



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

Nata

LumCAT: 1-0935-N	
Luminaire: 92.70.361.000	
Report No: 220518-B019	Voltage(V): 37.6400
Test No: 220518-C019	Current(A): 0.3600
LampCAT: CREE CXA1512	Power (W): 13.5500
Lamp flux(lm): 1623.7	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 43	Width(mm): 43
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1352.46
Efficiency(%): 83.29%
Lumens(lm)/Power(W): 99.81
Central intensity(cd): 8137.748
Maximum intensity(cd): 8137.748
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=17.2
 [C90/270]Total=17.2
Field angle(10%Imax): [C0/180]Total=44.0
 [C90/270]Total=44.0
Maximum s/h(1/2): C0_180=0.29 C90_270=0.29
Maximum s/h(1/4): C0_180=0.33 C90_270=0.33
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 83.29%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.117%

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2022/5/18
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.73

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	8137.747	0.000	0	.000%	.000%
1.0	8079.115	7.759	7.759	.478%	.574%
2.0	7859.523	22.877	30.636	1.409%	2.265%
3.0	7500.856	36.737	67.373	2.263%	4.982%
4.0	7058.461	48.735	116.108	3.001%	8.585%
5.0	6420.225	57.985	174.092	3.571%	12.872%
6.0	5785.126	64.142	238.235	3.950%	17.615%
7.0	5105.811	67.600	305.835	4.163%	22.613%
8.0	4420.295	68.177	374.011	4.199%	27.654%
9.0	3818.509	66.771	440.782	4.112%	32.591%
10.0	3309.788	64.508	505.291	3.973%	37.361%
11.0	2858.504	61.634	566.925	3.796%	41.918%
12.0	2516.493	58.756	625.681	3.619%	46.262%
13.0	2214.144	56.141	681.822	3.458%	50.413%
14.0	1938.907	53.159	734.98	3.274%	54.344%
15.0	1738.287	50.482	785.463	3.109%	58.077%
16.0	1546.823	48.136	833.599	2.965%	61.636%
17.0	1385.730	45.668	879.266	2.813%	65.012%
18.0	1237.019	43.243	922.51	2.663%	68.210%
19.0	1116.020	40.938	963.448	2.521%	71.237%
20.0	1003.931	38.801	1002.249	2.390%	74.106%
21.0	898.766	36.536	1038.784	2.250%	76.807%
22.0	813.252	34.404	1073.188	2.119%	79.351%
23.0	719.358	32.158	1105.346	1.981%	81.729%
24.0	633.246	29.573	1134.919	1.821%	83.915%
25.0	545.955	26.812	1161.732	1.651%	85.898%
26.0	459.888	23.743	1185.475	1.462%	87.653%
27.0	377.481	20.486	1205.961	1.262%	89.168%
28.0	305.061	17.281	1223.242	1.064%	90.446%
29.0	228.174	13.951	1237.193	.859%	91.477%
30.0	180.678	11.039	1248.232	.680%	92.293%
31.0	130.859	8.670	1256.901	.534%	92.934%
32.0	99.197	6.591	1263.492	.406%	93.422%
33.0	79.359	5.260	1268.752	.324%	93.811%
34.0	67.917	4.457	1273.209	.274%	94.140%
35.0	61.023	4.004	1277.214	.247%	94.436%
36.0	56.862	3.753	1280.967	.231%	94.714%
37.0	53.419	3.597	1284.564	.222%	94.980%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	49.647	3.440	1288.004	.212%	95.234%
39.0	45.547	3.249	1291.253	.200%	95.474%
40.0	41.767	3.045	1294.299	.188%	95.700%
41.0	37.861	2.836	1297.134	.175%	95.909%
42.0	33.798	2.603	1299.738	.160%	96.102%
43.0	30.354	2.376	1302.114	.146%	96.277%
44.0	27.337	2.177	1304.291	.134%	96.438%
45.0	24.603	1.996	1306.288	.123%	96.586%
46.0	22.684	1.849	1308.137	.114%	96.723%
47.0	20.884	1.733	1309.87	.107%	96.851%
48.0	19.502	1.633	1311.502	.101%	96.972%
49.0	18.352	1.554	1313.057	.096%	97.087%
50.0	17.269	1.485	1314.542	.091%	97.196%
51.0	16.380	1.424	1315.965	.088%	97.302%
52.0	15.670	1.375	1317.341	.085%	97.403%
53.0	14.931	1.331	1318.672	.082%	97.502%
54.0	14.244	1.286	1319.958	.079%	97.597%
55.0	13.698	1.247	1321.205	.077%	97.689%
56.0	13.153	1.213	1322.418	.075%	97.779%
57.0	12.690	1.182	1323.6	.073%	97.866%
58.0	12.279	1.155	1324.755	.071%	97.951%
59.0	11.921	1.131	1325.886	.070%	98.035%
60.0	11.570	1.110	1326.996	.068%	98.117%
61.0	11.248	1.089	1328.085	.067%	98.198%
62.0	10.972	1.071	1329.155	.066%	98.277%
63.0	10.718	1.055	1330.21	.065%	98.355%
64.0	10.464	1.039	1331.25	.064%	98.432%
65.0	10.255	1.025	1332.275	.063%	98.508%
66.0	10.001	1.011	1333.286	.062%	98.582%
67.0	9.785	0.995	1334.281	.061%	98.656%
68.0	9.568	0.980	1335.261	.060%	98.728%
69.0	9.314	0.963	1336.224	.059%	98.800%
70.0	9.105	0.946	1337.17	.058%	98.869%
71.0	8.851	0.928	1338.098	.057%	98.938%
72.0	8.582	0.906	1339.005	.056%	99.005%
73.0	8.365	0.886	1339.891	.055%	99.071%
74.0	8.149	0.868	1340.759	.053%	99.135%
75.0	7.917	0.849	1341.608	.052%	99.198%

