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NATA

Client:

LumCAT: 1655-S

Luminaire: 92.70.046.00

Report No: nt0100

Voltage(V): 34.1900

Test No: GC2020010813

Current(A): 0.3070

LampCAT: LUMINUS CLM-9-AA40

Power (W): 10.5000

Lamp flux(lm): 1288.0

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 0

Width(mm): 0

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1073.45, Efficiency(%): 83.34% , Luminous Efficacy(lm/W): 102.23

Central intensity(cd): 1926.422, Maximum intensity(cd): 1926.422

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=41.8

[C90/270]Total=41.8

Field angle(10%Imax): [C0/180]Total=71.4

[C90/270]Total=71.4

Maximum s/h(1/2): C0_180=0.68 C90_270=0.68

Maximum s/h(1/4): C0_180=0.67 C90_270=0.67

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 83.34%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 97.907%

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/1/8
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

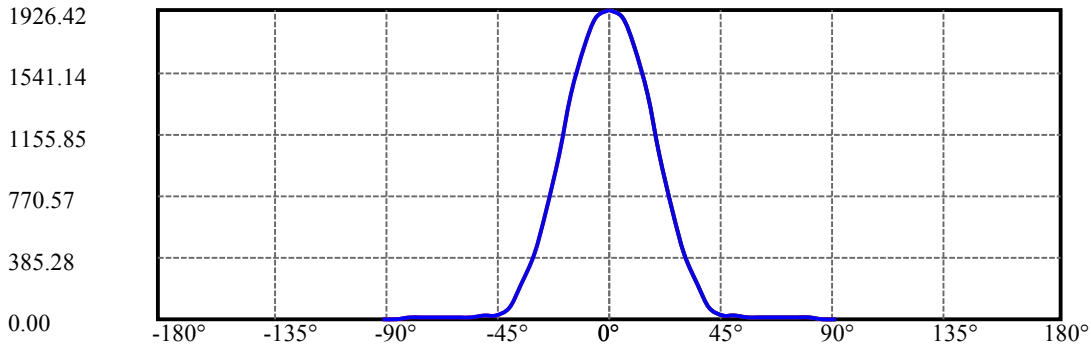
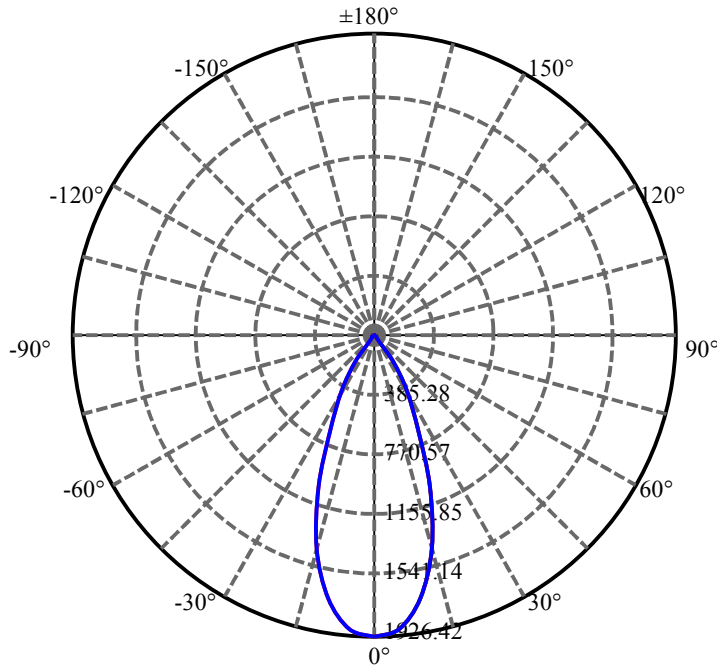
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1926.422	0.000	0	.000%	.000%
5.0	1880.016	45.505	45.505	3.533%	4.239%
10.0	1701.070	128.107	173.612	9.946%	16.173%
15.0	1405.898	184.303	357.915	14.309%	33.342%
20.0	1025.923	200.416	558.331	15.560%	52.013%
25.0	674.023	178.293	736.624	13.843%	68.622%
30.0	409.310	137.097	873.721	10.644%	81.393%
35.0	214.095	91.801	965.521	7.127%	89.945%
40.0	66.122	46.752	1012.273	3.630%	94.301%
45.0	25.980	17.053	1029.327	1.324%	95.889%
50.0	18.239	8.935	1038.262	.694%	96.722%
55.0	13.823	6.971	1045.234	.541%	97.371%
60.0	11.074	5.755	1050.989	.447%	97.907%
65.0	9.155	4.918	1055.906	.382%	98.365%
70.0	7.854	4.307	1060.213	.334%	98.767%
75.0	6.827	3.837	1064.05	.298%	99.124%
80.0	6.054	3.447	1067.497	.268%	99.445%
85.0	5.435	3.122	1070.619	.242%	99.736%
90.0	4.915	2.834	1073.453	.220%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	873.72	67.84%	81.39%
0-40	1012.27	78.59%	94.30%
0-60	1050.99	81.60%	97.91%
0-90	1070.62	83.12%	99.74%
0-120	1070.62	83.12%	99.74%
0-180	1073.45	83.34%	100.00%
60-90	25.39	1.97%	2.36%
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%
0-29.45	858.76	66.67%	80.00%

ZONAL LUMEN SUMMARY

0-10	173.61
10-20	384.72
20-30	315.39
30-40	138.55
40-50	25.99
50-60	12.73
60-70	9.22
70-80	7.28
80-90	3.12
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



