

Report No	:		Voltage	:	V
Test No	:	A2406510A001	Current	:	A
LumCAT	:	LIT by CARDI	Power	:	250.000 W
Luminaire	:	0017440206 250W 4000K 40000lm	PF	:	
LampCAT	:		Ballast type	:	
Lamp flux	:	40000.0 lm	Width	:	246 mm
Number of Lamps	:	1	Length	:	421 mm
Phm Type	:	C	Height	:	0 mm

Photometric Results

Lumens(lm)	:	40000.00	Central intensity(cd)	:	14745.080
Efficiency(%)	:	100.00%	Maximum intensity(cd)	:	27805.620
Luminous Efficacy(lm/W)	:	160.00	Angle of maximum intensity	:	C=180.0 γ =38.5
IES Classification	:	TypeI	Max Cd(At 90°Vert)	:	13.652
Longitudinal Classification	:	VeryShort	Max Cd(80 to 90°Vert)	:	327.264
Cut Off Classification	:	FullCutoff			
Beam Angle(50%Imax)	:	[C0/180]Total=57.7 [C90/270]Total=98.8			
Field angle(10%Imax)	:	[C0/180]Total=116.1 [C90/270]Total=137.7			
Street Side UpWard Lumens	:	- -of Lamp 0.00%of Luminaire			
Street Side DownWard Lumens	:	49.18%of Lamp 49.18%of Luminaire			
House Side UpWard Lumens	:	- -of lamp 0.00%of Luminaire			
House Side DownWard Lumens	:	50.82%of Lamp 50.82%of Luminaire			

SLI: 4.980 (C Flash Area: 0.025), Throw: 113.3 (long), Spread: 0.0 (narrow), Control: 4.980 (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	14745.077	0.000	0	0.00%	0.00%
0.5	14743.007	3.527	3.527	0.01%	0.01%
1.0	14742.827	10.581	14.109	0.03%	0.04%
1.5	14746.696	17.637	31.745	0.04%	0.08%
2.0	14745.347	24.692	56.437	0.06%	0.14%
2.5	14746.876	31.743	88.18	0.08%	0.22%
3.0	14749.846	38.798	126.979	0.10%	0.32%
3.5	14749.936	45.850	172.829	0.11%	0.43%
4.0	14752.905	52.900	225.729	0.13%	0.56%
4.5	14754.345	59.950	285.68	0.15%	0.71%
5.0	14759.924	67.004	352.684	0.17%	0.88%
5.5	14759.294	74.051	426.735	0.19%	1.07%
6.0	14762.354	81.087	507.822	0.20%	1.27%
6.5	14767.483	88.136	595.958	0.22%	1.49%
7.0	14773.872	95.192	691.15	0.24%	1.73%
7.5	14779.181	102.248	793.398	0.26%	1.98%
8.0	14786.020	109.303	902.701	0.27%	2.26%
8.5	14793.579	116.364	1019.064	0.29%	2.55%
9.0	14800.058	123.421	1142.486	0.31%	2.86%
9.5	14804.197	130.461	1272.947	0.33%	3.18%
10.0	14812.566	137.505	1410.451	0.34%	3.53%
10.5	14812.026	144.521	1554.972	0.36%	3.89%
11.0	14813.916	151.497	1706.469	0.38%	4.27%
11.5	14816.166	158.476	1864.945	0.40%	4.66%
12.0	14816.165	165.435	2030.381	0.41%	5.08%
12.5	14814.816	172.362	2202.743	0.43%	5.51%
13.0	14812.926	179.263	2382.006	0.45%	5.96%
13.5	14811.576	186.150	2568.156	0.47%	6.42%
14.0	14811.576	193.033	2761.188	0.48%	6.90%
14.5	14807.797	199.884	2961.072	0.50%	7.40%
15.0	14801.498	206.674	3167.746	0.52%	7.92%
15.5	14797.088	213.439	3381.185	0.53%	8.45%
16.0	14791.689	220.190	3601.375	0.55%	9.00%
16.5	14782.151	226.880	3828.255	0.57%	9.57%
17.0	14769.886	233.492	4061.747	0.58%	10.15%
17.5	14759.861	240.072	4301.819	0.60%	10.75%
18.0	14749.459	246.639	4548.458	0.62%	11.37%
18.5	14735.610	253.145	4801.603	0.63%	12.00%

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	14724.065	259.611	5061.214	0.65%	12.65%
19.5	14709.901	266.043	5327.256	0.67%	13.32%
20.0	14693.200	272.395	5599.651	0.68%	14.00%
20.5	14675.104	278.675	5878.326	0.70%	14.70%
21.0	14660.490	284.938	6163.264	0.71%	15.41%
21.5	14644.590	291.187	6454.452	0.73%	16.14%
22.0	14628.320	297.384	6751.835	0.74%	16.88%
22.5	14612.546	303.545	7055.38	0.76%	17.64%
23.0	14592.578	309.629	7365.009	0.77%	18.41%
23.5	14576.038	315.665	7680.674	0.79%	19.20%
24.0	14555.989	321.661	8002.335	0.80%	20.01%
24.5	14532.575	327.539	8329.874	0.82%	20.82%
25.0	14511.617	333.362	8663.236	0.83%	21.66%
25.5	14490.894	339.172	9002.409	0.85%	22.51%
26.0	14472.744	344.972	9347.381	0.86%	23.37%
26.5	14445.982	350.656	9698.037	0.88%	24.25%
27.0	14421.902	356.220	10054.257	0.89%	25.14%
27.5	14398.145	361.773	10416.03	0.90%	26.04%
28.0	14370.412	367.232	10783.262	0.92%	26.96%
28.5	14343.497	372.600	11155.862	0.93%	27.89%
29.0	14313.388	377.885	11533.747	0.94%	28.83%
29.5	14277.609	382.999	11916.746	0.96%	29.79%
30.0	14244.953	388.021	12304.767	0.97%	30.76%
30.5	14210.201	393.000	12697.767	0.98%	31.74%
31.0	14176.330	397.904	13095.671	0.99%	32.74%
31.5	14142.045	402.756	13498.427	1.01%	33.75%
32.0	14102.740	407.471	13905.897	1.02%	34.76%
32.5	14065.441	412.081	14317.978	1.03%	35.79%
33.0	14023.921	416.595	14734.573	1.04%	36.84%
33.5	13978.865	420.930	15155.504	1.05%	37.89%
34.0	13940.172	425.241	15580.745	1.06%	38.95%
34.5	13897.005	429.516	16010.26	1.07%	40.03%
35.0	13849.871	433.593	16443.853	1.08%	41.11%
35.5	13803.807	437.556	16881.41	1.09%	42.20%
36.0	13754.864	441.421	17322.83	1.10%	43.31%
36.5	13700.116	445.074	17767.904	1.11%	44.42%
37.0	13644.973	448.551	18216.455	1.12%	45.54%
37.5	13583.783	451.846	18668.301	1.13%	46.67%

