



SGSO

Address: LIT by CARDI

Client:

LumCAT: 0017440228 KAI 16.6W 3000K 2000lm

Luminaire:

Report No:

Voltage(V): 230.1700

Test No: KYZ-A251030009-01-001

Current(A): 0.0811

LampCAT: LED

Power (W): 16.6000

Lamp flux(lm): -1.0

PF: 0.8890

Number of Lamps: 1

Ballast type:

Length(mm): -249

Width(mm): -249

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 2000.00

Efficiency(%): 100.00%

Lumens(lm)/Power(W): 120.48

Central intensity(cd): 1015.362

Maximum intensity(cd): 1030.599

Angle of maximum intensity: C=90.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=84.4

[C90/270]Total=83.4

Field angle(10%Imax): [C0/180]Total=141.4

[C90/270]Total=142.8

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

Maximum s/h(1/4): C0_180=1.17 C90_270=1.19

Up flux rate of lamp(%): 0.48%

Down flux rate of lamp(%): 99.52%

Up flux rate of LUM(%): 0.48%

Down flux rate of LUM(%): 99.52%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 87.001%

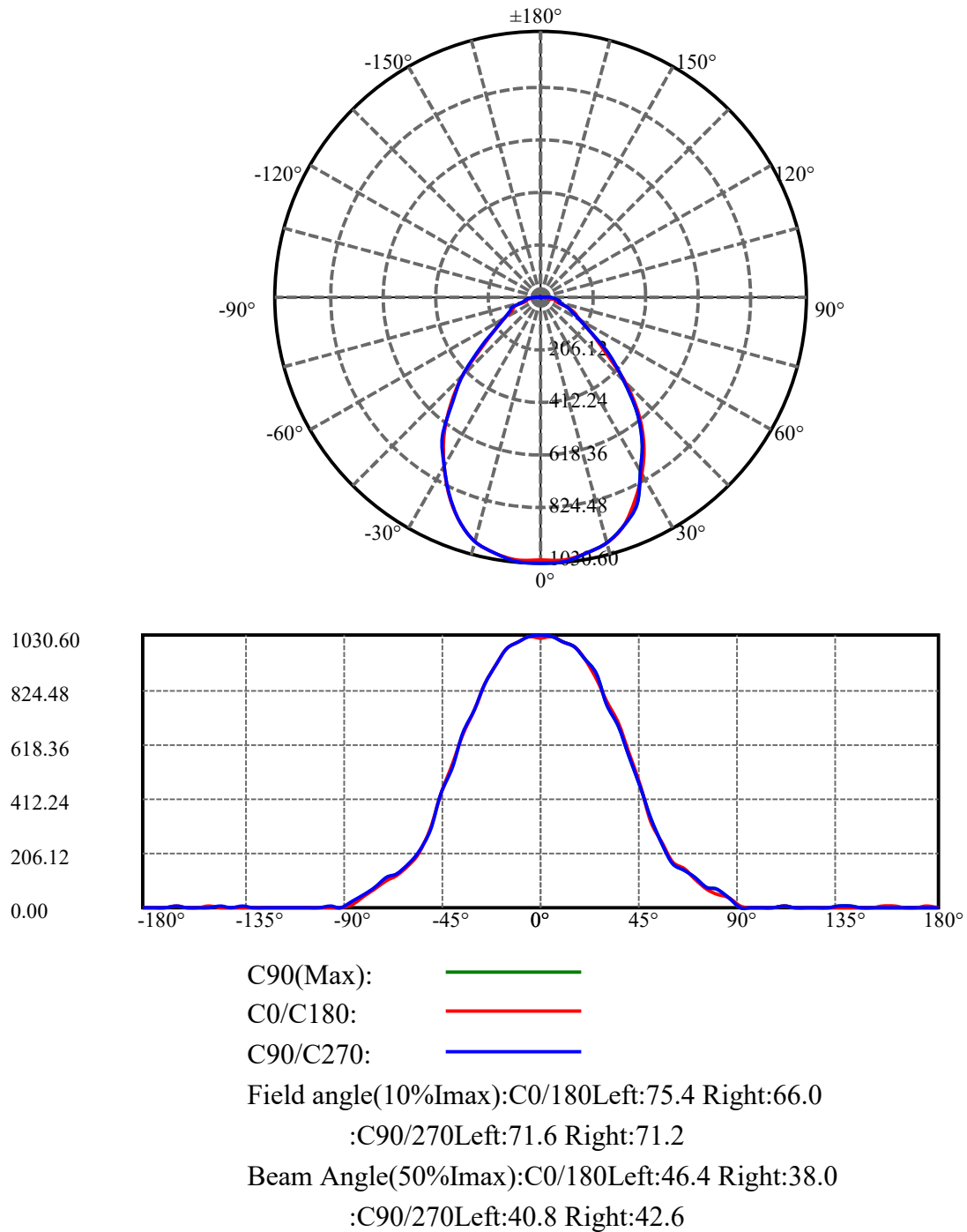
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1040.130	0.000	0	.000%	.000%
5.0	1040.722	24.463	24.463	.000%	1.223%
10.0	1025.874	72.702	97.165	.000%	4.858%
15.0	997.307	118.023	215.188	.000%	10.759%
20.0	948.943	157.737	372.925	.000%	18.646%
25.0	868.622	187.466	560.392	.000%	28.020%
30.0	776.413	204.727	765.119	.000%	38.256%
35.0	681.728	211.159	976.278	.000%	48.814%
40.0	573.433	205.940	1182.218	.000%	59.111%
45.0	452.710	186.847	1369.064	.000%	68.453%
50.0	329.620	155.459	1524.523	.000%	76.226%
55.0	235.958	120.935	1645.458	.000%	82.273%
60.0	180.062	94.566	1740.025	.000%	87.001%
65.0	141.381	76.847	1816.872	.000%	90.843%
70.0	108.511	62.225	1879.096	.000%	93.955%
75.0	78.384	48.041	1927.137	.000%	96.357%
80.0	52.937	34.555	1961.692	.000%	98.084%
85.0	26.791	21.305	1982.997	.000%	99.150%
90.0	0.699	7.402	1990.399	.000%	99.520%
95.0	1.237	0.521	1990.92	.000%	99.546%
100.0	1.775	0.805	1991.725	.000%	99.586%
105.0	0.377	0.566	1992.292	.000%	99.614%
110.0	1.237	0.415	1992.707	.000%	99.635%
115.0	1.829	0.764	1993.47	.000%	99.673%
120.0	0.377	0.527	1993.997	.000%	99.700%
125.0	0.484	0.196	1994.193	.000%	99.710%
130.0	0.753	0.265	1994.458	.000%	99.723%
135.0	2.690	0.684	1995.142	.000%	99.757%
140.0	4.143	1.244	1996.386	.000%	99.819%
145.0	2.421	1.077	1997.463	.000%	99.873%
150.0	3.013	0.787	1998.25	.000%	99.912%
155.0	2.744	0.716	1998.966	.000%	99.948%
160.0	2.206	0.510	1999.477	.000%	99.974%
165.0	1.452	0.296	1999.773	.000%	99.989%
170.0	0.592	0.119	1999.892	.000%	99.994%
175.0	1.453	0.072	1999.964	.000%	99.998%
180.0	1.829	0.039	2000.003	.000%	100.000%

