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NT

Client:

LumCAT: 2-2687-L

Luminaire: 92.70.411.00

Report No: 2024424-B011

Ballast type: AC

Test No: 2024424-C011

Voltage(V): 36.580

LampCAT: NICHIA NFCWJ130B-V3

Current(A): 0.576

Lamp flux(lm): 2924.0

Power (W): 21.070

Number of Lamps: 1

PF: 0.000

Length(mm): 0

Width(mm): 0

Phm Type: C

Height(mm): 0

### Photometric Results

Lumens(lm): 2417.76, Efficiency(%): 82.69% , Luminous Efficacy(lm/W): 114.75

Central intensity(cd): 9404.040, Maximum intensity(cd): 9404.040

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

Beam Angle(50%Imax): [C0/180]Total=22.6

[C90/270]Total=22.6

Field angle(10%Imax): [C0/180]Total=55.0

[C90/270]Total=55.0

Maximum s/h(1/2): C0\_180=0.38 C90\_270=0.38

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(%): 82.69%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 97.784%

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	9404.039	0.000	0	0.00%	0.00%
1.0	9331.105	8.964	8.964	0.31%	0.37%
2.0	9150.271	26.526	35.491	0.91%	1.47%
3.0	8851.587	43.055	78.545	1.47%	3.25%
4.0	8397.891	57.740	136.285	1.97%	5.64%
5.0	7909.960	70.156	206.44	2.40%	8.54%
6.0	7409.226	80.506	286.947	2.75%	11.87%
7.0	6865.845	88.605	375.552	3.03%	15.53%
8.0	6331.681	94.452	470.004	3.23%	19.44%
9.0	5823.852	98.514	568.518	3.37%	23.51%
10.0	5320.339	100.851	669.369	3.45%	27.69%
11.0	4846.160	101.584	770.953	3.47%	31.89%
12.0	4369.348	100.739	871.692	3.45%	36.05%
13.0	3931.088	98.505	970.197	3.37%	40.13%
14.0	3526.771	95.460	1065.657	3.26%	44.08%
15.0	3194.070	92.267	1157.924	3.16%	47.89%
16.0	2898.458	89.273	1247.196	3.05%	51.58%
17.0	2623.403	85.990	1333.186	2.94%	55.14%
18.0	2390.703	82.672	1415.858	2.83%	58.56%
19.0	2176.218	79.455	1495.313	2.72%	61.85%
20.0	1992.164	76.293	1571.606	2.61%	65.00%
21.0	1814.475	73.095	1644.701	2.50%	68.03%
22.0	1657.635	69.774	1714.475	2.39%	70.91%
23.0	1499.698	66.249	1780.724	2.27%	73.65%
24.0	1309.682	61.423	1842.147	2.10%	76.19%
25.0	1241.650	58.012	1900.159	1.98%	78.59%
26.0	1127.114	55.915	1956.074	1.91%	80.90%
27.0	1002.732	52.107	2008.181	1.78%	83.06%
28.0	883.799	47.763	2055.944	1.63%	85.03%
29.0	760.478	43.019	2098.963	1.47%	86.81%
30.0	645.430	37.959	2136.922	1.30%	88.38%
31.0	546.315	33.165	2170.087	1.13%	89.76%
32.0	456.073	28.717	2198.804	0.98%	90.94%
33.0	371.984	24.395	2223.199	0.83%	91.95%
34.0	296.512	20.231	2243.43	0.69%	92.79%
35.0	254.075	17.099	2260.529	0.58%	93.50%
36.0	225.538	15.271	2275.8	0.52%	94.13%
37.0	151.990	12.313	2288.113	0.42%	94.64%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	119.203	9.052	2297.165	0.31%	95.01%
39.0	95.743	7.337	2304.502	0.25%	95.32%
40.0	78.310	6.070	2310.572	0.21%	95.57%
41.0	64.821	5.097	2315.669	0.17%	95.78%
42.0	54.982	4.353	2320.021	0.15%	95.96%
43.0	47.374	3.792	2323.813	0.13%	96.11%
44.0	42.114	3.378	2327.19	0.12%	96.25%
45.0	38.149	3.085	2330.275	0.11%	96.38%
46.0	34.675	2.848	2333.123	0.10%	96.50%
47.0	32.202	2.660	2335.783	0.09%	96.61%
48.0	29.993	2.514	2338.297	0.09%	96.71%
49.0	28.266	2.392	2340.69	0.08%	96.81%
50.0	26.774	2.295	2342.984	0.08%	96.91%
51.0	25.567	2.214	2345.199	0.08%	97.00%
52.0	24.675	2.156	2347.355	0.07%	97.09%
53.0	24.016	2.118	2349.473	0.07%	97.18%
54.0	23.511	2.095	2351.568	0.07%	97.26%
55.0	23.131	2.082	2353.65	0.07%	97.35%
56.0	22.890	2.080	2355.729	0.07%	97.43%
57.0	22.736	2.086	2357.815	0.07%	97.52%
58.0	22.699	2.101	2359.916	0.07%	97.61%
59.0	22.751	2.125	2362.041	0.07%	97.70%
60.0	22.824	2.153	2364.194	0.07%	97.78%
61.0	22.809	2.178	2366.372	0.07%	97.87%
62.0	22.451	2.181	2368.553	0.07%	97.96%
63.0	21.902	2.157	2370.71	0.07%	98.05%
64.0	21.127	2.111	2372.821	0.07%	98.14%
65.0	20.293	2.050	2374.871	0.07%	98.23%
66.0	19.451	1.983	2376.854	0.07%	98.31%
67.0	18.800	1.923	2378.778	0.07%	98.39%
68.0	18.435	1.886	2380.664	0.06%	98.47%
69.0	18.413	1.880	2382.544	0.06%	98.54%
70.0	18.669	1.904	2384.448	0.07%	98.62%
71.0	19.305	1.963	2386.411	0.07%	98.70%
72.0	19.949	2.041	2388.452	0.07%	98.79%
73.0	20.483	2.114	2390.566	0.07%	98.88%
74.0	20.863	2.174	2392.74	0.07%	98.97%
75.0	21.024	2.213	2394.953	0.08%	99.06%

