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SOTEN

LumCAT: D1041

Luminaire: NATA-1451-E 36°

Report No:

Voltage(V): 230.5000

Test No:

Current(A): 0.0860

LampCAT: LUMILEDS-1203-3090-F

Power (W): 10.6700

Lamp flux(lm): 1099.2

PF: 0.5360

Number of Lamps: 1

Ballast type: PHILIPS CertaDrive 10W 0.25A 40V LPF I 230V

Length(mm): 61

Width(mm): 61

Phm Type: C

Height(mm): 39

Photometric Results

Lumens(lm): 720.71

Efficiency(%): 65.57%

Lumens(lm)/Power(W): 67.55

Central intensity(cd): 1301.593

Maximum intensity(cd): 1305.716

Angle of maximum intensity: C=30.0 $\gamma=0.0$

Beam Angle(50%Imax): [C0/180]Total=40.0

[C90/270]Total=41.0

Field angle(10%Imax): [C0/180]Total=66.8

[C90/270]Total=67.7

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

Maximum s/h(1/4): C0_180=0.98 C90_270=0.69

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 65.57%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.301%



Equipment: GMS-1800
Temperature(°C): 25.0

Date: 2022/1/10
Humidity(%): 65.0%

Operator: New
Distance(m): 7.18

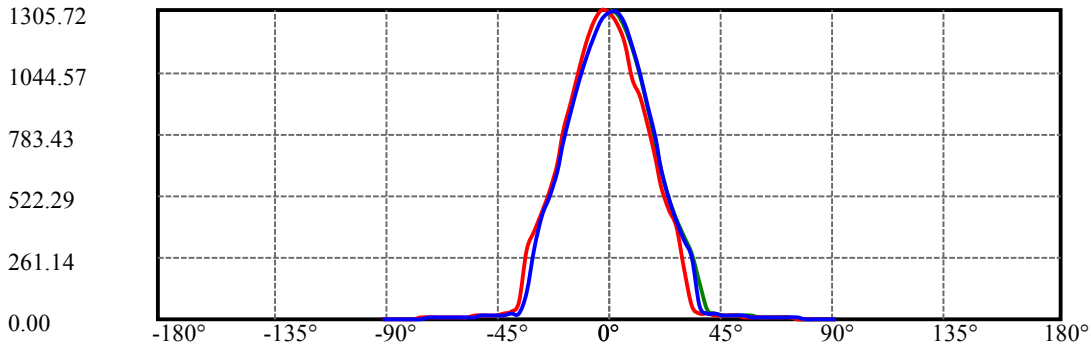
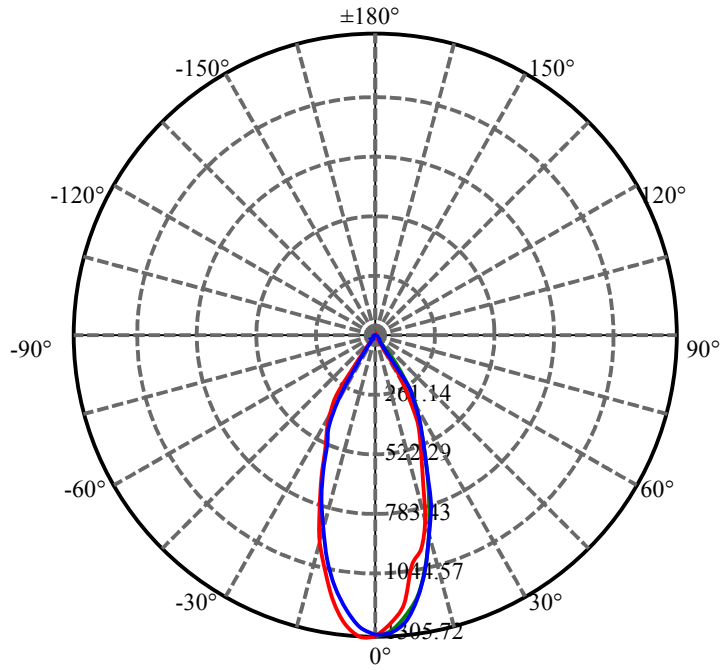
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1300.734	.000	.000	.000%	.000%
3.0	1278.143	11.103	11.103	1.010%	1.010%
6.0	1215.482	32.179	43.282	2.927%	3.938%
9.0	1116.997	50.074	93.357	4.555%	8.493%
12.0	1004.541	63.589	156.946	5.785%	14.278%
15.0	878.002	72.282	229.227	6.576%	20.854%
18.0	748.947	76.000	305.228	6.914%	27.768%
21.0	621.437	75.238	380.465	6.845%	34.612%
24.0	509.011	71.152	451.618	6.473%	41.085%
27.0	422.045	65.926	517.544	5.998%	47.083%
30.0	335.268	59.434	576.978	5.407%	52.490%
33.0	241.671	49.581	626.559	4.511%	57.000%
36.0	130.125	34.636	661.195	3.151%	60.151%
39.0	40.384	17.072	678.268	1.553%	61.704%
42.0	21.474	6.608	684.875	.601%	62.306%
45.0	18.927	4.574	689.450	.416%	62.722%
48.0	17.407	4.335	693.785	.394%	63.116%
51.0	16.058	4.185	697.970	.381%	63.497%
54.0	14.444	3.980	701.950	.362%	63.859%
57.0	11.725	3.547	705.497	.323%	64.182%
60.0	9.423	2.966	708.463	.270%	64.451%
63.0	7.834	2.494	710.957	.227%	64.678%
66.0	7.056	2.210	713.168	.201%	64.879%
69.0	6.202	2.015	715.182	.183%	65.063%
72.0	5.089	1.751	716.933	.159%	65.222%
75.0	3.921	1.421	718.354	.129%	65.351%
78.0	2.762	1.069	719.423	.097%	65.448%
81.0	1.649	.713	720.136	.065%	65.513%
84.0	.687	.381	720.517	.035%	65.548%
87.0	.219	.149	720.666	.014%	65.562%
90.0	.039	.042	720.708	.004%	65.565%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	576.98	52.49%	80.06%
0-40	678.27	61.70%	94.11%
0-60	708.46	64.45%	98.30%
0-90	720.67	65.56%	99.99%
0-120	720.67	65.56%	99.99%
0-180	720.71	65.57%	100.00%
60-90	15.17	1.38%	2.10%
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%
0-29.98	576.57	52.45%	80.00%

