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Nata

LumCAT: 2-2135-M
Luminaire: BJB 47.360.1010
Report No: NATA0100
Test No: GC2019102811
LampCAT: TRIDONIC SLE G7 15MM
Lamp flux(lm): 2030.0
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 33.8500
Current(A): 0.4470
Power (W): 15.1300
PF: 1.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 1577.47
Efficiency(%): 77.71%
Lumens(lm)/Power(W): 104.26
Central intensity(cd): 11857.500
Maximum intensity(cd): 11857.500
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=17.7
 [C90/270]Total=17.7
Field angle(10%Imax): [C0/180]Total=37.7
 [C90/270]Total=37.7
Maximum s/h(1/2): C0_180=0.30 C90_270=0.30
Maximum s/h(1/4): C0_180=0.32 C90_270=0.32
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 77.71%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.336%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	11857.500	0.000	0	.000%	.000%
1.0	11799.141	11.319	11.319	.558%	.718%
2.0	11479.570	33.412	44.731	1.646%	2.836%
3.0	11148.750	54.120	98.851	2.666%	6.266%
4.0	10483.031	72.408	171.259	3.567%	10.857%
5.0	9686.180	86.767	258.026	4.274%	16.357%
6.0	8672.555	96.480	354.506	4.753%	22.473%
7.0	7646.063	101.289	455.795	4.990%	28.894%
8.0	6729.750	102.885	558.68	5.068%	35.416%
9.0	5811.539	101.640	660.321	5.007%	41.859%
10.0	4975.172	97.616	757.936	4.809%	48.048%
11.0	4310.086	92.779	850.715	4.570%	53.929%
12.0	3712.852	87.702	938.417	4.320%	59.489%
13.0	3098.180	80.830	1019.247	3.982%	64.613%
14.0	2717.578	74.441	1093.688	3.667%	69.332%
15.0	2363.766	69.759	1163.447	3.436%	73.754%
16.0	1975.500	63.582	1227.03	3.132%	77.785%
17.0	1670.977	56.785	1283.815	2.797%	81.384%
18.0	1359.682	49.969	1333.784	2.462%	84.552%
19.0	1151.381	43.687	1377.472	2.152%	87.321%
20.0	947.461	38.415	1415.886	1.892%	89.757%
21.0	740.454	32.411	1448.298	1.597%	91.811%
22.0	550.568	25.944	1474.241	1.278%	93.456%
23.0	390.916	19.755	1493.996	.973%	94.708%
24.0	259.910	14.229	1508.225	.701%	95.610%
25.0	159.398	9.534	1517.76	.470%	96.215%
26.0	68.386	5.377	1523.137	.265%	96.555%
27.0	28.730	2.376	1525.512	.117%	96.706%
28.0	16.411	1.143	1526.655	.056%	96.779%
29.0	14.723	0.815	1527.47	.040%	96.830%
30.0	13.725	0.768	1528.238	.038%	96.879%
31.0	12.832	0.739	1528.977	.036%	96.926%
32.0	12.122	0.715	1529.692	.035%	96.971%
33.0	11.623	0.700	1530.391	.034%	97.015%
34.0	11.159	0.689	1531.081	.034%	97.059%
35.0	10.779	0.681	1531.762	.034%	97.102%
36.0	10.512	0.678	1532.44	.033%	97.145%
37.0	10.287	0.678	1533.118	.033%	97.188%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	10.083	0.680	1533.798	.033%	97.231%
39.0	9.942	0.684	1534.482	.034%	97.275%
40.0	9.830	0.690	1535.171	.034%	97.318%
41.0	9.745	0.697	1535.868	.034%	97.363%
42.0	9.689	0.706	1536.575	.035%	97.407%
43.0	9.640	0.716	1537.291	.035%	97.453%
44.0	9.605	0.726	1538.017	.036%	97.499%
45.0	9.570	0.737	1538.754	.036%	97.545%
46.0	9.541	0.747	1539.501	.037%	97.593%
47.0	9.520	0.758	1540.259	.037%	97.641%
48.0	9.499	0.769	1541.028	.038%	97.690%
49.0	9.478	0.779	1541.807	.038%	97.739%
50.0	9.478	0.790	1542.598	.039%	97.789%
51.0	9.457	0.801	1543.399	.039%	97.840%
52.0	9.485	0.813	1544.212	.040%	97.891%
53.0	9.499	0.826	1545.038	.041%	97.944%
54.0	9.513	0.838	1545.876	.041%	97.997%
55.0	9.555	0.851	1546.727	.042%	98.051%
56.0	9.591	0.865	1547.592	.043%	98.106%
57.0	9.661	0.880	1548.472	.043%	98.162%
58.0	9.759	0.898	1549.37	.044%	98.219%
59.0	9.830	0.916	1550.286	.045%	98.277%
60.0	9.928	0.933	1551.219	.046%	98.336%
61.0	10.041	0.953	1552.172	.047%	98.396%
62.0	10.146	0.973	1553.145	.048%	98.458%
63.0	10.252	0.992	1554.137	.049%	98.521%
64.0	10.294	1.008	1555.145	.050%	98.585%
65.0	10.209	1.015	1556.16	.050%	98.649%
66.0	9.977	1.007	1557.167	.050%	98.713%
67.0	9.696	0.989	1558.156	.049%	98.775%
68.0	9.394	0.967	1559.123	.048%	98.837%
69.0	9.197	0.948	1560.072	.047%	98.897%
70.0	8.916	0.930	1561.002	.046%	98.956%
71.0	8.670	0.909	1561.911	.045%	99.013%
72.0	8.592	0.898	1562.809	.044%	99.070%
73.0	8.529	0.895	1563.704	.044%	99.127%
74.0	8.381	0.889	1564.593	.044%	99.184%
75.0	8.184	0.875	1565.468	.043%	99.239%

