



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: 2-2678-L

Luminaire: 92.70.411.00

Report No: 2024423-B009

Ballast type: AC

Test No: 2024423-C009

Voltage(V): 36.240

LampCAT: NICHIA NFCWJ130B-V3

Current(A): 0.576

Lamp flux(lm): 2920.0

Power (W): 20.874

Number of Lamps: 1

PF: 0.000

Length(mm): 0

Width(mm): 0

Phm Type: C

Height(mm): 0

### Photometric Results

Lumens(lm): 2475.84, Efficiency(%): 84.79% , Luminous Efficacy(lm/W): 118.61

Central intensity(cd): 10382.540, Maximum intensity(cd): 10382.540

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

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

[C90/270]Total=20.8

Field angle(10%Imax): [C0/180]Total=54.2

[C90/270]Total=54.2

Maximum s/h(1/2): C0\_180=0.35 C90\_270=0.35

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(%): 84.79%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 97.976%

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	10382.535	0.000	0	0.00%	0.00%
1.0	10329.499	9.910	9.91	0.34%	0.40%
2.0	10152.615	29.398	39.308	1.01%	1.59%
3.0	9872.146	47.893	87.201	1.64%	3.52%
4.0	9465.780	64.730	151.931	2.22%	6.14%
5.0	8970.460	79.312	231.243	2.72%	9.34%
6.0	8325.908	90.897	322.14	3.11%	13.01%
7.0	7658.167	99.213	421.353	3.40%	17.02%
8.0	6903.446	104.215	525.567	3.57%	21.23%
9.0	6189.691	106.113	631.68	3.63%	25.51%
10.0	5475.350	105.564	737.245	3.62%	29.78%
11.0	4829.920	102.971	840.215	3.53%	33.94%
12.0	4252.523	99.284	939.499	3.40%	37.95%
13.0	3752.521	95.000	1034.499	3.25%	41.78%
14.0	3305.848	90.347	1124.846	3.09%	45.43%
15.0	2955.372	85.957	1210.803	2.94%	48.90%
16.0	2653.761	82.189	1292.992	2.81%	52.22%
17.0	2377.608	78.352	1371.344	2.68%	55.39%
18.0	2159.392	74.805	1446.149	2.56%	58.41%
19.0	1971.535	71.870	1518.019	2.46%	61.31%
20.0	1795.748	68.952	1586.971	2.36%	64.10%
21.0	1651.051	66.186	1653.156	2.27%	66.77%
22.0	1523.619	63.796	1716.953	2.18%	69.35%
23.0	1398.205	61.308	1778.26	2.10%	71.82%
24.0	1275.820	58.464	1836.724	2.00%	74.19%
25.0	1194.130	56.161	1892.885	1.92%	76.45%
26.0	1129.492	54.849	1947.735	1.88%	78.67%
27.0	1043.676	53.167	2000.902	1.82%	80.82%
28.0	955.241	50.608	2051.51	1.73%	82.86%
29.0	868.467	47.713	2099.223	1.63%	84.79%
30.0	769.812	44.233	2143.457	1.51%	86.58%
31.0	676.425	40.247	2183.703	1.38%	88.20%
32.0	581.041	36.025	2219.728	1.23%	89.66%
33.0	495.042	31.702	2251.43	1.09%	90.94%
34.0	410.850	27.415	2278.845	0.94%	92.04%
35.0	332.708	23.092	2301.937	0.79%	92.98%
36.0	278.545	19.462	2321.399	0.67%	93.76%
37.0	236.402	16.795	2338.194	0.58%	94.44%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	169.884	13.561	2351.755	0.46%	94.99%
39.0	121.507	9.946	2361.701	0.34%	95.39%
40.0	91.983	7.446	2369.147	0.25%	95.69%
41.0	72.019	5.840	2374.987	0.20%	95.93%
42.0	57.813	4.717	2379.704	0.16%	96.12%
43.0	47.806	3.912	2383.617	0.13%	96.28%
44.0	41.310	3.363	2386.98	0.12%	96.41%
45.0	36.767	3.001	2389.981	0.10%	96.53%
46.0	33.636	2.753	2392.734	0.09%	96.64%
47.0	31.251	2.581	2395.315	0.09%	96.75%
48.0	29.568	2.459	2397.773	0.08%	96.85%
49.0	28.266	2.375	2400.148	0.08%	96.94%
50.0	27.286	2.316	2402.464	0.08%	97.04%
51.0	26.584	2.279	2404.744	0.08%	97.13%
52.0	26.152	2.263	2407.007	0.08%	97.22%
53.0	25.889	2.264	2409.27	0.08%	97.31%
54.0	25.772	2.277	2411.547	0.08%	97.40%
55.0	25.772	2.301	2413.848	0.08%	97.50%
56.0	25.823	2.331	2416.18	0.08%	97.59%
57.0	25.852	2.363	2418.542	0.08%	97.69%
58.0	25.779	2.388	2420.93	0.08%	97.78%
59.0	25.567	2.400	2423.33	0.08%	97.88%
60.0	25.077	2.393	2425.723	0.08%	97.98%
61.0	24.389	2.361	2428.084	0.08%	98.07%
62.0	23.497	2.307	2430.391	0.08%	98.16%
63.0	22.275	2.226	2432.617	0.08%	98.25%
64.0	21.024	2.125	2434.742	0.07%	98.34%
65.0	19.627	2.012	2436.754	0.07%	98.42%
66.0	18.478	1.901	2438.655	0.07%	98.50%
67.0	17.462	1.807	2440.462	0.06%	98.57%
68.0	16.847	1.738	2442.2	0.06%	98.64%
69.0	16.445	1.698	2443.898	0.06%	98.71%
70.0	16.174	1.675	2445.574	0.06%	98.78%
71.0	16.203	1.673	2447.247	0.06%	98.85%
72.0	16.547	1.703	2448.95	0.06%	98.91%
73.0	16.869	1.747	2450.698	0.06%	98.98%
74.0	17.184	1.790	2452.488	0.06%	99.06%
75.0	17.352	1.825	2454.312	0.06%	99.13%