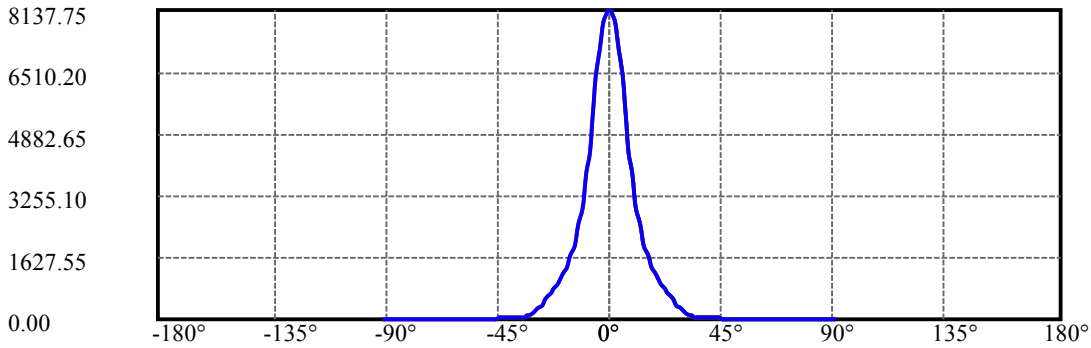
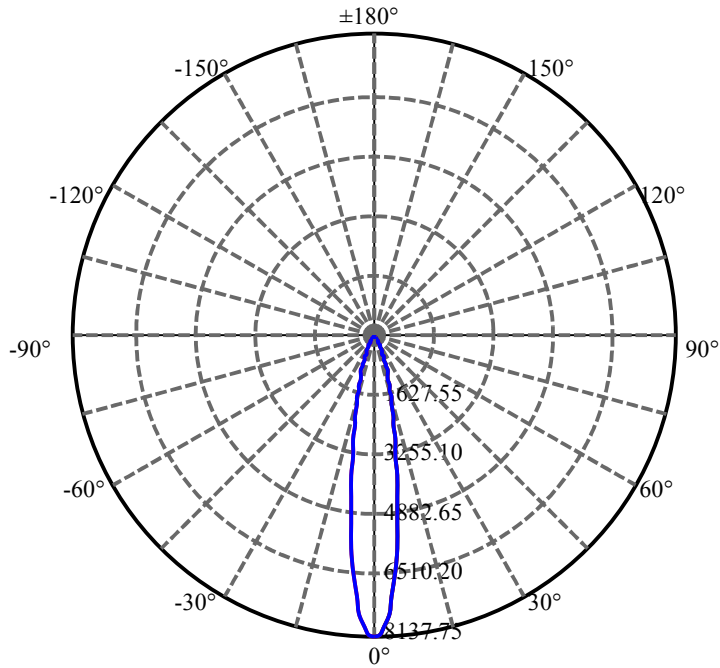
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	7.708	0.829	1342.437	.051%	99.259%
77.0	7.529	0.812	1343.25	.050%	99.319%
78.0	7.350	0.796	1344.046	.049%	99.378%
79.0	7.170	0.780	1344.826	.048%	99.436%
80.0	7.013	0.765	1345.591	.047%	99.492%
81.0	6.849	0.750	1346.341	.046%	99.548%
82.0	6.707	0.735	1347.076	.045%	99.602%
83.0	6.573	0.722	1347.798	.044%	99.655%
84.0	6.446	0.709	1348.507	.044%	99.708%
85.0	6.311	0.696	1349.203	.043%	99.759%
86.0	6.140	0.681	1349.884	.042%	99.810%
87.0	6.005	0.665	1350.549	.041%	99.859%
88.0	5.856	0.650	1351.198	.040%	99.907%
89.0	5.744	0.636	1351.834	.039%	99.954%
90.0	5.677	0.626	1352.46	.039%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1248.23	76.87%	92.29%
0-40	1294.30	79.71%	95.70%
0-60	1327.00	81.73%	98.12%
0-90	1351.83	83.25%	99.95%
0-120	1351.83	83.25%	99.95%
0-180	1352.46	83.29%	100.00%
60-90	25.95	1.60%	1.92%
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%
0-22.27	1081.97	66.63%	80.00%

ZONAL LUMEN SUMMARY

0-10	505.29
10-20	496.96
20-30	245.98
30-40	46.07
40-50	20.24
50-60	12.45
60-70	10.17
70-80	8.42
80-90	6.24
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