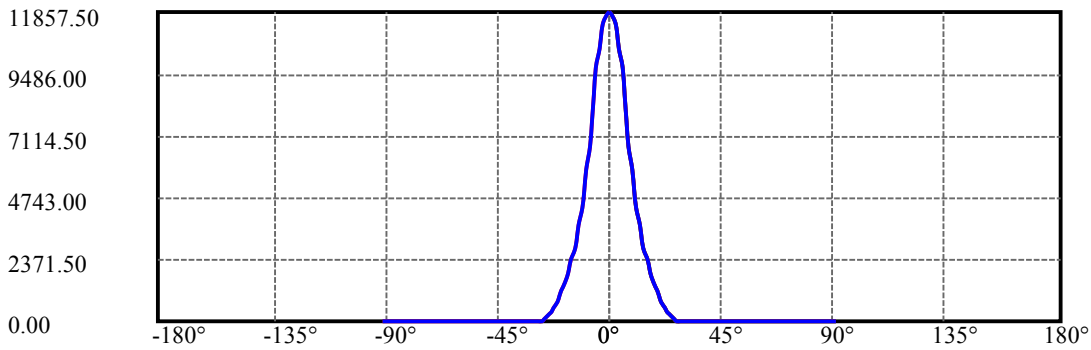
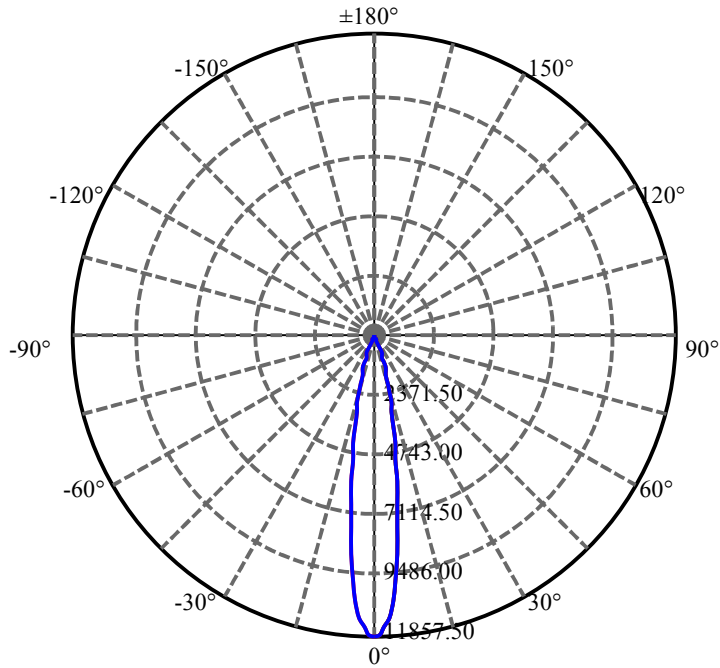
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	8.009	0.860	1566.328	.042%	99.293%
77.0	7.875	0.847	1567.175	.042%	99.347%
78.0	7.748	0.836	1568.011	.041%	99.400%
79.0	7.601	0.825	1568.836	.041%	99.452%
80.0	7.495	0.814	1569.649	.040%	99.504%
81.0	7.418	0.806	1570.456	.040%	99.555%
82.0	7.334	0.800	1571.256	.039%	99.606%
83.0	7.270	0.794	1572.05	.039%	99.656%
84.0	7.214	0.789	1572.839	.039%	99.706%
85.0	7.172	0.785	1573.624	.039%	99.756%
86.0	7.151	0.783	1574.407	.039%	99.806%
87.0	7.038	0.777	1575.183	.038%	99.855%
88.0	6.954	0.766	1575.95	.038%	99.903%
89.0	6.940	0.762	1576.711	.038%	99.952%
90.0	6.947	0.761	1577.473	.038%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1528.24	75.28%	96.88%
0-40	1535.17	75.62%	97.32%
0-60	1551.22	76.41%	98.34%
0-90	1576.71	77.67%	99.95%
0-120	1576.71	77.67%	99.95%
0-180	1577.47	77.71%	100.00%
60-90	26.43	1.30%	1.68%
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%
0-16.62	1261.98	62.17%	80.00%

ZONAL LUMEN SUMMARY

0-10	757.94
10-20	657.95
20-30	112.35
30-40	6.93
40-50	7.43
50-60	8.62
60-70	9.78
70-80	8.65
80-90	7.06
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: ———