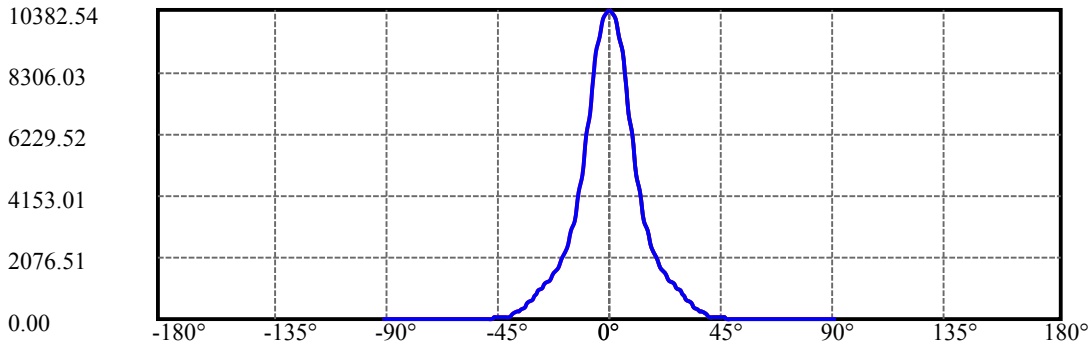
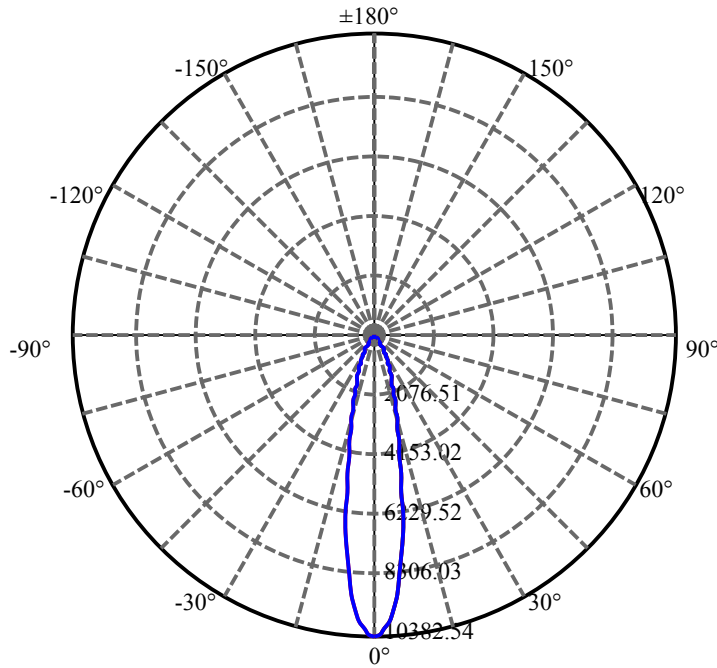
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	17.308	1.840	2456.152	0.06%	99.20%
77.0	17.030	1.831	2457.983	0.06%	99.28%
78.0	16.489	1.794	2459.777	0.06%	99.35%
79.0	15.647	1.727	2461.504	0.06%	99.42%
80.0	14.448	1.623	2463.127	0.06%	99.49%
81.0	13.219	1.496	2464.623	0.05%	99.55%
82.0	12.487	1.394	2466.017	0.05%	99.60%
83.0	12.143	1.339	2467.356	0.05%	99.66%
84.0	11.909	1.310	2468.666	0.04%	99.71%
85.0	11.478	1.276	2469.942	0.04%	99.76%
86.0	11.061	1.232	2471.174	0.04%	99.81%
87.0	10.805	1.197	2472.371	0.04%	99.86%
88.0	10.607	1.173	2473.544	0.04%	99.91%
89.0	10.417	1.152	2474.696	0.04%	99.95%
90.0	10.358	1.139	2475.835	0.04%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2143.46	73.41%	86.58%
0-40	2369.15	81.14%	95.69%
0-60	2425.72	83.07%	97.98%
0-90	2474.70	84.75%	99.95%
0-120	2474.70	84.75%	99.95%
0-180	2475.84	84.79%	100.00%
60-90	48.97	1.68%	1.98%
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%
0-26.62	1980.67	67.83%	80.00%

ZONAL LUMEN SUMMARY

0-10	737.24
10-20	849.73
20-30	556.49
30-40	225.69
40-50	33.32
50-60	23.26
60-70	19.85
70-80	17.55
80-90	11.57
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: —————

