



SGSO

Address: LIT by CARDI

Client:

LumCAT: 0017440217 RIO 5.4W 6500K 540lm

Luminaire:

Report No:

Voltage(V): 232.25

Test No:

Current(A): 0.0256

LampCAT: LED

Power (W): 5.4000

Lamp flux(lm): -1.0

PF: 0.9095

Number of Lamps: 1

Ballast type:

Length(mm): -47

Width(mm): -47

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 540.00

Efficiency(%): 0.00%

Lumens(lm)/Power(W): 100.00

Central intensity(cd): 273.624

Maximum intensity(cd): 293.399

Angle of maximum intensity: C=135.0 γ =10.0

Beam Angle(50%Imax): [C0/180]Total=85.6

[C90/270]Total=82.5

Field angle(10%Imax): [C0/180]Total=140.8

[C90/270]Total=145.2

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

Maximum s/h(1/4): C0_180=1.26 C90_270=1.22

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 0.00%

Up flux rate of LUM(%): 2.06%

Down flux rate of LUM(%): 97.94%

CIE Type : Direct lighting

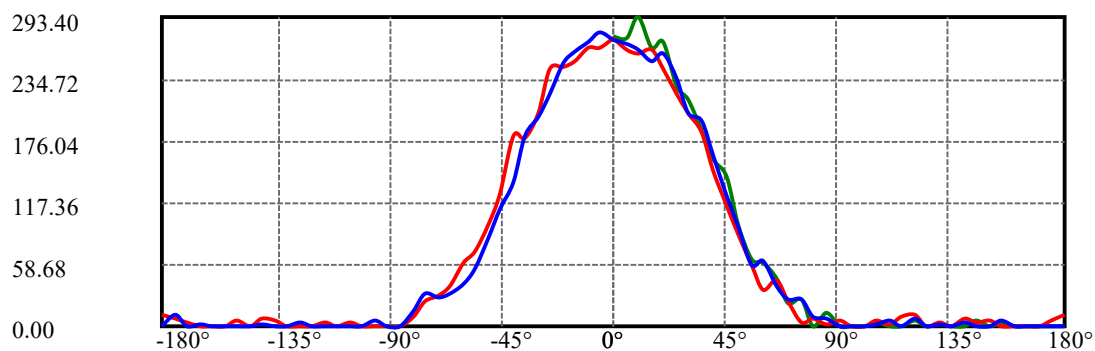
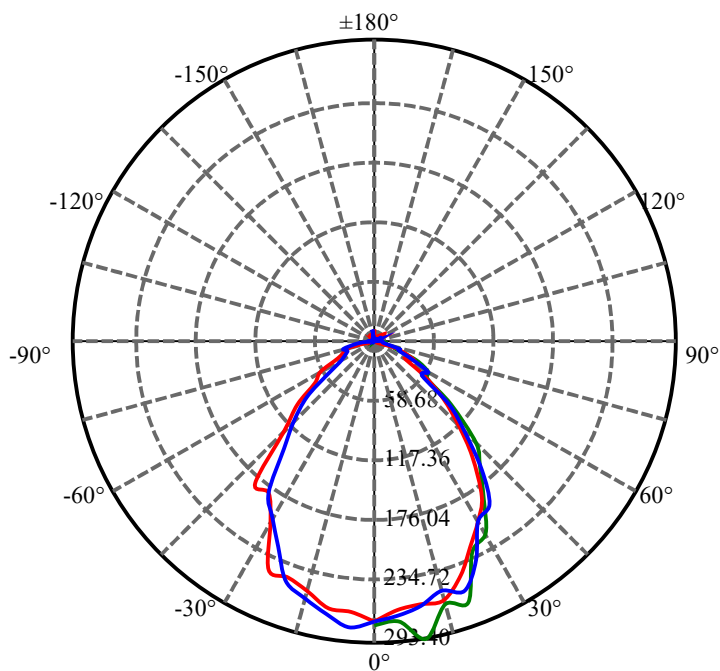
Output flux ratio in π solid angle : 86.444%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	276.045	0.000	0	.000%	.000%
5.0	270.244	6.531	6.531	.000%	1.209%
10.0	265.351	19.160	25.691	.000%	4.758%
15.0	258.036	31.047	56.738	.000%	10.507%
20.0	249.813	41.854	98.591	.000%	18.258%
25.0	225.851	49.888	148.48	.000%	27.496%
30.0	200.577	53.965	202.445	.000%	37.490%
35.0	179.642	55.990	258.434	.000%	47.858%
40.0	152.400	55.399	313.833	.000%	58.117%
45.0	123.797	51.140	364.973	.000%	67.587%
50.0	88.988	42.996	407.969	.000%	75.550%
55.0	60.385	32.479	440.448	.000%	81.564%
60.0	53.625	26.353	466.801	.000%	86.444%
65.0	36.927	22.013	488.815	.000%	90.521%
70.0	24.769	15.622	504.437	.000%	93.414%
75.0	21.843	12.184	516.621	.000%	95.670%
80.0	7.567	7.869	524.49	.000%	97.127%
85.0	3.531	3.016	527.506	.000%	97.686%
90.0	1.564	1.395	528.901	.000%	97.944%
95.0	2.623	1.146	530.047	.000%	98.156%
100.0	0.101	0.740	530.787	.000%	98.293%
105.0	2.119	0.594	531.381	.000%	98.403%
110.0	1.413	0.923	532.304	.000%	98.574%
115.0	1.715	0.792	533.096	.000%	98.721%
120.0	2.926	1.128	534.224	.000%	98.930%
125.0	1.059	0.921	535.146	.000%	99.101%
130.0	1.816	0.625	535.771	.000%	99.216%
135.0	0.959	0.561	536.331	.000%	99.320%
140.0	4.137	0.943	537.275	.000%	99.495%
145.0	1.362	0.917	538.192	.000%	99.665%
150.0	1.412	0.409	538.601	.000%	99.740%
155.0	2.220	0.460	539.06	.000%	99.825%
160.0	0.807	0.317	539.378	.000%	99.884%
165.0	0.353	0.096	539.473	.000%	99.902%
170.0	2.270	0.156	539.629	.000%	99.931%
175.0	5.448	0.276	539.905	.000%	99.982%
180.0	2.724	0.098	540.003	.000%	100.000%

