



NATA LIGHTNG CO.,LTD.
www.nata.cn
Email:info@nata.con
Tel:+86-750-3770000 Fax:+86-750-3771111
Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,Ching

LumCAT: 1-1008-M
Luminaire: 92.70.277.00
Report No: 221130-B007
Test No: 221130-C007
LampCAT: CREE CXA1512 LES8.5
Lamp flux(lm): 812.3
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V):
Current(A):
Power (W): 5.3580
PF:
Ballast type:
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 636.44
Efficiency(%): 78.35%
Lumens(lm)/Power(W): 118.78
Central intensity(cd): 5336.831
Maximum intensity(cd): 5336.831
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=15.9
 [C90/270]Total=15.9
Field angle(10%Imax): [C0/180]Total=37.0
 [C90/270]Total=37.0
Maximum s/h(1/2): C0_180=0.27 C90_270=0.27
Maximum s/h(1/4): C0_180=0.31 C90_270=0.31
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 78.35%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.519%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5336.831	0.000	0	.000%	.000%
1.0	5242.869	5.062	5.062	.623%	.795%
2.0	4977.043	14.669	19.731	1.806%	3.100%
3.0	4652.660	23.031	42.762	2.835%	6.719%
4.0	4287.345	29.925	72.687	3.684%	11.421%
5.0	3894.769	35.199	107.886	4.333%	16.952%
6.0	3437.808	38.535	146.421	4.744%	23.006%
7.0	3042.394	40.223	186.643	4.952%	29.326%
8.0	2658.332	40.799	227.442	5.023%	35.737%
9.0	2322.595	40.368	267.81	4.970%	42.080%
10.0	2007.623	39.187	306.997	4.824%	48.237%
11.0	1750.835	37.555	344.551	4.623%	54.138%
12.0	1510.875	35.655	380.207	4.390%	59.740%
13.0	1292.732	33.272	413.478	4.096%	64.968%
14.0	1120.359	30.887	444.366	3.803%	69.821%
15.0	971.478	28.718	473.083	3.536%	74.333%
16.0	839.446	26.535	499.618	3.267%	78.502%
17.0	695.352	23.901	523.519	2.943%	82.258%
18.0	582.128	21.063	544.582	2.593%	85.567%
19.0	481.101	18.498	563.08	2.277%	88.474%
20.0	382.523	15.807	578.887	1.946%	90.957%
21.0	293.118	12.974	591.861	1.597%	92.996%
22.0	209.337	10.097	601.958	1.243%	94.582%
23.0	136.916	7.265	609.223	.894%	95.724%
24.0	67.909	4.478	613.701	.551%	96.428%
25.0	34.403	2.326	616.028	.286%	96.793%
26.0	16.320	1.197	617.225	.147%	96.981%
27.0	8.978	0.619	617.844	.076%	97.079%
28.0	6.648	0.396	618.239	.049%	97.141%
29.0	5.789	0.325	618.565	.040%	97.192%
30.0	5.273	0.299	618.863	.037%	97.239%
31.0	4.937	0.284	619.148	.035%	97.283%
32.0	4.631	0.274	619.422	.034%	97.326%
33.0	4.407	0.266	619.688	.033%	97.368%
34.0	4.250	0.262	619.95	.032%	97.409%
35.0	4.078	0.259	620.209	.032%	97.450%
36.0	3.936	0.255	620.464	.031%	97.490%
37.0	3.839	0.254	620.717	.031%	97.530%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	3.757	0.254	620.971	.031%	97.570%
39.0	3.667	0.253	621.224	.031%	97.610%
40.0	3.608	0.254	621.478	.031%	97.650%
41.0	3.555	0.255	621.733	.031%	97.690%
42.0	3.488	0.256	621.989	.032%	97.730%
43.0	3.473	0.258	622.247	.032%	97.770%
44.0	3.428	0.260	622.507	.032%	97.811%
45.0	3.406	0.263	622.77	.032%	97.853%
46.0	3.384	0.266	623.035	.033%	97.894%
47.0	3.346	0.268	623.303	.033%	97.936%
48.0	3.316	0.269	623.572	.033%	97.979%
49.0	3.309	0.272	623.844	.033%	98.021%
50.0	3.294	0.275	624.12	.034%	98.065%
51.0	3.279	0.278	624.398	.034%	98.108%
52.0	3.264	0.281	624.679	.035%	98.152%
53.0	3.242	0.283	624.962	.035%	98.197%
54.0	3.227	0.285	625.247	.035%	98.242%
55.0	3.219	0.288	625.534	.035%	98.287%
56.0	3.212	0.291	625.825	.036%	98.333%
57.0	3.219	0.294	626.119	.036%	98.379%
58.0	3.189	0.296	626.415	.036%	98.425%
59.0	3.189	0.298	626.714	.037%	98.472%
60.0	3.167	0.300	627.014	.037%	98.519%
61.0	3.175	0.303	627.317	.037%	98.567%
62.0	3.160	0.305	627.622	.038%	98.615%
63.0	3.152	0.307	627.929	.038%	98.663%
64.0	3.145	0.309	628.238	.038%	98.712%
65.0	3.137	0.311	628.549	.038%	98.761%
66.0	3.145	0.313	628.862	.039%	98.810%
67.0	3.130	0.315	629.177	.039%	98.859%
68.0	3.122	0.317	629.494	.039%	98.909%
69.0	3.115	0.318	629.812	.039%	98.959%
70.0	3.107	0.320	630.132	.039%	99.009%
71.0	3.092	0.320	630.452	.039%	99.060%
72.0	3.085	0.321	630.773	.040%	99.110%
73.0	3.070	0.322	631.095	.040%	99.161%
74.0	3.070	0.323	631.418	.040%	99.211%
75.0	3.047	0.323	631.741	.040%	99.262%

