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NATA

LumCAT: NA01D0202050CA

Luminaire:

Report No: NATA0100

Voltage(V): 3.7000

Test No: GC2018121803

Current(A): 0.2500

LampCAT: NICHIA NF2W757

Power (W): 0.9250

Lamp flux(lm): 97.0

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 20

Width(mm): 20

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 77.39

Efficiency(%): 79.79%

Lumens(lm)/Power(W): 83.68

Central intensity(cd): 78.244

Maximum intensity(cd): 149.681

Angle of maximum intensity: C=0.0 γ =9.0

Beam Angle(50%Imax): [C0/180]Total=19.9

[C90/270]Total=47.2

Field angle(10%Imax): [C0/180]Total=N.A.

[C90/270]Total=N.A.

Maximum s/h(1/2): C0_180=0.23 C90_270=0.88

Maximum s/h(1/4): C0_180=0.34 C90_270=0.85

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 79.80%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 85.551%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	76.027	0.018	0.018	.019%	.024%
1.0	76.099	0.146	0.164	.150%	.212%
2.0	76.620	0.293	0.457	.302%	.591%
3.0	77.367	0.444	0.901	.458%	1.164%
4.0	78.300	0.599	1.5	.617%	1.938%
5.0	79.376	0.759	2.259	.782%	2.918%
6.0	80.419	0.922	3.181	.950%	4.110%
7.0	81.302	1.087	4.267	1.120%	5.513%
8.0	81.959	1.251	5.518	1.290%	7.130%
9.0	82.223	1.411	6.928	1.454%	8.952%
10.0	81.909	1.560	8.488	1.608%	10.968%
11.0	81.105	1.697	10.185	1.750%	13.160%
12.0	79.725	1.818	12.003	1.874%	15.509%
13.0	77.639	1.915	13.918	1.974%	17.984%
14.0	75.197	1.995	15.913	2.057%	20.561%
15.0	72.394	2.055	17.968	2.118%	23.216%
16.0	69.211	2.092	20.06	2.157%	25.919%
17.0	65.937	2.114	22.174	2.179%	28.651%
18.0	62.461	2.117	24.29	2.182%	31.386%
19.0	59.121	2.111	26.401	2.176%	34.113%
20.0	55.620	2.086	28.487	2.151%	36.809%
21.0	52.043	2.045	30.533	2.108%	39.451%
22.0	48.731	2.002	32.534	2.064%	42.038%
23.0	45.441	1.947	34.481	2.007%	44.554%
24.0	42.209	1.883	36.364	1.941%	46.986%
25.0	39.244	1.819	38.183	1.875%	49.336%
26.0	36.384	1.749	39.932	1.803%	51.596%
27.0	33.647	1.675	41.607	1.727%	53.761%
28.0	31.050	1.599	43.206	1.648%	55.826%
29.0	28.657	1.524	44.729	1.571%	57.795%
30.0	26.405	1.448	46.177	1.493%	59.665%
31.0	24.340	1.375	47.552	1.417%	61.442%
32.0	22.179	1.289	48.84	1.329%	63.107%
33.0	20.426	1.220	50.06	1.258%	64.683%
34.0	18.759	1.150	51.211	1.186%	66.170%
35.0	17.126	1.077	52.288	1.111%	67.562%
36.0	15.628	1.007	53.295	1.038%	68.863%
37.0	14.363	0.948	54.243	.977%	70.088%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	13.095	0.884	55.127	.911%	71.230%
39.0	11.930	0.823	55.95	.849%	72.294%
40.0	10.941	0.771	56.722	.795%	73.290%
41.0	10.017	0.721	57.442	.743%	74.222%
42.0	9.157	0.672	58.114	.693%	75.090%
43.0	8.402	0.628	58.743	.648%	75.902%
44.0	7.753	0.591	59.333	.609%	76.665%
45.0	7.209	0.559	59.892	.576%	77.387%
46.0	6.713	0.530	60.422	.546%	78.071%
47.0	6.293	0.505	60.926	.520%	78.724%
48.0	5.963	0.486	61.412	.501%	79.351%
49.0	5.634	0.466	61.879	.481%	79.954%
50.0	5.325	0.447	62.326	.461%	80.532%
51.0	5.084	0.433	62.759	.447%	81.092%
52.0	4.887	0.422	63.182	.435%	81.637%
53.0	4.676	0.410	63.591	.422%	82.166%
54.0	4.502	0.399	63.99	.412%	82.683%
55.0	4.348	0.391	64.381	.403%	83.187%
56.0	4.202	0.382	64.763	.394%	83.681%
57.0	4.078	0.375	65.138	.387%	84.165%
58.0	3.954	0.368	65.506	.379%	84.641%
59.0	3.853	0.362	65.868	.373%	85.109%
60.0	3.745	0.356	66.224	.367%	85.568%
61.0	3.661	0.351	66.575	.362%	86.022%
62.0	3.609	0.349	66.924	.360%	86.473%
63.0	3.558	0.348	67.272	.358%	86.923%
64.0	3.527	0.348	67.62	.358%	87.372%
65.0	3.490	0.347	67.966	.358%	87.820%
66.0	3.457	0.346	68.313	.357%	88.267%
67.0	3.422	0.345	68.658	.356%	88.714%
68.0	3.394	0.345	69.003	.356%	89.160%
69.0	3.354	0.343	69.347	.354%	89.603%
70.0	3.326	0.343	69.689	.353%	90.046%
71.0	3.293	0.341	70.031	.352%	90.487%
72.0	3.295	0.344	70.374	.354%	90.931%
73.0	3.286	0.345	70.719	.355%	91.377%
74.0	3.298	0.348	71.067	.358%	91.826%
75.0	3.300	0.350	71.416	.360%	92.277%

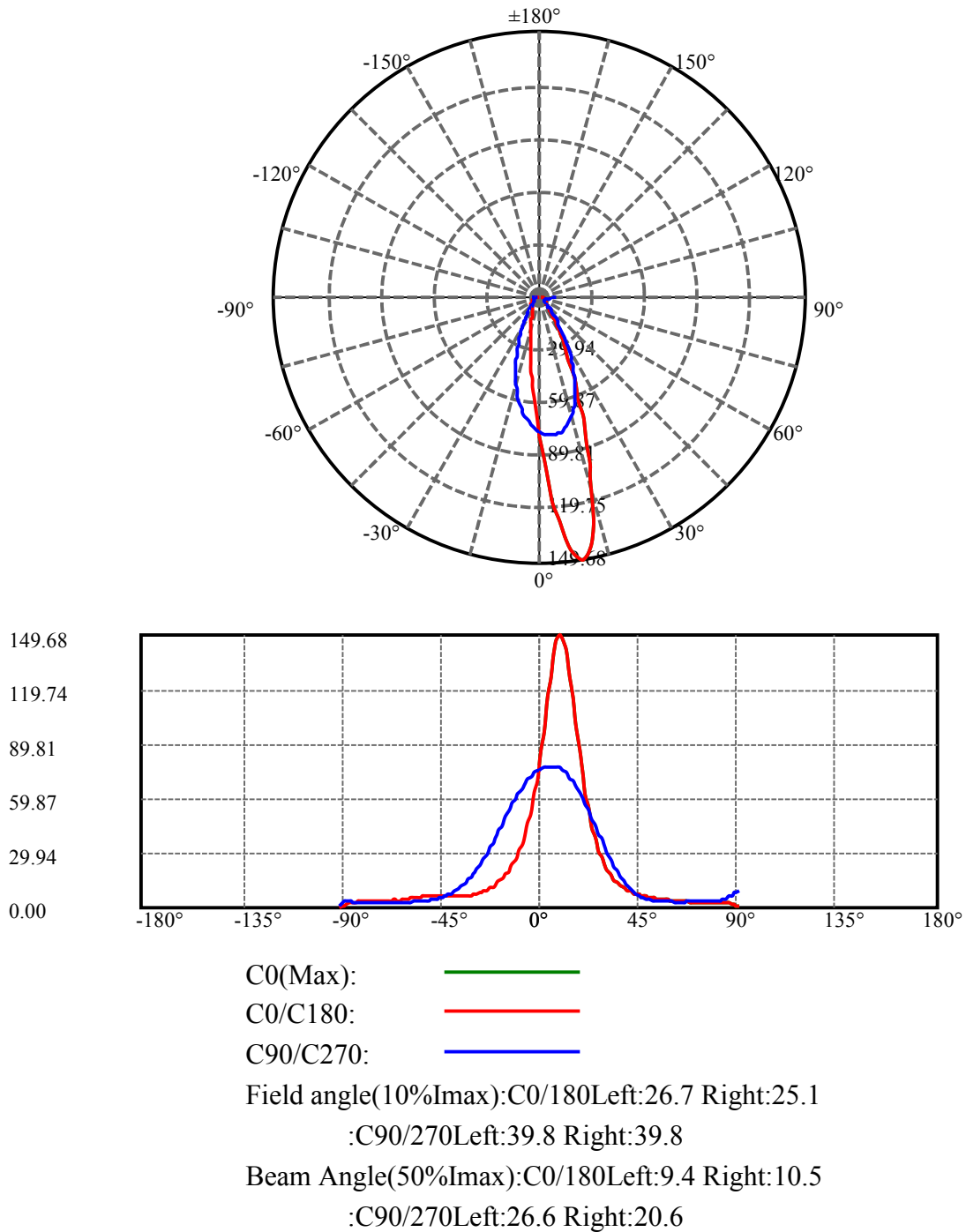
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	3.321	0.353	71.77	.364%	92.734%
77.0	3.335	0.356	72.126	.367%	93.194%
78.0	3.370	0.362	72.487	.373%	93.662%
79.0	3.413	0.367	72.855	.379%	94.136%
80.0	3.462	0.374	73.229	.385%	94.619%
81.0	3.555	0.385	73.614	.397%	95.117%
82.0	3.689	0.401	74.014	.413%	95.634%
83.0	3.881	0.422	74.437	.436%	96.180%
84.0	4.102	0.447	74.884	.461%	96.758%
85.0	4.350	0.475	75.359	.490%	97.372%
86.0	4.528	0.495	75.855	.511%	98.012%
87.0	4.200	0.460	76.315	.474%	98.607%
88.0	4.038	0.443	76.757	.456%	99.178%
89.0	4.013	0.440	77.197	.454%	99.747%
90.0	3.572	0.196	77.393	.202%	100.000%