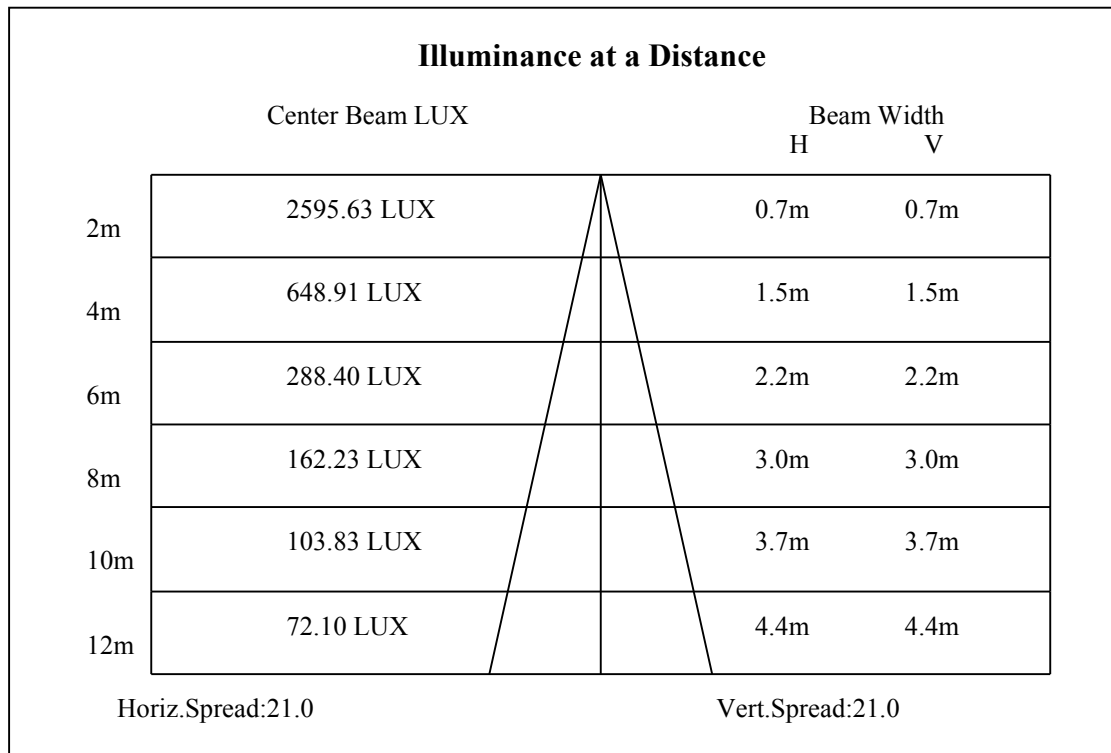
C90/C270: —————

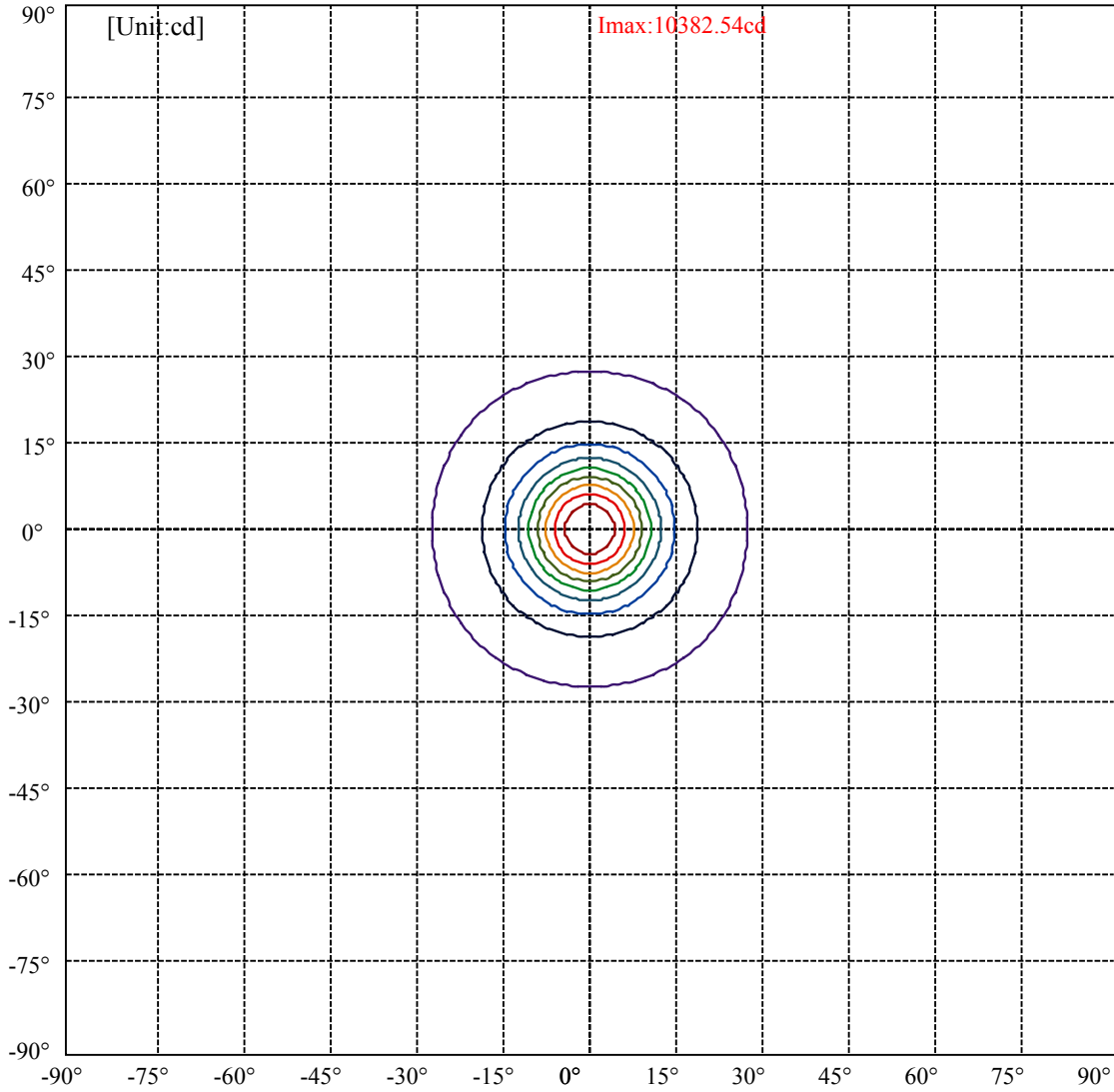
Field angle(10%Imax):C0/180Left:27.1 Right:27.1