ZONAL LUMEN SUMMARY

0-10	93.36
10-20	211.87
20-30	271.75
30-40	101.29
40-50	15.52
50-60	14.68
60-70	6.72
70-80	4.24
80-90	1.24
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



C30(Max): ———

C0/C180: ———

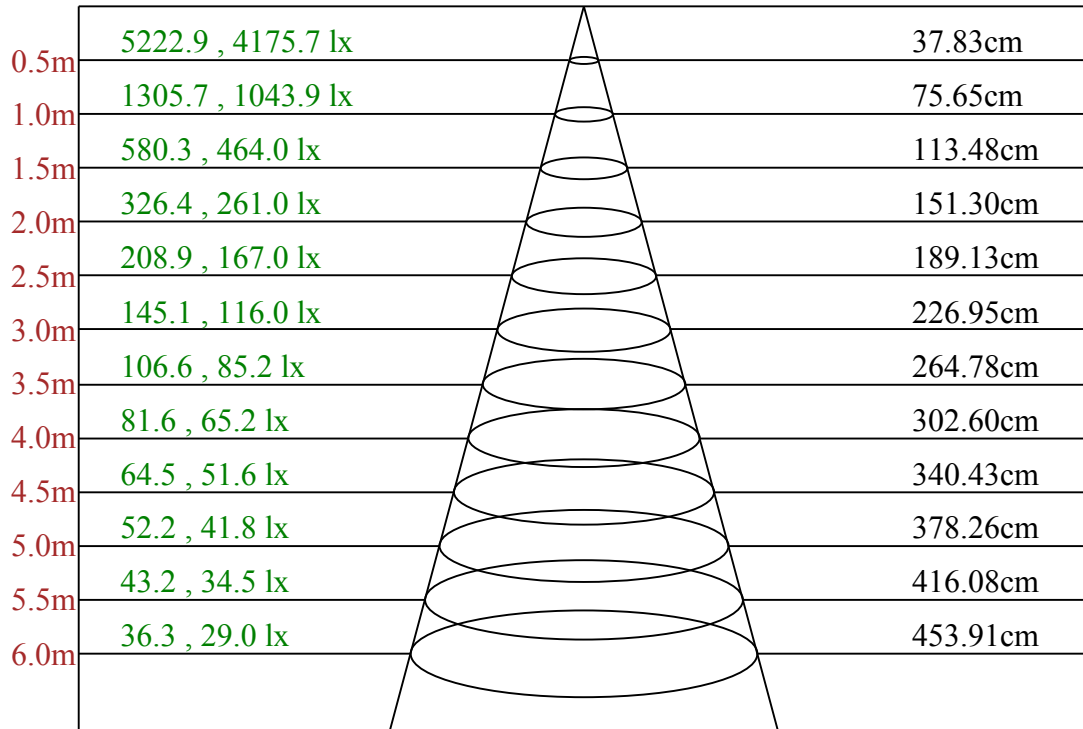
C90/C270: ———

Field angle(10%Imax):C0/180Left:35.2 Right:31.6

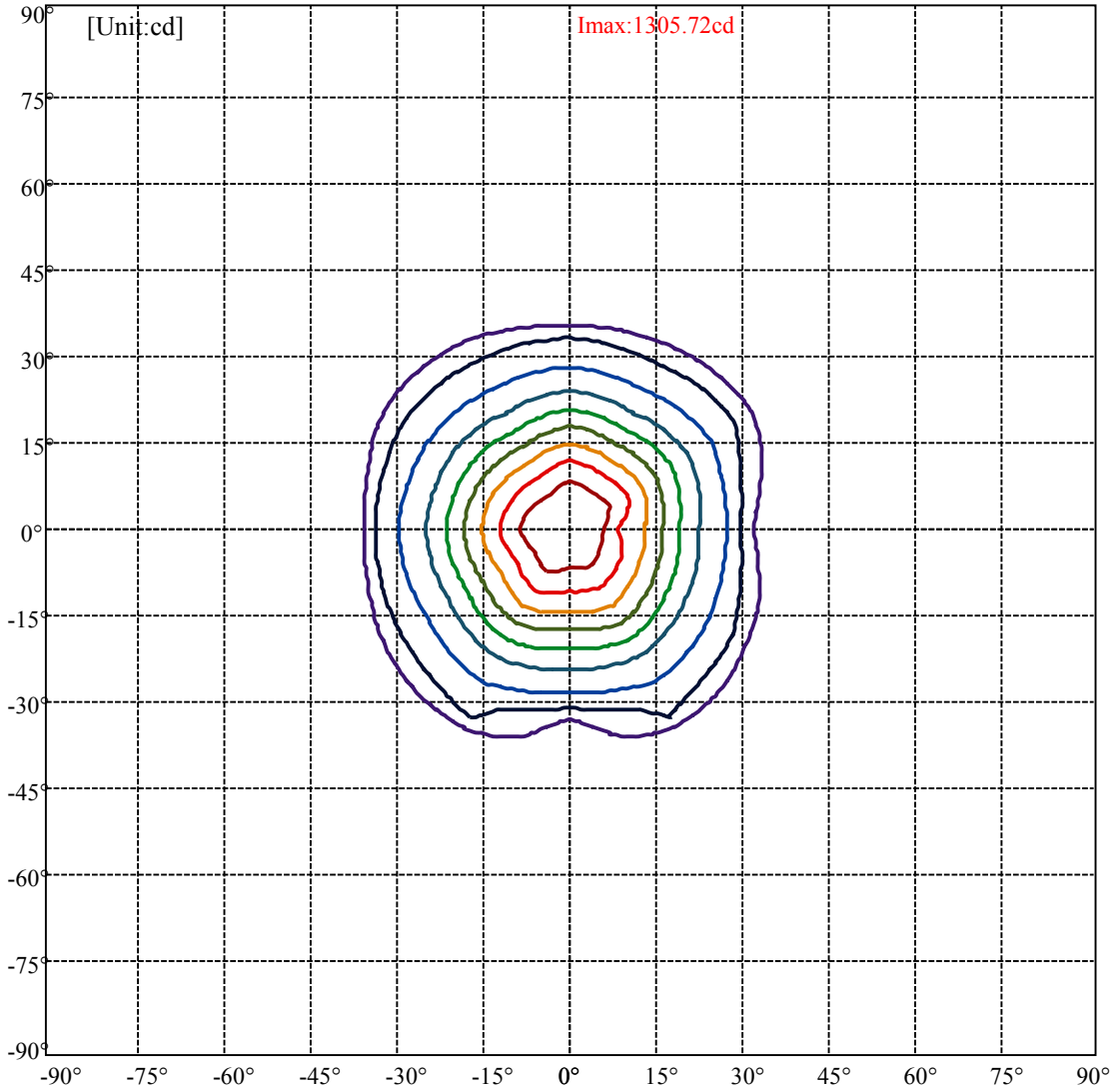