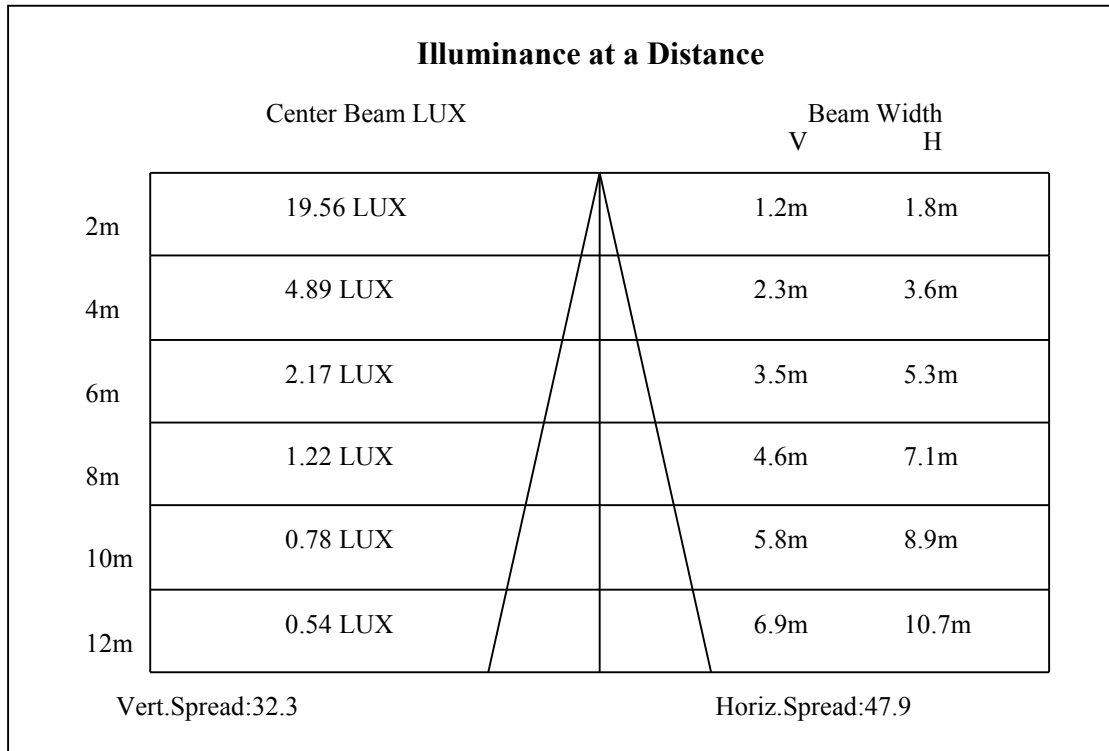
ZONAL LUMEN SUMMARY

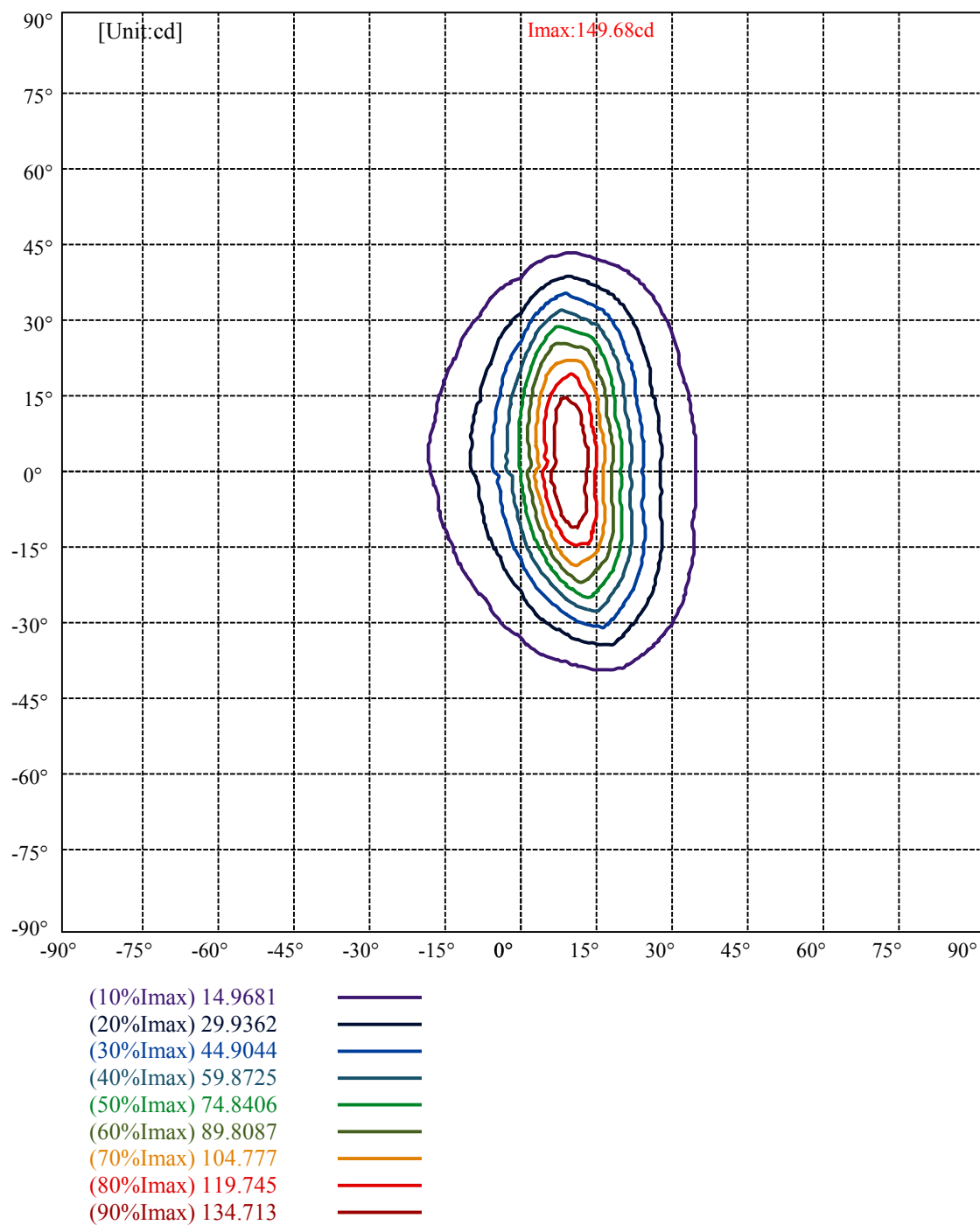
Zone	Lumens	%Lamp	%Fixt
0-30	46.18	47.61%	59.67%
0-40	56.72	58.48%	73.29%
0-60	66.22	68.27%	85.57%
0-90	77.20	79.58%	99.75%
0-120	77.20	79.58%	99.75%
0-180	77.39	79.79%	100.00%
60-90	11.33	11.68%	14.64%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-49.08	61.91	63.83%	80.00%

