



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: 2-2688-L

Luminaire: 92.70.411.00

Report No: 2024424-B012

Ballast type: AC

Test No: 2024424-C012

Voltage(V): 36.490

LampCAT: NICHIA NFCWJ130B-V3

Current(A): 0.576

Lamp flux(lm): 2924.0

Power (W): 21.018

Number of Lamps: 1

PF: 0.000

Length(mm): 0

Width(mm): 0

Phm Type: C

Height(mm): 0

### Photometric Results

Lumens(lm): 2385.43, Efficiency(%): 81.58% , Luminous Efficacy(lm/W): 113.49

Central intensity(cd): 5801.979, Maximum intensity(cd): 5801.979

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

Beam Angle(50%Imax): [C0/180]Total=35.2

[C90/270]Total=35.2

Field angle(10%Imax): [C0/180]Total=60.8

[C90/270]Total=60.8

Maximum s/h(1/2): C0\_180=0.58 C90\_270=0.58

Maximum s/h(1/4): C0\_180=0.58 C90\_270=0.58

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 81.58%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 97.520%

Equipment: GMS1980  
Temperature(°C): 25.0

Date: 2024/4/24  
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	5801.979	0.000	0	0.00%	0.00%
1.0	5795.176	5.549	5.549	0.19%	0.23%
2.0	5775.425	16.607	22.156	0.57%	0.93%
3.0	5741.994	27.546	49.702	0.94%	2.08%
4.0	5697.809	38.293	87.995	1.31%	3.69%
5.0	5619.608	48.687	136.682	1.67%	5.73%
6.0	5527.216	58.580	195.261	2.00%	8.19%
7.0	5391.663	67.773	263.035	2.32%	11.03%
8.0	5236.506	76.064	339.098	2.60%	14.22%
9.0	5058.890	83.439	422.537	2.85%	17.71%
10.0	4841.332	89.593	512.13	3.06%	21.47%
11.0	4633.139	94.669	606.8	3.24%	25.44%
12.0	4379.297	98.519	705.319	3.37%	29.57%
13.0	4119.457	100.859	806.177	3.45%	33.80%
14.0	3864.226	102.190	908.368	3.49%	38.08%
15.0	3597.071	102.432	1010.8	3.50%	42.37%
16.0	3312.432	101.244	1112.043	3.46%	46.62%
17.0	3040.595	98.934	1210.977	3.38%	50.77%
18.0	2791.362	96.156	1307.133	3.29%	54.80%
19.0	2537.375	92.709	1399.843	3.17%	58.68%
20.0	2311.478	88.747	1488.59	3.04%	62.40%
21.0	2063.928	84.017	1572.607	2.87%	65.93%
22.0	1852.588	78.704	1651.311	2.69%	69.22%
23.0	1662.317	73.752	1725.063	2.52%	72.32%
24.0	1436.720	67.756	1792.819	2.32%	75.16%
25.0	1286.895	61.929	1854.748	2.12%	77.75%
26.0	1178.095	58.186	1912.934	1.99%	80.19%
27.0	1034.766	54.138	1967.073	1.85%	82.46%
28.0	891.546	48.770	2015.843	1.67%	84.51%
29.0	754.106	43.055	2058.898	1.47%	86.31%
30.0	631.568	37.413	2096.311	1.28%	87.88%
31.0	508.487	31.726	2128.037	1.09%	89.21%
32.0	405.517	26.185	2154.222	0.90%	90.31%
33.0	312.825	21.163	2175.384	0.72%	91.19%
34.0	255.429	17.197	2192.581	0.59%	91.92%
35.0	208.077	14.395	2206.976	0.49%	92.52%
36.0	141.932	11.144	2218.121	0.38%	92.99%
37.0	124.719	8.697	2226.817	0.30%	93.35%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	112.349	7.913	2234.73	0.27%	93.68%
39.0	100.907	7.279	2242.009	0.25%	93.99%
40.0	92.290	6.738	2248.747	0.23%	94.27%
41.0	83.577	6.263	2255.01	0.21%	94.53%
42.0	76.840	5.828	2260.838	0.20%	94.78%
43.0	69.854	5.434	2266.272	0.19%	95.00%
44.0	64.492	5.071	2271.343	0.17%	95.22%
45.0	59.708	4.773	2276.116	0.16%	95.42%
46.0	55.421	4.502	2280.618	0.15%	95.61%
47.0	51.610	4.257	2284.875	0.15%	95.78%
48.0	48.237	4.036	2288.911	0.14%	95.95%
49.0	45.399	3.845	2292.757	0.13%	96.12%
50.0	42.765	3.676	2296.432	0.13%	96.27%
51.0	40.307	3.515	2299.947	0.12%	96.42%
52.0	38.296	3.373	2303.32	0.12%	96.56%
53.0	36.394	3.249	2306.569	0.11%	96.69%
54.0	34.660	3.132	2309.701	0.11%	96.83%
55.0	32.926	3.017	2312.718	0.10%	96.95%
56.0	31.470	2.910	2315.628	0.10%	97.07%
57.0	29.898	2.806	2318.433	0.10%	97.19%
58.0	28.581	2.704	2321.138	0.09%	97.30%
59.0	27.293	2.612	2323.75	0.09%	97.41%
60.0	25.955	2.516	2326.265	0.09%	97.52%
61.0	24.887	2.426	2328.692	0.08%	97.62%
62.0	23.826	2.347	2331.039	0.08%	97.72%
63.0	22.948	2.275	2333.314	0.08%	97.82%
64.0	22.100	2.210	2335.524	0.08%	97.91%
65.0	21.507	2.158	2337.682	0.07%	98.00%
66.0	21.127	2.127	2339.81	0.07%	98.09%
67.0	20.995	2.118	2341.928	0.07%	98.18%
68.0	21.156	2.135	2344.063	0.07%	98.27%
69.0	21.617	2.182	2346.245	0.07%	98.36%
70.0	22.260	2.253	2348.498	0.08%	98.45%
71.0	23.021	2.340	2350.839	0.08%	98.55%
72.0	23.702	2.429	2353.268	0.08%	98.65%
73.0	24.126	2.501	2355.769	0.09%	98.76%
74.0	24.470	2.555	2358.324	0.09%	98.86%
75.0	24.397	2.582	2360.906	0.09%	98.97%

