



SGSO

Address: LIT by CARDI

Client:

LumCAT: 0017440218 RIO 4.5W 6500K 450lm

Luminaire:

Report No:

Voltage(V): 230.3000

Test No: KYZ-A251014055-01-007

Current(A): 0.0358

LampCAT: LED

Power (W): 4.5000

Lamp flux(lm): -1.0

PF: 0.5457

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): 100.00

Central intensity(cd): 222.292

Maximum intensity(cd): 231.510

Angle of maximum intensity: C=180.0 γ =15.0

Beam Angle(50%Imax): [C0/180]Total=87.4

[C90/270]Total=85.5

Field angle(10%Imax): [C0/180]Total=139.8

[C90/270]Total=146.3

Maximum s/h(1/2): C0_180=1.18 C90_270=1.16

Maximum s/h(1/4): C0_180=1.20 C90_270=1.19

Up flux rate of lamp(%): 2.15%

Down flux rate of lamp(%): 97.85%

Up flux rate of LUM(%): 2.15%

Down flux rate of LUM(%): 97.85%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 87.179%

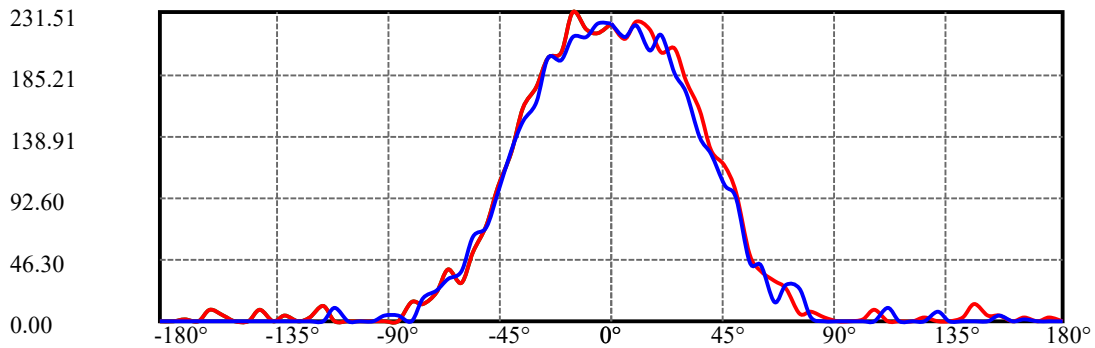
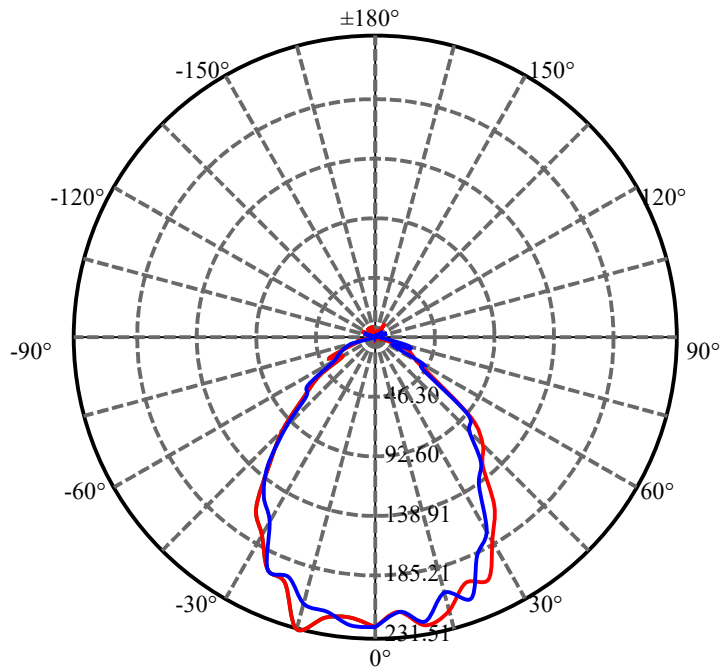
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	267.455	0.000	0	.000%	.000%
5.0	263.545	5.180	5.18	.000%	1.151%
10.0	266.097	15.462	20.642	.000%	4.587%
15.0	265.228	25.720	46.363	.000%	10.303%
20.0	252.548	34.823	81.186	.000%	18.041%
25.0	235.116	41.739	122.924	.000%	27.317%
30.0	211.955	46.170	169.095	.000%	37.577%
35.0	188.006	48.063	217.158	.000%	48.258%
40.0	155.748	46.803	263.962	.000%	58.658%
45.0	124.876	42.402	306.364	.000%	68.081%
50.0	92.292	35.810	342.174	.000%	76.039%
55.0	66.986	28.262	370.436	.000%	82.319%
60.0	48.956	21.870	392.306	.000%	87.179%
65.0	34.294	16.516	408.822	.000%	90.850%
70.0	26.773	12.618	421.44	.000%	93.654%
75.0	17.215	9.383	430.823	.000%	95.739%
80.0	10.128	5.970	436.794	.000%	97.066%
85.0	1.928	2.673	439.467	.000%	97.660%
90.0	1.874	0.849	440.316	.000%	97.848%
95.0	1.140	0.673	440.99	.000%	97.998%
100.0	1.358	0.554	441.544	.000%	98.121%
105.0	2.091	0.753	442.297	.000%	98.288%
110.0	2.009	0.875	443.171	.000%	98.483%
115.0	3.503	1.139	444.31	.000%	98.736%
120.0	1.439	0.980	445.291	.000%	98.954%
125.0	1.656	0.584	445.874	.000%	99.084%
130.0	1.385	0.540	446.414	.000%	99.203%
135.0	1.548	0.484	446.898	.000%	99.311%
140.0	2.389	0.595	447.492	.000%	99.443%
145.0	2.145	0.617	448.11	.000%	99.580%
150.0	2.091	0.509	448.619	.000%	99.693%
155.0	1.656	0.387	449.006	.000%	99.779%
160.0	1.629	0.281	449.287	.000%	99.842%
165.0	2.607	0.285	449.572	.000%	99.905%
170.0	3.258	0.284	449.856	.000%	99.968%
175.0	0.435	0.108	449.964	.000%	99.992%
180.0	3.150	0.035	449.999	.000%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	169.09	N.A.	37.58%
0-40	263.96	N.A.	58.66%
0-60	392.31	N.A.	87.18%
0-90	440.32	N.A.	97.85%
0-120	445.29	N.A.	98.95%
0-180	450.00	N.A.	100.00%
60-90	69.88	N.A.	15.53%
90-120	5.82	N.A.	1.29%
90-130	6.95	N.A.	1.54%
90-150	9.15	N.A.	2.03%
90-180	10.50	N.A.	2.33%
0-53.15	360.00	N.A.	80.00%

