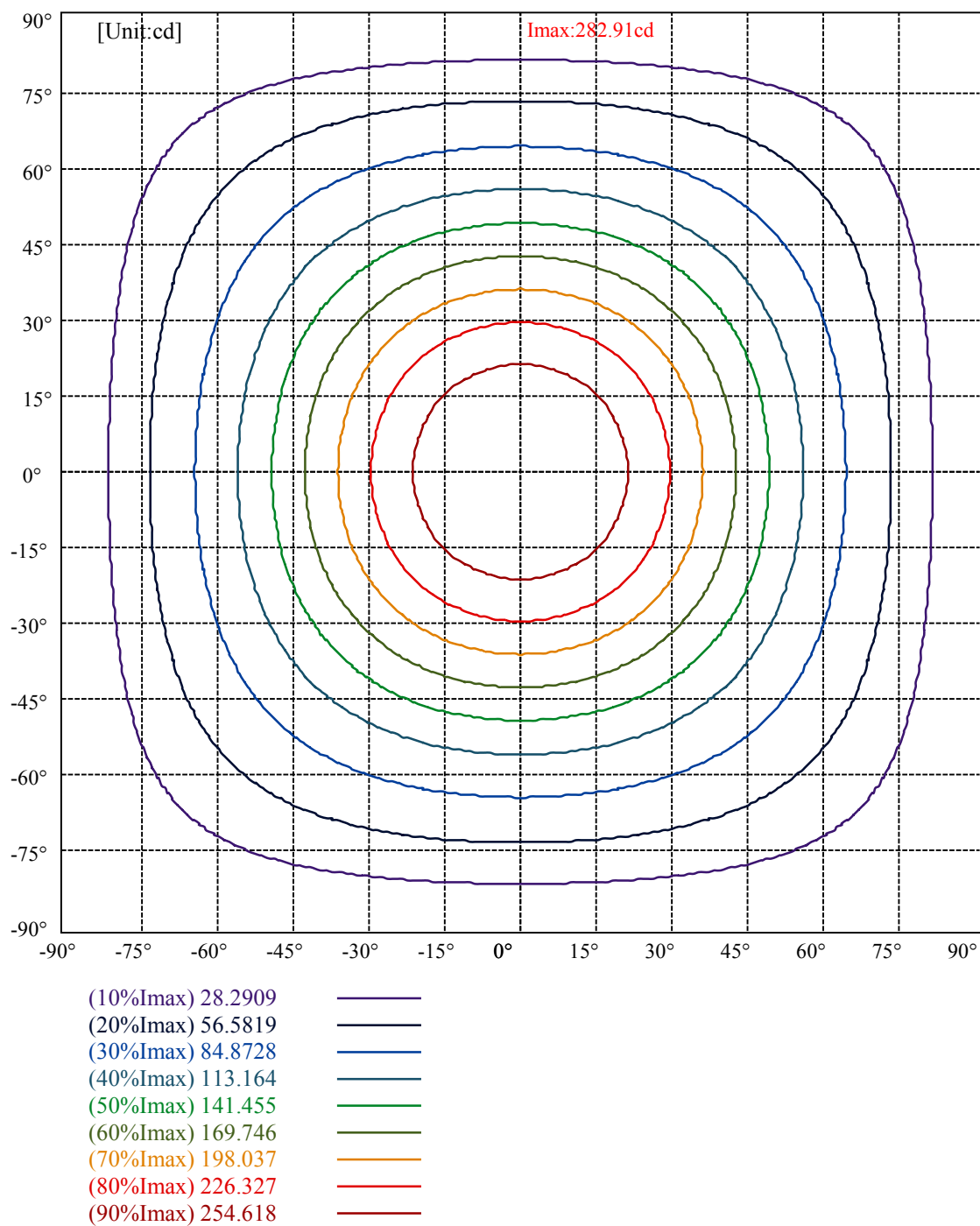
Field angle(10%Imax):C0/180Left:80.6 Right:80.6