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	13517.886	454.881	19123.181	1.14%	47.81%
38.5	13449.434	457.710	19580.891	1.14%	48.95%
39.0	13378.327	460.364	20041.255	1.15%	50.10%
39.5	13301.497	462.786	20504.041	1.16%	51.26%
40.0	13218.305	464.906	20968.947	1.16%	52.42%
40.5	13130.839	466.743	21435.691	1.17%	53.59%
41.0	13039.296	468.333	21904.024	1.17%	54.76%
41.5	12937.253	469.559	22373.584	1.17%	55.93%
42.0	12830.736	470.407	22843.99	1.18%	57.11%
42.5	12715.455	470.900	23314.89	1.18%	58.29%
43.0	12591.230	470.949	23785.838	1.18%	59.46%
43.5	12460.202	470.582	24256.42	1.18%	60.64%
44.0	12320.454	469.796	24726.216	1.17%	61.82%
44.5	12173.570	468.577	25194.793	1.17%	62.99%
45.0	12014.106	466.844	25661.637	1.17%	64.15%
45.5	11848.424	464.605	26126.242	1.16%	65.32%
46.0	11672.655	461.901	26588.143	1.15%	66.47%
46.5	11487.482	458.662	27046.805	1.15%	67.62%
47.0	11295.965	454.954	27501.76	1.14%	68.75%
47.5	11087.675	450.623	27952.383	1.13%	69.88%
48.0	10877.099	445.741	28398.124	1.11%	71.00%
48.5	10656.499	440.438	28838.561	1.10%	72.10%
49.0	10423.157	434.495	29273.056	1.09%	73.18%
49.5	10183.245	427.975	29701.031	1.07%	74.25%
50.0	9928.604	420.828	30121.859	1.05%	75.30%
50.5	9667.636	413.053	30534.912	1.03%	76.34%
51.0	9397.831	404.766	30939.678	1.01%	77.35%
51.5	9122.888	395.990	31335.668	0.99%	78.34%
52.0	8841.908	386.779	31722.447	0.97%	79.31%
52.5	8559.307	377.208	32099.656	0.94%	80.25%
53.0	8278.912	367.457	32467.112	0.92%	81.17%
53.5	7996.572	357.520	32824.632	0.89%	82.06%
54.0	7714.232	347.351	33171.983	0.87%	82.93%
54.5	7432.451	337.009	33508.992	0.84%	83.77%
55.0	7144.595	326.360	33835.352	0.82%	84.59%
55.5	6855.750	315.370	34150.722	0.79%	85.38%
56.0	6564.646	304.124	34454.846	0.76%	86.14%
56.5	6282.333	292.849	34747.695	0.73%	86.87%

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	6003.206	281.673	35029.367	0.70%	87.57%
57.5	5728.452	270.503	35299.87	0.68%	88.25%
58.0	5471.930	259.692	35559.562	0.65%	88.90%
58.5	5231.344	249.523	35809.086	0.62%	89.52%
59.0	4991.964	239.612	36048.698	0.60%	90.12%
59.5	4759.044	229.744	36278.442	0.57%	90.70%
60.0	4529.022	219.964	36498.406	0.55%	91.25%
60.5	4308.548	210.353	36708.759	0.53%	91.77%
61.0	4092.690	200.957	36909.715	0.50%	92.27%
61.5	3889.619	191.862	37101.577	0.48%	92.75%
62.0	3694.197	183.149	37284.727	0.46%	93.21%
62.5	3509.924	174.789	37459.516	0.44%	93.65%
63.0	3328.855	166.680	37626.196	0.42%	94.07%
63.5	3150.665	158.628	37784.824	0.40%	94.46%
64.0	2982.868	150.813	37935.637	0.38%	94.84%
64.5	2814.954	143.166	38078.803	0.36%	95.20%
65.0	2652.944	135.582	38214.385	0.34%	95.54%
65.5	2497.161	128.223	38342.608	0.32%	95.86%
66.0	2345.750	121.055	38463.663	0.30%	96.16%
66.5	2199.100	114.047	38577.711	0.29%	96.44%
67.0	2058.534	107.246	38684.957	0.27%	96.71%
67.5	1924.104	100.691	38785.648	0.25%	96.96%
68.0	1791.186	94.272	38879.92	0.24%	97.20%
68.5	1659.492	87.867	38967.787	0.22%	97.42%
69.0	1530.497	81.509	39049.296	0.20%	97.62%
69.5	1407.537	75.323	39124.619	0.19%	97.81%
70.0	1293.044	69.462	39194.081	0.17%	97.99%
70.5	1195.667	64.216	39258.296	0.16%	98.15%
71.0	1107.118	59.602	39317.899	0.15%	98.29%
71.5	1023.215	55.305	39373.203	0.14%	98.43%
72.0	947.232	51.303	39424.507	0.13%	98.56%
72.5	878.431	47.669	39472.175	0.12%	98.68%
73.0	817.193	44.395	39516.571	0.11%	98.79%
73.5	761.909	41.455	39558.026	0.10%	98.90%
74.0	711.986	38.793	39596.819	0.10%	98.99%
74.5	664.832	36.329	39633.148	0.09%	99.08%
75.0	620.973	34.010	39667.158	0.09%	99.17%
75.5	579.373	31.824	39698.981	0.08%	99.25%

