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Nata

LumCAT: 4-2293-M
Luminaire: 92.70.135.00
Report No: GC2017122802
Test No: NT-0010
LampCAT: NICHIA NVEWJ048Z-V1
Lamp flux(lm): 3051.0
Number of Lamps: 1
Length(mm): 100
Phm Type: C

Voltage(V): 43.4000
Current(A): 0.5000
Power (W): 21.7000
PF: 0.0000
Ballast type: DC
Width(mm): 100
Height(mm): 0

Photometric Results

Lumens(lm): 2725.97
Efficiency(%): 89.35%
Lumens(lm)/Power(W): 125.62
Central intensity(cd): 32093.750
Maximum intensity(cd): 32093.750
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=10.9
 [C90/270]Total=10.9
Field angle(10%Imax): [C0/180]Total=23.3
 [C90/270]Total=23.3
Maximum s/h(1/2): C0_180=0.19 C90_270=0.19
Maximum s/h(1/4): C0_180=0.20 C90_270=0.20
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.35%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.497%

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2017/12/28
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.42

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	32093.752	0.000	0	.000%	.000%
1.0	31337.414	30.351	30.351	.995%	1.113%
2.0	29083.543	86.722	117.073	2.842%	4.295%
3.0	25963.910	131.655	248.728	4.315%	9.124%
4.0	22434.795	162.006	410.734	5.310%	15.067%
5.0	17796.844	173.074	583.808	5.673%	21.417%
6.0	13995.199	167.076	750.884	5.476%	27.546%
7.0	10561.125	152.421	903.305	4.996%	33.137%
8.0	8319.091	135.122	1038.427	4.429%	38.094%
9.0	6306.435	118.532	1156.959	3.885%	42.442%
10.0	4835.191	100.828	1257.786	3.305%	46.141%
11.0	3691.119	85.195	1342.982	2.792%	49.266%
12.0	2959.901	72.705	1415.687	2.383%	51.933%
13.0	2410.989	63.739	1479.426	2.089%	54.272%
14.0	1908.943	55.295	1534.72	1.812%	56.300%
15.0	1660.432	49.002	1583.722	1.606%	58.098%
16.0	1493.749	46.218	1629.94	1.515%	59.793%
17.0	1368.083	44.566	1674.506	1.461%	61.428%
18.0	1288.044	43.794	1718.3	1.435%	63.035%
19.0	1232.782	43.857	1762.157	1.437%	64.643%
20.0	1184.470	44.242	1806.4	1.450%	66.266%
21.0	1144.795	44.727	1851.126	1.466%	67.907%
22.0	1112.449	45.360	1896.487	1.487%	69.571%
23.0	1086.428	46.138	1942.625	1.512%	71.264%
24.0	1062.589	46.985	1989.61	1.540%	72.987%
25.0	1044.420	47.909	2037.519	1.570%	74.745%
26.0	1027.717	48.913	2086.432	1.603%	76.539%
27.0	1012.047	49.903	2136.335	1.636%	78.370%
28.0	996.053	50.841	2187.176	1.666%	80.235%
29.0	979.543	51.687	2238.863	1.694%	82.131%
30.0	962.599	52.437	2291.301	1.719%	84.055%
31.0	946.275	53.121	2344.422	1.741%	86.003%
32.0	920.096	53.469	2397.891	1.753%	87.965%
33.0	870.586	52.754	2450.646	1.729%	89.900%
34.0	784.265	50.081	2500.726	1.641%	91.737%
35.0	654.153	44.672	2545.398	1.464%	93.376%
36.0	509.416	37.048	2582.446	1.214%	94.735%
37.0	379.366	28.987	2611.433	.950%	95.798%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	254.512	21.158	2632.591	.693%	96.575%
39.0	134.523	13.279	2645.87	.435%	97.062%
40.0	61.119	6.823	2652.694	.224%	97.312%
41.0	37.101	3.498	2656.191	.115%	97.440%
42.0	28.554	2.385	2658.577	.078%	97.528%
43.0	23.543	1.930	2660.506	.063%	97.599%
44.0	20.963	1.680	2662.186	.055%	97.660%
45.0	19.476	1.554	2663.74	.051%	97.717%
46.0	18.877	1.500	2665.24	.049%	97.772%
47.0	18.403	1.483	2666.723	.049%	97.827%
48.0	17.914	1.468	2668.191	.048%	97.881%
49.0	17.494	1.454	2669.645	.048%	97.934%
50.0	17.067	1.441	2671.086	.047%	97.987%
51.0	16.668	1.427	2672.513	.047%	98.039%
52.0	16.352	1.417	2673.93	.046%	98.091%
53.0	16.021	1.408	2675.339	.046%	98.143%
54.0	15.698	1.398	2676.737	.046%	98.194%
55.0	15.443	1.390	2678.127	.046%	98.245%
56.0	15.189	1.384	2679.511	.045%	98.296%
57.0	14.948	1.378	2680.889	.045%	98.346%
58.0	14.741	1.373	2682.262	.045%	98.397%
59.0	14.562	1.370	2683.632	.045%	98.447%
60.0	14.356	1.366	2684.998	.045%	98.497%
61.0	14.184	1.362	2686.36	.045%	98.547%
62.0	14.060	1.361	2687.721	.045%	98.597%
63.0	13.909	1.360	2689.081	.045%	98.647%
64.0	13.785	1.359	2690.44	.045%	98.697%
65.0	13.661	1.358	2691.798	.045%	98.747%
66.0	13.544	1.357	2693.156	.044%	98.796%
67.0	13.468	1.358	2694.514	.045%	98.846%
68.0	13.351	1.359	2695.872	.045%	98.896%
69.0	13.275	1.358	2697.231	.045%	98.946%
70.0	13.207	1.360	2698.591	.045%	98.996%
71.0	13.145	1.362	2699.953	.045%	99.046%
72.0	13.069	1.363	2701.316	.045%	99.096%
73.0	13.021	1.364	2702.68	.045%	99.146%
74.0	12.959	1.366	2704.046	.045%	99.196%
75.0	12.897	1.366	2705.412	.045%	99.246%