:C90/270Left:32.7 Right:34.9

Beam Angle(50%Imax):C0/180Left:21.2 Right:18.8

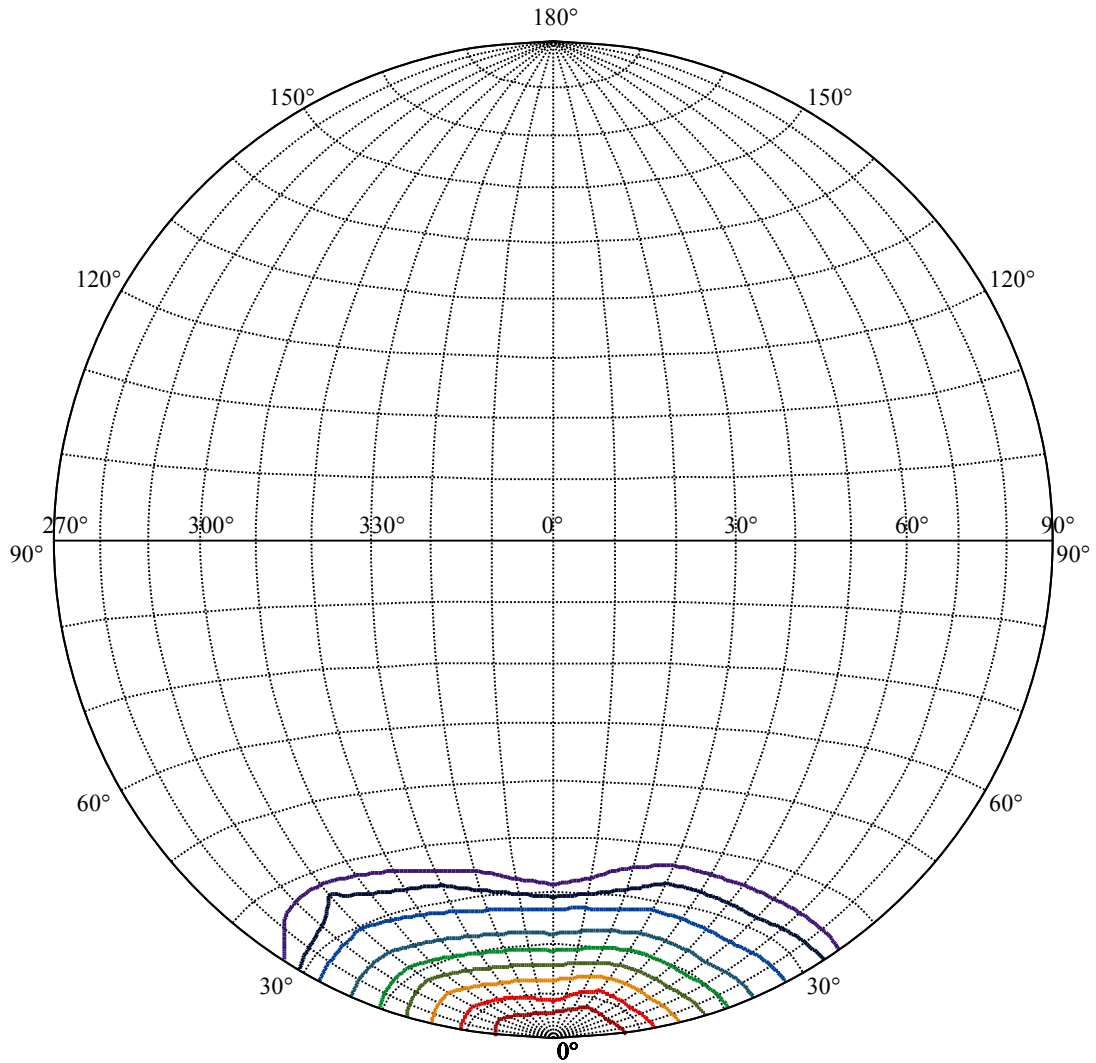
:C90/270Left:20.4 Right:20.6



Max , Ave Beam angle of C30plane41.44



(10%Imax) 130.52	—
(20%Imax) 261.04	—
(30%Imax) 391.56	—
(40%Imax) 522.08	—
(50%Imax) 652.6	—
(60%Imax) 783.121	—
(70%Imax) 913.641	—
(80%Imax) 1044.16	—
(90%Imax) 1174.68	—



