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Nata

LumCAT: LN01D04515DA-N

Luminaire: 97.70.234.00

Report No: 210104-B012

Test No: 210104-C012

LampCAT: BRIDGELUX V10 LES10.2

Lamp flux(lm): 1790.7

Number of Lamps: 1

Length(mm): 92

Phm Type: C

Voltage(V): 34.5900

Current(A): 0.3800

Power (W): 13.1440

PF: 0.0000

Ballast type: DC

Width(mm): 92

Height(mm): 50

Photometric Results

Lumens(lm): 1563.48

Efficiency(%): 87.31%

Lumens(lm)/Power(W): 118.95

Central intensity(cd): 8419.780

Maximum intensity(cd): 8419.780

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=20.8

[C90/270]Total=20.8

Field angle(10%Imax): [C0/180]Total=40.0

[C90/270]Total=40.0

Maximum s/h(1/2): C0_180=0.35 C90_270=0.35

Maximum s/h(1/4): C0_180=0.36 C90_270=0.36

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 87.31%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 96.337%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	8419.781	0.000	0	.000%	.000%
1.0	8370.070	8.034	8.034	.449%	.514%
2.0	8194.641	23.775	31.809	1.328%	2.034%
3.0	7929.914	38.565	70.374	2.154%	4.501%
4.0	7597.898	51.977	122.35	2.903%	7.825%
5.0	7136.438	63.386	185.736	3.540%	11.880%
6.0	6638.133	72.389	258.125	4.042%	16.510%
7.0	6124.922	79.220	337.346	4.424%	21.577%
8.0	5547.305	83.536	420.881	4.665%	26.919%
9.0	4976.086	85.286	506.168	4.763%	32.374%
10.0	4418.789	85.020	591.188	4.748%	37.812%
11.0	3862.125	82.743	673.931	4.621%	43.104%
12.0	3363.047	78.981	752.913	4.411%	48.156%
13.0	2874.797	74.027	826.94	4.134%	52.891%
14.0	2429.227	67.891	894.831	3.791%	57.233%
15.0	2066.133	61.714	956.546	3.446%	61.180%
16.0	1731.621	55.648	1012.193	3.108%	64.740%
17.0	1420.594	49.088	1061.282	2.741%	67.879%
18.0	1211.920	43.404	1104.686	2.424%	70.655%
19.0	1030.683	39.017	1143.703	2.179%	73.151%
20.0	844.875	34.328	1178.031	1.917%	75.347%
21.0	717.420	29.999	1208.03	1.675%	77.265%
22.0	614.313	26.762	1234.792	1.494%	78.977%
23.0	519.068	23.781	1258.573	1.328%	80.498%
24.0	439.615	20.960	1279.533	1.170%	81.839%
25.0	379.181	18.618	1298.151	1.040%	83.029%
26.0	328.373	16.702	1314.853	.933%	84.098%
27.0	285.321	15.014	1329.867	.838%	85.058%
28.0	246.790	13.472	1343.339	.752%	85.920%
29.0	214.249	12.062	1355.401	.674%	86.691%
30.0	190.610	10.931	1366.332	.610%	87.390%
31.0	168.089	9.982	1376.314	.557%	88.029%
32.0	150.019	9.113	1385.428	.509%	88.612%
33.0	135.148	8.401	1393.829	.469%	89.149%
34.0	123.054	7.814	1401.643	.436%	89.649%
35.0	111.593	7.287	1408.93	.407%	90.115%
36.0	101.855	6.796	1415.726	.380%	90.549%
37.0	94.170	6.393	1422.12	.357%	90.958%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	86.808	6.041	1428.16	.337%	91.345%
39.0	79.629	5.681	1433.841	.317%	91.708%
40.0	74.130	5.363	1439.204	.299%	92.051%
41.0	69.110	5.101	1444.305	.285%	92.377%
42.0	63.809	4.829	1449.134	.270%	92.686%
43.0	59.400	4.564	1453.698	.255%	92.978%
44.0	55.477	4.336	1458.033	.242%	93.255%
45.0	51.511	4.112	1462.145	.230%	93.518%
46.0	48.101	3.896	1466.041	.218%	93.768%
47.0	44.951	3.701	1469.742	.207%	94.004%
48.0	42.047	3.517	1473.259	.196%	94.229%
49.0	39.600	3.353	1476.611	.187%	94.444%
50.0	37.252	3.204	1479.816	.179%	94.649%
51.0	35.177	3.064	1482.88	.171%	94.845%
52.0	33.525	2.948	1485.828	.165%	95.033%
53.0	31.922	2.847	1488.675	.159%	95.215%
54.0	30.354	2.745	1491.42	.153%	95.391%
55.0	29.130	2.655	1494.075	.148%	95.561%
56.0	27.907	2.577	1496.652	.144%	95.725%
57.0	26.684	2.496	1499.148	.139%	95.885%
58.0	25.678	2.421	1501.57	.135%	96.040%
59.0	24.687	2.355	1503.924	.131%	96.191%
60.0	23.632	2.283	1506.207	.127%	96.337%
61.0	22.732	2.213	1508.42	.124%	96.478%
62.0	21.909	2.151	1510.571	.120%	96.616%
63.0	21.129	2.093	1512.664	.117%	96.750%
64.0	20.461	2.041	1514.705	.114%	96.880%
65.0	20.053	2.005	1516.71	.112%	97.008%
66.0	19.898	1.993	1518.703	.111%	97.136%
67.0	19.913	2.002	1520.705	.112%	97.264%
68.0	20.208	2.032	1522.737	.113%	97.394%
69.0	20.777	2.091	1524.828	.117%	97.528%
70.0	21.417	2.167	1526.995	.121%	97.666%
71.0	22.177	2.253	1529.248	.126%	97.810%
72.0	23.070	2.353	1531.601	.131%	97.961%
73.0	23.815	2.452	1534.053	.137%	98.118%
74.0	24.391	2.534	1536.587	.142%	98.280%
75.0	24.680	2.593	1539.18	.145%	98.446%