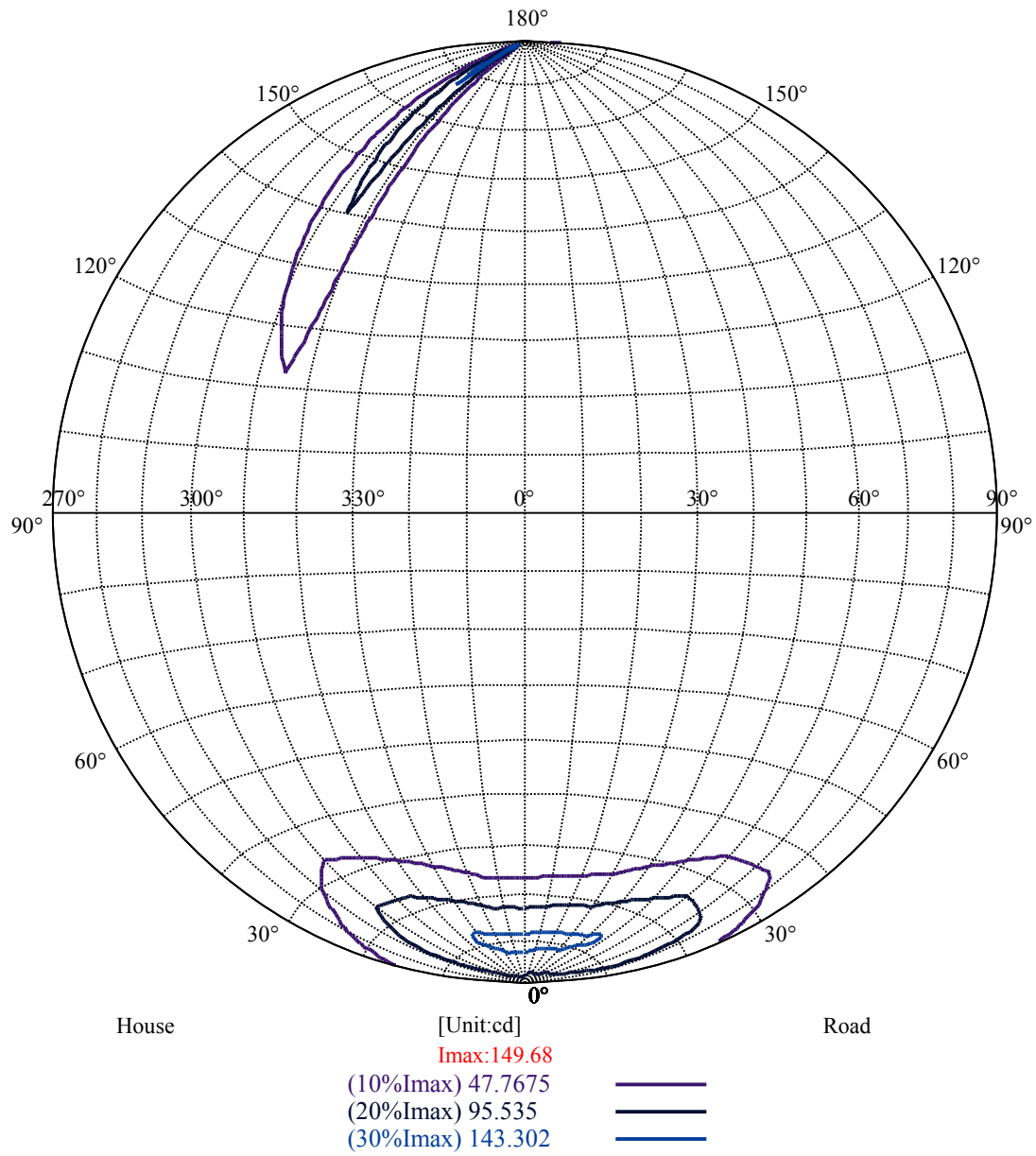
ZONAL LUMEN SUMMARY

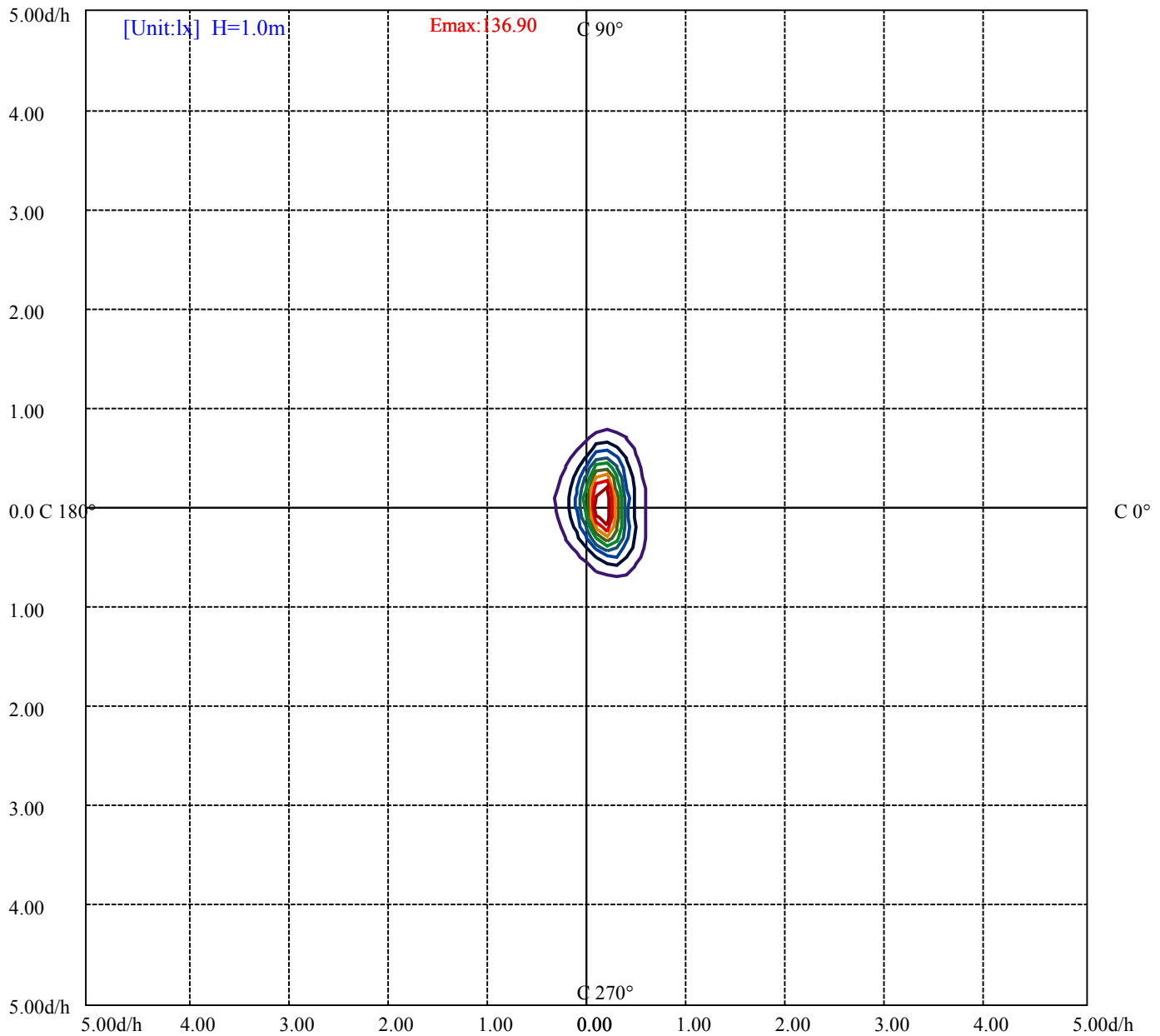
0-10	8.49
10-20	20.00
20-30	17.69
30-40	10.54
40-50	5.60
50-60	3.90
60-70	3.47
70-80	3.54
80-90	3.97
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



