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Nata

LumCAT: 3-2055-A
Luminaire: TE 2213480-1+92.76.365.00
Report No: GC2017051707
Test No: NT-0010
LampCAT: CITIZEN CLU048
Lamp flux(lm): 3700.0
Number of Lamps: 1
Length(mm): 79
Phm Type: C

Voltage(V): 220.0000
Current(A): 0.1340
Power (W): 28.0000
PF: 0.9450
Ballast type: DC
Width(mm): 79
Height(mm): 0

Photometric Results

Lumens(lm): 3338.72
Efficiency(%): 90.24%
Lumens(lm)/Power(W): 119.24
Central intensity(cd): 9011.081
Maximum intensity(cd): 9011.081
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=28.9
 [C90/270]Total=28.9
Field angle(10%Imax): [C0/180]Total=67.6
 [C90/270]Total=67.6
Maximum s/h(1/2): C0_180=0.48 C90_270=0.48
Maximum s/h(1/4): C0_180=0.51 C90_270=0.51
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 90.24%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.917%

Equipment: gms1980
Temperature(°C): 25.0

Date: 2017/5/17
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.42

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	9011.081	0.000	0	.000%	.000%
1.0	8973.643	8.605	8.605	.233%	.258%
2.0	8866.420	25.606	34.211	.692%	1.025%
3.0	8673.310	41.949	76.16	1.134%	2.281%
4.0	8440.834	57.287	133.447	1.548%	3.997%
5.0	8168.856	71.454	204.901	1.931%	6.137%
6.0	7820.073	84.026	288.927	2.271%	8.654%
7.0	7456.013	94.818	383.745	2.563%	11.494%
8.0	7108.057	104.232	487.978	2.817%	14.616%
9.0	6705.732	111.953	599.931	3.026%	17.969%
10.0	6301.480	117.711	717.641	3.181%	21.495%
11.0	5912.782	122.046	839.687	3.299%	25.150%
12.0	5504.401	124.806	964.493	3.373%	28.888%
13.0	5075.099	125.552	1090.045	3.393%	32.649%
14.0	4675.114	124.802	1214.847	3.373%	36.387%
15.0	4285.315	123.013	1337.86	3.325%	40.071%
16.0	3898.681	119.918	1457.778	3.241%	43.663%
17.0	3553.340	116.048	1573.826	3.136%	47.139%
18.0	3226.718	111.788	1685.615	3.021%	50.487%
19.0	2934.644	107.195	1792.81	2.897%	53.698%
20.0	2679.182	102.749	1895.558	2.777%	56.775%
21.0	2441.476	98.327	1993.885	2.657%	59.720%
22.0	2243.824	94.153	2088.038	2.545%	62.540%
23.0	2078.517	90.694	2178.733	2.451%	65.257%
24.0	1923.258	87.493	2266.226	2.365%	67.877%
25.0	1799.243	84.642	2350.868	2.288%	70.412%
26.0	1693.122	82.438	2433.305	2.228%	72.881%
27.0	1595.122	80.448	2513.753	2.174%	75.291%
28.0	1503.590	78.453	2592.206	2.120%	77.641%
29.0	1411.921	76.278	2668.484	2.062%	79.925%
30.0	1294.266	73.067	2741.55	1.975%	82.114%
31.0	1206.671	69.597	2811.148	1.881%	84.198%
32.0	1073.958	65.337	2876.485	1.766%	86.155%
33.0	989.130	60.779	2937.264	1.643%	87.976%
34.0	879.292	56.544	2993.808	1.528%	89.669%
35.0	760.948	50.940	3044.748	1.377%	91.195%
36.0	648.812	44.887	3089.635	1.213%	92.540%
37.0	542.636	38.858	3128.493	1.050%	93.703%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	440.520	32.816	3161.31	.887%	94.686%
39.0	343.758	26.770	3188.079	.724%	95.488%
40.0	242.179	20.435	3208.515	.552%	96.100%
41.0	169.601	14.663	3223.178	.396%	96.539%
42.0	103.148	9.909	3233.088	.268%	96.836%
43.0	59.131	6.011	3239.099	.162%	97.016%
44.0	37.493	3.647	3242.746	.099%	97.125%
45.0	27.817	2.510	3245.256	.068%	97.201%
46.0	23.069	1.990	3247.246	.054%	97.260%
47.0	20.178	1.720	3248.966	.046%	97.312%
48.0	19.641	1.610	3250.576	.044%	97.360%
49.0	18.843	1.580	3252.156	.043%	97.407%
50.0	18.609	1.562	3253.717	.042%	97.454%
51.0	18.292	1.561	3255.279	.042%	97.501%
52.0	18.017	1.558	3256.837	.042%	97.548%
53.0	17.632	1.551	3258.387	.042%	97.594%
54.0	17.288	1.539	3259.927	.042%	97.640%
55.0	16.930	1.527	3261.454	.041%	97.686%
56.0	16.600	1.515	3262.969	.041%	97.731%
57.0	16.338	1.506	3264.475	.041%	97.776%
58.0	16.228	1.506	3265.981	.041%	97.821%
59.0	16.916	1.550	3267.531	.042%	97.868%
60.0	18.114	1.655	3269.185	.045%	97.917%
61.0	20.054	1.821	3271.007	.049%	97.972%
62.0	22.903	2.070	3273.077	.056%	98.034%
63.0	25.808	2.369	3275.446	.064%	98.105%
64.0	28.698	2.675	3278.121	.072%	98.185%
65.0	30.116	2.911	3281.031	.079%	98.272%
66.0	30.226	3.011	3284.042	.081%	98.362%
67.0	30.047	3.031	3287.073	.082%	98.453%
68.0	29.813	3.032	3290.105	.082%	98.544%
69.0	29.565	3.029	3293.134	.082%	98.635%
70.0	29.001	3.008	3296.142	.081%	98.725%
71.0	28.230	2.958	3299.1	.080%	98.813%
72.0	27.432	2.894	3301.994	.078%	98.900%
73.0	26.578	2.824	3304.819	.076%	98.985%
74.0	25.532	2.740	3307.558	.074%	99.067%
75.0	24.638	2.651	3310.209	.072%	99.146%

