



**INTERNATIONAL  
GEMOLOGICAL  
INSTITUTE**

**ELECTRONIC COPY**

**COLORED STONE REPORT**

May 1, 2025	
IGI Report Number	698550346
Species	NATURAL ZOISITE
Variety	TANZANITE
Shape and Cutting Style	OVAL MODIFIED BRILLIANT
Weight	4.16 CARATS
Measurements	11.19 x 9.23 x 5.78 mm
Color and Transparency	VIOLETISH BLUE, TRANSPARENT
Characteristics	NATURAL CHARACTERISTICS

Comments:  
Tanzanites are commonly enhanced by heat, indicative evidence is typically lacking.



Photography is approximate



**OPTICAL and PHYSICAL PROPERTIES**

Refractive Index	1.691 - 1.700
Birefringence	0.009
Optic Character	BIAXIAL
Optic Sign	+
Specific Gravity	3.35

*Optical and physical properties are approximate values*

**Species & Variety**

Gems may be classified in different species, according to their basic chemical composition and crystal structure; within a certain species, small differences in composition may result in different colors, or varieties.

The way that light interacts with the gem may create some astonishing optical phenomena, such as a star, a cat's eye effect or change of color, in different varieties.

**Transparency**

As light passes through a gemstone, part of it, if not all, will be absorbed, and part will be transmitted. The more light that is absorbed the less transparent the stone will be.

**Characteristics**

Internal characteristics are the inclusions of a gemstone. Not only do they provide essential information about the formation but also the conditions in which the gemstone is grown.

**Refractive Index**

When light passes through air and enters a gemstone it slows down due to a difference in the medium. The ratio between the speed of light in air and in a particular medium is known as the Refractive Index.

**Optic Character**

Determining how light travels through the crystal. Using a range of specialized instruments, we will be able to establish if the stone is isotropic or anisotropic, uniaxial or biaxial.

**Specific Gravity**

Specific gravity is the ratio of the density of the gemstone to the density of an equal volume of water.

All IGI Laboratories employ a wide range of state-of-the-art equipment, which provides comprehensive and accurate assessment of different gemstones.



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