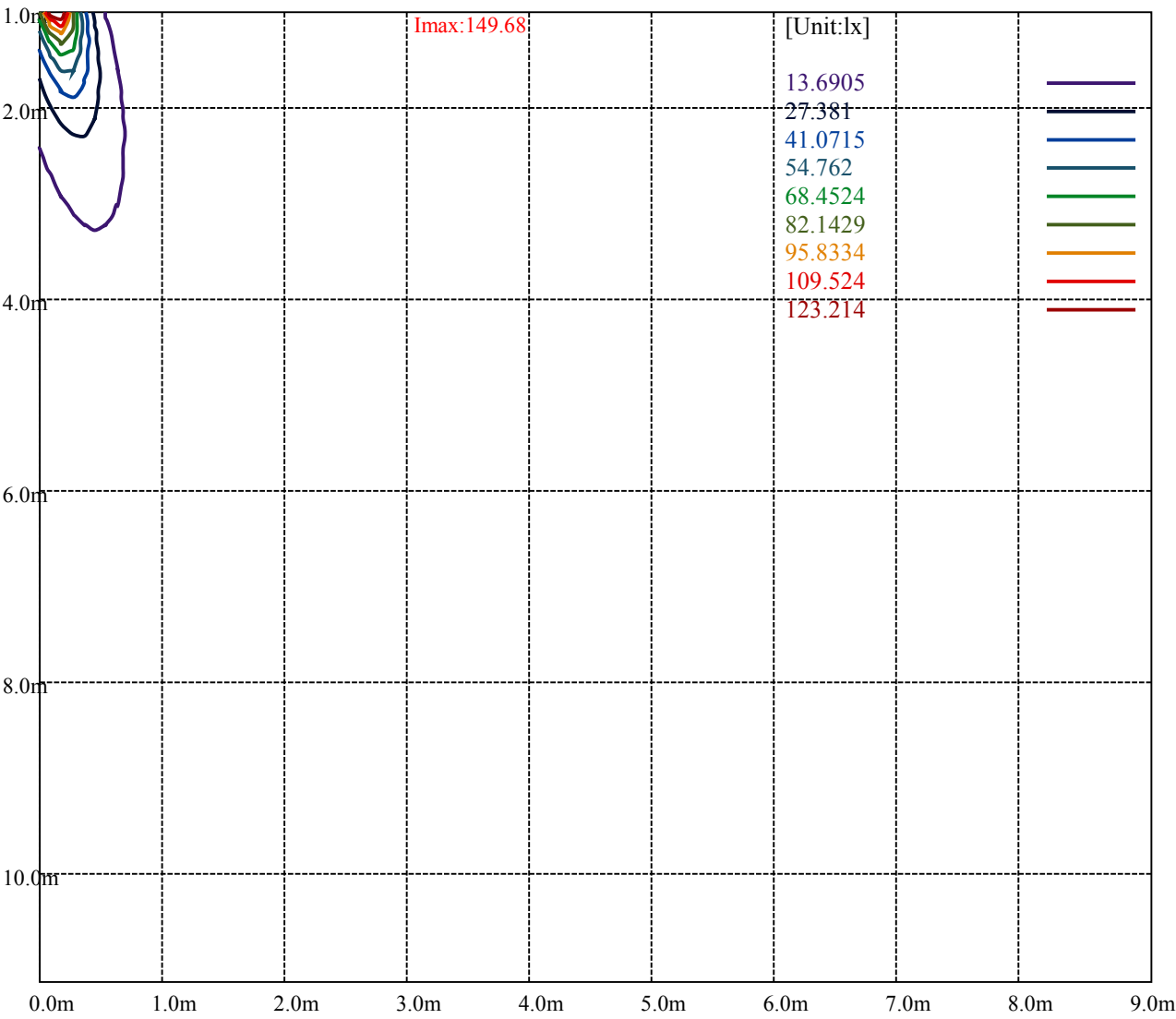








(10%E _{max}) 13.6904	—
(20%E _{max}) 27.3808	—
(30%E _{max}) 41.0713	—
(40%E _{max}) 54.7617	—
(50%E _{max}) 68.4521	—
(60%E _{max}) 82.1425	—
(70%E _{max}) 95.8329	—
(80%E _{max}) 109.523	—
(90%E _{max}) 123.214	—



Luminance Table

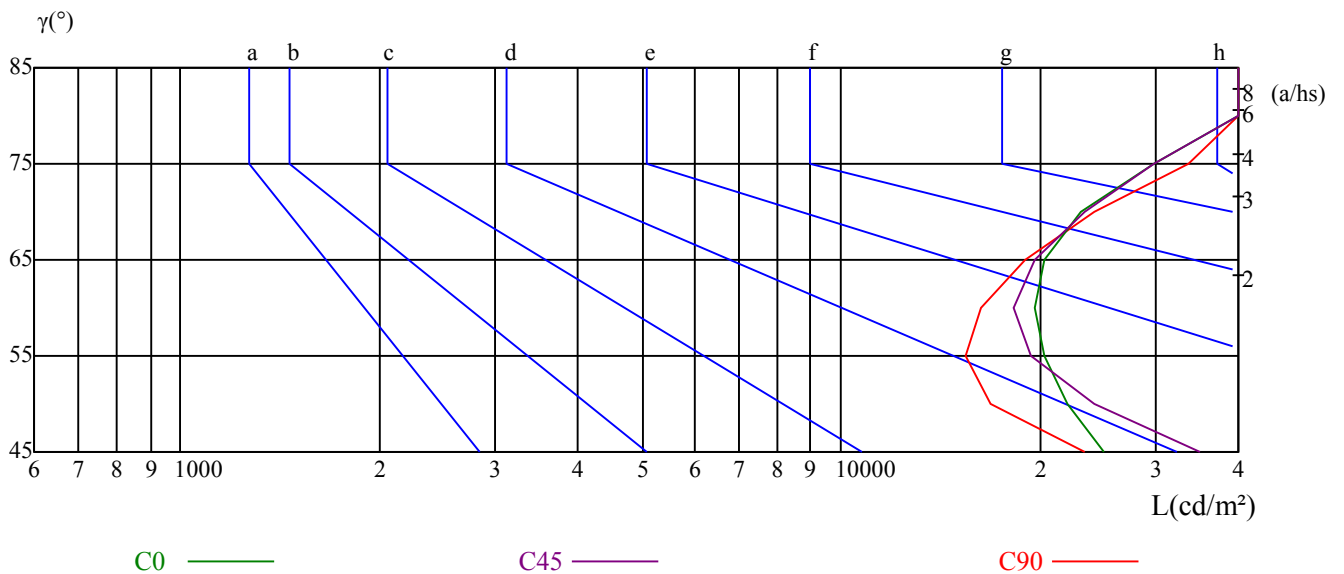
γ	45	50	55	60	65	70	75	80	85
C0	25058	22096	20349	19688	20298	23025	29883	43731	80675
C45	35002	24284	19369	18281	19632	23436	29883	46970	121012
C90	23467	16846	15446	16313	18967	24258	33687	55068	161349