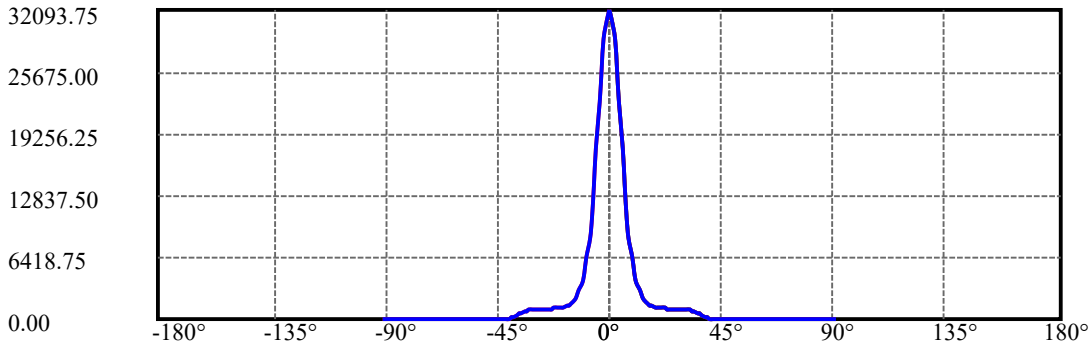
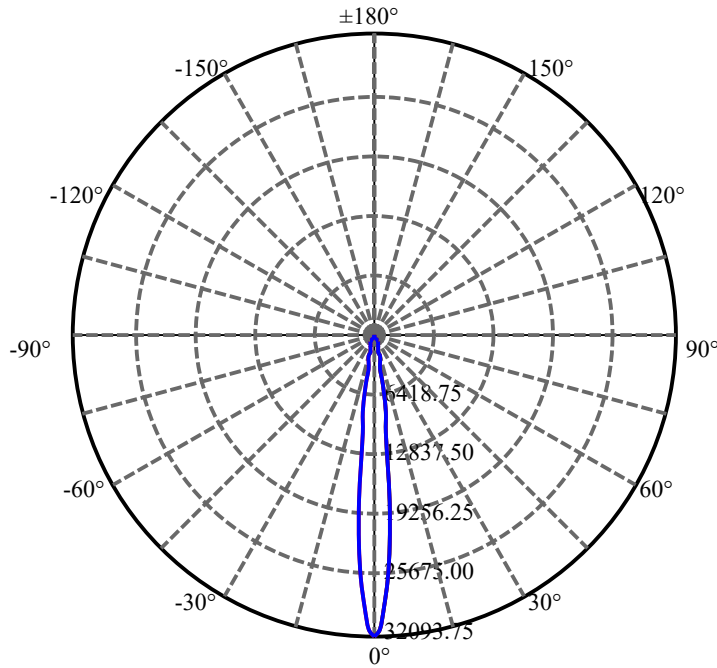
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	12.856	1.367	2706.779	.045%	99.296%
77.0	12.821	1.369	2708.148	.045%	99.346%
78.0	12.773	1.370	2709.518	.045%	99.397%
79.0	12.739	1.371	2710.889	.045%	99.447%
80.0	12.711	1.372	2712.261	.045%	99.497%
81.0	12.670	1.373	2713.634	.045%	99.548%
82.0	12.642	1.373	2715.006	.045%	99.598%
83.0	12.622	1.373	2716.38	.045%	99.648%
84.0	12.594	1.374	2717.753	.045%	99.699%
85.0	12.567	1.373	2719.127	.045%	99.749%
86.0	12.525	1.372	2720.498	.045%	99.799%
87.0	12.505	1.370	2721.868	.045%	99.850%
88.0	12.463	1.368	2723.236	.045%	99.900%
89.0	12.450	1.366	2724.601	.045%	99.950%
90.0	12.443	1.365	2725.966	.045%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2291.30	75.10%	84.05%
0-40	2652.69	86.95%	97.31%
0-60	2685.00	88.00%	98.50%
0-90	2724.60	89.30%	99.95%
0-120	2724.60	89.30%	99.95%
0-180	2725.97	89.35%	100.00%
60-90	40.97	1.34%	1.50%
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%
0-27.87	2180.77	71.48%	80.00%

ZONAL LUMEN SUMMARY

0-10	1257.79
10-20	548.61
20-30	484.90
30-40	361.39
40-50	18.39
50-60	13.91
60-70	13.59
70-80	13.67
80-90	12.34
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



