

Report No	:		Voltage	:	V
Test No	:	A2407287B001	Current	:	A
LumCAT	:	LIT by CARDI	Power	:	150.000 W
Luminaire	:	0017440204 150W 4000K 24000lm	PF	:	
LampCAT	:		Ballast type	:	
Lamp flux	:	24000.0 lm	Width	:	174 mm
Number of Lamps	:	1	Length	:	295 mm
Phm Type	:	C	Height	:	0 mm

Photometric Results

Lumens(lm)	:	24000.00	Central intensity(cd)	:	8359.235
Efficiency(%)	:	100.00%	Maximum intensity(cd)	:	15835.910
Luminous Efficacy(lm/W)	:	160.00	Angle of maximum intensity	:	C=180.0 γ =41.5
IES Classification	:	TypeI	Max Cd(At 90°Vert)	:	13.371
Longitudinal Classification	:	VeryShort	Max Cd(80 to 90°Vert)	:	263.907
Cut Off Classification	:	FullCutoff			
Beam Angle(50%Imax)	:	[C0/180]Total=60.5 [C90/270]Total=101.9			
Field angle(10%Imax)	:	[C0/180]Total=123.9 [C90/270]Total=140.1			
Street Side UpWard Lumens	:	- -of Lamp 0.00%of Luminaire			
Street Side DownWard Lumens	:	50.01%of Lamp 50.01%of Luminaire			
House Side UpWard Lumens	:	- -of lamp 0.00%of Luminaire			
House Side DownWard Lumens	:	49.99%of Lamp 49.99%of Luminaire			

SLI: 5.316 (C Flash Area: 0.012), Throw: 114.0 (long), Spread: 0.0 (narrow), Control: 5.316 (tight)

Zonal flux distribution table

Appendix Page: 2 Total:18

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	8359.235	0.000	0	0.00%	0.00%
0.5	8356.663	2.000	2	0.01%	0.01%
1.0	8358.570	5.998	7.998	0.02%	0.03%
1.5	8359.926	9.999	17.997	0.04%	0.07%
2.0	8361.763	14.000	31.997	0.06%	0.13%
2.5	8366.287	18.005	50.002	0.08%	0.21%
3.0	8369.909	22.014	72.015	0.09%	0.30%
3.5	8373.094	26.023	98.038	0.11%	0.41%
4.0	8378.379	30.036	128.075	0.13%	0.53%
4.5	8383.068	34.055	162.129	0.14%	0.68%
5.0	8388.125	38.074	200.204	0.16%	0.83%
5.5	8393.952	42.099	242.303	0.18%	1.01%
6.0	8400.820	46.130	288.433	0.19%	1.20%
6.5	8407.899	50.168	338.601	0.21%	1.41%
7.0	8413.804	54.205	392.806	0.23%	1.64%
7.5	8419.885	58.241	451.047	0.24%	1.88%
8.0	8427.926	62.286	513.334	0.26%	2.14%
8.5	8431.592	66.324	579.658	0.28%	2.42%
9.0	8437.016	70.351	650.009	0.29%	2.71%
9.5	8441.890	74.383	724.392	0.31%	3.02%
10.0	8445.984	78.407	802.799	0.33%	3.34%
10.5	8450.753	82.429	885.228	0.34%	3.69%
11.0	8454.270	86.446	971.674	0.36%	4.05%
11.5	8455.005	90.439	1062.113	0.38%	4.43%
12.0	8458.583	94.427	1156.541	0.39%	4.82%
12.5	8461.366	98.423	1254.963	0.41%	5.23%
13.0	8463.658	102.405	1357.369	0.43%	5.66%
13.5	8464.279	106.369	1463.738	0.44%	6.10%
14.0	8465.836	110.321	1574.059	0.46%	6.56%
14.5	8467.665	114.274	1688.333	0.48%	7.03%
15.0	8466.239	118.199	1806.532	0.49%	7.53%
15.5	8464.857	122.092	1928.625	0.51%	8.04%
16.0	8464.647	125.984	2054.608	0.52%	8.56%
16.5	8464.594	129.875	2184.484	0.54%	9.10%
17.0	8462.013	133.738	2318.221	0.56%	9.66%
17.5	8459.117	137.566	2455.787	0.57%	10.23%
18.0	8453.562	141.356	2597.143	0.59%	10.82%
18.5	8449.300	145.120	2742.264	0.60%	11.43%

Zonal flux distribution table

Appendix Page: 3 Total:18

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
19.0	8444.830	148.878	2891.142	0.62%	12.05%
19.5	8439.536	152.611	3043.753	0.64%	12.68%
20.0	8432.458	156.305	3200.058	0.65%	13.33%
20.5	8424.076	159.951	3360.009	0.67%	14.00%
21.0	8418.774	163.596	3523.605	0.68%	14.68%
21.5	8407.557	167.193	3690.798	0.70%	15.38%
22.0	8398.414	170.732	3861.53	0.71%	16.09%
22.5	8392.771	174.307	4035.836	0.73%	16.82%
23.0	8382.552	177.850	4213.686	0.74%	17.56%
23.5	8372.158	181.321	4395.007	0.76%	18.31%
24.0	8362.927	184.780	4579.788	0.77%	19.08%
24.5	8353.662	188.230	4768.017	0.78%	19.87%
25.0	8339.995	191.606	4959.623	0.80%	20.67%
25.5	8329.277	194.940	5154.563	0.81%	21.48%
26.0	8314.640	198.238	5352.801	0.83%	22.30%
26.5	8300.912	201.473	5554.274	0.84%	23.14%
27.0	8287.736	204.698	5758.972	0.85%	24.00%
27.5	8273.299	207.888	5966.86	0.87%	24.86%
28.0	8257.472	211.016	6177.876	0.88%	25.74%
28.5	8240.673	214.085	6391.961	0.89%	26.63%
29.0	8221.915	217.085	6609.045	0.90%	27.54%
29.5	8204.083	220.039	6829.084	0.92%	28.45%
30.0	8184.949	222.957	7052.041	0.93%	29.38%
30.5	8162.113	225.773	7277.814	0.94%	30.32%
31.0	8145.279	228.586	7506.4	0.95%	31.28%
31.5	8122.671	231.370	7737.77	0.96%	32.24%
32.0	8099.083	234.022	7971.791	0.98%	33.22%
32.5	8074.847	236.613	8208.404	0.99%	34.20%
33.0	8044.977	239.074	8447.479	1.00%	35.20%
33.5	8019.307	241.474	8688.953	1.01%	36.20%
34.0	7993.487	243.894	8932.847	1.02%	37.22%
34.5	7965.901	246.246	9179.094	1.03%	38.25%
35.0	7939.697	248.553	9427.646	1.04%	39.28%
35.5	7912.530	250.825	9678.471	1.05%	40.33%
36.0	7887.026	253.069	9931.54	1.05%	41.38%
36.5	7859.597	255.269	10186.81	1.06%	42.45%
37.0	7830.260	257.366	10444.176	1.07%	43.52%
37.5	7802.673	259.420	10703.595	1.08%	44.60%