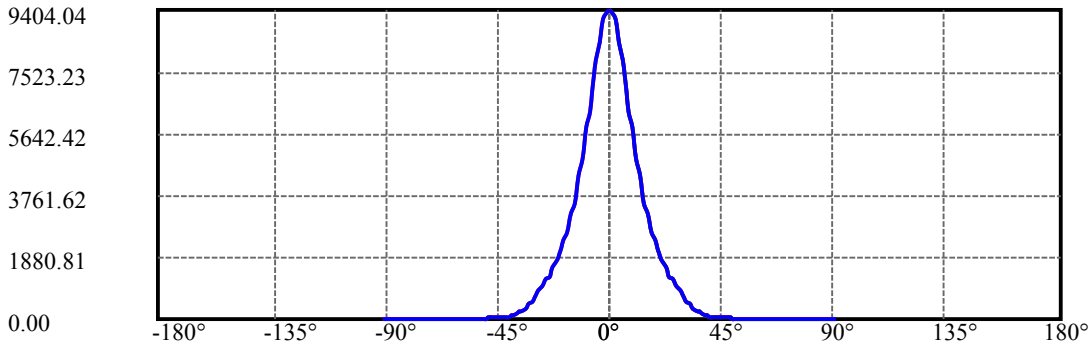
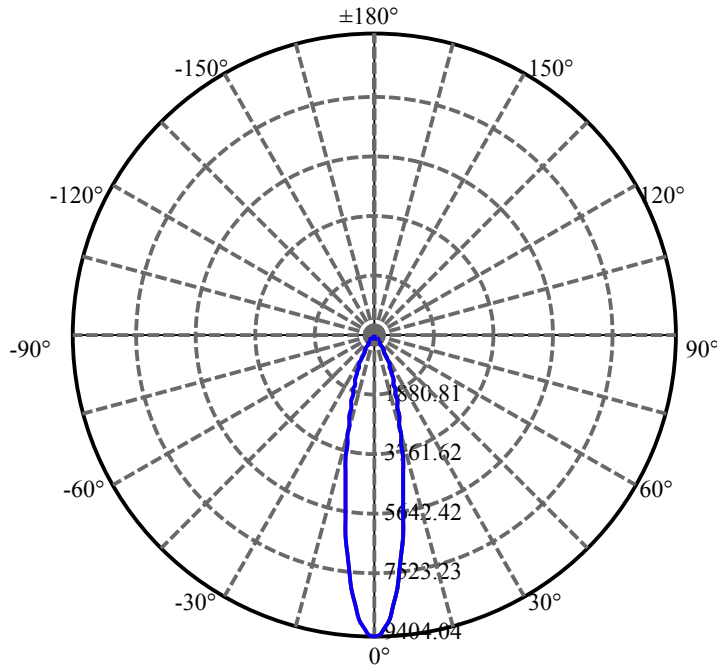
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	20.578	2.208	2397.161	0.08%	99.15%
77.0	19.664	2.145	2399.307	0.07%	99.24%
78.0	18.478	2.042	2401.349	0.07%	99.32%
79.0	16.920	1.902	2403.251	0.07%	99.40%
80.0	15.128	1.728	2404.978	0.06%	99.47%
81.0	13.504	1.548	2406.527	0.05%	99.54%
82.0	12.582	1.415	2407.941	0.05%	99.59%
83.0	12.224	1.349	2409.29	0.05%	99.65%
84.0	12.041	1.322	2410.612	0.05%	99.70%
85.0	11.785	1.300	2411.912	0.04%	99.76%
86.0	11.010	1.246	2413.158	0.04%	99.81%
87.0	10.644	1.185	2414.343	0.04%	99.86%
88.0	10.446	1.155	2415.498	0.04%	99.91%
89.0	10.322	1.138	2416.637	0.04%	99.95%
90.0	10.219	1.126	2417.763	0.04%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2136.92	73.08%	88.38%
0-40	2310.57	79.02%	95.57%
0-60	2364.19	80.85%	97.78%
0-90	2416.64	82.65%	99.95%
0-120	2416.64	82.65%	99.95%
0-180	2417.76	82.69%	100.00%
60-90	52.44	1.79%	2.17%
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%
0-25.61	1934.21	66.15%	80.00%

ZONAL LUMEN SUMMARY

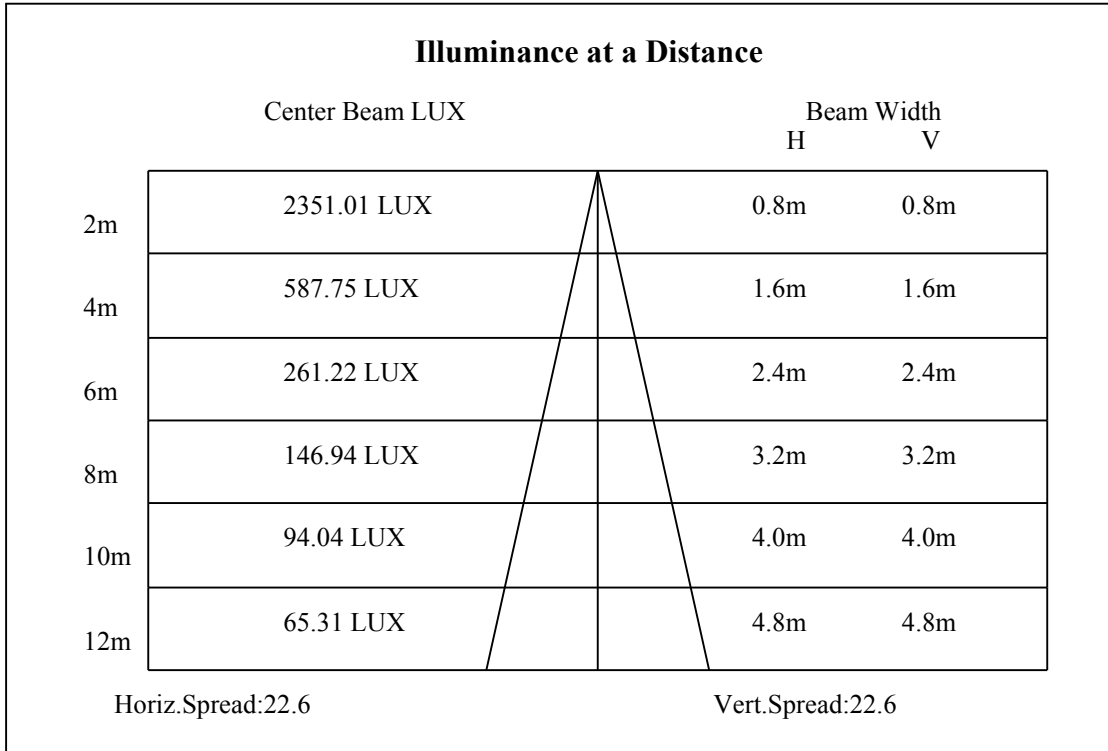
0-10	669.37
10-20	902.24
20-30	565.32
30-40	173.65
40-50	32.41
50-60	21.21
60-70	20.25
70-80	20.53
80-90	11.66
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