Zonal flux distribution table

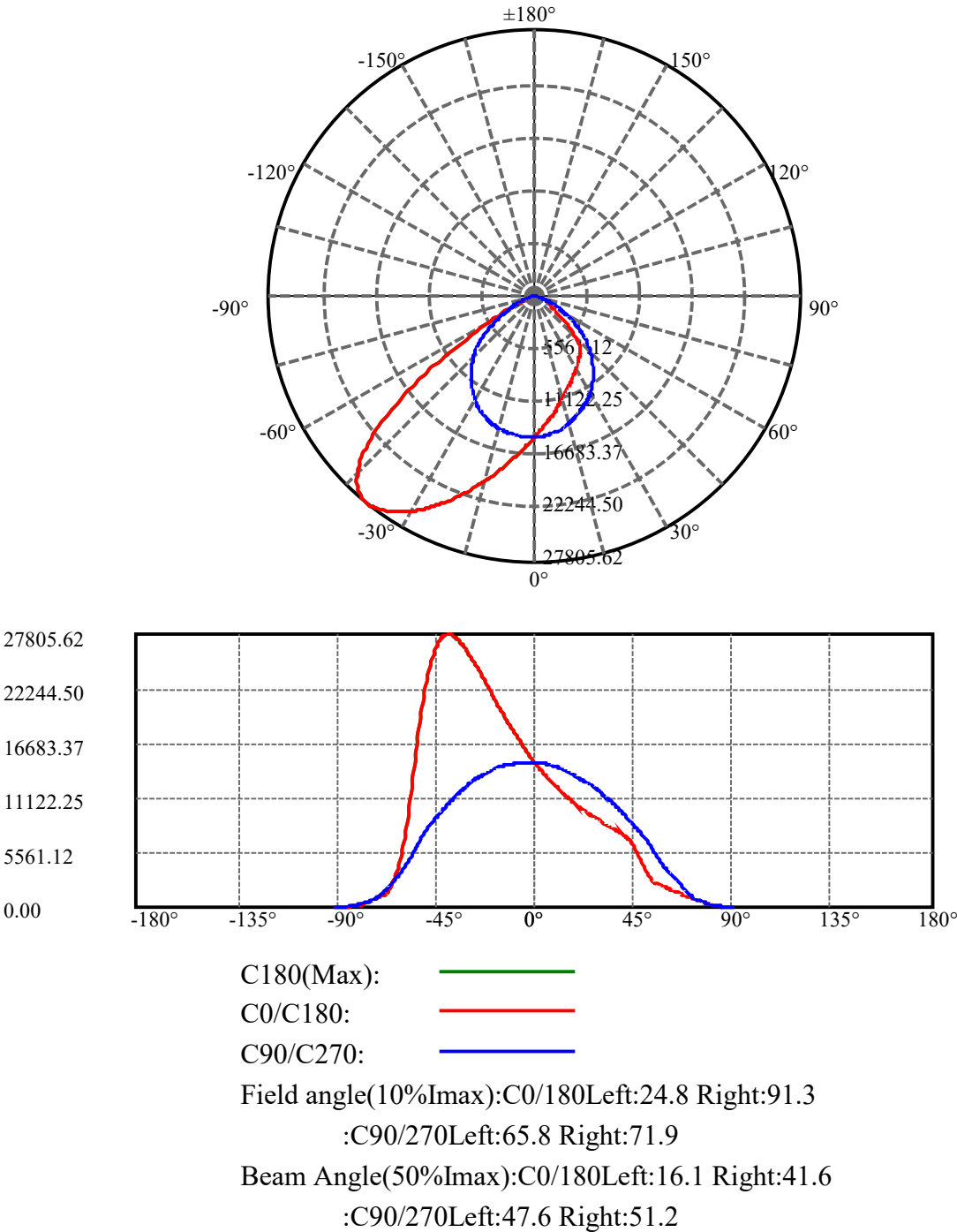
Appendix Page: 6 Total:18

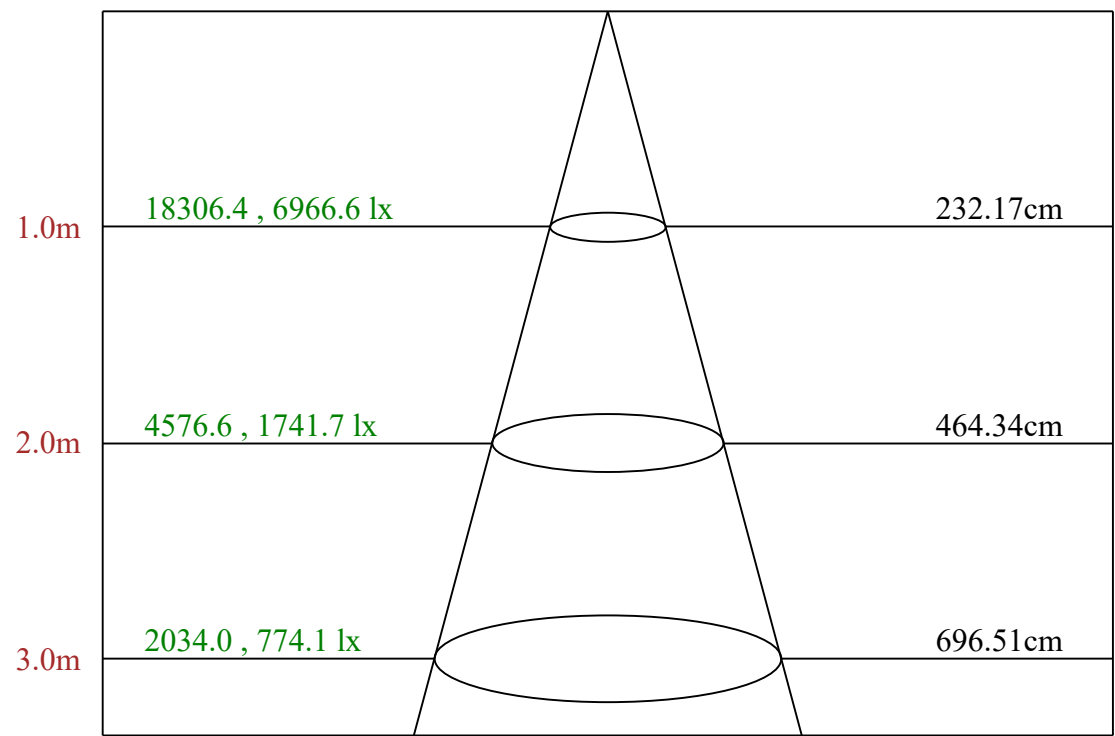
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	538.819	29.713	39728.694	0.07%	99.32%
76.5	500.606	27.680	39756.373	0.07%	99.39%
77.0	463.875	25.738	39782.111	0.06%	99.46%
77.5	428.936	23.873	39805.984	0.06%	99.51%
78.0	394.583	22.063	39828.048	0.06%	99.57%
78.5	361.958	20.306	39848.354	0.05%	99.62%
79.0	330.661	18.624	39866.978	0.05%	99.67%
79.5	300.881	17.010	39883.988	0.04%	99.71%
80.0	272.554	15.470	39899.458	0.04%	99.75%
80.5	245.468	13.997	39913.454	0.03%	99.78%
81.0	219.069	12.570	39926.024	0.03%	99.82%
81.5	194.387	11.203	39937.228	0.03%	99.84%
82.0	171.458	9.926	39947.154	0.02%	99.87%
82.5	150.318	8.741	39955.895	0.02%	99.89%
83.0	130.612	7.640	39963.535	0.02%	99.91%
83.5	112.189	6.610	39970.145	0.02%	99.93%
84.0	95.468	5.659	39975.804	0.01%	99.94%
84.5	80.519	4.800	39980.605	0.01%	99.95%
85.0	66.836	4.023	39984.628	0.01%	99.96%
85.5	54.925	3.327	39987.954	0.01%	99.97%
86.0	44.544	2.719	39990.674	0.01%	99.98%
86.5	35.768	2.197	39992.871	0.01%	99.98%
87.0	28.700	1.765	39994.636	0.00%	99.99%
87.5	23.090	1.418	39996.054	0.00%	99.99%
88.0	18.682	1.144	39997.198	0.00%	99.99%
88.5	15.157	0.927	39998.125	0.00%	100.00%
89.0	12.220	0.750	39998.876	0.00%	100.00%
89.5	9.999	0.609	39999.485	0.00%	100.00%
90.0	8.750	0.514	39999.999	0.00%	100.00%

ZONAL LUMEN SUMMARY			
Zone	Lumens	%Lamp	%Fixt
0-30	12304.77	30.76%	30.76%
0-40	20968.95	52.42%	52.42%
0-60	36498.41	91.25%	91.25%
0-90	39999.48	100.00%	100.00%
0-120	39999.48	100.00%	100.00%
0-180	40000.00	100.00%	100.00%
60-90	3501.08	8.75%	8.75%
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%
0-52.37	32000.00	80.00%	80.00%

