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Nata

LumCAT: 61.0136.000

Luminaire:

Report No: 210728-B002

Voltage(V): 37.0400

Test No: 210728-C002

Current(A): 0.1210

LampCAT: LUMINUS CXM-3

Power (W): 4.4810

Lamp flux(lm): 414.1

PF: 0.0000

Number of Lamps: 1

Ballast type: DC

Length(mm): 570

Width(mm): 45

Phm Type: C

Height(mm): 20

Photometric Results

Lumens(lm): 242.79

Efficiency(%): 58.63%

Lumens(lm)/Power(W): 54.18

Central intensity(cd): 973.814

Maximum intensity(cd): 973.814

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=21.2

[C90/270]Total=21.2

Field angle(10%Imax): [C0/180]Total=46.6

[C90/270]Total=46.6

Maximum s/h(1/2): C0_180=0.36 C90_270=0.36

Maximum s/h(1/4): C0_180=0.39 C90_270=0.39

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 58.63%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 93.881%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	973.814	0.000	0	.000%	.000%
1.0	968.414	0.929	0.929	.224%	.383%
2.0	948.220	2.751	3.68	.664%	1.516%
3.0	915.131	4.457	8.137	1.076%	3.351%
4.0	875.468	5.994	14.13	1.447%	5.820%
5.0	825.975	7.320	21.45	1.767%	8.835%
6.0	763.123	8.351	29.801	2.017%	12.275%
7.0	704.728	9.111	38.912	2.200%	16.027%
8.0	645.476	9.663	48.575	2.333%	20.007%
9.0	580.704	9.938	58.513	2.400%	24.101%
10.0	519.715	9.958	68.471	2.405%	28.202%
11.0	465.356	9.843	78.314	2.377%	32.256%
12.0	413.466	9.607	87.921	2.320%	36.213%
13.0	363.129	9.216	97.137	2.225%	40.009%
14.0	319.359	8.736	105.873	2.109%	43.607%
15.0	280.807	8.239	114.112	1.990%	47.001%
16.0	247.570	7.742	121.854	1.870%	50.190%
17.0	215.023	7.204	129.058	1.740%	53.157%
18.0	188.177	6.648	135.706	1.605%	55.895%
19.0	166.317	6.167	141.874	1.489%	58.436%
20.0	145.821	5.713	147.587	1.380%	60.789%
21.0	128.138	5.261	152.847	1.270%	62.956%
22.0	113.646	4.859	157.706	1.173%	64.957%
23.0	101.102	4.506	162.212	1.088%	66.813%
24.0	89.002	4.156	166.368	1.004%	68.525%
25.0	79.566	3.833	170.201	.926%	70.103%
26.0	71.487	3.566	173.767	.861%	71.572%
27.0	63.998	3.315	177.081	.800%	72.937%
28.0	57.424	3.074	180.155	.742%	74.203%
29.0	52.024	2.863	183.019	.691%	75.383%
30.0	47.278	2.681	185.7	.647%	76.487%
31.0	42.968	2.511	188.212	.606%	77.522%
32.0	39.164	2.353	190.565	.568%	78.491%
33.0	36.042	2.216	192.78	.535%	79.403%
34.0	33.152	2.094	194.874	.506%	80.266%
35.0	30.452	1.975	196.849	.477%	81.079%
36.0	28.202	1.868	198.717	.451%	81.849%
37.0	26.198	1.774	200.491	.428%	82.579%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	24.405	1.689	202.18	.408%	83.275%
39.0	22.641	1.606	203.786	.388%	83.937%
40.0	21.192	1.529	205.315	.369%	84.566%
41.0	19.955	1.465	206.78	.354%	85.170%
42.0	18.745	1.406	208.186	.340%	85.749%
43.0	17.648	1.348	209.534	.326%	86.304%
44.0	16.770	1.299	210.833	.314%	86.839%
45.0	16.073	1.262	212.096	.305%	87.359%
46.0	15.293	1.227	213.322	.296%	87.864%
47.0	14.611	1.189	214.512	.287%	88.354%
48.0	14.027	1.158	215.669	.280%	88.831%
49.0	13.465	1.129	216.798	.273%	89.296%
50.0	12.945	1.101	217.899	.266%	89.750%
51.0	12.523	1.077	218.977	.260%	90.193%
52.0	12.129	1.058	220.035	.255%	90.629%
53.0	11.756	1.039	221.074	.251%	91.057%
54.0	11.426	1.022	222.095	.247%	91.478%
55.0	11.116	1.006	223.102	.243%	91.892%
56.0	10.870	0.994	224.095	.240%	92.302%
57.0	10.596	0.981	225.077	.237%	92.706%
58.0	10.322	0.967	226.044	.234%	93.104%
59.0	10.034	0.952	226.996	.230%	93.496%
60.0	9.738	0.934	227.93	.226%	93.881%
61.0	9.338	0.910	228.84	.220%	94.256%
62.0	8.930	0.880	229.72	.213%	94.618%
63.0	8.473	0.846	230.567	.204%	94.967%
64.0	7.875	0.802	231.369	.194%	95.297%
65.0	7.327	0.752	232.121	.182%	95.607%
66.0	6.778	0.704	232.825	.170%	95.897%
67.0	6.209	0.653	233.478	.158%	96.166%
68.0	5.660	0.601	234.079	.145%	96.414%
69.0	5.224	0.555	234.634	.134%	96.643%
70.0	4.809	0.515	235.15	.124%	96.855%
71.0	4.479	0.480	235.63	.116%	97.052%
72.0	4.198	0.451	236.081	.109%	97.238%
73.0	3.938	0.425	236.506	.103%	97.414%
74.0	3.769	0.405	236.911	.098%	97.580%
75.0	3.677	0.393	237.305	.095%	97.742%

