The dose response of double-layer radiochromic films (MD-55-2) was examined for low dose (900 cGy) and high dose (2000 cGy) using photon beams. These films were sent to 5 institutions (Georgetown University, Henry Ford Hospital, National Institute of Standards and Technology, University of Kentucky, and Washington University) for dose response evaluation using 5 different He-Ne laser densitometry systems. A set of one dimensional scans were obtained for specified directions. The degree of *local* uniformity, which is related to such variables as the spatial and signal resolution of film scanner, pixel size, as well as electronic noise, was assessed by considering the mean dose response and its (%) standard deviation in the region of interest, ROI. The degree of *regional* uniformity, which is produced by systematic problems in the scanner and/or non-uniformity in the film, was examined graphically and characterized by considering the ratio of minimum to maximum dose response in the ROI. The results of our studies indicate that the *local* non-uniformity varied from 2.4% to 5.8% for the film with low dose and 1.3% to 4.3% for the film with high dose. Whereas the regional non-uniformity varied from 0.74 to 0.92 for the film with low dose and 0.87 to 0.96 for the film with high dose. Moreover, our data indicates that *regional* non-uniformity is greater in the transverse direction (perpendicular to the direction of the application of sensitive layer) by as much as 10%. An inter-comparison of the data from the 5 institutions will be presented.