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Nata

LumCAT: 3-2033-M	
Luminaire: 92.70.135.00	
Report No: NATA0100	Voltage(V): 0.0000
Test No: GC2018062007	Current(A): 0.0000
LampCAT: NICHIA NFCW108B-V3	Power (W): 0.0000
Lamp flux(lm): 2255.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 79	Width(mm): 79
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 2007.33
Efficiency(%): 89.02%
Lumens(lm)/Power(W): 0.00
Central intensity(cd): 15016.630
Maximum intensity(cd): 15016.630
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=15.3
 [C90/270]Total=15.3
Field angle(10%Imax): [C0/180]Total=30.9
 [C90/270]Total=30.9
Maximum s/h(1/2): C0_180=0.26 C90_270=0.26
Maximum s/h(1/4): C0_180=0.27 C90_270=0.27
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.64%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.018%

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2018/6/20
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	15016.633	14.370	14.37	.637%	.716%
2.0	14345.633	109.800	124.171	4.869%	6.186%
4.0	12334.354	188.697	312.868	8.368%	15.586%
6.0	9693.436	222.217	535.085	9.854%	26.657%
8.0	7016.250	214.154	749.239	9.497%	37.325%
10.0	4448.007	169.395	918.634	7.512%	45.764%
12.0	2880.344	131.337	1049.972	5.824%	52.307%
14.0	1891.738	100.369	1150.341	4.451%	57.307%
16.0	1355.936	81.968	1232.309	3.635%	61.390%
18.0	1101.025	74.618	1306.927	3.309%	65.108%
20.0	950.205	71.274	1378.201	3.161%	68.658%
22.0	852.163	70.011	1448.212	3.105%	72.146%
24.0	790.988	70.558	1518.77	3.129%	75.661%
26.0	748.691	71.980	1590.75	3.192%	79.247%
28.0	714.790	73.596	1664.346	3.264%	82.913%
30.0	687.696	75.410	1739.756	3.344%	86.670%
32.0	628.035	72.989	1812.745	3.237%	90.306%
34.0	514.826	63.137	1875.883	2.800%	93.452%
36.0	367.591	47.386	1923.269	2.101%	95.812%
38.0	207.900	28.071	1951.34	1.245%	97.211%
40.0	78.682	11.092	1962.432	.492%	97.763%
42.0	23.131	3.394	1965.826	.151%	97.932%
44.0	13.695	2.086	1967.913	.093%	98.036%
46.0	10.929	1.724	1969.637	.076%	98.122%
48.0	10.220	1.666	1971.302	.074%	98.205%
50.0	9.869	1.658	1972.96	.074%	98.288%
52.0	9.607	1.660	1974.621	.074%	98.370%
54.0	9.387	1.666	1976.286	.074%	98.453%
56.0	9.201	1.673	1977.959	.074%	98.537%
58.0	9.057	1.684	1979.644	.075%	98.621%
60.0	8.933	1.697	1981.34	.075%	98.705%
62.0	8.830	1.710	1983.05	.076%	98.790%
64.0	8.740	1.723	1984.773	.076%	98.876%
66.0	8.692	1.741	1986.515	.077%	98.963%
68.0	8.616	1.752	1988.267	.078%	99.050%
70.0	8.582	1.769	1990.035	.078%	99.138%
72.0	8.554	1.784	1991.82	.079%	99.227%
74.0	8.513	1.795	1993.614	.080%	99.317%

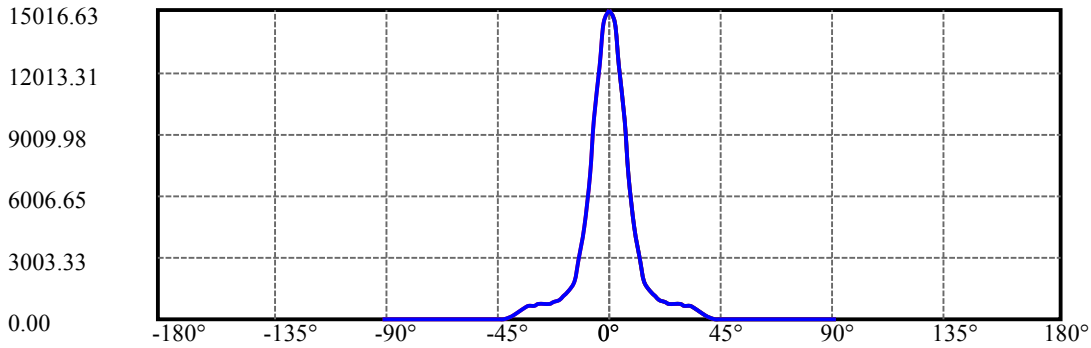
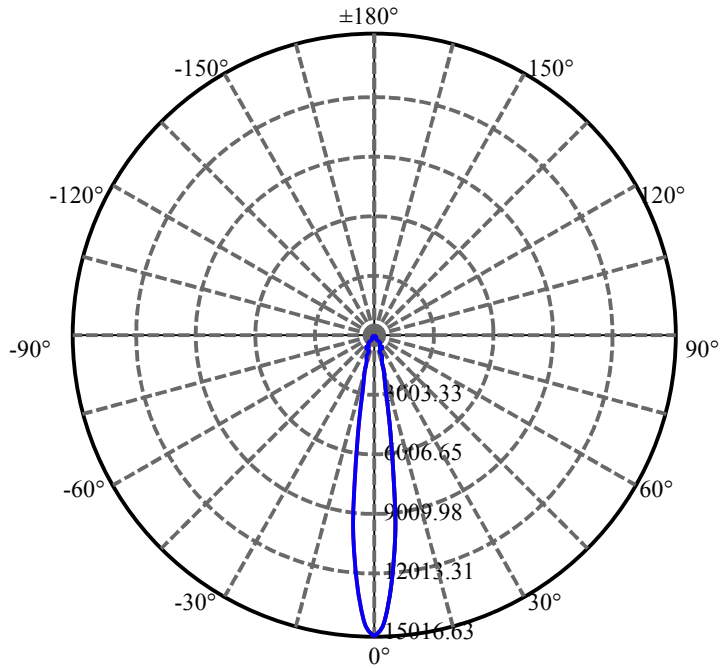
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	8.499	1.809	1995.423	.080%	99.407%
78.0	8.472	1.817	1997.24	.081%	99.497%
80.0	8.451	1.825	1999.066	.081%	99.588%
82.0	8.437	1.832	2000.898	.081%	99.679%
84.0	8.417	1.836	2002.734	.081%	99.771%
86.0	8.410	1.840	2004.574	.082%	99.863%
88.0	8.389	1.839	2006.412	.082%	99.954%
90.0	8.389	0.920	2007.332	.041%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1739.76	77.15%	86.67%
0-40	1962.43	87.03%	97.76%
0-60	1981.34	87.86%	98.71%
0-90	2006.41	88.98%	99.95%
0-120	2006.41	88.98%	99.95%
0-180	2007.33	89.02%	100.00%
60-90	26.77	1.19%	1.33%
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%
0-26.41	1605.87	71.21%	80.00%