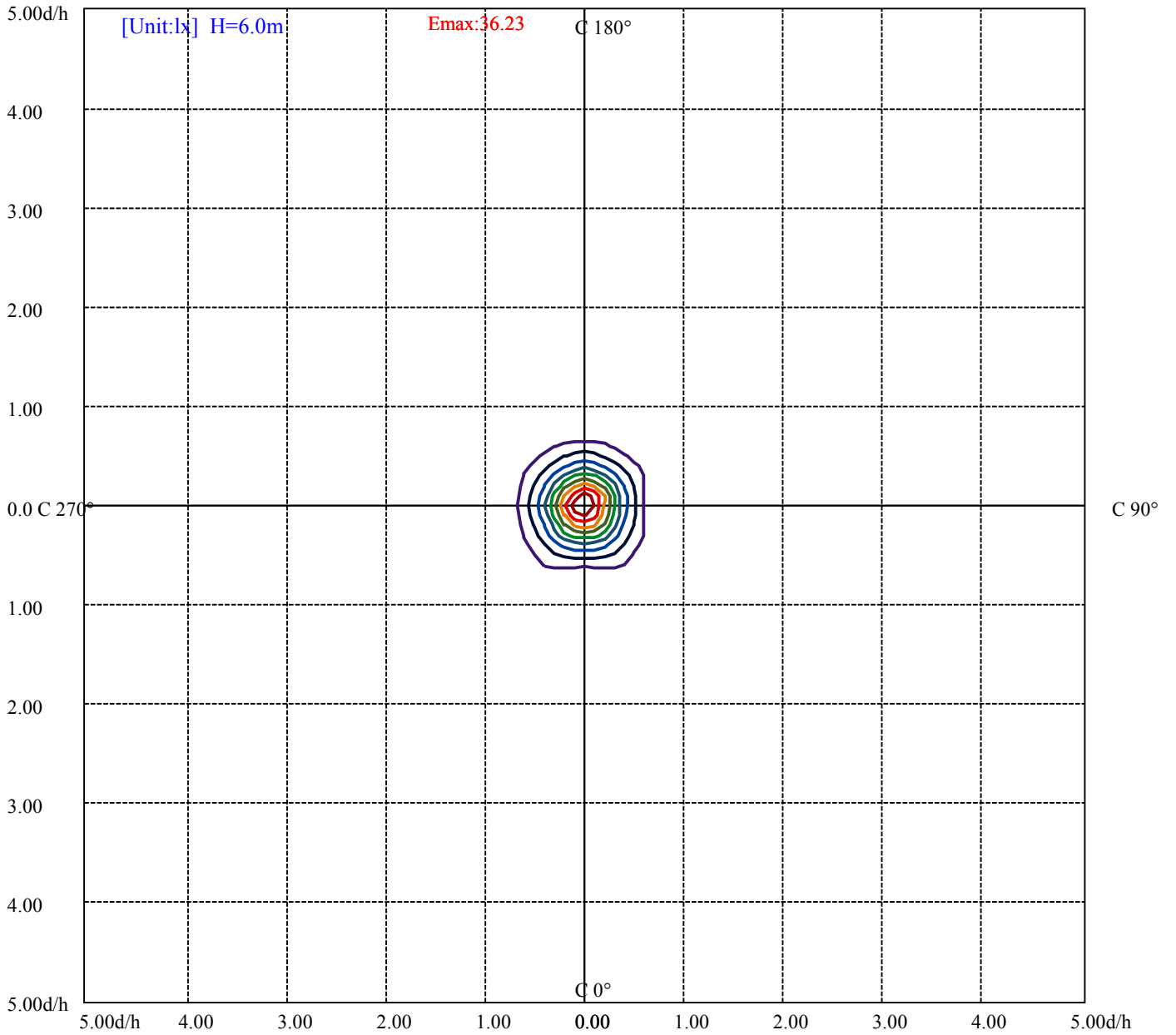
House

[Unit:cd]

