



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

Nata

LumCAT: 2-2323-M

Luminaire: 92.70.131.00

Report No: 210809-B004

Test No: 210809-C004

LampCAT: SAMSUNG LC033D LES14.5

Lamp flux(lm): 2652.3

Number of Lamps: 1

Length(mm): 570

Phm Type: C

Voltage(V): 34.3200

Current(A): 0.5000

Power (W): 17.1600

PF: 0.0000

Ballast type: DC

Width(mm): 45

Height(mm): 20

Photometric Results

Lumens(lm): 2341.72

Efficiency(%): 88.29%

Lumens(lm)/Power(W): 136.46

Central intensity(cd): 2866.347

Maximum intensity(cd): 4671.481

Angle of maximum intensity: C=90.0 γ =16.0

Beam Angle(50%Imax): [C0/180]Total=48.5

[C90/270]Total=39.7

Field angle(10%Imax): [C0/180]Total=68.0

[C90/270]Total=62.1

Maximum s/h(1/2): C0_180=0.74 C90_270=1.08

Maximum s/h(1/4): C0_180=0.73 C90_270=0.88

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 88.29%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.238%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2914.522	0.000	0	.000%	.000%
1.0	2922.178	2.793	2.793	.105%	.119%
2.0	2942.270	8.417	11.21	.317%	.479%
3.0	2964.715	14.128	25.338	.533%	1.082%
4.0	2984.097	19.913	45.25	.751%	1.932%
5.0	3000.753	25.747	70.997	.971%	3.032%
6.0	3011.733	31.597	102.594	1.191%	4.381%
7.0	3022.526	37.455	140.048	1.412%	5.981%
8.0	3030.144	43.318	183.366	1.633%	7.830%
9.0	3037.912	49.178	232.544	1.854%	9.930%
10.0	3046.800	55.064	287.609	2.076%	12.282%
11.0	3045.120	60.871	348.48	2.295%	14.881%
12.0	3034.140	66.455	414.935	2.506%	17.719%
13.0	3014.048	71.777	486.711	2.706%	20.784%
14.0	2980.587	76.731	563.442	2.893%	24.061%
15.0	2933.569	81.192	644.634	3.061%	27.528%
16.0	2872.695	85.078	729.712	3.208%	31.161%
17.0	2793.523	88.238	817.951	3.327%	34.929%
18.0	2704.342	90.648	908.599	3.418%	38.800%
19.0	2610.380	92.465	1001.064	3.486%	42.749%
20.0	2499.987	93.534	1094.598	3.526%	46.743%
21.0	2371.032	93.533	1188.131	3.526%	50.738%
22.0	2249.820	92.858	1280.989	3.501%	54.703%
23.0	2123.241	91.759	1372.748	3.460%	58.621%
24.0	1979.868	89.709	1462.456	3.382%	62.452%
25.0	1841.868	86.898	1549.354	3.276%	66.163%
26.0	1707.114	83.774	1633.129	3.158%	69.741%
27.0	1575.030	80.298	1713.427	3.027%	73.170%
28.0	1426.970	76.004	1789.431	2.866%	76.415%
29.0	1288.646	71.048	1860.479	2.679%	79.449%
30.0	1151.603	65.886	1926.366	2.484%	82.263%
31.0	999.726	59.868	1986.234	2.257%	84.819%
32.0	859.964	53.278	2039.512	2.009%	87.095%
33.0	732.772	46.923	2086.434	1.769%	89.098%
34.0	599.486	40.318	2126.753	1.520%	90.820%
35.0	481.059	33.558	2160.31	1.265%	92.253%
36.0	383.109	27.515	2187.826	1.037%	93.428%
37.0	295.131	22.120	2209.946	.834%	94.373%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	220.357	17.206	2227.152	.649%	95.108%
39.0	163.443	13.100	2240.252	.494%	95.667%
40.0	124.170	10.031	2250.283	.378%	96.095%
41.0	91.515	7.680	2257.964	.290%	96.423%
42.0	68.955	5.830	2263.794	.220%	96.672%
43.0	52.019	4.481	2268.275	.169%	96.864%
44.0	41.513	3.530	2271.805	.133%	97.014%
45.0	34.657	2.927	2274.733	.110%	97.139%
46.0	29.451	2.507	2277.24	.095%	97.246%
47.0	26.388	2.221	2279.461	.084%	97.341%
48.0	23.535	2.018	2281.479	.076%	97.427%
49.0	21.709	1.858	2283.337	.070%	97.507%
50.0	20.402	1.756	2285.093	.066%	97.582%
51.0	19.580	1.692	2286.784	.064%	97.654%
52.0	18.721	1.644	2288.428	.062%	97.724%
53.0	17.874	1.592	2290.02	.060%	97.792%
54.0	17.246	1.548	2291.567	.058%	97.858%
55.0	16.779	1.519	2293.086	.057%	97.923%
56.0	16.376	1.498	2294.585	.056%	97.987%
57.0	16.025	1.481	2296.066	.056%	98.050%
58.0	15.745	1.469	2297.535	.055%	98.113%
59.0	15.483	1.460	2298.995	.055%	98.175%
60.0	15.248	1.452	2300.447	.055%	98.237%
61.0	15.024	1.445	2301.892	.054%	98.299%
62.0	14.830	1.439	2303.33	.054%	98.361%
63.0	14.647	1.434	2304.764	.054%	98.422%
64.0	14.479	1.429	2306.193	.054%	98.483%
65.0	14.352	1.427	2307.62	.054%	98.544%
66.0	14.273	1.428	2309.048	.054%	98.605%
67.0	14.176	1.431	2310.479	.054%	98.666%
68.0	14.158	1.435	2311.914	.054%	98.727%
69.0	14.169	1.445	2313.359	.054%	98.789%
70.0	14.132	1.453	2314.812	.055%	98.851%
71.0	14.076	1.458	2316.27	.055%	98.913%
72.0	14.042	1.462	2317.732	.055%	98.976%
73.0	13.945	1.464	2319.196	.055%	99.038%
74.0	13.881	1.463	2320.659	.055%	99.101%
75.0	13.907	1.468	2322.127	.055%	99.163%

