



SGSO

Address: LIT by CARDI

Client:

LumCAT: 0017440224 KAI 3.7W 3000K 450lm

Luminaire:

Report No:

Voltage(V): 230.4700

Test No: KYZ-A251030009-05-001

Current(A): 0.0305

LampCAT: LED

Power (W): 3.7000

Lamp flux(lm): -1.0

PF: 0.5271

Number of Lamps: 1

Ballast type:

Length(mm): -80

Width(mm): -80

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 450.00

Efficiency(%): 100.00%

Lumens(lm)/Power(W): 121.62

Central intensity(cd): 217.590

Maximum intensity(cd): 224.291

Angle of maximum intensity: C=315.0 γ =10.0

Beam Angle(50%Imax): [C0/180]Total=86.1

[C90/270]Total=83.9

Field angle(10%Imax): [C0/180]Total=138.2

[C90/270]Total=139.7

Maximum s/h(1/2): C0_180=1.13 C90_270=1.12

Maximum s/h(1/4): C0_180=1.23 C90_270=1.16

Up flux rate of lamp(%): 2.82%

Down flux rate of lamp(%): 97.18%

Up flux rate of LUM(%): 2.82%

Down flux rate of LUM(%): 97.18%

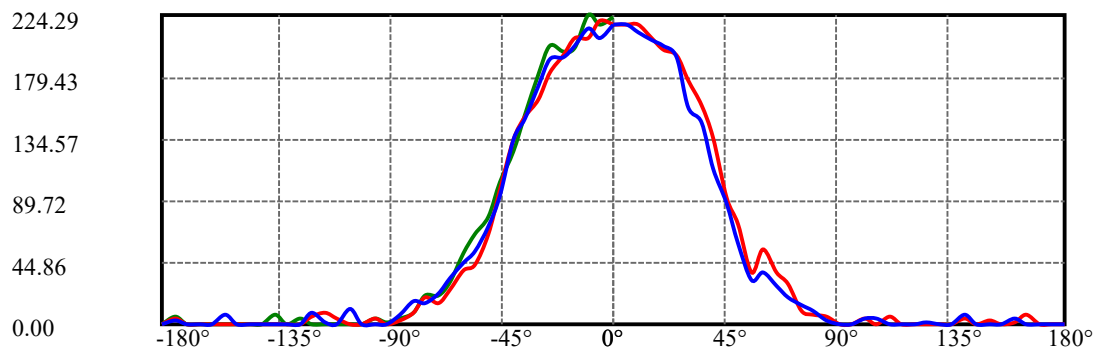
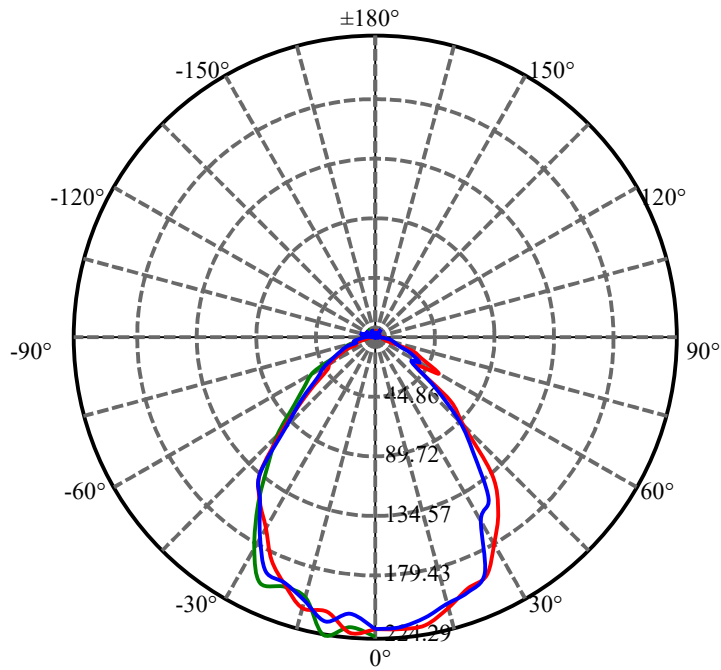
CIE Type : Direct lighting

