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Nata

LumCAT: 2-2164-M
Luminaire: BJB 47.360.5080
Report No: 200326-B005
Test No: 200326-C005
LampCAT: NICHIA NFCWJ108B-V3
Lamp flux(lm): 2596.0
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 34.2300
Current(A): 0.6020
Power (W): 20.6000
PF: 0.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 2000.83
Efficiency(%): 77.07%
Lumens(lm)/Power(W): 97.13
Central intensity(cd): 8961.328
Maximum intensity(cd): 8961.328
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=24.9
 [C90/270]Total=24.9
Field angle(10%Imax): [C0/180]Total=47.4
 [C90/270]Total=47.4
Maximum s/h(1/2): C0_180=0.42 C90_270=0.42
Maximum s/h(1/4): C0_180=0.43 C90_270=0.43
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 77.07%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.987%

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/3/26
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	8961.328	0.000	0	.000%	.000%
1.0	8925.609	8.559	8.559	.330%	.428%
2.0	8811.000	25.457	34.016	.981%	1.700%
3.0	8615.602	41.679	75.695	1.605%	3.783%
4.0	8366.414	56.844	132.539	2.190%	6.624%
5.0	8068.500	70.702	203.241	2.724%	10.158%
6.0	7661.672	82.666	285.907	3.184%	14.289%
7.0	7228.617	92.424	378.331	3.560%	18.909%
8.0	6789.094	100.322	478.653	3.864%	23.923%
9.0	6265.195	105.798	584.451	4.075%	29.210%
10.0	5719.219	108.455	692.905	4.178%	34.631%
11.0	5232.586	109.431	802.337	4.215%	40.100%
12.0	4729.078	108.895	911.232	4.195%	45.543%
13.0	4194.773	105.904	1017.135	4.079%	50.836%
14.0	3759.398	101.813	1118.948	3.922%	55.924%
15.0	3335.836	97.407	1216.355	3.752%	60.792%
16.0	2937.375	91.920	1308.275	3.541%	65.387%
17.0	2572.734	85.807	1394.082	3.305%	69.675%
18.0	2249.859	79.514	1473.596	3.063%	73.649%
19.0	1963.336	73.301	1546.897	2.824%	77.313%
20.0	1706.766	67.173	1614.07	2.588%	80.670%
21.0	1442.440	60.471	1674.541	2.329%	83.692%
22.0	1237.901	53.863	1728.404	2.075%	86.384%
23.0	1044.162	47.884	1776.288	1.845%	88.777%
24.0	839.876	41.192	1817.479	1.587%	90.836%
25.0	656.902	34.033	1851.513	1.311%	92.537%
26.0	496.202	27.219	1878.732	1.049%	93.897%
27.0	355.141	20.828	1899.56	.802%	94.938%
28.0	225.352	14.697	1914.257	.566%	95.673%
29.0	134.332	9.410	1923.668	.362%	96.143%
30.0	62.655	5.319	1928.986	.205%	96.409%
31.0	29.595	2.567	1931.553	.099%	96.537%
32.0	17.866	1.360	1932.913	.052%	96.605%
33.0	16.235	1.005	1933.918	.039%	96.656%
34.0	15.476	0.960	1934.877	.037%	96.704%
35.0	14.787	0.940	1935.817	.036%	96.751%
36.0	14.288	0.926	1936.743	.036%	96.797%
37.0	13.901	0.919	1937.662	.035%	96.843%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	13.521	0.915	1938.578	.035%	96.889%
39.0	13.219	0.913	1939.49	.035%	96.934%
40.0	12.973	0.913	1940.404	.035%	96.980%
41.0	12.741	0.916	1941.319	.035%	97.026%
42.0	12.558	0.919	1942.239	.035%	97.071%
43.0	12.396	0.924	1943.163	.036%	97.118%
44.0	12.284	0.931	1944.094	.036%	97.164%
45.0	12.192	0.941	1945.035	.036%	97.211%
46.0	12.108	0.950	1945.985	.037%	97.259%
47.0	12.066	0.961	1946.947	.037%	97.307%
48.0	12.009	0.973	1947.92	.037%	97.355%
49.0	11.974	0.985	1948.905	.038%	97.405%
50.0	11.953	0.998	1949.903	.038%	97.455%
51.0	11.953	1.011	1950.914	.039%	97.505%
52.0	11.932	1.025	1951.939	.039%	97.556%
53.0	11.904	1.037	1952.976	.040%	97.608%
54.0	11.890	1.049	1954.024	.040%	97.661%
55.0	11.869	1.061	1955.085	.041%	97.714%
56.0	11.869	1.073	1956.158	.041%	97.767%
57.0	11.841	1.084	1957.242	.042%	97.821%
58.0	11.820	1.094	1958.336	.042%	97.876%
59.0	11.813	1.105	1959.441	.043%	97.931%
60.0	11.848	1.118	1960.558	.043%	97.987%
61.0	11.890	1.133	1961.691	.044%	98.044%
62.0	11.981	1.150	1962.841	.044%	98.101%
63.0	12.108	1.172	1964.013	.045%	98.160%
64.0	12.410	1.203	1965.216	.046%	98.220%
65.0	12.839	1.250	1966.466	.048%	98.282%
66.0	13.296	1.304	1967.77	.050%	98.348%
67.0	14.006	1.373	1969.143	.053%	98.416%
68.0	14.808	1.460	1970.602	.056%	98.489%
69.0	15.687	1.556	1972.158	.060%	98.567%
70.0	16.566	1.656	1973.814	.064%	98.650%
71.0	17.466	1.759	1975.573	.068%	98.738%
72.0	18.098	1.849	1977.422	.071%	98.830%
73.0	18.436	1.910	1979.333	.074%	98.925%
74.0	18.499	1.942	1981.275	.075%	99.022%
75.0	18.162	1.937	1983.212	.075%	99.119%