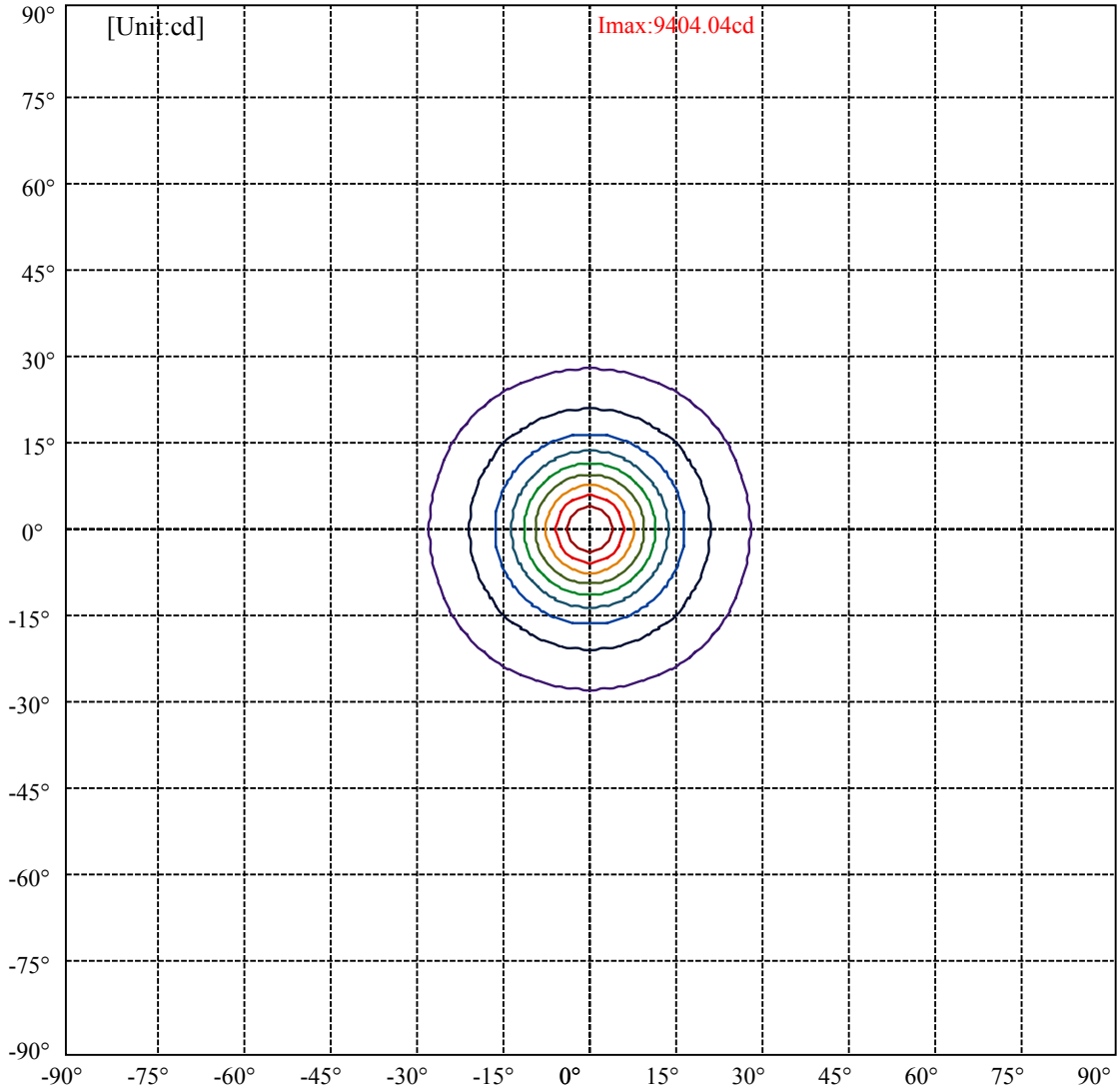


C0(Max): —————  
C0/C180: —————  
C90/C270: —————

Field angle(10%Imax):C0/180Left:27.5 Right:27.5  
:C90/270Left:27.5 Right:27.5

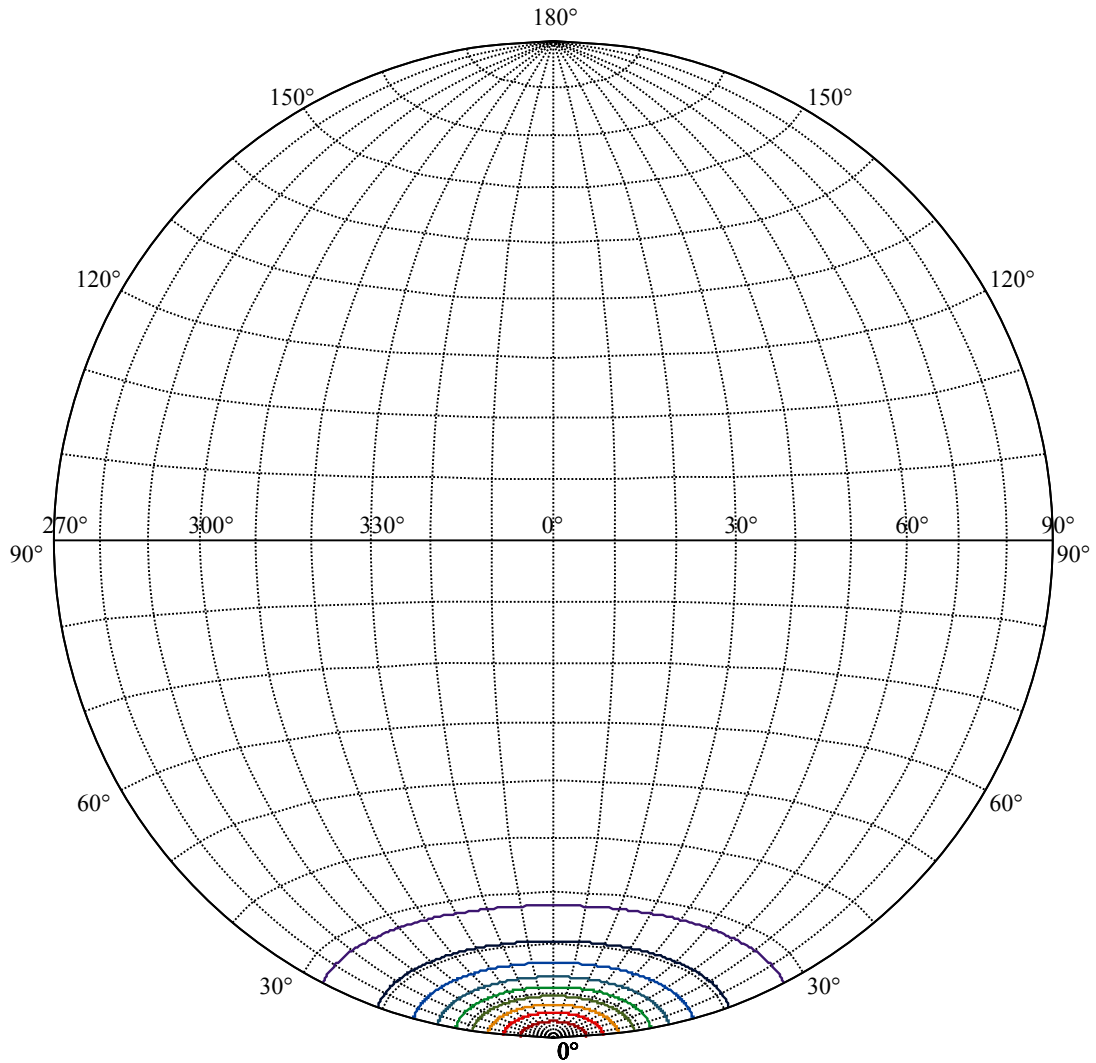
Beam Angle(50%Imax):C0/180Left:11.3 Right:11.3  
