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Nata

LumCAT: 1-0926-M
Luminaire: 99.02.73.179+92.76.853.00
Report No: 220606-B012
Test No: 220606-C012
LampCAT: CREE CXA1512
Lamp flux(lm): 1404.6
Number of Lamps: 1
Length(mm): 43
Phm Type: C

Voltage(V): 38.1100
Current(A): 0.3610
Power (W): 13.7570
PF: 0.0000
Ballast type: DC
Width(mm): 43
Height(mm): 0

Photometric Results

Lumens(lm): 1074.71
Efficiency(%): 76.51%
Lumens(lm)/Power(W): 78.12
Central intensity(cd): 9907.329
Maximum intensity(cd): 9907.329
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=14.7
 [C90/270]Total=14.7
Field angle(10%Imax): [C0/180]Total=35.6
 [C90/270]Total=35.6
Maximum s/h(1/2): C0_180=0.25 C90_270=0.25
Maximum s/h(1/4): C0_180=0.29 C90_270=0.29
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 76.51%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.579%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	9907.330	0.000	0	.000%	.000%
1.0	9737.557	9.400	9.4	.669%	.875%
2.0	9205.009	27.188	36.588	1.936%	3.404%
3.0	8478.190	42.292	78.88	3.011%	7.340%
4.0	7733.818	54.267	133.147	3.863%	12.389%
5.0	6825.648	62.634	195.781	4.459%	18.217%
6.0	6017.640	67.495	263.276	4.805%	24.497%
7.0	5217.997	69.739	333.015	4.965%	30.987%
8.0	4497.750	69.534	402.549	4.950%	37.457%
9.0	3882.893	67.921	470.47	4.835%	43.777%
10.0	3363.117	65.574	536.043	4.668%	49.878%
11.0	2908.248	62.664	598.707	4.461%	55.709%
12.0	2533.672	59.488	658.195	4.235%	61.244%
13.0	2190.018	56.058	714.254	3.991%	66.460%
14.0	1866.382	51.922	766.175	3.696%	71.292%
15.0	1599.010	47.574	813.75	3.387%	75.718%
16.0	1374.391	43.569	857.318	3.102%	79.772%
17.0	1148.787	39.293	896.611	2.797%	83.429%
18.0	945.888	34.537	931.148	2.459%	86.642%
19.0	770.641	29.864	961.012	2.126%	89.421%
20.0	586.445	24.838	985.85	1.768%	91.732%
21.0	422.109	19.366	1005.216	1.379%	93.534%
22.0	306.099	14.634	1019.85	1.042%	94.896%
23.0	183.890	10.281	1030.131	.732%	95.852%
24.0	91.818	6.028	1036.159	.429%	96.413%
25.0	45.450	3.121	1039.28	.222%	96.704%
26.0	25.455	1.674	1040.954	.119%	96.859%
27.0	17.388	1.048	1042.002	.075%	96.957%
28.0	14.595	0.810	1042.812	.058%	97.032%
29.0	13.123	0.725	1043.537	.052%	97.100%
30.0	12.033	0.679	1044.216	.048%	97.163%
31.0	11.144	0.645	1044.861	.046%	97.223%
32.0	10.360	0.616	1045.477	.044%	97.280%
33.0	9.695	0.591	1046.068	.042%	97.335%
34.0	9.135	0.570	1046.638	.041%	97.388%
35.0	8.679	0.553	1047.191	.039%	97.440%
36.0	8.246	0.539	1047.73	.038%	97.490%
37.0	7.925	0.527	1048.258	.038%	97.539%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	7.581	0.518	1048.775	.037%	97.587%
39.0	7.290	0.508	1049.283	.036%	97.634%
40.0	7.073	0.501	1049.784	.036%	97.681%
41.0	6.849	0.496	1050.279	.035%	97.727%
42.0	6.662	0.491	1050.77	.035%	97.773%
43.0	6.506	0.488	1051.258	.035%	97.818%
44.0	6.364	0.486	1051.744	.035%	97.863%
45.0	6.207	0.483	1052.227	.034%	97.908%
46.0	6.095	0.481	1052.708	.034%	97.953%
47.0	5.983	0.480	1053.188	.034%	97.998%
48.0	5.878	0.479	1053.668	.034%	98.042%
49.0	5.789	0.479	1054.147	.034%	98.087%
50.0	5.699	0.479	1054.626	.034%	98.132%
51.0	5.624	0.479	1055.105	.034%	98.176%
52.0	5.542	0.479	1055.584	.034%	98.221%
53.0	5.482	0.480	1056.064	.034%	98.265%
54.0	5.408	0.480	1056.544	.034%	98.310%
55.0	5.348	0.480	1057.024	.034%	98.355%
56.0	5.288	0.481	1057.504	.034%	98.399%
57.0	5.236	0.481	1057.986	.034%	98.444%
58.0	5.176	0.481	1058.467	.034%	98.489%
59.0	5.131	0.482	1058.949	.034%	98.534%
60.0	5.109	0.484	1059.433	.034%	98.579%
61.0	5.057	0.485	1059.918	.035%	98.624%
62.0	5.027	0.486	1060.404	.035%	98.669%
63.0	4.989	0.487	1060.891	.035%	98.715%
64.0	4.967	0.489	1061.379	.035%	98.760%
65.0	4.930	0.490	1061.869	.035%	98.806%
66.0	4.892	0.490	1062.359	.035%	98.851%
67.0	4.885	0.492	1062.851	.035%	98.897%
68.0	4.870	0.494	1063.345	.035%	98.943%
69.0	4.847	0.496	1063.841	.035%	98.989%
70.0	4.833	0.497	1064.338	.035%	99.035%
71.0	4.818	0.499	1064.837	.036%	99.082%
72.0	4.803	0.500	1065.337	.036%	99.128%
73.0	4.810	0.503	1065.84	.036%	99.175%
74.0	4.840	0.507	1066.347	.036%	99.222%
75.0	4.855	0.512	1066.859	.036%	99.270%