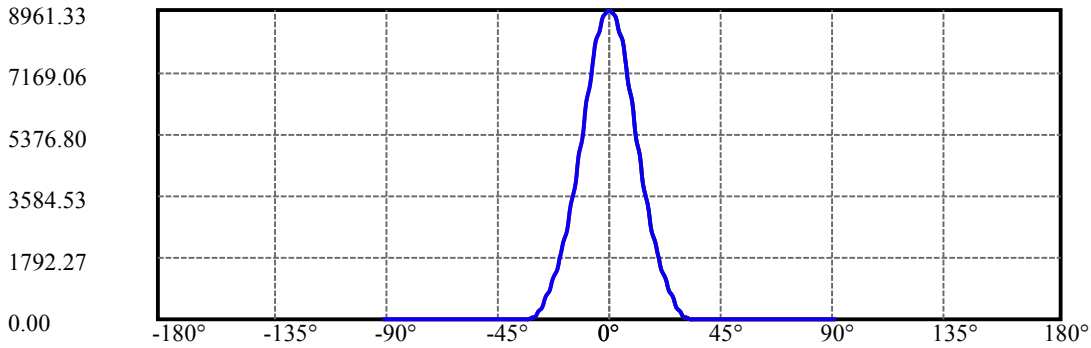
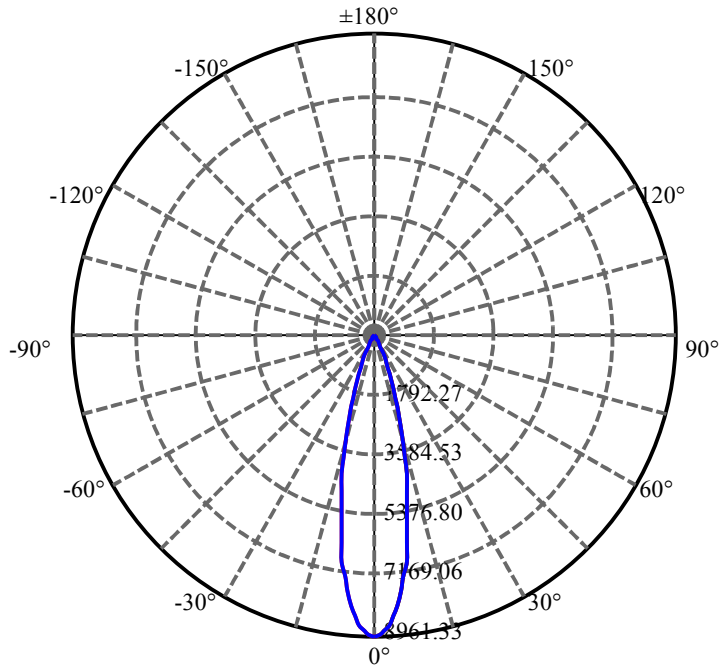
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	17.191	1.877	1985.088	.072%	99.213%
77.0	15.855	1.762	1986.85	.068%	99.301%
78.0	14.280	1.613	1988.463	.062%	99.382%
79.0	12.586	1.444	1989.907	.056%	99.454%
80.0	11.074	1.276	1991.183	.049%	99.518%
81.0	10.055	1.143	1992.325	.044%	99.575%
82.0	9.422	1.056	1993.381	.041%	99.628%
83.0	9.056	1.004	1994.386	.039%	99.678%
84.0	8.831	0.974	1995.36	.038%	99.726%
85.0	8.684	0.956	1996.316	.037%	99.774%
86.0	8.473	0.938	1997.254	.036%	99.821%
87.0	8.325	0.919	1998.173	.035%	99.867%
88.0	8.149	0.902	1999.076	.035%	99.912%
89.0	7.980	0.884	1999.96	.034%	99.956%
90.0	7.945	0.873	2000.833	.034%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1928.99	74.31%	96.41%
0-40	1940.40	74.75%	96.98%
0-60	1960.56	75.52%	97.99%
0-90	1999.96	77.04%	99.96%
0-120	1999.96	77.04%	99.96%
0-180	2000.83	77.07%	100.00%
60-90	40.52	1.56%	2.03%
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%
0-19.80	1600.67	61.66%	80.00%

ZONAL LUMEN SUMMARY

0-10	692.91
10-20	921.16
20-30	314.92
30-40	11.42
40-50	9.50
50-60	10.66
60-70	13.26
70-80	17.37
80-90	8.78
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: ———

