Gemprint® IDENTIFICATION & LIGHT PERFORMANCE REPORT

GEMPRINT®

PHOTO

DIAMOND INFORMATION

Date
Gemprint® ID
Reference No.
Shape
Weight
Measurements

LIGHT RETURN

OPTICAL SYMMETRY

SCINTILLATION

Light Return of Nine Positions

LIGHT PERFORMANCE

Light Return

Optical Symmetry

Scintillation

See the back of this page or go to www.Gemprint.com/LP to learn more aboutt Gemprint® Light Performance and to see a video of your diamond's scintillation in action.

Gemprint®

The fingerprint system for diamonds®

580 Fifth Avenue, LL-05, New York, NY 10036
T 212-997-0007 • F 212-869-2315
info@Gemprint.com • www.Gemprint.com

UNDERSTANDING YOUR GEMPRINT® LIGHT PERFORMANCE REPORT

What is Light Return?

Light Return is also known as **brilliance or total brightness**. It's the exceptional way diamonds *reflect and refract light* creating a luminous return of light to a viewer's eye that has made diamonds sought after for centuries. **Gemprint's Light Performance technology captures and measures the actual output of light from a diamond.**

The Gemprint® instrument shines a **single beam of light** (a red laser) into a diamond and analyzes the **light coming back out of the diamond**. First, data is captured by directing the light beam directly perpendicularly into the diamond, and then the instrument directs the light beam at the diamond while it is tilted approximately 12-14 degrees in eight different directions to establish the light return from different angles. The data is complied, analyzed, and graded on a scale of Fair, Good, Very Good, and Excellent.

What is Optical Symmetry?

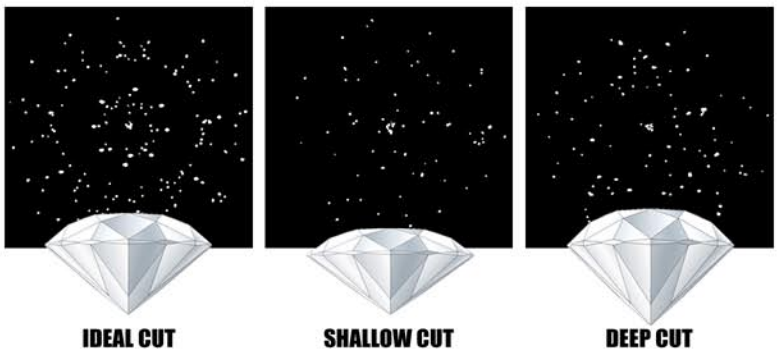
Optical Symmetry is the **evenness of light return**. It is determined by the **equality of every facet and angle**, the alignment of the crown and pavilion, and the orientation of the table and culet. Basically, it is an assessment of a diamond cutter's *craftsmanship, attention to detail, and overall skill.*

The Optical Symmetry image is the light return captured when the diamond is perpendicular to the light beam (the Gemprint®). The equality of the light return is **computed mathematically and analyzed** on a scale of Fair, Good, Very Good and Excellent. To promote easy visualization of the symmetry, the image is colorized and divided into eight equal parts; **the more even the pattern in each section, the better the Optical Symmetry.**

What is Scintillation?

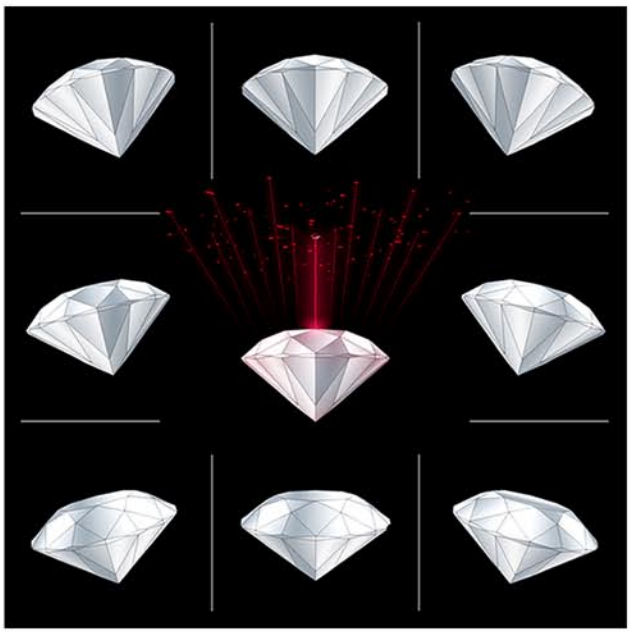
Scintillation is the **sparkling flashes of light seen when a diamond moves**. Because diamonds are never viewed from just one angle, Scintillation considers the overall light return from a diamond when viewed from different angles. **Gemprint® Light Performance captures the light return of the diamond in nine different positions**, which are the nine images seen in the Scintillation section of this report. The image to the upper right illustrates a diamond angled in the nine different positions.

The ideal way to view Scintillation is when the diamond is in motion. A video of the Gemprint Light Performance Scintillation of this diamond is available to view online at www.Gemprint.com/LP.



How Do Proportions Affect Light Return?

For more than one hundred years, mathematicians and diamond cutters have understood the important role that the **critical angle** of diamond plays in creating a brilliant, well cut diamond. The critical angle *(incident pavilion angles)* determines if light entering through the crown (top) is **reflected back through the crown or leaked out through the pavilion** (bottom). The images of shallow and deep cut diamonds above illustrate how Gemprint's direct assessment of light return correlates to well documented cutting standards.



Light Return and Optical Symmetry Grading Scales