
Nata

Client:

LumCAT: 2-1283-N

Luminaire: 92.70.064.00

Report No: nata-0100

Test No:

LampCAT: CREE CMT1420

Lamp flux(lm): 1910.2

Number of Lamps: 1

Length(mm): 57

Phm Type: C

Voltage(V): 35.2000

Current(A): 0.4000

Power (W): 14.0800

PF: 0.0000

Ballast type: DC

Width(mm): 57

Height(mm): 0

Photometric Results

Lumens(lm): 1615.59, Efficiency(%): 84.58% , Luminous Efficacy(lm/W): 114.74

Central intensity(cd): 9046.455, Maximum intensity(cd): 9046.455

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=15.2

[C90/270]Total=15.2

Field angle(10%Imax): [C0/180]Total=50.0

[C90/270]Total=50.0

Maximum s/h(1/2): C0_180=0.26 C90_270=0.26

Maximum s/h(1/4): C0_180=0.30 C90_270=0.30

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 85.02%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 97.636%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	9046.455	8.657	8.657	.453%	.536%
2.0	8584.600	65.706	74.363	3.440%	4.603%
4.0	7349.823	112.441	186.804	5.886%	11.563%
6.0	5688.358	130.403	317.207	6.827%	19.634%
8.0	4186.213	127.774	444.981	6.689%	27.543%
10.0	3011.929	114.704	559.685	6.005%	34.643%
12.0	2344.990	106.926	666.612	5.598%	41.261%
14.0	1894.422	100.512	767.124	5.262%	47.483%
16.0	1592.644	96.277	863.401	5.040%	53.442%
18.0	1365.330	92.531	955.931	4.844%	59.169%
20.0	1201.062	90.091	1046.022	4.716%	64.746%
22.0	1059.925	87.079	1133.102	4.559%	70.136%
24.0	954.403	85.135	1218.237	4.457%	75.405%
26.0	858.866	82.572	1300.809	4.323%	80.516%
28.0	750.866	77.310	1378.119	4.047%	85.301%
30.0	613.191	67.240	1445.36	3.520%	89.463%
32.0	432.062	50.214	1495.573	2.629%	92.572%
34.0	264.931	32.491	1528.064	1.701%	94.583%
36.0	124.021	15.988	1544.052	.837%	95.572%
38.0	51.333	6.931	1550.983	.363%	96.001%
40.0	28.072	3.957	1554.94	.207%	96.246%
42.0	22.931	3.365	1558.305	.176%	96.454%
44.0	20.481	3.120	1561.426	.163%	96.648%
46.0	18.685	2.948	1564.373	.154%	96.830%
48.0	17.377	2.832	1567.205	.148%	97.005%
50.0	16.414	2.758	1569.963	.144%	97.176%
52.0	16.035	2.771	1572.734	.145%	97.348%
54.0	16.441	2.917	1575.651	.153%	97.528%
56.0	17.129	3.114	1578.766	.163%	97.721%
58.0	18.038	3.355	1582.121	.176%	97.929%
60.0	18.396	3.494	1585.615	.183%	98.145%
62.0	17.343	3.358	1588.973	.176%	98.353%
64.0	15.120	2.980	1591.953	.156%	98.537%
66.0	13.296	2.664	1594.617	.139%	98.702%
68.0	12.016	2.443	1597.061	.128%	98.853%
70.0	10.612	2.187	1599.248	.114%	98.989%
72.0	9.318	1.944	1601.191	.102%	99.109%
74.0	8.898	1.876	1603.067	.098%	99.225%

