



NATA LIGHTING CO.,LTD.  
www.nata.cn  
Email:info@nata.com  
Tel:+86-750-3770000 Fax:+86-750-3771111  
Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

NT

Client:

LumCAT: 2-2682-L

Luminaire: 92.70.411.00

Report No: 2024423-B016

Ballast type: AC

Test No: 2024423-C016

Voltage(V): 36.290

LampCAT: NICHIA NFCWJ130B-V3

Current(A): 0.576

Lamp flux(lm): 2920.0

Power (W): 20.903

Number of Lamps: 1

PF: 0.000

Length(mm): 0

Width(mm): 0

Phm Type: C

Height(mm): 0

### Photometric Results

Lumens(lm): 2511.98, Efficiency(%): 86.03% , Luminous Efficacy(lm/W): 120.17

Central intensity(cd): 11051.590, Maximum intensity(cd): 11051.590

Angle of maximum intensity: C=0.0  $\gamma$ =0.0

Beam Angle(50%Imax): [C0/180]Total=18.4

[C90/270]Total=18.4

Field angle(10%Imax): [C0/180]Total=53.2

[C90/270]Total=53.2

Maximum s/h(1/2): C0\_180=0.31 C90\_270=0.31

Maximum s/h(1/4): C0\_180=0.38 C90\_270=0.38

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 86.03%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 98.043%

Equipment: GMS1980  
Temperature(°C): 25.0

Date: 2024/4/23  
Humidity(%): 60.0%

Operator: NT07  
Distance(m): 7.65

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	11051.594	0.000	0	0.00%	0.00%
1.0	10941.645	10.523	10.523	0.36%	0.42%
2.0	10620.868	30.949	41.472	1.06%	1.65%
3.0	10141.057	49.656	91.128	1.70%	3.63%
4.0	9554.954	65.929	157.056	2.26%	6.25%
5.0	8828.031	79.083	236.139	2.71%	9.40%
6.0	7969.287	88.274	324.413	3.02%	12.91%
7.0	7135.122	93.753	418.166	3.21%	16.65%
8.0	6356.846	96.559	514.726	3.31%	20.49%
9.0	5635.044	97.188	611.914	3.33%	24.36%
10.0	5034.457	96.555	708.469	3.31%	28.20%
11.0	4508.266	95.351	803.82	3.27%	32.00%
12.0	4067.007	93.740	897.56	3.21%	35.73%
13.0	3683.977	91.985	989.545	3.15%	39.39%
14.0	3328.014	89.753	1079.298	3.07%	42.97%
15.0	3036.206	87.371	1166.668	2.99%	46.44%
16.0	2764.735	85.000	1251.668	2.91%	49.83%
17.0	2508.625	82.120	1333.789	2.81%	53.10%
18.0	2298.749	79.263	1413.052	2.71%	56.25%
19.0	2100.212	76.533	1489.585	2.62%	59.30%
20.0	1911.330	73.422	1563.007	2.51%	62.22%
21.0	1749.735	70.300	1633.307	2.41%	65.02%
22.0	1606.940	67.454	1700.761	2.31%	67.71%
23.0	1439.705	63.927	1764.688	2.19%	70.25%
24.0	1319.646	60.329	1825.017	2.07%	72.65%
25.0	1214.912	57.630	1882.647	1.97%	74.95%
26.0	1147.634	55.768	1938.416	1.91%	77.17%
27.0	1070.472	54.266	1992.682	1.86%	79.33%
28.0	993.558	52.257	2044.939	1.79%	81.41%
29.0	910.727	49.821	2094.76	1.71%	83.39%
30.0	819.556	46.717	2141.478	1.60%	85.25%
31.0	721.312	42.880	2184.358	1.47%	86.96%
32.0	628.246	38.663	2223.021	1.32%	88.50%
33.0	534.318	34.250	2257.271	1.17%	89.86%
34.0	439.672	29.476	2286.746	1.01%	91.03%
35.0	352.861	24.613	2311.36	0.84%	92.01%
36.0	288.633	20.425	2331.785	0.70%	92.83%
37.0	237.894	17.172	2348.957	0.59%	93.51%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	172.320	13.692	2362.65	0.47%	94.06%
39.0	112.963	9.737	2372.387	0.33%	94.44%
40.0	84.346	6.881	2379.268	0.24%	94.72%
41.0	74.411	5.653	2384.922	0.19%	94.94%
42.0	68.844	5.205	2390.126	0.18%	95.15%
43.0	64.068	4.923	2395.05	0.17%	95.35%
44.0	60.000	4.683	2399.733	0.16%	95.53%
45.0	56.708	4.485	2404.218	0.15%	95.71%
46.0	54.053	4.332	2408.549	0.15%	95.88%
47.0	51.749	4.208	2412.757	0.14%	96.05%
48.0	49.751	4.103	2416.861	0.14%	96.21%
49.0	48.157	4.021	2420.881	0.14%	96.37%
50.0	46.599	3.951	2424.832	0.14%	96.53%
51.0	45.516	3.897	2428.729	0.13%	96.69%
52.0	44.901	3.880	2432.609	0.13%	96.84%
53.0	44.141	3.873	2436.482	0.13%	96.99%
54.0	43.643	3.869	2440.351	0.13%	97.15%
55.0	43.329	3.882	2444.234	0.13%	97.30%
56.0	42.787	3.891	2448.125	0.13%	97.46%
57.0	41.836	3.869	2451.994	0.13%	97.61%
58.0	40.029	3.786	2455.78	0.13%	97.76%
59.0	37.645	3.631	2459.411	0.12%	97.91%
60.0	34.631	3.415	2462.826	0.12%	98.04%
61.0	31.624	3.162	2465.988	0.11%	98.17%
62.0	28.647	2.904	2468.892	0.10%	98.28%
63.0	25.757	2.646	2471.538	0.09%	98.39%
64.0	22.553	2.371	2473.908	0.08%	98.48%
65.0	20.168	2.114	2476.023	0.07%	98.57%
66.0	18.413	1.925	2477.948	0.07%	98.65%
67.0	17.271	1.794	2479.742	0.06%	98.72%
68.0	16.555	1.714	2481.455	0.06%	98.78%
69.0	16.028	1.662	2483.118	0.06%	98.85%
70.0	15.560	1.622	2484.74	0.06%	98.92%
71.0	15.172	1.588	2486.328	0.05%	98.98%
72.0	14.828	1.560	2487.888	0.05%	99.04%
73.0	14.536	1.536	2489.424	0.05%	99.10%
74.0	14.258	1.514	2490.937	0.05%	99.16%
75.0	14.009	1.493	2492.431	0.05%	99.22%