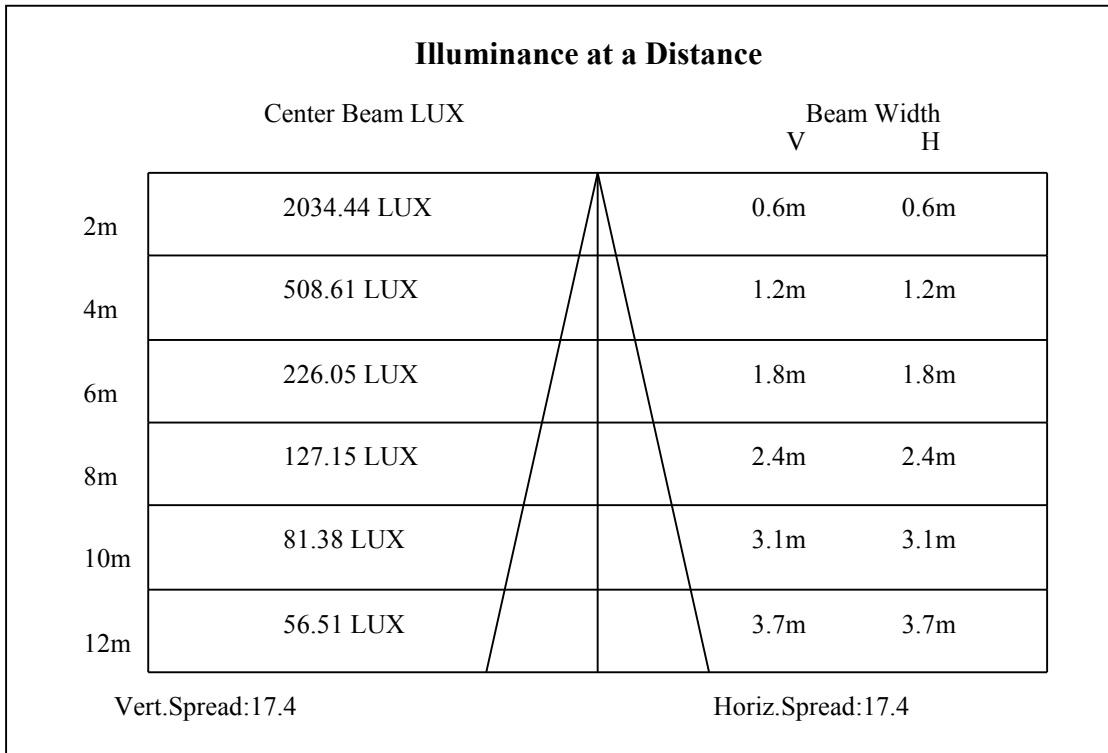
C0(Max): —————

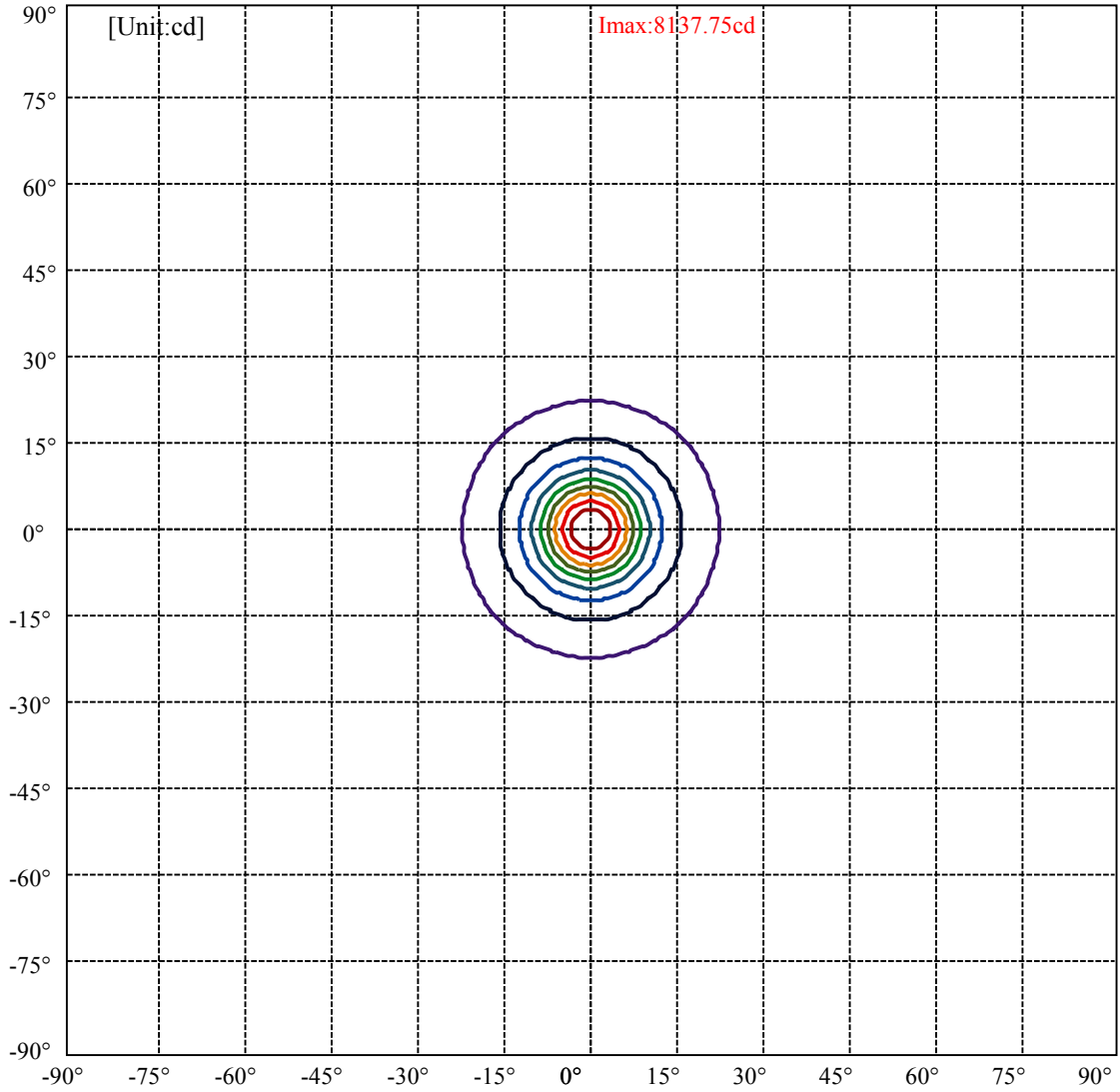
C0/C180: —————

C90/C270: —————

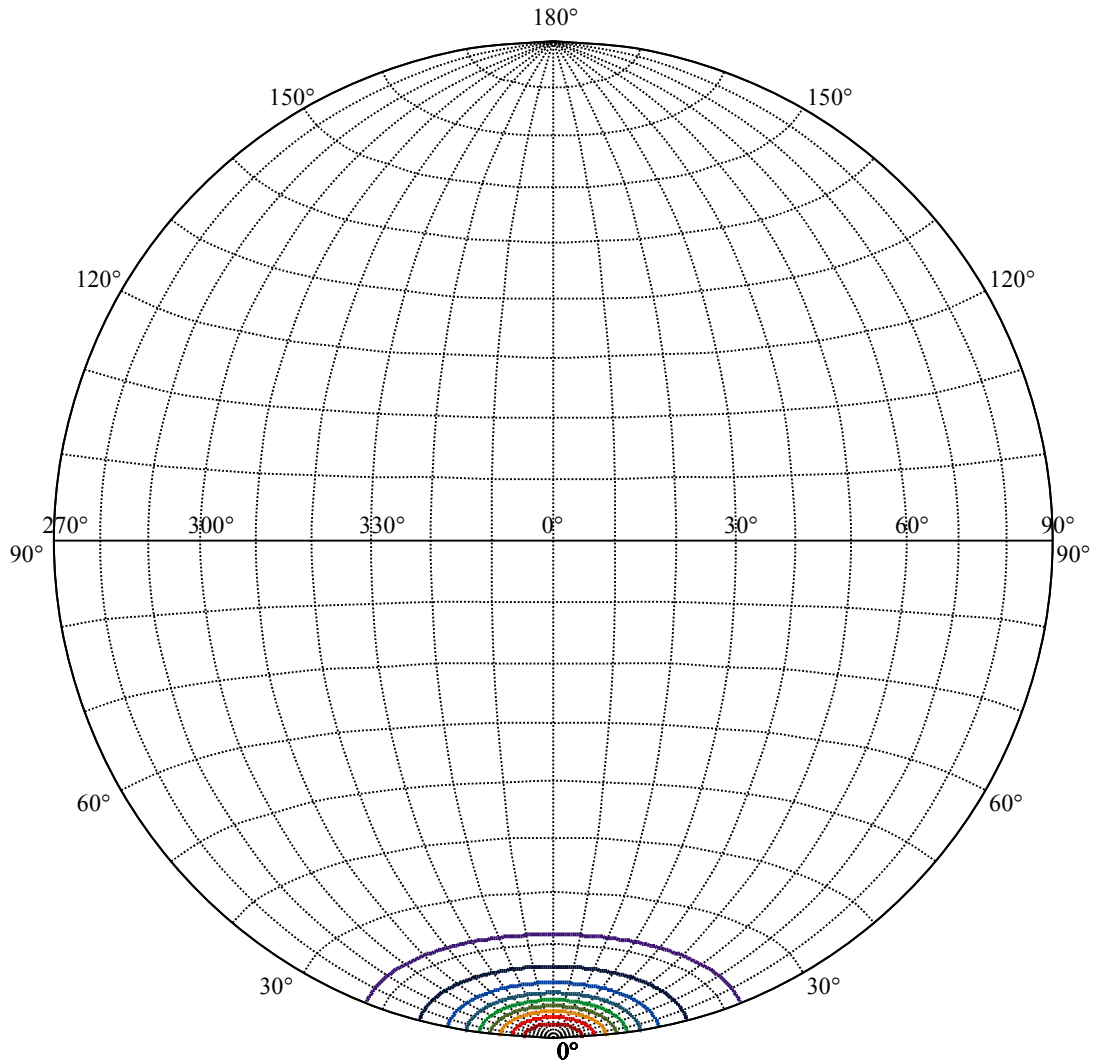
Field angle(10%Imax):C0/180Left:22.0 Right:22.0
:C90/270Left:22.0 Right:22.0

