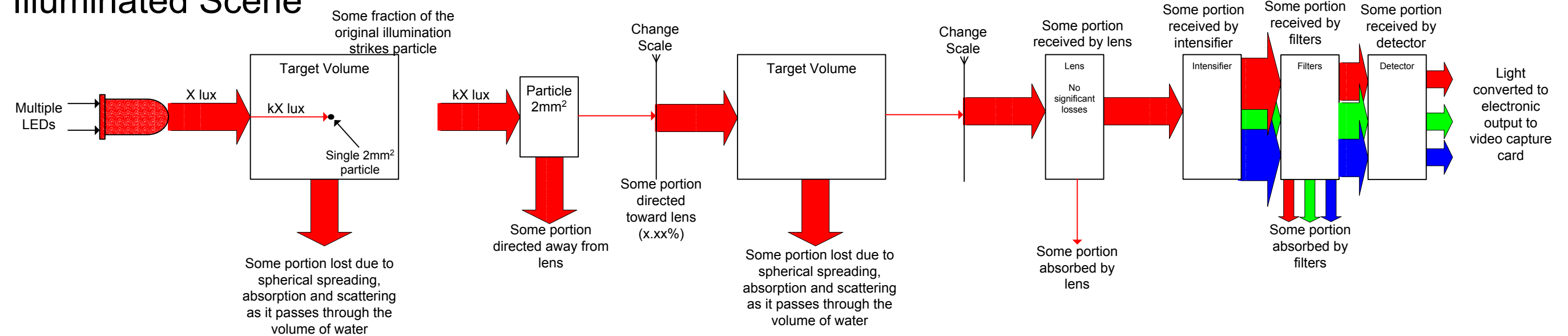
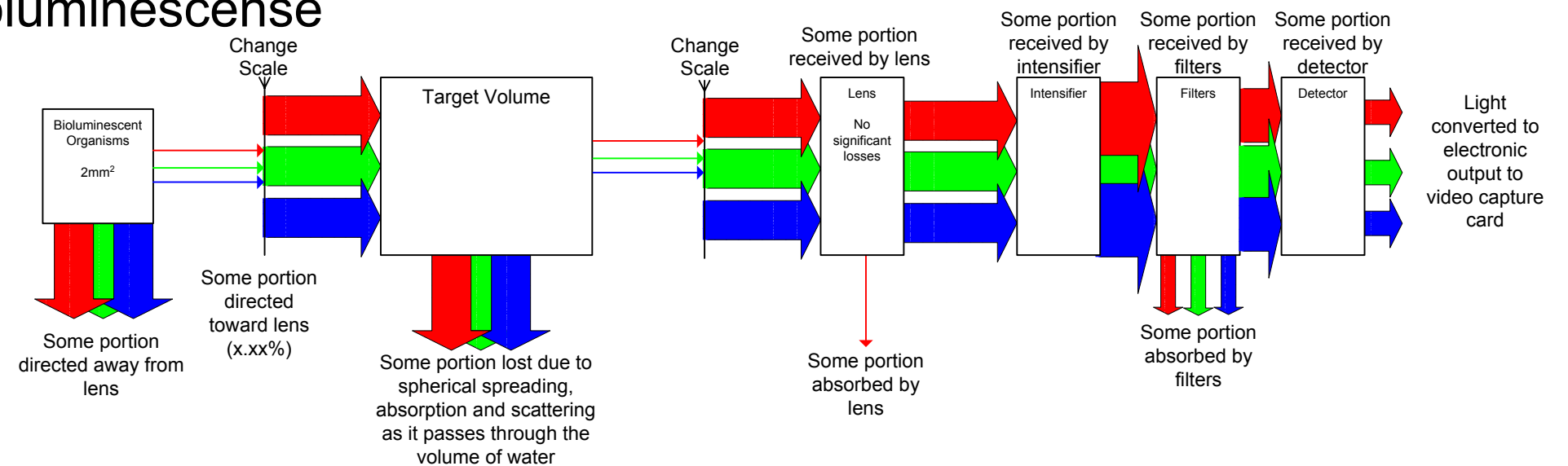


Tracking Illumination Through the Quantitative Low-Light Imaging Module

Illuminated Scene



Bioluminescence



As light, electromagnetic energy, travels through water, both pure and seawater, its energy is reflected, absorbed and scattered by the particles and atoms it encounters. The wavelength of the light may be shifted, and different wavelengths of light are absorbed more than others. For example, the red light used for illumination gets absorbed by water far more than the blue & green light generated by the bioluminescent animals.

Based on equations describing the physical system, it is possible to create an optical, or photon, budget of the system. As light passes through the system, the budget reveals the amount transferred and lost as it goes through each stage.