ZONAL LUMEN SUMMARY

0-10	918.63
10-20	459.57
20-30	361.55
30-40	222.68
40-50	10.53
50-60	8.38
60-70	8.69
70-80	9.03
80-90	7.35
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



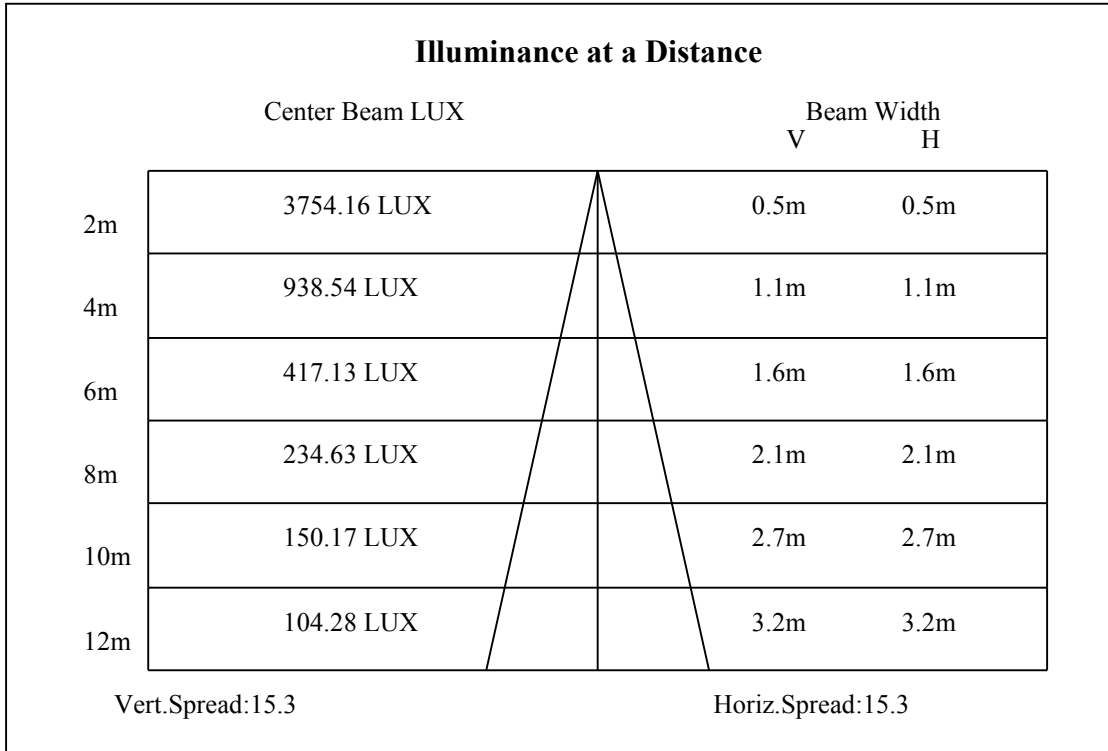
