
Nata

Client:

LumCAT: 2-1258-N

Luminaire: 92.70.045.00+92.70.059.00

Report No: nata-0100

Test No:

LampCAT: NICHIA NFCWD096B-V3

Lamp flux(lm): 2246.2

Number of Lamps: 1

Length(mm): 70

Phm Type: C

Voltage(V):

Current(A):

Power (W): 16.9500

PF:

Ballast type:

Width(mm): 70

Height(mm): 0

Photometric Results

Lumens(lm): 1729.54, Efficiency(%): 77.00% , Luminous Efficacy(lm/W): 102.04

Central intensity(cd): 9945.663, Maximum intensity(cd): 9945.663

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=18.4

[C90/270]Total=18.4

Field angle(10%Imax): [C0/180]Total=36.8

[C90/270]Total=36.8

Maximum s/h(1/2): C0_180=0.32 C90_270=0.32

Maximum s/h(1/4): C0_180=0.31 C90_270=0.31

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 77.41%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 97.236%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	9945.663	9.518	9.518	.424%	.550%
2.0	9799.434	75.004	84.522	3.339%	4.887%
4.0	9217.542	141.015	225.537	6.278%	13.040%
6.0	8003.163	183.468	409.005	8.168%	23.648%
8.0	6196.212	189.124	598.129	8.420%	34.583%
10.0	4193.261	159.694	757.823	7.110%	43.816%
12.0	2744.176	125.128	882.951	5.571%	51.051%
14.0	1829.249	97.054	980.005	4.321%	56.663%
16.0	1328.291	80.296	1060.301	3.575%	61.305%
18.0	1036.987	70.278	1130.58	3.129%	65.369%
20.0	847.483	63.569	1194.149	2.830%	69.044%
22.0	706.153	58.015	1252.164	2.583%	72.399%
24.0	597.527	53.301	1305.465	2.373%	75.480%
26.0	510.813	49.110	1354.575	2.186%	78.320%
28.0	432.798	44.561	1399.136	1.984%	80.896%
30.0	363.978	39.913	1439.049	1.777%	83.204%
32.0	306.279	35.595	1474.644	1.585%	85.262%
34.0	259.646	31.843	1506.487	1.418%	87.103%
36.0	218.794	28.205	1534.691	1.256%	88.734%
38.0	185.870	25.097	1559.788	1.117%	90.185%
40.0	159.168	22.438	1582.226	.999%	91.482%
42.0	133.622	19.609	1601.835	.873%	92.616%
44.0	112.480	17.136	1618.971	.763%	93.607%
46.0	94.091	14.844	1633.815	.661%	94.465%
48.0	77.850	12.688	1646.503	.565%	95.199%
50.0	63.590	10.683	1657.187	.476%	95.816%
52.0	53.129	9.182	1666.369	.409%	96.347%
54.0	43.605	7.737	1674.105	.344%	96.795%
56.0	35.732	6.497	1680.602	.289%	97.170%
58.0	29.455	5.478	1686.08	.244%	97.487%
60.0	24.500	4.653	1690.734	.207%	97.756%
62.0	20.591	3.987	1694.721	.178%	97.987%
64.0	17.838	3.516	1698.237	.157%	98.190%
66.0	16.407	3.287	1701.524	.146%	98.380%
68.0	15.361	3.124	1704.648	.139%	98.561%
70.0	14.480	2.984	1707.632	.133%	98.733%
72.0	13.764	2.871	1710.503	.128%	98.899%
74.0	13.158	2.774	1713.277	.123%	99.059%