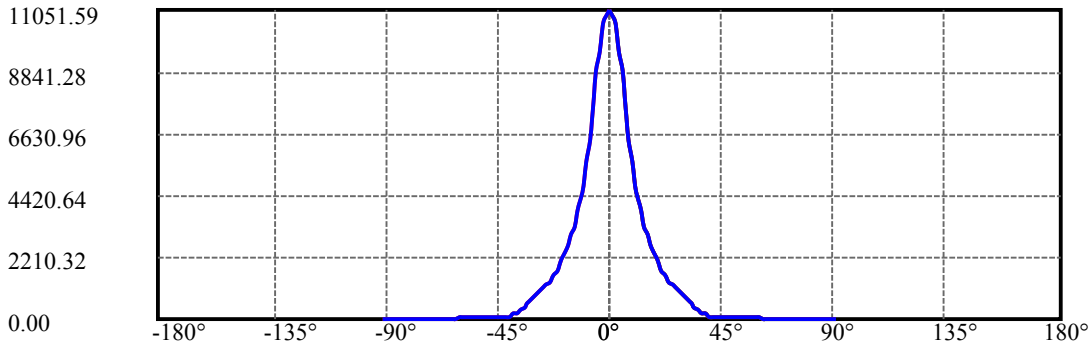
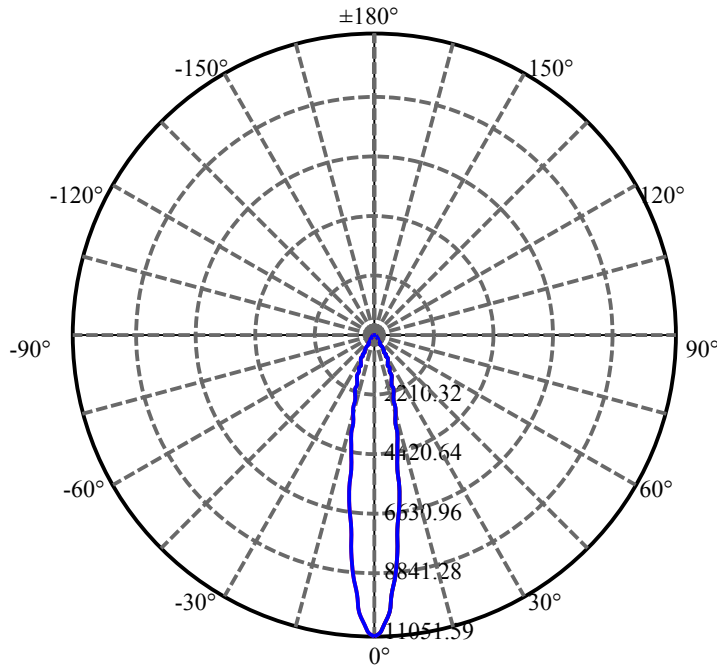
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	13.782	1.475	2493.906	0.05%	99.28%
77.0	13.533	1.456	2495.362	0.05%	99.34%
78.0	13.277	1.435	2496.798	0.05%	99.40%
79.0	13.007	1.412	2498.21	0.05%	99.45%
80.0	12.699	1.386	2499.596	0.05%	99.51%
81.0	12.378	1.356	2500.952	0.05%	99.56%
82.0	12.092	1.327	2502.279	0.05%	99.61%
83.0	11.763	1.297	2503.576	0.04%	99.67%
84.0	11.522	1.269	2504.844	0.04%	99.72%
85.0	11.273	1.244	2506.088	0.04%	99.77%
86.0	11.046	1.220	2507.308	0.04%	99.81%
87.0	10.834	1.197	2508.506	0.04%	99.86%
88.0	10.629	1.176	2509.681	0.04%	99.91%
89.0	10.454	1.156	2510.837	0.04%	99.95%
90.0	10.388	1.143	2511.98	0.04%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2141.48	73.34%	85.25%
0-40	2379.27	81.48%	94.72%
0-60	2462.83	84.34%	98.04%
0-90	2510.84	85.99%	99.95%
0-120	2510.84	85.99%	99.95%
0-180	2511.98	86.03%	100.00%
60-90	48.01	1.64%	1.91%
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%
0-27.32	2009.58	68.82%	80.00%

ZONAL LUMEN SUMMARY

0-10	708.47
10-20	854.54
20-30	578.47
30-40	237.79
40-50	45.56
50-60	37.99
60-70	21.91
70-80	14.86
80-90	11.24
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