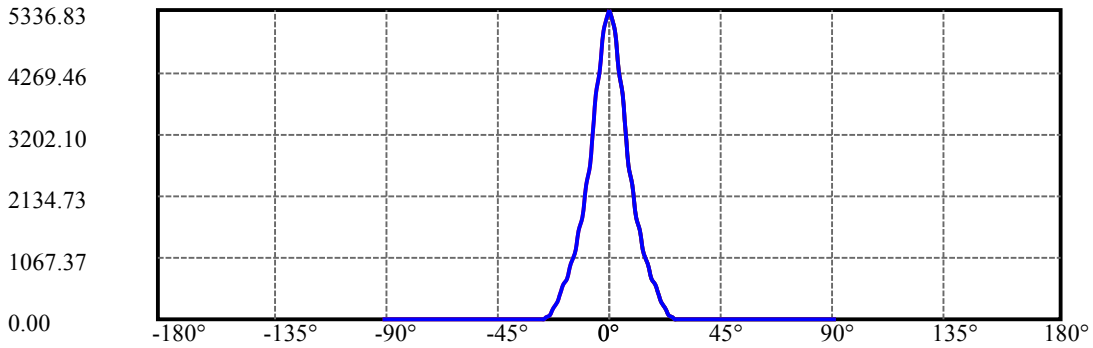
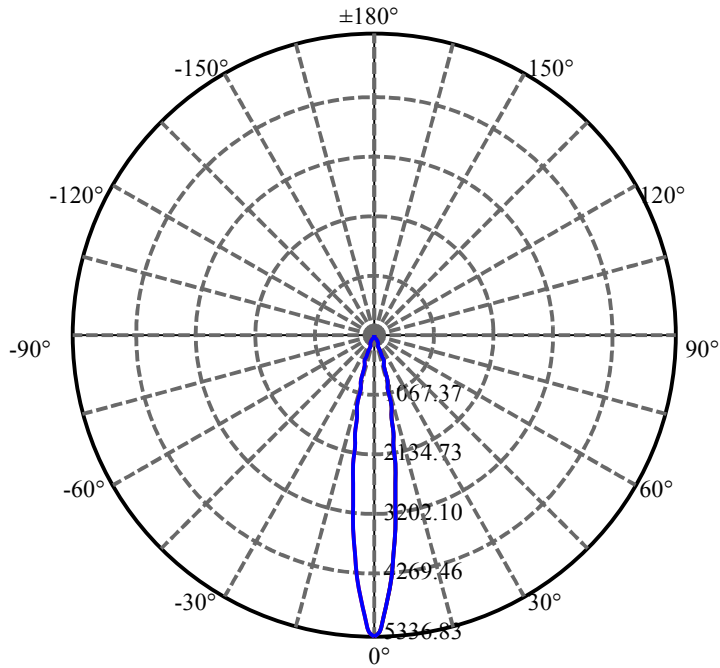
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	3.018	0.322	632.063	.040%	99.313%
77.0	2.995	0.321	632.384	.039%	99.363%
78.0	2.973	0.319	632.703	.039%	99.413%
79.0	2.951	0.318	633.021	.039%	99.463%
80.0	2.928	0.317	633.338	.039%	99.513%
81.0	2.913	0.316	633.654	.039%	99.563%
82.0	2.898	0.315	633.969	.039%	99.612%
83.0	2.891	0.315	634.284	.039%	99.662%
84.0	2.905	0.316	634.6	.039%	99.711%
85.0	2.853	0.314	634.914	.039%	99.761%
86.0	2.831	0.311	635.225	.038%	99.810%
87.0	2.764	0.306	635.531	.038%	99.858%
88.0	2.756	0.302	635.833	.037%	99.905%
89.0	2.749	0.302	636.135	.037%	99.953%
90.0	2.756	0.302	636.437	.037%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	618.86	76.19%	97.24%
0-40	621.48	76.51%	97.65%
0-60	627.01	77.19%	98.52%
0-90	636.14	78.32%	99.95%
0-120	636.14	78.32%	99.95%
0-180	636.44	78.35%	100.00%
60-90	9.42	1.16%	1.48%
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%
0-16.40	509.15	62.68%	80.00%

ZONAL LUMEN SUMMARY

0-10	307.00
10-20	271.89
20-30	39.98
30-40	2.61
40-50	2.64
50-60	2.89
60-70	3.12
70-80	3.21
80-90	2.80
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