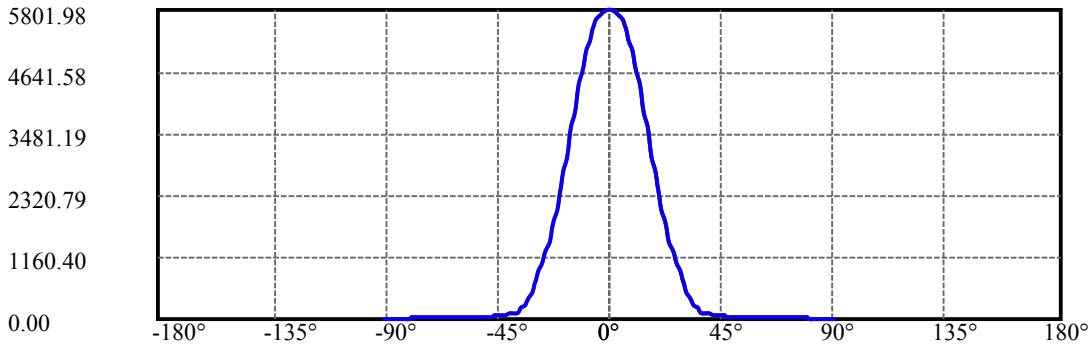
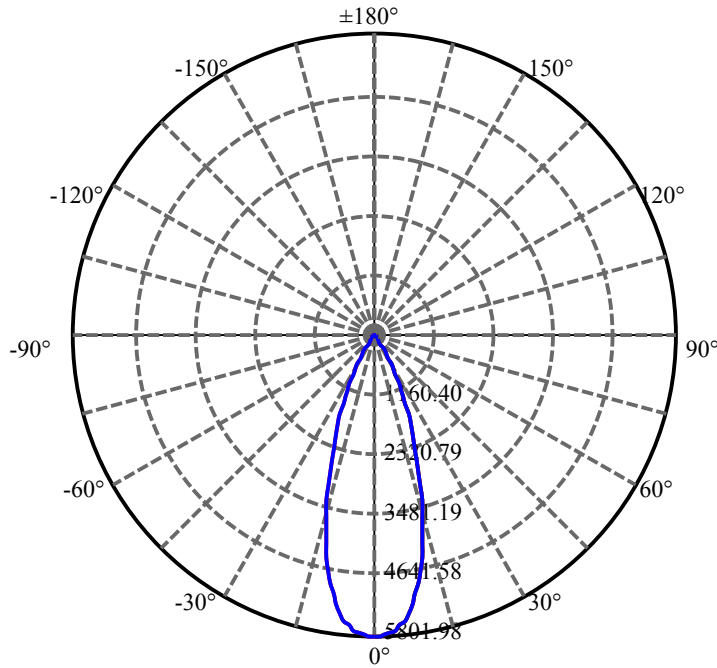
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	23.694	2.553	2363.459	0.09%	99.08%
77.0	22.370	2.456	2365.915	0.08%	99.18%
78.0	20.556	2.298	2368.213	0.08%	99.28%
79.0	18.383	2.092	2370.305	0.07%	99.37%
80.0	15.962	1.852	2372.156	0.06%	99.44%
81.0	14.170	1.629	2373.786	0.06%	99.51%
82.0	13.475	1.499	2375.285	0.05%	99.57%
83.0	13.146	1.447	2376.732	0.05%	99.64%
84.0	12.999	1.424	2378.156	0.05%	99.70%
85.0	12.312	1.381	2379.538	0.05%	99.75%
86.0	11.295	1.290	2380.828	0.04%	99.81%
87.0	10.658	1.201	2382.03	0.04%	99.86%
88.0	10.366	1.152	2383.181	0.04%	99.91%
89.0	10.205	1.128	2384.309	0.04%	99.95%
90.0	10.176	1.117	2385.426	0.04%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2096.31	71.69%	87.88%
0-40	2248.75	76.91%	94.27%
0-60	2326.27	79.56%	97.52%
0-90	2384.31	81.54%	99.95%
0-120	2384.31	81.54%	99.95%
0-180	2385.43	81.58%	100.00%
60-90	58.04	1.99%	2.43%
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%
0-25.92	1908.34	65.26%	80.00%

ZONAL LUMEN SUMMARY

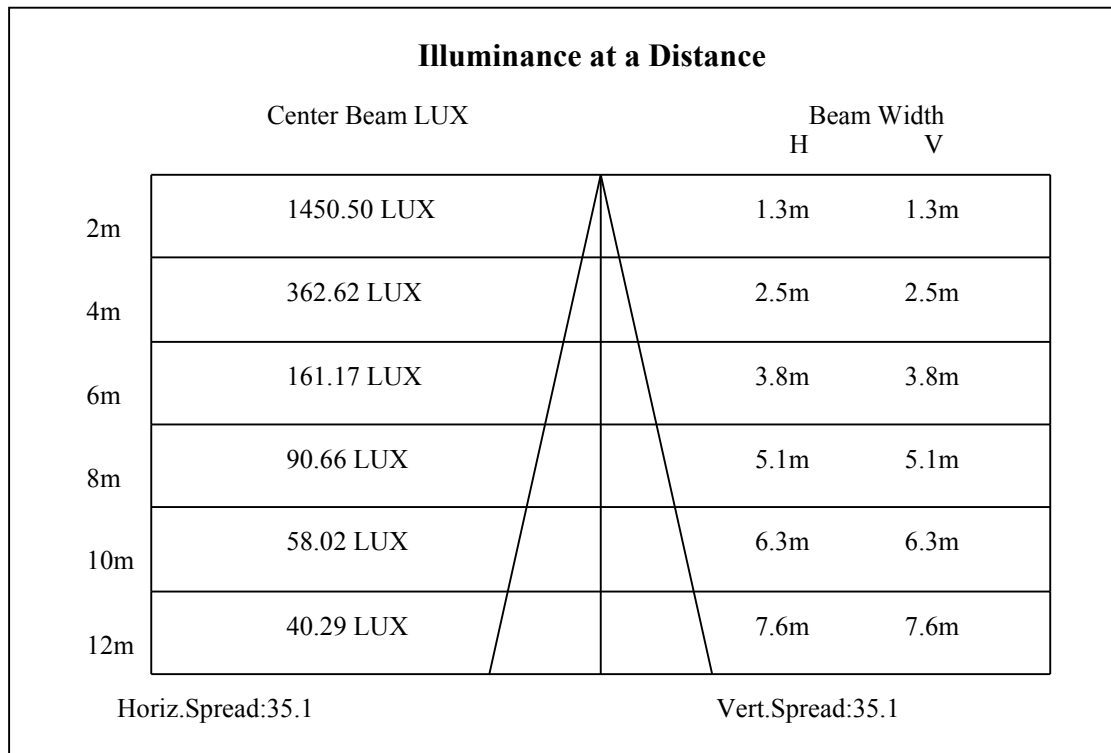
0-10	512.13
10-20	976.46
20-30	607.72
30-40	152.44
40-50	47.69
50-60	29.83
60-70	22.23
70-80	23.66
80-90	12.15
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

