



Shenzhen Belling Efficiency  
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Client:

LumCAT:

Luminaire:

Report No:

Ballast type:

Test No:

Voltage(V): 277.160

LampCAT:

Current(A): 1.792

Lamp flux(lm): -1.0

Power (W): 495.320

Number of Lamps: 1

PF: 0.997

Length(mm): 0

Width(mm): 0

Phm Type: C

Height(mm): 0

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### Photometric Results

Lumens(lm): 77.930, Efficiency(%): 0.00% , Luminous Efficacy(lm/W): 153.67

Central intensity(cd): 231104.000, Maximum intensity(cd): 237400.200

Angle of maximum intensity: C=90.0  $\gamma$ =0.0

Beam Angle(50%Imax): [C0/180]Total=27.8

[C90/270]Total=27.8

Field angle(10%Imax): [C0/180]Total=54.1

[C90/270]Total=53.8

Maximum s/h(1/2): C0\_180=0.55 C90\_270=0.48

Maximum s/h(1/4): C0\_180=0.51 C90\_270=0.47

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 0.00%

Up flux rate of LUM(%): 0.12%

Down flux rate of LUM(%): 99.88%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 98.101%

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Equipment: GMS-3000  
Temperature(°C): 25

Date:  
Humidity(%): 58%

Operator: Sam

Zonal flux distribution table

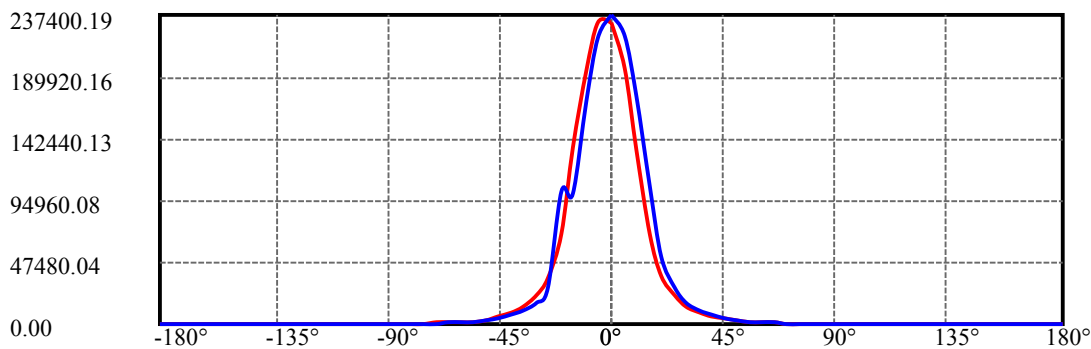
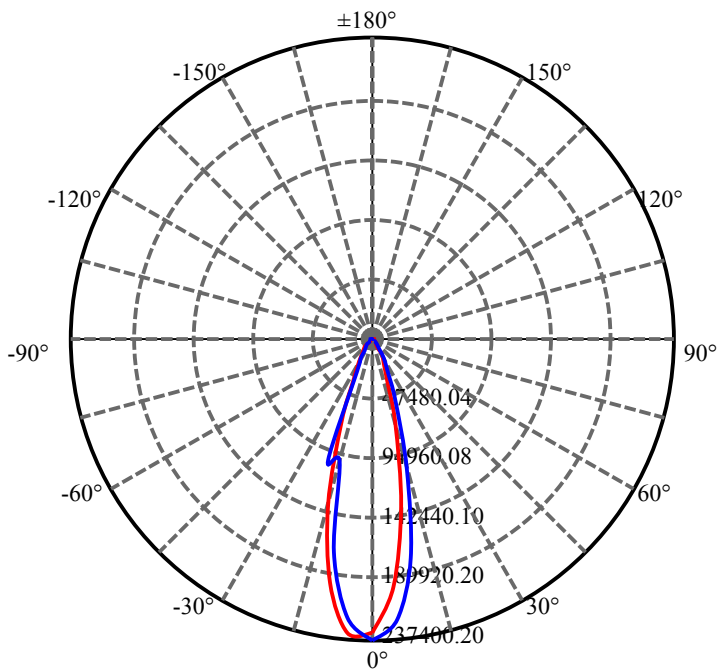
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	232166.609	0.000	0	0.00%	0.00%
5.0	214498.250	5339.751	5339.751	0.00%	7.02%
10.0	165804.656	13604.632	18944.383	0.00%	24.89%