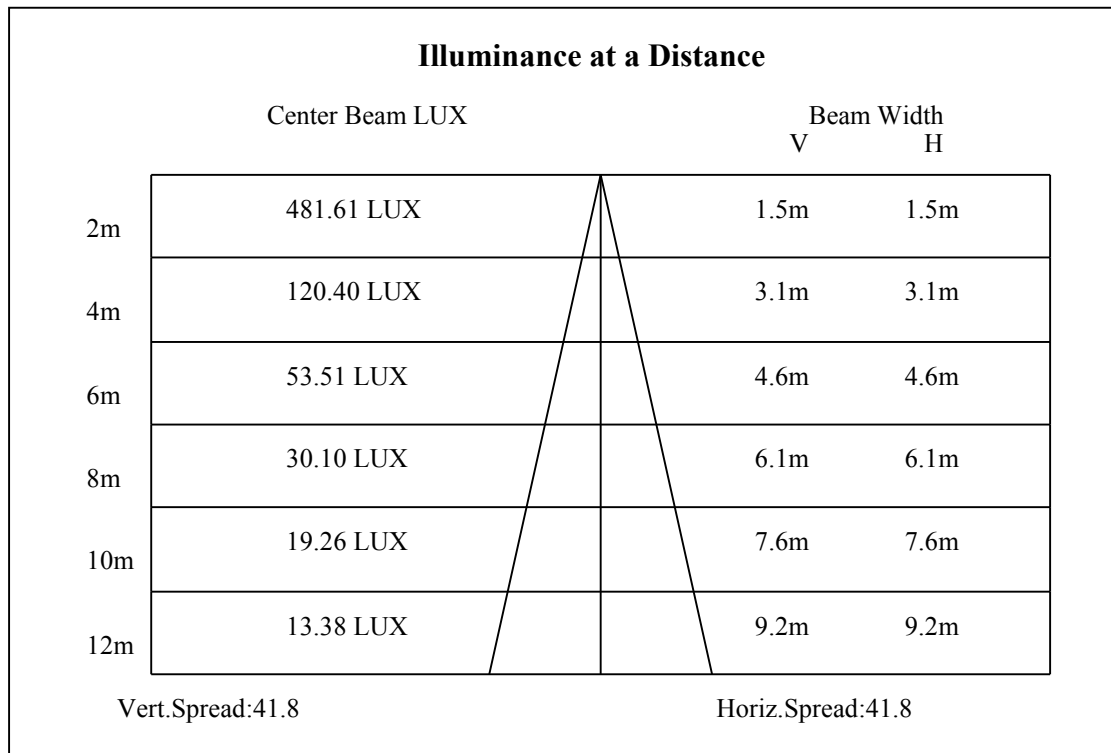
C0(Max): —————

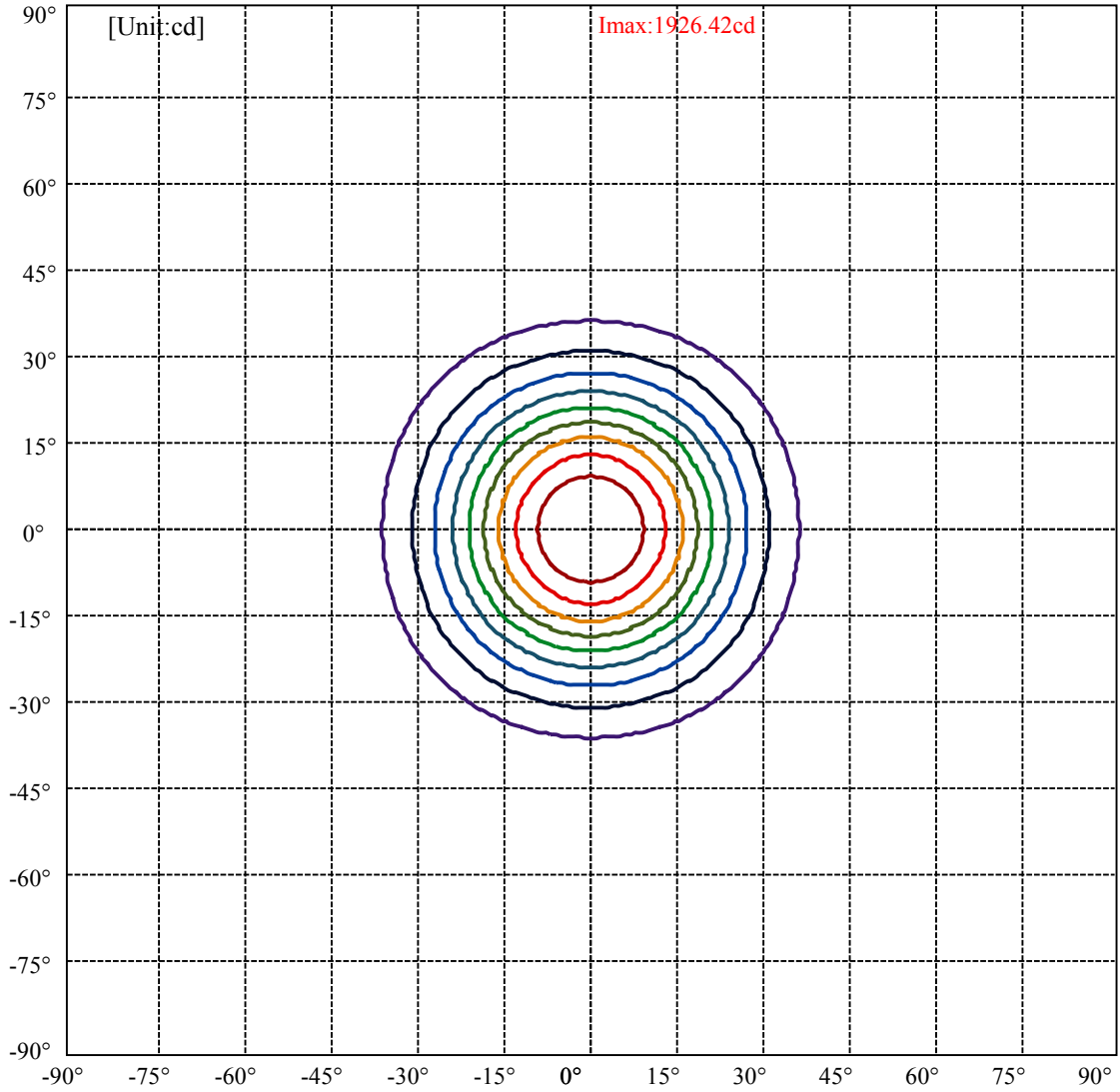
C0/C180: —————

C90/C270: —————

