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## Nata

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### Client:

LumCAT: 2-1680-M

Luminaire: 92.70.125.00

Report No: NT2018010508

Test No: GC2018010508

LampCAT: BXRV-DR-1830-H-1000-B-13

Lamp flux(lm): 1472.0

Number of Lamps: 1

Length(mm): 70

Phm Type: C

Voltage(V): 35.3000

Current(A): 0.5000

Power (W): 17.6500

PF: 0.0000

Ballast type: DC

Width(mm): 70

Height(mm): 0

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## Photometric Results

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Lumens(lm): 1273.96, Efficiency(%): 86.55% , Luminous Efficacy(lm/W): 72.18

Central intensity(cd): 4893.138, Maximum intensity(cd): 4893.138

Angle of maximum intensity: C=0.0  $\gamma$ =0.0

Beam Angle(50%Imax): [C0/180]Total=23.2

[C90/270]Total=23.2

Field angle(10%Imax): [C0/180]Total=58.6

[C90/270]Total=58.6

Maximum s/h(1/2): C0\_180=0.40 C90\_270=0.40

Maximum s/h(1/4): C0\_180=0.37 C90\_270=0.37

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 88.45%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 96.478%

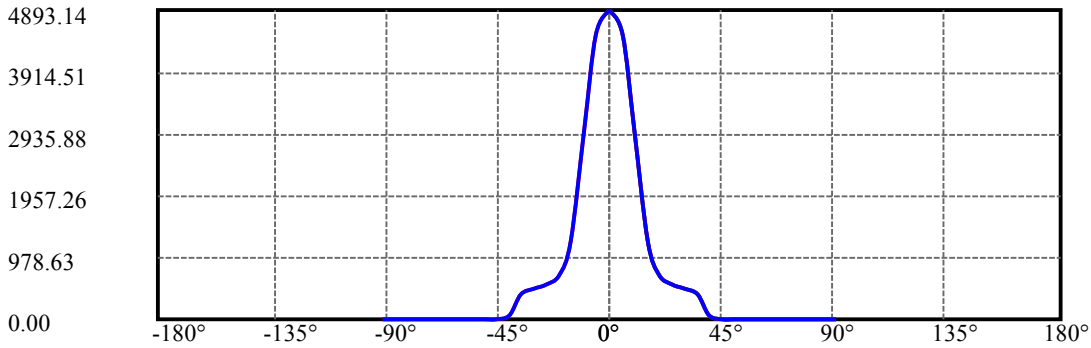
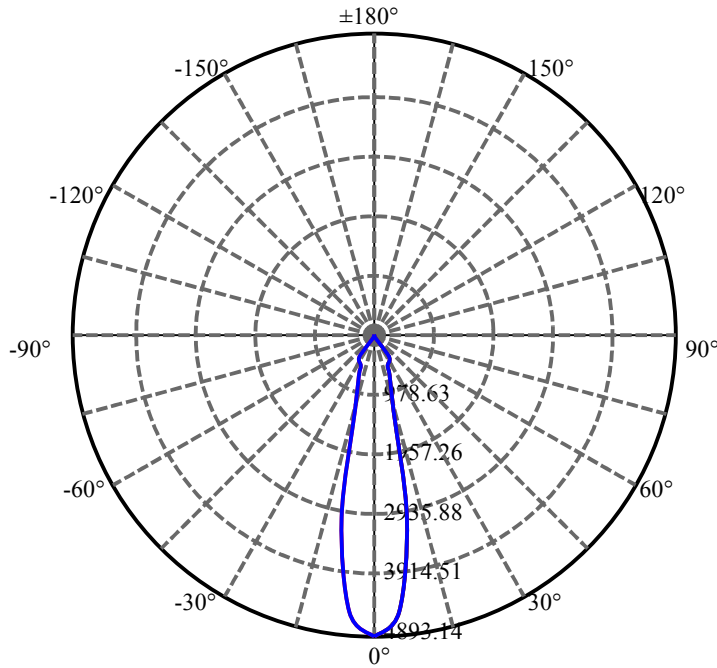
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4893.138	29.262	29.262	1.988%	2.297%
5.0	4490.194	214.511	243.773	14.573%	19.135%
10.0	3019.499	287.405	531.179	19.525%	41.695%
15.0	1257.832	178.447	709.625	12.123%	55.702%
20.0	684.798	128.382	838.007	8.722%	65.780%
25.0	538.286	124.696	962.703	8.471%	75.568%
30.0	481.365	131.927	1094.63	8.962%	85.923%
35.0	391.506	123.089	1217.719	8.362%	95.585%
40.0	67.816	23.894	1241.613	1.623%	97.461%
45.0	10.351	4.012	1245.625	.273%	97.776%
50.0	8.665	3.638	1249.263	.247%	98.061%
55.0	7.790	3.498	1252.761	.238%	98.336%
60.0	7.144	3.391	1256.152	.230%	98.602%
65.0	6.641	3.299	1259.451	.224%	98.861%
70.0	6.325	3.258	1262.709	.221%	99.117%
75.0	6.104	3.232	1265.941	.220%	99.370%
80.0	5.981	3.228	1269.169	.219%	99.624%
85.0	5.898	3.221	1272.39	.219%	99.877%
90.0	5.740	1.573	1273.963	.107%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1094.63	74.36%	85.92%
0-40	1241.61	84.35%	97.46%
0-60	1256.15	85.34%	98.60%
0-90	1272.39	86.44%	99.88%
0-120	1272.39	86.44%	99.88%
0-180	1273.96	86.55%	100.00%
60-90	19.63	1.33%	1.54%
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%
0-27.14	1019.17	69.24%	80.00%