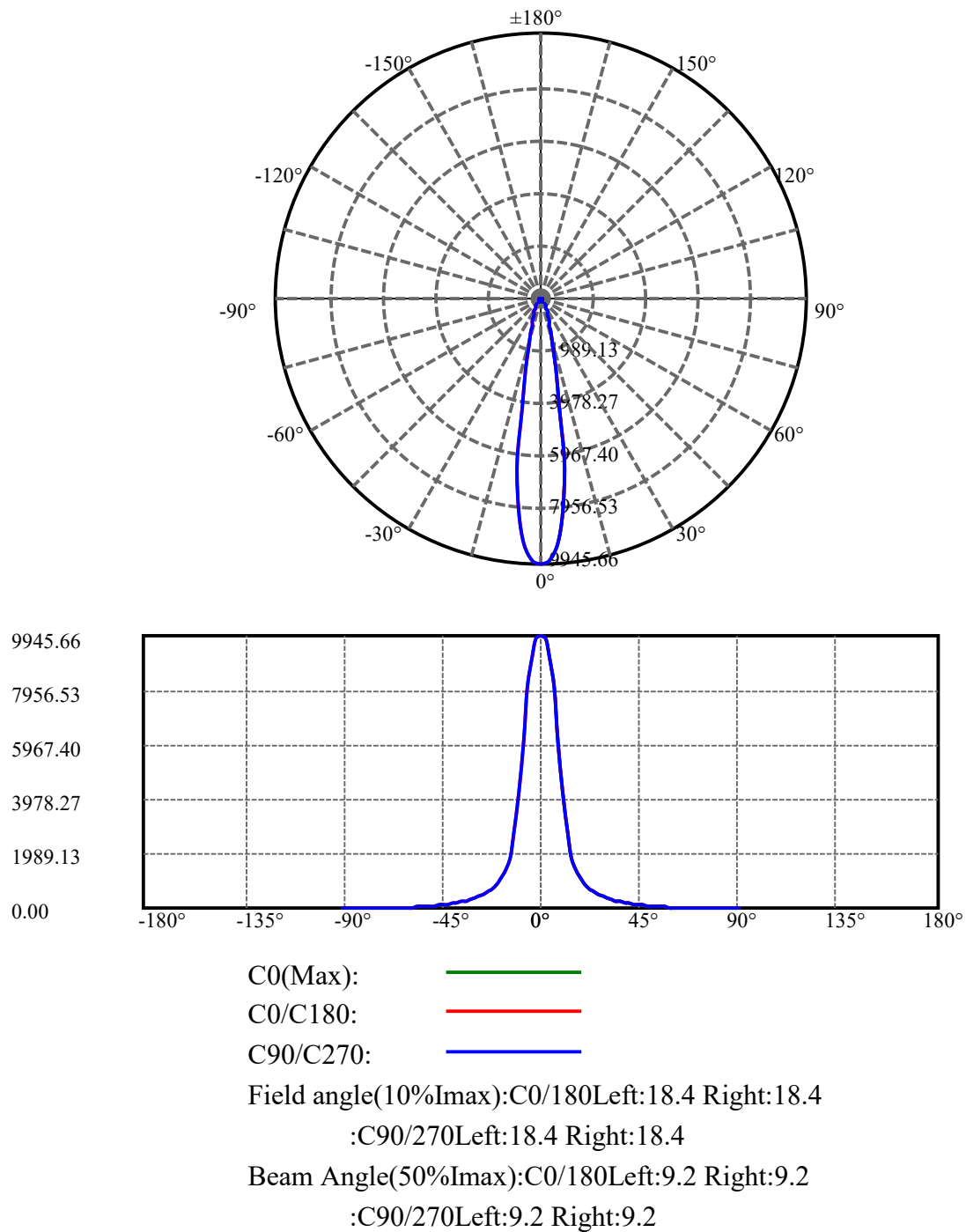
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	12.553	2.671	1715.948	.119%	99.214%
78.0	11.947	2.563	1718.511	.114%	99.362%
80.0	11.121	2.402	1720.913	.107%	99.501%
82.0	10.296	2.236	1723.149	.100%	99.630%
84.0	9.415	2.054	1725.203	.091%	99.749%
86.0	8.589	1.879	1727.082	.084%	99.858%
88.0	7.653	1.677	1728.759	.075%	99.955%
90.0	7.157	0.785	1729.544	.035%	100.000%

