



SOLID STATE LIGHTING FOR SHELTERS II | STEFD

Start/Completion Dates: November 2006 - November 2008

- NSRDEC and Physical Optics Corporation (POC) are developing a solid state lighting system using LED luminaries. LEDs have the advantage of producing an efficient, lightweight, rugged lighting system that is integral to shelter systems.
- The POC Solid State Illumination System (SOSIL) comprises of an array of single light fixture assemblies, each with a high-brightness white LED with a proprietary POC non-imaging beamformer (NIB). Each array of 16 light fixtures will evenly illuminate 1400 square feet of shelter. SOSIL is designed to illuminate an area without glare or dazzle, even when a light fixture is viewed directly, and the power supply will allow the lights to be dimmed. The SOSIL fixtures will be permanently integrated with the shelter so that it is transportable and deployable as part of the shelter. The SOSIL will reduce risk of shattering, with no fragile vacuum tubes or bulbs that contain mercury. SOSIL will be powered from 120 VAC, 60 Hz power line and will automatically switch to a battery upon power line failure. The 100,000 hour LED lifetime projects to a 15 year operating period, which exceeds the lifetime of shelter systems.
- SOSIL is currently in the first year of a Small Business Innovation Research (SBIR) Phase II program. The NIB, power supply, and optomechanics have been designed, and fabrication will soon begin. POC had recently provided NSRDEC with an early SOSIL prototype for human factors testing. Preliminary results of the study showed that soldiers preferred SOSIL over other lighting systems, including the current fluorescent light sets. More testing will be conducted in the second year of SBIR Phase II.
- POC is in the process of identifying industry partners for mold injection mass production of the NIB and for integration into Army shelters.



SOSIL WITH CONTROL UNIT



POINT OF CONTACT:

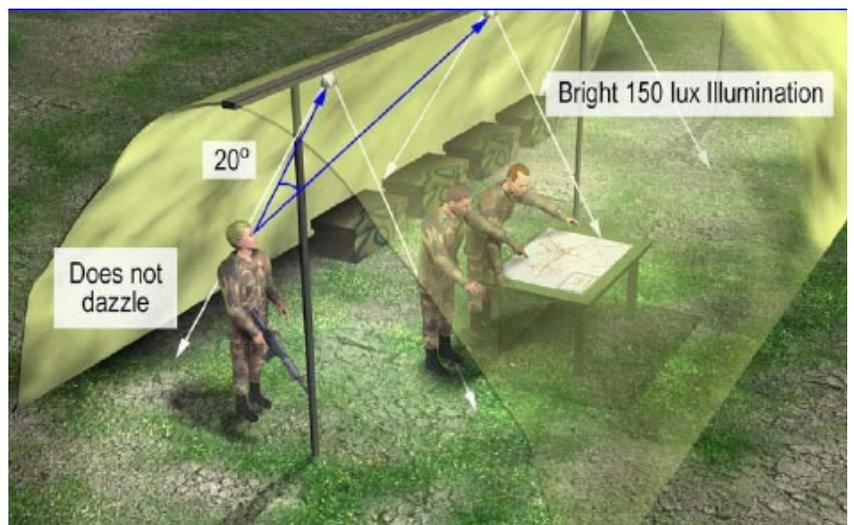
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