ZONAL LUMEN SUMMARY

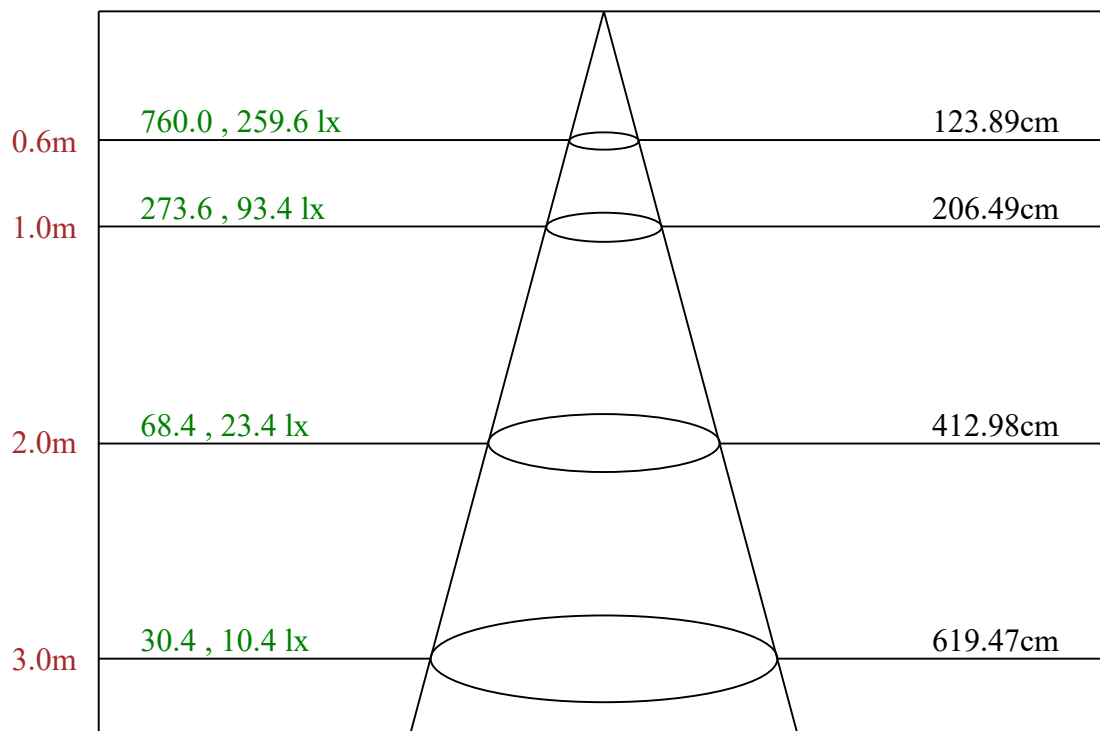
0-10	20.64
10-20	60.54
20-30	87.91
30-40	94.87
40-50	78.21
50-60	50.13
60-70	29.13
70-80	15.35
80-90	3.52
90-100	1.23
100-110	1.63
110-120	2.12
120-130	1.12
130-140	1.08
140-150	1.13
150-160	0.67
160-170	0.57
170-180	0.11

