



SGSO

Address: LIT by CARDI

Client:

LumCAT: 0017440217 RIO 2.4W 6500K 240lm

Luminaire:

Report No:

Voltage(V): 232.29

Test No:

Current(A): 0.0206

LampCAT: LED

Power (W): 2.4000

Lamp flux(lm): -1.0

PF: 0.5026

Number of Lamps: 1

Ballast type:

Length(mm): -47

Width(mm): -47

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 240.00

Efficiency(%): 0.00%

Lumens(lm)/Power(W): 100.00

Central intensity(cd): 112.923

Maximum intensity(cd): 130.439

Angle of maximum intensity: C=225.0 γ =5.0

Beam Angle(50%Imax): [C0/180]Total=79.2

[C90/270]Total=88.4

Field angle(10%Imax): [C0/180]Total=271.1

[C90/270]Total=220.0

Maximum s/h(1/2): C0_180=1.06 C90_270=1.10

Maximum s/h(1/4): C0_180=1.19 C90_270=1.21

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 0.00%

Up flux rate of LUM(%): 5.62%

Down flux rate of LUM(%): 94.38%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 83.733%

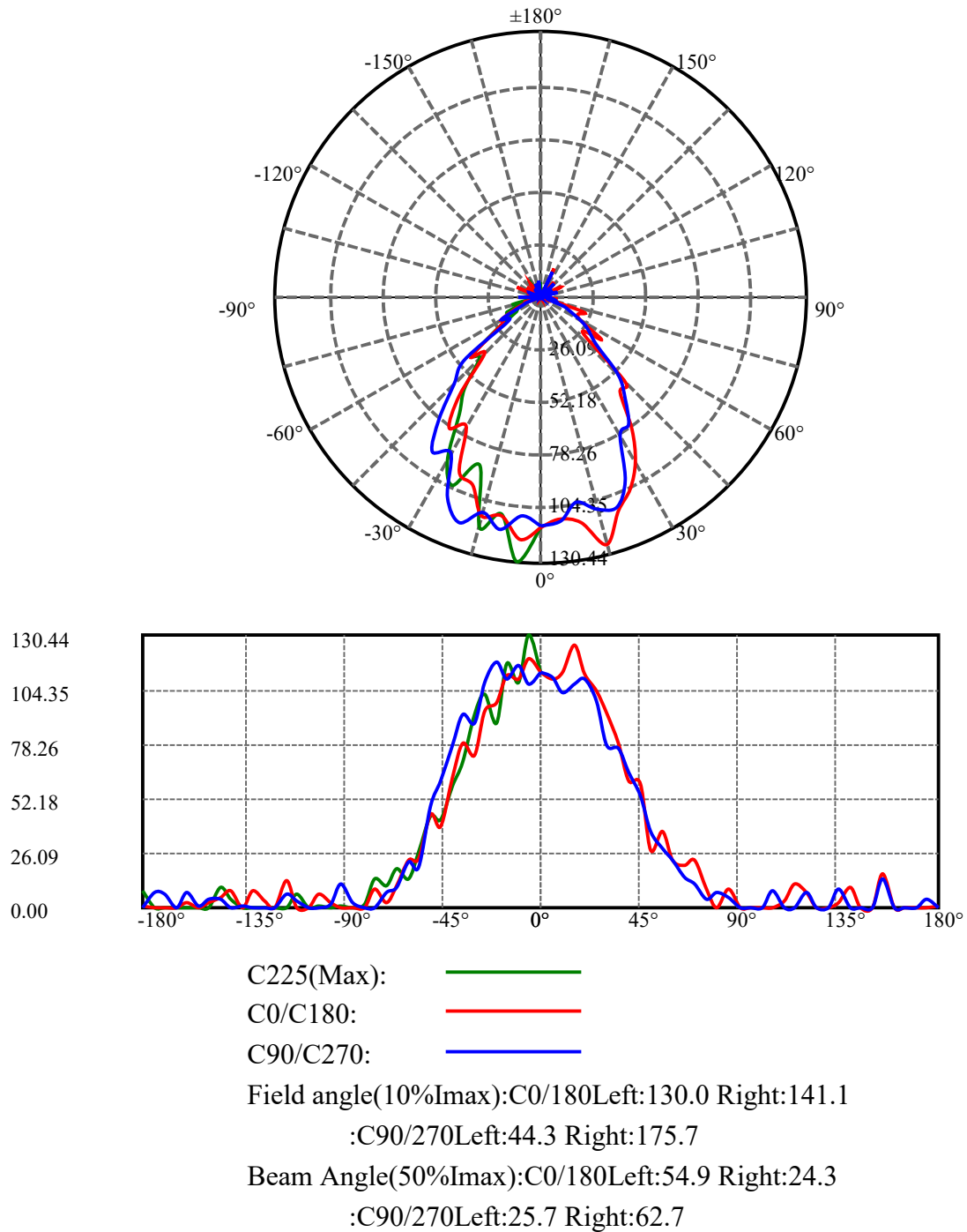
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	114.507	0.000	0	.000%	.000%
5.0	115.252	2.747	2.747	.000%	1.144%
10.0	111.246	8.103	10.849	.000%	4.521%
15.0	115.625	13.458	24.307	.000%	10.128%
20.0	105.982	18.263	42.571	.000%	17.738%
25.0	98.062	21.400	63.971	.000%	26.655%
30.0	85.950	23.287	87.258	.000%	36.358%
35.0	80.034	24.442	111.7	.000%	46.542%
40.0	65.313	24.250	135.95	.000%	56.647%
45.0	53.946	22.082	158.032	.000%	65.847%
50.0	39.272	18.836	176.868	.000%	73.696%
55.0	25.063	13.988	190.857	.000%	79.524%
60.0	18.634	10.101	200.957	.000%	83.733%
65.0	14.255	7.996	208.953	.000%	87.065%
70.0	12.485	6.771	215.723	.000%	89.886%
75.0	8.339	5.443	221.166	.000%	92.154%
80.0	2.981	3.029	224.195	.000%	93.416%
85.0	1.910	1.329	225.525	.000%	93.970%
90.0	1.724	0.995	226.519	.000%	94.384%
95.0	1.351	0.842	227.361	.000%	94.735%
100.0	2.236	0.975	228.336	.000%	95.141%
105.0	1.071	0.885	229.221	.000%	95.510%
110.0	2.609	0.962	230.183	.000%	95.911%
115.0	3.820	1.628	231.811	.000%	96.589%
120.0	1.817	1.370	233.181	.000%	97.160%
125.0	1.584	0.786	233.967	.000%	97.487%
130.0	2.562	0.901	234.869	.000%	97.863%
135.0	1.863	0.894	235.763	.000%	98.236%
140.0	3.168	0.932	236.694	.000%	98.624%
145.0	2.376	0.925	237.619	.000%	99.009%
150.0	1.165	0.521	238.141	.000%	99.226%
155.0	4.239	0.684	238.825	.000%	99.511%
160.0	2.422	0.699	239.523	.000%	99.802%
165.0	0.699	0.257	239.78	.000%	99.910%
170.0	0.839	0.091	239.872	.000%	99.948%
175.0	1.444	0.082	239.953	.000%	99.982%
180.0	2.236	0.044	239.997	.000%	100.000%