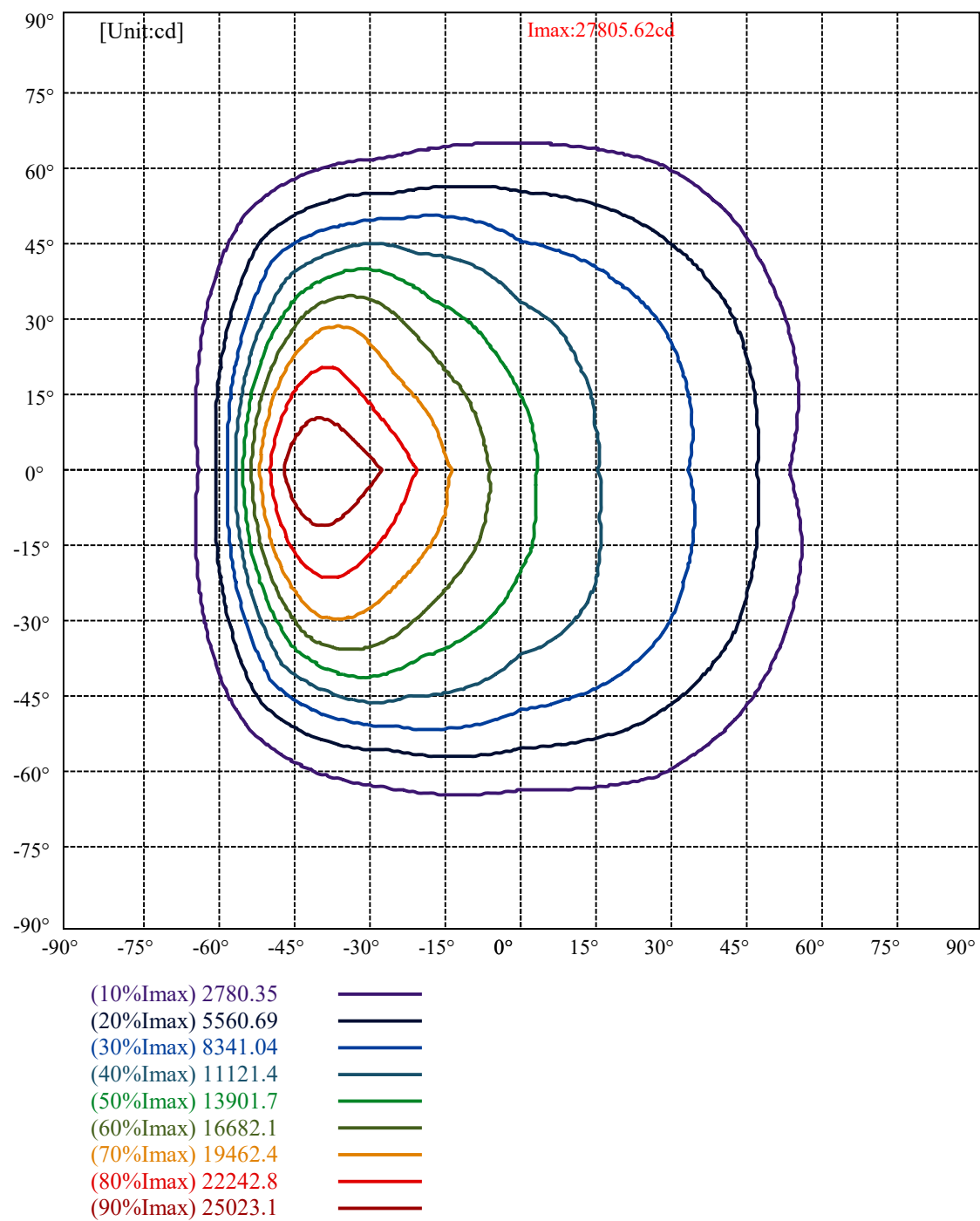
ZONAL LUMEN SUMMARY

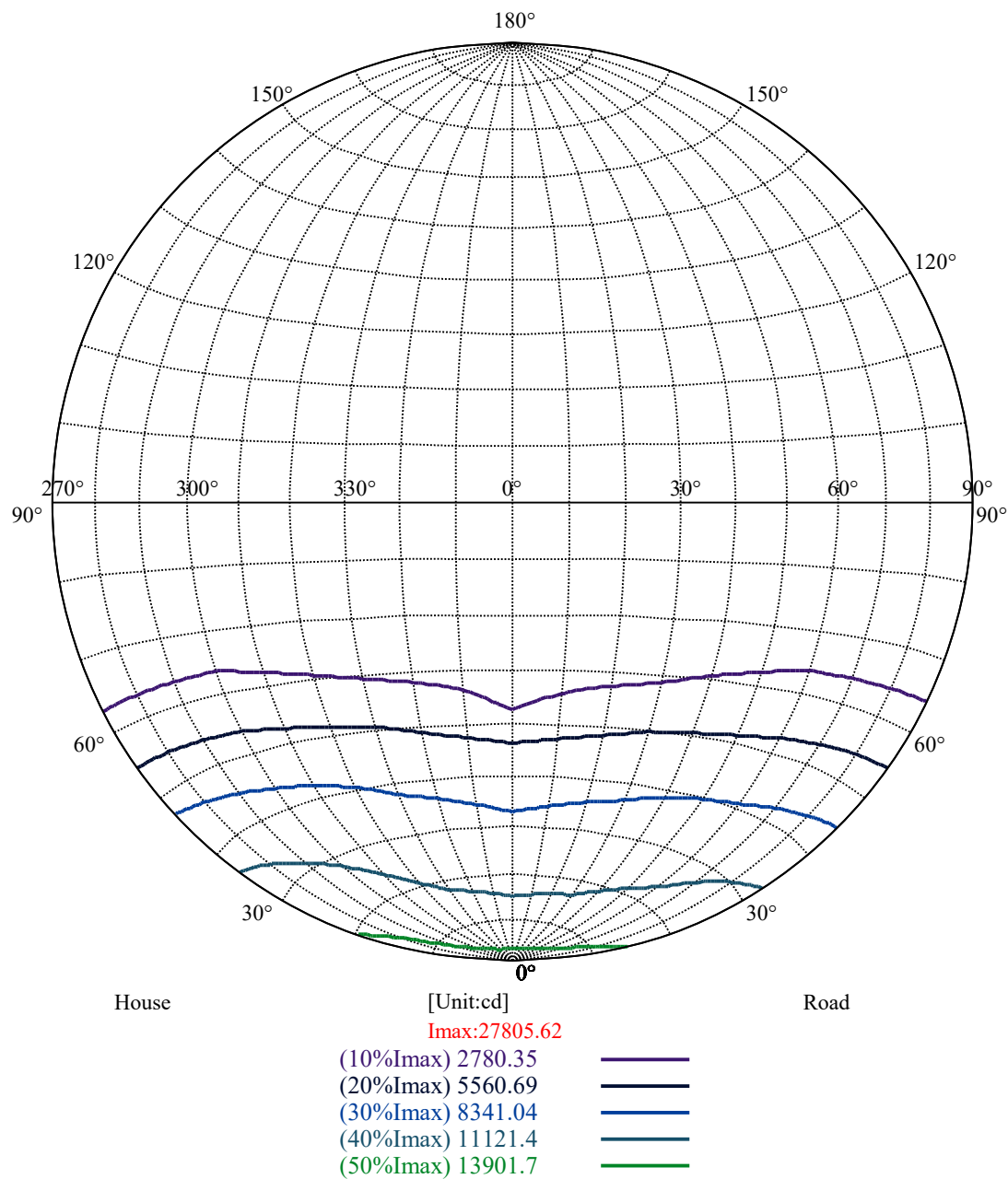
0-10	1410.45
10-20	4189.20
20-30	6705.12
30-40	8664.18
40-50	9152.91
50-60	6376.55
60-70	2695.67
70-80	705.38
80-90	100.03
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

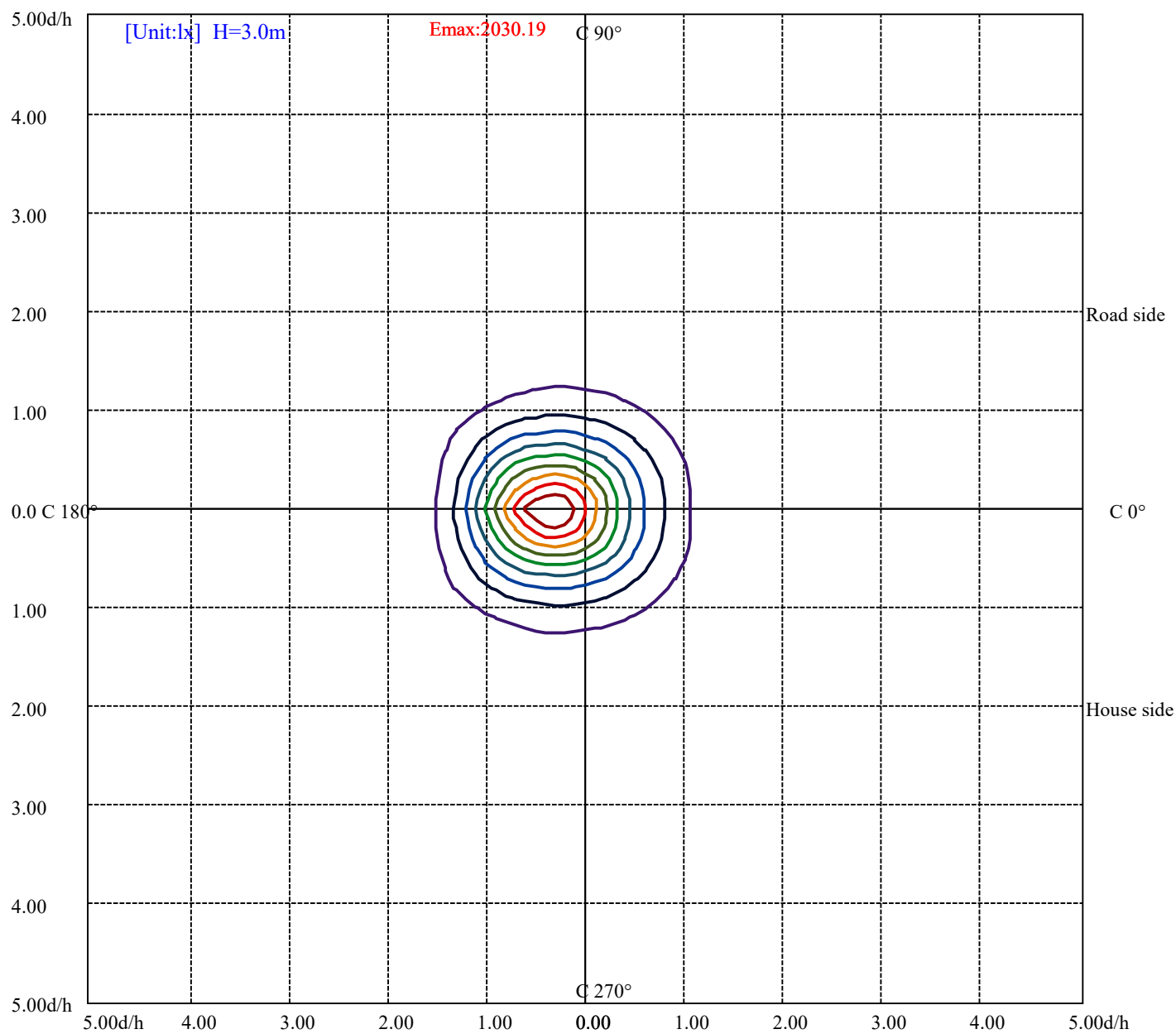




Max , Ave Beam angle of C180 plane 98.51







Intensity data(cd)