C0(Max): —————

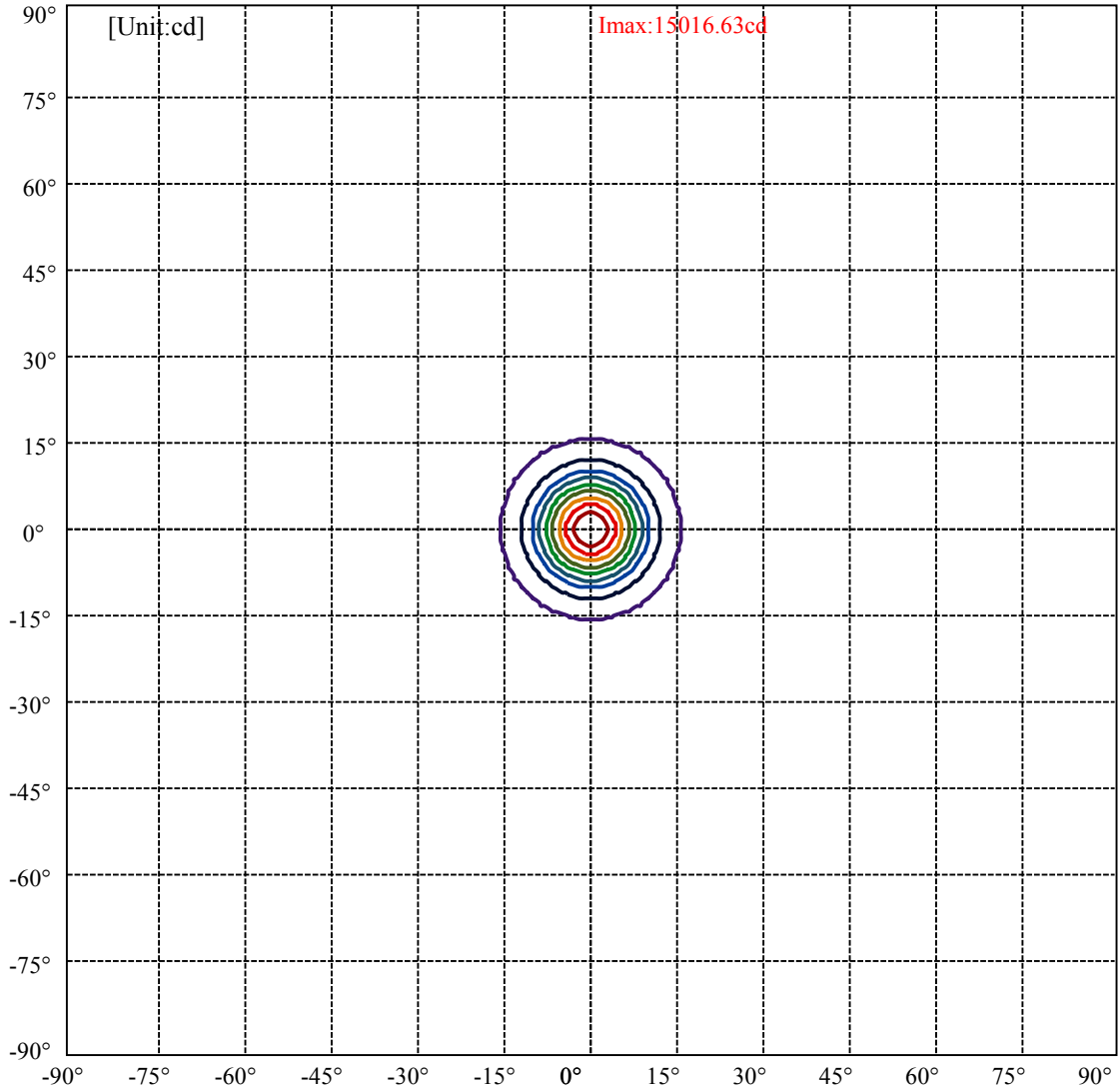
C0/C180: —————

C90/C270: —————

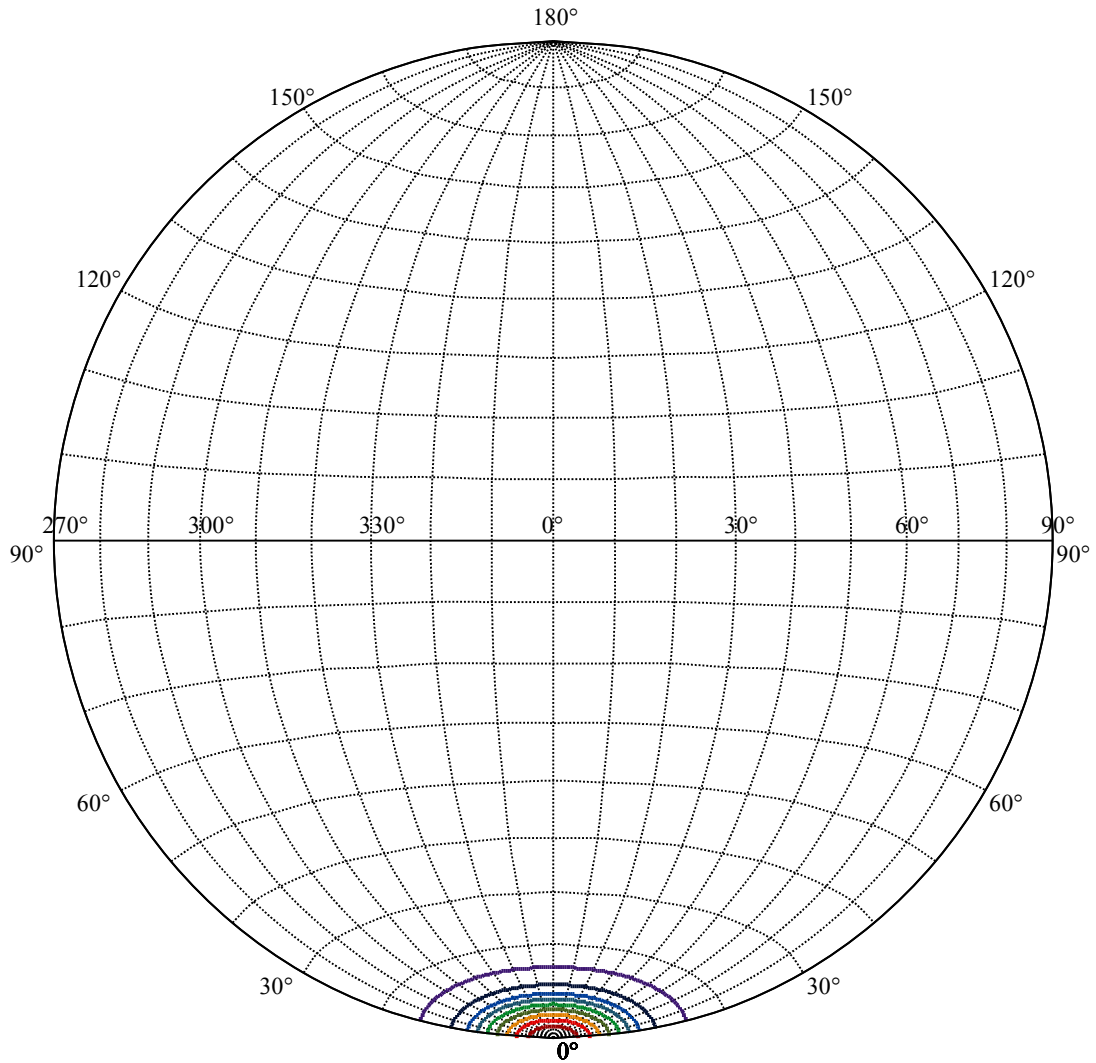
Field angle(10%Imax):C0/180Left:15.5 Right:15.5
:C90/270Left:15.5 Right:15.5