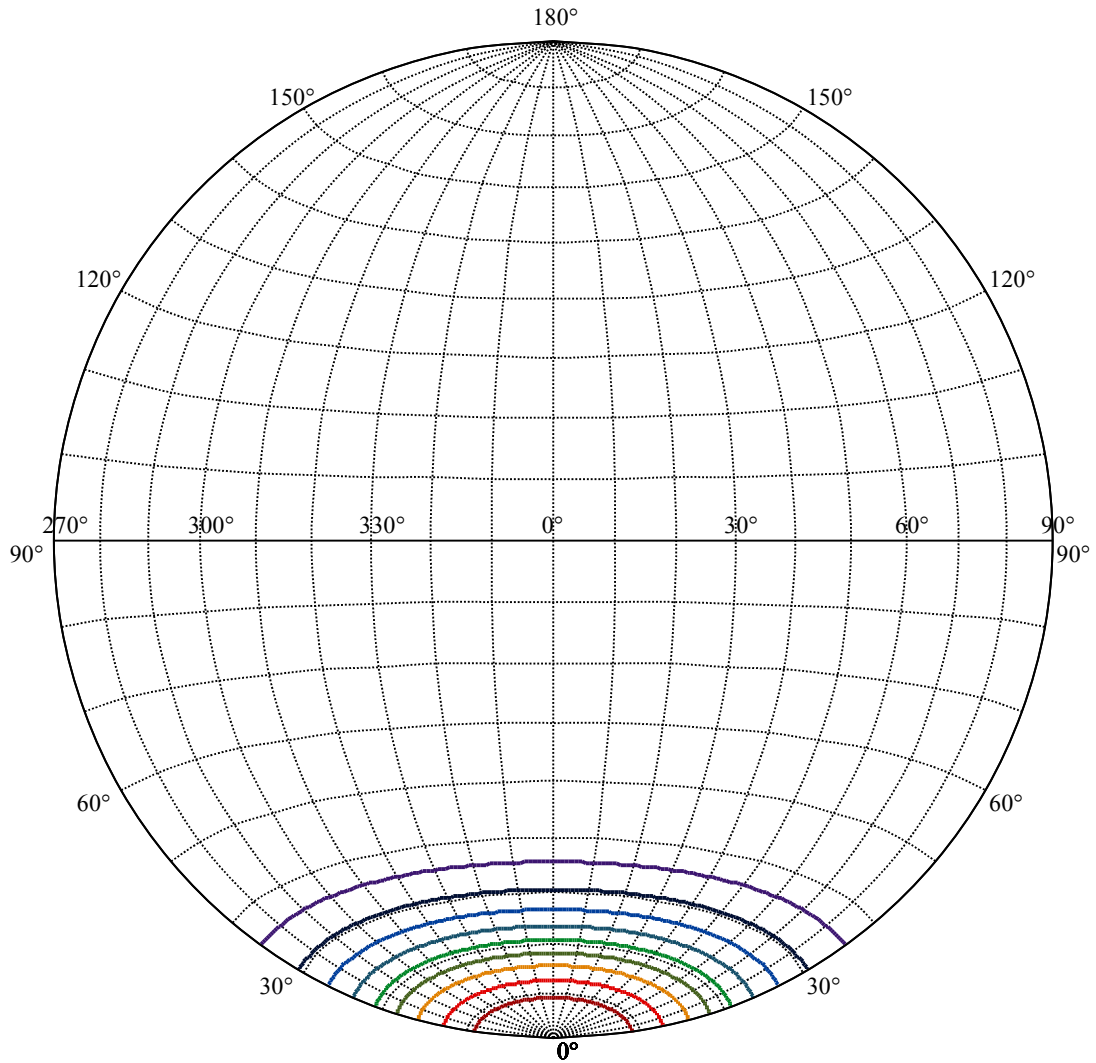
Field angle(10%Imax):C0/180Left:35.7 Right:35.7
:C90/270Left:35.7 Right:35.7