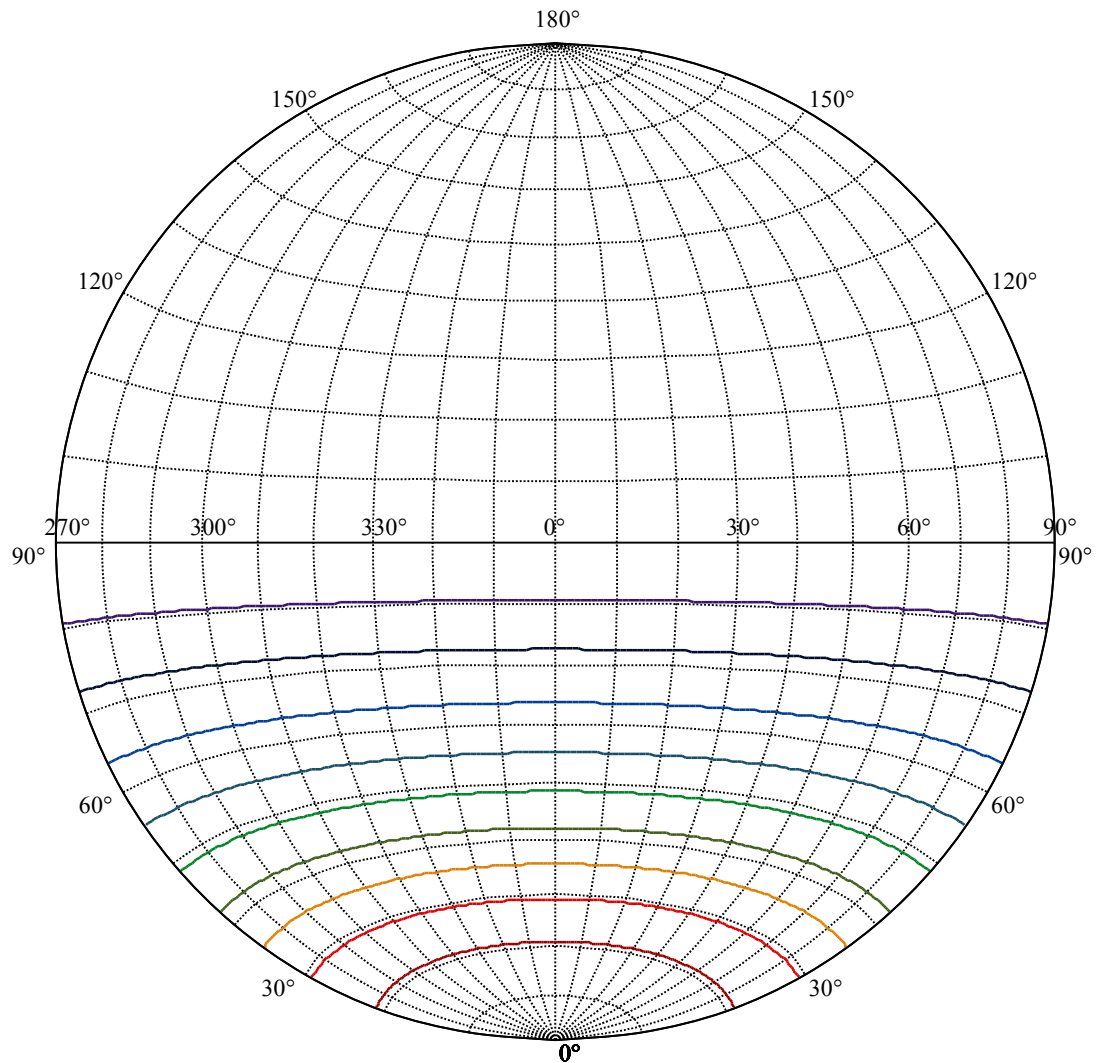
:C90/270Left:80.6 Right:80.6

Beam Angle(50%Imax):C0/180Left:48.7 Right:48.7