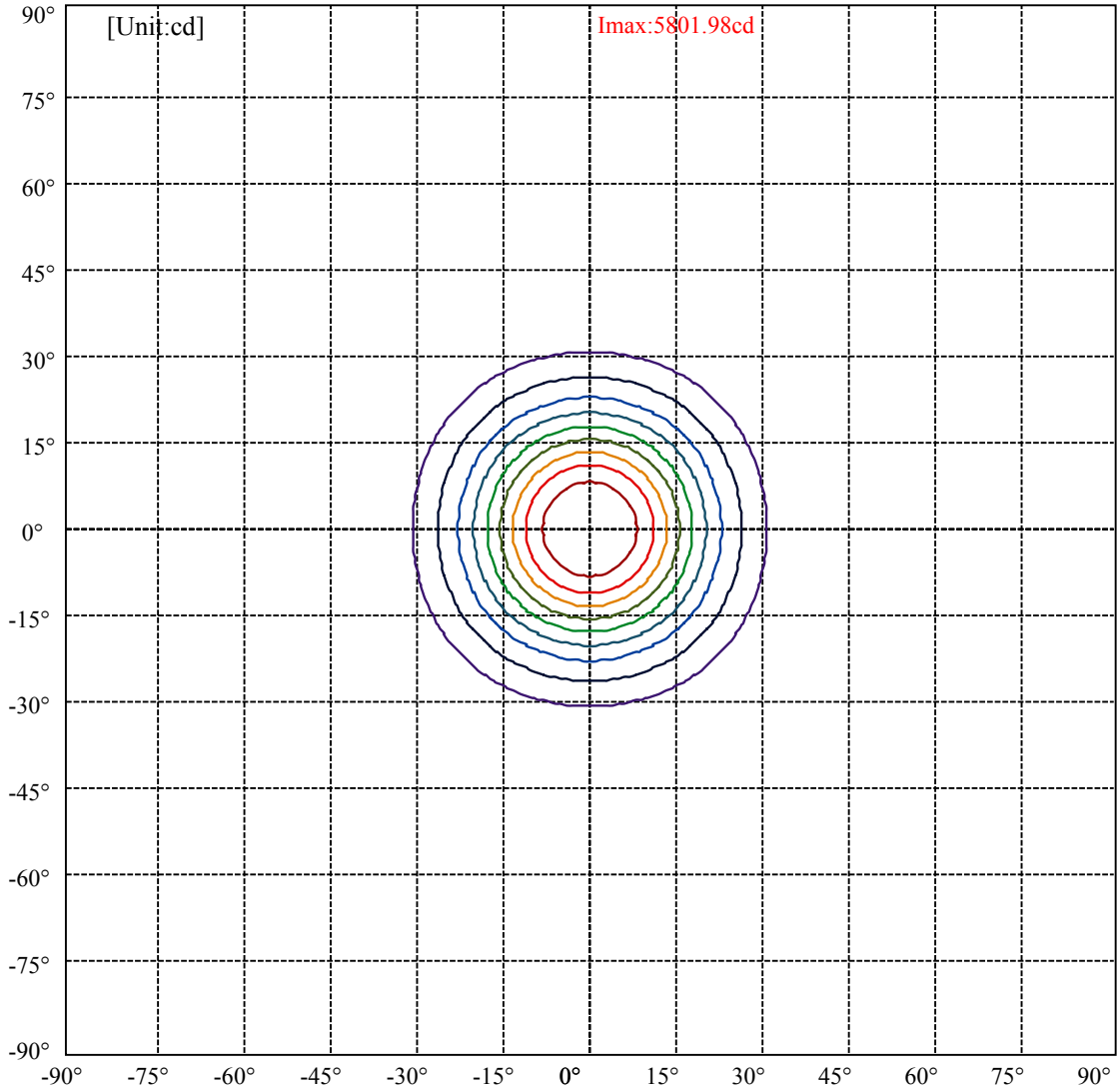


C0(Max): —————  
C0/C180: —————  
C90/C270: —————

Field angle(10%Imax):C0/180Left:30.4 Right:30.4  
:C90/270Left:30.4 Right:30.4

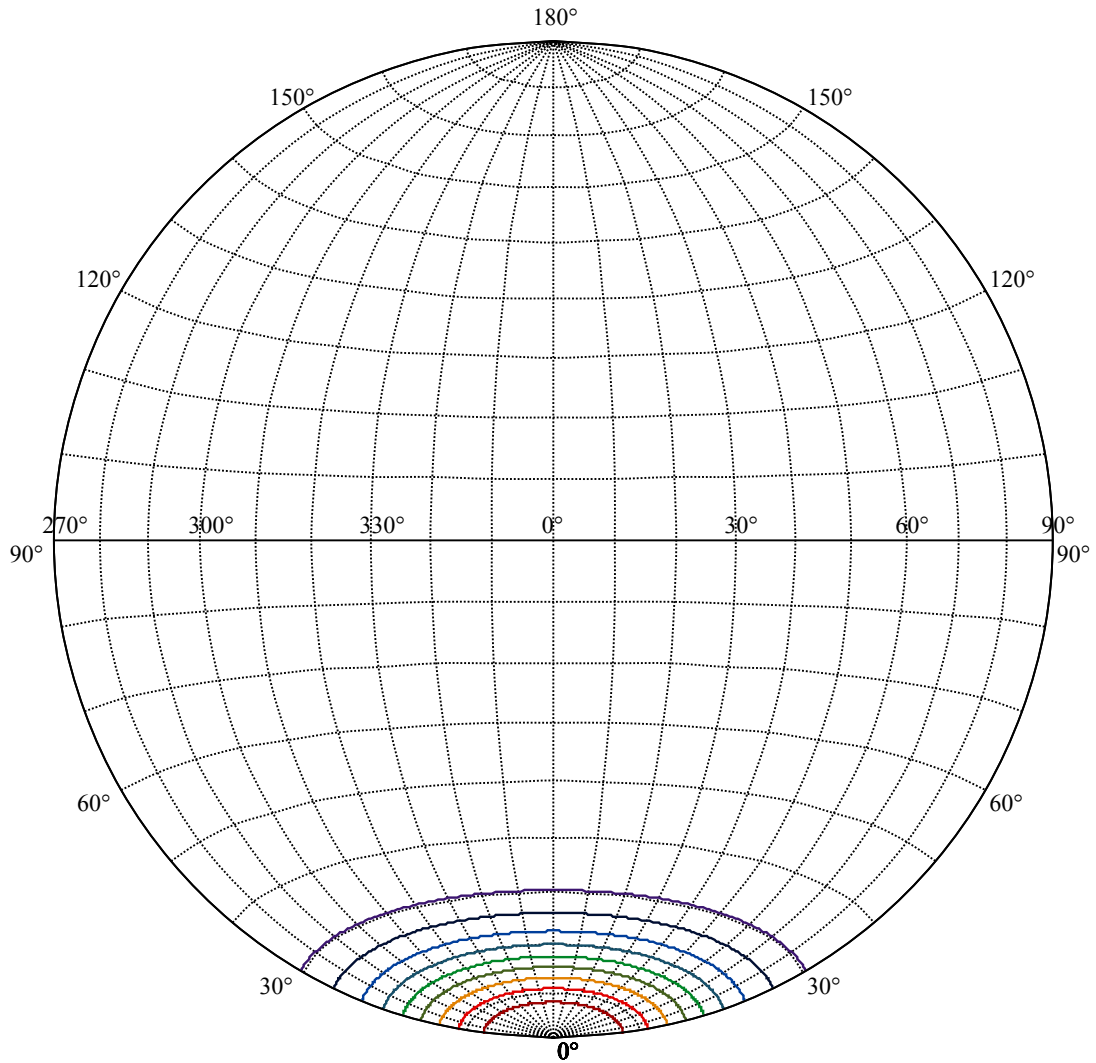
Beam Angle(50%Imax):C0/180Left:17.6 Right:17.6  