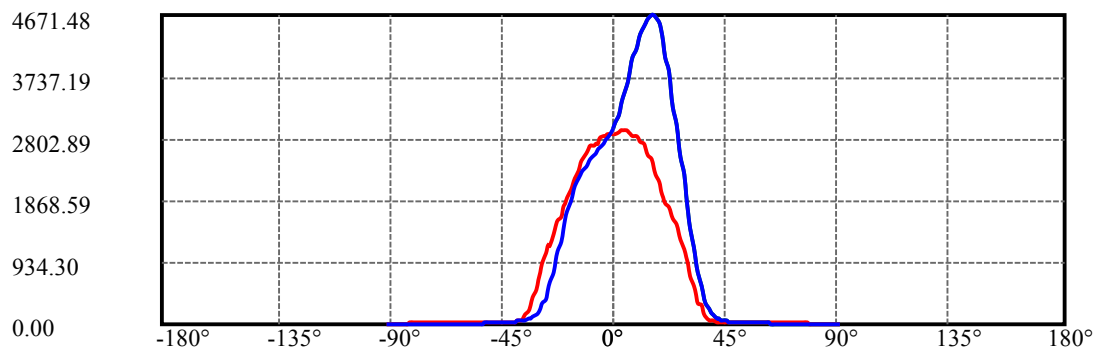
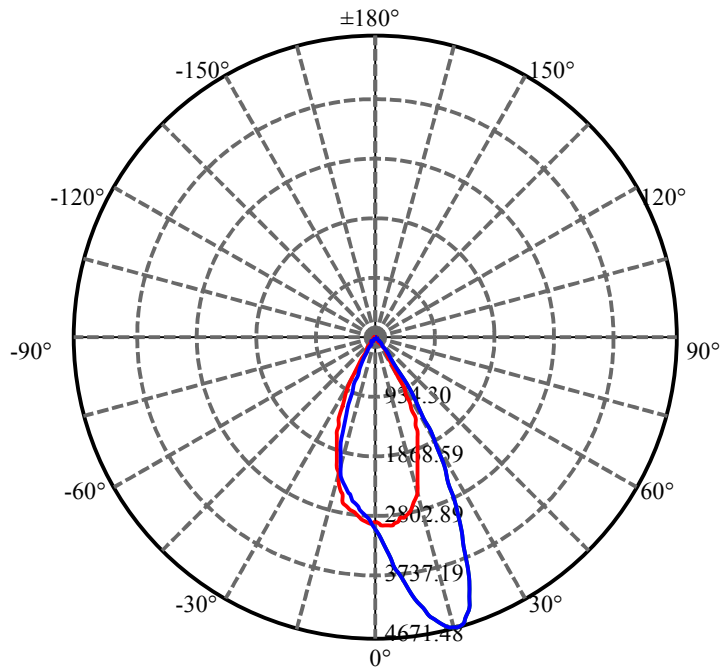
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	13.967	1.480	2323.607	.056%	99.226%
77.0	13.717	1.476	2325.083	.056%	99.290%
78.0	13.392	1.451	2326.534	.055%	99.351%
79.0	13.168	1.427	2327.961	.054%	99.412%
80.0	13.007	1.411	2329.372	.053%	99.473%
81.0	12.795	1.395	2330.767	.053%	99.532%
82.0	12.578	1.376	2332.143	.052%	99.591%
83.0	12.216	1.348	2333.491	.051%	99.649%
84.0	11.659	1.301	2334.792	.049%	99.704%
85.0	11.282	1.252	2336.044	.047%	99.758%
86.0	10.882	1.212	2337.255	.046%	99.809%
87.0	10.371	1.163	2338.419	.044%	99.859%
88.0	10.076	1.120	2339.539	.042%	99.907%
89.0	9.934	1.097	2340.635	.041%	99.954%
90.0	9.852	1.085	2341.72	.041%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1926.37	72.63%	82.26%
0-40	2250.28	84.84%	96.10%
0-60	2300.45	86.73%	98.24%
0-90	2340.64	88.25%	99.95%
0-120	2340.64	88.25%	99.95%
0-180	2341.72	88.29%	100.00%
60-90	41.64	1.57%	1.78%
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%
0-29.20	1873.38	70.63%	80.00%

ZONAL LUMEN SUMMARY

0-10	287.61
10-20	806.99
20-30	831.77
30-40	323.92
40-50	34.81
50-60	15.35
60-70	14.37
70-80	14.56
80-90	11.26
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



C90(Max):

C0/C180:

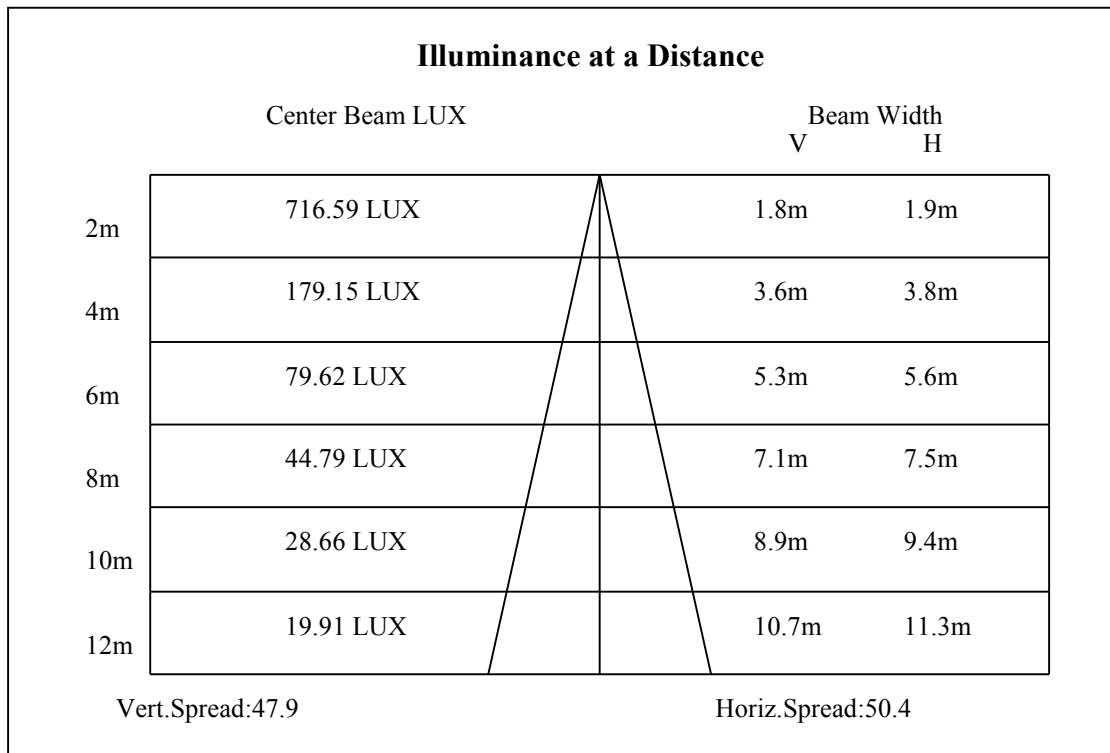
C90/C270:

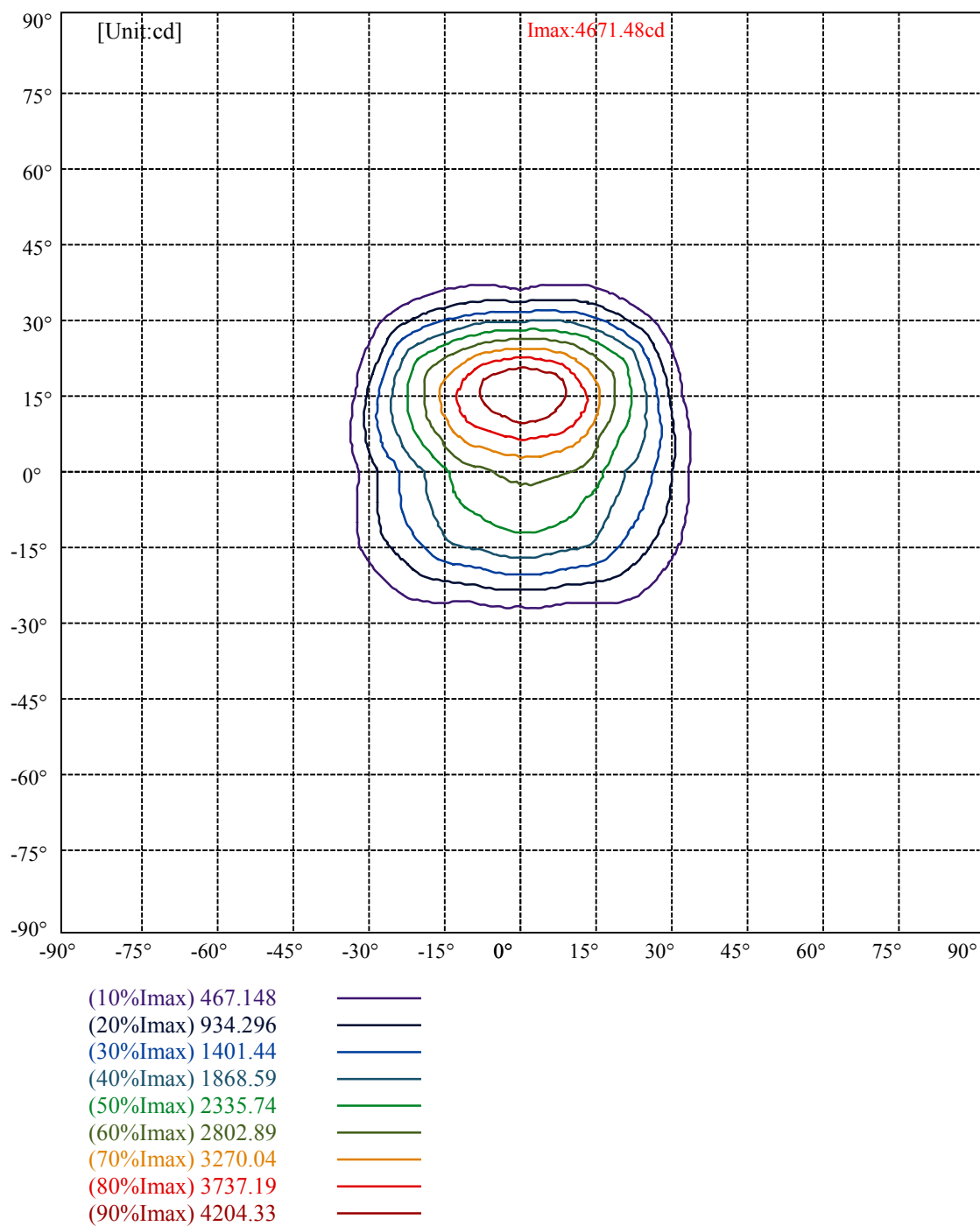
Field angle(10%Imax):C0/180Left:36.0 Right:32.1