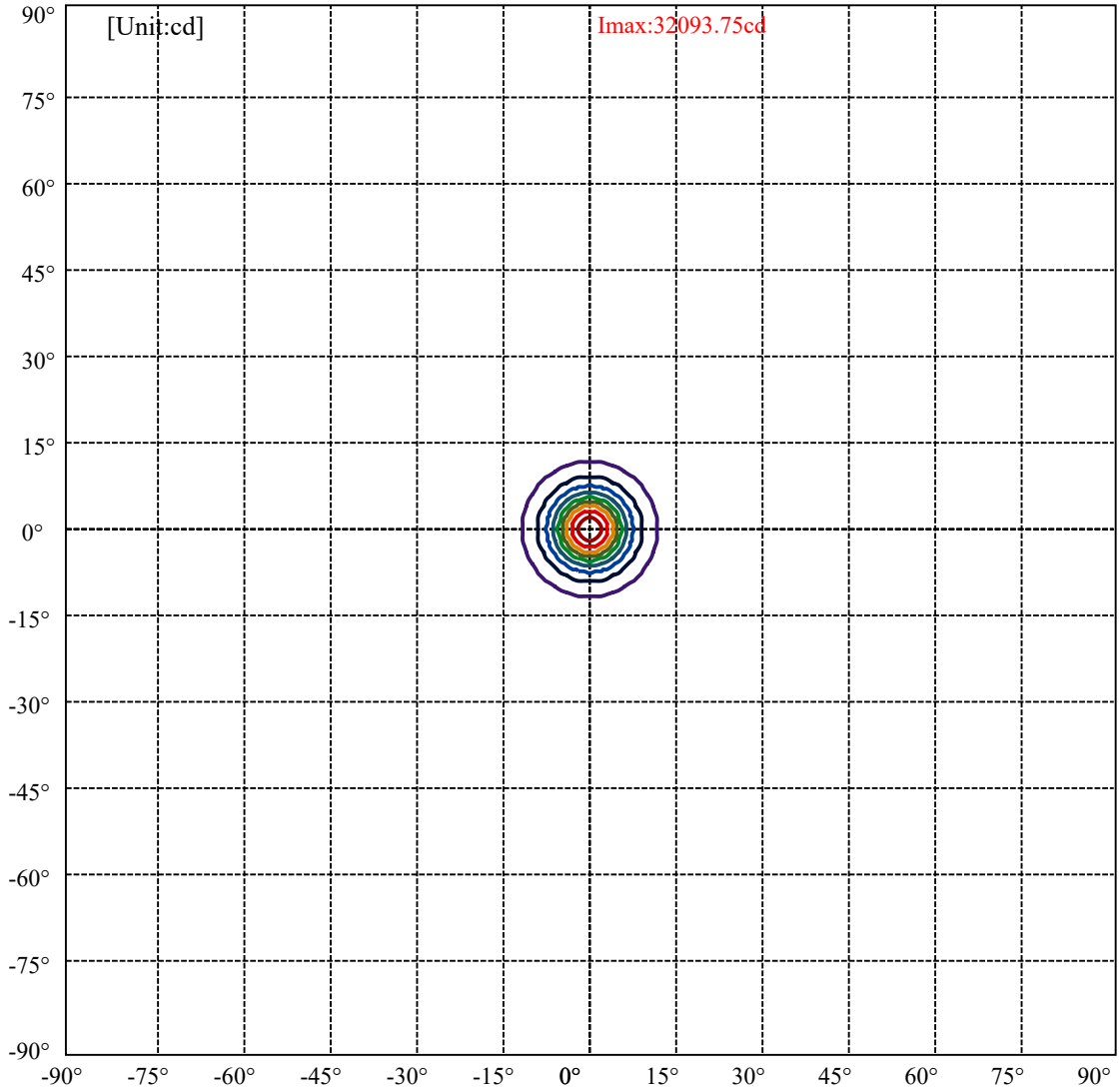
C0(Max): —————

C0/C180: —————

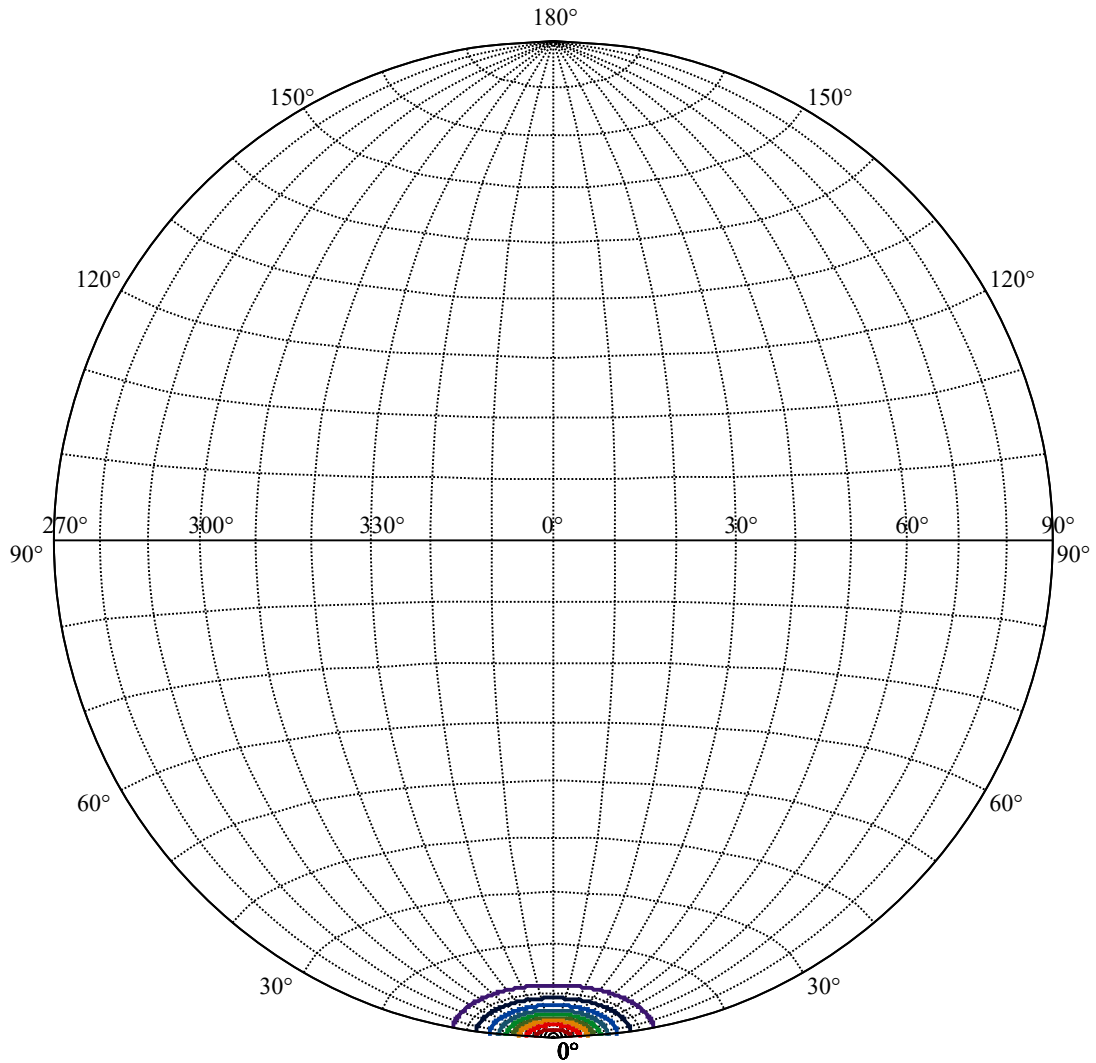
C90/C270: —————

Field angle(10%Imax):C0/180Left:11.7 Right:11.7
:C90/270Left:11.7 Right:11.7

Beam Angle(50%Imax):C0/180Left:5.5 Right:5.5
:C90/270Left:5.5 Right:5.5



(10%I _{max}) 3209.38	—
(20%I _{max}) 6418.75	—
(30%I _{max}) 9628.13	—
(40%I _{max}) 12837.5	—
(50%I _{max}) 16046.9	—
(60%I _{max}) 19256.3	—
(70%I _{max}) 22465.6	—
(80%I _{max}) 25675	—
(90%I _{max}) 28884.4	—



