



SGSO

Address: LIT by CARDI

LIT by Cardi

Client:

LumCAT: 0017440219 RIO 15W 6500K 1500lm

Luminaire:

Report No:

Voltage(V): 230.4200

Test No: LIT by Cardi

Current(A): 0.0970

LampCAT: LED

Power (W): 15.0000

Lamp flux(lm): -1.0

PF: 0.9723

Number of Lamps: 1

Ballast type:

Length(mm): -126

Width(mm): -126

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1500.00

Efficiency(%): 0.00%

Lumens(lm)/Power(W): 100.00

Central intensity(cd): 755.707

Maximum intensity(cd): 767.197

Angle of maximum intensity: C=180.0 γ =5.0

Beam Angle(50%Imax): [C0/180]Total=85.7

[C90/270]Total=84.9

Field angle(10%Imax): [C0/180]Total=141.8

[C90/270]Total=143.1

Maximum s/h(1/2): C0_180=1.11 C90_270=1.13

Maximum s/h(1/4): C0_180=1.17 C90_270=1.20

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 0.00%

Up flux rate of LUM(%): 0.65%

Down flux rate of LUM(%): 99.35%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 86.691%

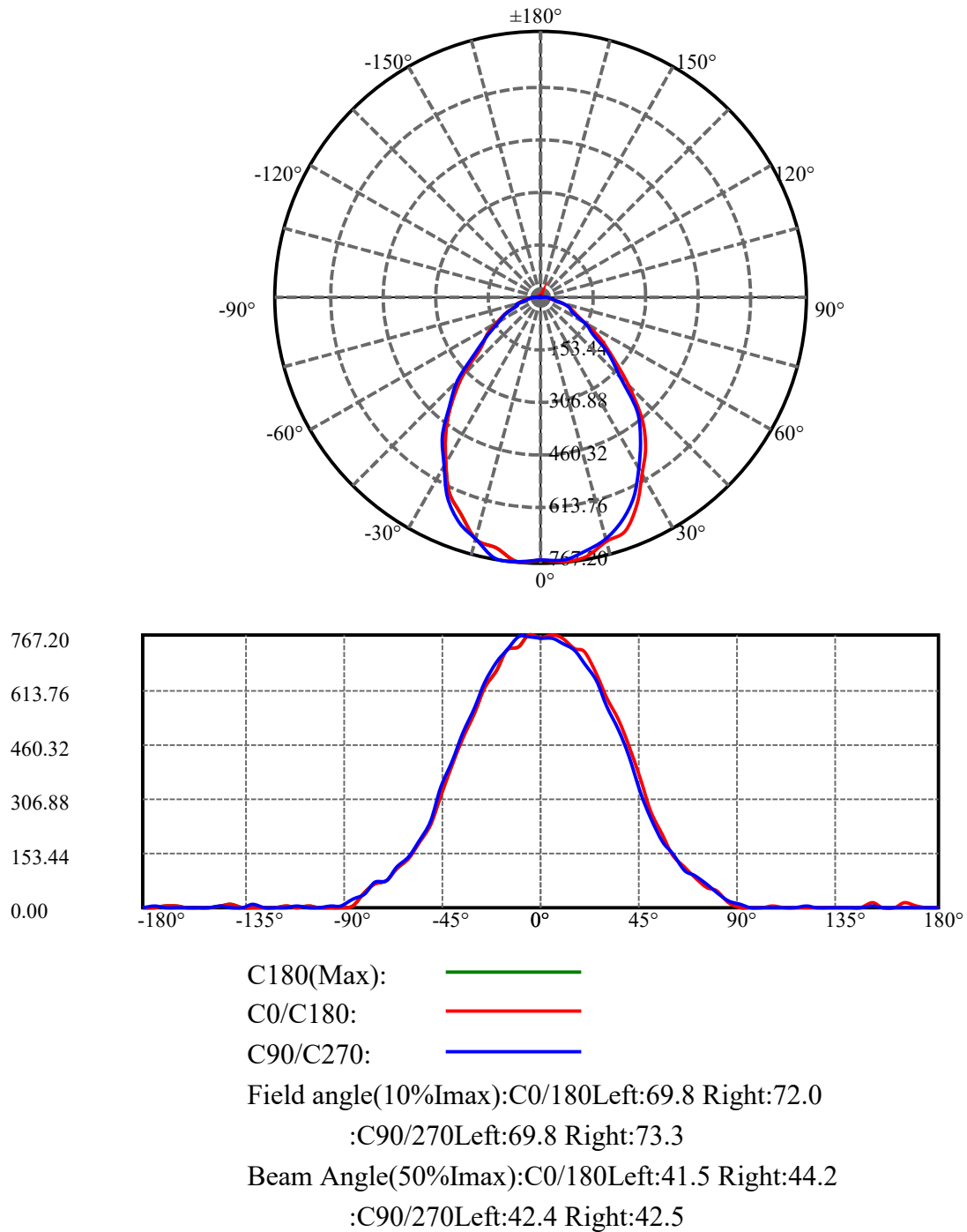
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	759.137	0.000	0	.000%	.000%
5.0	762.830	18.158	18.158	.000%	1.211%
10.0	750.693	54.035	72.194	.000%	4.813%
15.0	727.042	87.483	159.677	.000%	10.645%
20.0	689.239	116.489	276.166	.000%	18.411%
25.0	638.051	138.930	415.096	.000%	27.673%
30.0	564.028	151.820	566.916	.000%	37.794%
35.0	496.384	155.841	722.758	.000%	48.184%
40.0	422.745	153.044	875.801	.000%	58.387%
45.0	327.229	138.587	1014.388	.000%	67.626%
50.0	245.818	115.561	1129.949	.000%	75.330%
55.0	188.345	94.213	1224.162	.000%	81.611%
60.0	141.954	76.195	1300.358	.000%	86.691%
65.0	103.048	59.442	1359.799	.000%	90.653%
70.0	80.932	46.492	1406.291	.000%	93.753%
75.0	61.742	37.218	1443.509	.000%	96.234%
80.0	39.578	27.056	1470.566	.000%	98.038%
85.0	15.640	14.974	1485.54	.000%	99.036%
90.0	1.823	4.772	1490.312	.000%	99.354%
95.0	1.535	0.918	1491.229	.000%	99.415%
100.0	0.000	0.416	1491.646	.000%	99.443%
105.0	3.214	0.858	1492.504	.000%	99.500%
110.0	1.056	1.114	1493.618	.000%	99.575%
115.0	1.199	0.570	1494.187	.000%	99.613%
120.0	0.768	0.477	1494.665	.000%	99.644%
125.0	1.199	0.454	1495.118	.000%	99.675%
130.0	1.055	0.489	1495.608	.000%	99.707%
135.0	0.864	0.387	1495.995	.000%	99.733%
140.0	2.590	0.638	1496.633	.000%	99.776%
145.0	1.823	0.735	1497.368	.000%	99.825%
150.0	3.646	0.804	1498.171	.000%	99.878%
155.0	0.144	0.479	1498.65	.000%	99.910%
160.0	2.255	0.251	1498.901	.000%	99.927%
165.0	5.181	0.612	1499.513	.000%	99.968%
170.0	0.768	0.352	1499.865	.000%	99.991%
175.0	2.207	0.106	1499.971	.000%	99.998%
180.0	0.000	0.026	1499.997	.000%	100.000%