Zonal flux distribution table

Appendix Page: 4 Total:18

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	7769.820	261.372	10964.968	1.09%	45.69%
38.5	7739.180	263.230	11228.198	1.10%	46.78%
39.0	7706.632	265.050	11493.248	1.10%	47.89%
39.5	7672.431	266.764	11760.012	1.11%	49.00%
40.0	7636.026	268.365	12028.378	1.12%	50.12%
40.5	7596.601	269.828	12298.205	1.12%	51.24%
41.0	7556.372	271.173	12569.379	1.13%	52.37%
41.5	7510.954	272.361	12841.74	1.13%	53.51%
42.0	7463.655	273.368	13115.108	1.14%	54.65%
42.5	7411.089	274.190	13389.298	1.14%	55.79%
43.0	7352.154	274.739	13664.037	1.14%	56.93%
43.5	7289.938	275.046	13939.083	1.15%	58.08%
44.0	7225.411	275.184	14214.267	1.15%	59.23%
44.5	7156.685	275.133	14489.401	1.15%	60.37%
45.0	7082.622	274.831	14764.232	1.15%	61.52%
45.5	7004.859	274.284	15038.516	1.14%	62.66%
46.0	6919.290	273.439	15311.956	1.14%	63.80%
46.5	6829.881	272.288	15584.244	1.13%	64.93%
47.0	6731.075	270.794	15855.037	1.13%	66.06%
47.5	6626.879	268.920	16123.957	1.12%	67.18%
48.0	6514.967	266.693	16390.65	1.11%	68.29%
48.5	6397.822	264.112	16654.762	1.10%	69.39%
49.0	6279.042	261.296	16916.058	1.09%	70.48%
49.5	6157.969	258.304	17174.363	1.08%	71.56%
50.0	6033.772	255.105	17429.467	1.06%	72.62%
50.5	5906.505	251.679	17681.147	1.05%	73.67%
51.0	5776.114	248.026	17929.173	1.03%	74.70%
51.5	5640.867	244.105	18173.278	1.02%	75.72%
52.0	5502.278	239.910	18413.188	1.00%	76.72%
52.5	5355.797	235.372	18648.56	0.98%	77.70%
53.0	5207.741	230.526	18879.086	0.96%	78.66%
53.5	5060.577	225.562	19104.647	0.94%	79.60%
54.0	4910.614	220.454	19325.101	0.92%	80.52%
54.5	4760.729	215.184	19540.286	0.90%	81.42%
55.0	4609.358	209.783	19750.069	0.87%	82.29%
55.5	4455.334	204.190	19954.259	0.85%	83.14%
56.0	4296.053	198.318	20152.577	0.83%	83.97%
56.5	4133.159	192.145	20344.722	0.80%	84.77%

Zonal flux distribution table

Appendix Page: 5 Total:18

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
57.0	3971.603	185.819	20530.541	0.77%	85.54%
57.5	3811.534	179.460	20710.001	0.75%	86.29%
58.0	3658.036	173.190	20883.191	0.72%	87.01%
58.5	3513.322	167.185	21050.375	0.70%	87.71%
59.0	3368.460	161.294	21211.669	0.67%	88.38%
59.5	3226.467	155.383	21367.052	0.65%	89.03%
60.0	3087.519	149.531	21516.583	0.62%	89.65%
60.5	2947.067	143.636	21660.219	0.60%	90.25%
61.0	2812.712	137.773	21797.992	0.57%	90.82%
61.5	2682.549	132.083	21930.076	0.55%	91.38%
62.0	2555.867	126.508	22056.584	0.53%	91.90%
62.5	2431.216	120.998	22177.582	0.50%	92.41%
63.0	2311.639	115.597	22293.179	0.48%	92.89%
63.5	2198.886	110.424	22403.603	0.46%	93.35%
64.0	2089.621	105.447	22509.05	0.44%	93.79%
64.5	1984.540	100.604	22609.653	0.42%	94.21%
65.0	1881.468	95.862	22705.515	0.40%	94.61%
65.5	1777.212	91.091	22796.606	0.38%	94.99%
66.0	1673.202	86.248	22882.854	0.36%	95.35%
66.5	1571.317	81.417	22964.271	0.34%	95.68%
67.0	1475.268	76.741	23041.012	0.32%	96.00%
67.5	1382.343	72.248	23113.259	0.30%	96.31%
68.0	1293.889	67.907	23181.166	0.28%	96.59%
68.5	1208.074	63.709	23244.876	0.27%	96.85%
69.0	1124.855	59.610	23304.486	0.25%	97.10%
69.5	1045.621	55.645	23360.13	0.23%	97.33%
70.0	968.443	51.804	23411.934	0.22%	97.55%
70.5	895.246	48.088	23460.022	0.20%	97.75%
71.0	824.045	44.500	23504.522	0.19%	97.94%
71.5	758.079	41.073	23545.595	0.17%	98.11%
72.0	697.023	37.886	23583.481	0.16%	98.26%
72.5	643.916	35.012	23618.493	0.15%	98.41%
73.0	596.804	32.485	23650.978	0.14%	98.55%
73.5	554.240	30.218	23681.196	0.13%	98.67%
74.0	514.345	28.125	23709.321	0.12%	98.79%
74.5	477.566	26.173	23735.494	0.11%	98.90%
75.0	442.987	24.349	23759.842	0.10%	99.00%
75.5	410.815	22.636	23782.479	0.09%	99.09%