:C90/270Left:48.7 Right:48.7







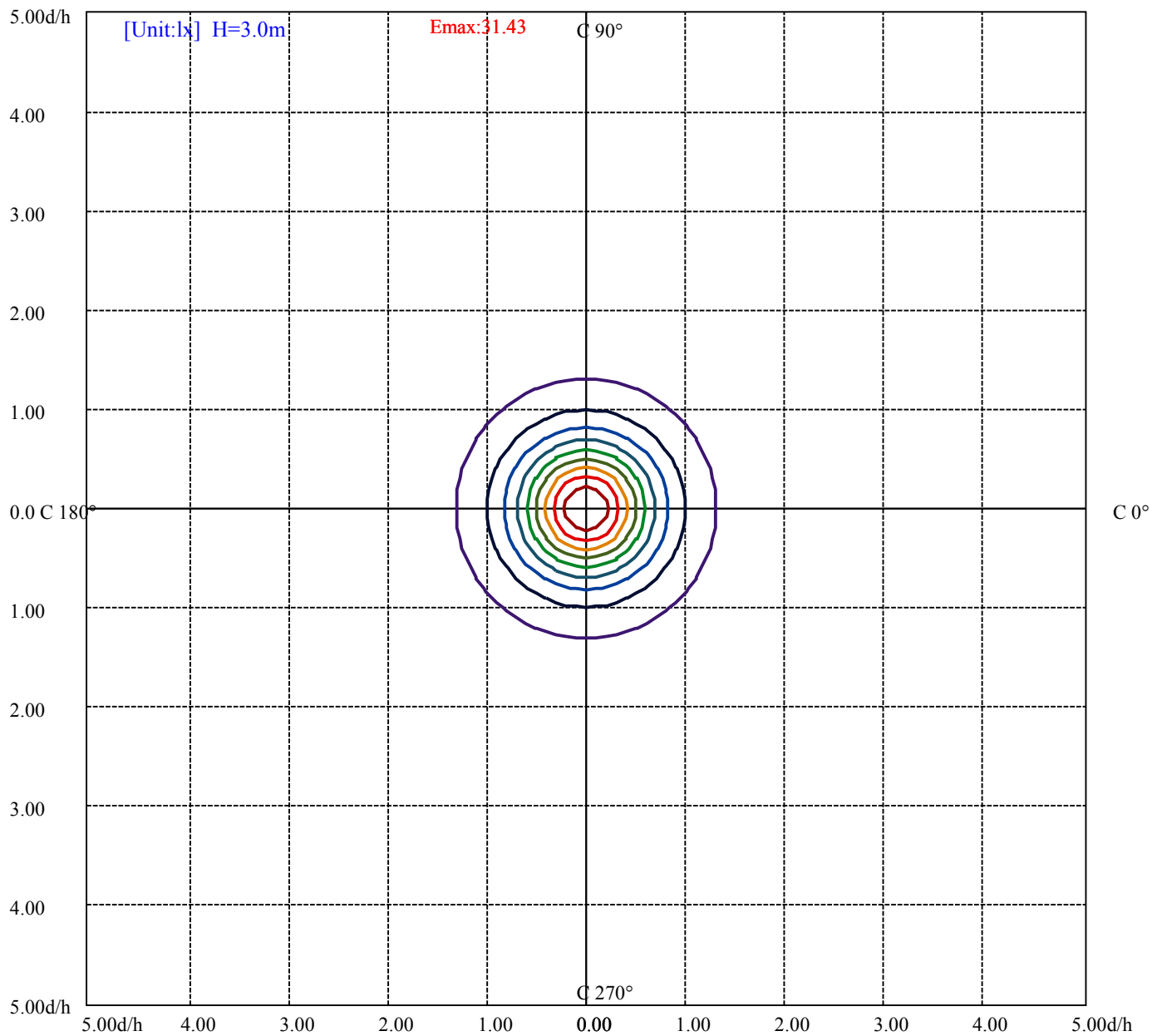
House

[Unit:cd]