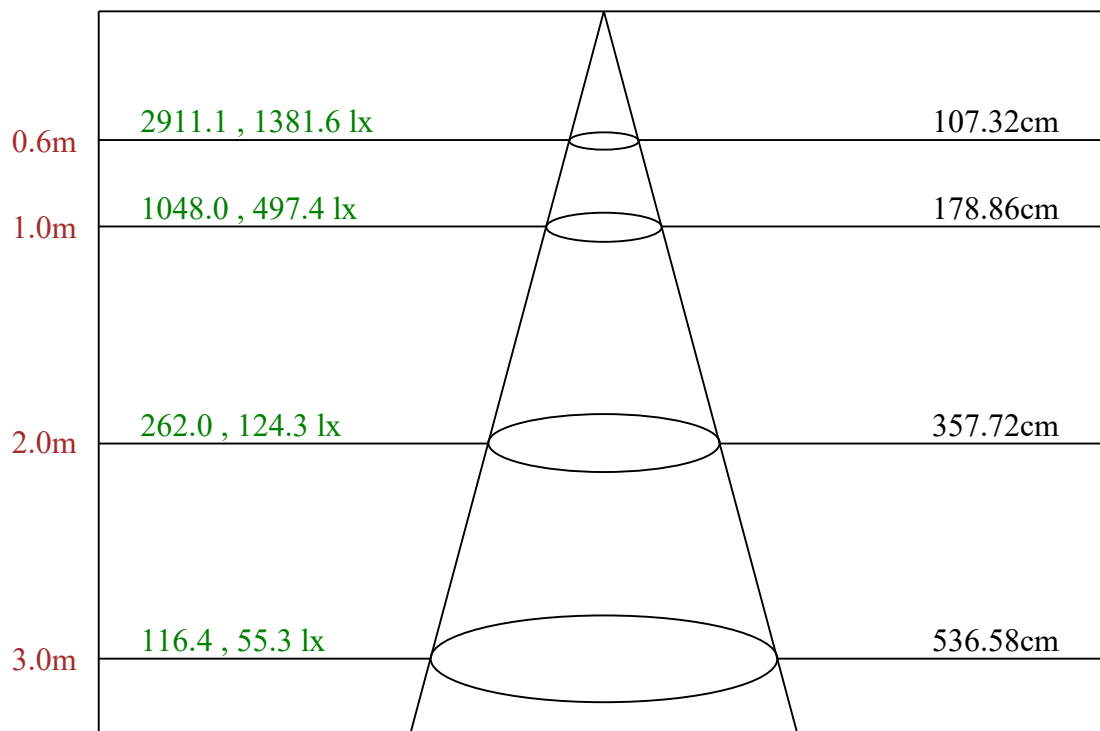
Zonal flux distribution table

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	765.12	N.A.	38.26%
0-40	1182.22	N.A.	59.11%
0-60	1740.02	N.A.	87.00%
0-90	1990.40	N.A.	99.52%
0-120	1994.00	N.A.	99.70%
0-180	2000.00	N.A.	100.00%
60-90	344.94	N.A.	17.25%
90-120	11.00	N.A.	0.55%
90-130	11.46	N.A.	0.57%
90-150	15.25	N.A.	0.76%
90-180	16.97	N.A.	0.85%
0-53.12	1600.00	N.A.	80.00%