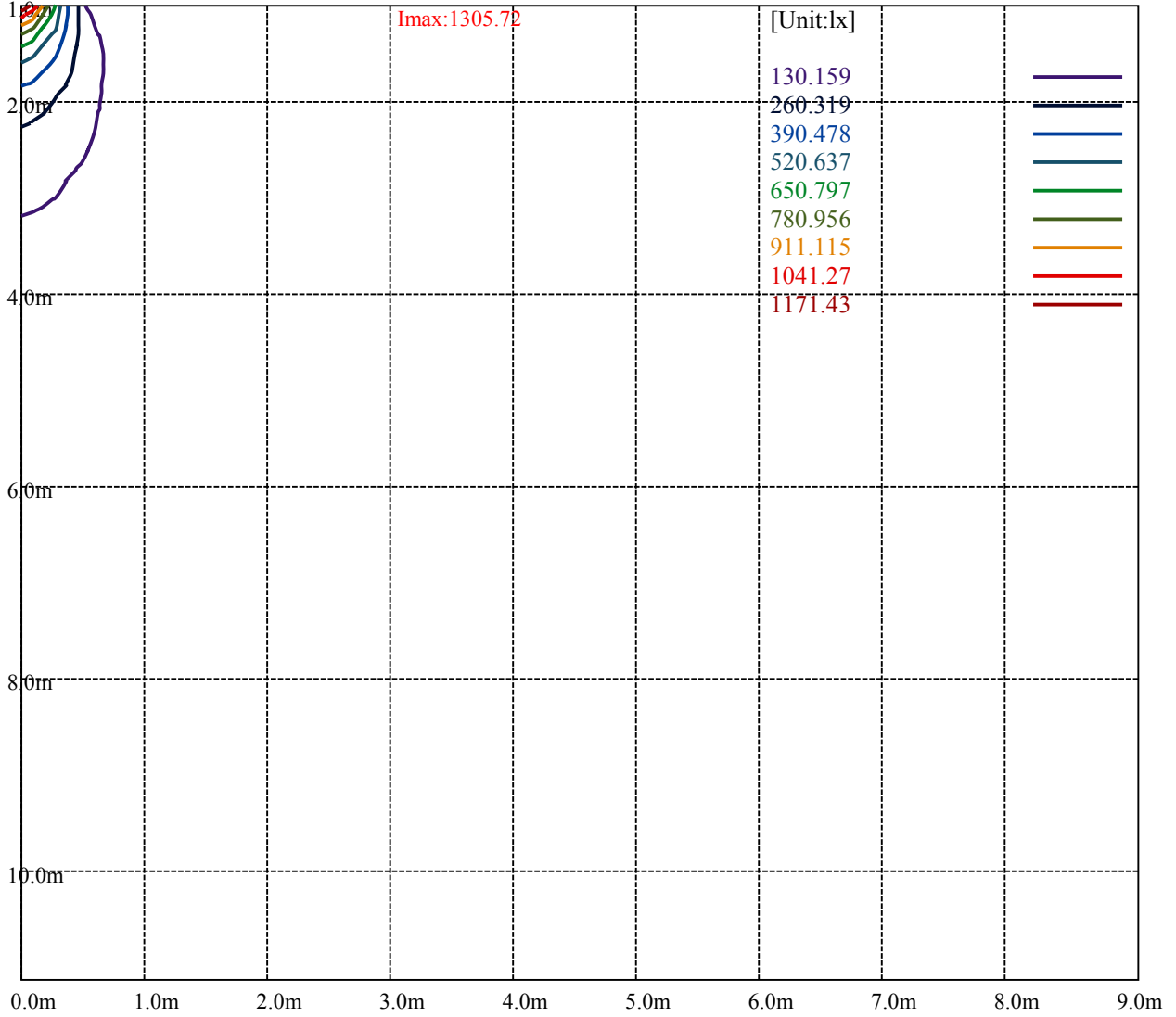
Road

Imax:1305.72

(10%Imax)	130.572	—
(20%Imax)	261.143	—
(30%Imax)	391.715	—
(40%Imax)	522.286	—
(50%Imax)	652.858	—
(60%Imax)	783.43	—
(70%Imax)	914.001	—
(80%Imax)	1044.57	—
(90%Imax)	1175.14	—



(10%Emax)	3.622695	—
(20%Emax)	7.245389	—
(30%Emax)	10.86808	—
(40%Emax)	14.49075	—
(50%Emax)	18.11344	—
(60%Emax)	21.73614	—
(70%Emax)	25.35883	—
(80%Emax)	28.98139	—
(90%Emax)	32.60417	—



Luminance Table

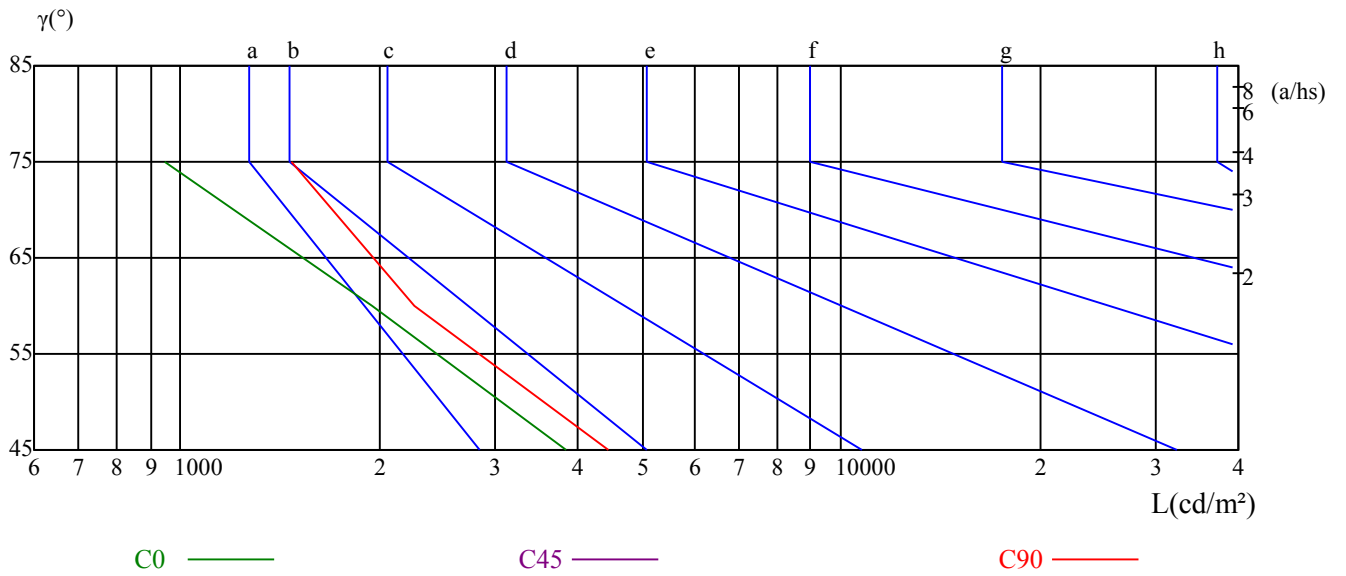
γ	45	50	55	60	65	70	75	80	85
C0	3835	0	0	1945	0	0	948	0	0
C45	0	0	0	0	0	0	0	0	0
C90	4445	0	0	2261	0	0	1470	0	0

L横(65)	L纵(65)	L45(65)	L横(75)	L纵(75)	L45(75)	L横(85)	L纵(85)	L45(85)
317540	315853	0	3773	4415	0	139212	303056	0

