
Nata

LumCAT: 3-2031-M	
Luminaire: 92.70.124.00	
Report No: GC2017081507	Voltage(V): 35.4000
Test No: NT-0010	Current(A): 0.3000
LampCAT: CITIZEN CLU026	Power (W): 10.6200
Lamp flux(lm): 1398.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 79	Width(mm): 79
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1265.47
Efficiency(%): 90.52%
Lumens(lm)/Power(W): 119.16
Central intensity(cd): 15188.710
Maximum intensity(cd): 15188.710
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=11.1
[C90/270]Total=11.1
Field angle(10%Imax): [C0/180]Total=22.2
[C90/270]Total=22.2
Maximum s/h(1/2): C0_180=0.19 C90_270=0.19
Maximum s/h(1/4): C0_180=0.20 C90_270=0.20
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 90.52%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.696%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	15188.713	0.000	0	.000%	.000%
2.0	13634.155	55.161	55.161	3.946%	4.359%
4.0	10478.848	138.384	193.545	9.899%	15.294%
6.0	6696.209	164.146	357.691	11.741%	28.265%
8.0	3762.326	139.766	497.456	9.998%	39.310%
10.0	1980.912	98.520	595.976	7.047%	47.095%
12.0	1129.887	65.089	661.065	4.656%	52.239%
14.0	802.169	47.659	708.724	3.409%	56.005%
16.0	662.664	41.574	750.298	2.974%	59.290%
18.0	596.801	40.379	790.677	2.888%	62.481%
20.0	561.274	41.344	832.021	2.957%	65.748%
22.0	537.852	43.193	875.214	3.090%	69.161%
24.0	517.254	45.207	920.421	3.234%	72.733%
26.0	498.270	47.062	967.483	3.366%	76.452%
28.0	480.245	48.714	1016.197	3.485%	80.302%
30.0	463.286	50.161	1066.358	3.588%	84.266%
32.0	447.335	51.429	1117.787	3.679%	88.330%
34.0	381.742	49.515	1167.302	3.542%	92.243%
36.0	248.234	39.623	1206.925	2.834%	95.374%
38.0	89.098	22.262	1229.187	1.592%	97.133%
40.0	22.344	7.691	1236.878	.550%	97.740%
42.0	9.704	2.306	1239.183	.165%	97.923%
44.0	7.242	1.267	1240.45	.091%	98.023%
46.0	6.824	1.091	1241.541	.078%	98.109%
48.0	6.511	1.069	1242.611	.077%	98.194%
50.0	6.316	1.062	1243.672	.076%	98.277%
52.0	6.150	1.062	1244.735	.076%	98.361%
54.0	5.948	1.059	1245.794	.076%	98.445%
56.0	5.809	1.056	1246.85	.076%	98.529%
58.0	5.697	1.058	1247.908	.076%	98.612%
60.0	5.593	1.061	1248.969	.076%	98.696%
62.0	5.510	1.065	1250.034	.076%	98.780%
64.0	5.433	1.069	1251.103	.076%	98.865%
66.0	5.356	1.072	1252.176	.077%	98.949%
68.0	5.336	1.079	1253.255	.077%	99.035%
70.0	5.308	1.090	1254.344	.078%	99.121%
72.0	5.266	1.096	1255.441	.078%	99.207%
74.0	5.231	1.101	1256.542	.079%	99.294%

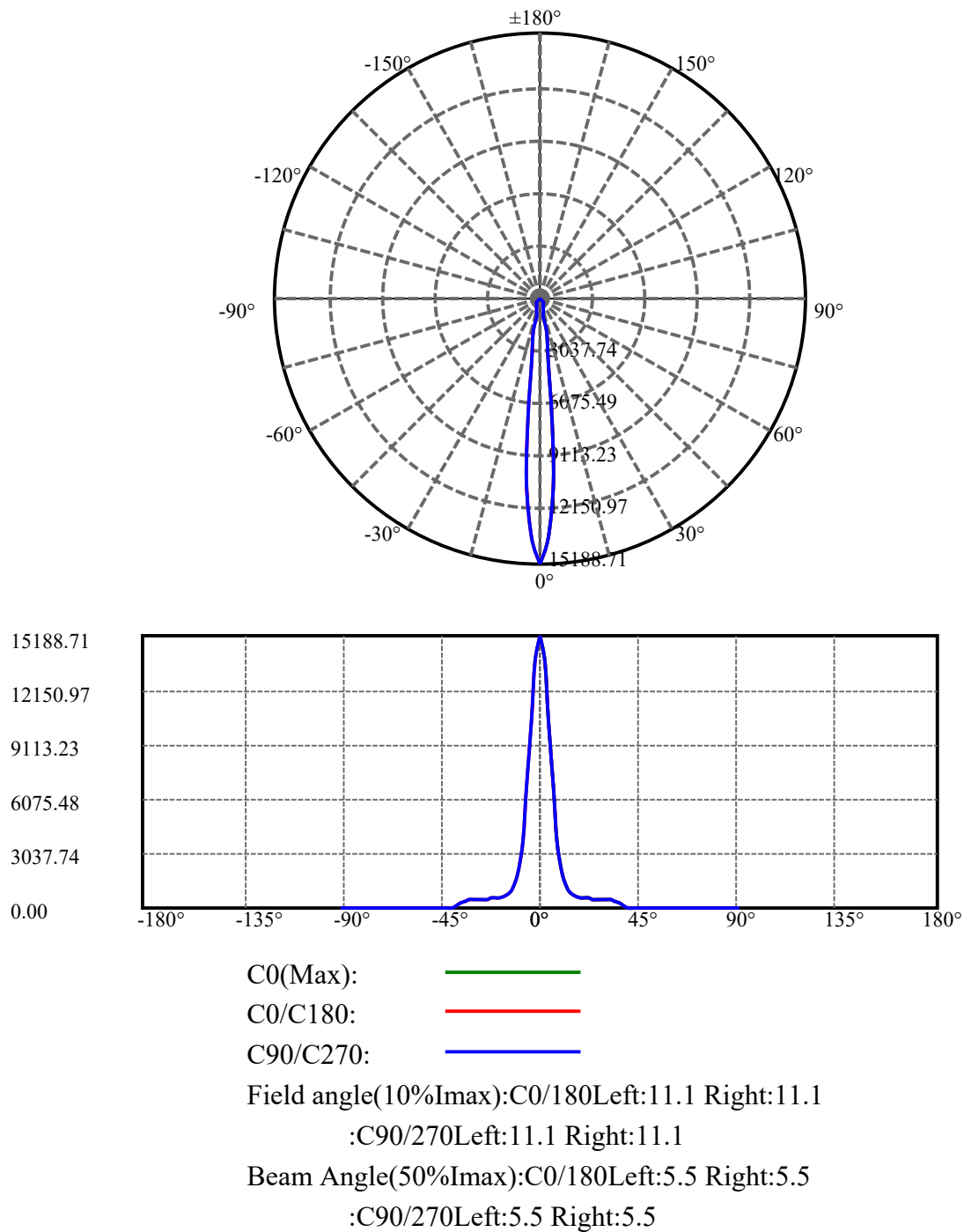
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	5.217	1.107	1257.648	.079%	99.382%
78.0	5.203	1.113	1258.762	.080%	99.470%
80.0	5.176	1.117	1259.879	.080%	99.558%
82.0	5.176	1.121	1261	.080%	99.647%
84.0	5.148	1.124	1262.124	.080%	99.735%
86.0	5.141	1.124	1263.248	.080%	99.824%
88.0	5.057	1.117	1264.364	.080%	99.913%
90.0	5.036	1.107	1265.471	.079%	100.000%

