



Non-Lethal Optical Distracters Fact Sheet



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Today's complex missions highlight the need to equip our troops with non-lethal weapons.

What are they?

Non-lethal optical distracters are visible laser devices that have reversible optical effects on human targets. These types of non-blinding laser devices use highly directional optical energy to support several non-lethal capabilities, including:

- Temporarily overwhelming an adversary's visual sense by emitting a credible glare source
- Providing an unequivocal, non-verbal warning
- Providing the target an opportunity to clarify intent

Although these capabilities are generic to any high-intensity light source, laser light sources are ideal for non-lethal applications, as the optical energy is collimated and very directional. This allows the user to precisely deliver the optical energy to a target at long ranges, while minimizing the total power output of the device and minimizing collateral effects to other bystanders.

Prior to fielding, all previously and currently fielded lasers or distracter devices have undergone legal reviews to ensure compliance with obligations assumed by the U.S. under applicable treaties, customary international law, and the law of armed conflict.



The high-intensity laser light of an optical distracter captures the attention of the targeted vehicle's driver.

Official Department of Defense Photo



LA-9/P™

Visible Range: 300 meters (day) to 4 kilometers (night)

Includes a safety control module that shuts off the beam when a target interrupts it at a non-eye-safe distance

Official Department of Defense Photo



LA-12/P

Green Laser Interdiction System (GLIS)

Visible Range: 300 meters

Official Department of Defense Photo



LA-13/P



GLARE® MOUT

Visible Range: 150 meters (day) to 2 kilometers (night)

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Non-Lethal Optical Distracters

Human Effects Testing

The design and use of optical distracters, including dazzling lasers, have many years of eye-safety research that, through engineering and training, ensures these devices can be used both effectively and with minimal risk of significant injury. Each Service also has an office that assesses and ensures the safety of all laser-based systems prior to their fielding.

The maximum permissible exposure (MPE) for a dazzling laser is defined as the level of laser energy to which a person may be exposed without hazardous effect or adverse biological changes in the eye or on the skin. The nominal ocular hazard distance is defined as the distance at which the peak brightness of the laser device falls below the MPE. Non-lethal dazzling lasers are designed and intended to be employed at energies well below the MPE. An operationally effective exposure, which causes a temporary, non-lethal glare effect is well below the MPE, making it an ideal non-lethal capability. An eye-safe irradiance causes enough glare to significantly, but temporarily, obscure a person's field of vision.



Targeting a suspected vehicle with an optical distracter.

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The compelling glare from a non-lethal optical distracter is very similar to the glare off a windshield from a setting sun. This illustrates that when used according to pre-determined concepts of operations and through proper training, a dazzling laser can offer the user a variety of desirable non-lethal effects.

System Evolution

The LA-9/P™, GLARE® MOUT, and Green Laser Interdiction System are examples of fielded green laser optical distracters currently being used to hail, warn and suppress personnel to determine intent at vehicle checkpoints and other missions. The next-generation system currently under development is the U.S. Marine Corps' Ocular Interruption Program. The U.S. Navy is also interested in long-range ocular interruption for maritime use. Future and ongoing developments aim to increase the military effectiveness of optical distracters by increasing range and optimizing spot size and system design—depending on the desired military application.

Organizations Involved

The following organizations have participated in the continued support of non-lethal optical distracter technology evaluations, effects characterizations, safety assessments, and the development of relevant Concept of Operations:

- Department of Defense
 - U.S. Marine Corps
 - U.S. Army
 - U.S. Air Force
 - U.S. Navy
 - Service Research Labs
- Department of Homeland Security
 - U.S. Coast Guard

Non-lethal weapons are intended to minimize fatalities, protect the innocent and limit collateral damage.



For further information, contact the JNLWD at 703-432-0905

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