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	202.44	N.A.	37.49%
0-40	313.83	N.A.	58.12%
0-60	466.80	N.A.	86.44%
0-90	528.90	N.A.	97.94%
0-120	534.22	N.A.	98.93%
0-180	540.00	N.A.	100.00%
60-90	88.45	N.A.	16.38%
90-120	6.72	N.A.	1.24%
90-130	8.27	N.A.	1.53%
90-150	11.10	N.A.	2.05%
90-180	12.40	N.A.	2.30%
0-53.70	432.00	N.A.	80.00%

ZONAL LUMEN SUMMARY

0-10	25.69
10-20	72.90
20-30	103.85
30-40	111.39
40-50	94.14
50-60	58.83
60-70	37.64
70-80	20.05
80-90	4.41
90-100	1.89
100-110	1.52
110-120	1.92
120-130	1.55
130-140	1.50
140-150	1.33
150-160	0.78
160-170	0.25
170-180	0.28



C135(Max): —————

C0/C180: —————

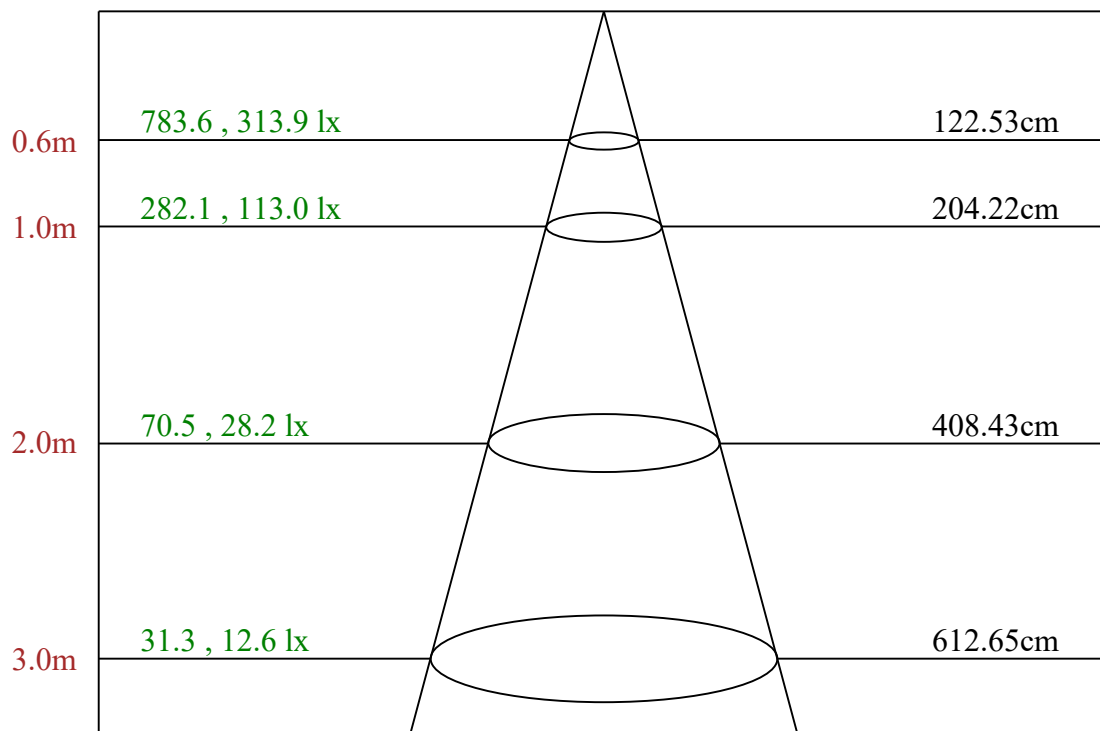