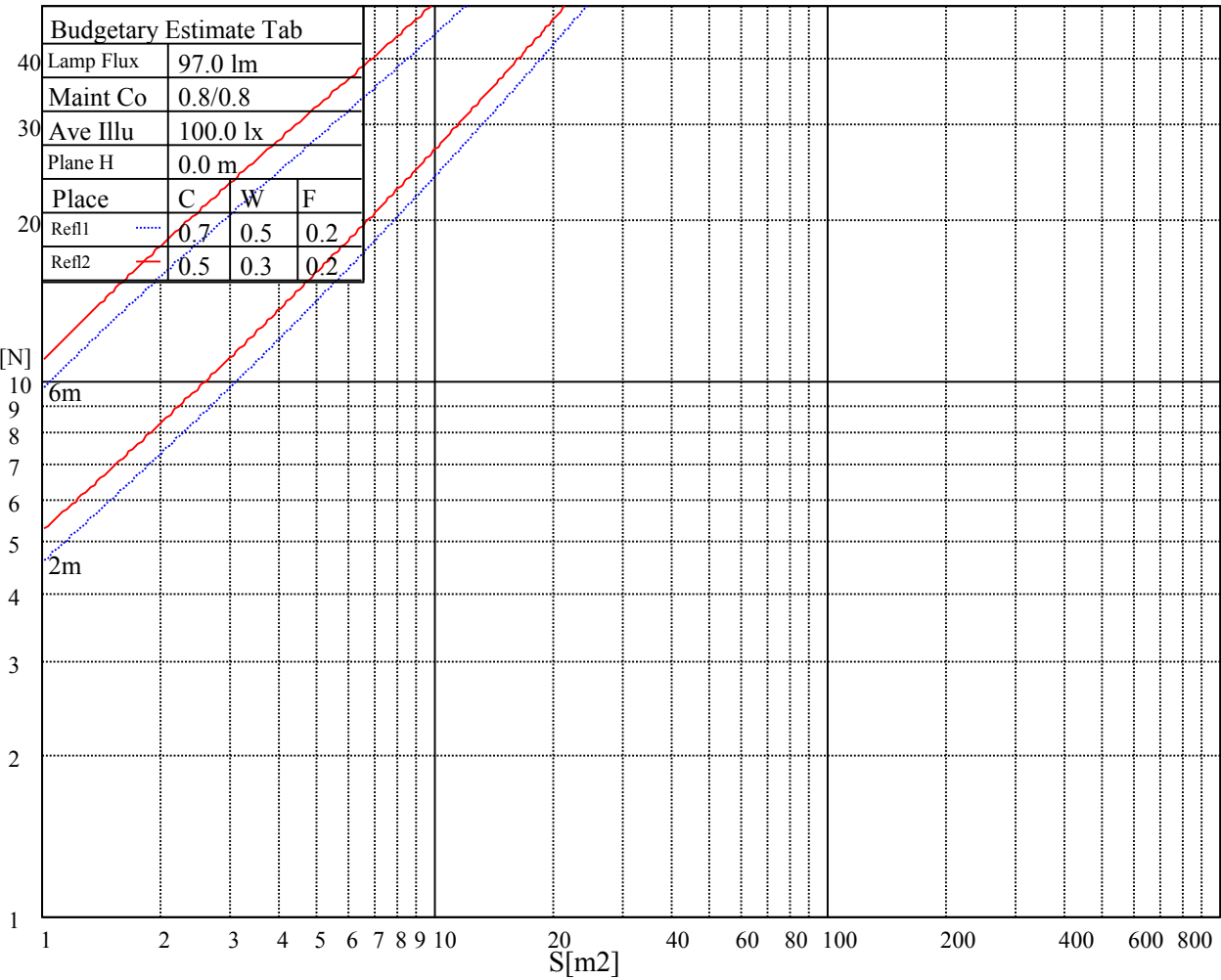
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
22793	18301	20714	32328	29612	32464	81481	131500	129079

Glare Table

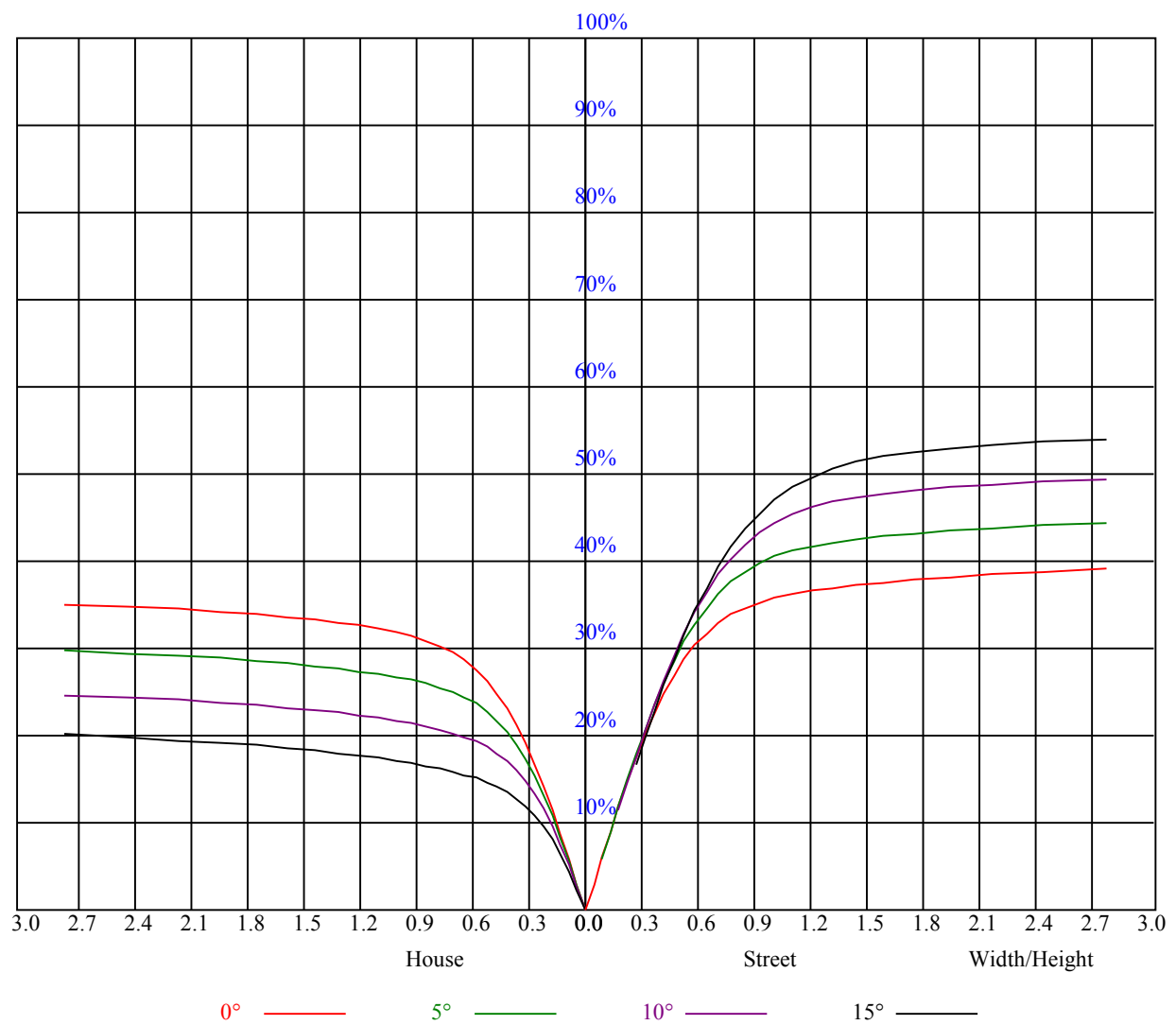
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





RHOCC	80			70			50			30			10			0
RHOW	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR	COEFFICIENTS OF UTILIZATION RHOFC=20 CU															
0	0.95	0.95	0.95	0.93	0.93	0.93	0.89	0.89	0.89	0.85	0.85	0.85	0.81	0.81	0.81	0.80
1	0.84	0.81	0.79	0.83	0.80	0.77	0.79	0.77	0.75	0.76	0.74	0.73	0.73	0.72	0.70	0.69
2	0.77	0.72	0.68	0.75	0.71	0.68	0.72	0.69	0.66	0.70	0.67	0.65	0.68	0.65	0.63	0.62
3	0.70	0.65	0.61	0.69	0.64	0.61	0.67	0.63	0.60	0.65	0.61	0.59	0.63	0.60	0.58	0.56
4	0.65	0.60	0.55	0.64	0.59	0.55	0.62	0.58	0.54	0.61	0.57	0.54	0.59	0.56	0.53	0.52
5	0.61	0.55	0.51	0.60	0.55	0.51	0.58	0.54	0.50	0.57	0.53	0.50	0.56	0.52	0.49	0.48
6	0.57	0.51	0.47	0.56	0.51	0.47	0.55	0.50	0.47	0.53	0.49	0.46	0.52	0.49	0.46	0.44
7	0.53	0.48	0.44	0.53	0.47	0.44	0.52	0.47	0.43	0.51	0.46	0.43	0.50	0.46	0.43	0.42
8	0.50	0.45	0.41	0.50	0.44	0.41	0.49	0.44	0.41	0.48	0.44	0.41	0.47	0.43	0.40	0.39
9	0.47	0.42	0.39	0.47	0.42	0.38	0.46	0.42	0.38	0.45	0.41	0.38	0.45	0.41	0.38	0.37
10	0.45	0.40	0.36	0.44	0.40	0.36	0.44	0.39	0.36	0.43	0.39	0.36	0.43	0.39	0.36	0.35



Intensity data(cd)