ZONAL LUMEN SUMMARY

0-10	531.18
10-20	306.83
20-30	256.62
30-40	146.98
40-50	7.65
50-60	6.89
60-70	6.56
70-80	6.46
80-90	3.22
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: —————

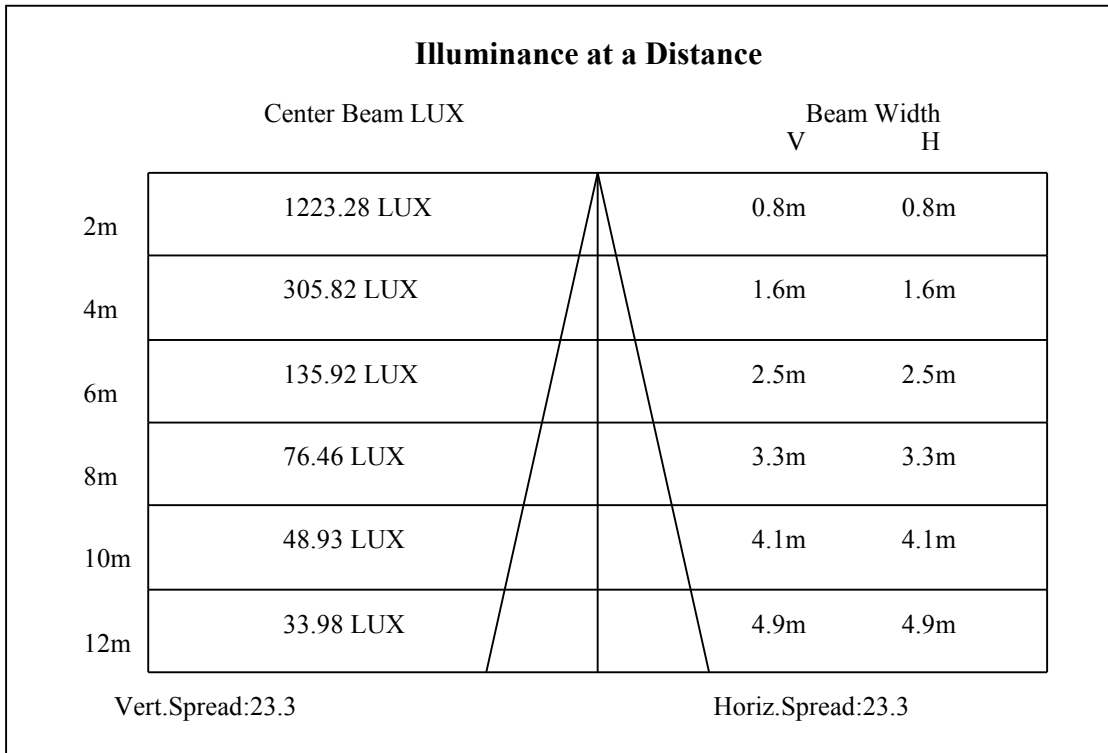
C90/C270: —————

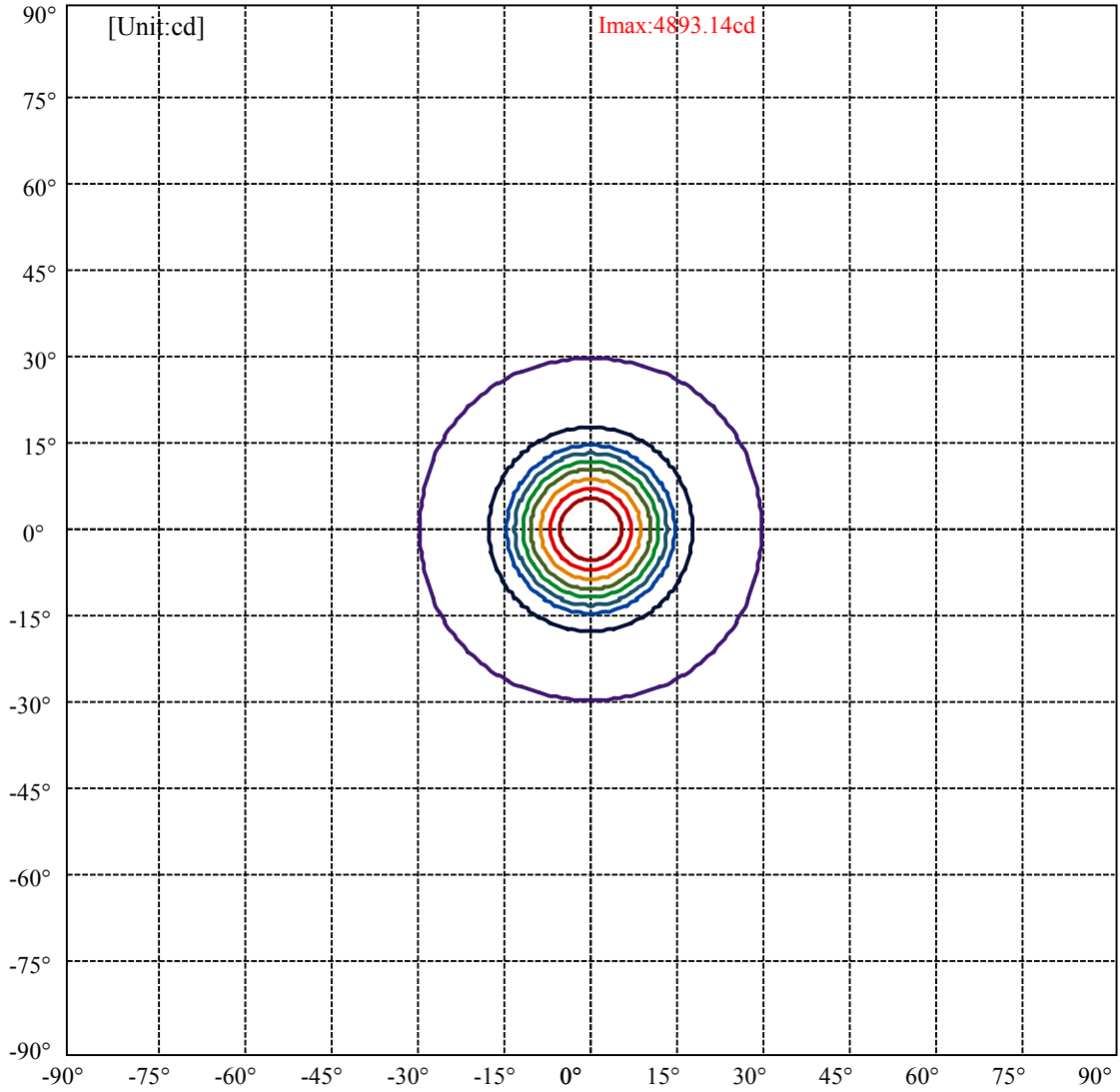
Field angle(10%Imax):C0/180Left:29.3 Right:29.3