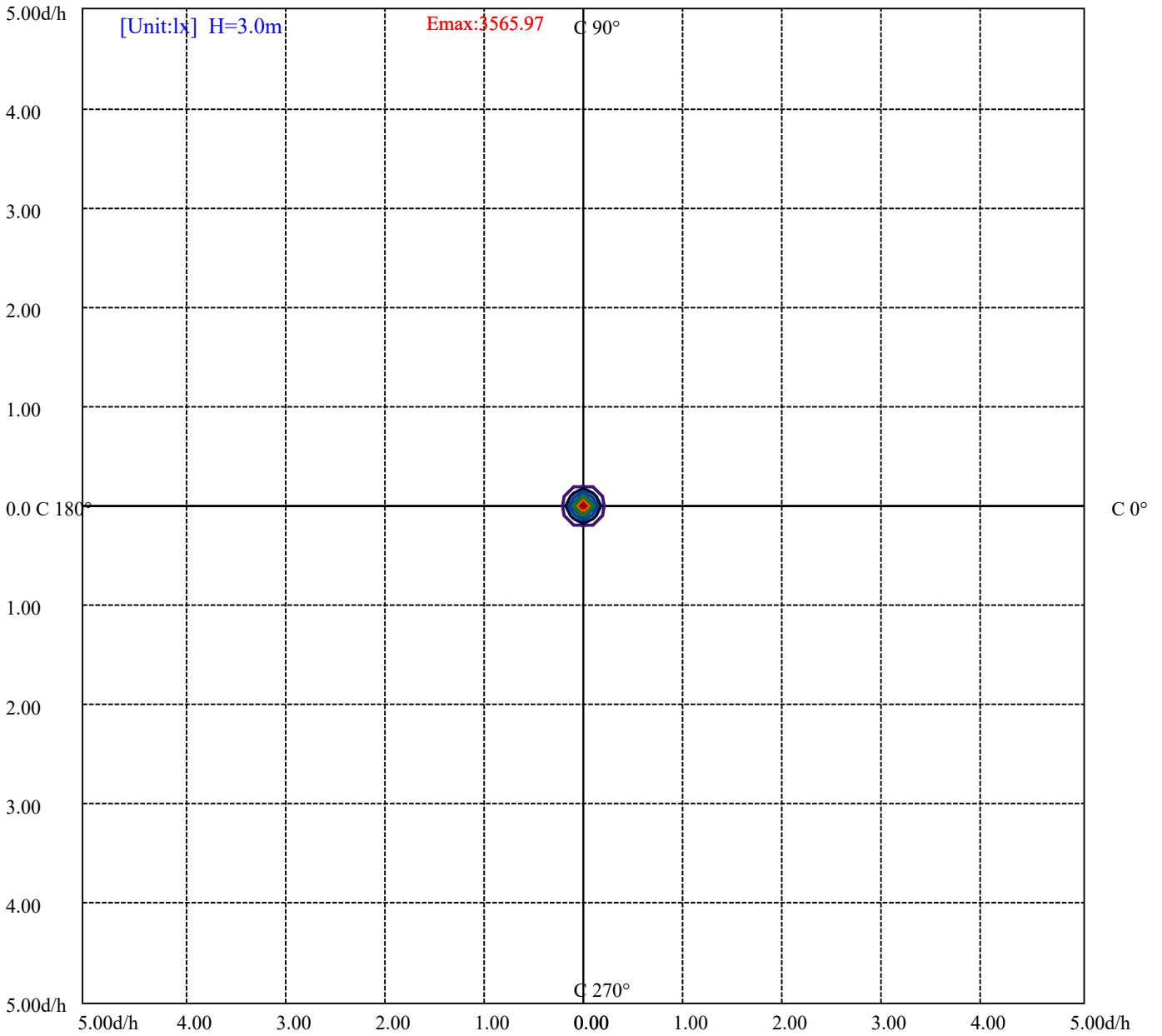
House

[Unit:cd]