:C90/270Left:11.3 Right:11.3





(10%Imax) 940.404	—
(20%Imax) 1880.81	—
(30%Imax) 2821.21	—
(40%Imax) 3761.62	—
(50%Imax) 4702.02	—
(60%Imax) 5642.42	—
(70%Imax) 6582.83	—
(80%Imax) 7523.23	—
(90%Imax) 8463.64	—





House

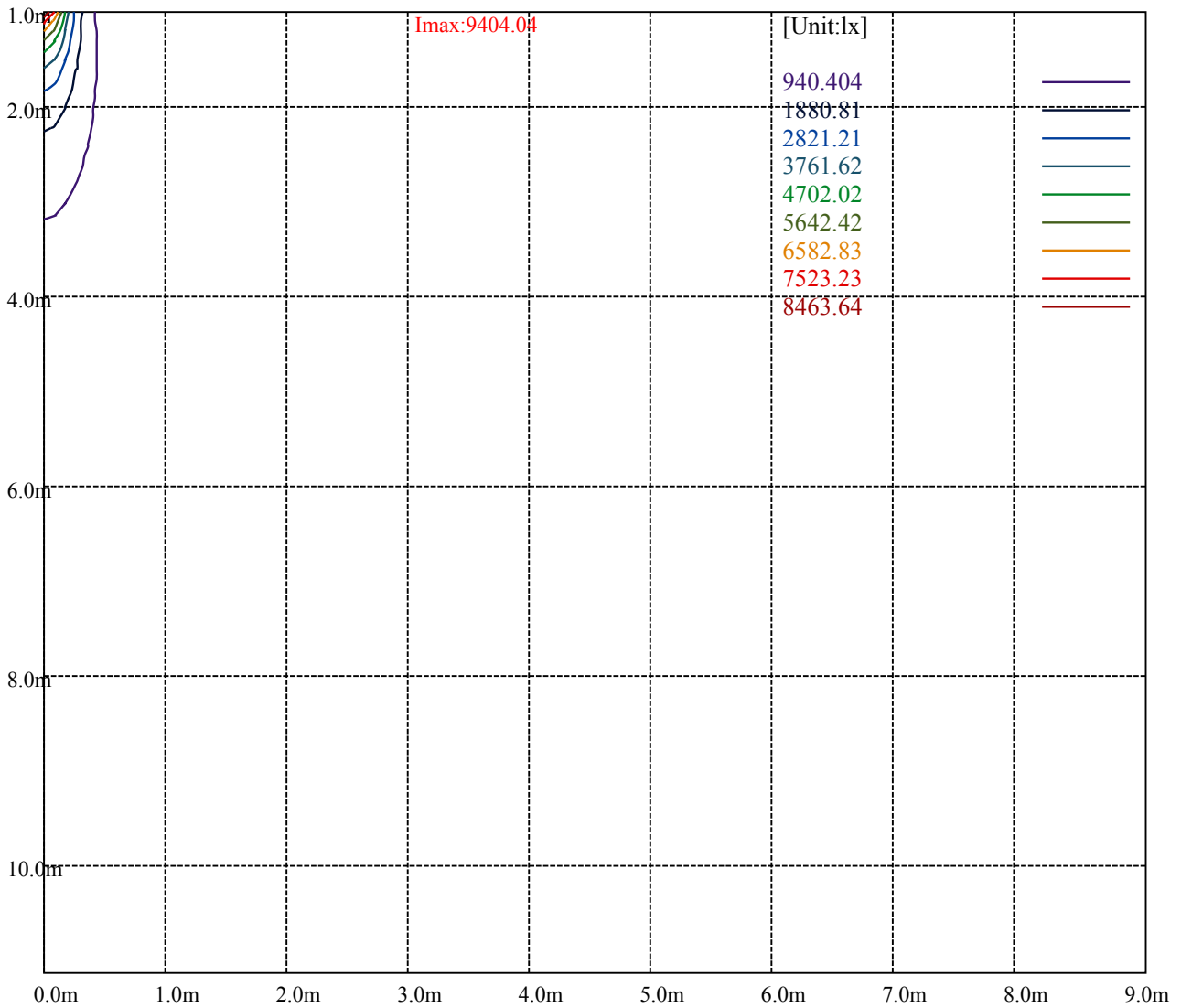
[Unit:cd]