C/γ(°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.0	78.24	86.51	96.41	106.82	116.16	126.28	135.56	142.09	146.48
15.0	70.37	78.58	86.79	95.34	106.43	115.26	123.86	133.99	140.51
30.0	74.53	81.73	90.11	99.00	107.16	115.31	125.16	132.69	138.94
45.0	71.55	77.23	85.11	91.46	98.16	106.59	113.34	119.93	127.01
60.0	74.93	79.37	84.54	89.72	94.44	99.79	105.19	109.91	114.98
75.0	73.86	76.50	79.82	82.35	84.94	87.58	90.17	92.59	95.12
90.0	75.71	76.39	76.89	77.29	77.46	77.63	77.63	77.63	77.40
105.0	76.89	75.49	73.97	72.17	70.59	68.91	66.94	65.14	63.34
120.0	76.73	73.07	69.98	66.49	63.17	60.30	57.04	54.00	51.30
135.0	80.16	74.48	69.19	64.69	60.02	55.91	52.31	48.43	45.28
150.0	77.29	71.10	65.53	59.06	54.62	50.34	46.07	42.02	38.81
165.0	82.07	74.53	66.15	60.19	54.90	49.56	44.83	41.01	37.24
180.0	78.24	69.98	63.17	56.70	50.85	46.24	42.13	37.41	34.20
195.0	70.37	63.62	56.93	50.63	46.52	42.36	37.41	34.54	31.67
210.0	74.53	67.28	60.58	55.35	50.01	45.68	41.34	37.52	34.48
225.0	71.55	66.09	60.47	55.58	51.36	46.97	43.48	39.88	36.62
240.0	74.93	70.71	65.48	61.54	57.83	53.83	50.06	47.08	44.04
255.0	73.86	71.27	68.23	65.31	62.55	59.46	56.81	54.00	51.36
270.0	75.71	74.93	73.91	72.90	71.72	70.26	68.51	67.16	65.53
285.0	76.89	78.19	79.31	80.44	81.23	81.84	82.18	82.69	83.03
300.0	76.73	80.04	83.70	87.53	90.56	93.54	97.20	100.07	102.83
315.0	80.16	85.44	90.73	97.37	102.77	108.06	113.96	119.48	124.09
330.0	77.29	83.87	92.64	99.96	108.34	116.55	123.69	130.78	136.29
345.0	82.07	90.00	99.23	108.96	117.45	126.79	135.17	141.24	146.48
360.0	78.24	86.51	96.41	106.82	116.16	126.28	135.56	142.09	146.48

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	149.68	149.18	147.04	141.13	133.54	126.45	115.26	105.30	97.54
15.0	145.07	147.71	147.15	144.56	139.22	131.63	124.76	113.79	105.58
30.0	144.11	147.04	147.43	145.69	141.75	136.63	129.32	121.56	112.67
45.0	133.37	138.04	142.26	144.56	145.41	144.45	141.92	138.43	132.92
60.0	119.48	124.03	127.80	130.84	133.03	135.06	135.79	135.79	134.94
75.0	97.43	99.23	100.97	102.43	103.56	104.51	105.08	105.41	105.53
90.0	76.84	76.05	75.09	73.97	72.62	70.93	69.47	67.84	65.70
105.0	60.98	58.95	56.76	54.23	51.58	49.22	46.46	43.99	41.91
120.0	48.66	45.34	42.64	40.11	37.01	34.71	32.40	30.09	27.90
135.0	42.02	38.93	36.34	33.86	30.77	28.52	26.38	24.02	22.39
150.0	35.55	32.34	30.04	27.51	25.43	23.29	21.32	19.80	18.28
165.0	33.81	31.11	28.24	26.04	23.85	21.83	20.14	18.51	16.93
180.0	31.28	28.07	25.76	23.74	21.99	19.91	18.45	17.04	15.81
195.0	28.46	26.21	24.13	22.22	20.14	18.73	17.38	15.81	14.79
210.0	31.44	28.74	26.49	24.53	22.28	20.64	19.18	17.61	16.20
225.0	33.92	31.39	28.52	26.55	24.69	22.44	20.87	19.29	17.78
240.0	40.67	38.08	35.94	33.13	30.60	28.35	26.38	24.58	22.50
255.0	48.99	46.24	43.37	40.95	38.53	35.66	33.53	31.50	28.97
270.0	63.68	61.99	59.96	57.71	55.29	52.65	50.29	47.59	45.00
285.0	83.08	82.91	82.35	81.68	80.61	79.03	77.51	75.66	73.52
300.0	106.03	108.28	110.19	112.28	113.57	114.41	114.64	114.53	114.08
315.0	128.81	132.86	135.68	137.70	138.49	138.21	136.46	133.82	130.61
330.0	141.30	144.39	146.08	145.97	144.11	140.46	135.79	128.93	121.05
345.0	148.73	148.73	146.31	142.03	135.28	127.01	118.69	110.19	99.90
360.0	149.68	149.18	147.04	141.13	133.54	126.45	115.26	105.30	97.54

Intensity data(cd)

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	86.91	78.81	71.21	62.38	56.03	50.18	43.65	39.04	34.99
15.0	95.85	86.01	78.19	69.75	61.71	55.41	50.40	43.26	38.81
30.0	103.33	95.18	87.36	77.96	70.76	64.13	56.70	51.19	46.13
45.0	127.35	120.60	113.23	105.75	98.38	90.17	82.69	76.28	69.47
60.0	132.92	130.44	127.13	123.53	118.58	113.40	108.34	102.21	95.79
75.0	105.13	104.63	103.44	102.15	100.52	97.65	94.73	91.97	88.43
90.0	63.68	61.59	59.12	56.48	53.94	51.08	48.71	45.84	42.92
105.0	39.43	37.29	34.93	32.68	30.66	28.58	26.49	24.69	23.18
120.0	26.10	24.13	22.61	20.87	19.29	18.06	16.82	15.64	14.68
135.0	20.76	19.07	17.61	16.43	15.19	14.12	13.16	12.32	11.59
150.0	16.65	15.47	14.34	13.16	12.38	11.64	10.91	10.29	9.79
165.0	15.69	14.63	13.39	12.54	11.76	10.97	10.24	9.79	9.11
180.0	14.57	13.50	12.49	11.59	10.80	10.13	9.51	8.89	8.33
195.0	13.84	12.77	11.87	11.08	10.24	9.68	8.89	8.44	7.93
210.0	15.02	13.95	12.88	12.15	11.25	10.63	9.96	9.39	8.83
225.0	16.43	15.36	14.18	13.16	12.32	11.42	10.86	10.24	9.62
240.0	20.93	19.58	17.89	16.59	15.53	14.57	13.33	12.49	11.87
255.0	27.00	25.20	23.29	21.60	20.14	18.51	17.55	16.31	15.08
270.0	42.69	40.33	37.86	35.44	33.30	30.99	28.74	26.94	25.03
285.0	71.10	68.51	65.93	62.89	59.74	57.04	54.23	50.74	47.87
300.0	112.44	110.70	108.23	105.47	101.76	98.21	93.43	89.16	84.94
315.0	125.83	121.05	115.54	108.34	101.93	95.63	87.75	81.73	75.66
330.0	113.74	106.37	96.92	89.78	82.69	74.42	68.01	61.93	55.63
345.0	91.69	83.76	75.26	67.28	60.69	54.00	47.93	43.09	37.58
360.0	86.91	78.81	71.21	62.38	56.03	50.18	43.65	39.04	34.99
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	30.54	27.51	24.86	22.28	20.08	18.39	16.65	15.08	13.89
15.0	34.76	30.43	27.51	24.64	22.11	19.74	17.89	16.20	14.91
30.0	41.01	36.51	32.79	29.03	26.16	23.29	20.93	19.07	17.21
45.0	62.78	57.66	52.09	46.97	42.41	37.41	34.14	30.49	27.28
60.0	90.06	83.36	76.73	70.88	65.31	58.73	53.78	49.05	43.99
75.0	84.94	80.83	76.61	72.17	68.06	62.33	58.22	53.89	48.21
90.0	40.39	37.69	34.88	32.34	29.98	27.06	24.81	22.73	20.48
105.0	21.26	19.86	18.56	16.99	15.75	14.57	13.39	12.43	11.59
120.0	13.73	12.66	11.87	11.19	10.46	9.73	9.23	8.66	8.21
135.0	10.80	10.24	9.73	9.23	8.78	8.33	8.04	7.59	7.26
150.0	9.28	8.78	8.38	7.93	7.59	7.20	6.86	6.64	6.47
165.0	8.61	8.16	7.71	7.37	7.09	6.86	6.75	6.64	6.53
180.0	7.93	7.59	7.26	7.09	6.92	6.75	6.69	6.58	6.58
195.0	7.59	7.26	6.98	6.86	6.75	6.64	6.58	6.47	6.47
210.0	8.38	7.76	7.43	7.14	6.98	6.75	6.64	6.47	6.41
225.0	9.17	8.66	8.27	7.88	7.59	7.20	6.92	6.64	6.53
240.0	10.97	10.29	9.90	9.34	8.83	8.49	8.04	7.76	7.37
255.0	14.23	13.28	12.26	11.64	10.91	10.07	9.51	9.00	8.44
270.0	23.12	21.54	19.86	18.45	16.99	15.53	14.34	13.28	12.09
285.0	45.00	41.85	38.76	36.06	33.02	30.04	27.51	24.64	22.28
300.0	80.49	74.76	70.09	65.48	59.85	55.52	51.02	46.13	41.51
315.0	68.46	63.00	57.88	51.81	47.76	42.92	37.97	34.82	31.44
330.0	49.78	45.06	40.22	36.39	32.51	28.97	26.21	23.46	21.04
345.0	34.26	30.49	27.17	24.58	22.28	19.80	18.11	16.54	14.85
360.0	30.54	27.51	24.86	22.28	20.08	18.39	16.65	15.08	13.89

