# ET Summit 2022

Presented by



# Thermal Radiation Measurement for Optimal Thermal Comfort

## Emerging Technology from California Startup



Micah Sweeney Sr Research Engineer EPRI Nicholas Houchois Founder & CEO Hearth Labs



## **Radiant Heat Transfer**





#### **50% Convection**

**50% Radiation** 

**Problem:** Radiant heat transfer is underestimated and difficult to measure.

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## **Q** Sense: Thermal-LiDAR



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#### 12,523,550 points

#### **11:38 minute collection time**

## **Applications**

- Thermal measurements (MRT, Operative Temperature, U-Values, etc.)
- Comfort and energy audits
- HVAC system optimization and commissioning
- Recommendations and retrofit projects



## **Case Study**







## **Key Advantages**

- Measuring the missing half of thermal comfort
- Heat transfer, not temperature
- Occupant-centric
- Fast, easy data collection
- Automated analysis
- Intuitive communication



# This project was funded by the Southern California Edison's Emerging Technologies Program.

#### For more information, contact Edwin Hornquist at <a href="mailto:ehornquist@sce.com">ehornquist@sce.com</a>.

The project report can be found at <link>.

We're continuing to deploy Q Sense in pilot and full-scale projects so please reach out if you have a building that would benefit from our work.

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