Zonal flux distribution table

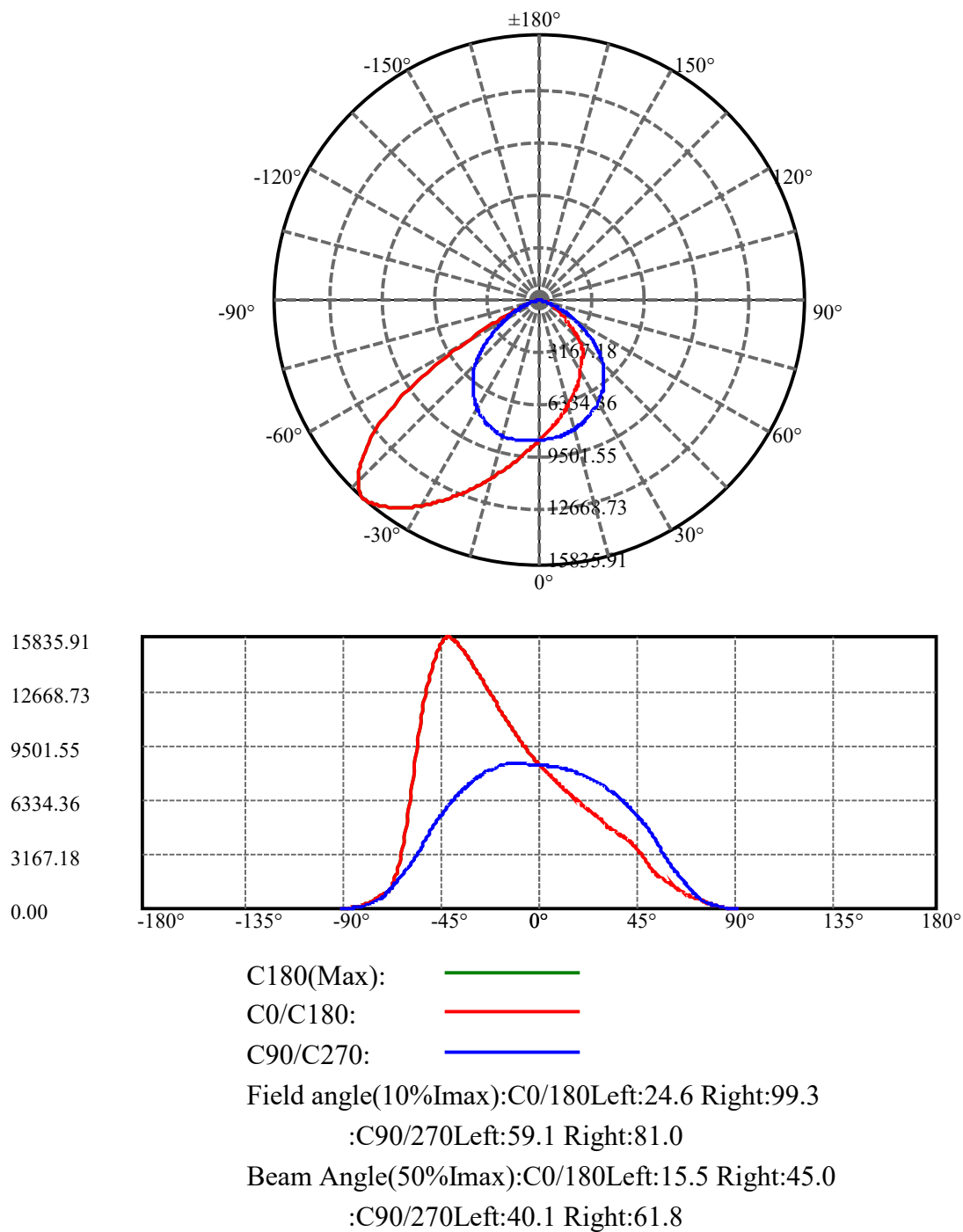
Appendix Page: 6 Total:18

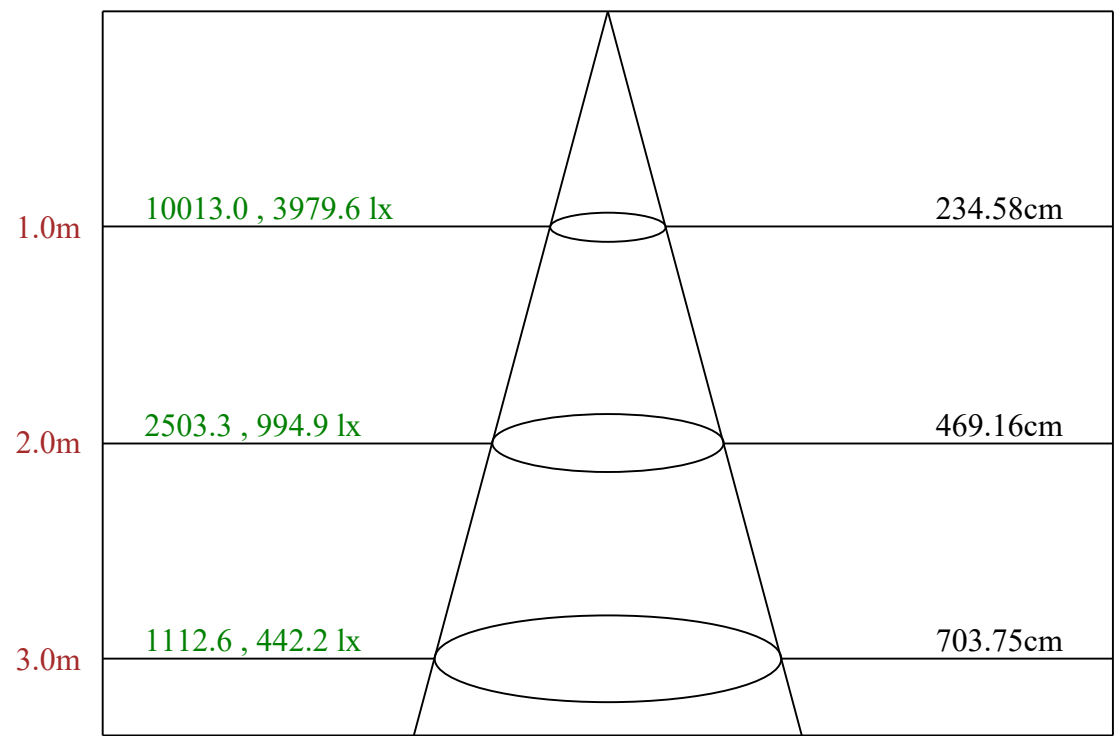
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	380.516	21.027	23803.506	0.09%	99.18%
76.5	352.721	19.526	23823.032	0.08%	99.26%
77.0	326.680	18.130	23841.162	0.08%	99.34%
77.5	302.234	16.817	23857.979	0.07%	99.41%
78.0	278.639	15.562	23873.541	0.06%	99.47%
78.5	255.541	14.338	23887.879	0.06%	99.53%
79.0	233.271	13.144	23901.022	0.05%	99.59%
79.5	212.443	12.005	23913.027	0.05%	99.64%
80.0	192.864	10.934	23923.962	0.05%	99.68%
80.5	174.330	9.921	23933.883	0.04%	99.72%
81.0	156.919	8.963	23942.846	0.04%	99.76%
81.5	140.719	8.065	23950.911	0.03%	99.80%
82.0	125.441	7.221	23958.133	0.03%	99.83%
82.5	111.107	6.426	23964.559	0.03%	99.85%
83.0	97.679	5.678	23970.237	0.02%	99.88%
83.5	85.294	4.982	23975.218	0.02%	99.90%
84.0	73.905	4.339	23979.557	0.02%	99.91%
84.5	63.460	3.747	23983.304	0.02%	99.93%
85.0	53.995	3.207	23986.51	0.01%	99.94%
85.5	45.518	2.719	23989.229	0.01%	99.96%
86.0	37.990	2.283	23991.512	0.01%	99.96%
86.5	31.436	1.899	23993.412	0.01%	99.97%
87.0	25.964	1.571	23994.983	0.01%	99.98%
87.5	21.380	1.296	23996.279	0.01%	99.98%
88.0	17.571	1.067	23997.346	0.00%	99.99%
88.5	14.424	0.877	23998.223	0.00%	99.99%
89.0	11.791	0.719	23998.942	0.00%	100.00%
89.5	9.515	0.584	23999.526	0.00%	100.00%
90.0	7.761	0.474	23999.999	0.00%	100.00%

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	7052.04	29.38%	29.38%
0-40	12028.38	50.12%	50.12%
0-60	21516.58	89.65%	89.65%
0-90	23999.53	100.00%	100.00%
0-120	23999.53	100.00%	100.00%
0-180	24000.00	100.00%	100.00%
60-90	2482.94	10.35%	10.35%
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%
0-53.72	19200.00	80.00%	80.00%