15.0	100900.156	15820.749	34765.132	0.00%	45.67%
20.0	54321.176	12792.418	47557.551	0.00%	62.48%
25.0	28719.197	8709.402	56266.953	0.00%	73.92%
30.0	17371.180	5832.776	62099.729	0.00%	81.58%
35.0	10726.373	4137.561	66237.29	0.00%	87.02%
40.0	7147.470	2982.116	69219.406	0.00%	90.94%
45.0	4625.051	2179.778	71399.184	0.00%	93.80%
50.0	2900.430	1520.634	72919.817	0.00%	95.80%
55.0	1853.619	1033.689	73953.506	0.00%	97.16%
60.0	1256.592	718.917	74672.423	0.00%	98.10%
65.0	893.328	522.650	75195.072	0.00%	98.79%
70.0	604.500	379.260	75574.332	0.00%	99.29%
75.0	363.331	252.975	75827.307	0.00%	99.62%
80.0	158.319	139.579	75966.886	0.00%	99.80%
85.0	36.198	52.855	76019.741	0.00%	99.87%
90.0	1.882	10.426	76030.167	0.00%	99.88%
95.0	1.365	0.889	76031.056	0.00%	99.89%
100.0	1.285	0.720	76031.776	0.00%	99.89%
105.0	1.325	0.698	76032.475	0.00%	99.89%
110.0	1.617	0.769	76033.244	0.00%	99.89%
115.0	2.160	0.956	76034.2	0.00%	99.89%
120.0	2.995	1.253	76035.453	0.00%	99.89%
125.0	4.253	1.675	76037.128	0.00%	99.89%
130.0	6.148	2.262	76039.39	0.00%	99.90%
135.0	9.381	3.138	76042.528	0.00%	99.90%
140.0	15.012	4.517	76047.044	0.00%	99.91%
145.0	24.671	6.621	76053.665	0.00%	99.92%
150.0	39.616	9.467	76063.131	0.00%	99.93%
155.0	56.801	12.202	76075.333	0.00%	99.94%
160.0	71.151	13.420	76088.753	0.00%	99.96%
165.0	78.888	12.365	76101.118	0.00%	99.98%
170.0	79.511	9.396	76110.514	0.00%	99.99%
175.0	76.861	5.594	76116.108	0.00%	100.00%
180.0	79.074	1.864	76117.972	0.00%	100.00%