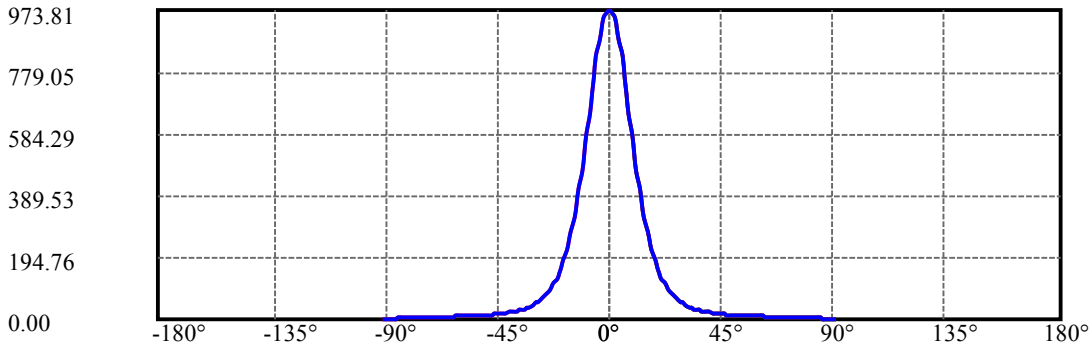
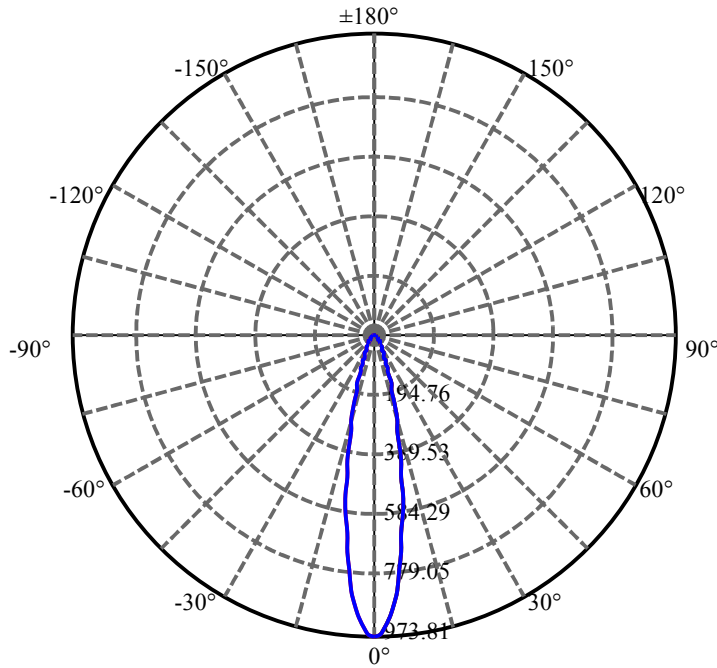
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	3.769	0.395	237.7	.095%	97.905%
77.0	4.134	0.421	238.122	.102%	98.079%
78.0	4.845	0.481	238.602	.116%	98.277%
79.0	5.358	0.548	239.15	.132%	98.503%
80.0	5.245	0.572	239.722	.138%	98.738%
81.0	4.971	0.552	240.274	.133%	98.966%
82.0	4.423	0.509	240.784	.123%	99.175%
83.0	3.902	0.453	241.236	.109%	99.362%
84.0	3.333	0.394	241.631	.095%	99.524%
85.0	2.623	0.325	241.956	.078%	99.658%
86.0	1.814	0.243	242.198	.059%	99.758%
87.0	1.441	0.178	242.376	.043%	99.831%
88.0	1.336	0.152	242.528	.037%	99.894%
89.0	1.139	0.136	242.664	.033%	99.950%
90.0	1.083	0.122	242.786	.029%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	185.70	44.84%	76.49%
0-40	205.31	49.58%	84.57%
0-60	227.93	55.04%	93.88%
0-90	242.66	58.60%	99.95%
0-120	242.66	58.60%	99.95%
0-180	242.79	58.63%	100.00%
60-90	15.67	3.78%	6.45%
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%
0-33.69	194.23	46.90%	80.00%

ZONAL LUMEN SUMMARY

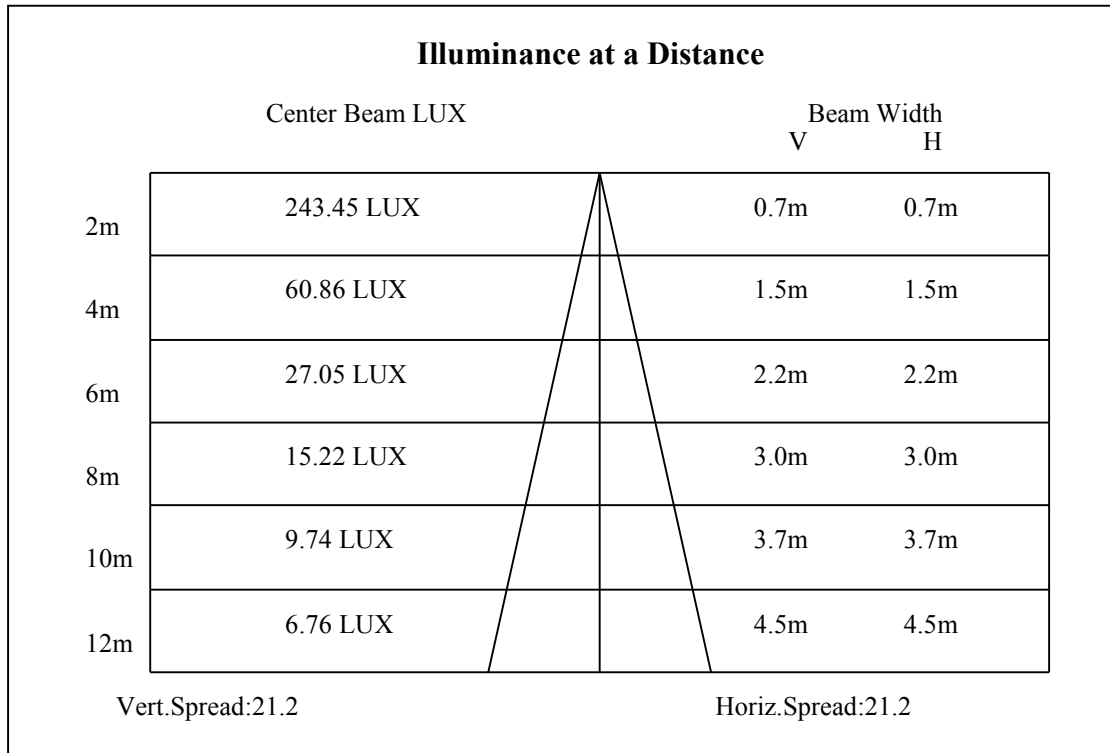
0-10	68.47
10-20	79.12
20-30	38.11
30-40	19.61
40-50	12.58
50-60	10.03
60-70	7.22
70-80	4.57
80-90	2.94
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