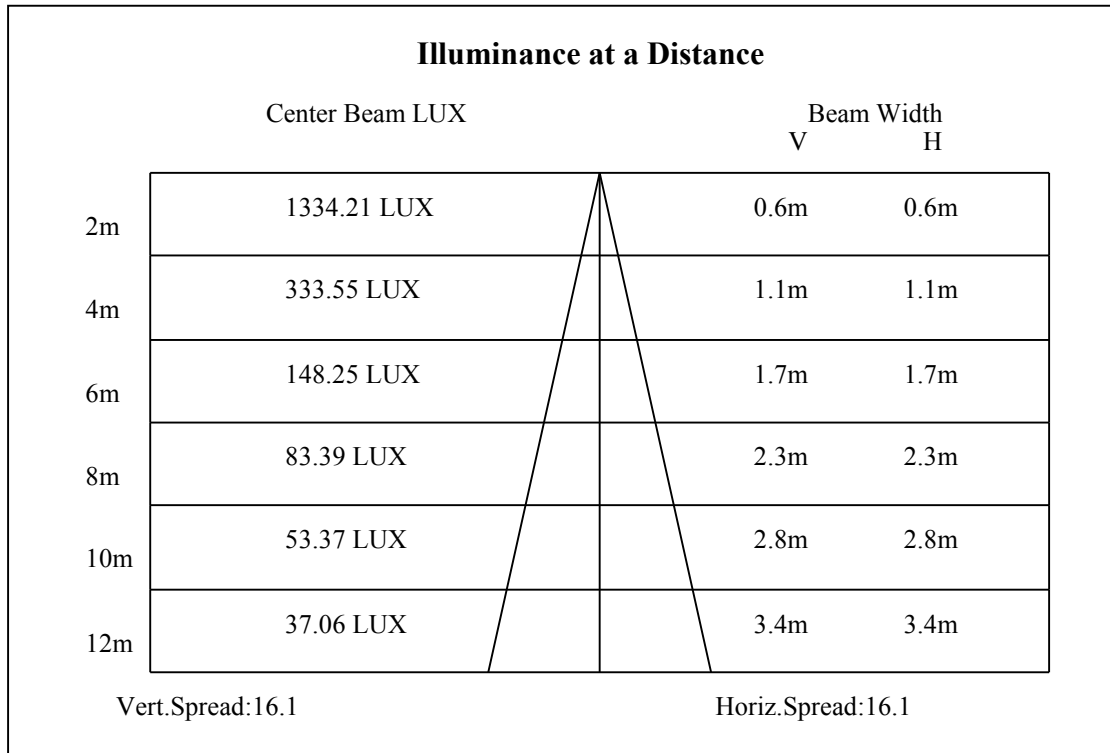
C0(Max): —————

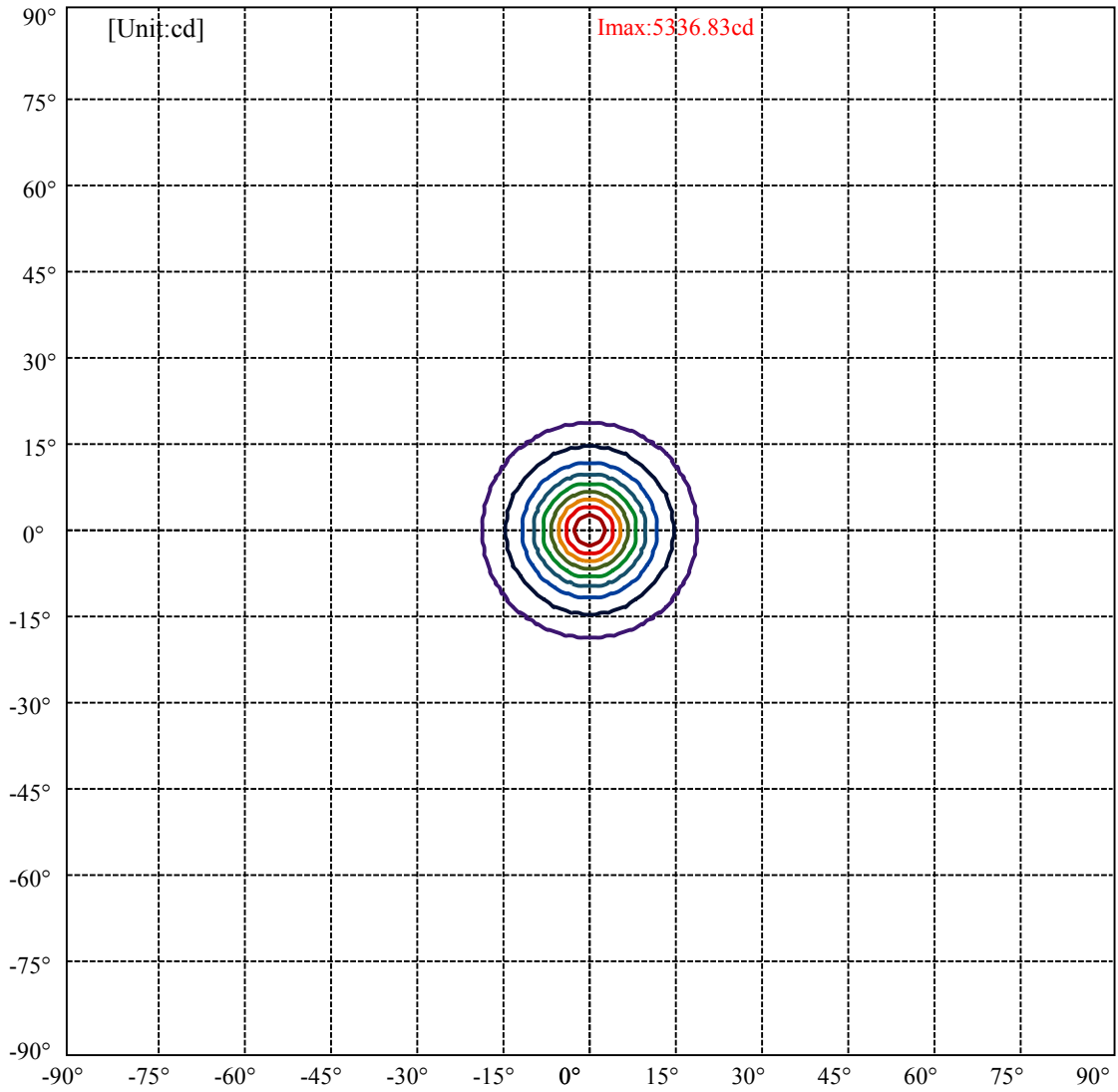
C0/C180: —————

C90/C270: —————

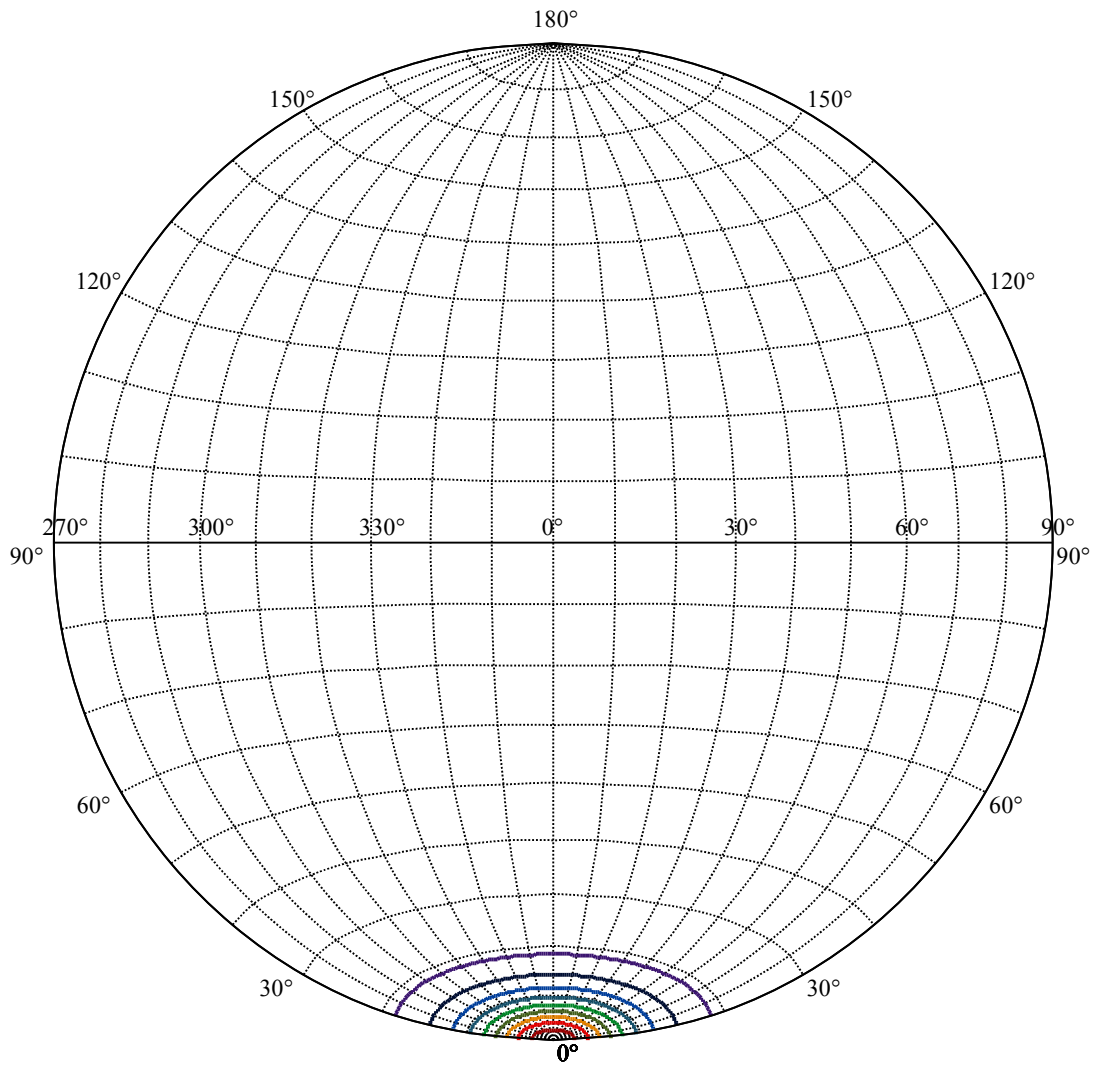
Field angle(10%Imax):C0/180Left:18.5 Right:18.5
:C90/270Left:18.5 Right:18.5