:C90/270Left:29.3 Right:29.3

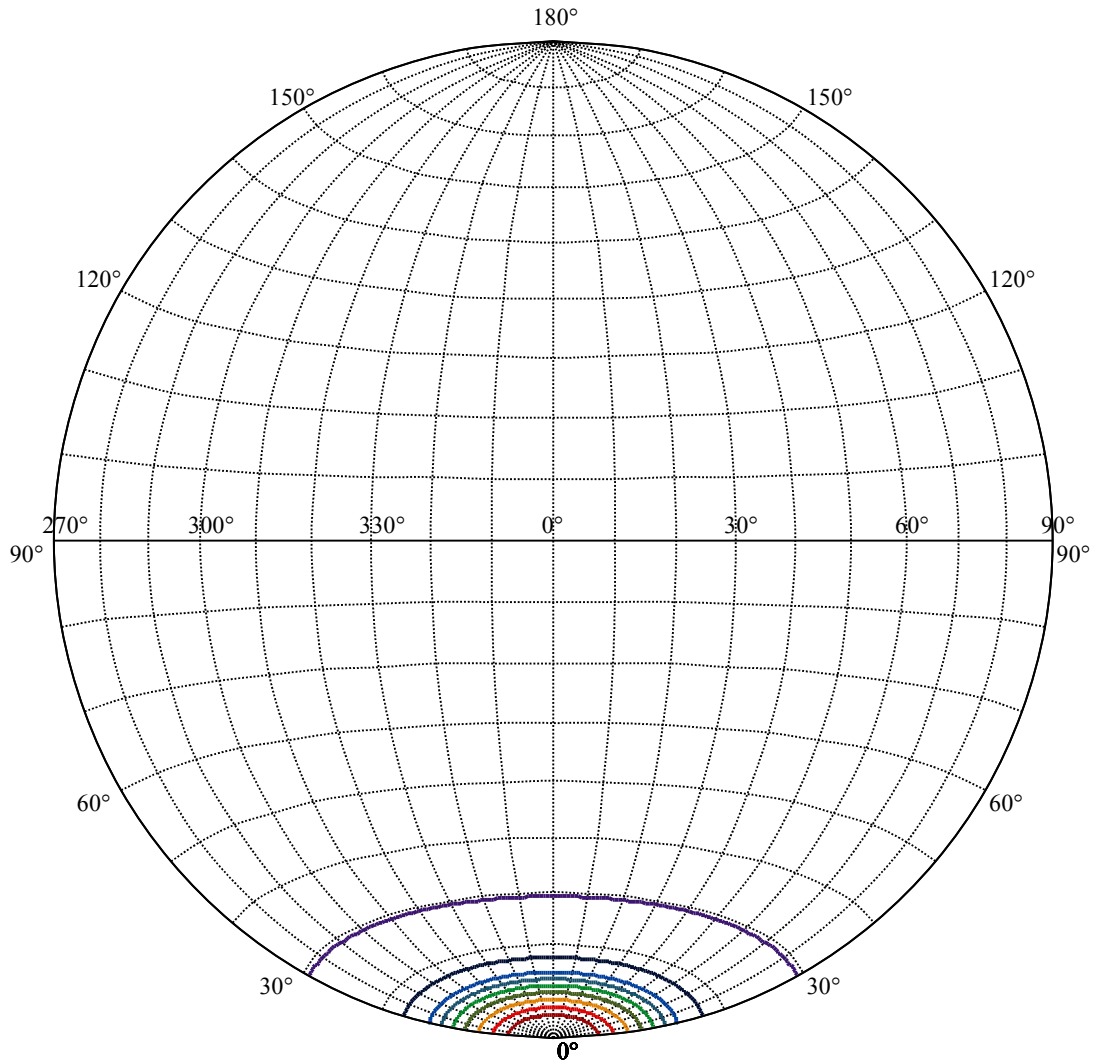
Beam Angle(50%Imax):C0/180Left:11.6 Right:11.6