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C/γ(°)	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0
0.0	14745.08	14620.90	14480.52	14337.98	14203.00	14069.10	13937.36	13795.91	13659.85
30.0	14745.08	14655.45	14535.59	14416.81	14296.95	14173.85	14062.62	13947.08	13829.38
60.0	14745.08	14660.85	14589.58	14520.47	14441.64	14360.66	14298.03	14224.60	14147.93
90.0	14745.08	14734.28	14727.80	14721.32	14707.28	14694.33	14688.93	14668.41	14648.97
120.0	14745.08	14794.75	14859.54	14932.97	14991.28	15051.75	15107.90	15167.29	15216.96
150.0	14745.08	14816.35	14939.45	15073.35	15199.69	15315.23	15439.41	15554.95	15685.61
180.0	14745.08	14918.93	15056.07	15208.32	15357.34	15522.55	15667.25	15828.15	16003.08
210.0	14745.08	14925.41	15058.23	15194.29	15313.07	15443.73	15580.87	15721.24	15864.86
240.0	14745.08	14828.22	14891.93	14969.68	15040.95	15120.86	15196.45	15265.56	15336.82
270.0	14745.08	14738.60	14734.28	14742.92	14745.08	14749.40	14744.00	14741.84	14732.12
300.0	14745.08	14652.21	14590.66	14517.23	14444.88	14379.01	14310.99	14236.48	14166.29
330.0	14745.08	14570.14	14450.28	14325.02	14203.00	14082.06	13964.36	13847.74	13742.99
360.0	14745.08	14620.90	14480.52	14337.98	14203.00	14069.10	13937.36	13795.91	13659.85

C/γ(°)	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5
0.0	13531.35	13416.89	13285.15	13171.77	13062.70	12956.88	12853.22	12748.47	12632.93
30.0	13722.48	13612.34	13509.75	13397.45	13292.71	13203.08	13101.58	13010.87	12911.53
60.0	14062.62	13992.44	13919.01	13846.66	13768.91	13693.32	13612.34	13538.91	13461.16
90.0	14631.69	14605.78	14574.46	14546.39	14524.79	14507.51	14465.40	14430.85	14409.25
120.0	15266.63	15320.63	15353.02	15404.85	15437.25	15473.96	15513.92	15557.11	15598.14
150.0	15813.03	15940.45	16076.51	16206.09	16331.35	16464.17	16591.59	16721.17	16847.51
180.0	16157.49	16343.23	16505.20	16677.97	16850.75	17033.24	17207.09	17383.10	17576.39
210.0	16017.12	16158.57	16300.03	16452.29	16603.46	16747.08	16909.06	17056.99	17199.53
240.0	15408.09	15470.72	15535.51	15598.14	15671.57	15735.28	15810.87	15858.38	15935.05
270.0	14726.72	14714.84	14698.64	14684.61	14667.33	14655.45	14638.17	14634.93	14614.42
300.0	14086.38	14021.59	13942.76	13863.94	13798.07	13727.88	13656.61	13589.66	13528.11
330.0	13628.53	13521.63	13411.49	13298.11	13200.92	13088.62	12990.35	12901.81	12808.94
360.0	13531.35	13416.89	13285.15	13171.77	13062.70	12956.88	12853.22	12748.47	12632.93

C/γ(°)	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0
0.0	12518.47	12410.48	12305.74	12180.48	12060.62	11940.76	11829.54	11699.96	11589.81
30.0	12803.54	12703.12	12595.14	12482.83	12375.93	12258.23	12141.61	12030.38	11918.08
60.0	13380.17	13303.50	13237.63	13156.65	13079.98	12991.43	12915.85	12831.62	12744.15
90.0	14372.54	14341.22	14305.59	14265.63	14223.52	14190.04	14153.33	14105.82	14049.67
120.0	15637.02	15685.61	15718.00	15752.56	15793.59	15830.31	15859.46	15891.86	15909.13
150.0	16977.09	17113.14	17243.80	17365.82	17488.92	17612.03	17741.60	17862.55	17977.01
180.0	17744.84	17921.94	18107.67	18297.72	18478.05	18660.54	18844.11	19034.16	19238.25
210.0	17359.35	17499.72	17642.26	17776.16	17915.46	18064.47	18183.26	18324.71	18457.53
240.0	16007.40	16060.31	16125.10	16184.49	16241.72	16300.03	16338.91	16389.66	16442.57
270.0	14604.70	14584.18	14585.26	14559.35	14539.91	14522.63	14503.20	14481.60	14444.88
300.0	13476.28	13403.93	13352.10	13287.31	13233.32	13180.40	13131.81	13068.10	13016.27
330.0	12719.32	12623.21	12532.51	12435.32	12335.98	12243.11	12151.33	12057.38	11967.75
360.0	12518.47	12410.48	12305.74	12180.48	12060.62	11940.76	11829.54	11699.96	11589.81

C/γ(°)	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5
0.0	11479.67	11378.17	11283.14	11178.40	11079.05	10979.71	10891.16	10793.66	10697.12
30.0	11806.86	11699.96	11587.65	11486.15	11385.73	11292.86	11195.68	11099.57	11012.11
60.0	12666.40	12588.66	12501.19	12416.96	12330.58	12251.75	12167.52	12083.30	11994.75
90.0	14006.47	13951.40	13882.29	13829.38	13784.03	13718.16	13652.29	13583.18	13524.87
120.0	15932.89	15948.01	15957.73	15965.28	15968.52	15979.32	15967.44	15962.05	15964.20
150.0	18087.15	18213.49	18336.59	18442.41	18562.28	18655.14	18776.08	18860.31	18939.14
180.0	19431.54	19630.23	19825.68	20013.57	20217.65	20405.55	20594.52	20792.12	21004.85
210.0	18594.67	18733.97	18853.83	18972.61	19094.63	19219.89	19345.15	19441.26	19549.24
240.0	16464.17	16492.24	16532.20	16548.39	16566.75	16582.95	16593.75	16593.75	16603.46
270.0	14422.21	14398.45	14367.14	14331.50	14288.31	14252.67	14198.68	14157.65	14111.22
300.0	12978.48	12926.64	12872.65	12827.30	12772.23	12721.48	12649.13	12590.82	12522.79
330.0	11868.41	11777.70	11693.48	11606.01	11515.31	11440.80	11354.41	11280.98	11194.60
360.0	11479.67	11378.17	11283.14	11178.40	11079.05	10979.71	10891.16	10793.66	10697.12

Intensity data(cd)

Appendix Page: 14 Total:18

C/γ(°)	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0
0.0	10602.53	10511.93	10420.90	10326.41	10248.56	10164.44	10079.46	9996.53	9922.99
30.0	10932.20	10835.01	10748.63	10660.19	10585.79	10508.04	10426.84	10344.55	10264.43
60.0	11927.80	11851.13	11778.78	11690.24	11620.05	11549.86	11475.35	11393.29	11322.02
90.0	13452.52	13384.49	13307.82	13235.47	13159.89	13082.14	13003.31	12935.28	12869.41
120.0	15944.77	15928.57	15912.37	15898.34	15862.70	15824.91	15798.99	15752.56	15713.68
150.0	19025.52	19119.47	19192.90	19258.77	19327.87	19403.46	19463.93	19547.08	19592.43
180.0	21206.78	21407.63	21638.71	21847.12	22062.00	22258.53	22471.26	22696.94	22915.07
210.0	19668.02	19755.49	19869.95	19982.25	20072.96	20177.70	20295.40	20394.75	20488.69
240.0	16600.22	16599.14	16587.27	16588.35	16569.99	16537.59	16517.08	16498.72	16486.84
270.0	14063.70	14023.75	13978.40	13925.49	13868.26	13815.34	13766.75	13699.80	13636.09
300.0	12455.84	12378.09	12306.82	12237.71	12171.84	12097.33	12023.91	11958.04	11894.33
330.0	11113.61	11032.62	10946.24	10868.49	10768.50	10681.89	10603.61	10517.54	10433.86
360.0	10602.53	10511.93	10420.90	10326.41	10248.56	10164.44	10079.46	9996.53	9922.99