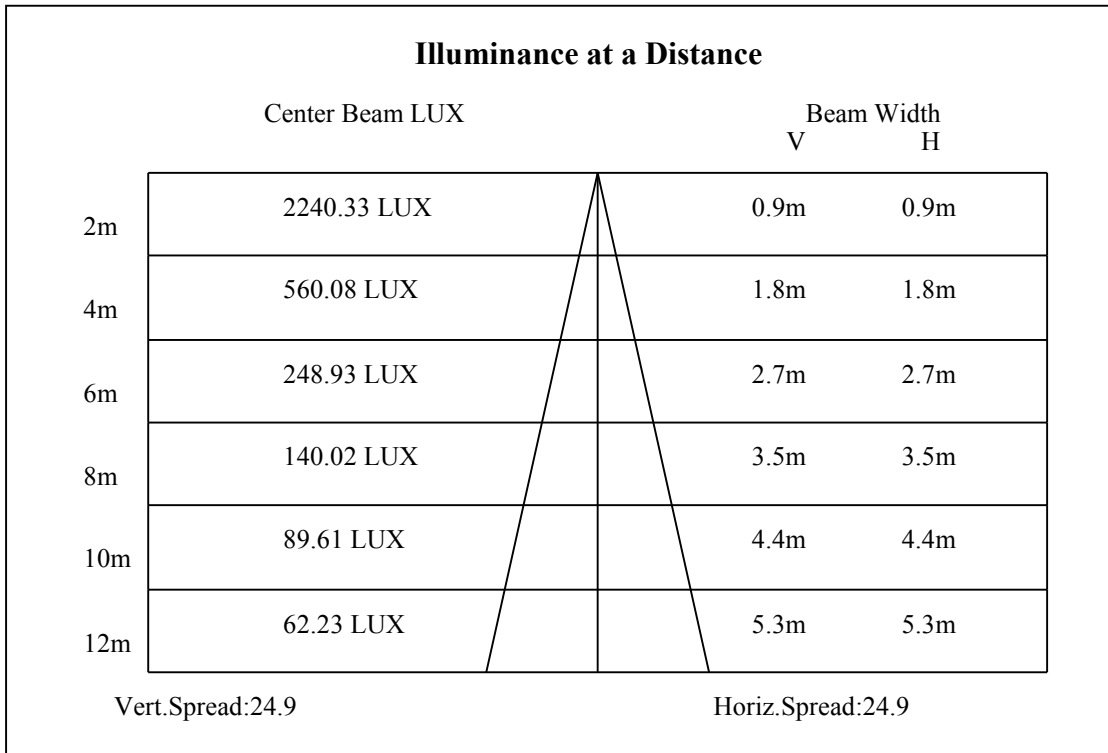
C90/C270: ———

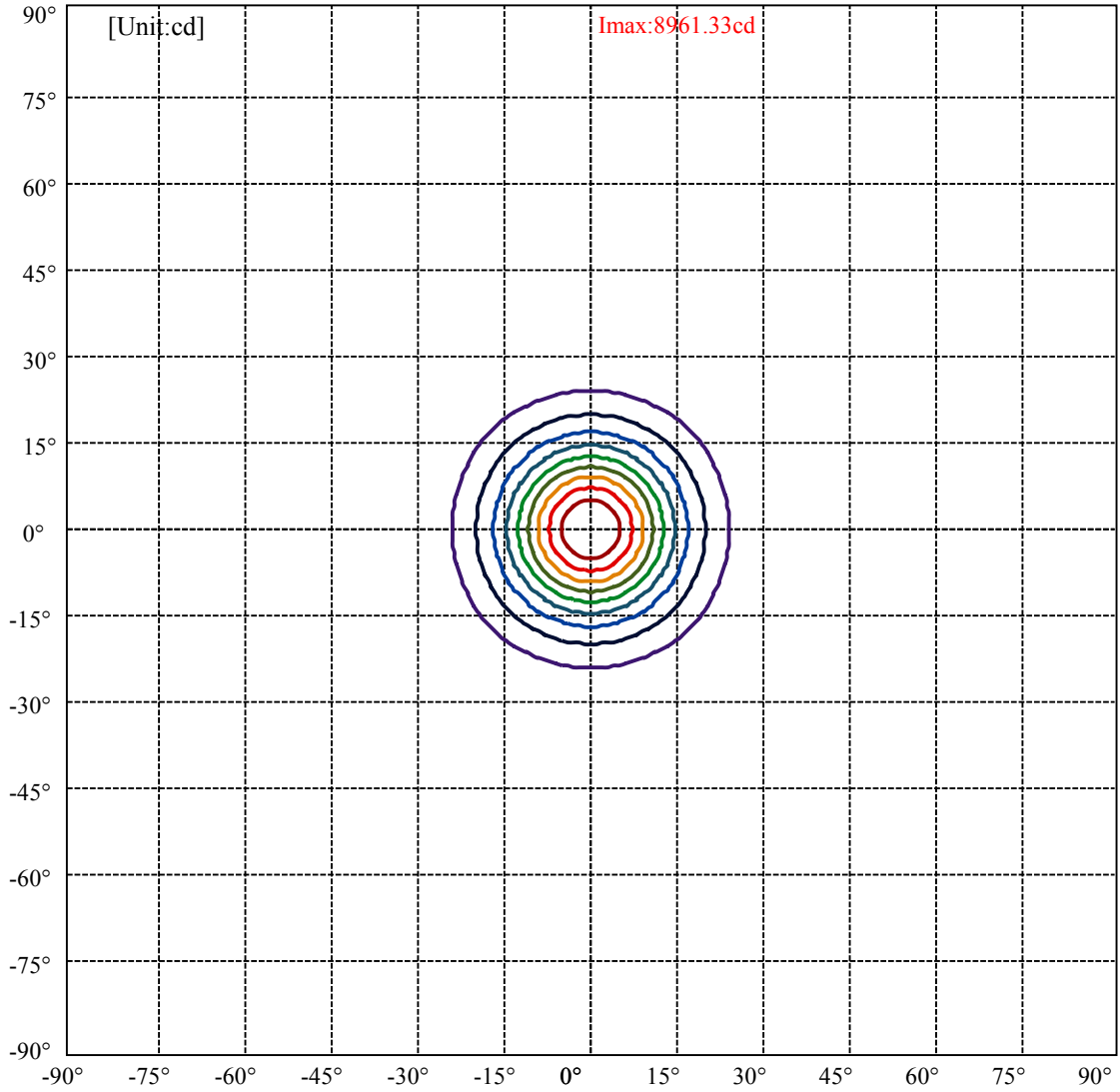
Field angle(10%Imax):C0/180Left:23.7 Right:23.7

:C90/270Left:23.7 Right:23.7

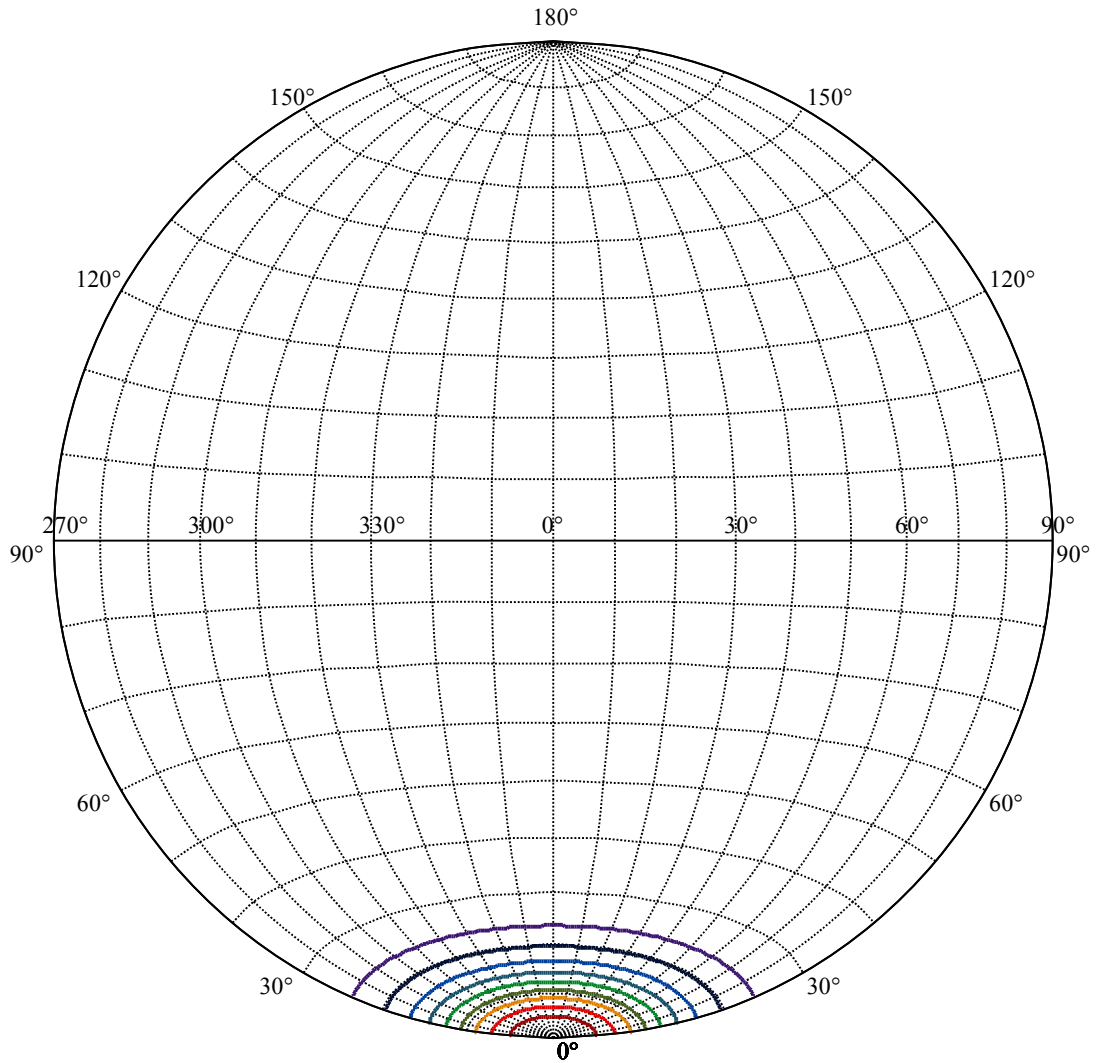
Beam Angle(50%Imax):C0/180Left:12.5 Right:12.5