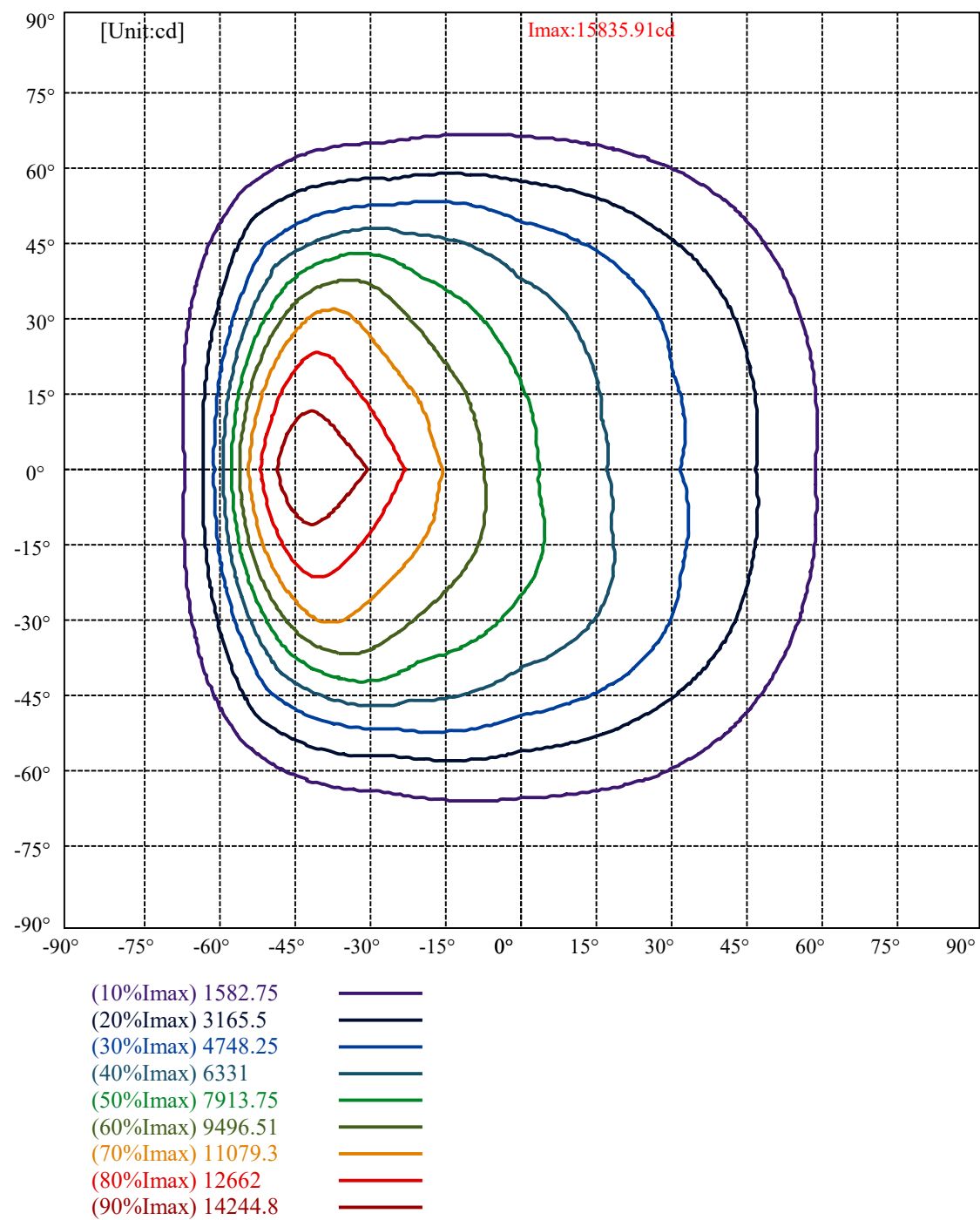
ZONAL LUMEN SUMMARY

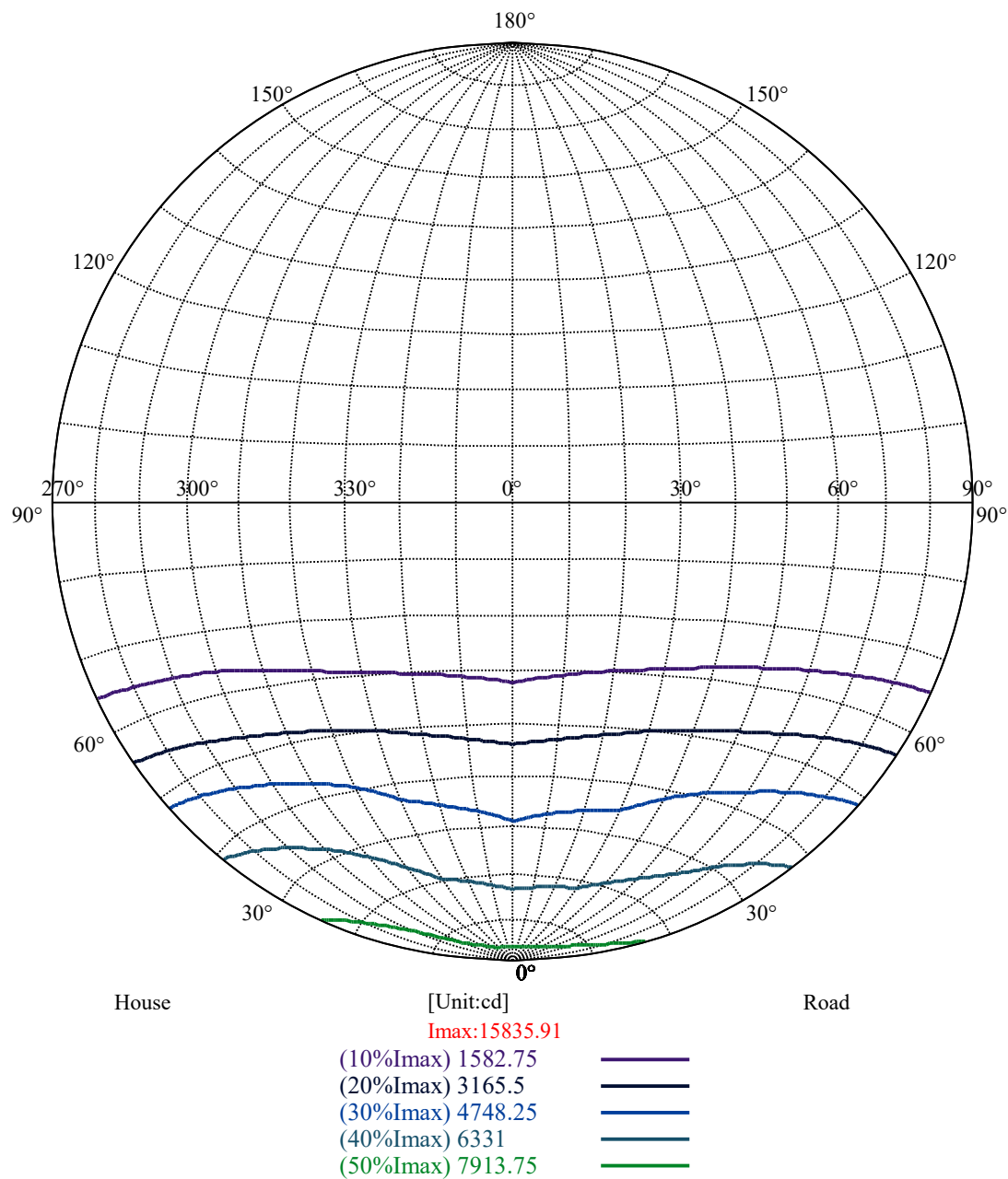
0-10	802.80
10-20	2397.26
20-30	3851.98
30-40	4976.34
40-50	5401.09
50-60	4087.12
60-70	1895.35
70-80	512.03
80-90	75.56
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

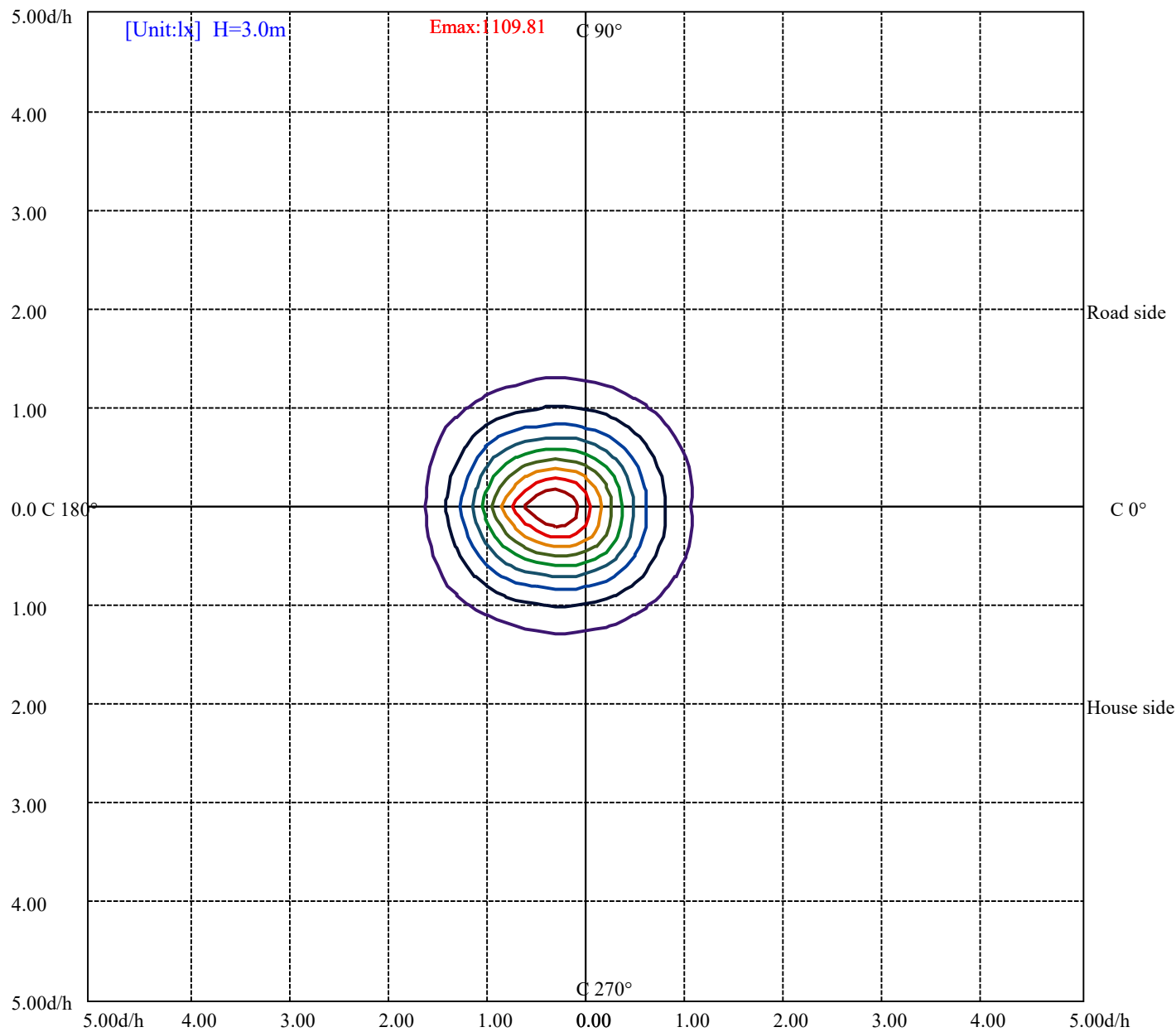




Max , Ave Beam angle of C180 plane 99.10







(10%Emax) 110.9807	—
(20%Emax) 221.9611	—
(30%Emax) 332.9422	—
(40%Emax) 443.9222	—
(50%Emax) 554.9033	—
(60%Emax) 665.8845	—
(70%Emax) 776.8644	—
(80%Emax) 887.8455	—
(90%Emax) 998.8255	—