Beam Angle(50%Imax):C0/180Left:8.0 Right:8.0
:C90/270Left:8.0 Right:8.0





(10%Imax) 533.683	—
(20%Imax) 1067.37	—
(30%Imax) 1601.05	—
(40%Imax) 2134.73	—
(50%Imax) 2668.42	—
(60%Imax) 3202.1	—
(70%Imax) 3735.78	—
(80%Imax) 4269.46	—
(90%Imax) 4803.15	—



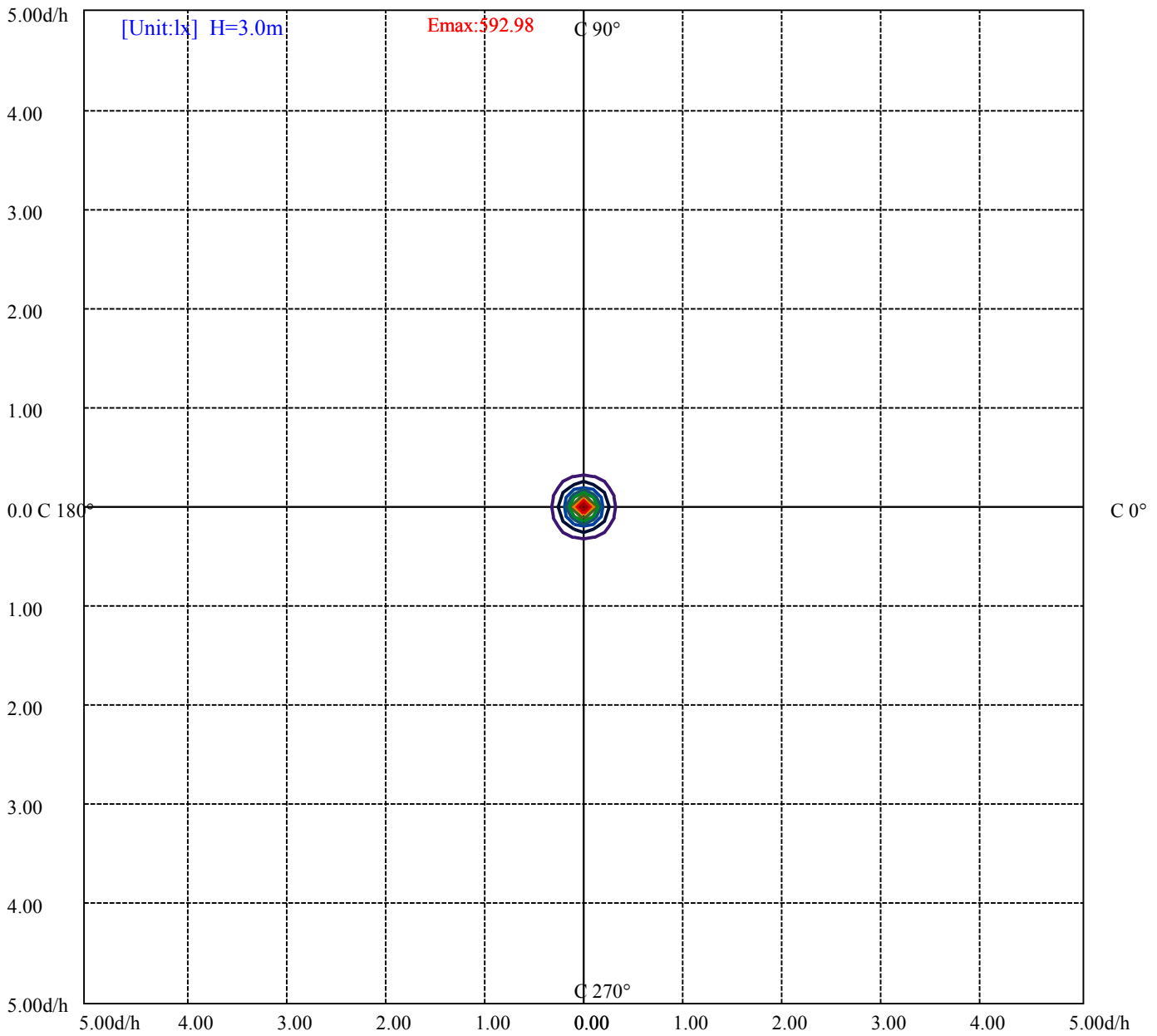
House

[Unit:cd]