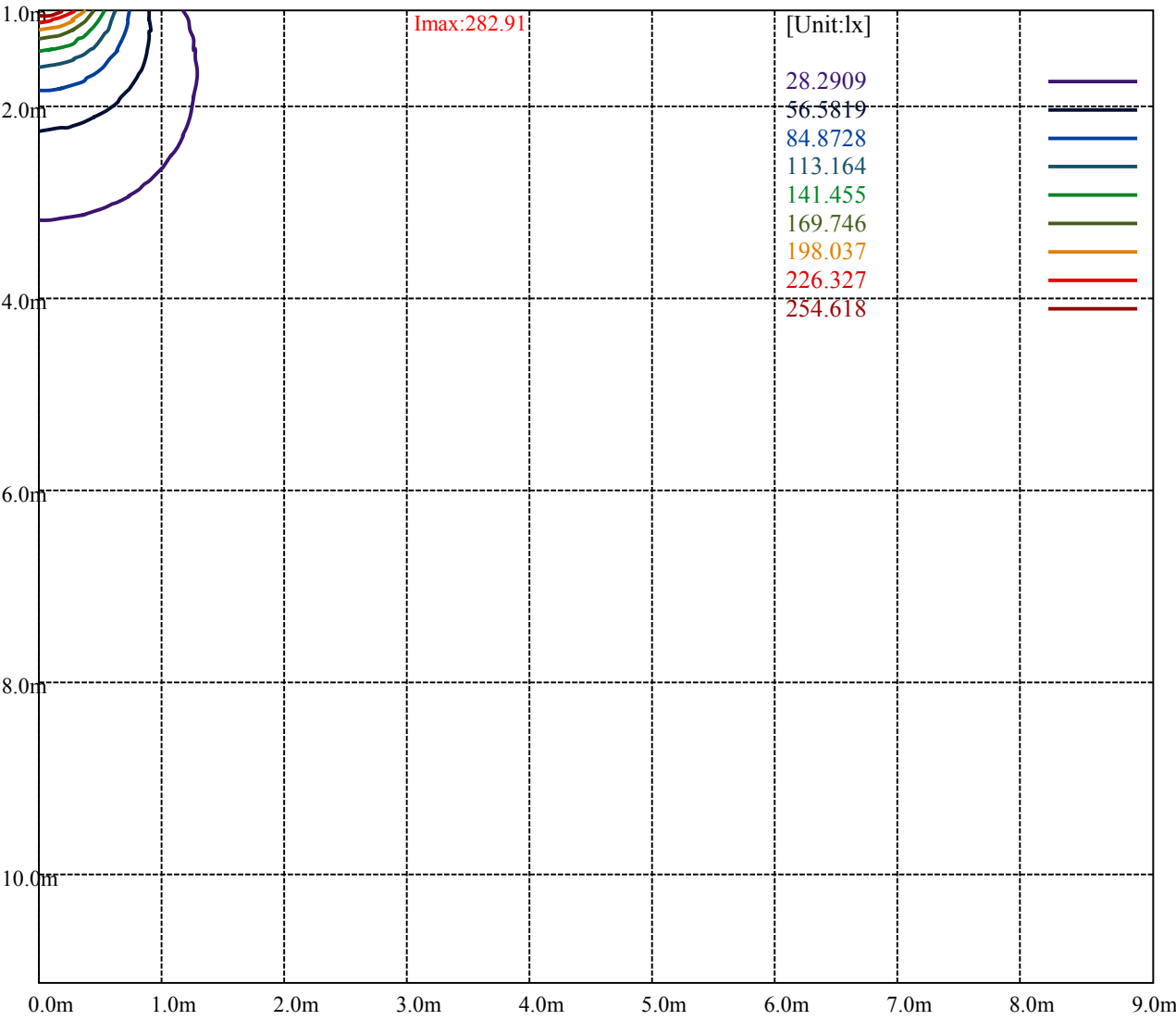
Road

Imax:282.91
 (10%Imax) 28.2909
 (20%Imax) 56.5819
 (30%Imax) 84.8728
 (40%Imax) 113.164
 (50%Imax) 141.455
 (60%Imax) 169.746
 (70%Imax) 198.037
 (80%Imax) 226.327
 (90%Imax) 254.618





(10%Emax) 3.143433	—
(20%Emax) 6.286878	—
(30%Emax) 9.430311	—
(40%Emax) 12.57378	—
(50%Emax) 15.71722	—
(60%Emax) 18.86067	—
(70%Emax) 22.00411	—
(80%Emax) 25.14744	—
(90%Emax) 28.29089	—