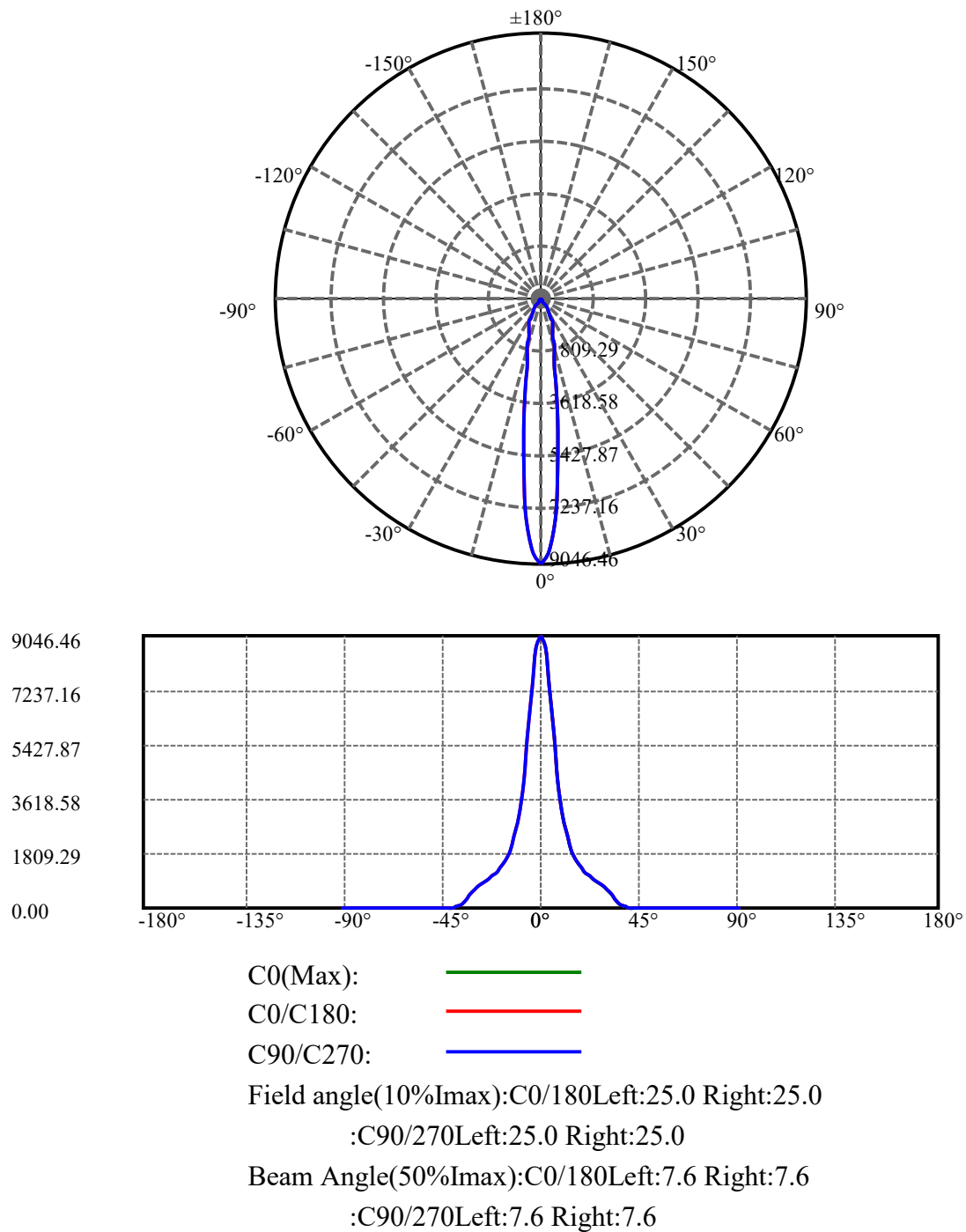
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	8.630	1.836	1604.904	.096%	99.339%
78.0	8.396	1.801	1606.705	.094%	99.450%
80.0	8.073	1.744	1608.448	.091%	99.558%
82.0	7.756	1.684	1610.133	.088%	99.662%
84.0	7.460	1.627	1611.76	.085%	99.763%
86.0	7.226	1.581	1613.341	.083%	99.861%
88.0	6.882	1.508	1614.849	.079%	99.954%
90.0	6.731	0.738	1615.587	.039%	100.000%