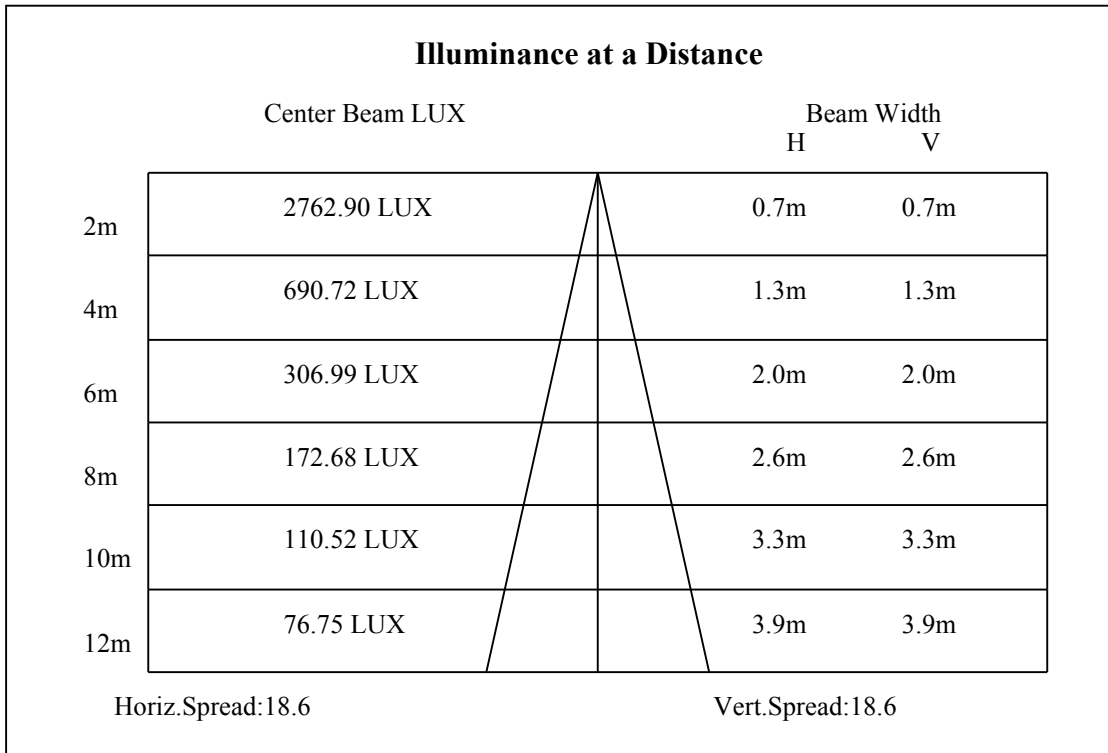
C0(Max): —————

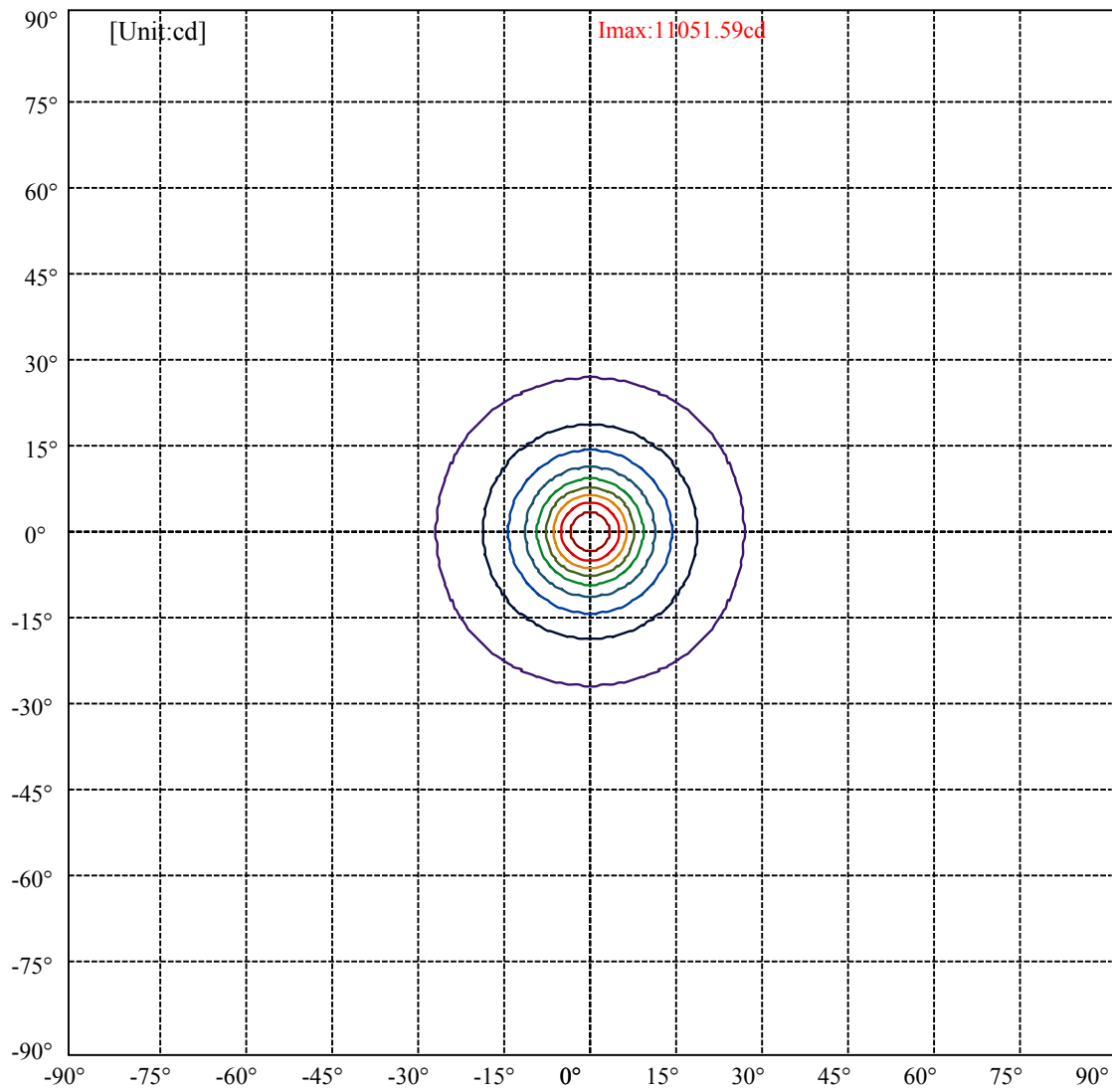
C0/C180: —————

C90/C270: —————

Field angle(10%Imax):C0/180Left:26.6 Right:26.6  
:C90/270Left:26.6 Right:26.6

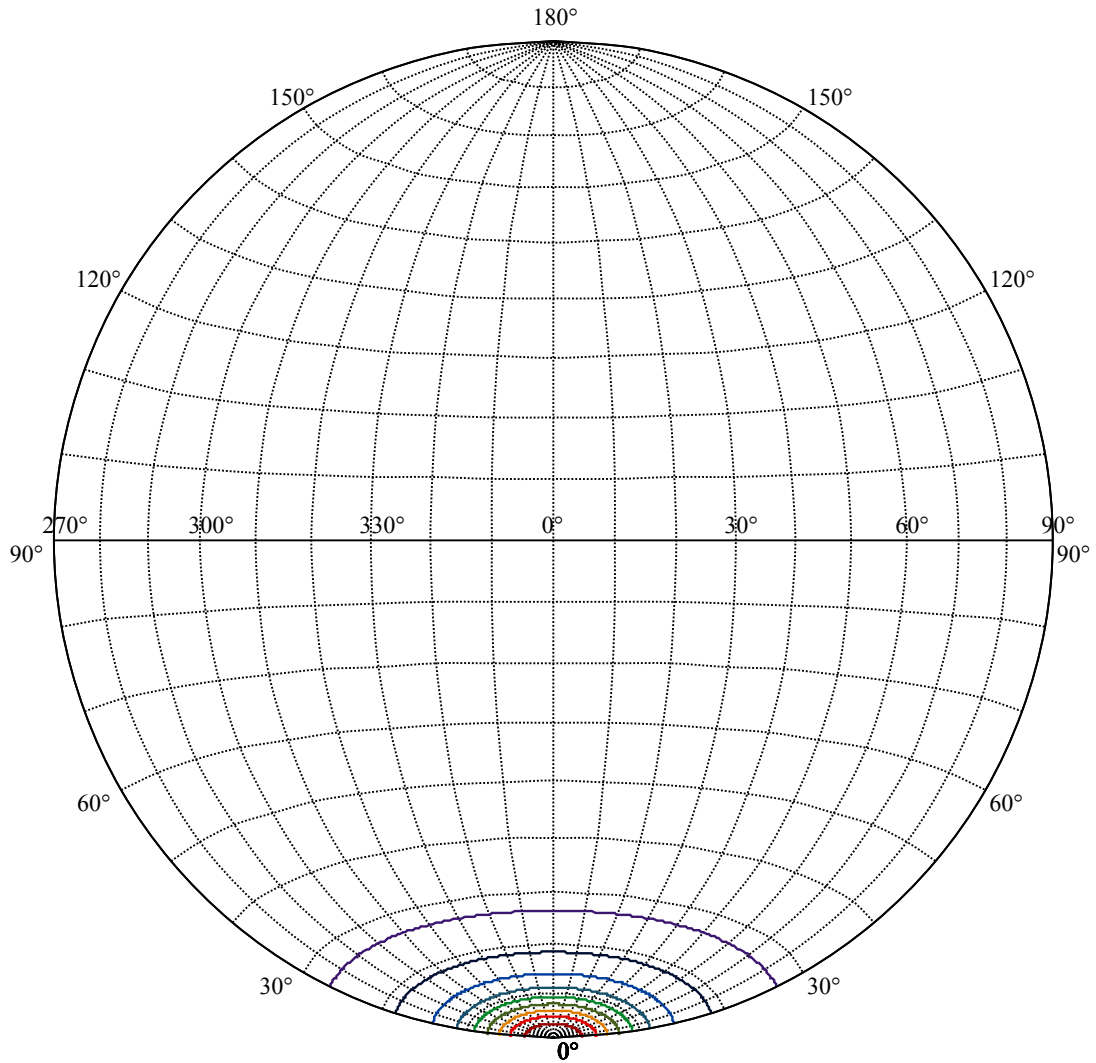
Beam Angle(50%Imax):C0/180Left:9.2 Right:9.2  