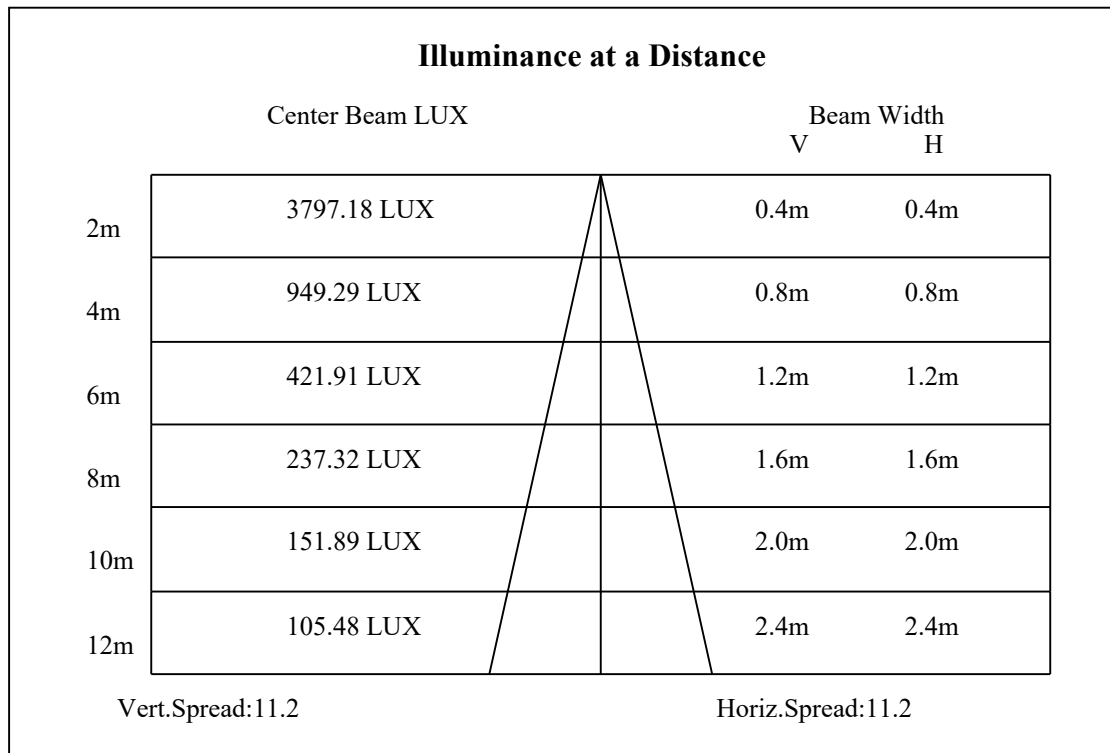
ZONAL LUMEN SUMMARY

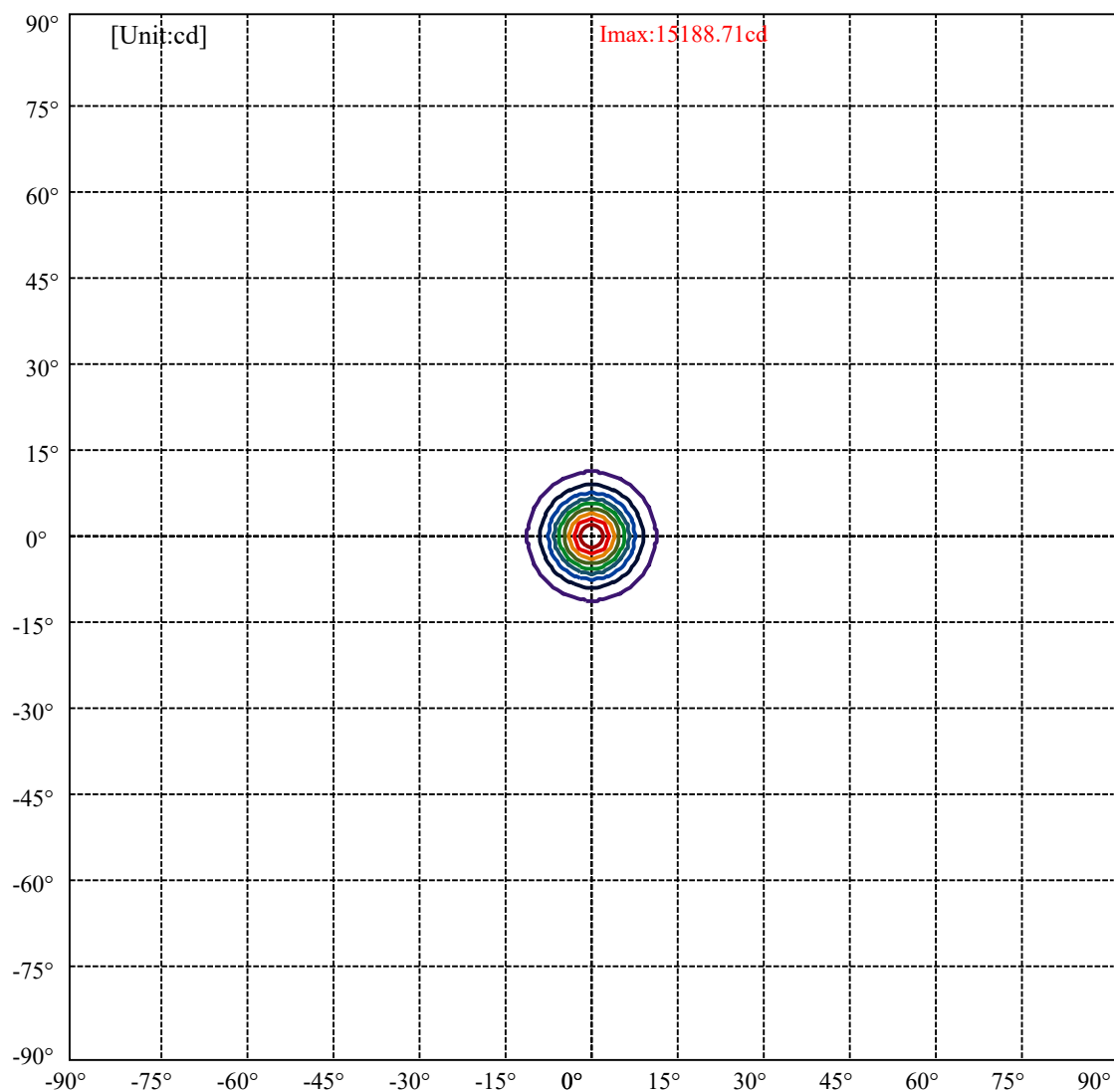
Zone	Lumens	%Lamp	%Fixt
0-30	1066.36	76.28%	84.27%
0-40	1236.88	88.47%	97.74%
0-60	1248.97	89.34%	98.70%
0-90	1264.36	90.44%	99.91%
0-120	1264.36	90.44%	99.91%
0-180	1265.47	90.52%	100.00%