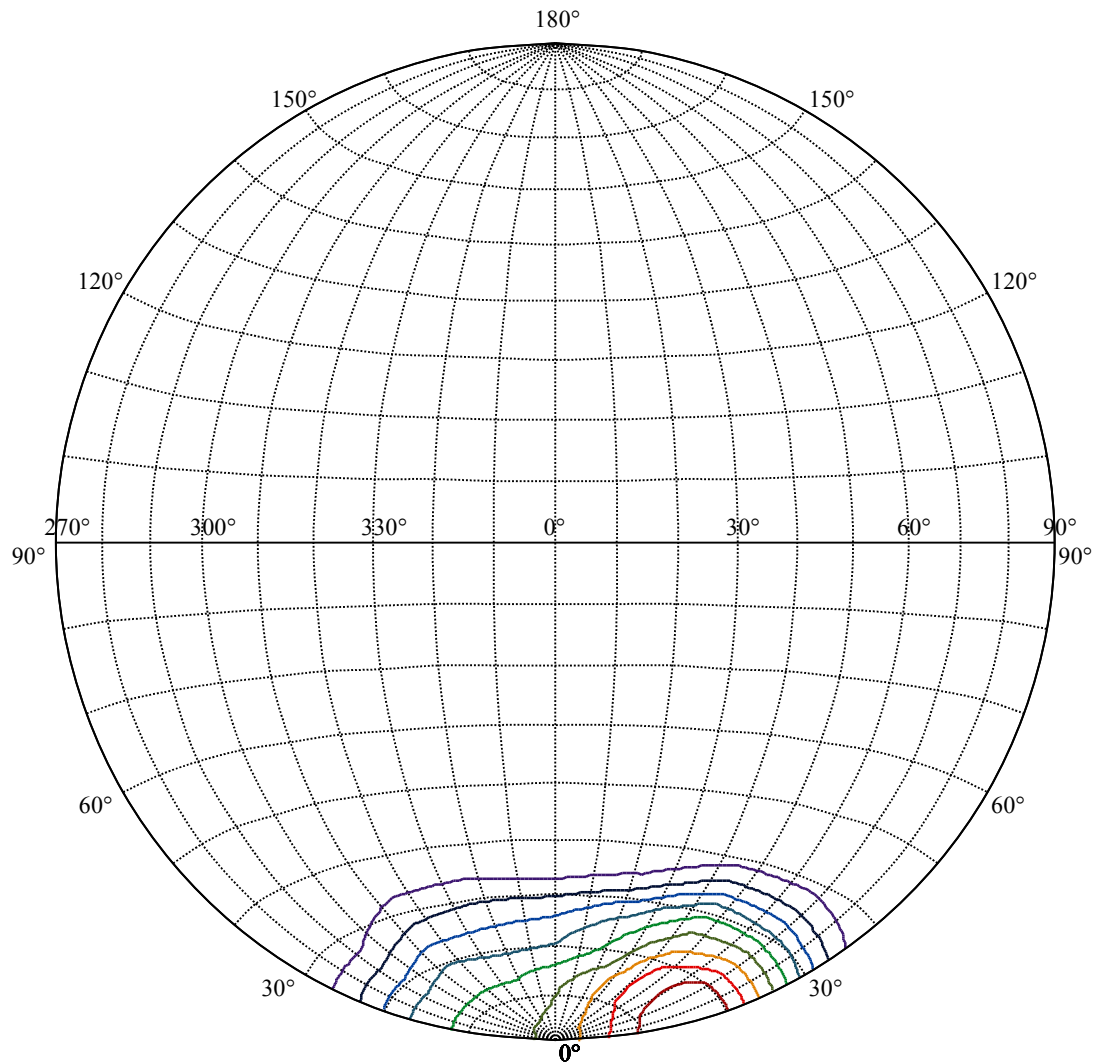
:C90/270Left:42.4 Right:19.7

Beam Angle(50%Imax):C0/180Left:26.1 Right:22.4

:C90/270Left:28.0 Right:11.7







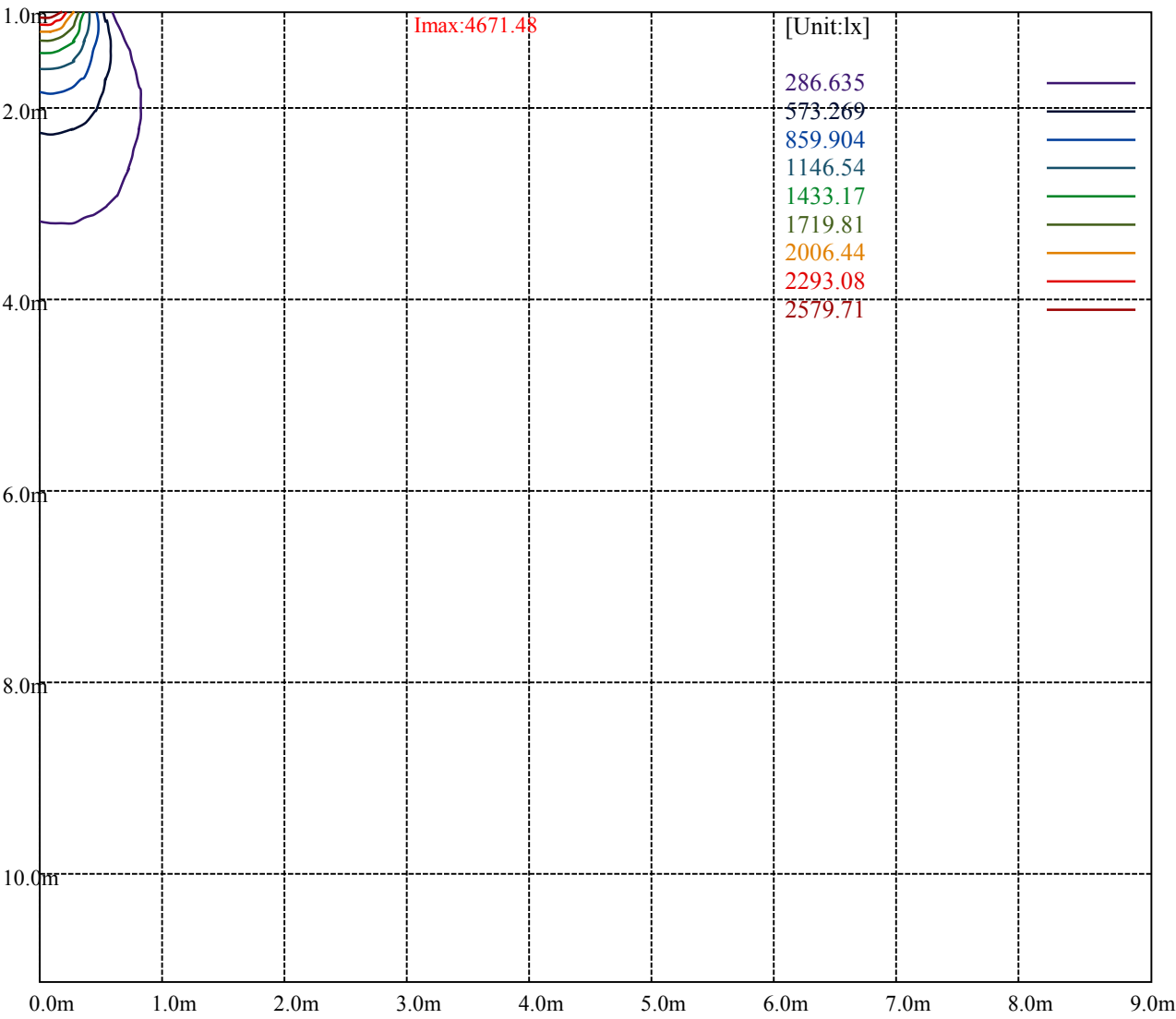
House

[Unit:cd]

Road

Imax:4671.48

(10%Imax)	467.148	—
(20%Imax)	934.296	—
(30%Imax)	1401.44	—
(40%Imax)	1868.59	—
(50%Imax)	2335.74	—
(60%Imax)	2802.89	—
(70%Imax)	3270.04	—
(80%Imax)	3737.19	—
(90%Imax)	4204.33	—



Luminance Table

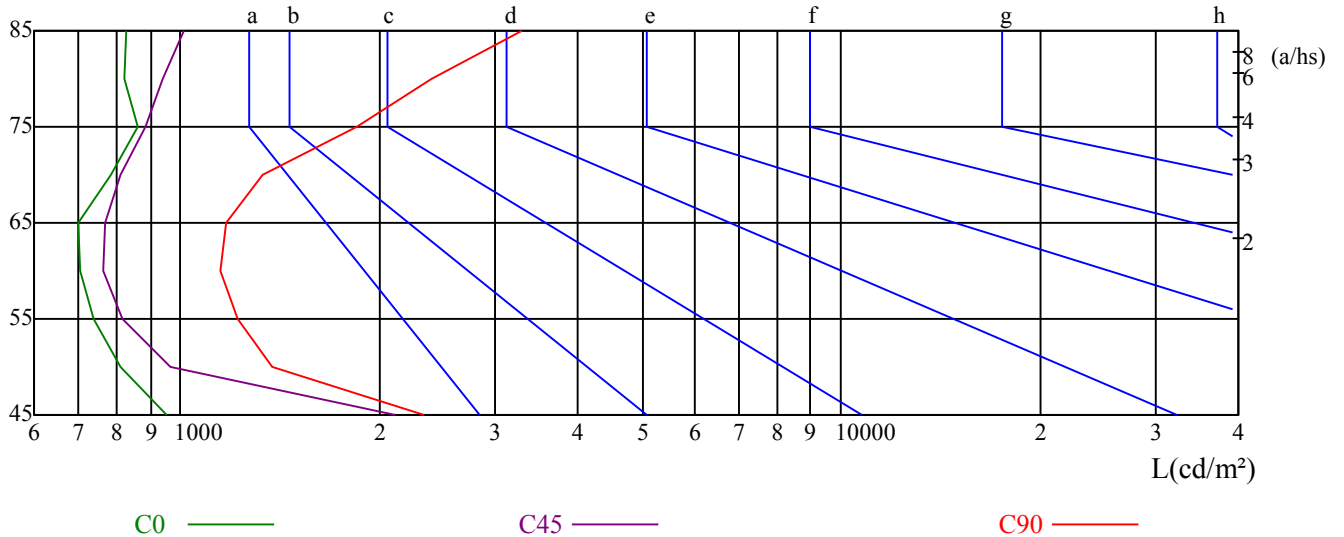
γ	45	50	55	60	65	70	75	80	85
C0	953	813	740	706	700	785	863	819	826
C45	2116	963	815	766	769	811	882	941	1014
C90	2339	1374	1218	1146	1169	1336	1846	2394	3281