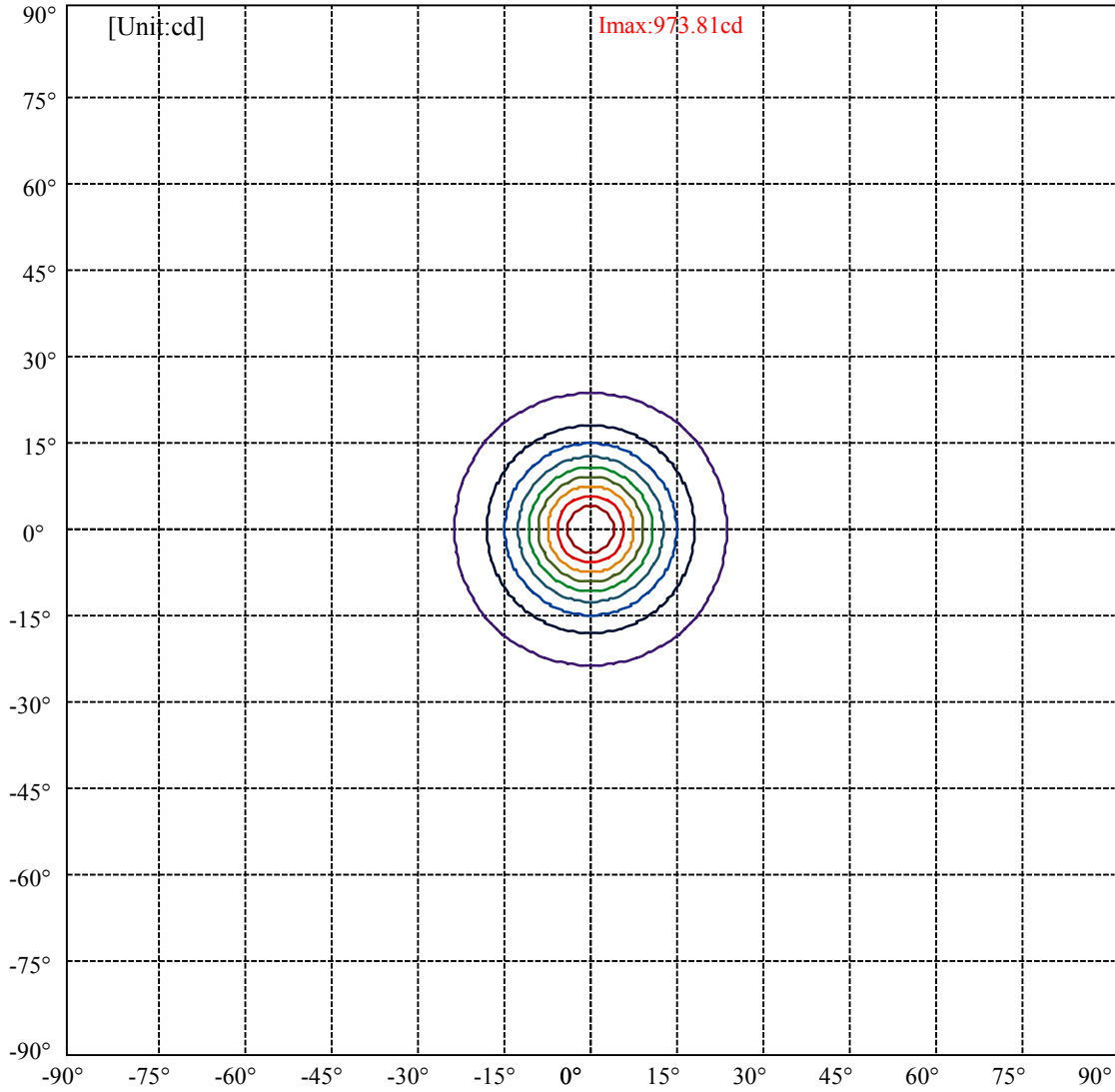


C0(Max): ———
C0/C180: ———
C90/C270: ———

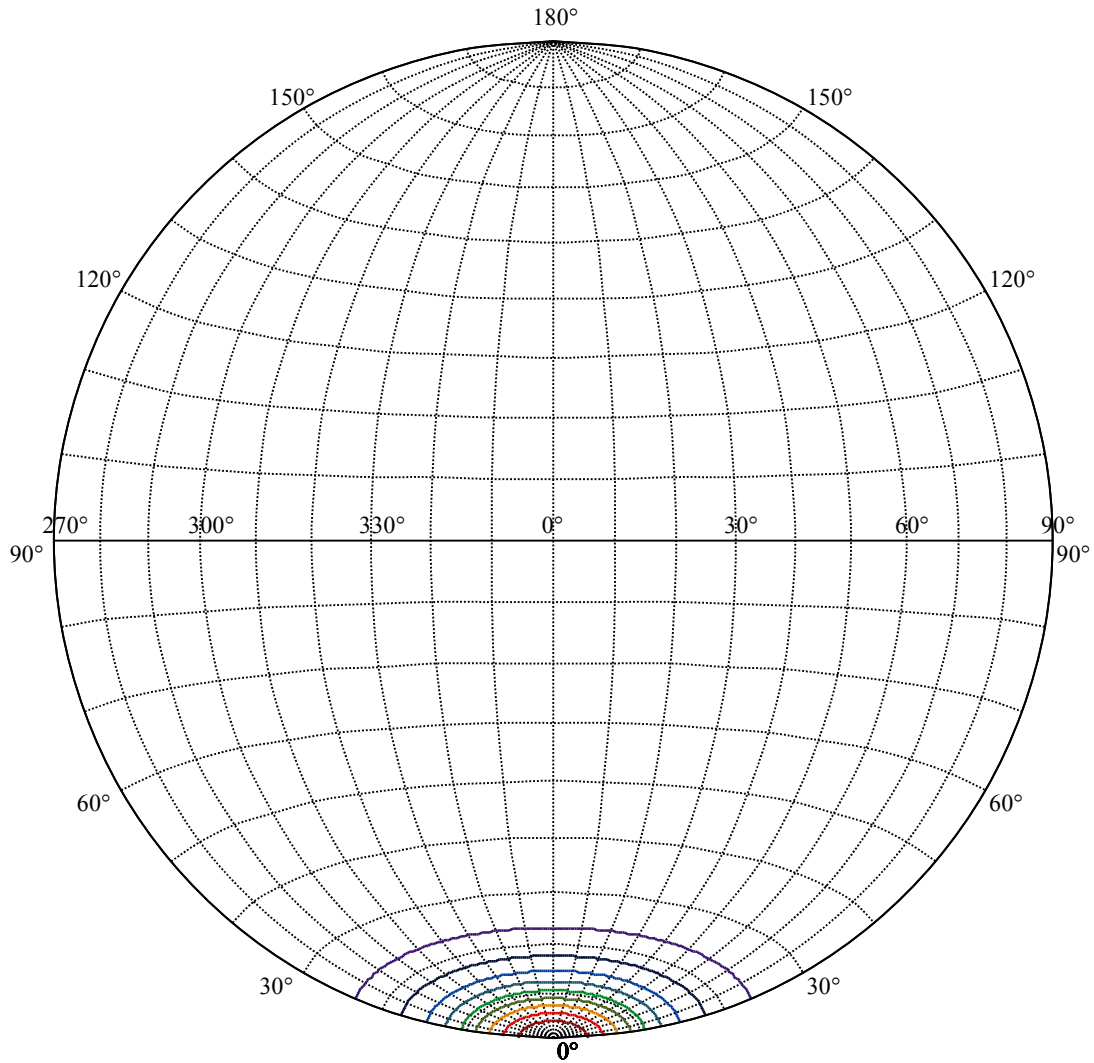
Field angle(10%Imax):C0/180Left:23.3 Right:23.3
:C90/270Left:23.3 Right:23.3

Beam Angle(50%Imax):C0/180Left:10.6 Right:10.6
:C90/270Left:10.6 Right:10.6





(10%Imax) 97.3814	—
(20%Imax) 194.763	—
(30%Imax) 292.144	—
(40%Imax) 389.526	—
(50%Imax) 486.907	—
(60%Imax) 584.288	—
(70%Imax) 681.67	—
(80%Imax) 779.051	—
(90%Imax) 876.433	—



House

[Unit:cd]