:C90/270Left:12.5 Right:12.5





(10%Imax) 896.133	—
(20%Imax) 1792.27	—
(30%Imax) 2688.4	—
(40%Imax) 3584.53	—
(50%Imax) 4480.66	—
(60%Imax) 5376.8	—
(70%Imax) 6272.93	—
(80%Imax) 7169.06	—
(90%Imax) 8065.2	—



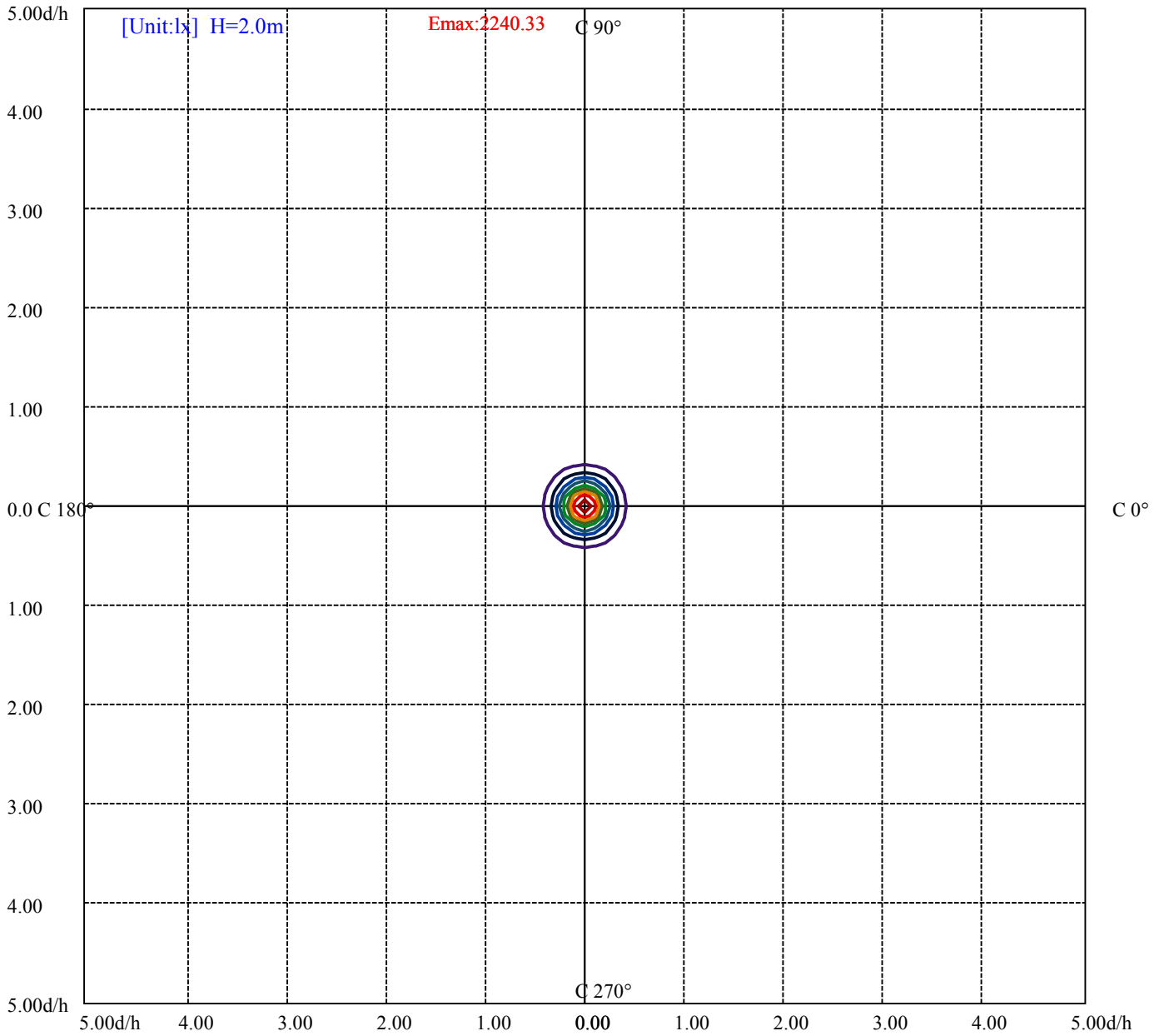
House

[Unit:cd]