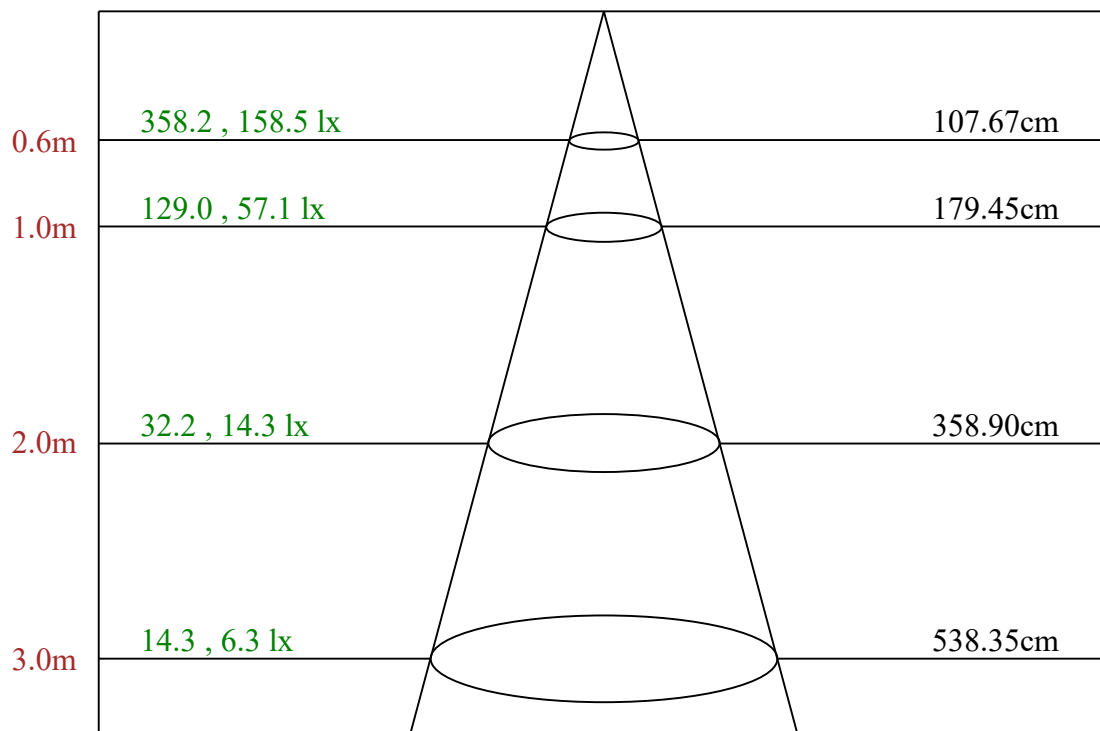
Zonal flux distribution table

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	87.26	N.A.	36.36%
0-40	135.95	N.A.	56.65%
0-60	200.96	N.A.	83.73%
0-90	226.52	N.A.	94.38%
0-120	233.18	N.A.	97.16%
0-180	240.00	N.A.	100.00%
60-90	35.66	N.A.	14.86%
90-120	7.66	N.A.	3.19%
90-130	9.34	N.A.	3.89%
90-150	12.62	N.A.	5.26%
90-180	14.43	N.A.	6.01%
0-55.56	192.00	N.A.	80.00%