Road

Imax:973.81

(10%Imax) 97.3814

(20%Imax) 194.763

(30%Imax) 292.144

(40%Imax) 389.526

(50%Imax) 486.907

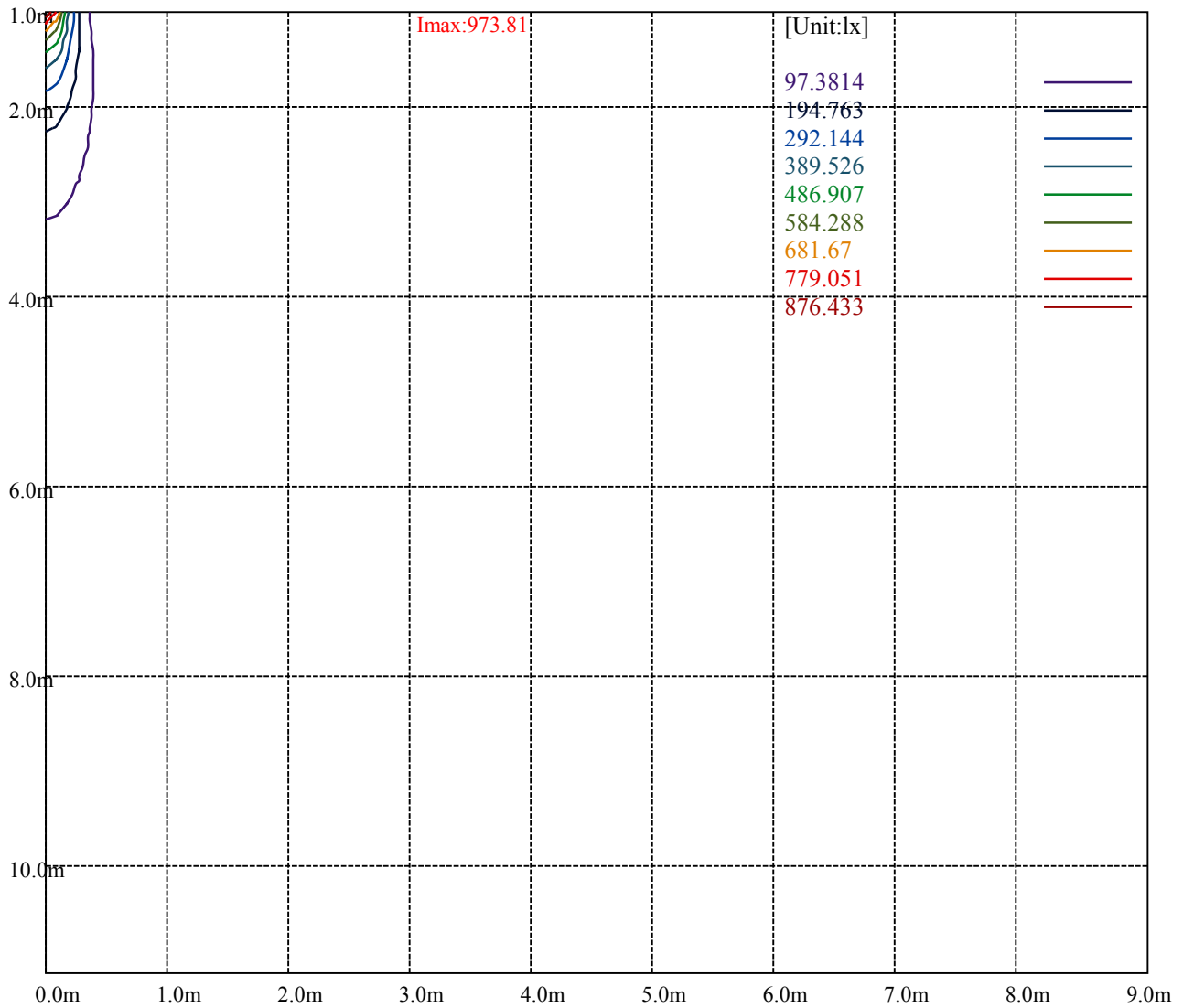
(60%Imax) 584.288

(70%Imax) 681.67

(80%Imax) 779.051

(90%Imax) 876.433





Luminance Table

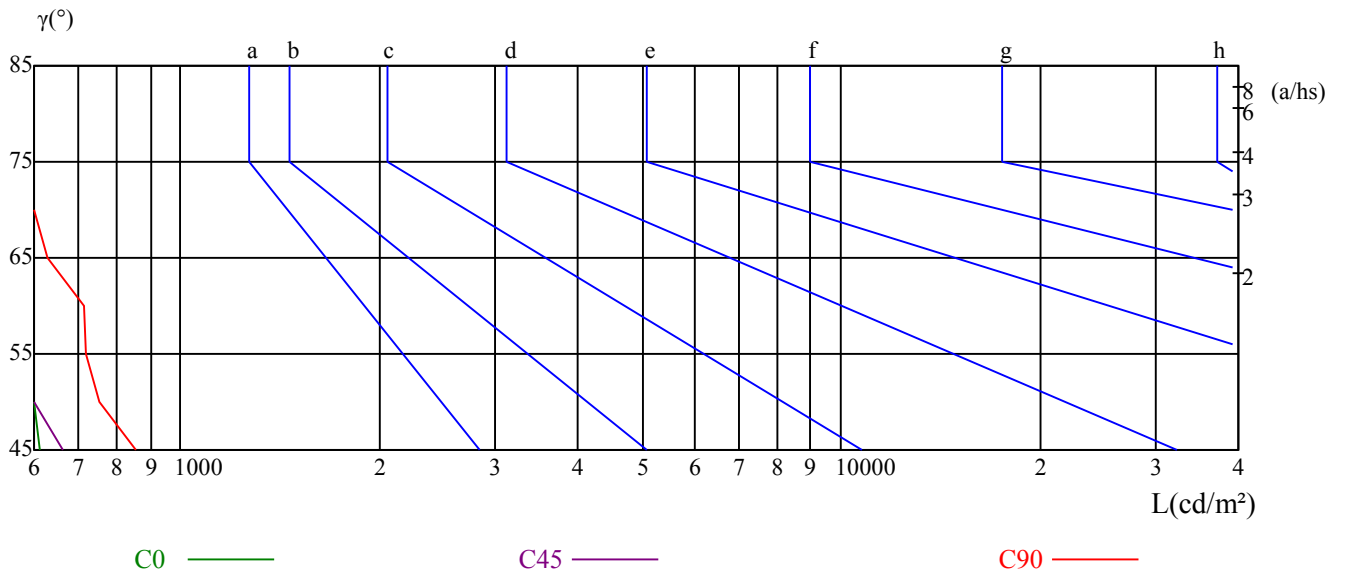
γ	45	50	55	60	65	70	75	80	85
C0	614	513	462	429	346	247	208	335	193
C45	662	559	509	478	391	284	245	403	241
C90	856	754	720	716	629	500	490	982	837