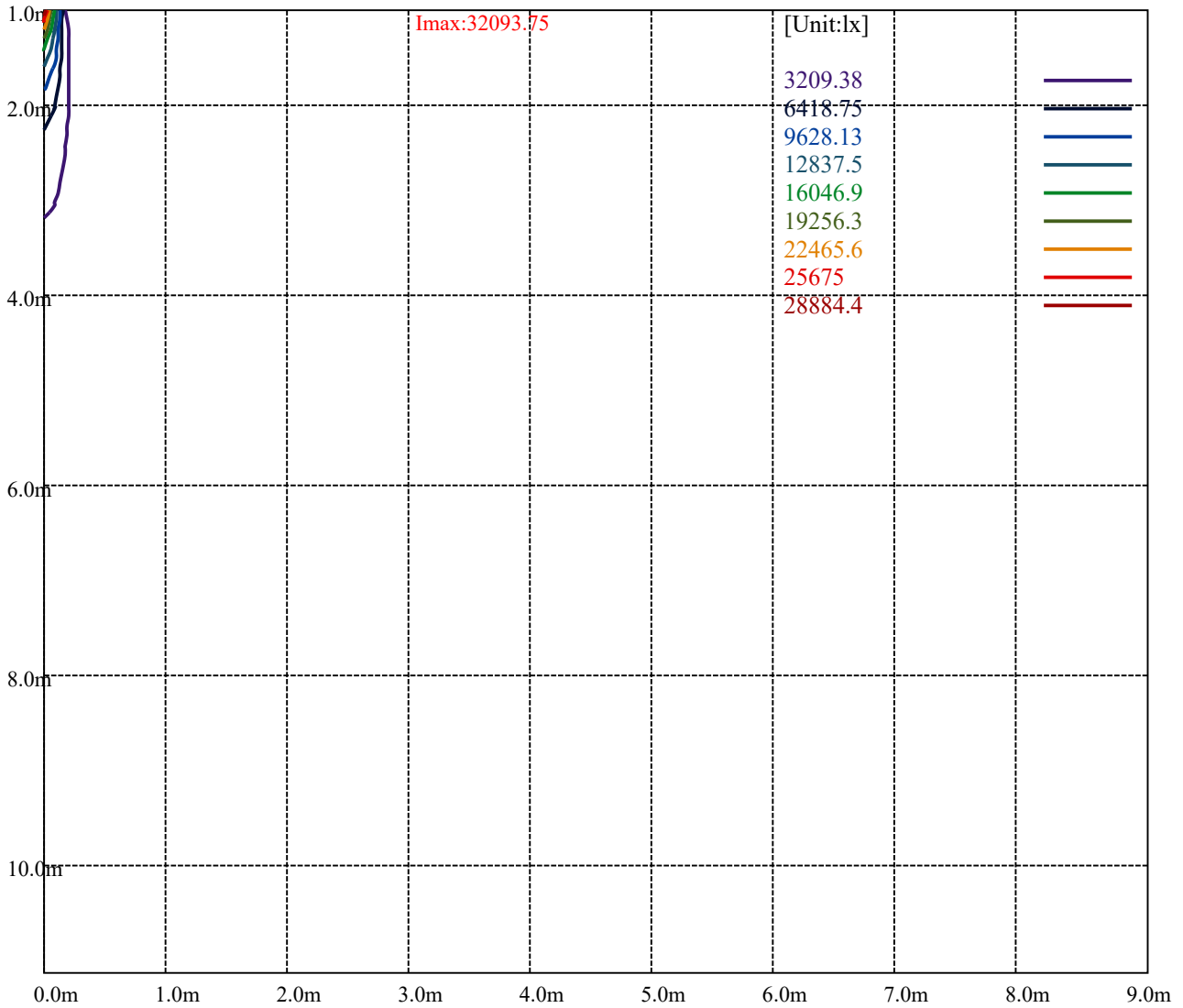
Road

Imax:32093.75

(10%Imax)	3209.38	—
(20%Imax)	6418.75	—
(30%Imax)	9628.13	—
(40%Imax)	12837.5	—
(50%Imax)	16046.9	—
(60%Imax)	19256.3	—
(70%Imax)	22465.6	—
(80%Imax)	25675	—
(90%Imax)	28884.4	—



- (10%Emax) 356.5956
- (20%Emax) 713.1922
- (30%Emax) 1069.788
- (40%Emax) 1426.389
- (50%Emax) 1782.978
- (60%Emax) 2139.578
- (70%Emax) 2496.167
- (80%Emax) 2852.767
- (90%Emax) 3209.367



Luminance Table

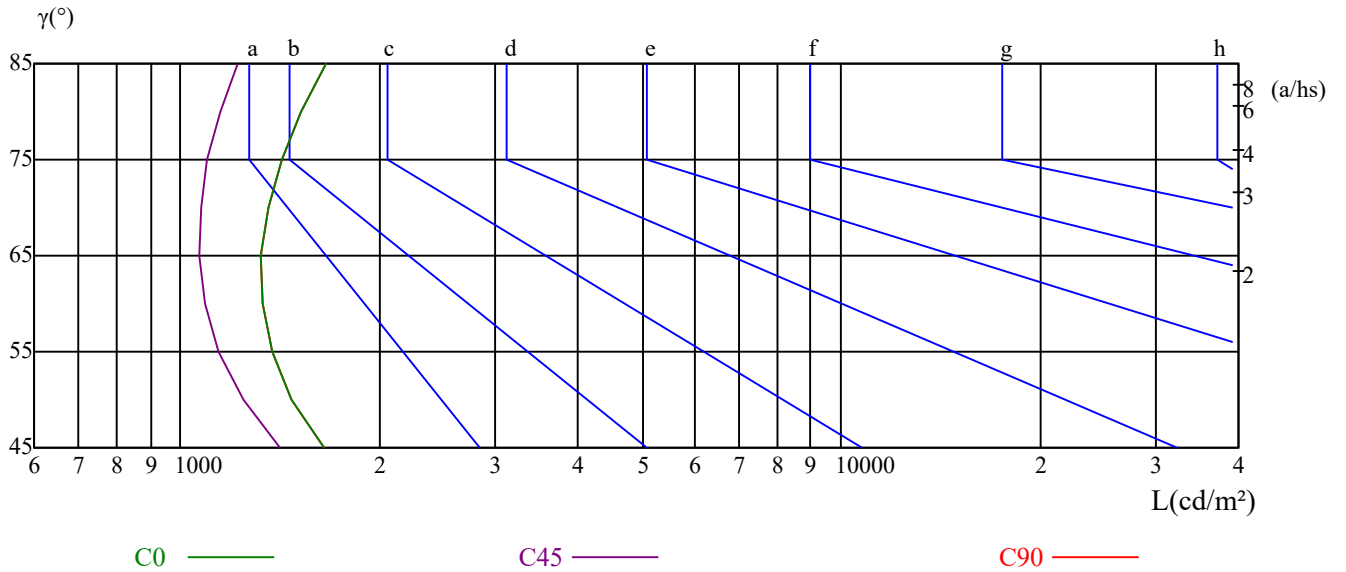
γ	45	50	55	60	65	70	75	80	85
C0	1649	1476	1376	1329	1326	1359	1424	1525	1665
C45	1414	1247	1144	1087	1066	1072	1098	1148	1219
C90	1649	1476	1376	1329	1326	1359	1424	1525	1665