Road

**Imax:9404.04**

(10%Imax)	940.404	—
(20%Imax)	1880.81	—
(30%Imax)	2821.21	—
(40%Imax)	3761.62	—
(50%Imax)	4702.02	—
(60%Imax)	5642.42	—
(70%Imax)	6582.83	—
(80%Imax)	7523.23	—
(90%Imax)	8463.64	—





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

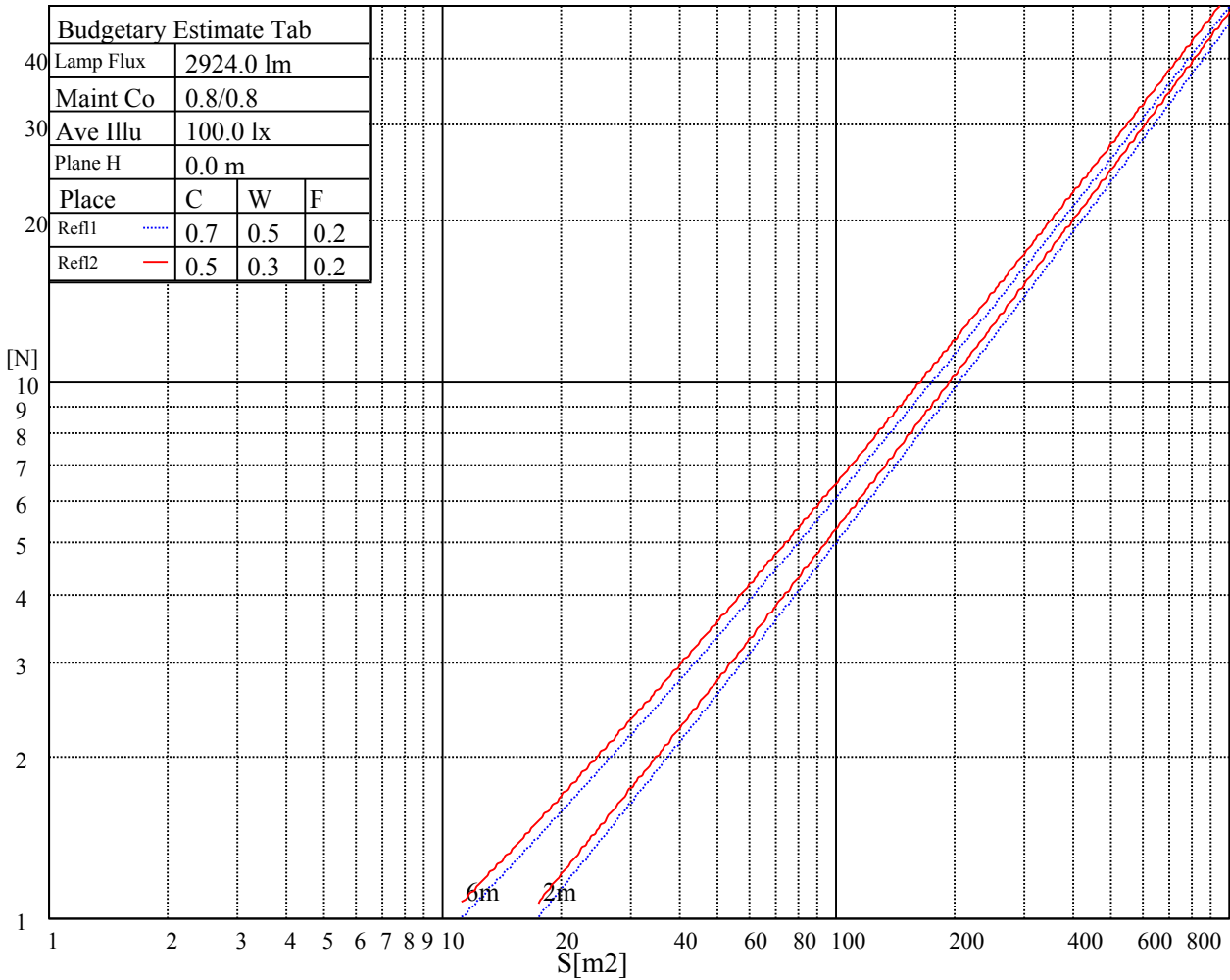
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

