

# DHS Science and Technology Directorate

## Light-Emitting Diode Incapacitator

### Why it's Needed

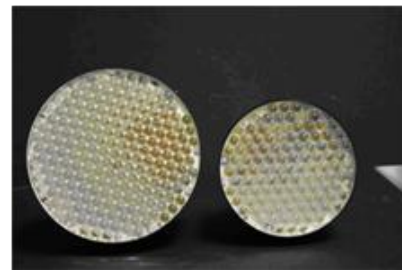
Recently increased awareness about the benefits of less-lethal technology for military and law enforcement officers has prompted the development of devices that serve to incapacitate suspects with a lower risk of injury or death. These devices can be used when lethal force is unwarranted, while also minimizing risk to the officers and the suspects. Additionally, less-lethal devices minimize the risk of injury to bystanders. One such technology is designed to temporarily incapacitate, confuse or stop a potential aggressor: the new light-emitting diode (LED) weapon.

### How it Works

Recognizing the need for more and better less-lethal weapons, the Department of Homeland Security Science and Technology Directorate (S&T) partnered with Intelligent Optical Systems, Inc. (IOS) to develop the LED Incapacitator, commonly referred to as "the Dazzler." A flashlight-like device consisting of high-intensity, multi-colored, LED clusters and complex optical concentrators, the Dazzler can emit differentiated patterns of flashing, colored lights that temporarily blind and disorient a targeted individual.



Disorienting a suspect with the device would provide an officer with enough time to subdue the suspect safely, without the use of traditional, potentially more harmful technologies such as firearms, Tasers or batons. Intended to be used in bursts of 15 seconds at a range of 0-50 feet, the Dazzler's bright strobe light display is intended to make the offending individual close his or her eyes and even when they do that and/or turn away—the effects of the bright, pulsating LED clusters continue to have their intended effect, albeit temporarily.



### The Value

The Dazzler provides law enforcement officers and other first responders charged with subduing aggressive individuals with a less-lethal method to do so. This provides greater safety to responding officers, as they can stay at a safe distance from the offender and not approach until the individual is temporarily incapacitated. Finally, the effects of the Dazzler wear off over time, causing no lasting harm to the offending individual.

### Next Steps

S&T has concluded its funding of the Dazzler. IOS is continuing to refine the technology based upon first responder needs and requirements. The Dazzler can be used for many applications such as crowd and riot control, correctional facility operations and even hostage situations.



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To learn more about the Dazzler, contact [SandTFRG@dhs.gov](mailto:SandTFRG@dhs.gov)