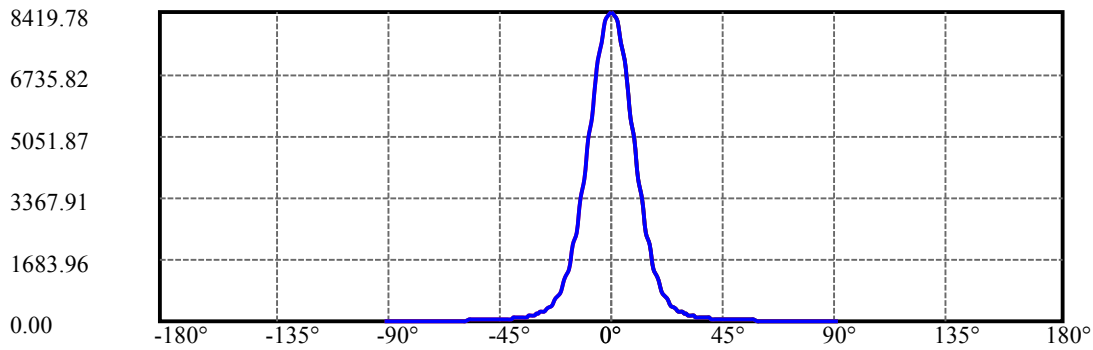
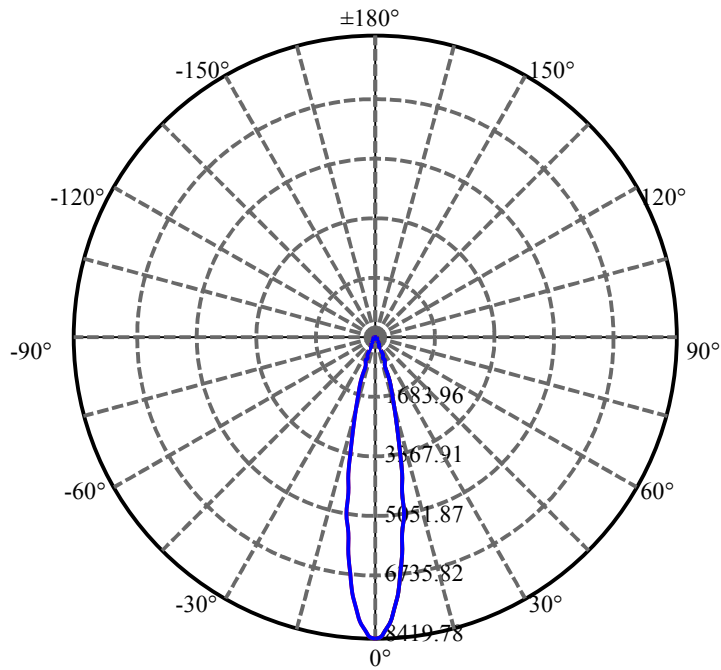
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	22.556	2.507	1541.687	.140%	98.606%
77.0	23.878	2.476	1544.163	.138%	98.764%
78.0	22.992	2.509	1546.672	.140%	98.925%
79.0	21.488	2.390	1549.062	.133%	99.078%
80.0	19.709	2.221	1551.283	.124%	99.220%
81.0	17.564	2.016	1553.299	.113%	99.349%
82.0	15.328	1.784	1555.082	.100%	99.463%
83.0	13.148	1.548	1556.63	.086%	99.562%
84.0	11.384	1.336	1557.967	.075%	99.647%
85.0	9.717	1.152	1559.118	.064%	99.721%
86.0	8.599	1.001	1560.12	.056%	99.785%
87.0	7.952	0.906	1561.025	.051%	99.843%
88.0	7.552	0.849	1561.875	.047%	99.897%
89.0	7.327	0.815	1562.69	.046%	99.949%
90.0	7.151	0.794	1563.484	.044%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1366.33	76.30%	87.39%
0-40	1439.20	80.37%	92.05%
0-60	1506.21	84.11%	96.34%
0-90	1562.69	87.27%	99.95%
0-120	1562.69	87.27%	99.95%
0-180	1563.48	87.31%	100.00%
60-90	58.77	3.28%	3.76%
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%
0-22.67	1250.79	69.85%	80.00%

ZONAL LUMEN SUMMARY

0-10	591.19
10-20	586.84
20-30	188.30
30-40	72.87
40-50	40.61
50-60	26.39
60-70	20.79
70-80	24.29
80-90	11.41
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