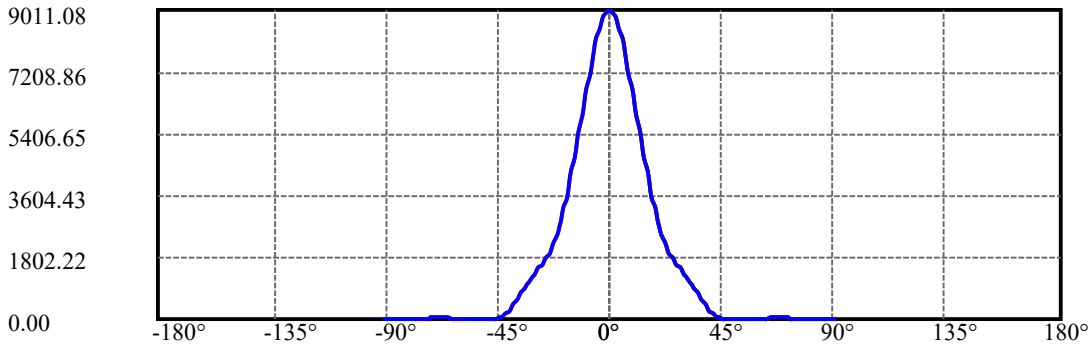
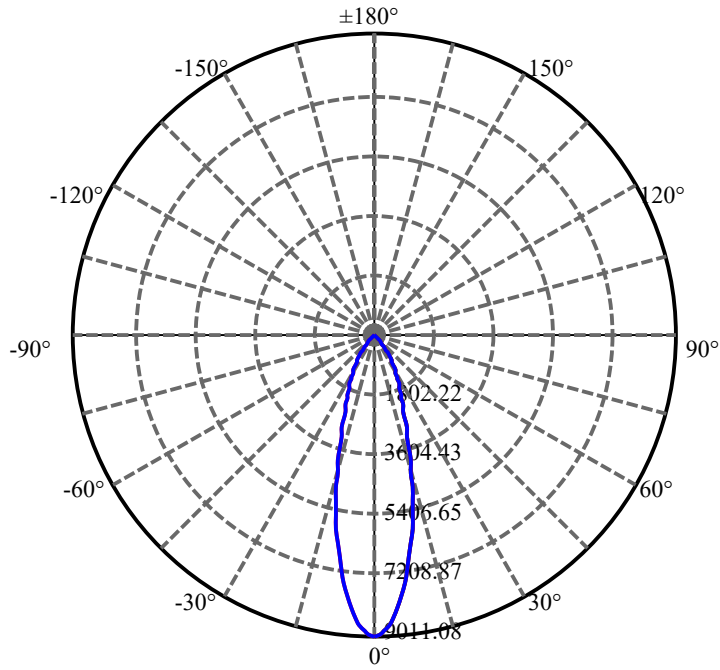
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	23.688	2.565	3312.774	.069%	99.223%
77.0	22.752	2.476	3315.25	.067%	99.297%
78.0	21.665	2.378	3317.628	.064%	99.368%
79.0	20.495	2.265	3319.893	.061%	99.436%
80.0	19.118	2.136	3322.029	.058%	99.500%
81.0	18.072	2.011	3324.04	.054%	99.560%
82.0	17.150	1.910	3325.95	.052%	99.618%
83.0	16.503	1.829	3327.779	.049%	99.672%
84.0	15.884	1.764	3329.544	.048%	99.725%
85.0	15.196	1.696	3331.24	.046%	99.776%
86.0	14.149	1.604	3332.844	.043%	99.824%
87.0	13.833	1.531	3334.375	.041%	99.870%
88.0	13.654	1.506	3335.881	.041%	99.915%
89.0	12.787	1.449	3337.33	.039%	99.958%
90.0	12.512	1.387	3338.718	.037%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2741.55	74.10%	82.11%
0-40	3208.51	86.72%	96.10%
0-60	3269.19	88.36%	97.92%
0-90	3337.33	90.20%	99.96%
0-120	3337.33	90.20%	99.96%
0-180	3338.72	90.24%	100.00%
60-90	69.80	1.89%	2.09%
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%
0-29.03	2670.97	72.19%	80.00%

ZONAL LUMEN SUMMARY

0-10	717.64
10-20	1177.92
20-30	845.99
30-40	466.96
40-50	45.20
50-60	15.47
60-70	26.96
70-80	25.89
80-90	15.30
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