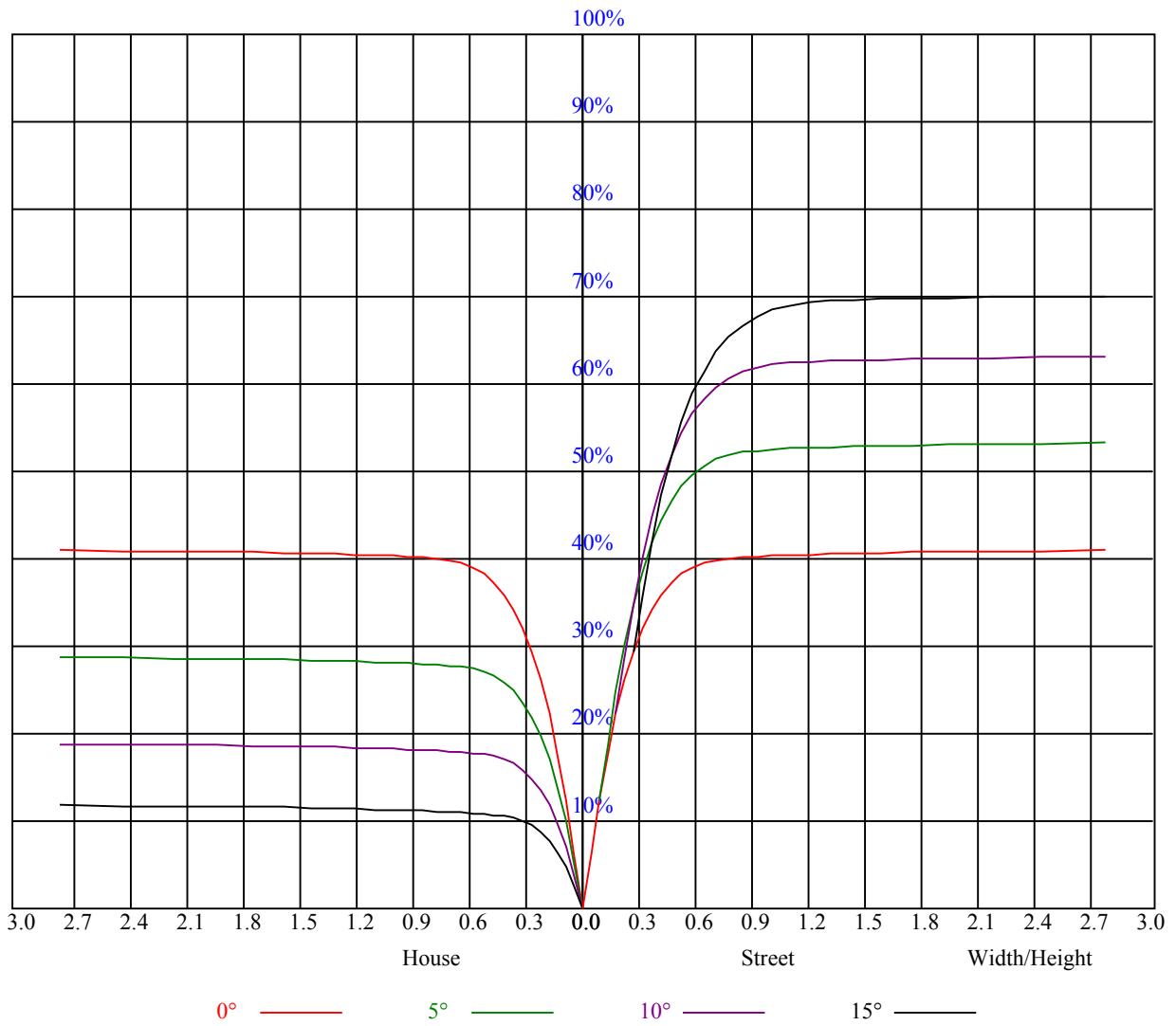
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