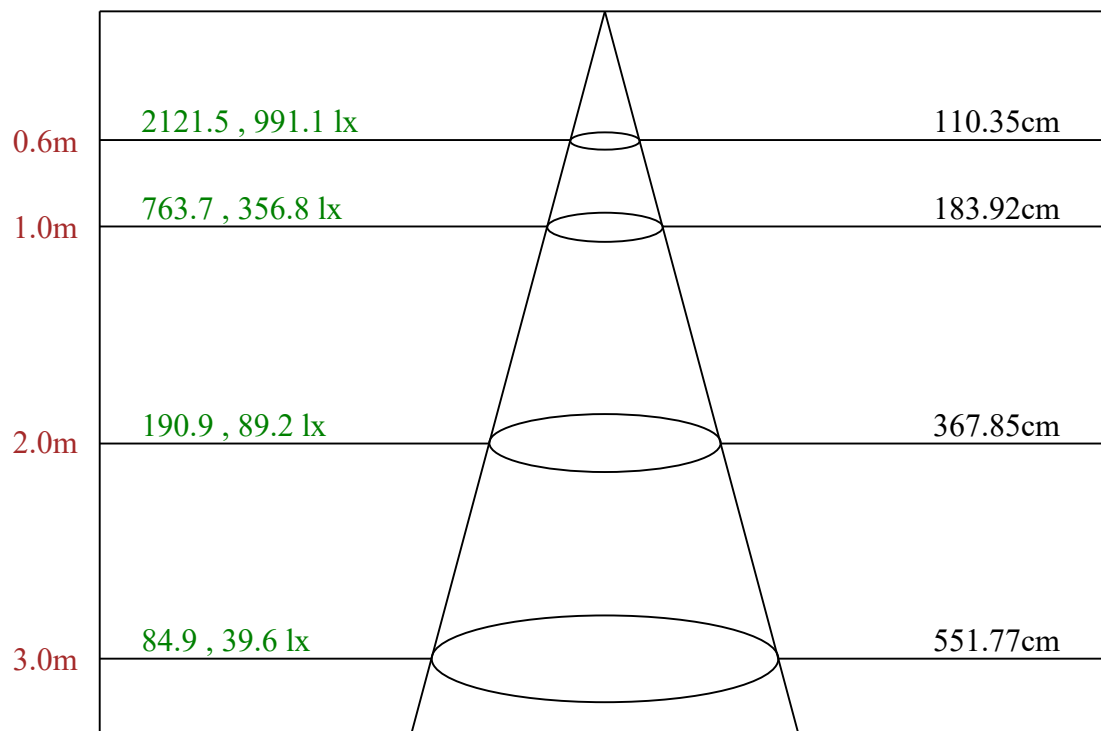
ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	566.92	N.A.	37.79%
0-40	875.80	N.A.	58.39%
0-60	1300.36	N.A.	86.69%
0-90	1490.31	N.A.	99.35%
0-120	1494.66	N.A.	99.64%
0-180	1500.00	N.A.	100.00%
60-90	266.15	N.A.	17.74%
90-120	9.12	N.A.	0.61%
90-130	10.07	N.A.	0.67%
90-150	12.63	N.A.	0.84%
90-180	14.43	N.A.	0.96%
0-53.72	1200.00	N.A.	80.00%

