

Lecture 13: Light and Color – Review Questions

- Define the following terms:
 - photon
 - spectral energy
 - spectral power
 - irradiance
 - radiance
- The visible spectrum includes wavelengths in the 400 to 700 nm range. What's a likely explanation?
- The Plenoptic function $P(x,y,z,\theta,\phi,\lambda)$ records light rays at all locations and directions. What part of the Plenoptic function is recorded by a regular photograph?
- What is a BRDF? Explain an experimental setup that would collect data to specify the BRDF for a surface. What parameters of the experiment would you have to vary to collect complete information?
- Describe the BRDF for a perfectly Lambertian surface. A perfect mirror?
- Describe the experiment that was performed in the early 1800's to show that people have three types of color sensors.
- What are color metamers and why do they exist? Give an example.
- When is color additive and when is it subtractive?
- Why can't we tell the color of our socks in twilight? Why can we see more stars "from the corner of our eye"?