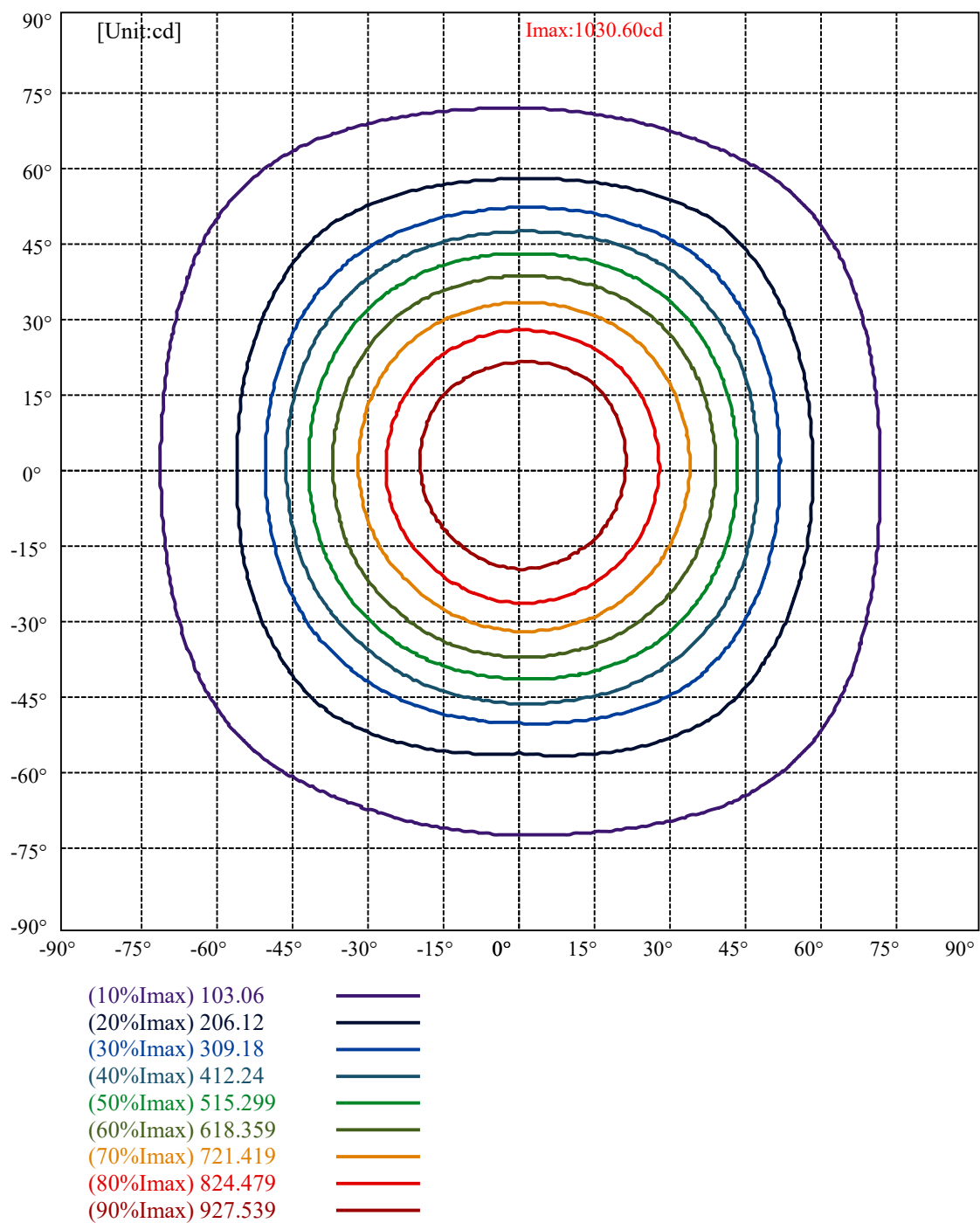
ZONAL LUMEN SUMMARY

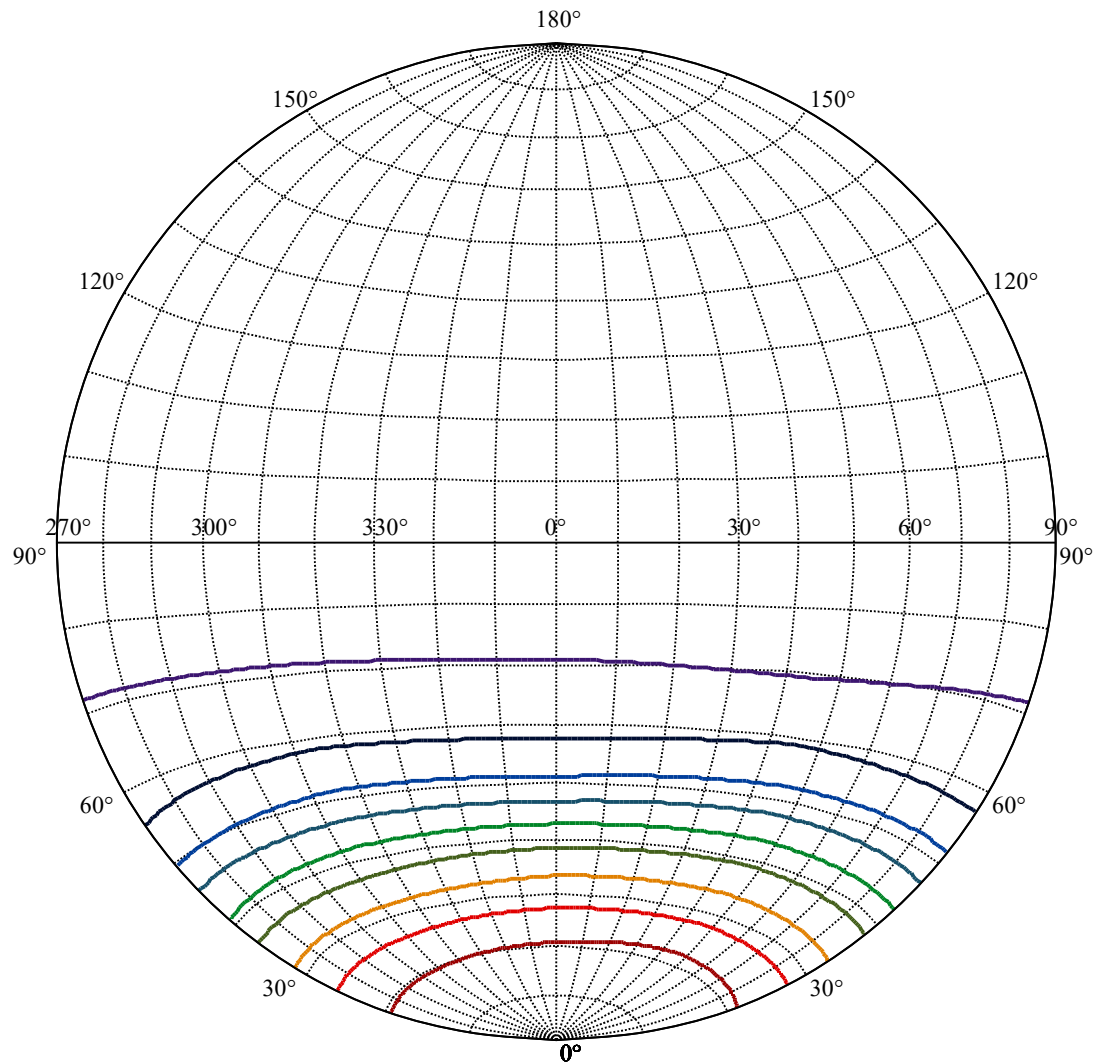
0-10	97.17
10-20	275.76
20-30	392.19
30-40	417.10
40-50	342.31
50-60	215.50
60-70	139.07
70-80	82.60
80-90	28.71
90-100	1.33
100-110	0.98
110-120	1.29
120-130	0.46
130-140	1.93
140-150	1.86
150-160	1.23
160-170	0.42
170-180	0.07





