

Image Intensifier Measurements

a) **Resolution:**

- Modified 1951 USAF target
- Red LED light source (590 nm)
- 10 mlx illuminance on photocathode
- Target projected in the centre of the tube

b) **Signal to Noise ratio:**

- 0.2 mm pinhole projected in the centre of the tube
- Tungsten halogen lamp light source
- 108 μ lx illuminance on photocathode
- Room temperature in between 20 °C and 22 °C
- 10 Hz low pass filter included in the analyses
- K-factor unaccounted (K=1)

c) **Luminous Gain:**

- Storage at 20.5 °C under darkened conditions for at least eight hours
- Floating illumination
- Tungsten halogen lamp light source
- 20 μ lx and 2 mlx illuminance on photocathode
- Luminance measured over the full useful phosphor screen diameter (e.g. 17.5 mm diameter for 18 mm diameter tubes)
- Luminance measured two minutes after light source switch on
- Room temperature in between 20 °C and 22 °C

d) **Equivalent Background Illumination (EBI):**

- Storage at 20.5 °C under darkened conditions for at least eight hours
- No illumination on phosphor screen
- Luminance measured over the full useful phosphor screen diameter (e.g. 17.5 mm diameter for 18 mm diameter tubes)
- Room temperature in between 20 °C and 22 °C

e) **Modulation Transfer Function (MTF):**

- Edge target
- Red LED light source (590 nm)
- 10 mlx illuminance on target
- Target projected in the centre of the tube

f) **Halo:**

- 0.35 mm pinhole projected on the centre of the tube
- Tungsten halogen lamp light source
- 50 mlx illuminance on photocathode

g) **Dark Spots:**

- Tungsten halogen lamp light source
- Floating illumination
- 50 mlx illuminance on photocathode
- Spot size < 75 μm / 75-150 μm / 150-230 μm / 230-300 μm / 300-380 μm / > 380 μm
- Regions < 5,6 mm / 5,6-14,7 mm / 14,7-17,5 mm

h) **Bright Spots:**

- Tungsten halogen lamp light source
- Floating illumination
- 108 μlx illuminance on photocathode
- Spot size < 75 μm / 75-150 μm / 150-230 μm / 230-300 μm / 300-380 μm / > 380 μm
- Regions < 5,6 mm / 5,6-14,7 mm / 14,7-17,5 mm

i) **Output Brightness Uniformity:**

- Tungsten halogen lamp light source
- Floating illumination
- 108 μlx illuminance on photocathode