Beam Angle(50%Imax):C0/180Left:20.9 Right:20.9
:C90/270Left:20.9 Right:20.9





(10%Imax) 192.642	—
(20%Imax) 385.284	—
(30%Imax) 577.927	—
(40%Imax) 770.569	—
(50%Imax) 963.211	—
(60%Imax) 1155.85	—
(70%Imax) 1348.5	—
(80%Imax) 1541.14	—
(90%Imax) 1733.78	—



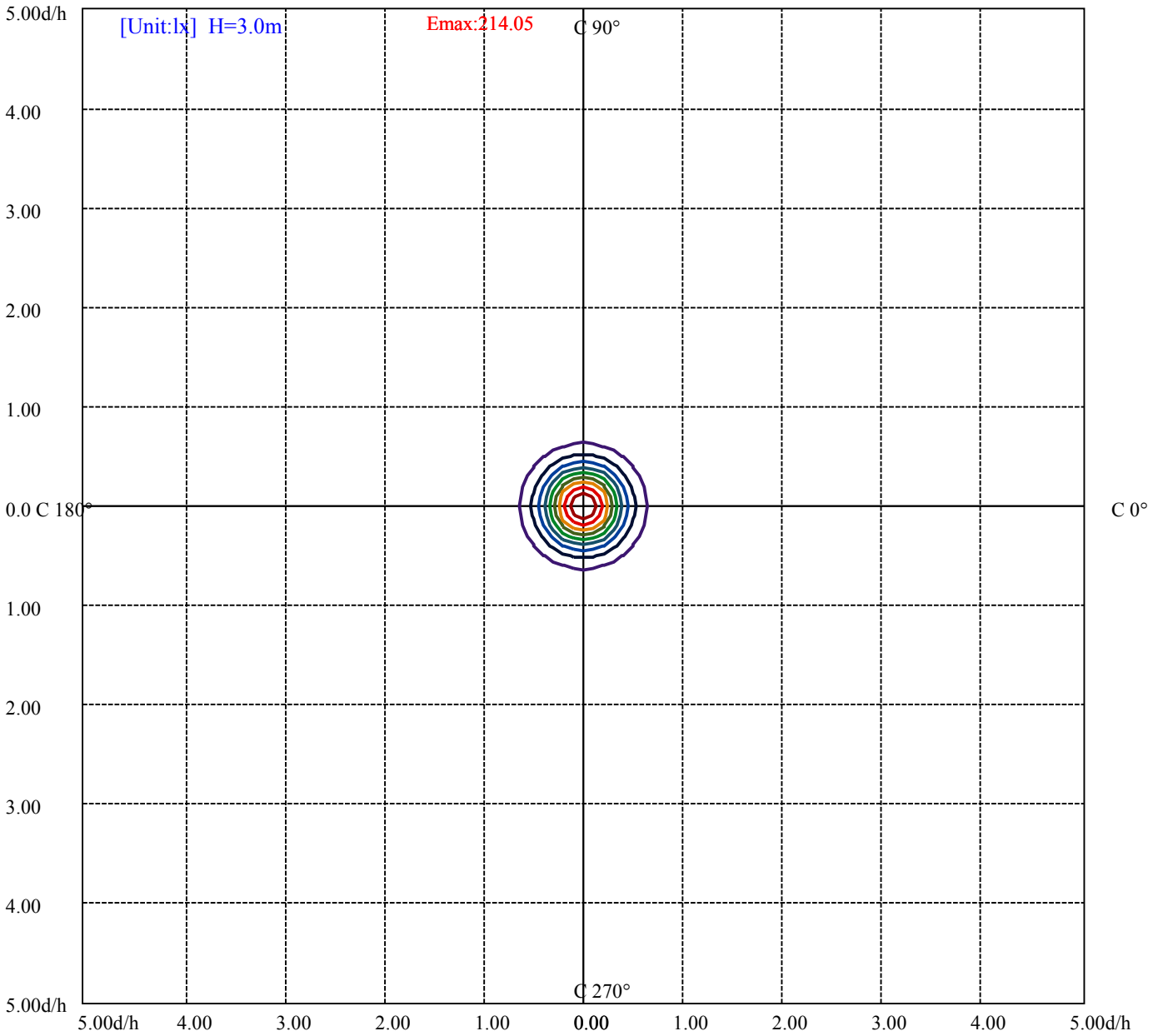
House

[Unit:cd]