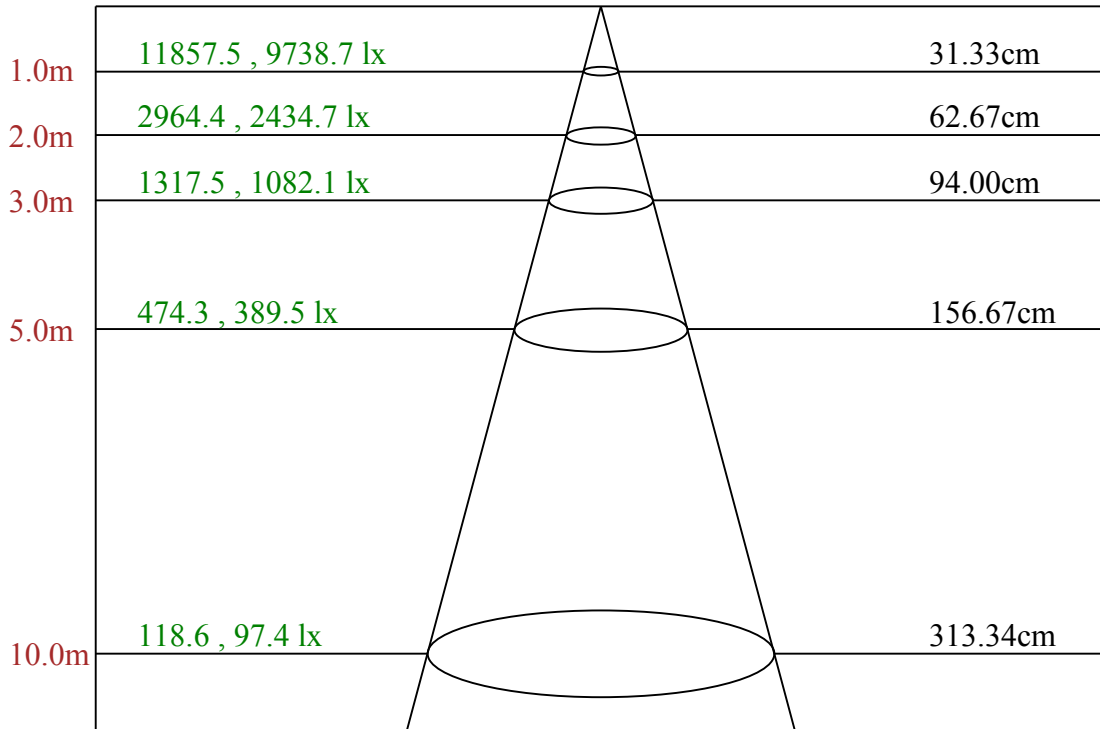
C90/C270: ———

Field angle(10%Imax):C0/180Left:18.8 Right:18.8

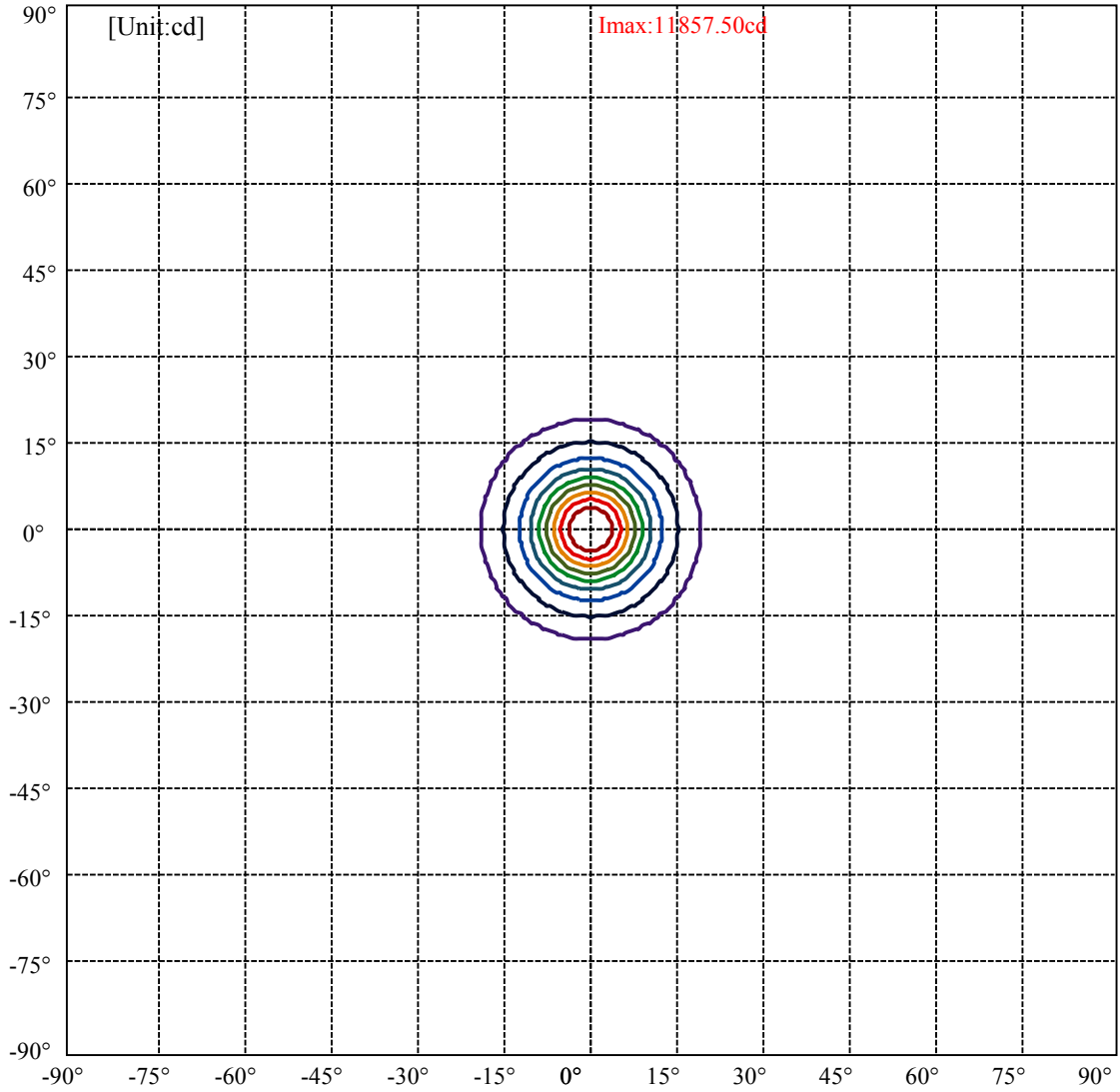
:C90/270Left:18.8 Right:18.8

Beam Angle(50%Imax):C0/180Left:8.9 Right:8.9

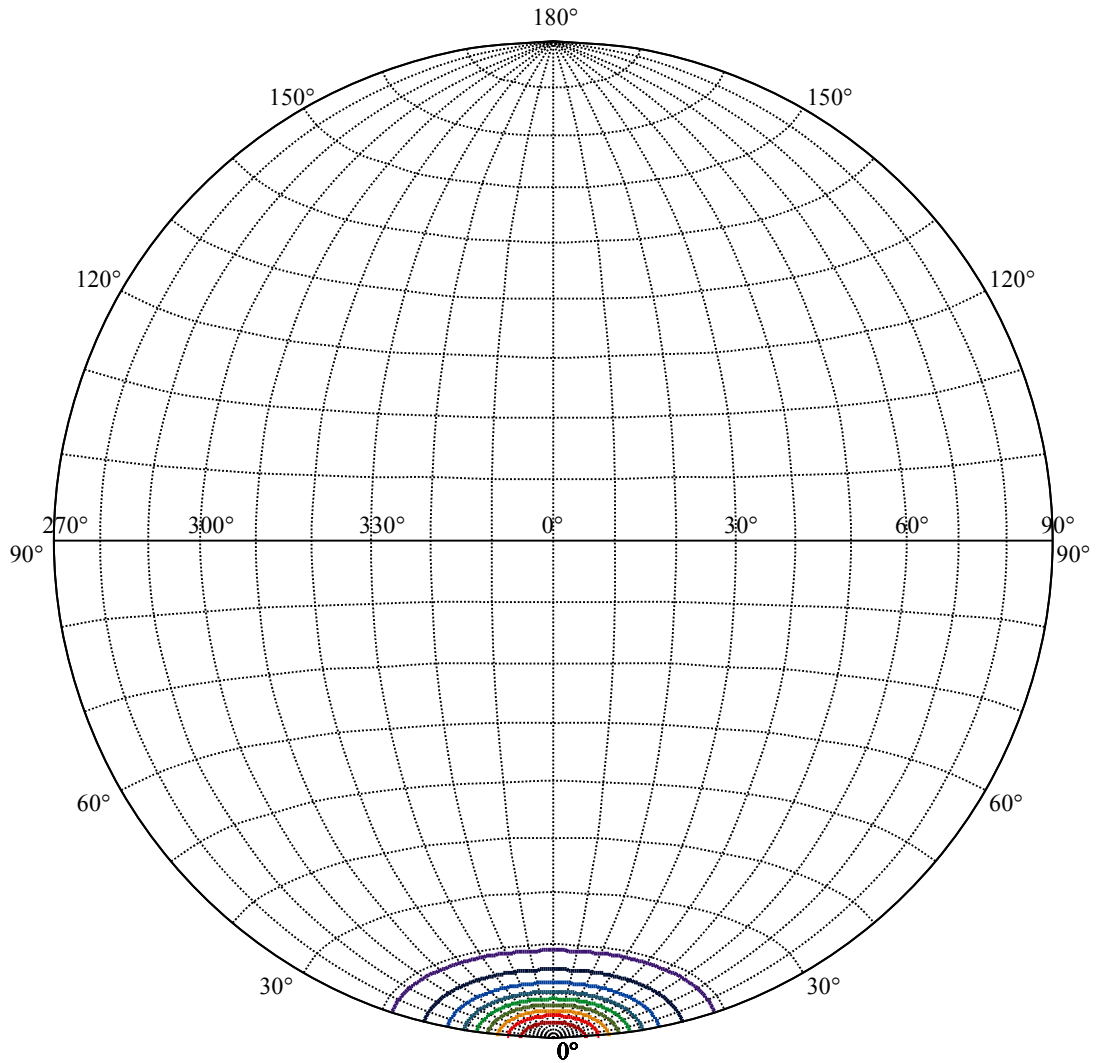
:C90/270Left:8.9 Right:8.9



