Remote manoeuvre of space debris using photon pressure applied from high power ground based lasers has been proposed as a temporary mitigation to the risk posed by space debris in low Earth orbit by attempting to sufficiently perturb the orbit of a debris object to avoid potential collisions. To characterize the adaptive optics corrected high power laser system being developed by the Space Environment Research Centre and support validating models for its performance the Space Segment program has developed a payload to measure the laser irradiance achieved in orbit for an UNSW Canberra CubeSat targeting a launch in late 2018. An overview of the payload will be presented.