Breast density is a known risk factor in the development of breast cancer. Breast density is determined based on visual readings by radiologists using American Society of Radiology BI-RADS density method, and therefore subjective. A way of measuring breast density numerically is computing the percent density using software. This thesis compares the qualitative readings by radiologists to quantitative readings by R2 Quantra Hologic computerized software of the same mammograms in order to establish an objective cutoff for categorizing breast density. Receiver Operating Characteristic (ROC) curves and logistic regression models are used to find the best cutoff Quantra density value to separate the low (D1/D2) density from the high density (D3/D4). Using a race indicator provided, the best cutoff values are also found for Quantra densities of African-American and Caucasian patients. Survival analysis is performed on simulated survival data to demonstrate how to find the best Quantra density cutoff value to distinguish between high risk and low risk groups. This analysis is done using Kaplan-Meier curves and Cox Proportional Hazards (PH) models.