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Current display performance evaluation in digital radiography use station resident digital test patterns allowing comparison with measured values. However, these techniques require the use of special tools (A photometer and vendor loaded resident patterns) which may not be consistent; can be time intensive; and give little information about the performance of the rest of the imaging chain. This study describes the construction and use of an experimental phantom designed to visually evaluate the relative dynamic range of multiple components in the imaging chain and across multiple (vendor independent) displays. The results of exposure technique testing and evaluation of the phantom as a QA component for image quality tests will be discussed.