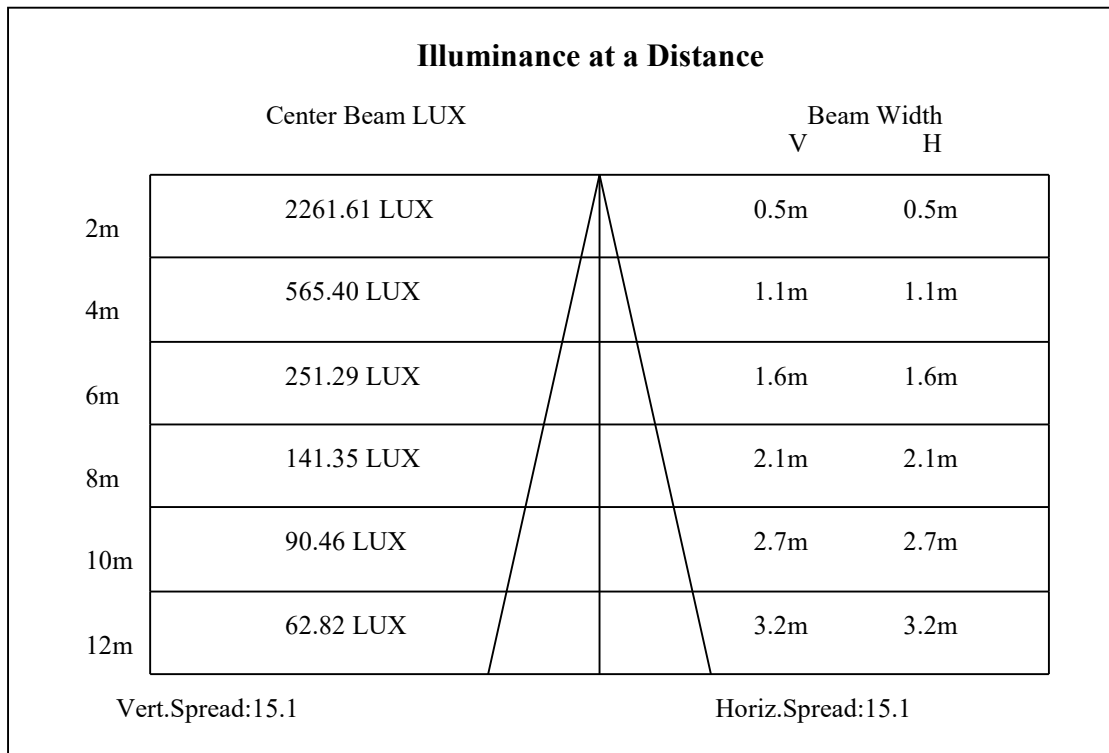
ZONAL LUMEN SUMMARY

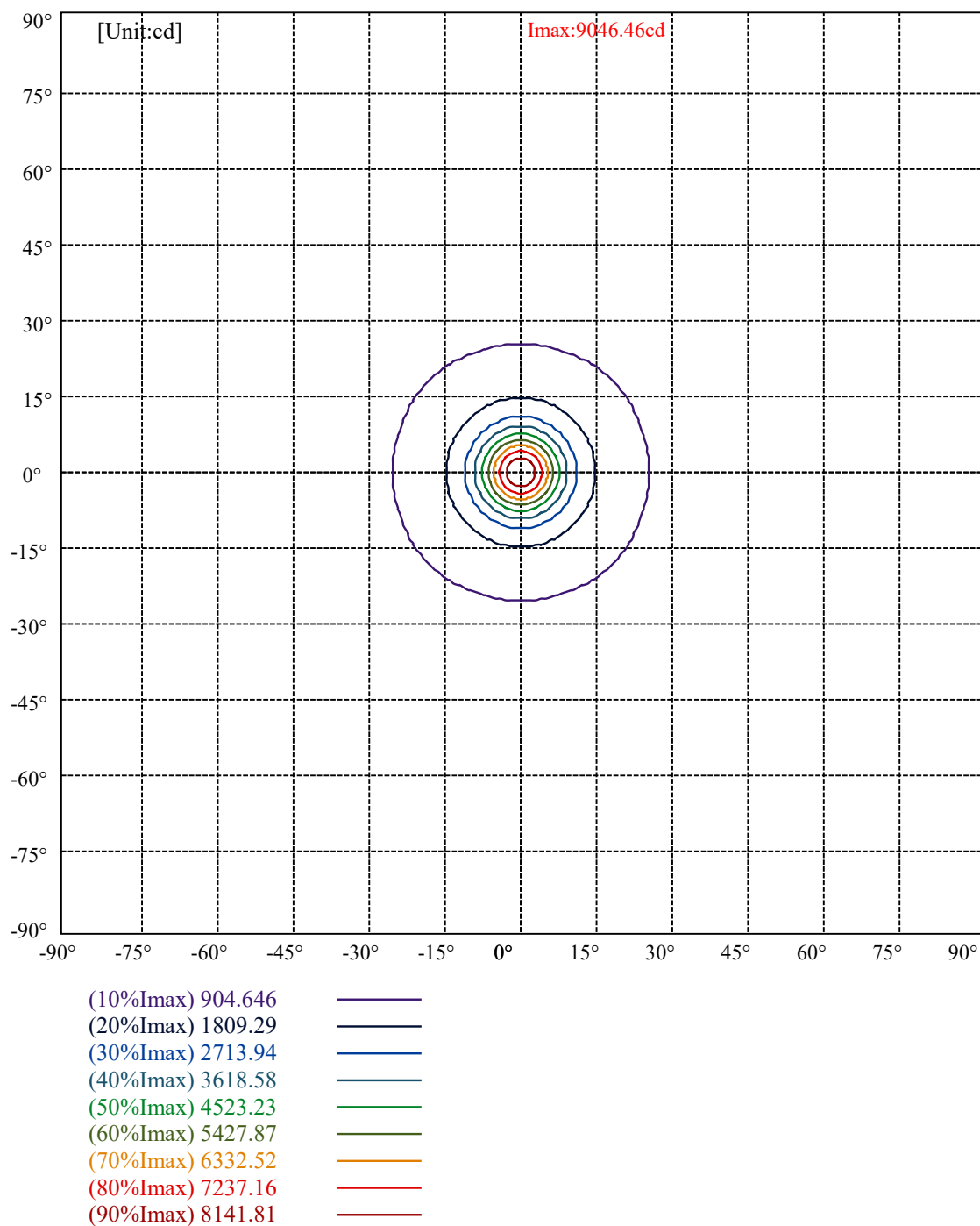
Zone	Lumens	%Lamp	%Fixt
0-30	1445.36	75.66%	89.46%
0-40	1554.94	81.40%	96.25%
0-60	1585.61	83.01%	98.14%
0-90	1614.85	84.54%	99.95%
0-120	1614.85	84.54%	99.95%
0-180	1615.59	84.58%	100.00%
60-90	32.73	1.71%	2.03%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-25.80	1292.47	67.66%	80.00%