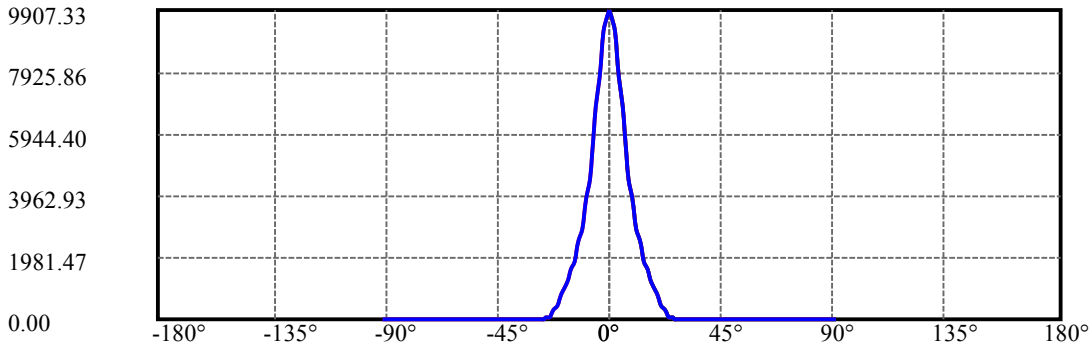
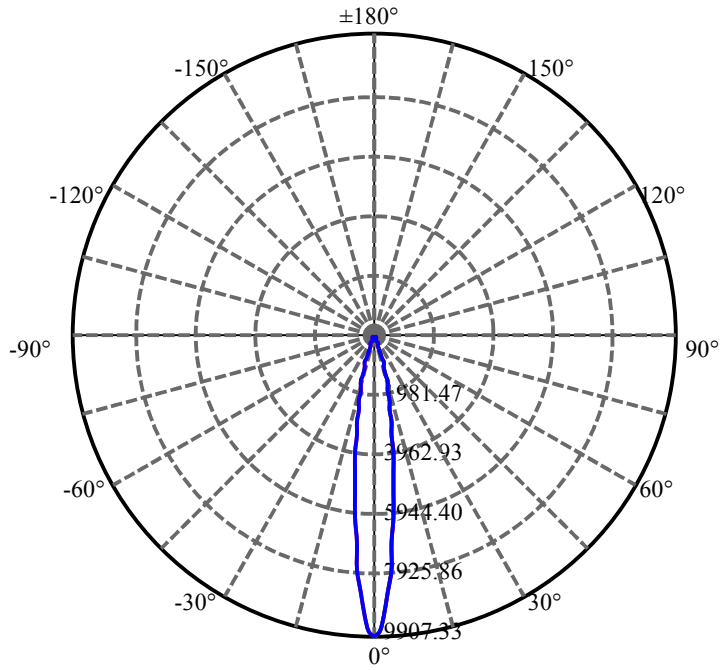
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	4.885	0.517	1067.376	.037%	99.318%
77.0	4.952	0.524	1067.901	.037%	99.367%
78.0	4.974	0.531	1068.432	.038%	99.416%
79.0	4.967	0.534	1068.966	.038%	99.466%
80.0	4.907	0.532	1069.498	.038%	99.515%
81.0	4.825	0.526	1070.025	.037%	99.564%
82.0	4.840	0.524	1070.549	.037%	99.613%
83.0	4.900	0.529	1071.078	.038%	99.662%
84.0	4.974	0.538	1071.616	.038%	99.713%
85.0	4.907	0.539	1072.156	.038%	99.763%
86.0	4.945	0.539	1072.694	.038%	99.813%
87.0	4.623	0.524	1073.218	.037%	99.862%
88.0	4.511	0.500	1073.718	.036%	99.908%
89.0	4.504	0.494	1074.212	.035%	99.954%
90.0	4.496	0.493	1074.706	.035%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1044.22	74.34%	97.16%
0-40	1049.78	74.74%	97.68%
0-60	1059.43	75.42%	98.58%
0-90	1074.21	76.48%	99.95%
0-120	1074.21	76.48%	99.95%
0-180	1074.71	76.51%	100.00%
60-90	15.26	1.09%	1.42%
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%
0-16.06	859.76	61.21%	80.00%

ZONAL LUMEN SUMMARY

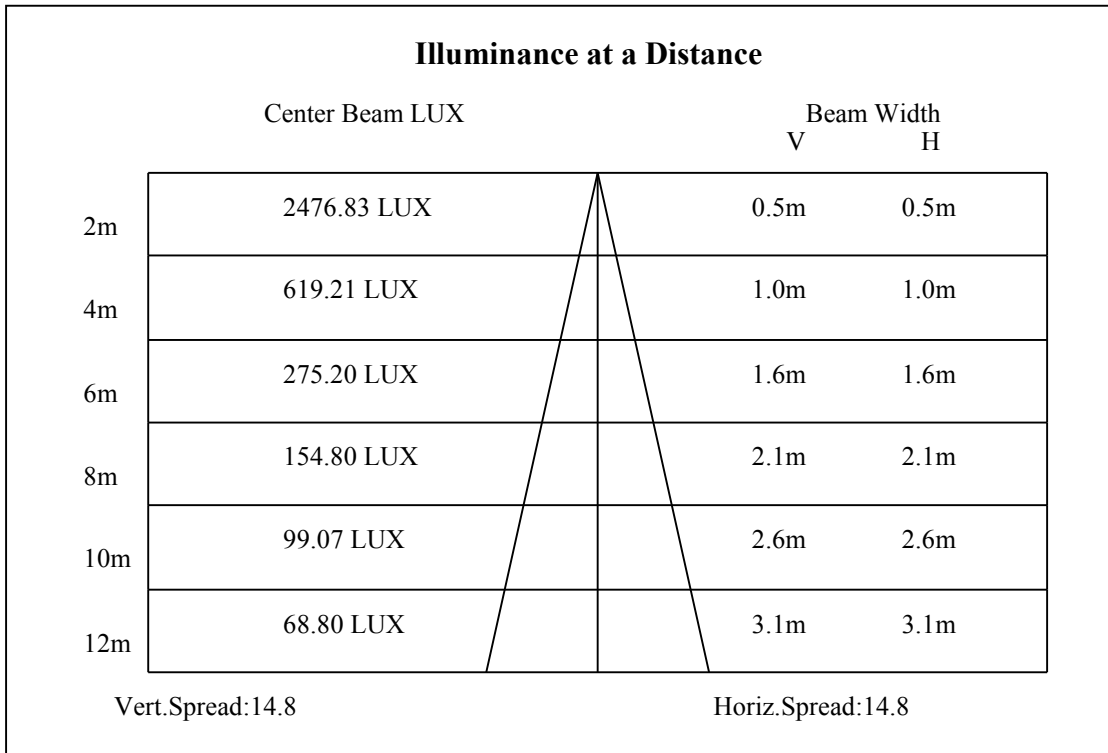
0-10	536.04
10-20	449.81
20-30	58.37
30-40	5.57
40-50	4.84
50-60	4.81
60-70	4.91
70-80	5.16
80-90	4.71
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

