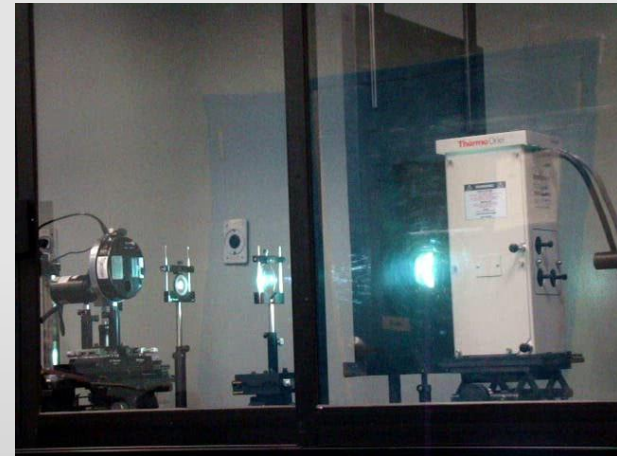


Fast development of the National Standard UV Dose for support industrial applications vs Covid 19 in México



N. Vidal Medina
Centro Nacional de Metrologia
(CENAM) Mexico

PREVIEW

- **INTRODUCTION**
 - **COVID 19 AFFECTATION IN MEXICO**
 - **USE UV RADIATION TO REDUCE SPREAD VIRUS PROPAGATION**
 - **CENAM AS REFERENCE IN UV MEASUREMENTS**
- **NEW MEASUREMENT SERVICES**
- **PROJECTS DEVELOPED IN 2021**
- **FUTURE WORK IN CENAM ABOUT UV RADIATION**

COVID 19 AFFECTATION IN MEXICO





USE UV RADIATION TO REDUCE SPREAD VIRUS PROPAGATION



Pulsed Xenon Light
Our patented system produces up to intense xenon light covering the full germicidal spectrum for fast effective disinfection.

- Kenon bulb fully contained and protected by external hardware during transport and storage.

Simple user interface:
Auto-updating Software: Allows the seamless addition of new features.

Cloud-based reporting: Delivers comprehensive reports to XENEX's secure cloud-based portal using Wi-Fi or cellular data.

Impact-resistant Hardware
Designed for extreme durability and reliability.

360° Use your camera to rotate product pics to see all features.

Sensor Motion Detection
Triple Sensor Motion Detection cone can sense motion from across a room, triggering safety system for larger rooms.

LightStrike
GERM-ZAPPING ROBOTS

Notably, we lead the industry with the most real-world, hospital outcome studies documenting our 99.9% rate reduction results. Our evidence-based protocols, proven infection rate reduction programs, and LightStrike GERM-ZAPPING ROBOTS are so good, so do our industry expertise, drive us to improve HSA, and enhance customer support.