Output flux ratio in π solid angle : 84.969%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	233.945	0.000	0	.000%	.000%
5.0	233.466	5.167	5.167	.000%	1.148%
10.0	231.973	15.395	20.562	.000%	4.569%
15.0	222.861	24.946	45.508	.000%	10.113%
20.0	218.225	33.611	79.119	.000%	17.582%
25.0	205.648	41.105	120.224	.000%	26.717%
30.0	183.426	45.526	165.75	.000%	36.833%
35.0	162.110	47.047	212.796	.000%	47.288%
40.0	134.399	45.741	258.537	.000%	57.453%
45.0	102.211	40.507	299.045	.000%	66.455%
50.0	80.842	34.200	333.245	.000%	74.055%
55.0	55.475	27.405	360.65	.000%	80.145%
60.0	46.096	21.708	382.358	.000%	84.969%
65.0	30.908	17.309	399.667	.000%	88.815%
70.0	24.567	12.988	412.655	.000%	91.701%
75.0	21.369	11.102	423.756	.000%	94.169%
80.0	11.404	8.108	431.865	.000%	95.970%
85.0	3.837	3.829	435.694	.000%	96.821%
90.0	2.452	1.592	437.286	.000%	97.175%
95.0	3.890	1.605	438.891	.000%	97.532%
100.0	3.091	1.754	440.645	.000%	97.922%
105.0	2.185	1.305	441.95	.000%	98.212%
110.0	1.812	0.966	442.916	.000%	98.426%
115.0	1.865	0.861	443.777	.000%	98.618%
120.0	5.436	1.641	445.418	.000%	98.982%
125.0	1.332	1.446	446.865	.000%	99.304%
130.0	0.053	0.279	447.143	.000%	99.366%
135.0	1.599	0.309	447.452	.000%	99.434%
140.0	1.812	0.584	448.036	.000%	99.564%
145.0	0.959	0.427	448.463	.000%	99.659%
150.0	2.078	0.414	448.877	.000%	99.751%
155.0	1.492	0.418	449.295	.000%	99.844%
160.0	0.853	0.227	449.522	.000%	99.894%
165.0	1.332	0.166	449.689	.000%	99.931%
170.0	0.959	0.126	449.814	.000%	99.959%
175.0	2.984	0.130	449.945	.000%	99.988%
180.0	1.812	0.053	449.998	.000%	100.000%

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	165.75	N.A.	36.83%
0-40	258.54	N.A.	57.45%
0-60	382.36	N.A.	84.97%
0-90	437.29	N.A.	97.18%
0-120	445.42	N.A.	98.98%
0-180	450.00	N.A.	100.00%
60-90	76.64	N.A.	17.03%
90-120	9.72	N.A.	2.16%
90-130	11.45	N.A.	2.54%
90-150	13.18	N.A.	2.93%
90-180	14.25	N.A.	3.17%
0-54.88	360.00	N.A.	80.00%

ZONAL LUMEN SUMMARY	
0-10	20.56
10-20	58.56
20-30	86.63
30-40	92.79
40-50	74.71
50-60	49.11
60-70	30.30
70-80	19.21
80-90	5.42
90-100	3.36
100-110	2.27
110-120	2.50
120-130	1.72
130-140	0.89
140-150	0.84
150-160	0.65
160-170	0.29
170-180	0.13



C315(Max):

C0/C180:

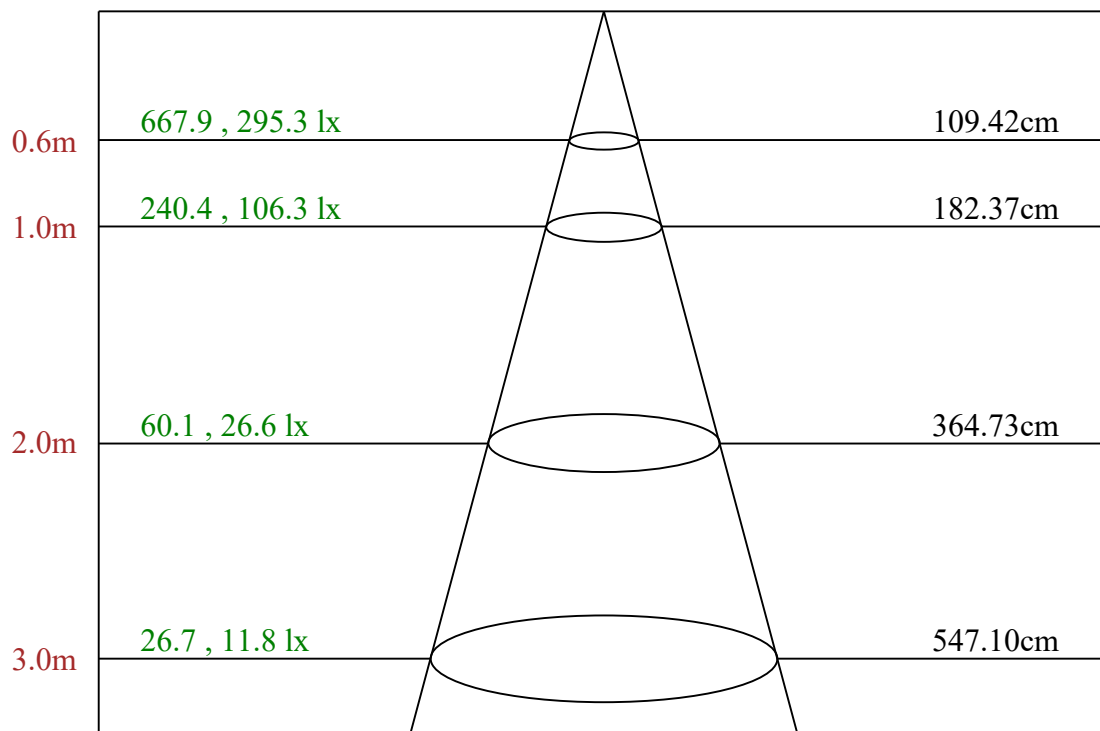
C90/C270:

Field angle(10%Imax):C0/180Left:61.4 Right:76.8

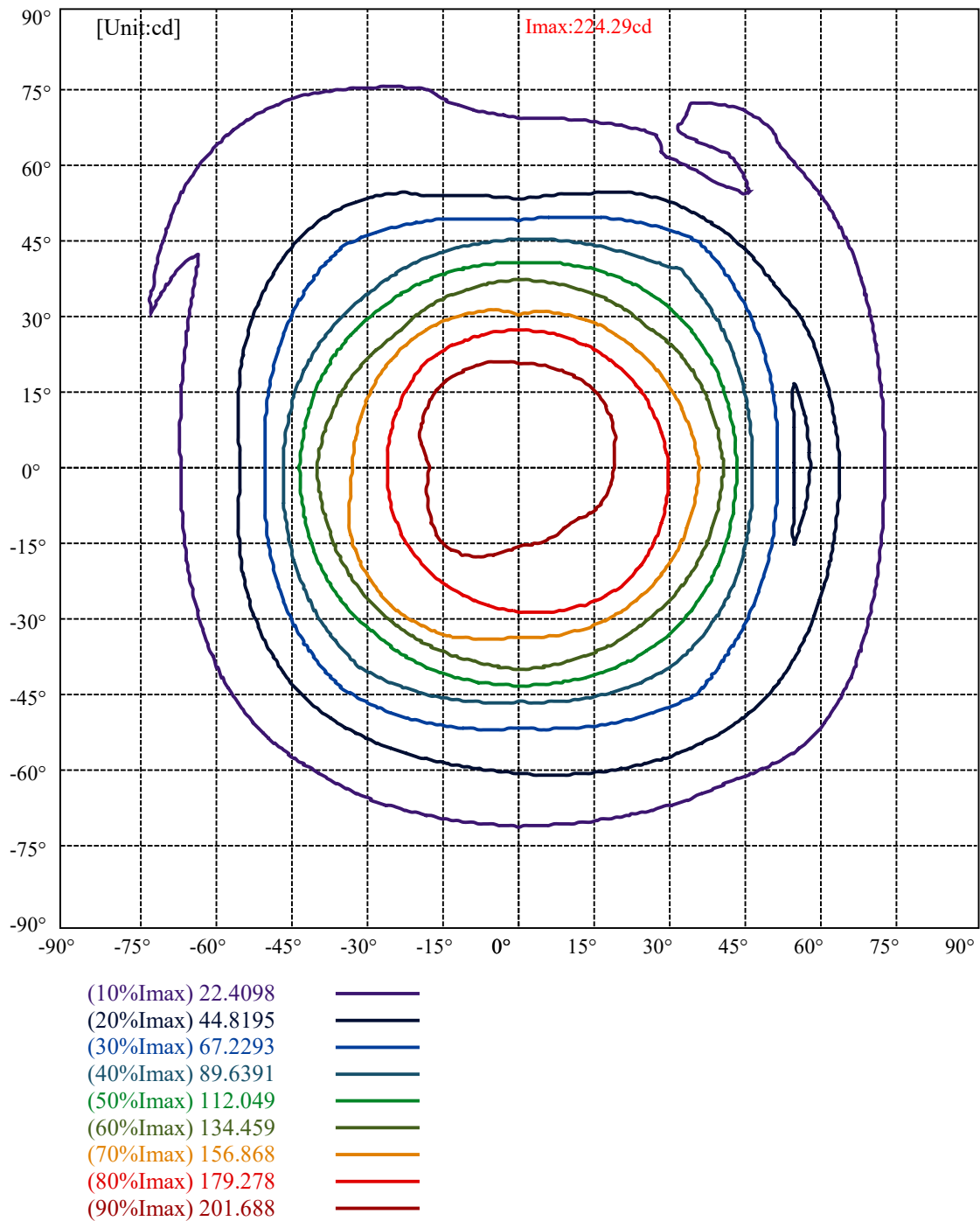
