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Nata

LumCAT: LN01D04524DA-N

Luminaire: 97.70.234.00

Report No: 210107-B005

Test No: 210107-C005

LampCAT: XICATO XOB LES 9.8MM

Lamp flux(lm): 1260.4

Number of Lamps: 1

Length(mm): 92

Phm Type: C

Voltage(V): 34.6100

Current(A): 0.3810

Power (W): 13.1860

PF: 0.0000

Ballast type: DC

Width(mm): 92

Height(mm): 50

Photometric Results

Lumens(lm): 1100.72

Efficiency(%): 87.33%

Lumens(lm)/Power(W): 83.48

Central intensity(cd): 3961.969

Maximum intensity(cd): 3961.969

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=28.1

[C90/270]Total=28.1

Field angle(10%Imax): [C0/180]Total=47.4

[C90/270]Total=47.4

Maximum s/h(1/2): C0_180=0.48 C90_270=0.48

Maximum s/h(1/4): C0_180=0.45 C90_270=0.45

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 87.33%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 96.348%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3961.969	0.000	0	.000%	.000%
1.0	3952.266	3.787	3.787	.300%	.344%
2.0	3915.773	11.293	15.08	.896%	1.370%
3.0	3860.789	18.599	33.679	1.476%	3.060%
4.0	3788.016	25.603	59.282	2.031%	5.386%
5.0	3684.797	32.148	91.429	2.551%	8.306%
6.0	3562.242	38.085	129.515	3.022%	11.766%
7.0	3429.563	43.398	172.913	3.443%	15.709%
8.0	3274.172	47.977	220.89	3.806%	20.068%
9.0	3098.320	51.646	272.535	4.097%	24.760%
10.0	2912.203	54.393	326.928	4.315%	29.701%
11.0	2701.195	56.089	383.018	4.450%	34.797%
12.0	2490.469	56.752	439.77	4.503%	39.953%
13.0	2245.219	56.201	495.971	4.459%	45.059%
14.0	1997.789	54.310	550.281	4.309%	49.993%
15.0	1773.141	51.769	602.05	4.107%	54.696%
16.0	1554.680	48.762	650.812	3.869%	59.126%
17.0	1281.818	44.172	694.984	3.505%	63.139%
18.0	1103.154	39.323	734.307	3.120%	66.711%
19.0	952.334	35.761	770.068	2.837%	69.960%
20.0	786.621	31.828	801.896	2.525%	72.852%
21.0	650.109	27.588	829.484	2.189%	75.358%
22.0	546.722	24.051	853.535	1.908%	77.543%
23.0	450.816	20.931	874.466	1.661%	79.445%
24.0	371.053	17.969	892.435	1.426%	81.077%
25.0	315.492	15.611	908.045	1.239%	82.495%
26.0	264.705	13.696	921.741	1.087%	83.740%
27.0	225.563	11.995	933.735	.952%	84.829%
28.0	189.000	10.496	944.231	.833%	85.783%
29.0	162.766	9.203	953.435	.730%	86.619%
30.0	142.566	8.244	961.678	.654%	87.368%
31.0	125.824	7.469	969.147	.593%	88.046%
32.0	111.080	6.787	975.934	.538%	88.663%
33.0	99.527	6.205	982.139	.492%	89.227%
34.0	90.155	5.740	987.879	.455%	89.748%
35.0	80.902	5.312	993.192	.421%	90.231%
36.0	73.638	4.921	998.112	.390%	90.678%
37.0	67.641	4.608	1002.72	.366%	91.096%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	61.995	4.327	1007.047	.343%	91.490%
39.0	56.602	4.048	1011.095	.321%	91.857%
40.0	52.425	3.802	1014.897	.302%	92.203%
41.0	48.488	3.593	1018.491	.285%	92.529%
42.0	44.782	3.389	1021.88	.269%	92.837%
43.0	41.569	3.199	1025.078	.254%	93.128%
44.0	38.644	3.027	1028.106	.240%	93.403%
45.0	35.930	2.866	1030.972	.227%	93.663%
46.0	33.384	2.711	1033.682	.215%	93.909%
47.0	31.064	2.563	1036.246	.203%	94.142%
48.0	28.969	2.427	1038.672	.193%	94.363%
49.0	27.127	2.304	1040.976	.183%	94.572%
50.0	25.137	2.179	1043.155	.173%	94.770%
51.0	23.555	2.060	1045.215	.163%	94.957%
52.0	22.219	1.964	1047.179	.156%	95.136%
53.0	20.925	1.877	1049.056	.149%	95.306%
54.0	19.814	1.796	1050.852	.142%	95.469%
55.0	18.977	1.732	1052.583	.137%	95.626%
56.0	18.183	1.679	1054.262	.133%	95.779%
57.0	17.416	1.628	1055.89	.129%	95.927%
58.0	16.819	1.583	1057.473	.126%	96.071%
59.0	16.242	1.546	1059.019	.123%	96.211%
60.0	15.659	1.507	1060.526	.120%	96.348%
61.0	15.152	1.470	1061.996	.117%	96.482%
62.0	14.681	1.438	1063.434	.114%	96.612%
63.0	14.238	1.407	1064.84	.112%	96.740%
64.0	13.823	1.377	1066.217	.109%	96.865%
65.0	13.563	1.355	1067.573	.108%	96.988%
66.0	13.458	1.348	1068.921	.107%	97.111%
67.0	13.521	1.357	1070.277	.108%	97.234%
68.0	13.760	1.382	1071.659	.110%	97.360%
69.0	14.245	1.429	1073.088	.113%	97.489%
70.0	14.738	1.489	1074.577	.118%	97.625%
71.0	15.356	1.555	1076.132	.123%	97.766%
72.0	16.172	1.639	1077.771	.130%	97.915%
73.0	16.812	1.725	1079.496	.137%	98.072%
74.0	17.409	1.799	1081.295	.143%	98.235%
75.0	17.923	1.867	1083.162	.148%	98.405%

