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PIONEERING A NEW
STANDARD FOR OPTICAL
RADIATION MEASUREMENT

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The annual listing of 10 companies that are at the forefront of providing
Optoelectronics solutions and transforming businesses

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PIONEERING A NEW STANDARD FOR OPTICAL **RADIATION MEASUREMENT**

In a world where precision is key, it is critical for computational tools and methods to maintain the accuracy, repeatability, and reproducibility of the measured data to keep pace with the modern-day equipments. Consequently, the demand for high-quality instrumentation and calibration services accounting for reliability has also become part of the prerequisite.

In the manufacturing sector, the need to optimize processes and achieve operational efficiencies drives the requirement for precision instruments. It is more assertive in the semiconductor space that continues to produce ever smaller devices that are ever more complex in shape

and contain ever more types of materials. In semiconductor applications where physical touch with components is problematic, optical metrology techniques are nothing short of a breeches buoy. Optical metrology is used extensively in industries embracing miniaturization to achieve high precision, widening the scope for optical metrology market players over the forecast period from 2021 to 2031. This is where Optronic Laboratories comes in.

Since 1970, Optronic Laboratories, LLC has developed and manufactured spectroradiometers, lamps, lamp standards, and accessories that have improved the way the world measures optical radiation. From traceable light sources calibration and manufacture to characterization of



**OUR EXTENSIVE KNOWLEDGE AND CUTTING-
EDGE TECHNOLOGY IN THE FIELD OF
SPECTROMETERS HAVE ALLOWED US TO FOCUS
ON SOLUTION-ORIENTED HIGH-QUALITY
PRODUCTS WITH EXCEPTIONAL PERFORMANCE
TO CREATE TOTAL SOLUTIONS FOR A WIDE
RANGE OF APPLICATIONS**



performance-critical military NVIS displays, or quality testing of automotive and commercial product displays, the company develops and provides metrology solutions for the most challenging light measurement applications. Today, Optronics Laboratories is one of the world's most recognized manufacturers of NIST-traceable calibrated light sources and measurement systems. With hundreds of standards available, Optronics Laboratories perfectly matches its precision standards with a vast range of precision constant-current power supplies, ensuring correct results and repeatability every time.

"We are motivated to evolve and stay relevant in the industrial landscape—offering creative solutions to complex problems, developing breakthrough scientific advancements, and staying ahead of the technological curve. We maintain innovation as the focal point of our corporate mission, and strive to provide state of the art products and solutions that help our customers," says Chris Gordon, Product Scientist, Optronics Laboratories.

What discerns Optronics Laboratories from market competition is their experience of more than 40 years in photonics system design and manufacturing, making them the experts in spectroradiometry for both instrumentation and calibration services (specifically measurements from 200 nm to 30 μm). Their facility offers full product engineering, design, and manufacturing quick-turn capabilities, with specialized expertise in opto-mechanics and photonics systems. The team of highly qualified engineers has countless years of experience with demanding commercial product delivery, as well as custom-designed and OEM solutions.

"Our extensive knowledge and cutting-edge technology in the field of spectrometers have allowed us to focus on solution-oriented high-quality products with exceptional performance

to create total solutions for a wide range of applications. We also have an ISO accreditation that covers our laboratory for spectral irradiance calibrations, as well as calibrations for total spectral radiant flux and total luminous flux," says Gordon.

The company's staple product is the OL 750, a versatile spectroradiometric measurement system capable of performing a variety of highly accurate optical radiation measurements under computer control in the ultraviolet, visible, and infrared. The modular approach of the OL 750, coupled with an extensive selection of accessories and powerful application software packages, enables the user to tailor a turn-key system to their exact requirements as well as ensure expandability in the future. Both single (OL 750S) and double (OL 750D) grating monochromator versions are available. The basic system, along with an extensive selection of optional items and accessories, enables the OL 750 to measure over all or part of the entire 200 nm to 30 μm wavelength ranges.

On the detection side, the company offers a variety of different detectors that go anywhere from 200nm to tens of microns. Optronics Laboratories' systems and accessories are designed to provide consistent, traceable measurements throughout the product life-cycle. They boast a global customer base that has been at the receiving end of their guaranteed quality that ensures sustained performance.

With their certified and proven products and services, Optronics Laboratories is also looking into using LED-based calibration standards, a relatively new feature in the spectroradiometry realm. "We believe the customer demand pushes us towards innovation and customization of the existing solution range. We are working on product development to ensure that the instrumentation is evolving to stay pertinent with the industry," says Gordon. ⁵⁰

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