:C90/270Left:70.7 Right:69.0

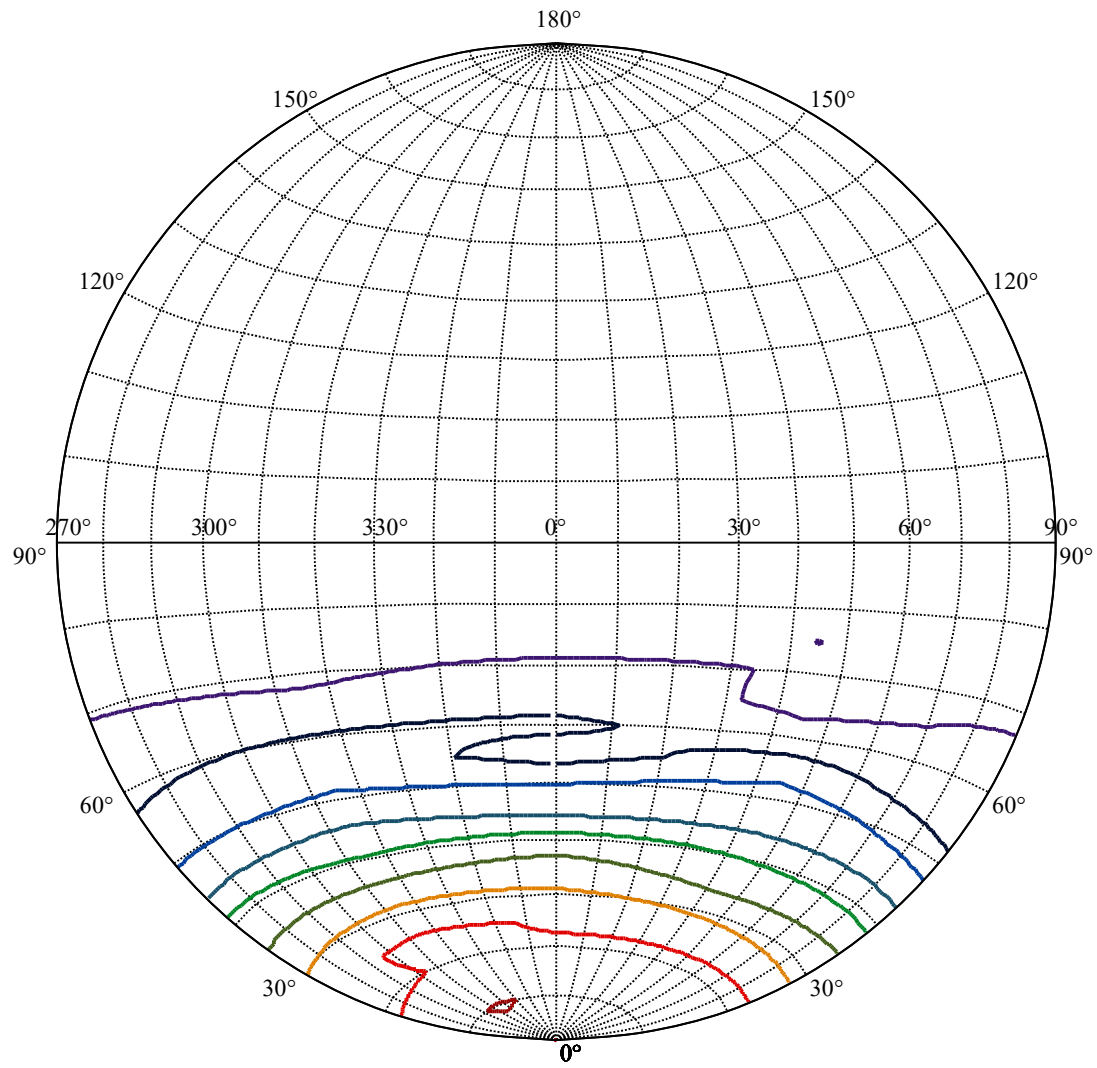
Beam Angle(50%Imax):C0/180Left:38.2 Right:47.9