ZONAL LUMEN SUMMARY

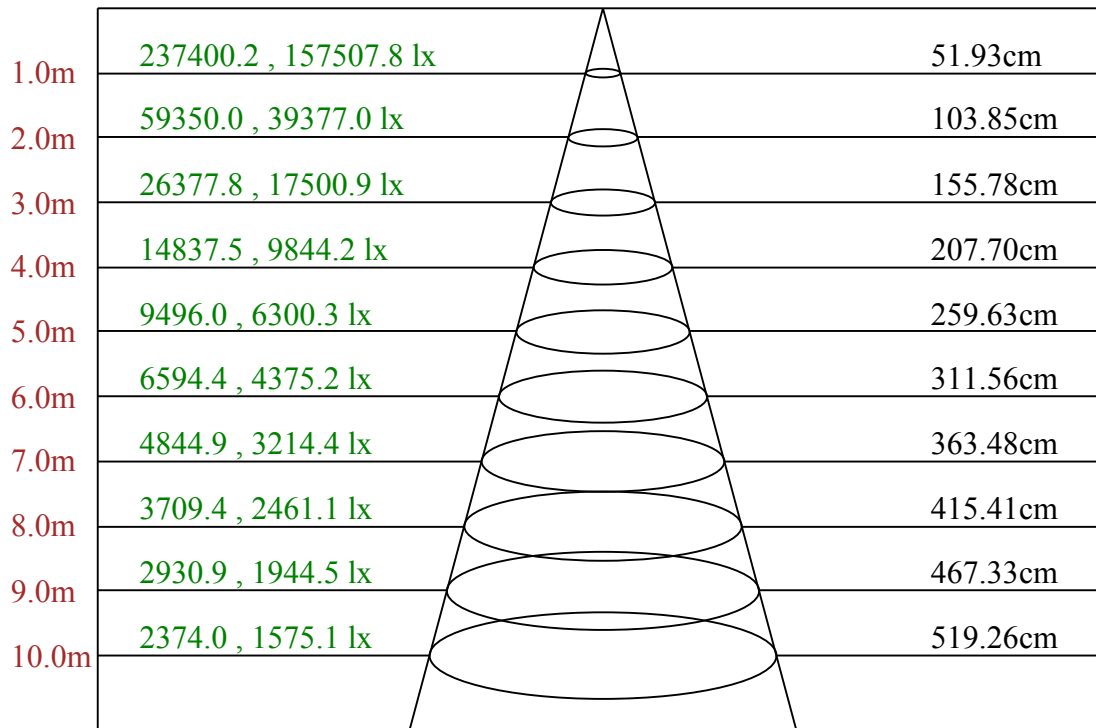
Zone	Lumens	%Lamp	%Fixt
0-30	62099.73	N.A.	81.58%
0-40	69219.41	N.A.	90.94%
0-60	74672.42	N.A.	98.10%
0-90	76030.17	N.A.	99.88%
0-120	76035.45	N.A.	99.89%
0-180	76117.97	N.A.	100.00%
60-90	1357.74	N.A.	1.78%
90-120	5.29	N.A.	0.01%
90-130	9.22	N.A.	0.01%
90-150	32.96	N.A.	0.04%
90-180	85.94	N.A.	0.11%
0-28.97	60894.38	N.A.	80.00%