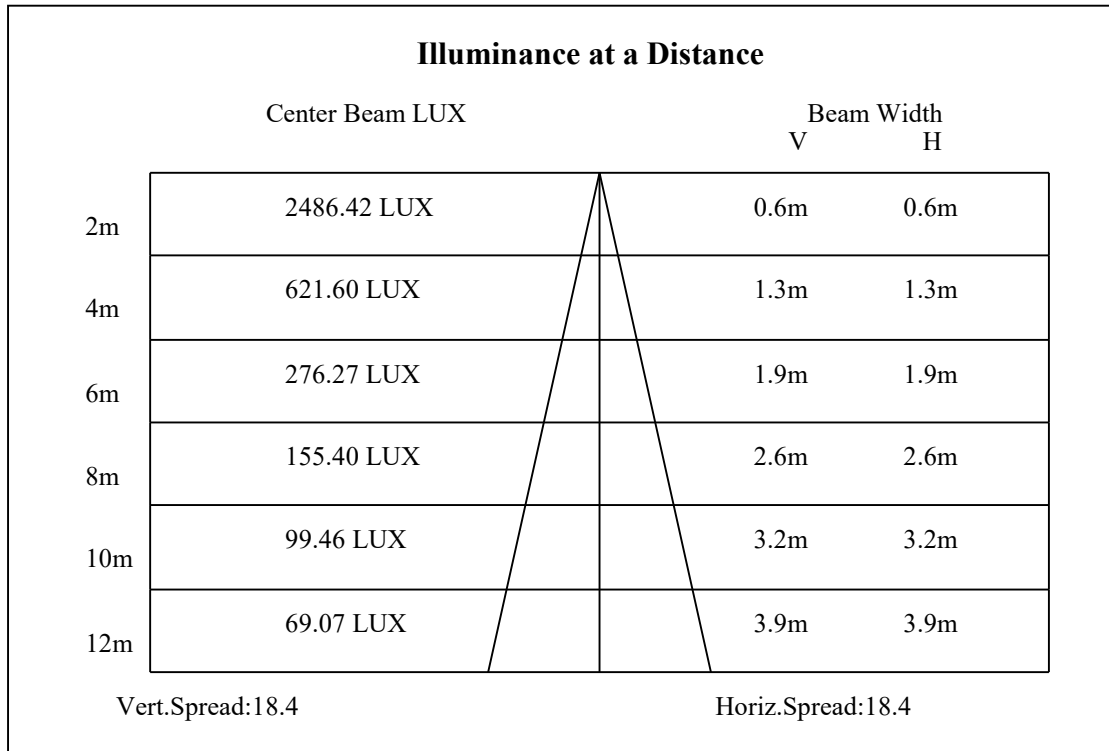
ZONAL LUMEN SUMMARY

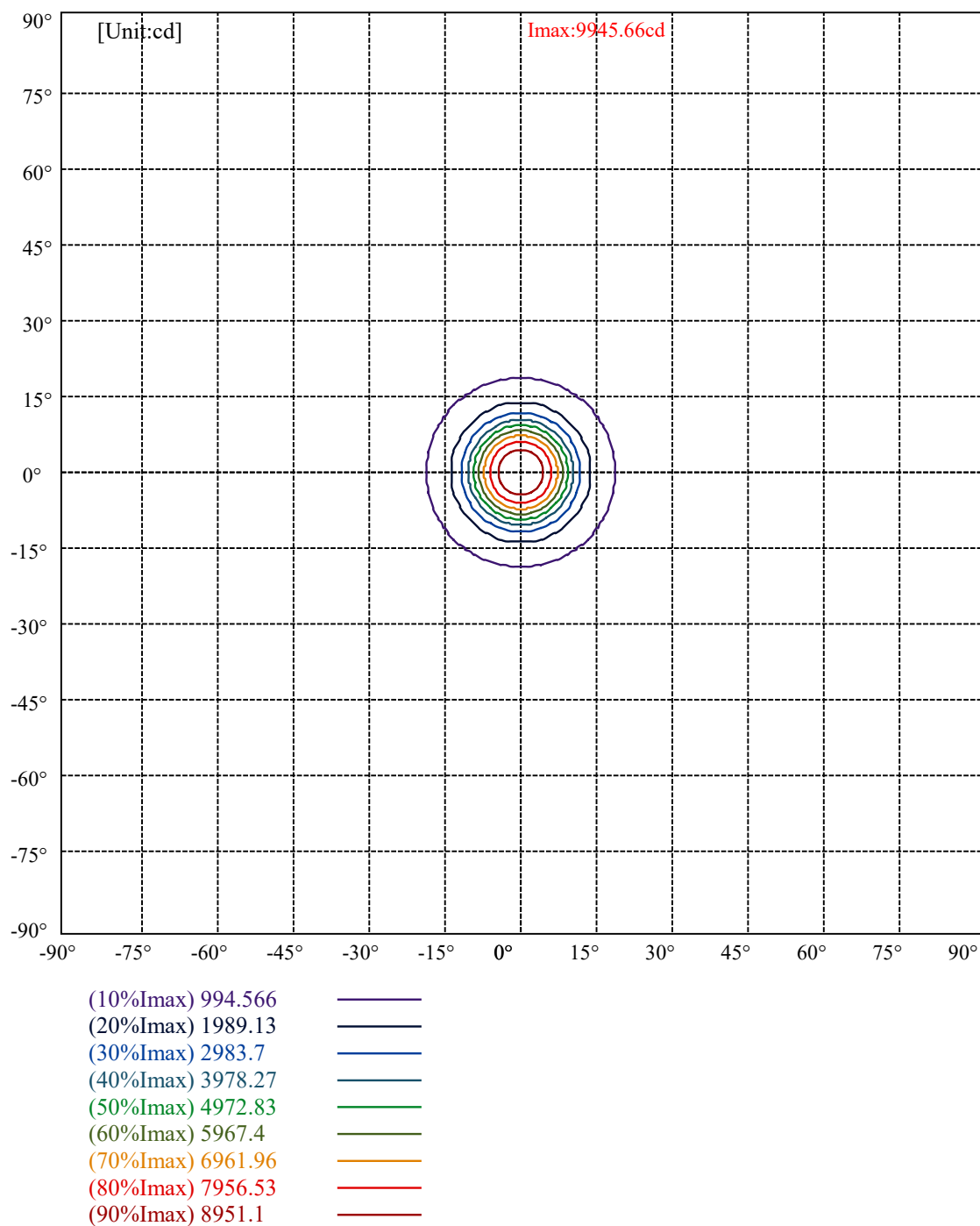
Zone	Lumens	%Lamp	%Fixt
0-30	1439.05	64.07%	83.20%
0-40	1582.23	70.44%	91.48%
0-60	1690.73	75.27%	97.76%
0-90	1728.76	76.96%	99.95%
0-120	1728.76	76.96%	99.95%
0-180	1729.54	77.00%	100.00%
60-90	42.68	1.90%	2.47%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-27.30	1383.64	61.60%	80.00%