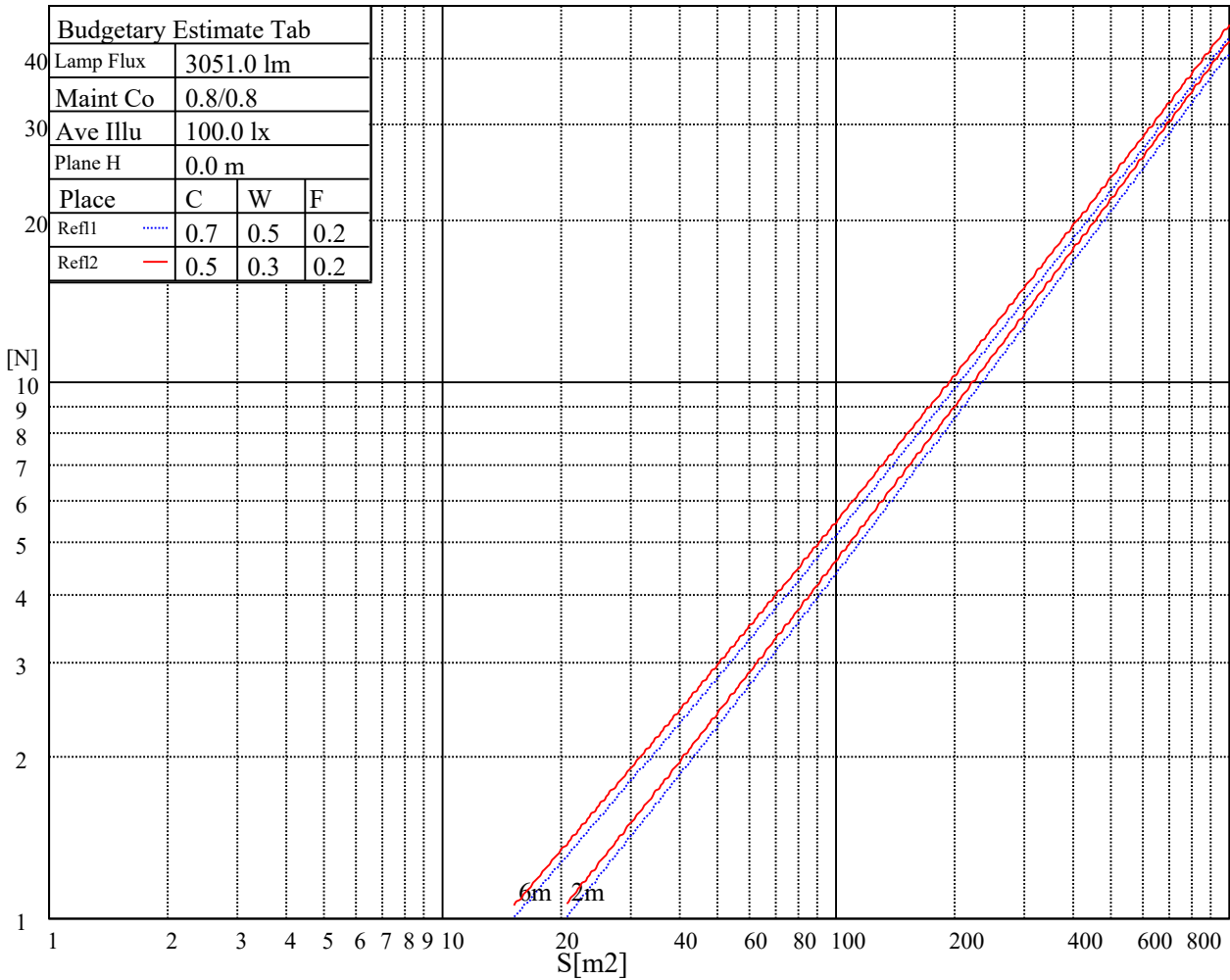
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3232	3232	3232	4983	4983	4983	14419	14419	14419

Glare Table

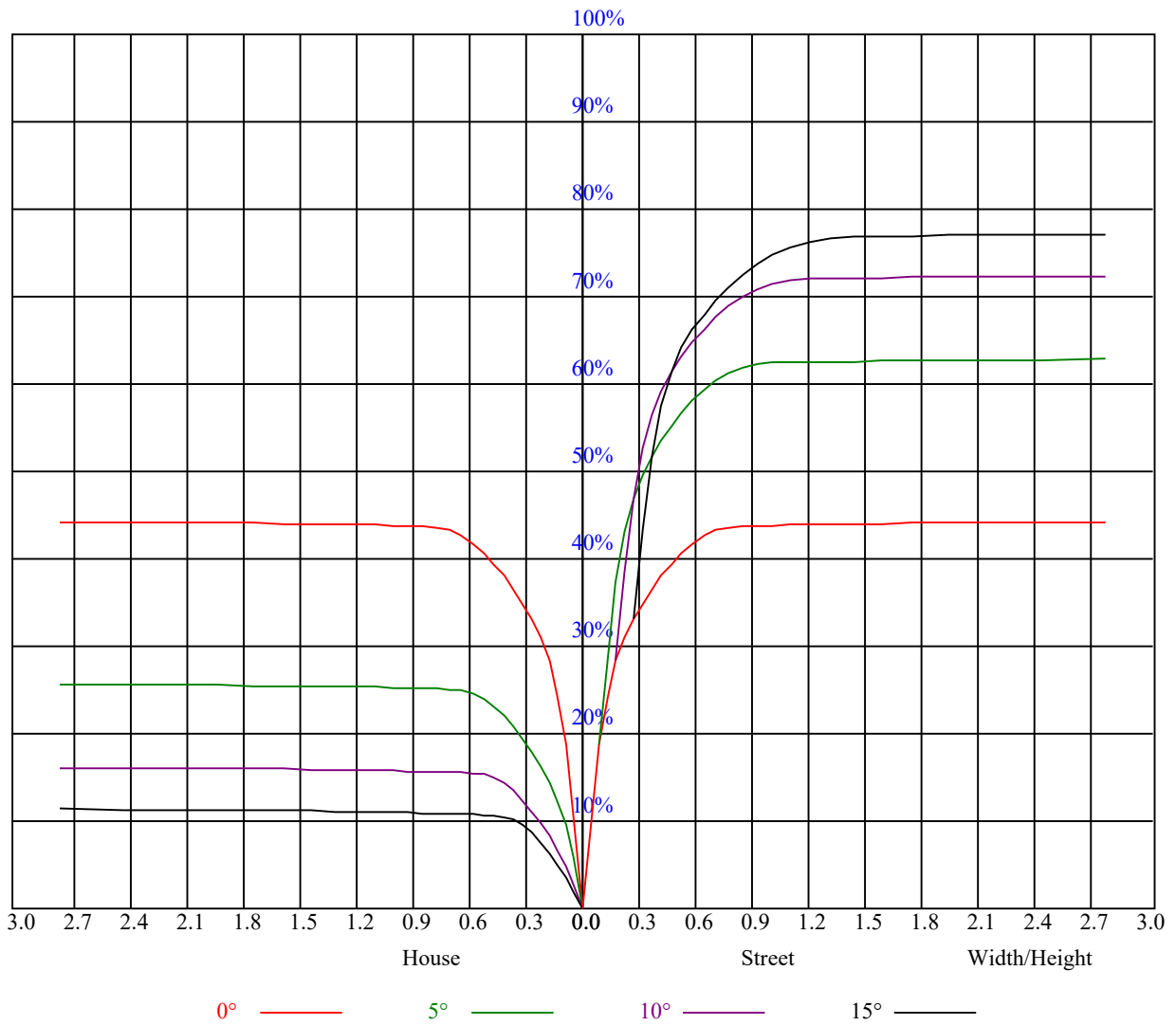
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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 RHOF=20 CU															
0	1.06	1.06	1.06	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.89
1	1.00	0.98	0.97	0.98	0.97	0.95	0.95	0.94	0.92	0.92	0.91	0.90	0.89	0.88	0.87	0.86
2	0.95	0.92	0.90	0.94	0.91	0.89	0.91	0.89	0.87	0.88	0.87	0.85	0.86	0.85	0.83	0.82
3	0.91	0.87	0.85	0.90	0.87	0.84	0.87	0.85	0.83	0.85	0.83	0.81	0.84	0.82	0.80	0.79
4	0.87	0.83	0.80	0.86	0.83	0.80	0.84	0.81	0.79	0.83	0.80	0.78	0.81	0.79	0.77	0.76
5	0.84	0.80	0.77	0.83	0.79	0.77	0.82	0.78	0.76	0.80	0.77	0.75	0.79	0.77	0.75	0.74
6	0.81	0.77	0.74	0.80	0.76	0.74	0.79	0.76	0.73	0.78	0.75	0.73	0.77	0.74	0.72	0.71
7	0.78	0.74	0.71	0.78	0.74	0.71	0.77	0.73	0.71	0.76	0.73	0.71	0.75	0.72	0.70	0.69
8	0.76	0.72	0.69	0.75	0.72	0.69	0.74	0.71	0.69	0.74	0.71	0.68	0.73	0.70	0.68	0.67
9	0.73	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.66
10	0.71	0.68	0.65	0.71	0.68	0.65	0.70	0.67	0.65	0.70	0.67	0.65	0.69	0.67	0.65	0.64