C180(Max): C0/C180: C90/C270: Field angle(10%I_{max}):C0/180Left:54.5 Right:85.3

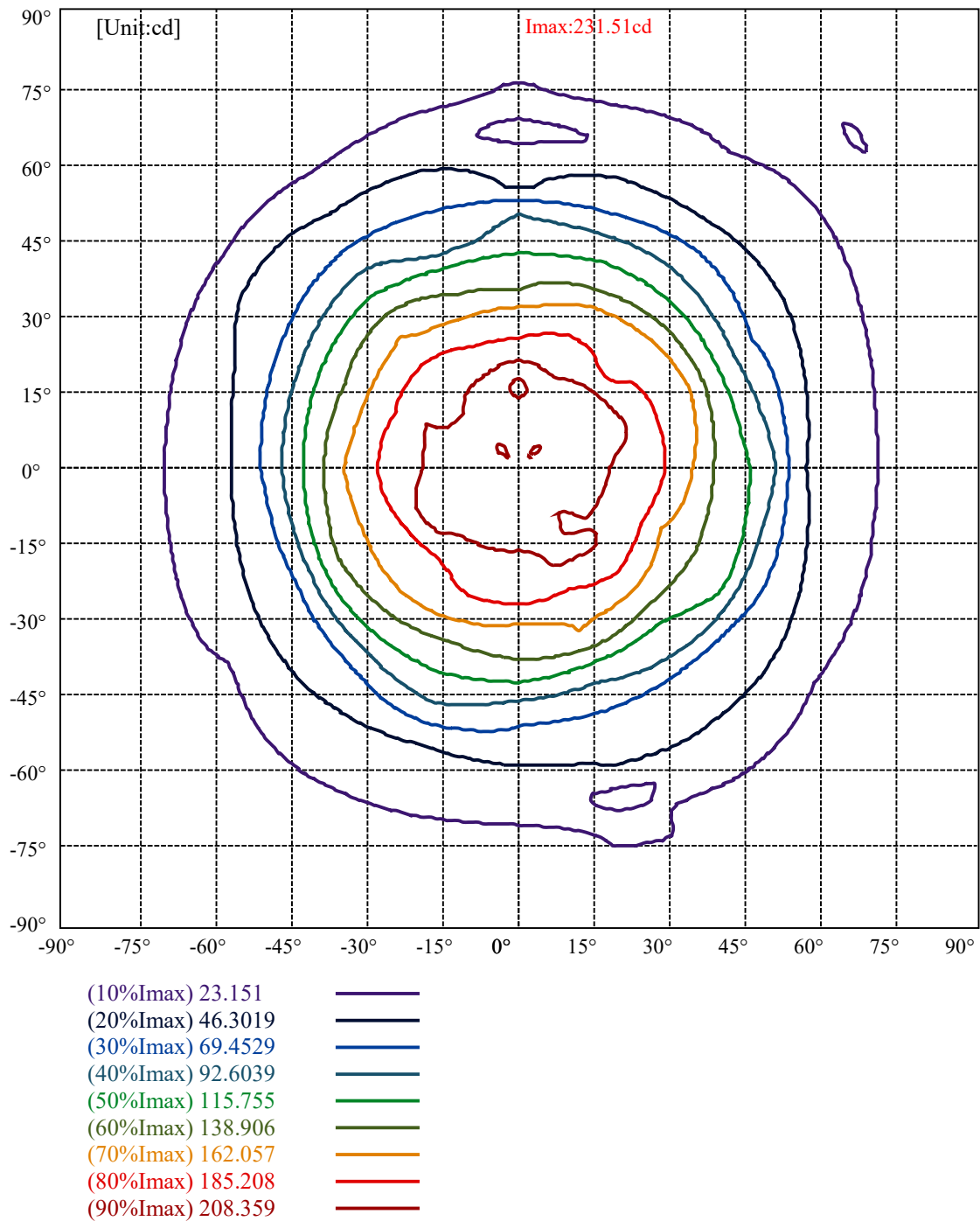