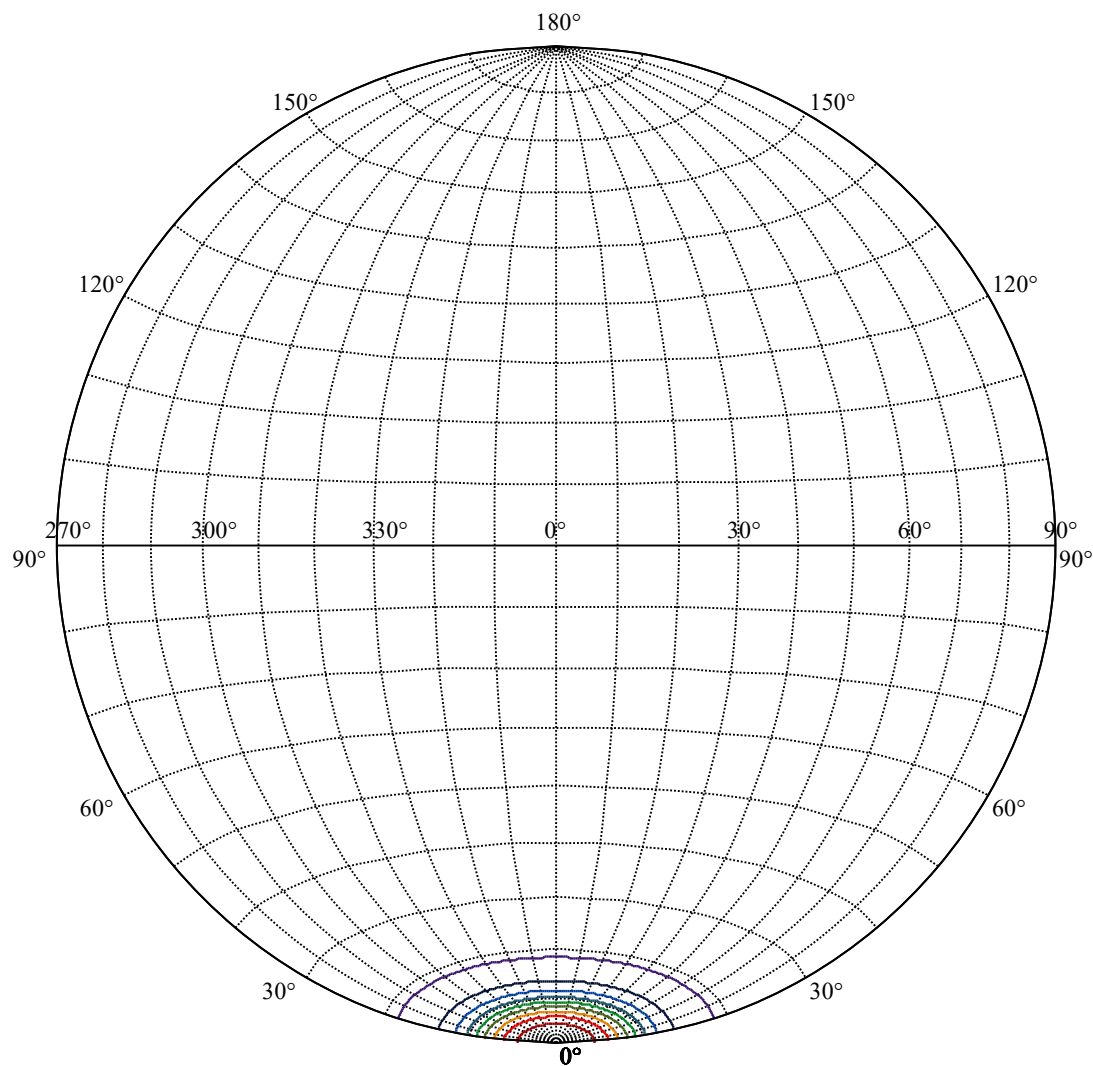
ZONAL LUMEN SUMMARY

0-10	757.82
10-20	436.33
20-30	244.90
30-40	143.18
40-50	74.96
50-60	33.55
60-70	16.90
70-80	13.28
80-90	7.85
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









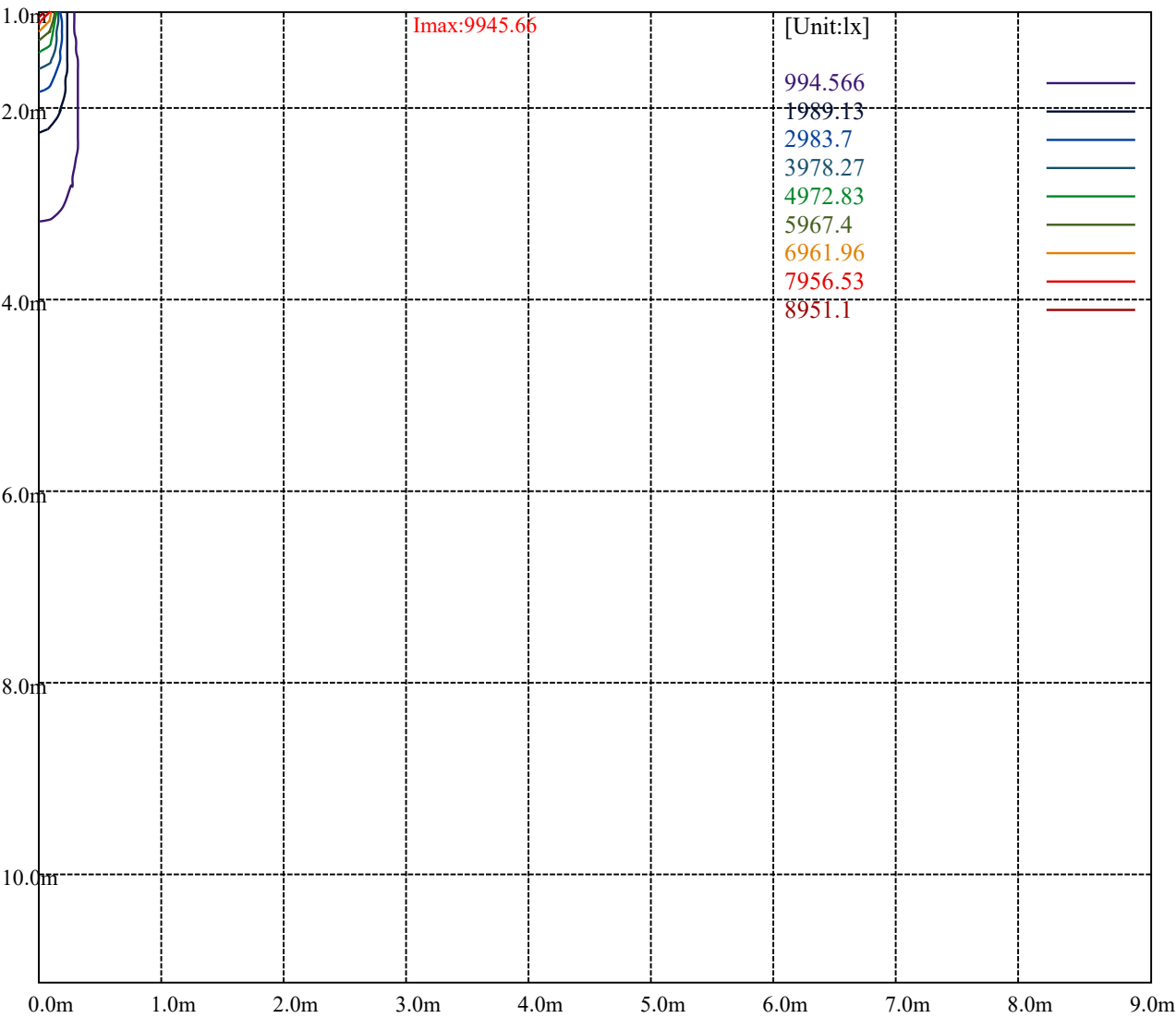
House

[Unit:cd]