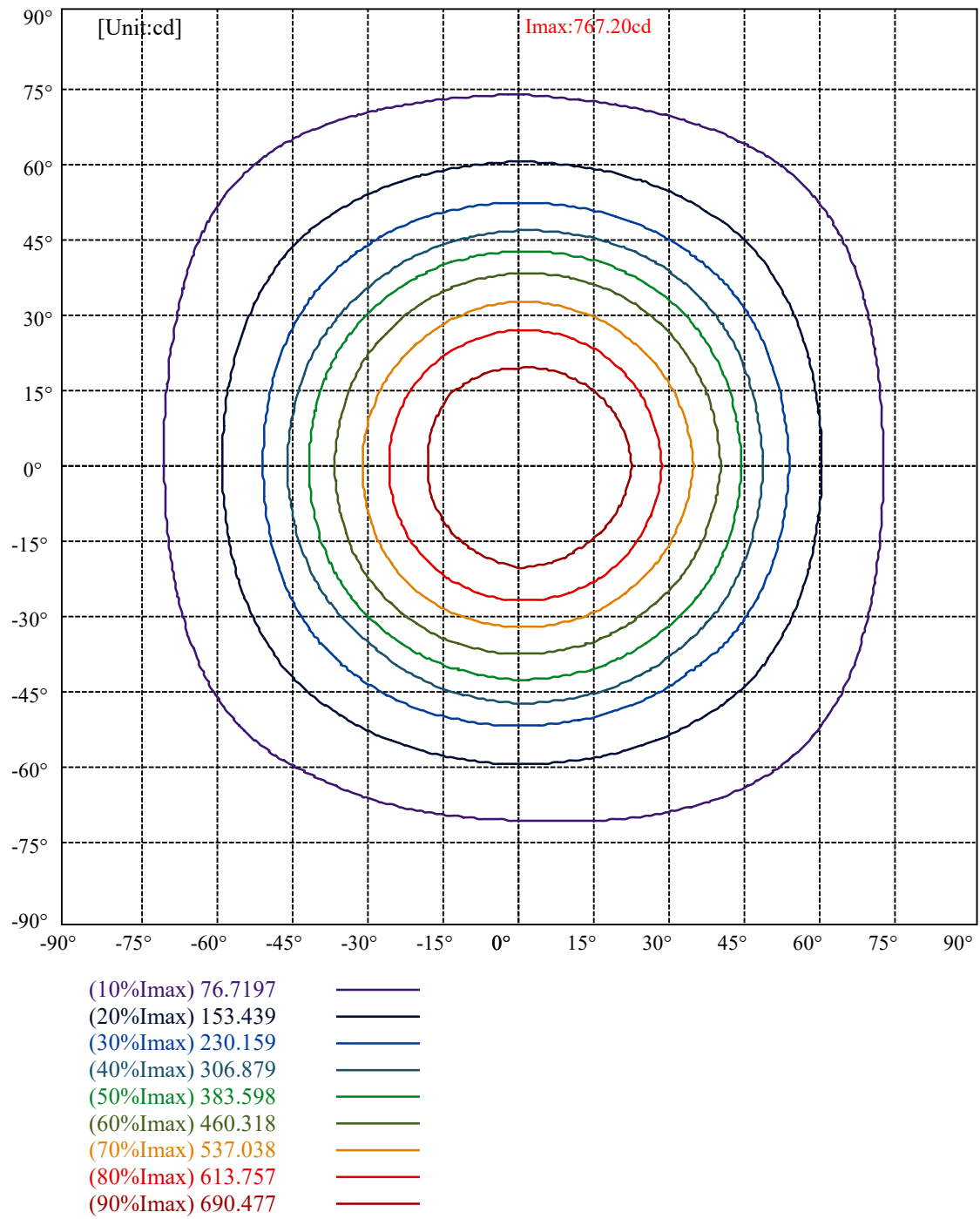
ZONAL LUMEN SUMMARY

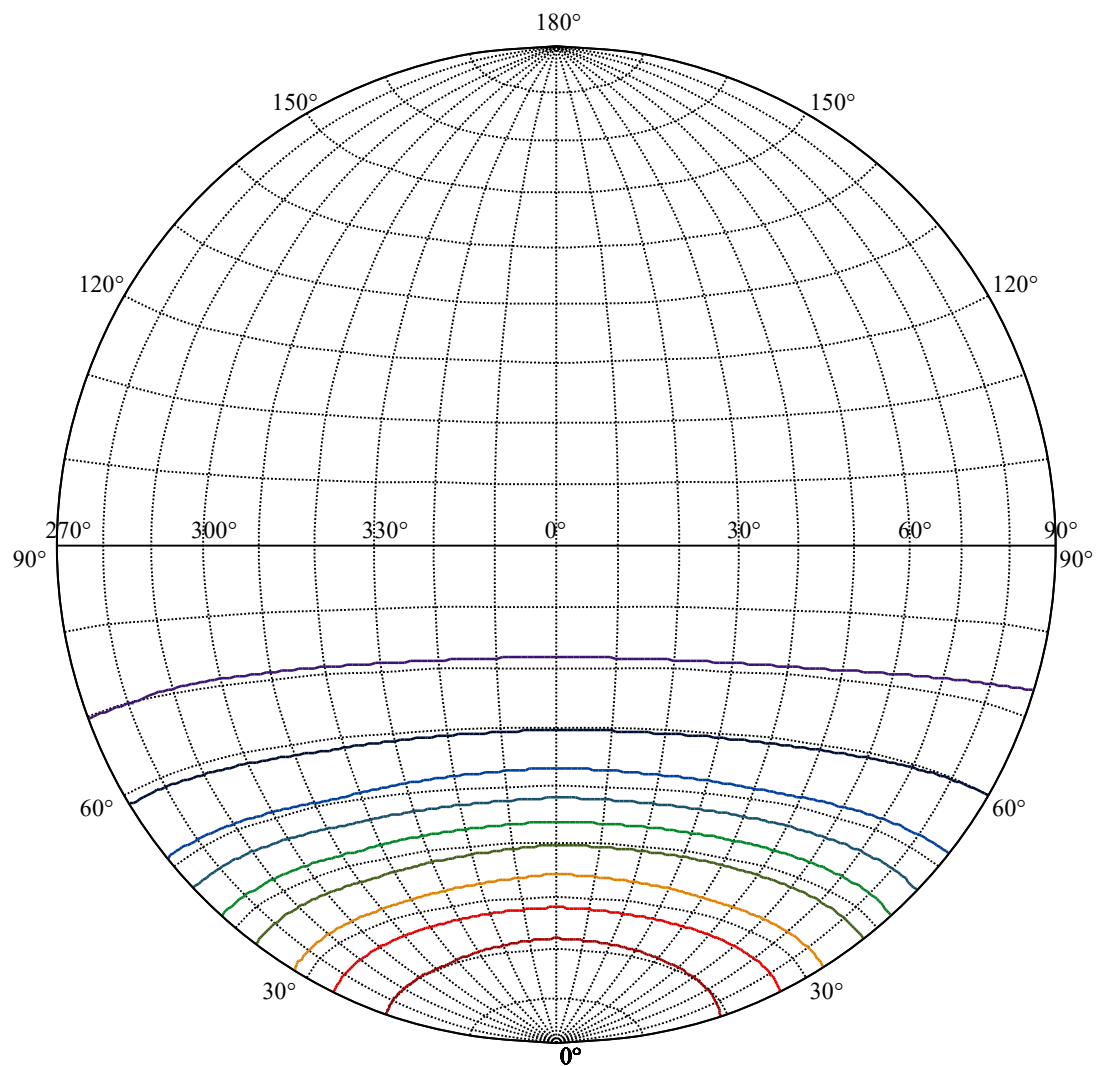
0-10	72.19
10-20	203.97
20-30	290.75
30-40	308.89
40-50	254.15
50-60	170.41
60-70	105.93
70-80	64.27
80-90	19.75
90-100	1.33
100-110	1.97
110-120	1.05
120-130	0.94
130-140	1.03
140-150	1.54
150-160	0.73
160-170	0.96
170-180	0.11





