[Min41] MINNAERT M.: The reciprocity principle in lunar photometry. Astrophysical Journal, 3 (1941), 403– 410. 10

ω_o: This is the outgoing (view) direction vector (often normalized). $\cos\omega_i$ and $\cos\omega_o$: These are actually shorthand notations.

They don't mean the cosine of the entire vector, but rather: $\cos\omega_i$ actually means $\cos(\theta_i) = (\omega_i, n)$ $\cos\omega_o$ actually means $\cos(\theta_o) = (\omega_o, n)$

Where:

θ_i is the angle between ω_i and the surface normal n.

θ_o is the angle between ω_o and the surface normal n.

$$\rho_d = 0.3, 0.0\vec{5}, 0.05 \tag{1}$$

$$k = 0.5 \tag{2}$$

$$f = \frac{\rho_d}{\pi} * ((\vec{n} \cdot \vec{\omega}_i) * (\vec{n} \cdot \vec{\omega}_o))^{(k-1)} \tag{3}$$