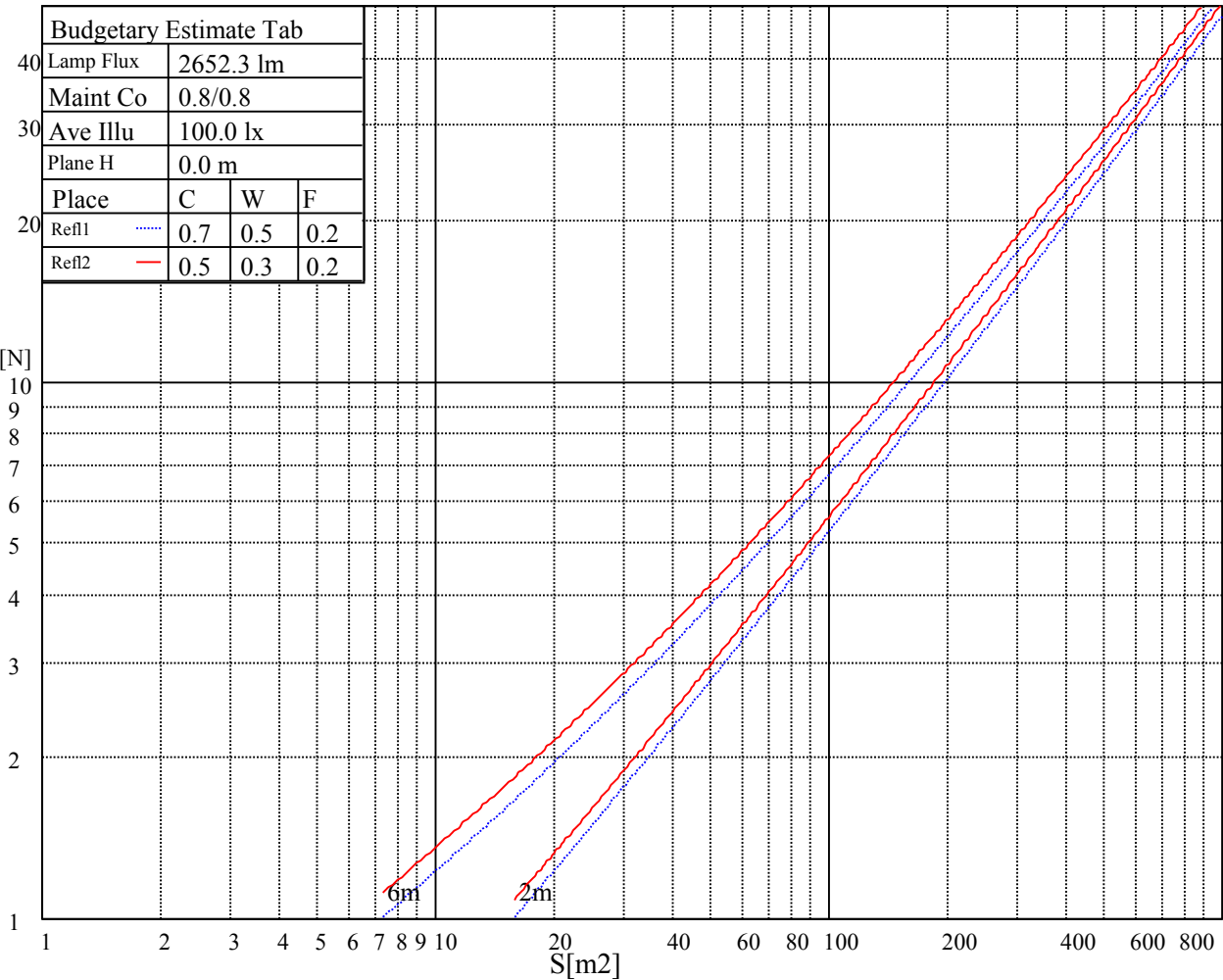
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
1472	1152	1295	2345	1872	2000	4744	4865	5085

Glare Table

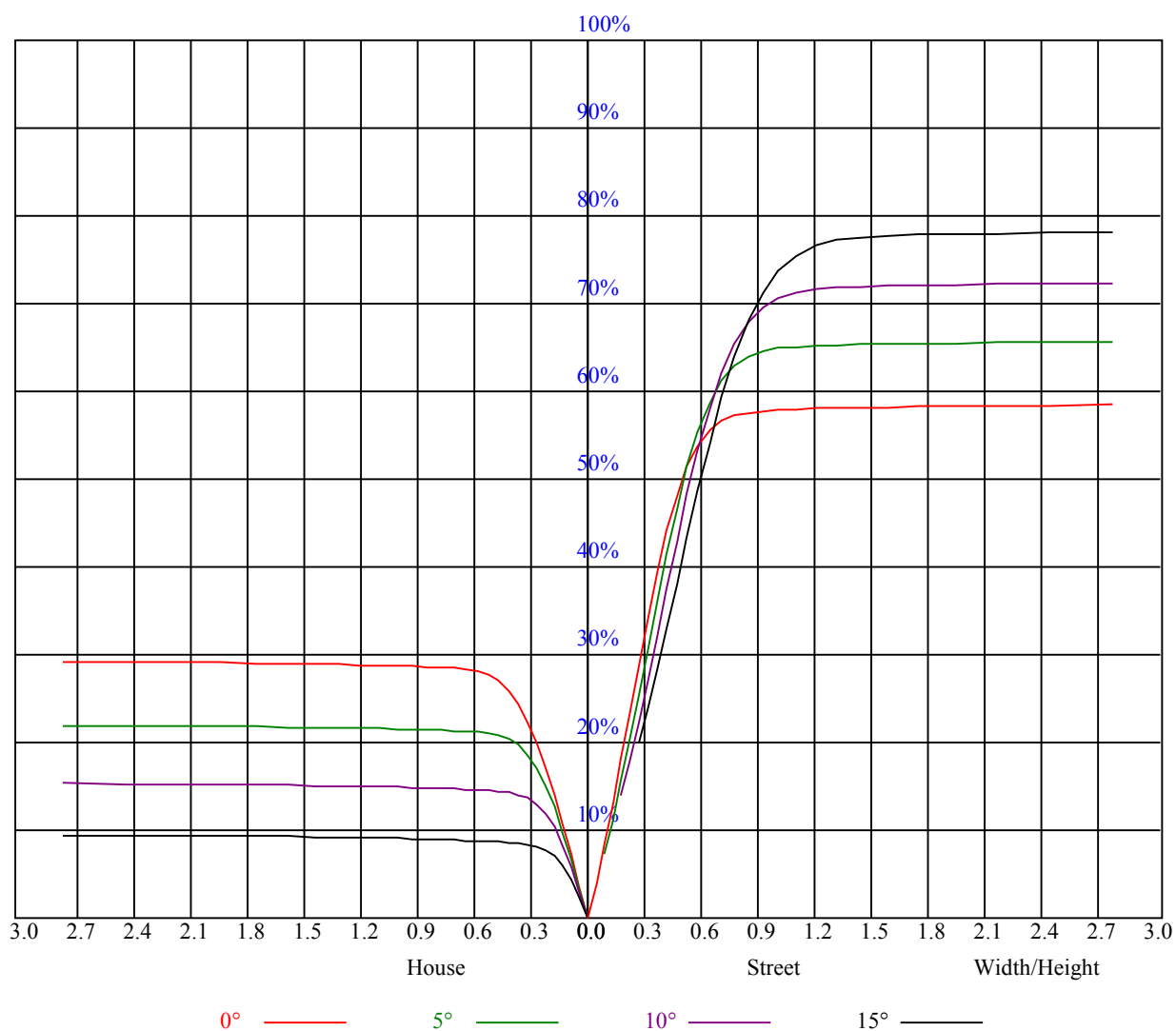
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve