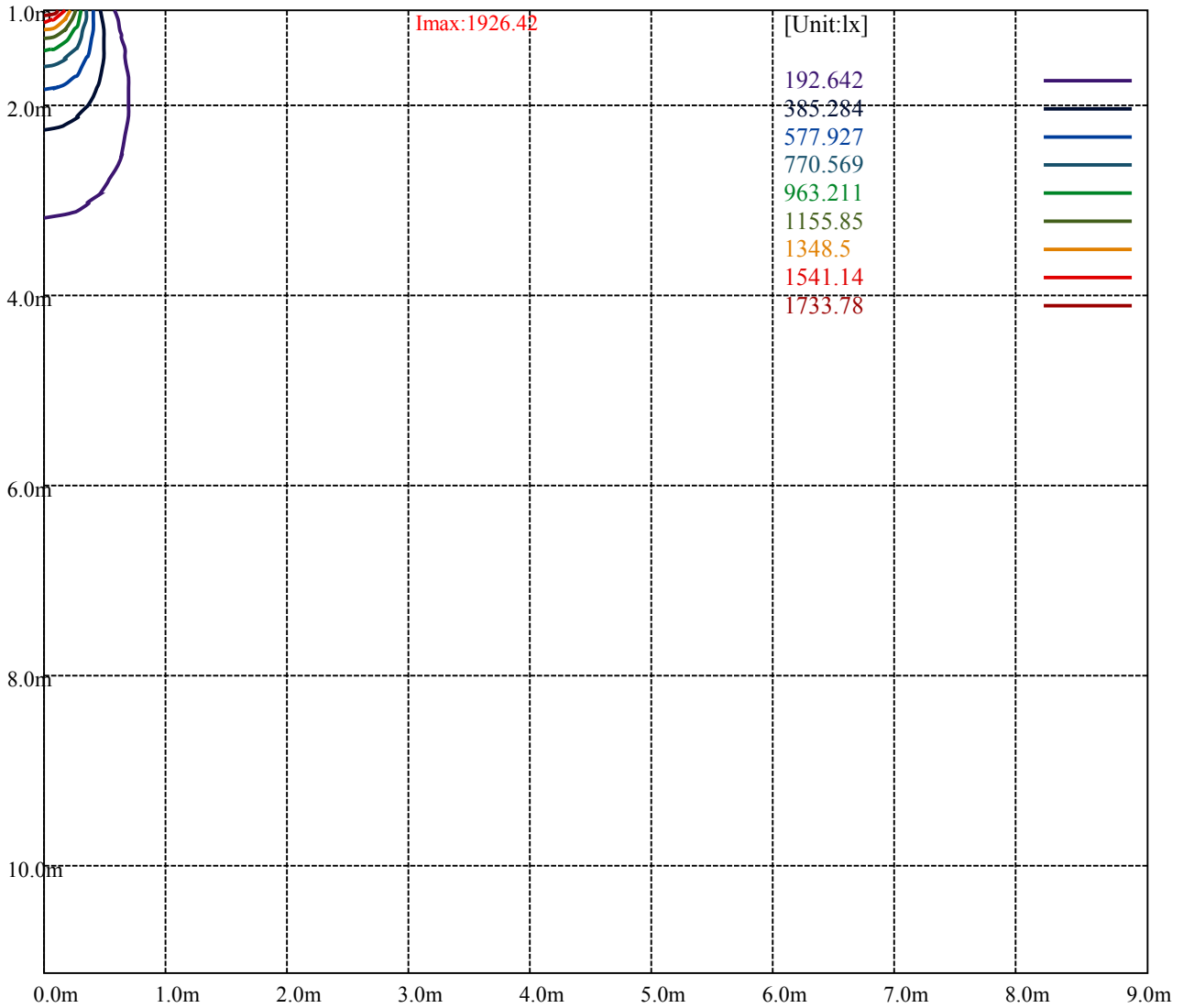
Road

Imax:1926.42

(10%Imax)	192.642	—
(20%Imax)	385.284	—
(30%Imax)	577.927	—
(40%Imax)	770.569	—
(50%Imax)	963.211	—
(60%Imax)	1155.85	—
(70%Imax)	1348.5	—
(80%Imax)	1541.14	—
(90%Imax)	1733.78	—



(10%Emax) 21.40467	—
(20%Emax) 42.80933	—
(30%Emax) 64.214	—
(40%Emax) 85.61867	—
(50%Emax) 107.0233	—
(60%Emax) 128.4278	—
(70%Emax) 149.8322	—
(80%Emax) 171.2378	—
(90%Emax) 192.6422	—



Luminance Table

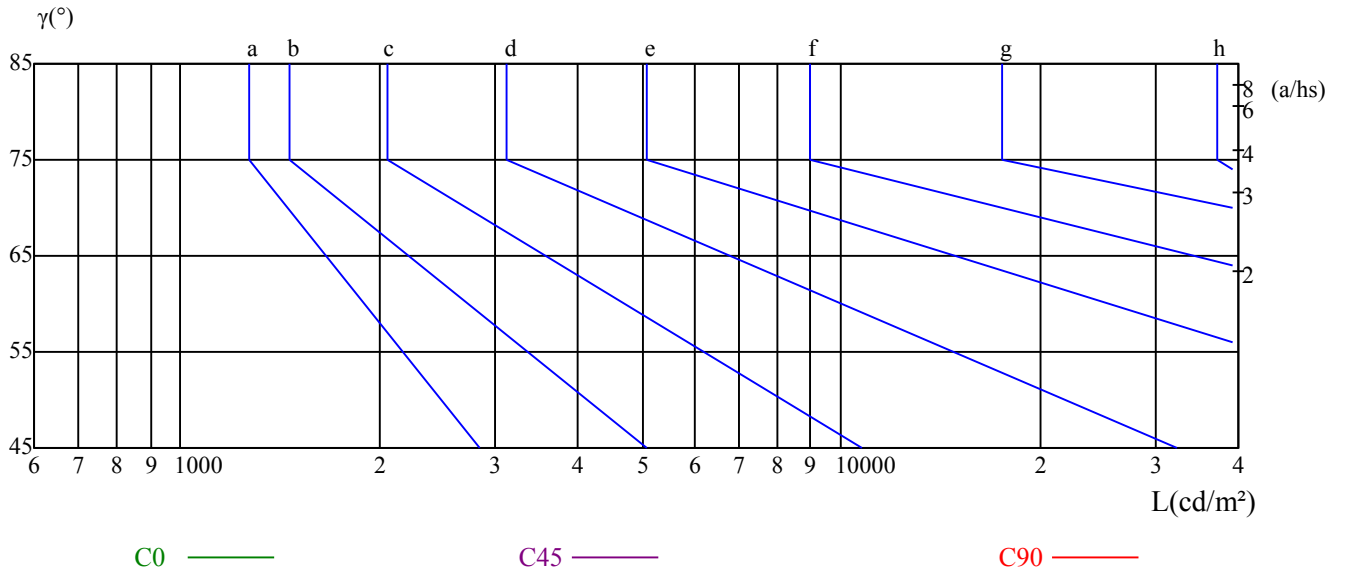
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