C90/C270: —————

Field angle(10%Imax):C0/180Left:71.6 Right:69.2

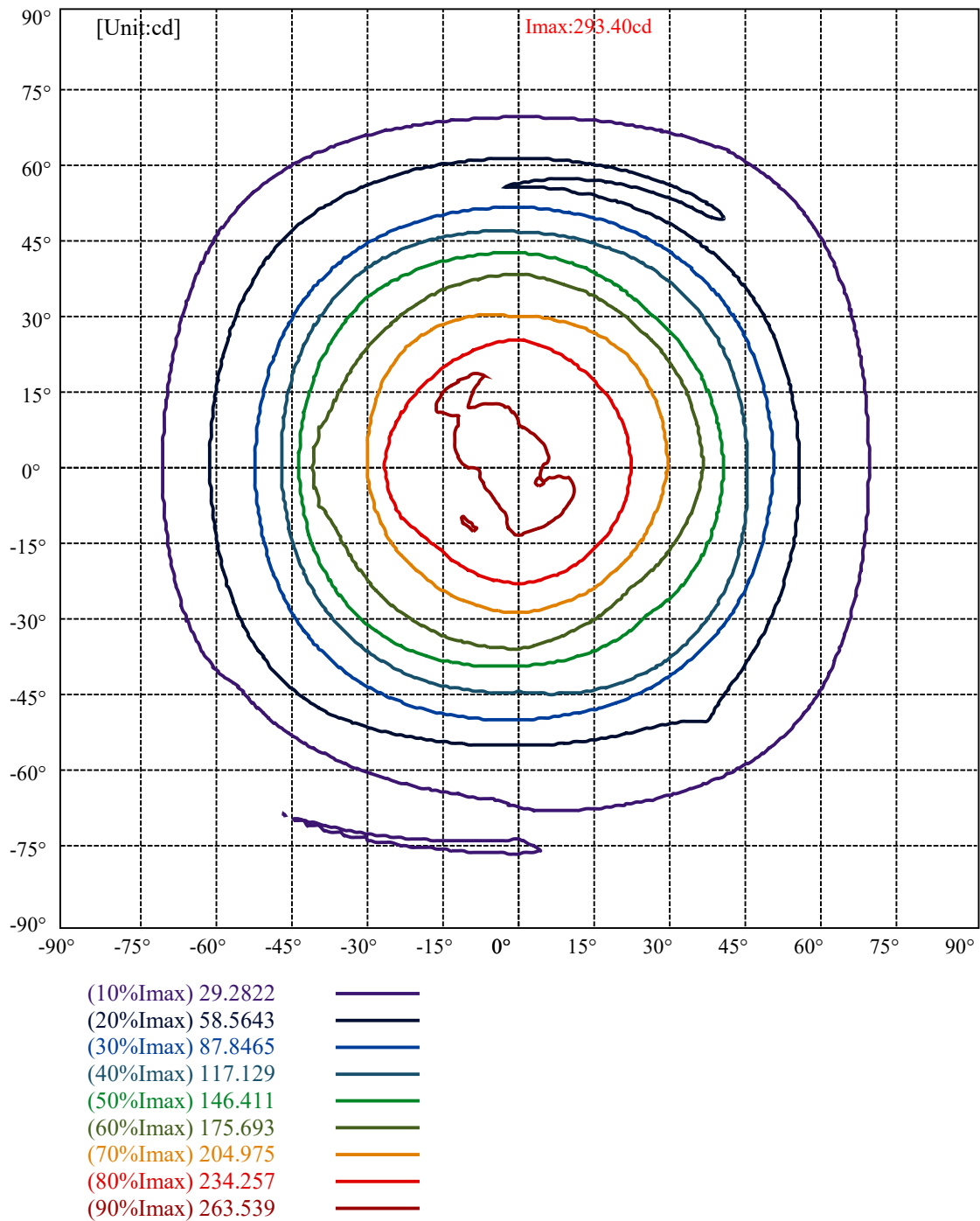
:C90/270Left:71.0 Right:74.2

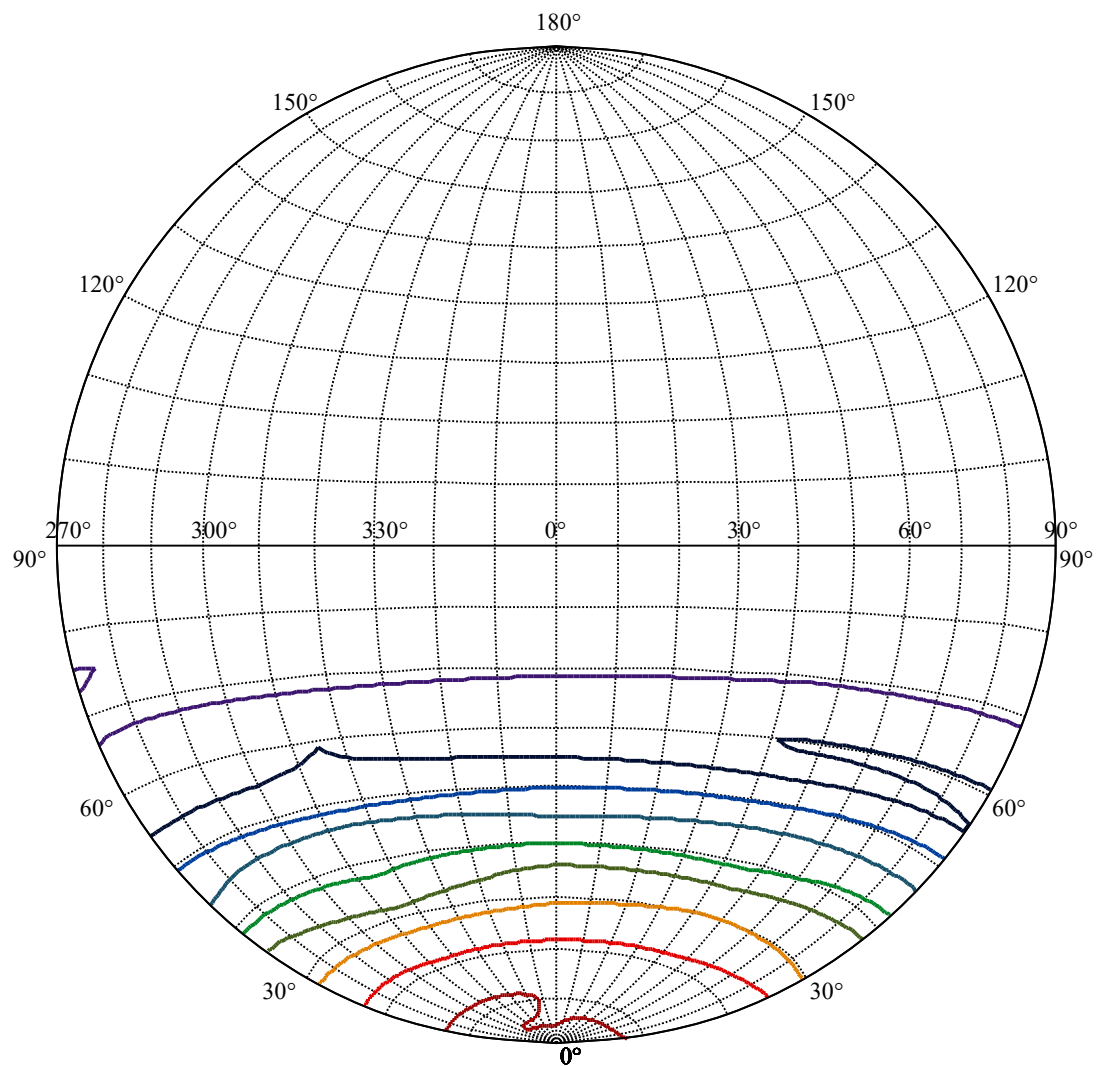
Beam Angle(50%Imax):C0/180Left:44.0 Right:41.6

:C90/270Left:34.6 Right:47.9



Max , Ave Beam angle of C135 plane 91.20





House

[Unit:cd]