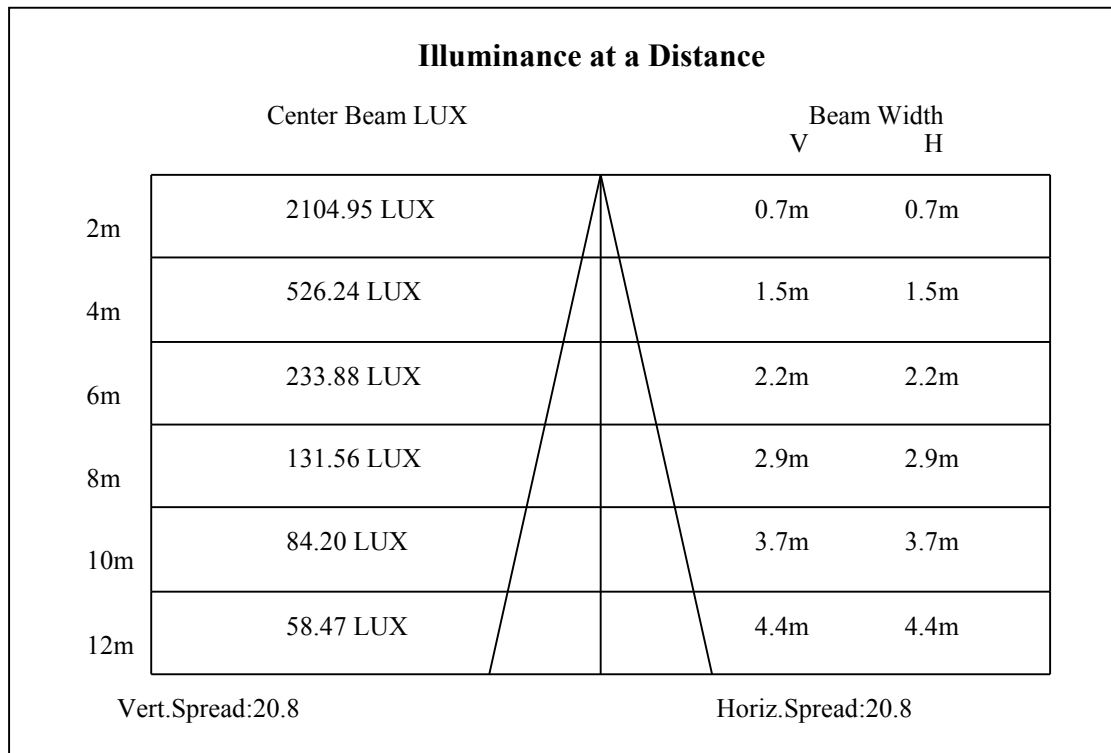
C0(Max): —————

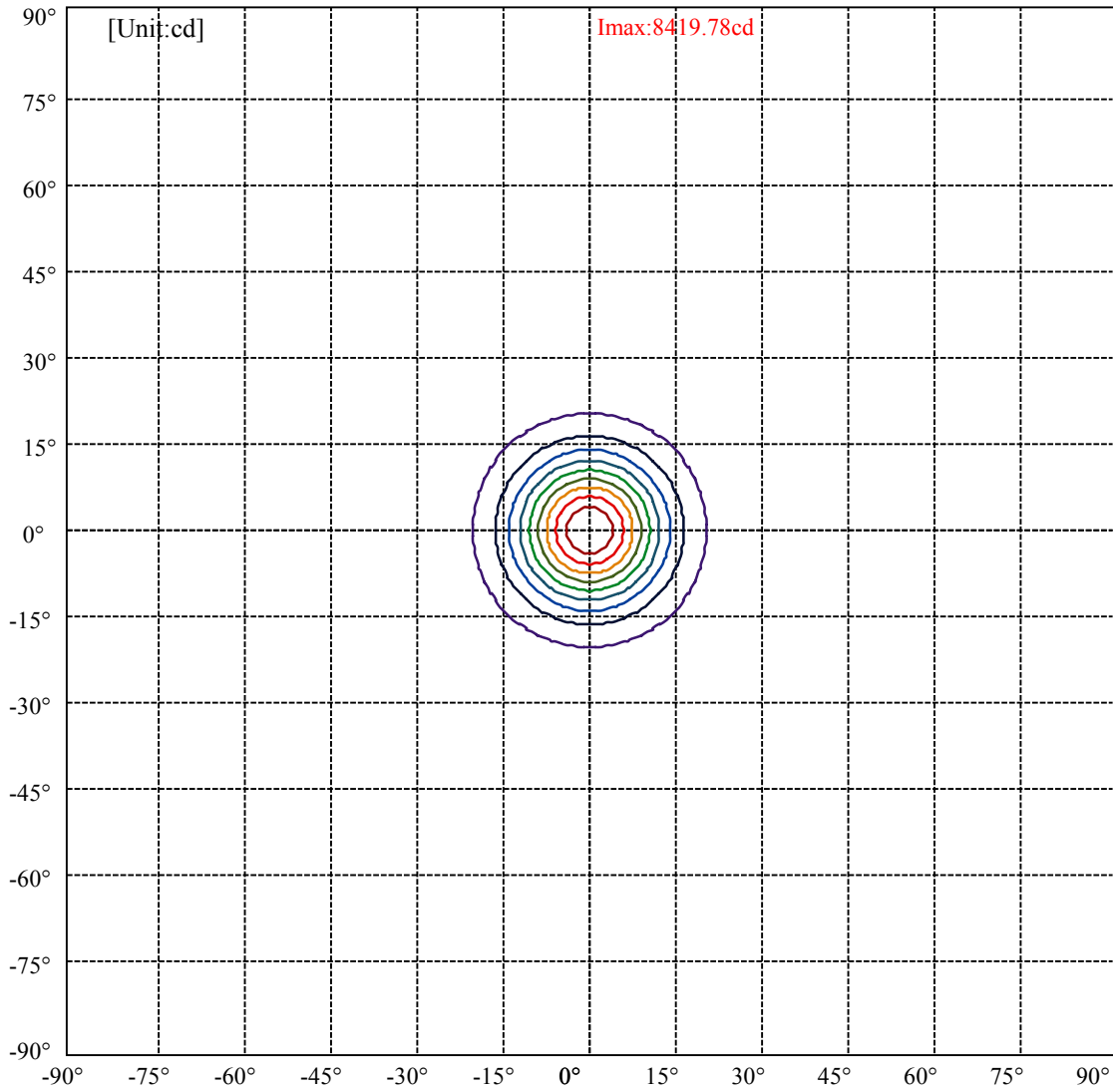
C0/C180: —————

C90/C270: —————

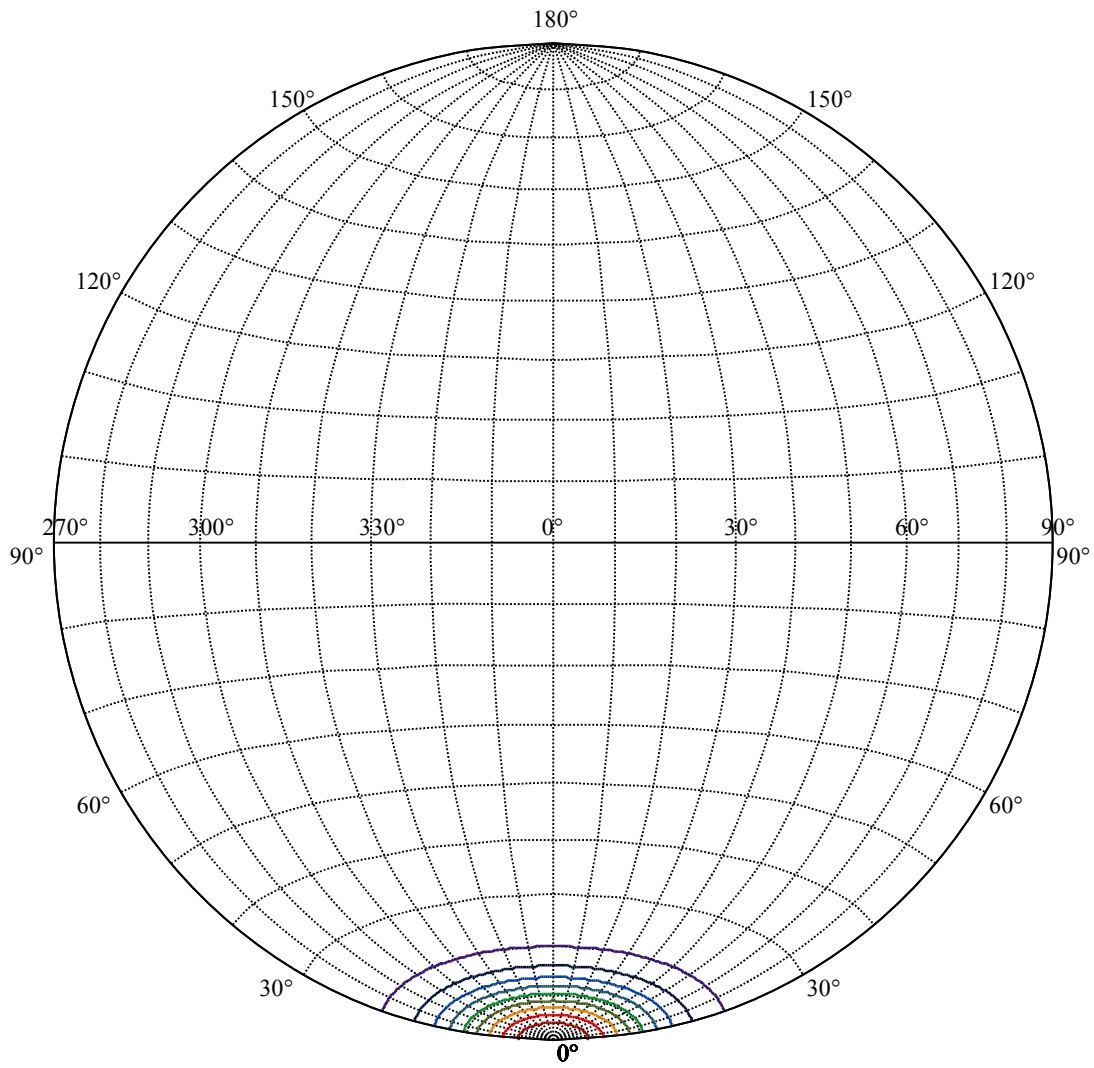
Field angle(10%Imax):C0/180Left:20.0 Right:20.0
:C90/270Left:20.0 Right:20.0