Luminance Table

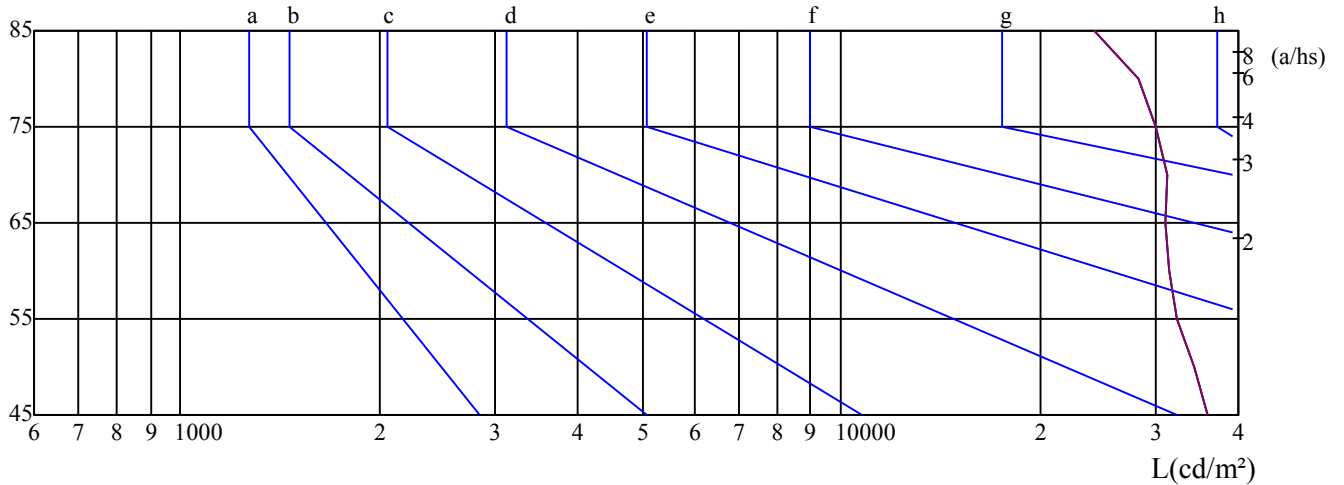
γ	45	50	55	60	65	70	75	80	85
C0	36049	34276	32342	31385	30976	31184	29994	28318	24281
C45	36049	34276	32342	31385	30976	31184	29994	28318	24281
C90	36049	34276	32342	31385	30976	31184	29994	28318	24281

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
30976	30976	30976	29994	29994	29994	24281	24281	24281

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

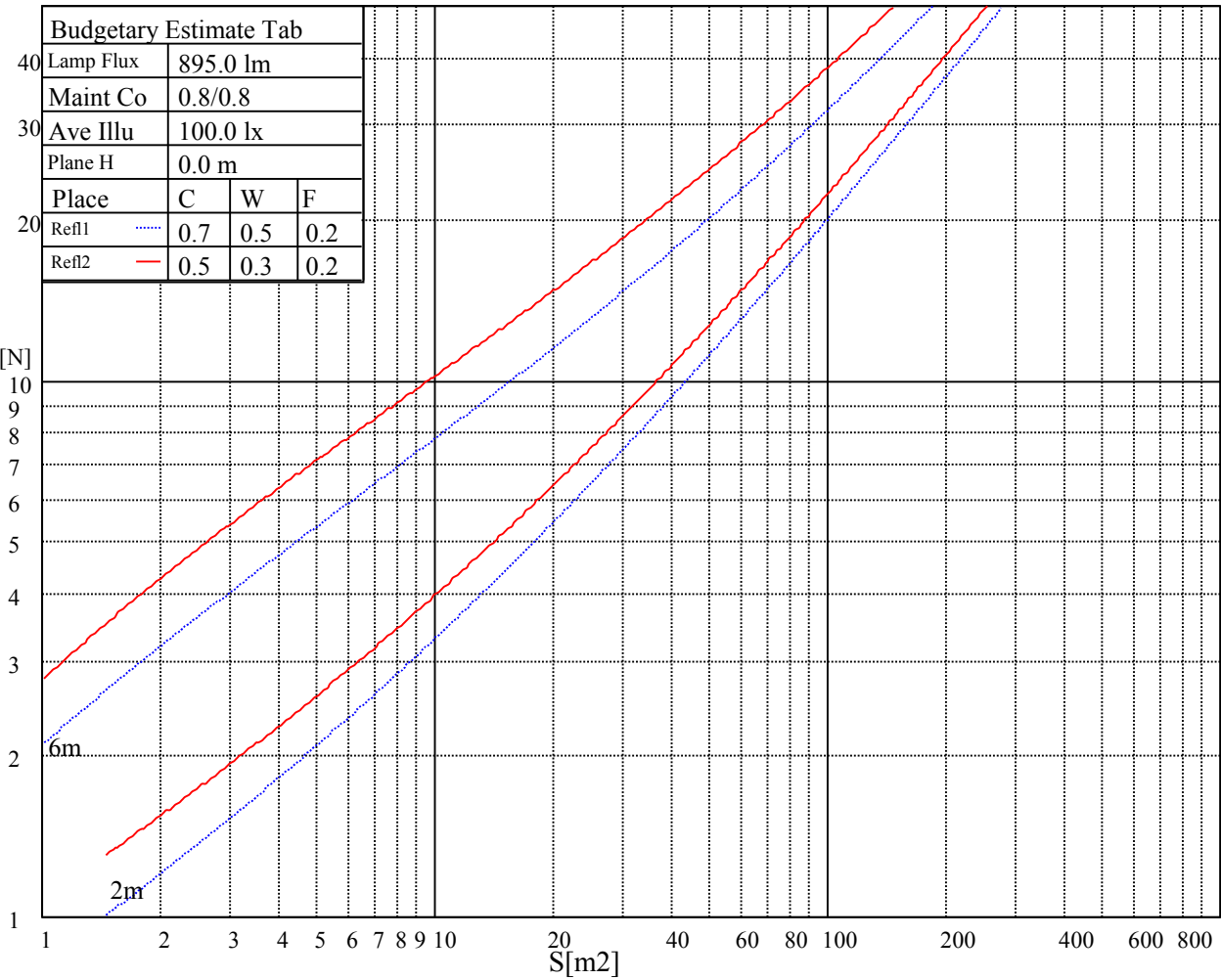
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