:C90/270Left:9.2 Right:9.2





(10%Imax) 1105.16	—
(20%Imax) 2210.32	—
(30%Imax) 3315.48	—
(40%Imax) 4420.64	—
(50%Imax) 5525.8	—
(60%Imax) 6630.96	—
(70%Imax) 7736.12	—
(80%Imax) 8841.28	—
(90%Imax) 9946.44	—





House

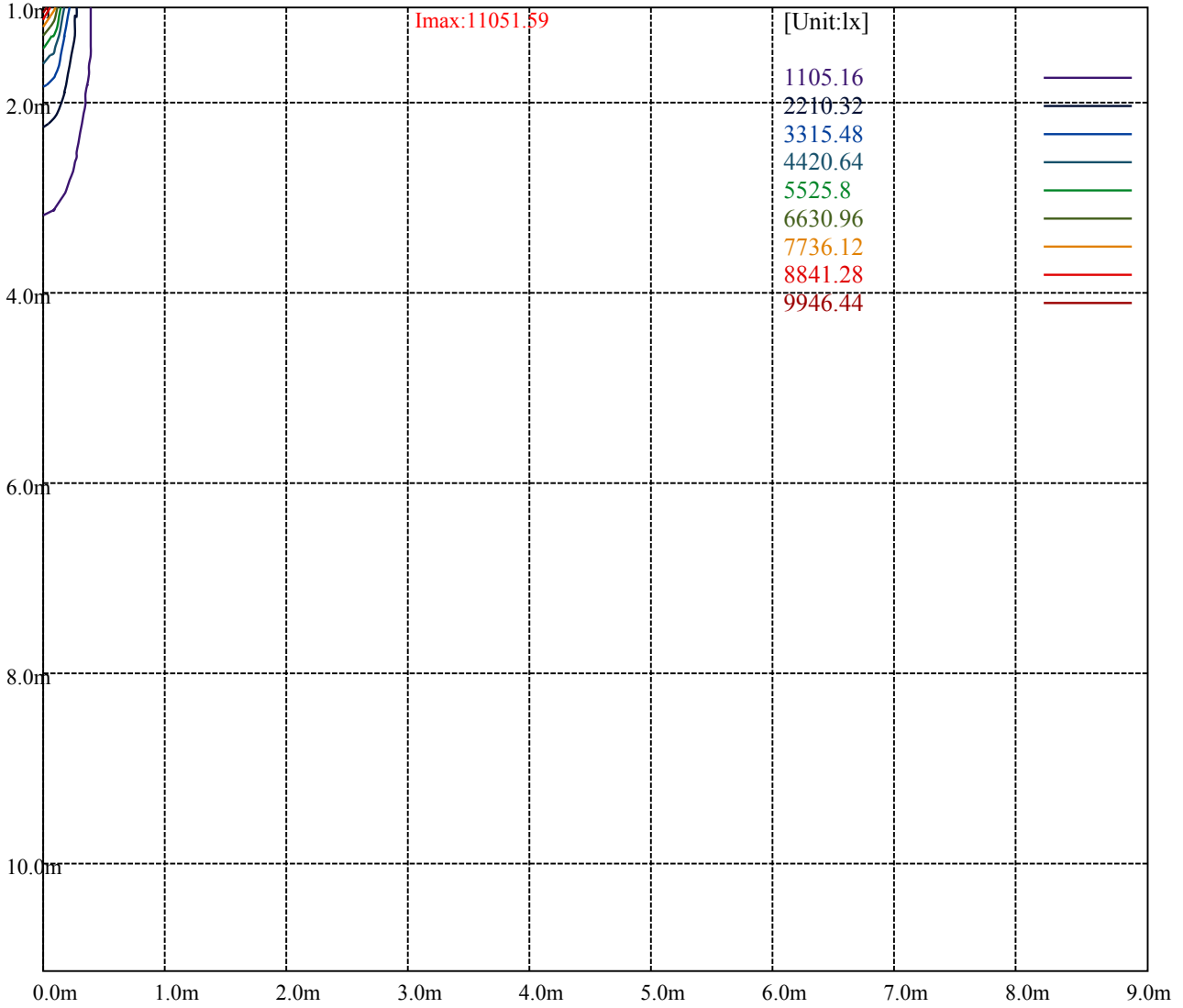
[Unit:cd]