:C90/270Left:70.7 Right:75.6

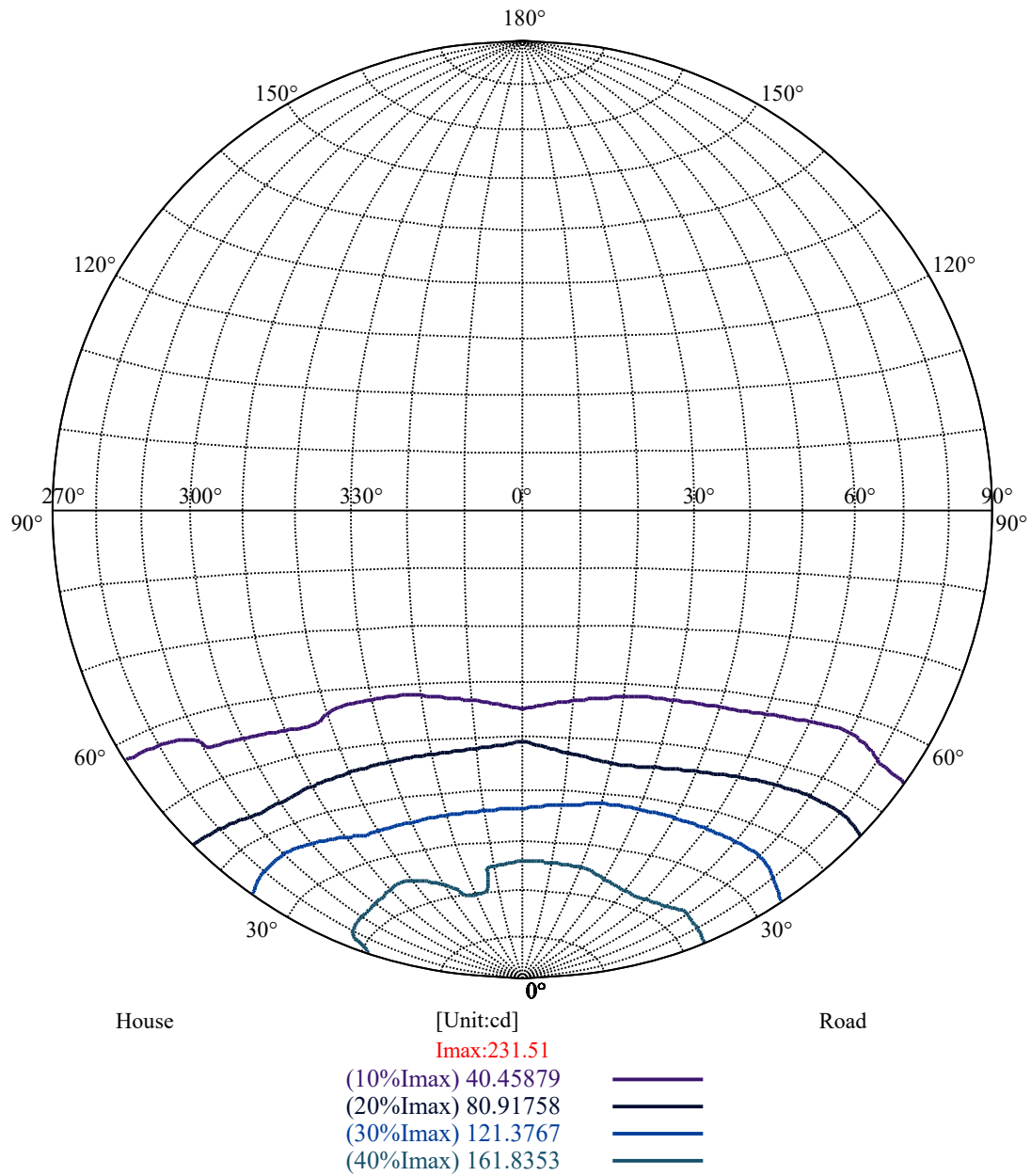
Beam Angle(50%I_{max}):C0/180Left:27.1 Right:60.3