Beam Angle(50%Imax):C0/180Left:8.6 Right:8.6
:C90/270Left:8.6 Right:8.6





(10%Imax) 813.775	—
(20%Imax) 1627.55	—
(30%Imax) 2441.32	—
(40%Imax) 3255.1	—
(50%Imax) 4068.87	—
(60%Imax) 4882.65	—
(70%Imax) 5696.42	—
(80%Imax) 6510.2	—
(90%Imax) 7323.97	—



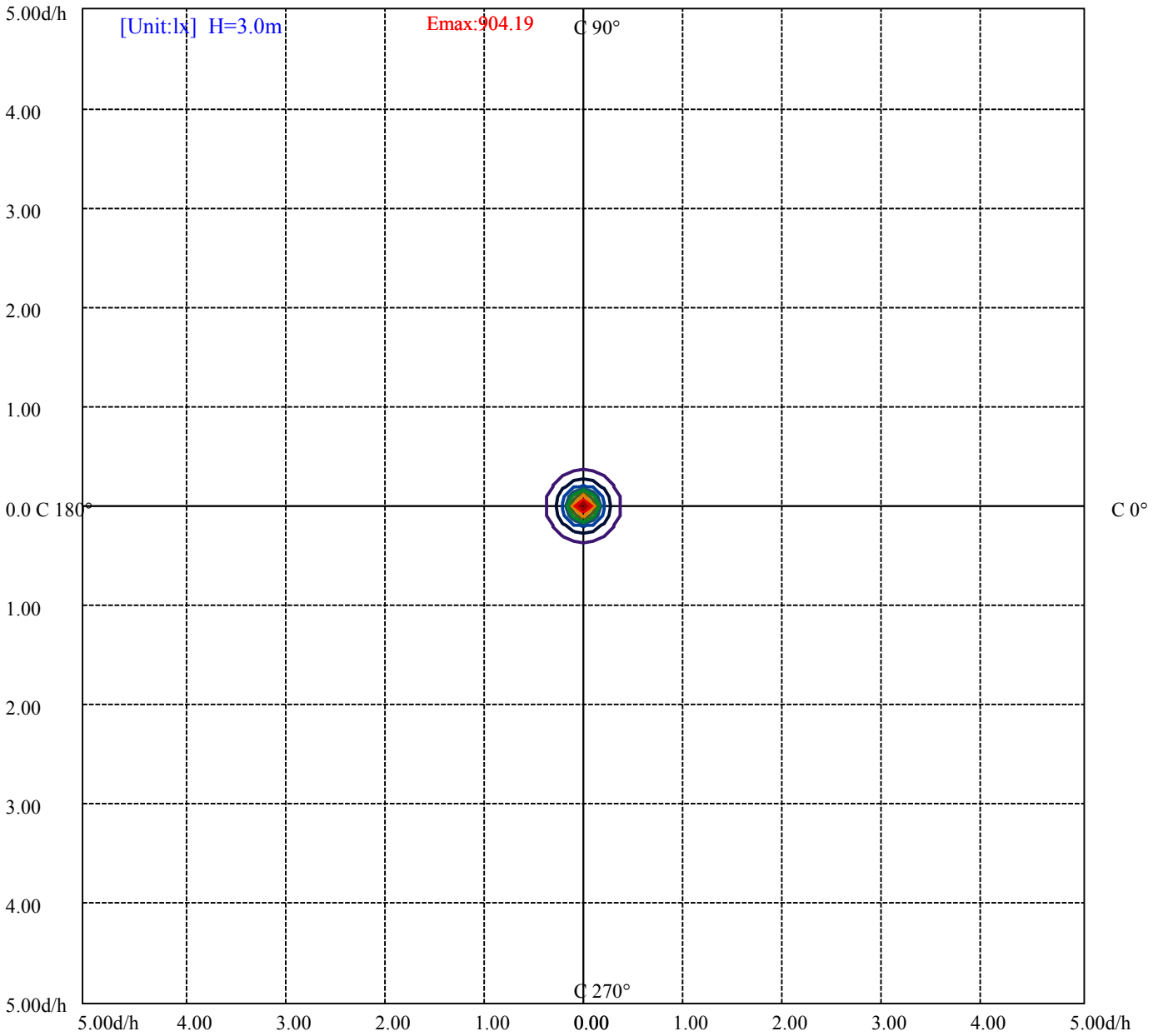
House

[Unit:cd]

