SMARTSens Optical Modeling Services

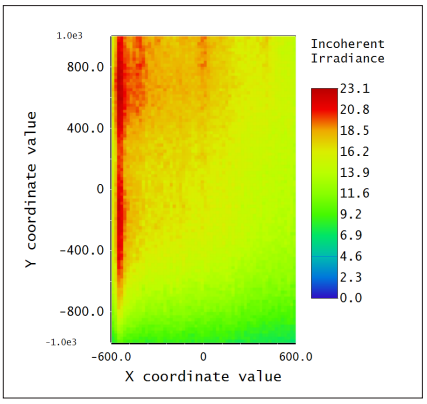
Optimizing optical performance metrics

Labsphere has long been a name associated with radiometric and optical systems design, analysis, and calibration. These analytical capabilities lend themselves well to accurate prediction of optical performance for many our radiometric and colorimetric solutions.
To better serve our customers, Labsphere extends these capabilities as a service to optimize their integration of our OEM solutions with their products. This allows Labsphere to enable our customers in optimizing optical performance metrics for deterministic environments and applications.

For our SMARTSens products Labsphere offers modeling of an enclosed volume such as UV-C Disinfection Cabinet or enclosure. We offer modelled simulations of illumination in the enclosed environment under varying lighting conditions and geometric scenarios. As a result, we can assist in determining the best locations for integrating our SMARTSens UV-C Irradiance and Dose-meter Sensors to validate disinfection cabinet performance, hotspots, cold spots, and optical radiation distribution and uniformity.

What we need from you to provide our modeling service:

- A CAD model of the cabinet with light sources installed
  - SolidWorks, .STEP
- Part number and model of the light sources being used in the enclosure
- Enclosure wall, ceiling and floor materials and surface finish
  - Any specific information including BRDF, reflectance, etc.



The basic enclosure modeling package includes:

- A Zemax model and optical radiation distribution in the chamber for up to three different lighting scenarios.
  - A lighting scenario is a simulation where the geometry is constant, but the lighting source can be altered by level, or by turning different sources on/off.
- Correlation between irradiance at up to 5 specific locations within the chamber to sensors mounted on the wall of the chamber.
  - The deliverable is a recommendation on where to locate Labsphere's SMARTSens sensors that can provide dosage levels that correspond to surfaces of interest where it may not be practical to position a sensor.
- A report that includes:
  - All assumptions made in the modeling
  - Operating conditions for each scenario simulated
  - Geometry summary
  - Correlation analysis summary
  - Images and plots of the irradiance distribution on selected surfaces
  - Numeric files of the irradiance distributions
  - Digital optical model input files
  - Recommendations to optimize performance and detector location

Ordering Information

Model number	Description	Order Number
MOD-SERV-ENC-E	Enclosure modeling and report for an empty chamber. Up to 30 hours.	AA-01607-000
MOD-SERV-ENC-A	Enclosure modeling and report for additional scenarios. Up to 10 hours.	AA-01608-000
MOD-SERV	Additional modeling at hourly rate.	AA-01609-000

To set up your options contact Labsphere Support at https://labsphere.com/contact/

PB-14115-000 Rev 00