C/γ(°)	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5
0.0	9849.56	9767.82	9693.74	9610.81	9527.77	9445.60	9362.99	9293.45	9219.26
30.0	10192.62	10117.03	10042.63	9965.21	9894.27	9822.13	9747.41	9681.22	9619.99
60.0	11248.59	11179.48	11102.81	11027.22	10957.03	10884.69	10804.78	10734.05	10663.00
90.0	12797.06	12729.03	12669.64	12608.09	12540.06	12478.51	12416.96	12355.41	12287.38
120.0	15664.01	15612.18	15575.47	15532.27	15484.76	15438.33	15411.33	15375.70	15347.62
150.0	19668.02	19718.77	19772.76	19827.84	19869.95	19925.02	19972.53	20009.25	20035.16
180.0	23127.80	23323.25	23538.13	23733.58	23929.03	24108.28	24309.13	24526.18	24697.87
210.0	20583.72	20669.02	20748.93	20829.92	20887.15	20955.18	21004.85	21078.28	21116.07
240.0	16454.45	16423.13	16400.46	16366.98	16322.71	16303.27	16269.80	16240.64	16192.05
270.0	13575.62	13515.15	13449.28	13381.25	13315.38	13255.99	13184.72	13114.53	13042.19
300.0	11833.86	11777.70	11719.39	11661.08	11603.85	11539.06	11483.99	11419.20	11344.69
330.0	10355.24	10278.36	10199.21	10127.62	10058.94	9983.35	9922.23	9845.03	9786.50
360.0	9849.56	9767.82	9693.74	9610.81	9527.77	9445.60	9362.99	9293.45	9219.26

C/γ(°)	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0
0.0	9163.00	9104.80	9039.47	8971.98	8896.18	8821.56	8749.86	8673.52	8607.54
30.0	9550.45	9489.11	9427.13	9366.01	9310.08	9245.50	9179.20	9124.99	9072.84
60.0	10588.16	10516.36	10441.85	10375.01	10313.46	10246.72	10176.42	10112.93	10046.85
90.0	12220.43	12144.85	12066.02	11969.91	11873.81	11777.70	11682.68	11580.10	11473.19
120.0	15320.63	15278.51	15243.96	15208.32	15173.77	15119.78	15066.87	15015.03	14966.44
150.0	20074.04	20113.99	20144.23	20180.94	20218.73	20260.85	20305.12	20337.52	20376.39
180.0	24881.44	25075.81	25255.06	25441.87	25616.80	25766.90	25939.67	26105.97	26263.62
210.0	21158.19	21203.54	21235.93	21294.25	21330.96	21366.59	21395.75	21418.43	21446.50
240.0	16153.18	16107.82	16058.15	16010.64	15962.05	15903.73	15849.74	15787.11	15727.72
270.0	12964.44	12880.21	12800.30	12717.16	12622.13	12522.79	12432.08	12339.22	12246.35
300.0	11270.18	11205.39	11136.29	11059.62	10982.95	10900.88	10827.45	10757.91	10680.92
330.0	9718.69	9657.35	9596.56	9526.26	9459.74	9398.30	9334.59	9269.69	9207.60
360.0	9163.00	9104.80	9039.47	8971.98	8896.18	8821.56	8749.86	8673.52	8607.54

C/γ(°)	31.5	32.0	32.5	33.0	33.5	34.0	34.5	35.0	35.5
0.0	8539.73	8466.95	8407.45	8344.60	8280.24	8220.75	8169.45	8109.85	8049.27
30.0	9009.99	8940.88	8878.36	8823.83	8755.58	8696.95	8638.10	8568.88	8508.84
60.0	9973.74	9901.18	9836.06	9756.26	9684.67	9600.55	9521.08	9439.77	9362.99
90.0	11385.73	11286.38	11193.52	11103.89	10999.15	10912.76	10812.34	10700.03	10600.91
120.0	14898.41	14832.54	14764.51	14694.33	14613.34	14540.99	14457.84	14382.25	14285.07
150.0	20415.26	20471.41	20513.53	20570.76	20609.63	20663.62	20700.34	20744.61	20815.88
180.0	26420.20	26582.17	26734.43	26846.73	26963.35	27111.29	27227.91	27339.13	27449.28
210.0	21481.06	21504.81	21530.73	21560.96	21581.48	21598.76	21636.55	21649.51	21657.07
240.0	15667.25	15585.18	15502.04	15415.65	15335.74	15258.00	15169.45	15080.90	14996.68
270.0	12155.65	12055.22	11962.36	11858.69	11759.35	11656.76	11550.94	11442.96	11325.26
300.0	10609.00	10529.64	10454.37	10368.74	10284.52	10207.96	10125.24	10044.79	9961.86
330.0	9148.53	9076.51	9007.94	8942.61	8879.33	8813.68	8754.83	8695.76	8632.59
360.0	8539.73	8466.95	8407.45	8344.60	8280.24	8220.75	8169.45	8109.85	8049.27

C/γ(°)	36.0	36.5	37.0	37.5	38.0	38.5	39.0	39.5	40.0
0.0	7981.99	7916.02	7842.37	7768.08	7691.30	7619.60	7546.61	7473.39	7400.94
30.0	8444.16	8379.80	8319.01	8250.98	8182.41	8115.35	8042.03	7967.96	7898.74
60.0	9272.72	9188.49	9098.11	9006.54	8913.56	8805.80	8705.16	8611.21	8506.68
90.0	10498.11	10388.72	10271.34	10167.25	10051.49	9926.66	9804.42	9685.75	9562.00
120.0	14211.64	14114.46	14020.51	13931.97	13842.34	13728.96	13619.89	13500.03	13351.02
150.0	20872.03	20894.71	20949.78	20975.70	21000.53	21026.45	21066.40	21069.64	21083.68
180.0	27536.74	27614.49	27697.64	27744.07	27768.90	27805.62	27803.46	27785.10	27754.87
210.0	21678.66	21677.58	21676.50	21662.47	21654.91	21634.39	21619.27	21603.08	21570.68
240.0	14901.65	14823.90	14728.88	14644.65	14529.11	14423.29	14317.46	14196.52	14063.70
270.0	11201.08	11080.13	10964.59	10844.73	10717.96	10597.77	10481.26	10355.14	10230.20
300.0	9878.72	9801.40	9711.77	9619.77	9531.44	9445.06	9338.37	9238.70	9137.41
330.0	8580.87	8521.69	8459.17	8389.20	8330.67	8264.26	8195.59	8131.44	8059.74
360.0	7981.99	7916.02	7842.37	7768.08	7691.30	7619.60	7546.61	7473.39	7400.94

C/γ(°)	40.5	41.0	41.5	42.0	42.5	43.0	43.5	44.0	44.5
0.0	7322.65	7249.11	7164.56	7066.84	6959.72	6838.56	6708.23	6552.08	6388.60
30.0	7824.02	7745.73	7665.39	7583.54	7497.48	7417.89	7334.10	7241.56	7136.49
60.0	8405.94	8300.22	8196.02	8094.41	7988.47	7881.25	7772.83	7664.52	7552.33
90.0	9435.45	9312.67	9188.70	9060.20	8932.35	8810.01	8688.31	8569.53	8446.00
120.0	13211.72	13069.18	12902.89	12740.91	12584.34	12424.52	12249.59	12077.90	11911.60
150.0	21086.92	21071.80	21026.45	20967.06	20864.47	20752.17	20622.59	20480.05	20302.96
180.0	27700.88	27623.13	27512.99	27400.68	27262.46	27079.97	26893.16	26648.04	26402.92
210.0	21529.65	21473.50	21411.95	21345.00	21260.77	21150.63	21018.89	20882.83	20728.41
240.0	13930.89	13789.43	13649.05	13496.79	13334.82	13159.89	12986.03	12821.90	12651.29
270.0	10099.87	9982.81	9851.29	9727.97	9600.01	9467.30	9334.16	9202.96	9070.36
300.0	9032.67	8937.64	8834.20	8720.27	8613.16	8503.55	8396.76	8269.77	8153.47
330.0	7989.45	7916.34	7843.56	7765.16	7687.42	7609.02	7517.78	7434.31	7338.42
360.0	7322.65	7249.11	7164.56	7066.84	6959.72	6838.56	6708.23	6552.08	6388.60