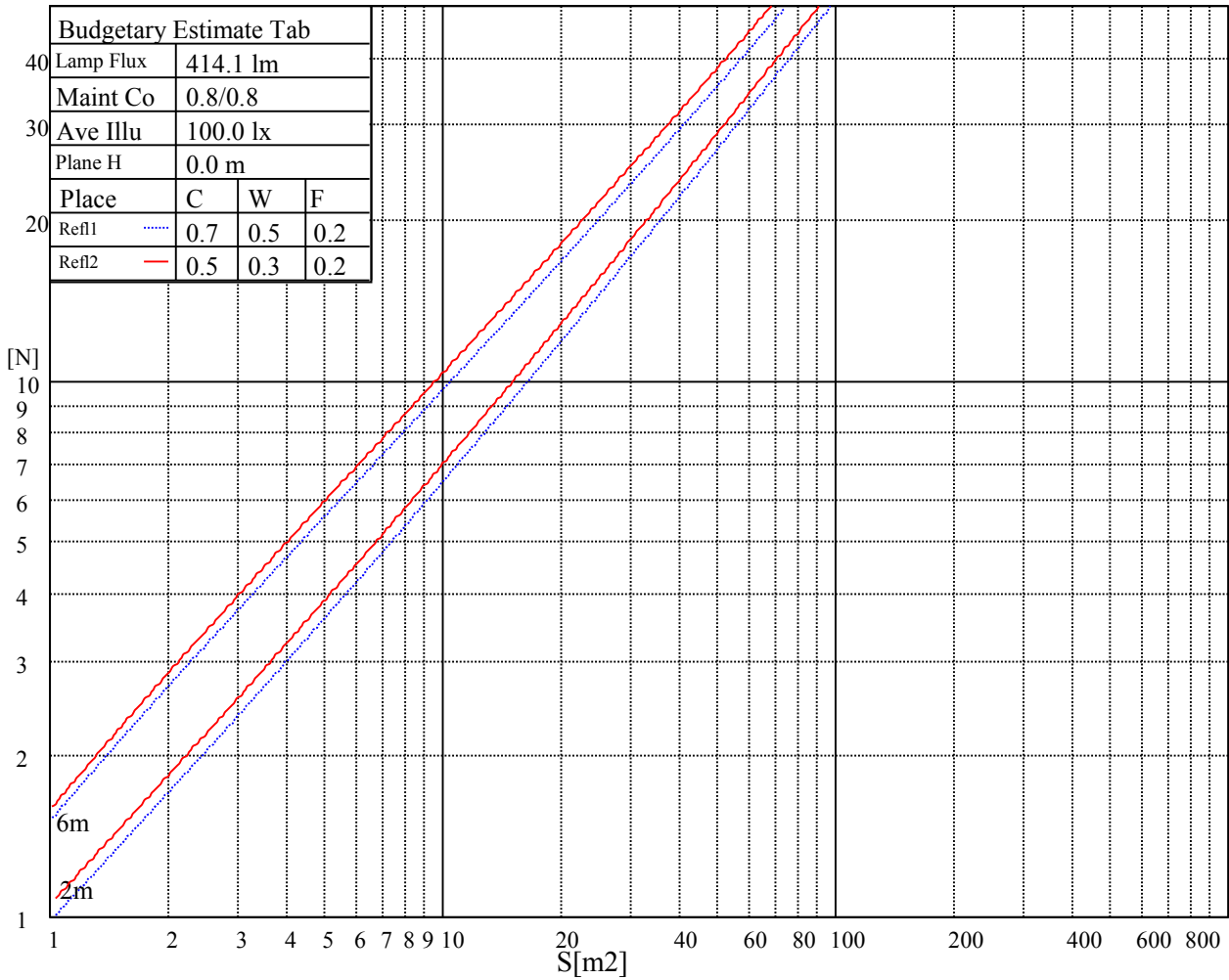
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
676	676	676	554	554	554	1173	1173	1173

Glare Table

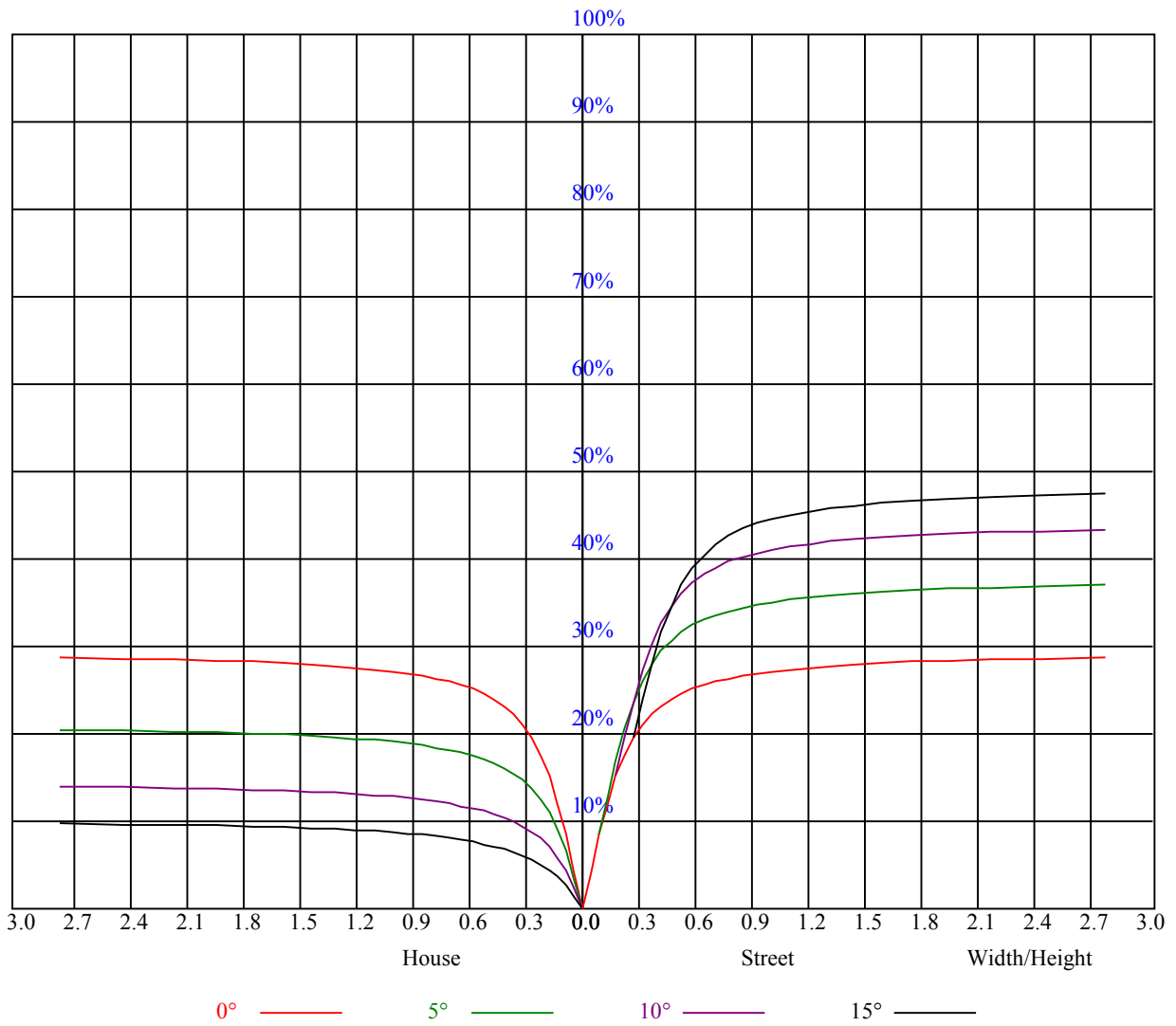
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.70	0.70	0.70	0.68	0.68	0.68	0.65	0.65	0.65	0.62	0.62	0.62	0.60	0.60	0.60	0.59
1	0.65	0.63	0.62	0.63	0.62	0.61	0.61	0.60	0.59	0.59	0.58	0.57	0.57	0.56	0.55	0.54
2	0.60	0.58	0.56	0.59	0.57	0.55	0.57	0.56	0.54	0.56	0.54	0.53	0.54	0.53	0.52	0.51
3	0.57	0.54	0.51	0.56	0.53	0.51	0.54	0.52	0.50	0.53	0.51	0.49	0.52	0.50	0.49	0.48
4	0.54	0.50	0.48	0.53	0.50	0.48	0.52	0.49	0.47	0.50	0.48	0.47	0.49	0.48	0.46	0.45
5	0.51	0.48	0.45	0.50	0.47	0.45	0.49	0.47	0.45	0.48	0.46	0.44	0.47	0.45	0.44	0.43
6	0.48	0.45	0.43	0.48	0.45	0.43	0.47	0.45	0.43	0.46	0.44	0.42	0.46	0.44	0.42	0.41
7	0.46	0.43	0.41	0.46	0.43	0.41	0.45	0.43	0.41	0.45	0.42	0.40	0.44	0.42	0.40	0.40
8	0.45	0.41	0.39	0.44	0.41	0.39	0.44	0.41	0.39	0.43	0.41	0.39	0.42	0.40	0.39	0.38
9	0.43	0.40	0.38	0.43	0.40	0.38	0.42	0.39	0.38	0.42	0.39	0.37	0.41	0.39	0.37	0.37
10	0.41	0.38	0.36	0.41	0.38	0.36	0.41	0.38	0.36	0.40	0.38	0.36	0.40	0.38	0.36	0.35