Max , Ave Beam angle of C0 plane 17.81



(10%Imax) 1185.75	—
(20%Imax) 2371.5	—
(30%Imax) 3557.25	—
(40%Imax) 4743	—
(50%Imax) 5928.75	—
(60%Imax) 7114.5	—
(70%Imax) 8300.25	—
(80%Imax) 9486	—
(90%Imax) 10671.8	—



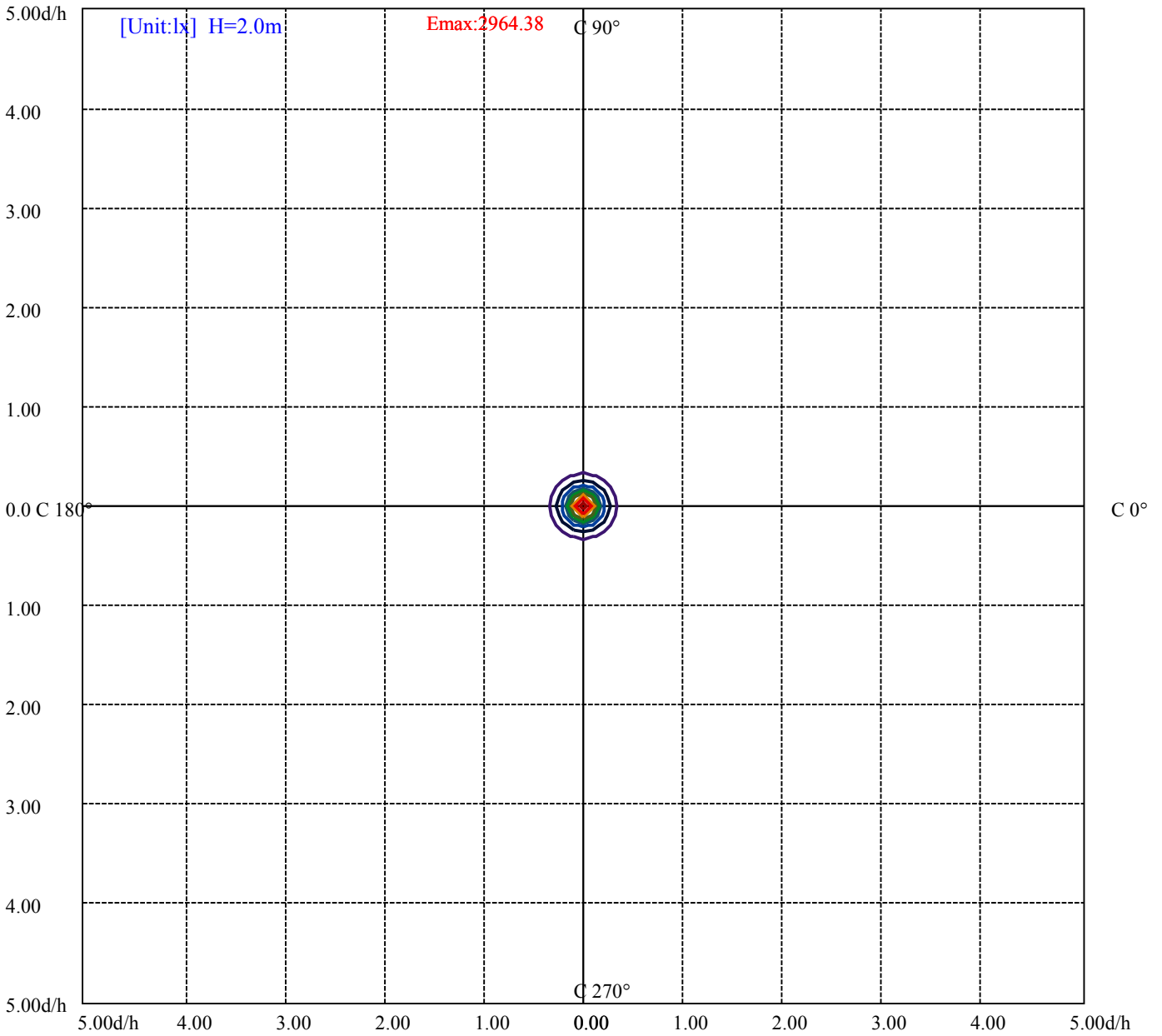
House

[Unit:cd]