Road

**Imax:11051.59**

(10%Imax)	1105.16	—
(20%Imax)	2210.32	—
(30%Imax)	3315.48	—
(40%Imax)	4420.64	—
(50%Imax)	5525.8	—
(60%Imax)	6630.96	—
(70%Imax)	7736.12	—
(80%Imax)	8841.28	—
(90%Imax)	9946.44	—





Luminance Table

$\gamma$	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

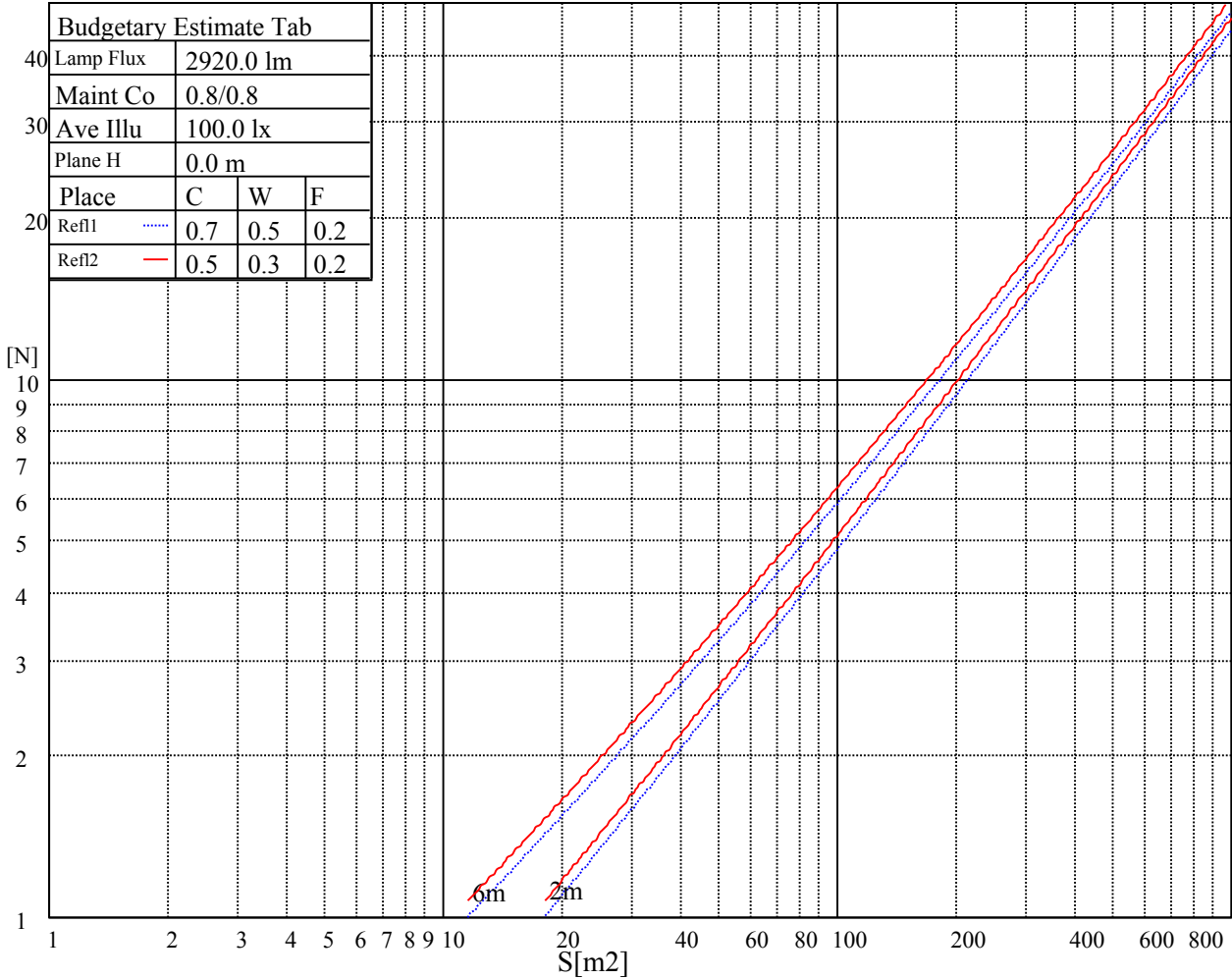
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