Road

Imax:9945.66

(10%Imax)	994.566	_____
(20%Imax)	1989.13	_____
(30%Imax)	2983.7	_____
(40%Imax)	3978.27	_____
(50%Imax)	4972.83	_____
(60%Imax)	5967.4	_____
(70%Imax)	6961.96	_____
(80%Imax)	7956.53	_____
(90%Imax)	8951.1	_____



Luminance Table

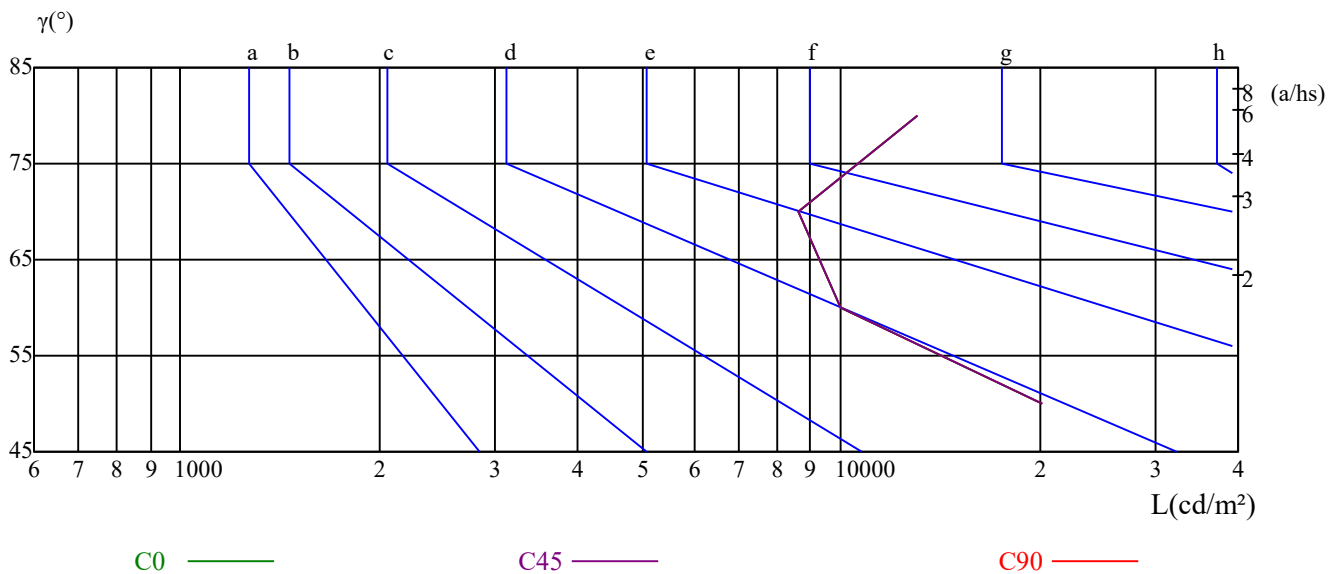
γ	45	50	55	60	65	70	75	80	85
C0	0	20189	0	10000	0	8640	0	13070	0
C45	0	20189	0	10000	0	8640	0	13070	0
C90	0	20189	0	10000	0	8640	0	13070	0

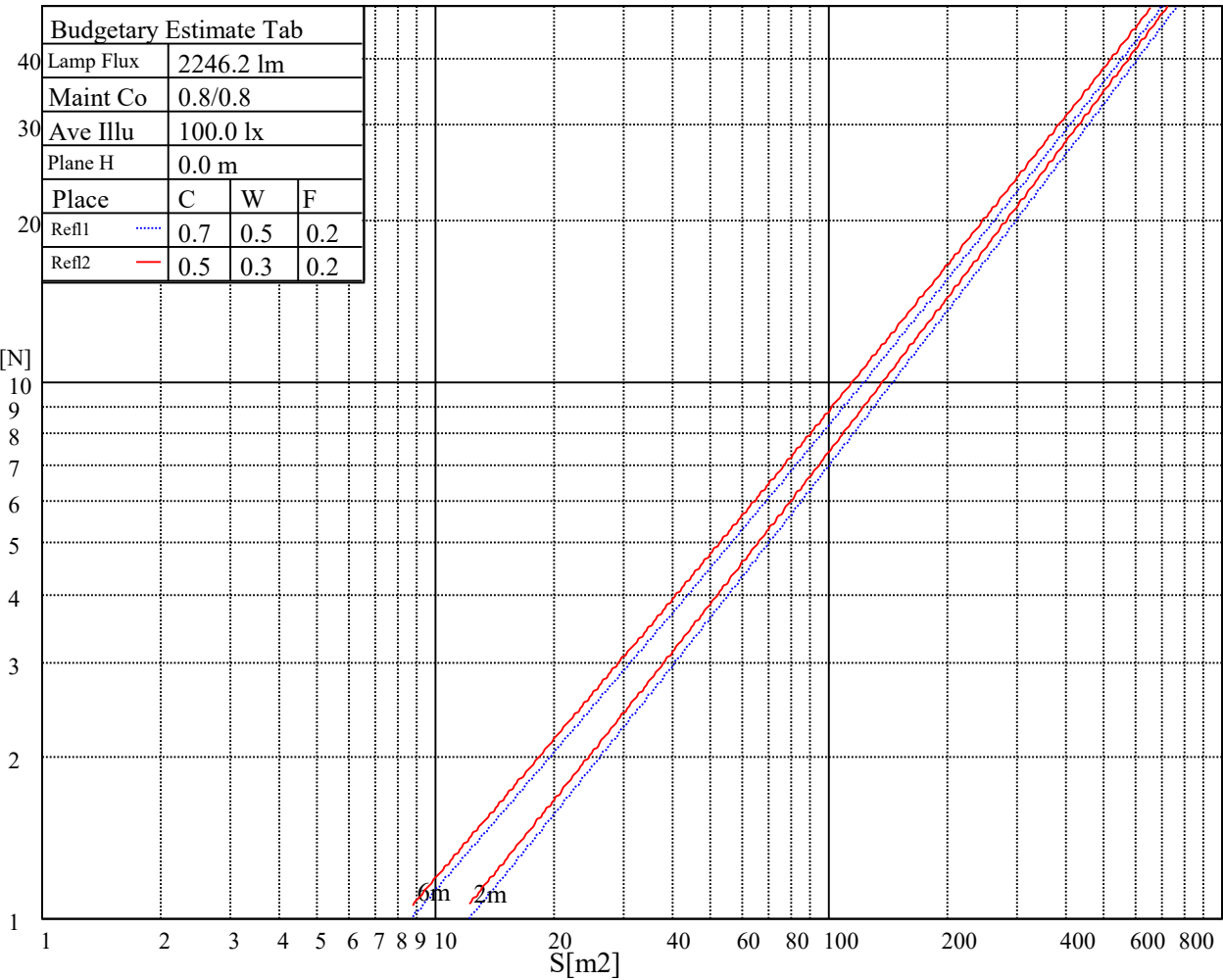
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