60-90	16.46	1.18%	1.30%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-27.84	1012.38	72.42%	80.00%

ZONAL LUMEN SUMMARY

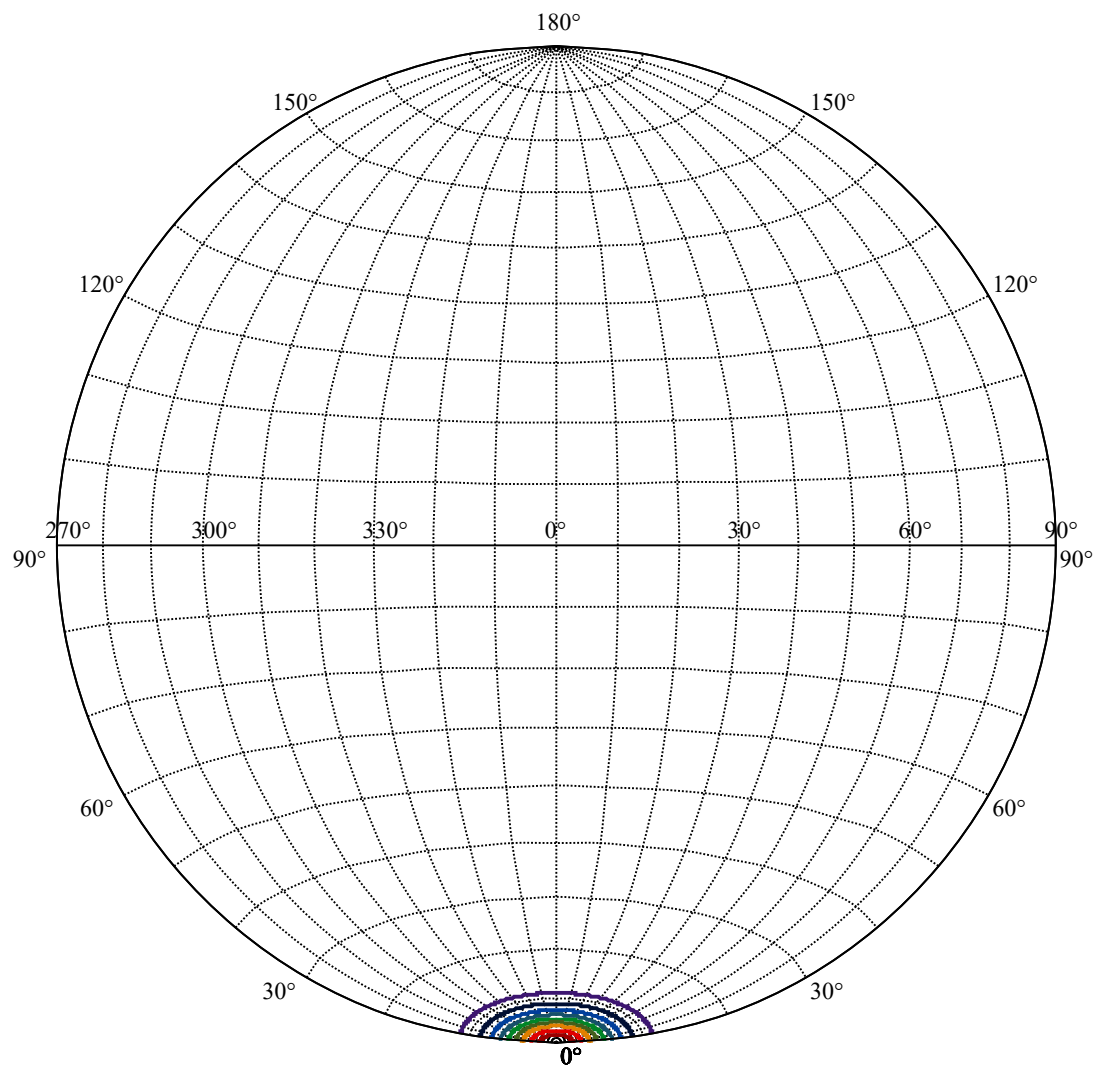
0-10	595.98
10-20	236.04
20-30	234.34
30-40	170.52
40-50	6.79
50-60	5.30
60-70	5.38
70-80	5.53
80-90	4.49
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00