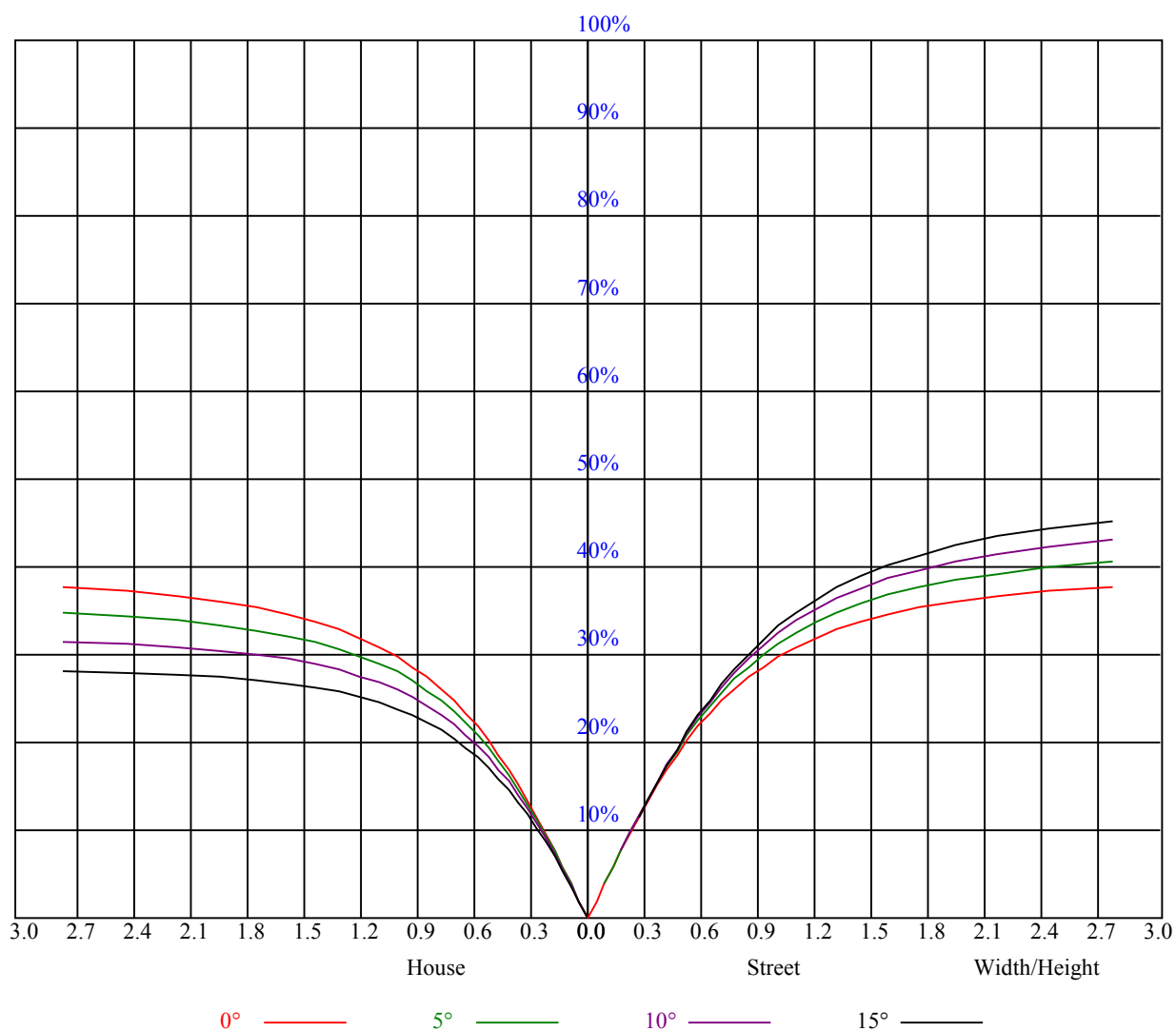
C0 ———

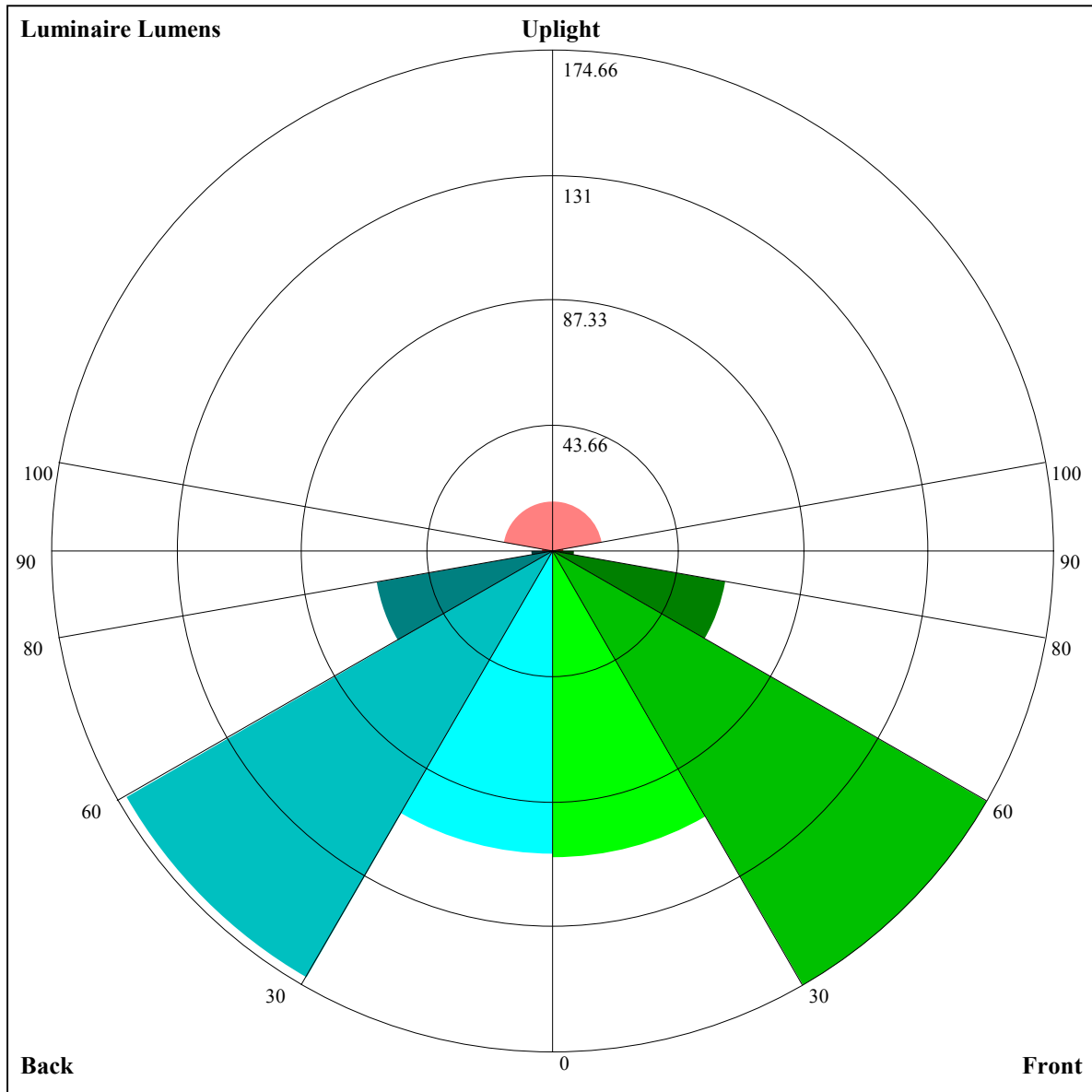
C45 ———

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	0.95	0.95	0.95	0.92	0.92	0.92	0.88	0.88	0.88	0.85	0.85	0.85	0.81	0.81	0.81	0.79
1	0.83	0.79	0.76	0.81	0.78	0.75	0.77	0.75	0.73	0.74	0.72	0.70	0.71	0.70	0.68	0.67
2	0.72	0.67	0.62	0.71	0.66	0.62	0.68	0.64	0.60	0.65	0.62	0.59	0.63	0.60	0.57	0.56
3	0.64	0.57	0.52	0.62	0.56	0.52	0.60	0.55	0.51	0.58	0.54	0.50	0.56	0.52	0.49	0.47
4	0.57	0.50	0.44	0.56	0.49	0.44	0.54	0.48	0.44	0.52	0.47	0.43	0.50	0.46	0.42	0.41
5	0.51	0.44	0.39	0.50	0.43	0.38	0.48	0.42	0.38	0.47	0.42	0.38	0.45	0.41	0.37	0.35
6	0.46	0.39	0.34	0.45	0.39	0.34	0.44	0.38	0.33	0.42	0.37	0.33	0.41	0.36	0.33	0.31
7	0.42	0.35	0.30	0.41	0.35	0.30	0.40	0.34	0.30	0.39	0.33	0.30	0.38	0.33	0.29	0.28
8	0.38	0.32	0.27	0.38	0.31	0.27	0.37	0.31	0.27	0.36	0.30	0.27	0.35	0.30	0.26	0.25