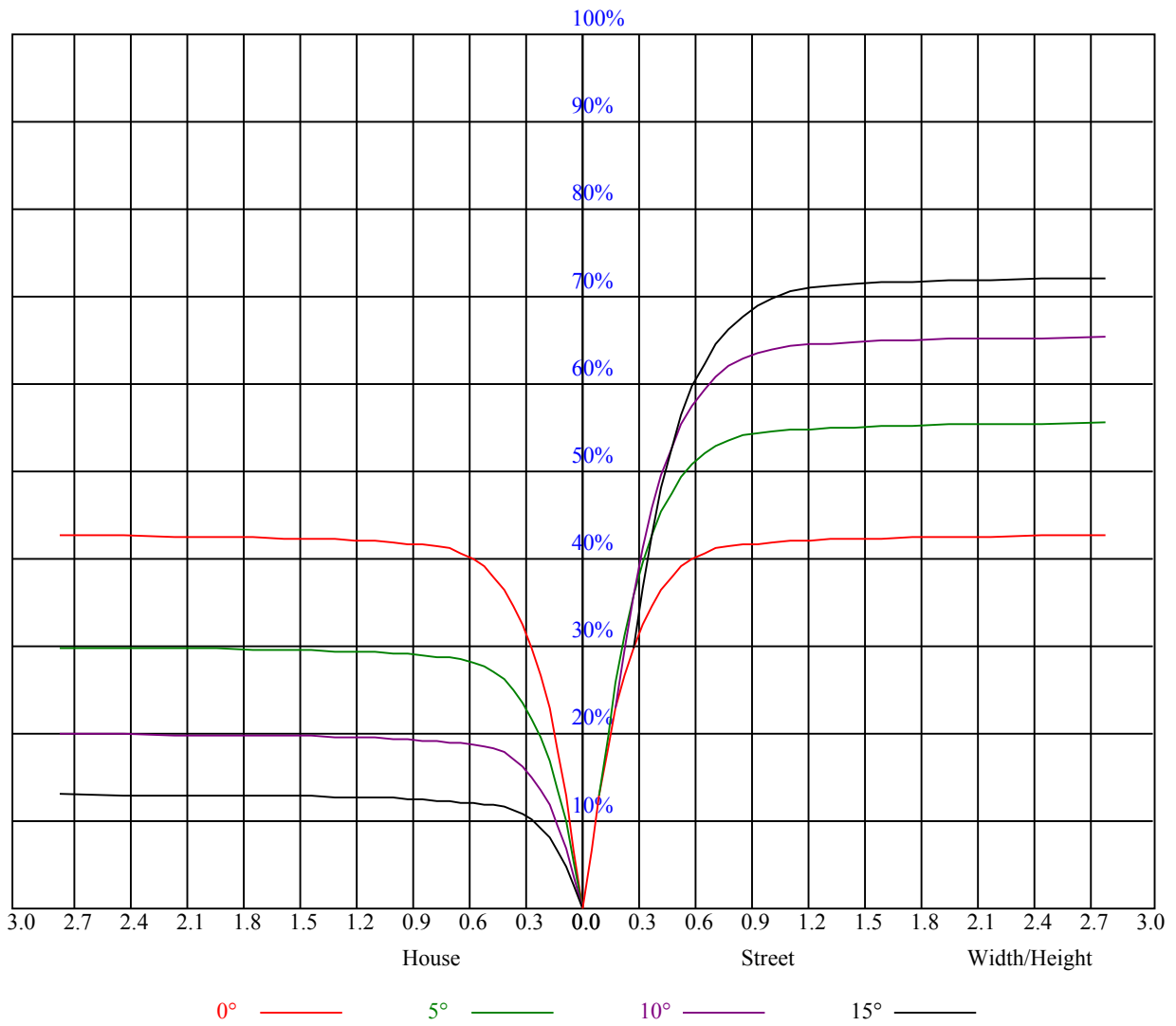
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

