Computer Graphics Assignment 2

1. Spectral Samples from 370nm to 720nm sampled at 10nm. Total of 36 samples.
2. Used the Global Tilt values for Solar irradiance from - http://rredc.nrel.gov/solar/spectra/am1.5/ASTMG173/ASTMG173.html.
3. Sphere Properties: (From top left to bottom right)
    a. Sphere 1
    Material = Gold
    n/k info - https://refractiveindex.info/?shelf=main&book=Au&page=Johnson
    roughness = 0.1
    k_d = 0.25, k_s = 0.75
    b. Sphere 2
    Material = Gold
    n/k info - https://refractiveindex.info/?shelf=main&book=Au&page=Johnson
    roughness = 0.2
    k_d = 0.3, k_s = 0.7
    c. Sphere 3
    Material = Gold
    n/k info - https://refractiveindex.info/?shelf=main&book=Au&page=Johnson
    roughness = 0.3
    k_d = 0.4, k_s = 0.6
    d. Sphere 4
    Material = Copper
    n/k info - https://refractiveindex.info/?shelf=main&book=Cu&page=Johnson
    roughness = 0.15
    kd = 0.3, ks = 0.7
    e. Sphere 5
    Material = Amorphous Silicon
    n/k info - http://photonics.byu.edu/tabulatedopticalconstants.phtml
    roughness = 0.7
    kd = 0.7, ks = 0.3
    f. Sphere 6
    Material = Quartz
    n/k info - https://refractiveindex.info/?shelf=3d&book=crystals&page=quartz
    roughness = 0.15
    kd = 0.6, ks = 0.4
4. Color matching function used - CIE 1931 2-deg, XYZ CMFs
5. XYZ to sRGB color conversion
    http://www.brucelindbloom.com/index.html?Eqn_RGB_XYZ_Matrix.html
6. a. The aluminum's diffuse component was coming out to be purple using the n/k values from https://refractiveindex.info/?shelf=main&book=Al&page=Rakic.