C/γ(°)	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0
0.0	8359.24	8304.11	8235.98	8165.21	8100.33	8032.08	7976.12	7912.81	7851.71
30.0	8359.24	8325.11	8258.34	8192.82	8132.24	8076.28	8015.91	7961.42	7905.36
60.0	8359.24	8314.93	8281.44	8235.98	8202.38	8162.38	8128.46	8089.30	8057.80
90.0	8359.24	8339.92	8340.65	8334.04	8332.04	8326.27	8323.22	8311.78	8309.89
120.0	8359.24	8378.13	8409.11	8440.81	8469.37	8504.96	8532.79	8560.71	8600.40
150.0	8359.24	8388.63	8448.27	8508.53	8570.16	8630.01	8694.68	8756.84	8820.25
180.0	8359.24	8455.93	8529.11	8600.82	8677.47	8761.67	8831.38	8909.08	8981.31
210.0	8359.24	8447.95	8519.98	8590.43	8653.42	8724.08	8786.45	8864.67	8928.29
240.0	8359.24	8396.61	8433.99	8477.56	8518.19	8562.71	8607.12	8646.28	8687.96
270.0	8359.24	8354.41	8359.13	8369.31	8368.05	8375.40	8383.17	8384.33	8396.51
300.0	8359.24	8306.21	8276.08	8248.26	8217.92	8194.29	8164.16	8140.64	8109.15
330.0	8359.24	8268.00	8210.78	8155.34	8099.59	8045.31	7995.44	7939.27	7891.92
360.0	8359.24	8304.11	8235.98	8165.21	8100.33	8032.08	7976.12	7912.81	7851.71
C/γ(°)	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5
0.0	7788.92	7733.90	7672.80	7620.09	7554.26	7497.15	7439.82	7377.77	7309.53
30.0	7851.71	7797.53	7739.68	7697.58	7640.25	7590.91	7536.20	7492.11	7433.00
60.0	8021.06	7990.29	7953.76	7920.26	7887.72	7857.16	7813.38	7780.00	7737.79
90.0	8305.90	8298.24	8297.29	8294.25	8278.71	8273.04	8261.17	8249.73	8240.07
120.0	8631.37	8660.77	8688.28	8719.04	8757.05	8778.89	8801.15	8825.82	8844.82
150.0	8878.21	8944.04	9006.51	9071.50	9128.83	9197.07	9271.93	9338.49	9412.09
180.0	9055.33	9132.08	9216.81	9297.23	9394.66	9474.25	9565.38	9658.51	9746.07
210.0	8996.64	9061.53	9140.48	9213.87	9291.77	9359.28	9442.44	9523.91	9593.31
240.0	8737.73	8778.68	8828.13	8861.10	8900.89	8942.57	8989.92	9027.72	9073.60
270.0	8408.16	8411.42	8415.09	8422.02	8435.98	8446.17	8446.27	8453.62	8454.99
300.0	8079.33	8056.12	8028.62	8002.16	7983.78	7959.53	7931.60	7915.02	7894.23
330.0	7842.47	7792.91	7739.99	7690.75	7640.88	7589.65	7539.35	7492.42	7439.61
360.0	7788.92	7733.90	7672.80	7620.09	7554.26	7497.15	7439.82	7377.77	7309.53
C/γ(°)	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0
0.0	7246.01	7186.16	7121.07	7058.28	6991.72	6926.94	6873.39	6814.91	6756.85
30.0	7372.42	7305.54	7249.89	7199.60	7141.23	7081.28	7022.59	6963.05	6910.03
60.0	7705.66	7669.86	7622.82	7579.67	7538.30	7494.10	7455.36	7410.21	7363.91
90.0	8231.46	8217.08	8199.65	8176.02	8165.74	8144.42	8116.07	8100.12	8086.05
120.0	8874.22	8904.04	8921.36	8945.61	8966.61	8988.45	9005.14	9021.21	9040.11
150.0	9477.61	9543.86	9616.62	9690.01	9762.87	9821.04	9888.55	9955.11	10023.88
180.0	9836.05	9926.13	10022.94	10118.48	10215.91	10309.04	10406.89	10509.68	10607.32
210.0	9675.73	9750.06	9828.49	9900.09	9978.31	10046.45	10129.71	10202.68	10268.09
240.0	9104.26	9139.74	9176.28	9220.59	9248.62	9281.90	9312.98	9336.71	9362.43
270.0	8463.49	8467.59	8470.32	8470.42	8466.75	8463.70	8465.59	8458.98	8449.42
300.0	7867.24	7847.93	7828.19	7801.10	7779.79	7755.53	7731.28	7711.96	7687.71
330.0	7390.06	7344.70	7294.20	7249.16	7195.40	7147.21	7095.45	7051.77	7008.10
360.0	7246.01	7186.16	7121.07	7058.28	6991.72	6926.94	6873.39	6814.91	6756.85
C/γ(°)	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5
0.0	6702.15	6644.93	6589.18	6532.38	6477.57	6420.25	6366.81	6313.26	6257.72
30.0	6853.34	6798.74	6750.97	6691.02	6639.16	6581.83	6534.90	6484.82	6434.00
60.0	7329.69	7286.32	7241.60	7197.40	7157.60	7119.28	7080.44	7039.70	7006.21
90.0	8060.74	8039.75	8026.31	7996.59	7975.70	7958.59	7933.18	7908.40	7878.37
120.0	9056.49	9079.58	9093.44	9103.73	9110.35	9124.10	9127.15	9140.69	9143.42
150.0	10089.60	10157.01	10222.10	10281.74	10346.41	10408.36	10473.56	10526.48	10581.07
180.0	10701.81	10803.65	10905.50	11009.44	11113.38	11216.27	11324.41	11430.45	11526.00
210.0	10323.11	10395.66	10463.48	10521.23	10583.17	10643.02	10706.01	10762.71	10827.80
240.0	9387.31	9405.06	9420.60	9441.28	9457.03	9467.00	9477.82	9491.78	9490.00
270.0	8440.92	8432.20	8414.36	8408.58	8384.85	8373.09	8357.24	8332.67	8330.26
300.0	7662.82	7631.54	7608.33	7581.14	7546.07	7520.46	7490.85	7458.20	7421.76
330.0	6963.37	6915.60	6876.12	6830.35	6786.98	6743.52	6702.78	6655.01	6612.80
360.0	6702.15	6644.93	6589.18	6532.38	6477.57	6420.25	6366.81	6313.26	6257.72

C/γ(°)	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0
0.0	6207.22	6153.99	6101.49	6048.79	5991.57	5940.01	5893.50	5838.28	5787.25
30.0	6379.41	6328.59	6281.87	6232.10	6184.23	6131.21	6087.42	6039.44	5989.89
60.0	6965.89	6934.08	6896.49	6858.17	6819.11	6781.00	6741.42	6700.58	6658.68
90.0	7849.82	7823.36	7793.33	7759.00	7726.35	7700.41	7661.78	7628.70	7596.16
120.0	9142.68	9150.03	9142.05	9134.39	9124.63	9119.69	9111.92	9098.90	9089.98
150.0	10644.07	10700.76	10762.71	10809.95	10862.45	10918.09	10954.84	11017.84	11062.98
180.0	11630.99	11734.93	11837.82	11954.36	12053.06	12164.35	12278.79	12370.13	12469.87
210.0	10872.95	10921.24	10976.89	11024.14	11075.58	11108.13	11163.78	11195.27	11234.12
240.0	9496.72	9497.77	9500.50	9499.97	9505.96	9497.56	9498.29	9481.91	9476.14
270.0	8296.03	8269.47	8246.37	8226.00	8198.91	8172.14	8143.37	8112.19	8089.09
300.0	7392.68	7361.18	7326.12	7301.97	7267.64	7229.31	7203.70	7170.20	7132.62
330.0	6564.30	6516.21	6472.32	6425.60	6380.04	6327.01	6286.49	6237.25	6194.20
360.0	6207.22	6153.99	6101.49	6048.79	5991.57	5940.01	5893.50	5838.28	5787.25