:C90/270Left:43.1 Right:40.8



Max , Ave Beam angle of C315 plane 84.72



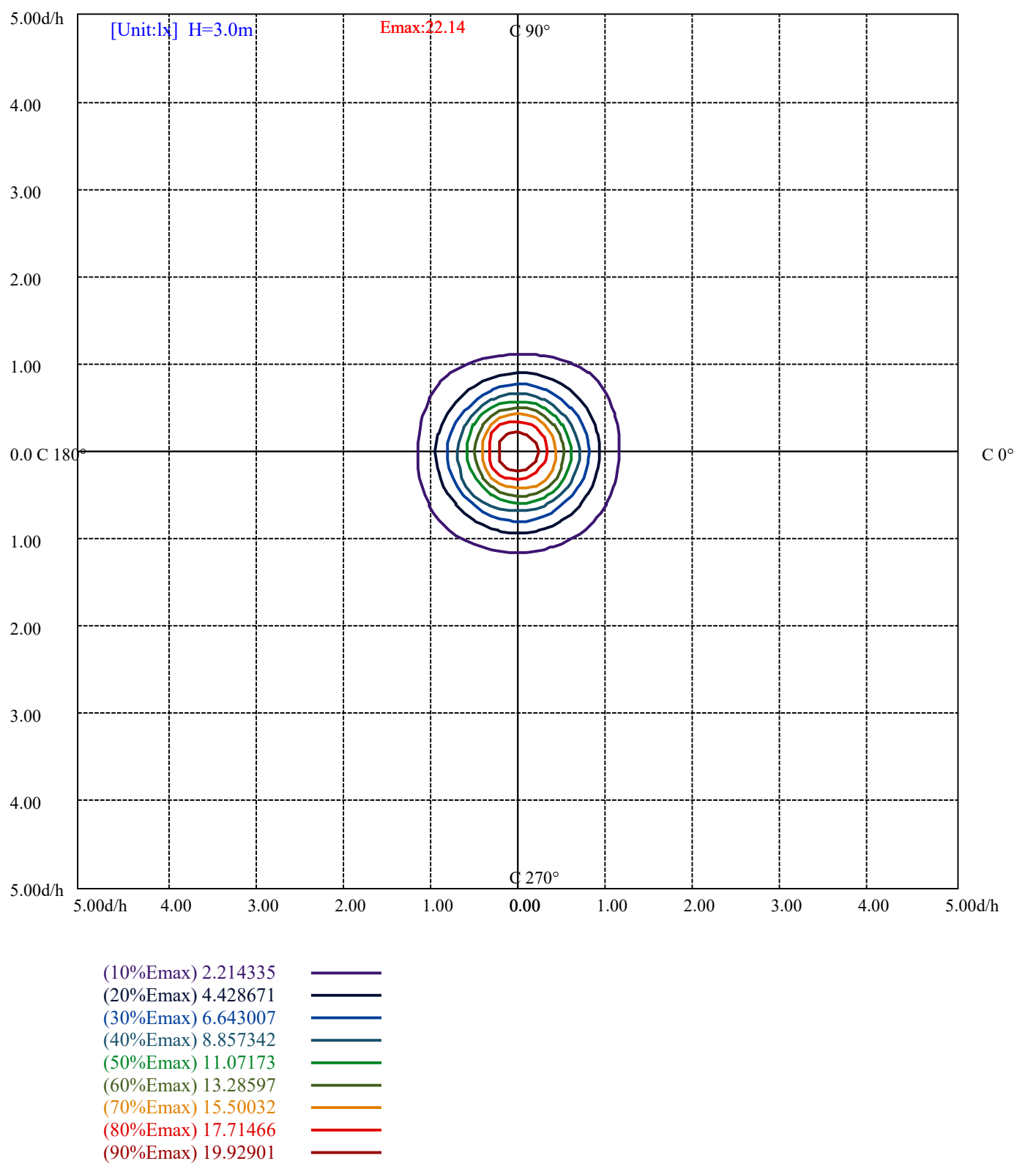


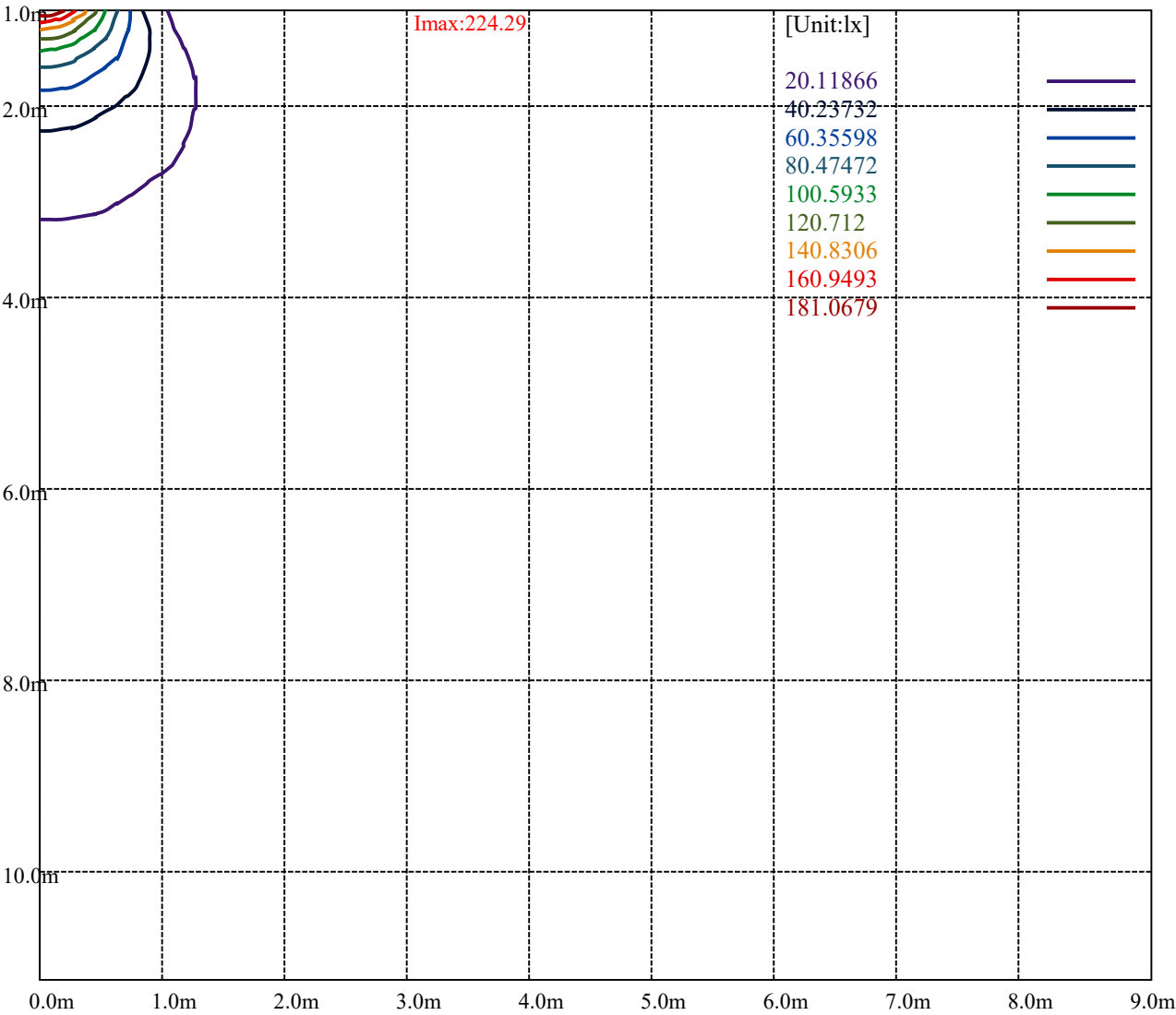
House

[Unit:cd]

Road

Imax:224.29	
(10%Imax) 22.80272	
(20%Imax) 45.60534	
(30%Imax) 68.40807	
(40%Imax) 91.21078	
(50%Imax) 114.0131	
(60%Imax) 136.8159	
(70%Imax) 159.6187	
(80%Imax) 182.4216	
(90%Imax) 205.2244	