BLUELIGHT

Brightness: 800 Lumens

Estimated Energy cost: \$1.01 per year

Greenleaf



Light is pure
PURITEC® HNS® UV-C lamps

Efficient purification of air, water and surfaces

Light is OSRAM

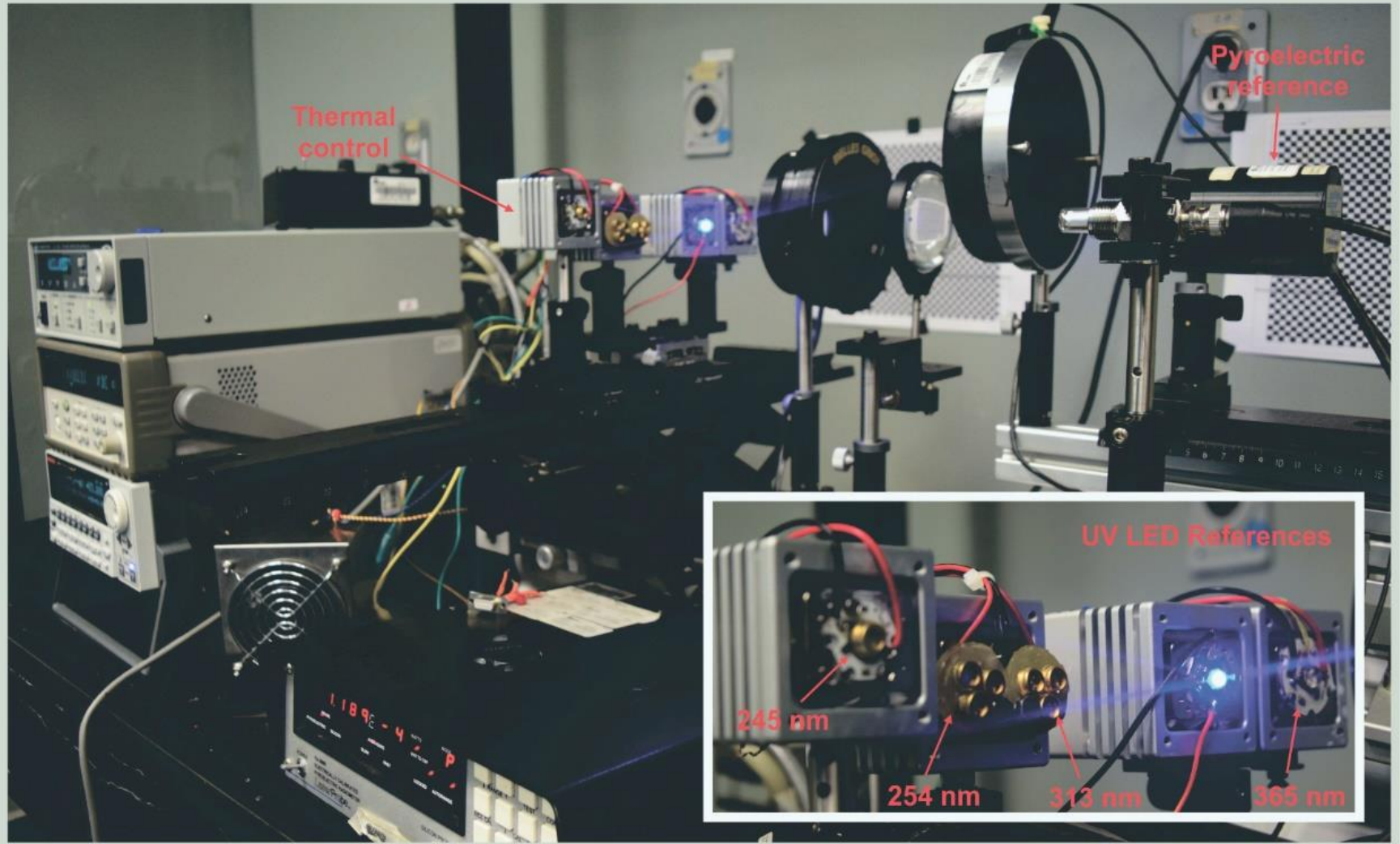
OSRAM



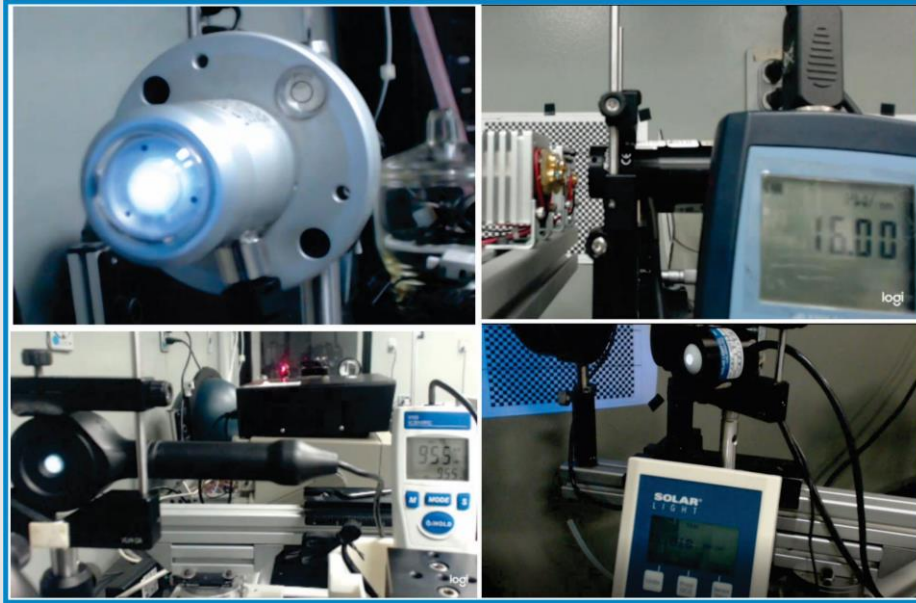
Linear T5 and T8



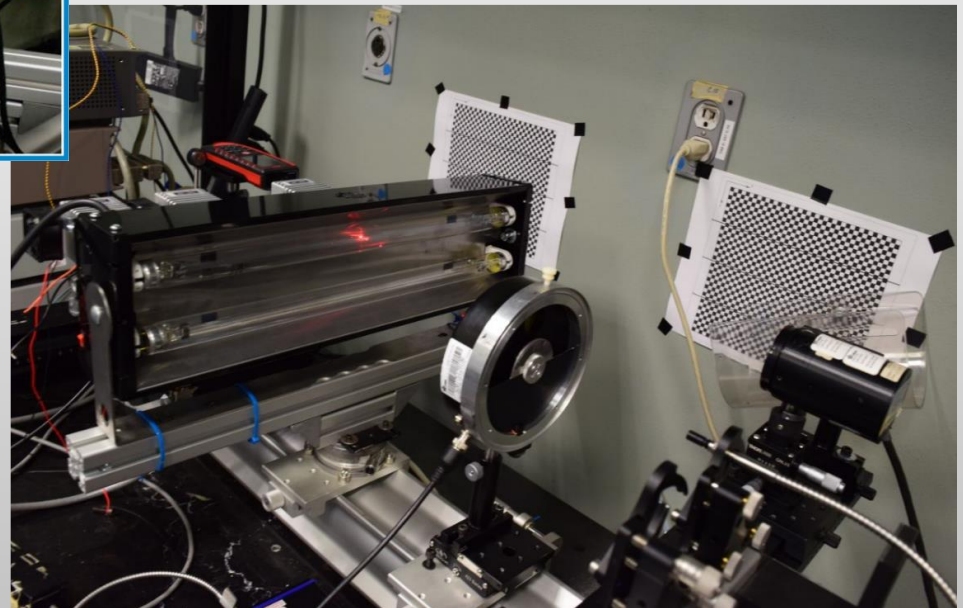