(10%Imax)	1518.87	———
(20%Imax)	3037.74	———
(30%Imax)	4556.61	———
(40%Imax)	6075.48	———
(50%Imax)	7594.36	———
(60%Imax)	9113.23	———
(70%Imax)	10632.1	———
(80%Imax)	12151	———
(90%Imax)	13669.8	———

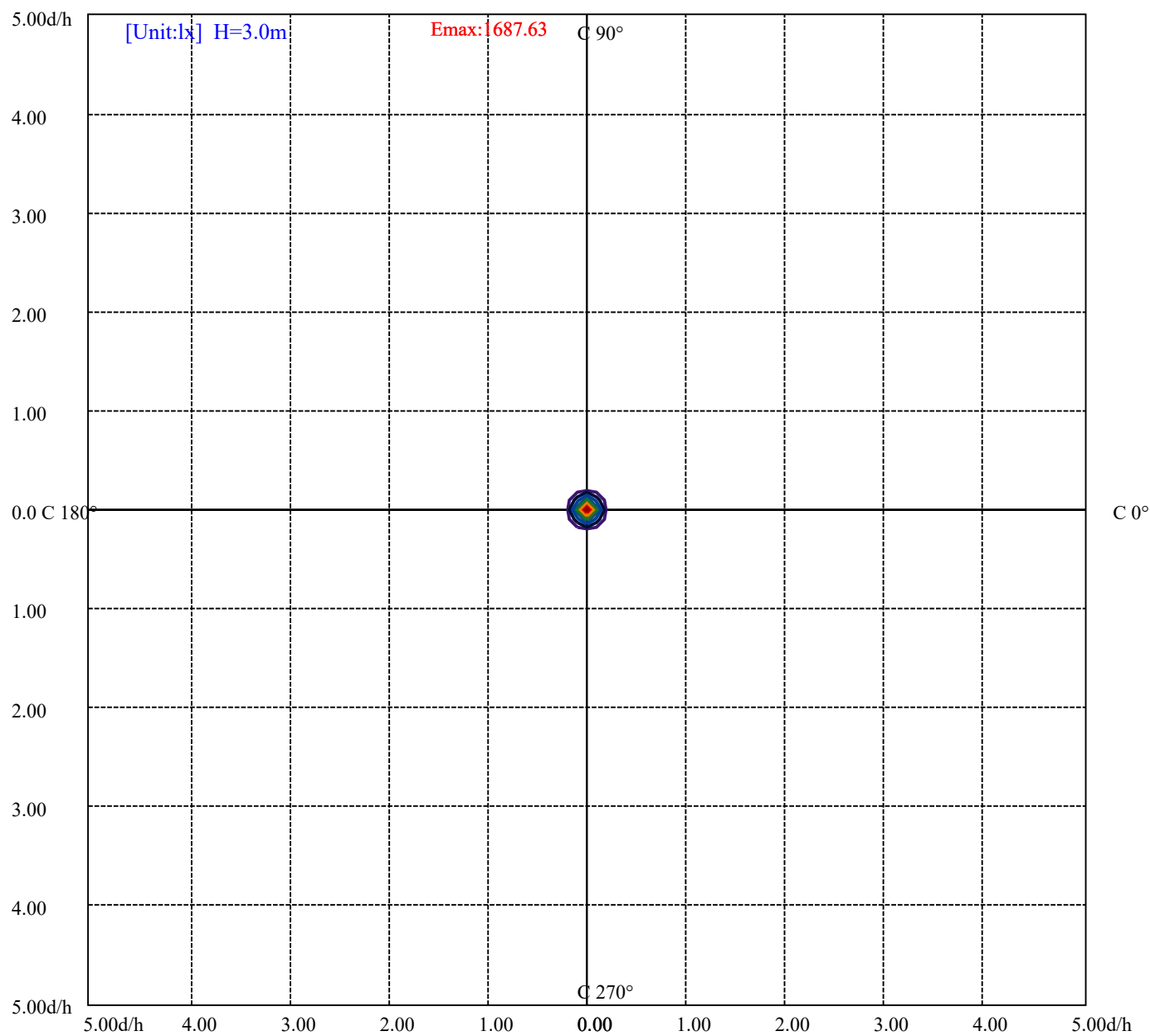


House

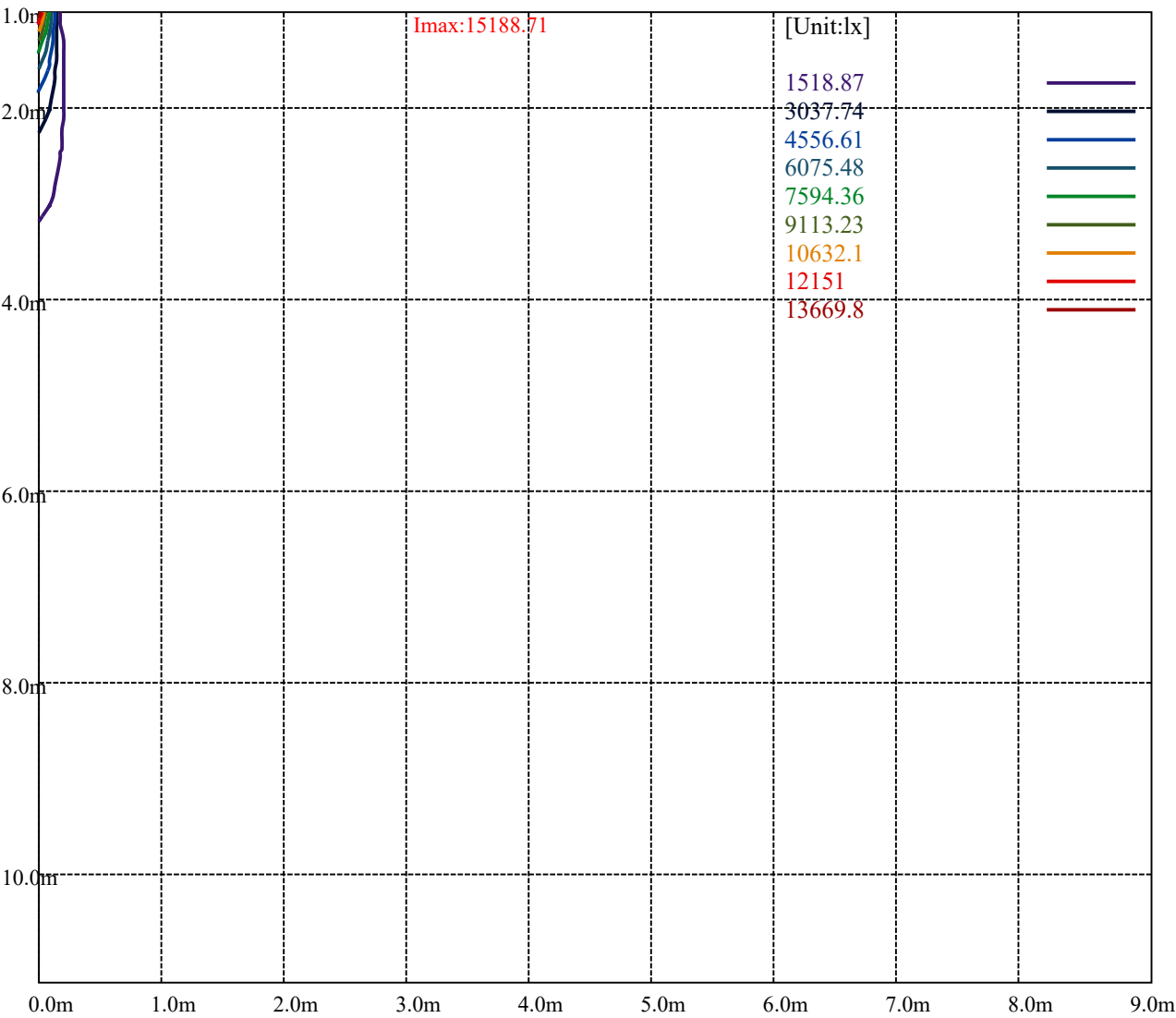
[Unit:cd]

Road

Imax:15188.71	
(10%Imax)	1518.87
(20%Imax)	3037.74
(30%Imax)	4556.61
(40%Imax)	6075.48
(50%Imax)	7594.36
(60%Imax)	9113.23
(70%Imax)	10632.1
(80%Imax)	12151
(90%Imax)	13669.8



(10%E _{max}) 168.7622	—
(20%E _{max}) 337.5244	—
(30%E _{max}) 506.2867	—
(40%E _{max}) 675.0489	—
(50%E _{max}) 843.8111	—
(60%E _{max}) 1012.573	—
(70%E _{max}) 1181.333	—
(80%E _{max}) 1350.1	—
(90%E _{max}) 1518.856	—



