
Nata

Client:

LumCAT: 3-2115-N

Luminaire: 92.70.131.00

Report No: nata-0100

Test No:

LampCAT: CREE CMT1922

Lamp flux(lm): 2807.4

Number of Lamps: 1

Length(mm): 81

Phm Type: C

Voltage(V): 35.6000

Current(A): 0.6000

Power (W): 21.3600

PF: 0.0000

Ballast type: DC

Width(mm): 81

Height(mm): 0

Photometric Results

Lumens(lm): 2396.72, Efficiency(%): 85.37% , Luminous Efficacy(lm/W): 112.21

Central intensity(cd): 14954.690, Maximum intensity(cd): 14954.690

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=15.6

[C90/270]Total=15.6

Field angle(10%Imax): [C0/180]Total=43.2

[C90/270]Total=43.2

Maximum s/h(1/2): C0_180=0.27 C90_270=0.27

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(%): 85.87%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 97.649%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	14954.695	14.311	14.311	.510%	.597%
2.0	14371.097	109.995	124.306	3.918%	5.187%
4.0	12451.143	190.484	314.791	6.785%	13.134%
6.0	9611.265	220.333	535.124	7.848%	22.327%
8.0	7260.700	221.615	756.739	7.894%	31.574%
10.0	5503.438	209.589	966.328	7.466%	40.319%
12.0	4232.736	193.004	1159.332	6.875%	48.372%
14.0	3284.045	174.241	1333.573	6.207%	55.642%
16.0	2654.613	160.474	1494.046	5.716%	62.337%
18.0	2085.399	141.331	1635.377	5.034%	68.234%
20.0	1716.108	128.725	1764.102	4.585%	73.605%
22.0	1435.045	117.898	1882	4.200%	78.524%
24.0	1157.113	103.218	1985.217	3.677%	82.831%
26.0	999.769	96.118	2081.336	3.424%	86.841%
28.0	809.343	83.331	2164.667	2.968%	90.318%
30.0	581.581	63.774	2228.441	2.272%	92.979%
32.0	355.926	41.365	2269.806	1.473%	94.705%
34.0	179.456	22.008	2291.815	.784%	95.623%
36.0	80.217	10.341	2302.155	.368%	96.054%
38.0	55.641	7.513	2309.668	.268%	96.368%
40.0	42.077	5.932	2315.6	.211%	96.615%
42.0	33.695	4.945	2320.545	.176%	96.822%
44.0	28.739	4.378	2324.923	.156%	97.004%
46.0	25.347	3.999	2328.922	.142%	97.171%
48.0	23.234	3.787	2332.708	.135%	97.329%
50.0	21.665	3.640	2336.348	.130%	97.481%
52.0	20.543	3.550	2339.898	.126%	97.629%
54.0	19.751	3.504	2343.403	.125%	97.775%
56.0	19.297	3.509	2346.911	.125%	97.922%
58.0	18.967	3.528	2350.439	.126%	98.069%
60.0	18.760	3.563	2354.002	.127%	98.218%
62.0	18.726	3.626	2357.628	.129%	98.369%
64.0	18.630	3.672	2361.301	.131%	98.522%
66.0	17.818	3.570	2364.87	.127%	98.671%
68.0	16.517	3.359	2368.229	.120%	98.811%
70.0	15.423	3.178	2371.408	.113%	98.944%
72.0	14.583	3.042	2374.449	.108%	99.071%
74.0	14.074	2.967	2377.416	.106%	99.195%