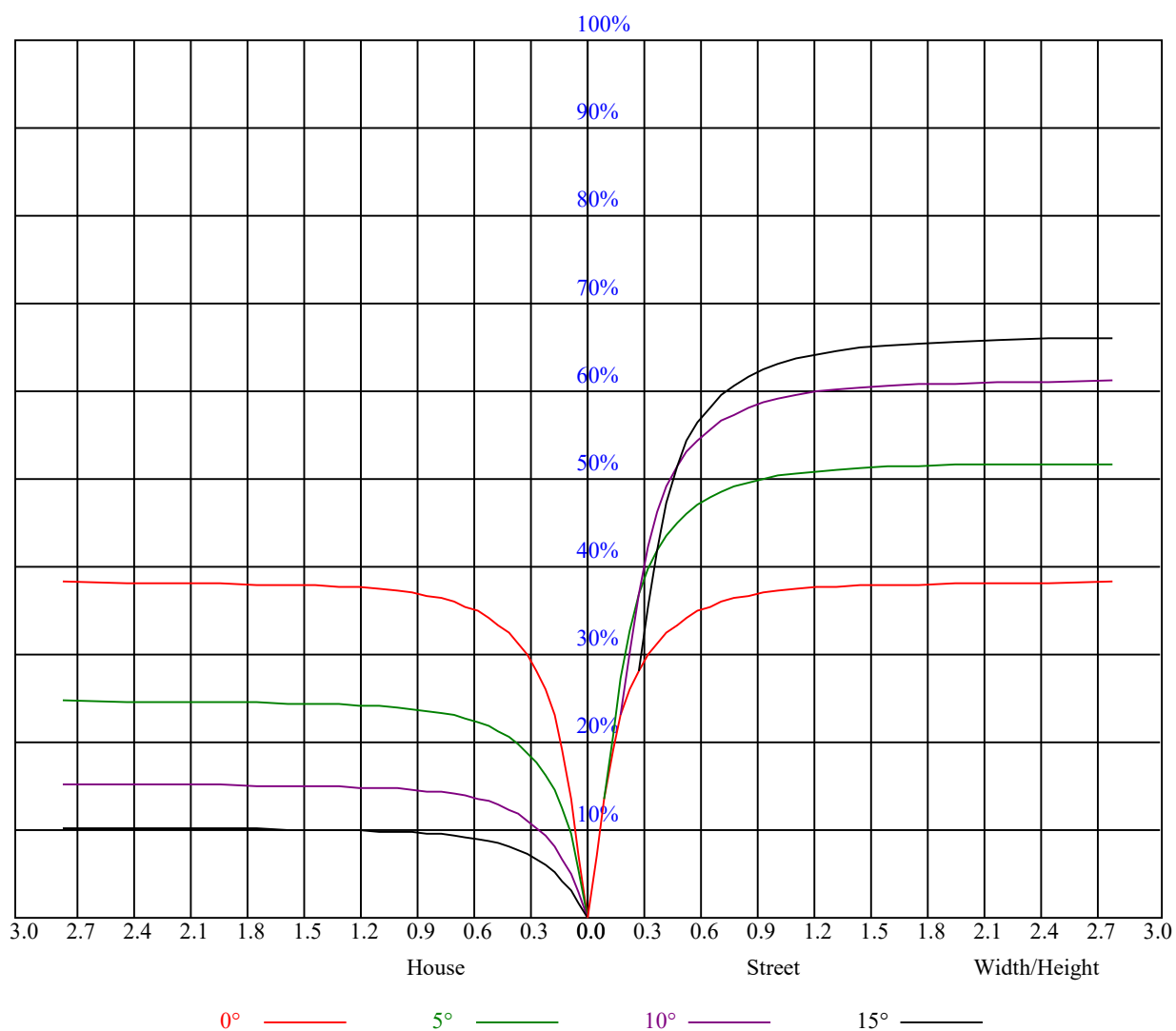
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