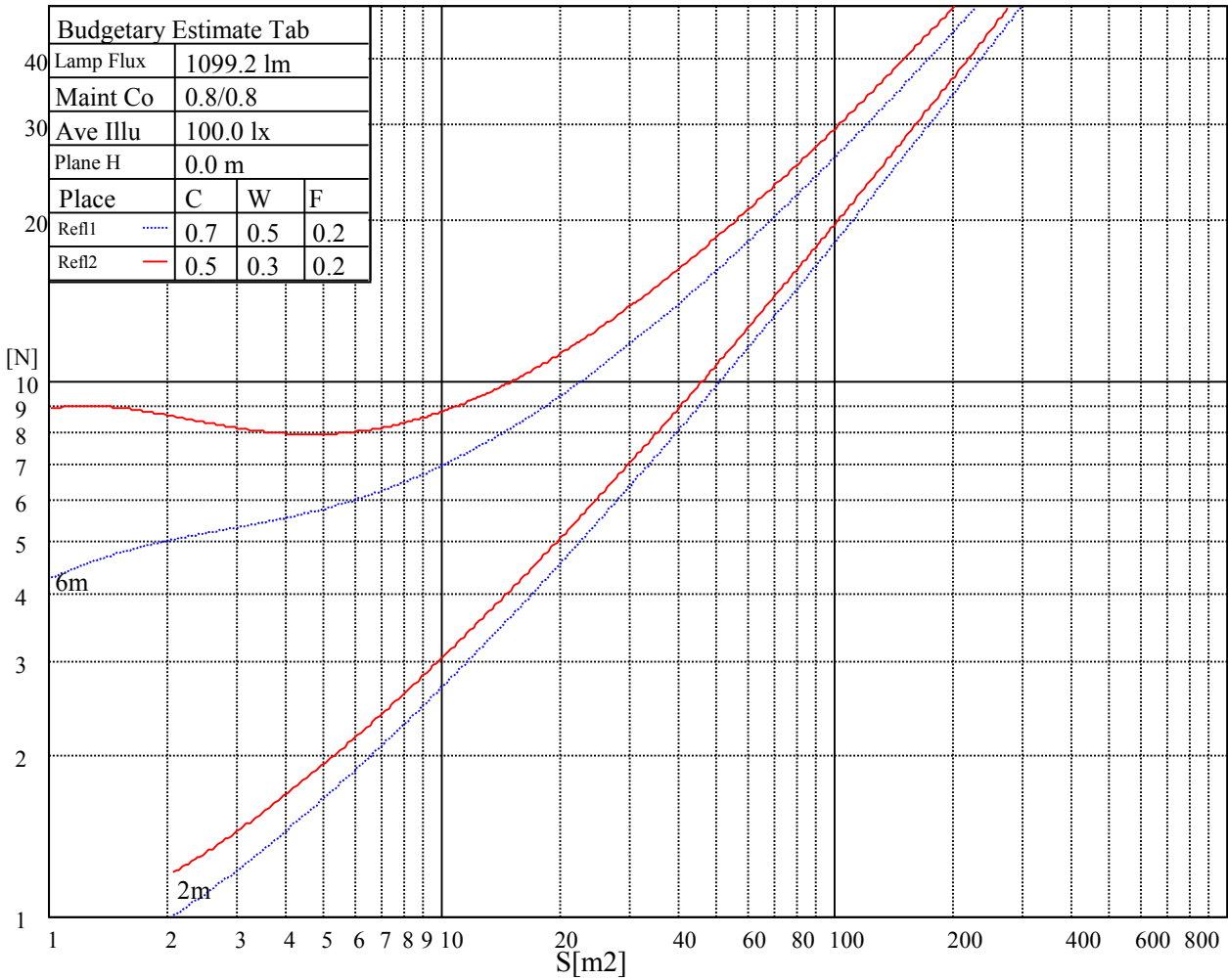
Glare Table

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

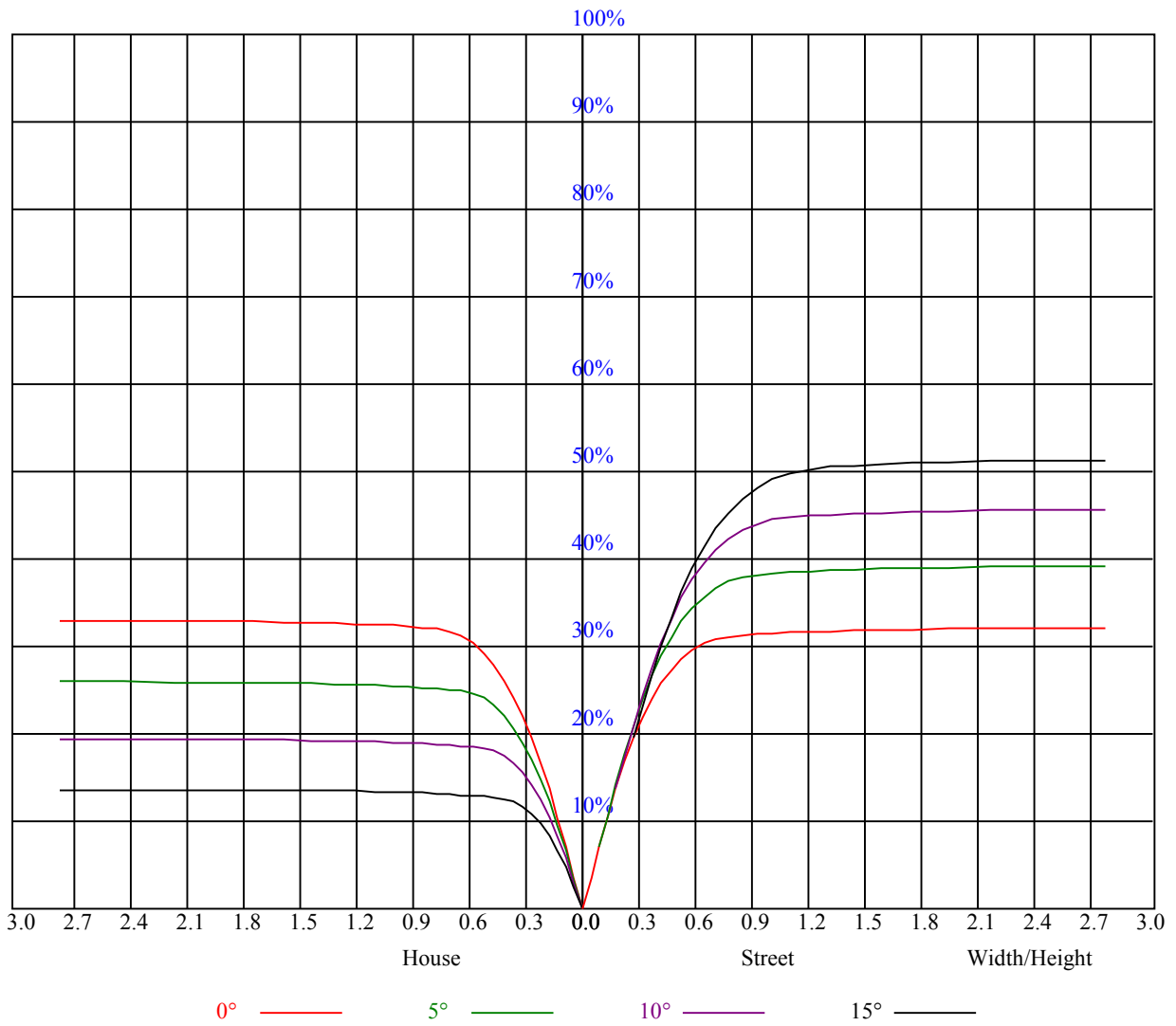
Luminance Limiting Curve



Illuminatin assessment according UGR											
Rf of Ceiling	70	70	50	50	30	70	70	50	50	30	
Rf of Wall	50	30	50	30	30	50	30	50	30	30	
Rf of Floor	20	20	20	20	20	20	20	20	20	20	
Room dimensions		Viewed crosswise					Viewed endwise				
X	Y										
2H	2H	9.4	10.5	9.7	10.7	10.9	8.0	9.1	8.3	9.3	9.5
	3H	9.5	10.5	9.8	10.7	11.0	8.1	9.1	8.4	9.3	9.6
	4H	9.5	10.3	9.8	10.6	10.9	8.1	8.9	8.4	9.2	9.5
	6H	9.6	10.4	10.0	10.7	11.0	8.1	8.9	8.5	9.2	9.5
	8H	9.6	10.4	10.0	10.7	11.1	8.1	8.9	8.5	9.2	9.6
	12H	9.5	10.1	9.9	10.4	10.8	7.9	8.5	8.4	8.9	9.3
4H	2H	9.2	10.0	9.5	10.3	10.6	7.8	8.6	8.2	8.9	9.2
	3H	9.4	10.0	9.8	10.3	10.7	8.1	8.7	8.5	9.1	9.5
	4H	9.6	10.2	10.0	10.6	11.0	8.3	8.9	8.7	9.3	9.7
	6H	9.8	10.4	10.2	10.7	11.1	8.4	9.0	8.8	9.4	9.8
	8H	9.6	10.0	10.1	10.4	11.0	8.2	8.5	8.7	9.0	9.5
	12H	9.7	10.0	10.2	10.5	11.0	8.2	8.5	8.7	9.0	9.5
8H	4H	9.5	9.8	10.0	10.3	10.8	8.2	8.6	8.7	9.1	9.6
	6H	9.7	10.0	10.2	10.5	11.0	8.4	8.7	8.9	9.2	9.7
	8H	9.8	10.1	10.3	10.6	11.1	8.4	8.7	8.9	9.2	9.7
	12H	9.8	10.2	10.3	10.6	11.1	8.4	8.7	8.9	9.2	9.7
12H	4H	9.5	9.8	10.0	10.3	10.8	8.3	8.6	8.8	9.1	9.6