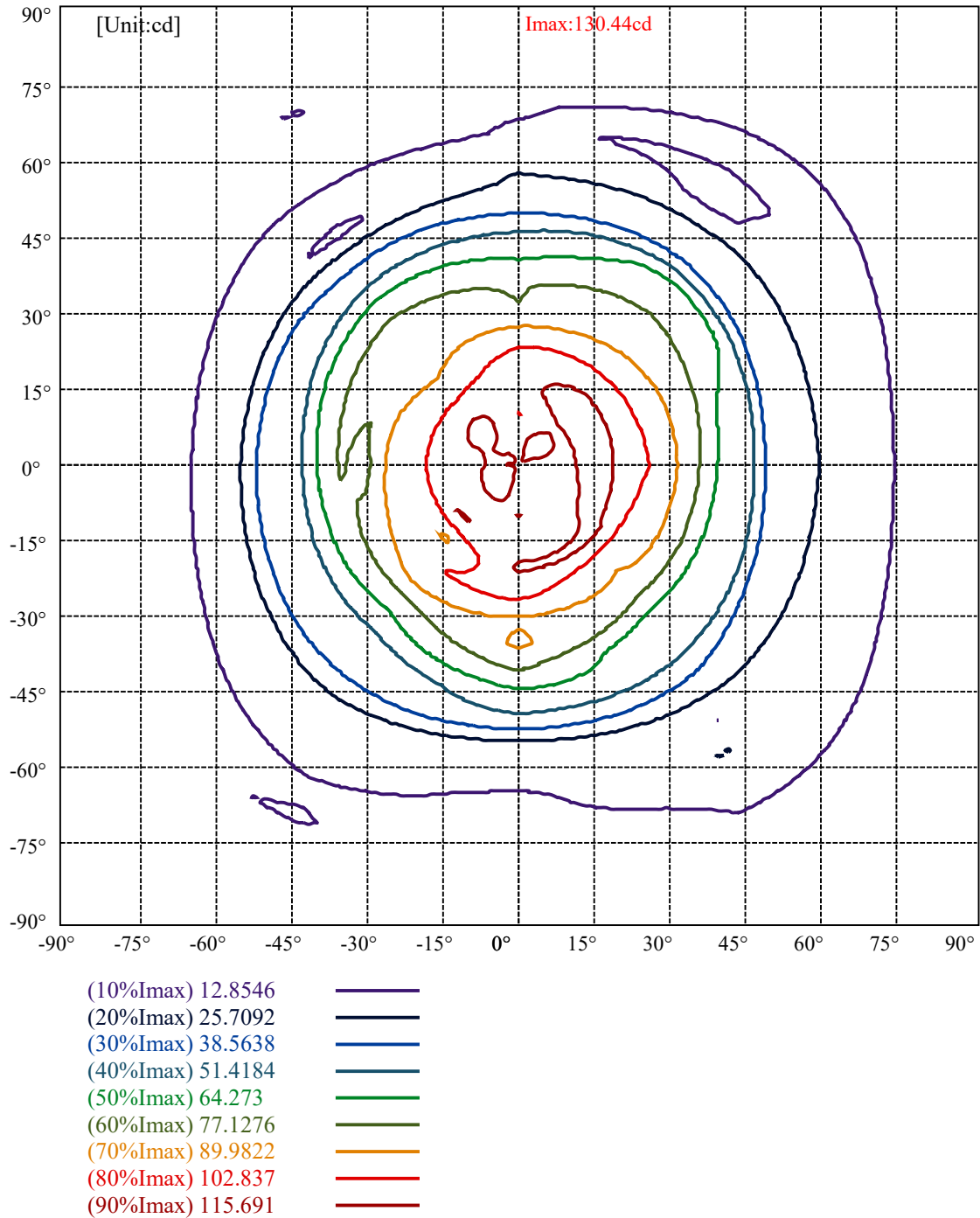
ZONAL LUMEN SUMMARY

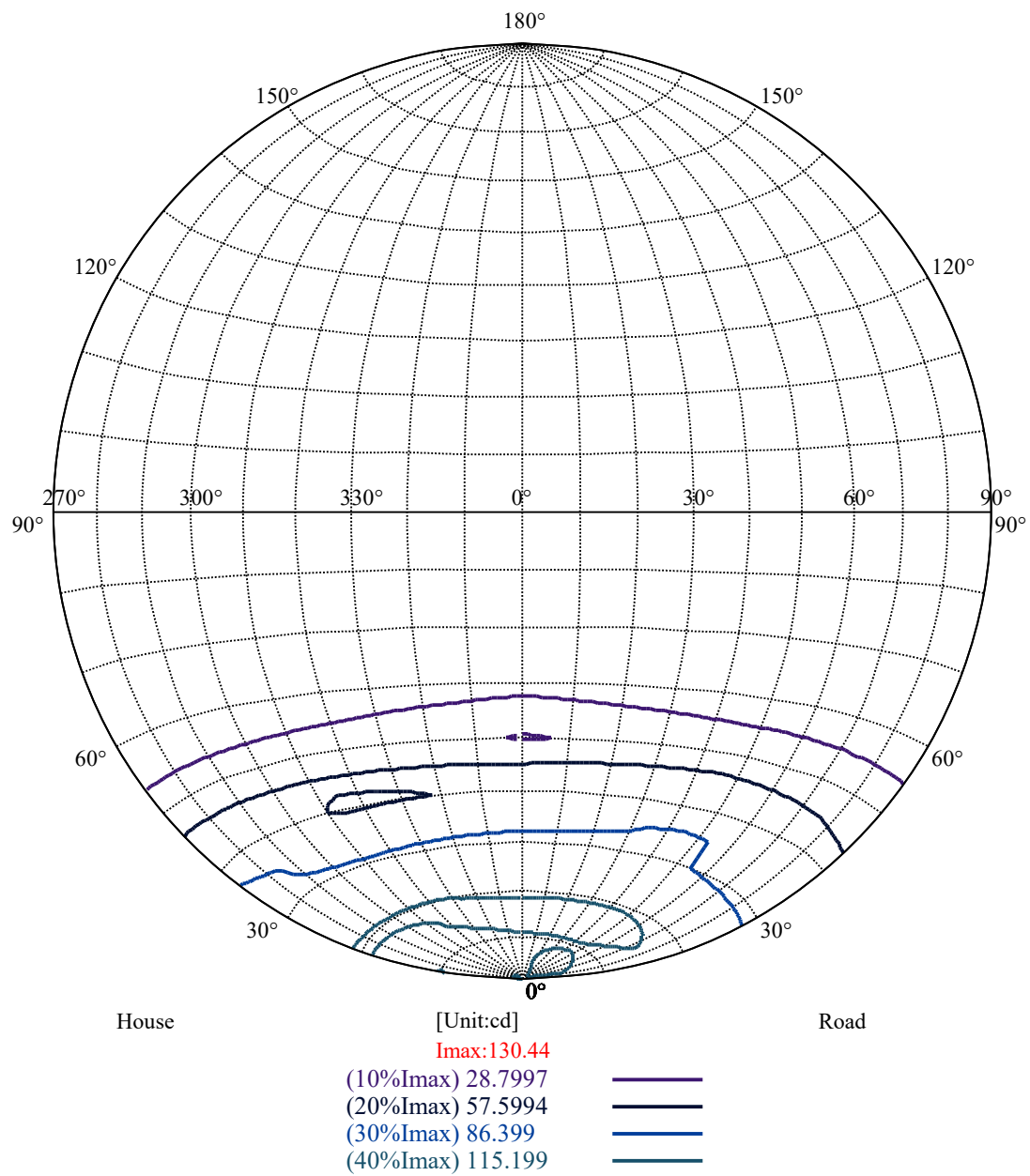
0-10	10.85
10-20	31.72
20-30	44.69
30-40	48.69
40-50	40.92
50-60	24.09
60-70	14.77
70-80	8.47
80-90	2.32
90-100	1.82
100-110	1.85
110-120	3.00
120-130	1.69
130-140	1.83
140-150	1.45
150-160	1.38
160-170	0.35
170-180	0.08