Road

Imax:293.40

(10%Imax) 29.3399

(20%Imax) 58.6798

(30%Imax) 88.0197

(40%Imax) 117.36

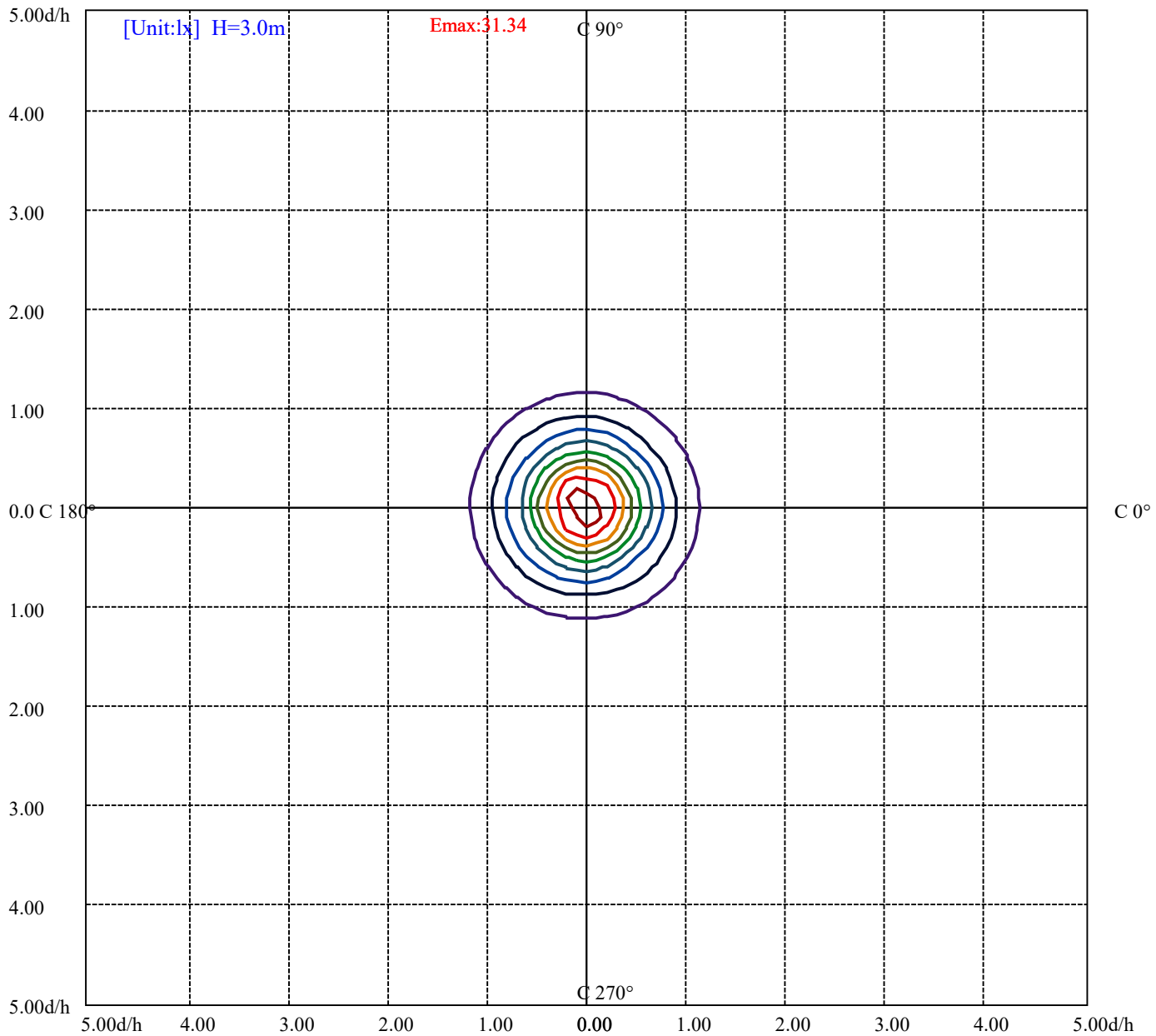
(50%Imax) 146.699

(60%Imax) 176.039

(70%Imax) 205.379

(80%Imax) 234.719

(90%Imax) 264.059



(10%Emax) 3.134422

(20%Emax) 6.268845

(30%Emax) 9.403267

(40%Emax) 12.53767

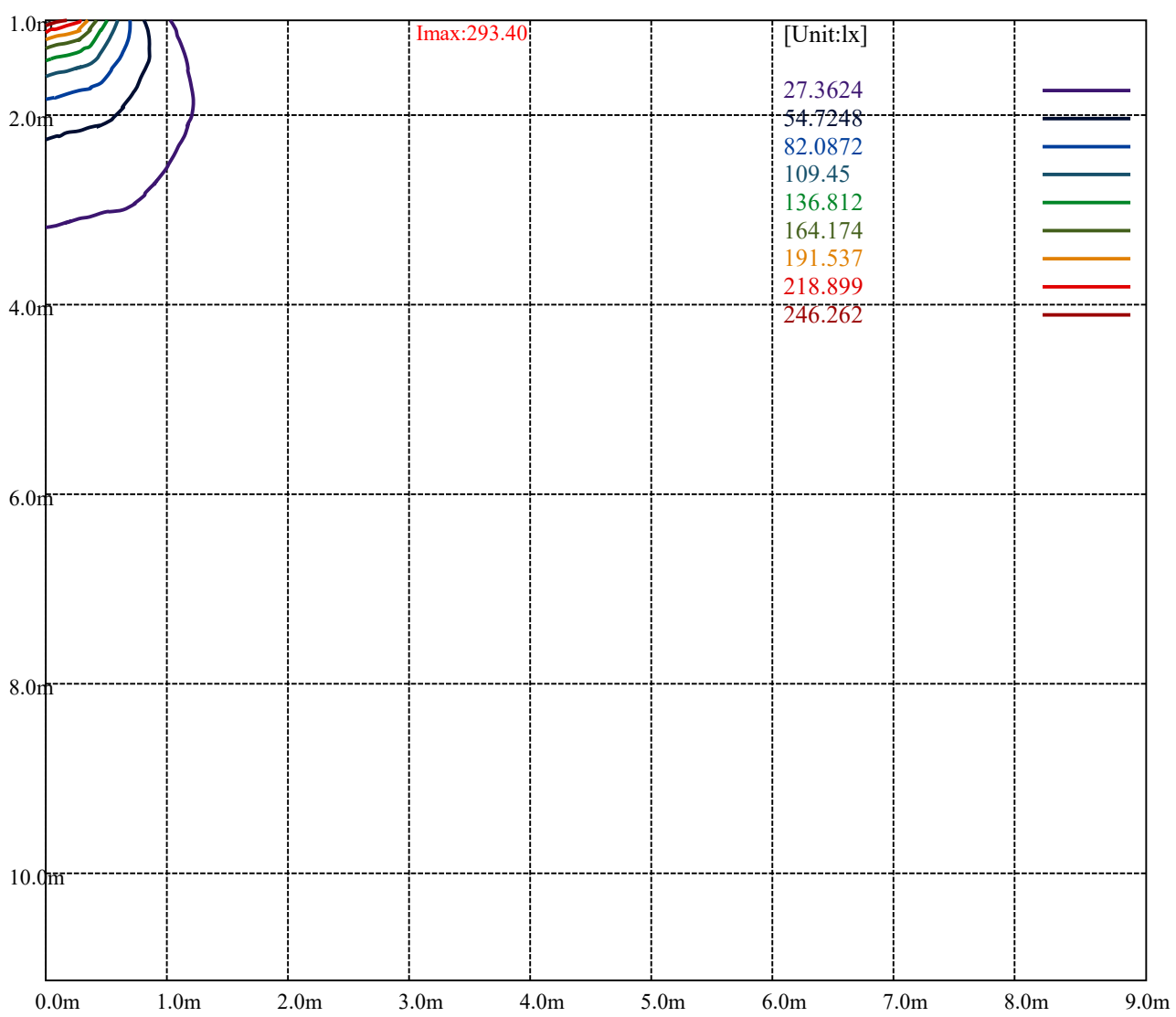
(50%Emax) 15.67211

(60%Emax) 18.80656

(70%Emax) 21.941