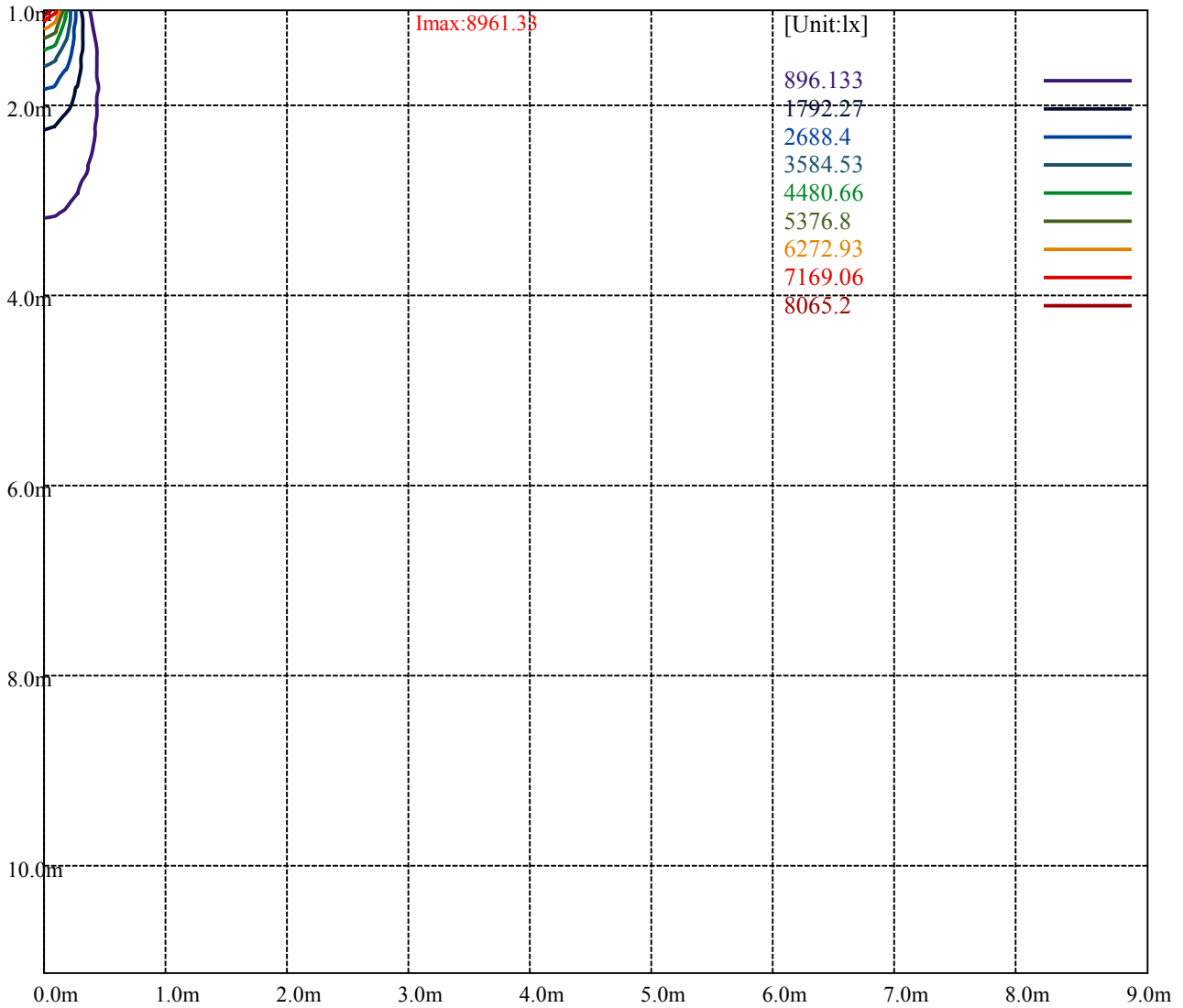
Road

Imax:8961.33

(10%Imax)	896.133	—
(20%Imax)	1792.27	—
(30%Imax)	2688.4	—
(40%Imax)	3584.53	—
(50%Imax)	4480.66	—
(60%Imax)	5376.8	—
(70%Imax)	6272.93	—
(80%Imax)	7169.06	—
(90%Imax)	8065.2	—



- (10%Emax) 224.033
- (20%Emax) 448.065
- (30%Emax) 672.1
- (40%Emax) 896.1325
- (50%Emax) 1120.165
- (60%Emax) 1344.198
- (70%Emax) 1568.233
- (80%Emax) 1792.265
- (90%Emax) 2016.297



Luminance Table

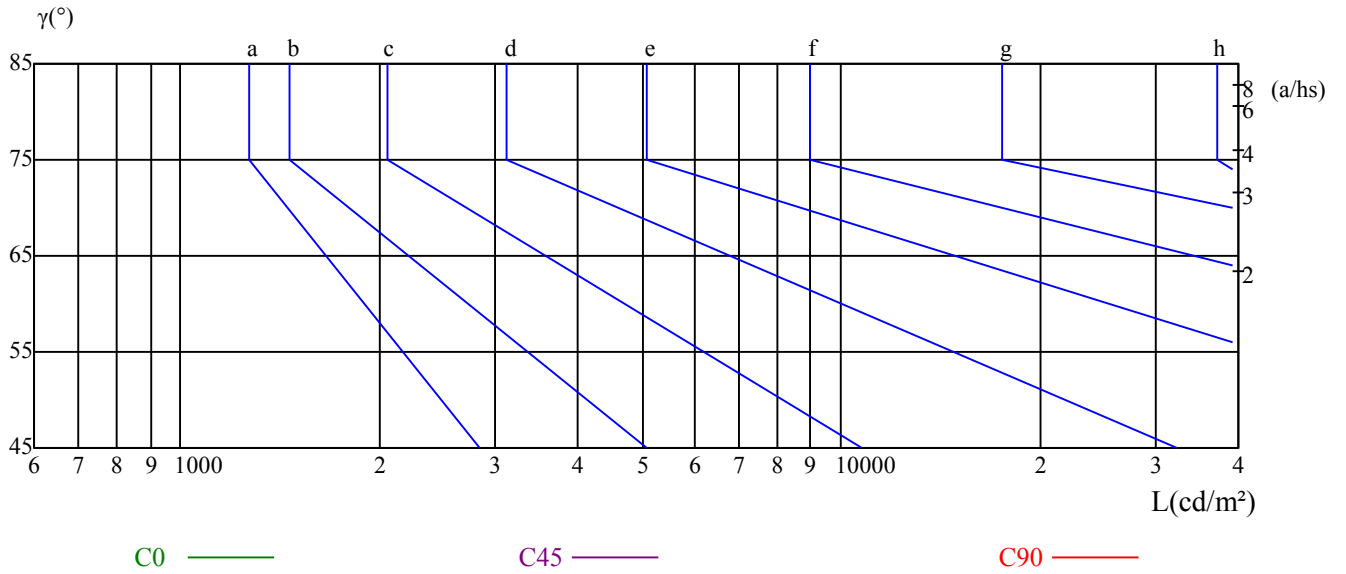
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