Max , Ave Beam angle of C90 plane 83.61



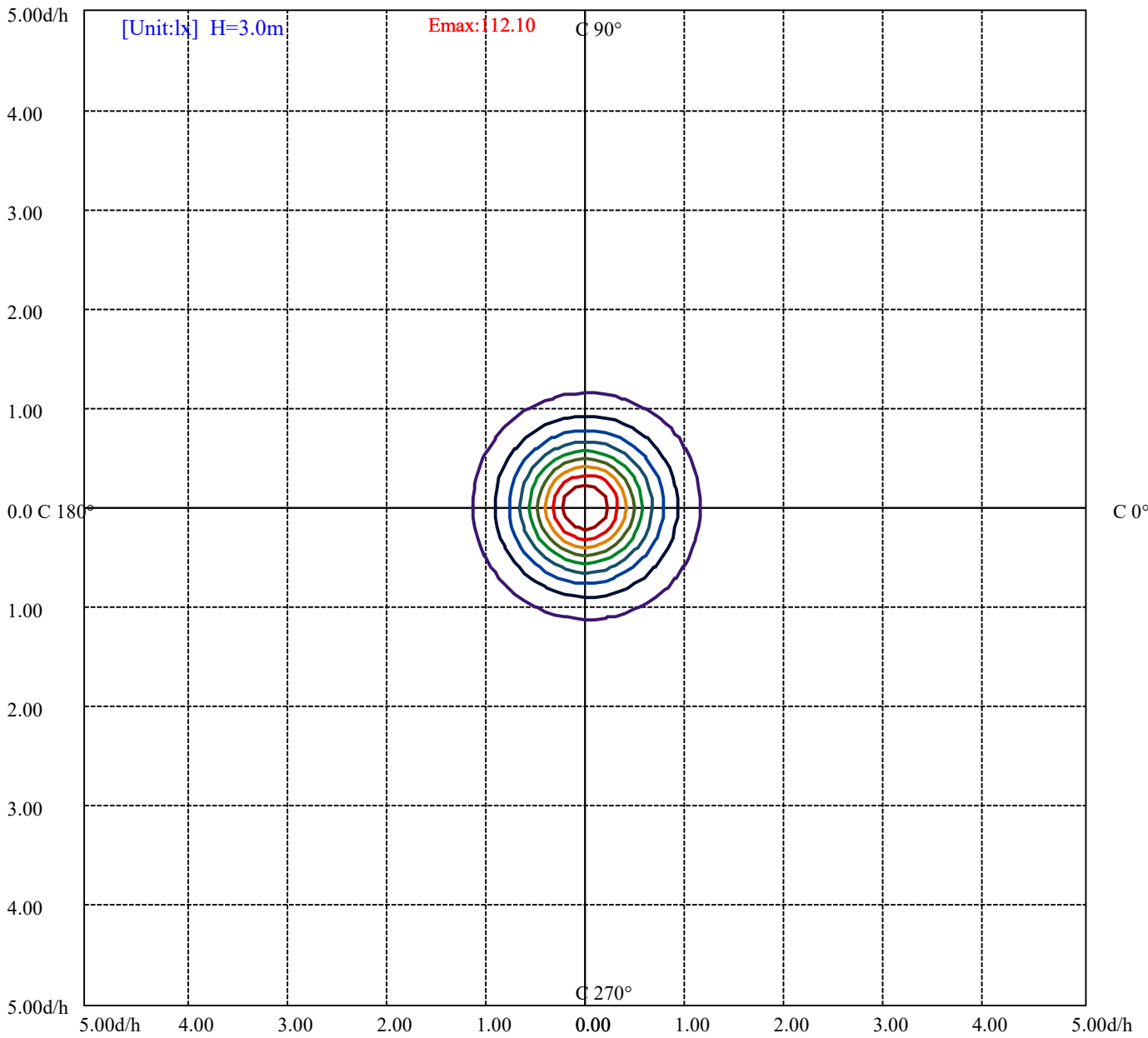


House

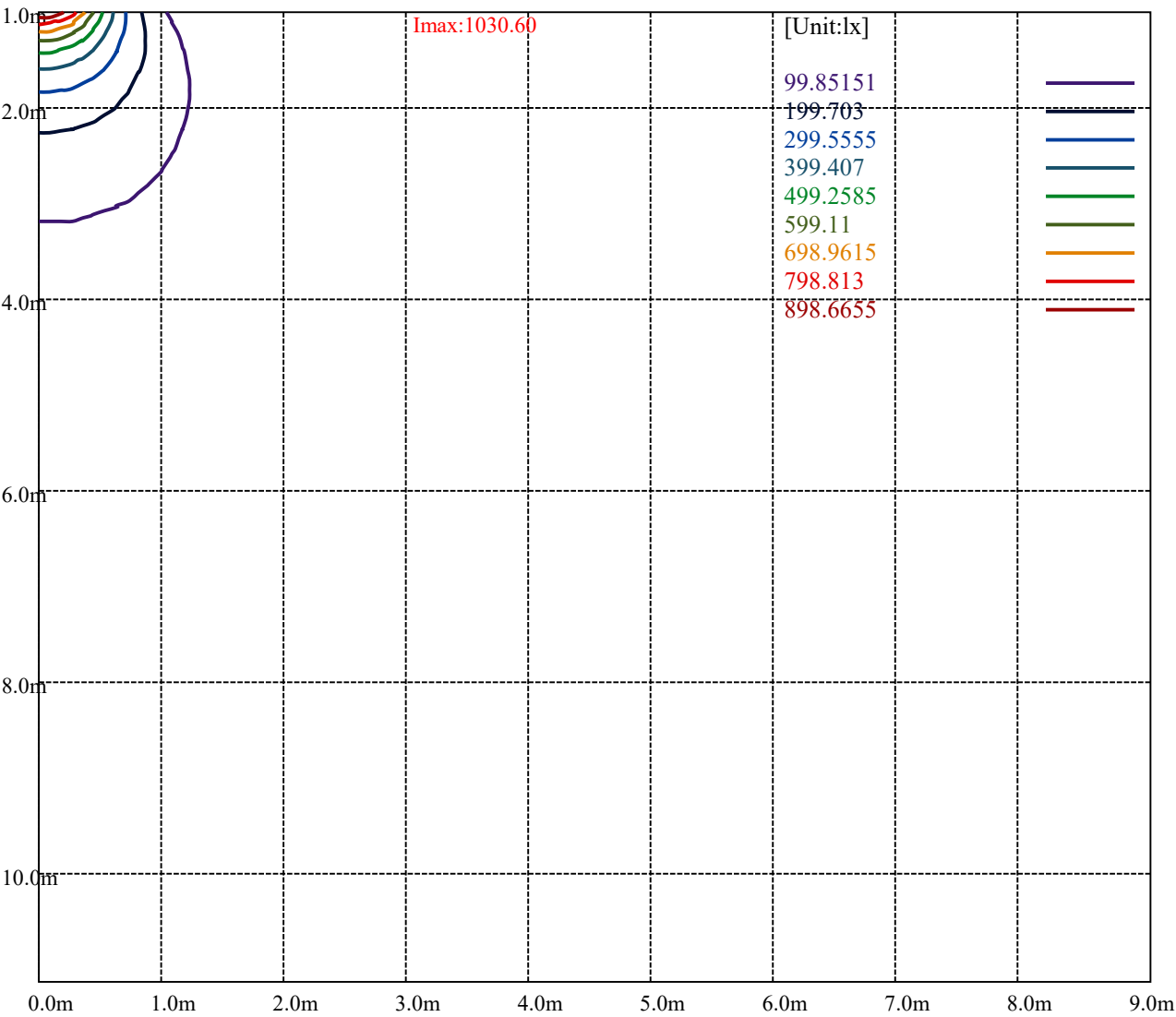
[Unit:cd]