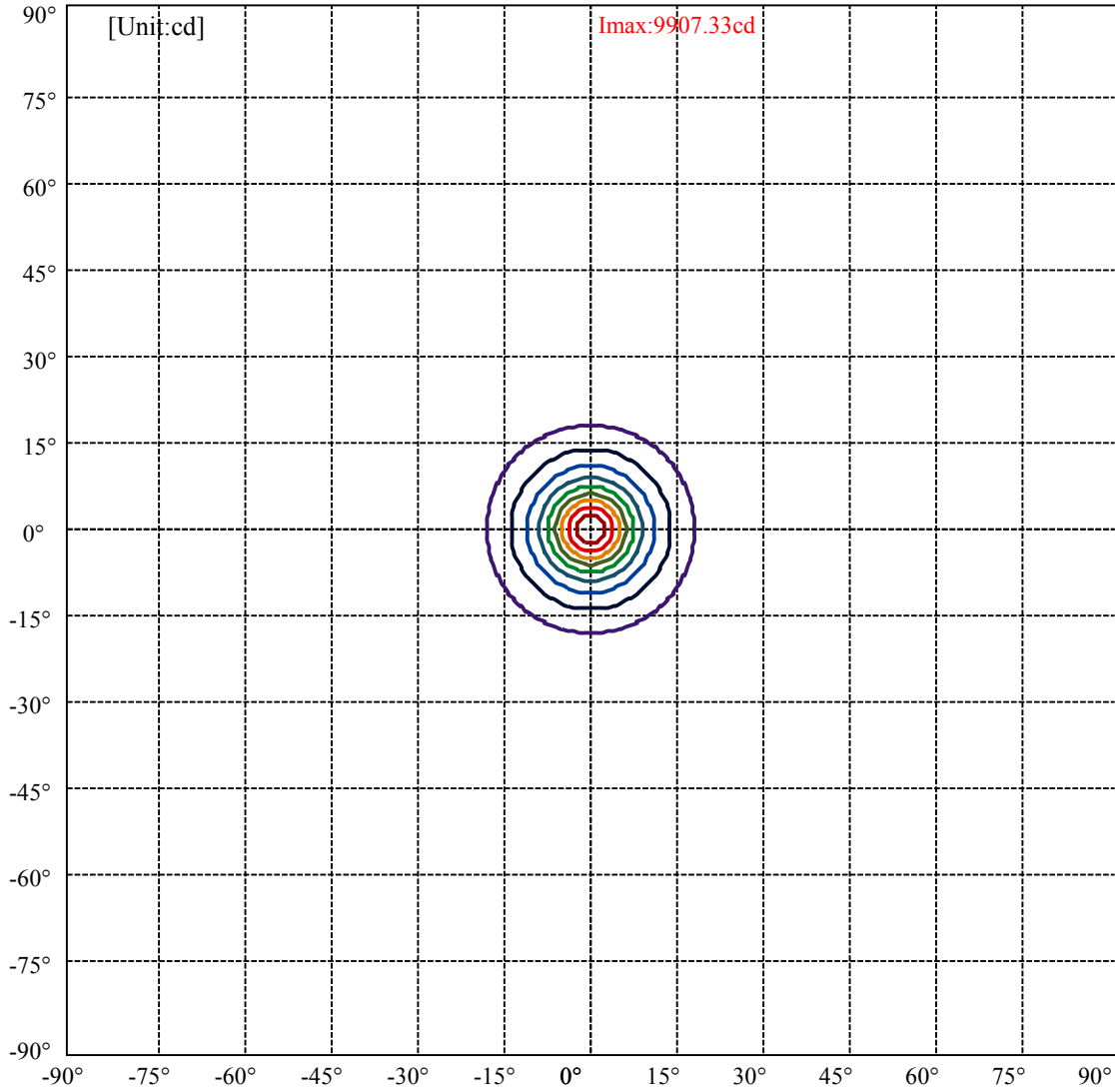


C0(Max): ———
C0/C180: ———
C90/C270: ———

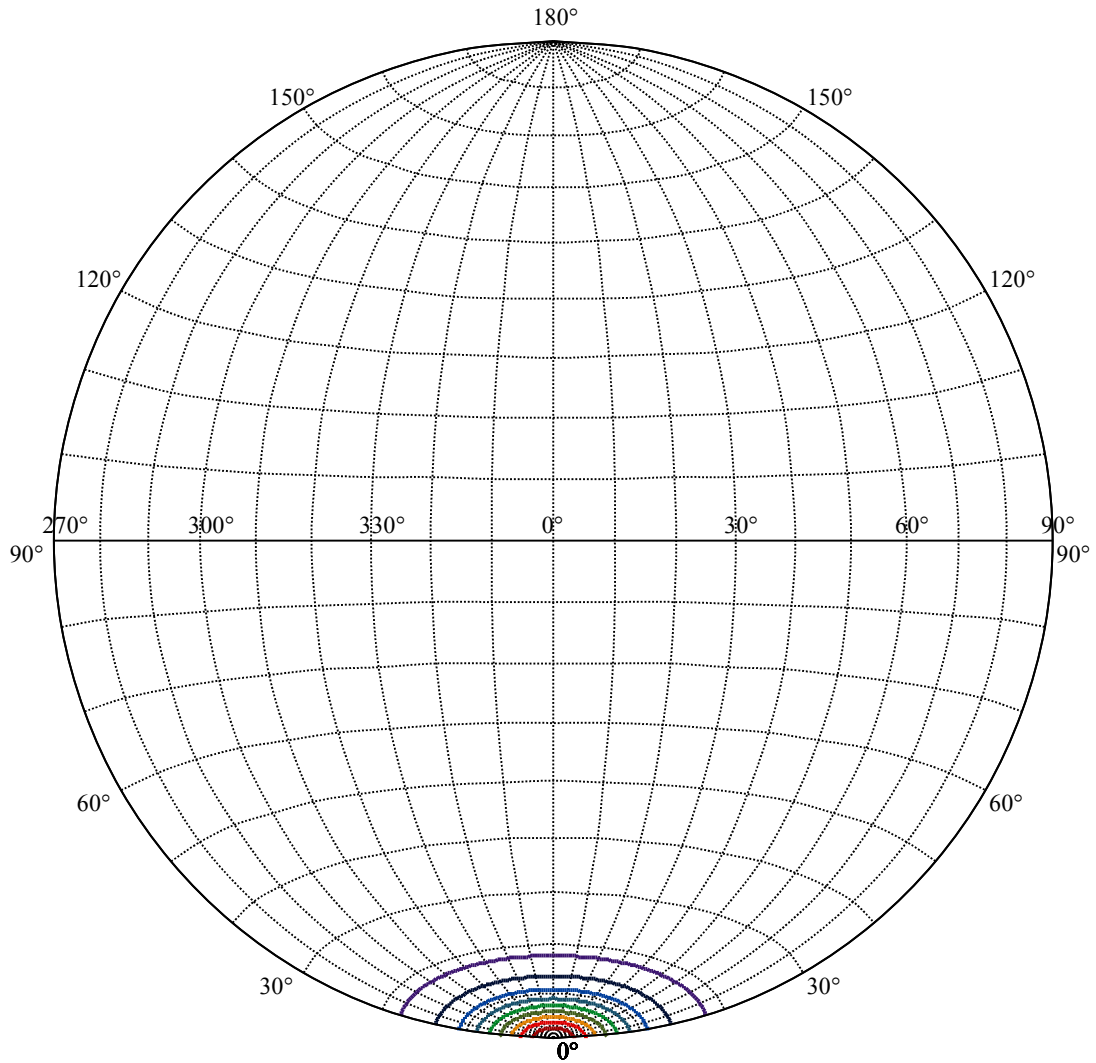
Field angle(10%I_{max}):C0/180Left:17.8 Right:17.8
:C90/270Left:17.8 Right:17.8

Beam Angle(50%I_{max}):C0/180Left:7.4 Right:7.4
:C90/270Left:7.4 Right:7.4





(10%Imax) 990.733	—
(20%Imax) 1981.47	—
(30%Imax) 2972.2	—
(40%Imax) 3962.93	—
(50%Imax) 4953.66	—
(60%Imax) 5944.4	—
(70%Imax) 6935.13	—
(80%Imax) 7925.86	—
(90%Imax) 8916.6	—