	6H	9.7	10.0	10.2	10.5	11.0	8.4	8.7	8.9	9.2	9.7
	8H	9.8	10.1	10.3	10.6	11.1	8.4	8.7	8.9	9.2	9.7
Variation with the observer position at spacings:											
S = 1.0H	5.4/-3.8					3.5/-3.4					
S = 1.5H	7.8/-4.3					5.8/-4.0					
S = 2.0H	9.7/-4.2					7.7/-4.3					
Standard tables:	BK1					BK1					
Uncorrected UGR	-4.1					-5.5					



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	0.78	0.78	0.78	0.76	0.76	0.76	0.73	0.73	0.73	0.70	0.70	0.70	0.67	0.67	0.67	0.66
1	0.71	0.69	0.67	0.70	0.68	0.66	0.67	0.65	0.64	0.64	0.63	0.62	0.62	0.61	0.60	0.59
2	0.65	0.61	0.59	0.64	0.61	0.58	0.61	0.59	0.57	0.59	0.57	0.55	0.57	0.56	0.54	0.53
3	0.59	0.55	0.52	0.58	0.54	0.51	0.56	0.53	0.50	0.55	0.52	0.50	0.53	0.51	0.49	0.48
4	0.54	0.49	0.46	0.53	0.49	0.46	0.52	0.48	0.45	0.50	0.47	0.45	0.49	0.46	0.44	0.43
5	0.49	0.45	0.41	0.49	0.44	0.41	0.48	0.44	0.41	0.46	0.43	0.40	0.45	0.42	0.40	0.39
6	0.45	0.41	0.37	0.45	0.40	0.37	0.44	0.40	0.37	0.43	0.39	0.37	0.42	0.39	0.36	0.35
7	0.42	0.37	0.34	0.41	0.37	0.34	0.40	0.36	0.33	0.40	0.36	0.33	0.39	0.36	0.33	0.32
8	0.39	0.34	0.31	0.38	0.34	0.31	0.37	0.33	0.30	0.37	0.33	0.30	0.36	0.33	0.30	0.29
9	0.36	0.31	0.28	0.35	0.31	0.28	0.35	0.31	0.28	0.34	0.30	0.28	0.33	0.30	0.28	0.27
10	0.33	0.29	0.26	0.33	0.29	0.26	0.32	0.28	0.26	0.32	0.28	0.25	0.31	0.28	0.25	0.24