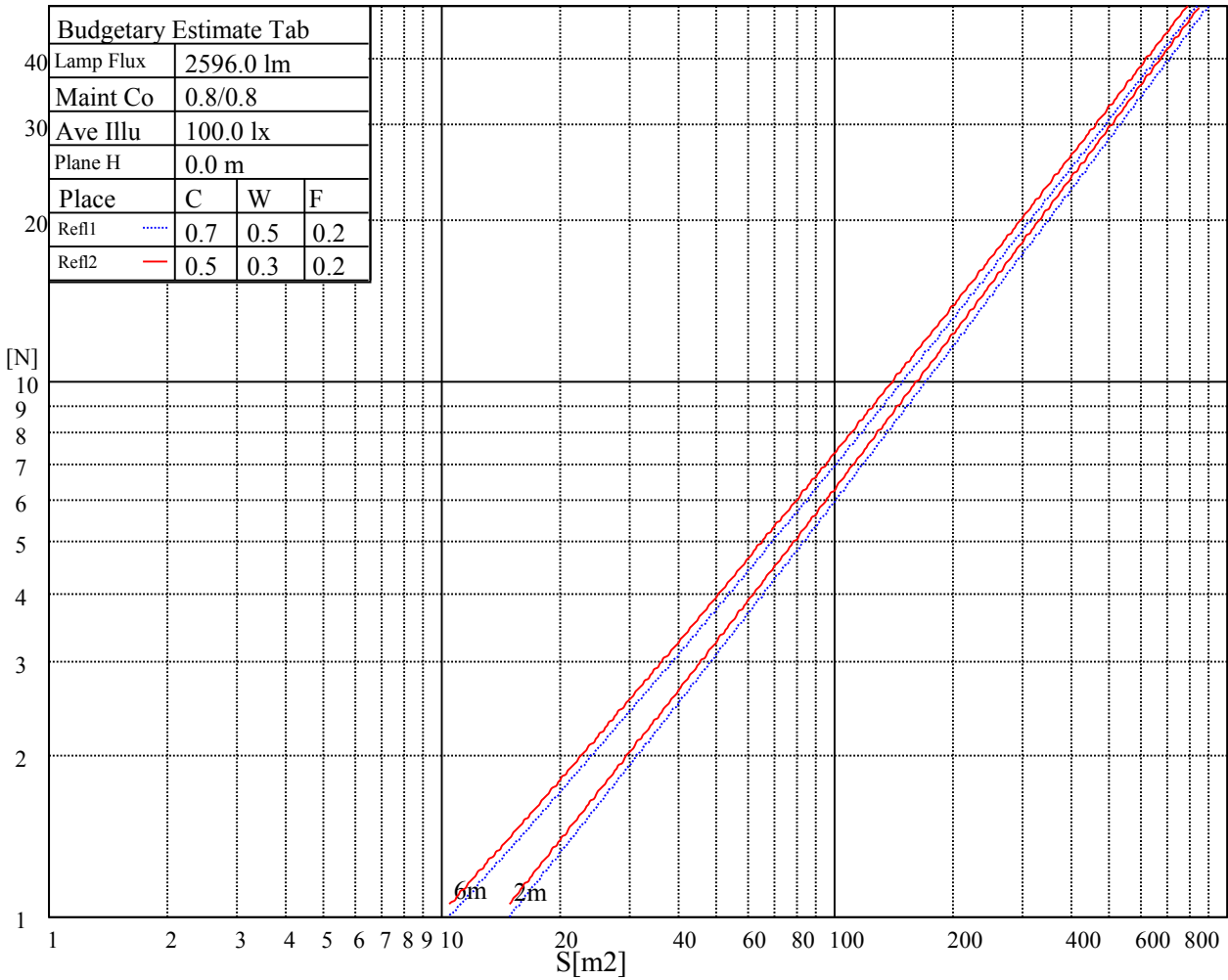
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