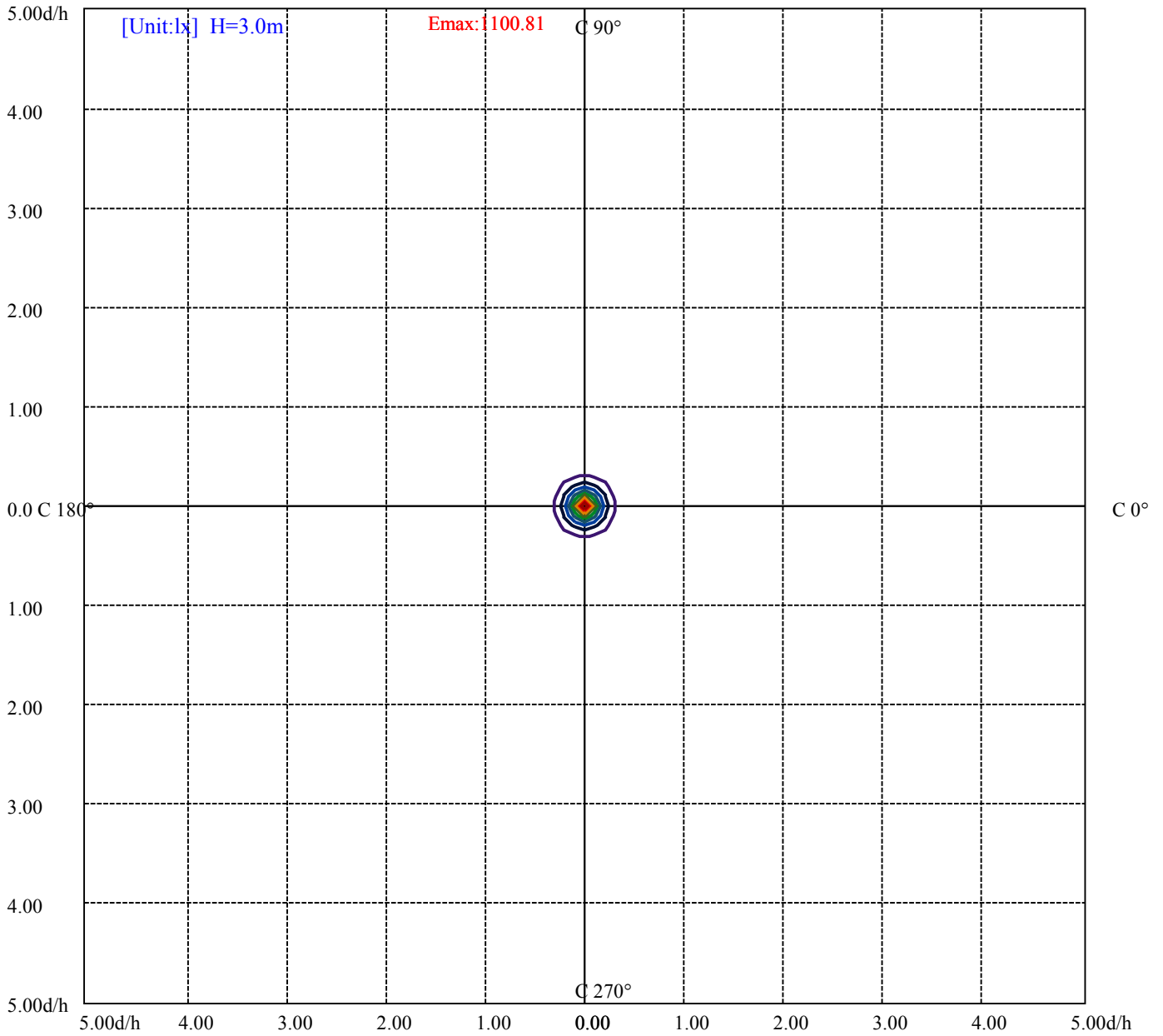
House

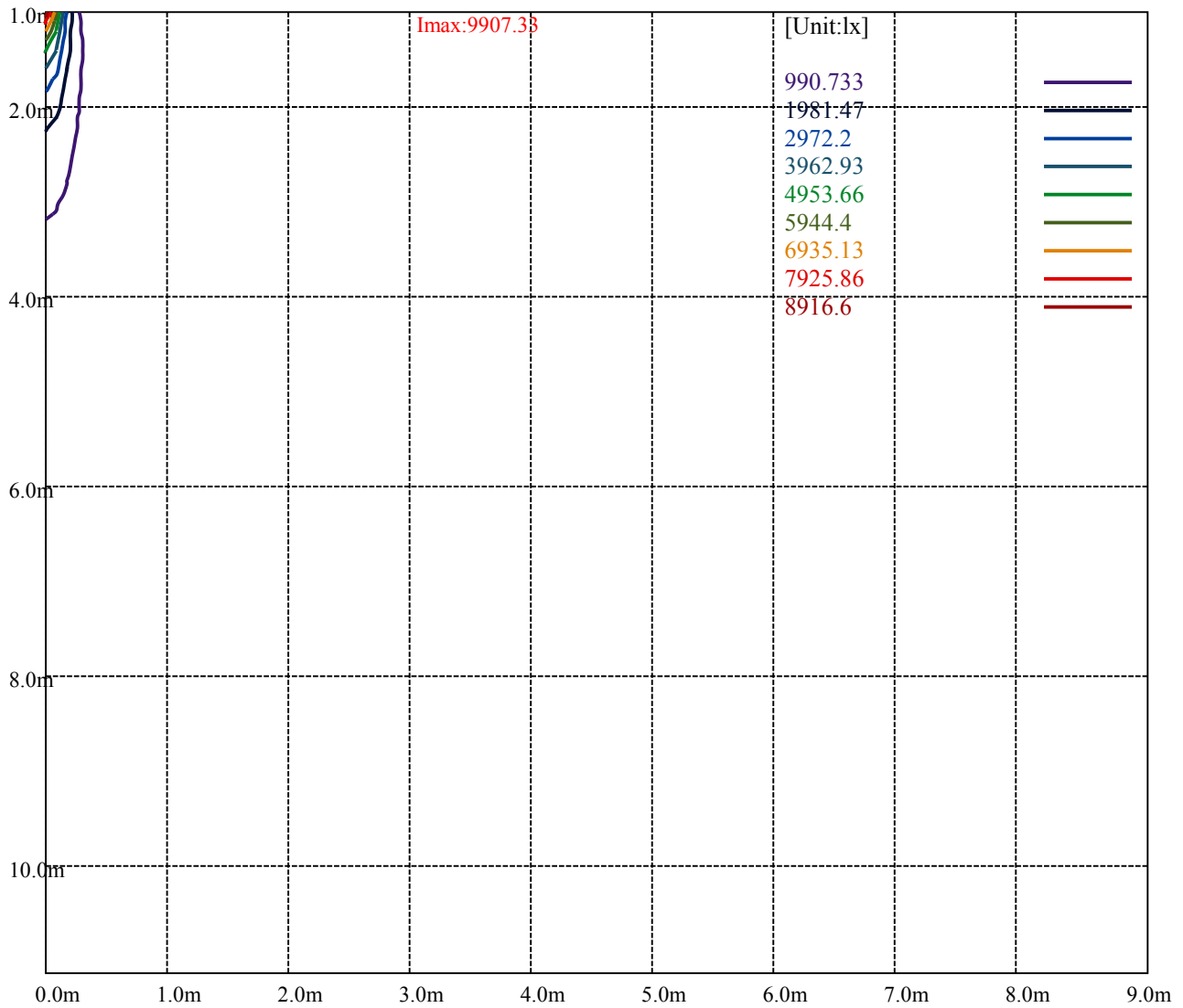
[Unit:cd]

Road

Imax:9907.33

(10%Imax) 990.733	—
(20%Imax) 1981.47	—
(30%Imax) 2972.2	—
(40%Imax) 3962.93	—
(50%Imax) 4953.66	—
(60%Imax) 5944.4	—
(70%Imax) 6935.13	—
(80%Imax) 7925.86	—