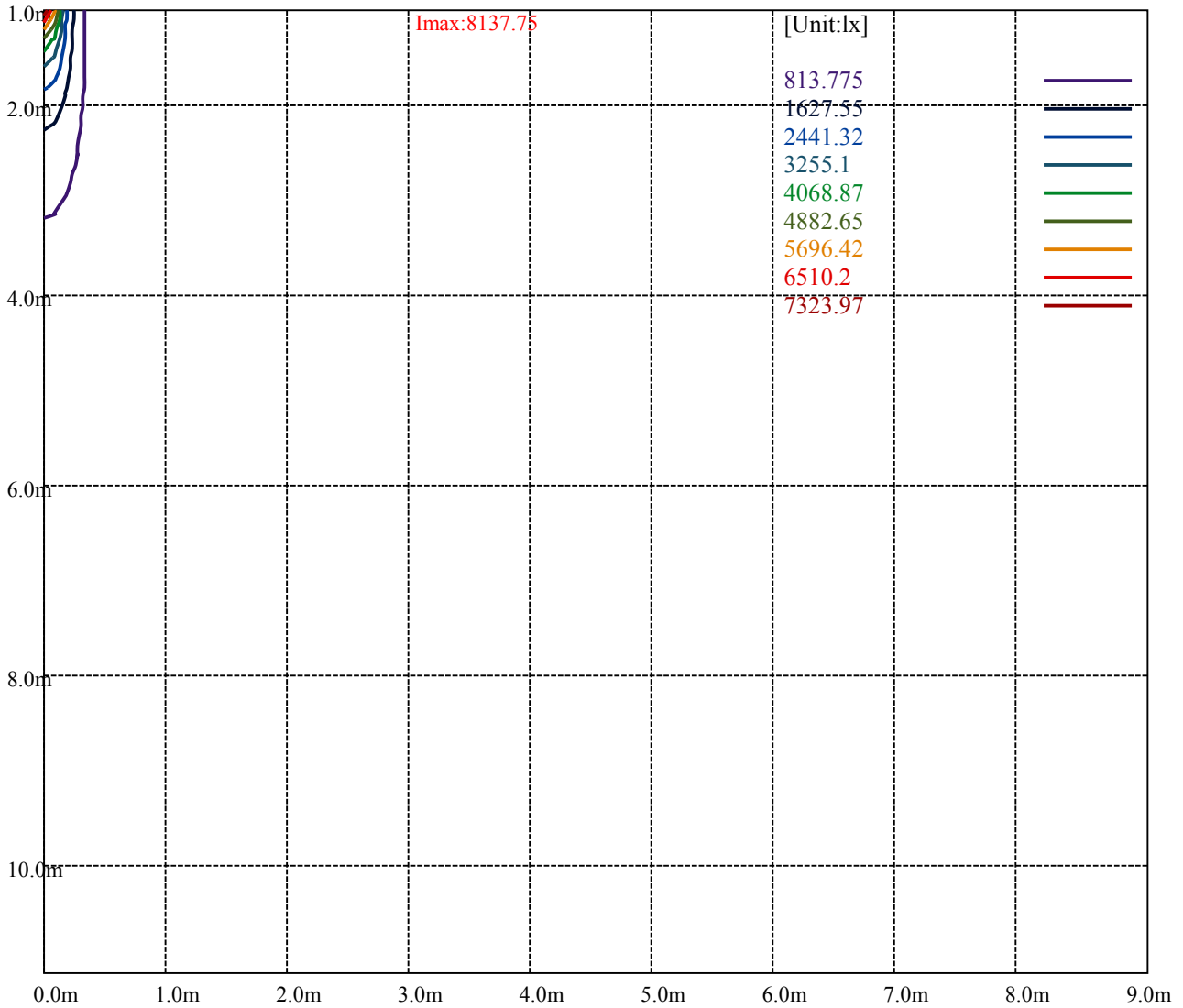
Road

Imax:8137.75

(10%Imax) 813.775	—
(20%Imax) 1627.55	—
(30%Imax) 2441.32	—
(40%Imax) 3255.1	—
(50%Imax) 4068.87	—
(60%Imax) 4882.65	—
(70%Imax) 5696.42	—
(80%Imax) 6510.2	—
(90%Imax) 7323.97	—



- (10%Emax) 90.41933
- (20%Emax) 180.8389
- (30%Emax) 271.2578
- (40%Emax) 361.6778
- (50%Emax) 452.0967
- (60%Emax) 542.5156
- (70%Emax) 632.9355
- (80%Emax) 723.3544
- (90%Emax) 813.7733



Luminance Table

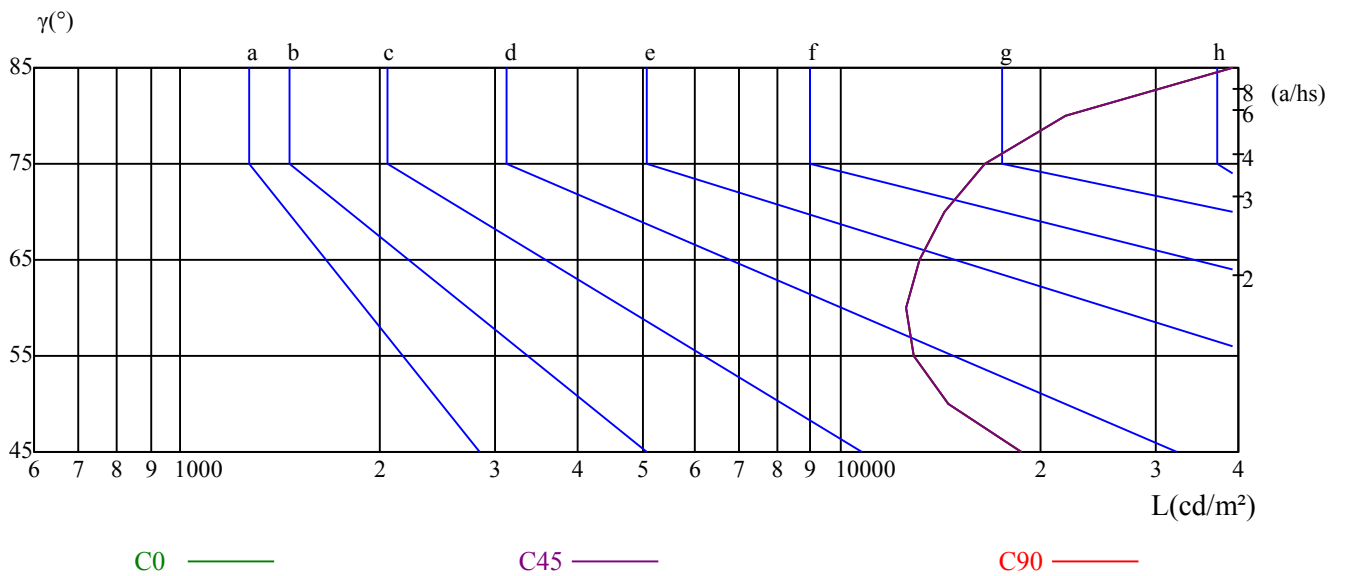
γ	45	50	55	60	65	70	75	80	85
C0	18818	14530	12916	12515	13124	14397	16544	21844	39165
C45	18818	14530	12916	12515	13124	14397	16544	21844	39165
C90	18818	14530	12916	12515	13124	14397	16544	21844	39165