C0(Max): —————

C0/C180: —————

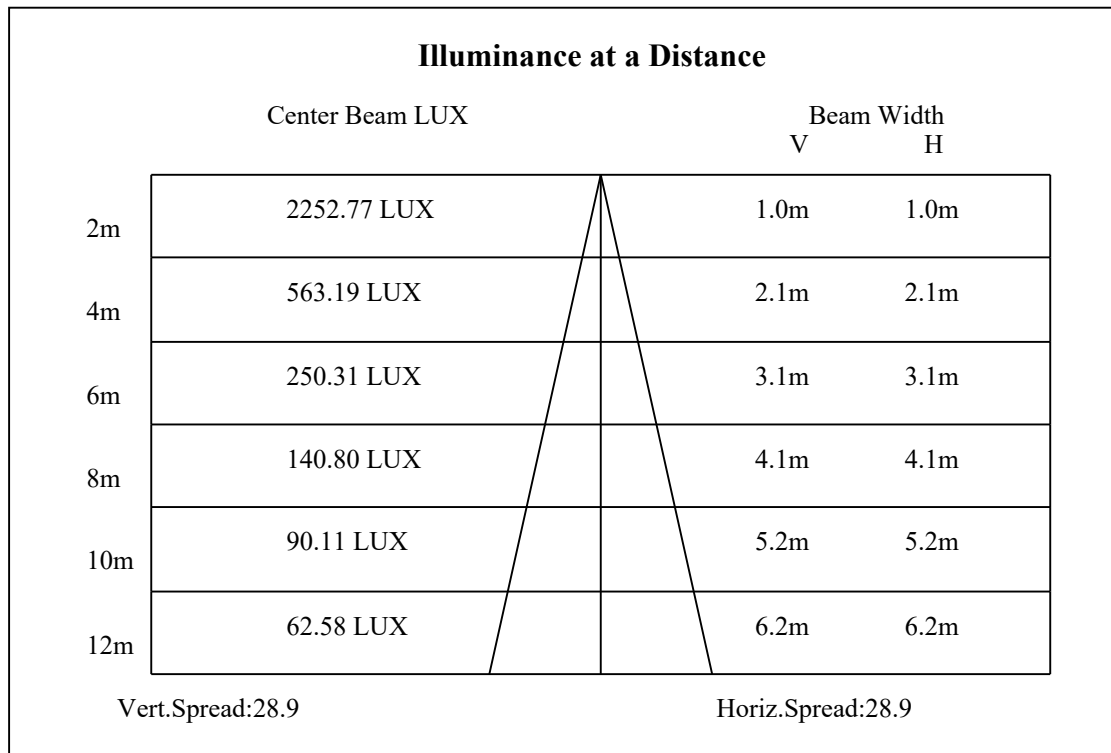
C90/C270: —————

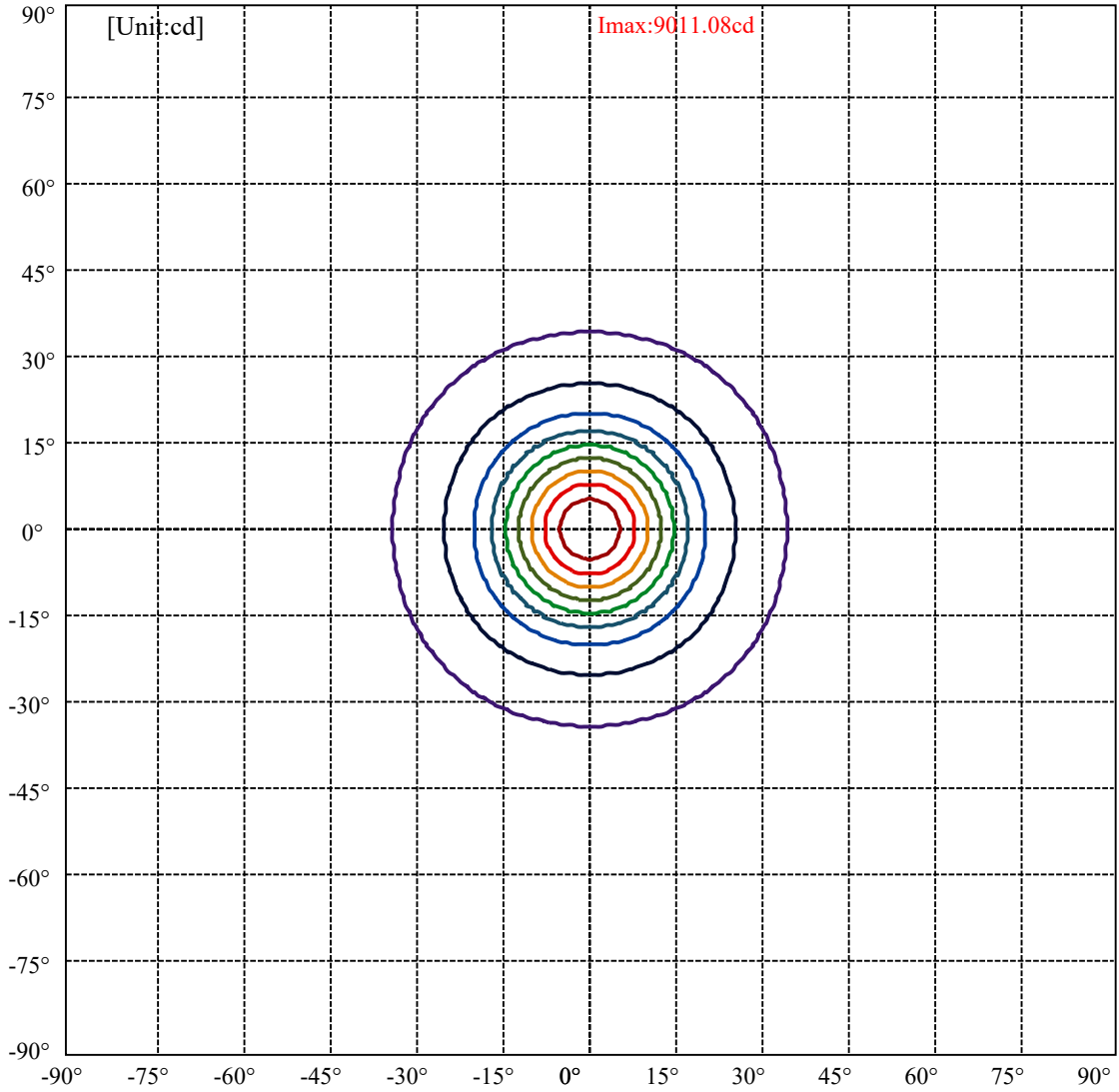
Field angle(10%Imax):C0/180Left:33.8 Right:33.8