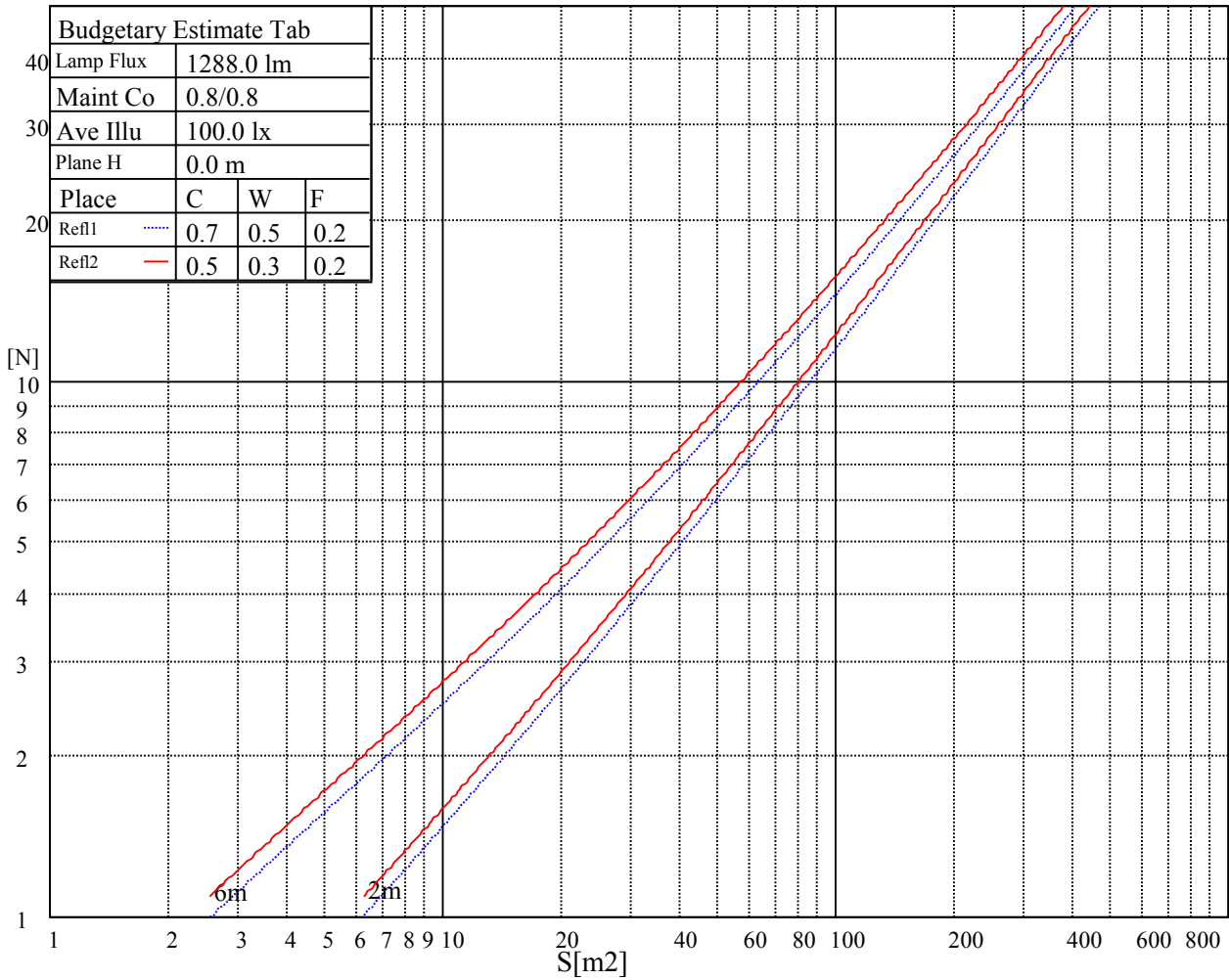
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