:C90/270Left:27.1 Right:27.1

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

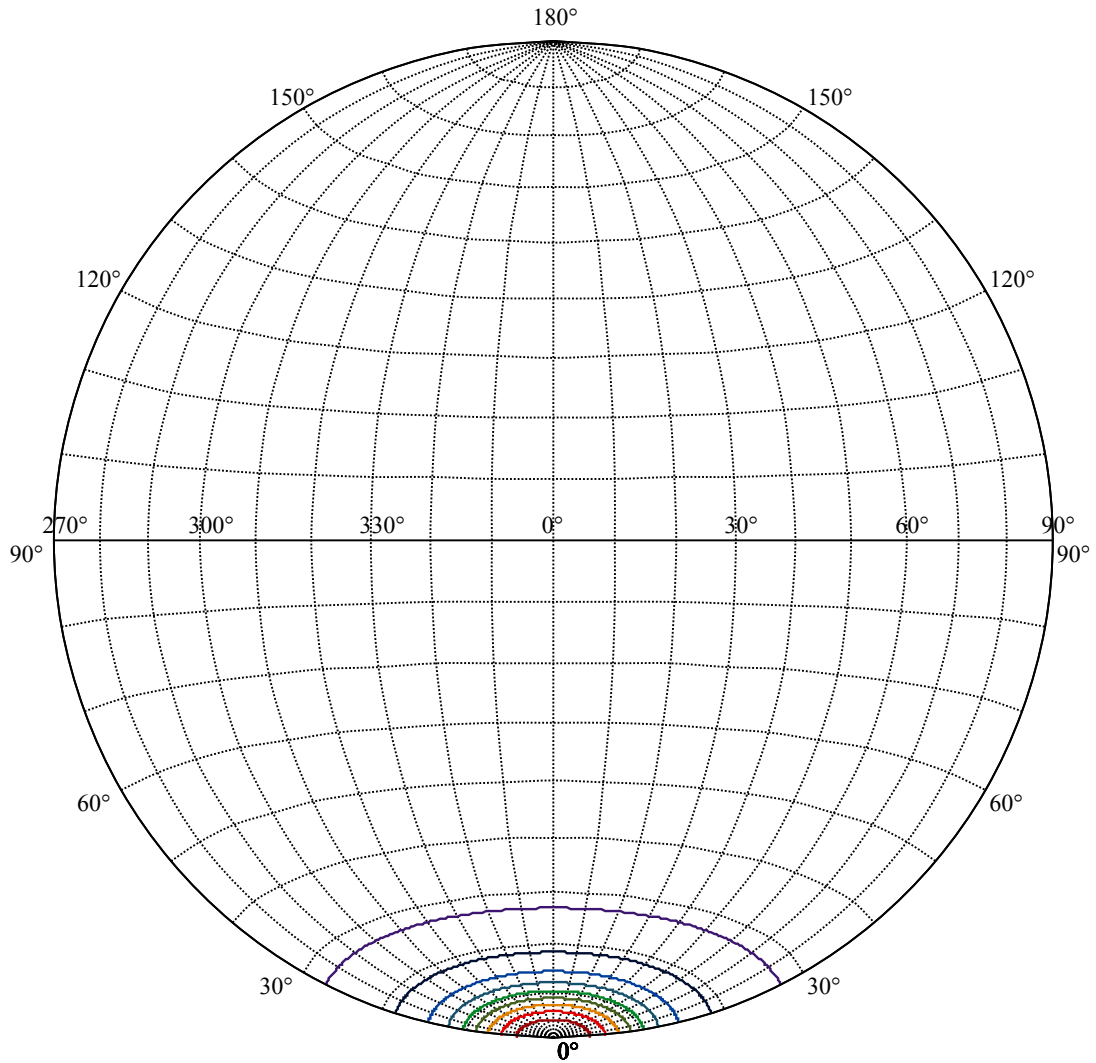
:C90/270Left:10.4 Right:10.4





(10%Imax) 1038.25	—
(20%Imax) 2076.51	—
(30%Imax) 3114.76	—
(40%Imax) 4153.01	—
(50%Imax) 5191.27	—
(60%Imax) 6229.52	—
(70%Imax) 7267.78	—
(80%Imax) 8306.03	—
(90%Imax) 9344.28	—





House

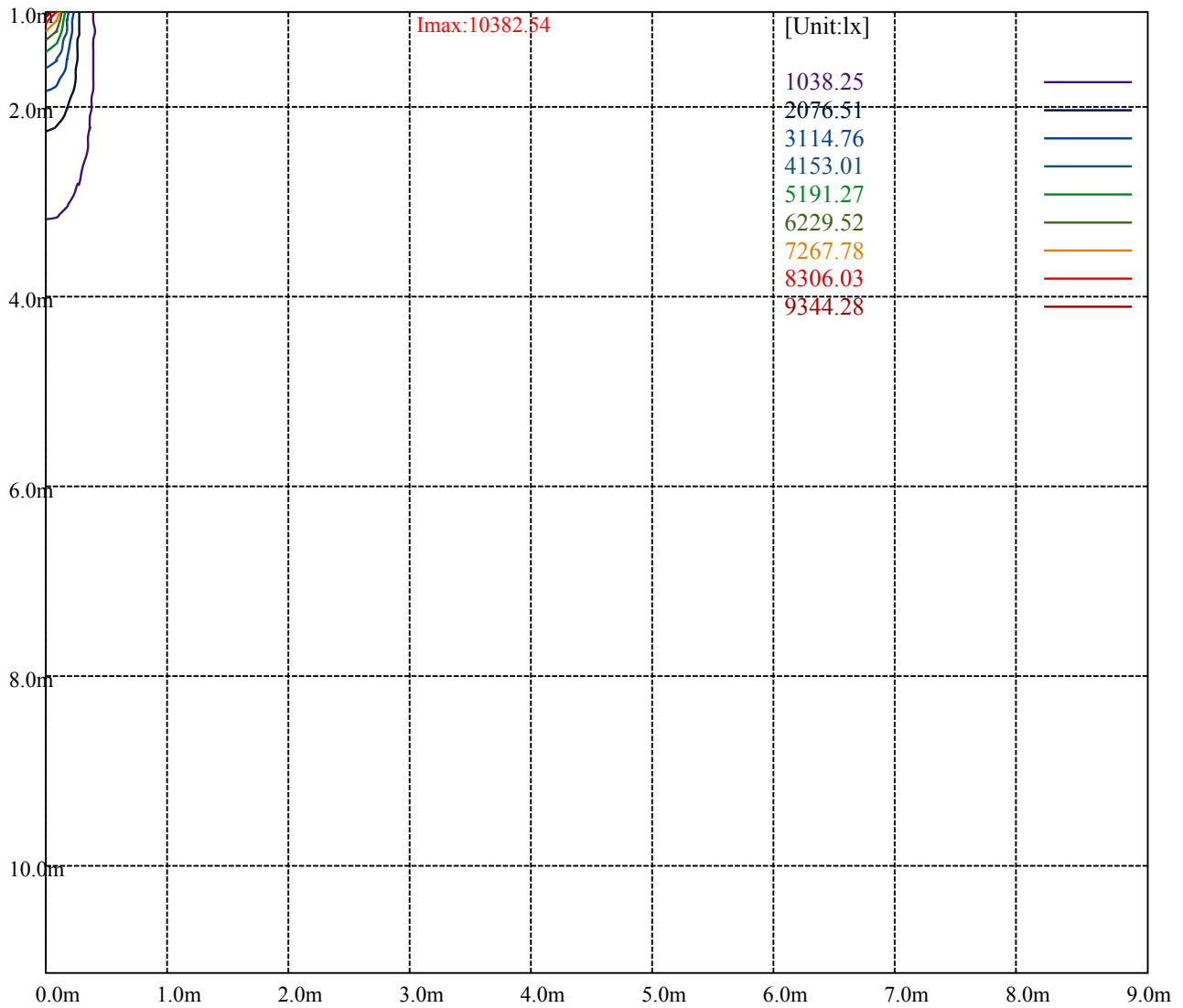
[Unit:cd]

