With medical imaging’s transition from film based viewing to soft copy viewing on both CRTs and Flat Panels, many image quality studies using a Contrast Detail (CD) Phantom are being performed. Published study results are difficult to compare since data are not analyzed in the same way. This paper provides a comparison of four different CD phantom scoring and analysis methods. There are several commercially available CD phantoms. Each CD phantom is similar in that it contains circular objects with varying diameters and thickness. Generally the CD phantom objects vary logarithmically in diameter and thickness. The methodologies to be compared include: (1) Contrast Detail Curve – a graph correlation between “minimal correct reading” diameter and disk thickness; (2) Correct Observation Ratio – the ratio of the number of correctly identified objects to the total number of objects multiplied by 100; (3) Image Quality Figure – the sum of the product of the diameter of the smallest scored object and its relative contrast; and (4) Figure-of-Merit – the zero disk diameter value obtained from extrapolation of the contrast detail curve to the origin (e.g. zero disk diameter). Examples of how each of these scoring methodologies may be inadvertently skewed if reading room conditions and reader positioning are not carefully controlled will be presented. Additionally, an efficient data collection methodology will be discussed.