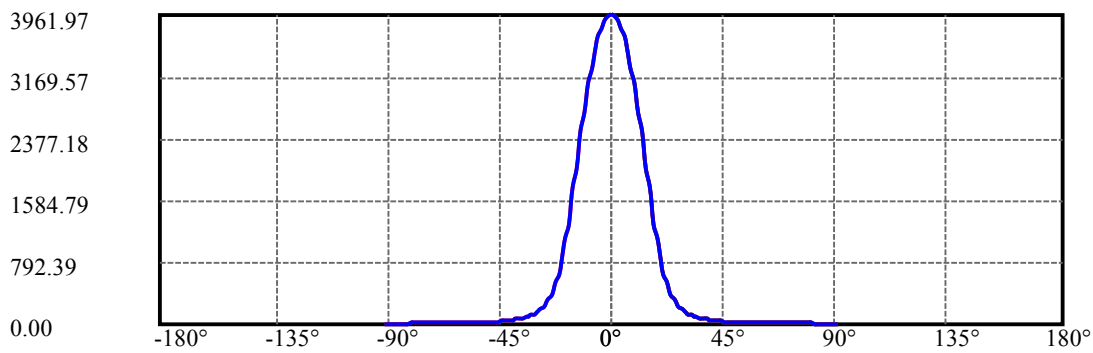
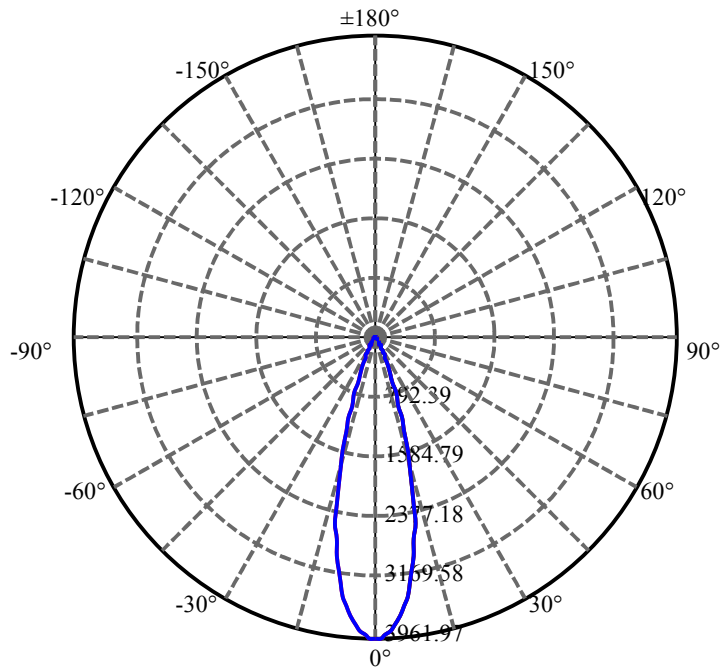
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	17.986	1.906	1085.068	.151%	98.578%
77.0	17.627	1.899	1086.967	.151%	98.750%
78.0	16.720	1.839	1088.806	.146%	98.917%
79.0	15.462	1.729	1090.535	.137%	99.074%
80.0	14.055	1.591	1092.126	.126%	99.219%
81.0	12.291	1.425	1093.551	.113%	99.348%
82.0	10.596	1.241	1094.792	.098%	99.461%
83.0	8.838	1.056	1095.848	.084%	99.557%
84.0	7.706	0.901	1096.75	.072%	99.639%
85.0	7.024	0.804	1097.554	.064%	99.712%
86.0	6.209	0.723	1098.277	.057%	99.778%
87.0	5.822	0.658	1098.935	.052%	99.838%
88.0	5.498	0.620	1099.556	.049%	99.894%
89.0	5.309	0.592	1100.148	.047%	99.948%
90.0	5.189	0.576	1100.724	.046%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	961.68	76.30%	87.37%
0-40	1014.90	80.52%	92.20%
0-60	1060.53	84.14%	96.35%
0-90	1100.15	87.28%	99.95%
0-120	1100.15	87.28%	99.95%
0-180	1100.72	87.33%	100.00%
60-90	41.13	3.26%	3.74%
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%
0-23.34	880.58	69.86%	80.00%

ZONAL LUMEN SUMMARY

0-10	326.93
10-20	474.97
20-30	159.78
30-40	53.22
40-50	28.26
50-60	17.37
60-70	14.05
70-80	17.55
80-90	8.02
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: —————