C/γ(°)	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5
0.0	5734.13	5681.74	5630.39	5581.78	5532.44	5478.16	5425.98	5385.03	5335.16
30.0	5941.69	5892.24	5847.83	5805.42	5760.27	5712.50	5669.24	5627.03	5585.46
60.0	6624.35	6583.19	6540.15	6505.08	6467.70	6433.16	6394.31	6355.15	6322.08
90.0	7566.76	7533.90	7494.42	7465.02	7435.41	7402.03	7372.63	7340.50	7304.49
120.0	9082.10	9070.34	9053.86	9032.76	9024.88	8997.90	8975.75	8954.64	8934.70
150.0	11110.23	11158.53	11198.42	11247.77	11289.77	11327.56	11369.56	11405.26	11431.50
180.0	12583.26	12701.91	12802.70	12915.04	13029.48	13140.77	13249.96	13343.40	13456.80
210.0	11279.27	11313.91	11361.16	11395.81	11436.75	11457.75	11495.55	11523.90	11555.39
240.0	9470.05	9452.09	9445.27	9428.68	9410.73	9389.94	9371.04	9344.16	9319.60
270.0	8061.16	8023.58	7990.82	7959.32	7920.16	7881.73	7845.09	7797.53	7754.17
300.0	7110.25	7075.08	7040.64	7001.06	6963.37	6930.51	6891.98	6850.08	6803.05
330.0	6150.00	6104.12	6060.23	6017.39	5972.98	5927.94	5890.25	5848.99	5808.57
360.0	5734.13	5681.74	5630.39	5581.78	5532.44	5478.16	5425.98	5385.03	5335.16

C/γ(°)	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0
0.0	5285.18	5227.75	5169.06	5098.19	5020.71	4950.15	4873.30	4809.15	4760.96
30.0	5549.45	5511.75	5473.85	5435.84	5397.84	5359.83	5321.82	5279.41	5231.85
60.0	6277.14	6236.30	6194.41	6151.05	6113.04	6070.73	6033.46	5992.09	5953.35
90.0	7269.00	7239.39	7208.00	7173.14	7136.82	7102.27	7058.18	7014.50	6978.28
120.0	8915.69	8889.76	8872.23	8852.70	8832.22	8818.89	8797.89	8777.42	8759.78
150.0	11466.15	11503.95	11531.25	11560.64	11586.89	11614.19	11641.49	11664.59	11696.08
180.0	13555.49	13678.33	13772.82	13886.21	13981.75	14090.95	14199.09	14295.68	14399.62
210.0	11583.74	11601.59	11628.89	11650.94	11676.14	11690.83	11709.73	11727.58	11748.58
240.0	9302.69	9278.65	9253.45	9226.68	9196.86	9167.57	9133.13	9093.65	9061.32
270.0	7713.64	7669.33	7623.14	7579.78	7533.16	7481.19	7437.30	7382.08	7336.30
300.0	6765.99	6721.78	6679.26	6633.49	6586.13	6545.40	6499.41	6445.03	6405.13
330.0	5768.67	5721.00	5683.31	5639.42	5601.42	5557.01	5514.59	5464.19	5412.12
360.0	5285.18	5227.75	5169.06	5098.19	5020.71	4950.15	4873.30	4809.15	4760.96

C/γ(°)	31.5	32.0	32.5	33.0	33.5	34.0	34.5	35.0	35.5
0.0	4713.82	4681.16	4642.32	4601.05	4564.20	4524.10	4486.09	4443.15	4402.20
30.0	5179.66	5117.30	5051.26	4979.87	4912.88	4848.42	4789.73	4740.38	4696.07
60.0	5912.72	5869.99	5835.13	5781.69	5741.48	5694.12	5647.30	5599.32	5553.44
90.0	6927.46	6886.41	6840.32	6794.02	6742.47	6702.99	6650.18	6598.84	6543.72
120.0	8735.74	8709.28	8684.50	8661.30	8636.10	8600.72	8570.37	8531.95	8493.20
150.0	11723.38	11739.13	11764.33	11782.18	11808.43	11826.27	11843.07	11875.62	11901.87
180.0	14505.66	14592.81	14676.80	14763.94	14862.64	14946.63	15033.77	15115.67	15192.31
210.0	11766.43	11786.38	11808.43	11817.87	11835.72	11854.62	11870.37	11881.92	11891.37
240.0	9019.95	8981.42	8950.76	8899.63	8847.97	8811.54	8757.89	8712.22	8659.93
270.0	7283.38	7233.51	7178.92	7121.28	7060.38	7006.73	6942.48	6880.32	6814.49
300.0	6350.53	6306.44	6254.47	6197.35	6146.22	6093.51	6040.39	5984.64	5928.99
330.0	5353.32	5285.18	5210.95	5139.56	5073.20	5012.20	4959.18	4912.36	4872.77
360.0	4713.82	4681.16	4642.32	4601.05	4564.20	4524.10	4486.09	4443.15	4402.20