9	0.35	0.29	0.24	0.35	0.29	0.24	0.34	0.28	0.24	0.33	0.28	0.24	0.32	0.27	0.24	0.23
10	0.33	0.26	0.22	0.32	0.26	0.22	0.31	0.26	0.22	0.31	0.26	0.22	0.30	0.25	0.22	0.20





Luminaire Lumens:

FL=107.13,FM=174.66,FH=61.33,FVH=7.6

BL=105.92,BM=171.59,BH=62.85,BVH=7.85

UL=3.71,UH=17.63

BUG Rating:B0-U2-G0

Nata PH24L28090AW

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	286.14	283.95	281.08	273.83	262.91	246.77	228.21	204.92	181.74		
45.0	282.99	282.43	279.06	272.98	261.96	247.95	230.57	210.66	189.34		
90.0	279.79	278.21	273.49	265.44	252.17	236.93	216.84	193.67	172.24		
135.0	282.71	281.14	276.30	269.61	258.30	243.00	225.90	203.79	182.36		
180.0	286.14	282.04	279.17	268.82	254.93	237.38	215.33	191.48	169.93		
225.0	282.99	279.96	276.36	267.92	256.44	239.85	220.84	198.62	178.76		
270.0	279.79	278.21	274.28	267.30	256.50	240.13	222.19	199.63	176.34		
315.0	282.71	280.74	276.81	269.21	258.64	244.29	226.74	205.82	185.79		
360.0	286.14	283.95	281.08	273.83	262.91	246.77	228.21	204.92	181.74		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	158.63	135.96	112.95	96.58	90.62	73.80	45.90	28.97	15.08		
45.0	165.88	145.41	123.19	103.67	86.46	74.48	55.63	31.73	14.74		
90.0	147.21	123.75	99.39	79.93	60.64	44.16	31.39	19.58	9.28		
135.0	162.06	140.63	120.54	103.11	86.85	73.35	55.35	37.69	16.65		
180.0	151.09	132.69	115.26	103.39	88.71	69.58	49.61	33.69	7.65		
225.0	156.94	137.36	119.36	102.54	86.46	75.66	56.53	36.90	15.19		
270.0	151.65	128.87	104.46	83.70	64.97	49.50	34.93	23.46	10.86		
315.0	162.73	141.08	119.03	100.41	80.44	65.08	53.21	30.32	14.85		
360.0	158.63	135.96	112.95	96.58	90.62	73.80	45.90	28.97	15.08		
C/ γ (°)	90.0										
0.0	3.15										
45.0	2.98										
90.0	3.15										
135.0	3.38										
180.0	4.89										
225.0	3.21										
270.0	3.21										
315.0	3.21										
360.0	3.15										