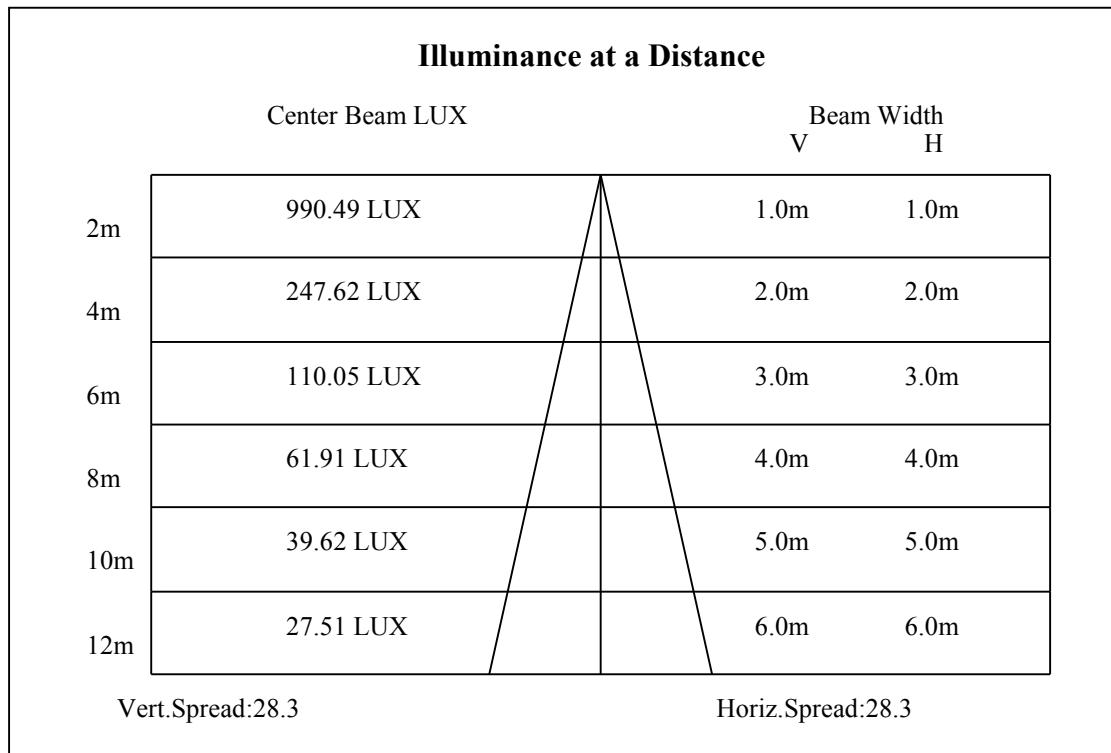
C90/C270: —————

Field angle(10%Imax):C0/180Left:23.7 Right:23.7

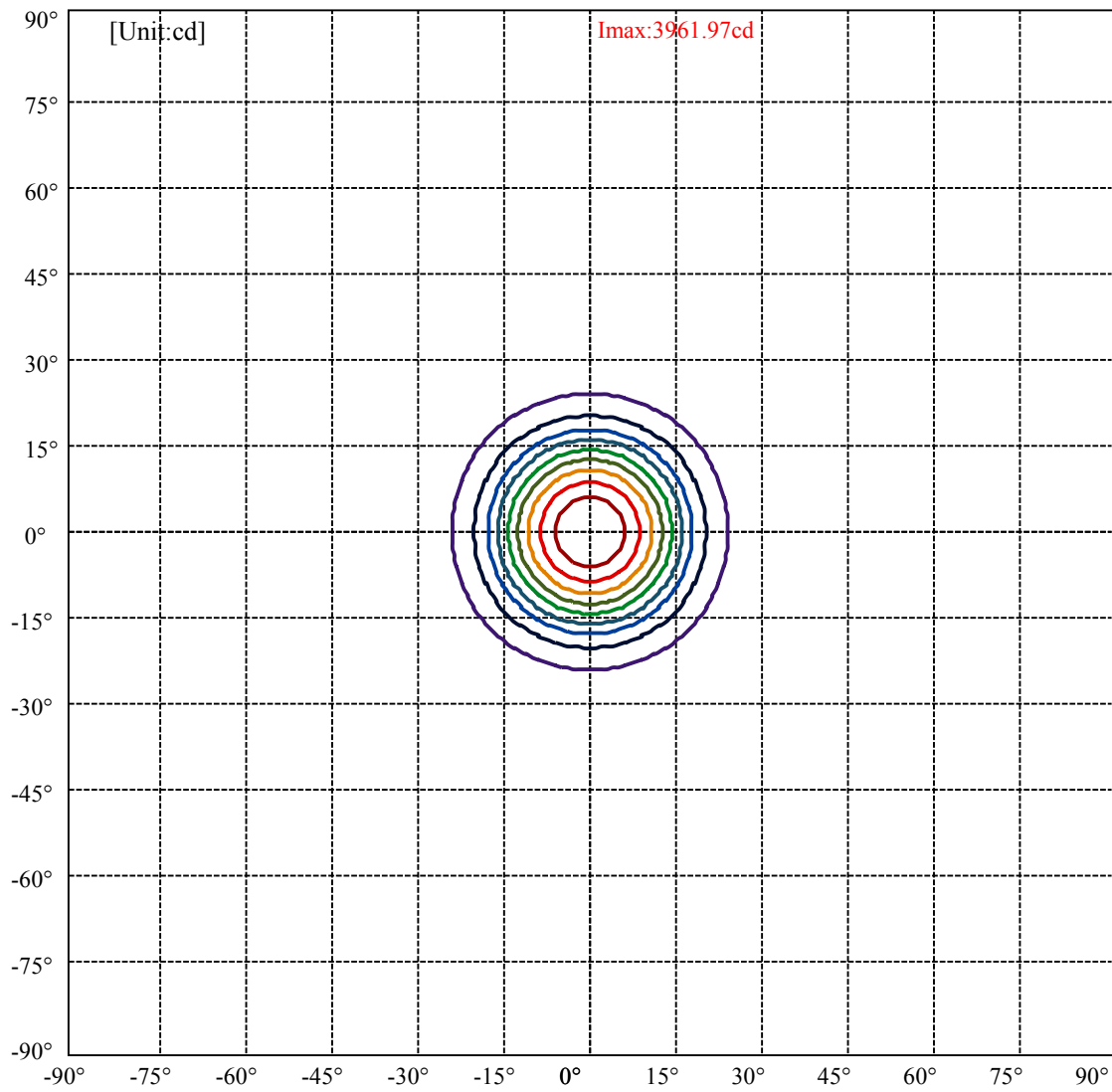
:C90/270Left:23.7 Right:23.7

Beam Angle(50%Imax):C0/180Left:14.1 Right:14.1

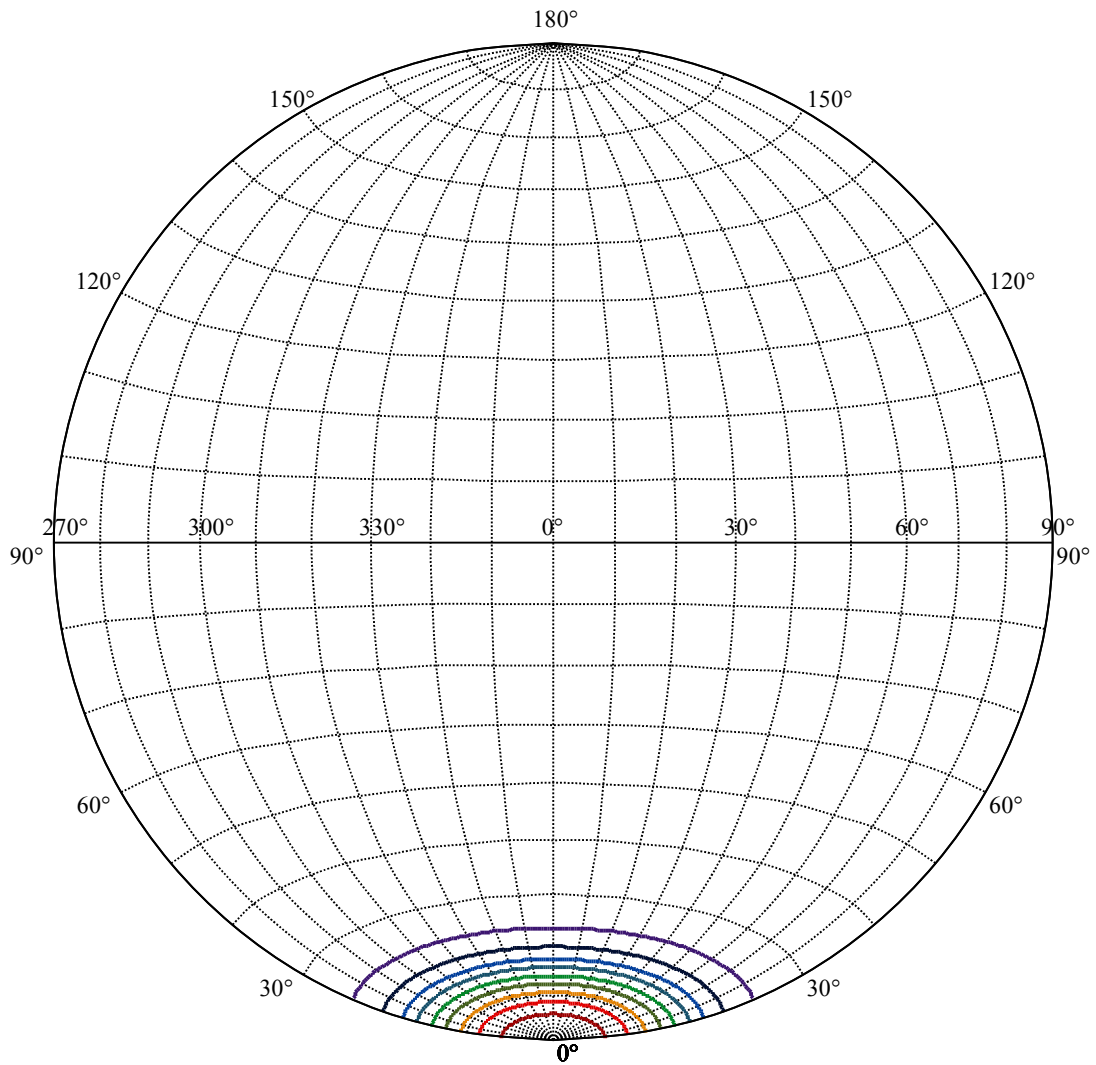