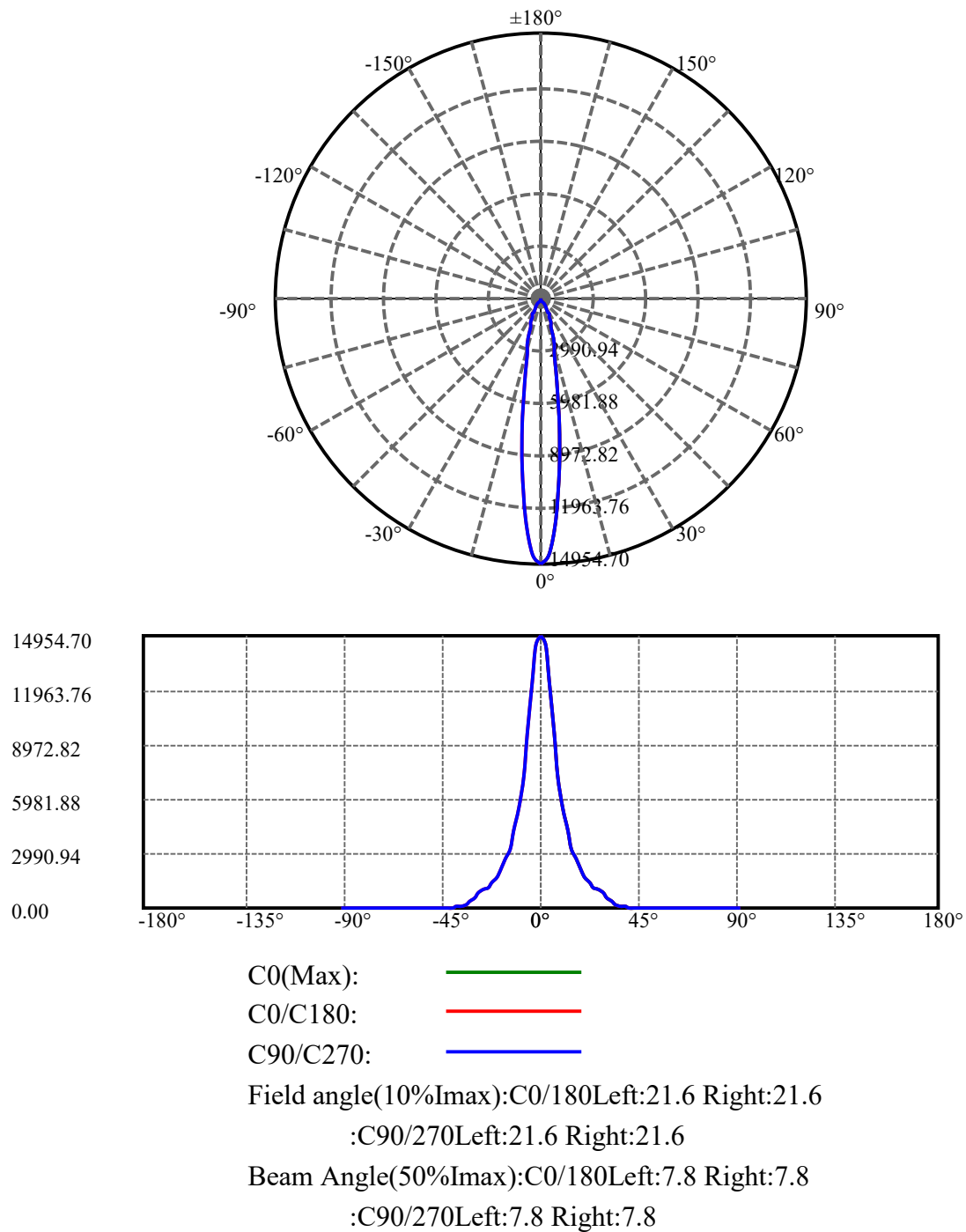
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	13.516	2.876	2380.293	.102%	99.315%
78.0	13.014	2.792	2383.084	.099%	99.431%
80.0	12.484	2.696	2385.781	.096%	99.544%
82.0	11.995	2.605	2388.386	.093%	99.652%
84.0	11.507	2.510	2390.896	.089%	99.757%
86.0	11.108	2.430	2393.326	.087%	99.858%
88.0	10.454	2.291	2395.617	.082%	99.954%
90.0	10.062	1.103	2396.72	.039%	100.000%