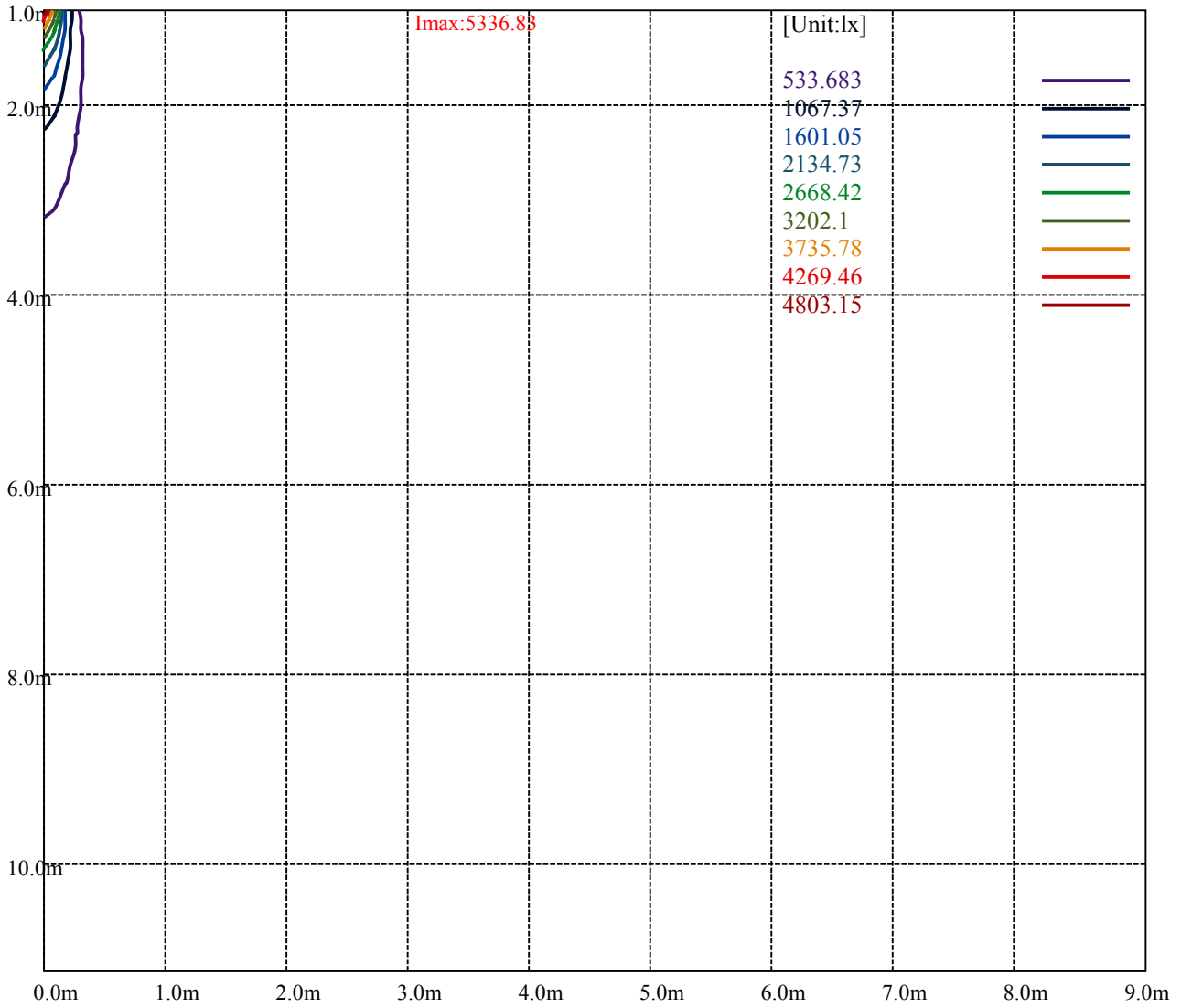
Road

Imax:5336.83

(10%Imax) 533.683	—
(20%Imax) 1067.37	—
(30%Imax) 1601.05	—
(40%Imax) 2134.73	—
(50%Imax) 2668.42	—
(60%Imax) 3202.1	—
(70%Imax) 3735.78	—
(80%Imax) 4269.46	—
(90%Imax) 4803.15	—



(10%Emax) 59.298	—
(20%Emax) 118.5956	—
(30%Emax) 177.8933	—
(40%Emax) 237.1922	—
(50%Emax) 296.49	—
(60%Emax) 355.7878	—
(70%Emax) 415.0856	—
(80%Emax) 474.3834	—
(90%Emax) 533.6811	—



Luminance Table

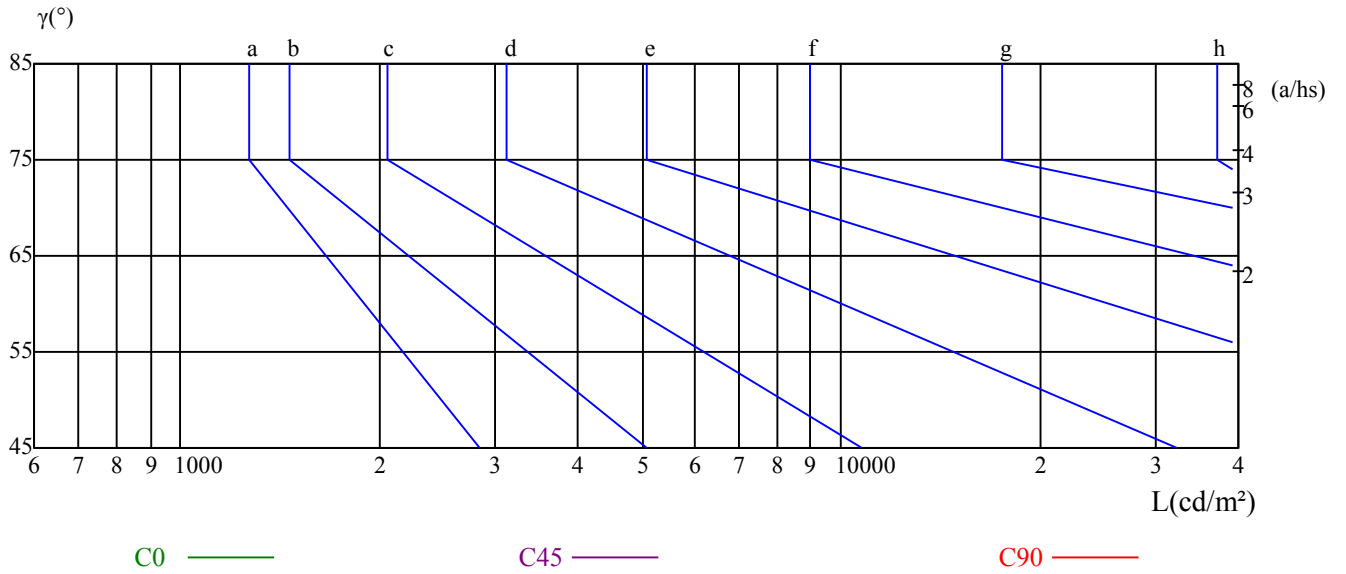
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