(90%Imax) 8916.6	—





Luminance Table

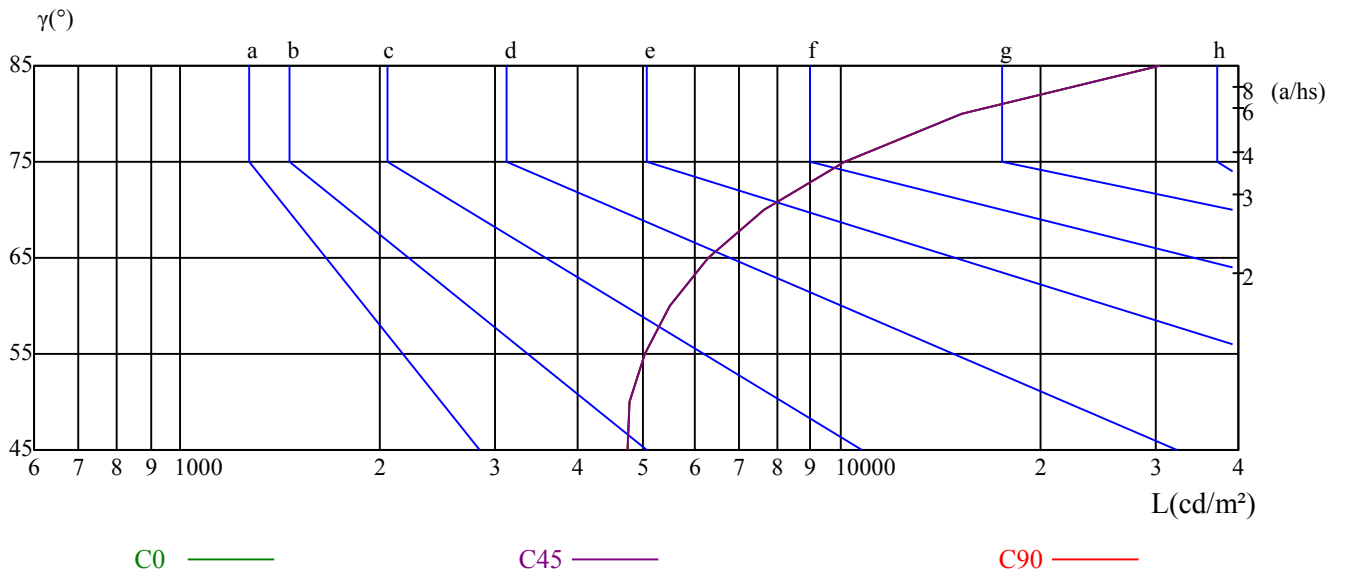
γ	45	50	55	60	65	70	75	80	85
C0	4747	4795	5043	5526	6309	7642	10145	15284	30451
C45	4747	4795	5043	5526	6309	7642	10145	15284	30451
C90	4747	4795	5043	5526	6309	7642	10145	15284	30451