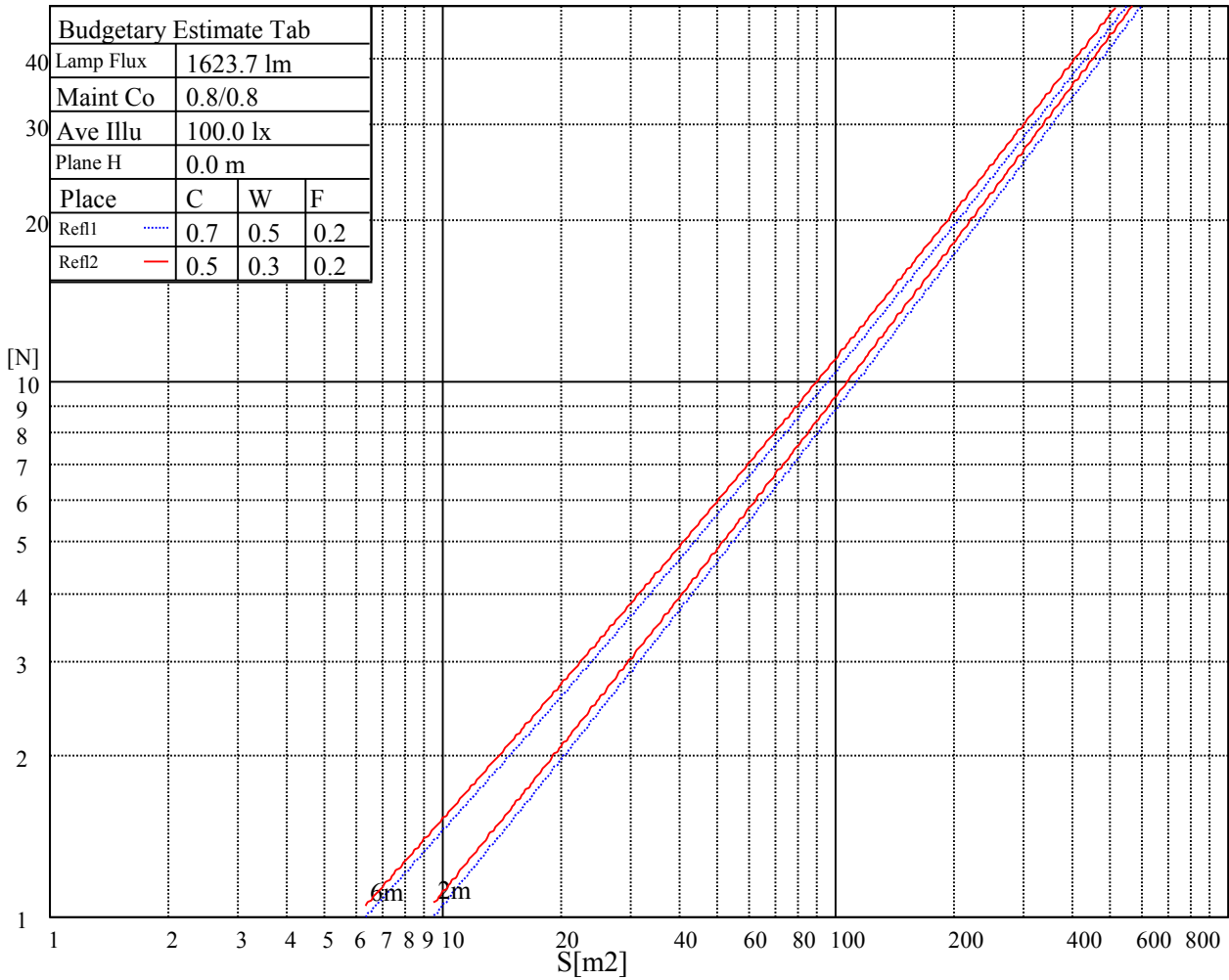
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
13124	13124	13124	16544	16544	16544	39165	39165	39165