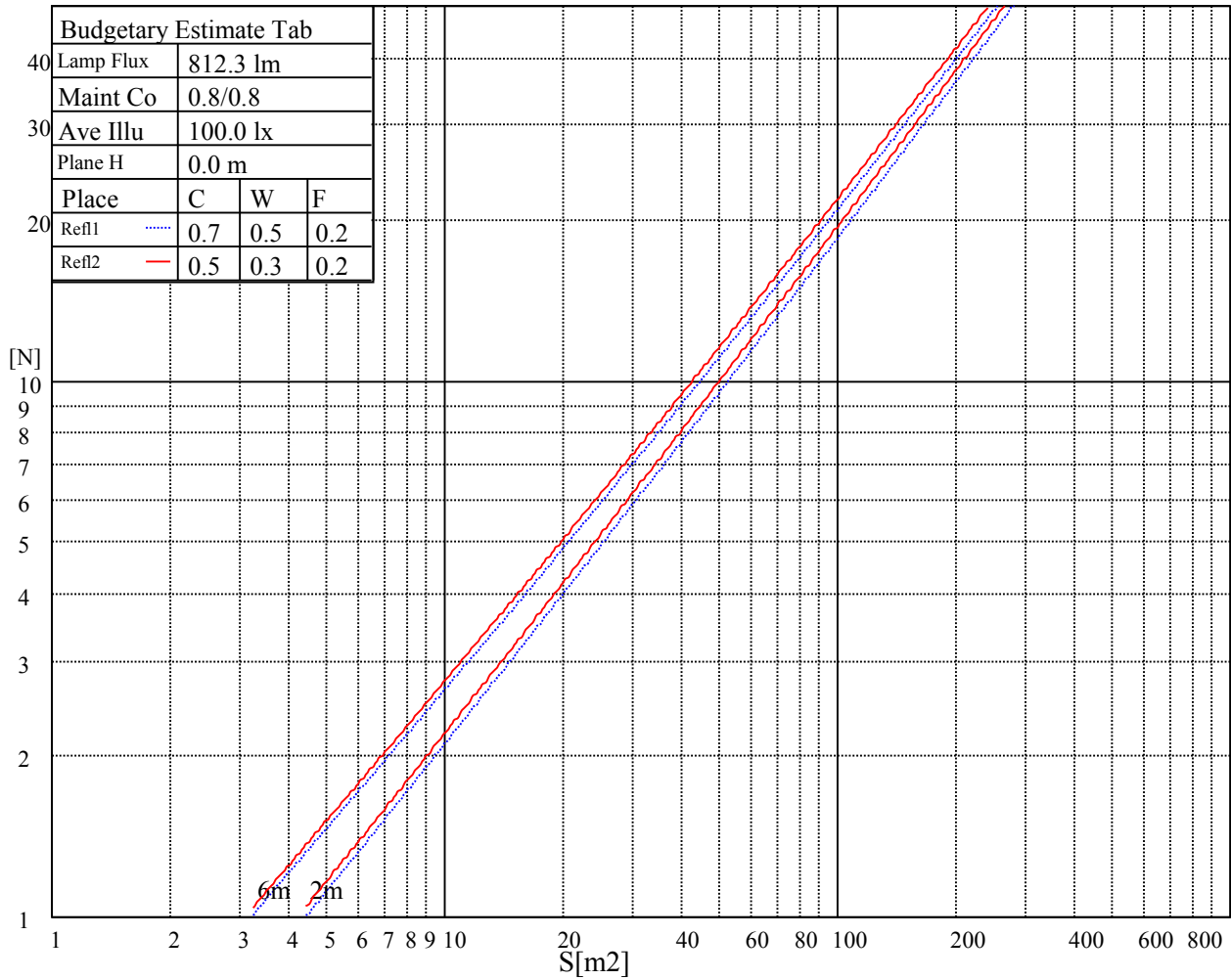
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