Road

**Imax:10382.54**

(10%Imax)	1038.25	—
(20%Imax)	2076.51	—
(30%Imax)	3114.76	—
(40%Imax)	4153.01	—
(50%Imax)	5191.27	—
(60%Imax)	6229.52	—
(70%Imax)	7267.78	—
(80%Imax)	8306.03	—
(90%Imax)	9344.28	—





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

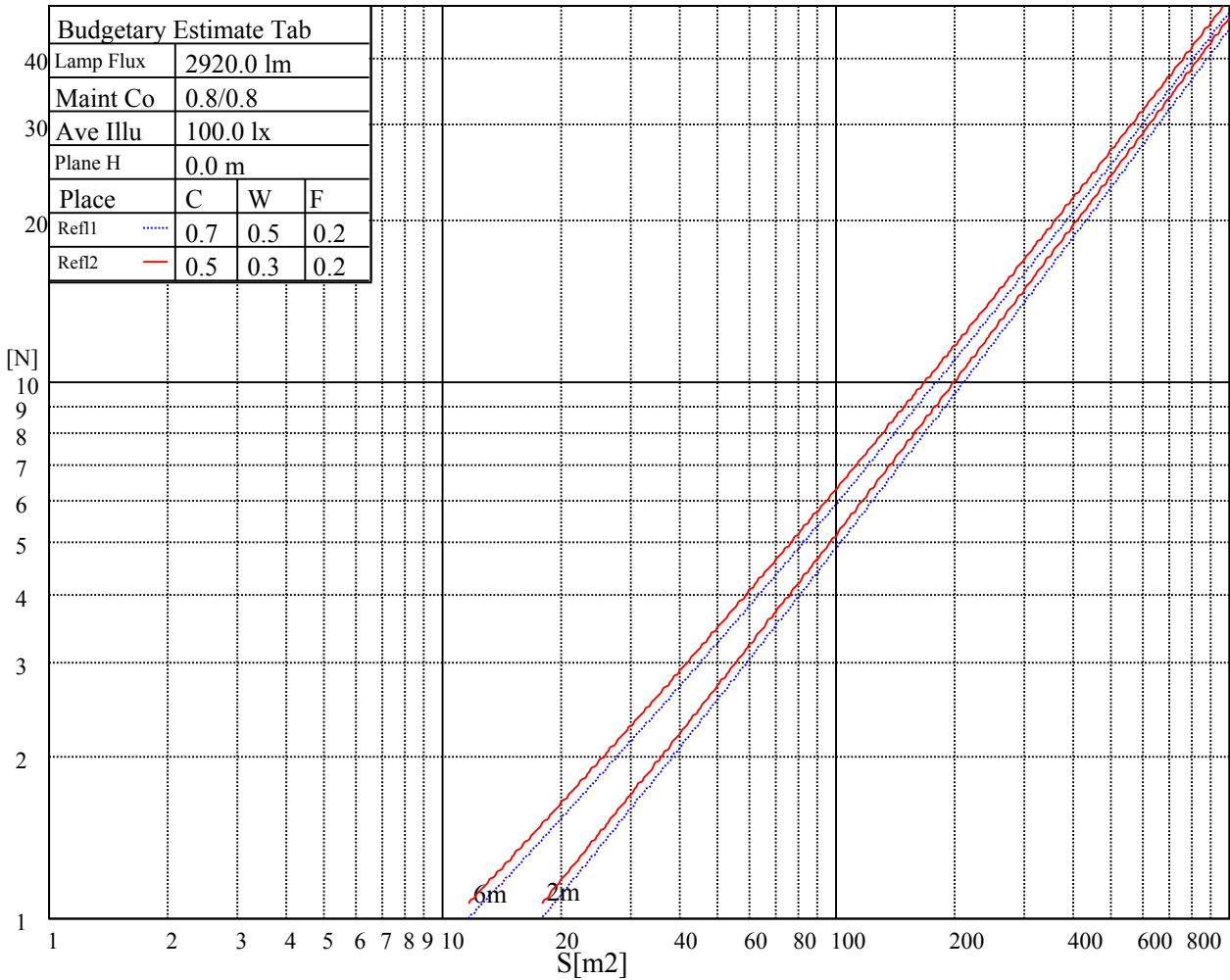
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