 $\gamma(^{\circ})$ 



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	1.05	1.05	1.05	1.03	1.03	1.03	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.88
1	0.98	0.96	0.94	0.96	0.94	0.92	0.92	0.91	0.89	0.89	0.88	0.87	0.86	0.85	0.84	0.83
2	0.92	0.88	0.85	0.90	0.87	0.84	0.87	0.85	0.82	0.85	0.83	0.81	0.82	0.80	0.79	0.78
3	0.86	0.82	0.78	0.85	0.81	0.78	0.82	0.79	0.77	0.80	0.78	0.75	0.78	0.76	0.74	0.73
4	0.81	0.76	0.73	0.80	0.76	0.72	0.78	0.74	0.72	0.76	0.73	0.71	0.75	0.72	0.70	0.69
5	0.76	0.71	0.68	0.75	0.71	0.68	0.74	0.70	0.67	0.73	0.69	0.66	0.71	0.68	0.66	0.65
6	0.72	0.67	0.64	0.71	0.67	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.62	0.61
7	0.68	0.63	0.60	0.68	0.63	0.60	0.67	0.63	0.59	0.66	0.62	0.59	0.65	0.61	0.59	0.58
8	0.65	0.60	0.57	0.64	0.60	0.56	0.63	0.59	0.56	0.63	0.59	0.56	0.62	0.58	0.56	0.55
9	0.62	0.57	0.54	0.61	0.57	0.53	0.60	0.56	0.53	0.60	0.56	0.53	0.59	0.55	0.53	0.52
10	0.59	0.54	0.51	0.58	0.54	0.51	0.58	0.53	0.51	0.57	0.53	0.50	0.56	0.53	0.50	0.49



Intensity data(cd)										Appendix Page: 16 Total:19	
C/γ(°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0		
0.0	2866.35	2876.50	2904.59	2922.51	2921.32	2921.92	2902.80	2876.50	2836.47		
22.5	2901.00	2947.61	2984.66	3025.89	3063.53	3076.68	3103.57	3114.92	3159.73		
45.0	2958.96	3036.04	3104.16	3196.18	3278.64	3368.27	3450.73	3516.46	3573.82		
67.5	2923.11	3007.36	3122.09	3246.97	3360.50	3471.05	3611.47	3732.17	3854.06		
90.0	2966.73	3060.54	3174.67	3304.93	3433.40	3584.58	3713.64	3879.16	4024.36		
112.5	2903.39	2982.86	3087.43	3190.80	3306.73	3419.06	3550.52	3675.40	3784.15		
135.0	2915.94	2986.45	3059.35	3139.42	3217.69	3286.41	3346.76	3413.68	3480.61		
157.5	2880.69	2906.38	2952.39	2985.85	3010.35	3028.87	3056.36	3049.19	3062.93		
180.0	2866.35	2873.52	2875.31	2854.99	2829.30	2813.76	2741.46	2724.73	2711.59		
202.5	2901.00	2849.62	2826.31	2806.00	2785.68	2745.65	2687.69	2649.44	2583.12		
225.0	2958.96	2892.64	2828.70	2795.24	2755.80	2721.15	2676.33	2621.36	2555.03		
247.5	2923.11	2846.03	2794.64	2740.87	2699.64	2663.78	2618.37	2571.17	2528.15		
270.0	2966.73	2896.22	2826.31	2777.91	2732.50	2680.52	2636.90	2590.29	2540.69		
292.5	2903.39	2849.02	2817.35	2770.74	2734.89	2696.65	2647.65	2600.45	2558.02		
315.0	2915.94	2872.32	2845.43	2823.92	2788.07	2743.26	2693.66	2653.63	2602.84		
337.5	2880.69	2871.72	2872.92	2853.20	2827.51	2790.46	2749.83	2691.87	2626.74		
360.0	2866.35	2876.50	2904.59	2922.51	2921.32	2921.92	2902.80	2876.50	2836.47		

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0		
0.0	2829.90	2803.01	2761.78	2721.74	2636.30	2563.40	2483.93	2366.21	2251.49		
22.5	3185.43	3181.24	3181.84	3155.55	3113.13	3069.51	2982.86	2885.47	2756.40		
45.0	3624.01	3714.84	3787.14	3813.43	3857.05	3862.43	3857.05	3837.93	3817.02		
67.5	4004.04	4122.35	4213.18	4278.31	4333.88	4388.25	4431.87	4453.98	4446.81		
90.0	4150.44	4274.12	4394.83	4483.26	4551.98	4624.87	4658.34	4671.48	4640.41		
112.5	3901.86	4017.19	4103.23	4190.47	4260.38	4307.59	4351.80	4386.46	4369.13		
135.0	3503.31	3582.19	3650.90	3706.47	3762.04	3792.52	3784.75	3773.99	3735.75		
157.5	3102.97	3116.11	3145.99	3125.08	3085.04	3048.00	2997.21	2896.82	2800.62		
180.0	2688.28	2653.03	2592.08	2502.45	2437.32	2317.81	2192.33	2105.09	2020.25		
202.5	2519.78	2497.07	2442.70	2425.97	2364.42	2287.34	2218.63	2139.15	2031.00		
225.0	2504.24	2460.03	2381.15	2323.79	2291.52	2243.72	2201.89	2161.26	2080.00		
247.5	2476.16	2414.02	2365.62	2314.23	2237.75	2164.85	2084.78	1973.04	1833.22		
270.0	2484.53	2435.53	2388.32	2333.35	2275.99	2203.69	2100.91	1981.41	1860.71		
292.5	2507.23	2445.09	2397.88	2348.29	2288.54	2216.83	2108.68	1999.33	1873.25		
315.0	2533.52	2469.59	2421.79	2375.18	2342.31	2290.93	2236.55	2167.84	2107.48		
337.5	2590.89	2563.40	2493.49	2448.67	2387.13	2307.66	2245.51	2163.65	2072.83		
360.0	2829.90	2803.01	2761.78	2721.74	2636.30	2563.40	2483.93	2366.21	2251.49		