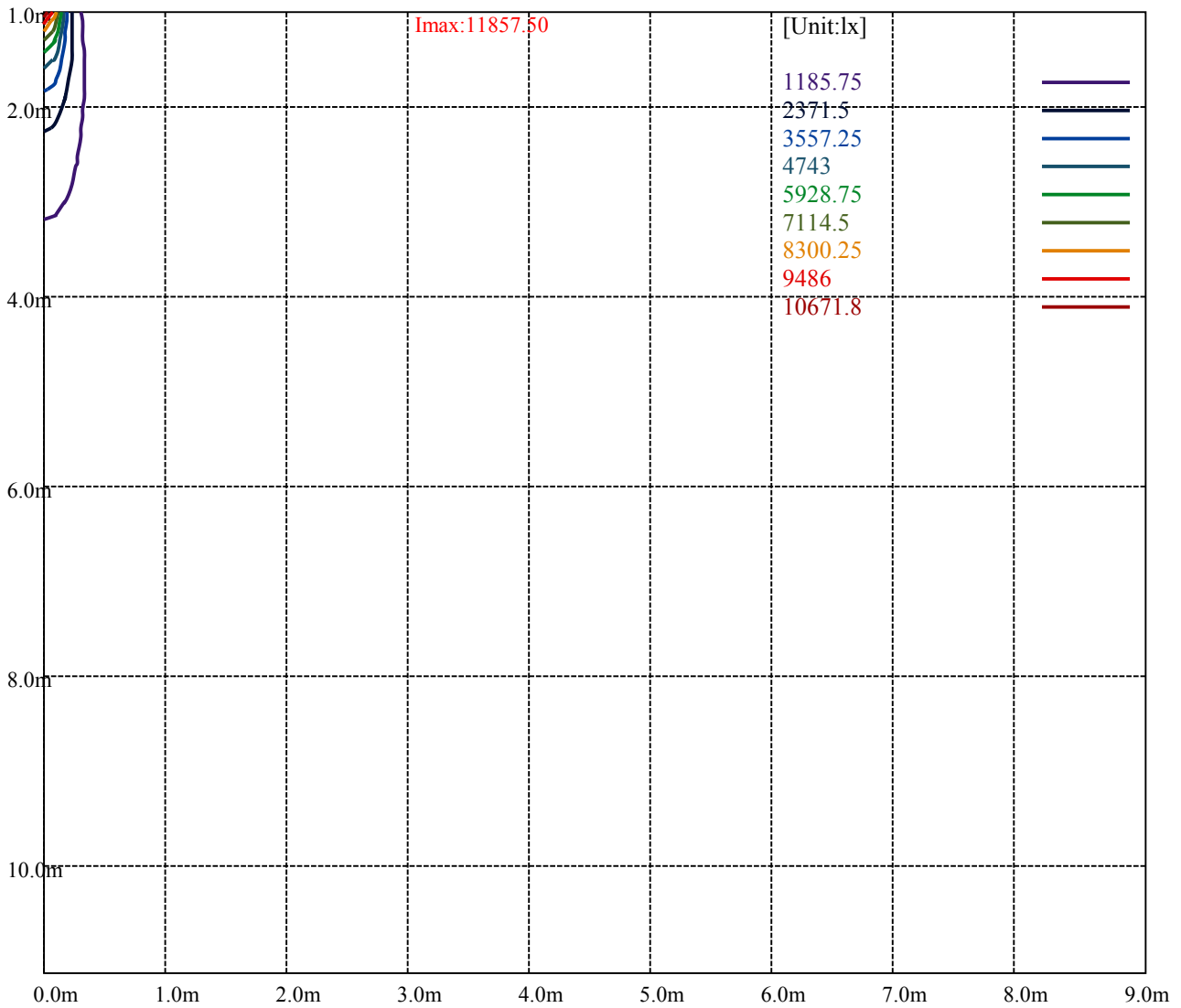
Road

Imax:11857.50

(10%Imax)	1185.75	—
(20%Imax)	2371.5	—
(30%Imax)	3557.25	—
(40%Imax)	4743	—
(50%Imax)	5928.75	—
(60%Imax)	7114.5	—
(70%Imax)	8300.25	—
(80%Imax)	9486	—
(90%Imax)	10671.8	—



- (10%Emax) 296.4375
- (20%Emax) 592.875
- (30%Emax) 889.3125
- (40%Emax) 1185.75
- (50%Emax) 1482.188
- (60%Emax) 1778.623
- (70%Emax) 2075.06
- (80%Emax) 2371.498
- (90%Emax) 2667.925



Luminance Table

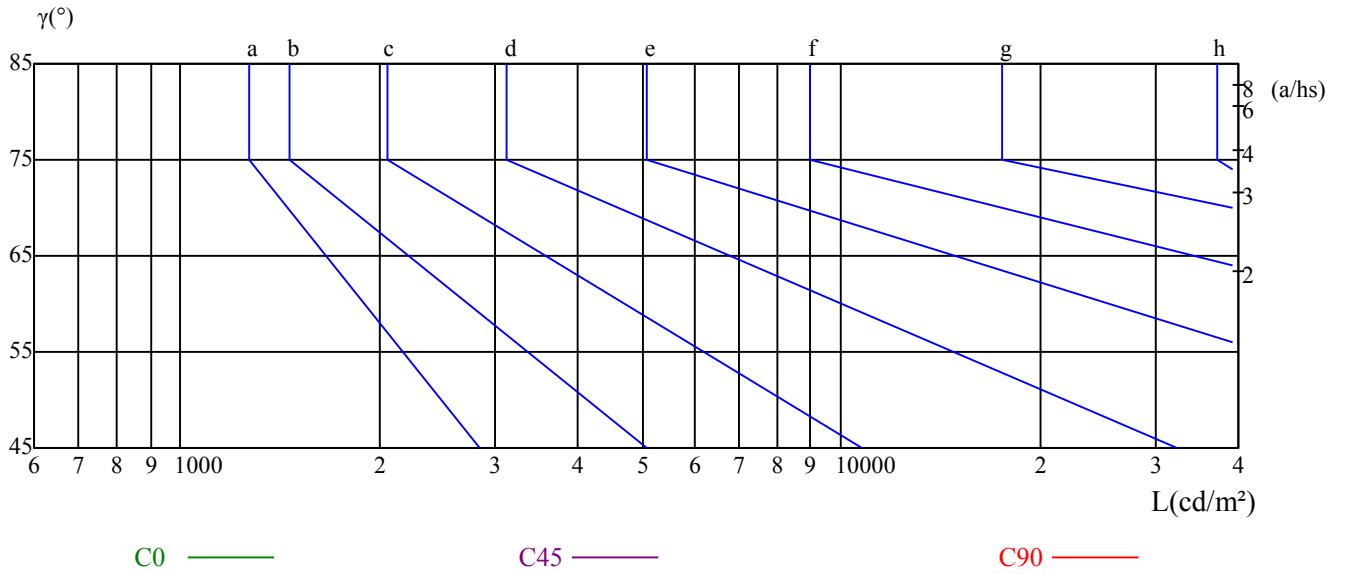
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