Beam Angle(50%Imax):C0/180Left:7.6 Right:7.6
:C90/270Left:7.6 Right:7.6





(10%I _{max}) 1501.66	—
(20%I _{max}) 3003.33	—
(30%I _{max}) 4504.99	—
(40%I _{max}) 6006.65	—
(50%I _{max}) 7508.32	—
(60%I _{max}) 9009.98	—
(70%I _{max}) 10511.6	—
(80%I _{max}) 12013.3	—
(90%I _{max}) 13515	—



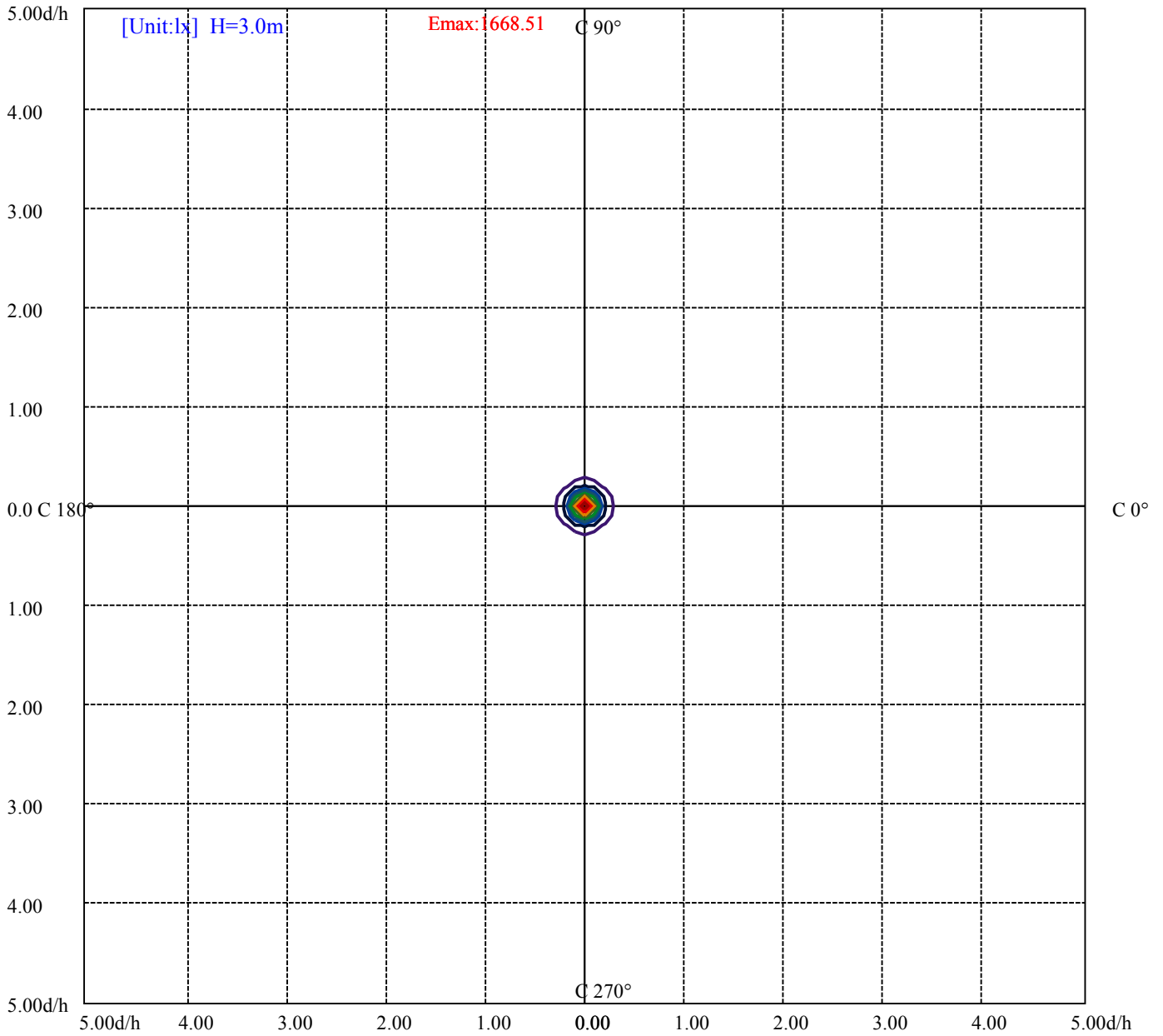
House

[Unit:cd]