Luminance Table

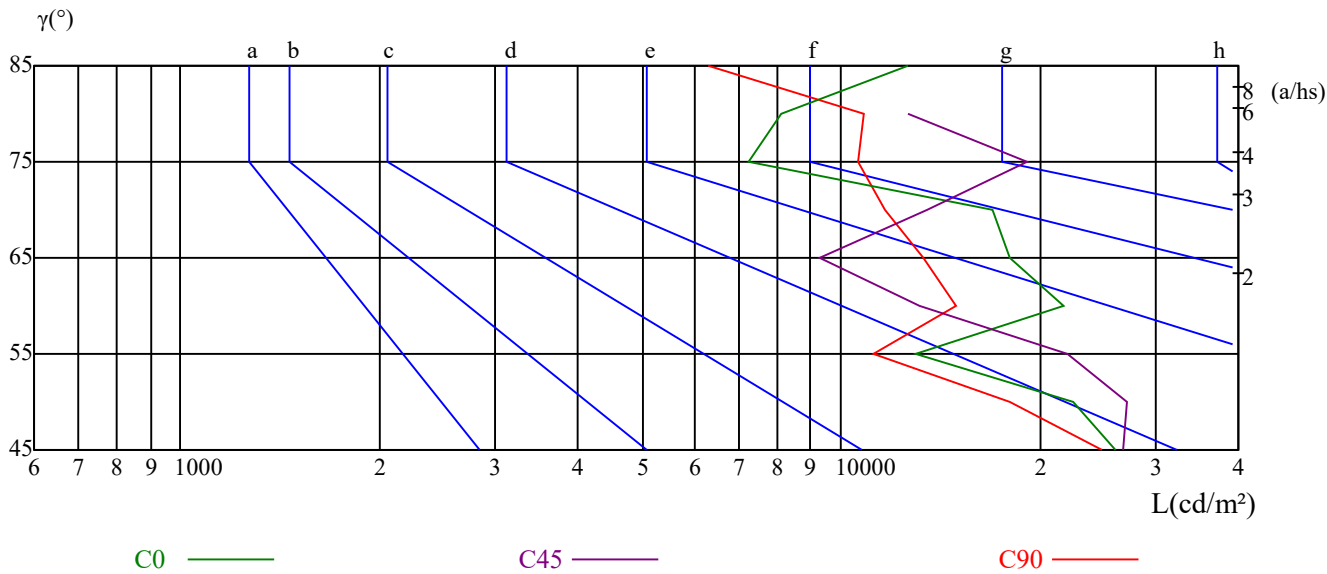
γ	45	50	55	60	65	70	75	80	85
C0	26062	22448	12989	21801	17999	16967	7272	8129	12598
C45	26839	27084	22012	13175	9278	13528	19088	12645	0
C90	24842	18056	11211	14900	13360	11694	10605	10839	6298

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
14845	14473	12247	11211	11059	19240	9898	11697	5399