Max , Ave Beam angle of C180 plane 85.20



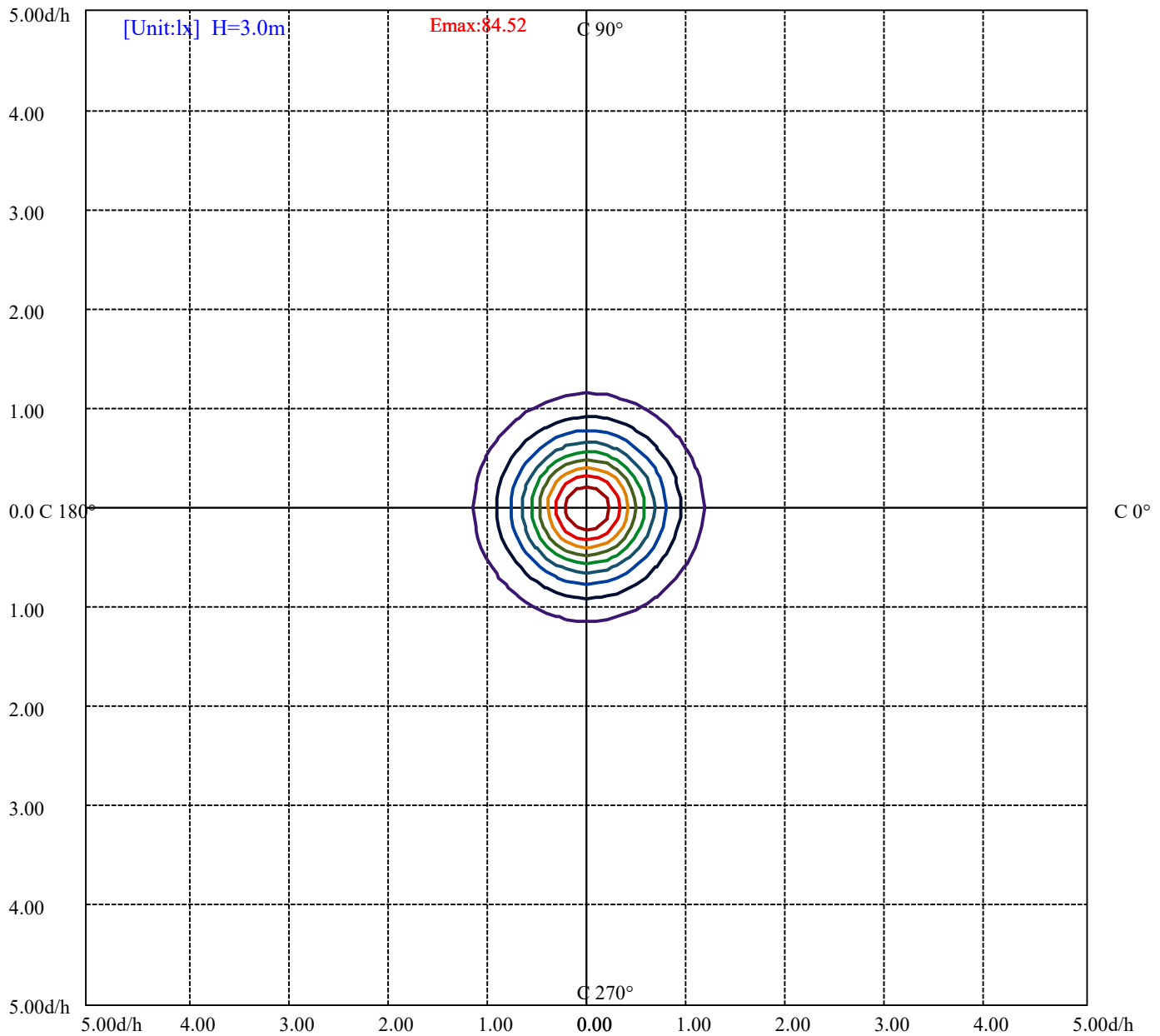


House

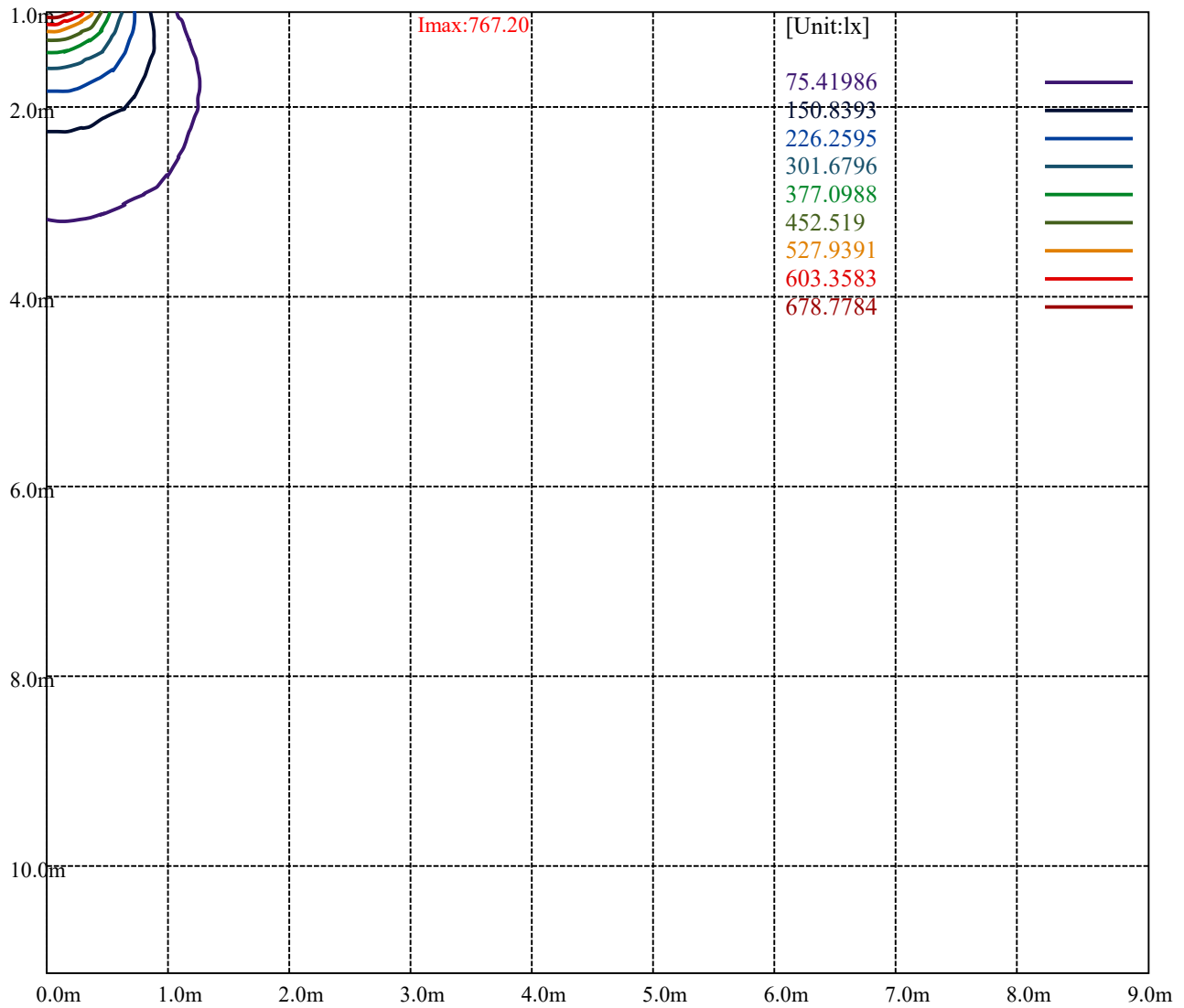
[Unit:cd]