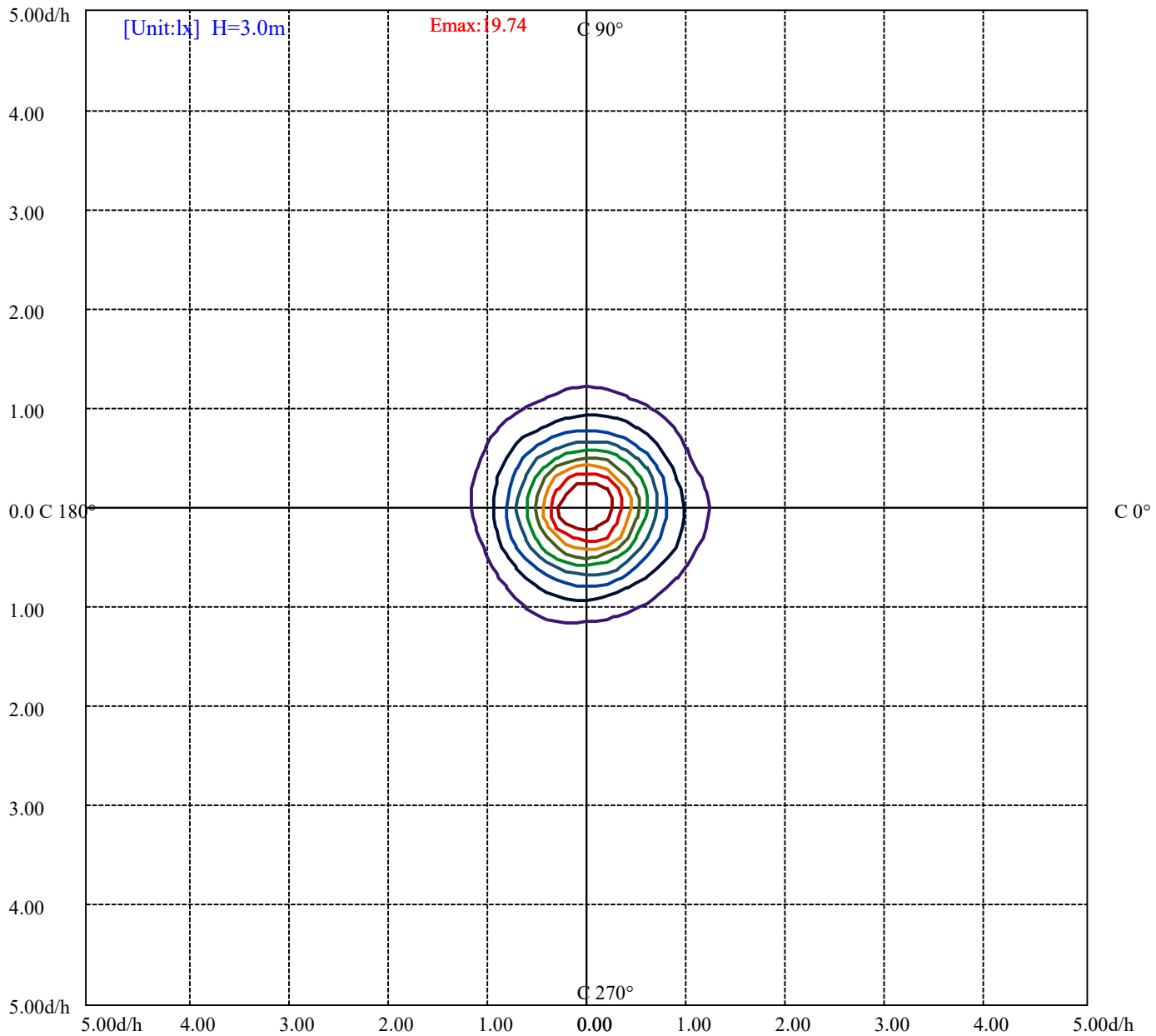
:C90/270Left:42.6 Right:42.9



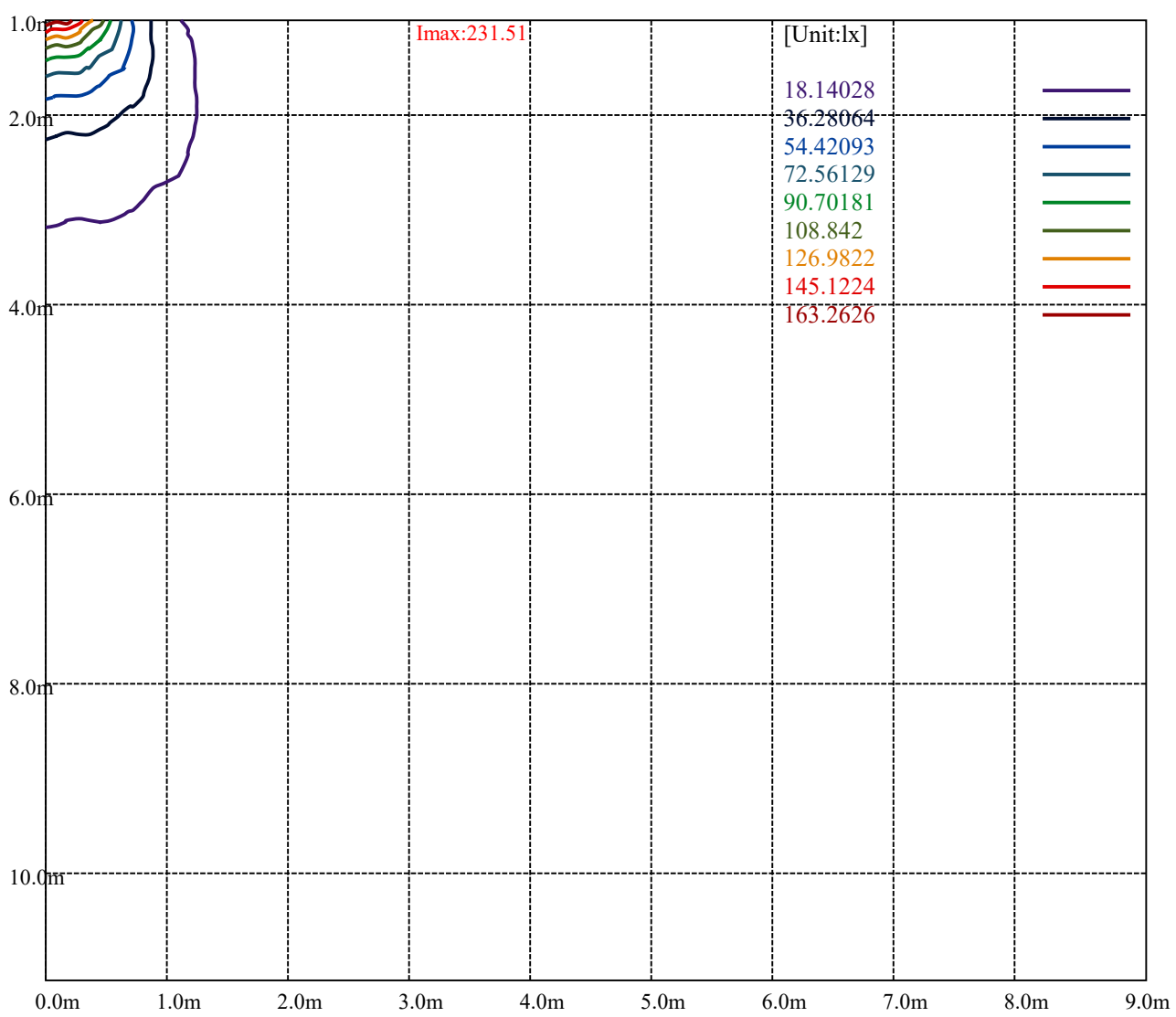
Max , Ave Beam angle of C180 plane 91.83