:C90/270Left:14.1 Right:14.1



ISO-Intensity(V-H)



(10%Imax) 396.197	—
(20%Imax) 792.394	—
(30%Imax) 1188.59	—
(40%Imax) 1584.79	—
(50%Imax) 1980.98	—
(60%Imax) 2377.18	—
(70%Imax) 2773.38	—
(80%Imax) 3169.57	—
(90%Imax) 3565.77	—



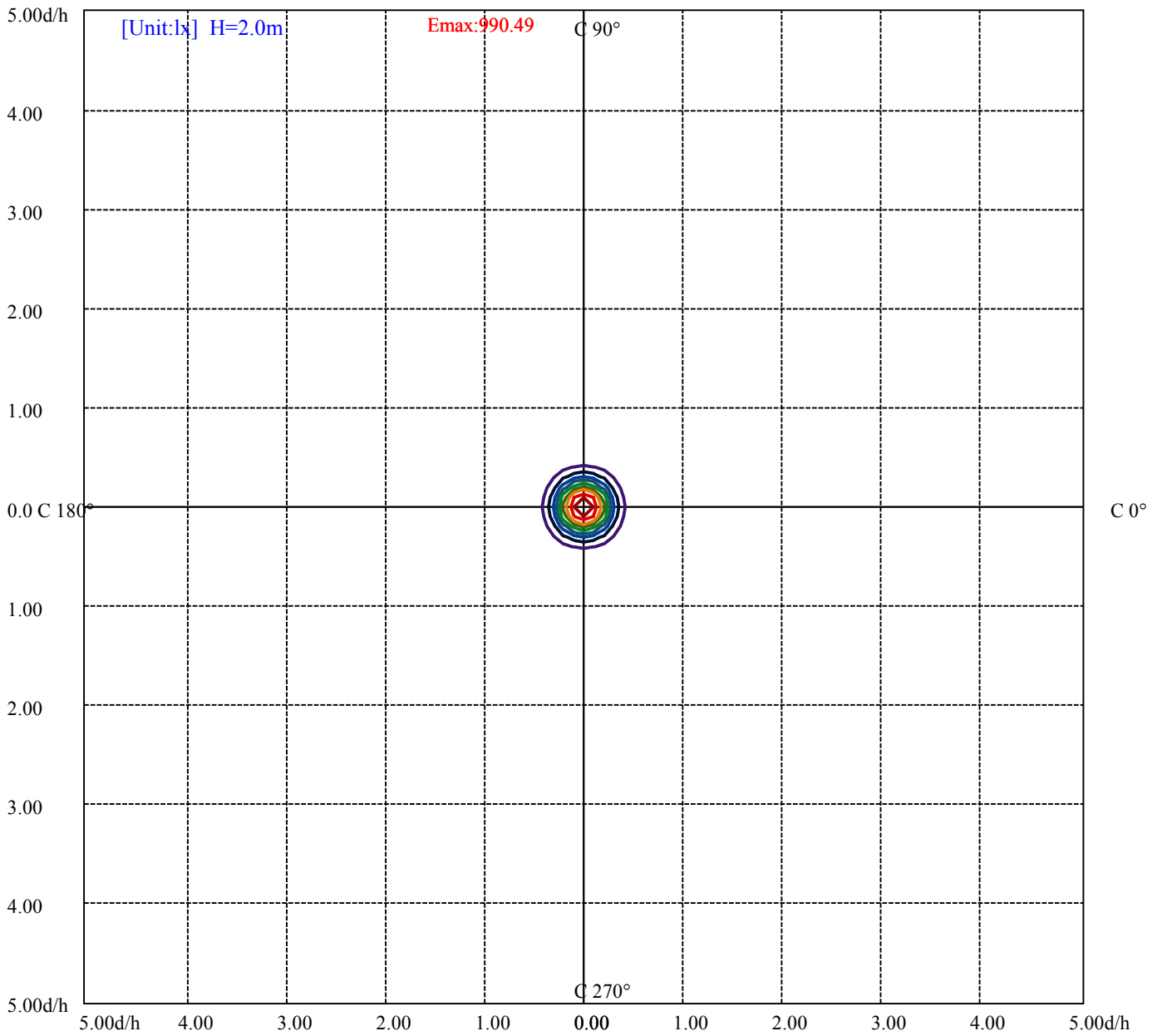
House

[Unit:cd]