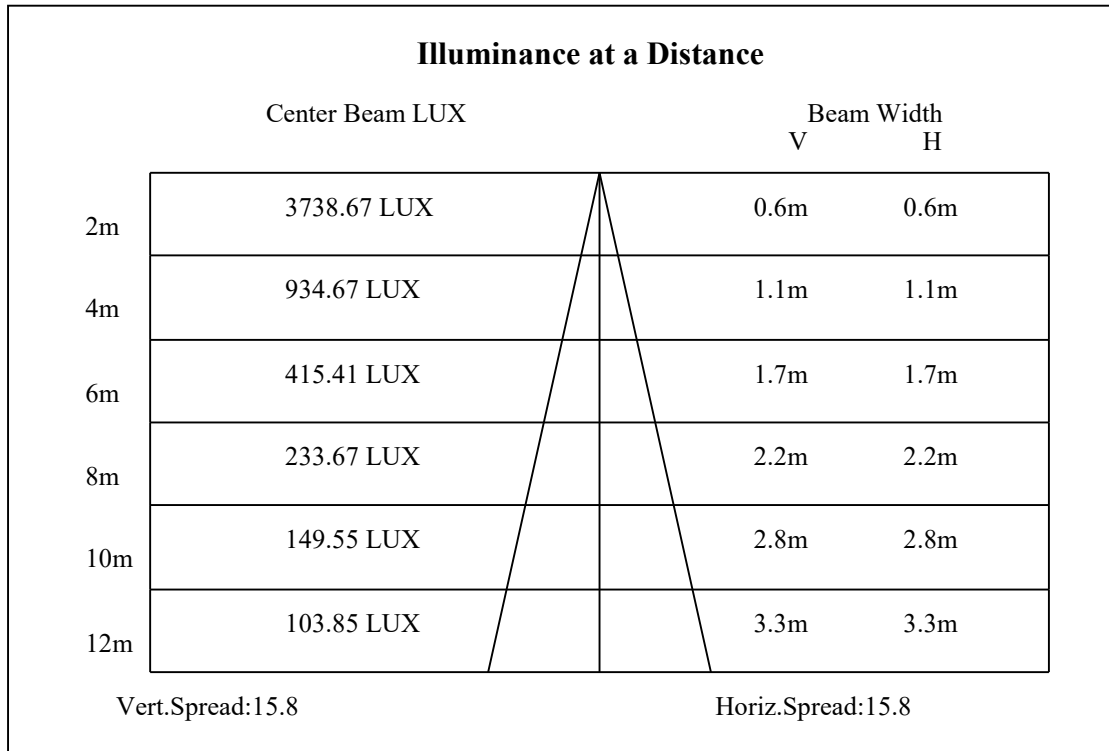
ZONAL LUMEN SUMMARY

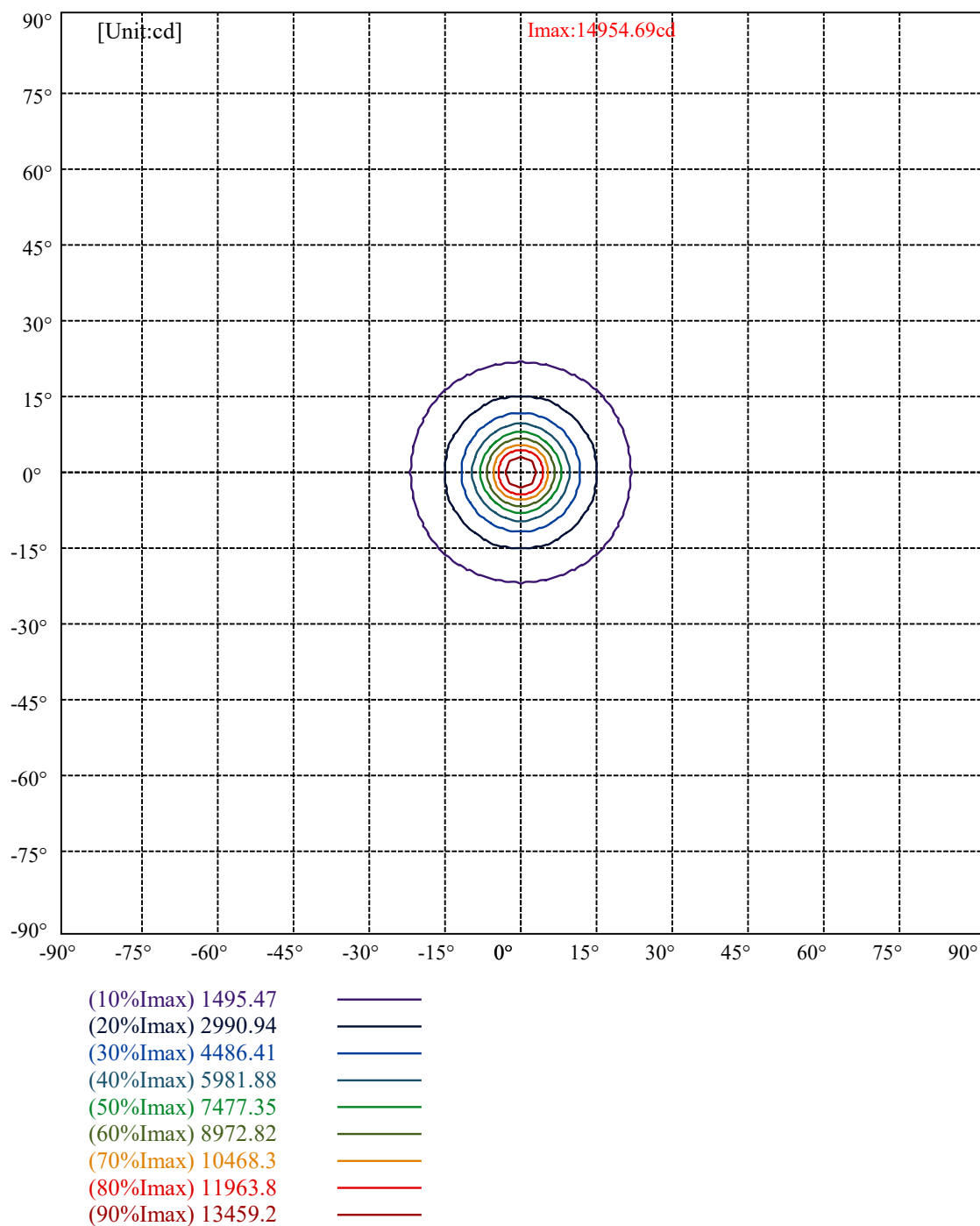
Zone	Lumens	%Lamp	%Fixt
0-30	2228.44	79.38%	92.98%
0-40	2315.60	82.48%	96.62%
0-60	2354.00	83.85%	98.22%
0-90	2395.62	85.33%	99.95%
0-120	2395.62	85.33%	99.95%
0-180	2396.72	85.37%	100.00%
60-90	45.18	1.61%	1.88%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-22.69	1917.38	68.30%	80.00%