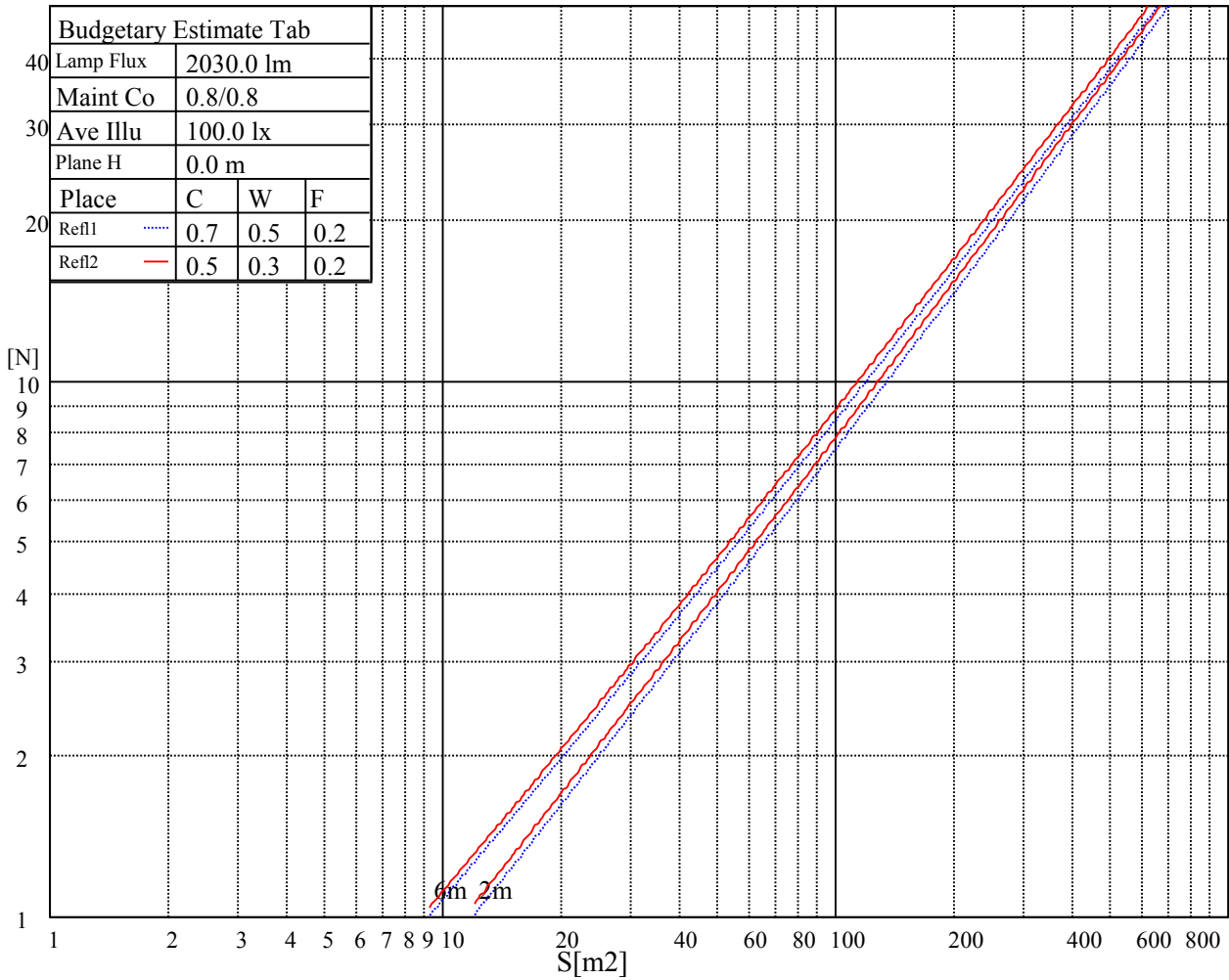
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