:C90/270Left:33.8 Right:33.8

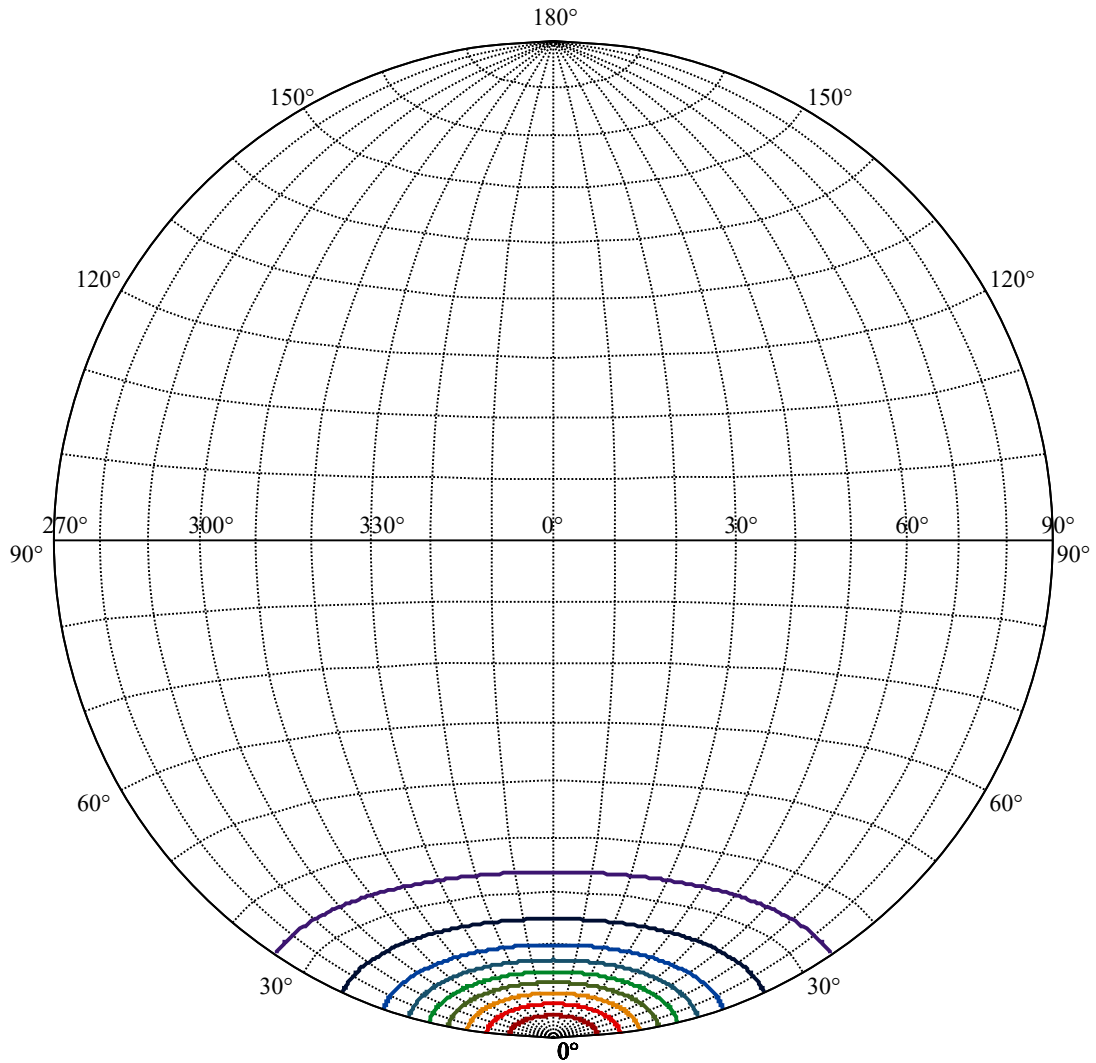
Beam Angle(50%Imax):C0/180Left:14.4 Right:14.4

:C90/270Left:14.4 Right:14.4





(10%Imax) 901.108	—
(20%Imax) 1802.22	—
(30%Imax) 2703.32	—
(40%Imax) 3604.43	—
(50%Imax) 4505.54	—
(60%Imax) 5406.65	—
(70%Imax) 6307.76	—
(80%Imax) 7208.86	—
(90%Imax) 8109.97	—