CENAM AS REFERENCE IN UV MEASUREMENTS



CALIBRATION SERVICES BEFORE COVID-19

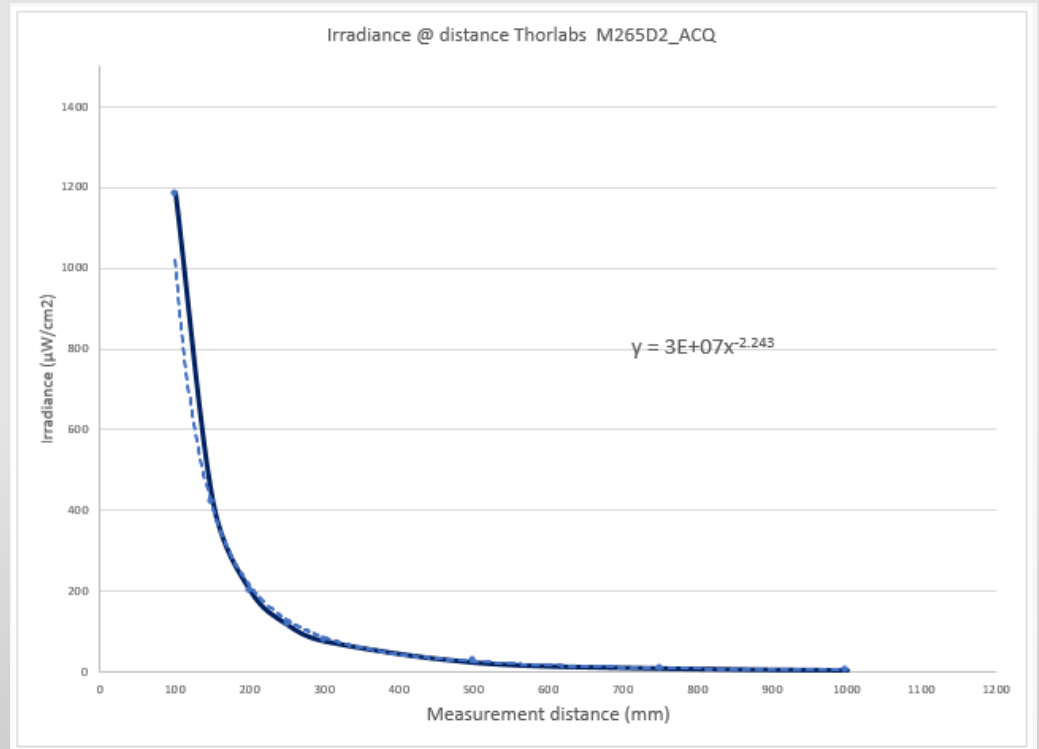
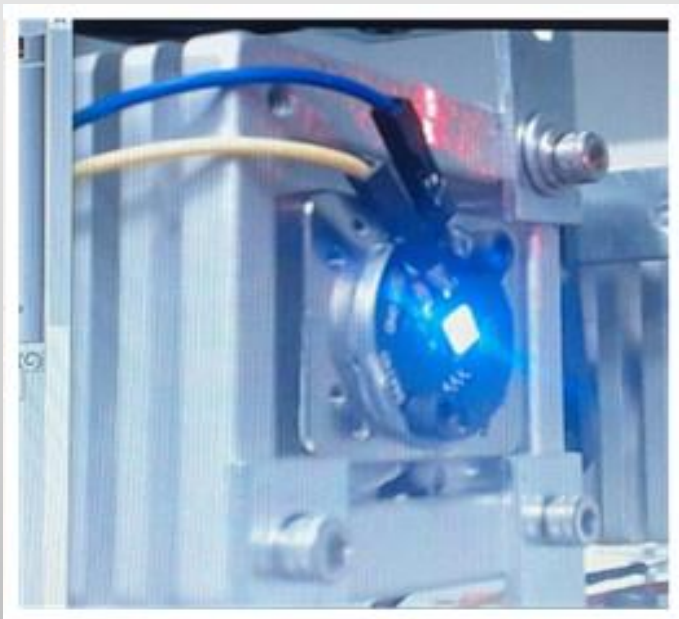
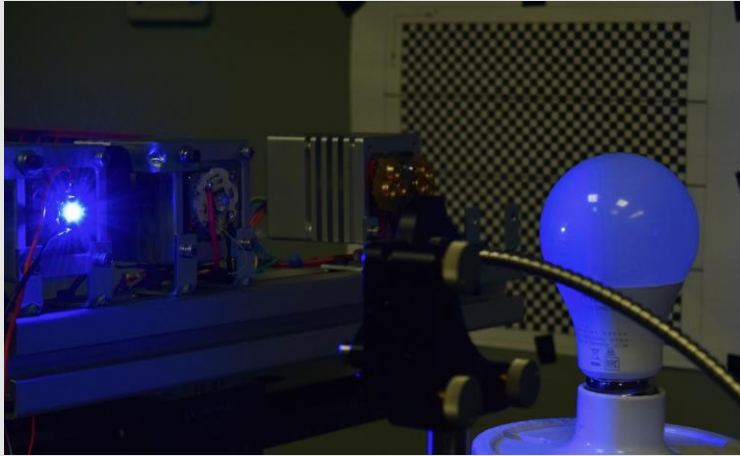