ZONAL LUMEN SUMMARY

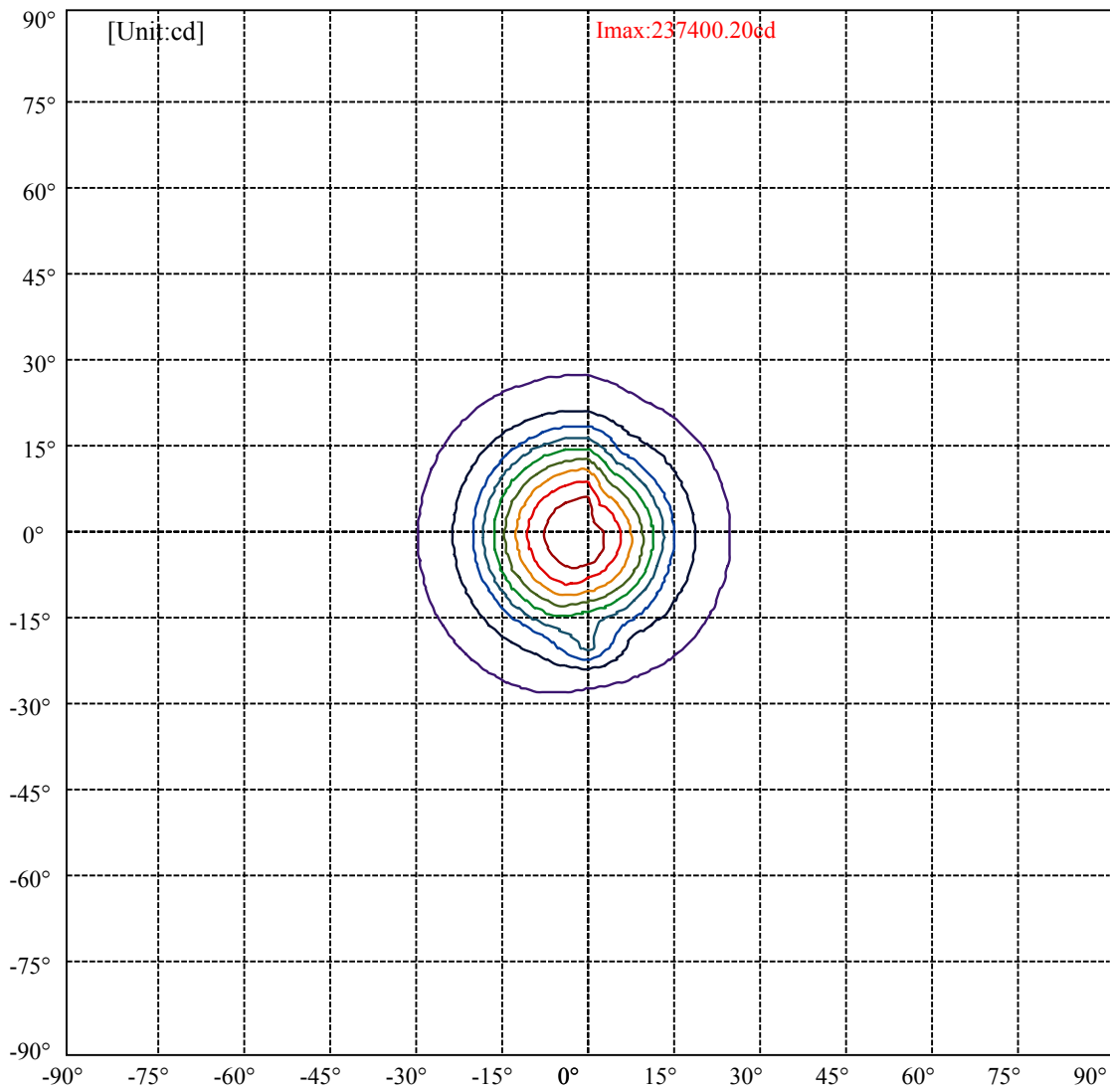
0-10	18944.38
10-20	28613.17
20-30	14542.18
30-40	7119.68
40-50	3700.41
50-60	1752.61
60-70	901.91
70-80	392.55
80-90	63.28
90-100	1.61
100-110	1.47
110-120	2.21
120-130	3.94
130-140	7.65
140-150	16.09
150-160	25.62
160-170	21.76
170-180	5.59