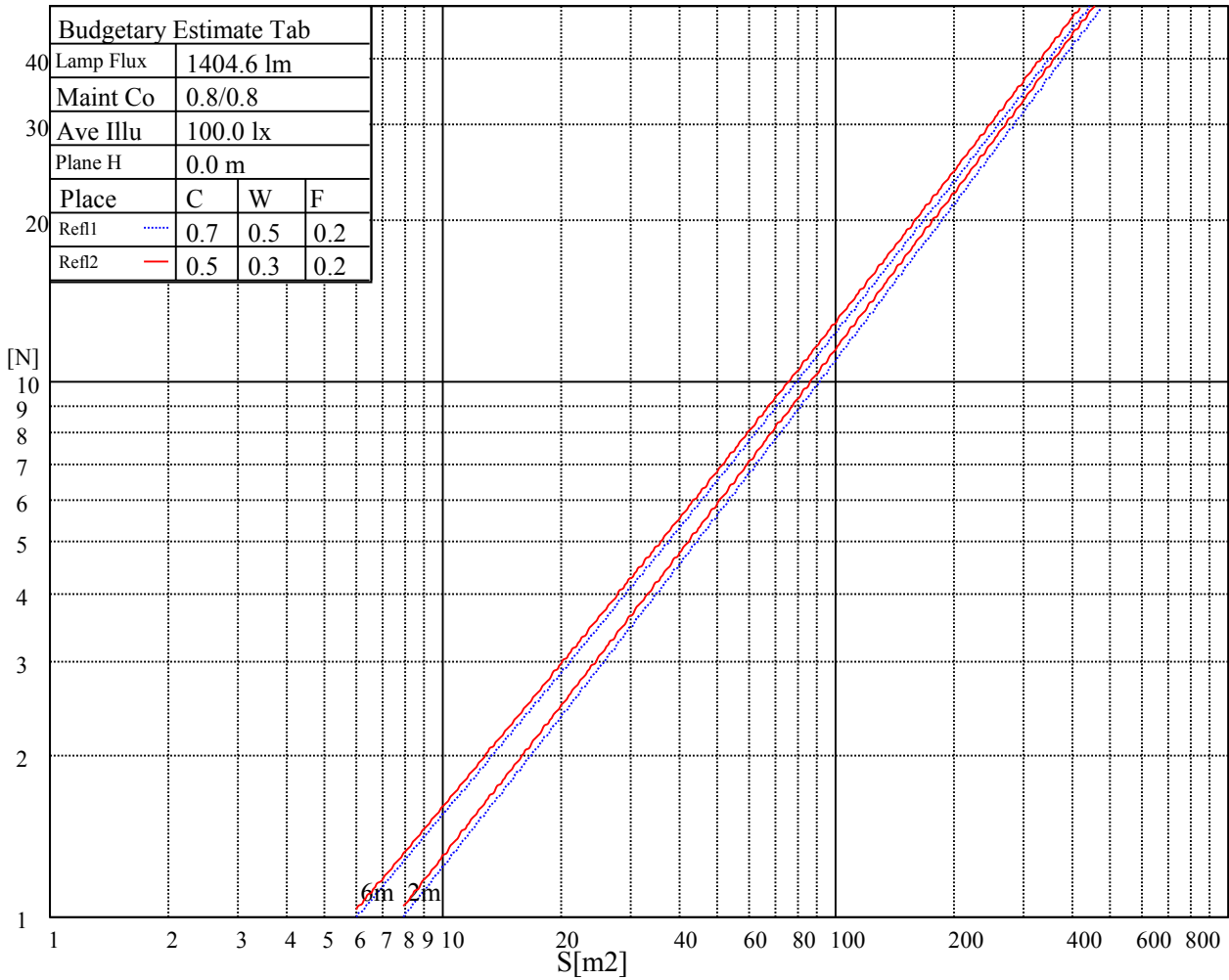
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6309	6309	6309	10145	10145	10145	30451	30451	30451