Intensity data(cd)

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	12.71	11.81	10.91	10.07	9.45	8.89	8.33	7.88	7.48
15.0	13.56	12.43	11.59	10.69	9.90	9.28	8.78	8.16	7.76
30.0	15.58	14.34	13.11	11.93	11.08	10.24	9.51	8.72	8.21
45.0	24.64	22.28	19.69	17.89	16.26	14.68	13.22	12.04	10.86
60.0	39.43	35.55	31.44	27.79	24.81	21.66	19.01	16.43	14.06
75.0	43.93	39.83	35.27	30.99	27.39	23.51	19.86	17.04	14.29
90.0	18.39	16.65	14.91	13.22	11.87	10.41	9.34	8.27	7.31
105.0	10.58	9.79	9.00	8.27	7.71	7.20	6.64	6.24	5.79
120.0	7.82	7.37	6.92	6.53	6.19	5.91	5.63	5.34	5.12
135.0	6.98	6.69	6.41	6.13	5.79	5.63	5.40	5.23	5.12
150.0	6.30	6.19	6.13	5.91	5.91	5.79	5.68	5.63	5.57
165.0	6.47	6.36	6.30	6.30	6.24	6.24	6.19	6.19	6.19
180.0	6.53	6.47	6.47	6.47	6.47	6.47	6.47	6.47	6.53
195.0	6.41	6.41	6.41	6.36	6.30	6.36	6.41	6.41	6.41
210.0	6.36	6.36	6.30	6.24	6.19	6.13	6.13	6.13	6.08
225.0	6.36	6.19	6.08	6.08	5.91	5.85	5.68	5.51	5.40
240.0	7.09	6.81	6.53	6.30	6.08	5.91	5.63	5.40	5.23
255.0	7.88	7.43	6.98	6.58	6.19	5.91	5.68	5.40	5.18
270.0	11.03	10.13	9.23	8.44	7.82	7.26	6.58	6.13	5.79
285.0	19.86	17.49	15.58	13.67	11.93	10.63	9.39	8.21	7.37
300.0	37.07	33.24	29.59	25.65	22.16	19.24	16.31	13.84	12.15
315.0	27.34	24.92	22.39	19.97	17.78	15.98	14.18	12.49	11.14
330.0	19.13	17.38	15.53	14.18	13.16	11.98	10.97	10.29	9.39
345.0	13.67	12.60	11.53	10.69	10.01	9.28	8.78	8.21	7.65
360.0	12.71	11.81	10.91	10.07	9.45	8.89	8.33	7.88	7.48
C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	7.09	6.81	6.53	6.19	5.91	5.68	5.46	5.23	5.06
15.0	7.37	6.92	6.58	6.30	6.02	5.74	5.51	5.29	5.12
30.0	7.71	7.20	6.86	6.53	6.19	5.85	5.57	5.29	5.01
45.0	9.90	9.11	8.27	7.54	6.86	6.24	5.74	5.40	4.95
60.0	12.15	10.63	9.06	8.04	7.26	6.41	5.79	5.29	4.89
75.0	12.15	10.29	8.89	7.88	6.86	6.02	5.46	5.06	4.67
90.0	6.64	5.91	5.34	4.95	4.67	4.33	4.11	3.94	3.71
105.0	5.40	5.06	4.78	4.56	4.28	4.11	3.94	3.83	3.71
120.0	4.95	4.78	4.67	4.56	4.33	4.22	4.05	4.05	3.88
135.0	5.01	4.89	4.84	4.73	4.61	4.56	4.44	4.39	4.28
150.0	5.40	5.34	5.29	5.23	5.18	5.06	4.95	4.89	4.78
165.0	6.19	6.13	6.08	6.08	6.02	5.91	5.85	5.74	5.63
180.0	6.53	6.53	6.53	6.53	6.47	6.53	6.41	6.36	6.13
195.0	6.47	6.47	6.41	6.36	6.30	6.13	6.02	5.91	5.79
210.0	6.02	5.85	5.74	5.63	5.51	5.34	5.23	5.12	4.95
225.0	5.23	5.18	5.01	4.89	4.78	4.56	4.50	4.39	4.28
240.0	5.12	4.95	4.78	4.67	4.44	4.28	4.16	4.05	3.99
255.0	4.95	4.73	4.50	4.33	4.16	3.99	3.83	3.71	3.60
270.0	5.34	5.01	4.73	4.50	4.22	4.05	3.88	3.77	3.66
285.0	6.75	6.08	5.63	5.23	4.89	4.56	4.33	4.11	3.94
300.0	10.80	9.17	8.33	7.65	6.75	6.19	5.74	5.29	4.95
315.0	9.79	8.83	7.99	7.31	6.75	6.19	5.74	5.40	5.06
330.0	8.78	8.27	7.65	7.14	6.69	6.13	5.74	5.46	5.06
345.0	7.31	6.98	6.58	6.30	6.08	5.74	5.57	5.34	5.12
360.0	7.09	6.81	6.53	6.19	5.91	5.68	5.46	5.23	5.06

Intensity data(cd)