:C90/270Left:11.6 Right:11.6





(10%Imax) 489.314	—
(20%Imax) 978.628	—
(30%Imax) 1467.94	—
(40%Imax) 1957.26	—
(50%Imax) 2446.57	—
(60%Imax) 2935.88	—
(70%Imax) 3425.2	—
(80%Imax) 3914.51	—
(90%Imax) 4403.82	—



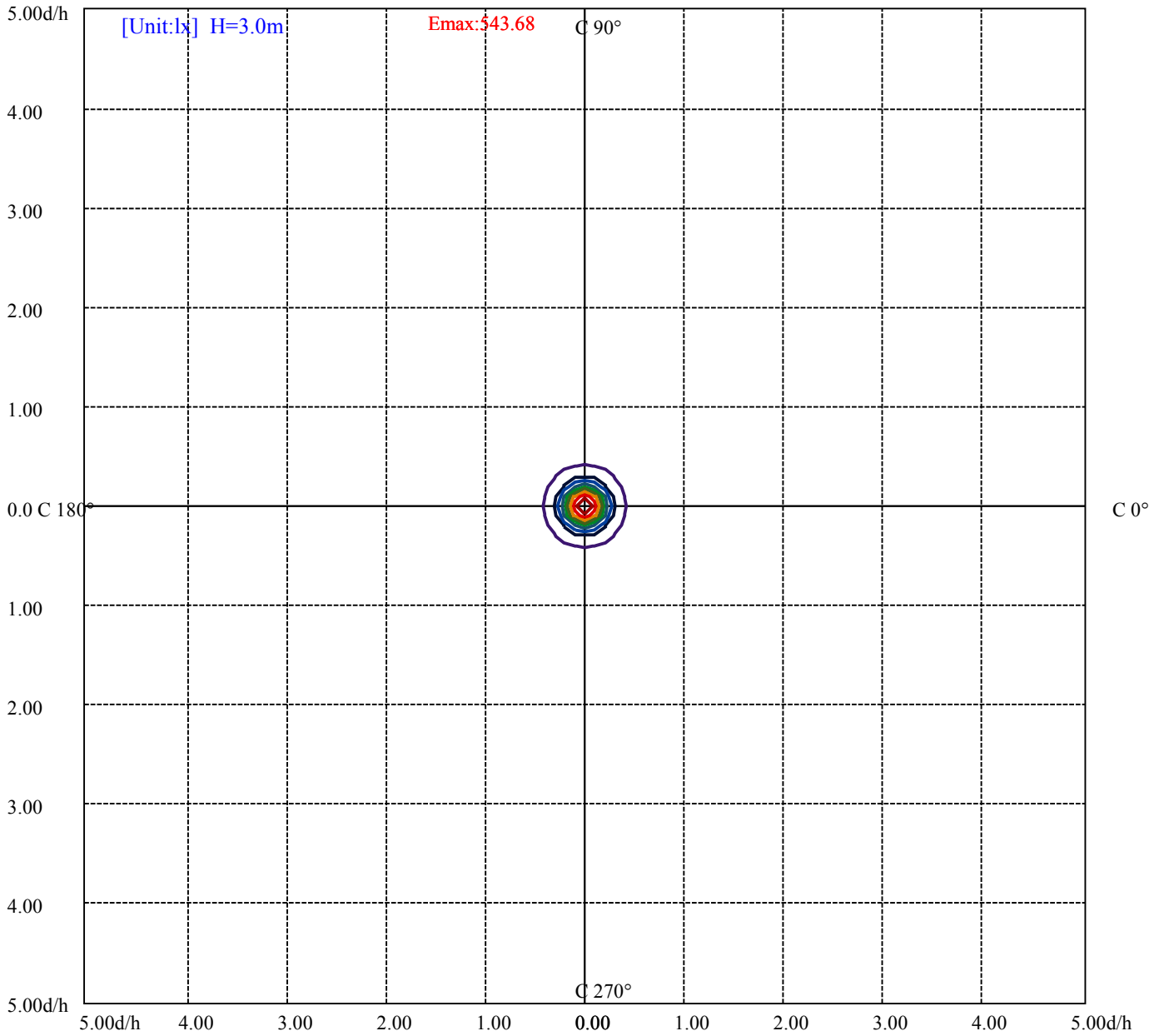
House

[Unit:cd]