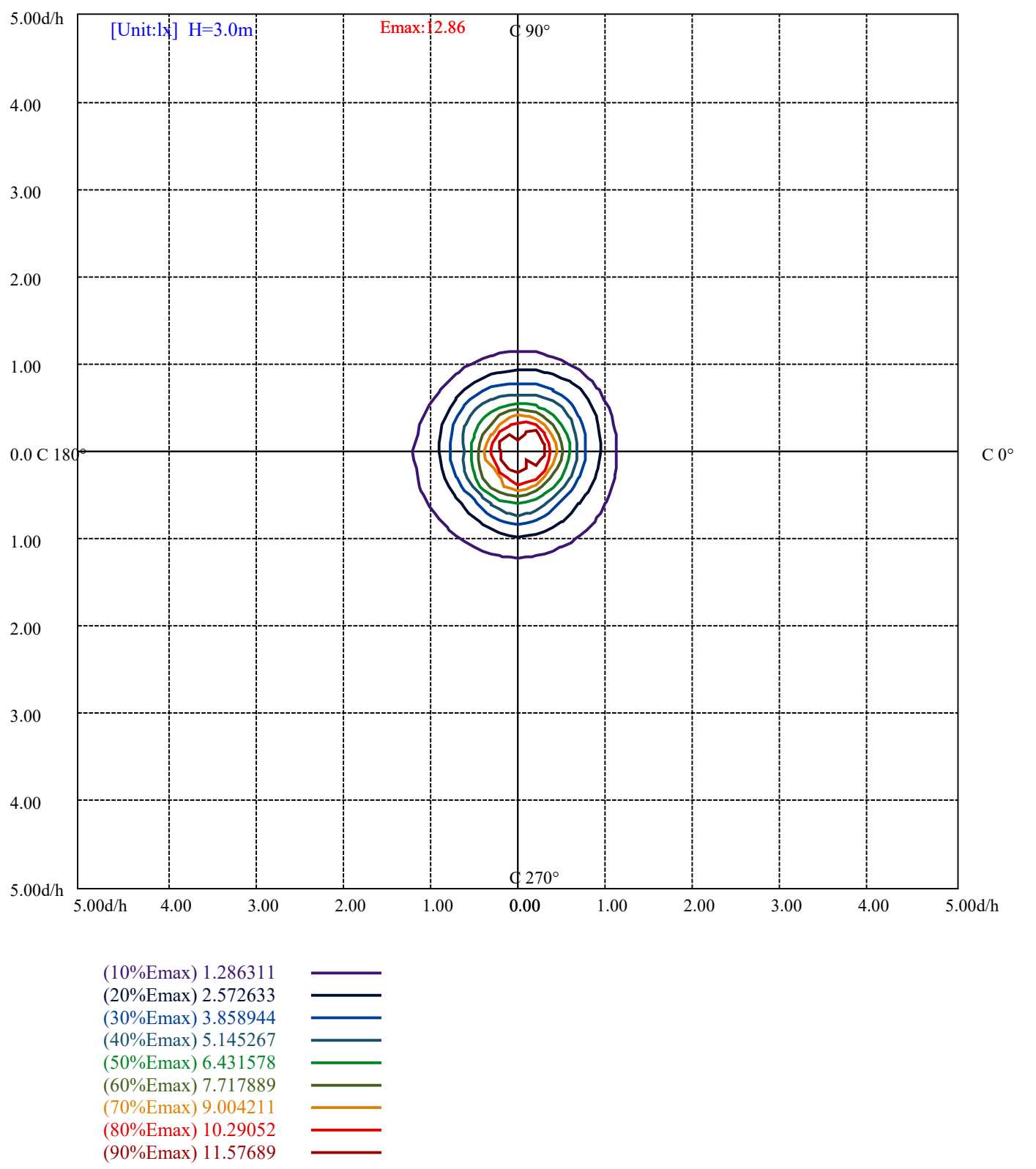


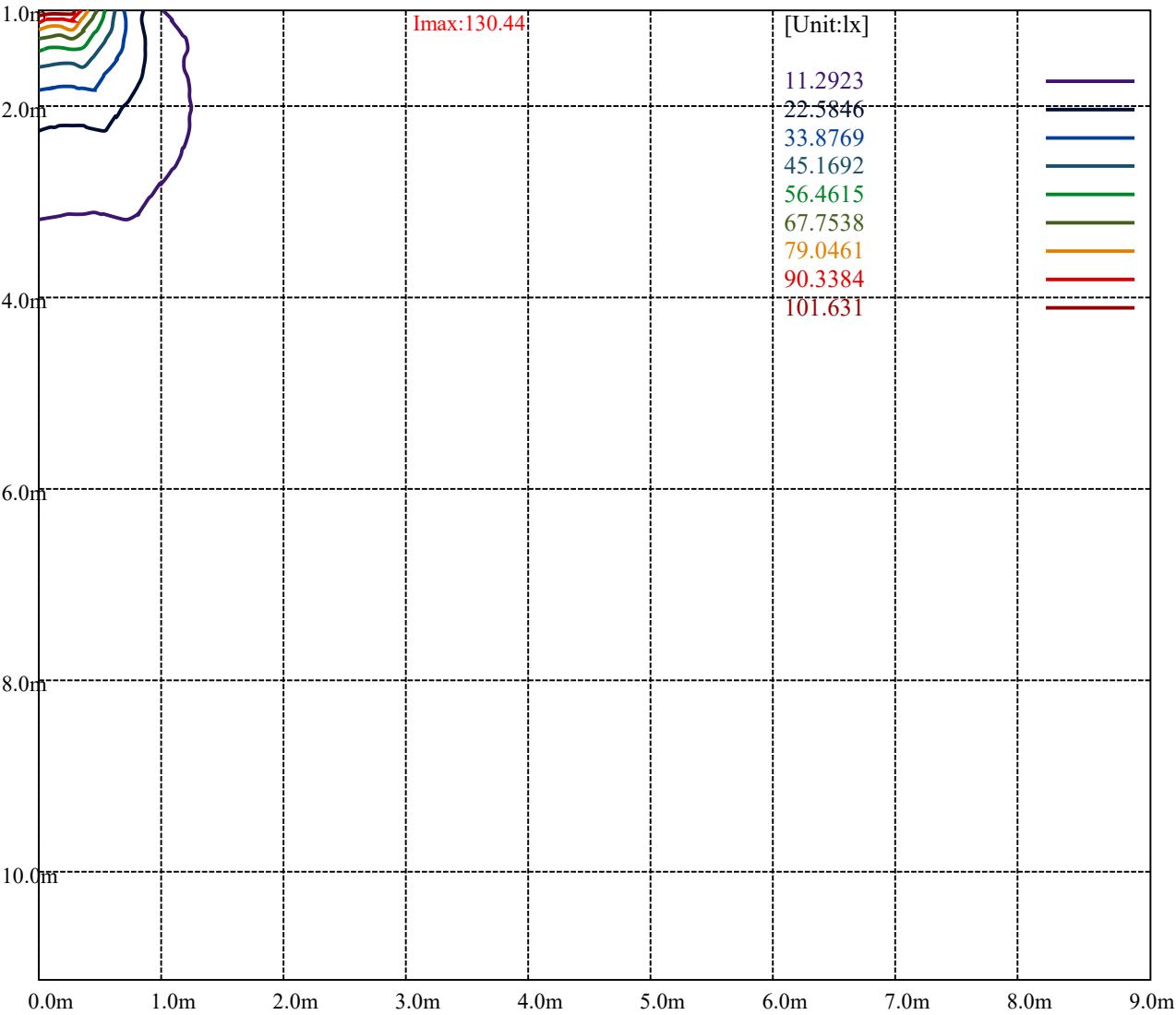


Max , Ave Beam angle of C225 plane 83.80









Luminance Table

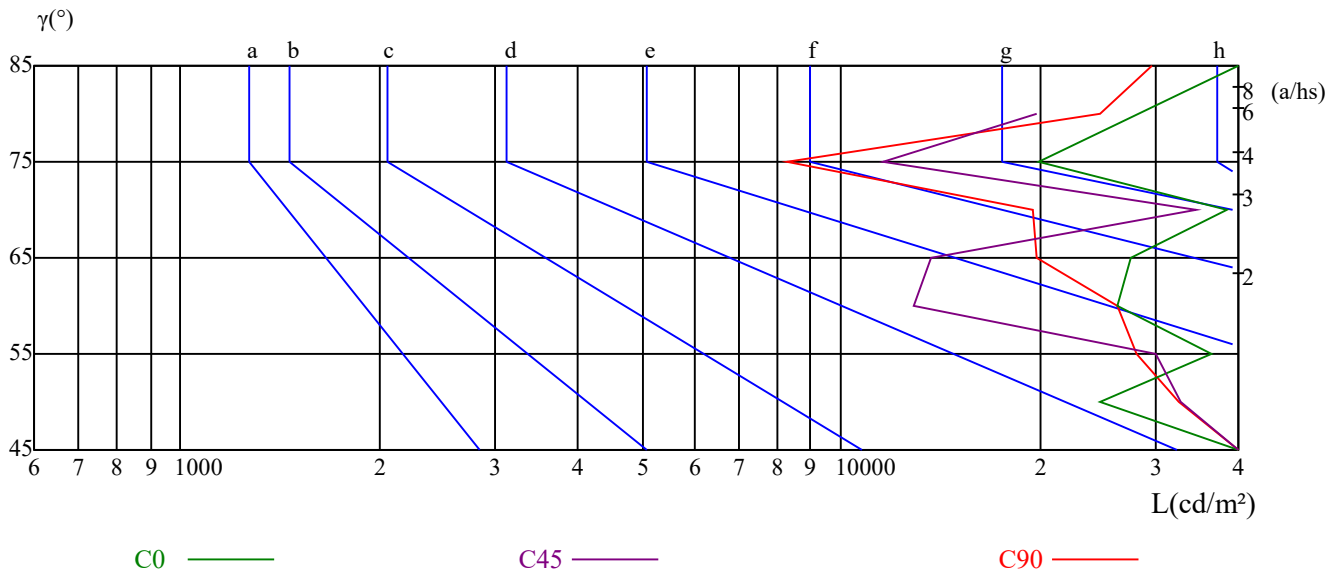
γ	45	50	55	60	65	70	75	80	85
C0	47998	24729	36327	26207	27447	38312	19918	0	56689
C45	54986	32750	29961	12888	13724	34544	11620	19793	0
C90	43745	32416	28089	26207	19822	19470	8300	24739	29575

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
21094	16773	19950	19918	4150	25107	28345	22181	0