Luminance Table

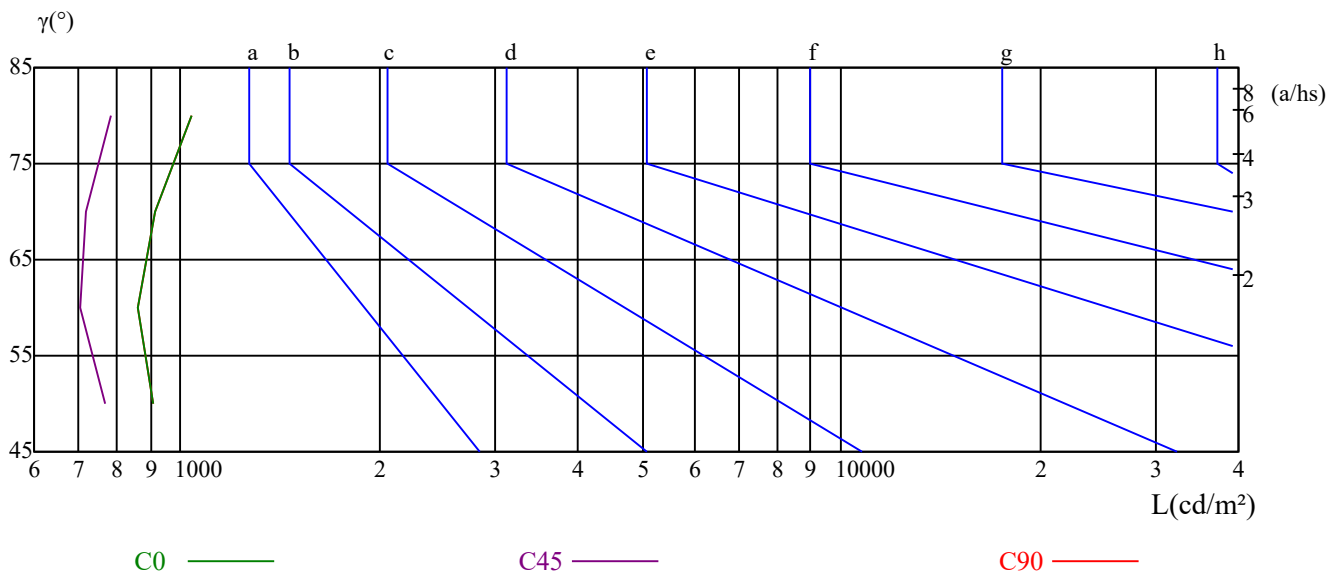
γ	45	50	55	60	65	70	75	80	85
C0	0	908	0	862	0	912	0	1041	0
C45	0	768	0	707	0	720	0	785	0
C90	0	908	0	862	0	912	0	1041	0

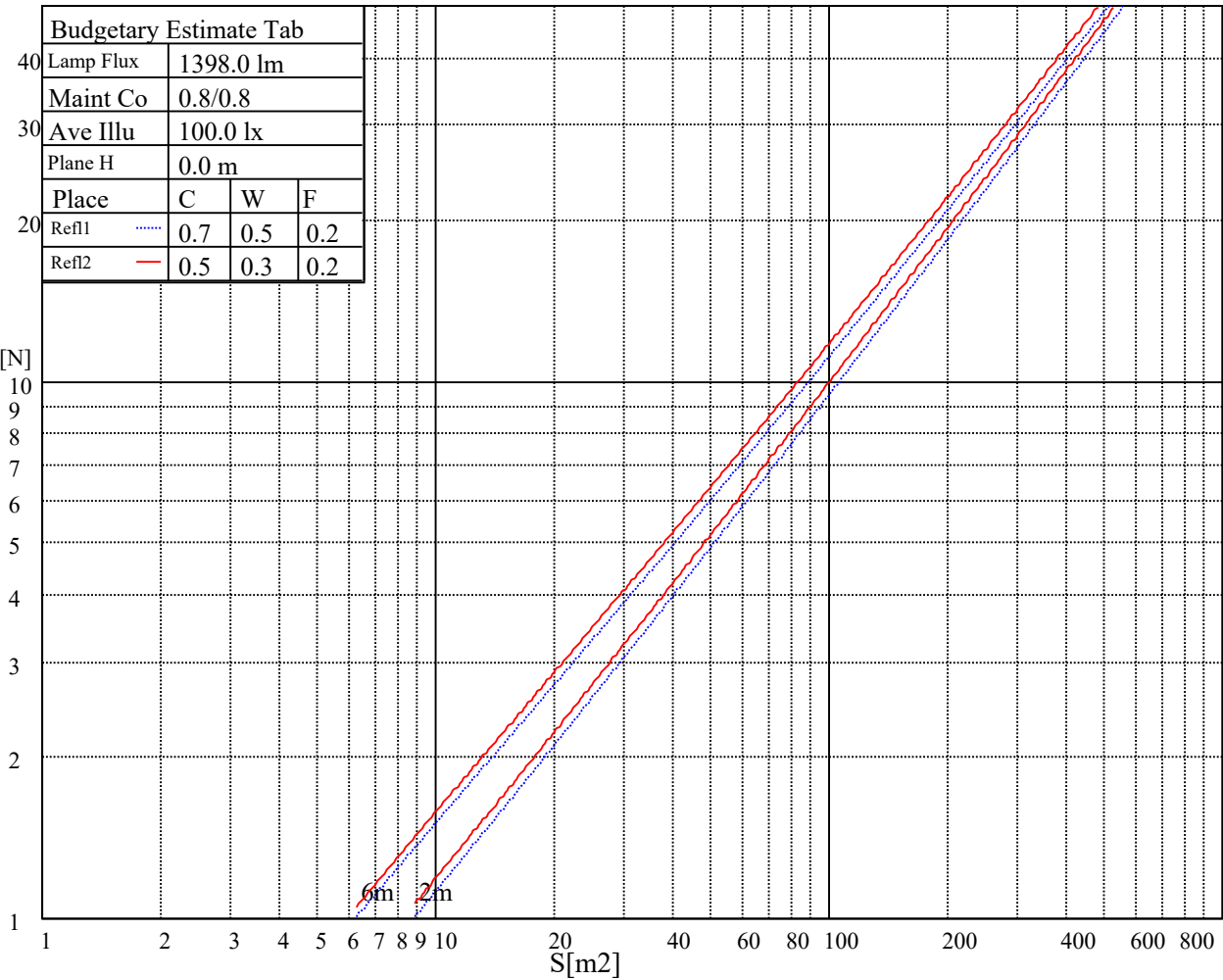
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3644	3644	3644	6666	6666	6666	16910	16910	16910