Beam Angle(50%Imax):C0/180Left:10.4 Right:10.4
:C90/270Left:10.4 Right:10.4





(10%Imax) 841.978	—
(20%Imax) 1683.96	—
(30%Imax) 2525.93	—
(40%Imax) 3367.91	—
(50%Imax) 4209.89	—
(60%Imax) 5051.87	—
(70%Imax) 5893.85	—
(80%Imax) 6735.82	—
(90%Imax) 7577.8	—



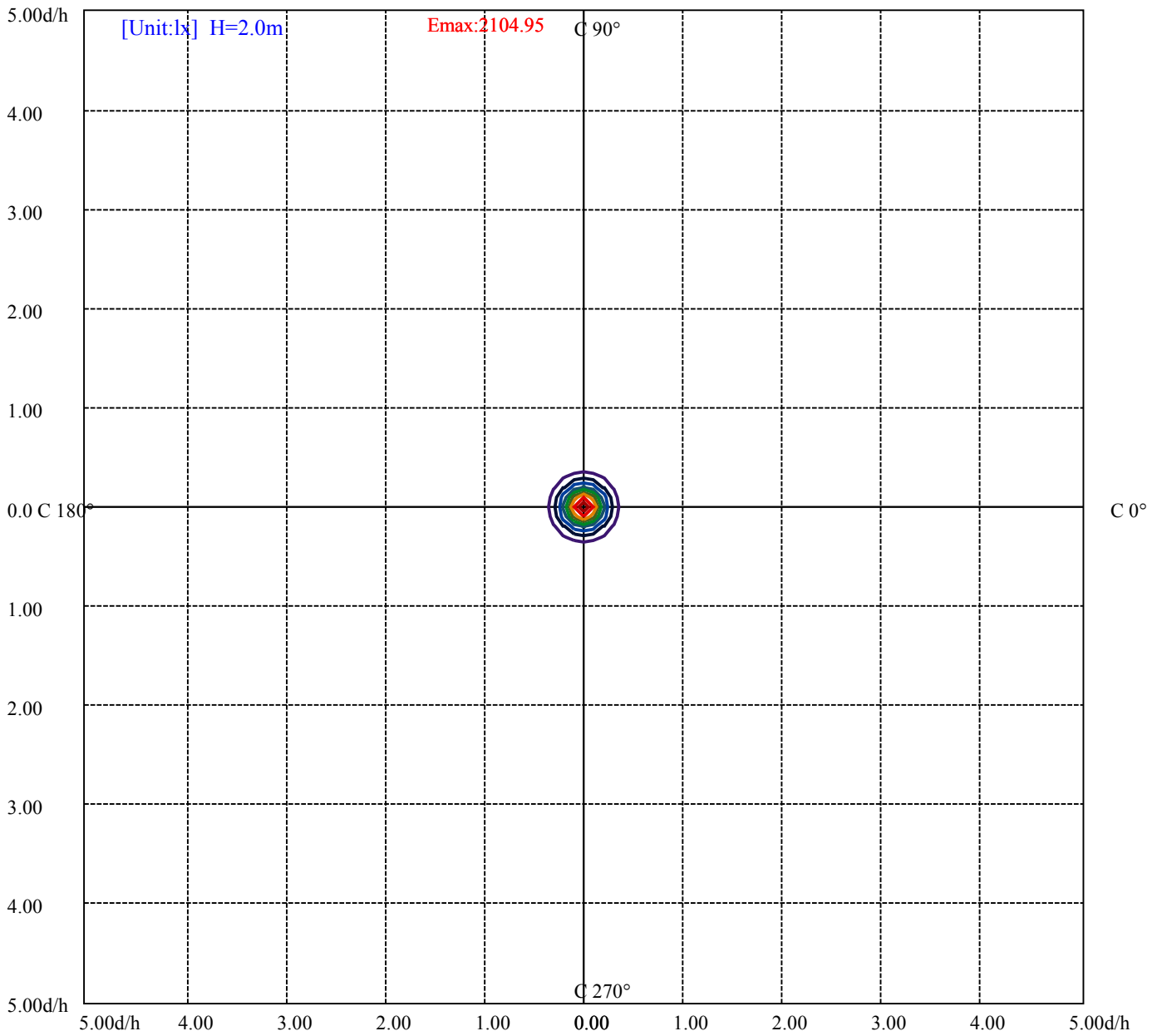
House

[Unit:cd]