Road

Imax:1030.60	
(10%Imax) 101.3502	
(20%Imax) 202.7004	
(30%Imax) 304.0507	
(40%Imax) 405.4009	
(50%Imax) 506.7502	
(60%Imax) 608.1003	
(70%Imax) 709.4506	
(80%Imax) 810.8008	
(90%Imax) 912.151	



(10%Emax) 11.21022	—
(20%Emax) 22.42054	—
(30%Emax) 33.63076	—
(40%Emax) 44.84098	—
(50%Emax) 56.0512	—
(60%Emax) 67.26151	—
(70%Emax) 78.47174	—
(80%Emax) 89.68196	—
(90%Emax) 100.8922	—



Luminance Table

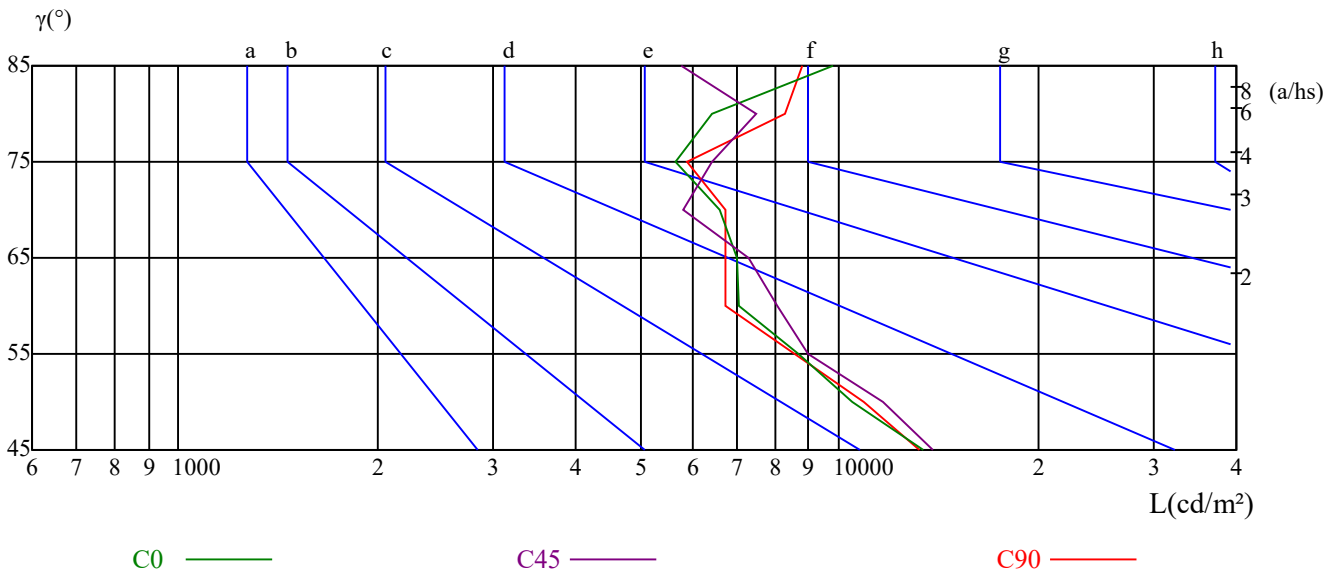
γ	45	50	55	60	65	70	75	80	85
C0	13435	10506	8683	7040	7034	6607	5642	6407	9773
C45	13841	11642	8971	8048	7322	5794	6414	7508	5784
C90	13238	10899	8547	6727	6725	6734	5877	8309	8776

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6519	6550	6977	5642	5944	6439	6731	7180	5460