C/γ(°)	36.0	36.5	37.0	37.5	38.0	38.5	39.0	39.5	40.0
0.0	4358.21	4318.94	4276.63	4232.01	4190.33	4148.44	4109.06	4064.23	4018.35
30.0	4654.29	4617.01	4578.69	4535.44	4500.68	4463.73	4420.47	4381.62	4340.78
60.0	5504.30	5463.14	5411.91	5359.41	5305.86	5258.30	5206.65	5152.16	5097.35
90.0	6491.96	6434.84	6376.26	6324.18	6261.81	6200.08	6140.44	6077.13	6013.61
120.0	8460.13	8416.04	8380.44	8345.06	8300.65	8258.02	8214.24	8171.72	8118.59
150.0	11927.07	11952.26	11973.26	11999.51	12018.41	12040.46	12067.75	12084.55	12115.00
180.0	15279.45	15354.00	15419.09	15492.59	15559.78	15618.58	15671.07	15728.82	15775.01
210.0	11905.02	11911.32	11921.82	11937.56	11930.22	11939.66	11948.06	11949.11	11949.11
240.0	8614.47	8559.66	8511.58	8460.34	8401.23	8340.55	8277.45	8208.36	8138.44
270.0	6749.29	6678.95	6608.71	6542.56	6468.23	6400.09	6328.48	6258.67	6182.13
300.0	5872.72	5822.21	5761.32	5700.95	5637.85	5582.31	5518.26	5454.22	5390.28
330.0	4827.42	4786.79	4743.42	4702.48	4662.79	4619.95	4577.64	4538.58	4493.65
360.0	4358.21	4318.94	4276.63	4232.01	4190.33	4148.44	4109.06	4064.23	4018.35
C/γ(°)	40.5	41.0	41.5	42.0	42.5	43.0	43.5	44.0	44.5
0.0	3974.15	3927.85	3877.56	3821.81	3758.39	3687.52	3614.55	3535.28	3456.75
30.0	4304.56	4261.51	4215.63	4172.16	4127.86	4079.77	4034.20	3982.65	3930.26
60.0	5039.71	4986.16	4928.73	4871.30	4813.35	4747.41	4689.77	4630.56	4566.62
90.0	5948.62	5881.01	5817.80	5749.87	5677.64	5608.24	5538.53	5468.81	5399.10
120.0	8066.41	8007.30	7941.89	7873.54	7808.13	7737.05	7653.17	7571.06	7480.14
150.0	12128.65	12153.85	12160.15	12178.00	12180.10	12190.60	12190.60	12185.35	12163.30
180.0	15802.31	15827.51	15835.91	15826.46	15783.41	15707.82	15619.63	15521.98	15422.24
210.0	11950.16	11947.01	11945.96	11943.86	11941.76	11919.72	11905.02	11880.87	11851.47
240.0	8063.05	7988.51	7914.81	7832.70	7754.48	7670.17	7581.67	7489.90	7396.25
270.0	6108.32	6030.62	5950.93	5871.14	5791.45	5712.50	5623.25	5538.84	5452.33
300.0	5326.23	5261.98	5190.48	5118.98	5046.54	4968.74	4893.14	4819.23	4743.00
330.0	4447.03	4403.15	4351.59	4304.03	4249.96	4196.31	4135.73	4080.40	4018.77
360.0	3974.15	3927.85	3877.56	3821.81	3758.39	3687.52	3614.55	3535.28	3456.75
C/γ(°)	45.0	45.5	46.0	46.5	47.0	47.5	48.0	48.5	49.0
0.0	3375.17	3287.82	3199.83	3112.27	3023.34	2930.64	2833.73	2721.49	2615.45
30.0	3868.74	3807.53	3743.80	3679.02	3607.73	3537.07	3465.04	3392.70	3315.22
60.0	4503.73	4436.43	4368.39	4291.22	4212.69	4128.07	4037.56	3946.01	3857.82
90.0	5329.28	5259.56	5189.85	5111.63	5032.57	4954.67	4877.18	4793.08	4701.74
120.0	7391.63	7293.57	7204.85	7106.26	7012.51	6913.39	6815.33	6715.80	6616.69
150.0	12132.85	12100.30	12033.11	11961.71	11855.67	11728.63	11580.59	11417.86	11250.92
180.0	15295.20	15167.11	15010.67	14852.14	14664.20	14464.72	14251.58	14031.10	13795.92
210.0	11814.72	11754.88	11679.29	11593.19	11470.35	11345.41	11200.52	11047.23	10889.75
240.0	7300.71	7206.22	7111.72	7008.94	6912.66	6814.28	6700.16	6587.81	6476.00
270.0	5368.65	5288.86	5198.56	5113.31	5017.87	4917.82	4810.20	4697.75	4584.57
300.0	4660.48	4574.49	4482.94	4393.59	4303.19	4204.61	4104.34	4002.50	3902.96
330.0	3950.32	3881.55	3808.47	3735.29	3660.12	3583.26	3503.37	3420.53	3341.47
360.0	3375.17	3287.82	3199.83	3112.27	3023.34	2930.64	2833.73	2721.49	2615.45
C/γ(°)	49.5	50.0	50.5	51.0	51.5	52.0	52.5	53.0	53.5
0.0	2528.83	2445.15	2362.95	2266.98	2201.57	2137.11	2072.64	2008.18	1953.37
30.0	3240.15	3168.02	3093.69	3017.36	2938.30	2848.22	2745.96	2645.90	2560.85
60.0	3765.95	3682.06	3597.54	3513.76	3435.96	3363.10	3288.76	3211.70	3131.49
90.0	4605.78	4501.84	4397.06	4300.36	4205.87	4111.27	4020.87	3919.24	3810.78
120.0	6518.41	6412.69	6308.75	6195.56	6087.11	5976.97	5849.83	5720.90	5565.30
150.0	11064.03	10859.30	10653.52	10441.33	10199.11	9969.70	9722.87	9477.40	9224.89
180.0	13558.64	13325.56	13068.33	12813.20	12521.32	12230.49	11901.87	11543.85	11176.37
210.0	10704.96	10517.03	10312.19	10092.02	9865.13	9625.33	9380.18	9141.32	8907.29
240.0	6366.28	6248.80	6121.97	5998.71	5864.84	5710.71	5556.59	5402.46	5248.22
270.0	4479.26	4370.91	4264.98	4156.41	4037.25	3919.55	3797.55	3676.18	3568.78
300.0	3801.65	3693.93	3597.44	3498.85	3409.40	3313.86	3217.58	3123.19	3036.36
330.0	3261.67	3179.99	3099.67	3018.83	2924.55	2821.02	2714.88	2622.59	2543.22
360.0	2528.83	2445.15	2362.95	2266.98	2201.57	2137.11	2072.64	2008.18	1953.37

C/γ(°)	54.0	54.5	55.0	55.5	56.0	56.5	57.0	57.5	58.0
0.0	1899.30	1854.05	1810.06	1768.17	1725.86	1684.70	1646.48	1605.85	1565.01
30.0	2491.04	2419.85	2351.29	2284.52	2218.69	2153.70	2090.28	2026.66	1963.14
60.0	3047.39	2964.23	2882.02	2801.18	2724.43	2649.05	2566.63	2484.53	2406.41
90.0	3704.95	3598.07	3496.65	3391.23	3283.72	3180.31	3071.53	2962.13	2857.46
120.0	5403.09	5246.86	5084.86	4926.00	4757.18	4575.86	4378.68	4185.71	4011.63
150.0	8954.96	8702.87	8441.55	8194.40	7941.05	7679.73	7434.57	7180.39	6945.63
180.0	10775.31	10355.55	9922.88	9462.07	8952.12	8421.92	7889.92	7360.87	6847.56
210.0	8671.59	8435.88	8194.08	7945.99	7699.89	7453.68	7207.48	6961.90	6716.85
240.0	5094.10	4936.08	4775.34	4592.76	4407.14	4216.58	4030.84	3863.17	3706.11
270.0	3462.63	3353.75	3242.99	3140.72	3037.94	2934.10	2841.29	2749.32	2656.92
300.0	2950.69	2862.08	2783.44	2700.28	2618.29	2532.40	2455.97	2382.68	2313.07
330.0	2472.35	2399.48	2327.14	2256.69	2186.35	2115.90	2045.56	1975.21	1906.65
360.0	1899.30	1854.05	1810.06	1768.17	1725.86	1684.70	1646.48	1605.85	1565.01
C/γ(°)	58.5	59.0	59.5	60.0	60.5	61.0	61.5	62.0	62.5
0.0	1525.53	1484.48	1442.06	1400.70	1357.02	1312.71	1269.56	1210.35	1153.13
30.0	1903.71	1845.86	1783.39	1721.97	1657.72	1599.76	1540.96	1484.48	1427.68
60.0	2336.59	2266.14	2195.69	2125.24	2054.79	1984.34	1912.43	1840.61	1771.53
90.0	2749.11	2653.04	2558.54	2468.25	2383.00	2296.17	2209.24	2131.12	2051.85
120.0	3840.28	3676.60	3520.58	3366.35	3219.99	3075.84	2946.28	2821.55	2701.96
150.0	6721.68	6481.35	6247.54	6021.28	5781.27	5541.26	5301.14	5061.44	4827.94
180.0	6400.93	5954.29	5507.66	5061.02	4616.07	4226.97	3850.47	3492.76	3152.17
210.0	6475.79	6224.12	5982.85	5743.37	5488.45	5234.16	4993.62	4761.27	4532.18
240.0	3555.13	3405.41	3264.51	3132.33	3005.18	2886.01	2774.83	2670.26	2562.22
270.0	2569.15	2484.42	2400.74	2323.57	2243.88	2164.09	2084.19	2004.40	1916.42
300.0	2243.25	2173.86	2107.50	2043.98	1975.00	1909.38	1846.70	1785.28	1725.33
330.0	1838.72	1771.95	1706.54	1642.18	1582.44	1521.86	1461.17	1406.89	1352.19
360.0	1525.53	1484.48	1442.06	1400.70	1357.02	1312.71	1269.56	1210.35	1153.13
C/γ(°)	63.0	63.5	64.0	64.5	65.0	65.5	66.0	66.5	67.0
0.0	1112.39	1070.50	1022.89	976.25	935.88	898.53	865.14	833.52	804.06
30.0	1370.04	1312.29	1258.43	1205.10	1150.50	1091.70	1032.50	987.00	943.99
60.0	1701.39	1631.99	1564.17	1497.39	1432.61	1360.06	1279.43	1202.89	1136.12
90.0	1964.61	1883.97	1810.90	1734.36	1659.29	1581.91	1506.74	1431.56	1358.38
120.0	2583.01	2466.78	2351.61	2225.93	2099.84	1973.64	1847.44	1722.18	1615.82
150.0	4608.19	4410.07	4219.20	4033.05	3850.99	3667.05	3480.69	3292.23	3090.64
180.0	2843.49	2567.26	2320.74	2111.81	1927.86	1765.54	1601.02	1434.19	1292.03
210.0	4310.44	4100.77	3900.97	3709.04	3521.00	3328.76	3127.71	2921.61	2724.64
240.0	2445.47	2336.49	2217.74	2096.37	1971.12	1829.06	1695.72	1579.08	1469.89
270.0	1837.57	1759.66	1676.40	1599.45	1521.86	1446.89	1372.24	1298.96	1225.67
300.0	1664.75	1601.13	1538.76	1480.28	1416.65	1348.72	1280.59	1203.52	1134.86
330.0	1298.33	1245.73	1193.65	1145.46	1090.03	1034.67	989.22	949.07	907.12
360.0	1112.39	1070.50	1022.89	976.25	935.88	898.53	865.14	833.52	804.06
C/γ(°)	67.5	68.0	68.5	69.0	69.5	70.0	70.5	71.0	71.5
0.0	776.93	750.57	724.18	699.68	673.83	647.86	620.62	592.16	566.06
30.0	902.22	862.26	825.00	788.69	752.60	717.29	684.57	649.34	617.61
60.0	1069.66	997.99	927.98	860.62	805.42	758.13	713.37	670.05	627.12
90.0	1288.14	1213.08	1141.89	1071.86	996.65	918.34	852.08	786.80	726.79
120.0	1513.46	1418.96	1329.30	1249.61	1176.12	1105.46	1038.06	970.12	907.43
150.0	2880.76	2669.21	2468.57	2261.63	2050.49	1831.69	1618.34	1415.71	1217.70
180.0	1182.84	1095.27	1023.02	963.70	918.09	878.68	843.55	809.29	779.57
210.0	2523.06	2341.63	2147.40	1952.53	1757.56	1560.28	1367.62	1186.51	1029.04
240.0	1369.93	1281.32	1200.06	1122.05	1053.91	991.85	936.86	879.26	820.39
270.0	1156.06	1087.82	1015.97	935.57	860.24	793.90	733.95	676.76	622.70
300.0	1055.80	975.99	898.17	832.67	776.97	726.38	677.94	631.84	594.61
330.0	869.27	832.57	795.34	759.66	725.58	691.48	655.99	620.69	587.94
360.0	776.93	750.57	724.18	699.68	673.83	647.86	620.62	592.16	566.06

