

**MIL-STD-277**

CHANGE NOTICE 1

6 JUNE 1956

**MILITARY STANDARD**

**STATIC ACCEPTANCE TEST FOR LIGHT  
OUTPUT OF FLASH MUNITIONS**

TO ALL ACTIVITIES:

1. The following pages of this standard have been revised and supersede the pages Wed:

New page	Date	Superseded page	Date
4	6 June 1956	4	1 Feb 66

2. The following is a cumulative list of earlier changes:

New page	Date	Superseded page	Date
None			

3. Retain this cover page and insert before the table of contents of this standard.

**MIL-STD-277**

**5.3.8 Audio oscillator.** The output of an audio oscillator shall be coupled to the Z-axis input of the oscilloscope so as to produce timing marks on the film record. The audio oscillator shall adhere to the following requirements:

Frequency rating: Oscillator must be capable of supplying a sine-wave signal of 1,000 cps (cycles per second ) with an accuracy of 0.1 percent, and a frequency stability of 0.1 percent for a 20°C. change in temperature.

Output voltage: 23 volts, open circuit voltage.

**5.3.9 Voltage regulator.** The ac line voltage shall not vary more than  $\pm .01$  percent. A voltage regulator shall be used for the standard lamp and oscilloscope. The regulator shall comply with the following requirements:

Input voltage: 100 to 130 volts ac, single phase, 55 to 65 CPS.  
 Output voltage: 115 volts ac.  
 Regulation accuracy (commercial specifications) :  $\pm .01$  per cent for a variation in input voltage of  $\pm 10$  percent and  $\pm .01$  percent for a load change of 100 percent.

**5.3.10 Standard voltmeter.** A standard voltmeter is required to measure the voltage of the standard lamp. The voltmeter shall adhere to the following requirements:

- : 0 to 150 volts ac.  
 Accuracy: 0.1 of 1 percent of full scale.

**5.3.11 Standard ammeter.** A standard

ammeter is required to measure the current in the standard lamp. The ammeter shall adhere to the following requirements:

Range: 0 to 10 amperes ac  
 Accuracy: 0.1 of 1 percent of full scale.

**5.4 Test Procedures.****5.4.1 Test condition.**

**5.4.1.1** The tests shall be conducted only in clear weather, either during the day or night. Items shall not be tested when snow is present on the ground, or when the nature of the background will cause reflection of the flash. The transmission of the atmosphere shall be 92 percent, minimum, for a path of 1,000 feet.

**5.4.1.2** The transmission can be determined by measuring the maximum distance that a large object can be seen in daylight against the horizon-sky background. This measure of visibility can then be converted to transmission by use of the International Daylight Visibility Table (see 6.1.3).

**5.4.1.3** A group of trees, buildings, or water tower on the horizon, may be used as a sighting target. The target shall be considered to be visible when the outline of the object can be seen when the eye has become adapted to the prevailing light condition. A transmission of 92 percent, over a 1,000 foot test distance, corresponds to a daylight visual range of approximately 8 miles. Therefore, tests shall not be conducted when the visibility is less than 8 miles.

**5.4.1.4** The item to be tested shall be suspended in such a manner that a minimum of the flash is reflected into the photocell from the ground and surrounding objects. The photometers shall be at an adequate distance from the item so that the photocell light-shield will cover the entire area of the flash (see fig. 2). The area of ground viewed by the photocells shall be kept at a minimum to minimize pickup of reflected light. The use of two photocells is recommended, so that a check of the results will be possible.

## **MIL-STD-277**

**5.4.1.5** In general, the flash is observed from a position parallel to the axis and toward the nose of the item (end on). However, measurements are occasionally required from positions perpendicular to the axis (side on) and parallel to the axis toward the

back of the item (back on).

**5.4.1.6** The orientation of the photometers, the distance of the photometer to item, and the suspension and firing procedure, is given in the specifications of the specific item to be tested.

Supersedes