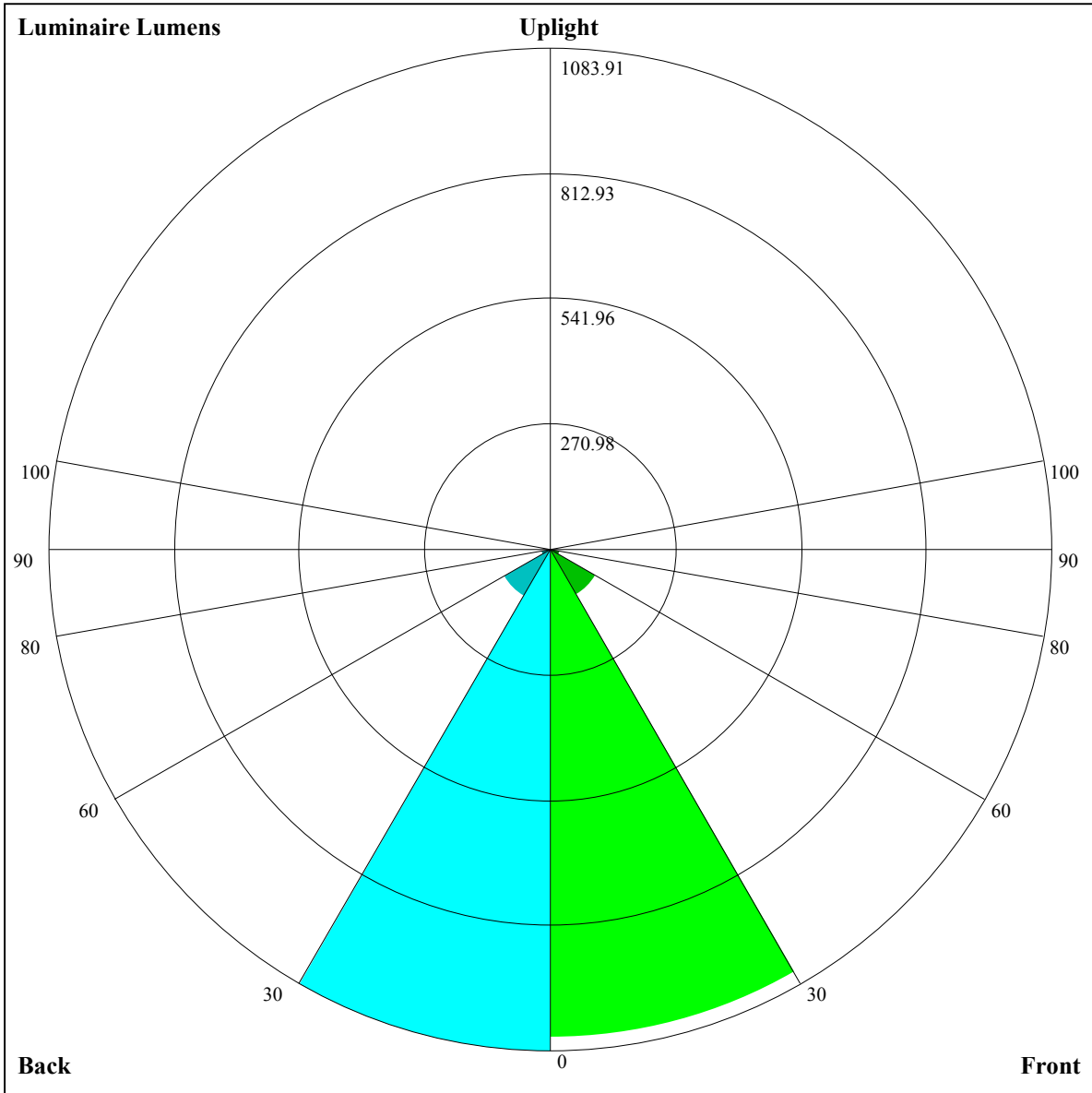
Luminance Limiting Curve





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	0.98	0.98	0.98	0.96	0.96	0.96	0.92	0.92	0.92	0.88	0.88	0.88	0.84	0.84	0.84	0.83
1	0.92	0.90	0.89	0.91	0.89	0.87	0.87	0.86	0.85	0.84	0.83	0.82	0.81	0.81	0.80	0.78
2	0.87	0.84	0.82	0.86	0.83	0.81	0.83	0.81	0.79	0.81	0.79	0.78	0.78	0.77	0.76	0.75
3	0.83	0.79	0.76	0.82	0.78	0.76	0.79	0.77	0.75	0.78	0.75	0.74	0.76	0.74	0.72	0.71
4	0.79	0.75	0.72	0.78	0.74	0.72	0.76	0.73	0.71	0.75	0.72	0.70	0.73	0.71	0.69	0.68
5	0.75	0.71	0.68	0.75	0.71	0.68	0.73	0.70	0.68	0.72	0.69	0.67	0.71	0.68	0.66	0.65
6	0.72	0.68	0.65	0.71	0.68	0.65	0.70	0.67	0.65	0.69	0.66	0.64	0.68	0.66	0.64	0.63
7	0.69	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.62	0.66	0.63	0.61	0.60
8	0.67	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.65	0.62	0.59	0.64	0.61	0.59	0.58
9	0.64	0.60	0.58	0.64	0.60	0.58	0.63	0.60	0.57	0.63	0.59	0.57	0.62	0.59	0.57	0.56
10	0.62	0.58	0.56	0.62	0.58	0.56	0.61	0.58	0.55	0.61	0.57	0.55	0.60	0.57	0.55	0.54





Luminaire Lumens:

FL=1054.8,FM=111.7,FH=20.93,FVH=6.5

BL=1083.91,BM=117.8,BH=19.96,BVH=6.45

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	9394.68	9198.63	8929.42	8568.34	8002.43	7505.57	6994.67	6484.94	5882.15
45.0	9397.60	9428.03	9360.15	9178.14	8790.72	8371.70	7890.06	7266.21	6759.99
90.0	9455.54	9400.53	9212.09	8891.97	8375.21	7892.40	7422.47	6831.39	6344.48
135.0	9368.34	9447.93	9402.87	9167.61	8837.54	8437.25	7872.51	7406.67	6813.83
180.0	9394.68	9432.72	9302.80	9047.05	8696.50	8177.41	7734.98	7264.46	6791.59
225.0	9397.60	9216.77	8942.30	8563.07	8011.20	7514.35	7022.17	6398.32	5904.98
270.0	9455.54	9387.65	9209.16	8929.42	8437.83	7970.24	7472.80	6940.83	6319.32
315.0	9368.34	9136.59	8843.39	8467.09	8031.69	7410.76	6864.16	6333.95	5837.09
360.0	9394.68	9198.63	8929.42	8568.34	8002.43	7505.57	6994.67	6484.94	5882.15
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	5418.07	4956.33	4518.58	4107.75	3627.87	3219.38	2927.94	2673.37	2455.66
45.0	6291.23	5809.00	5351.36	4783.10	4348.87	3846.74	3486.24	3153.84	2810.89
90.0	5861.67	5378.86	4794.81	4357.06	3856.69	3501.46	3179.00	2900.43	2600.21
135.0	6324.00	5830.07	5343.16	4764.96	4328.97	3931.60	3567.00	3152.08	2872.34
180.0	6185.89	5696.64	5201.54	4619.24	4192.03	3800.51	3449.96	3129.26	2791.58
225.0	5409.29	4828.16	4389.25	3985.44	3613.82	3205.92	2914.48	2672.20	2454.49
270.0	5850.55	5270.59	4804.76	4367.01	3963.20	3514.92	3189.53	2901.02	2606.07
315.0	5250.11	4793.05	4365.84	3970.22	3517.26	3193.63	2838.40	2605.48	2395.97
360.0	5418.07	4956.33	4518.58	4107.75	3627.87	3219.38	2927.94	2673.37	2455.66
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	2213.38	2034.30	1869.85	1720.03	1551.49	1423.33	1156.64	1156.64	1043.87
45.0	2577.97	2370.22	2133.79	1959.39	1801.97	1661.51	1528.08	1370.66	1250.68
90.0	2386.61	2188.21	2013.82	1809.57	1665.02	1528.08	1153.83	1153.83	1124.74
135.0	2628.30	2363.78	2171.24	1948.86	1793.77	1650.39	1518.13	1360.12	1233.13
180.0	2555.15	2286.53	2086.39	1910.82	1718.28	1579.00	1421.57	1306.28	1183.38
225.0	2204.60	1976.36	1814.26	1665.61	1536.27	1296.92	1141.72	1141.72	1024.14
270.0	2399.48	2202.26	2019.08	1814.26	1672.05	1543.30	1392.31	1278.78	1134.22
315.0	2160.12	1988.07	1828.89	1687.26	1522.23	1315.06	1165.18	1165.18	1022.74
360.0	2213.38	2034.30	1869.85	1720.03	1551.49	1423.33	1156.64	1156.64	1043.87
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	931.27	817.27	684.77	587.16	499.96	398.60	326.97	251.12	202.20
45.0	1127.79	977.97	860.34	750.32	623.32	533.78	428.44	354.12	304.38
90.0	975.16	858.00	745.75	619.58	527.99	442.90	365.30	283.13	228.94
135.0	1111.40	991.43	844.54	734.52	634.44	544.90	440.73	366.99	302.62
180.0	1069.26	955.15	808.84	695.31	595.23	508.03	407.38	337.73	306.13
225.0	879.94	767.00	658.55	562.69	456.71	380.34	314.56	245.44	200.50
270.0	1017.76	908.91	796.55	653.17	560.12	468.82	389.82	300.86	300.86
315.0	909.26	794.68	684.48	560.70	472.74	371.21	302.68	232.69	186.98
360.0	931.27	817.27	684.77	587.16	499.96	398.60	326.97	251.12	202.20
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	162.05	130.21	99.43	81.29	67.94	58.23	51.09	44.65	40.67
45.0	304.38	174.75	140.16	112.89	87.78	73.04	61.92	53.55	46.94
90.0	184.29	148.47	113.71	92.70	76.90	62.03	53.20	45.06	40.50
135.0	302.62	188.56	153.33	117.92	95.86	78.30	61.92	53.02	46.64
180.0	306.13	174.87	136.12	111.90	92.23	76.14	63.38	51.85	45.41
225.0	163.34	126.12	103.12	80.76	66.83	55.89	48.05	42.55	37.69
270.0	231.40	152.51	115.11	92.41	75.20	60.04	51.85	45.82	40.09
315.0	150.11	120.44	92.64	76.08	63.73	54.89	48.46	42.49	38.98
360.0	162.05	130.21	99.43	81.29	67.94	58.23	51.09	44.65	40.67