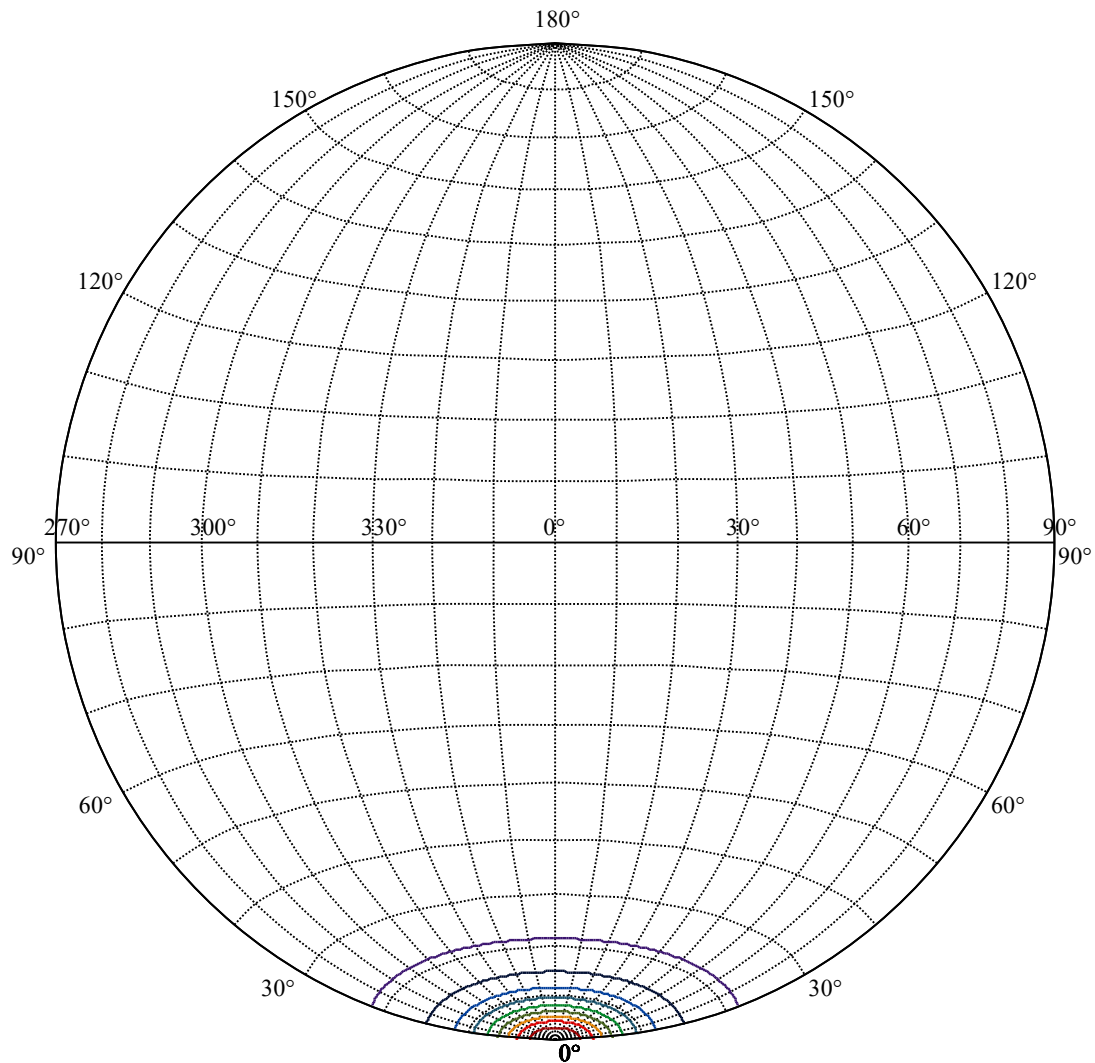
ZONAL LUMEN SUMMARY

0-10	966.33
10-20	797.77
20-30	464.34
30-40	87.16
40-50	20.75
50-60	17.65
60-70	17.41
70-80	14.37
80-90	9.84
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









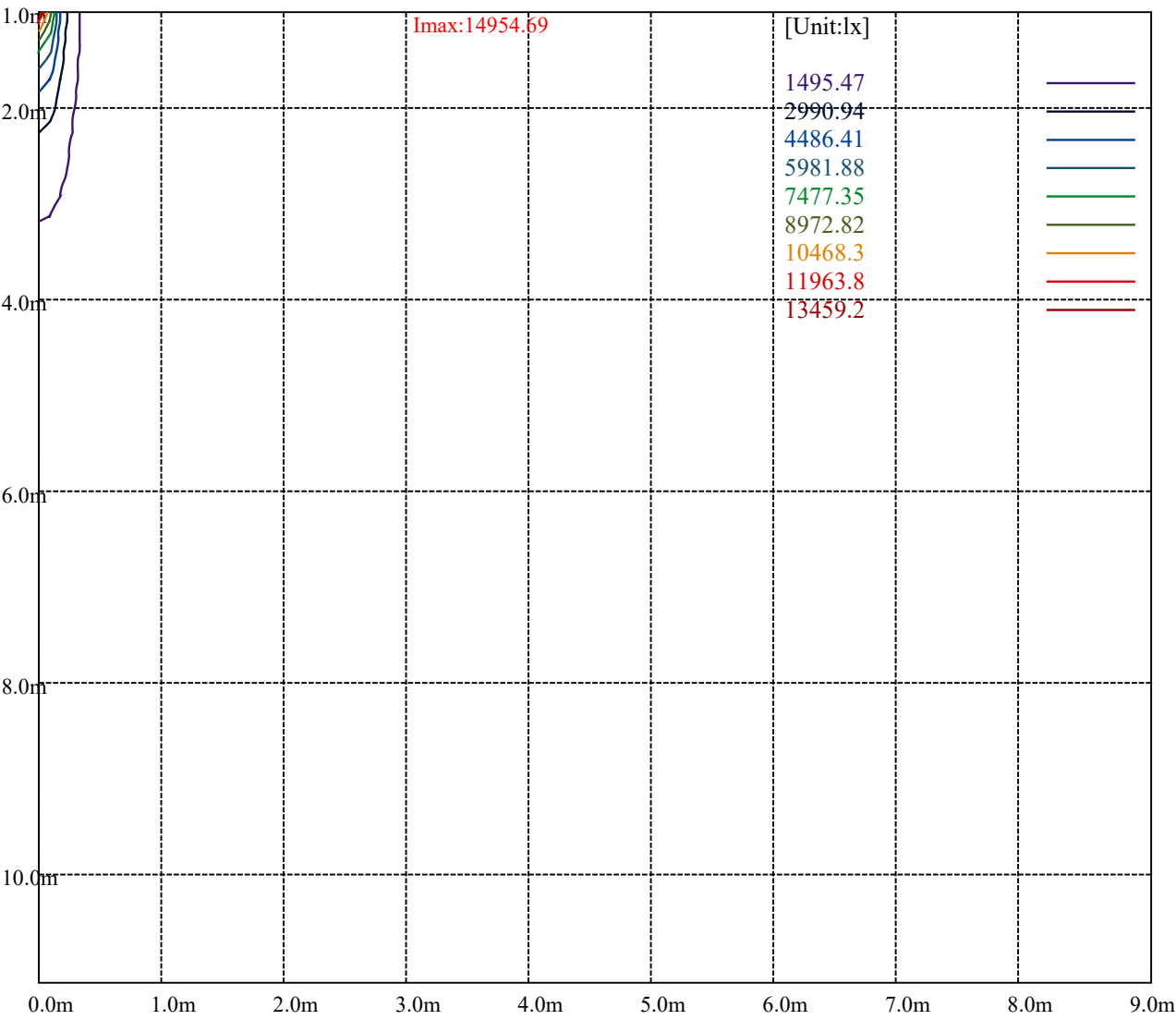
House

[Unit:cd]