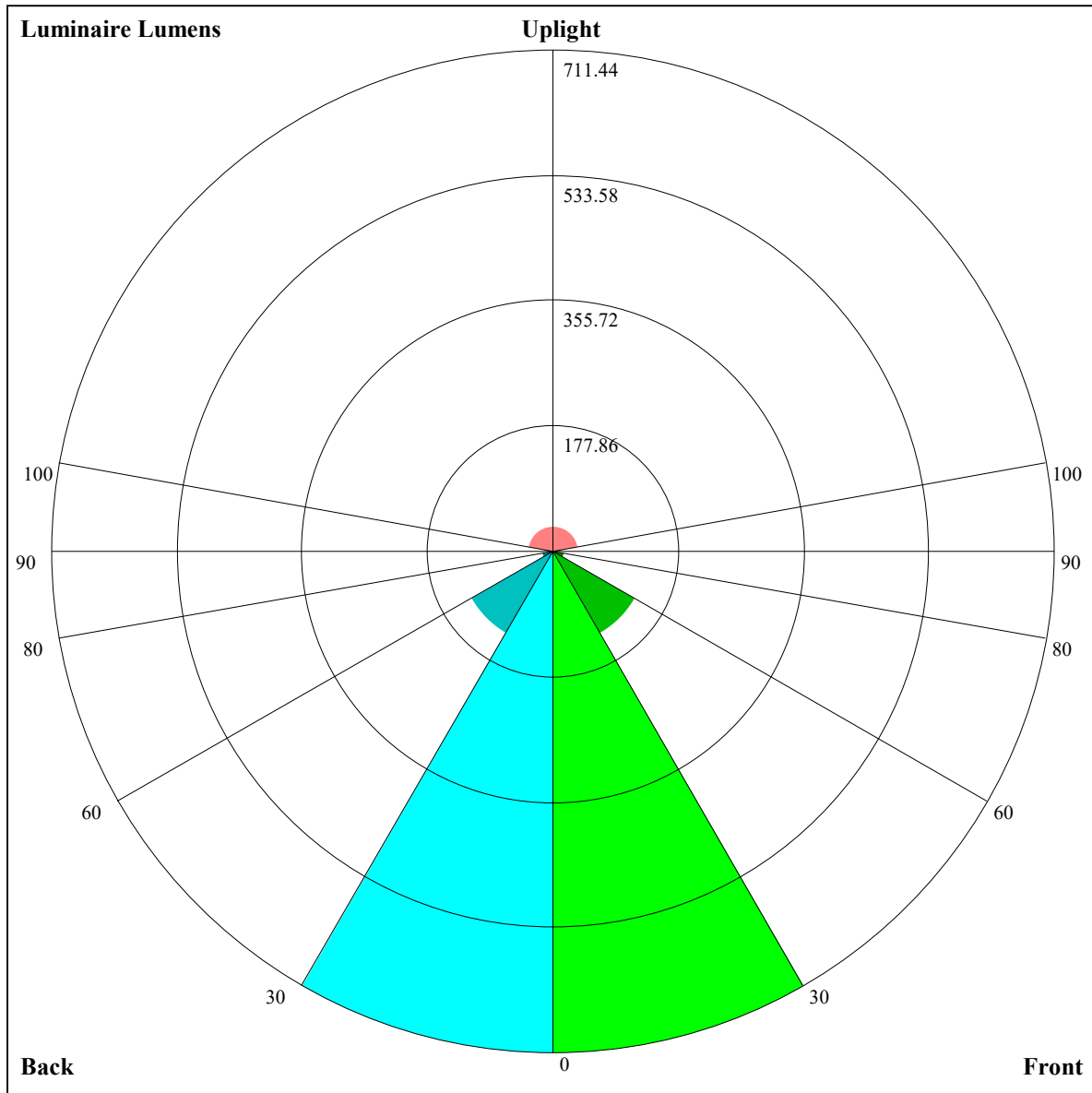
Luminance Limiting Curve





RHOC	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	0.92	0.92	0.92	0.90	0.90	0.90	0.86	0.86	0.86	0.82	0.82	0.82	0.79	0.79	0.79	0.77
1	0.86	0.84	0.83	0.84	0.83	0.81	0.81	0.80	0.79	0.78	0.77	0.77	0.76	0.75	0.74	0.73
2	0.81	0.79	0.76	0.80	0.78	0.76	0.78	0.76	0.74	0.75	0.74	0.72	0.73	0.72	0.71	0.70
3	0.78	0.74	0.72	0.76	0.74	0.71	0.75	0.72	0.70	0.73	0.71	0.69	0.71	0.69	0.68	0.67
4	0.74	0.71	0.68	0.73	0.70	0.68	0.72	0.69	0.67	0.70	0.68	0.66	0.69	0.67	0.65	0.64
5	0.71	0.67	0.65	0.70	0.67	0.65	0.69	0.66	0.64	0.68	0.65	0.63	0.67	0.65	0.63	0.62
6	0.68	0.65	0.62	0.68	0.65	0.62	0.67	0.64	0.62	0.66	0.63	0.61	0.65	0.63	0.61	0.60
7	0.66	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.64	0.61	0.59	0.63	0.61	0.59	0.58
8	0.64	0.60	0.58	0.64	0.60	0.58	0.63	0.60	0.58	0.62	0.59	0.58	0.62	0.59	0.57	0.56
9	0.62	0.59	0.56	0.62	0.59	0.56	0.61	0.58	0.56	0.61	0.58	0.56	0.60	0.58	0.56	0.55
10	0.60	0.57	0.55	0.60	0.57	0.55	0.60	0.57	0.55	0.59	0.56	0.55	0.59	0.56	0.54	0.54