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	962.94	976.50	972.45	958.89	924.47	886.33	833.68	774.51	719.16
45.0	982.35	972.39	947.25	907.65	865.07	807.86	743.34	683.66	625.28
90.0	973.91	956.14	918.00	877.16	828.51	767.93	701.38	641.53	574.71
135.0	976.05	958.28	926.72	888.24	843.13	785.64	720.23	661.22	596.42
180.0	962.94	945.11	913.16	856.74	813.32	759.60	678.94	627.19	568.63
225.0	982.35	980.33	965.25	935.89	894.09	848.53	796.78	727.37	669.71
270.0	973.91	981.23	974.25	953.83	924.58	884.14	824.18	770.68	714.60
315.0	976.05	977.34	968.68	942.64	910.58	867.77	806.46	751.67	695.31
360.0	962.94	976.50	972.45	958.89	924.47	886.33	833.68	774.51	719.16
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	653.63	588.99	532.18	478.91	415.29	368.78	326.25	283.44	245.42
45.0	551.36	493.99	440.89	386.66	336.60	297.11	258.30	224.61	197.44
90.0	517.84	457.37	402.30	358.03	312.53	272.70	241.03	213.30	182.53
135.0	539.49	477.79	421.14	375.53	339.02	287.49	254.93	229.78	194.57
180.0	505.46	446.68	398.98	350.38	307.01	271.80	237.60	210.60	183.83
225.0	611.89	541.46	487.46	436.73	383.91	336.66	298.97	261.62	232.09
270.0	642.38	585.68	529.88	470.98	415.46	370.24	323.78	287.16	249.98
315.0	623.59	565.76	510.02	450.51	395.21	350.10	305.61	270.06	234.34
360.0	653.63	588.99	532.18	478.91	415.29	368.78	326.25	283.44	245.42
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	215.83	187.59	163.46	144.73	126.28	112.28	98.89	87.24	78.30
45.0	171.62	151.82	132.69	118.01	103.39	91.29	80.72	72.96	65.70
90.0	161.38	143.04	125.33	110.31	98.72	87.41	77.74	70.26	62.83
135.0	172.63	155.76	134.72	118.41	107.04	93.32	83.64	75.32	66.26
180.0	160.37	142.48	126.84	110.31	98.83	88.65	77.79	70.31	63.62
225.0	202.44	177.24	157.78	138.71	122.01	109.01	97.65	85.28	76.84
270.0	217.74	192.94	168.92	147.71	131.34	118.69	101.70	91.07	82.74
315.0	203.40	179.66	156.83	136.91	121.56	108.17	93.88	84.09	75.60
360.0	215.83	187.59	163.46	144.73	126.28	112.28	98.89	87.24	78.30
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	70.48	61.99	56.31	51.36	46.01	42.36	39.09	35.78	32.91
45.0	58.22	53.10	48.83	44.38	40.05	36.79	34.14	31.16	28.91
90.0	57.15	51.53	46.52	42.64	39.15	35.44	32.79	30.49	27.84
135.0	60.13	54.73	49.05	44.44	41.01	36.84	34.09	31.73	28.69
180.0	57.71	51.41	46.86	42.81	38.98	35.61	32.96	30.32	28.01
225.0	69.24	61.93	55.58	50.68	45.79	41.57	38.19	34.76	32.12
270.0	72.39	64.41	58.28	52.43	47.42	43.93	39.49	36.34	33.64
315.0	66.66	60.30	54.79	49.50	45.34	40.78	37.58	34.65	31.50
360.0	70.48	61.99	56.31	51.36	46.01	42.36	39.09	35.78	32.91
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	30.60	28.35	26.49	24.69	23.12	21.88	20.76	19.80	19.24
45.0	26.89	24.86	23.18	21.60	20.19	19.01	17.72	16.54	15.64
90.0	25.99	24.30	22.61	21.04	19.74	18.39	17.38	16.31	15.36
135.0	26.89	25.09	23.18	21.60	20.31	19.07	17.89	16.76	15.81
180.0	26.16	24.41	22.95	21.49	20.25	19.29	18.45	17.78	17.04
225.0	29.42	27.11	25.26	23.40	21.71	20.42	19.24	17.83	16.88
270.0	30.54	28.35	26.33	24.13	22.50	21.15	19.52	18.39	17.38
315.0	29.14	27.11	25.26	23.18	21.71	20.42	19.01	17.78	16.82
360.0	30.60	28.35	26.49	24.69	23.12	21.88	20.76	19.80	19.24