Glare Table

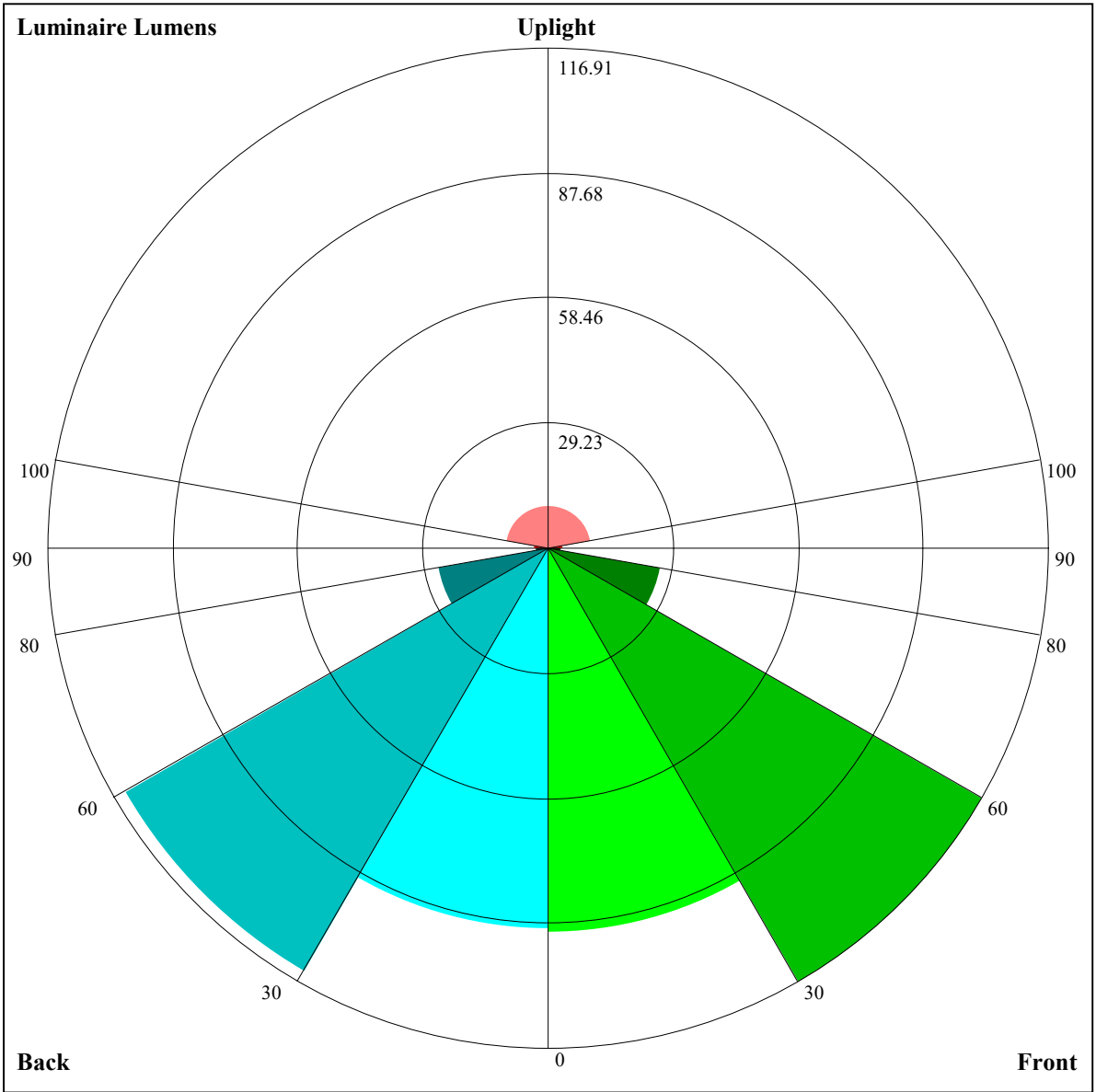
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	17.93	19.32	18.33	19.69	20.08	17.08	18.47	17.49	18.85	19.23
	3H	19.12	20.37	19.55	20.77	21.18	18.00	19.25	18.43	19.65	20.06
	4H	19.39	20.56	19.83	20.97	21.41	18.46	19.63	18.90	20.04	20.48
	6H	19.54	20.62	20.00	21.05	21.51	18.84	19.93	19.30	20.35	20.82
	8H	19.58	20.62	20.04	21.06	21.53	18.92	19.97	19.38	20.40	20.87
	12H	19.64	20.63	20.10	21.08	21.56	18.93	19.93	19.40	20.37	20.85
4H	2H	18.13	19.30	18.57	19.71	20.15	17.40	18.57	17.84	18.98	19.41
	3H	19.57	20.55	20.03	21.00	21.48	18.61	19.60	19.07	20.04	20.52
	4H	20.06	20.93	20.54	21.40	21.91	19.35	20.23	19.84	20.70	21.20
	6H	20.29	21.06	20.80	21.56	22.07	19.84	20.62	20.35	21.11	21.62
	8H	20.39	21.11	20.91	21.61	22.14	19.98	20.71	20.51	21.21	21.74
	12H	20.50	21.18	21.03	21.67	22.24	20.03	20.70	20.56	21.20	21.77
8H	4H	20.36	21.08	20.88	21.58	22.11	19.76	20.49	20.28	20.99	21.52
	6H	20.69	21.30	21.23	21.81	22.38	20.36	20.96	20.90	21.48	22.05
	8H	20.88	21.41	21.44	21.97	22.52	20.58	21.11	21.14	21.67	22.22
	12H	21.02	21.46	21.59	22.02	22.60	20.64	21.08	21.21	21.64	22.21
12H	4H	20.37	21.04	20.89	21.53	22.10	19.78	20.45	20.30	20.94	21.51
	6H	20.77	21.29	21.33	21.85	22.41	20.44	20.96	21.00	21.52	22.08
	8H	20.93	21.37	21.50	21.93	22.50	20.63	21.07	21.20	21.63	22.20
Variation with the observer position at spacings:											
S = 1.0H		0.3/-1.1					0.4/-1.0				
S = 1.5H		0.8/-1.1					0.8/-1.0				
S = 2.0H		1.4/-1.2					1.4/-1.2				
Standard tables:		BK3					BK3				
Uncorrected UGR		6.0					6.6				