(80%Emax) 25.07533

(90%Emax) 28.20978



Luminance Table

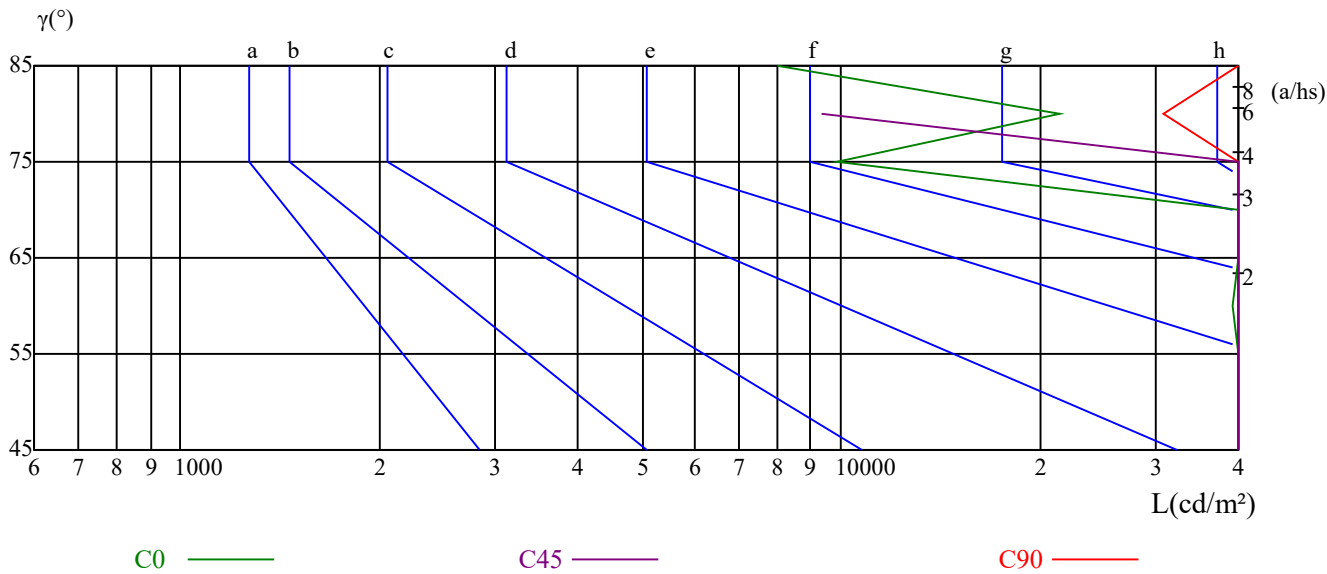
γ	45	50	55	60	65	70	75	80	85
C0	94085	78529	59211	39079	58895	40807	9886	21436	8002
C45	99019	77443	52722	70250	45134	48289	44039	9377	0
C90	100994	85767	58400	70715	52841	43526	56621	30810	53376

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
55593	47062	49400	31456	62914	50105	4001	26688	31360