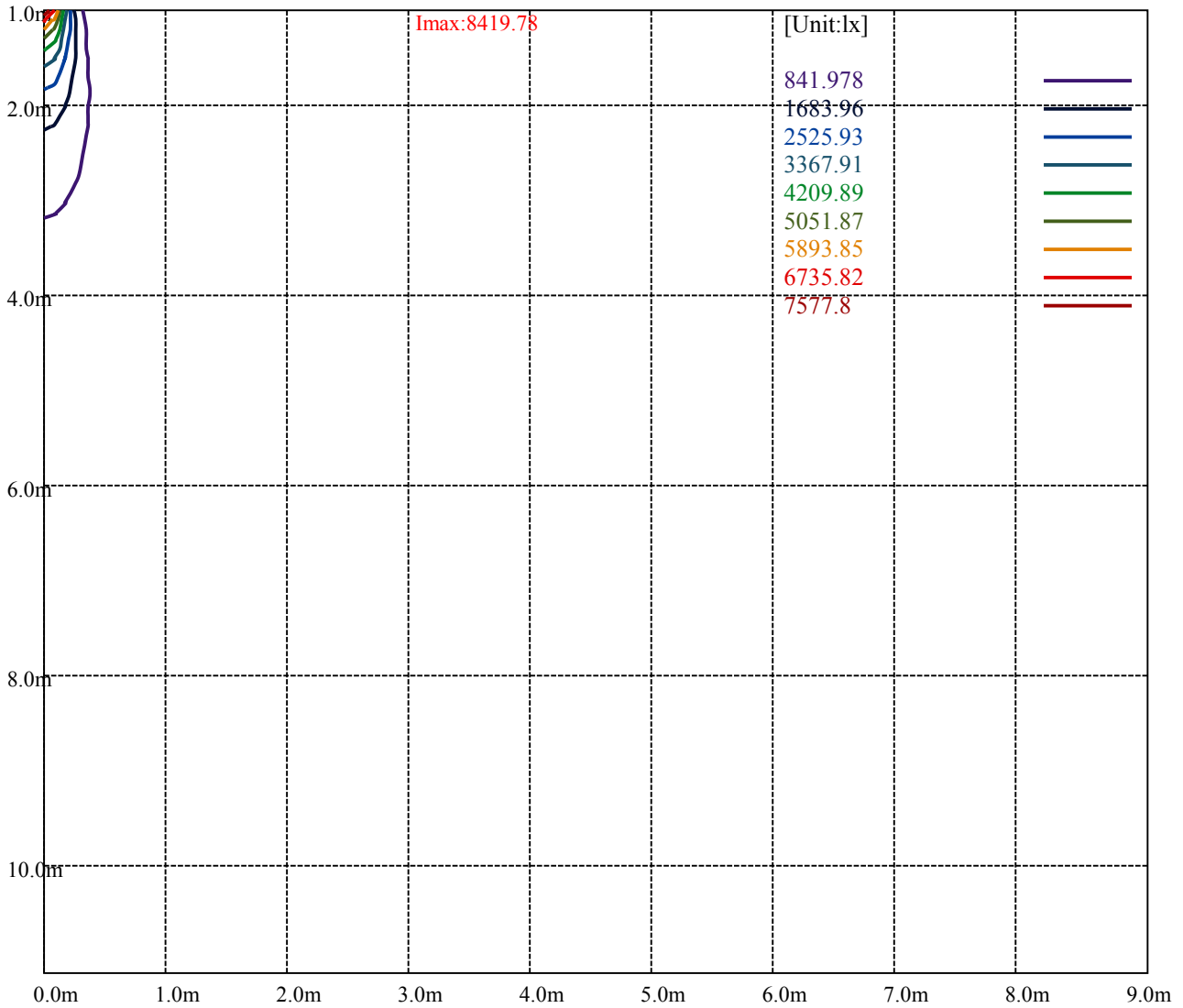
Road

Imax:8419.78

(10%Imax) 841.978	—
(20%Imax) 1683.96	—
(30%Imax) 2525.93	—
(40%Imax) 3367.91	—
(50%Imax) 4209.89	—
(60%Imax) 5051.87	—
(70%Imax) 5893.85	—
(80%Imax) 6735.82	—
(90%Imax) 7577.8	—



(10%Emax) 210.4942	—
(20%Emax) 420.9875	—
(30%Emax) 631.4825	—
(40%Emax) 841.9775	—
(50%Emax) 1052.473	—
(60%Emax) 1262.965	—
(70%Emax) 1473.46	—
(80%Emax) 1683.955	—
(90%Emax) 1894.45	—



Luminance Table

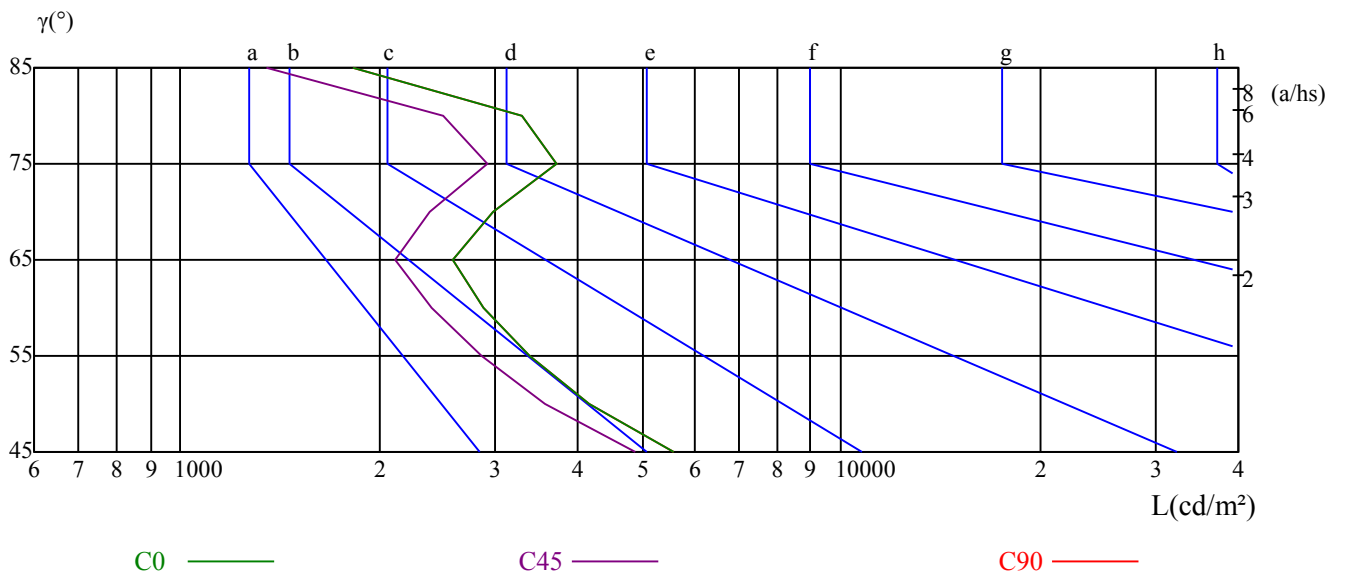
γ	45	50	55	60	65	70	75	80	85
C0	5576	4156	3378	2876	2589	2967	3720	3285	1826
C45	4866	3574	2861	2395	2117	2378	2912	2502	1346
C90	5576	4156	3378	2876	2589	2967	3720	3285	1826