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	32483.28	31387.65	28464.16	25425.05	21868.40	17618.05	13769.61	10890.16	8236.44
45.0	32219.01	29906.64	26586.74	23074.14	18763.22	15046.91	11484.77	8627.34	6683.85
90.0	31497.77	29295.51	25859.99	21747.28	17750.18	10674.33	9991.64	7689.73	5959.30
135.0	32174.96	31530.80	29146.86	25733.36	22176.72	17816.25	14094.44	10609.37	7994.19
180.0	32483.28	32031.81	29862.59	26729.88	23387.96	19225.69	15140.51	10908.32	8761.68
225.0	32219.01	32846.65	31943.72	29130.34	26008.64	22248.29	17276.70	10964.48	10623.13
270.0	31497.77	32461.25	31888.67	29802.03	27021.68	22231.77	17540.97	14028.37	9976.22
315.0	32174.96	31239.00	28915.62	26069.21	22501.55	17513.44	12662.97	10771.23	8317.92
360.0	32483.28	31387.65	28464.16	25425.05	21868.40	17618.05	13769.61	10890.16	8236.44
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	6188.34	4800.92	3628.22	2862.93	2471.48	1868.61	1631.87	1474.96	1347.23
45.0	5032.15	3798.89	2984.06	2818.89	2012.86	1688.03	1521.21	1407.24	1303.74
90.0	4493.70	3437.72	2752.82	2211.62	1849.90	1634.07	1469.46	1366.50	1279.51
135.0	6232.38	4723.84	3606.19	2868.44	2796.87	1888.43	1652.79	1490.38	1367.05
180.0	6983.35	5207.78	3790.63	3068.29	2395.50	1911.01	1689.13	1516.25	1362.10
225.0	7966.11	5963.71	4631.34	3511.50	2709.33	2216.02	1845.49	1627.47	1466.15
270.0	7531.72	6078.23	4487.10	3551.14	2846.42	2196.20	1852.65	1607.10	1454.04
315.0	6023.72	4670.43	3648.59	2786.40	2205.56	1869.16	1620.86	1460.10	1364.85
360.0	6188.34	4800.92	3628.22	2862.93	2471.48	1868.61	1631.87	1474.96	1347.23
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1274.01	1222.80	1176.56	1146.27	1119.30	1095.07	1069.20	1052.13	1036.16
45.0	1240.42	1196.38	1151.78	1122.60	1099.48	1073.05	1052.13	1035.06	1018.54
90.0	1216.20	1174.35	1141.87	1098.10	1081.42	1060.94	1039.46	1024.38	1009.18
135.0	1272.35	1219.50	1169.40	1130.31	1103.88	1076.35	1055.43	1035.61	1020.20
180.0	1291.07	1228.31	1177.11	1136.36	1096.67	1078.50	1052.51	1034.79	1018.87
225.0	1360.99	1291.07	1237.67	1182.61	1145.72	1097.05	1075.14	1056.15	1038.42
270.0	1364.30	1296.03	1233.26	1191.97	1155.63	1122.05	1092.87	1070.85	1049.37
315.0	1285.02	1233.81	1188.12	1150.13	1097.49	1088.41	1063.96	1046.40	1030.99
360.0	1274.01	1222.80	1176.56	1146.27	1119.30	1095.07	1069.20	1052.13	1036.16
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	1020.20	1005.88	991.02	973.95	957.98	942.57	901.27	814.83	681.05
45.0	1004.78	986.06	967.34	953.58	934.86	895.77	815.39	706.92	548.91
90.0	992.56	971.86	956.99	939.54	919.11	850.40	734.07	610.30	465.34
135.0	1007.53	996.52	974.50	959.63	943.67	922.75	876.50	786.76	666.73
180.0	1002.85	985.62	970.04	950.27	936.67	920.10	894.23	821.77	698.23
225.0	1021.13	1005.05	991.84	973.23	958.09	940.97	921.31	867.41	758.95
270.0	1033.41	1017.99	1002.58	985.51	968.99	952.48	934.86	884.76	758.68
315.0	1013.92	999.44	982.04	965.08	950.82	935.74	887.07	781.36	655.34
360.0	1020.20	1005.88	991.02	973.95	957.98	942.57	901.27	814.83	681.05
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	530.19	393.65	288.50	111.43	50.21	36.78	28.13	23.89	20.81
45.0	415.68	292.90	155.31	63.15	37.77	29.79	24.06	20.81	19.77
90.0	319.99	200.41	101.58	40.91	33.09	25.77	21.91	19.60	19.10
135.0	504.87	382.09	293.45	123.82	50.21	34.41	26.59	21.86	19.27
180.0	552.11	423.93	294.94	153.06	71.13	37.82	30.06	23.56	20.76
225.0	618.89	483.29	345.70	190.72	100.15	47.68	34.85	26.87	22.79
270.0	632.05	494.96	338.05	287.94	96.84	47.18	34.63	27.69	23.56
315.0	501.56	363.70	218.57	105.16	49.55	37.38	28.19	24.06	21.64
360.0	530.19	393.65	288.50	111.43	50.21	36.78	28.13	23.89	20.81