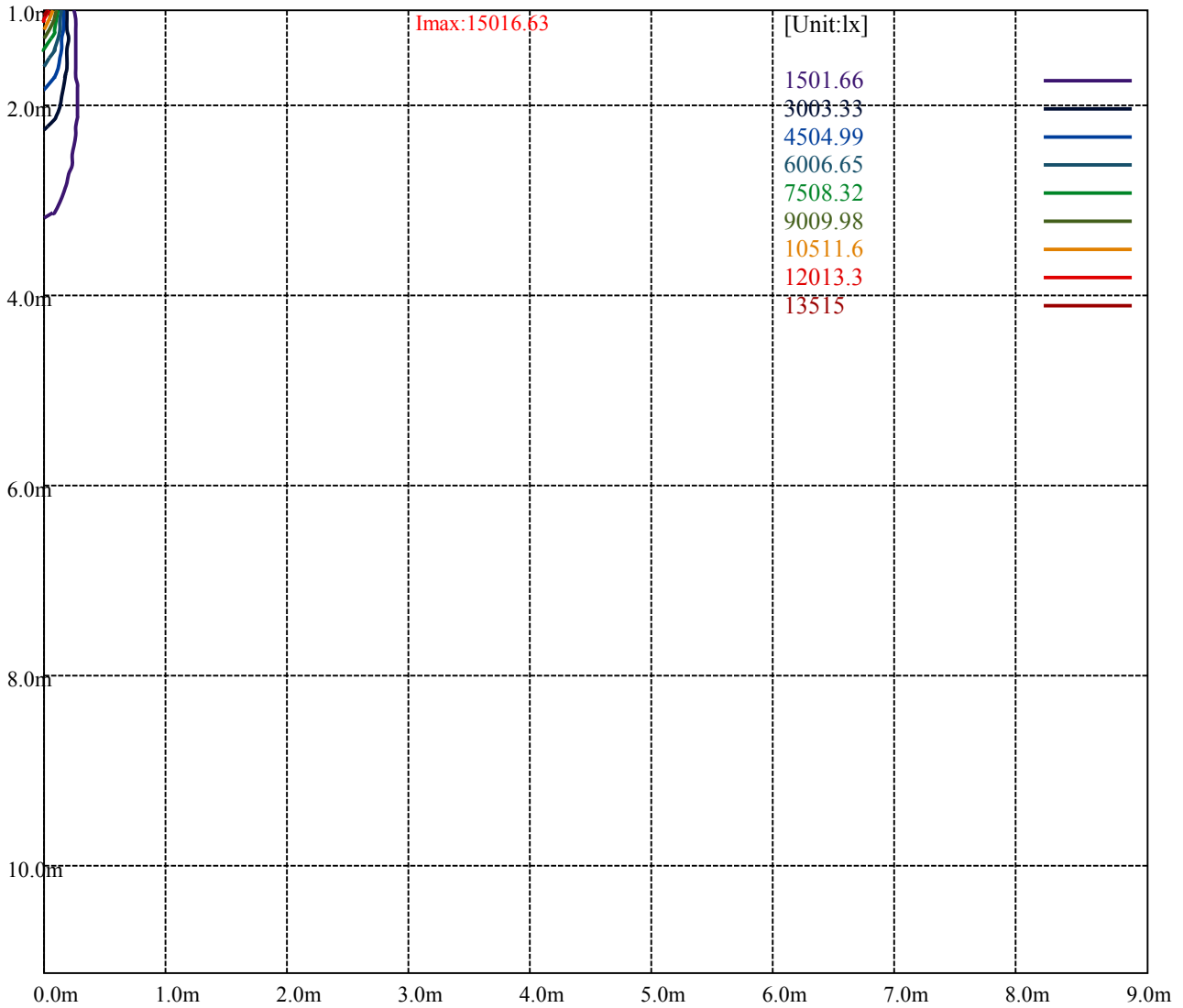
Road

Imax:15016.63

(10%Imax)	1501.66	—
(20%Imax)	3003.33	—
(30%Imax)	4504.99	—
(40%Imax)	6006.65	—
(50%Imax)	7508.32	—
(60%Imax)	9009.98	—
(70%Imax)	10511.6	—
(80%Imax)	12013.3	—
(90%Imax)	13515	—



(10%Emax) 166.8511	—
(20%Emax) 333.7022	—
(30%Emax) 500.5522	—
(40%Emax) 667.4033	—
(50%Emax) 834.2545	—
(60%Emax) 1001.106	—
(70%Emax) 1167.956	—
(80%Emax) 1334.811	—
(90%Emax) 1501.656	—