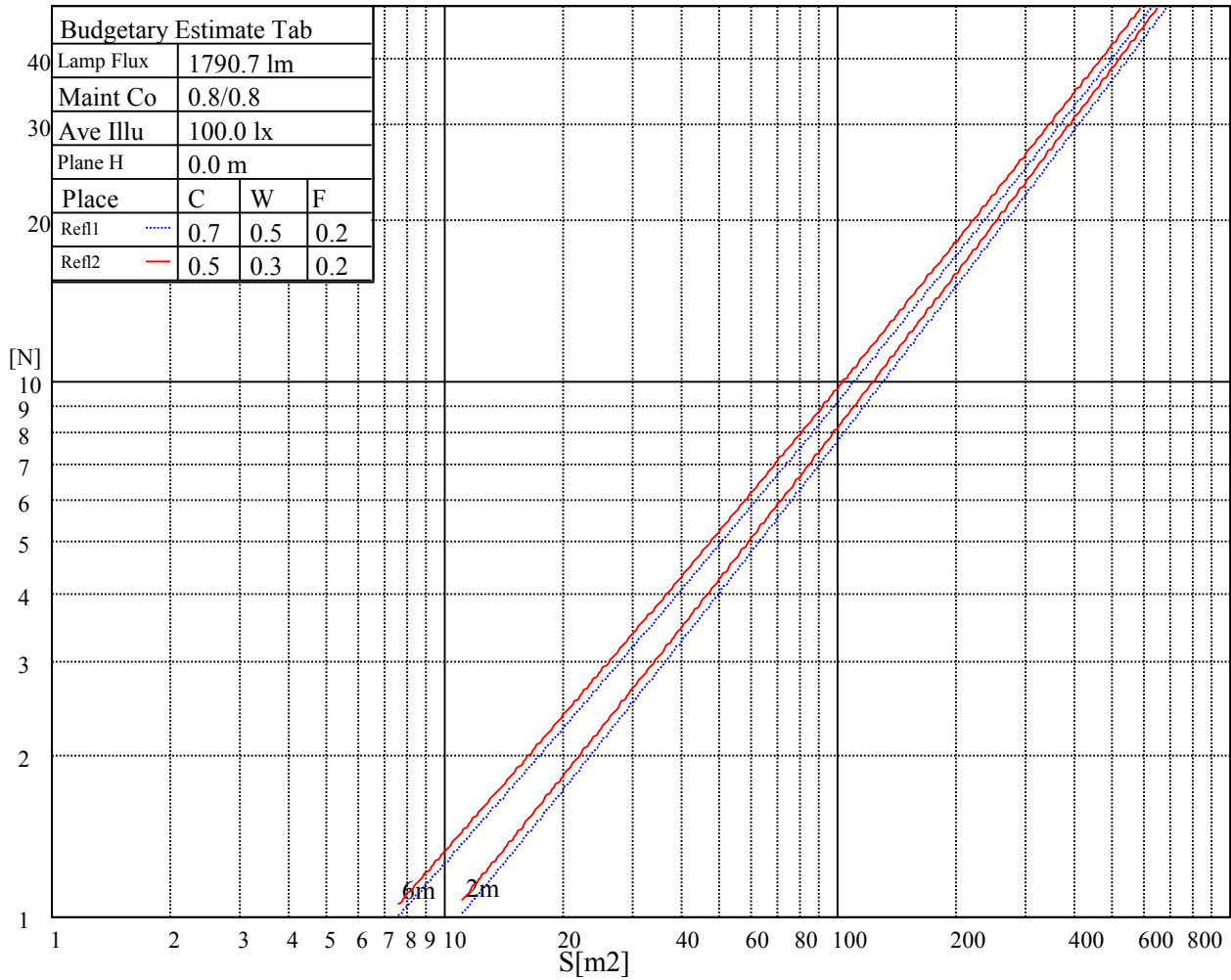
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5606	5606	5606	11266	11266	11266	13173	13173	13173