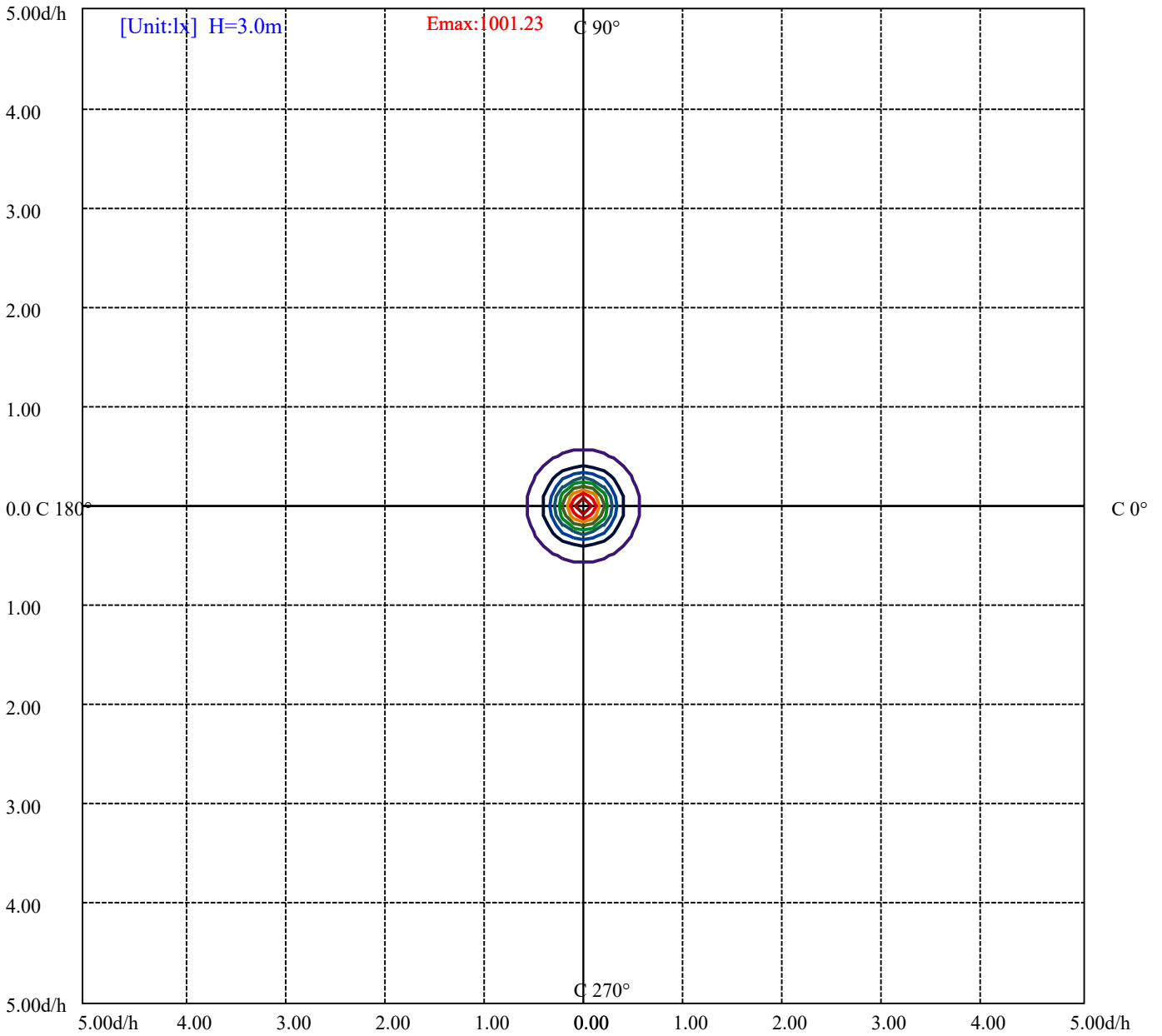
House

[Unit:cd]

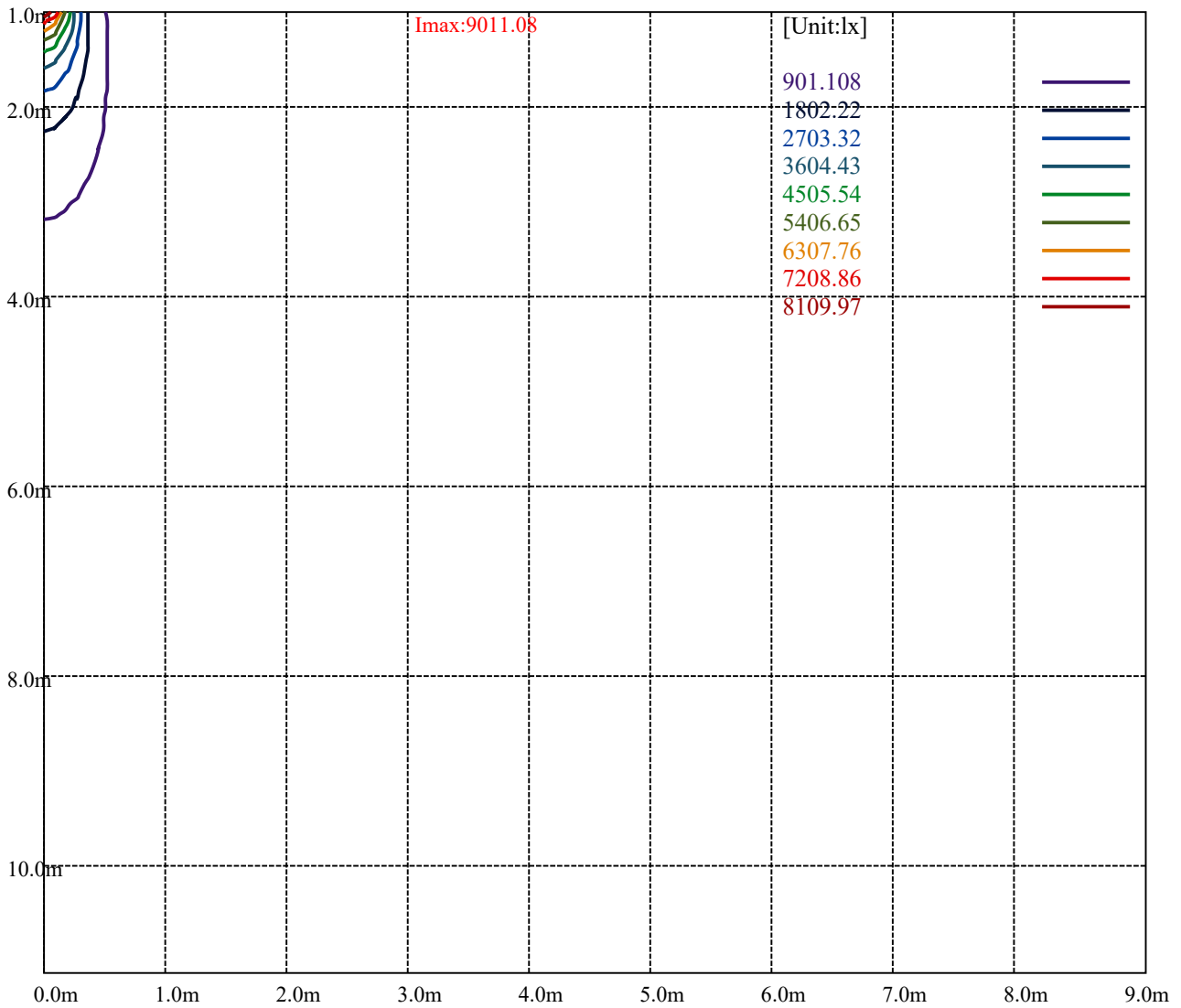
Road

Imax:9011.08

(10%Imax)	901.108	—
(20%Imax)	1802.22	—
(30%Imax)	2703.32	—
(40%Imax)	3604.43	—
(50%Imax)	4505.54	—
(60%Imax)	5406.65	—
(70%Imax)	6307.76	—
(80%Imax)	7208.86	—
(90%Imax)	8109.97	—



- (10%Emax) 100.1231
- (20%Emax) 200.2467
- (30%Emax) 300.3689
- (40%Emax) 400.4922
- (50%Emax) 500.6156
- (60%Emax) 600.7389
- (70%Emax) 700.8611
- (80%Emax) 800.9844
- (90%Emax) 901.1078