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	20.15	19.49	18.94	18.44	18.00	17.51	17.07	16.74	16.35
45.0	19.21	18.66	18.17	17.78	17.40	16.96	16.63	16.35	16.02
90.0	18.55	18.06	17.73	17.23	16.96	16.52	16.13	15.86	15.64
135.0	18.61	18.11	17.73	17.23	16.90	16.52	16.13	15.86	15.58
180.0	18.77	18.22	17.78	17.34	16.96	16.63	16.24	15.97	15.69
225.0	19.99	19.21	18.66	18.17	17.67	17.18	16.79	16.41	16.08
270.0	20.48	19.82	19.27	18.66	18.11	17.67	17.23	16.85	16.46
315.0	20.04	19.43	18.94	18.44	17.95	17.56	17.12	16.79	16.35
360.0	20.15	19.49	18.94	18.44	18.00	17.51	17.07	16.74	16.35
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	16.08	15.75	15.53	15.14	14.92	14.76	14.53	14.37	14.20
45.0	15.75	15.53	15.25	15.03	14.81	14.65	14.42	14.26	14.15
90.0	15.31	15.09	14.87	14.65	14.48	14.31	14.15	13.98	13.87
135.0	15.31	15.09	14.87	14.70	14.48	14.31	14.15	13.98	13.87
180.0	15.31	15.09	14.87	14.65	14.48	14.26	14.09	13.93	13.82
225.0	15.75	15.53	15.25	15.03	14.81	14.59	14.42	14.20	14.09
270.0	16.08	15.80	15.53	15.25	15.03	14.87	14.59	14.42	14.26
315.0	16.02	15.69	15.36	15.14	14.92	14.76	14.48	14.31	14.20
360.0	16.08	15.75	15.53	15.14	14.92	14.76	14.53	14.37	14.20
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	14.04	13.93	13.82	13.65	13.54	13.43	13.38	13.27	13.21
45.0	14.04	13.87	13.71	13.60	13.54	13.38	13.32	13.27	13.21
90.0	13.76	13.65	13.54	13.43	13.38	13.27	13.16	13.10	13.05
135.0	13.71	13.60	13.49	13.38	13.32	13.21	13.16	13.10	12.99
180.0	13.71	13.54	13.49	13.38	13.32	13.21	13.16	13.10	13.05
225.0	13.93	13.76	13.65	13.54	13.49	13.38	13.32	13.21	13.16
270.0	14.09	13.98	13.82	13.71	13.60	13.49	13.38	13.32	13.27
315.0	13.98	13.93	13.76	13.65	13.54	13.43	13.32	13.27	13.21
360.0	14.04	13.93	13.82	13.65	13.54	13.43	13.38	13.27	13.21
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	13.16	13.10	12.99	12.94	12.88	12.88	12.83	12.77	12.77
45.0	13.10	13.05	12.99	12.88	12.88	12.83	12.77	12.72	12.72
90.0	12.99	12.94	12.88	12.83	12.83	12.77	12.72	12.72	12.66
135.0	12.99	12.94	12.88	12.83	12.77	12.77	12.72	12.72	12.66
180.0	12.94	12.94	12.88	12.83	12.77	12.77	12.72	12.66	12.66
225.0	13.10	13.05	12.99	12.94	12.88	12.83	12.77	12.77	12.72
270.0	13.16	13.10	13.05	12.99	12.94	12.88	12.88	12.83	12.77
315.0	13.10	13.05	12.99	12.94	12.88	12.83	12.77	12.72	12.72
360.0	13.16	13.10	12.99	12.94	12.88	12.88	12.83	12.77	12.77
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	12.72	12.66	12.61	12.61	12.61	12.55	12.50	12.44	12.44
45.0	12.66	12.66	12.61	12.55	12.55	12.50	12.50	12.44	12.44
90.0	12.66	12.61	12.61	12.61	12.55	12.50	12.50	12.44	12.44
135.0	12.61	12.61	12.61	12.55	12.55	12.50	12.50	12.50	12.44
180.0	12.66	12.55	12.61	12.55	12.50	12.50	12.50	12.44	12.44
225.0	12.66	12.66	12.66	12.61	12.61	12.55	12.50	12.50	12.44
270.0	12.72	12.72	12.66	12.66	12.61	12.55	12.55	12.50	12.50
315.0	12.66	12.66	12.61	12.61	12.55	12.55	12.50	12.44	12.44
360.0	12.72	12.66	12.61	12.61	12.61	12.55	12.50	12.44	12.44

Intensity data(cd)

C/γ($^{\circ}$)	90.0
0.0	12.44
45.0	12.44
90.0	12.44
135.0	12.44
180.0	12.44
225.0	12.44
270.0	12.44
315.0	12.44
360.0	12.44