Road

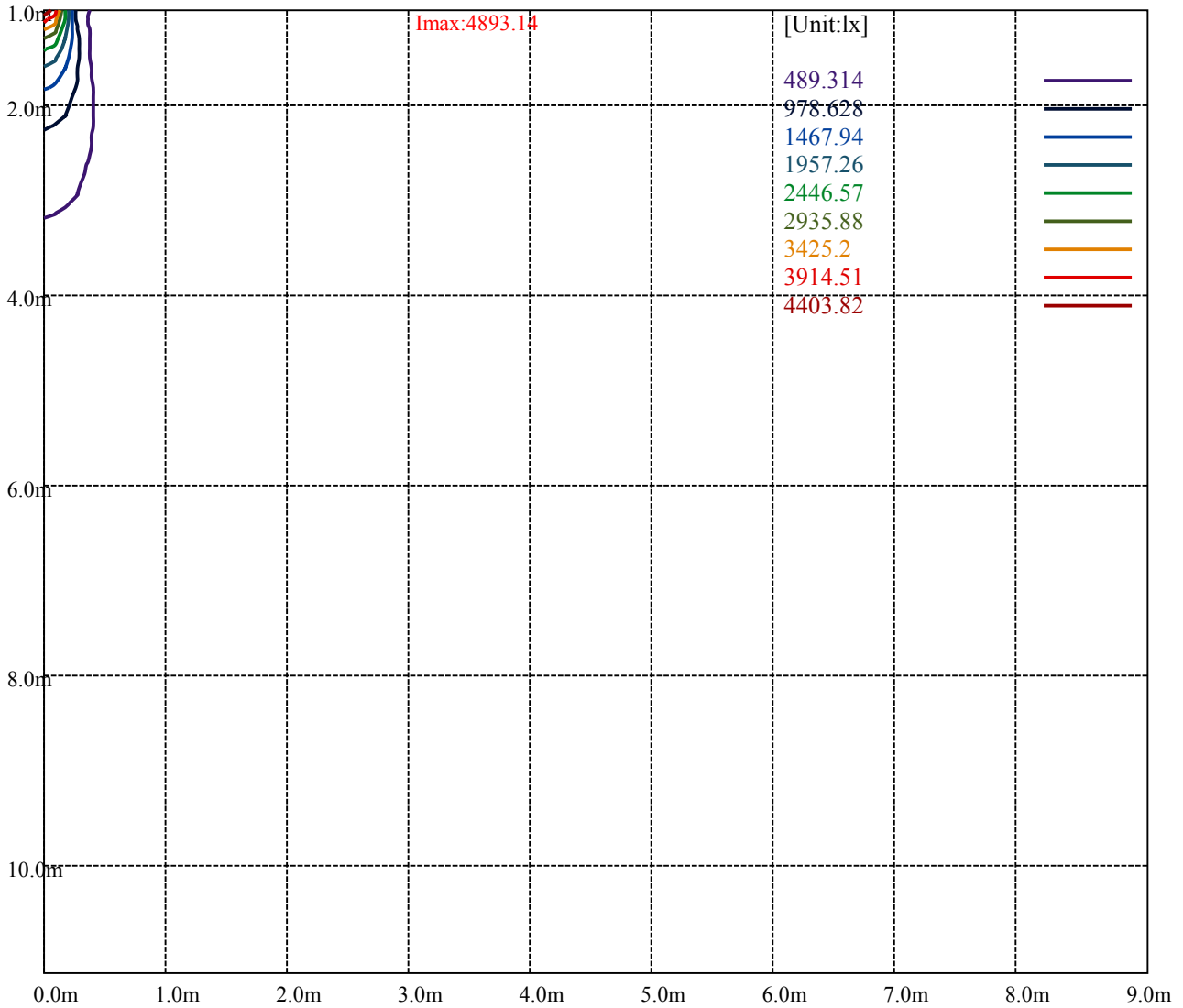
Imax:4893.14

(10%Imax)	489.314	—
(20%Imax)	978.628	—
(30%Imax)	1467.94	—
(40%Imax)	1957.26	—
(50%Imax)	2446.57	—
(60%Imax)	2935.88	—
(70%Imax)	3425.2	—
(80%Imax)	3914.51	—
(90%Imax)	4403.82	—



(10%Emax) 54.36811	—
(20%Emax) 108.7361	—
(30%Emax) 163.1044	—
(40%Emax) 217.4722	—
(50%Emax) 271.84	—
(60%Emax) 326.2089	—
(70%Emax) 380.5767	—
(80%Emax) 434.9445	—
(90%Emax) 489.3122	—





Luminance Table

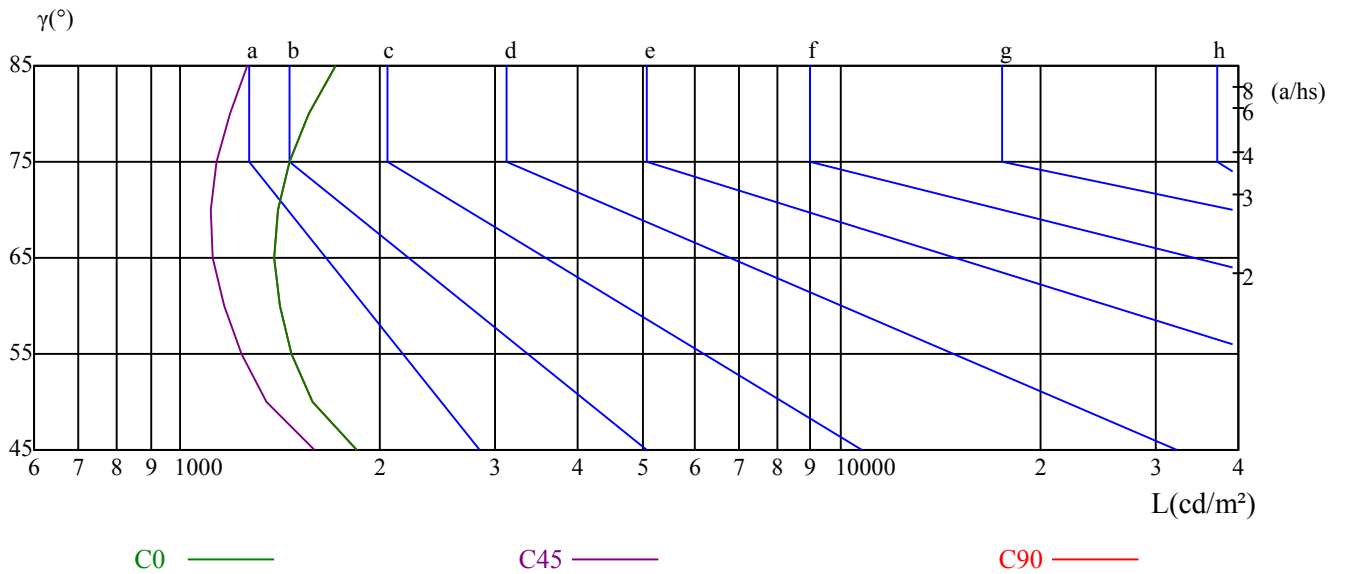
$\gamma$	45	50	55	60	65	70	75	80	85
C0	1851	1588	1477	1413	1384	1404	1462	1568	1722
C45	1599	1352	1237	1164	1120	1114	1135	1186	1264
C90	1851	1588	1477	1413	1384	1404	1462	1568	1722