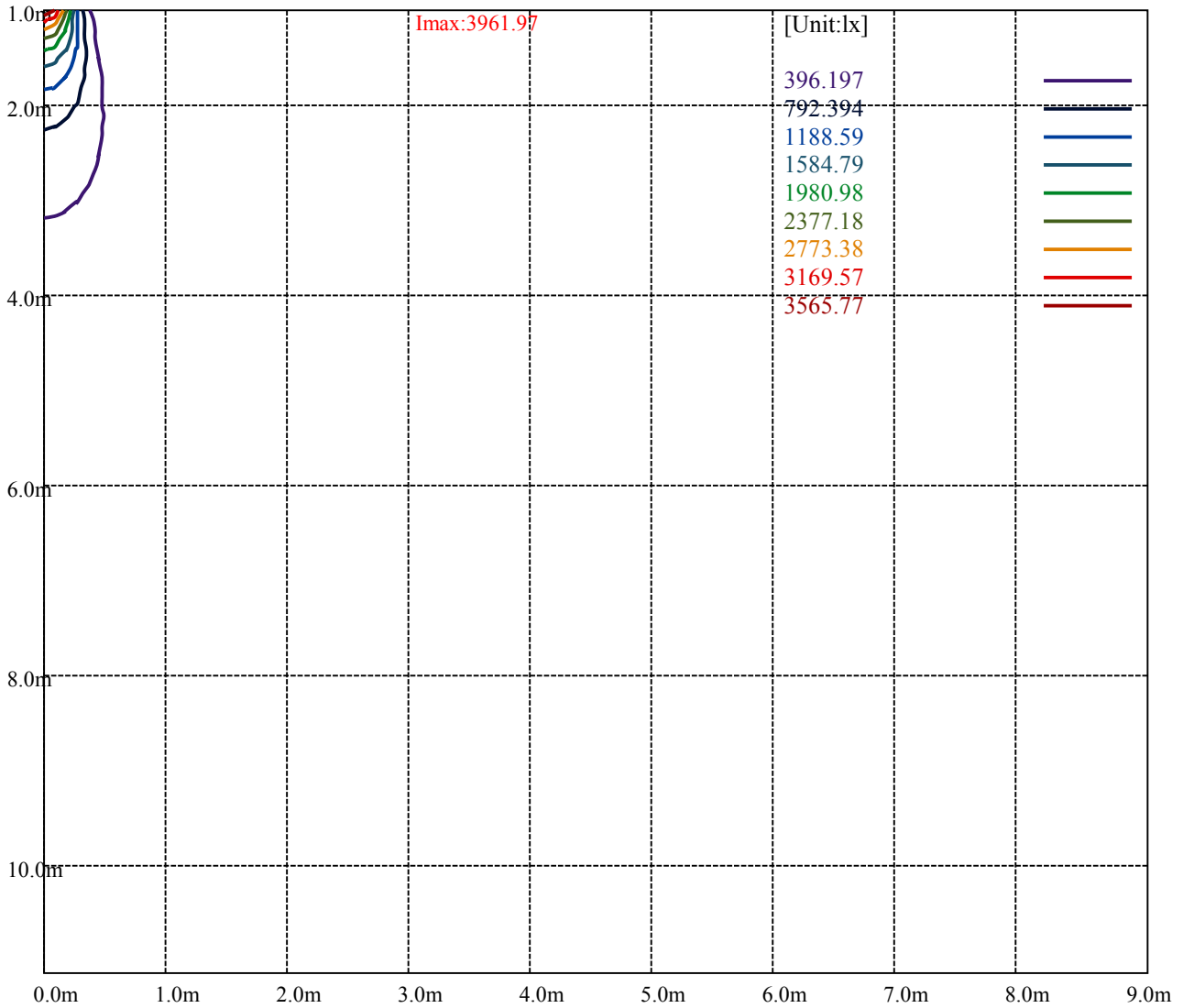
Road

Imax:3961.97

(10%Imax) 396.197	—
(20%Imax) 792.394	—
(30%Imax) 1188.59	—
(40%Imax) 1584.79	—
(50%Imax) 1980.98	—
(60%Imax) 2377.18	—
(70%Imax) 2773.38	—
(80%Imax) 3169.57	—
(90%Imax) 3565.77	—



(10%Emax) 99.04925	—
(20%Emax) 198.0983	—
(30%Emax) 297.1475	—
(40%Emax) 396.1975	—
(50%Emax) 495.245	—
(60%Emax) 594.295	—
(70%Emax) 693.345	—
(80%Emax) 792.3925	—
(90%Emax) 891.4425	—



Luminance Table

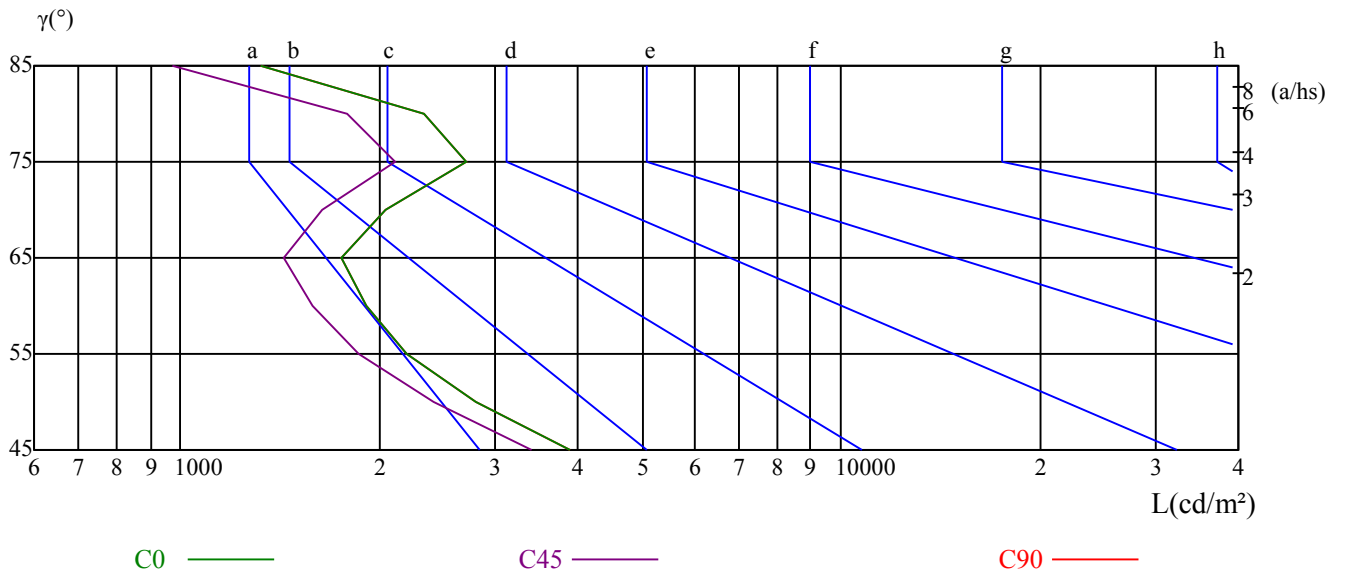
γ	45	50	55	60	65	70	75	80	85
C0	3889	2804	2201	1906	1751	2042	2702	2343	1320
C45	3394	2411	1864	1587	1432	1636	2115	1785	973
C90	3889	2804	2201	1906	1751	2042	2702	2343	1320

