

Human Factors Associated with Shortwave Infrared  
And Image Intensifier Night Vision Devices

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ABSTRACT:

The use of night vision technology in our military has proven significant to winning decisive battles against our enemies. The ability to see with limited illumination has given our Army a marked tactical and strategic advantage. The most currently used night vision device is the Gen III green phosphorus Image Intensifier (I<sup>2</sup>). This current model, while very reliable through many years of use, must rely on ambient light sources in order to create an image. The Short-wave Infrared (SWIR) night vision device is a new technology that utilizes the infrared portion of the electromagnetic spectrum. SWIR essentially allows the user to effectively distinguish objects in low-light and no-light environments through the presence of nightglow and infrared emissions. Utilizing the portion of the infrared band closest to visible light, objects appear bright white in nature. The purpose of the study is to determine the ideal conditions at which to utilize I<sup>2</sup> and SWIR throughout the night and at various lighting and atmospheric conditions.

KEYWORDS: Image Intensifier, Shortwave Infrared, Gen III Green Phosphorus

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