:C90/270Left:17.6 Right:17.6





(10%Imax) 580.198	—
(20%Imax) 1160.4	—
(30%Imax) 1740.59	—
(40%Imax) 2320.79	—
(50%Imax) 2900.99	—
(60%Imax) 3481.19	—
(70%Imax) 4061.39	—
(80%Imax) 4641.58	—
(90%Imax) 5221.78	—





House

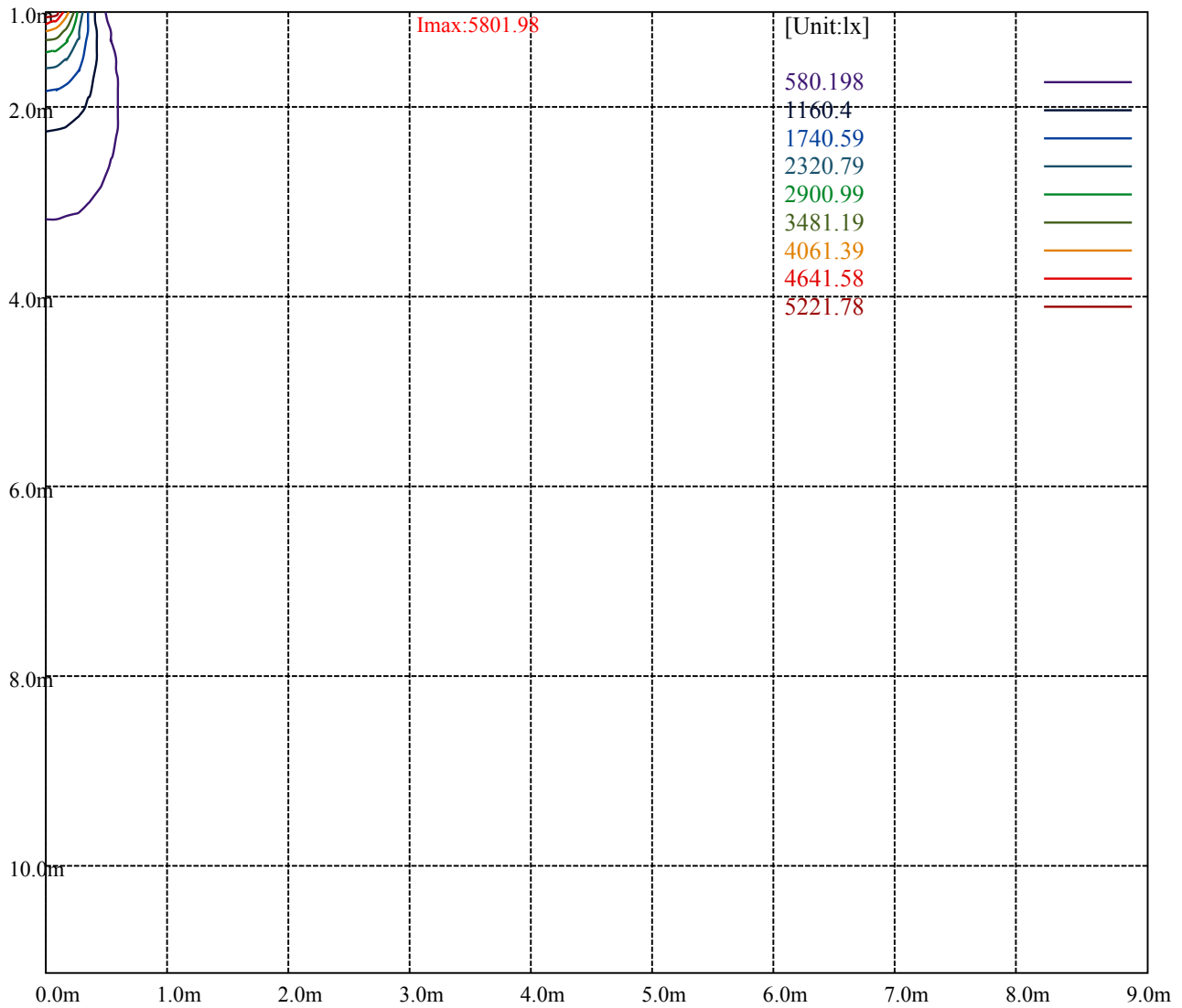
[Unit:cd]