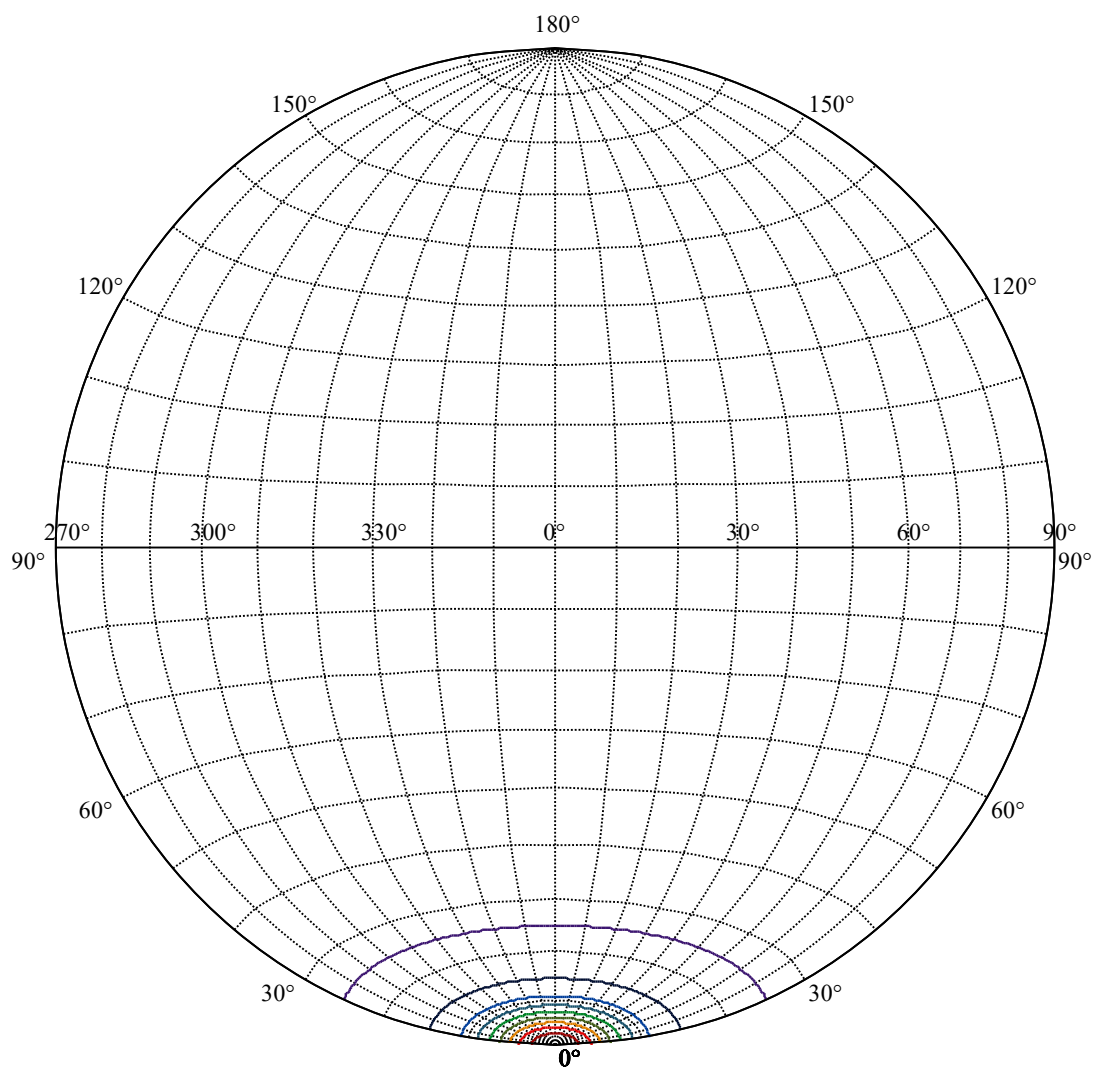
ZONAL LUMEN SUMMARY

0-10	559.69
10-20	486.34
20-30	399.34
30-40	109.58
40-50	15.02
50-60	15.65
60-70	13.63
70-80	9.20
80-90	6.40
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









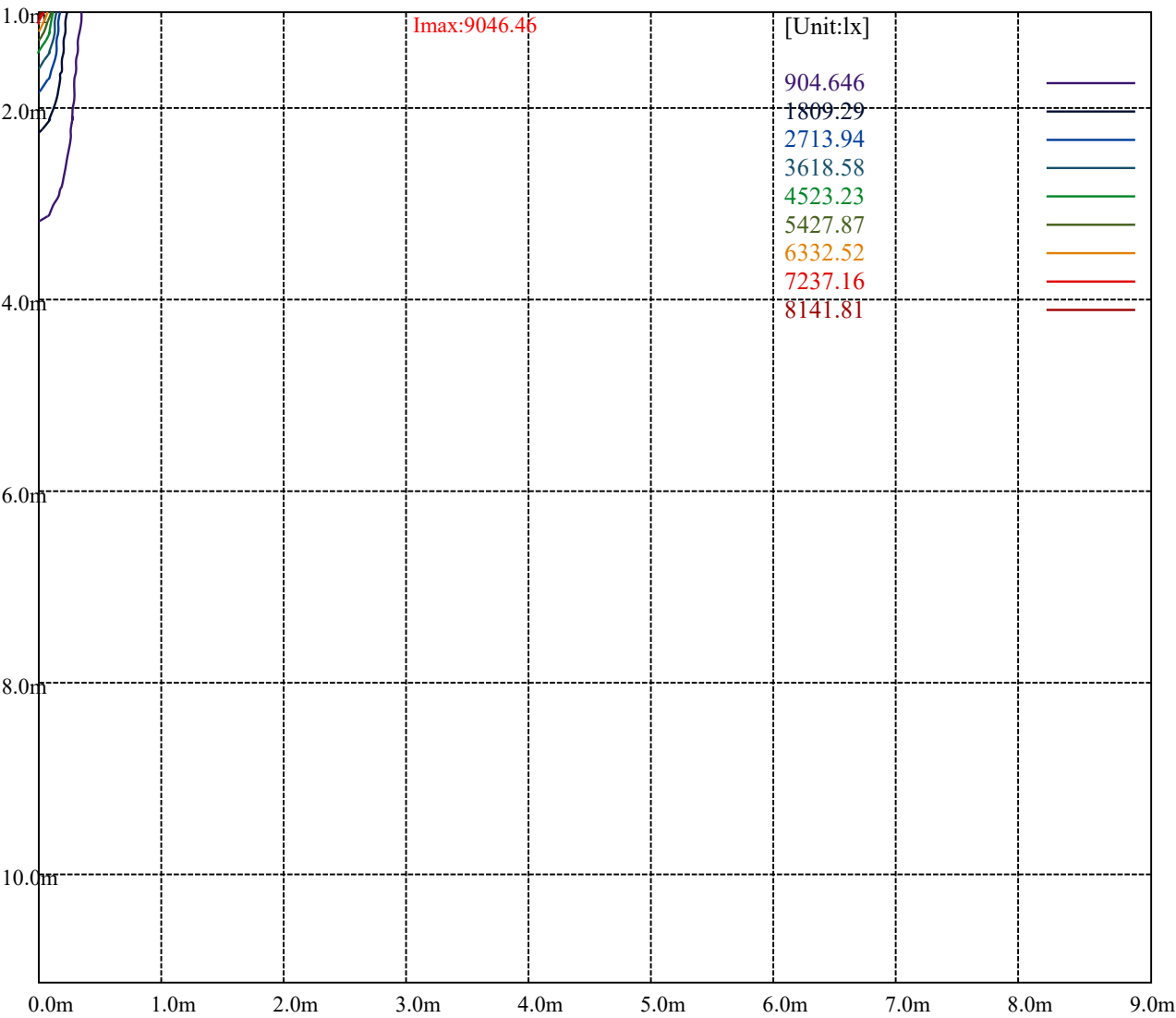
House

[Unit:cd]

