

AMERICAN NATIONAL STANDARD Z136.1-2022

3.3 Laser and Laser System Hazard Classification Definitions.

This section provides technical definitions of laser and laser system hazard classifications.

3.3.1 Class 1 and 1M Lasers and Laser Systems.

3.3.1.1 Class 1.

or laser system. The maximum exposure duration is assumed to be no more than 0.25 s. Class 2M lasers and laser systems pose the same ocular hazards to the unaided eye as Class 2, but are potentially hazardous when viewed with optical aids.

3.3.3 Class 3R and 3B Lasers and Laser Systems.

3.3.3.1 Class 3R. Class 3R lasers and laser systems include those that have an accessible output between one and five times the Class 1 AEL for wavelengths shorter than 400 nm or longer than 700 nm, or less than five times the Class 2 AEL for visible wavelengths between 400 nm and 700 nm.

NOTE—Lasers can be classified as Classes 1M and 2M even if their output exceeds Class 3R in the case of a large output beam.

3.3.3.2 Class 3B. Class 3B lasers and laser systems include

a) Lasers and laser systems operating outside the retinal hazard region, that is, < 400 nm or > 1400 nm, that can emit accessible radiant power in excess of the Class 3R AEL during any emission duration within the maximum duration inherent in the design of