Luminance Table

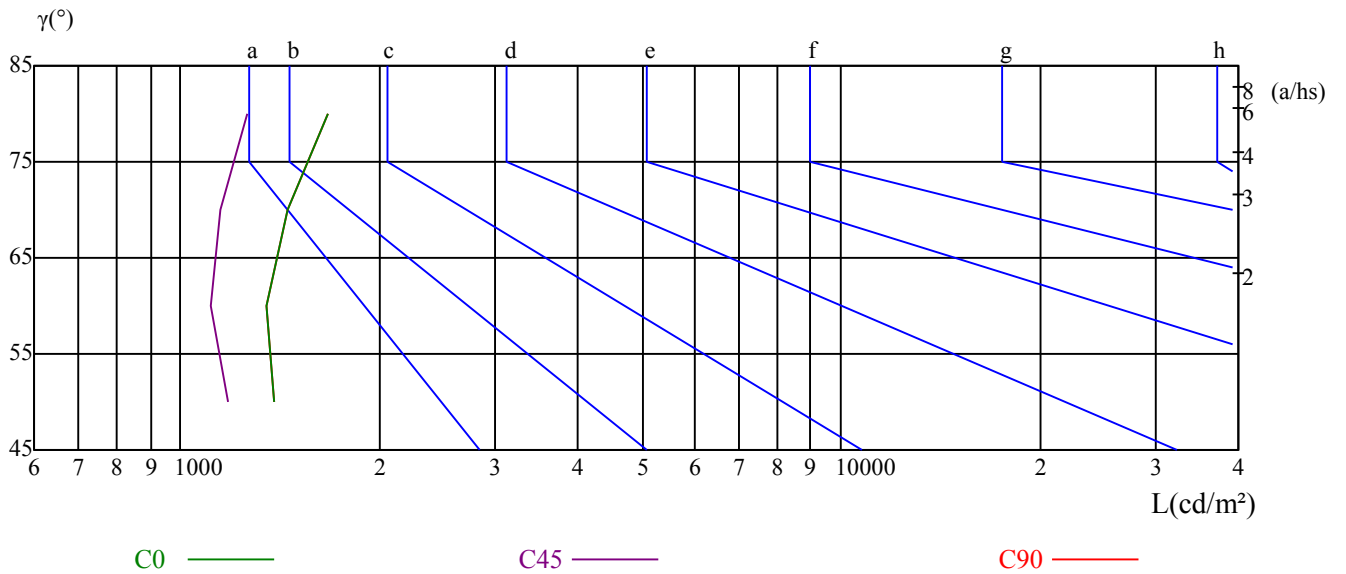
γ	45	50	55	60	65	70	75	80	85
C0	0	1390	0	1351	0	1450	0	1673	0
C45	0	1178	0	1109	0	1146	0	1262	0
C90	0	1390	0	1351	0	1450	0	1673	0

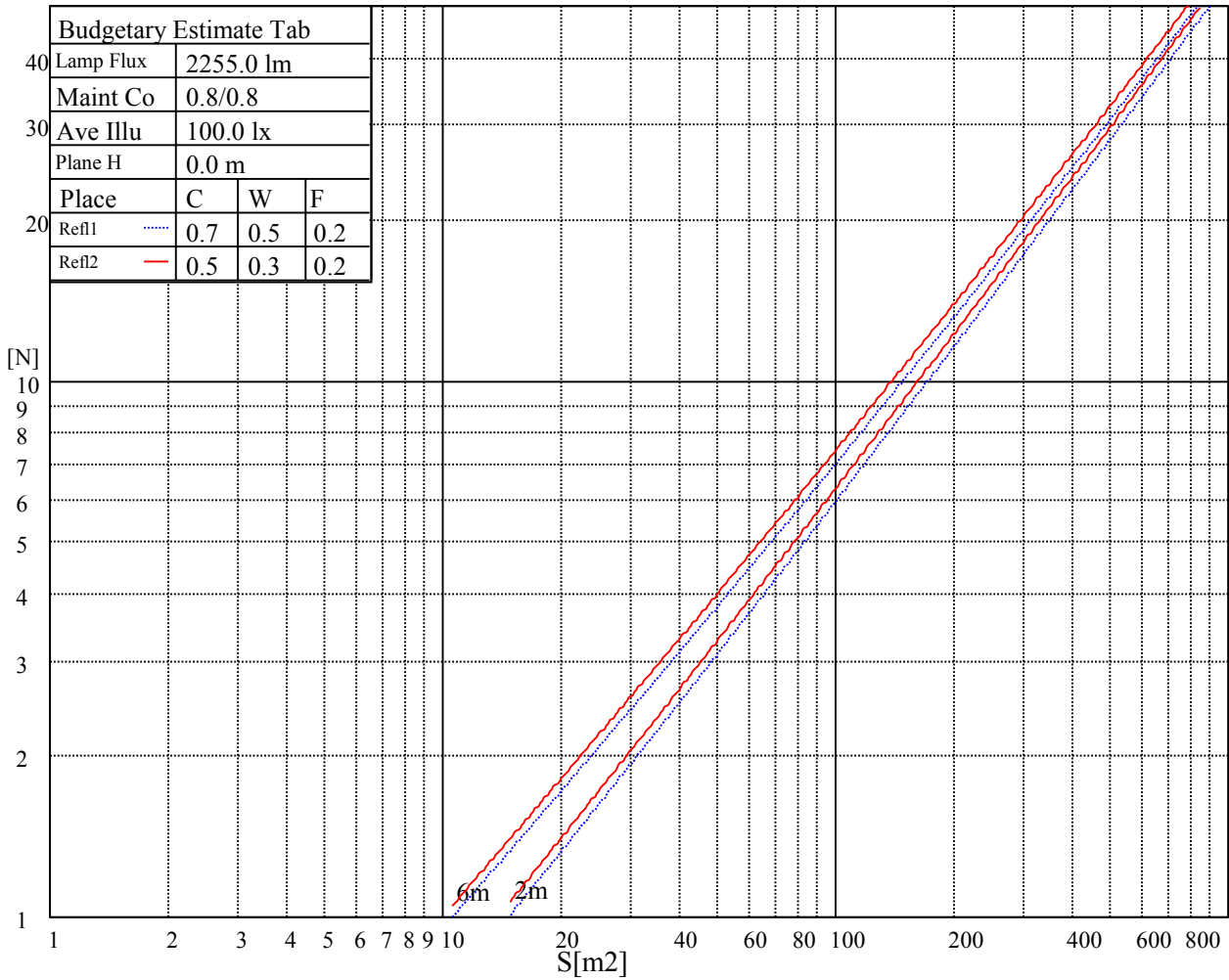
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3507	3517	3507	5488	5454	5462	15942	15891	15942