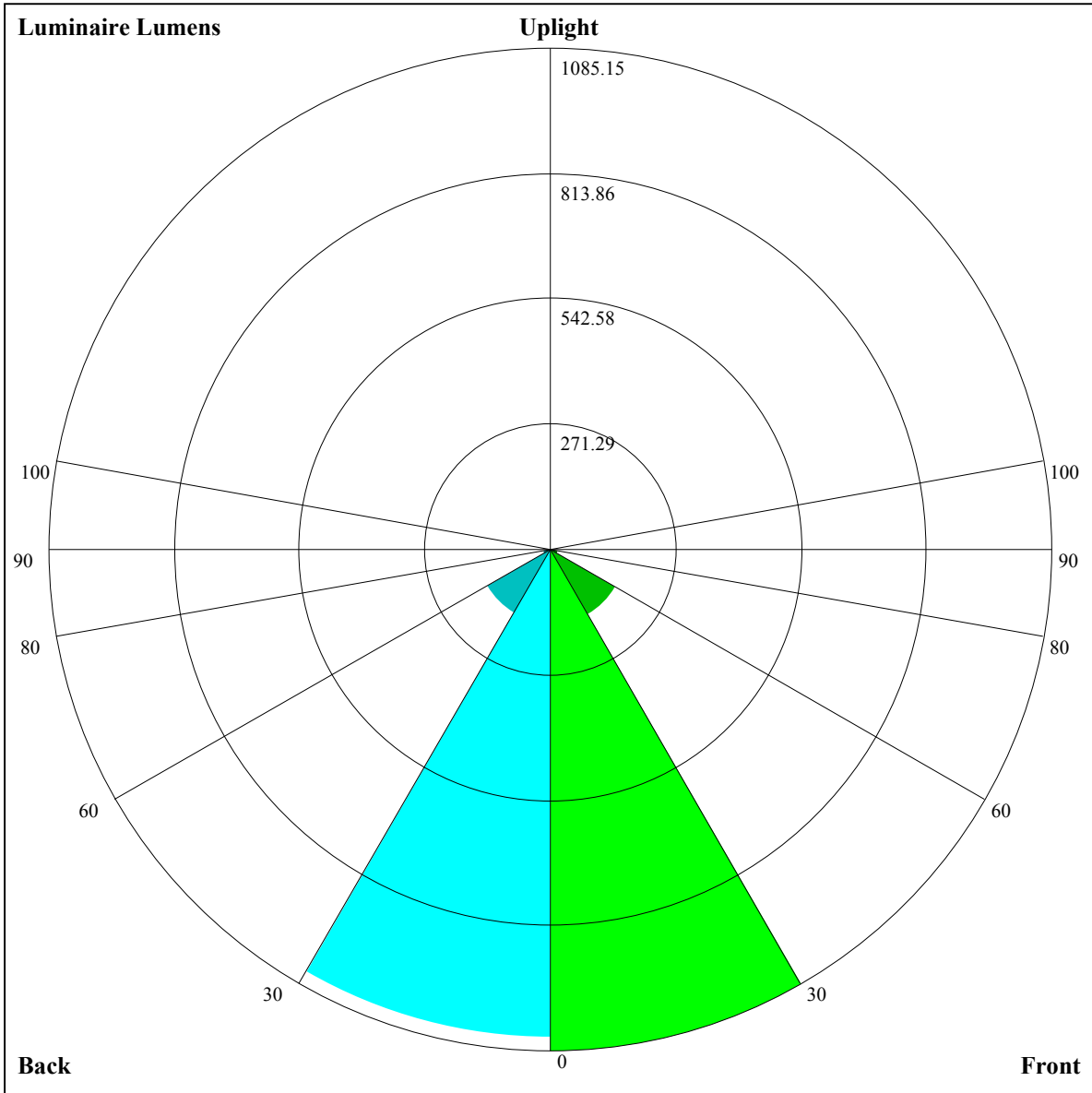
Luminance Limiting Curve





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 RHOF=20 CU															
0	1.02	1.02	1.02	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.88	0.88	0.88	0.86
1	0.96	0.94	0.92	0.94	0.92	0.91	0.91	0.89	0.88	0.88	0.86	0.85	0.85	0.84	0.83	0.81
2	0.91	0.87	0.85	0.89	0.86	0.84	0.86	0.84	0.82	0.84	0.82	0.80	0.81	0.80	0.79	0.77
3	0.86	0.82	0.79	0.85	0.81	0.78	0.82	0.80	0.77	0.80	0.78	0.76	0.78	0.77	0.75	0.74
4	0.81	0.77	0.74	0.81	0.77	0.74	0.79	0.76	0.73	0.77	0.74	0.72	0.76	0.73	0.71	0.70
5	0.78	0.74	0.70	0.77	0.73	0.70	0.76	0.72	0.70	0.74	0.71	0.69	0.73	0.70	0.68	0.67
6	0.74	0.70	0.67	0.74	0.70	0.67	0.73	0.69	0.66	0.71	0.68	0.66	0.70	0.68	0.66	0.65
7	0.71	0.67	0.64	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.63	0.68	0.65	0.63	0.62
8	0.69	0.64	0.61	0.68	0.64	0.61	0.67	0.64	0.61	0.66	0.63	0.61	0.66	0.63	0.61	0.60
9	0.66	0.62	0.59	0.66	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.59	0.64	0.61	0.58	0.57
10	0.64	0.60	0.57	0.63	0.59	0.57	0.63	0.59	0.57	0.62	0.59	0.57	0.62	0.59	0.56	0.56





Luminaire Lumens:

FL=1085.15,FM=164.07,FH=18.73,FVH=6.23

BL=1055.32,BM=158.71,BH=18.16,BVH=6.17

UL=0,UH=0

BUG Rating:B3-U0-G0



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	11090.66	10963.66	10659.35	10209.31	9498.26	8822.33	7868.41	7065.48	6322.24
45.0	10950.20	11125.77	11095.34	10841.94	10455.10	9930.74	9295.19	8391.60	7622.61
90.0	11131.04	11068.42	10749.47	10328.11	9770.98	9099.72	8176.82	7384.43	6609.59
135.0	11034.48	11061.40	10908.07	10462.13	9961.76	9341.42	8621.01	7627.88	6838.41
180.0	11090.66	10988.24	10692.12	10237.40	9681.44	8833.44	8053.92	7232.85	6465.04
225.0	10950.20	10582.10	9943.03	9308.65	8577.12	7768.92	6755.90	6029.05	5258.31
270.0	11131.04	10999.95	10588.53	10085.83	9486.56	8585.89	7781.80	6939.07	6012.07
315.0	11034.48	10743.62	10331.04	9655.10	9008.43	8241.78	7201.25	6410.61	5726.49
360.0	11090.66	10963.66	10659.35	10209.31	9498.26	8822.33	7868.41	7065.48	6322.24
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	5522.24	4969.79	4507.46	4101.32	3647.18	3335.26	3052.59	2794.51	2508.92
45.0	6651.14	5948.87	5353.11	4719.31	4300.29	3911.70	3562.91	3179.59	2915.06
90.0	5889.76	5138.33	4635.63	4214.85	3743.74	3417.19	3060.79	2798.60	2568.61
135.0	6119.17	5486.54	4813.53	4362.33	3959.11	3520.77	3213.53	2941.98	2634.16
180.0	5636.36	5071.62	4465.33	4041.04	3677.03	3280.24	3002.85	2751.20	2468.54
225.0	4740.97	4289.76	3808.70	3483.90	3190.71	2865.32	2626.55	2410.60	2209.87
270.0	5388.81	4846.89	4378.13	3878.93	3543.01	3240.45	2968.90	2669.85	2450.40
315.0	5131.90	4523.85	4104.24	3734.38	3410.75	3053.18	2801.53	2571.54	2313.45
360.0	5522.24	4969.79	4507.46	4101.32	3647.18	3335.26	3052.59	2794.51	2508.92
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	2306.43	2120.91	1910.82	1756.32	1612.94	1449.08	1257.71	1149.62	1132.64
45.0	2669.27	2450.98	2210.45	2033.72	1871.02	1688.43	1552.08	1425.08	1286.38
90.0	2361.44	2122.67	1957.05	1800.80	1659.17	1498.23	1380.02	1165.07	1165.07
135.0	2418.79	2228.60	2012.65	1852.30	1707.16	1570.22	1416.30	1306.28	1212.64
180.0	2263.12	2072.34	1900.87	1712.43	1574.90	1451.42	1339.05	1223.18	1145.34
225.0	1986.31	1825.96	1679.65	1544.47	1392.89	1165.77	1165.77	1093.38	1029.29
270.0	2257.86	2026.11	1857.56	1678.48	1547.39	1428.59	1295.75	1206.21	1130.71
315.0	2126.77	1954.12	1761.59	1619.38	1490.04	1265.90	1150.49	1150.49	1078.98
360.0	2306.43	2120.91	1910.82	1756.32	1612.94	1449.08	1257.71	1149.62	1132.64
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	1065.40	993.65	915.76	806.85	716.61	627.30	539.17	430.08	350.73
45.0	1195.67	1121.35	1034.74	959.24	873.80	784.85	671.31	581.19	492.82
90.0	1088.11	1020.69	926.65	842.31	753.89	641.76	550.87	461.63	356.28
135.0	1136.57	1053.46	982.65	903.65	794.79	707.01	596.40	510.37	424.35
180.0	1077.46	997.87	920.03	807.67	715.79	628.59	539.05	428.44	349.44
225.0	941.28	860.16	772.67	685.30	574.40	488.96	407.14	329.72	243.28
270.0	1061.66	978.55	897.21	804.74	708.18	604.60	512.72	417.32	320.18
315.0	997.63	922.72	836.11	746.69	633.04	542.91	457.88	358.63	285.82
360.0	1065.40	993.65	915.76	806.85	716.61	627.30	539.17	430.08	350.73
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	276.87	195.29	141.51	94.81	78.01	72.04	66.01	62.68	59.11
45.0	409.13	311.40	311.40	225.96	114.47	88.90	78.60	70.99	66.83
90.0	281.79	215.60	158.36	106.22	85.44	76.84	71.34	66.13	62.03
135.0	343.59	305.55	305.55	126.94	92.64	76.37	70.81	66.25	62.21
180.0	295.01	295.01	142.03	104.87	84.39	77.60	71.46	66.72	60.69
225.0	180.60	127.99	92.17	73.97	69.29	64.14	60.28	56.01	53.43
270.0	301.45	301.45	118.45	89.07	75.61	69.00	65.02	61.68	57.59
315.0	220.63	150.87	109.09	81.87	74.91	70.40	67.24	62.09	58.11
360.0	276.87	195.29	141.51	94.81	78.01	72.04	66.01	62.68	59.11