Glare Table

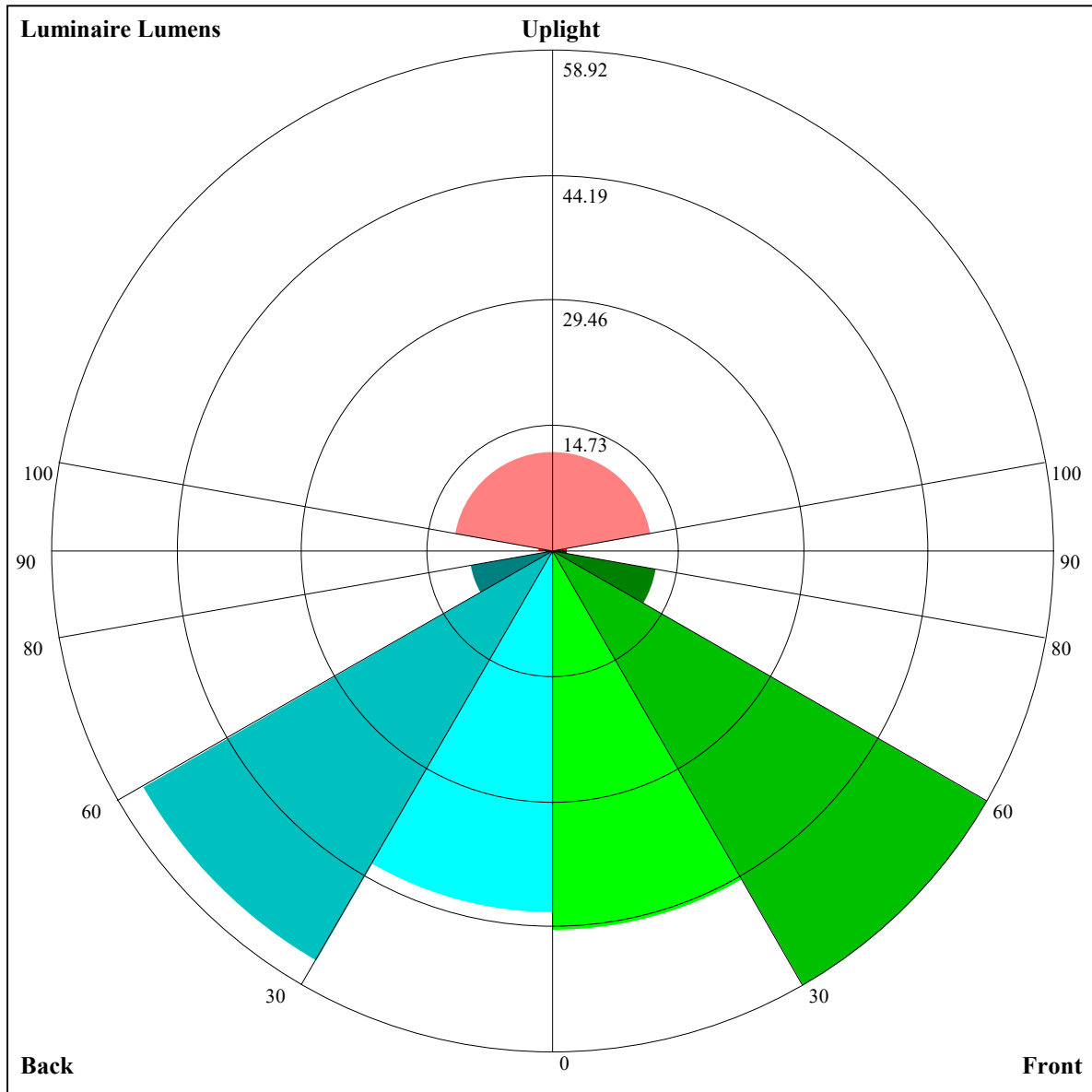
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve



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	18.63	19.95	19.08	20.38	20.84	18.38	19.70	18.83	20.13	20.59
	3H	20.51	21.70	20.99	22.15	22.63	19.33	20.52	19.81	20.97	21.46
	4H	20.97	22.08	21.46	22.54	23.04	19.49	20.60	19.98	21.07	21.57
	6H	21.00	22.03	21.51	22.51	23.04	19.89	20.92	20.40	21.40	21.93
	8H	21.02	22.00	21.52	22.49	23.03	20.19	21.17	20.69	21.66	22.20
	12H	21.45	22.39	21.96	22.89	23.44	20.43	21.38	20.95	21.87	22.42
4H	2H	18.84	19.95	19.33	20.42	20.92	18.61	19.72	19.10	20.19	20.69
	3H	21.11	22.05	21.62	22.54	23.09	19.98	20.91	20.49	21.41	21.95
	4H	21.64	22.46	22.17	22.98	23.55	20.23	21.05	20.76	21.57	22.15
	6H	21.67	22.40	22.23	22.95	23.52	20.75	21.48	21.30	22.02	22.60
	8H	21.74	22.42	22.31	22.97	23.57	21.15	21.83	21.71	22.38	22.97
	12H	22.35	22.98	22.92	23.52	24.16	21.49	22.12	22.06	22.66	23.29
8H	4H	21.70	22.38	22.26	22.93	23.52	20.43	21.11	20.99	21.66	22.25
	6H	21.79	22.36	22.38	22.93	23.56	21.11	21.68	21.69	22.24	22.87
	8H	21.98	22.47	22.59	23.08	23.70	21.63	22.12	22.24	22.73	23.35
	12H	22.76	23.18	23.38	23.78	24.42	22.03	22.44	22.64	23.05	23.68
12H	4H	21.70	22.33	22.27	22.88	23.51	20.42	21.05	20.99	21.60	22.23
	6H	21.87	22.36	22.47	22.96	23.58	21.18	21.67	21.79	22.28	22.90
	8H	22.03	22.44	22.64	23.05	23.69	21.67	22.09	22.29	22.69	23.33
Variation with the observer position at spacings:											
S = 1.0H		0.6/-0.9					0.4/-0.6				
S = 1.5H		1.3/-1.6					1.2/-1.6				
S = 2.0H		1.6/-2.0					1.8/-2.7				
Standard tables:		BK3					BK3				
Uncorrected UGR		8.2					8.8				