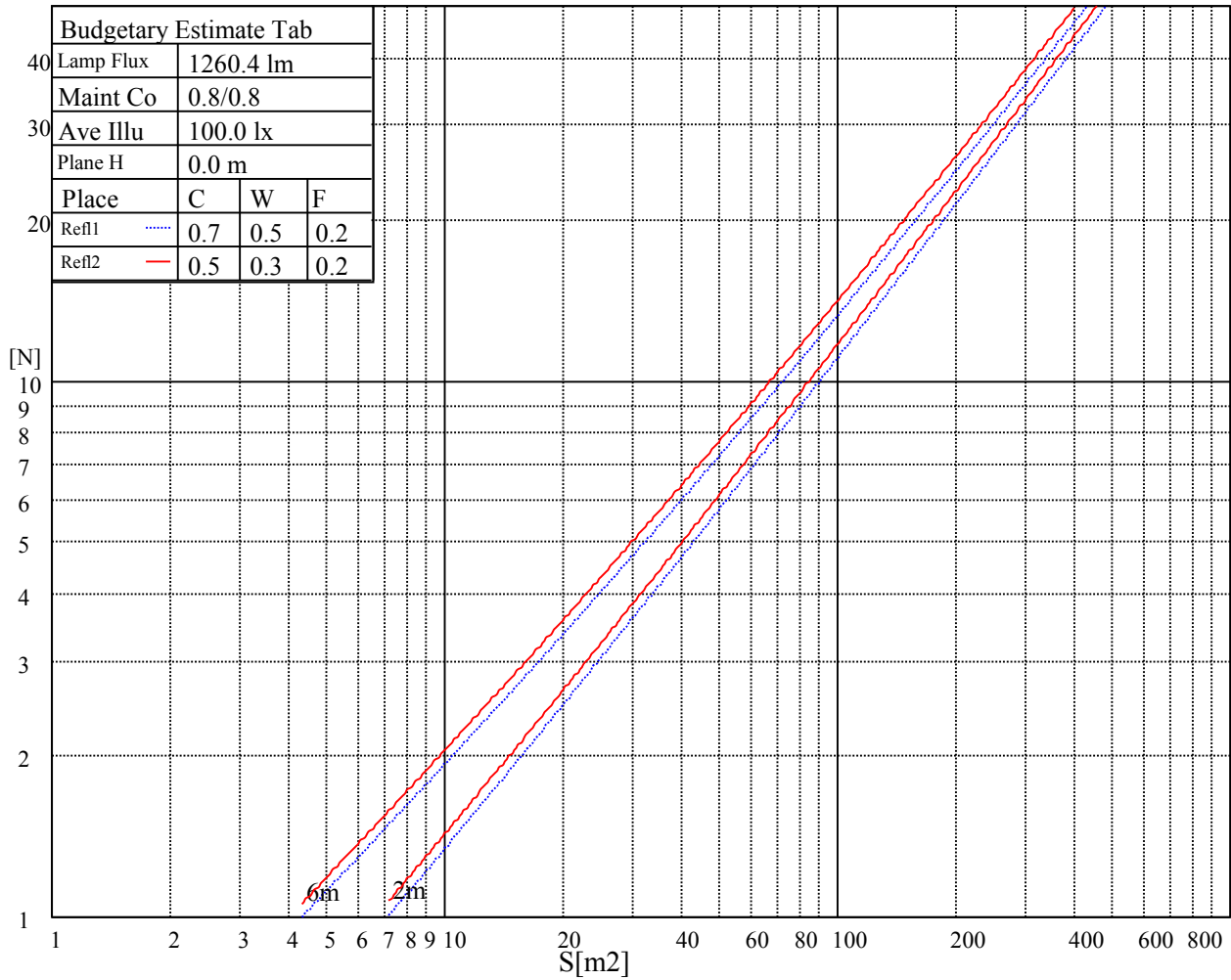
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3792	3792	3792	8181	8181	8181	9522	9522	9522

