This is an overview of main requirements desired in many optical system designs

Basic system parameters:
- Object distance
- Image distance
- Object to image total track
- Focal length
- ƒ/number (or numerical aperture)
- Entrance pupil diameter
- Wavelength band
- Wavelengths and weights
- Full field of view
- Magnification (if finite conjugate)
- Zoom ratio (for zoom system)
- Image surface size and shape
- Detector type

Optical performance:
- Transmission
- Relative illumination (vignetting)
- Encircled energy
- MTF as a function of line pairs/mm
- Aberrations
- Distortion
- Field curvature
- Lens system:
- Number of elements
- Glass versus plastic
- Aspheric surfaces
- Diffractive surfaces
- Coatings

Sensor:
- Sensor type
- Full diagonal
- Number of pixels (horizontal)
- Number of pixels (vertical)
- Pixel pitch (horizontal)
- Pixel pitch (vertical)
- Nyquist frequency at sensor, line pairs/mm

Packaging:
- Object to image total track
- Entrance and exit pupil location and size
- Back focal distance
- Maximum diameter
- Maximum length
- Weight

Environment:
- Thermal soak range to perform over
- Thermal soak range to survive over
- Vibration Shock
- Other (condensation, humidity, sealing)

Illumination:
- Source type
- Power, in watts
- Radiometry issues, source:
- Relative illumination
- Illumination method
- Veiling glare and ghost images
- Radiometry issues, imaging:
- Transmission
- Relative illumination
- Stray light attenuation
- Schedule and cost:
- Number of systems required
- Initial delivery date
- Target cost goal