Road

Imax:9046.46

(10%Imax)	904.646	—
(20%Imax)	1809.29	—
(30%Imax)	2713.94	—
(40%Imax)	3618.58	—
(50%Imax)	4523.23	—
(60%Imax)	5427.87	—
(70%Imax)	6332.52	—
(80%Imax)	7237.16	—
(90%Imax)	8141.81	—



Luminance Table

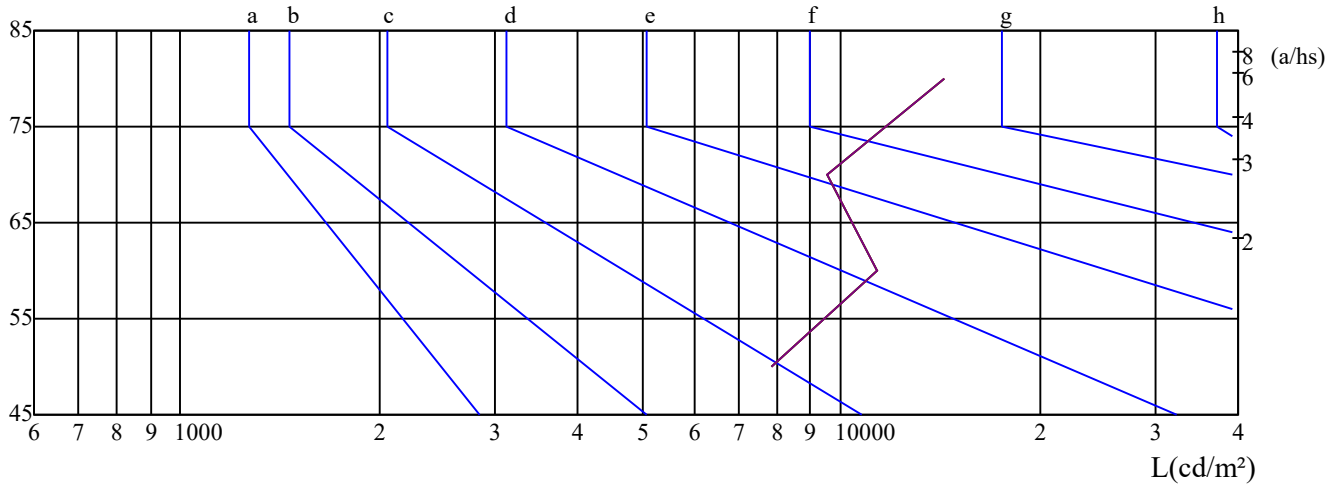
γ	45	50	55	60	65	70	75	80	85
C0	0	7859	0	11324	0	9550	0	14309	0
C45	0	7859	0	11324	0	9550	0	14309	0
C90	0	7859	0	11324	0	9550	0	14309	0

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
9523	9523	9523	15173	15173	15173	44816	44816	44816