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	19.52	19.24	18.96	18.90	19.01	19.24	19.46	19.74	20.03
45.0	14.74	13.89	13.16	12.66	11.76	11.19	10.74	10.18	9.62
90.0	14.57	13.73	12.88	12.26	11.70	10.91	10.41	9.90	9.39
135.0	15.02	14.12	13.33	12.71	12.09	11.42	10.91	10.41	9.84
180.0	16.65	16.31	15.86	15.36	14.91	14.63	14.40	14.23	14.23
225.0	15.98	14.96	14.12	13.44	12.71	12.04	11.48	10.86	10.35
270.0	16.31	15.30	14.51	13.61	12.94	12.21	11.48	10.91	10.29
315.0	15.81	14.79	14.06	13.28	12.60	11.93	11.31	10.80	10.29
360.0	19.52	19.24	18.96	18.90	19.01	19.24	19.46	19.74	20.03
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	20.31	20.64	20.98	21.32	21.49	21.38	21.15	20.48	19.58
45.0	9.23	8.66	8.27	7.93	7.43	7.14	6.81	6.41	6.08
90.0	8.89	8.44	7.99	7.48	7.14	6.75	6.41	6.08	5.68
135.0	9.34	8.94	8.55	8.16	7.82	7.37	7.09	6.69	6.36
180.0	14.29	14.34	14.46	14.63	14.63	14.68	14.68	14.40	14.06
225.0	9.79	9.28	8.89	8.49	8.04	7.65	7.31	6.86	6.58
270.0	9.79	9.28	8.89	8.33	7.93	7.54	7.09	6.75	6.41
315.0	9.79	9.34	8.94	8.44	8.10	7.76	7.37	7.03	6.69
360.0	20.31	20.64	20.98	21.32	21.49	21.38	21.15	20.48	19.58
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	18.39	16.59	14.96	13.28	11.53	9.96	8.83	7.71	6.86
45.0	5.79	5.46	5.12	4.89	4.56	4.33	4.11	3.94	3.71
90.0	5.40	5.06	4.78	4.50	4.28	3.99	3.83	3.60	3.38
135.0	6.08	5.79	5.46	5.23	4.95	4.67	4.50	4.22	4.05
180.0	13.50	12.54	11.64	10.63	9.39	8.21	7.20	6.41	5.79
225.0	6.24	5.91	5.57	5.29	5.01	4.73	4.50	4.22	4.05
270.0	6.02	5.63	5.34	5.01	4.78	4.50	4.22	3.99	3.77
315.0	6.36	6.02	5.74	5.40	5.18	4.89	4.61	4.39	4.22
360.0	18.39	16.59	14.96	13.28	11.53	9.96	8.83	7.71	6.86
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	6.36	5.91	5.57	5.74	7.03	9.79	12.43	14.46	15.64
45.0	3.54	3.32	3.21	2.98	2.87	3.32	5.51	6.02	3.77
90.0	3.21	3.04	2.87	2.64	2.53	2.31	2.19	2.03	1.86
135.0	3.83	3.60	3.49	3.26	3.09	2.87	2.81	2.59	2.48
180.0	5.34	4.95	4.84	5.18	5.63	6.24	7.76	10.01	10.18
225.0	3.83	3.54	3.43	3.26	2.98	2.81	2.70	2.70	3.32
270.0	3.54	3.38	3.15	2.93	2.81	2.64	2.42	2.31	2.14
315.0	3.94	3.77	3.60	3.43	3.21	3.09	2.93	2.76	2.59
360.0	6.36	5.91	5.57	5.74	7.03	9.79	12.43	14.46	15.64
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	16.48	16.59	15.53	12.43	8.55	3.88	3.32	2.93	1.63
45.0	2.14	1.91	1.80	1.74	1.41	1.18	1.13	1.07	1.01
90.0	1.74	1.58	1.52	1.35	1.18	1.07	1.07	1.07	1.07
135.0	2.36	2.31	2.19	2.14	1.41	1.29	1.18	1.13	1.13
180.0	9.28	6.81	4.39	3.60	3.32	3.04	1.13	1.13	1.07
225.0	3.38	2.03	1.91	1.80	1.69	1.29	1.24	1.13	1.01
270.0	1.97	1.86	1.69	1.52	1.41	1.29	1.18	1.07	1.07
315.0	2.42	2.31	2.19	2.08	2.03	1.46	1.29	1.18	1.13
360.0	16.48	16.59	15.53	12.43	8.55	3.88	3.32	2.93	1.63

Intensity data(cd)

C/γ(°)	90.0
0.0	1.13
45.0	1.01
90.0	1.07
135.0	1.13
180.0	1.07
225.0	1.07
270.0	1.07
315.0	1.13
360.0	1.13