Road

**Imax:5801.98**

(10%Imax) 580.198	—
(20%Imax) 1160.4	—
(30%Imax) 1740.59	—
(40%Imax) 2320.79	—
(50%Imax) 2900.99	—
(60%Imax) 3481.19	—
(70%Imax) 4061.39	—
(80%Imax) 4641.58	—
(90%Imax) 5221.78	—





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

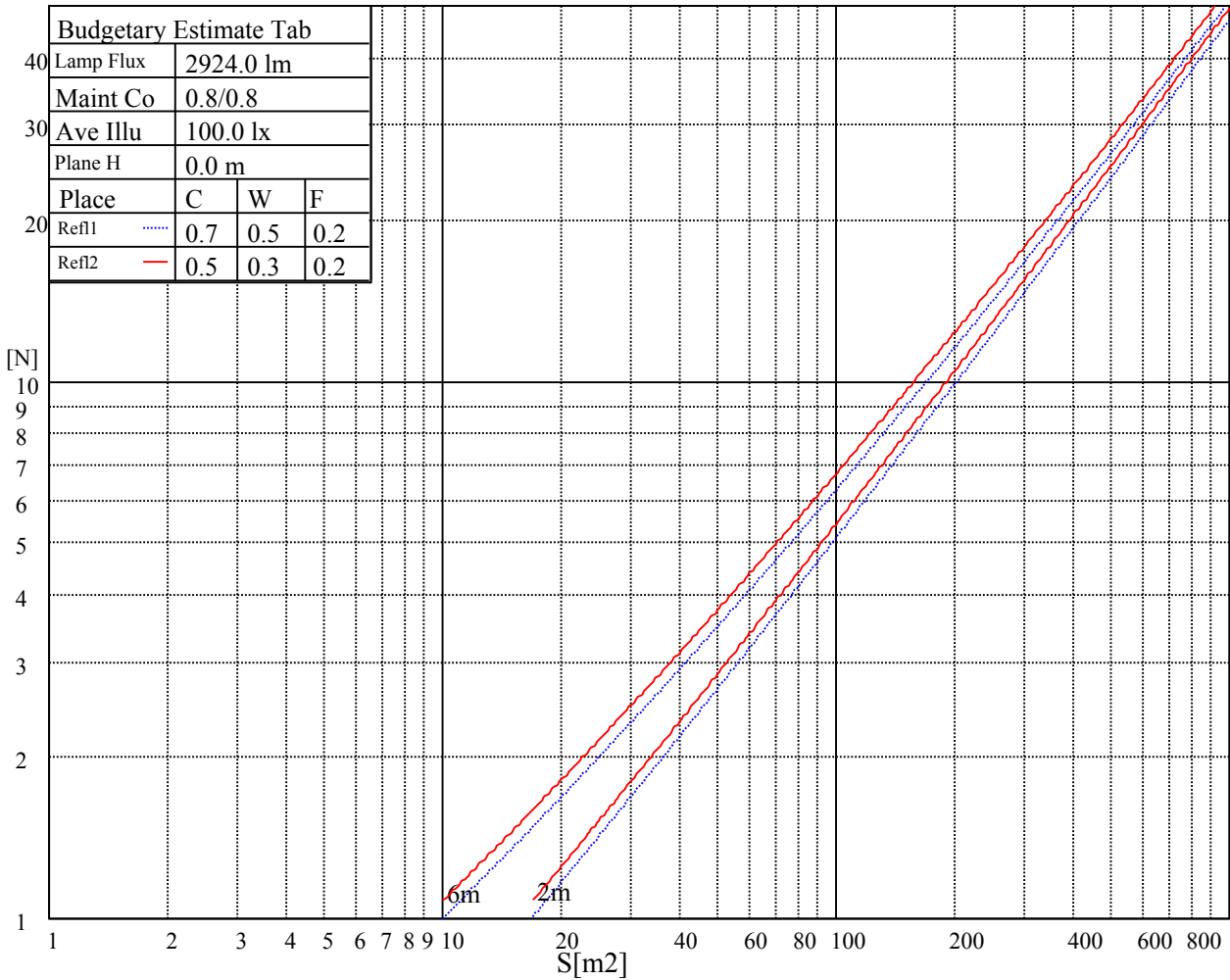
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