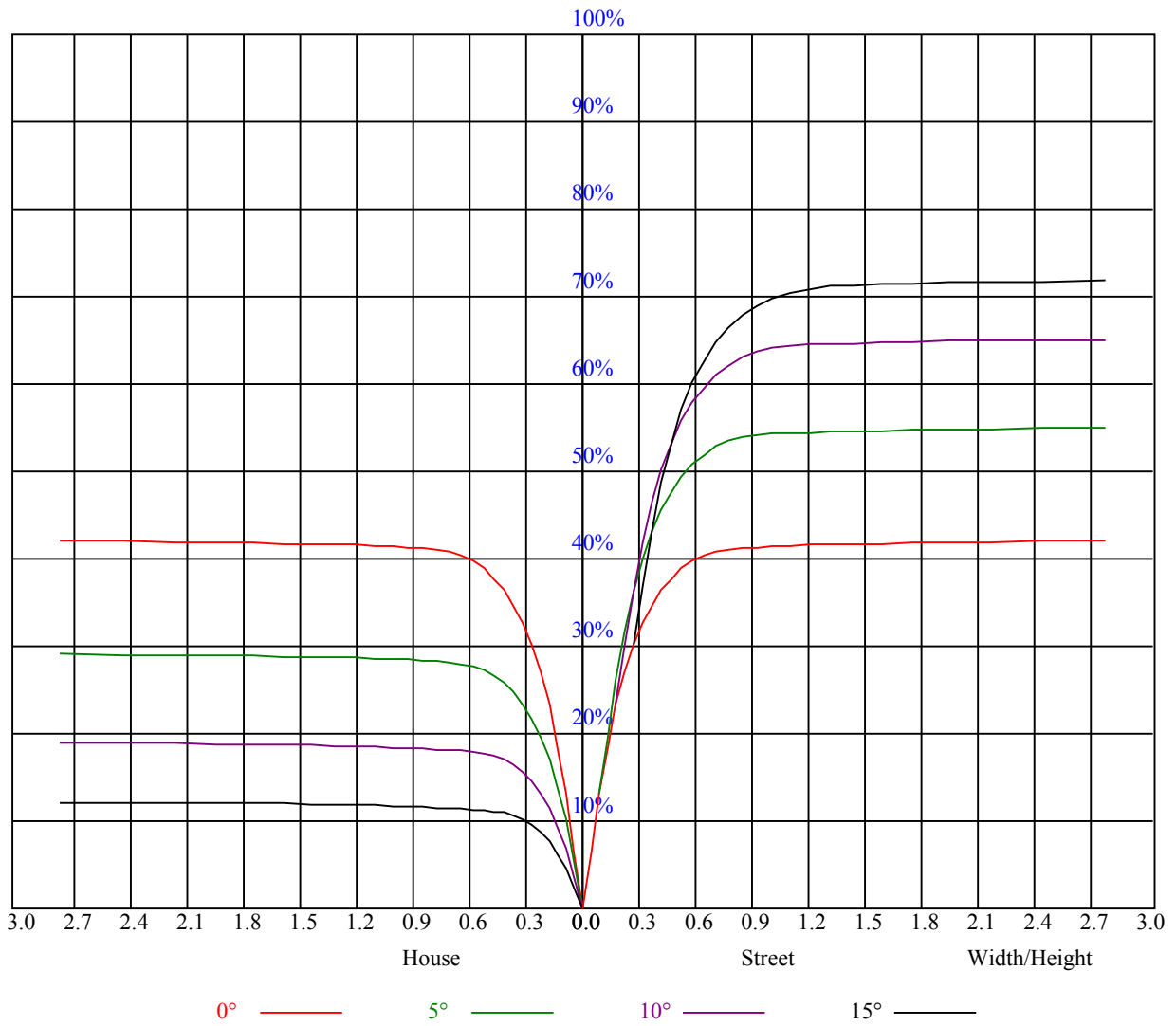
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