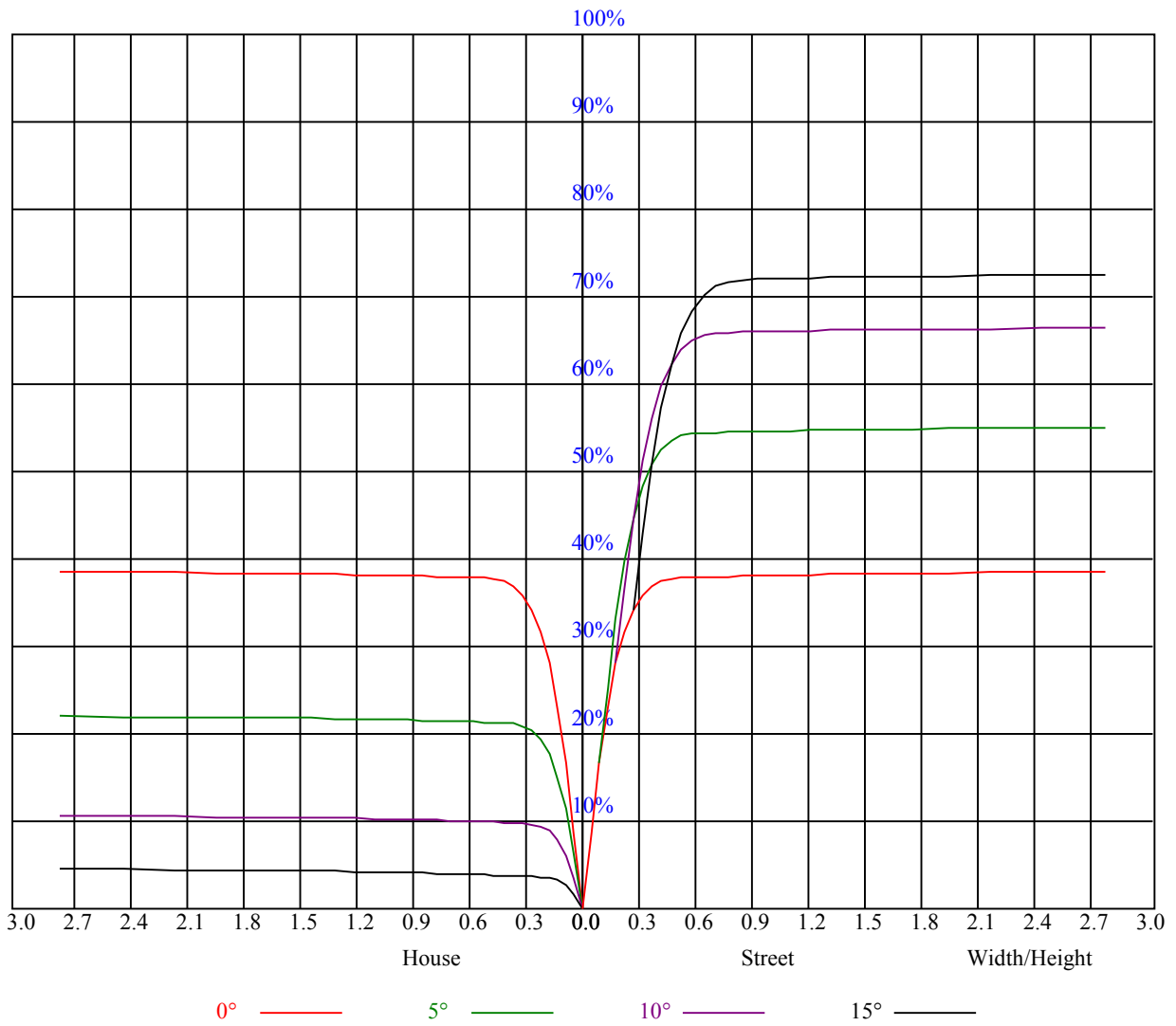
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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



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	11846.25	11846.25	11705.63	11396.25	10788.75	10074.38	9135.00	8133.75	7228.13
45.0	11863.13	11823.75	11643.75	11311.88	10659.38	9922.50	8949.38	7880.63	6941.25
90.0	11840.63	11728.13	11178.56	10814.06	10080.56	9218.81	8034.19	7080.75	6189.75
135.0	11880.00	11801.25	11548.13	11109.38	10366.88	9455.63	8538.75	7453.13	6536.25
180.0	11846.25	11722.50	11182.50	10818.56	10095.75	9241.88	8069.06	7089.19	6198.75
225.0	11863.13	11773.13	11178.00	11111.63	10368.00	9539.44	8516.25	7436.25	6499.13
270.0	11840.63	11863.13	11750.63	11480.63	10906.88	10203.75	9264.38	8246.25	7301.25
315.0	11880.00	11835.00	11649.38	11147.63	10598.06	9833.06	8873.44	7848.56	6943.50
360.0	11846.25	11846.25	11705.63	11396.25	10788.75	10074.38	9135.00	8133.75	7228.13
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	6294.38	5461.88	4775.63	4151.25	3465.00	3009.38	2851.88	2280.94	1906.88
45.0	6007.50	5186.25	4500.00	3960.00	3234.38	2851.88	2442.38	2087.44	1773.56
90.0	5391.00	4513.50	3899.81	3368.81	2811.94	2443.50	2125.13	1805.06	1515.94
135.0	5630.63	4815.00	4156.88	3571.88	2975.63	2868.75	2245.50	1871.44	1608.75
180.0	5202.00	4498.88	3875.06	3218.06	2773.13	2394.56	1994.63	1745.44	1459.13
225.0	5653.69	4731.19	4069.13	3485.81	2877.19	2480.63	2144.81	1811.81	1519.88
270.0	6288.75	5400.00	4691.25	4044.38	3341.25	2874.38	2656.69	2113.88	1783.13
315.0	6024.38	5194.69	4512.94	3902.63	3306.94	2817.56	2449.13	2088.00	1800.56
360.0	6294.38	5461.88	4775.63	4151.25	3465.00	3009.38	2851.88	2280.94	1906.88
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1647.00	1407.38	1141.31	933.75	745.31	546.19	366.19	293.63	123.13
45.0	1518.75	1254.38	1009.13	810.56	603.56	439.88	293.06	154.91	78.92
90.0	1086.13	1032.81	829.63	623.70	440.10	296.89	173.93	85.44	35.44
135.0	1361.25	1116.56	889.31	699.75	505.13	337.50	300.94	117.39	52.82
180.0	1097.55	990.84	793.35	571.50	413.33	280.91	153.79	81.56	32.68
225.0	1121.96	1043.55	843.98	638.49	457.88	315.11	188.49	92.08	44.10
270.0	1527.19	1269.56	1029.94	830.25	627.75	467.44	304.88	288.00	93.49
315.0	1517.63	1095.98	1043.04	815.63	611.49	443.42	298.01	162.17	86.51
360.0	1647.00	1407.38	1141.31	933.75	745.31	546.19	366.19	293.63	123.13
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	56.14	20.59	16.14	14.85	13.89	12.94	12.26	11.76	11.19
45.0	30.09	16.54	15.24	14.29	13.33	12.71	12.21	11.81	11.48
90.0	16.14	14.23	13.28	12.49	11.76	11.25	10.91	10.58	10.29
135.0	17.27	14.68	13.39	12.49	11.70	10.97	10.52	10.07	9.68
180.0	16.71	14.96	14.06	13.33	12.66	12.15	11.70	11.31	11.03
225.0	19.69	16.71	15.64	14.68	13.73	13.11	12.66	12.15	11.81
270.0	40.84	17.38	15.41	14.29	13.28	12.49	11.98	11.48	11.08
315.0	32.96	16.20	14.63	13.39	12.32	11.36	10.74	10.13	9.68
360.0	56.14	20.59	16.14	14.85	13.89	12.94	12.26	11.76	11.19
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	10.86	10.58	10.29	10.13	10.01	9.96	9.84	9.84	9.79
45.0	11.25	11.08	10.91	10.80	10.74	10.63	10.58	10.58	10.58
90.0	10.13	9.90	9.73	9.62	9.51	9.45	9.39	9.34	9.34
135.0	9.45	9.23	9.00	8.83	8.72	8.61	8.55	8.49	8.44
180.0	10.86	10.63	10.52	10.41	10.29	10.24	10.18	10.13	10.07
225.0	11.53	11.36	11.19	11.08	11.03	10.97	10.97	10.97	10.97
270.0	10.74	10.52	10.29	10.13	9.96	9.90	9.84	9.73	9.68
315.0	9.28	9.00	8.72	8.55	8.38	8.21	8.16	8.04	7.99
360.0	10.86	10.58	10.29	10.13	10.01	9.96	9.84	9.84	9.79