Road

Imax:767.20	
(10%Imax) 76.56657	—
(20%Imax) 153.1327	—
(30%Imax) 229.6996	—
(40%Imax) 306.2665	—
(50%Imax) 382.8323	—
(60%Imax) 459.3992	—
(70%Imax) 535.9661	—
(80%Imax) 612.532	—
(90%Imax) 689.0988	—



(10%Emax)	8.452174	—
(20%Emax)	16.9043	—
(30%Emax)	25.35651	—
(40%Emax)	33.80872	—
(50%Emax)	42.26092	—
(60%Emax)	50.71302	—
(70%Emax)	59.16523	—
(80%Emax)	67.61743	—
(90%Emax)	76.06963	—



Luminance Table

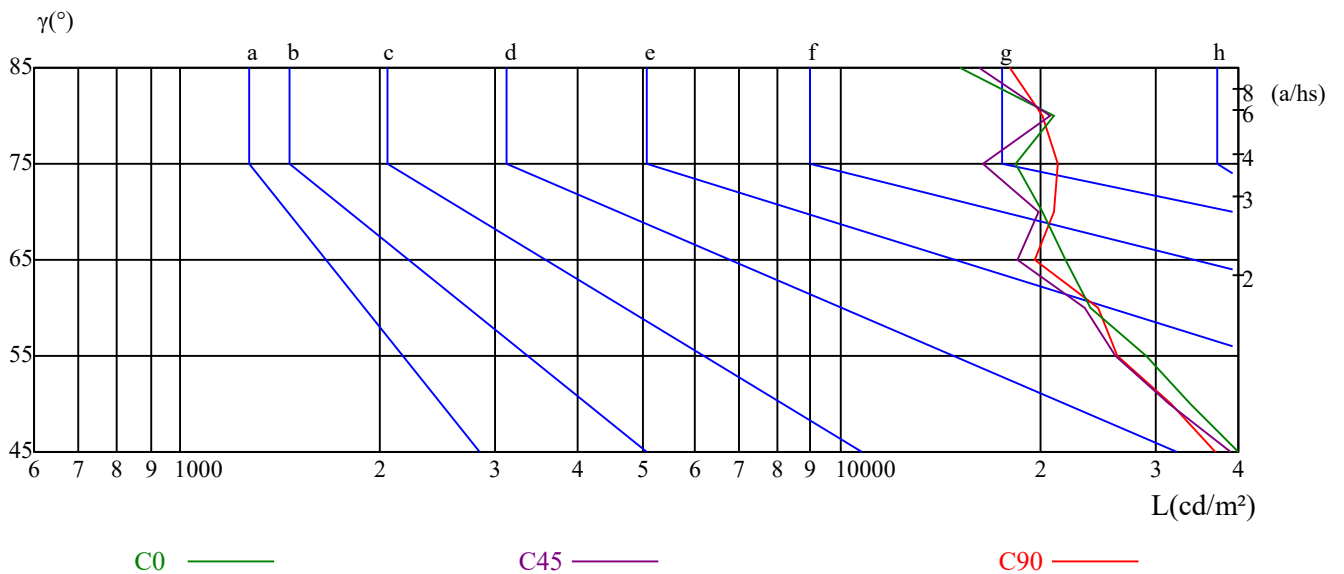
γ	45	50	55	60	65	70	75	80	85
C0	41096	33930	28973	23960	21951	20208	18396	21051	15155
C45	39011	31397	26082	23469	18462	19939	16379	20697	16212
C90	36882	31732	26242	24513	19698	21016	21245	20166	17976

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
21224	20497	18171	19820	21897	17328	10750	19209	13746