C/γ(°)	45.0	45.5	46.0	46.5	47.0	47.5	48.0	48.5	49.0
0.0	6197.14	5990.03	5772.12	5544.49	5314.71	5078.66	4848.87	4611.63	4365.75
30.0	7029.48	6915.34	6783.60	6644.84	6495.93	6336.33	6176.74	6017.14	5857.54
60.0	7435.38	7322.97	7201.39	7080.66	6965.44	6834.35	6719.78	6584.16	6454.25
90.0	8319.87	8194.29	8070.11	7950.90	7834.92	7694.00	7558.70	7430.96	7286.91
120.0	11738.83	11568.22	11396.52	11216.19	11043.42	10866.33	10685.02	10507.82	10321.99
150.0	20107.51	19887.23	19651.82	19408.86	19122.71	18806.32	18481.29	18141.14	17744.84
180.0	26107.05	25804.69	25445.11	25063.93	24665.47	24190.35	23701.19	23179.63	22617.04
210.0	20563.20	20353.71	20165.82	19941.22	19701.50	19450.98	19190.74	18889.46	18587.11
240.0	12458.00	12293.86	12112.45	11932.12	11748.55	11557.42	11357.65	11162.20	10963.51
270.0	8944.56	8815.62	8676.00	8538.43	8394.17	8246.66	8092.46	7932.32	7761.28
300.0	8032.75	7910.94	7784.60	7648.65	7517.99	7384.63	7253.00	7111.33	6967.82
330.0	7235.51	7124.18	7012.31	6879.49	6746.78	6606.08	6459.76	6310.20	6149.85
360.0	6197.14	5990.03	5772.12	5544.49	5314.71	5078.66	4848.87	4611.63	4365.75

C/γ(°)	49.5	50.0	50.5	51.0	51.5	52.0	52.5	53.0	53.5
0.0	4127.11	3890.30	3656.41	3429.43	3224.16	3040.37	2875.16	2736.51	2610.60
30.0	5697.51	5521.93	5343.00	5174.33	5010.95	4852.11	4684.63	4525.46	4366.51
60.0	6329.21	6205.24	6078.47	5953.97	5829.79	5704.63	5581.64	5461.24	5335.55
90.0	7146.10	7000.32	6854.54	6700.99	6551.87	6394.75	6240.12	6085.49	5930.86
120.0	10119.30	9927.52	9718.58	9507.47	9288.16	9057.51	8812.17	8546.85	8264.37
150.0	17355.03	16942.53	16517.08	16052.75	15601.38	15139.21	14683.53	14255.91	13808.86
180.0	22014.49	21326.64	20627.99	19886.15	19110.83	18275.04	17431.69	16567.83	15711.52
210.0	18252.36	17876.58	17469.49	17037.56	16557.03	16078.67	15603.54	15129.50	14668.41
240.0	10750.25	10536.55	10331.06	10114.66	9892.65	9659.62	9404.89	9159.23	8902.12
270.0	7598.55	7424.80	7234.64	7046.21	6848.93	6648.73	6446.37	6232.89	6025.56
300.0	6818.15	6661.79	6514.40	6367.22	6223.06	6078.90	5934.85	5790.37	5639.63
330.0	5990.90	5829.03	5665.98	5503.25	5335.87	5173.36	5013.11	4855.67	4694.88
360.0	4127.11	3890.30	3656.41	3429.43	3224.16	3040.37	2875.16	2736.51	2610.60

Intensity data(cd)

Appendix Page: 16 Total:18

C/γ(°)	54.0	54.5	55.0	55.5	56.0	56.5	57.0	57.5	58.0
0.0	2549.69	2492.36	2435.02	2377.68	2337.08	2296.69	2250.80	2200.15	2149.19
30.0	4200.21	4038.67	3881.23	3731.46	3579.10	3426.19	3254.18	3075.25	2939.41
60.0	5210.07	5090.43	4963.98	4839.37	4713.24	4584.96	4461.97	4330.66	4206.05
90.0	5775.58	5597.51	5418.05	5243.22	5064.19	4890.87	4702.01	4525.57	4359.27
120.0	7967.85	7655.89	7343.28	7015.33	6702.50	6398.10	6097.15	5830.97	5572.68
150.0	13358.58	12935.28	12502.27	12098.41	11694.56	11298.26	10911.68	10529.64	10140.90
180.0	14837.94	13993.52	13091.86	12140.53	11153.56	10222.53	9315.69	8465.54	7735.90
210.0	14208.40	13744.07	13298.11	12862.93	12412.64	11983.95	11564.98	11137.37	10741.93
240.0	8620.93	8323.44	8000.24	7670.68	7331.29	6991.57	6688.68	6385.90	6083.11
270.0	5825.57	5619.65	5415.78	5213.42	5020.56	4832.35	4645.64	4469.96	4288.11
300.0	5480.89	5325.51	5172.49	5019.81	4866.04	4718.64	4564.87	4412.62	4271.48
330.0	4535.07	4373.10	4212.85	4056.17	3900.99	3743.88	3580.82	3377.82	3175.13
360.0	2549.69	2492.36	2435.02	2377.68	2337.08	2296.69	2250.80	2200.15	2149.19

C/γ(°)	58.5	59.0	59.5	60.0	60.5	61.0	61.5	62.0	62.5
0.0	2098.97	2045.95	1993.91	1942.94	1893.05	1844.57	1794.03	1745.01	1698.46
30.0	2835.09	2733.16	2639.10	2544.62	2452.83	2362.45	2274.88	2186.33	2102.11
60.0	4083.27	3956.93	3826.05	3700.04	3576.18	3450.38	3325.23	3200.72	3086.59
90.0	4198.49	4038.13	3893.76	3768.93	3635.36	3504.37	3392.29	3284.63	3177.18
120.0	5326.80	5091.72	4866.79	4664.00	4468.44	4283.04	4094.93	3909.96	3689.46
150.0	9780.34	9394.84	8991.85	8586.05	8130.90	7648.87	7198.47	6769.89	6402.53
180.0	7124.93	6513.97	5903.00	5298.83	4820.14	4349.02	3948.83	3582.98	3254.82
210.0	10299.63	9843.73	9378.32	8878.79	8373.11	7899.82	7447.26	7020.08	6631.02
240.0	5780.22	5478.09	5229.94	4997.24	4785.91	4590.68	4397.82	4209.39	4027.23
270.0	4107.03	3943.11	3787.61	3625.96	3476.73	3334.08	3194.57	3048.79	2900.53
300.0	4124.73	3981.44	3840.85	3701.44	3562.68	3429.76	3303.96	3181.40	3054.95
330.0	3016.61	2882.50	2757.35	2639.43	2527.23	2415.26	2303.17	2191.19	2094.22
360.0	2098.97	2045.95	1993.91	1942.94	1893.05	1844.57	1794.03	1745.01	1698.46

C/γ(°)	63.0	63.5	64.0	64.5	65.0	65.5	66.0	66.5	67.0
0.0	1651.06	1605.28	1560.14	1516.73	1471.38	1424.84	1378.30	1331.86	1287.59
30.0	2025.11	1950.17	1876.20	1806.77	1744.47	1681.40	1622.34	1566.08	1508.95
60.0	2964.57	2844.49	2734.45	2607.25	2500.89	2395.39	2289.89	2183.42	2069.28
90.0	3069.74	2958.63	2843.62	2722.25	2601.09	2472.81	2343.66	2211.38	2061.40
120.0	3446.06	3210.87	2992.10	2780.35	2580.69	2438.04	2295.83	2153.61	2029.43
150.0	6035.06	5668.35	5342.35	5000.69	4664.22	4332.06	4014.48	3690.75	3374.58
180.0	2959.60	2682.95	2420.33	2180.72	1959.68	1752.24	1572.77	1439.52	1351.84
210.0	6261.83	5897.49	5538.99	5177.03	4812.91	4449.76	4088.56	3735.24	3387.10
240.0	3822.06	3613.11	3418.09	3215.19	3009.27	2803.13	2610.17	2435.34	2273.58
270.0	2760.80	2614.05	2497.54	2382.21	2266.89	2151.56	2031.70	1903.20	1782.37
300.0	2943.08	2835.31	2719.44	2613.19	2516.44	2419.14	2313.00	2207.71	2097.25
330.0	2007.30	1927.28	1851.15	1777.08	1707.43	1645.55	1588.32	1531.09	1479.04
360.0	1651.06	1605.28	1560.14	1516.73	1471.38	1424.84	1378.30	1331.86	1287.59