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

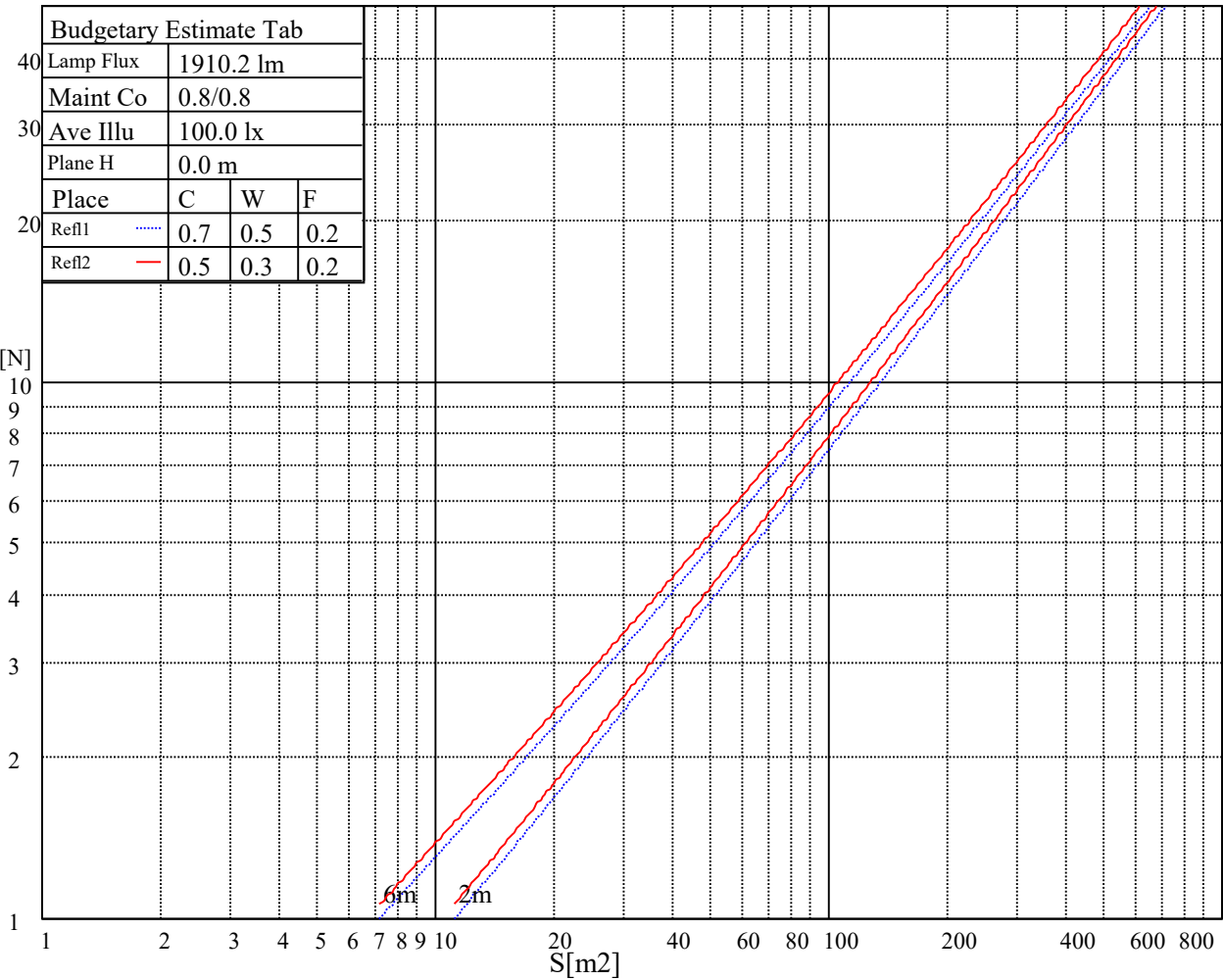
Luminance Limiting Curve

 $\gamma(^{\circ})$ 

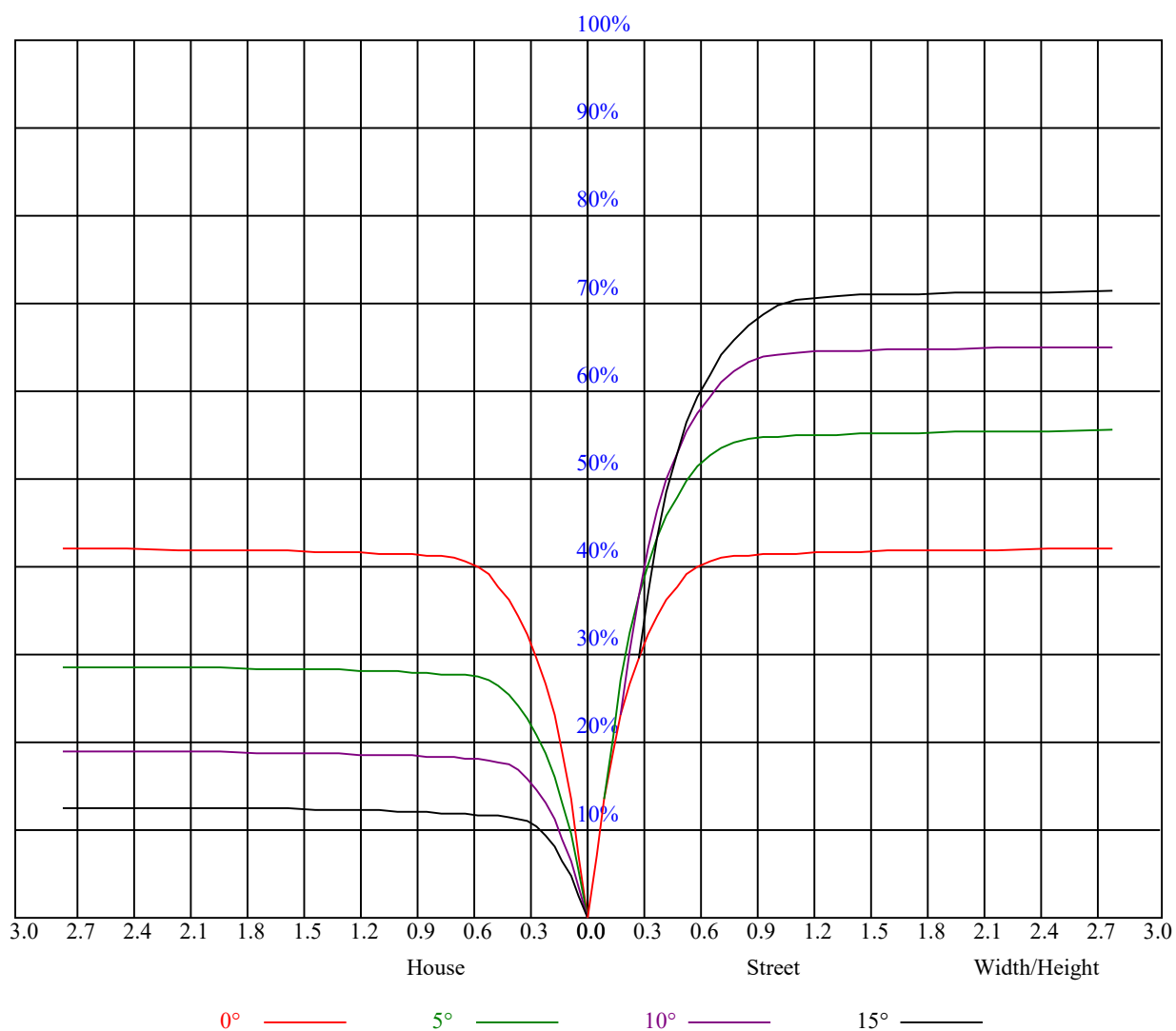
C0 ———

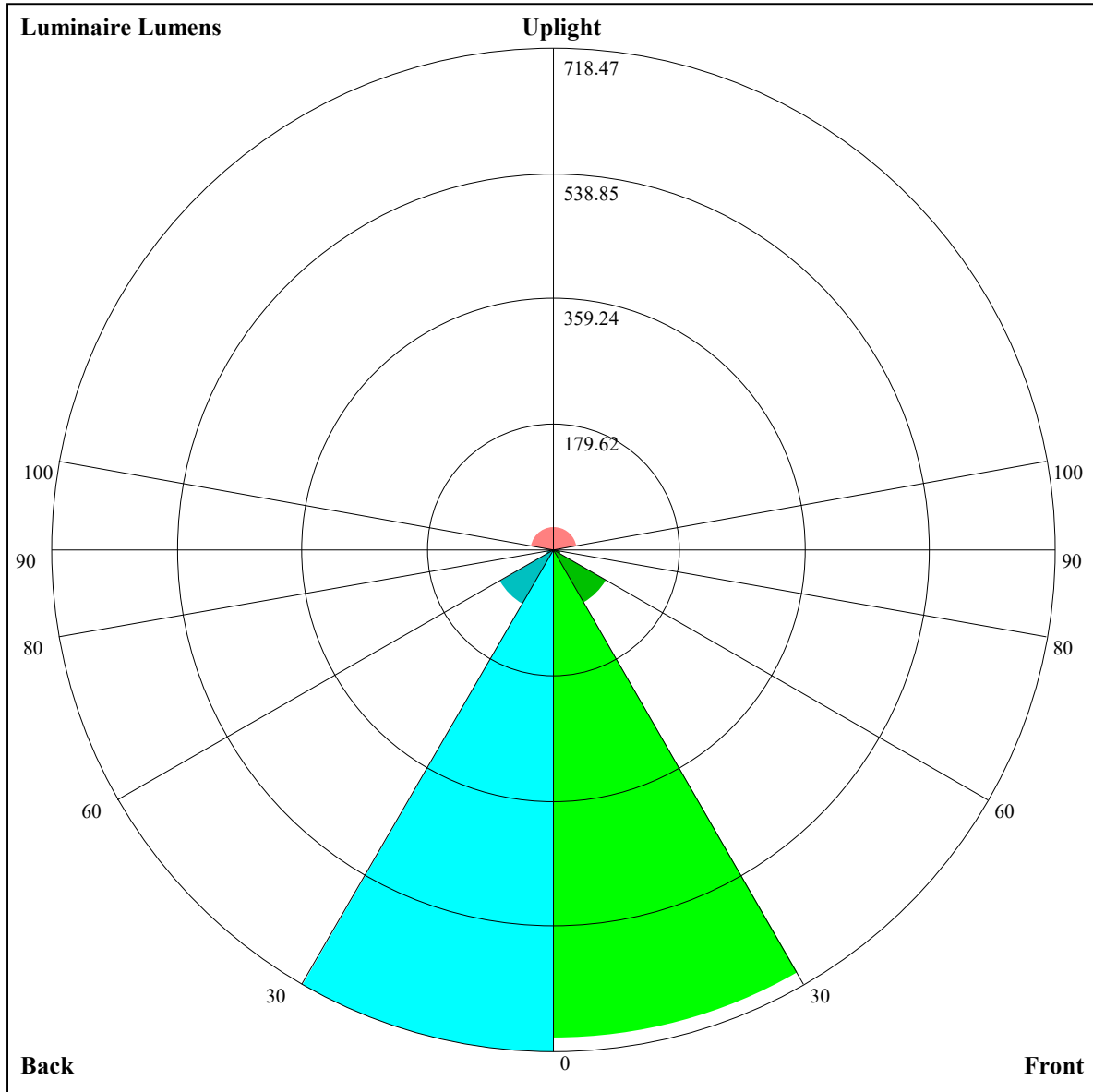
C45 ———

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	1.01	1.01	1.01	0.99	0.99	0.99	0.94	0.94	0.94	0.90	0.90	0.90	0.87	0.87	0.87	0.85
1	0.95	0.93	0.91	0.93	0.91	0.89	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.82	0.82	0.80
2	0.90	0.87	0.84	0.88	0.85	0.83	0.85	0.83	0.81	0.83	0.81	0.80	0.81	0.79	0.78	0.77
3	0.85	0.82	0.79	0.84	0.81	0.78	0.82	0.79	0.77	0.80	0.78	0.76	0.78	0.76	0.75	0.73
4	0.81	0.77	0.74	0.80	0.77	0.74	0.79	0.76	0.73	0.77	0.74	0.72	0.75	0.73	0.72	0.70
5	0.78	0.74	0.71	0.77	0.73	0.71	0.76	0.72	0.70	0.74	0.72	0.69	0.73	0.71	0.69	0.68
6	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.65
7	0.72	0.68	0.65	0.71	0.68	0.65	0.70	0.67	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.63
8	0.69	0.65	0.63	0.69	0.65	0.63	0.68	0.65	0.62	0.67	0.64	0.62	0.67	0.64	0.62	0.61
9	0.67	0.63	0.61	0.67	0.63	0.60	0.66	0.63	0.60	0.65	0.62	0.60	0.65	0.62	0.60	0.59
10	0.65	0.61	0.59	0.65	0.61	0.59	0.64	0.61	0.58	0.63	0.60	0.58	0.63	0.60	0.58	0.57





Luminaire Lumens:

FL=700.68,FM=87.5,FH=11.85,FVH=4.01

BL=718.47,BM=90.26,BH=11.88,BVH=4.01

UL=7.34,UH=34.95

BUG Rating:B2-U2-G0

Intensity data(cd)									
Appendix Page: 16 Total:17									
C/γ(°)	0.0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0
0.0	9097.52	8577.79	7268.55	5508.94	4011.96	2902.02	2285.94	1878.52	1576.26
45.0	9117.34	7923.72	6394.25	4575.74	3264.84	2505.62	2018.92	1666.56	1441.38
90.0	8877.29	7574.11	5779.82	4118.77	2981.85	2282.09	1892.29	1575.71	1355.49
135.0	9093.67	8246.90	6779.09	5010.13	3597.39	2639.40	2092.14	1734.83	1469.46
180.0	9097.52	8546.96	7277.91	5642.18	4004.25	2867.34	2274.38	1839.98	1568.01
225.0	9117.34	9332.61	8497.40	6912.88	5179.16	3639.78	2720.34	2149.40	1770.61
270.0	8877.29	9469.70	8951.07	7470.05	5853.60	4098.40	2974.15	2318.43	1891.74
315.0	9093.67	9005.02	7850.49	6268.17	4596.66	3160.79	2501.76	1991.94	1668.21
360.0	9097.52	8577.79	7268.55	5508.94	4011.96	2902.02	2285.94	1878.52	1576.26
C/γ(°)	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0
0.0	1348.33	1199.68	1063.69	950.82	861.08	755.92	620.49	439.35	279.14
45.0	1252.53	1103.88	993.77	890.81	798.32	679.40	508.17	307.77	153.88
90.0	1204.63	1068.70	953.14	862.79	756.59	614.43	440.51	247.70	112.54
135.0	1287.77	1145.72	1024.60	918.89	831.90	719.59	557.17	365.57	189.01
180.0	1350.53	1185.91	1066.28	957.82	865.87	772.94	627.86	408.46	242.74
225.0	1484.32	1305.39	1096.56	1021.52	931.39	833.99	718.49	566.09	373.34
270.0	1572.41	1356.04	1193.07	1054.88	951.93	851.72	763.63	624.34	445.41
315.0	1422.11	1243.17	1088.30	977.69	873.86	778.94	669.21	497.21	323.40
360.0	1348.33	1199.68	1063.69	950.82	861.08	755.92	620.49	439.35	279.14
C/γ(°)	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0	52.0
0.0	107.91	44.38	26.43	23.18	20.98	18.28	16.79	15.64	14.76
45.0	57.75	27.25	22.96	20.37	18.00	16.52	15.58	14.59	15.14
90.0	42.34	25.33	21.91	19.99	17.62	16.63	15.69	15.20	15.86
135.0	74.33	31.77	24.33	21.86	19.55	18.06	17.07	15.97	15.80
180.0	95.14	32.59	23.34	20.70	18.83	16.90	15.97	14.98	14.81
225.0	177.12	79.50	33.42	25.16	22.08	19.77	18.11	17.34	16.68
270.0	280.24	106.31	42.34	26.59	23.34	21.58	20.15	19.32	18.50
315.0	157.35	63.54	29.84	25.60	23.45	21.75	19.66	18.28	16.74
360.0	107.91	44.38	26.43	23.18	20.98	18.28	16.79	15.64	14.76
C/γ(°)	54.0	56.0	58.0	60.0	62.0	64.0	66.0	68.0	70.0
0.0	15.31	16.35	17.29	18.50	17.89	14.98	13.21	11.78	11.01
45.0	16.57	17.45	18.72	18.61	16.08	13.87	12.22	11.40	9.41
90.0	17.18	17.84	18.88	17.34	14.65	13.16	11.95	10.52	9.36
135.0	16.46	16.79	17.89	18.17	16.02	13.65	12.33	11.89	9.47
180.0	15.64	16.74	17.51	18.72	16.85	14.26	12.94	12.22	9.80
225.0	16.96	18.00	18.77	19.49	19.93	17.07	14.65	12.88	12.44
270.0	17.34	17.18	17.84	17.89	18.55	17.67	15.20	13.16	11.78
315.0	16.08	16.68	17.40	18.44	18.77	16.30	13.87	12.28	11.62
360.0	15.31	16.35	17.29	18.50	17.89	14.98	13.21	11.78	11.01
C/γ(°)	72.0	74.0	76.0	78.0	80.0	82.0	84.0	86.0	88.0
0.0	9.03	8.86	8.59	8.31	8.09	7.76	7.49	7.27	6.88
45.0	9.14	8.75	8.53	8.26	7.82	7.43	7.16	6.94	6.61
90.0	9.03	8.75	8.48	8.20	7.82	7.49	7.21	6.94	6.72
135.0	9.03	8.75	8.53	8.31	7.93	7.54	7.21	6.99	6.83
180.0	8.97	8.92	8.64	8.42	8.15	7.76	7.43	7.21	6.94
225.0	9.30	8.97	8.70	8.53	8.26	7.98	7.65	7.32	6.99
270.0	10.52	8.97	8.75	8.53	8.26	8.04	7.76	7.60	7.10
315.0	9.52	9.19	8.81	8.59	8.26	8.04	7.76	7.54	6.99
360.0	9.03	8.86	8.59	8.31	8.09	7.76	7.49	7.27	6.88

Intensity data(cd)

Appendix Page: 17 Total:17

C/ γ (°)	90.0
0.0	6.72
45.0	6.61
90.0	6.72
135.0	6.66
180.0	6.66
225.0	6.83
270.0	6.88
315.0	6.77
360.0	6.72