

**Table 4.1:  
Field of View and Size of Sun's Image for Various Photographic Focal Lengths**

<u>Focal Length</u>	<u>Field of View</u> (35mm)	<u>Field of View</u> (digital)	<u>Size of Sun</u>
14 mm	98° x 147°	65° x 98°	0.2 mm
20 mm	69° x 103°	46° x 69°	0.2 mm
28 mm	49° x 74°	33° x 49°	0.2 mm
35 mm	39° x 59°	26° x 39°	0.3 mm
50 mm	27° x 40°	18° x 28°	0.5 mm
105 mm	13° x 19°	9° x 13°	1.0 mm
200 mm	7° x 10°	5° x 7°	1.8 mm
400 mm	3.4° x 5.1°	2.3° x 3.4°	3.7 mm
500 mm	2.7° x 4.1°	1.8° x 2.8°	4.6 mm
1000 mm	1.4° x 2.1°	0.9° x 1.4°	9.2 mm
1500 mm	0.9° x 1.4°	0.6° x 0.9°	13.8 mm
2000 mm	0.7° x 1.0°	0.5° x 0.7°	18.4 mm

Image Size of Sun (mm) = Focal Length (mm) / 109

**Table 4.2: Solar Eclipse Exposure Guide**

<u>ISO</u>	<u>f/Number</u>										
<b>25</b>	<b>1.4</b>	<b>2</b>	<b>2.8</b>	<b>4</b>	<b>5.6</b>	<b>8</b>	<b>11</b>	<b>16</b>	<b>22</b>	<b>32</b>	
<b>50</b>	<b>2</b>	<b>2.8</b>	<b>4</b>	<b>5.6</b>	<b>8</b>	<b>11</b>	<b>16</b>	<b>22</b>	<b>32</b>	<b>44</b>	
<b>100</b>	<b>2.8</b>	<b>4</b>	<b>5.6</b>	<b>8</b>	<b>11</b>	<b>16</b>	<b>22</b>	<b>32</b>	<b>44</b>	<b>64</b>	
<b>200</b>	<b>4</b>	<b>5.6</b>	<b>8</b>	<b>11</b>	<b>16</b>	<b>22</b>	<b>32</b>	<b>44</b>	<b>64</b>	<b>88</b>	
<b>400</b>	<b>5.6</b>	<b>8</b>	<b>11</b>	<b>16</b>	<b>22</b>	<b>32</b>	<b>44</b>	<b>64</b>	<b>88</b>	<b>128</b>	
<b>800</b>	<b>8</b>	<b>11</b>	<b>16</b>	<b>22</b>	<b>32</b>	<b>44</b>	<b>64</b>	<b>88</b>	<b>128</b>	<b>176</b>	
<b>1600</b>	<b>11</b>	<b>16</b>	<b>22</b>	<b>32</b>	<b>44</b>	<b>64</b>	<b>88</b>	<b>128</b>	<b>176</b>		
<u>Subject</u>	<u>Q</u>	<u>Shutter Speed</u>									
<b>Solar Eclipse</b>											
Partial <sup>1</sup> - 4.0 ND	<b>11</b>	—	—	—	1/4000	1/2000	1/1000	1/500	1/250	1/125	
Partial <sup>1</sup> - 5.0 ND	<b>8</b>	1/4000	1/2000	1/1000	1/500	1/250	1/125	1/60	1/30	1/15	
Baily's Beads <sup>2</sup>	<b>11</b>	—	—	—	1/4000	1/2000	1/1000	1/500	1/250	1/125	
Chromosphere	<b>10</b>	—	—	1/4000	1/2000	1/1000	1/500	1/250	1/125	1/60	
Prominences	<b>9</b>	—	1/4000	1/2000	1/1000	1/500	1/250	1/125	1/60	1/30	
Corona - 0.1 Rs	<b>7</b>	1/2000	1/1000	1/500	1/250	1/125	1/60	1/30	1/15	1/8	
Corona - 0.2 Rs <sup>3</sup>	<b>5</b>	1/500	1/250	1/125	1/60	1/30	1/15	1/8	1/4	1/2	
Corona - 0.5 Rs	<b>3</b>	1/125	1/60	1/30	1/15	1/8	1/4	1/2	1 sec	2 sec	
Corona - 1.0 Rs	<b>1</b>	1/30	1/15	1/8	1/4	1/2	1 sec	2 sec	4 sec	8 sec	
Corona - 2.0 Rs	<b>0</b>	1/15	1/8	1/4	1/2	1 sec	2 sec	4 sec	8 sec	15 sec	
Corona - 4.0 Rs	<b>-1</b>	1/8	1/4	1/2	1 sec	2 sec	4 sec	8 sec	15 sec	30 sec	
Corona - 8.0 Rs	<b>-3</b>	1/2	1 sec	2 sec	4 sec	8 sec	15 sec	30 sec	1 min	2 min	

Exposure Formula:  $t = f^2 / (I \times 2^Q)$  where: t = exposure time (sec)  
 $f$  = f/number or focal ratio  
 I = ISO film speed  
 Q = brightness exponent

Abbreviations: ND = Neutral Density Filter.  
 Rs = Solar Radii.

Notes: <sup>1</sup> Exposures for partial phases are also good for annular eclipses.  
<sup>2</sup> Baily's Beads are extremely bright and change rapidly.  
<sup>3</sup> This exposure also recommended for the 'Diamond Ring' effect.