C0/C180: —  
 C90/C270: —  
 Field angle(10%Imax):C0/180Left:29.5 Right:24.6  
                                   :C90/270Left:26.9 Right:26.9  
 Beam Angle(50%Imax):C0/180Left:16.4 Right:11.4  
                                   :C90/270Left:13.7 Right:14.1



Max , Ave      Beam angle of C90 plane 29.11



(10%Imax) 23740	—
(20%Imax) 47480	—
(30%Imax) 71220.1	—
(40%Imax) 94960.1	—
(50%Imax) 118700	—
(60%Imax) 142440	—
(70%Imax) 166180	—
(80%Imax) 189920	—
(90%Imax) 213660	—

## Intensity data(cd)

C/ $\gamma$ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	231103.98	196040.23	133650.52	68674.48	37190.67	22031.01	13818.38	8995.52	5813.50
22.5	229789.63	192054.76	129241.05	64795.00	36325.74	21592.18	13449.51	8828.05	5796.54
45.0	228305.68	190782.80	128414.27	65876.17	36045.91	21484.07	13551.27	8914.97	5817.74
67.5	227966.47	191609.58	132866.14	67508.52	36770.93	22293.88	13737.82	9004.00	5949.18
90.0	237400.18	220864.68	175519.26	106621.34	51057.81	28014.11	16736.05	10333.84	7040.94
112.5	235767.84	222815.04	179674.34	115143.48	54810.10	29816.05	17838.42	10821.43	7286.86
135.0	234241.50	226673.31	184656.19	123665.62	60067.54	32359.98	19279.97	11457.41	7706.60
157.5	232757.54	230277.20	190613.20	129325.86	64816.20	34840.30	20467.13	12050.99	8185.71
180.0	231103.98	231867.15	195361.87	134922.48	68971.27	36112.26	21696.70	12708.17	8613.94
202.5	229789.63	232333.56	195595.05	136978.82	68822.88	36917.84	22332.68	13195.75	8845.01
225.0	228305.68	230234.81	194535.08	132972.14	66300.15	36430.25	22014.69	13132.16	8991.28
247.5	227966.47	227182.10	189383.64	125615.97	63332.24	35497.48	21230.31	13047.36	8823.81
270.0	237400.18	219338.34	171003.79	100176.73	101915.08	28113.11	16673.93	10379.84	6758.99
292.5	235767.84	212745.34	160170.93	90764.21	41846.06	26154.29	15934.08	10055.49	6486.08
315.0	234241.50	206109.93	151118.80	80524.93	41498.39	24691.53	14999.18	9601.83	6265.05
337.5	232757.54	201043.29	141070.29	70836.82	39367.85	23158.82	14178.77	9095.16	6004.30
360.0	231103.98	196040.23	133650.52	68674.48	37190.67	22031.01	13818.38	8995.52	5813.50
C/ $\gamma$ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	3719.64	2317.51	1514.48	1062.30	751.52	493.10	270.08	91.58	2.33
22.5	3693.35	2318.15	1540.98	1065.90	753.85	497.13	274.32	89.67	1.70
45.0	3691.23	2394.89	1567.27	1089.86	768.90	502.00	251.00	61.90	1.70
67.5	3905.13	2469.73	1611.58	1121.23	773.78	482.07	218.57	37.52	2.33
90.0	4539.42	2896.47	1872.54	1274.72	872.78	571.54	301.46	85.65	11.02
112.5	4800.17	3068.18	1953.10	1319.24	923.44	617.96	357.63	134.62	16.11
135.0	5067.28	3239.90	2048.49	1363.76	1045.76	683.26	429.08	199.06	45.58
157.5	5431.91	3460.37	2169.33	1427.35	1050.00	729.68	483.13	259.69	82.68
180.0	5741.42	3608.77	2205.37	1461.27	1047.88	740.49	500.52	274.74	96.88
202.5	5860.14	3623.61	2252.01	1501.55	1054.24	753.64	501.15	272.62	99.21
225.0	5896.18	3596.05	2283.81	1507.91	1056.36	751.09	505.61	269.23	91.16
247.5	5758.38	3473.09	2182.05	1478.23	1050.00	736.04	486.10	261.18	82.89
270.0	4174.58	2635.29	1711.85	1165.75	828.90	565.60	345.55	152.85	22.68
292.5	4050.99	2543.29	1636.59	1122.29	796.88	538.25	322.23	132.71	12.72
315.0	3914.04	2426.48	1568.75	1079.68	769.54	515.57	293.82	111.09	7.21
337.5	3756.95	2335.11	1539.71	1064.42	749.40	494.58	273.05	99.00	2.97
360.0	3719.64	2317.51	1514.48	1062.30	751.52	493.10	270.08	91.58	2.33
C/ $\gamma$ (°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	1.48	1.27	1.27	1.27	1.91	3.18	4.03	5.51	7.42
22.5	1.70	1.48	1.70	1.48	2.12	2.97	4.24	5.30	8.48
45.0	1.27	1.27	1.70	1.70	2.12	2.76	3.60	5.51	8.48
67.5	1.70	1.06	1.06	1.70	2.12	2.76	4.03	5.30	8.06
90.0	1.91	1.48	1.48	1.70	1.70	2.12	2.97	4.45	6.15
112.5	1.70	1.70	1.48	1.48	1.70	2.12	2.54	4.03	5.94
135.0	2.12	1.70	1.48	1.48	1.70	1.91	2.54	3.82	5.51
157.5	2.54	1.27	1.27	1.48	1.06	1.70	2.54	3.60	5.09
180.0	2.54	1.27	1.27	1.06	1.27	1.48	2.54	3.39	5.09
202.5	2.54	1.06	1.06	1.06	1.48	1.91	2.33	3.18	4.66
225.0	1.91	1.06	1.06	1.06	1.27	1.70	2.12	3.39	4.45
247.5	1.70	1.48	1.27	1.06	1.06	1.48	1.91	3.39	4.66
270.0	1.91	1.48	1.06	1.27	1.48	2.12	2.97	4.03	5.72
292.5	1.70	1.27	1.06	1.06	1.48	1.91	2.97	4.03	5.72
315.0	1.91	1.48	0.85	1.27	1.70	2.33	3.18	4.45	6.15
337.5	1.48	1.48	1.48	1.06	1.70	2.12	3.39	4.66	6.78
360.0	1.48	1.27	1.27	1.27	1.91	3.18	4.03	5.51	7.42

