We are experts in optical metrology.

Hehkulab is an engineering and consulting company based in Finland. Our team has over thirty years of combined experience in various fields of measurement science and optical technology at National Metrology Institute level.

Our mission is to help you perform your measurements faster, more accurately, and at lower cost compared to the traditional solutions. For you, this comes with minimal effort, investments, and changes to the existing processes.

Our solutions are in use in industrial test laboratories, manufacturers, and National Metrology Institutes internationally.

New projects and consulting.

With our expertise in optical, electrical and mechanical engineering as well as software development, we can help you achieve your goals.

Do not hesitate to contact us!

Hehkulab

Light solutions for light metrology

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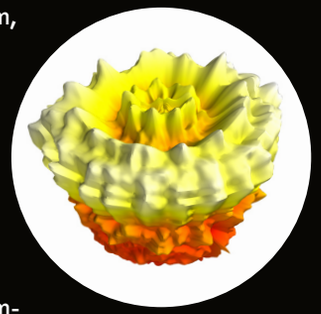
Full goniometric measurement in a matter of seconds.



Our fisheye camera system, *Anglerfish*, allows you to measure the luminous intensity distribution of a light source without a need for a tedious goniometric scan. Instead of hours, you will get a high resolution angular distribution of your source in a matter of seconds. Simply install the light source in the integrating sphere, and let our system do the rest.

Anglerfish is compatible with most integrating spheres and comes with everything you need to start measuring luminous intensity distributions. If you do not have an integrating sphere yet, we can advise you on what kind of an integrating sphere would be best-suited for your needs.

The method has been validated in peer-reviewed scientific journal articles. Visit our website for details.

Anglerfish system

- Calibrated fisheye camera
- Camera adapter tailored for your system
- Reference light source
- Software for data capture and analysis
- Remote support for installation

Lower uncertainties with a well-characterized integrating sphere.

Integrating spheres are never uniform. With our integrating sphere scanner, *Hammerhead*, you can characterize the spatial non-uniformity of your sphere reliably and accurately. This information allows you to drastically reduce the uncertainties caused by baffles, seams, particle contamination and other sources of non-uniformity in your integrating sphere.

Our integrating sphere scanner can be directly installed into the lamp holder of your integrating sphere, and it communicates wirelessly with the measurement computer. This means that no modifications to your existing system are required.

Hammerhead combined with *Anglerfish* is a turnkey solution for reducing the uncertainty of your luminous flux and luminous efficacy measurements.

Hammerhead system

- Sphere scanner compatible with E27 or similar socket
- Measurement electronics for capturing the photometer signal during scan
- Software for data capture and analysis
- Remote support for installation

Accurate characterization of photovoltaics.

Our solar cell calibrator, *Helios*, is a tailored solution for accurate characterization of photovoltaics. The system provides a direct solution to meet the requirements for photocurrent measurements in spectral responsivity characterization in compliance with the specifications in IEC 60904-8. Helios can be easily integrated into existing photovoltaic characterization setups.

Helios combines high current nulling amplifier and current-to-voltage converter with low noise bandpass filtered voltage amplifier. The four-point measurement circuitry enables the compensation of wire and junction resistances which would otherwise generate significant voltage over the measured photovoltaic.

Helios system

- Photovoltaic measurement systems for photocurrents of up to 10 A
- Selectable gain between 1 and 10^7 V/A
- Bandpass filter with a selectable bandwidth of up 10 kHz
- Customizable upon request
- Remote support for installation