Luminaire Lumens:

FL=711.44,FM=135.29,FH=15.7,FVH=4.92

BL=711.44,BM=135.29,BH=15.7,BVH=4.92

UL=7.81,UH=37.16

BUG Rating:B2-U2-G0

Intensity data(cd)

C/γ(°)	0.0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0
0.0	9945.66	9799.43	9217.54	8003.16	6196.21	4193.26	2744.18	1829.25	1328.29
45.0	9945.66	9799.43	9217.54	8003.16	6196.21	4193.26	2744.18	1829.25	1328.29
90.0	9945.66	9799.43	9217.54	8003.16	6196.21	4193.26	2744.18	1829.25	1328.29
135.0	9945.66	9799.43	9217.54	8003.16	6196.21	4193.26	2744.18	1829.25	1328.29
180.0	9945.66	9799.43	9217.54	8003.16	6196.21	4193.26	2744.18	1829.25	1328.29
225.0	9945.66	9799.43	9217.54	8003.16	6196.21	4193.26	2744.18	1829.25	1328.29
270.0	9945.66	9799.43	9217.54	8003.16	6196.21	4193.26	2744.18	1829.25	1328.29
315.0	9945.66	9799.43	9217.54	8003.16	6196.21	4193.26	2744.18	1829.25	1328.29
360.0	9945.66	9799.43	9217.54	8003.16	6196.21	4193.26	2744.18	1829.25	1328.29

C/γ(°)	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0
0.0	1036.99	847.48	706.15	597.53	510.81	432.80	363.98	306.28	259.65
45.0	1036.99	847.48	706.15	597.53	510.81	432.80	363.98	306.28	259.65
90.0	1036.99	847.48	706.15	597.53	510.81	432.80	363.98	306.28	259.65
135.0	1036.99	847.48	706.15	597.53	510.81	432.80	363.98	306.28	259.65
180.0	1036.99	847.48	706.15	597.53	510.81	432.80	363.98	306.28	259.65
225.0	1036.99	847.48	706.15	597.53	510.81	432.80	363.98	306.28	259.65
270.0	1036.99	847.48	706.15	597.53	510.81	432.80	363.98	306.28	259.65
315.0	1036.99	847.48	706.15	597.53	510.81	432.80	363.98	306.28	259.65
360.0	1036.99	847.48	706.15	597.53	510.81	432.80	363.98	306.28	259.65

C/γ(°)	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0	52.0
0.0	218.79	185.87	159.17	133.62	112.48	94.09	77.85	63.59	53.13
45.0	218.79	185.87	159.17	133.62	112.48	94.09	77.85	63.59	53.13
90.0	218.79	185.87	159.17	133.62	112.48	94.09	77.85	63.59	53.13
135.0	218.79	185.87	159.17	133.62	112.48	94.09	77.85	63.59	53.13
180.0	218.79	185.87	159.17	133.62	112.48	94.09	77.85	63.59	53.13
225.0	218.79	185.87	159.17	133.62	112.48	94.09	77.85	63.59	53.13
270.0	218.79	185.87	159.17	133.62	112.48	94.09	77.85	63.59	53.13
315.0	218.79	185.87	159.17	133.62	112.48	94.09	77.85	63.59	53.13
360.0	218.79	185.87	159.17	133.62	112.48	94.09	77.85	63.59	53.13

C/γ(°)	54.0	56.0	58.0	60.0	62.0	64.0	66.0	68.0	70.0
0.0	43.61	35.73	29.46	24.50	20.59	17.84	16.41	15.36	14.48
45.0	43.61	35.73	29.46	24.50	20.59	17.84	16.41	15.36	14.48
90.0	43.61	35.73	29.46	24.50	20.59	17.84	16.41	15.36	14.48
135.0	43.61	35.73	29.46	24.50	20.59	17.84	16.41	15.36	14.48
180.0	43.61	35.73	29.46	24.50	20.59	17.84	16.41	15.36	14.48
225.0	43.61	35.73	29.46	24.50	20.59	17.84	16.41	15.36	14.48
270.0	43.61	35.73	29.46	24.50	20.59	17.84	16.41	15.36	14.48
315.0	43.61	35.73	29.46	24.50	20.59	17.84	16.41	15.36	14.48
360.0	43.61	35.73	29.46	24.50	20.59	17.84	16.41	15.36	14.48

C/γ(°)	72.0	74.0	76.0	78.0	80.0	82.0	84.0	86.0	88.0
0.0	13.76	13.16	12.55	11.95	11.12	10.30	9.42	8.59	7.65
45.0	13.76	13.16	12.55	11.95	11.12	10.30	9.42	8.59	7.65
90.0	13.76	13.16	12.55	11.95	11.12	10.30	9.42	8.59	7.65
135.0	13.76	13.16	12.55	11.95	11.12	10.30	9.42	8.59	7.65
180.0	13.76	13.16	12.55	11.95	11.12	10.30	9.42	8.59	7.65
225.0	13.76	13.16	12.55	11.95	11.12	10.30	9.42	8.59	7.65
270.0	13.76	13.16	12.55	11.95	11.12	10.30	9.42	8.59	7.65
315.0	13.76	13.16	12.55	11.95	11.12	10.30	9.42	8.59	7.65
360.0	13.76	13.16	12.55	11.95	11.12	10.30	9.42	8.59	7.65

Intensity data(cd)

Appendix Page: 17 Total:17

C/ γ (°)	90.0
0.0	7.16
45.0	7.16
90.0	7.16
135.0	7.16
180.0	7.16
225.0	7.16
270.0	7.16
315.0	7.16
360.0	7.16