Glare Table

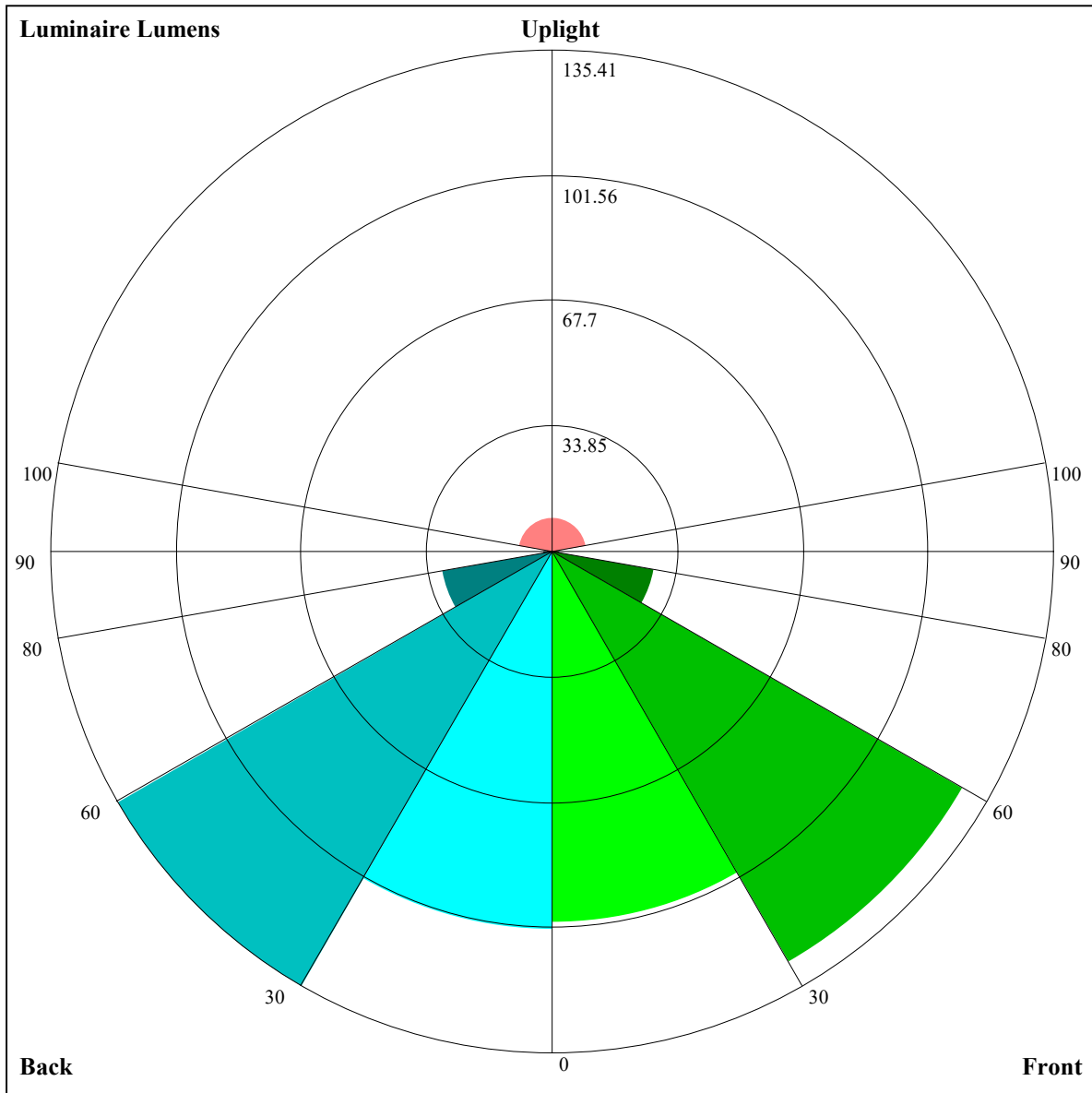
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	21.20	22.60	21.59	22.96	23.33	21.83	23.23	22.23	23.59	23.96
	3H	22.27	23.52	22.68	23.91	24.30	22.73	23.98	23.14	24.37	24.76
	4H	22.35	23.52	22.78	23.92	24.33	23.26	24.43	23.69	24.83	25.24
	6H	22.38	23.47	22.83	23.88	24.33	23.54	24.63	23.98	25.04	25.48
	8H	22.36	23.41	22.81	23.83	24.28	23.58	24.63	24.03	25.05	25.50
	12H	22.32	23.32	22.77	23.75	24.21	23.67	24.67	24.12	25.10	25.56
4H	2H	21.67	22.84	22.10	23.24	23.65	22.18	23.36	22.61	23.75	24.17
	3H	22.86	23.85	23.32	24.28	24.74	23.27	24.26	23.73	24.69	25.15
	4H	23.06	23.93	23.53	24.39	24.88	23.98	24.85	24.45	25.31	25.80
	6H	23.09	23.86	23.59	24.35	24.84	24.27	25.04	24.77	25.52	26.02
	8H	23.10	23.82	23.61	24.31	24.82	24.36	25.08	24.87	25.56	26.08
	12H	23.09	23.75	23.60	24.23	24.79	24.51	25.18	25.03	25.66	26.21
8H	4H	23.20	23.92	23.71	24.41	24.92	24.06	24.78	24.57	25.27	25.78
	6H	23.24	23.84	23.77	24.35	24.90	24.36	24.96	24.89	25.47	26.02
	8H	23.31	23.82	23.86	24.37	24.91	24.52	25.04	25.07	25.59	26.12
	12H	23.29	23.72	23.85	24.27	24.83	24.72	25.15	25.28	25.70	26.26
12H	4H	23.18	23.85	23.70	24.33	24.89	24.03	24.70	24.55	25.18	25.74
	6H	23.26	23.78	23.81	24.33	24.87	24.37	24.89	24.92	25.44	25.98
	8H	23.28	23.72	23.84	24.26	24.82	24.49	24.92	25.05	25.47	26.03
Variation with the observer position at spacings:											
S = 1.0H		0.5/-0.8					0.6/-0.7				
S = 1.5H		0.8/-0.8					1.4/-2.0				
S = 2.0H		1.7/-1.5					2.2/-1.4				
Standard tables:		BK3					BK2				
Uncorrected UGR		11.4					9.8				