Glare Table

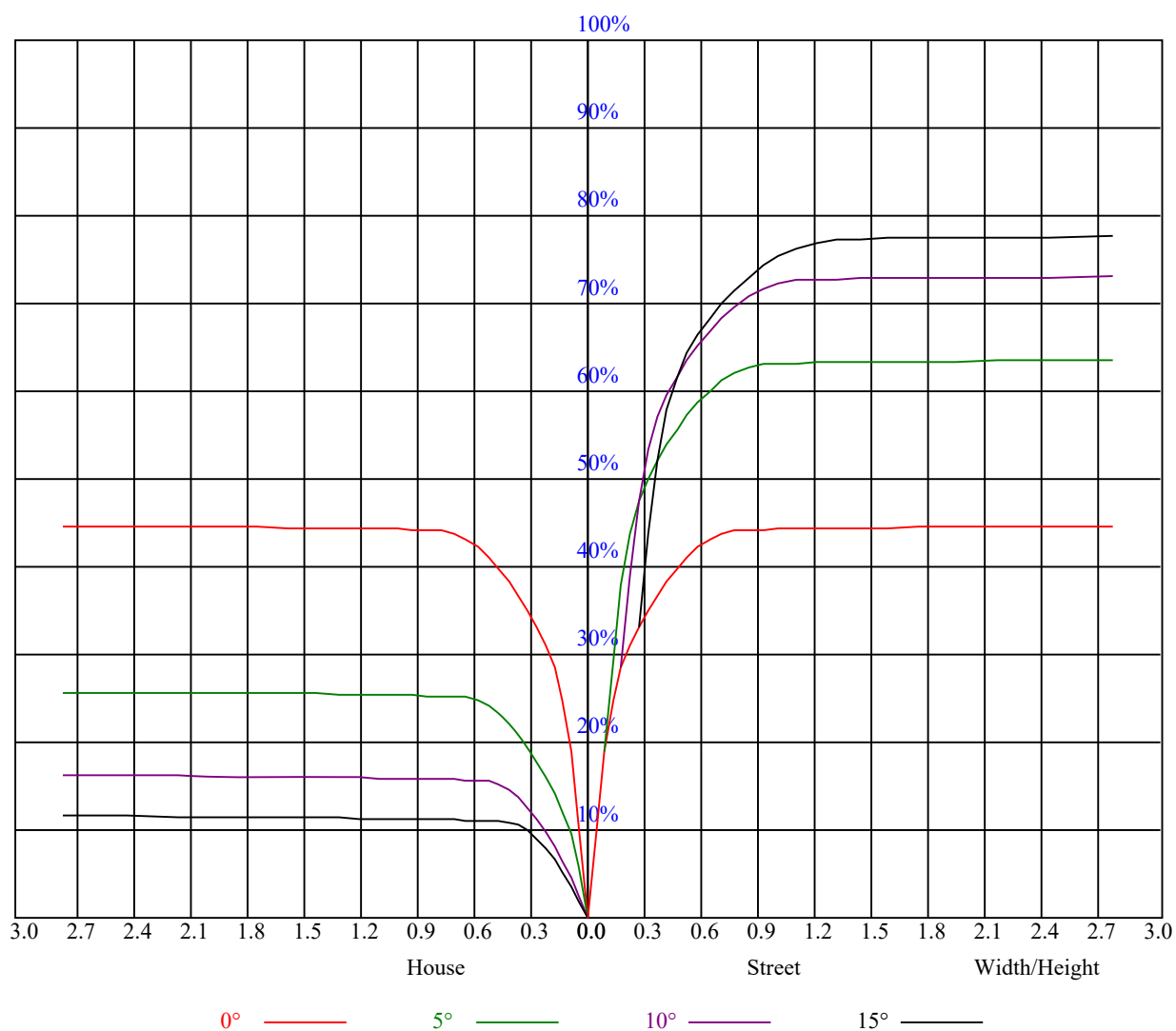
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	1.08	1.08	1.08	1.05	1.05	1.05	1.01	1.01	1.01	0.96	0.96	0.96	0.92	0.92	0.92	0.91
1	1.02	1.00	0.98	1.00	0.98	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.87
2	0.97	0.94	0.91	0.95	0.93	0.90	0.92	0.90	0.88	0.90	0.88	0.87	0.87	0.86	0.85	0.83
3	0.92	0.89	0.86	0.91	0.88	0.85	0.89	0.86	0.84	0.87	0.85	0.83	0.85	0.83	0.82	0.80
4	0.88	0.85	0.82	0.87	0.84	0.81	0.86	0.83	0.80	0.84	0.81	0.79	0.82	0.80	0.79	0.77
5	0.85	0.81	0.78	0.84	0.81	0.78	0.83	0.80	0.77	0.81	0.79	0.77	0.80	0.78	0.76	0.75
6	0.82	0.78	0.75	0.81	0.78	0.75	0.80	0.77	0.75	0.79	0.76	0.74	0.78	0.76	0.74	0.73
7	0.79	0.75	0.73	0.79	0.75	0.72	0.78	0.74	0.72	0.77	0.74	0.72	0.76	0.73	0.71	0.70
8	0.77	0.73	0.70	0.76	0.73	0.70	0.76	0.72	0.70	0.75	0.72	0.70	0.74	0.71	0.69	0.68
9	0.75	0.71	0.68	0.74	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.68	0.72	0.70	0.68	0.67
10	0.73	0.69	0.66	0.72	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.71	0.68	0.66	0.65