Glare Table

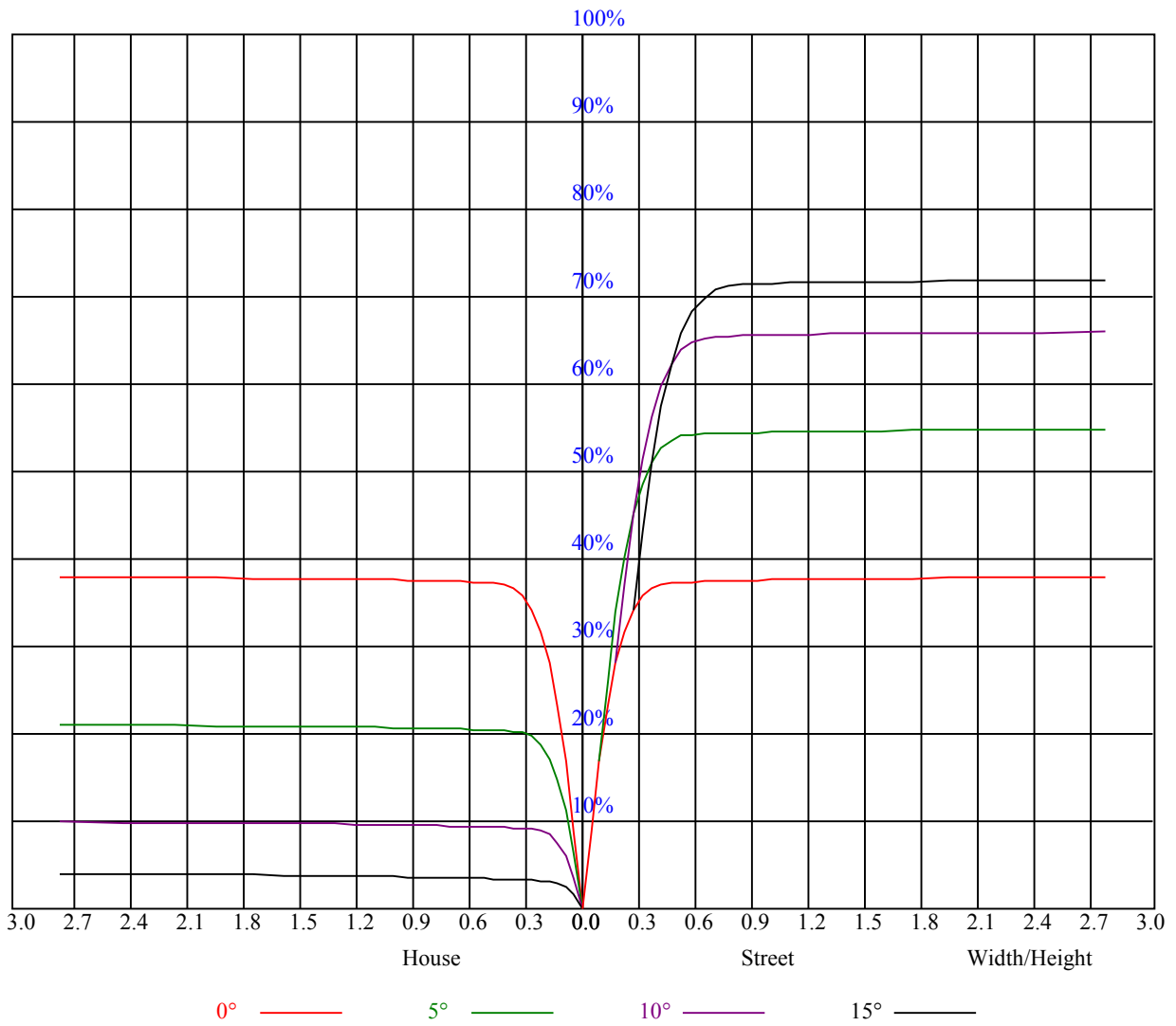
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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



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	9738.53	9917.19	9679.37	9128.45	8459.82	7506.76	6731.16	5980.67	5188.94
45.0	9935.11	9685.95	9157.73	8296.69	7543.80	6765.22	5788.86	5061.07	4422.91
90.0	9973.36	9655.47	9019.10	8227.97	7465.53	6538.16	5709.99	4862.69	4130.72
135.0	9982.32	9829.35	9253.33	8597.84	7877.22	6871.58	6017.12	5212.84	4431.87
180.0	9738.53	9285.00	8488.50	7740.39	6965.40	5949.60	5251.68	4465.33	3726.19
225.0	9935.11	9797.09	9357.90	8622.34	7819.86	7050.24	6243.58	5306.06	4627.26
270.0	9973.36	9947.07	9479.20	8811.76	8068.43	7099.24	6335.00	5583.31	4899.14
315.0	9982.32	9783.34	9204.93	8400.06	7670.48	6824.38	6063.72	5272.00	4554.96
360.0	9738.53	9917.19	9679.37	9128.45	8459.82	7506.76	6731.16	5980.67	5188.94
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	4486.85	3946.68	3424.44	3016.92	2599.85	2238.94	1956.91	1677.86	1416.74
45.0	3739.93	3267.29	2859.77	2455.25	2103.30	1836.21	1569.71	1322.33	1116.78
90.0	3586.97	3068.91	2630.32	2289.73	1990.97	1668.30	1443.03	1177.19	1006.90
135.0	3765.03	3268.48	2793.45	2426.57	2064.46	1766.30	1529.08	1289.47	1068.98
180.0	3294.77	2821.53	2375.78	2100.91	1827.84	1505.77	1170.14	1121.50	936.69
225.0	4036.31	3414.28	2981.07	2594.47	2258.06	1900.14	1650.38	1425.70	1187.23
270.0	4154.62	3650.90	3204.55	2762.97	2378.17	2077.01	1780.04	1512.94	1290.66
315.0	3998.66	3466.86	2996.61	2622.55	2297.50	1938.38	1692.80	1468.13	1166.32
360.0	4486.85	3946.68	3424.44	3016.92	2599.85	2238.94	1956.91	1677.86	1416.74
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1201.03	1008.03	791.13	622.03	463.08	308.92	180.15	97.70	41.71
45.0	910.04	724.80	549.73	384.21	304.14	140.90	62.80	30.71	21.33
90.0	809.89	646.71	474.26	322.84	212.78	114.49	56.23	27.13	19.12
135.0	887.33	711.66	521.64	378.24	311.91	139.52	67.04	32.09	24.14
180.0	722.29	561.86	411.70	254.73	156.91	83.18	37.70	23.84	17.15
225.0	973.91	802.30	617.73	446.89	314.12	189.36	104.69	46.55	25.87
270.0	1060.02	884.34	692.54	512.68	366.29	302.95	122.61	60.71	29.94
315.0	1002.59	825.43	632.84	455.26	319.56	191.81	103.31	44.87	24.38
360.0	1201.03	1008.03	791.13	622.03	463.08	308.92	180.15	97.70	41.71
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	22.41	16.67	14.58	13.27	12.07	11.11	10.40	9.68	9.08
45.0	15.60	13.86	12.73	11.65	10.76	10.16	9.44	8.90	8.54
90.0	15.54	13.92	12.49	11.59	10.82	9.98	9.44	8.96	8.48
135.0	16.31	14.40	13.32	12.07	11.17	10.58	9.80	9.26	8.84
180.0	14.46	13.21	12.13	11.23	10.52	9.86	9.26	8.78	8.43
225.0	19.12	15.18	13.38	12.31	11.47	10.52	9.86	9.32	8.78
270.0	18.76	15.06	13.50	12.31	11.35	10.58	9.86	9.20	8.78
315.0	16.91	14.46	12.85	11.83	10.99	10.10	9.50	8.96	8.48
360.0	22.41	16.67	14.58	13.27	12.07	11.11	10.40	9.68	9.08
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	8.60	8.25	7.77	7.47	7.23	6.99	6.75	6.57	6.39
45.0	8.19	7.83	7.53	7.23	7.05	6.81	6.63	6.51	6.39
90.0	8.13	7.83	7.47	7.23	6.99	6.75	6.63	6.39	6.27
135.0	8.37	8.07	7.71	7.41	7.17	6.93	6.75	6.57	6.45
180.0	8.01	7.71	7.47	7.17	6.93	6.75	6.57	6.39	6.27
225.0	8.37	8.01	7.71	7.35	7.17	6.93	6.69	6.57	6.39
270.0	8.31	8.01	7.65	7.35	7.17	6.93	6.75	6.63	6.45
315.0	8.01	7.71	7.35	7.11	6.87	6.69	6.51	6.39	6.27
360.0	8.60	8.25	7.77	7.47	7.23	6.99	6.75	6.57	6.39

