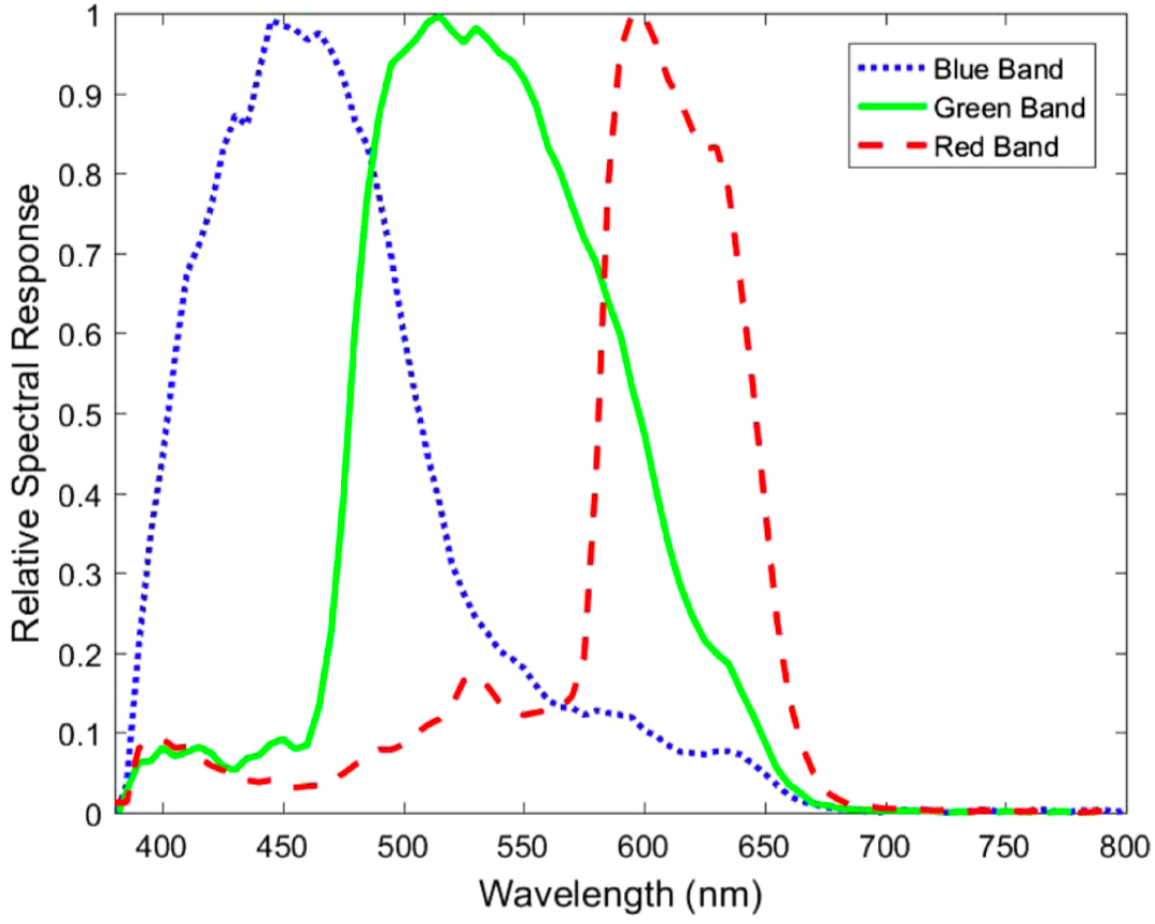
The TinyTol optical system and grading cadence

Optical system

- Chip specifications:
  - Pixel size: 1.12µm x 1.12µm
  - Chip dimensions: 3280 x 2464 pixels
- Optical specifications:
  - Folded optical system
  - 150mm focal length lens
  - 18mm aperture
  - Pupil mounted at a 5.8° angle to lens



Spectral response

Grating cadence

- Each pixel on the detector translates to 1.540 arcseconds
- Wanting our sidelobes to reach out to at most 90% of the chip (~1100 pixels from the center) gives us a diffraction angle of 1694 arcseconds
- Using the grating equation $d = \frac{n\lambda}{\sin(\vartheta)}$ with values:
  - n = 1
  - λ = 675 nm
  - ϑ = 8.2127 mrad
- This gives us a grating cadence of ~ 82.2µm