Glare Table

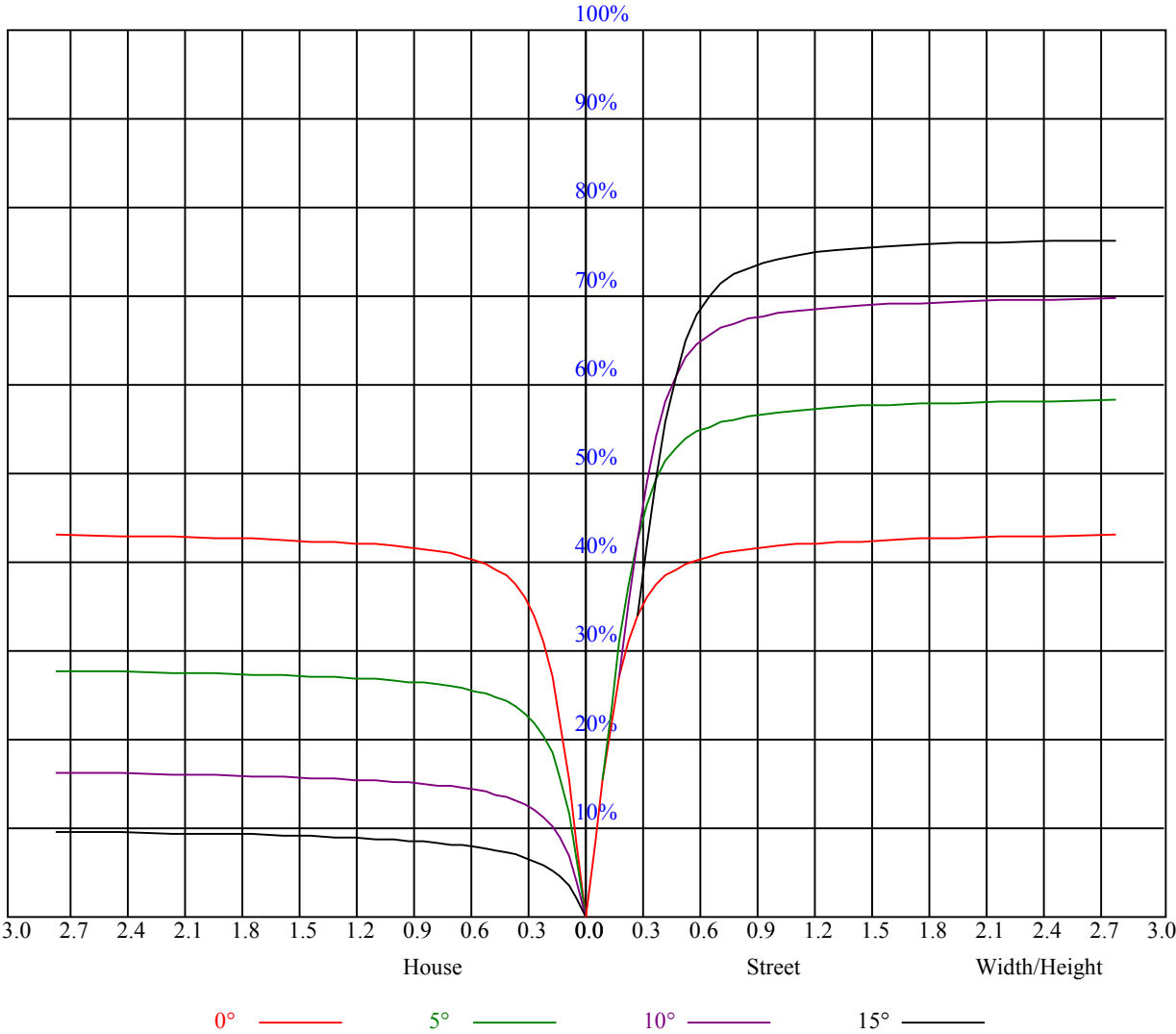
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.04	1.04	1.04	1.02	1.02	1.02	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.87
1	0.97	0.96	0.94	0.96	0.94	0.92	0.92	0.91	0.89	0.89	0.88	0.87	0.86	0.85	0.84	0.83
2	0.92	0.89	0.87	0.91	0.88	0.86	0.88	0.86	0.84	0.85	0.84	0.82	0.83	0.82	0.80	0.79
3	0.88	0.84	0.81	0.87	0.83	0.81	0.84	0.82	0.80	0.82	0.80	0.78	0.81	0.79	0.77	0.76
4	0.84	0.80	0.77	0.83	0.80	0.77	0.81	0.78	0.76	0.80	0.77	0.75	0.78	0.76	0.74	0.73
5	0.81	0.77	0.74	0.80	0.76	0.74	0.79	0.75	0.73	0.77	0.75	0.72	0.76	0.74	0.72	0.71
6	0.78	0.74	0.71	0.77	0.74	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.74	0.71	0.70	0.69
7	0.75	0.71	0.69	0.75	0.71	0.68	0.74	0.71	0.68	0.73	0.70	0.68	0.72	0.69	0.67	0.67
8	0.73	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.70	0.68	0.66	0.65
9	0.71	0.67	0.65	0.70	0.67	0.64	0.70	0.67	0.64	0.69	0.66	0.64	0.68	0.66	0.64	0.63
10	0.69	0.65	0.63	0.69	0.65	0.63	0.68	0.65	0.63	0.67	0.64	0.62	0.67	0.64	0.62	0.61



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	8360.44	8528.63	8593.88	8525.25	8348.63	7988.63	7612.31	7176.94	6636.38
45.0	8471.25	8427.38	8231.63	7976.25	7637.06	7122.38	6644.25	6131.81	5608.13
90.0	8377.31	8145.56	7784.44	7346.81	6892.31	6328.69	5729.06	5187.38	4578.75
135.0	8470.13	8219.25	7786.69	7374.38	6913.69	6343.31	5732.44	5179.50	4568.06
180.0	8360.44	8103.38	7719.19	7255.69	6782.06	6197.63	5653.69	5032.13	4407.19
225.0	8471.25	8393.06	8217.56	7915.50	7567.31	7095.38	6613.31	6037.88	5433.19
270.0	8377.31	8516.81	8552.25	8454.94	8248.50	7952.63	7481.81	7045.88	6495.75
315.0	8470.13	8626.50	8671.50	8590.50	8393.63	8062.88	7638.19	7207.88	6651.00
360.0	8360.44	8528.63	8593.88	8525.25	8348.63	7988.63	7612.31	7176.94	6636.38
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	6055.88	5520.38	4905.00	4363.31	3769.31	3211.88	2754.56	2292.75	1897.31
45.0	4942.69	4406.63	3882.38	3324.38	2816.44	2412.00	2018.25	1680.19	1423.13
90.0	4047.19	3486.38	2973.38	2559.94	2153.81	1806.19	1543.50	1243.13	1076.63
135.0	3972.38	3463.88	2936.81	2517.19	2108.81	1763.44	1505.81	1285.31	1054.69
180.0	3868.31	3303.00	2790.56	2379.38	2017.69	1635.75	1380.38	1107.84	970.71
225.0	4887.56	4284.00	3692.81	3196.13	2742.75	2244.38	1902.38	1607.06	1113.36
270.0	5910.19	5375.81	4833.56	4231.13	3651.19	3169.69	2675.25	2285.44	1906.31
315.0	6124.38	5510.25	4882.50	4332.94	3738.38	3190.50	2748.94	2351.25	1922.63
360.0	6055.88	5520.38	4905.00	4363.31	3769.31	3211.88	2754.56	2292.75	1897.31
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1602.00	1351.13	1091.25	916.88	771.19	624.38	529.31	450.00	376.88
45.0	1168.88	995.06	816.75	677.25	577.13	498.94	407.81	351.56	310.50
90.0	919.35	786.71	649.13	558.45	482.18	403.54	351.68	307.13	261.17
135.0	900.56	774.56	637.88	552.94	481.50	417.94	358.88	315.56	291.94
180.0	779.74	657.00	556.09	454.89	389.42	329.01	284.63	244.80	212.40
225.0	1089.90	919.13	761.46	634.61	541.52	454.16	390.21	331.09	284.18
270.0	1593.56	1361.81	1144.69	963.56	830.25	716.63	596.81	516.94	449.44
315.0	1641.38	1400.06	1101.77	980.78	841.33	707.96	597.60	516.38	440.49
360.0	1602.00	1351.13	1091.25	916.88	771.19	624.38	529.31	450.00	376.88
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	316.13	288.00	235.69	204.47	178.93	160.59	143.33	129.21	118.35
45.0	284.63	221.96	196.03	172.01	152.33	137.81	124.14	112.95	104.18
90.0	234.06	204.58	177.69	161.94	146.25	128.08	118.58	108.96	97.26
135.0	241.99	211.95	191.59	166.95	148.78	136.58	121.61	111.66	102.77
180.0	188.33	167.96	147.04	133.54	121.95	111.26	102.09	95.06	88.65
225.0	249.53	219.99	190.24	170.83	154.24	137.03	125.49	115.37	105.69
270.0	384.75	330.75	290.81	264.15	219.60	196.03	173.36	156.09	139.44
315.0	383.18	329.12	284.91	250.99	222.64	192.77	172.58	155.14	136.41
360.0	316.13	288.00	235.69	204.47	178.93	160.59	143.33	129.21	118.35
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	108.11	100.24	92.48	85.50	80.16	75.71	69.53	65.48	62.04
45.0	95.51	88.93	82.18	76.16	71.27	66.71	61.71	57.99	54.51
90.0	90.73	84.21	77.63	71.33	66.26	60.86	56.59	51.98	48.09
135.0	92.53	85.33	79.09	72.11	66.83	62.16	56.64	52.59	48.88
180.0	81.73	76.61	71.89	66.60	62.49	58.78	54.96	51.36	48.38
225.0	97.09	90.56	83.93	77.91	72.96	68.01	63.84	59.51	55.52
270.0	125.04	114.08	104.29	93.71	86.46	80.16	73.01	67.78	63.06
315.0	124.09	113.40	102.99	93.71	86.63	80.49	74.19	68.51	63.34
360.0	108.11	100.24	92.48	85.50	80.16	75.71	69.53	65.48	62.04