Glare Table

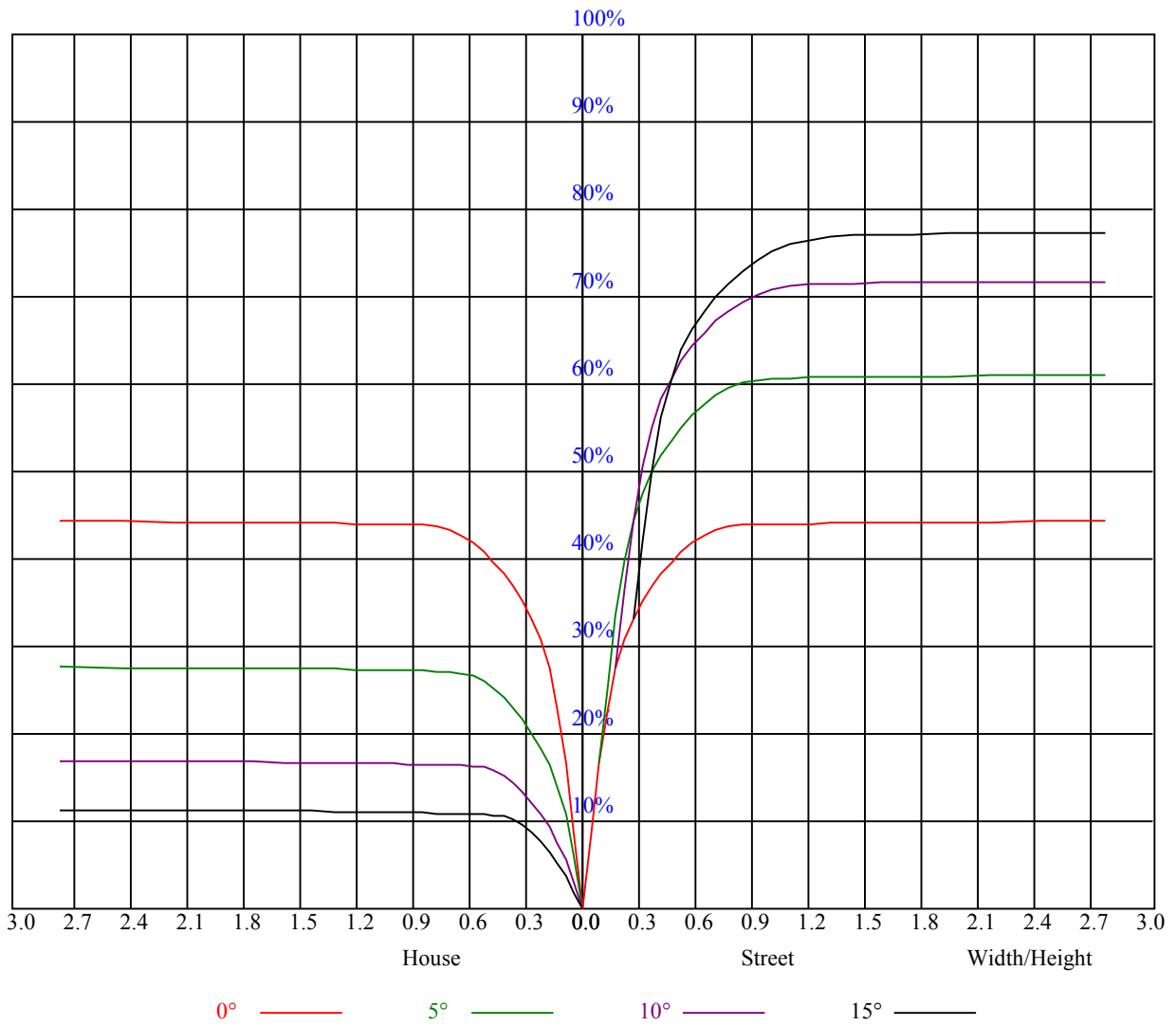
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.07	1.07	1.07	1.04	1.04	1.04	1.00	1.00	1.00	0.95	0.95	0.95	0.91	0.91	0.91	0.90
1	1.00	0.98	0.96	0.98	0.96	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.85
2	0.95	0.92	0.89	0.93	0.91	0.88	0.91	0.88	0.87	0.88	0.86	0.85	0.86	0.84	0.83	0.82
3	0.91	0.87	0.84	0.89	0.86	0.84	0.87	0.85	0.82	0.85	0.83	0.81	0.83	0.81	0.80	0.79
4	0.87	0.83	0.80	0.86	0.82	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	0.76	0.81	0.78	0.76	0.80	0.77	0.75	0.79	0.76	0.75	0.73
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	0.70	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	0.71	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	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0
0.0	15223.09	14848.71	13147.47	10532.29	7619.81	4844.96	3011.59	1901.65	1365.95
45.0	14958.82	13340.17	10829.59	7685.87	5153.28	3000.57	1972.67	1412.75	1139.67
90.0	14771.63	13048.37	10278.48	7457.39	4670.98	2721.44	1857.05	1355.49	1098.10
135.0	15140.51	13945.79	11704.99	8632.84	5962.61	3584.17	2519.93	1612.05	1262.99
180.0	15234.11	14204.55	10948.52	9212.59	6177.88	3757.60	2441.75	1694.09	1315.30
225.0	14958.82	15245.12	14066.91	10851.07	8989.06	6043.54	3890.29	2371.28	1621.96
270.0	14705.56	15261.63	14380.73	12338.14	9596.33	6529.69	4189.79	2818.89	1635.18
315.0	15140.51	14870.73	13318.14	10837.30	7960.05	5102.08	3159.69	1967.72	1408.34
360.0	15223.09	14848.71	13147.47	10532.29	7619.81	4844.96	3011.59	1901.65	1365.95
C/γ(°)	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0
0.0	1120.95	956.88	863.28	801.07	760.33	722.89	701.97	673.34	567.63
45.0	968.44	866.04	797.77	753.72	719.04	692.61	668.94	568.73	407.42
90.0	944.00	851.17	785.32	745.19	711.71	686.11	640.97	506.13	342.73
135.0	1048.27	909.53	825.85	774.09	735.00	704.17	681.05	608.37	467.98
180.0	1080.70	934.69	827.61	774.15	732.86	705.27	679.89	625.00	498.87
225.0	1265.20	1045.69	911.40	829.09	777.45	735.22	708.91	681.65	627.86