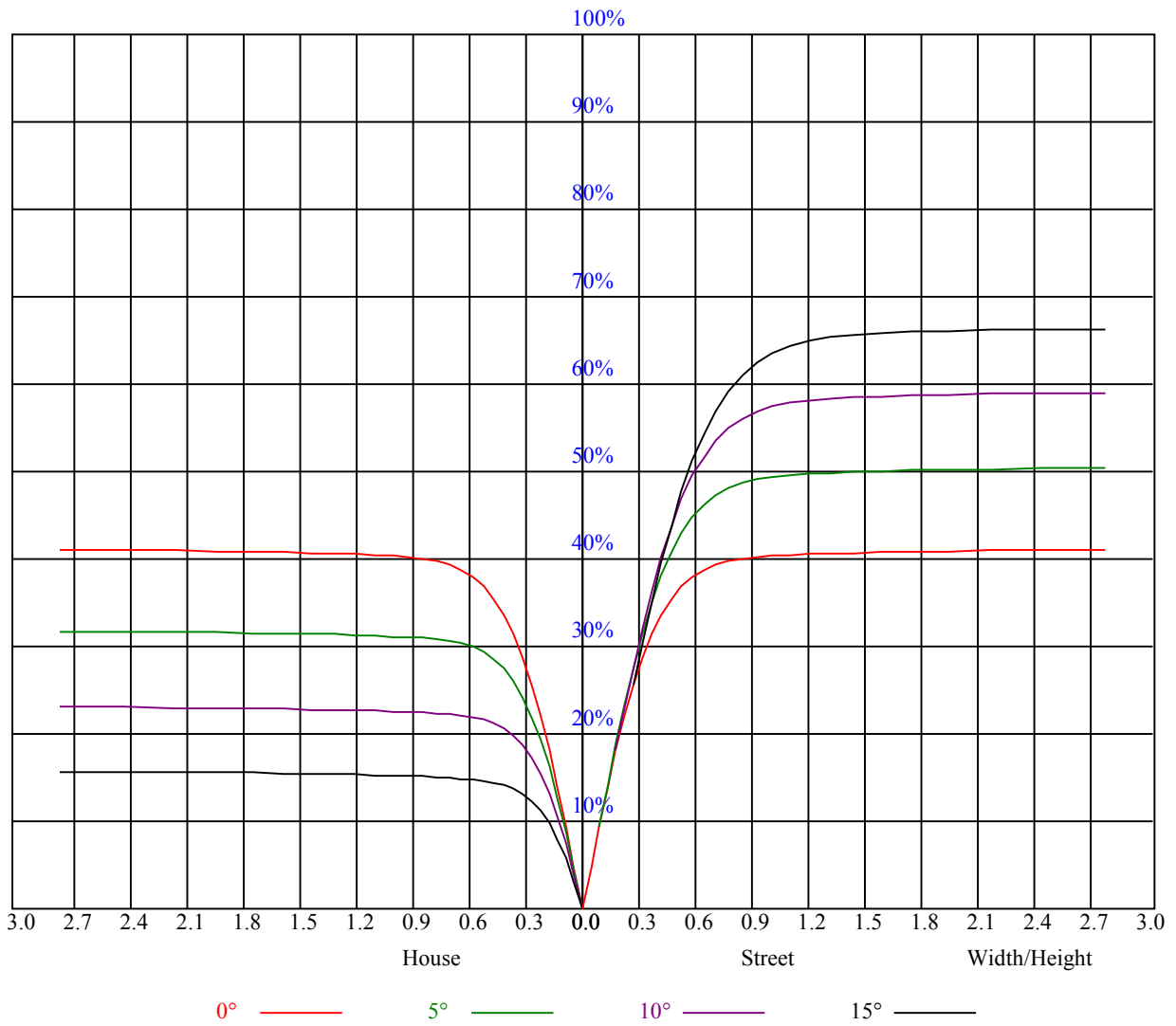
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

