ImaGem™ Newsletter

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In this Issue….

Thanks to Mr. David Atlas and Mr. Chuck Cassar of DGLA for assisting with this newsletter.

SEE THE LIGHT, KNOW THE DIAMOND'S BEAUTY

Seeing the Light for ImaGem means actually measuring light behavior, which provides an accurate measure of a diamond's beauty. Now ImaGem offers a service that is easy, fast, and reliable and matches what the human eye sees.

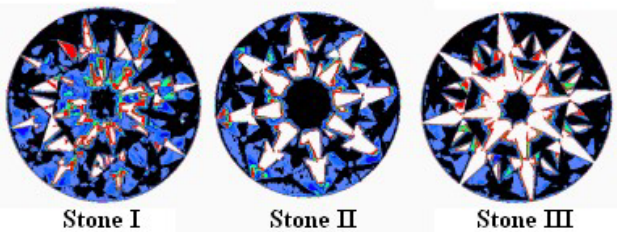
ImaGem's light behavior measures three factors; brilliance, sparkle and intensity. The definitions of these measures, while technical, explain how each factor influences a stone's overall beauty.

- Brilliance is a measure of a stone's overall strength of light return and it refers to the way a diamond shines.
- Sparkle is a measure of those spangle-like flashes of reflected and refracted light that gives a diamond what might be called "life". A greater number of flashes translates into a higher sparkle grade.
- Intensity is a measure of the number and strength of contrasting light dark areas in the girdle portion of a diamond that give it vitality and character. The greater the stone's symmetry, the higher its intensity will be.

"ImaGem's light behavior assessment system in simple terms, quantifies a diamond's beauty. These scientifically based measures are designed to match what the human eye sees when viewing diamonds under normal lighting conditions. Users of this new service in the gem community tell us that it directly grades the underlying reason why a diamond is bought - for its beauty," Dr. Lalit Aggarwal, Chairman of ImaGem Inc. observed.

Light behavior reports can be generated in 10-20 seconds depending on the information requested. To obtain a light behavior report, the gemologist simply weighs the stone with a scale, measures total depth, and enters those measurements into the database. The operator then clicks on the 'Start' button and the machine captures the necessary information. Upon processing the information, the machine displays the light behavior measures and an image of the stone. The last step is review by the gemologist after which the report is printed. This completes the light behavior analysis of the stone.

Light Behavior Comparison



Stone I Stone II Stone III

	Stone I	Stone II	Stone III
Brilliance	137	156	166
Sparkle	67	86	94
Intensity	103	112	313
Grade	G	VG	EX+

To the right is an example of light behavior comparison that shows the ImaGem image and the three measures and differences between light behavior grades of three stones. Grades shown here are rated good (G), very good (VG) and excellent plus (EX+). A quick look at the images of the three stones by a gemologist or even a consumer reveals the superior properties of Stone 3. Note the consistently higher light behavior values for stone 3.

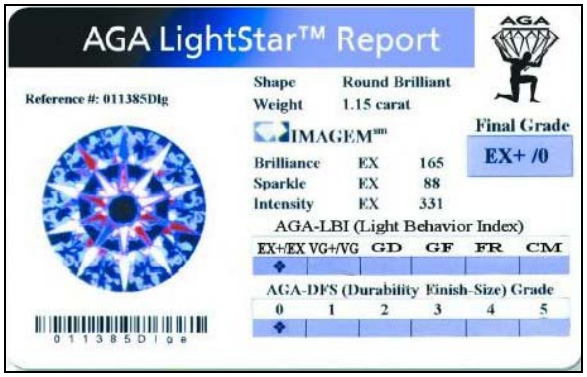
Light behavior helps users to identify light performance of a stone with easy to understand information and pictorial representation.