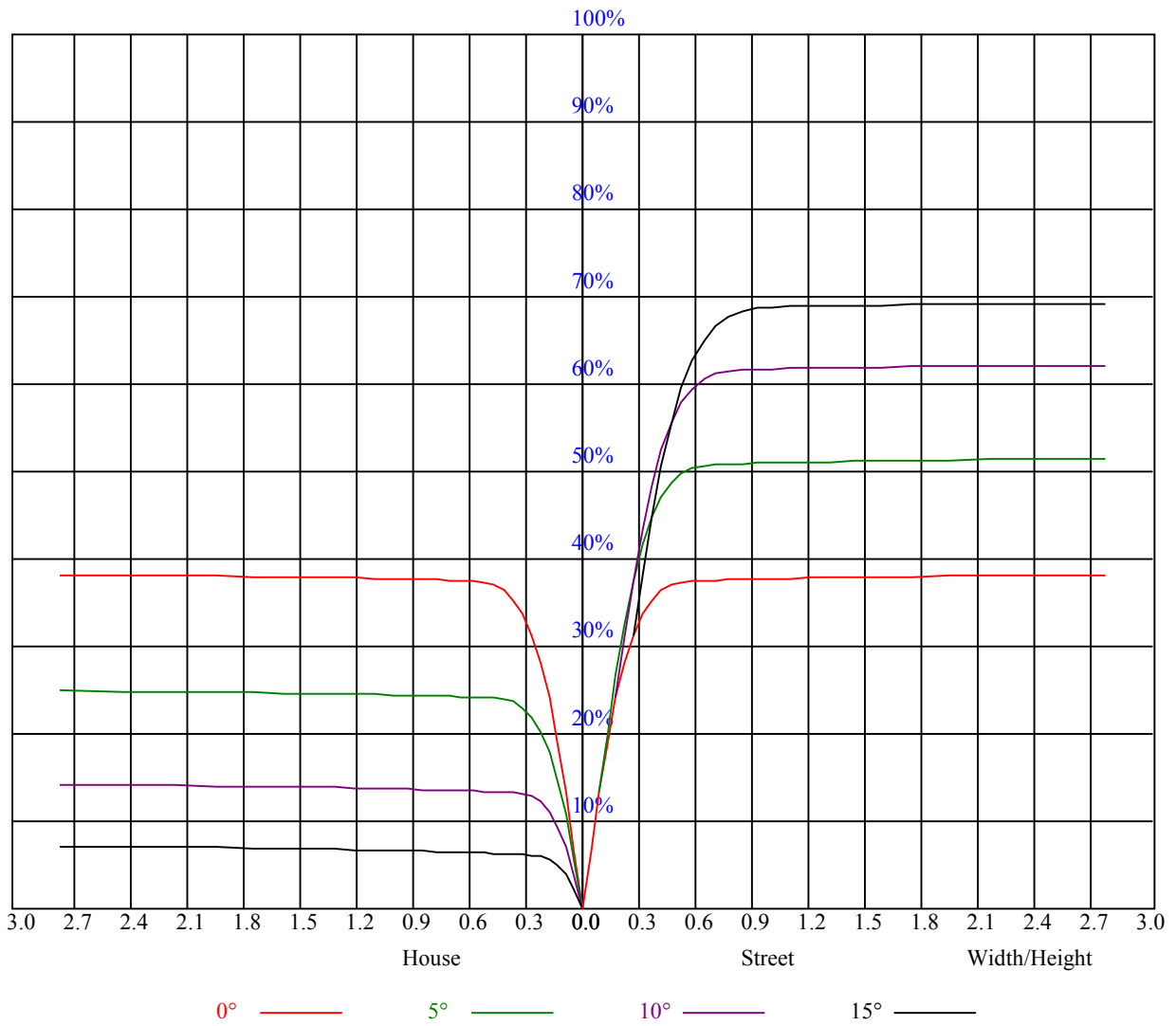
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	0.92	0.92	0.92	0.90	0.90	0.90	0.86	0.86	0.86	0.82	0.82	0.82	0.79	0.79	0.79	0.77
1	0.87	0.85	0.84	0.85	0.84	0.82	0.82	0.81	0.80	0.79	0.78	0.77	0.76	0.76	0.75	0.74
2	0.82	0.80	0.78	0.81	0.79	0.77	0.79	0.77	0.75	0.77	0.75	0.74	0.74	0.73	0.72	0.71
3	0.79	0.76	0.74	0.78	0.75	0.73	0.76	0.74	0.72	0.74	0.72	0.71	0.73	0.71	0.70	0.69
4	0.76	0.73	0.70	0.75	0.72	0.70	0.73	0.71	0.69	0.72	0.70	0.68	0.71	0.69	0.68	0.67
5	0.73	0.70	0.67	0.72	0.69	0.67	0.71	0.69	0.67	0.70	0.68	0.66	0.69	0.67	0.66	0.65
6	0.71	0.67	0.65	0.70	0.67	0.65	0.69	0.66	0.64	0.68	0.66	0.64	0.67	0.65	0.64	0.63
7	0.68	0.65	0.63	0.68	0.65	0.63	0.67	0.64	0.62	0.66	0.64	0.62	0.66	0.63	0.62	0.61
8	0.66	0.63	0.61	0.66	0.63	0.61	0.65	0.63	0.61	0.65	0.62	0.60	0.64	0.62	0.60	0.59
9	0.64	0.61	0.59	0.64	0.61	0.59	0.64	0.61	0.59	0.63	0.60	0.59	0.62	0.60	0.59	0.58
10	0.63	0.60	0.58	0.62	0.59	0.57	0.62	0.59	0.57	0.61	0.59	0.57	0.61	0.59	0.57	0.56



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	8927.44	8990.44	8960.06	8860.50	8673.19	8444.25	8122.50	7735.50	7341.19
45.0	8950.50	9046.69	9048.38	8970.75	8809.88	8580.94	8318.81	7950.94	7570.13
90.0	9000.56	9006.75	8941.50	8768.81	8565.75	8310.94	7910.44	7526.25	7099.31
135.0	8966.81	8944.31	8831.81	8665.88	8415.00	8137.13	7756.31	7303.50	6864.19
180.0	8927.44	8803.13	8596.69	8321.63	8018.44	7663.50	7151.63	6692.63	6209.44
225.0	8950.50	8798.63	8593.31	8266.50	7941.38	7557.19	7083.00	6568.88	6086.81
270.0	9000.56	8906.06	8730.56	8516.81	8205.19	7864.31	7425.00	6940.69	6482.25
315.0	8966.81	8908.88	8785.69	8553.94	8302.50	7989.75	7525.69	7110.56	6659.44
360.0	8927.44	8990.44	8960.06	8860.50	8673.19	8444.25	8122.50	7735.50	7341.19
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	6855.19	6327.56	5844.94	5359.50	4758.19	4296.38	3859.31	3390.19	2961.56
45.0	7099.88	6575.06	6074.44	5568.19	4948.31	4472.44	4017.38	3500.44	3116.25
90.0	6576.19	6020.44	5521.50	4973.63	4449.38	4007.25	3537.00	3150.00	2750.06
135.0	6342.75	5789.81	5289.19	4804.31	4231.69	3800.25	3393.56	2976.75	2603.81
180.0	5651.44	5095.69	4619.25	4114.13	3638.81	3242.81	2838.38	2515.50	2188.69
225.0	5528.81	4975.88	4501.69	3994.88	3566.81	3127.50	2736.00	2419.31	2135.25
270.0	5943.94	5396.06	4917.94	4453.88	3903.75	3485.25	3100.50	2703.94	2351.25
315.0	6123.38	5573.25	5091.75	4564.13	4061.25	3643.31	3204.56	2842.88	2475.00
360.0	6855.19	6327.56	5844.94	5359.50	4758.19	4296.38	3859.31	3390.19	2961.56
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	2621.81	2283.75	1980.56	1735.31	1486.69	1285.31	1071.00	859.50	681.19
45.0	2753.44	2387.81	2072.25	1813.50	1575.00	1314.00	1120.50	936.00	737.44
90.0	2385.56	2098.13	1841.06	1555.88	1348.31	1112.68	933.41	758.08	593.33
135.0	2296.13	1987.88	1717.88	1494.00	1269.00	1082.81	878.63	680.63	516.94
180.0	1891.69	1656.56	1441.69	1109.14	1017.68	838.24	624.60	466.59	328.95
225.0	1823.63	1601.44	1394.44	1101.32	959.57	777.54	582.58	410.63	279.96
270.0	2074.50	1797.75	1548.00	1342.13	1127.25	942.19	738.56	546.75	392.06
315.0	2152.13	1893.38	1658.25	1388.25	1119.71	1000.52	769.73	597.04	439.76
360.0	2621.81	2283.75	1980.56	1735.31	1486.69	1285.31	1071.00	859.50	681.19
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	513.56	334.13	286.88	118.69	48.77	21.15	18.51	17.66	16.59
45.0	551.81	408.38	294.75	157.22	70.43	24.30	18.79	17.55	16.71
90.0	441.68	275.51	167.12	84.04	29.36	17.27	16.26	15.41	14.74
135.0	369.56	289.13	115.59	50.63	19.35	16.20	15.24	14.57	13.84
180.0	211.84	102.32	43.71	19.69	17.89	16.88	16.26	15.58	14.96
225.0	161.16	81.68	28.91	17.94	16.88	16.03	15.30	14.79	14.34
270.0	288.00	148.78	57.26	23.74	16.59	15.41	14.68	14.12	13.56
315.0	303.53	162.90	80.44	29.31	17.49	15.69	14.85	14.12	13.56
360.0	513.56	334.13	286.88	118.69	48.77	21.15	18.51	17.66	16.59
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	15.98	15.53	14.91	14.46	14.18	13.84	13.61	13.39	13.22
45.0	16.03	15.53	14.85	14.51	14.23	13.89	13.67	13.44	13.28
90.0	14.18	13.73	13.39	12.99	12.71	12.49	12.32	12.09	11.98
135.0	13.39	13.05	12.66	12.38	12.15	11.93	11.76	11.64	11.53
180.0	14.57	14.18	13.89	13.56	13.28	13.11	12.88	12.77	12.66
225.0	13.84	13.56	13.33	13.16	12.88	12.77	12.66	12.49	12.43
270.0	13.16	12.83	12.54	12.32	12.15	11.93	11.76	11.64	11.59
315.0	13.16	12.83	12.60	12.38	12.21	11.98	11.81	11.70	11.59
360.0	15.98	15.53	14.91	14.46	14.18	13.84	13.61	13.39	13.22