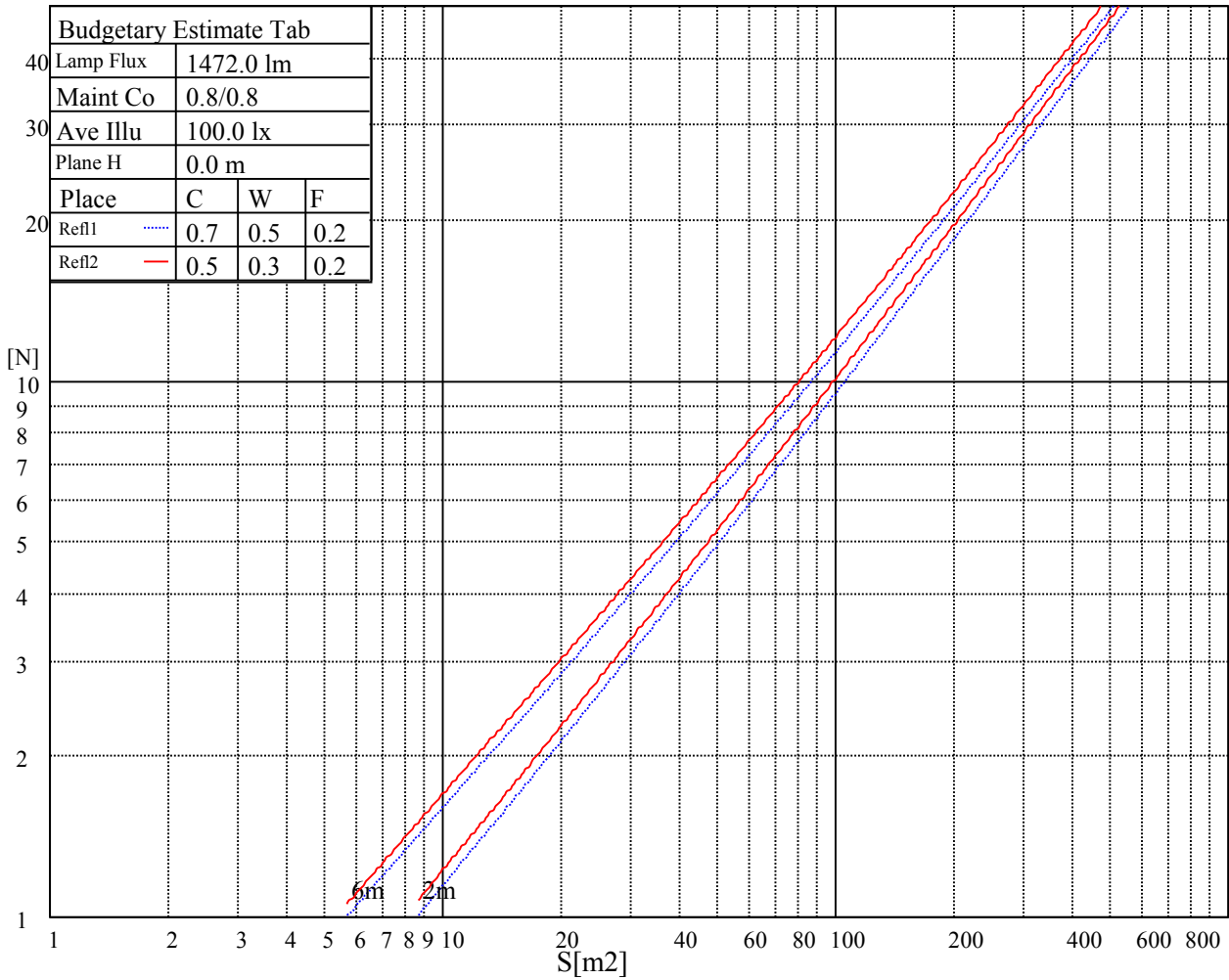
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3207	3207	3207	4813	4813	4813	13810	13810	13810