C/ γ (°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	4.89	4.67	4.50	4.33	4.22	4.11	3.94	3.83	3.66
15.0	4.89	4.73	4.50	4.33	4.16	4.05	3.88	3.71	3.66
30.0	4.73	4.50	4.33	4.11	3.94	3.77	3.60	3.49	3.49
45.0	4.73	4.44	4.16	3.99	3.88	3.77	3.66	3.60	3.49
60.0	4.56	4.39	4.16	4.05	3.88	3.77	3.71	3.66	3.66
75.0	4.50	4.22	4.11	3.94	3.83	3.71	3.66	3.60	3.60
90.0	3.60	3.54	3.49	3.43	3.32	3.32	3.26	3.21	3.21
105.0	3.60	3.49	3.43	3.38	3.32	3.32	3.26	3.26	3.26
120.0	3.83	3.77	3.66	3.54	3.54	3.54	3.43	3.43	3.43
135.0	4.22	4.11	4.05	3.94	3.88	3.77	3.71	3.66	3.66
150.0	4.67	4.61	4.50	4.44	4.28	4.22	4.11	3.99	3.94
165.0	5.40	5.34	5.23	5.06	4.95	4.78	4.61	4.44	4.33
180.0	6.02	5.85	5.63	5.40	5.12	4.89	4.61	4.44	4.28
195.0	5.57	5.40	5.23	4.95	4.78	4.56	4.39	4.16	4.05
210.0	4.84	4.78	4.61	4.56	4.44	4.33	4.22	4.11	4.05
225.0	4.16	4.05	3.99	3.94	3.83	3.77	3.71	3.66	3.60
240.0	3.83	3.77	3.71	3.60	3.54	3.49	3.49	3.43	3.38
255.0	3.54	3.49	3.38	3.32	3.26	3.21	3.21	3.15	3.15
270.0	3.54	3.43	3.32	3.32	3.21	3.21	3.09	3.09	3.09
285.0	3.77	3.60	3.49	3.43	3.32	3.26	3.21	3.15	3.15
300.0	4.67	4.33	4.16	3.99	3.88	3.77	3.66	3.60	3.54
315.0	4.78	4.56	4.39	4.28	4.05	3.94	3.83	3.77	3.71
330.0	4.84	4.61	4.39	4.28	4.11	3.99	3.83	3.71	3.66
345.0	4.89	4.67	4.44	4.28	4.16	3.94	3.83	3.71	3.60
360.0	4.89	4.67	4.50	4.33	4.22	4.11	3.94	3.83	3.66
C/ γ (°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	3.54	3.49	3.43	3.32	3.26	3.21	3.15	3.15	3.15
15.0	3.54	3.43	3.32	3.21	3.15	3.15	3.09	3.04	3.04
30.0	3.32	3.32	3.26	3.15	3.15	3.15	3.04	3.04	2.98
45.0	3.43	3.38	3.32	3.32	3.26	3.21	3.26	3.21	3.15
60.0	3.60	3.60	3.60	3.60	3.54	3.60	3.54	3.49	3.38
75.0	3.60	3.60	3.60	3.60	3.60	3.54	3.54	3.54	3.49
90.0	3.21	3.21	3.21	3.21	3.26	3.26	3.32	3.32	3.38
105.0	3.26	3.21	3.21	3.26	3.26	3.26	3.32	3.32	3.32
120.0	3.43	3.43	3.43	3.43	3.43	3.43	3.43	3.49	3.43
135.0	3.60	3.60	3.54	3.49	3.49	3.43	3.43	3.38	3.38
150.0	3.83	3.83	3.71	3.66	3.66	3.54	3.43	3.38	3.38
165.0	4.22	4.05	3.88	3.83	3.66	3.66	3.71	3.71	3.60
180.0	4.11	4.11	4.28	4.22	4.11	4.05	3.88	3.83	3.77
195.0	3.94	4.05	4.05	4.05	3.99	3.88	3.83	3.77	3.71
210.0	3.94	3.83	3.71	3.66	3.60	3.54	3.54	3.49	3.54
225.0	3.54	3.54	3.49	3.43	3.43	3.43	3.38	3.43	3.43
240.0	3.38	3.38	3.32	3.32	3.32	3.38	3.32	3.32	3.32
255.0	3.21	3.15	3.15	3.15	3.09	3.09	3.04	2.98	2.98
270.0	3.04	2.98	2.98	2.93	2.81	2.76	2.64	2.64	2.59
285.0	3.21	3.21	3.21	3.21	3.15	3.09	2.93	2.87	2.81
300.0	3.60	3.54	3.54	3.54	3.54	3.54	3.54	3.43	3.38
315.0	3.66	3.66	3.66	3.60	3.60	3.60	3.54	3.49	3.43
330.0	3.66	3.60	3.49	3.49	3.43	3.38	3.32	3.32	3.26
345.0	3.54	3.49	3.38	3.32	3.32	3.26	3.26	3.21	3.15
360.0	3.54	3.49	3.43	3.32	3.26	3.21	3.15	3.15	3.15

Intensity data(cd)									Appendix Page: 20 Total:21		
C/ γ (°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0		
0.0	3.15	3.15	3.15	3.09	3.15	3.09	3.09	3.09	3.04		
15.0	2.98	3.04	3.04	2.98	2.98	2.98	2.98	2.93	2.87		
30.0	2.98	2.98	2.93	2.98	2.98	2.98	2.93	2.98	2.98		
45.0	3.15	3.09	3.09	3.09	3.09	3.09	3.15	3.15	3.26		
60.0	3.32	3.38	3.43	3.49	3.49	3.60	3.71	3.83	3.88		
75.0	3.49	3.54	3.54	3.54	3.60	3.66	3.77	3.88	4.11		
90.0	3.38	3.43	3.43	3.49	3.54	3.60	3.60	3.66	3.83		
105.0	3.32	3.38	3.43	3.49	3.49	3.54	3.54	3.54	3.54		
120.0	3.43	3.49	3.49	3.49	3.54	3.60	3.66	3.66	3.66		
135.0	3.38	3.32	3.38	3.38	3.38	3.43	3.43	3.49	3.54		
150.0	3.32	3.32	3.32	3.32	3.26	3.32	3.32	3.38	3.32		
165.0	3.60	3.49	3.49	3.43	3.43	3.43	3.38	3.32	3.26		
180.0	3.71	3.66	3.60	3.60	3.54	3.54	3.49	3.49	3.38		
195.0	3.66	3.66	3.66	3.60	3.60	3.54	3.49	3.43	3.43		
210.0	3.60	3.60	3.60	3.60	3.60	3.54	3.60	3.54	3.54		
225.0	3.43	3.38	3.43	3.49	3.54	3.60	3.66	3.71	3.71		
240.0	3.32	3.38	3.43	3.43	3.49	3.54	3.60	3.66	3.66		
255.0	2.98	2.93	2.93	2.93	2.98	2.93	2.93	2.98	2.93		
270.0	2.70	2.70	2.70	2.64	2.59	2.53	2.53	2.59	2.64		
285.0	2.87	2.87	2.81	2.81	2.87	2.87	2.93	3.04	3.32		
300.0	3.38	3.32	3.38	3.43	3.54	3.60	3.94	4.33	4.73		
315.0	3.43	3.43	3.49	3.49	3.54	3.54	3.66	3.71	3.88		
330.0	3.32	3.21	3.21	3.21	3.26	3.26	3.32	3.38	3.43		
345.0	3.21	3.15	3.21	3.21	3.21	3.21	3.21	3.15	3.15		
360.0	3.15	3.15	3.15	3.09	3.15	3.09	3.09	3.09	3.04		
C/ γ (°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0		
0.0	3.09	3.04	2.98	2.93	2.81	2.76	2.19	1.46	1.13		
15.0	2.87	2.87	2.81	2.81	2.76	2.64	2.53	1.80	1.24		
30.0	2.98	2.98	2.98	2.98	2.87	2.81	2.42	1.80	1.52		
45.0	3.32	3.54	3.71	3.99	4.22	4.39	4.44	4.11	4.22		
60.0	4.16	4.44	5.01	5.79	6.69	8.10	8.78	9.68	10.74		
75.0	4.33	4.95	6.08	7.54	9.28	10.74	11.81	12.94	14.96		
90.0	3.94	4.11	4.50	4.95	5.63	6.47	6.81	7.99	8.78		
105.0	3.60	3.60	3.66	3.71	3.66	3.77	3.04	2.70	2.59		
120.0	3.60	3.66	3.71	3.71	4.16	4.67	4.50	4.67	5.18		
135.0	3.66	3.77	3.83	3.88	3.99	4.11	3.32	3.04	2.81		
150.0	3.38	3.32	3.32	3.21	3.15	2.64	1.69	1.35	1.01		
165.0	3.21	3.21	3.09	3.04	2.93	2.76	1.63	1.24	0.96		
180.0	3.32	3.26	3.09	2.98	2.87	2.53	1.46	1.13	0.84		
195.0	3.32	3.15	3.15	2.98	2.87	1.63	1.24	0.84	0.51		
210.0	3.49	3.43	3.38	3.21	3.15	2.53	1.52	1.01	0.73		
225.0	3.71	3.71	3.66	3.54	3.54	2.70	1.91	1.35	1.07		
240.0	3.88	4.16	4.33	4.56	4.78	5.06	4.16	3.94	3.66		
255.0	2.93	2.87	2.76	2.76	2.70	2.93	2.64	3.09	3.38		
270.0	2.76	2.87	2.98	3.21	3.54	4.05	4.16	4.11	2.98		
285.0	3.83	4.56	5.91	7.03	8.33	9.68	9.17	8.10	7.03		
300.0	5.23	5.79	6.41	7.14	7.65	8.44	9.11	9.51	10.24		
315.0	4.05	4.50	5.01	5.79	6.24	6.81	6.75	6.75	6.86		
330.0	3.54	3.60	3.77	3.77	3.71	3.71	3.49	2.81	2.64		
345.0	3.15	3.15	3.04	2.93	2.87	2.76	2.03	1.52	1.24		
360.0	3.09	3.04	2.98	2.93	2.81	2.76	2.19	1.46	1.13		

Intensity data(cd)

C/ γ (°)	90.0
0.0	0.84
15.0	0.96
30.0	1.01
45.0	3.94
60.0	7.88
75.0	14.74
90.0	9.23
105.0	2.42
120.0	3.43
135.0	2.76
150.0	0.79
165.0	0.62
180.0	0.45
195.0	0.28
210.0	0.39
225.0	0.34
240.0	3.60
255.0	3.49
270.0	1.29
285.0	5.18
300.0	10.07
315.0	8.61
330.0	2.25
345.0	1.18
360.0	0.84