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	9.73	9.73	9.73	9.73	9.73	9.68	9.62	9.62	9.62
45.0	10.58	10.52	10.52	10.52	10.52	10.52	10.52	10.63	10.74
90.0	9.28	9.23	9.23	9.17	9.17	9.11	9.06	9.06	9.06
135.0	8.38	8.38	8.33	8.27	8.21	8.27	8.21	8.21	8.16
180.0	10.01	10.01	9.96	9.90	9.84	9.90	9.84	9.84	9.79
225.0	10.97	10.97	10.97	11.03	11.08	11.14	11.25	11.36	11.53
270.0	9.68	9.62	9.56	9.51	9.45	9.39	9.34	9.34	9.28
315.0	7.93	7.88	7.88	7.88	7.82	7.82	7.82	7.82	7.82
360.0	9.73	9.73	9.73	9.73	9.73	9.68	9.62	9.62	9.62
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	9.56	9.51	9.51	9.45	9.45	9.39	9.34	9.28	9.28
45.0	10.91	11.08	11.25	11.48	11.81	12.15	12.54	13.11	13.73
90.0	9.00	8.94	8.89	8.89	8.89	8.83	8.83	8.78	8.78
135.0	8.16	8.10	8.10	8.10	8.10	8.04	8.04	8.04	7.99
180.0	9.73	9.73	9.68	9.62	9.56	9.51	9.45	9.39	9.34
225.0	11.70	11.98	12.32	12.77	13.33	13.78	14.29	14.91	15.24
270.0	9.23	9.28	9.23	9.23	9.17	9.17	9.17	9.11	9.11
315.0	7.82	7.82	7.76	7.76	7.76	7.76	7.76	7.71	7.71
360.0	9.56	9.51	9.51	9.45	9.45	9.39	9.34	9.28	9.28
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	9.28	9.28	9.28	9.28	9.28	9.23	9.23	9.17	9.06
45.0	14.34	14.79	14.68	14.01	12.94	11.48	10.58	9.84	8.94
90.0	8.78	8.78	8.78	8.78	8.89	9.11	9.28	9.23	9.28
135.0	7.99	7.99	7.93	7.93	7.93	7.93	7.93	7.99	7.99
180.0	9.34	9.28	9.28	9.28	9.28	9.23	9.17	9.06	8.94
225.0	15.53	15.58	15.02	14.01	12.71	11.64	10.80	9.45	8.66
270.0	9.06	9.00	9.00	8.89	8.89	8.89	8.94	9.00	8.83
315.0	7.71	7.65	7.71	7.65	7.65	7.65	7.65	7.59	7.65
360.0	9.28	9.28	9.28	9.28	9.28	9.23	9.23	9.17	9.06
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	8.94	8.83	8.72	8.49	8.38	8.27	8.16	7.99	7.76
45.0	8.72	8.55	8.38	8.27	8.10	7.93	7.76	7.59	7.48
90.0	9.28	9.34	9.00	8.38	7.93	7.82	7.71	7.54	7.48
135.0	8.04	8.04	8.04	7.93	7.82	7.59	7.54	7.37	7.31
180.0	8.78	8.61	8.49	8.38	8.16	8.04	7.88	7.71	7.59
225.0	8.49	8.38	8.21	7.99	7.88	7.76	7.65	7.59	7.48
270.0	8.78	8.78	8.49	8.33	8.21	8.04	7.88	7.76	7.65
315.0	7.71	7.71	7.71	7.71	7.59	7.54	7.43	7.26	7.20
360.0	8.94	8.83	8.72	8.49	8.38	8.27	8.16	7.99	7.76
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	7.65	7.54	7.43	7.31	7.26	7.20	7.20	7.03	7.03
45.0	7.43	7.31	7.26	7.20	7.14	7.14	7.14	6.92	6.92
90.0	7.37	7.26	7.20	7.14	7.09	7.14	6.98	6.92	6.86
135.0	7.26	7.20	7.20	7.14	7.09	7.09	7.03	6.98	6.98
180.0	7.48	7.43	7.31	7.26	7.20	7.14	7.03	6.98	6.98
225.0	7.43	7.37	7.31	7.26	7.26	7.14	6.92	6.92	6.92
270.0	7.54	7.43	7.31	7.26	7.26	7.20	6.98	6.92	6.86
315.0	7.20	7.14	7.14	7.14	7.09	7.14	7.03	6.98	6.98
360.0	7.65	7.54	7.43	7.31	7.26	7.20	7.20	7.03	7.03

Intensity data(cd)

C/ γ ($^{\circ}$)	90.0
0.0	7.03
45.0	6.92
90.0	6.92
135.0	6.98
180.0	6.98
225.0	6.92
270.0	6.92
315.0	6.92
360.0	7.03