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	1301.59	1250.57	1168.63	1012.41	944.43	822.29	684.22	558.78	461.16
30.0	1305.72	1286.13	1229.96	1144.40	1027.93	888.77	749.11	631.60	513.58
60.0	1302.62	1273.76	1219.65	1121.73	996.23	852.85	717.67	582.53	469.56
90.0	1299.53	1294.89	1245.93	1154.19	1035.14	896.50	770.75	629.02	507.39
120.0	1301.59	1269.64	1194.39	1101.11	974.64	840.12	701.69	572.23	477.76
150.0	1293.35	1286.65	1226.35	1126.88	1006.80	882.59	752.20	622.32	515.64
180.0	1301.59	1305.20	1256.76	1164.50	1042.36	918.15	791.88	660.46	540.38
210.0	1305.72	1284.07	1215.53	1110.90	992.06	868.73	755.81	629.64	516.21
240.0	1302.62	1291.80	1241.29	1154.71	1049.06	930.00	801.16	680.56	557.38
270.0	1299.53	1261.91	1192.33	1100.60	996.80	873.57	742.25	626.19	517.24
300.0	1301.59	1277.89	1217.07	1124.30	1019.17	917.12	796.01	667.68	545.01
330.0	1293.35	1255.21	1177.90	1088.23	969.89	845.33	724.62	596.24	486.83
360.0	1301.59	1250.57	1168.63	1012.41	944.43	822.29	684.22	558.78	461.16
C/γ(°)	27.0	30.0	33.0	36.0	39.0	42.0	45.0	48.0	51.0
0.0	389.83	214.66	53.19	24.74	20.36	18.14	16.54	15.46	14.28
30.0	422.87	348.65	273.41	151.01	42.06	22.01	19.53	17.99	16.54
60.0	387.41	304.80	229.40	102.25	35.56	22.01	19.69	18.14	16.75
90.0	412.56	331.13	256.92	59.11	26.75	21.44	19.17	17.42	16.18
120.0	394.83	321.24	248.21	142.92	43.86	22.52	20.25	19.02	17.47
150.0	420.81	349.69	275.47	179.25	57.41	24.27	20.72	19.17	17.73
180.0	451.22	377.00	288.87	73.85	30.15	22.16	19.33	17.73	16.23
210.0	427.10	354.07	285.47	163.38	56.74	22.93	19.58	18.04	16.60
240.0	459.98	388.85	306.39	268.26	65.14	22.52	19.22	17.63	16.13
270.0	436.53	298.92	113.54	28.09	20.72	17.99	16.39	14.84	13.92
300.0	450.70	384.73	310.00	263.62	53.70	21.75	18.71	16.96	15.51
330.0	410.71	349.48	259.18	105.03	32.16	19.95	17.99	16.49	15.36
360.0	389.83	214.66	53.19	24.74	20.36	18.14	16.54	15.46	14.28
C/γ(°)	54.0	57.0	60.0	63.0	66.0	69.0	72.0	75.0	78.0
0.0	10.98	8.56	7.63	7.01	6.18	5.26	4.23	3.09	1.80
30.0	15.00	12.32	10.05	8.04	7.27	6.34	5.26	4.02	2.78
60.0	15.10	12.27	9.69	8.09	7.42	6.55	5.31	4.12	2.89
90.0	14.84	11.34	8.86	8.04	7.37	6.60	5.72	4.79	3.81
120.0	16.08	13.35	10.46	8.35	7.63	6.70	5.51	4.23	2.94
150.0	16.44	13.97	11.29	8.66	7.63	6.80	5.46	3.97	2.89
180.0	15.15	11.75	9.43	7.83	7.16	6.39	5.41	4.17	3.14
210.0	15.20	12.58	9.59	7.89	7.06	6.13	4.90	3.50	2.11
240.0	14.84	12.68	10.10	8.04	7.22	6.29	5.15	4.02	2.83
270.0	11.34	8.81	7.52	6.96	6.13	5.57	4.59	3.71	2.83
300.0	14.48	12.21	9.69	7.73	6.96	6.08	5.00	4.07	2.94
330.0	13.86	10.87	8.76	7.37	6.65	5.72	4.54	3.35	2.16
360.0	10.98	8.56	7.63	7.01	6.18	5.26	4.23	3.09	1.80
C/γ(°)	81.0	84.0	87.0	90.0					
0.0	0.41	0.15	0.05	0.05					
30.0	1.65	0.52	0.05	0.05					
60.0	1.75	0.62	0.15	0.05					
90.0	2.78	1.75	0.98	0.15					
120.0	1.80	0.82	0.26	0.05					
150.0	1.70	0.72	0.05	0.00					
180.0	1.86	0.62	0.05	0.05					
210.0	1.08	0.10	0.00	0.00					
240.0	1.86	0.77	0.26	0.05					
270.0	2.01	1.24	0.52	0.00					
300.0	1.75	0.82	0.21	0.00					
330.0	1.13	0.10	0.05	0.00					
360.0	0.41	0.15	0.05	0.05					