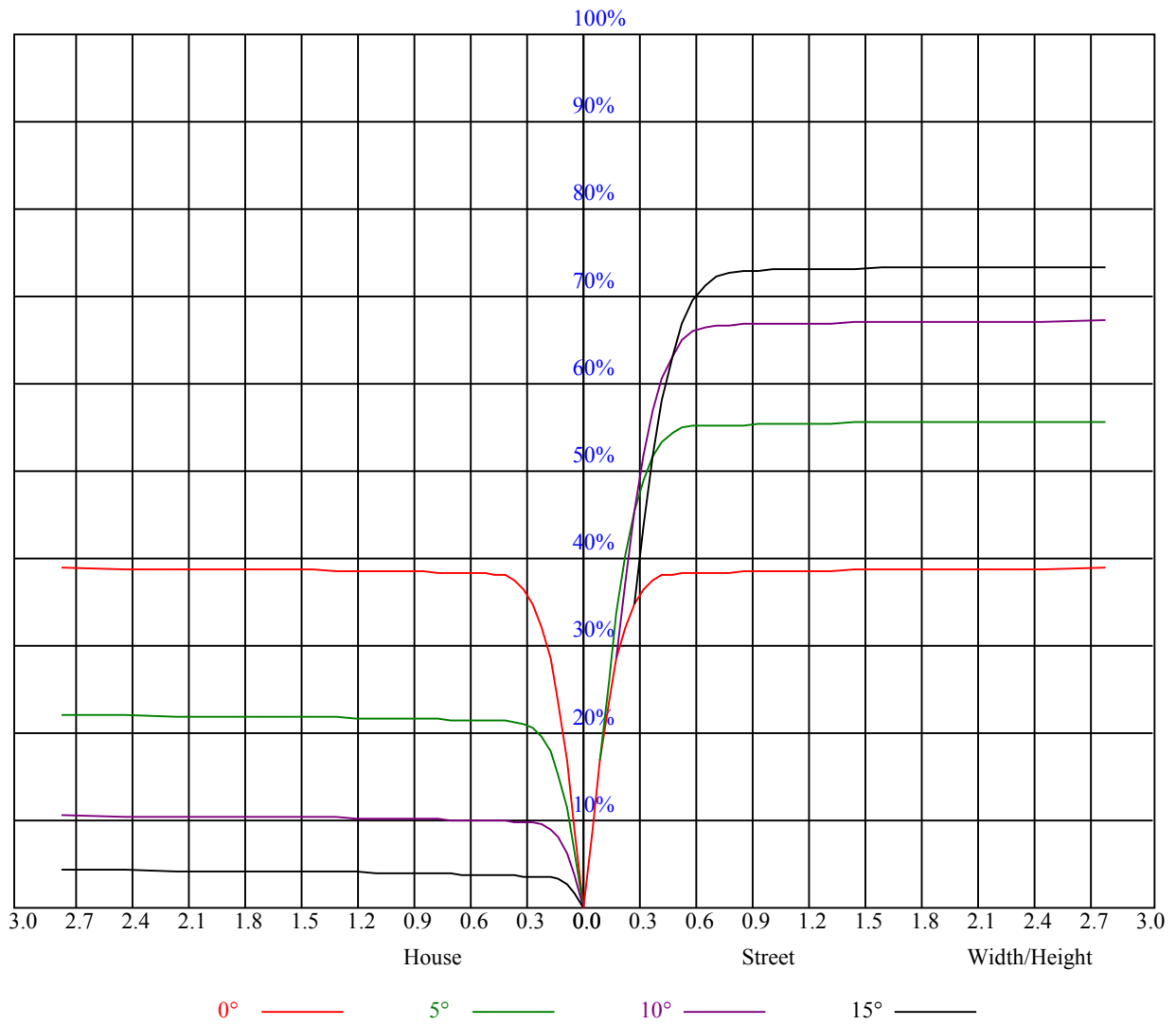
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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 RHOFC=20 CU															
0	0.93	0.93	0.93	0.91	0.91	0.91	0.87	0.87	0.87	0.83	0.83	0.83	0.80	0.80	0.80	0.78
1	0.89	0.87	0.86	0.87	0.86	0.85	0.84	0.83	0.82	0.81	0.80	0.80	0.78	0.78	0.77	0.76
2	0.85	0.83	0.81	0.84	0.82	0.80	0.81	0.80	0.78	0.79	0.78	0.77	0.77	0.76	0.75	0.74
3	0.82	0.79	0.77	0.81	0.78	0.77	0.79	0.77	0.75	0.77	0.76	0.74	0.76	0.74	0.73	0.72
4	0.79	0.76	0.74	0.78	0.76	0.74	0.77	0.75	0.73	0.75	0.74	0.72	0.74	0.73	0.71	0.71
5	0.77	0.74	0.72	0.76	0.74	0.72	0.75	0.73	0.71	0.74	0.72	0.70	0.73	0.71	0.70	0.69
6	0.75	0.72	0.70	0.74	0.72	0.70	0.73	0.71	0.69	0.72	0.70	0.69	0.72	0.70	0.68	0.68
7	0.73	0.70	0.68	0.73	0.70	0.68	0.72	0.69	0.68	0.71	0.69	0.67	0.70	0.68	0.67	0.66
8	0.71	0.69	0.67	0.71	0.68	0.66	0.70	0.68	0.66	0.70	0.68	0.66	0.69	0.67	0.66	0.65
9	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
10	0.68	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	0.63	0.63



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	5185.36	5367.01	5381.94	5181.17	4866.87	4515.53	4057.22	3677.19	3285.21
45.0	5427.36	5375.97	5083.18	4749.16	4402.00	3983.13	3531.99	3125.08	2696.05
90.0	5376.57	5193.13	4763.50	4462.94	4102.63	3714.84	3202.76	2806.59	2414.02
135.0	5358.04	5156.68	4798.76	4453.38	4056.62	3670.62	3216.50	2778.51	2437.32
180.0	5185.36	4792.78	4442.03	4081.72	3603.10	3252.95	2813.76	2384.74	2132.58
225.0	5427.36	5303.67	5003.71	4608.74	4246.64	3821.20	3379.03	2992.43	2584.31
270.0	5376.57	5396.88	5178.19	4866.28	4557.95	4088.89	3660.46	3316.88	2840.65
315.0	5358.04	5356.85	5165.04	4817.88	4462.94	4111.00	3640.74	3257.73	2876.51
360.0	5185.36	5367.01	5381.94	5181.17	4866.87	4515.53	4057.22	3677.19	3285.21

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	2854.40	2471.98	2176.80	1886.40	1629.46	1422.12	1217.17	1056.43	897.49
45.0	2362.63	2037.57	1754.35	1530.27	1305.60	1116.78	969.79	839.53	689.55
90.0	2082.39	1827.84	1599.59	1306.80	1167.57	1015.20	864.33	741.71	613.66
135.0	2144.53	1823.66	1593.61	1385.67	1166.38	1014.60	879.56	757.07	617.85
180.0	1873.85	1558.36	1383.28	1186.87	1016.82	883.33	761.79	649.81	524.27
225.0	2274.79	1973.64	1705.95	1487.25	1189.68	1092.46	951.63	822.38	676.16
270.0	2497.67	2205.48	1887.00	1659.34	1453.19	1227.92	1071.37	930.35	769.62
315.0	2490.50	2162.46	1906.12	1644.40	1413.16	1190.46	1056.19	918.28	774.22
360.0	2854.40	2471.98	2176.80	1886.40	1629.46	1422.12	1217.17	1056.43	897.49

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	755.28	639.36	538.97	420.66	329.84	307.73	148.90	90.29	45.77
45.0	580.80	485.79	380.63	301.75	196.95	121.18	61.49	25.87	10.88
90.0	503.48	409.61	307.79	216.66	145.68	87.12	35.19	14.28	8.66
135.0	519.25	415.28	324.46	302.95	158.11	81.92	34.66	11.65	7.95
180.0	427.95	325.77	230.47	155.24	93.87	43.38	15.72	8.49	6.45
225.0	573.87	477.19	384.69	275.70	197.36	119.45	60.29	26.53	10.76
270.0	652.50	552.71	446.35	341.19	308.33	166.53	96.38	50.55	19.66
315.0	643.90	543.09	446.83	330.79	244.57	168.03	90.65	47.56	20.44
360.0	755.28	639.36	538.97	420.66	329.84	307.73	148.90	90.29	45.77