LIGHT BEHAVIOR APPLICATIONS CUSTOMIZED TO SUIT YOUR NEEDS

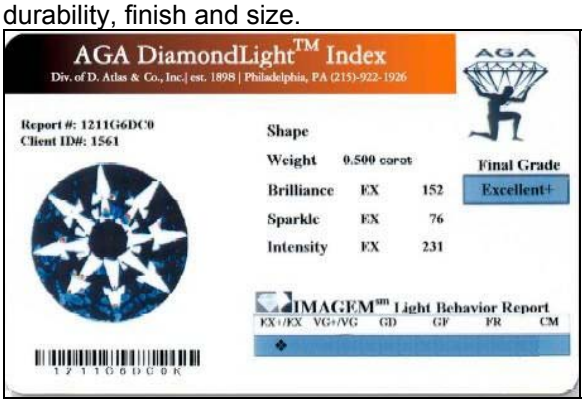
ImaGem's light behavior services are available as an add-on to full grading reports and as standalone light behavior reports. Users tell us that it helps them sell better and sell more as it provides them with crucial information about the diamond's light performance.

With an add-on or supplemental report, a customer who already had a full grading report found that with additional information, a stone with three Excellents earned a premium over the expected price and well in excess of the price of the light behavior report.

Accredited Gem Appraisers (AGA), Philadelphia, PA, one of the early adopters of ImaGem's light behavior services, provides light behavior reports as add-on or standalone reports called 'LightStar™ Report' and 'Diamond Light™ Index'. These and other light behavior services and reports have been customized to suit AGA's needs.



The standalone light behavior includes a stone's shape, weight, identification number, the three light behavior measures and an overall light grade plus a separate composite grade for durability, finish and size.



This report can be generated in 10-20 seconds and enables users to make an informed decision about the diamond's quality at the source itself. Based on the quality of the stone, the seller can also make pricing decisions.

When used at a diamond manufacturer's facility, the light behavior report provides sufficient information to quickly confirm that the stone meets the necessary criteria. If it does, the manufacturer would submit it for a full grading report. If not, the manufacturer may either re-cut it or reclassify it. The ability to know this information at the source can improve efficiency and reduce rejects or returns.

Many Internet savvy wholesalers and retailers are posting light behavior reports on their websites to demonstrate the quality of their diamonds.

We are learning daily about how light behavior information is used to sell more stones and jewelry, to improve turnover and to reduce rejection. ImaGem is committed to bringing this information to the market.

ImaGem and Diamond and Gem Laboratories of America (DGLA) presented at the recent JCK invitational Diamond meeting in New York. Pictured, left to right, are David Atlas and Chuck Cassar, partners in DGLA and Tom Ferguson, CEO, ImaGem Inc. The compact VeriGem device that captures and processes the data for the reports is visible on the right.

DIRECT MEASUREMENT OF BEAUTY BY IMAGEM

Almost a decade ago, ImaGem took on the challenge of directly measuring a diamond's beauty. We set out to construct a series of complimentary direct measures of light behavior that in turn would translate into an overall light behavior grade. After extensive research and practical testing with gemologists and jewelers, the three measures described previously were shown to reflect what the human eye sees. The resulting hardware and software yield highly accurate and repeatable quantitative measures and a distinctive color image.

Over the last decade new tools have become available to model light performance such as ray tracing. In that result Dr. Aggarwal, Chairman of ImaGem commented, "In so far as the issue of methodology is concerned, it should be clear that taking measurements of a diamond and using these measurements for modeling light behavior using ray tracing methodology yields a prediction and not a measurement of light emanating from a real diamond. We can predict or estimate weight of a diamond from its measurements but no reputable lab will use the predicted value in place of the direct measurement of weight obtained from a weighing scale on a diamond grading report."

"Whether in science or in commerce, a reliable grading system is always based on direct measurement and not on prediction. Proponents of predicting light behavior praise the virtue in using a large number of variables in their model. In fact as the number of variables increases, the efficacy of individual variables in explaining the variance will go down. The practice of using a large number of variables is common when there is a lack of theoretical understanding of the problem", he added.

ImaGem's proprietary measures, which are noted in its issued patents, represent the next generation in the quest for measuring the beauty of diamonds. You will ultimately decide if ImaGem's light behavior measures and overall grade reflects what your eye sees and has value for the price for you and your customer. Call or email ImaGem with a request for a report sample or with your questions or to arrange for a demonstration at our research office or at upcoming trade shows.

Got a question or a suggestion? Write to us at newsletter@imageminc.com.

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