Calibration of UV radiometers

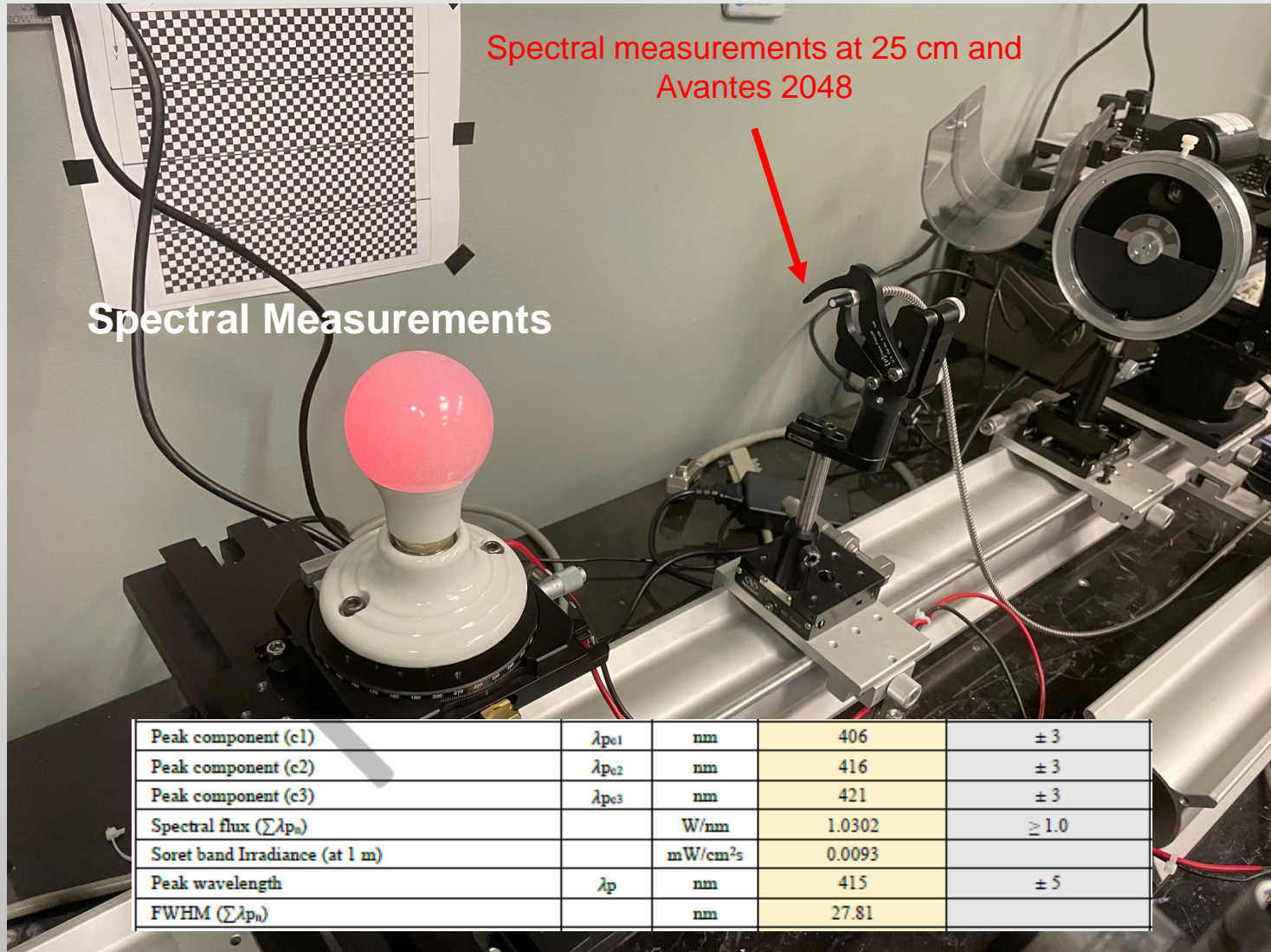


Characterization of UV radiation sources

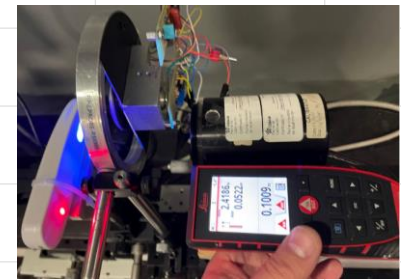