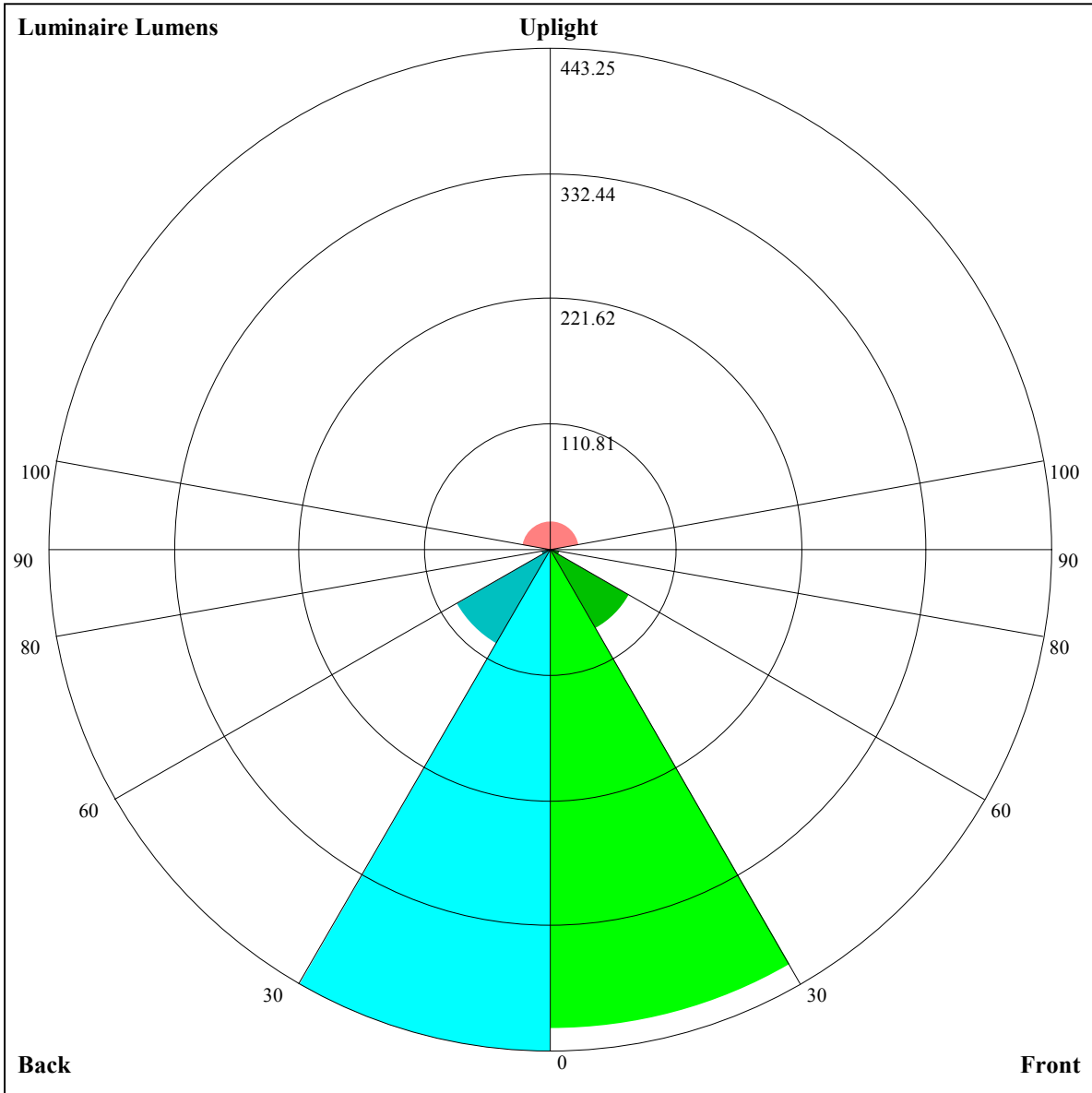
Luminance Limiting Curve





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	0.99	0.99	0.99	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.85	0.85	0.85	0.83
1	0.92	0.90	0.89	0.91	0.89	0.87	0.87	0.86	0.85	0.84	0.83	0.82	0.81	0.80	0.80	0.78
2	0.87	0.83	0.81	0.85	0.82	0.80	0.82	0.80	0.78	0.80	0.78	0.76	0.78	0.76	0.75	0.73
3	0.81	0.78	0.74	0.80	0.77	0.74	0.78	0.75	0.73	0.76	0.74	0.72	0.74	0.72	0.70	0.69
4	0.77	0.72	0.69	0.76	0.72	0.69	0.74	0.71	0.68	0.72	0.70	0.67	0.71	0.68	0.66	0.65
5	0.73	0.68	0.65	0.72	0.68	0.65	0.70	0.67	0.64	0.69	0.66	0.63	0.68	0.65	0.63	0.62
6	0.69	0.64	0.61	0.68	0.64	0.61	0.67	0.63	0.60	0.66	0.63	0.60	0.65	0.62	0.60	0.59
7	0.65	0.61	0.58	0.65	0.61	0.57	0.64	0.60	0.57	0.63	0.59	0.57	0.62	0.59	0.57	0.56
8	0.62	0.58	0.55	0.62	0.58	0.55	0.61	0.57	0.54	0.60	0.57	0.54	0.59	0.56	0.54	0.53
9	0.59	0.55	0.52	0.59	0.55	0.52	0.58	0.54	0.52	0.58	0.54	0.52	0.57	0.54	0.51	0.50
10	0.57	0.52	0.49	0.56	0.52	0.49	0.56	0.52	0.49	0.55	0.52	0.49	0.55	0.51	0.49	0.48





Luminaire Lumens:

FL=423.51,FM=79.94,FH=8.15,FVH=3

BL=443.25,BM=96.67,BH=8.35,BVH=2.97

UL=5.36,UH=25.52

BUG Rating:B1-U2-G0

NATA 1655-S

Intensity data(cd)

C/ γ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	1923.19	1872.56	1682.44	1375.88	999.56	671.63	390.38	179.27	51.02
45.0	1924.31	1872.00	1665.56	1362.38	966.38	620.44	371.81	164.81	45.11
90.0	1930.50	1869.19	1643.06	1330.31	934.31	595.24	362.42	166.89	42.64
135.0	1927.69	1895.63	1738.13	1455.19	1087.88	701.44	434.25	284.06	78.30
180.0	1923.19	1890.56	1716.75	1436.06	1059.08	699.92	434.48	226.18	82.24
225.0	1924.31	1883.81	1740.38	1454.06	1090.58	744.81	469.35	241.48	94.95
270.0	1930.50	1892.25	1757.25	1486.13	1113.19	736.88	445.50	292.50	87.69
315.0	1927.69	1864.13	1665.00	1347.19	956.42	621.84	366.30	157.56	47.03
360.0	1923.19	1872.56	1682.44	1375.88	999.56	671.63	390.38	179.27	51.02
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	21.09	16.20	12.77	10.46	8.83	7.76	6.86	6.19	5.51
45.0	20.36	15.98	12.43	10.35	8.61	7.37	6.53	6.02	5.34
90.0	20.48	15.47	11.98	9.90	8.33	7.31	6.41	5.91	5.34
135.0	29.14	19.52	14.23	11.31	9.23	7.82	6.86	5.96	5.23
180.0	30.38	20.53	15.08	11.48	9.39	7.88	6.64	5.79	5.29
225.0	31.28	20.59	15.58	12.21	9.84	8.27	6.98	6.13	5.51
270.0	32.57	20.76	15.47	12.09	9.90	8.44	7.26	6.19	5.63
315.0	22.56	16.88	13.05	10.80	9.11	7.99	7.09	6.24	5.63
360.0	21.09	16.20	12.77	10.46	8.83	7.76	6.86	6.19	5.51
C/ γ (°)	90.0								
0.0	4.84								
45.0	4.84								
90.0	4.84								
135.0	4.78								
180.0	4.95								
225.0	5.18								
270.0	5.06								
315.0	4.84								
360.0	4.84								