Road

Imax:14954.69

(10%Imax)	1495.47	—
(20%Imax)	2990.94	—
(30%Imax)	4486.41	—
(40%Imax)	5981.88	—
(50%Imax)	7477.35	—
(60%Imax)	8972.82	—
(70%Imax)	10468.3	—
(80%Imax)	11963.8	—
(90%Imax)	13459.2	—



Luminance Table

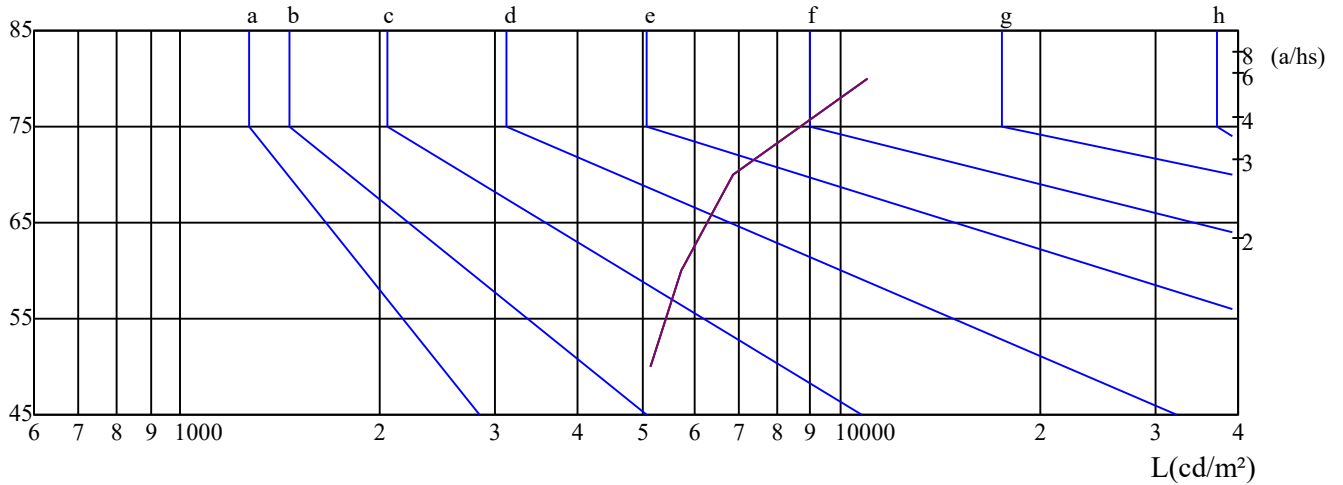
γ	45	50	55	60	65	70	75	80	85
C0	0	5137	0	5719	0	6873	0	10958	0
C45	0	5137	0	5719	0	6873	0	10958	0
C90	0	5137	0	5719	0	6873	0	10958	0

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
8665	8665	8665	10837	10837	10837	22518	22518	22518

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

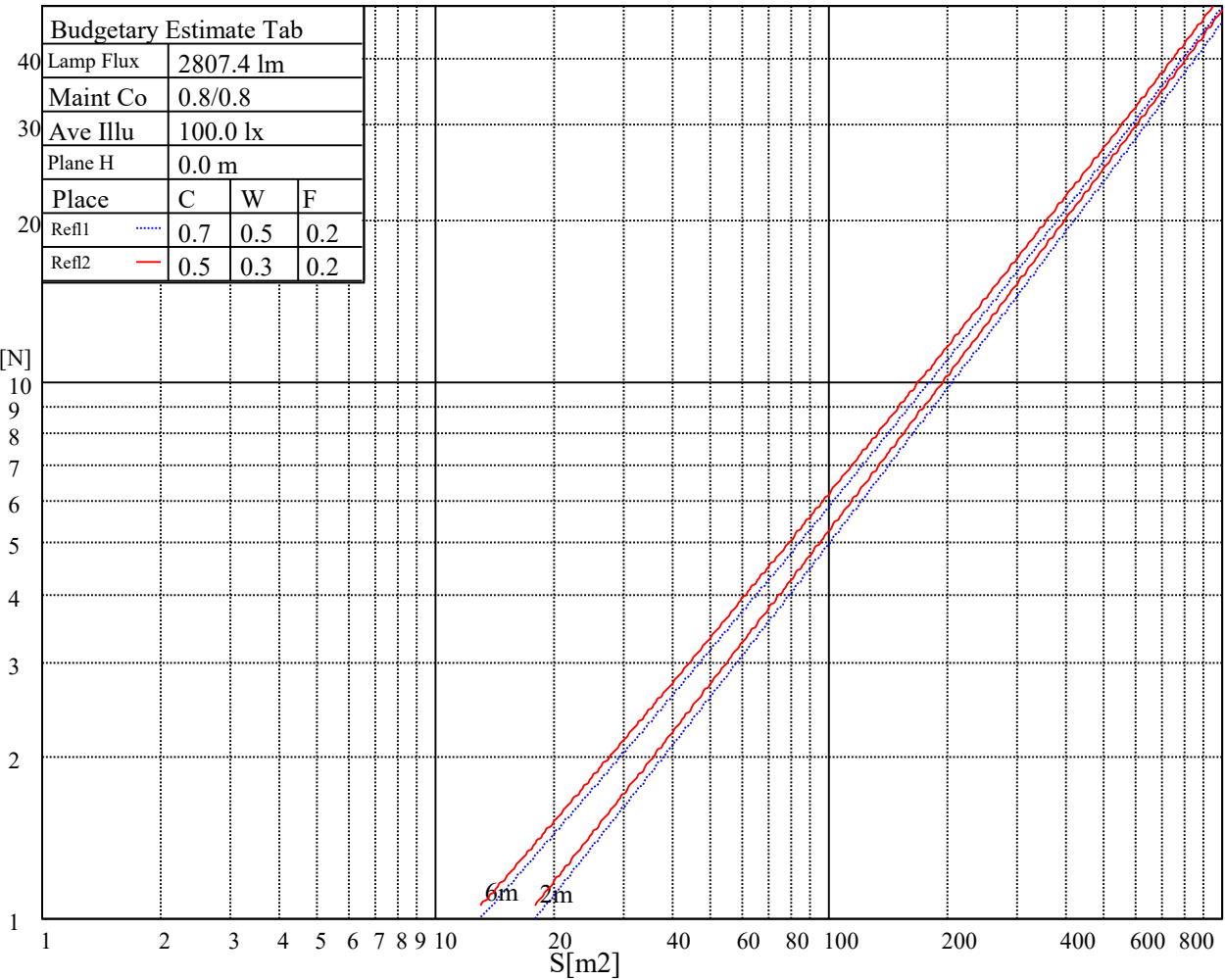
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