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0		
0.0	2136.17	2013.08	1909.11	1836.80	1766.89	1687.42	1594.80	1503.38	1395.23		
22.5	2639.29	2534.72	2468.39	2399.08	2348.89	2298.10	2175.60	2085.38	1976.03		
45.0	3771.01	3701.69	3583.38	3421.45	3298.96	3174.07	3033.06	2925.50	2828.70		
67.5	4415.14	4344.63	4232.30	4061.40	3824.19	3631.78	3410.70	3192.00	2980.47		
90.0	4567.51	4452.79	4266.95	4038.10	3815.82	3539.16	3287.60	3021.70	2766.56		
112.5	4314.76	4235.88	4124.74	3975.36	3753.68	3556.49	3323.46	3089.82	2877.10		
135.0	3707.67	3641.94	3555.90	3444.75	3322.86	3215.90	3096.40	2984.06	2872.92		
157.5	2715.17	2658.41	2587.30	2512.61	2439.71	2339.92	2238.34	2146.32	2029.81		
180.0	1915.08	1839.19	1759.13	1637.23	1558.95	1475.90	1374.91	1190.64	1176.83		
202.5	1937.19	1854.13	1774.66	1696.98	1624.08	1533.26	1445.42	1348.03	1191.23		
225.0	1989.77	1907.91	1777.65	1670.69	1569.11	1447.22	1318.75	1222.54	1109.61		
247.5	1706.54	1572.70	1448.41	1269.75	1165.90	1038.92	894.56	747.93	617.43		
270.0	1717.90	1581.66	1423.91	1260.79	1111.40	945.29	783.96	647.72	535.39		
292.5	1741.20	1622.29	1498.60	1333.09	1178.39	1062.53	902.09	771.59	643.36		
315.0	2026.82	1936.59	1824.85	1712.52	1618.11	1504.58	1349.22	1239.28	1126.94		
337.5	1968.26	1868.47	1764.50	1665.91	1600.18	1521.31	1449.01	1354.00	1186.21		
360.0	2136.17	2013.08	1909.11	1836.80	1766.89	1687.42	1594.80	1503.38	1395.23		

Intensity data(cd)

Appendix Page: 17 Total:19

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	1273.33	1142.48	1012.21	886.73	715.84	584.98	457.71	332.23	301.75
22.5	1811.11	1654.56	1521.91	1293.05	1076.75	917.21	703.29	565.26	420.66
45.0	2692.47	2557.42	2415.21	2227.59	2064.46	1847.56	1600.78	1304.41	1152.87
67.5	2779.11	2504.84	2316.02	2128.40	1817.09	1601.98	1420.92	1189.08	973.97
90.0	2522.77	2262.84	1941.97	1696.98	1458.57	1170.50	971.52	771.89	566.22
112.5	2657.81	2377.57	2161.86	1939.58	1645.59	1453.79	1281.70	1084.52	886.73
135.0	2739.67	2567.58	2410.43	2232.97	2059.68	1865.49	1686.23	1475.30	1176.36
157.5	1914.48	1805.14	1667.11	1524.89	1319.94	1131.12	944.69	709.86	513.28
180.0	1065.87	927.84	790.17	663.97	522.24	395.92	287.77	189.89	131.70
202.5	1161.66	1074.00	987.00	897.67	813.00	689.31	597.17	505.21	386.36
225.0	1011.02	899.28	795.31	704.49	604.70	518.06	445.16	375.85	303.54
247.5	498.04	366.64	286.69	226.10	174.18	133.13	102.30	80.07	67.88
270.0	377.64	306.53	221.92	174.18	135.94	112.75	97.99	83.83	68.95
292.5	496.01	392.94	306.83	226.40	186.31	144.36	110.60	96.80	85.51
315.0	1023.57	907.05	815.03	726.00	619.64	538.97	459.50	376.44	308.92
337.5	1175.94	1084.81	968.65	876.63	781.69	654.29	557.02	451.13	352.24
360.0	1273.33	1142.48	1012.21	886.73	715.84	584.98	457.71	332.23	301.75
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	180.21	117.89	72.18	55.57	50.91	40.57	30.59	27.49	25.99
22.5	311.31	168.26	114.90	75.53	58.92	46.25	37.52	32.09	30.59
45.0	936.45	759.28	587.97	418.75	320.16	243.02	175.37	118.43	81.44
67.5	821.00	635.17	521.64	412.89	304.14	218.87	149.98	111.02	81.32
90.0	421.74	324.46	238.06	179.92	134.44	93.51	80.91	67.46	55.93
112.5	742.13	610.67	467.27	358.52	305.93	203.34	148.01	108.39	87.18
135.0	1044.66	831.04	665.89	522.12	389.17	292.07	211.05	136.54	95.60
157.5	354.93	304.14	146.16	98.65	71.11	55.63	44.93	38.54	36.03
180.0	86.28	58.38	48.58	38.42	31.13	29.04	27.13	26.05	25.22
202.5	295.18	216.54	143.88	90.17	60.71	44.58	37.35	29.64	25.16
225.0	234.29	185.17	132.83	90.53	64.65	43.86	32.80	27.49	22.83
247.5	54.85	39.38	30.18	25.39	22.05	20.02	18.64	17.51	16.79
270.0	55.15	51.45	47.68	43.20	36.27	30.00	24.56	21.33	19.54
292.5	68.18	54.43	44.81	36.63	31.43	26.35	22.17	19.24	18.05
315.0	270.98	176.99	130.38	91.00	56.77	39.97	30.53	24.92	21.15
337.5	252.40	188.82	133.31	77.80	48.94	37.17	31.73	26.17	21.39
360.0	180.21	117.89	72.18	55.57	50.91	40.57	30.59	27.49	25.99
C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	24.98	23.84	22.89	22.11	20.97	20.50	19.78	19.24	18.64
22.5	29.34	28.08	27.13	25.93	24.86	23.84	23.06	22.35	21.57
45.0	51.39	35.67	30.77	26.77	23.60	22.29	21.81	20.85	19.48
67.5	68.48	56.47	45.89	33.58	28.68	25.81	24.44	21.93	19.84
90.0	43.92	35.73	30.18	28.32	26.17	23.60	22.41	21.39	20.32
112.5	77.50	65.19	53.54	38.72	33.52	28.38	25.16	22.71	20.50
135.0	65.97	43.14	35.73	31.55	26.35	23.78	22.77	21.39	19.78
157.5	33.16	31.13	29.52	27.37	25.28	24.02	22.71	21.63	20.79
180.0	24.02	22.59	21.63	20.85	20.14	19.60	19.30	18.82	18.40
202.5	24.08	22.47	21.69	21.09	20.50	19.96	19.54	19.12	18.82
225.0	20.79	19.60	18.88	18.40	17.87	17.33	16.85	16.43	16.01
247.5	16.25	15.66	15.24	14.88	14.46	14.16	13.92	13.62	13.44
270.0	18.28	17.51	16.97	16.37	15.77	15.36	14.82	14.34	13.86
292.5	16.97	16.37	15.89	15.54	15.12	14.76	14.34	13.98	13.56
315.0	19.00	17.99	17.21	16.73	16.19	15.72	15.54	15.24	14.82
337.5	20.38	19.78	19.06	18.34	17.87	17.33	16.85	16.49	16.13
360.0	24.98	23.84	22.89	22.11	20.97	20.50	19.78	19.24	18.64