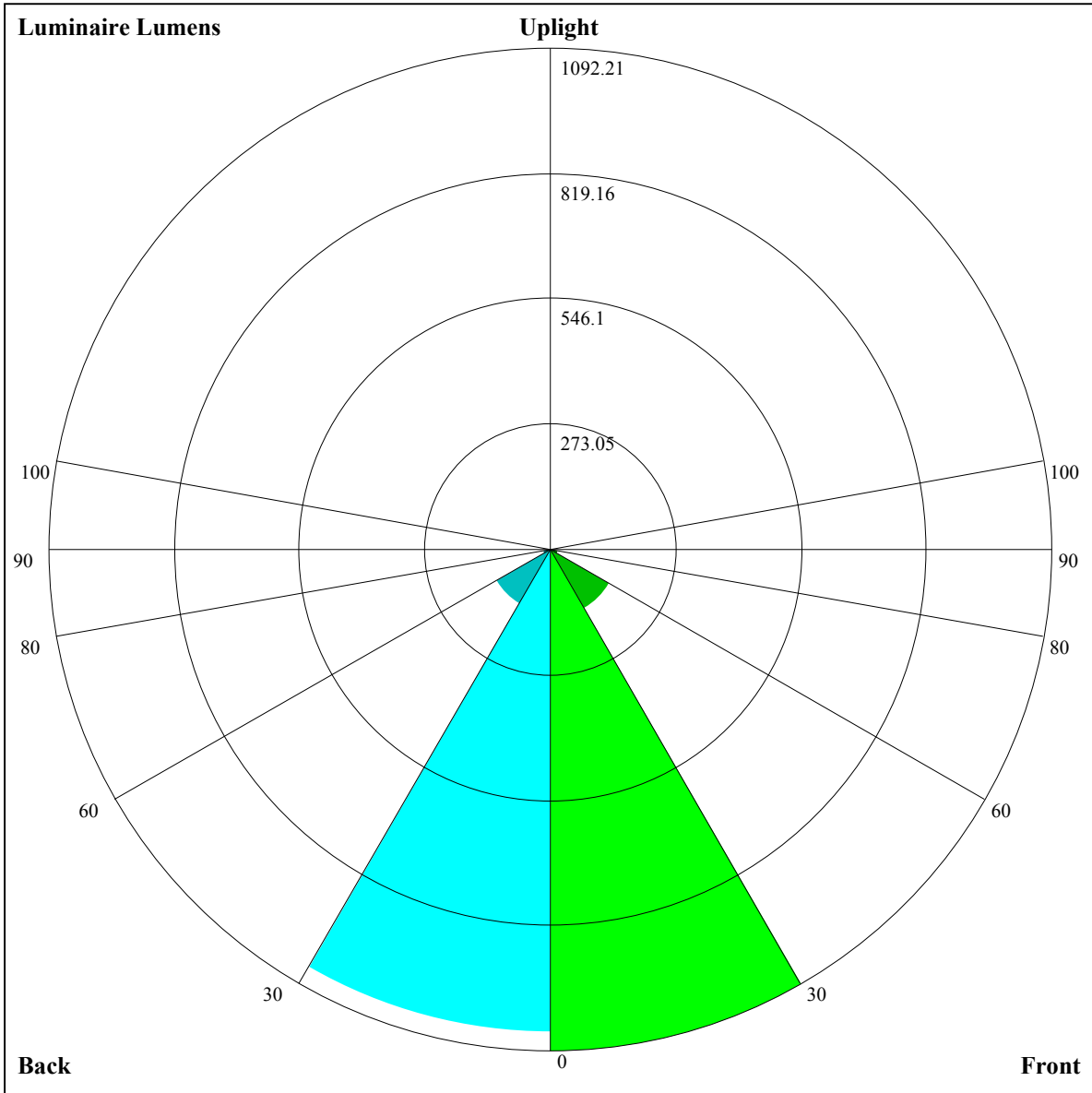
Luminance Limiting Curve





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	1.01	1.01	1.01	0.99	0.99	0.99	0.94	0.94	0.94	0.90	0.90	0.90	0.87	0.87	0.87	0.85
1	0.95	0.93	0.91	0.93	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84	0.83	0.83	0.82	0.80
2	0.89	0.86	0.84	0.88	0.85	0.83	0.85	0.83	0.81	0.83	0.81	0.80	0.81	0.79	0.78	0.77
3	0.85	0.81	0.78	0.84	0.80	0.78	0.82	0.79	0.77	0.80	0.77	0.75	0.78	0.76	0.74	0.73
4	0.81	0.77	0.74	0.80	0.76	0.74	0.78	0.75	0.73	0.77	0.74	0.72	0.75	0.73	0.71	0.70
5	0.77	0.73	0.70	0.76	0.73	0.70	0.75	0.72	0.69	0.74	0.71	0.69	0.72	0.70	0.68	0.67
6	0.74	0.70	0.67	0.73	0.70	0.67	0.72	0.69	0.66	0.71	0.68	0.66	0.70	0.67	0.65	0.64
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	0.68	0.64	0.62	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	0.59	0.58
10	0.64	0.60	0.57	0.63	0.60	0.57	0.63	0.59	0.57	0.62	0.59	0.57	0.62	0.59	0.57	0.56





Luminaire Lumens:

FL=1092.21,FM=148.02,FH=18.48,FVH=6.38

BL=1050.94,BM=135.31,BH=18.99,BVH=6.42

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	10418.23	10351.52	10180.63	9927.23	9555.61	8956.34	8390.43	7763.65	6914.49
45.0	10347.42	10403.60	10350.35	10196.43	9866.95	9471.93	8977.41	8272.80	7636.07
90.0	10376.68	10265.49	10002.72	9675.00	9235.49	8704.70	7963.22	7305.42	6611.35
135.0	10387.80	10340.40	10197.02	9952.98	9501.19	9019.55	8468.26	7840.32	6986.47
180.0	10418.23	10374.34	10221.01	9893.87	9515.82	9046.47	8341.27	7664.17	6952.53
225.0	10347.42	10200.53	9852.91	9464.32	8985.02	8413.25	7577.55	6844.85	6135.56
270.0	10376.68	10389.56	10266.08	10062.42	9658.03	9224.96	8704.11	8076.16	7205.35
315.0	10387.80	10310.55	10150.20	9804.92	9408.14	8926.50	8185.02	7497.96	6785.74
360.0	10418.23	10351.52	10180.63	9927.23	9555.61	8956.34	8390.43	7763.65	6914.49
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	6212.81	5556.18	4942.87	4255.81	3777.10	3283.17	2948.42	2666.34	2371.39
45.0	6978.28	6288.30	5468.40	4865.03	4320.77	3835.04	3322.38	2975.34	2688.58
90.0	5924.29	5121.95	4540.82	4025.24	3480.39	3119.89	2815.58	2491.95	2274.83
135.0	6293.57	5635.19	4878.49	4328.97	3844.99	3335.26	2990.56	2700.87	2394.21
180.0	6080.55	5423.92	4813.53	4256.40	3670.59	3272.64	2934.96	2654.05	2352.66
225.0	5458.45	4698.83	4161.59	3703.95	3302.48	2882.29	2607.24	2370.80	2119.16
270.0	6490.79	5809.59	5157.06	4427.87	3924.58	3497.36	3123.99	2747.10	2491.36
315.0	6078.79	5268.84	4676.59	4156.91	3699.27	3221.14	2899.85	2623.62	2328.67
360.0	6212.81	5556.18	4942.87	4255.81	3777.10	3283.17	2948.42	2666.34	2371.39
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	2169.49	1993.92	1838.84	1670.29	1550.90	1446.73	1351.34	1155.35	1155.35
45.0	2384.27	2182.36	1963.49	1813.67	1673.80	1553.25	1420.40	1324.42	1234.88
90.0	2087.56	1885.65	1742.27	1612.94	1471.90	1371.83	1149.91	1149.91	1088.75
135.0	2189.39	2011.48	1815.43	1677.90	1555.59	1444.98	1345.49	1230.79	1143.59
180.0	2151.35	1967.00	1768.02	1628.74	1475.41	1373.00	1279.36	1197.43	1097.36
225.0	1943.59	1750.47	1615.28	1495.89	1391.14	1164.42	1164.42	1106.02	1027.30
270.0	2222.16	2029.62	1859.32	1680.24	1556.76	1444.39	1347.25	1240.74	1159.97
315.0	2127.35	1951.78	1763.34	1628.74	1513.45	1387.04	1148.39	1148.39	1128.72
360.0	2169.49	1993.92	1838.84	1670.29	1550.90	1446.73	1351.34	1155.35	1155.35
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	1072.89	970.07	887.38	800.82	691.74	602.84	516.64	415.69	345.40
45.0	1154.71	1052.88	972.12	890.19	807.08	699.40	611.62	530.27	431.95
90.0	1007.17	925.18	841.20	732.17	644.80	536.30	454.25	379.23	294.89
135.0	1059.90	955.15	870.87	762.61	674.82	588.79	505.69	410.30	342.42
180.0	1016.59	940.52	854.49	742.12	652.00	564.80	480.53	385.14	319.01
225.0	927.58	843.43	755.47	642.81	555.85	472.74	379.93	313.91	254.10
270.0	1078.63	1003.13	898.96	808.84	718.13	605.18	517.98	436.64	345.34
315.0	1031.93	951.58	867.24	778.93	666.98	578.26	493.70	415.63	328.55
360.0	1072.89	970.07	887.38	800.82	691.74	602.84	516.64	415.69	345.40
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	281.84	225.37	165.79	128.69	100.37	78.77	60.28	50.27	42.08
45.0	359.97	310.23	310.23	166.56	127.99	92.64	72.80	59.11	49.51
90.0	235.26	184.87	142.97	103.35	81.17	65.19	53.90	44.54	39.62
135.0	295.01	295.01	162.22	125.94	92.76	78.13	60.63	51.21	43.07
180.0	303.79	232.80	149.17	116.34	85.79	68.76	56.59	46.06	40.38
225.0	190.26	148.59	115.17	90.30	68.06	55.83	47.11	39.80	35.99
270.0	296.18	296.18	159.53	122.78	94.86	70.05	56.83	47.52	41.20
315.0	266.04	198.16	153.97	118.10	84.86	66.77	54.37	43.95	38.62
360.0	281.84	225.37	165.79	128.69	100.37	78.77	60.28	50.27	42.08