Glare Table

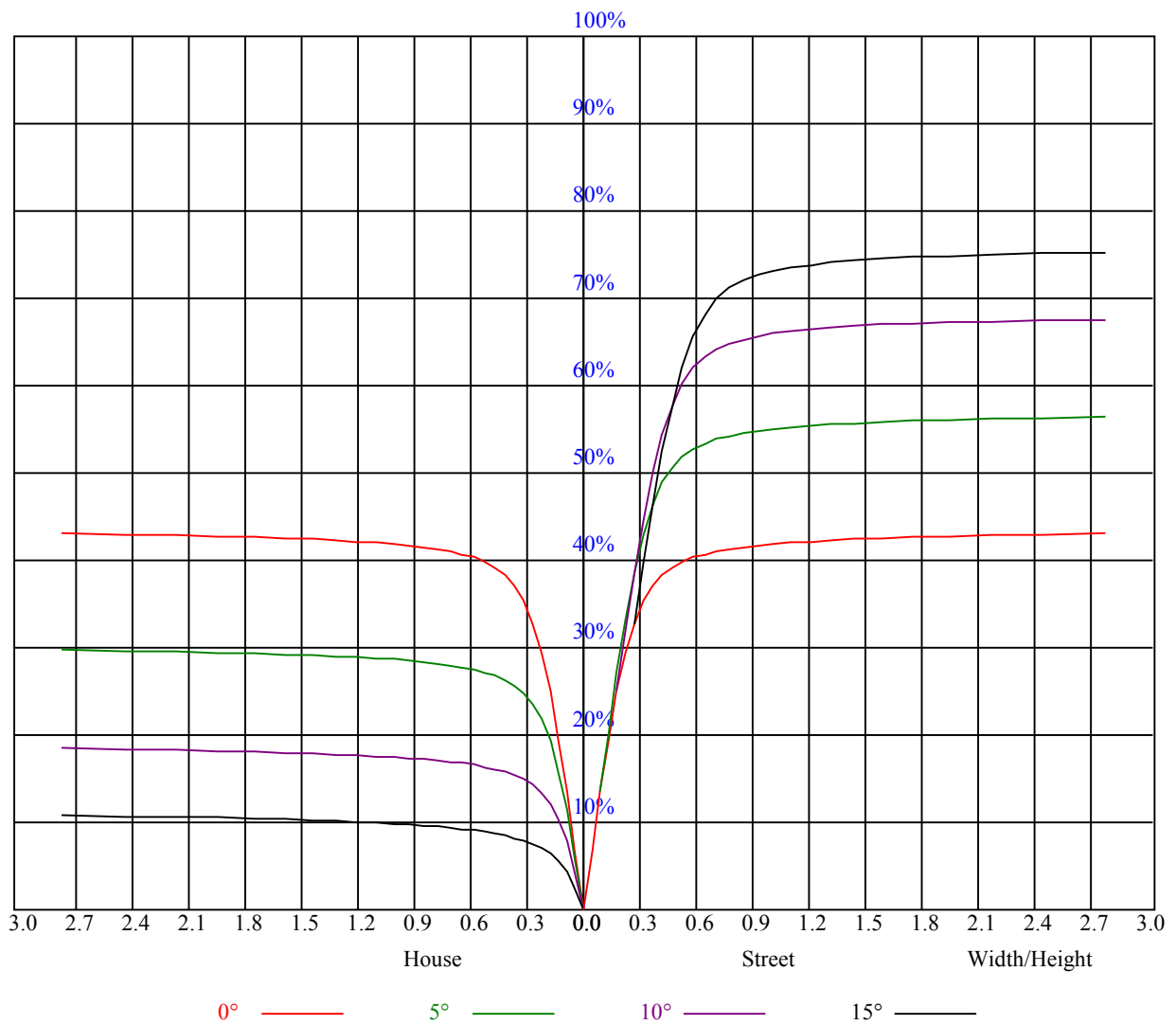
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.04	1.04	1.04	1.02	1.02	1.02	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.87
1	0.97	0.95	0.93	0.95	0.94	0.92	0.92	0.90	0.89	0.89	0.88	0.86	0.86	0.85	0.84	0.82
2	0.92	0.89	0.86	0.90	0.87	0.85	0.88	0.85	0.83	0.85	0.83	0.81	0.83	0.81	0.80	0.78
3	0.87	0.83	0.80	0.86	0.83	0.80	0.84	0.81	0.79	0.82	0.79	0.77	0.80	0.78	0.76	0.75
4	0.83	0.79	0.76	0.82	0.78	0.76	0.80	0.77	0.75	0.79	0.76	0.74	0.77	0.75	0.73	0.72
5	0.80	0.75	0.72	0.79	0.75	0.72	0.77	0.74	0.71	0.76	0.73	0.71	0.75	0.72	0.70	0.69
6	0.76	0.72	0.69	0.76	0.72	0.69	0.75	0.71	0.69	0.74	0.70	0.68	0.72	0.70	0.68	0.67
7	0.74	0.70	0.67	0.73	0.69	0.66	0.72	0.69	0.66	0.71	0.68	0.66	0.70	0.68	0.65	0.64
8	0.71	0.67	0.64	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.68	0.65	0.63	0.62
9	0.69	0.65	0.62	0.68	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.62	0.66	0.63	0.61	0.60
10	0.67	0.63	0.60	0.66	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.64	0.62	0.60	0.59



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	3961.13	3949.88	3908.81	3851.44	3771.56	3659.63	3525.19	3389.63	3219.75
45.0	3966.75	3952.13	3910.50	3843.00	3760.31	3656.25	3499.31	3354.19	3214.69
90.0	3963.38	3952.69	3918.38	3857.63	3782.81	3675.38	3560.63	3409.31	3238.31
135.0	3956.63	3965.06	3950.44	3917.25	3866.63	3785.63	3678.75	3565.13	3420.00
180.0	3961.13	3954.94	3920.63	3872.81	3807.00	3696.75	3586.50	3458.81	3281.06
225.0	3966.75	3959.44	3931.31	3879.00	3804.75	3719.81	3603.94	3468.94	3331.69
270.0	3963.38	3954.38	3917.25	3866.06	3797.44	3687.19	3582.00	3462.75	3330.00
315.0	3956.63	3929.63	3868.88	3799.13	3713.63	3597.75	3461.63	3327.75	3157.88
360.0	3961.13	3949.88	3908.81	3851.44	3771.56	3659.63	3525.19	3389.63	3219.75
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3031.88	2849.63	2628.00	2413.69	2162.25	1905.75	1681.31	1465.88	1217.81
45.0	2972.81	2778.75	2596.50	2317.50	2058.19	1856.81	1582.31	1373.63	1179.00
90.0	3070.69	2868.19	2648.25	2436.75	2215.13	1936.13	1717.31	1506.94	1119.43
135.0	3255.75	3092.63	2891.81	2697.75	2462.63	2215.69	1992.94	1770.75	1504.13
180.0	3140.44	2946.38	2712.94	2536.88	2297.25	2021.63	1826.44	1608.75	1323.00
225.0	3179.81	2993.06	2788.31	2588.63	2320.88	2099.25	1875.38	1653.75	1388.81
270.0	3143.81	2981.25	2781.56	2585.25	2349.56	2102.06	1878.75	1633.50	1403.44
315.0	2991.38	2787.75	2562.19	2347.31	2095.88	1845.00	1630.69	1424.25	1118.93
360.0	3031.88	2849.63	2628.00	2413.69	2162.25	1905.75	1681.31	1465.88	1217.81
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1042.88	887.06	718.88	603.56	507.38	416.81	344.25	290.81	256.78
45.0	957.94	798.75	669.38	540.56	454.50	381.38	309.94	286.31	225.68
90.0	1075.78	914.68	756.45	624.04	526.39	436.67	371.08	311.18	262.74
135.0	1303.88	1106.44	902.25	758.81	643.50	524.25	435.38	363.38	303.75
180.0	1105.76	977.29	822.99	659.64	551.70	462.54	372.43	315.39	268.71
225.0	1105.88	1021.61	848.19	698.96	585.51	477.90	390.66	328.95	273.77
270.0	1216.69	1047.38	858.94	726.19	610.88	502.31	412.31	347.06	291.94
315.0	1016.44	865.46	715.89	589.11	493.93	404.66	332.38	280.86	234.28
360.0	1042.88	887.06	718.88	603.56	507.38	416.81	344.25	290.81	256.78
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	204.53	173.76	150.30	133.48	117.73	104.79	95.18	86.85	77.85
45.0	192.04	165.54	146.03	128.25	113.85	102.83	92.25	84.32	76.73
90.0	227.14	196.93	165.94	146.03	129.21	111.66	100.01	90.28	79.88
135.0	285.75	216.23	183.43	159.92	138.66	121.05	108.28	97.37	87.13
180.0	226.24	191.59	166.89	144.39	128.03	112.89	100.41	91.01	82.01
225.0	233.89	197.55	169.43	149.06	132.30	115.37	104.06	94.28	83.76
270.0	233.78	199.18	171.84	147.83	129.09	115.48	102.49	91.80	83.53
315.0	201.15	171.23	148.28	131.57	117.73	104.57	93.54	85.33	76.33
360.0	204.53	173.76	150.30	133.48	117.73	104.79	95.18	86.85	77.85
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	71.61	66.04	60.47	55.52	51.64	47.76	44.21	41.29	38.31
45.0	70.03	64.69	60.08	54.96	51.08	47.53	43.76	40.89	38.25
90.0	72.62	66.32	59.57	55.46	50.63	45.96	43.03	39.66	36.34
135.0	78.30	71.44	65.42	59.01	54.51	50.40	45.96	42.75	39.94
180.0	74.25	68.29	62.94	57.04	52.93	49.22	45.51	42.08	39.26
225.0	76.61	70.43	64.46	58.95	54.79	50.51	47.14	43.59	40.39
270.0	75.66	69.36	63.34	57.77	53.61	49.78	45.51	42.41	39.54
315.0	70.03	64.58	59.68	54.11	50.23	46.74	43.14	39.88	37.13
360.0	71.61	66.04	60.47	55.52	51.64	47.76	44.21	41.29	38.31