Glare Table

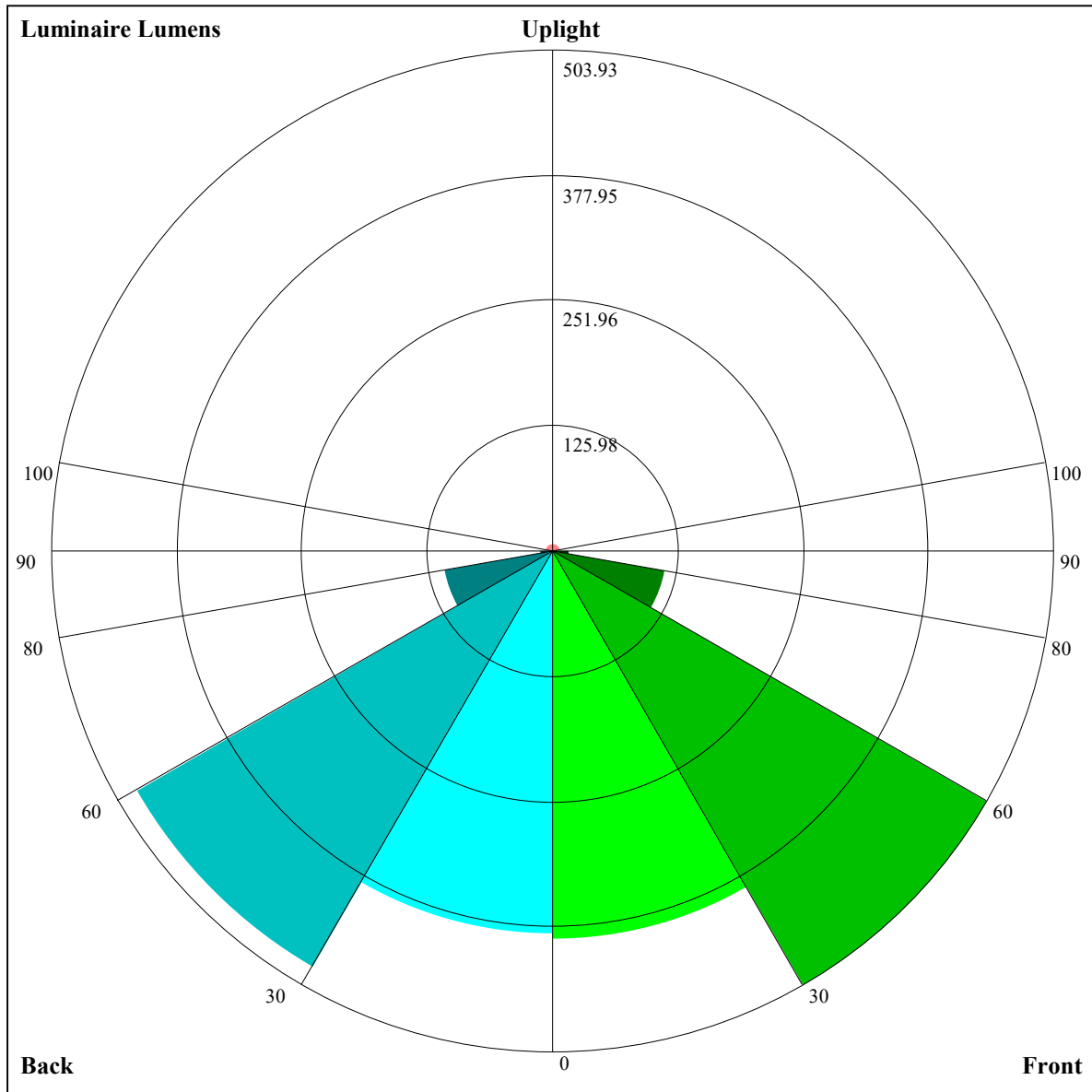
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	14.97	16.41	15.34	16.73	17.06	14.91	16.35	15.28	16.68	17.00
	3H	15.97	17.27	16.36	17.61	17.97	15.92	17.21	16.31	17.56	17.91
	4H	16.37	17.58	16.77	17.94	18.31	16.35	17.56	16.75	17.92	18.29
	6H	16.79	17.91	17.20	18.29	18.69	16.94	18.06	17.35	18.44	18.84
	8H	16.99	18.07	17.41	18.46	18.87	17.22	18.30	17.64	18.68	19.10
	12H	17.23	18.26	17.66	18.66	19.08	17.43	18.46	17.86	18.86	19.28
4H	2H	15.38	16.59	15.78	16.95	17.32	15.33	16.54	15.73	16.90	17.27
	3H	16.53	17.55	16.96	17.95	18.37	16.49	17.51	16.92	17.91	18.33
	4H	17.11	18.01	17.55	18.44	18.89	17.11	18.01	17.55	18.44	18.89
	6H	17.66	18.46	18.13	18.92	19.37	17.86	18.66	18.33	19.11	19.57
	8H	17.98	18.72	18.46	19.18	19.66	18.25	19.00	18.74	19.46	19.93
	12H	18.33	19.02	18.82	19.47	19.99	18.56	19.26	19.05	19.71	20.23
8H	4H	17.33	18.08	17.82	18.54	19.01	17.34	18.09	17.82	18.54	19.02
	6H	18.08	18.70	18.58	19.18	19.69	18.28	18.91	18.78	19.39	19.90
	8H	18.55	19.09	19.07	19.61	20.11	18.83	19.38	19.36	19.89	20.40
	12H	19.01	19.47	19.55	19.99	20.51	19.24	19.70	19.77	20.22	20.74
12H	4H	17.38	18.07	17.87	18.53	19.04	17.38	18.07	17.86	18.52	19.04
	6H	18.22	18.76	18.74	19.28	19.78	18.41	18.96	18.94	19.48	19.98
	8H	18.69	19.15	19.23	19.67	20.19	18.96	19.42	19.49	19.94	20.46
Variation with the observer position at spacings:											
S = 1.0H		0.3/-0.8					0.3/-0.8				
S = 1.5H		0.7/-1.3					0.8/-1.2				
S = 2.0H		1.2/-1.2					1.3/-1.2				
Standard tables:		BK4					BK4				
Uncorrected UGR		5.3					5.2				