Glare Table

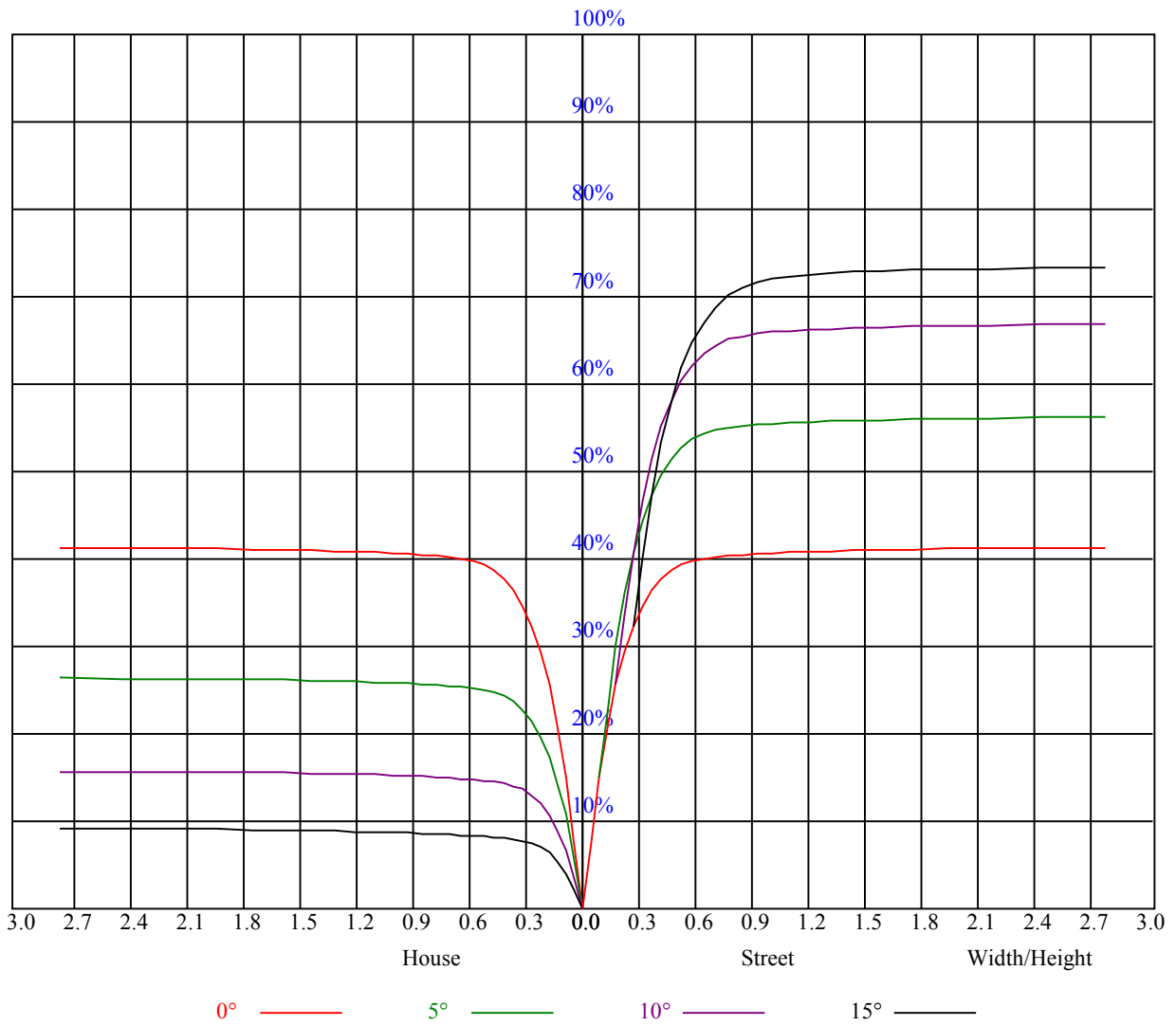
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.99	0.99	0.99	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.85	0.85	0.85	0.83
1	0.93	0.92	0.90	0.92	0.90	0.89	0.88	0.87	0.86	0.85	0.84	0.84	0.83	0.82	0.81	0.80
2	0.89	0.86	0.84	0.87	0.85	0.83	0.85	0.83	0.81	0.82	0.81	0.79	0.80	0.79	0.78	0.77
3	0.85	0.82	0.79	0.84	0.81	0.78	0.82	0.79	0.77	0.80	0.78	0.76	0.78	0.76	0.75	0.74
4	0.81	0.78	0.75	0.80	0.77	0.75	0.79	0.76	0.74	0.77	0.75	0.73	0.76	0.74	0.72	0.71
5	0.78	0.75	0.72	0.77	0.74	0.72	0.76	0.73	0.71	0.75	0.72	0.70	0.74	0.72	0.70	0.69
6	0.75	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.69	0.73	0.70	0.68	0.72	0.69	0.68	0.67
7	0.73	0.69	0.67	0.72	0.69	0.67	0.72	0.68	0.66	0.71	0.68	0.66	0.70	0.67	0.66	0.65
8	0.71	0.67	0.65	0.70	0.67	0.65	0.69	0.66	0.64	0.69	0.66	0.64	0.68	0.66	0.64	0.63
9	0.69	0.65	0.63	0.68	0.65	0.63	0.68	0.65	0.62	0.67	0.64	0.62	0.66	0.64	0.62	0.61
10	0.67	0.63	0.61	0.66	0.63	0.61	0.66	0.63	0.61	0.65	0.63	0.61	0.65	0.62	0.60	0.60



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	8014.66	8181.37	8227.38	8153.28	7969.24	7548.58	7078.93	6499.32	5768.54
45.0	8224.39	8179.57	7963.87	7622.08	7163.18	6452.72	5777.51	5079.00	4349.41
90.0	8150.89	7965.06	7612.52	7086.10	6493.95	5732.69	5024.02	4281.30	3638.35
135.0	8161.05	8025.41	7575.47	7096.25	6517.25	5672.34	4961.88	4305.20	3667.63
180.0	8014.66	7710.51	7291.05	6591.34	5937.05	5232.56	4464.74	3805.66	3304.93
225.0	8224.39	8163.44	7953.11	7597.58	7154.81	6517.85	5869.53	5107.08	4376.90
270.0	8150.89	8199.29	8120.42	7932.20	7603.56	7050.84	6494.54	5862.95	5105.89
315.0	8161.05	8208.26	8132.37	7928.01	7628.65	7154.21	6609.87	5905.98	5150.70
360.0	8014.66	8181.37	8227.38	8153.28	7969.24	7548.58	7078.93	6499.32	5768.54
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	5004.90	4367.94	3730.37	3251.16	2802.41	2436.13	2161.26	1904.32	1685.03
45.0	3706.47	3221.88	2775.52	2444.49	2137.96	1884.01	1694.59	1509.36	1347.43
90.0	3159.14	2722.34	2370.40	2108.68	1884.61	1649.78	1490.24	1349.22	1175.04
135.0	3130.45	2734.29	2369.80	2102.70	1854.13	1646.79	1489.04	1334.28	1197.45
180.0	2840.06	2464.81	2190.54	1930.62	1733.43	1542.82	1380.89	1190.04	1131.90
225.0	3813.43	3276.25	2832.29	2501.85	2224.00	1931.21	1734.63	1561.94	1394.63
270.0	4391.84	3836.14	3296.57	2898.02	2524.56	2217.43	1983.80	1757.33	1562.54
315.0	4501.78	3854.66	3302.54	2894.43	2552.05	2203.09	1971.85	1768.09	1591.82
360.0	5004.90	4367.94	3730.37	3251.16	2802.41	2436.13	2161.26	1904.32	1685.03
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1518.92	1375.51	1218.96	1105.43	1002.06	886.14	805.47	725.40	630.39
45.0	1218.96	1104.23	971.58	869.40	794.71	705.68	611.27	525.23	444.56
90.0	1073.46	972.36	862.35	770.99	693.91	602.97	521.88	430.76	345.01
135.0	1082.72	981.14	864.03	775.59	700.90	593.94	512.68	431.42	347.76
180.0	997.22	900.42	815.09	716.86	636.37	553.91	462.07	373.52	301.39
225.0	1187.53	1130.64	1009.94	902.81	820.95	731.97	649.28	553.85	462.19
270.0	1413.75	1282.30	1135.90	1028.94	932.74	839.53	752.89	671.03	576.02
315.0	1403.60	1181.55	1153.59	1020.10	924.38	840.72	750.44	656.45	571.78
360.0	1518.92	1375.51	1218.96	1105.43	1002.06	886.14	805.47	725.40	630.39
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	530.61	444.56	352.54	306.53	208.00	153.39	115.92	90.35	71.70
45.0	348.96	310.72	209.85	154.10	112.69	87.12	70.75	64.17	60.53
90.0	273.97	211.47	151.06	114.37	88.43	70.33	64.23	60.59	57.48
135.0	303.54	208.42	152.31	113.47	85.03	70.27	64.53	59.93	56.53
180.0	228.32	174.06	125.06	91.42	73.74	64.35	59.69	56.41	53.18
225.0	382.18	305.88	224.79	172.09	129.01	90.41	73.14	64.41	59.39
270.0	477.43	393.17	304.74	262.08	173.58	130.20	93.63	72.48	63.16
315.0	474.86	392.22	305.04	231.36	176.39	127.51	92.98	74.99	66.21
360.0	530.61	444.56	352.54	306.53	208.00	153.39	115.92	90.35	71.70
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	65.73	61.72	57.60	54.14	50.25	46.25	42.01	38.06	34.06
45.0	56.94	53.60	49.77	45.71	42.07	38.24	33.40	30.06	27.13
90.0	53.42	49.89	46.61	41.95	37.94	34.12	30.12	26.83	24.32
135.0	53.60	50.13	45.65	42.01	38.00	33.88	29.88	26.83	24.26
180.0	48.94	45.35	42.01	37.35	33.70	30.18	26.59	24.32	22.35
225.0	55.99	52.58	48.16	44.52	40.75	36.03	33.04	29.22	25.75
270.0	59.10	56.05	52.40	48.22	44.58	40.93	36.45	32.86	29.64
315.0	61.19	58.02	54.97	50.49	46.85	43.26	38.90	34.66	31.19
360.0	65.73	61.72	57.60	54.14	50.25	46.25	42.01	38.06	34.06