Intensity data(cd)										Appendix Page: 18 Total:19	
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0		
0.0	18.11	17.81	17.39	17.03	16.73	16.43	16.01	15.77	15.54		
22.5	20.55	19.84	19.30	18.82	18.40	18.05	17.57	17.45	17.09		
45.0	18.40	17.81	17.27	16.61	16.19	15.89	15.60	15.30	15.06		
67.5	18.64	17.81	17.21	16.49	16.01	15.60	15.18	14.82	14.58		
90.0	19.54	18.82	18.16	17.81	17.03	16.13	15.60	14.88	14.52		
112.5	19.36	18.40	17.51	16.73	16.13	15.60	15.00	14.58	14.22		
135.0	18.88	18.16	17.57	17.03	16.55	16.07	15.72	15.36	15.06		
157.5	19.96	19.36	18.88	18.46	18.34	18.16	18.22	18.11	18.11		
180.0	17.93	17.99	17.99	18.11	18.22	18.34	18.22	17.75	17.33		
202.5	18.58	18.40	18.22	18.11	18.16	18.28	18.40	18.58	18.76		
225.0	15.83	15.42	15.00	14.76	14.58	14.40	14.34	14.34	14.16		
247.5	13.21	12.97	12.85	12.67	12.49	12.37	12.25	12.07	12.01		
270.0	13.44	13.21	13.03	12.79	12.61	12.43	12.13	12.07	11.83		
292.5	13.21	12.97	12.79	12.55	12.37	12.25	12.01	11.89	11.77		
315.0	14.64	14.16	13.74	13.56	13.44	13.32	13.44	13.27	13.21		
337.5	15.66	15.36	15.12	14.88	14.64	14.40	14.28	14.16	14.04		
360.0	18.11	17.81	17.39	17.03	16.73	16.43	16.01	15.77	15.54		
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0		
0.0	15.36	15.12	14.82	14.70	14.58	14.70	15.00	15.30	15.18		
22.5	16.79	16.55	16.37	16.37	16.25	16.37	16.37	16.37	16.37		
45.0	14.76	14.58	14.40	14.22	14.04	13.92	13.80	13.74	13.68		
67.5	14.40	14.16	14.04	14.16	14.10	14.16	14.52	14.34	14.28		
90.0	14.22	13.92	13.62	13.38	13.15	13.03	12.91	12.85	12.91		
112.5	13.86	13.56	13.27	13.03	12.79	12.55	12.37	12.25	12.07		
135.0	14.88	14.76	14.64	14.58	14.46	14.34	14.22	14.10	13.92		
157.5	17.99	17.81	17.51	17.27	17.09	17.15	17.03	17.03	17.03		
180.0	16.97	16.85	17.09	17.27	17.33	17.33	17.39	16.85	16.43		
202.5	18.70	18.64	18.40	18.22	17.99	17.93	18.11	18.11	18.22		
225.0	14.04	14.04	14.10	14.10	14.34	14.40	14.58	14.70	14.70		
247.5	11.89	11.77	11.71	11.65	11.59	11.53	11.53	11.47	11.41		
270.0	11.65	11.41	11.35	11.29	11.23	11.17	11.11	11.11	11.11		
292.5	11.65	11.47	11.35	11.35	11.29	11.23	11.17	11.05	11.05		
315.0	13.21	13.09	13.03	12.91	12.73	12.85	12.67	12.79	12.73		
337.5	13.98	13.92	13.92	13.86	13.86	13.86	13.92	14.04	14.10		
360.0	15.36	15.12	14.82	14.70	14.58	14.70	15.00	15.30	15.18		
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0		
0.0	15.18	15.00	14.94	15.24	15.42	15.30	13.38	12.97	12.85		
22.5	16.43	16.43	16.43	16.31	15.89	13.92	12.91	12.73	12.67		
45.0	13.56	13.38	13.32	13.27	13.15	13.09	12.85	12.55	12.25		
67.5	14.10	13.80	14.04	15.06	16.67	16.07	14.94	13.92	13.32		
90.0	13.09	13.38	13.68	13.86	13.80	13.62	13.50	13.27	12.79		
112.5	11.95	11.83	11.71	11.65	11.53	11.41	11.29	11.23	11.17		
135.0	13.68	13.50	13.38	13.21	13.03	12.73	12.49	12.19	11.89		
157.5	16.73	16.25	16.07	16.07	15.83	15.36	15.42	15.12	14.82		
180.0	16.67	16.97	16.61	15.89	16.07	15.95	15.77	15.42	15.60		
202.5	18.05	17.75	17.63	17.75	17.69	17.33	17.27	17.15	16.97		
225.0	14.70	14.40	14.28	14.28	14.16	14.10	13.98	13.74	13.56		
247.5	11.47	11.47	11.41	11.35	11.35	11.35	11.35	11.35	11.29		
270.0	11.05	11.05	10.99	10.99	10.99	10.99	11.05	11.11	11.11		
292.5	10.99	11.05	10.93	10.88	10.88	10.88	10.88	10.88	10.88		
315.0	12.79	12.49	12.37	12.37	12.43	12.61	12.73	12.55	12.61		
337.5	14.22	14.34	14.28	14.34	14.58	14.76	14.46	14.52	14.34		
360.0	15.18	15.00	14.94	15.24	15.42	15.30	13.38	12.97	12.85		

Nata 2-2323-M

Intensity data(cd)									Appendix Page: 19 Total:19		
C/ γ (°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0		
0.0	12.73	12.67	12.43	12.01	11.23	11.17	11.11	10.04	9.80		
22.5	12.61	12.43	12.37	12.19	12.19	11.29	11.17	10.93	10.64		
45.0	12.01	11.89	11.83	11.77	11.05	10.88	10.70	10.64	10.52		
67.5	12.55	12.13	11.95	11.41	10.76	10.58	10.40	10.28	10.22		
90.0	12.55	12.07	11.29	10.76	10.28	10.04	9.92	9.80	9.68		
112.5	11.05	10.99	10.82	10.64	10.16	10.04	9.98	9.86	9.74		
135.0	11.59	11.41	11.17	10.28	10.04	9.92	9.80	9.68	9.56		
157.5	14.16	13.56	12.73	10.93	10.34	10.04	9.86	9.74	9.50		
180.0	15.12	14.46	12.55	10.28	9.98	9.80	9.74	9.38	9.38		
202.5	16.61	16.31	15.54	14.52	13.50	11.11	10.99	10.82	10.70		
225.0	13.32	13.09	12.67	12.49	12.43	11.29	10.70	10.64	10.52		
247.5	11.29	11.35	11.47	11.65	11.71	10.88	10.34	10.16	10.04		
270.0	11.11	11.17	11.23	11.35	11.47	11.53	10.22	9.92	9.68		
292.5	10.93	11.05	11.11	11.23	11.47	11.59	9.86	9.74	9.56		
315.0	12.55	12.43	12.25	12.01	11.95	12.01	11.11	9.80	9.74		
337.5	14.52	14.22	14.04	13.03	11.95	11.95	10.04	9.80	9.68		
360.0	12.73	12.67	12.43	12.01	11.23	11.17	11.11	10.04	9.80		
C/ γ (°)	90.0										
0.0	9.44										
22.5	10.64										
45.0	10.46										
67.5	10.10										
90.0	9.62										
112.5	9.56										
135.0	9.50										
157.5	9.50										
180.0	9.38										
202.5	10.64										
225.0	10.46										
247.5	10.10										
270.0	9.68										
292.5	9.56										
315.0	9.56										
337.5	9.44										
360.0	9.44										