Glare Table

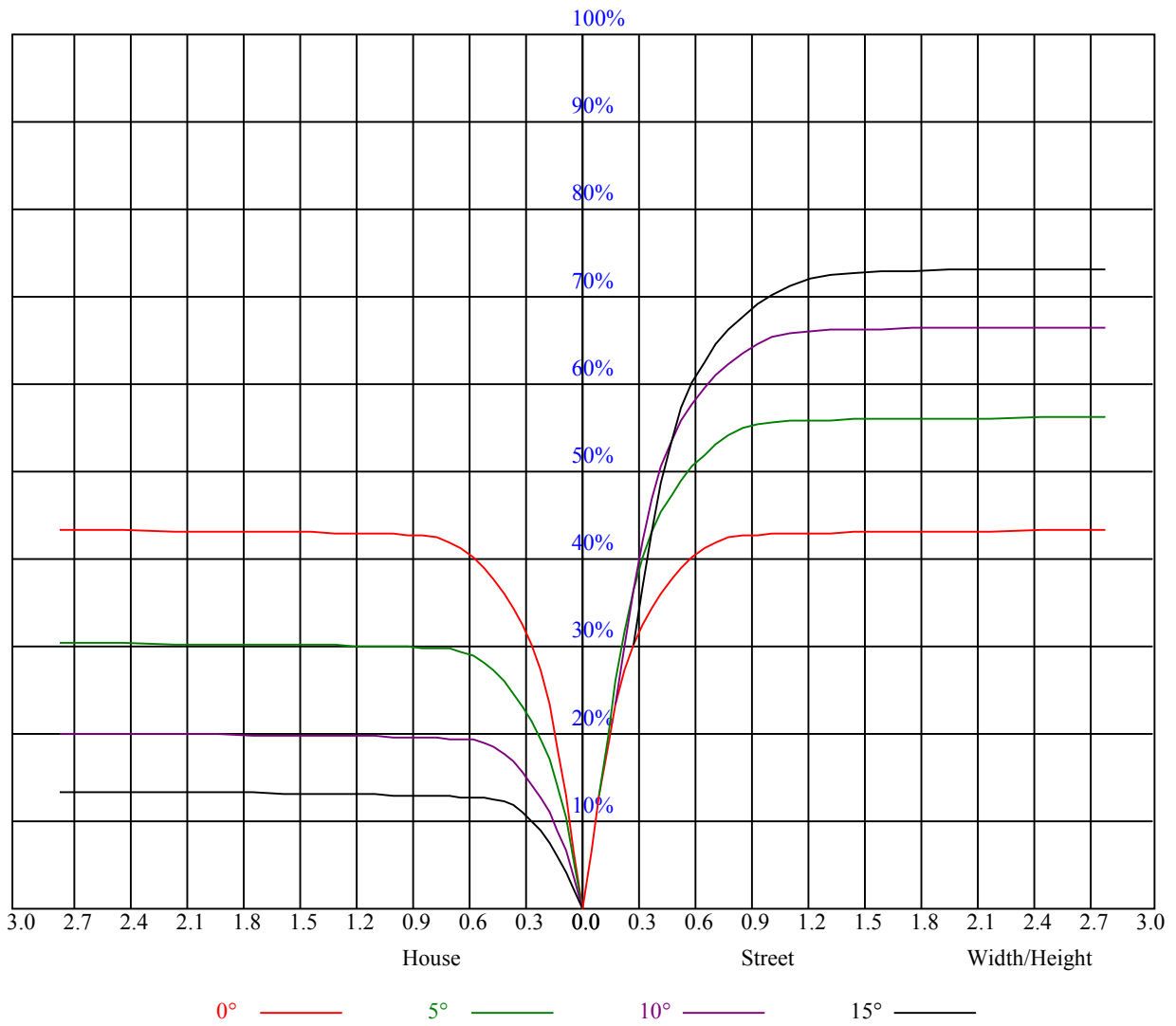
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