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	37.34	33.94	31.78	29.50	28.03	26.74	25.52	24.76	24.23
45.0	41.02	37.45	34.41	31.49	29.44	27.74	26.04	24.99	24.05
90.0	36.93	33.36	31.13	29.26	27.56	25.93	24.99	24.17	23.70
135.0	41.90	37.45	34.59	32.25	30.26	28.15	26.86	25.69	24.99
180.0	40.67	36.17	33.53	31.31	29.03	27.51	26.34	25.34	24.40
225.0	34.65	32.19	30.08	27.92	26.51	25.28	24.23	23.58	23.00
270.0	36.64	33.83	31.02	29.20	27.62	26.34	24.93	24.11	23.53
315.0	36.05	33.01	31.08	29.03	27.68	26.51	25.63	24.76	24.23
360.0	37.34	33.94	31.78	29.50	28.03	26.74	25.52	24.76	24.23
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	23.70	23.35	23.06	22.94	22.94	23.12	23.17	23.06	22.36
45.0	23.47	23.06	22.77	22.53	22.47	22.41	22.47	22.59	22.65
90.0	23.12	22.82	22.53	22.47	22.41	22.47	22.65	22.65	22.41
135.0	24.52	23.94	23.64	23.35	23.17	23.12	23.17	23.23	23.23
180.0	23.88	23.29	23.00	22.77	22.59	22.59	22.59	22.65	22.47
225.0	22.65	22.47	22.30	22.30	22.41	22.47	22.53	22.24	21.65
270.0	23.00	22.71	22.47	22.41	22.36	22.59	22.71	22.82	22.36
315.0	23.76	23.41	23.35	23.12	23.23	23.23	23.29	23.23	22.47
360.0	23.70	23.35	23.06	22.94	22.94	23.12	23.17	23.06	22.36
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	21.77	20.78	19.96	19.90	20.13	20.89	21.95	23.17	24.46
45.0	22.18	21.48	20.72	19.49	18.67	17.85	17.03	16.27	15.86
90.0	21.77	21.13	20.19	19.25	18.26	17.44	16.80	16.74	17.50
135.0	22.82	22.30	21.59	20.48	19.66	18.67	17.91	17.32	17.38
180.0	21.95	21.30	20.48	19.31	18.55	17.91	18.26	19.02	20.07
225.0	21.01	19.84	19.02	18.20	17.15	16.50	15.92	15.63	15.27
270.0	21.77	21.19	20.25	19.49	19.02	18.84	19.31	20.01	21.42
315.0	21.95	21.01	20.13	19.49	18.96	19.37	20.13	21.19	22.47
360.0	21.77	20.78	19.96	19.90	20.13	20.89	21.95	23.17	24.46
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	25.22	25.40	25.16	24.52	23.82	23.00	21.89	18.43	15.16
45.0	15.51	15.27	14.92	14.69	14.46	14.16	13.87	13.64	13.28
90.0	18.38	19.31	20.48	21.01	20.48	19.37	18.67	17.38	15.39
135.0	18.08	19.08	20.01	21.13	21.65	21.24	20.54	19.43	17.79
180.0	20.95	21.07	20.95	20.48	19.66	19.02	18.38	17.67	16.15
225.0	14.98	14.69	14.46	14.16	13.93	13.52	13.28	13.05	12.76
270.0	22.47	23.82	24.87	25.52	24.99	23.35	21.13	18.55	15.68
315.0	23.99	25.22	26.04	26.69	25.63	23.64	20.07	17.21	14.81
360.0	25.22	25.40	25.16	24.52	23.82	23.00	21.89	18.43	15.16
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	12.70	12.29	11.88	11.70	11.53	11.00	10.59	10.42	10.24
45.0	12.99	12.70	12.47	12.35	12.23	11.65	10.83	10.53	10.36
90.0	13.58	12.29	12.06	11.94	11.24	10.83	10.59	10.48	10.36
135.0	15.27	13.23	12.23	11.70	11.24	10.94	10.77	10.53	10.42
180.0	14.05	12.23	11.82	11.53	11.24	10.83	10.65	10.48	10.48
225.0	12.47	12.29	12.11	11.94	11.00	10.65	10.42	10.42	10.24
270.0	13.75	12.93	12.76	12.64	12.87	11.18	10.77	10.48	10.24
315.0	13.23	12.70	12.47	12.52	12.93	11.00	10.53	10.24	10.24
360.0	12.70	12.29	11.88	11.70	11.53	11.00	10.59	10.42	10.24

Intensity data(cd)

C/ $\gamma$ ( $^{\circ}$ )	90.0
0.0	10.24
45.0	10.18
90.0	10.18
135.0	10.24
180.0	10.18
225.0	10.24
270.0	10.24
315.0	10.24
360.0	10.24