(10%Emax) 1.974476	—
(20%Emax) 3.948942	—
(30%Emax) 5.923418	—
(40%Emax) 7.897883	—
(50%Emax) 9.872332	—
(60%Emax) 11.84684	—
(70%Emax) 13.82134	—
(80%Emax) 15.79575	—
(90%Emax) 17.77025	—



Luminance Table

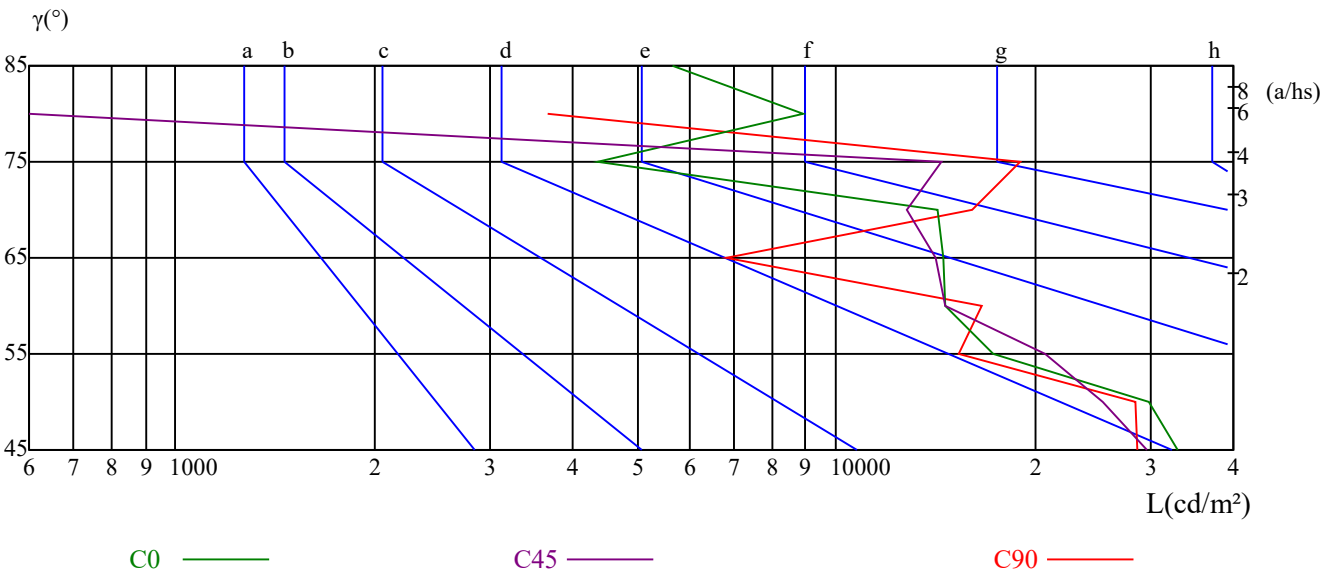
γ	45	50	55	60	65	70	75	80	85
C0	32917	29736	17339	14671	14520	14229	4360	8936	5665
C45	29525	25347	20782	14671	14186	12786	14444	406	808
C90	28528	28420	15371	16645	6843	16085	19076	3656	0