Glare Table

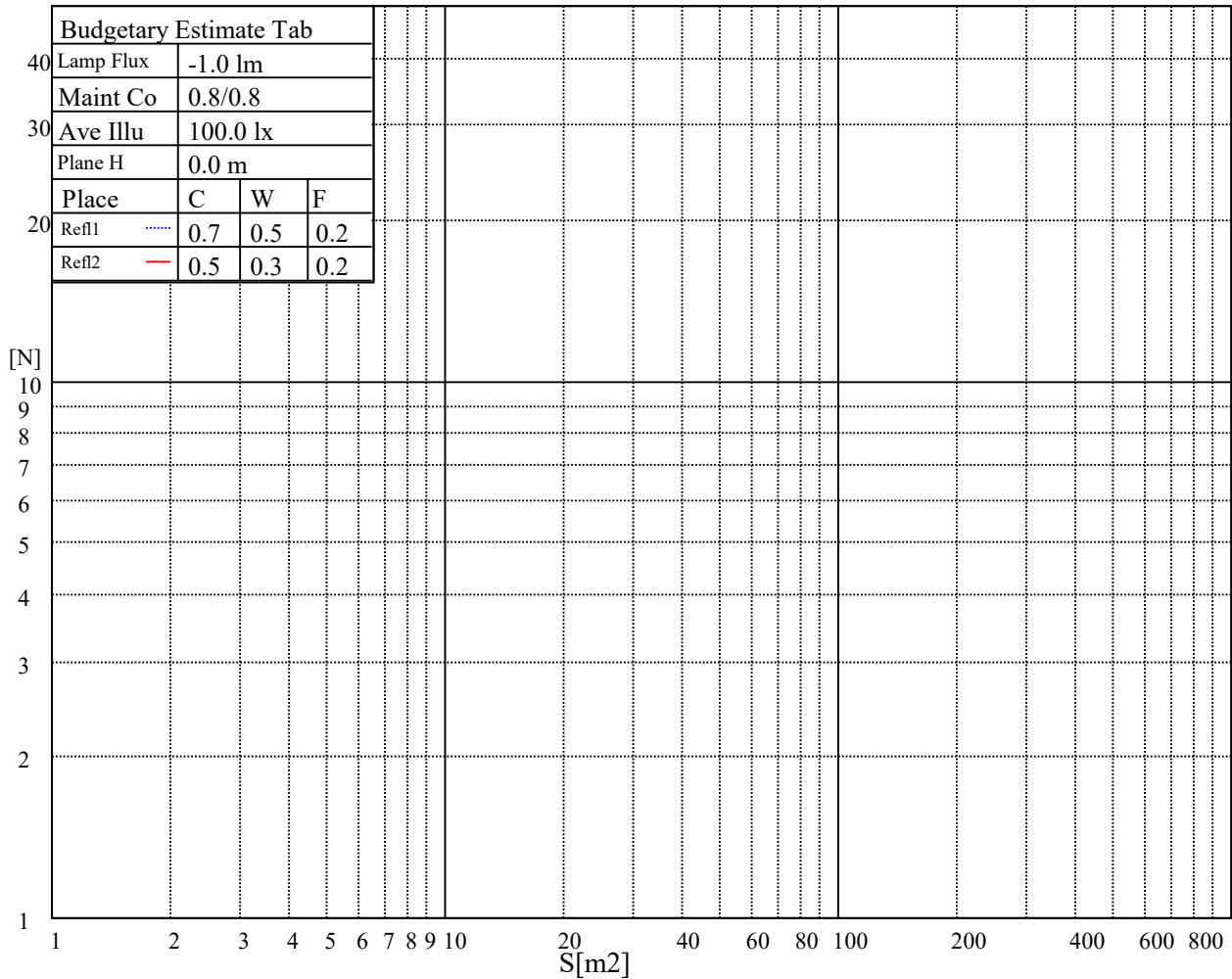
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve



Illumination 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	18.83	20.27	19.20	20.60	20.93	18.60	20.04	18.97	20.37	20.70
	3H	19.85	21.14	20.24	21.49	21.85	19.65	20.95	20.04	21.30	21.66
	4H	20.26	21.48	20.67	21.84	22.22	20.19	21.40	20.60	21.77	22.15
	6H	20.72	21.85	21.14	22.23	22.64	20.69	21.81	21.11	22.19	22.60
	8H	20.88	21.96	21.30	22.35	22.77	20.85	21.93	21.27	22.32	22.74
	12H	20.95	21.99	21.38	22.39	22.81	20.94	21.98	21.37	22.38	22.80
4H	2H	19.16	20.38	19.57	20.74	21.12	18.97	20.19	19.38	20.55	20.93
	3H	20.38	21.40	20.81	21.80	22.23	20.23	21.26	20.66	21.66	22.08
	4H	20.96	21.87	21.41	22.29	22.75	20.95	21.85	21.39	22.28	22.73
	6H	21.55	22.35	22.02	22.81	23.27	21.56	22.36	22.03	22.82	23.28
	8H	21.80	22.55	22.29	23.01	23.49	21.81	22.56	22.29	23.02	23.50
	12H	21.94	22.64	22.43	23.09	23.61	21.98	22.68	22.47	23.13	23.65
8H	4H	21.14	21.89	21.63	22.35	22.83	21.13	21.88	21.61	22.34	22.82
	6H	21.90	22.52	22.40	23.00	23.52	21.90	22.53	22.41	23.01	23.53
	8H	22.29	22.83	22.81	23.35	23.86	22.29	22.84	22.82	23.36	23.87
	12H	22.49	22.95	23.03	23.47	24.00	22.54	23.00	23.08	23.52	24.05
12H	4H	21.17	21.87	21.66	22.32	22.84	21.16	21.86	21.65	22.31	22.83
	6H	22.01	22.56	22.54	23.08	23.59	22.02	22.57	22.55	23.09	23.59
	8H	22.40	22.86	22.94	23.38	23.90	22.41	22.87	22.94	23.39	23.91
Variation with the observer position at spacings:											
S = 1.0H		0.4/-0.7					0.3/-0.6				
S = 1.5H		0.6/-1.0					0.7/-1.2				
S = 2.0H		1.3/-1.2					1.5/-1.1				
Standard tables:		BK3					BK3				
Uncorrected UGR		8.5					8.5				