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**Intensity data(cd)**

Appendix Page: 8 Total:8

<b>C/γ(°)</b>	<b>135.0</b>	<b>140.0</b>	<b>145.0</b>	<b>150.0</b>	<b>155.0</b>	<b>160.0</b>	<b>165.0</b>	<b>170.0</b>	<b>175.0</b>
<b>0.0</b>	<b>12.08</b>	<b>19.08</b>	<b>30.95</b>	<b>47.70</b>	<b>66.35</b>	<b>79.71</b>	<b>82.68</b>	<b>78.23</b>	<b>77.38</b>
<b>22.5</b>	<b>12.72</b>	<b>20.14</b>	<b>32.65</b>	<b>50.24</b>	<b>69.11</b>	<b>81.19</b>	<b>84.80</b>	<b>81.19</b>	<b>79.29</b>
<b>45.0</b>	<b>12.51</b>	<b>20.14</b>	<b>33.50</b>	<b>50.88</b>	<b>68.69</b>	<b>81.41</b>	<b>85.65</b>	<b>83.31</b>	<b>78.44</b>
<b>67.5</b>	<b>12.30</b>	<b>20.78</b>	<b>32.65</b>	<b>49.18</b>	<b>65.93</b>	<b>78.23</b>	<b>83.10</b>	<b>81.19</b>	<b>75.89</b>
<b>90.0</b>	<b>9.54</b>	<b>15.69</b>	<b>26.71</b>	<b>43.25</b>	<b>60.84</b>	<b>76.11</b>	<b>85.65</b>	<b>86.92</b>	<b>80.13</b>
<b>112.5</b>	<b>9.12</b>	<b>14.84</b>	<b>25.44</b>	<b>41.34</b>	<b>59.15</b>	<b>75.47</b>	<b>85.65</b>	<b>87.77</b>	<b>81.41</b>
<b>135.0</b>	<b>8.69</b>	<b>13.78</b>	<b>23.53</b>	<b>38.58</b>	<b>57.66</b>	<b>74.62</b>	<b>85.43</b>	<b>89.25</b>	<b>84.16</b>
<b>157.5</b>	<b>8.27</b>	<b>12.93</b>	<b>20.56</b>	<b>35.40</b>	<b>53.42</b>	<b>71.87</b>	<b>83.10</b>	<b>86.07</b>	<b>82.68</b>
<b>180.0</b>	<b>7.42</b>	<b>12.08</b>	<b>18.87</b>	<b>32.44</b>	<b>49.61</b>	<b>67.20</b>	<b>79.29</b>	<b>82.04</b>	<b>79.07</b>
<b>202.5</b>	<b>7.21</b>	<b>11.24</b>	<b>17.17</b>	<b>30.10</b>	<b>47.06</b>	<b>63.60</b>	<b>73.77</b>	<b>76.32</b>	<b>73.56</b>
<b>225.0</b>	<b>6.57</b>	<b>10.39</b>	<b>16.96</b>	<b>28.41</b>	<b>44.73</b>	<b>59.99</b>	<b>69.75</b>	<b>73.35</b>	<b>70.17</b>
<b>247.5</b>	<b>6.57</b>	<b>9.96</b>	<b>16.75</b>	<b>27.77</b>	<b>42.82</b>	<b>56.81</b>	<b>65.93</b>	<b>68.90</b>	<b>66.99</b>
<b>270.0</b>	<b>8.69</b>	<b>13.14</b>	<b>21.84</b>	<b>35.83</b>	<b>51.30</b>	<b>63.39</b>	<b>72.08</b>	<b>74.83</b>	<b>75.05</b>
<b>292.5</b>	<b>8.48</b>	<b>13.99</b>	<b>23.53</b>	<b>37.31</b>	<b>52.79</b>	<b>64.45</b>	<b>71.87</b>	<b>73.35</b>	<b>75.05</b>
<b>315.0</b>	<b>9.54</b>	<b>15.05</b>	<b>25.44</b>	<b>40.49</b>	<b>56.81</b>	<b>69.11</b>	<b>74.83</b>	<b>73.99</b>	<b>74.83</b>
<b>337.5</b>	<b>10.39</b>	<b>16.96</b>	<b>28.20</b>	<b>44.94</b>	<b>62.54</b>	<b>75.26</b>	<b>78.65</b>	<b>75.47</b>	<b>75.68</b>
<b>360.0</b>	<b>12.08</b>	<b>19.08</b>	<b>30.95</b>	<b>47.70</b>	<b>66.35</b>	<b>79.71</b>	<b>82.68</b>	<b>78.23</b>	<b>77.38</b>
<b>C/γ(°)</b>	<b>180.0</b>								
<b>0.0</b>	<b>78.86</b>								
<b>22.5</b>	<b>77.80</b>								
<b>45.0</b>	<b>75.47</b>								
<b>67.5</b>	<b>72.08</b>								
<b>90.0</b>	<b>82.89</b>								
<b>112.5</b>	<b>81.83</b>								
<b>135.0</b>	<b>80.98</b>								
<b>157.5</b>	<b>82.68</b>								
<b>180.0</b>	<b>78.86</b>								
<b>202.5</b>	<b>77.80</b>								
<b>225.0</b>	<b>75.47</b>								
<b>247.5</b>	<b>72.08</b>								
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<b>292.5</b>	<b>81.83</b>								
<b>315.0</b>	<b>80.98</b>								
<b>337.5</b>	<b>82.68</b>								
<b>360.0</b>	<b>78.86</b>								