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



Luminaire Lumens:

FL=390.82,FM=503.93,FH=114.44,FVH=16.83

BL=386.32,BM=483,BH=110.82,BVH=13.31

UL=1.35,UH=8.42

BUG Rating:B1-U1-G1

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	1015.36	1023.40	1005.63	986.16	940.45	865.11	783.42	696.66	587.89
45.0	1025.94	1026.37	1021.71	987.00	970.50	874.42	789.77	700.47	601.01
90.0	1030.60	1027.21	1008.17	985.31	942.99	880.77	771.15	686.92	578.57
135.0	1019.59	1023.83	1012.82	987.00	940.45	852.41	770.30	674.65	573.92
180.0	1015.36	1022.13	1007.32	978.12	919.71	846.49	750.83	651.80	542.60
225.0	1025.94	1011.55	996.32	966.69	908.28	826.17	727.13	636.14	528.63
270.0	1030.60	1024.67	1005.20	978.12	919.29	843.10	748.72	659.84	530.75
315.0	1019.59	1028.48	1013.67	977.69	923.94	845.22	766.92	656.87	567.99
360.0	1015.36	1023.40	1005.63	986.16	940.45	865.11	783.42	696.66	587.89
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	462.61	328.86	242.52	171.41	144.75	110.04	71.10	54.18	41.48
45.0	476.57	364.41	250.56	195.96	150.68	96.50	80.84	63.49	24.55
90.0	455.83	341.13	238.71	163.80	138.40	112.16	74.07	70.26	37.25
135.0	451.18	328.44	228.55	190.04	145.17	107.50	82.96	38.09	20.74
180.0	429.17	302.62	207.81	161.26	123.59	105.39	71.10	44.44	15.66
225.0	405.04	292.89	231.09	179.88	143.48	93.96	77.88	39.36	20.32
270.0	430.02	295.85	209.51	167.18	131.21	115.55	75.76	53.75	23.70
315.0	451.18	339.02	247.60	187.07	135.01	112.58	82.96	52.91	27.09
360.0	462.61	328.86	242.52	171.41	144.75	110.04	71.10	54.18	41.48
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	3.81	0.00	0.00	0.00	3.39	2.12	1.27	0.42	0.00
45.0	1.69	0.00	11.00	2.12	0.85	0.00	0.00	0.00	0.00
90.0	0.00	2.12	2.96	0.00	5.50	0.00	0.42	0.00	0.00
135.0	0.00	0.00	0.00	0.00	0.00	0.00	0.85	0.00	1.27
180.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
225.0	0.00	1.27	0.00	0.00	0.00	0.00	0.00	3.39	0.00
270.0	0.00	6.35	0.00	0.00	0.00	1.27	0.42	0.00	0.00
315.0	0.00	0.00	0.00	0.85	0.00	11.00	0.00	0.00	4.66
360.0	3.81	0.00	0.00	0.00	3.39	2.12	1.27	0.42	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	0.00	5.08	5.93	0.00	0.00	6.77
45.0	0.00	19.05	5.50	0.00	0.00	5.50	0.00	0.00	0.00
90.0	3.39	5.08	0.00	0.00	0.00	0.00	0.42	0.00	0.00
135.0	8.89	0.00	0.00	9.73	6.77	2.96	0.00	4.66	4.66
180.0	0.42	0.00	1.27	8.89	0.00	0.00	3.81	0.00	0.00
225.0	3.39	0.00	0.00	5.08	0.00	2.96	0.00	0.00	0.00
270.0	5.08	0.00	4.66	0.00	0.00	0.00	5.93	0.00	0.00
315.0	0.00	8.47	7.62	0.00	9.73	0.00	1.27	0.00	0.00
360.0	0.00	0.00	0.00	0.00	5.08	5.93	0.00	0.00	6.77
C/γ(°)	180.0								
0.0	2.12								
45.0	5.08								
90.0	0.00								
135.0	0.00								
180.0	2.12								
225.0	5.08								
270.0	0.00								
315.0	0.00								
360.0	2.12								