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	35.83	33.30	30.94	28.91	27.11	24.98	23.57	22.22	20.81
45.0	35.55	33.02	30.99	28.86	27.11	25.31	23.74	22.44	21.26
90.0	34.14	31.89	29.03	27.45	25.71	23.51	22.28	20.98	19.91
135.0	37.01	34.31	32.12	29.87	28.01	26.10	24.36	22.89	21.49
180.0	36.51	33.86	31.78	29.59	27.73	25.82	24.08	22.73	21.32
225.0	37.80	35.04	32.46	30.49	28.58	26.38	24.81	23.40	21.99
270.0	36.28	33.92	31.67	29.25	27.23	25.37	23.63	22.28	20.93
315.0	34.31	31.73	29.53	27.34	25.54	23.63	21.99	20.81	19.69
360.0	35.83	33.30	30.94	28.91	27.11	24.98	23.57	22.22	20.81
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	19.86	19.01	18.23	17.49	16.93	16.20	15.58	15.08	14.57
45.0	20.14	19.35	18.62	17.78	17.16	16.59	15.98	15.47	14.96
90.0	18.84	18.11	17.33	16.82	16.20	15.58	15.13	14.63	14.18
135.0	20.31	19.41	18.68	17.72	17.10	16.59	15.92	15.41	14.96
180.0	20.19	19.29	18.45	17.55	16.99	16.43	15.81	15.24	14.79
225.0	20.76	19.86	18.84	18.17	17.49	16.88	16.26	15.69	15.08
270.0	19.86	18.96	18.17	17.38	16.82	16.31	15.69	15.24	14.74
315.0	18.56	17.83	17.16	16.43	15.86	15.36	14.91	14.46	14.18
360.0	19.86	19.01	18.23	17.49	16.93	16.20	15.58	15.08	14.57
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	14.12	13.61	13.33	12.88	12.54	12.15	11.87	11.48	11.19
45.0	14.46	14.01	13.61	13.22	12.77	12.43	12.04	11.70	11.36
90.0	13.84	13.44	13.28	13.33	13.73	14.34	15.64	16.82	18.00
135.0	14.46	14.01	14.06	14.51	15.30	16.54	18.23	19.80	21.60
180.0	14.23	13.84	13.28	12.88	12.54	12.15	11.76	11.48	11.14
225.0	14.63	14.18	13.73	13.33	12.99	12.54	12.26	11.87	11.53
270.0	14.34	13.95	13.67	13.33	13.11	13.28	13.84	14.68	15.92
315.0	13.84	13.56	13.56	14.18	15.19	16.65	18.34	20.08	22.11
360.0	14.12	13.61	13.33	12.88	12.54	12.15	11.87	11.48	11.19
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	10.86	10.46	10.18	9.84	9.56	9.28	8.89	8.61	8.27
45.0	10.97	10.63	10.41	10.01	9.73	9.45	9.11	8.78	8.44
90.0	19.63	20.87	21.88	22.56	22.28	21.43	19.69	17.72	15.30
135.0	24.08	25.99	27.90	29.87	30.77	30.88	29.87	27.68	25.26
180.0	10.74	10.41	10.07	9.79	9.45	9.17	8.83	8.49	8.27
225.0	11.19	10.91	10.52	10.24	9.96	9.56	9.34	9.00	8.66
270.0	17.38	18.68	20.03	21.09	21.60	21.54	20.48	18.96	16.93
315.0	24.53	26.55	28.29	29.98	30.54	29.70	27.56	24.47	21.32
360.0	10.86	10.46	10.18	9.84	9.56	9.28	8.89	8.61	8.27
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	7.99	7.59	7.20	6.81	6.47	5.96	5.57	5.34	5.18
45.0	8.10	7.82	7.37	7.03	6.75	6.24	5.91	5.57	5.46
90.0	12.54	10.01	7.93	7.59	6.75	6.02	5.57	5.29	5.18
135.0	21.99	18.68	14.34	9.96	7.82	6.36	5.85	5.51	5.29
180.0	7.93	7.65	7.31	6.98	6.64	6.13	5.85	5.46	5.29
225.0	8.38	8.10	7.71	7.43	7.14	6.75	6.36	5.96	5.68
270.0	13.95	11.36	8.94	7.88	7.48	6.36	5.96	5.63	5.34
315.0	17.44	13.56	9.90	7.99	7.14	5.85	5.51	5.23	5.06
360.0	7.99	7.59	7.20	6.81	6.47	5.96	5.57	5.34	5.18

Intensity data(cd)

C/γ(°)	90.0
0.0	5.06
45.0	5.40
90.0	5.18
135.0	5.06
180.0	5.12
225.0	5.51
270.0	5.12
315.0	5.06
360.0	5.06