Intensity data(cd)

C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	6.21	6.09	6.04	5.86	5.80	5.68	5.62	5.50	5.44
45.0	6.15	6.09	5.98	5.86	5.74	5.68	5.62	5.50	5.50
90.0	6.15	6.04	5.92	5.86	5.74	5.62	5.56	5.50	5.44
135.0	6.27	6.15	6.04	5.92	5.86	5.74	5.62	5.56	5.50
180.0	6.15	5.98	5.92	5.80	5.68	5.62	5.50	5.44	5.38
225.0	6.27	6.15	6.04	5.92	5.86	5.74	5.68	5.62	5.50
270.0	6.33	6.21	6.09	6.04	5.92	5.86	5.80	5.74	5.68
315.0	6.09	6.04	5.86	5.80	5.74	5.68	5.62	5.50	5.44
360.0	6.21	6.09	6.04	5.86	5.80	5.68	5.62	5.50	5.44
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	5.38	5.32	5.20	5.20	5.14	5.08	5.02	4.96	4.96
45.0	5.38	5.32	5.26	5.20	5.14	5.08	5.08	5.02	4.96
90.0	5.32	5.26	5.20	5.14	5.08	5.02	5.02	4.96	4.96
135.0	5.38	5.32	5.26	5.20	5.14	5.08	5.08	5.02	5.02
180.0	5.32	5.26	5.20	5.14	5.08	5.02	5.02	4.96	4.90
225.0	5.44	5.44	5.32	5.26	5.20	5.20	5.14	5.08	5.02
270.0	5.68	5.56	5.56	5.50	5.44	5.38	5.38	5.38	5.32
315.0	5.38	5.32	5.32	5.26	5.20	5.14	5.14	5.08	5.08
360.0	5.38	5.32	5.20	5.20	5.14	5.08	5.02	4.96	4.96
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	4.90	4.90	4.84	4.78	4.78	4.78	4.72	4.72	4.72
45.0	4.96	4.90	4.90	4.84	4.84	4.78	4.78	4.78	4.72
90.0	4.90	4.90	4.78	4.78	4.78	4.78	4.72	4.72	4.72
135.0	4.96	4.90	4.90	4.84	4.84	4.84	4.78	4.78	4.72
180.0	4.90	4.90	4.84	4.78	4.78	4.78	4.72	4.72	4.72
225.0	4.96	4.96	4.90	4.90	4.84	4.84	4.84	4.78	4.78
270.0	5.32	5.26	5.26	5.26	5.26	5.26	5.26	5.26	5.26
315.0	5.02	5.02	5.02	4.96	4.96	4.90	4.96	4.90	4.90
360.0	4.90	4.90	4.84	4.78	4.78	4.78	4.72	4.72	4.72
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	4.66	4.66	4.66	4.66	4.60	4.66	4.66	4.60	4.66
45.0	4.72	4.72	4.72	4.72	4.72	4.72	4.72	4.72	4.72
90.0	4.66	4.66	4.66	4.66	4.66	4.66	4.72	4.66	4.66
135.0	4.72	4.72	4.72	4.72	4.72	4.72	4.66	4.66	4.66
180.0	4.66	4.66	4.72	4.66	4.66	4.66	4.66	4.66	4.72
225.0	4.78	4.78	4.78	4.72	4.72	4.72	4.72	4.72	4.72
270.0	5.32	5.38	5.56	5.80	6.09	6.57	6.81	6.81	6.21
315.0	4.90	4.90	4.90	4.90	4.90	4.84	4.84	4.90	4.90
360.0	4.66	4.66	4.66	4.66	4.60	4.66	4.66	4.60	4.66
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	4.66	4.66	4.66	4.72	4.78	4.84	4.84	4.48	4.48
45.0	4.72	4.72	4.78	4.84	4.72	4.54	4.54	4.54	4.54
90.0	4.72	4.66	4.72	4.72	4.48	4.48	4.48	4.48	4.54
135.0	4.72	4.72	4.72	4.78	4.60	4.48	4.48	4.48	4.48
180.0	4.72	4.72	4.78	4.84	4.54	4.48	4.48	4.54	4.48
225.0	4.72	4.78	4.78	4.84	4.90	4.96	4.54	4.54	4.54
270.0	5.44	5.56	5.74	5.92	5.98	6.15	5.14	4.54	4.48
315.0	4.90	4.90	5.02	5.14	5.26	5.62	4.48	4.48	4.48
360.0	4.66	4.66	4.66	4.72	4.78	4.84	4.84	4.48	4.48

Intensity data(cd)

C/ γ ($^{\circ}$)	90.0
0.0	4.48
45.0	4.54
90.0	4.48
135.0	4.48
180.0	4.48
225.0	4.54
270.0	4.48
315.0	4.48
360.0	4.48