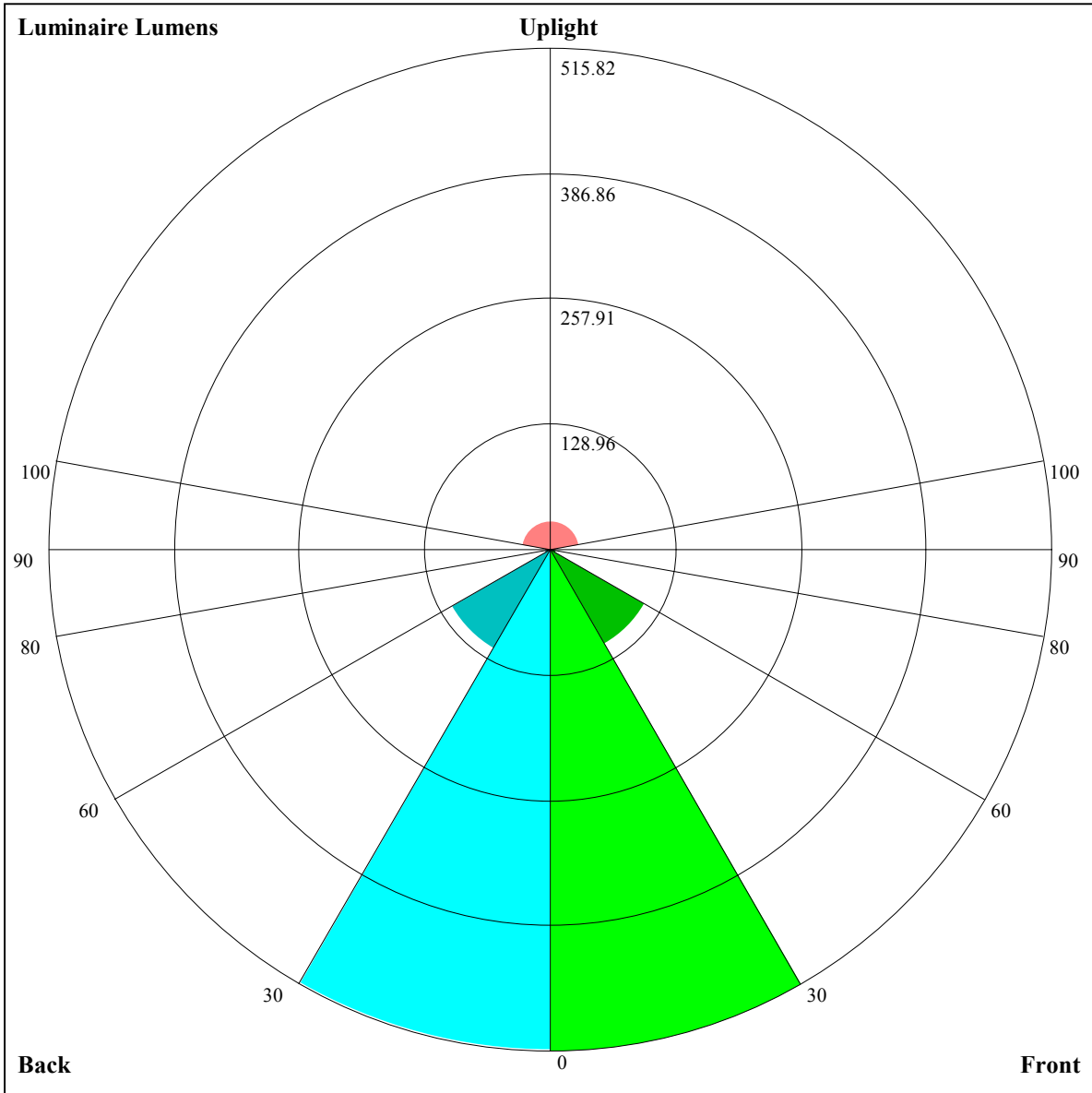
Luminance Limiting Curve





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	1.05	1.05	1.05	1.03	1.03	1.03	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.88
1	0.97	0.94	0.92	0.95	0.92	0.90	0.91	0.89	0.88	0.88	0.86	0.85	0.85	0.84	0.82	0.81
2	0.92	0.88	0.85	0.90	0.87	0.84	0.87	0.85	0.82	0.85	0.82	0.81	0.82	0.80	0.79	0.77
3	0.87	0.83	0.80	0.86	0.82	0.79	0.84	0.81	0.78	0.81	0.79	0.77	0.80	0.77	0.76	0.74
4	0.83	0.79	0.76	0.82	0.78	0.75	0.80	0.77	0.74	0.79	0.76	0.74	0.77	0.75	0.73	0.72
5	0.80	0.75	0.72	0.79	0.75	0.72	0.77	0.74	0.71	0.76	0.73	0.71	0.75	0.72	0.70	0.69
6	0.77	0.72	0.69	0.76	0.72	0.69	0.75	0.71	0.69	0.74	0.70	0.68	0.73	0.70	0.68	0.67
7	0.74	0.70	0.67	0.73	0.69	0.66	0.72	0.69	0.66	0.71	0.68	0.66	0.70	0.68	0.65	0.64
8	0.71	0.67	0.64	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.68	0.66	0.63	0.62
9	0.69	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.62	0.67	0.64	0.62	0.61
10	0.67	0.63	0.60	0.67	0.63	0.60	0.66	0.63	0.60	0.65	0.62	0.60	0.65	0.62	0.60	0.59





Luminaire Lumens:

FL=515.82,FM=111.62,FH=6.56,FVH=3.19

BL=515.35,BM=116.96,BH=6.52,BVH=3.21

UL=6.26,UH=29.8

BUG Rating:B2-U2-G0

Nata 2-1680-M

Intensity data(cd)

C/ $\gamma$ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	4899.47	4570.78	3131.06	1417.15	738.31	549.46	488.90	408.52	70.69
45.0	4873.59	4618.13	3252.18	1424.31	700.87	539.00	477.89	411.82	68.05
90.0	4929.75	4575.19	3074.35	1089.84	662.99	535.09	479.27	396.08	61.66
135.0	4869.74	4637.40	3455.89	1611.50	736.10	558.27	492.75	439.90	193.08
180.0	4899.47	4454.06	2825.49	1065.73	658.86	524.30	469.69	365.68	41.07
225.0	4873.59	4388.00	2852.47	1055.32	669.38	538.56	482.07	382.42	37.22
270.0	4929.75	4414.42	2961.48	1344.48	686.00	541.20	485.60	409.62	46.63
315.0	4869.74	4263.57	2603.07	1054.33	625.88	520.39	474.75	318.01	24.11
360.0	4899.47	4570.78	3131.06	1417.15	738.31	549.46	488.90	408.52	70.69
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	11.23	8.97	8.04	7.38	6.83	6.50	6.28	6.11	5.95
45.0	10.30	9.03	8.09	7.43	6.88	6.44	6.17	5.95	5.89
90.0	10.90	8.70	7.87	7.21	6.66	6.28	6.06	5.89	5.78
135.0	11.23	8.86	7.87	7.21	6.72	6.39	6.11	6.00	5.95
180.0	9.52	8.48	7.71	7.10	6.66	6.44	6.22	6.17	6.06
225.0	10.30	8.37	7.49	6.94	6.44	6.22	6.00	5.95	5.89
270.0	9.74	8.42	7.54	6.94	6.44	6.17	6.00	5.89	5.84
315.0	9.58	8.48	7.71	6.94	6.50	6.17	6.00	5.89	5.84
360.0	11.23	8.97	8.04	7.38	6.83	6.50	6.28	6.11	5.95
C/ $\gamma$ (°)	90.0								
0.0	5.73								
45.0	5.78								
90.0	5.73								
135.0	5.73								
180.0	5.73								
225.0	5.78								
270.0	5.73								
315.0	5.73								
360.0	5.73								