Luminance Table

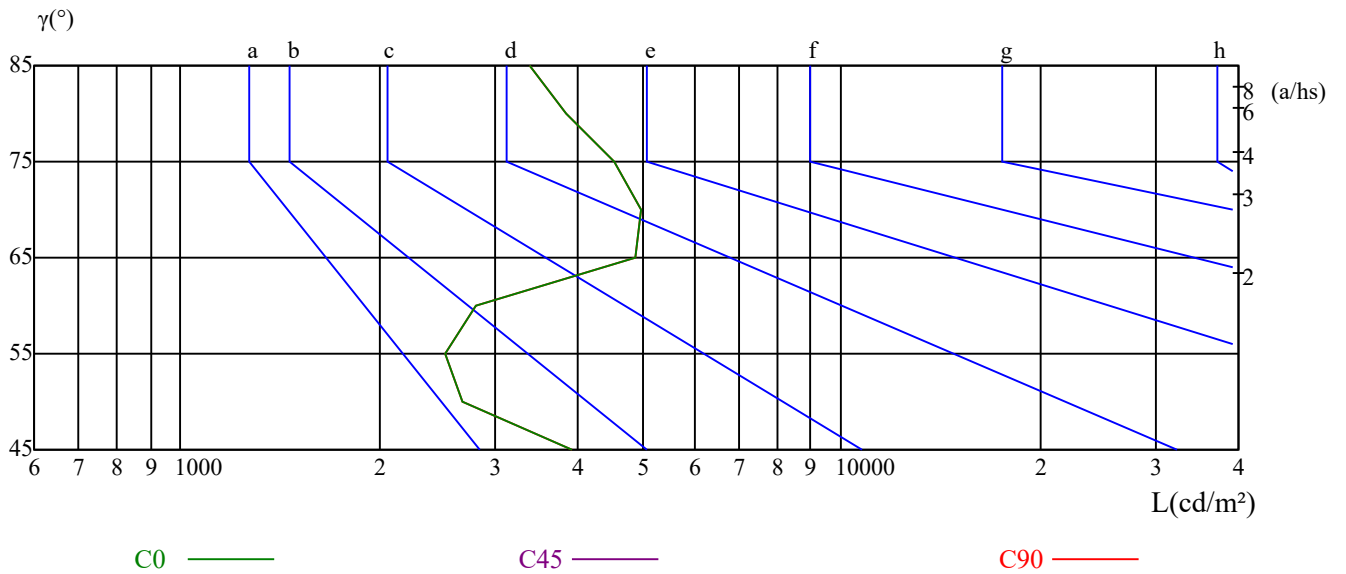
γ	45	50	55	60	65	70	75	80	85
C0	3910	2674	2509	2792	4876	4984	4548	3844	3382
C45	0	0	0	0	0	0	0	0	0
C90	3910	2674	2509	2792	4876	4984	4548	3844	3382

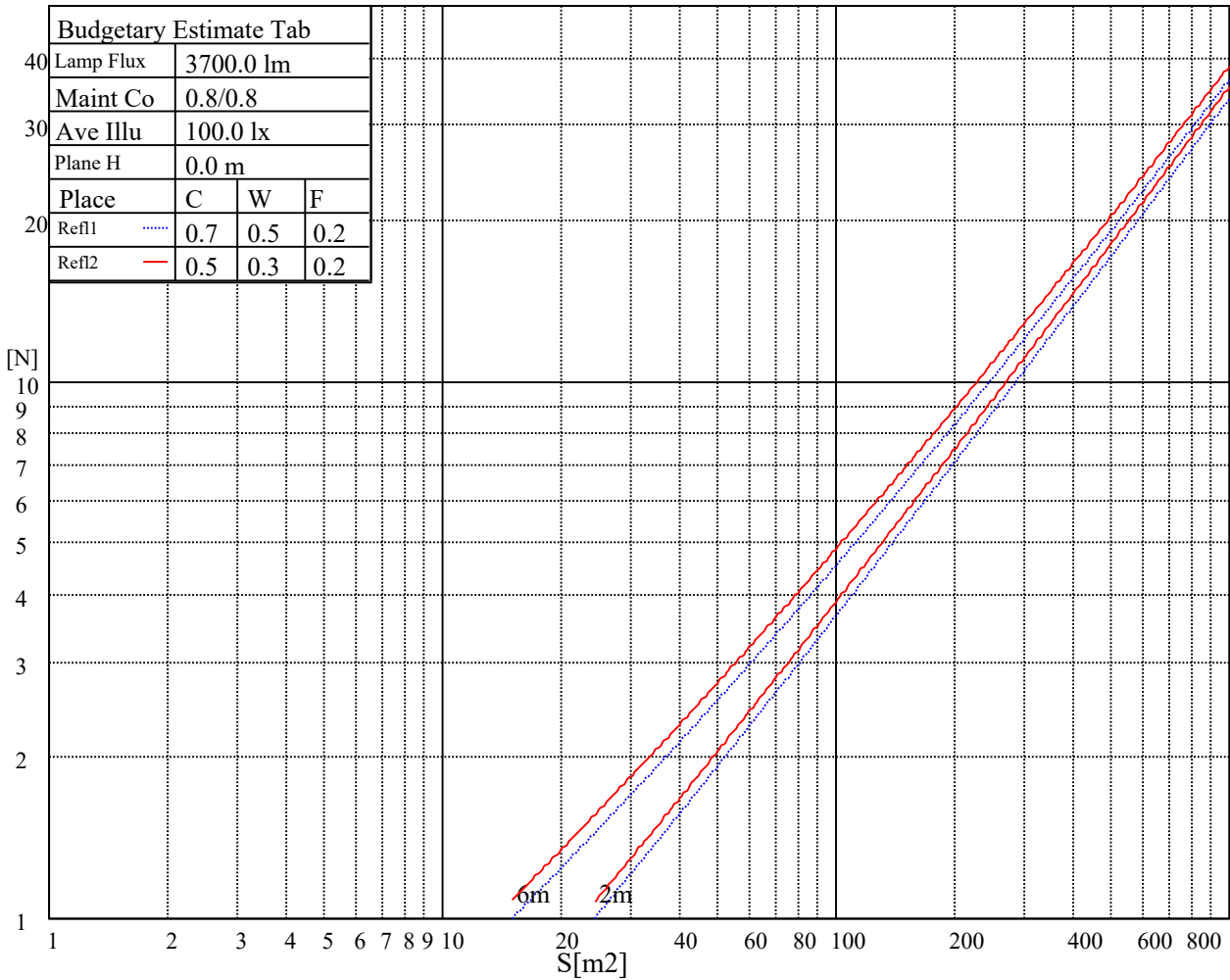
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
11713	11713	0	15646	15646	0	28657	28657	0