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	30.23	27.31	24.56	22.71	20.91	19.48	18.34	17.45	16.43
45.0	24.14	22.41	20.85	19.48	18.28	17.39	16.49	15.77	15.00
90.0	22.17	20.61	19.12	17.99	17.09	16.13	15.30	14.70	14.10
135.0	22.05	20.55	19.18	18.11	17.15	16.25	15.54	14.88	14.10
180.0	20.50	19.42	18.28	17.15	16.49	15.66	14.88	14.34	13.80
225.0	23.84	21.99	20.08	19.00	17.99	16.79	16.13	15.42	14.76
270.0	26.11	23.96	22.11	20.44	19.12	17.99	16.97	16.19	15.42
315.0	27.79	25.22	22.89	21.15	19.78	18.46	17.39	16.61	15.83
360.0	30.23	27.31	24.56	22.71	20.91	19.48	18.34	17.45	16.43
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	15.72	15.00	14.34	13.80	13.27	12.79	12.43	12.01	11.65
45.0	14.34	13.74	13.21	12.73	12.37	11.95	11.59	11.29	10.99
90.0	13.44	12.97	12.49	12.07	11.71	11.41	11.11	10.88	10.64
135.0	13.62	13.09	12.49	12.13	11.77	11.47	11.17	10.93	10.70
180.0	13.09	12.79	12.37	12.01	11.65	11.41	11.11	10.76	10.52
225.0	14.10	13.56	13.03	12.61	12.19	11.83	11.47	11.17	10.88
270.0	14.70	14.10	13.50	12.97	12.55	12.25	11.77	11.41	11.17
315.0	14.94	14.34	13.80	13.21	12.73	12.25	11.89	11.53	11.23
360.0	15.72	15.00	14.34	13.80	13.27	12.79	12.43	12.01	11.65
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	11.35	11.05	10.82	10.58	10.40	10.10	9.92	9.68	9.38
45.0	10.76	10.46	10.28	9.98	9.74	9.56	9.26	9.08	8.78
90.0	10.34	10.16	9.92	9.68	9.44	9.26	8.96	8.72	8.54
135.0	10.46	10.16	9.98	9.74	9.50	9.26	9.08	8.84	8.54
180.0	10.28	10.04	9.86	9.56	9.38	9.14	8.90	8.72	8.48
225.0	10.70	10.46	10.22	9.98	9.80	9.56	9.26	9.02	8.78
270.0	10.88	10.64	10.46	10.22	9.98	9.80	9.56	9.38	9.14
315.0	10.99	10.76	10.52	10.28	10.04	9.86	9.56	9.38	9.14
360.0	11.35	11.05	10.82	10.58	10.40	10.10	9.92	9.68	9.38
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	9.20	8.96	8.72	8.43	8.19	8.01	7.83	7.59	7.41
45.0	8.54	8.31	8.07	7.83	7.65	7.41	7.23	7.05	6.87
90.0	8.19	8.01	7.83	7.59	7.47	7.29	7.17	6.99	6.87
135.0	8.25	8.07	7.83	7.65	7.41	7.23	7.05	6.87	6.75
180.0	8.19	8.01	7.77	7.59	7.29	7.17	6.99	6.81	6.69
225.0	8.54	8.37	8.13	7.95	7.71	7.47	7.29	7.11	6.93
270.0	8.84	8.60	8.43	8.19	8.01	7.89	7.71	7.53	7.35
315.0	8.90	8.60	8.43	8.13	7.95	7.77	7.53	7.41	7.23
360.0	9.20	8.96	8.72	8.43	8.19	8.01	7.83	7.59	7.41
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	7.23	6.99	6.87	6.69	6.57	6.45	6.33	6.09	5.98
45.0	6.69	6.57	6.39	6.27	6.09	5.98	5.86	5.74	5.62
90.0	6.75	6.57	6.45	6.21	6.04	5.86	5.80	5.68	5.56
135.0	6.57	6.51	6.33	6.21	6.09	5.98	5.86	5.68	5.62
180.0	6.57	6.45	6.33	6.21	6.09	5.92	5.80	5.74	5.74
225.0	6.75	6.69	6.51	6.45	6.33	6.21	5.98	5.86	5.74
270.0	7.17	6.99	6.93	6.87	6.75	6.33	6.21	6.04	5.80
315.0	7.05	6.87	6.75	6.63	6.51	6.39	6.21	6.04	5.92
360.0	7.23	6.99	6.87	6.69	6.57	6.45	6.33	6.09	5.98

Intensity data(cd)

C/ γ (°)	90.0
0.0	5.86
45.0	5.62
90.0	5.62
135.0	5.62
180.0	5.68
225.0	5.62
270.0	5.68
315.0	5.74
360.0	5.86