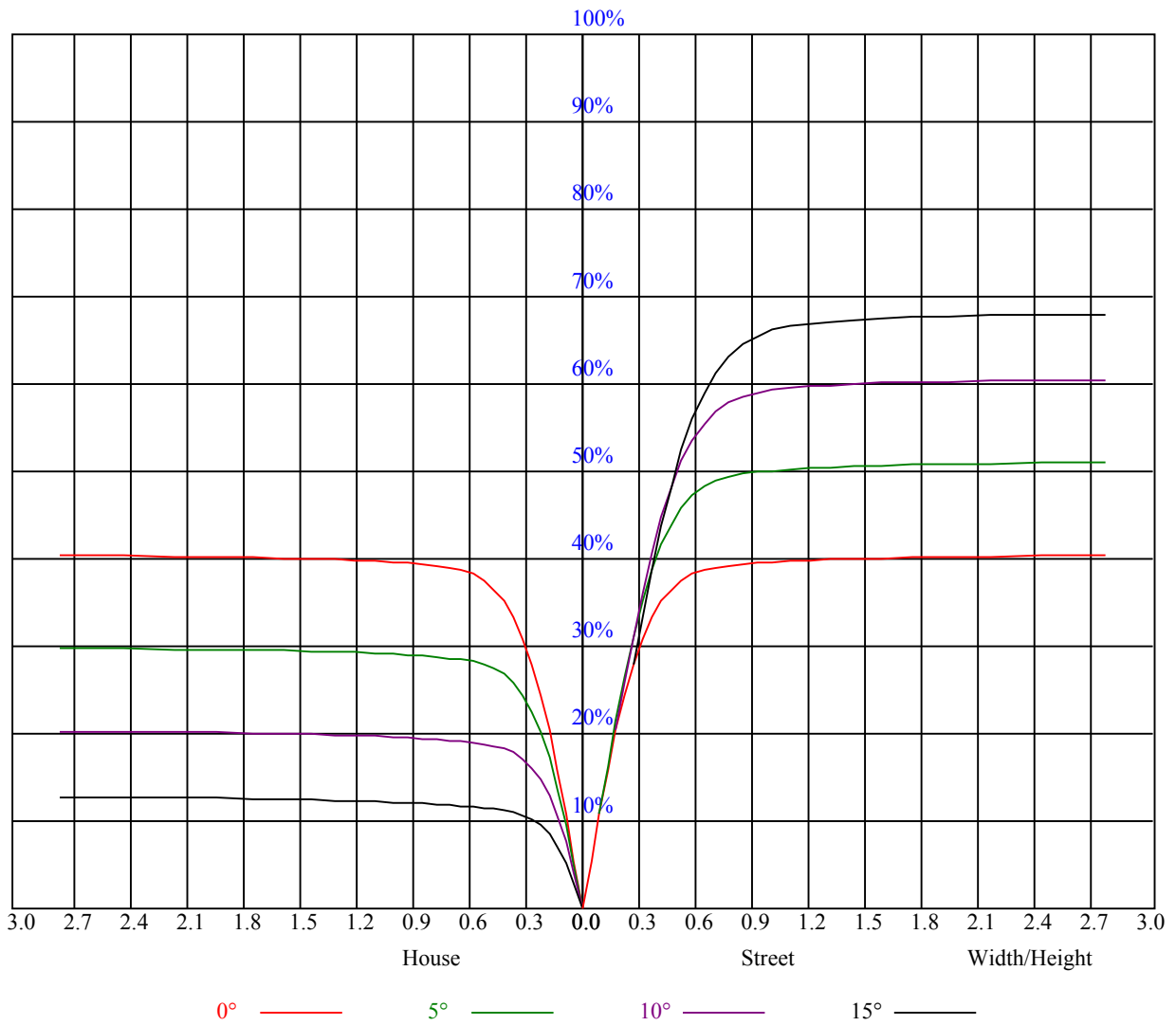
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