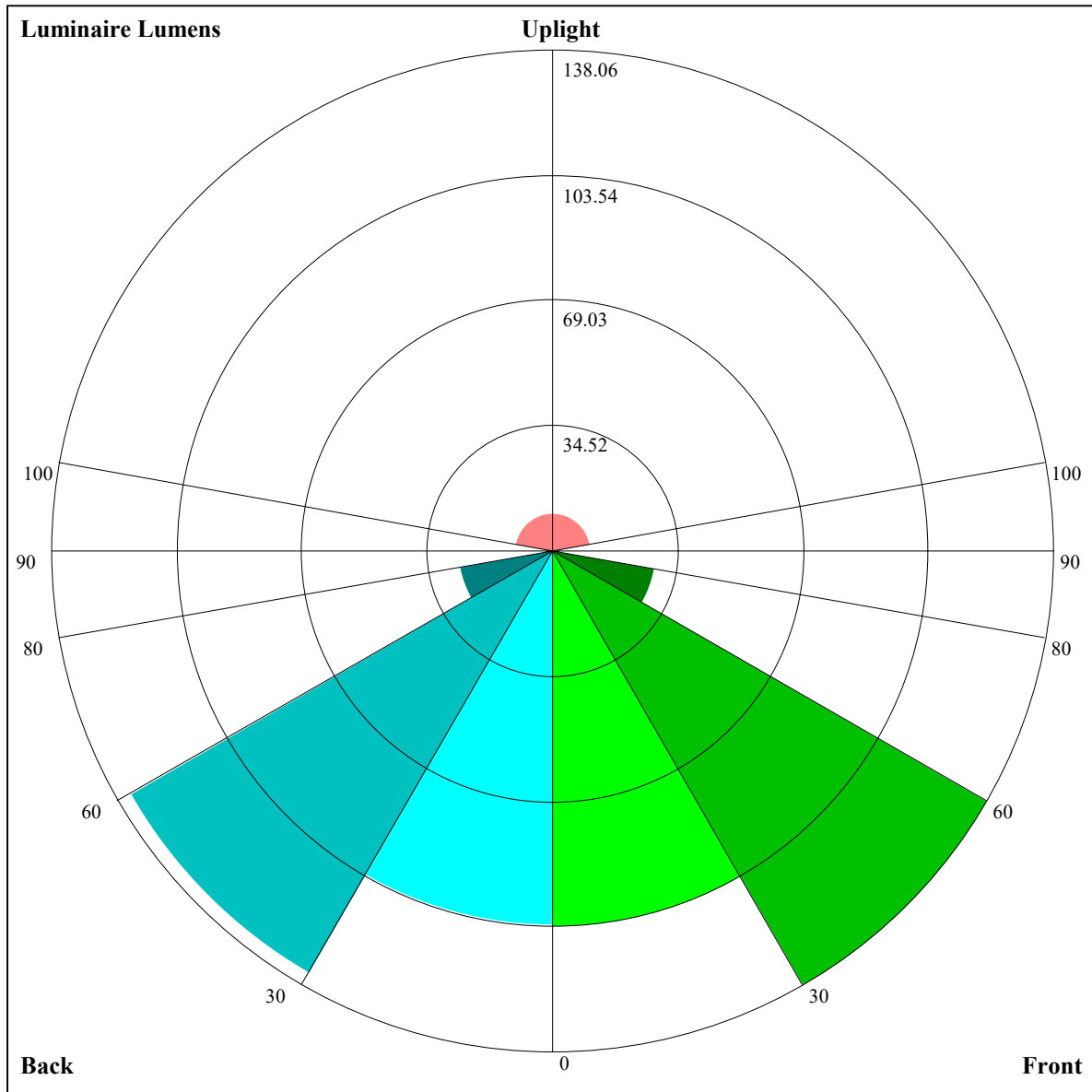
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
16522	10765	13977	6949	16215	11514	3642	4855	6879

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





Luminaire Lumens:

FL=103.73,FM=138.06,FH=28.38,FVH=1.99

BL=102.96,BM=134.51,BH=26.23,BVH=2.15

UL=1.5,UH=10.36

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	222.29	210.95	224.42	218.39	200.67	204.57	179.04	158.12	128.34
22.5	221.58	217.68	214.14	224.06	217.33	199.96	180.10	173.72	134.37
45.0	210.24	204.57	221.23	220.52	212.01	180.81	181.17	162.73	130.82
67.5	216.97	214.14	216.62	222.29	205.27	195.70	175.85	158.48	119.83
90.0	222.65	212.36	221.23	202.79	214.14	186.13	171.59	138.27	125.15
112.5	218.04	213.07	219.46	221.58	205.63	186.13	167.69	141.81	125.86
135.0	213.43	203.15	225.13	208.46	201.73	200.31	167.34	161.31	132.60
157.5	220.87	216.26	219.81	208.82	209.17	187.19	178.68	145.36	131.18
180.0	222.29	215.91	218.39	231.51	201.37	196.77	174.78	159.89	126.57
202.5	221.58	214.49	216.62	229.03	218.39	186.48	173.01	151.39	135.79
225.0	210.24	214.14	212.72	213.78	204.21	176.56	180.81	148.90	129.05
247.5	216.97	219.46	209.53	217.33	192.16	191.80	172.66	145.00	122.67
270.0	222.65	222.29	213.43	212.36	195.70	197.12	163.44	148.90	128.70
292.5	218.04	225.84	211.66	212.01	210.95	188.26	164.15	161.67	118.41
315.0	213.43	212.36	209.53	205.27	211.66	198.89	175.49	146.78	115.93
337.5	220.87	224.42	220.52	214.85	197.12	193.22	161.67	152.45	128.34
360.0	222.29	210.95	224.42	218.39	200.67	204.57	179.04	158.12	128.34
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	117.00	96.08	49.99	36.87	30.84	24.46	5.67	7.80	2.48
22.5	102.11	70.55	61.33	41.83	24.11	25.53	8.51	26.24	5.67
45.0	104.94	81.90	59.92	36.87	30.14	21.98	18.79	0.35	0.35
67.5	112.74	78.71	57.08	42.90	26.24	29.78	13.12	11.70	0.00
90.0	101.40	91.82	44.32	41.83	14.54	27.65	24.82	3.19	0.00
112.5	83.67	78.71	57.79	46.80	35.45	24.46	13.12	3.54	0.00
135.0	106.71	81.90	56.37	43.61	26.24	12.76	6.38	0.00	6.38
157.5	100.33	74.45	53.53	51.41	26.94	14.89	14.18	9.57	0.00
180.0	100.69	71.62	52.47	28.72	39.35	21.27	12.41	13.83	0.71
202.5	91.11	53.89	52.83	34.04	21.98	17.73	7.80	7.80	0.00
225.0	95.37	64.88	56.02	26.59	30.49	18.79	13.12	8.15	5.32
247.5	108.49	84.73	51.76	32.97	34.04	21.98	9.93	13.83	0.00
270.0	95.72	70.20	63.46	37.94	31.20	23.04	17.37	0.00	4.25
292.5	88.28	68.78	48.57	47.51	19.14	24.82	24.11	10.28	0.00
315.0	101.40	63.11	47.86	46.09	31.91	20.92	21.63	7.44	0.00
337.5	120.54	73.74	61.33	43.25	25.17	19.50	13.83	8.51	0.00
360.0	117.00	96.08	49.99	36.87	30.84	24.46	5.67	7.80	2.48
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	1.42	9.22	0.00	0.00	0.00	2.48	0.00
22.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.54	4.61
45.0	1.77	0.00	0.00	6.38	0.00	7.80	0.71	1.06	0.00
67.5	0.00	0.00	4.25	0.00	0.00	1.06	12.05	11.34	0.00
90.0	0.00	0.00	0.00	0.00	9.57	0.00	0.00	0.00	7.80
112.5	2.13	6.03	1.06	0.00	0.35	0.00	0.35	0.00	0.00
135.0	4.61	5.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00
157.5	0.00	0.00	0.00	2.13	6.38	0.00	0.00	2.13	0.00
180.0	0.00	0.00	0.00	0.00	0.00	12.05	2.84	0.00	3.90
202.5	7.09	3.19	0.00	0.00	0.00	0.00	0.00	1.06	0.00
225.0	0.00	0.00	10.99	4.96	0.00	7.44	0.00	0.00	0.00
247.5	4.25	0.00	0.00	0.00	0.00	10.64	2.84	0.00	1.77
270.0	4.61	0.00	0.00	0.00	9.93	0.00	0.00	0.00	0.00
292.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
315.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
337.5	0.00	0.00	0.00	4.61	0.00	6.74	0.00	0.00	0.00
360.0	0.00	0.00	1.42	9.22	0.00	0.00	0.00	2.48	0.00

Intensity data(cd)									Appendix Page: 13 Total:13	
C/ γ (°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0	
0.0	0.00	2.84	13.47	4.96	4.96	0.00	2.84	0.00	2.84	
22.5	0.00	0.00	3.90	0.00	1.06	0.71	6.74	7.80	0.00	
45.0	0.00	0.00	0.00	8.51	0.00	0.00	0.00	0.35	1.42	
67.5	10.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.42	
90.0	0.00	0.00	0.00	0.00	3.90	0.00	2.13	0.00	0.00	
112.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.96	0.00	
135.0	0.00	5.67	0.00	8.15	0.00	0.00	9.93	8.86	0.00	
157.5	0.00	0.00	0.00	0.00	0.00	4.61	0.35	8.51	0.00	
180.0	0.00	8.86	0.00	0.00	3.90	9.22	0.00	2.13	0.00	
202.5	0.00	0.00	0.00	5.67	0.00	0.00	10.28	3.90	0.00	
225.0	9.93	0.00	0.00	0.00	7.80	0.00	0.00	0.00	0.00	
247.5	0.00	0.00	3.19	0.00	0.00	2.48	0.00	0.00	0.00	
270.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
292.5	0.00	0.00	2.48	0.00	0.00	2.13	0.00	0.00	0.00	
315.0	0.00	13.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
337.5	0.00	0.00	4.96	0.00	0.00	2.13	1.77	6.03	0.00	
360.0	0.00	2.84	13.47	4.96	4.96	0.00	2.84	0.00	2.84	
C/ γ (°)	180.0									
0.0	0.00									
22.5	0.00									
45.0	13.47									
67.5	7.09									
90.0	0.00									
112.5	0.00									
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180.0	0.00									
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315.0	0.00									
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