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	37.57	34.35	31.49	29.79	28.50	27.27	26.63	26.16	25.87
45.0	41.67	37.45	34.29	31.49	29.67	28.32	27.10	26.39	25.81
90.0	35.93	32.60	30.67	29.14	27.74	26.92	26.34	25.87	25.63
135.0	38.57	35.35	32.42	30.67	29.38	28.15	27.45	26.98	26.69
180.0	36.52	33.12	31.25	29.73	28.68	27.68	27.15	26.69	26.51
225.0	33.18	31.08	29.20	28.09	27.10	26.57	26.10	25.98	25.81
270.0	35.87	32.95	30.84	29.20	27.68	26.80	26.04	25.63	25.46
315.0	34.82	32.19	29.85	28.44	27.39	26.57	25.87	25.52	25.34
360.0	37.57	34.35	31.49	29.79	28.50	27.27	26.63	26.16	25.87
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	25.63	25.69	25.69	25.69	25.57	25.40	24.87	24.05	23.23
45.0	25.57	25.40	25.46	25.52	25.63	25.57	25.46	24.87	24.11
90.0	25.63	25.57	25.75	25.75	25.69	25.46	24.81	24.05	23.06
135.0	26.51	26.45	26.45	26.57	26.51	26.34	25.81	25.05	24.11
180.0	26.45	26.45	26.57	26.57	26.45	26.10	25.52	24.87	23.94
225.0	25.93	25.93	26.04	25.87	25.75	25.28	24.58	23.76	22.71
270.0	25.16	25.28	25.22	25.34	25.22	25.16	24.87	24.35	23.58
315.0	25.28	25.40	25.40	25.52	25.40	25.22	24.70	24.11	23.23
360.0	25.63	25.69	25.69	25.69	25.57	25.40	24.87	24.05	23.23
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	21.95	20.72	19.49	18.38	17.32	16.68	16.09	15.80	15.86
45.0	23.23	22.24	20.66	19.43	18.08	17.26	16.62	15.92	15.51
90.0	21.71	20.42	18.90	17.91	17.15	16.39	15.98	15.68	16.21
135.0	22.82	21.59	20.25	19.02	17.85	17.21	16.68	16.33	16.33
180.0	22.53	21.13	19.84	18.67	17.73	17.67	18.14	18.84	19.72
225.0	21.13	19.84	18.55	17.44	16.68	16.21	15.68	15.33	15.04
270.0	22.59	21.54	19.90	18.67	17.62	16.74	16.21	15.80	15.51
315.0	22.24	20.72	19.43	18.32	17.26	16.62	16.15	15.68	15.45
360.0	21.95	20.72	19.49	18.38	17.32	16.68	16.09	15.80	15.86
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	16.09	16.04	15.74	15.16	14.75	14.16	13.75	13.40	12.93
45.0	15.10	14.81	14.46	14.16	13.93	13.69	13.46	13.28	13.05
90.0	17.15	18.02	18.79	19.20	19.02	18.73	17.85	15.51	13.34
135.0	16.74	17.50	18.61	19.37	19.96	19.84	18.96	17.91	16.09
180.0	20.66	20.78	20.54	20.01	19.08	18.26	17.50	16.80	15.80
225.0	14.75	14.46	14.22	13.99	13.81	13.58	13.40	13.23	12.99
270.0	15.92	16.56	17.44	18.55	18.90	18.96	18.55	17.67	15.68
315.0	15.98	16.80	17.67	18.38	19.02	19.02	18.43	17.38	15.68
360.0	16.09	16.04	15.74	15.16	14.75	14.16	13.75	13.40	12.93
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	12.58	12.23	12.00	11.65	11.47	11.24	10.89	10.71	10.53
45.0	12.76	12.47	12.17	11.94	11.70	11.47	11.06	10.77	10.59
90.0	12.35	12.00	11.76	11.65	11.18	10.94	10.77	10.59	10.36
135.0	14.34	12.87	12.06	11.65	11.29	10.94	10.71	10.53	10.30
180.0	14.22	12.52	12.00	11.70	11.35	10.94	10.77	10.59	10.42
225.0	12.87	12.82	12.76	12.58	11.06	10.83	10.65	10.48	10.36
270.0	13.58	12.82	12.52	12.47	12.29	11.12	10.83	10.65	10.42
315.0	13.05	12.17	11.88	11.65	11.47	11.00	10.77	10.53	10.36
360.0	12.58	12.23	12.00	11.65	11.47	11.24	10.89	10.71	10.53

Intensity data(cd)

C/ $\gamma$ (°)	90.0
0.0	10.42
45.0	10.42
90.0	10.42
135.0	10.24
180.0	10.42
225.0	10.36
270.0	10.30
315.0	10.30
360.0	10.42