Angle: ratio of subtended arc length on circle to radius

$$\theta = \frac{\ell}{r}$$

Circle has 2π radians
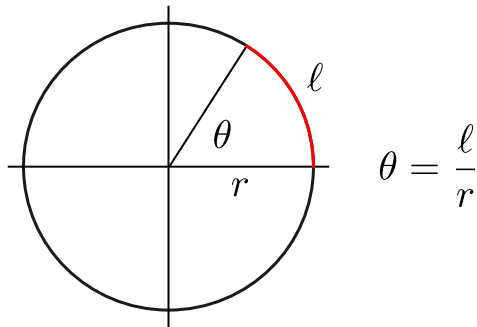
Solid Angle: ratio of subtended area on sphere to radius^2

$$\Omega = \frac{A}{r^2}$$

Sphere has 4π steradians