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	57.04	53.83	50.96	47.25	44.10	41.96	39.09	37.18	35.38
45.0	50.57	47.70	44.94	42.19	39.77	37.86	35.89	34.26	32.57
90.0	44.78	41.46	38.70	36.45	34.48	32.40	30.94	29.53	28.35
135.0	45.06	41.74	39.04	36.39	34.54	32.57	30.88	29.48	28.01
180.0	45.28	42.81	40.22	37.97	36.23	34.43	32.79	31.44	30.15
225.0	52.20	49.11	45.51	43.09	40.84	38.36	36.56	34.99	33.13
270.0	57.99	53.38	49.56	45.68	42.47	39.43	36.68	34.65	32.79
315.0	59.18	54.79	50.68	47.36	44.38	41.01	38.59	36.68	34.99
360.0	57.04	53.83	50.96	47.25	44.10	41.96	39.09	37.18	35.38
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	33.47	32.01	30.77	29.19	28.07	27.00	25.65	24.69	23.79
45.0	30.99	29.76	28.41	27.17	26.16	25.20	24.08	23.12	22.28
90.0	26.94	25.93	24.92	23.96	23.12	22.28	21.60	20.93	20.31
135.0	26.78	25.71	24.75	23.63	22.84	21.99	21.15	20.48	19.91
180.0	28.69	27.56	26.55	25.43	24.36	23.51	22.50	21.60	20.81
225.0	31.73	30.43	28.80	27.79	26.61	25.31	24.47	23.46	22.28
270.0	31.11	29.81	28.52	27.11	26.10	25.14	23.85	22.95	22.16
315.0	33.13	31.84	30.54	29.19	28.18	27.06	25.76	24.64	23.74
360.0	33.47	32.01	30.77	29.19	28.07	27.00	25.65	24.69	23.79
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	22.78	21.83	21.09	20.19	19.35	18.68	18.06	17.49	16.88
45.0	21.38	20.42	19.74	18.90	18.17	17.61	16.99	16.48	15.86
90.0	19.86	20.08	21.21	23.51	25.76	28.58	31.61	34.09	36.79
135.0	19.41	18.84	19.07	20.14	21.77	23.96	26.27	28.07	30.21
180.0	20.03	19.29	18.56	17.89	17.27	16.71	16.09	15.58	14.96
225.0	21.54	20.81	19.74	19.07	18.39	17.66	17.04	16.43	15.75
270.0	21.26	20.48	19.91	19.24	18.96	19.41	21.04	23.18	25.65
315.0	22.78	21.94	21.09	20.25	19.63	19.07	19.13	20.03	21.32
360.0	22.78	21.83	21.09	20.19	19.35	18.68	18.06	17.49	16.88
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	16.26	15.75	15.19	14.51	14.01	13.50	12.88	12.49	12.04
45.0	15.24	14.68	14.12	13.44	12.94	12.54	12.04	11.64	11.25
90.0	39.60	41.91	43.54	43.99	42.86	40.05	36.11	31.61	27.17
135.0	31.89	33.41	34.20	34.03	32.63	30.43	27.39	23.63	20.14
180.0	14.34	13.84	13.33	12.83	12.32	11.81	11.42	11.08	10.69
225.0	15.19	14.51	14.01	13.50	12.99	12.43	12.04	11.70	11.19
270.0	28.52	30.99	33.47	36.06	38.08	39.54	40.05	39.04	36.51
315.0	23.51	25.43	27.28	29.08	14.63	30.71	32.01	30.71	28.69
360.0	16.26	15.75	15.19	14.51	14.01	13.50	12.88	12.49	12.04
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	11.64	11.19	10.80	10.35	9.90	9.39	8.78	8.27	7.88
45.0	10.80	10.35	9.90	9.45	9.06	8.44	7.93	7.48	7.26
90.0	21.83	16.37	11.59	10.41	8.38	7.59	7.14	6.98	6.92
135.0	16.20	12.60	10.58	9.90	8.44	7.54	7.26	7.09	7.09
180.0	10.18	9.84	9.34	8.89	8.27	7.76	7.48	7.26	7.31
225.0	10.86	10.41	9.84	9.39	8.94	8.44	7.82	7.48	7.20
270.0	32.96	28.97	24.36	17.78	12.99	9.73	8.49	7.82	7.37
315.0	26.04	22.89	18.79	14.91	11.76	9.90	8.72	8.04	7.59
360.0	11.64	11.19	10.80	10.35	9.90	9.39	8.78	8.27	7.88

Intensity data(cd)

C/γ(°)	90.0
0.0	7.48
45.0	7.14
90.0	6.98
135.0	7.03
180.0	7.14
225.0	7.09
270.0	7.03
315.0	7.31
360.0	7.48