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	17.27	9.20	7.17	5.98	5.50	5.08	4.78	4.54	4.36
45.0	7.83	6.27	5.56	5.20	4.96	4.60	4.42	4.30	4.06
90.0	6.75	5.86	5.44	5.08	4.78	4.54	4.36	4.24	4.12
135.0	6.39	5.68	5.20	4.90	4.66	4.42	4.24	4.12	3.94
180.0	5.62	5.14	4.84	4.60	4.36	4.18	4.00	3.88	3.76
225.0	7.89	6.33	5.74	5.26	4.90	4.60	4.36	4.18	4.00
270.0	10.16	7.47	6.21	5.68	5.26	4.84	4.60	4.42	4.24
315.0	9.92	7.23	6.16	5.50	5.08	4.78	4.48	4.30	4.12
360.0	17.27	9.20	7.17	5.98	5.50	5.08	4.78	4.54	4.36

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	4.12	4.00	3.88	3.82	3.71	3.65	3.59	3.53	3.47
45.0	4.00	3.88	3.82	3.71	3.65	3.59	3.53	3.53	3.53
90.0	3.94	3.88	3.76	3.71	3.65	3.59	3.53	3.53	3.47
135.0	3.82	3.76	3.71	3.65	3.59	3.59	3.47	3.47	3.41
180.0	3.71	3.65	3.59	3.53	3.47	3.47	3.41	3.41	3.35
225.0	3.88	3.76	3.71	3.59	3.59	3.47	3.41	3.41	3.35
270.0	4.06	3.94	3.82	3.71	3.65	3.59	3.53	3.53	3.47
315.0	3.94	3.82	3.76	3.65	3.59	3.53	3.47	3.41	3.41
360.0	4.12	4.00	3.88	3.82	3.71	3.65	3.59	3.53	3.47

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	3.47	3.47	3.41	3.41	3.35	3.35	3.35	3.35	3.29
45.0	3.47	3.41	3.41	3.35	3.35	3.35	3.29	3.29	3.23
90.0	3.41	3.41	3.35	3.35	3.35	3.35	3.29	3.29	3.29
135.0	3.41	3.41	3.35	3.35	3.35	3.29	3.29	3.29	3.29
180.0	3.35	3.35	3.29	3.29	3.29	3.23	3.29	3.23	3.23
225.0	3.35	3.29	3.29	3.23	3.23	3.23	3.23	3.17	3.17
270.0	3.41	3.41	3.35	3.29	3.29	3.29	3.29	3.29	3.23
315.0	3.41	3.35	3.35	3.29	3.29	3.29	3.23	3.23	3.23
360.0	3.47	3.47	3.41	3.41	3.35	3.35	3.35	3.35	3.29
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	3.29	3.29	3.29	3.29	3.29	3.29	3.23	3.23	3.23
45.0	3.23	3.23	3.17	3.23	3.23	3.17	3.17	3.17	3.17
90.0	3.23	3.23	3.23	3.23	3.17	3.17	3.17	3.17	3.17
135.0	3.29	3.23	3.23	3.23	3.23	3.23	3.17	3.23	3.17
180.0	3.23	3.23	3.23	3.23	3.17	3.17	3.23	3.23	3.17
225.0	3.17	3.17	3.17	3.17	3.11	3.17	3.11	3.11	3.11
270.0	3.17	3.17	3.17	3.17	3.17	3.17	3.11	3.11	3.11
315.0	3.23	3.23	3.23	3.23	3.17	3.17	3.17	3.17	3.17
360.0	3.29	3.29	3.29	3.29	3.29	3.29	3.23	3.23	3.23
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	3.23	3.23	3.23	3.23	3.23	3.17	3.17	3.17	3.23
45.0	3.17	3.17	3.11	3.11	3.11	3.11	3.11	3.11	3.05
90.0	3.11	3.11	3.11	3.11	3.11	3.05	3.11	3.05	3.05
135.0	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.11
180.0	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.11
225.0	3.11	3.11	3.11	3.11	3.11	3.05	3.05	3.05	3.05
270.0	3.11	3.11	3.11	3.11	3.05	3.11	3.05	3.05	3.05
315.0	3.17	3.11	3.11	3.17	3.11	3.17	3.11	3.11	3.11
360.0	3.23	3.23	3.23	3.23	3.23	3.17	3.17	3.17	3.23
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	3.17	3.17	3.17	3.11	3.05	3.05	2.99	2.99	2.93
45.0	3.05	3.05	3.05	3.05	2.99	2.99	2.99	2.93	2.93
90.0	3.05	3.05	3.05	2.99	2.99	2.99	2.93	2.93	2.87
135.0	3.11	3.11	3.05	3.05	3.05	2.99	2.99	2.93	2.87
180.0	3.11	3.05	3.05	3.05	2.99	2.93	2.93	2.87	2.93
225.0	3.05	3.05	3.05	2.99	2.99	2.99	2.99	2.99	2.99
270.0	3.05	2.99	3.05	3.05	3.05	2.99	2.99	2.99	2.93
315.0	3.11	3.11	3.11	3.11	3.05	3.05	2.99	2.99	2.99
360.0	3.17	3.17	3.17	3.11	3.05	3.05	2.99	2.99	2.93
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	2.93	2.93	2.93	2.93	2.99	2.99	2.81	2.81	2.75
45.0	2.93	2.99	2.99	2.99	2.81	2.75	2.81	2.69	2.75
90.0	2.87	2.81	2.81	2.81	2.75	2.75	2.75	2.75	2.75
135.0	2.87	2.81	2.81	2.81	2.81	2.75	2.75	2.75	2.75
180.0	2.93	2.93	2.93	3.05	2.75	2.75	2.75	2.75	2.75
225.0	2.93	2.93	2.93	2.99	2.99	2.99	2.75	2.81	2.75
270.0	2.93	2.93	2.87	2.87	2.87	2.87	2.75	2.75	2.75
315.0	2.93	2.87	2.87	2.81	2.87	2.81	2.75	2.75	2.75
360.0	2.93	2.93	2.93	2.93	2.99	2.99	2.81	2.81	2.75

Intensity data(cd)

C/ γ ($^{\circ}$)	90.0
0.0	2.81
45.0	2.75
90.0	2.75
135.0	2.75
180.0	2.75
225.0	2.75
270.0	2.75
315.0	2.75
360.0	2.81