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



Luminaire Lumens:

FL=89.86,FM=116.91,FH=26.61,FVH=2.96

BL=88.89,BM=114.36,BH=26.42,BVH=3.1

UL=3.63,UH=10.12

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	217.59	217.59	217.20	208.13	199.46	195.52	176.99	158.86	135.21
45.0	208.13	220.35	212.07	202.61	204.98	189.21	168.32	140.33	122.99
90.0	217.20	216.80	212.07	205.76	202.22	193.15	156.89	146.64	112.74
135.0	222.32	216.41	216.41	208.52	214.44	182.11	175.81	133.23	114.31
180.0	217.59	220.74	206.95	208.13	195.52	182.11	163.59	150.58	133.23
225.0	208.13	210.89	212.47	212.07	204.98	186.06	161.62	168.71	117.07
270.0	217.20	206.95	214.44	202.22	194.33	191.57	172.26	148.61	133.23
315.0	222.32	217.20	224.29	201.03	198.27	201.43	181.32	152.16	125.35
360.0	217.59	217.59	217.20	208.13	199.46	195.52	176.99	158.86	135.21
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	92.63	72.53	37.45	54.79	38.24	29.17	9.46	7.10	5.52
45.0	95.39	87.51	63.46	33.11	19.71	23.26	24.83	11.04	0.00
90.0	88.30	58.34	32.32	37.45	28.38	20.10	13.80	9.46	2.76
135.0	82.78	82.78	58.34	41.39	29.56	32.32	34.69	9.85	0.00
180.0	97.36	65.04	42.97	39.02	24.83	14.98	19.71	7.88	3.15
225.0	103.67	82.78	57.95	38.63	24.83	18.53	19.32	14.58	5.52
270.0	93.42	70.95	52.82	44.54	33.11	22.86	14.98	16.56	7.49
315.0	102.49	78.05	65.04	52.03	29.96	20.50	21.29	7.88	3.94
360.0	92.63	72.53	37.45	54.79	38.24	29.17	9.46	7.10	5.52
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	3.55	0.00	5.12	0.00	0.00	0.00	0.00
45.0	7.10	7.88	15.37	1.18	0.00	0.00	11.83	0.00	0.00
90.0	0.00	0.00	3.55	3.55	0.00	0.00	0.00	0.79	0.00
135.0	4.73	13.40	0.00	0.00	3.94	4.34	4.73	0.00	0.00
180.0	0.00	3.94	0.39	0.00	4.34	8.28	5.52	0.00	0.00
225.0	4.34	0.00	0.00	0.00	0.00	0.00	10.25	5.12	0.00
270.0	0.00	0.00	0.00	11.43	0.00	1.18	7.88	0.00	0.00
315.0	1.97	3.55	0.00	0.00	0.00	0.00	0.00	3.94	0.39
360.0	0.00	0.00	3.55	0.00	5.12	0.00	0.00	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	0.00	3.55	0.00	2.37	0.00	1.58	6.31	0.00	0.00
45.0	0.00	0.00	0.00	9.85	0.00	0.00	0.00	6.70	3.94
90.0	0.00	7.49	0.00	0.00	0.00	4.73	0.00	0.39	0.00
135.0	4.73	0.00	4.73	0.00	0.00	0.00	0.00	0.00	5.52
180.0	0.00	0.00	0.39	0.00	0.00	0.00	0.00	0.00	3.94
225.0	0.00	2.37	1.58	3.15	4.34	0.00	3.15	0.00	0.00
270.0	0.00	0.00	0.39	0.00	6.70	0.00	0.39	0.00	3.15
315.0	7.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.52
360.0	0.00	3.55	0.00	2.37	0.00	1.58	6.31	0.00	0.00
C/γ(°)	180.0								
0.0	0.00								
45.0	6.70								
90.0	0.00								
135.0	0.00								
180.0	0.00								
225.0	6.70								
270.0	0.00								
315.0	0.00								
360.0	0.00								