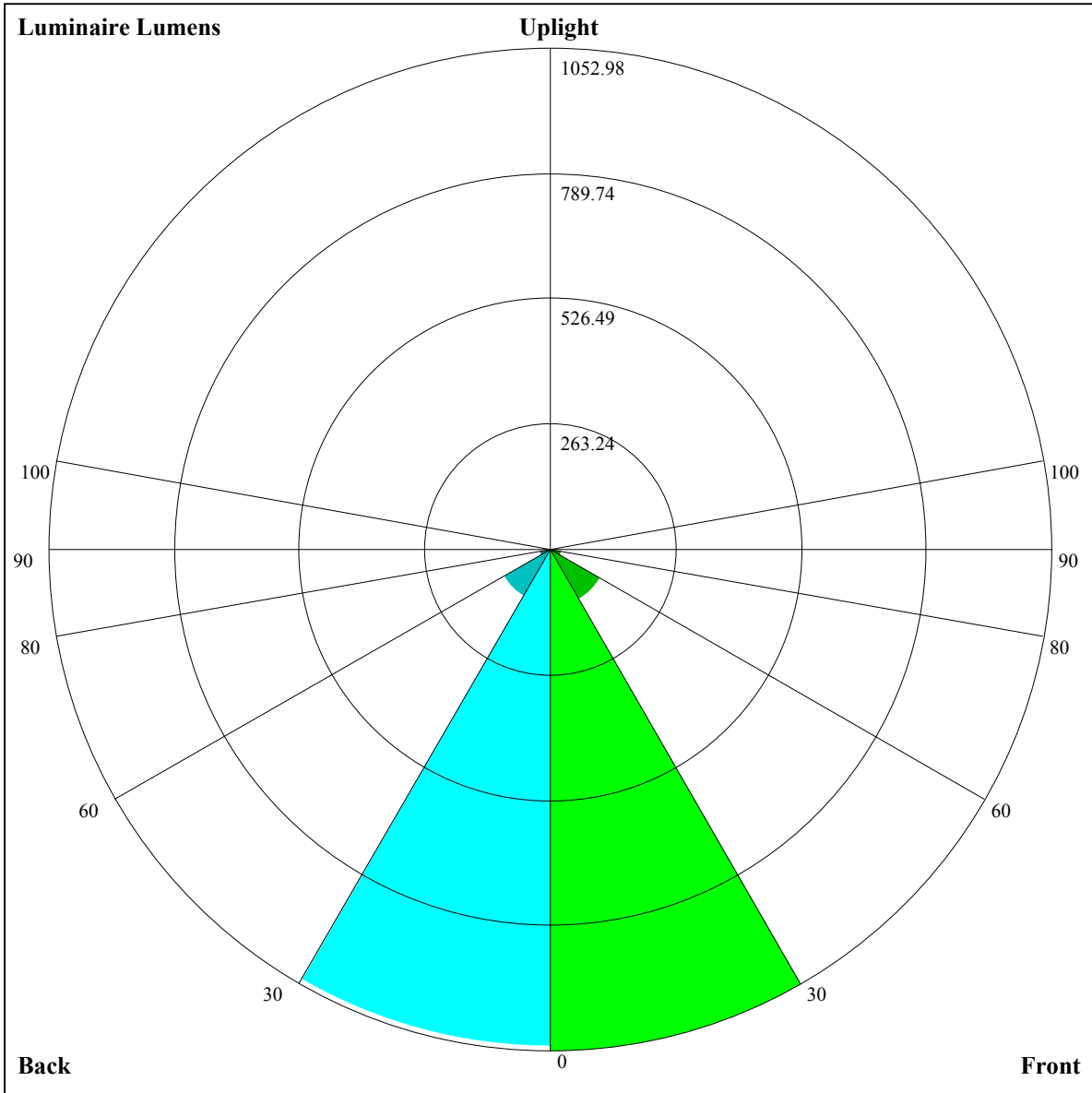
Luminance Limiting Curve





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 RHOFC=20 CU															
0	0.97	0.97	0.97	0.95	0.95	0.95	0.91	0.91	0.91	0.87	0.87	0.87	0.83	0.83	0.83	0.82
1	0.91	0.89	0.87	0.89	0.87	0.86	0.86	0.84	0.83	0.83	0.82	0.81	0.80	0.79	0.78	0.77
2	0.85	0.82	0.80	0.84	0.81	0.79	0.81	0.79	0.77	0.79	0.77	0.76	0.77	0.75	0.74	0.73
3	0.81	0.77	0.74	0.80	0.76	0.74	0.78	0.75	0.73	0.76	0.73	0.72	0.74	0.72	0.70	0.69
4	0.77	0.73	0.70	0.76	0.72	0.69	0.74	0.71	0.69	0.73	0.70	0.68	0.71	0.69	0.67	0.66
5	0.73	0.69	0.66	0.72	0.69	0.66	0.71	0.68	0.65	0.70	0.67	0.65	0.68	0.66	0.64	0.63
6	0.70	0.66	0.63	0.69	0.65	0.62	0.68	0.65	0.62	0.67	0.64	0.62	0.66	0.63	0.61	0.60
7	0.67	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.59	0.64	0.61	0.59	0.64	0.61	0.59	0.58
8	0.64	0.60	0.57	0.64	0.60	0.57	0.63	0.59	0.57	0.62	0.59	0.57	0.61	0.58	0.56	0.55
9	0.61	0.57	0.55	0.61	0.57	0.55	0.60	0.57	0.54	0.60	0.57	0.54	0.59	0.56	0.54	0.53
10	0.59	0.55	0.53	0.59	0.55	0.53	0.58	0.55	0.52	0.58	0.54	0.52	0.57	0.54	0.52	0.51





Luminaire Lumens:

FL=1052.98,FM=120.37,FH=22.71,FVH=6.75

BL=1041.9,BM=115.05,BH=23.34,BVH=6.68

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	5808.42	5808.42	5782.08	5746.97	5702.49	5607.10	5509.95	5382.37	5192.76
45.0	5800.22	5806.08	5804.32	5787.35	5758.67	5703.66	5642.21	5514.63	5381.79
90.0	5801.39	5795.54	5772.72	5730.58	5676.16	5567.89	5449.09	5308.63	5105.56
135.0	5797.88	5796.71	5782.08	5753.41	5704.25	5640.46	5550.33	5401.10	5261.23
180.0	5808.42	5801.98	5776.23	5741.12	5696.64	5619.39	5541.55	5422.17	5279.37
225.0	5800.22	5765.70	5738.19	5685.52	5634.60	5538.04	5428.02	5258.31	5098.54
270.0	5801.39	5797.30	5775.06	5749.89	5715.37	5668.55	5581.93	5484.79	5360.13
315.0	5797.88	5789.69	5772.72	5741.12	5694.30	5611.78	5514.63	5361.30	5212.66
360.0	5808.42	5808.42	5782.08	5746.97	5702.49	5607.10	5509.95	5382.37	5192.76
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	5012.51	4801.83	4594.07	4305.56	4058.59	3811.63	3555.30	3241.62	2998.17
45.0	5230.21	5009.58	4814.12	4595.83	4306.14	4058.59	3811.04	3497.36	3241.62
90.0	4908.34	4698.24	4478.20	4170.96	3923.99	3666.49	3409.58	3088.88	2845.42
135.0	5100.88	4858.60	4647.92	4427.87	4129.99	3879.52	3621.43	3297.22	3047.91
180.0	5077.47	4891.95	4686.54	4402.12	4167.45	3925.75	3613.82	3366.86	3055.52
225.0	4914.19	4664.89	4446.60	4218.95	3979.59	3670.59	3423.62	3172.56	2924.43
270.0	5185.74	5012.51	4818.22	4554.86	4328.97	4083.76	3774.76	3520.19	3208.85
315.0	5041.77	4793.05	4579.44	4358.23	4060.93	3817.48	3567.00	3314.77	3002.85
360.0	5012.51	4801.83	4594.07	4305.56	4058.59	3811.63	3555.30	3241.62	2998.17
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	2761.15	2480.24	2261.37	1992.75	1789.68	1616.45	1468.97	1145.87	1145.87
45.0	2989.97	2695.02	2467.37	2247.91	2027.28	1824.20	1614.11	1470.73	1290.48
90.0	2611.92	2337.45	2119.16	1859.32	1724.13	1531.01	1139.73	1139.73	1070.08
135.0	2805.63	2575.05	2353.25	2084.63	1878.05	1693.70	1507.60	1365.39	1182.80
180.0	2812.06	2569.78	2336.28	2122.08	1857.56	1673.80	1519.30	1382.36	1196.84
225.0	2624.21	2396.55	2175.34	1910.23	1717.69	1557.34	1166.24	1166.24	1097.00
270.0	2964.22	2715.50	2472.63	2260.78	1995.09	1786.75	1608.26	1473.66	1290.48
315.0	2761.74	2529.40	2306.43	2033.72	1831.23	1615.28	1469.56	1151.20	1151.20
360.0	2761.15	2480.24	2261.37	1992.75	1789.68	1616.45	1468.97	1145.87	1145.87
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	1004.89	871.05	719.89	605.42	501.19	403.92	315.09	224.20	173.05
45.0	1143.00	1004.30	836.35	715.79	602.84	496.91	374.60	309.06	309.06
90.0	935.37	806.38	655.33	540.63	435.58	317.72	238.01	179.84	143.03
135.0	1037.66	904.23	779.58	633.86	525.59	424.35	331.30	309.64	217.53
180.0	1062.24	893.70	765.53	644.39	508.03	408.55	319.01	298.52	212.09
225.0	926.47	798.48	677.05	562.64	431.78	338.32	256.45	192.01	143.79
270.0	1156.46	975.63	849.22	720.47	570.65	460.63	362.31	297.94	297.94
315.0	1012.03	878.60	749.91	629.35	492.23	393.74	305.84	232.22	168.14
360.0	1004.89	871.05	719.89	605.42	501.19	403.92	315.09	224.20	173.05
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	139.17	124.77	113.07	100.89	92.70	83.51	77.02	71.22	65.84
45.0	165.68	135.89	121.61	110.08	100.19	89.66	82.22	74.21	68.41
90.0	127.81	115.70	105.40	94.22	86.50	79.53	73.27	66.54	61.74
135.0	140.45	121.61	109.85	99.96	91.35	82.11	75.67	69.99	63.67
180.0	137.70	122.37	110.31	98.32	89.95	82.69	76.02	68.76	63.61
225.0	126.12	113.48	102.47	91.24	83.22	74.62	68.59	62.09	57.70
270.0	156.66	136.71	123.13	109.03	99.49	91.06	83.28	74.85	69.00
315.0	141.86	127.23	112.95	103.53	94.92	85.44	78.65	71.16	65.95
360.0	139.17	124.77	113.07	100.89	92.70	83.51	77.02	71.22	65.84