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	14502.81	15109.41	13033.60	8920.95	5515.07	3038.58	1535.98	965.00	738.50
45.0	15443.32	14769.93	11814.83	7796.79	4569.00	2821.54	1259.95	855.37	693.42
90.0	15565.75	13851.68	10525.39	6755.55	3687.48	1743.01	1061.05	776.17	650.57
135.0	15242.97	13417.60	10189.81	6383.24	3494.92	1749.69	1065.17	767.44	645.00
180.0	14502.81	11076.34	7784.55	4557.87	2270.59	1096.28	853.86	674.78	595.75
225.0	15443.32	13178.30	9270.44	5734.34	3099.24	1572.71	996.00	738.61	630.64
270.0	15565.75	13840.55	10729.63	6600.28	3728.66	1931.11	1173.14	819.75	673.38
315.0	15242.97	13829.42	10482.54	6820.66	3733.67	1894.38	1093.94	820.25	674.05
360.0	14502.81	15109.41	13033.60	8920.95	5515.07	3038.58	1535.98	965.00	738.50
C/γ(°)	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0
0.0	640.55	594.36	568.76	545.39	522.57	500.31	483.06	466.92	450.22
45.0	616.62	573.77	547.61	524.24	504.76	488.62	471.93	456.34	411.82
90.0	587.90	554.68	527.47	505.48	484.61	469.03	453.00	436.59	362.74
135.0	588.24	556.52	534.81	515.33	495.86	476.93	460.80	444.66	374.54
180.0	552.40	527.08	509.27	492.35	475.88	460.52	443.71	422.67	303.25
225.0	578.94	548.34	526.30	506.37	488.95	472.37	456.01	442.43	359.23
270.0	606.60	567.09	546.50	525.35	506.99	485.84	468.59	452.45	385.11
315.0	603.15	568.37	542.10	523.51	506.54	488.34	469.20	456.62	407.04
360.0	640.55	594.36	568.76	545.39	522.57	500.31	483.06	466.92	450.22
C/γ(°)	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0	52.0
0.0	356.17	184.37	56.21	14.86	8.13	7.07	6.73	6.51	6.29
45.0	281.60	107.57	23.37	10.52	7.68	7.23	6.96	6.68	6.51
90.0	205.80	75.35	18.09	9.74	7.18	6.90	6.57	6.34	6.18
135.0	282.15	68.01	17.47	8.74	6.90	6.62	6.34	6.18	6.07
180.0	138.29	33.56	11.13	7.74	6.62	6.40	6.12	6.01	5.90
225.0	185.77	62.94	15.42	8.46	7.18	6.85	6.51	6.34	6.12
270.0	284.38	75.91	18.37	8.68	7.18	6.90	6.57	6.34	6.18
315.0	251.71	105.07	18.70	8.90	7.07	6.62	6.29	6.12	5.95
360.0	356.17	184.37	56.21	14.86	8.13	7.07	6.73	6.51	6.29
C/γ(°)	54.0	56.0	58.0	60.0	62.0	64.0	66.0	68.0	70.0
0.0	6.07	5.90	5.68	5.57	5.45	5.34	5.29	5.29	5.18
45.0	6.34	6.07	5.95	5.84	5.68	5.57	5.51	5.45	5.40
90.0	6.01	5.90	5.79	5.73	5.62	5.51	5.45	5.40	5.34
135.0	5.84	5.73	5.68	5.57	5.51	5.40	5.34	5.34	5.34
180.0	5.68	5.57	5.51	5.40	5.34	5.34	5.18	5.18	5.23
225.0	5.95	5.90	5.73	5.62	5.62	5.45	5.45	5.40	5.34
270.0	5.95	5.84	5.73	5.62	5.51	5.51	5.40	5.40	5.34
315.0	5.73	5.57	5.51	5.40	5.34	5.34	5.23	5.23	5.29
360.0	6.07	5.90	5.68	5.57	5.45	5.34	5.29	5.29	5.18
C/γ(°)	72.0	74.0	76.0	78.0	80.0	82.0	84.0	86.0	88.0
0.0	5.23	5.12	5.12	5.18	5.12	5.12	5.06	5.06	5.12
45.0	5.34	5.34	5.29	5.23	5.23	5.23	5.18	5.18	5.18
90.0	5.34	5.29	5.29	5.23	5.23	5.23	5.18	5.18	5.06
135.0	5.29	5.29	5.23	5.23	5.18	5.12	5.18	5.01	4.95
180.0	5.12	5.06	5.12	5.12	5.01	5.06	5.01	5.06	5.01
225.0	5.34	5.29	5.23	5.23	5.23	5.23	5.23	5.18	5.12
270.0	5.29	5.29	5.23	5.23	5.23	5.23	5.23	5.29	5.01
315.0	5.18	5.18	5.23	5.18	5.18	5.18	5.12	5.18	5.01
360.0	5.23	5.12	5.12	5.18	5.12	5.12	5.06	5.06	5.12

Intensity data(cd)

Appendix Page: 16 Total:16

C/ γ (°)	90.0
0.0	4.95
45.0	5.18
90.0	5.12
135.0	5.01
180.0	4.95
225.0	5.12
270.0	5.01
315.0	4.95
360.0	4.95