270.0	1282.26	1055.43	926.05	846.22	790.61	745.46	717.94	690.41	632.05
315.0	1098.38	982.21	880.02	804.37	762.53	726.58	701.91	670.64	574.07
360.0	1120.95	956.88	863.28	801.07	760.33	722.89	701.97	673.34	567.63
C/γ(°)	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0	52.0
0.0	420.63	286.84	97.28	21.58	14.53	11.18	10.24	9.86	9.58
45.0	280.24	94.64	19.93	13.71	10.63	10.08	9.80	9.52	9.30
90.0	180.92	55.77	18.28	12.72	10.41	10.08	9.80	9.52	9.36
135.0	318.78	152.40	37.33	17.56	12.39	10.63	10.30	9.97	9.69
180.0	343.66	189.34	56.71	19.55	12.83	10.68	10.35	10.02	9.74
225.0	484.11	317.51	151.74	39.97	17.34	12.06	10.52	10.13	9.80
270.0	503.22	320.98	148.65	37.88	17.18	11.89	10.57	10.08	9.80
315.0	409.18	245.72	99.54	22.08	14.26	10.85	10.19	9.86	9.58
360.0	420.63	286.84	97.28	21.58	14.53	11.18	10.24	9.86	9.58
C/γ(°)	54.0	56.0	58.0	60.0	62.0	64.0	66.0	68.0	70.0
0.0	9.41	9.19	9.03	8.92	8.81	8.75	8.70	8.64	8.59
45.0	9.14	9.03	8.92	8.81	8.75	8.64	8.64	8.59	8.53
90.0	9.19	9.03	8.92	8.81	8.75	8.70	8.64	8.59	8.53
135.0	9.47	9.30	9.14	9.03	8.86	8.81	8.70	8.64	8.59
180.0	9.47	9.30	9.14	9.03	8.86	8.75	8.70	8.64	8.59
225.0	9.52	9.30	9.14	8.97	8.86	8.75	8.70	8.59	8.59
270.0	9.52	9.25	9.14	8.97	8.86	8.75	8.75	8.64	8.64
315.0	9.36	9.19	9.03	8.92	8.86	8.75	8.70	8.59	8.59
360.0	9.41	9.19	9.03	8.92	8.81	8.75	8.70	8.64	8.59
C/γ(°)	72.0	74.0	76.0	78.0	80.0	82.0	84.0	86.0	88.0
0.0	8.59	8.53	8.53	8.53	8.48	8.48	8.48	8.42	8.37
45.0	8.48	8.48	8.42	8.42	8.37	8.37	8.37	8.37	8.37
90.0	8.53	8.48	8.48	8.42	8.42	8.42	8.42	8.42	8.37
135.0	8.59	8.53	8.53	8.53	8.48	8.48	8.42	8.42	8.42
180.0	8.59	8.53	8.53	8.48	8.48	8.42	8.42	8.42	8.37
225.0	8.53	8.48	8.48	8.42	8.42	8.37	8.37	8.37	8.37
270.0	8.59	8.53	8.53	8.48	8.48	8.48	8.42	8.42	8.42
315.0	8.53	8.53	8.48	8.48	8.48	8.48	8.42	8.42	8.42
360.0	8.59	8.53	8.53	8.53	8.48	8.48	8.48	8.42	8.37

Intensity data(cd)

C/γ(°)	90.0
0.0	8.37
45.0	8.37
90.0	8.37
135.0	8.42
180.0	8.37
225.0	8.37
270.0	8.42
315.0	8.42
360.0	8.37