Glare Table

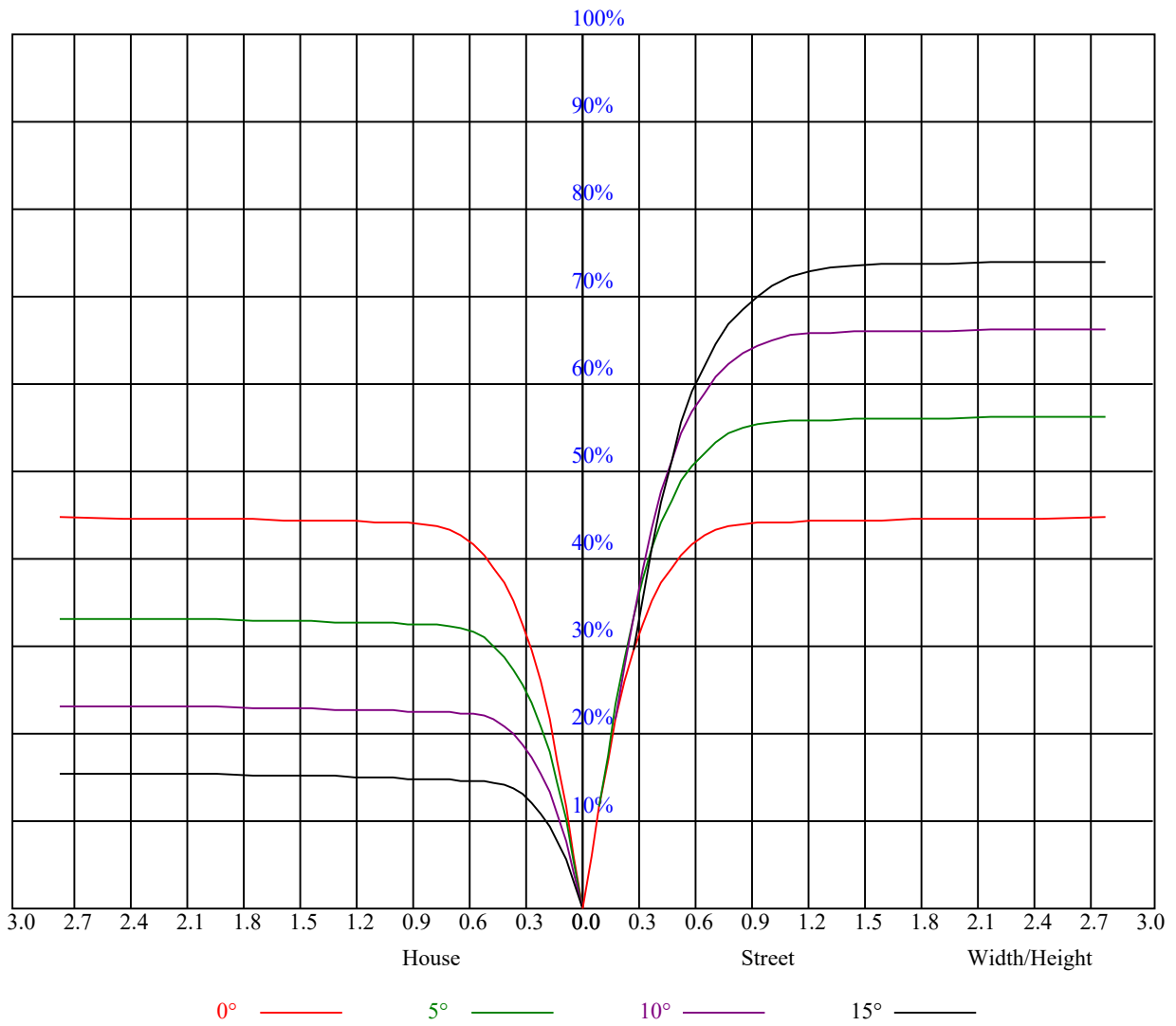
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





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 RHOF=20 CU															
0	1.07	1.07	1.07	1.05	1.05	1.05	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.90
1	1.00	0.98	0.96	0.98	0.97	0.95	0.95	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.87	0.85
2	0.94	0.91	0.88	0.93	0.90	0.87	0.90	0.87	0.85	0.87	0.85	0.84	0.85	0.83	0.82	0.80
3	0.89	0.85	0.82	0.88	0.84	0.81	0.85	0.82	0.80	0.83	0.81	0.79	0.81	0.79	0.77	0.76
4	0.84	0.80	0.77	0.83	0.79	0.76	0.81	0.78	0.75	0.80	0.77	0.74	0.78	0.76	0.73	0.72
5	0.80	0.75	0.72	0.79	0.75	0.72	0.78	0.74	0.71	0.76	0.73	0.71	0.75	0.72	0.70	0.69
6	0.76	0.72	0.68	0.76	0.71	0.68	0.74	0.70	0.67	0.73	0.70	0.67	0.72	0.69	0.67	0.65
7	0.73	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.64	0.70	0.67	0.64	0.69	0.66	0.64	0.62
8	0.70	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.61	0.67	0.64	0.61	0.66	0.63	0.61	0.60
9	0.67	0.62	0.59	0.66	0.62	0.59	0.65	0.61	0.59	0.65	0.61	0.58	0.64	0.61	0.58	0.57
10	0.64	0.59	0.56	0.64	0.59	0.56	0.63	0.59	0.56	0.62	0.59	0.56	0.62	0.58	0.56	0.55