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	13.11	13.05	12.94	12.83	12.71	12.66	12.60	12.43	12.43
45.0	13.16	13.11	13.11	13.05	13.05	13.16	13.28	13.28	13.39
90.0	11.87	11.76	11.70	11.70	11.59	11.53	11.48	11.53	11.42
135.0	11.48	11.42	11.36	11.31	11.31	11.25	11.31	11.25	11.19
180.0	12.60	12.43	12.38	12.26	12.26	12.21	12.09	12.09	12.04
225.0	12.32	12.32	12.32	12.32	12.32	12.43	12.49	12.60	12.60
270.0	11.48	11.36	11.31	11.25	11.19	11.08	11.08	11.03	10.97
315.0	11.53	11.42	11.42	11.36	11.36	11.31	11.31	11.25	11.19
360.0	13.11	13.05	12.94	12.83	12.71	12.66	12.60	12.43	12.43
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	12.38	12.32	12.38	12.32	12.32	12.38	12.43	12.49	12.60
45.0	13.39	13.39	13.44	13.39	13.44	13.39	13.50	13.61	14.01
90.0	11.42	11.36	11.36	11.36	11.31	11.31	11.31	11.31	11.31
135.0	11.19	11.19	11.14	11.08	11.03	10.97	10.91	10.91	10.86
180.0	11.98	12.04	11.98	12.04	12.04	12.15	12.26	12.43	12.54
225.0	12.60	12.60	12.60	12.60	12.54	12.54	12.60	12.71	12.94
270.0	10.97	10.91	10.91	10.86	10.86	10.80	10.80	10.80	10.74
315.0	11.19	11.14	11.14	11.08	11.03	10.97	10.97	10.86	10.86
360.0	12.38	12.32	12.38	12.32	12.32	12.38	12.43	12.49	12.60
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	12.77	13.05	13.44	13.73	14.06	14.68	15.58	16.65	18.06
45.0	14.51	15.47	16.65	17.89	19.69	21.54	23.46	25.31	27.34
90.0	11.25	11.14	11.14	11.08	11.08	11.03	11.03	11.08	11.08
135.0	10.80	10.80	10.86	10.80	10.80	10.86	10.86	10.91	11.08
180.0	12.71	12.99	13.22	13.67	14.85	16.43	18.06	19.80	21.43
225.0	13.33	14.40	15.98	17.78	20.19	22.50	25.09	27.34	29.08
270.0	10.69	10.63	10.63	10.58	10.52	10.46	10.41	10.35	10.41
315.0	10.80	10.80	10.80	10.86	10.86	10.97	11.03	11.08	11.25
360.0	12.77	13.05	13.44	13.73	14.06	14.68	15.58	16.65	18.06
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	19.13	20.03	20.93	21.60	22.11	21.99	21.49	19.52	15.64
45.0	28.74	29.48	29.42	28.63	27.17	24.81	21.09	17.38	12.83
90.0	11.08	11.14	11.08	11.14	11.08	10.91	10.74	10.46	10.18
135.0	11.25	11.42	11.64	11.76	11.64	11.42	11.08	10.29	9.45
180.0	22.56	23.23	23.46	22.56	19.91	16.03	12.43	10.35	10.01
225.0	30.26	30.15	29.19	27.11	23.12	19.24	15.13	11.08	9.79
270.0	10.41	10.46	10.52	10.58	10.58	10.58	10.52	10.29	10.07
315.0	11.36	11.59	11.76	11.93	11.93	11.87	11.76	11.31	10.63
360.0	19.13	20.03	20.93	21.60	22.11	21.99	21.49	19.52	15.64
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	12.38	10.46	9.68	9.45	9.23	9.00	8.83	8.49	8.21
45.0	10.52	10.01	9.51	9.06	8.83	8.78	8.72	8.44	8.04
90.0	9.90	9.39	9.06	8.72	8.38	8.27	8.16	8.04	7.88
135.0	9.00	8.72	8.55	8.49	8.44	8.38	8.10	8.04	7.93
180.0	9.73	9.56	9.39	9.23	9.17	8.44	8.33	8.10	8.04
225.0	9.39	8.94	8.78	8.61	8.66	8.38	8.27	7.99	7.93
270.0	9.79	9.39	8.94	8.66	8.38	8.27	8.10	7.99	7.88
315.0	9.73	8.89	8.55	8.44	8.38	8.27	8.10	8.10	7.93
360.0	12.38	10.46	9.68	9.45	9.23	9.00	8.83	8.49	8.21

Intensity data(cd)

C/γ(°)	90.0
0.0	8.04
45.0	7.93
90.0	7.88
135.0	7.88
180.0	8.04
225.0	7.99
270.0	7.93
315.0	7.88
360.0	8.04