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



Luminaire Lumens:

FL=100.18,FM=127.84,FH=28.06,FVH=2

BL=102.19,BM=135.41,BH=30.27,BVH=2.64

UL=1.89,UH=9.21

BUG Rating:B0-U1-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	273.62	262.32	259.10	261.92	243.36	220.76	201.79	184.03	147.31
45.0	282.10	270.80	250.62	260.71	249.41	214.70	206.23	178.78	137.22
90.0	272.41	267.57	261.92	252.23	259.50	235.28	202.60	194.93	162.64
135.0	276.05	274.03	293.40	264.34	269.99	227.62	215.91	186.05	159.41
180.0	273.62	263.94	263.54	251.83	245.37	244.97	201.79	179.19	179.59
225.0	282.10	281.29	246.99	265.96	241.34	222.77	191.70	179.99	158.61
270.0	272.41	279.68	269.99	259.90	249.41	220.76	197.75	179.59	136.01
315.0	276.05	262.32	277.26	247.39	240.13	219.95	186.86	154.57	138.43
360.0	273.62	262.32	259.10	261.92	243.36	220.76	201.79	184.03	147.31
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	115.42	87.58	58.92	33.90	43.18	24.21	4.44	6.46	1.21
45.0	121.48	86.37	52.47	60.94	33.09	28.65	19.78	2.82	0.00
90.0	123.90	95.65	58.12	61.34	38.74	25.83	25.43	9.28	8.07
135.0	141.25	96.45	63.77	59.73	45.20	22.60	25.83	0.00	12.91
180.0	125.51	96.86	70.22	60.94	38.34	29.06	23.81	8.47	0.00
225.0	119.06	90.81	64.17	54.48	22.20	23.41	29.86	9.68	6.05
270.0	111.79	84.35	54.48	39.55	30.27	27.04	31.08	15.34	0.00
315.0	131.97	73.85	60.94	58.12	44.39	17.35	14.53	8.47	0.00
360.0	115.42	87.58	58.92	33.90	43.18	24.21	4.44	6.46	1.21
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	5.25	0.00	0.00	6.05	1.21	8.88	10.49	0.00	4.04
45.0	7.27	7.67	0.00	2.02	0.00	1.21	0.00	0.00	5.25
90.0	0.00	0.00	0.00	1.61	6.05	0.00	7.67	0.00	2.42
135.0	0.00	0.00	0.00	4.04	0.00	0.00	5.25	0.00	2.02
180.0	0.00	0.00	0.00	3.23	0.81	3.63	0.00	0.00	0.00
225.0	0.00	0.00	0.00	0.00	3.23	0.00	0.00	0.00	0.81
270.0	0.00	5.25	0.40	0.00	0.00	0.00	0.00	4.44	0.00
315.0	0.00	8.07	0.40	0.00	0.00	0.00	0.00	4.04	0.00
360.0	5.25	0.00	0.00	6.05	1.21	8.88	10.49	0.00	4.04
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	0.00	7.67	4.44	5.25	0.00	0.00	0.40	0.00	5.25
45.0	1.61	0.00	0.00	0.81	7.26	6.46	0.00	4.84	3.23
90.0	0.00	3.63	0.00	0.00	4.84	0.00	0.00	0.00	0.00
135.0	0.00	0.00	5.25	0.00	4.44	0.00	0.00	0.00	0.00
180.0	6.05	6.46	0.00	5.25	0.00	0.00	0.81	4.44	6.86
225.0	0.00	0.00	1.21	0.00	0.00	0.00	0.00	0.00	0.00
270.0	0.00	1.61	0.00	0.00	0.00	0.00	1.61	0.00	11.30
315.0	0.00	13.72	0.00	0.00	1.21	0.00	0.00	8.88	16.95
360.0	0.00	7.67	4.44	5.25	0.00	0.00	0.40	0.00	5.25
C/γ(°)	180.0								
0.0	10.90								
45.0	0.00								
90.0	0.00								
135.0	0.00								
180.0	10.90								
225.0	0.00								
270.0	0.00								
315.0	0.00								
360.0	10.90								