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	9023.19	8916.38	8705.52	8426.38	8141.74	7839.48	7424.91	7087.41	6739.45
90.0	8998.97	9064.49	9073.29	8980.25	8824.99	8625.69	8305.26	8005.75	7675.41
180.0	9023.19	9081.00	9057.33	8949.42	8761.12	8535.39	8214.97	7847.74	7494.28
270.0	8998.97	8832.70	8629.54	8337.19	8035.48	7674.86	7335.16	6883.15	6523.08
360.0	9023.19	8916.38	8705.52	8426.38	8141.74	7839.48	7424.91	7087.41	6739.45
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	6287.99	5918.56	5538.12	5102.08	4675.39	4302.11	3897.99	3572.61	3242.82
90.0	7248.18	6888.11	6528.04	6105.75	5664.20	5279.91	4851.02	4419.38	4052.15
180.0	7131.46	6670.63	6289.09	5901.50	5428.56	5043.17	4669.88	4201.90	3841.29
270.0	6155.31	5728.62	5295.88	4908.28	4532.24	4075.27	3722.36	3400.83	3077.10
360.0	6287.99	5918.56	5538.12	5102.08	4675.39	4302.11	3897.99	3572.61	3242.82
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	2946.62	2706.02	2470.38	2261.17	2099.85	1955.05	1800.34	1695.19	1601.59
90.0	3661.80	3343.02	3017.64	2740.16	2514.98	2296.95	2108.66	1964.41	1837.23
180.0	3500.49	3116.19	2876.70	2606.92	2350.36	2197.30	2027.73	1885.68	1775.02
270.0	2797.97	2573.34	2352.01	2157.66	2010.11	1864.76	1756.30	1651.69	1558.65
360.0	2946.62	2706.02	2470.38	2261.17	2099.85	1955.05	1800.34	1695.19	1601.59
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	1514.05	1422.66	1334.57	1227.21	1116.54	1014.69	918.34	801.62	682.15
90.0	1706.20	1621.41	1539.38	1449.08	1349.43	1247.03	1134.71	1024.05	915.59
180.0	1681.97	1579.02	1498.08	1406.69	1290.52	1091.66	1064.63	960.57	833.44
270.0	1478.26	1391.28	1275.66	1094.08	1070.19	942.46	838.84	730.93	612.61
360.0	1514.05	1422.66	1334.57	1227.21	1116.54	1014.69	918.34	801.62	682.15
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	563.78	460.27	361.17	278.59	158.18	92.00	47.35	31.82	24.94
90.0	801.62	702.52	585.25	482.29	383.74	292.90	174.91	103.78	56.93
180.0	732.08	608.37	522.04	414.68	298.85	223.09	145.07	68.44	45.86
270.0	497.76	399.38	293.62	199.47	127.95	70.42	45.26	32.48	22.24
360.0	563.78	460.27	361.17	278.59	158.18	92.00	47.35	31.82	24.94
C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	21.36	20.43	20.10	19.88	17.45	17.29	17.07	16.79	16.46
90.0	35.24	27.69	20.70	19.55	19.16	18.88	18.33	18.11	17.84
180.0	33.97	23.89	20.04	19.88	19.88	19.82	19.77	19.49	19.05
270.0	20.70	20.26	19.88	19.27	18.88	18.44	18.00	17.67	17.18
360.0	21.36	20.43	20.10	19.88	17.45	17.29	17.07	16.79	16.46
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	16.24	15.86	15.64	15.42	15.14	14.98	14.87	15.09	17.34
90.0	17.62	17.40	17.12	16.79	16.52	16.24	16.02	16.35	18.99
180.0	18.50	18.06	17.62	17.29	17.34	18.44	20.59	24.56	27.86
270.0	16.79	16.41	16.02	15.86	15.91	18.00	20.98	24.22	27.42
360.0	16.24	15.86	15.64	15.42	15.14	14.98	14.87	15.09	17.34
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	20.65	23.01	23.78	23.89	23.95	24.11	24.00	23.18	22.13
90.0	21.86	26.37	28.90	29.62	29.79	29.90	30.34	30.78	30.72
180.0	31.60	34.80	36.50	36.83	36.94	36.78	36.50	35.95	35.29
270.0	29.12	30.61	31.27	30.56	29.51	28.46	27.42	26.10	24.78
360.0	20.65	23.01	23.78	23.89	23.95	24.11	24.00	23.18	22.13

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Intensity data(cd)										Appendix Page: 17 Total:17
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0	
0.0	21.25	20.04	18.00	16.74	15.86	15.36	15.03	14.65	14.53	
90.0	30.34	29.90	29.46	28.63	27.86	26.81	25.05	23.18	21.25	
180.0	34.41	33.53	32.59	31.66	30.28	28.79	27.31	25.60	23.40	
270.0	23.73	22.85	22.08	21.53	20.76	20.04	19.27	18.55	17.29	
360.0	21.25	20.04	18.00	16.74	15.86	15.36	15.03	14.65	14.53	
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0	
0.0	14.42	14.37	14.15	13.93	13.82	12.88	12.61	12.50	12.55	
90.0	19.88	18.66	17.51	16.68	16.02	15.53	15.09	14.81	13.32	
180.0	21.64	20.15	19.27	18.17	16.68	15.58	15.14	14.81	12.83	
270.0	16.35	15.42	15.09	14.76	14.26	12.61	12.50	12.50	12.44	
360.0	14.42	14.37	14.15	13.93	13.82	12.88	12.61	12.50	12.55	
C/γ(°)	90.0									
0.0	12.50									
90.0	12.55									
180.0	12.55									
270.0	12.44									
360.0	12.50									