C/γ(°)	72.0	72.5	73.0	73.5	74.0	74.5	75.0	75.5	76.0
0.0	541.58	517.93	493.09	468.90	443.35	417.05	390.51	364.08	339.17
30.0	585.18	552.74	520.46	492.17	463.18	432.66	402.84	377.44	352.50
60.0	585.97	548.77	515.46	485.86	457.24	428.90	402.15	374.19	346.85
90.0	670.04	623.06	576.10	529.14	482.44	446.22	412.96	382.69	354.42
120.0	837.90	778.08	722.20	668.56	616.89	572.38	530.13	491.66	457.20
150.0	1050.13	917.26	815.00	737.00	675.91	626.06	582.14	538.22	494.34
180.0	748.55	713.13	673.98	625.81	577.64	529.47	481.43	437.63	400.41
210.0	903.28	796.90	715.29	651.83	599.01	551.94	511.00	473.15	438.03
240.0	754.09	702.24	654.99	610.58	566.18	521.77	477.76	443.99	412.01
270.0	573.74	530.08	487.60	451.09	418.43	388.32	360.73	335.33	311.23
300.0	557.39	520.27	490.95	462.34	435.34	408.32	382.67	355.15	329.16
330.0	556.44	526.53	496.53	467.60	436.54	407.69	381.52	356.28	330.88
360.0	541.58	517.93	493.09	468.90	443.35	417.05	390.51	364.08	339.17

C/γ(°)	76.5	77.0	77.5	78.0	78.5	79.0	79.5	80.0	80.5
0.0	316.69	294.25	272.19	249.53	226.89	204.23	184.01	165.31	148.82
30.0	326.91	301.49	278.77	256.66	235.06	213.12	193.26	174.79	156.55
60.0	323.69	301.06	279.79	258.19	236.64	215.11	195.97	177.55	160.27
90.0	327.63	302.31	279.35	257.09	235.83	215.77	197.47	179.28	162.33
120.0	423.59	392.39	362.22	334.43	306.98	280.31	255.07	231.38	207.74
150.0	459.05	425.98	395.65	367.64	340.84	314.82	288.59	263.91	241.57
180.0	368.67	340.59	314.94	290.62	267.30	245.90	226.68	208.25	190.00
210.0	406.02	376.24	348.85	324.43	300.32	275.99	253.10	232.67	212.29
240.0	381.57	353.48	326.61	300.85	276.19	251.54	228.64	207.00	186.35
270.0	288.38	266.99	246.97	226.99	207.00	189.08	172.20	156.07	140.83
300.0	305.99	284.54	263.67	241.70	220.19	199.76	179.14	161.48	144.89
330.0	304.47	280.83	257.79	235.53	213.27	193.63	175.20	156.67	140.33
360.0	316.69	294.25	272.19	249.53	226.89	204.23	184.01	165.31	148.82

C/γ(°)	81.0	81.5	82.0	82.5	83.0	83.5	84.0	84.5	85.0
0.0	133.48	119.30	105.73	93.07	81.78	71.22	61.21	52.11	43.95
30.0	140.18	124.90	110.91	97.23	84.37	72.69	62.28	53.02	44.74
60.0	143.67	128.46	113.78	99.87	86.66	74.81	63.53	53.26	44.06
90.0	146.11	130.96	116.66	102.91	90.10	78.09	66.89	56.67	47.45
120.0	186.80	167.01	148.39	131.88	116.00	101.28	88.31	76.43	65.70
150.0	220.30	199.84	180.70	162.59	145.74	129.60	114.43	100.26	87.13
180.0	172.77	156.61	141.52	127.28	114.24	102.12	90.86	80.30	70.77
210.0	193.04	175.21	158.71	142.52	127.61	113.22	99.75	87.01	75.26
240.0	166.62	148.56	132.01	116.50	101.93	88.89	77.04	66.40	56.41
270.0	126.03	112.38	99.34	87.55	75.93	65.30	55.58	46.95	39.13
300.0	129.18	114.77	100.64	87.53	75.45	64.16	54.07	44.67	36.43
330.0	124.85	110.64	96.93	84.35	72.35	62.16	52.91	44.45	36.90
360.0	133.48	119.30	105.73	93.07	81.78	71.22	61.21	52.11	43.95

C/γ(°)	85.5	86.0	86.5	87.0	87.5	88.0	88.5	89.0	89.5
0.0	36.69	30.27	24.58	19.90	16.03	13.04	10.93	9.11	7.80
30.0	37.20	30.74	25.05	20.18	16.25	13.21	11.04	9.36	7.52
60.0	36.12	29.44	24.23	19.97	16.47	13.56	11.33	9.45	7.82
90.0	39.60	32.97	27.32	22.37	18.28	14.76	11.64	9.57	8.14
120.0	55.77	46.91	38.73	31.90	26.55	22.24	18.76	15.90	13.33
150.0	75.02	64.17	53.89	45.18	37.67	31.26	25.63	20.80	16.77
180.0	61.36	52.11	43.87	36.81	30.53	24.99	20.11	15.96	12.40
210.0	64.55	54.28	45.52	38.23	31.74	26.07	21.15	16.88	13.28
240.0	47.43	39.35	32.41	26.70	22.10	18.22	15.03	12.32	9.83
270.0	32.55	26.86	22.14	18.32	15.07	12.25	9.79	7.96	6.52
300.0	29.56	24.22	19.84	16.41	13.42	11.09	9.21	7.51	5.22
330.0	30.38	24.57	19.65	15.61	12.48	10.17	8.47	6.67	5.56
360.0	36.69	30.27	24.58	19.90	16.03	13.04	10.93	9.11	7.80

Intensity data(cd)

Appendix Page: 18 Total:18

C/γ(°)	90.0
0.0	7.46
30.0	7.06
60.0	6.41
90.0	6.85
120.0	11.31
150.0	13.37
180.0	9.19
210.0	10.15
240.0	7.46
270.0	4.23
300.0	4.38
330.0	5.27
360.0	7.46