UGR calculation is based on CIE Publ. 117 ,S/H = 0.25



RHOC	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

LIT by Cardi 0017440219 RIO 15W 6500K 1500lm

Intensity data(cd)									
Appendix Page: 14 Total:14									
C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	755.71	764.90	757.24	727.75	717.79	656.89	589.47	530.11	456.56
45.0	762.22	763.75	752.26	726.60	695.96	653.06	564.58	511.72	440.09
90.0	757.24	759.92	742.68	724.30	684.46	638.12	568.79	502.14	430.52
135.0	755.32	753.41	740.77	722.38	685.23	624.33	546.96	476.48	409.07
180.0	755.71	767.20	734.26	723.92	664.93	620.88	546.58	475.72	405.24
225.0	762.22	758.77	744.98	727.75	672.21	621.27	556.15	479.55	402.56
270.0	757.24	764.52	762.22	722.00	690.21	635.82	561.13	491.42	414.05
315.0	755.32	758.00	759.15	730.04	692.12	643.86	569.56	496.02	417.11
360.0	755.71	764.90	757.24	727.75	717.79	656.89	589.47	530.11	456.56
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	362.34	271.95	207.22	149.38	115.67	86.18	59.37	45.58	16.47
45.0	343.96	251.65	186.53	146.32	97.29	85.03	52.86	44.81	17.62
90.0	325.19	254.33	187.68	152.83	103.80	89.63	68.56	43.66	19.53
135.0	298.76	237.86	187.30	139.80	98.44	85.41	63.20	28.73	14.17
180.0	315.61	232.50	183.09	138.27	108.01	74.31	68.56	42.13	6.89
225.0	293.01	233.64	178.49	127.93	93.07	67.41	53.24	44.05	6.89
270.0	339.36	243.60	185.77	142.49	112.23	74.31	72.77	37.15	22.22
315.0	334.38	237.09	187.68	136.36	94.22	83.88	54.39	29.88	21.07
360.0	362.34	271.95	207.22	149.38	115.67	86.18	59.37	45.58	16.47
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	0.00	0.77	0.00	4.98	0.00	0.00	0.00	0.77	0.00
45.0	0.00	4.60	0.00	0.00	0.00	0.00	0.00	0.00	0.77
90.0	8.43	0.00	0.00	0.00	0.00	0.00	3.06	0.00	0.00
135.0	0.00	0.00	0.00	15.32	3.06	4.98	0.00	4.98	0.00
180.0	0.00	1.15	0.00	2.68	0.00	2.68	2.30	0.00	0.00
225.0	0.00	0.00	0.00	2.68	0.00	0.00	0.77	3.83	0.00
270.0	6.13	5.75	0.00	0.00	5.36	0.00	0.00	0.00	7.66
315.0	0.00	0.00	0.00	0.00	0.00	1.92	0.00	0.00	0.00
360.0	0.00	0.77	0.00	4.98	0.00	0.00	0.00	0.77	0.00
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	0.00	0.00	0.00	12.26	0.00	0.00	14.94	3.45	2.30
45.0	0.00	6.89	0.38	7.66	0.00	14.17	0.00	0.00	5.36
90.0	0.00	1.53	0.00	6.89	0.00	0.00	0.00	0.00	0.00
135.0	2.68	3.83	0.00	0.00	1.15	0.00	19.53	0.00	0.38
180.0	0.00	7.66	3.83	0.00	0.00	0.00	4.21	2.68	1.15
225.0	4.21	0.38	3.45	0.00	0.00	0.00	2.68	0.00	1.53
270.0	0.00	0.00	3.45	0.00	0.00	0.00	0.00	0.00	6.89
315.0	0.00	0.38	3.45	2.30	0.00	3.83	0.00	0.00	0.00
360.0	0.00	0.00	0.00	12.26	0.00	0.00	14.94	3.45	2.30
C/γ(°)	180.0								
0.0	0.00								
45.0	0.00								
90.0	0.00								
135.0	0.00								
180.0	0.00								
225.0	0.00								
270.0	0.00								
315.0	0.00								
360.0	0.00								