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



Luminaire Lumens:

FL=44.61,FM=58.92,FH=12.43,FVH=1.8

BL=42.67,BM=55.71,BH=9.81,BVH=0.94

UL=1.82,UH=11.66

BUG Rating:B0-U2-G0

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	112.92	109.20	112.55	125.97	111.43	103.98	93.17	78.64	60.38
45.0	112.92	125.59	112.18	129.32	111.81	99.88	88.70	88.70	72.30
90.0	112.55	110.31	102.49	107.33	109.20	98.76	77.89	76.03	64.85
135.0	119.63	113.67	122.24	110.31	95.03	86.46	85.35	81.99	71.56
180.0	112.92	118.89	109.20	111.06	98.02	94.29	73.05	78.26	62.61
225.0	112.92	130.44	107.71	117.02	87.95	102.12	92.05	70.06	58.14
270.0	112.55	107.33	115.90	109.20	117.40	108.08	88.33	92.05	77.89
315.0	119.63	106.59	107.71	114.79	117.02	90.94	89.07	74.54	54.79
360.0	112.92	109.20	112.55	125.97	111.43	103.98	93.17	78.64	60.38
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	58.88	27.58	36.15	22.73	20.13	22.73	8.94	0.00	8.57
45.0	67.46	36.52	29.82	11.18	10.06	20.50	5.22	5.96	0.00
90.0	53.67	36.15	27.95	22.73	14.53	11.55	3.73	7.45	4.47
135.0	49.57	34.29	9.32	22.73	3.35	8.57	13.42	0.00	0.00
180.0	39.13	44.72	23.48	22.36	10.81	2.61	8.94	0.00	0.00
225.0	42.11	43.60	26.83	13.42	18.63	10.81	14.16	1.49	0.00
270.0	60.38	48.45	19.75	21.62	10.06	7.45	0.00	0.00	2.24
315.0	60.38	42.86	27.21	12.30	26.46	15.65	12.30	8.94	0.00
360.0	58.88	27.58	36.15	22.73	20.13	22.73	8.94	0.00	8.57
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	0.00	0.00	0.00	0.00	2.98	11.18	7.08	0.00	0.00
45.0	1.86	5.59	0.00	0.00	2.98	0.00	0.00	0.00	0.00
90.0	0.00	0.00	0.00	8.20	0.00	0.00	7.08	0.00	0.00
135.0	0.00	1.12	10.81	0.00	4.85	0.00	0.00	9.32	8.20
180.0	0.00	2.24	6.34	0.00	0.00	12.67	0.00	3.35	8.20
225.0	0.74	0.00	0.74	0.37	6.71	0.00	0.00	0.00	0.00
270.0	11.18	1.86	0.00	0.00	3.35	6.71	0.00	0.00	0.00
315.0	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	4.10
360.0	0.00	0.00	0.00	0.00	2.98	11.18	7.08	0.00	0.00
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	2.61	10.06	0.00	0.00	16.03	0.00	0.37	0.00	0.37
45.0	0.00	0.00	0.00	0.00	1.49	0.00	0.00	0.00	0.00
90.0	9.32	0.00	0.00	0.00	13.79	0.00	0.00	0.00	3.73
135.0	0.00	0.00	0.00	3.35	1.86	7.45	1.49	0.00	0.00
180.0	0.00	8.20	5.22	2.24	0.00	2.61	0.00	0.00	0.00
225.0	0.00	4.10	9.69	0.00	0.00	0.00	0.00	0.00	0.00
270.0	0.75	0.00	4.10	3.73	0.75	7.08	0.00	6.71	7.45
315.0	2.24	2.98	0.00	0.00	0.00	2.24	3.73	0.00	0.00
360.0	2.61	10.06	0.00	0.00	16.03	0.00	0.37	0.00	0.37
C/γ(°)	180.0								
0.0	1.12								
45.0	7.83								
90.0	0.00								
135.0	0.00								
180.0	1.12								
225.0	7.83								
270.0	0.00								
315.0	0.00								
360.0	1.12								