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	59.99	55.89	52.32	48.98	45.35	42.72	40.50	38.45	36.05
45.0	63.38	58.99	53.96	50.39	47.23	43.66	41.14	38.92	36.64
90.0	57.53	52.85	49.51	45.94	43.42	41.02	39.03	36.69	35.00
135.0	59.40	54.84	51.56	48.63	45.94	43.01	40.85	39.03	37.45
180.0	58.41	54.60	51.27	47.64	45.18	42.96	40.32	38.45	36.69
225.0	53.90	50.56	46.94	44.30	42.02	39.97	37.63	35.99	34.41
270.0	63.79	58.35	54.43	50.21	47.11	44.42	41.49	39.39	37.40
315.0	61.27	57.29	52.90	49.80	46.94	44.36	41.49	39.44	37.51
360.0	59.99	55.89	52.32	48.98	45.35	42.72	40.50	38.45	36.05
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	34.41	32.48	31.02	29.50	27.92	26.69	25.52	24.40	23.47
45.0	34.82	33.18	31.78	30.08	28.79	27.51	26.16	24.99	23.70
90.0	33.42	32.13	30.31	29.03	27.92	26.74	25.28	24.46	23.47
135.0	35.52	34.06	32.71	31.08	29.79	28.56	27.10	25.98	25.05
180.0	35.05	33.18	31.78	30.37	29.03	27.56	26.34	25.22	23.99
225.0	32.89	31.25	29.90	28.27	27.10	26.04	24.64	23.64	22.82
270.0	35.46	33.42	32.01	30.55	29.09	27.51	26.34	25.22	23.94
315.0	35.70	33.71	32.25	30.31	29.03	27.74	26.28	25.16	24.17
360.0	34.41	32.48	31.02	29.50	27.92	26.69	25.52	24.40	23.47
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	22.47	21.59	21.07	21.19	21.71	22.41	23.70	24.93	26.34
45.0	22.88	22.06	21.30	20.42	19.84	19.20	18.61	18.08	17.67
90.0	22.65	22.12	21.42	21.13	20.95	21.83	22.71	23.76	24.87
135.0	24.05	23.23	22.65	22.00	21.71	21.54	22.30	23.29	24.76
180.0	23.17	22.36	22.47	23.00	23.64	24.70	25.69	26.86	27.97
225.0	21.95	20.95	20.25	19.61	18.96	18.32	17.85	17.38	16.85
270.0	23.06	22.24	21.30	20.66	20.37	20.37	20.66	21.48	22.30
315.0	23.35	22.24	21.59	21.01	20.78	20.89	21.42	22.30	23.41
360.0	22.47	21.59	21.07	21.19	21.71	22.41	23.70	24.93	26.34
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	26.92	26.92	26.57	25.75	24.99	24.11	22.94	19.55	16.09
45.0	17.26	16.85	16.44	16.15	15.74	15.51	15.27	14.98	14.75
90.0	26.16	27.10	27.80	27.74	26.39	23.35	19.66	17.44	15.39
135.0	25.81	26.80	28.38	29.14	29.26	28.21	25.46	22.12	17.09
180.0	29.20	29.55	29.50	28.91	27.92	27.10	25.46	22.82	19.37
225.0	16.39	16.04	15.57	15.22	14.86	14.46	14.10	13.81	13.52
270.0	23.53	24.58	25.34	26.10	25.34	23.76	21.71	19.31	16.85
315.0	24.35	25.16	26.16	26.16	25.05	22.47	19.84	17.03	14.63
360.0	26.92	26.92	26.57	25.75	24.99	24.11	22.94	19.55	16.09
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	13.46	12.58	12.29	12.06	11.76	11.12	10.65	10.42	10.24
45.0	14.57	14.46	14.28	14.10	14.05	13.28	10.83	10.42	10.42
90.0	14.05	14.10	14.10	14.16	11.47	10.94	10.42	10.24	10.12
135.0	14.63	13.52	13.05	12.93	12.17	10.83	10.77	10.30	10.07
180.0	15.22	13.34	12.52	12.17	11.76	10.94	10.59	10.42	10.30
225.0	13.23	13.05	12.82	12.70	11.18	10.71	10.42	10.42	10.07
270.0	14.28	13.34	12.99	12.87	12.93	11.41	10.89	10.42	10.36
315.0	13.93	13.40	13.11	12.99	13.17	11.12	10.71	10.30	10.07
360.0	13.46	12.58	12.29	12.06	11.76	11.12	10.65	10.42	10.24

Intensity data(cd)

C/γ(°)	90.0
0.0	10.24
45.0	10.12
90.0	10.18
135.0	10.18
180.0	10.30
225.0	10.24
270.0	10.07
315.0	10.07
360.0	10.24