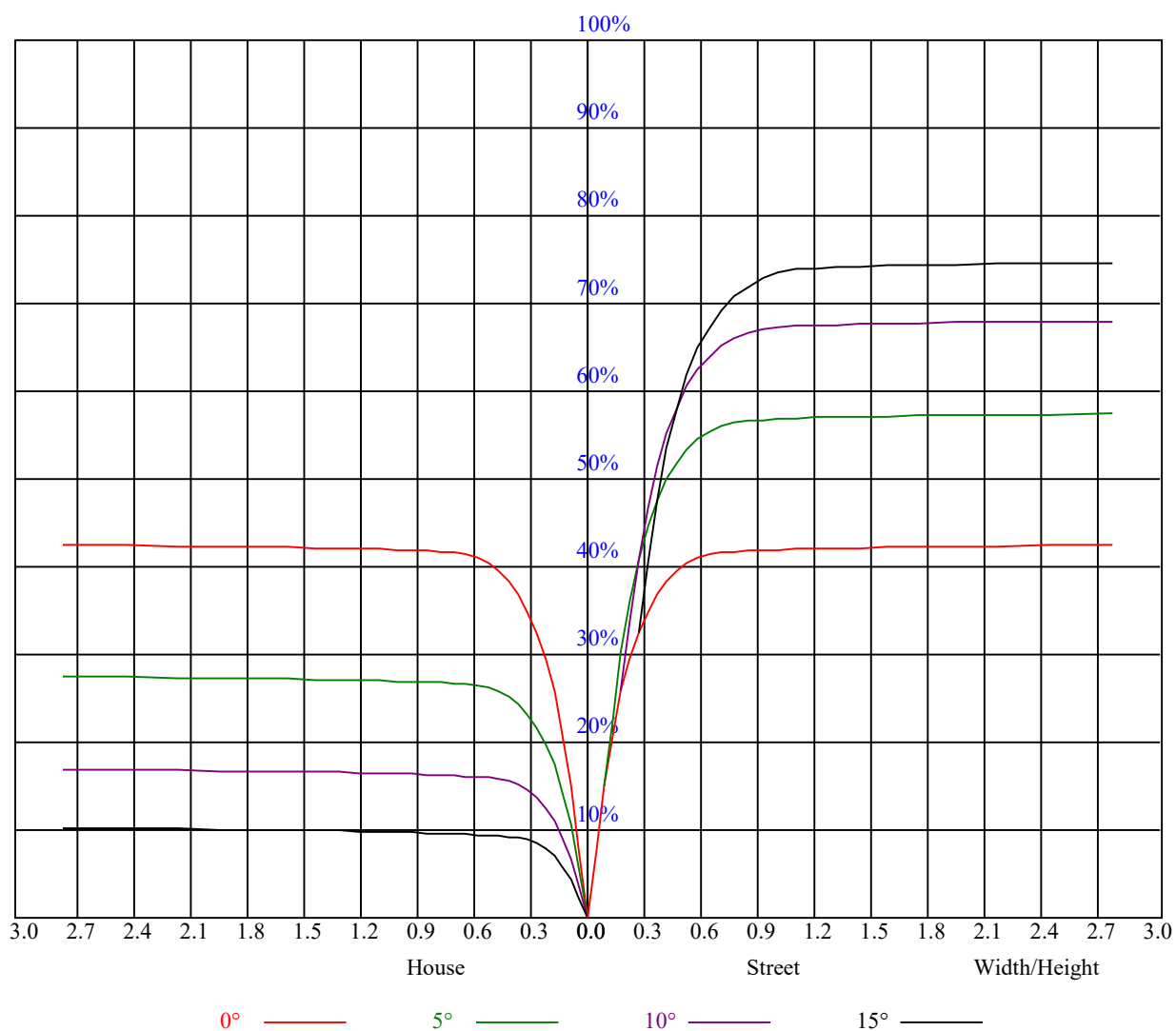
C0 ———

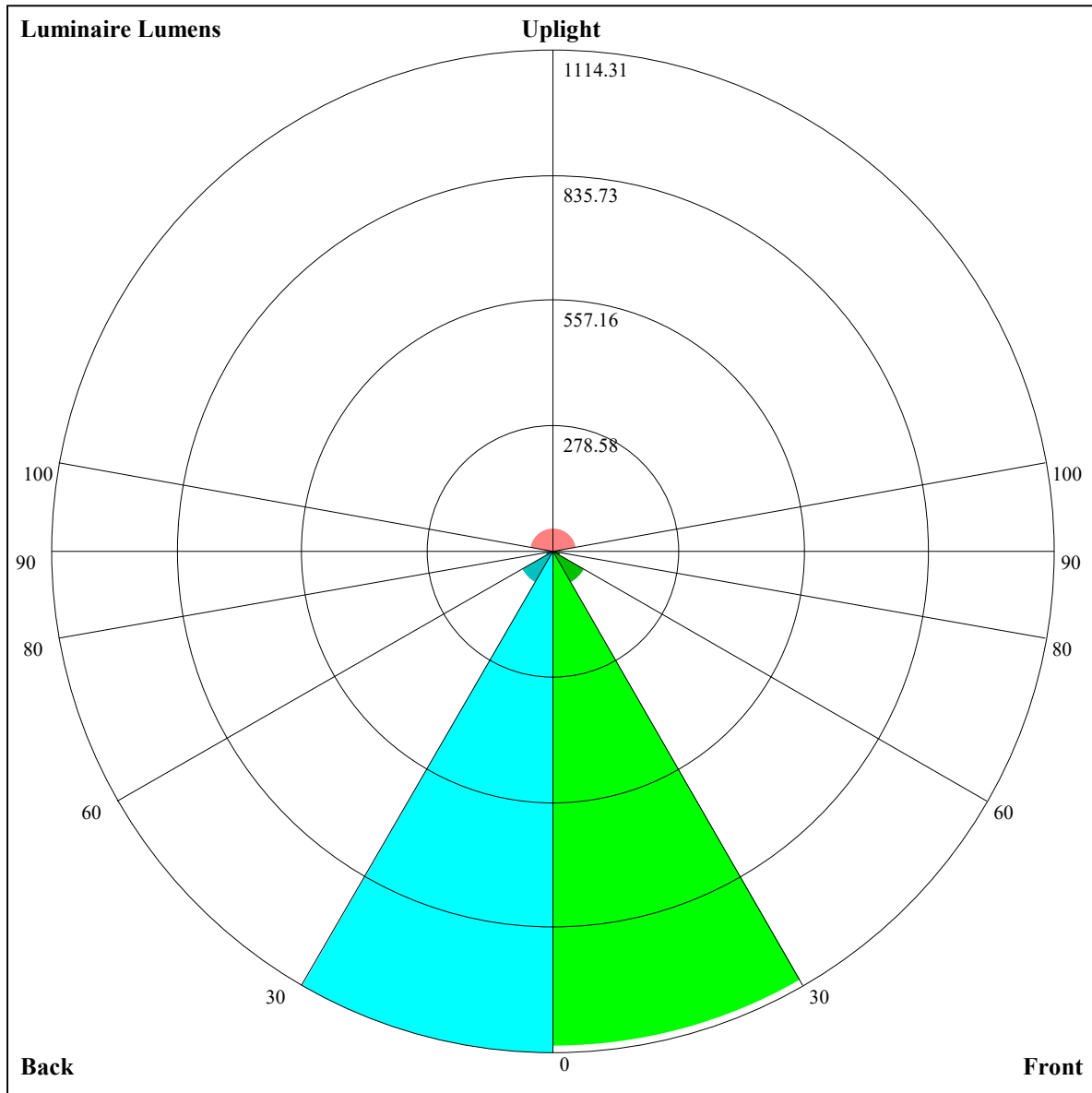
C45 ———

C90 ———



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	1.02	1.02	1.02	1.00	1.00	1.00	0.95	0.95	0.95	0.91	0.91	0.91	0.88	0.88	0.88	0.86
1	0.96	0.94	0.92	0.94	0.92	0.91	0.91	0.89	0.88	0.87	0.86	0.85	0.84	0.84	0.83	0.81
2	0.91	0.88	0.86	0.90	0.87	0.85	0.87	0.85	0.83	0.84	0.83	0.81	0.82	0.81	0.80	0.78
3	0.87	0.84	0.81	0.86	0.83	0.80	0.84	0.81	0.79	0.82	0.80	0.78	0.80	0.78	0.77	0.76
4	0.84	0.80	0.77	0.83	0.79	0.77	0.81	0.78	0.76	0.79	0.77	0.75	0.78	0.76	0.74	0.73
5	0.80	0.77	0.74	0.80	0.76	0.74	0.78	0.75	0.73	0.77	0.74	0.72	0.76	0.74	0.72	0.71
6	0.78	0.74	0.71	0.77	0.73	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.74	0.71	0.70	0.69
7	0.75	0.71	0.69	0.75	0.71	0.69	0.74	0.71	0.68	0.73	0.70	0.68	0.72	0.69	0.68	0.67
8	0.73	0.69	0.67	0.72	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.70	0.68	0.66	0.65
9	0.71	0.67	0.65	0.70	0.67	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.68	0.66	0.64	0.63
10	0.69	0.65	0.63	0.69	0.65	0.63	0.68	0.65	0.63	0.67	0.65	0.63	0.67	0.64	0.62	0.62





Luminaire Lumens:

FL=1098.79,FM=81.38,FH=16.04,FVH=6.14

BL=1114.31,BM=80.82,BH=16.14,BVH=6.17

UL=10.98,UH=52.24

BUG Rating:B3-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	14986.35	14446.80	12607.92	9563.30	7118.79	5412.04	4173.28	3220.80	2818.89
45.0	14991.86	13874.21	11385.66	8566.78	6430.59	4878.00	3831.93	2967.54	2403.76
90.0	14854.22	13483.31	10808.67	7930.32	6049.60	4562.52	3566.00	2849.17	2299.71
135.0	14986.35	14182.53	12272.07	9117.34	6810.48	5285.41	3997.09	3072.15	2480.29
180.0	14986.35	14391.74	11936.23	9280.86	6906.83	5264.49	4074.17	3160.24	2565.63
225.0	14991.86	14942.31	13549.38	10694.16	8176.43	6112.91	4626.39	3639.23	2857.43
270.0	14854.22	15019.39	14066.91	11666.45	8897.11	6760.93	5197.32	3964.06	3138.21
315.0	14986.35	14628.49	12982.30	10070.92	7695.78	5751.19	4395.70	3399.18	2672.99
360.0	14986.35	14446.80	12607.92	9563.30	7118.79	5412.04	4173.28	3220.80	2818.89
C/γ(°)	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0
0.0	2098.20	1722.71	1472.76	1196.93	1005.88	823.64	589.10	373.28	224.30
45.0	1913.76	1568.56	1319.15	1098.93	947.52	733.90	494.41	279.14	110.28
90.0	1854.30	1560.30	1288.32	1047.78	902.54	659.58	424.59	217.36	88.09
135.0	1974.87	1602.14	1338.42	1083.51	912.28	722.34	501.01	279.14	123.82
180.0	2043.69	1700.14	1433.67	1089.62	986.56	786.48	547.04	332.93	145.07
225.0	2234.19	1873.02	1559.20	1294.38	1094.19	917.79	699.38	446.18	226.83
270.0	2458.27	1958.36	1632.42	1354.39	1145.17	988.26	775.19	520.83	309.97
315.0	2105.91	1743.64	1436.42	1091.38	1004.01	842.75	621.92	398.55	207.29
360.0	2098.20	1722.71	1472.76	1196.93	1005.88	823.64	589.10	373.28	224.30
C/γ(°)	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0	52.0
0.0	80.44	58.41	42.72	33.69	29.01	25.44	23.34	21.80	20.70
45.0	64.03	48.06	37.49	30.34	26.59	24.00	22.30	20.92	19.99
90.0	60.07	47.51	37.27	31.55	27.14	24.39	22.63	21.42	20.54
135.0	68.44	51.31	40.08	32.76	28.96	25.71	23.73	22.08	20.87
180.0	69.10	51.04	38.76	31.38	27.14	24.06	22.24	20.87	19.88
225.0	90.57	59.68	43.88	34.80	28.46	24.89	22.74	21.20	20.04
270.0	123.99	68.16	50.05	38.32	31.49	27.14	24.22	22.13	20.81
315.0	85.12	60.95	46.36	36.72	31.11	27.14	24.67	22.90	21.53
360.0	80.44	58.41	42.72	33.69	29.01	25.44	23.34	21.80	20.70
C/γ(°)	54.0	56.0	58.0	60.0	62.0	64.0	66.0	68.0	70.0
0.0	19.88	19.43	19.10	18.77	18.55	18.66	17.84	16.52	15.31
45.0	19.49	19.16	18.88	18.77	18.72	18.28	17.12	15.80	14.98
90.0	19.99	19.60	19.27	19.10	18.94	18.06	16.85	15.80	14.92
135.0	20.15	19.60	19.27	18.99	18.94	18.55	17.62	16.41	15.47
180.0	19.10	18.77	18.55	18.44	18.66	18.99	18.44	16.79	15.42
225.0	19.16	18.72	18.33	18.28	18.39	18.61	18.17	16.96	15.86
270.0	19.77	19.21	18.94	18.77	18.72	18.72	18.44	17.18	15.97
315.0	20.48	19.88	19.38	18.94	18.88	19.16	18.06	16.68	15.47
360.0	19.88	19.43	19.10	18.77	18.55	18.66	17.84	16.52	15.31
C/γ(°)	72.0	74.0	76.0	78.0	80.0	82.0	84.0	86.0	88.0
0.0	14.42	13.93	13.43	12.94	12.44	11.89	11.40	10.90	10.46
45.0	14.37	13.87	13.38	12.88	12.33	11.89	11.45	11.01	10.30
90.0	14.37	13.82	13.21	12.77	12.22	11.84	11.40	11.18	10.19
135.0	14.70	14.26	13.65	13.10	12.61	12.00	11.51	11.23	10.24
180.0	14.37	13.93	13.32	12.77	12.22	11.78	11.34	11.01	10.35
225.0	14.87	14.31	13.76	13.32	12.77	12.28	11.78	11.34	10.74
270.0	14.98	14.37	13.82	13.32	12.77	12.33	11.78	11.29	10.85
315.0	14.59	14.09	13.54	12.99	12.50	11.95	11.40	10.90	10.52
360.0	14.42	13.93	13.43	12.94	12.44	11.89	11.40	10.90	10.46

Intensity data(cd)

Appendix Page: 17 Total:17

C/ γ (°)	90.0
0.0	10.02
45.0	9.91
90.0	10.02
135.0	10.02
180.0	9.97
225.0	10.08
270.0	10.41
315.0	10.08
360.0	10.02