C/γ(°)	67.5	68.0	68.5	69.0	69.5	70.0	70.5	71.0	71.5
0.0	1245.15	1200.34	1153.58	1111.15	1071.69	1031.80	993.18	956.04	916.34
30.0	1454.64	1399.57	1346.44	1292.45	1239.11	1186.84	1137.06	1088.47	1038.35
60.0	1943.26	1786.90	1613.16	1435.53	1291.15	1190.08	1116.22	1053.61	991.86
90.0	1933.33	1808.50	1684.75	1569.53	1453.99	1339.64	1234.25	1132.74	1036.65
120.0	1908.06	1804.29	1695.33	1599.66	1504.96	1405.62	1306.92	1208.22	1111.69
150.0	3070.28	2767.06	2468.17	2182.98	1903.31	1656.89	1443.52	1270.31	1125.72
180.0	1293.31	1249.90	1213.08	1174.10	1131.34	1081.34	1024.32	952.01	877.23
210.0	3048.68	2714.58	2422.81	2132.56	1842.19	1551.82	1359.94	1208.87	1070.59
240.0	2123.16	1986.67	1854.61	1724.16	1607.65	1495.56	1389.09	1286.19	1186.95
270.0	1662.07	1549.56	1440.93	1333.91	1230.57	1132.63	1041.74	960.97	883.67
300.0	1979.44	1847.91	1690.04	1525.91	1376.57	1255.19	1157.15	1068.07	984.18
330.0	1427.86	1378.94	1331.00	1284.03	1237.92	1189.11	1144.62	1099.92	1055.35
360.0	1245.15	1200.34	1153.58	1111.15	1071.69	1031.80	993.18	956.04	916.34

C/γ(°)	72.0	72.5	73.0	73.5	74.0	74.5	75.0	75.5	76.0
0.0	874.57	832.97	790.54	747.97	704.85	660.44	615.90	570.09	525.90
30.0	988.08	934.52	886.98	839.57	796.21	752.20	707.33	663.97	620.68
60.0	927.74	869.35	818.37	773.22	731.44	693.37	656.35	620.20	585.02
90.0	949.06	874.53	808.30	749.60	697.25	652.81	608.38	563.95	519.65
120.0	1023.70	944.86	868.27	805.16	749.22	696.83	648.41	604.05	562.34
150.0	1013.13	923.05	846.17	773.61	715.93	664.84	618.45	572.06	525.96
180.0	803.88	733.22	676.42	619.63	562.84	506.19	465.30	428.79	395.09
210.0	956.29	856.20	774.21	712.07	660.72	612.26	566.95	527.39	491.10
240.0	1091.49	1003.70	920.57	844.85	779.39	719.89	665.20	618.04	570.90
270.0	817.70	758.90	706.95	660.72	617.56	576.92	539.38	504.79	470.85
300.0	911.07	848.56	796.59	751.40	708.43	668.59	631.38	594.17	556.96
330.0	1010.08	961.31	912.95	865.12	820.00	773.64	728.65	684.99	641.40
360.0	874.57	832.97	790.54	747.97	704.85	660.44	615.90	570.09	525.90

C/γ(°)	76.5	77.0	77.5	78.0	78.5	79.0	79.5	80.0	80.5
0.0	487.13	450.01	416.83	385.05	354.72	325.10	295.16	268.26	241.40
30.0	577.37	534.11	491.51	447.24	408.92	371.52	337.03	305.22	275.13
60.0	551.67	517.36	483.65	452.36	420.37	387.96	357.54	327.26	298.65
90.0	484.27	450.01	417.56	386.98	357.79	329.38	302.64	276.05	250.97
120.0	521.13	481.64	444.60	409.55	374.99	342.36	310.24	279.89	249.59
150.0	487.52	450.65	414.75	381.47	350.12	319.08	288.68	260.68	234.70
180.0	364.10	335.13	308.07	280.82	255.49	232.52	211.36	191.22	170.74
210.0	455.52	420.87	387.53	356.01	325.66	296.46	270.61	244.83	219.05
240.0	523.86	481.67	443.07	404.14	366.99	330.14	293.46	258.92	228.82
270.0	438.15	406.90	377.22	348.57	320.47	294.19	268.80	243.45	220.63
300.0	519.76	485.55	452.96	419.95	387.96	358.69	329.27	300.19	272.73
330.0	596.79	552.63	509.52	462.87	420.01	380.54	345.79	314.66	283.20
360.0	487.13	450.01	416.83	385.05	354.72	325.10	295.16	268.26	241.40

C/γ(°)	81.0	81.5	82.0	82.5	83.0	83.5	84.0	84.5	85.0
0.0	214.53	191.37	169.63	149.76	132.26	115.63	99.85	85.23	72.16
30.0	245.87	217.55	192.78	169.85	149.09	129.42	111.45	95.31	79.50
60.0	269.89	241.15	214.57	189.54	165.66	142.21	121.88	103.49	85.86
90.0	226.32	202.89	180.48	158.85	139.10	120.06	102.34	86.04	71.66
120.0	219.29	194.26	169.86	147.41	128.30	109.72	93.57	78.44	65.10
150.0	209.34	185.59	163.31	142.86	123.75	105.91	89.56	75.07	62.25
180.0	151.40	134.54	117.96	102.54	87.90	75.31	64.60	55.68	47.51
210.0	195.24	172.20	151.39	132.25	112.63	95.42	79.50	66.00	54.34
240.0	200.87	175.61	153.06	133.28	114.27	97.45	82.13	69.37	56.83
270.0	197.75	176.47	155.41	136.49	118.06	101.20	84.97	70.25	57.32
300.0	246.59	220.76	196.53	173.13	150.56	129.00	109.97	92.31	75.79
330.0	251.73	220.26	192.51	167.85	145.78	124.95	105.79	89.07	73.71
360.0	214.53	191.37	169.63	149.76	132.26	115.63	99.85	85.23	72.16

C/γ(°)	85.5	86.0	86.5	87.0	87.5	88.0	88.5	89.0	89.5
0.0	60.82	50.77	42.06	35.17	29.34	24.30	20.17	16.86	14.31
30.0	65.81	53.92	43.93	36.23	30.25	25.33	21.31	18.06	15.57
60.0	70.47	56.66	44.95	35.51	27.69	22.06	18.18	15.45	13.32
90.0	58.63	47.08	37.34	29.30	23.39	19.21	15.80	12.97	10.93
120.0	53.88	43.42	34.70	27.65	22.63	18.62	15.49	12.88	10.13
150.0	51.40	42.68	35.28	28.79	23.11	18.51	14.55	10.99	8.37
180.0	40.11	33.14	26.94	21.54	16.85	12.93	9.49	6.47	5.06
210.0	44.63	36.84	29.94	24.08	19.05	14.83	11.30	7.82	5.99
240.0	46.29	36.82	29.35	23.36	18.95	15.34	12.44	9.81	7.22
270.0	45.59	35.88	28.01	21.70	17.26	13.77	11.00	8.87	7.08
300.0	60.93	48.57	37.64	29.09	22.28	17.67	14.37	11.80	9.72
330.0	60.54	48.76	39.10	31.99	26.28	21.61	17.80	14.66	12.29
360.0	60.82	50.77	42.06	35.17	29.34	24.30	20.17	16.86	14.31

Intensity data(cd)**Appendix Page: 18 Total:18**

C/γ(°)	90.0
0.0	12.58
30.0	13.65
60.0	11.60
90.0	8.74
120.0	9.05
150.0	7.89
180.0	4.81
210.0	5.61
240.0	6.76
270.0	5.97
300.0	7.84
330.0	10.51
360.0	12.58