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	56.18	53.31	51.27	49.16	47.70	46.12	45.12	44.54	43.77
45.0	62.97	59.11	56.30	53.96	51.32	49.45	48.05	46.76	46.00
90.0	58.17	54.89	53.08	50.50	49.28	47.46	46.23	45.59	44.59
135.0	57.76	55.30	52.38	50.04	48.22	46.58	45.18	44.54	43.72
180.0	57.29	54.89	52.03	50.33	48.75	46.99	45.82	45.35	44.54
225.0	51.09	48.75	47.17	46.06	44.77	44.07	43.48	43.01	42.78
270.0	54.48	52.32	50.04	48.28	46.88	45.47	44.42	43.89	43.19
315.0	55.71	53.84	51.73	49.69	48.34	46.64	45.82	45.53	44.54
360.0	56.18	53.31	51.27	49.16	47.70	46.12	45.12	44.54	43.77
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	43.48	43.42	42.84	42.14	40.67	37.81	34.59	31.49	29.20
45.0	45.35	44.65	44.18	44.13	43.13	41.67	39.74	36.93	32.60
90.0	44.24	43.89	43.48	42.43	41.08	39.21	35.87	32.83	29.90
135.0	42.96	42.43	42.55	41.61	40.38	38.86	36.58	32.71	30.14
180.0	43.83	43.60	43.07	42.43	40.61	37.69	34.70	31.08	28.62
225.0	42.78	42.19	40.91	39.09	35.70	32.71	29.55	26.92	23.35
270.0	42.55	42.55	42.02	41.08	38.86	36.28	33.18	30.43	27.45
315.0	43.95	43.89	43.25	41.79	39.80	36.93	32.83	30.61	27.92
360.0	43.48	43.42	42.84	42.14	40.67	37.81	34.59	31.49	29.20
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	26.39	22.30	20.13	18.38	17.03	16.44	15.98	15.39	15.04
45.0	30.20	27.68	24.35	21.13	19.25	17.85	17.03	16.33	15.86
90.0	27.04	23.99	20.89	19.08	17.85	17.09	16.44	15.98	15.57
135.0	27.74	23.99	21.30	18.90	17.50	16.68	16.21	15.63	15.22
180.0	25.52	21.65	19.49	17.97	16.91	16.33	15.86	15.51	15.04
225.0	20.72	18.43	17.15	16.50	15.92	15.51	15.10	14.81	14.51
270.0	24.17	21.24	18.84	17.50	16.74	16.09	15.68	15.33	14.92
315.0	24.29	21.13	19.20	17.85	16.97	16.44	15.92	15.51	15.22
360.0	26.39	22.30	20.13	18.38	17.03	16.44	15.98	15.39	15.04
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	14.69	14.40	14.16	13.93	13.69	13.46	13.23	12.99	12.64
45.0	15.45	15.04	14.75	14.34	14.16	13.93	13.69	13.40	13.11
90.0	15.16	14.81	14.51	14.28	13.99	13.75	13.40	13.11	12.82
135.0	14.92	14.63	14.34	14.10	13.93	13.69	13.46	13.23	12.87
180.0	14.69	14.46	14.22	13.93	13.69	13.40	13.23	12.93	12.58
225.0	14.22	13.99	13.69	13.52	13.28	13.05	12.76	12.47	12.23
270.0	14.63	14.40	14.10	13.87	13.69	13.46	13.17	12.93	12.64
315.0	14.86	14.57	14.28	14.10	13.81	13.52	13.28	12.99	12.70
360.0	14.69	14.40	14.16	13.93	13.69	13.46	13.23	12.99	12.64
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	12.35	12.06	11.76	11.47	11.24	11.06	10.89	10.65	10.42
45.0	12.82	12.47	12.11	11.88	11.59	11.29	11.06	10.89	10.71
90.0	12.47	12.23	11.88	11.65	11.35	11.18	11.00	10.77	10.53
135.0	12.58	12.35	11.94	11.65	11.41	11.18	10.94	10.77	10.59
180.0	12.29	12.06	11.65	11.41	11.18	10.94	10.71	10.53	10.30
225.0	11.88	11.59	11.41	11.18	10.89	10.71	10.48	10.30	10.36
270.0	12.29	12.00	11.65	11.47	11.24	10.94	10.77	10.53	10.36
315.0	12.35	12.00	11.70	11.47	11.29	11.06	10.83	10.59	10.36
360.0	12.35	12.06	11.76	11.47	11.24	11.06	10.89	10.65	10.42

Intensity data(cd)

C/ $\gamma$ (°)	90.0
0.0	10.30
45.0	10.48
90.0	10.42
135.0	10.42
180.0	10.36
225.0	10.30
270.0	10.42
315.0	10.42
360.0	10.30