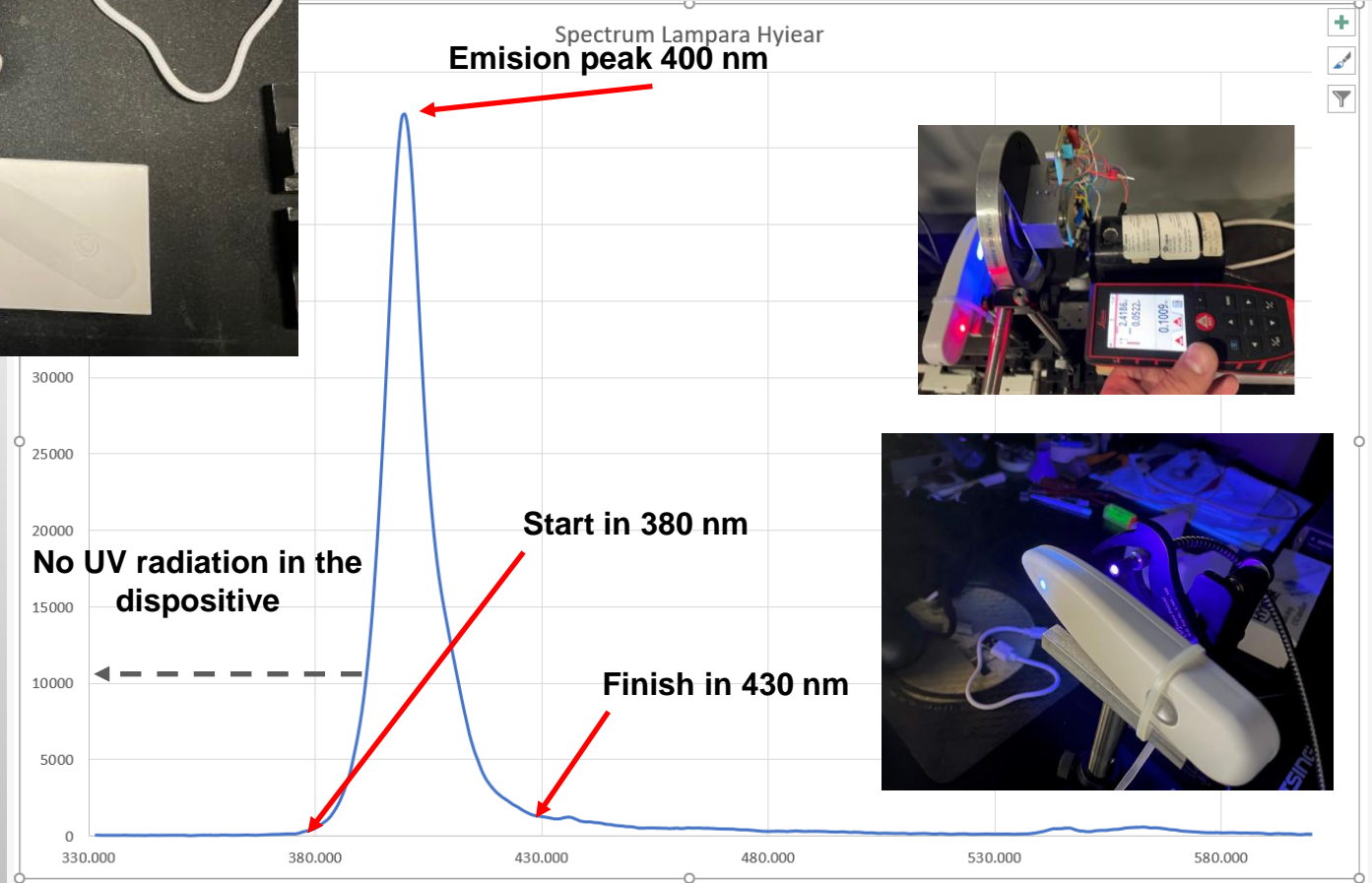
IRRADIANCE @ DISTANCE RELATION IN UV SOURCES



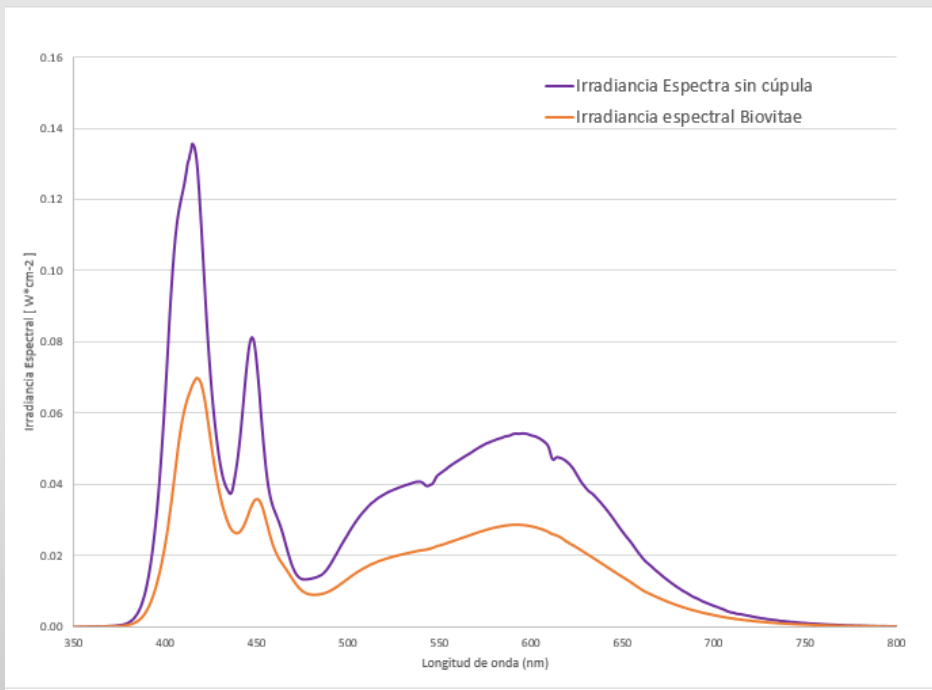
SPECTRAL MEASUREMENTS



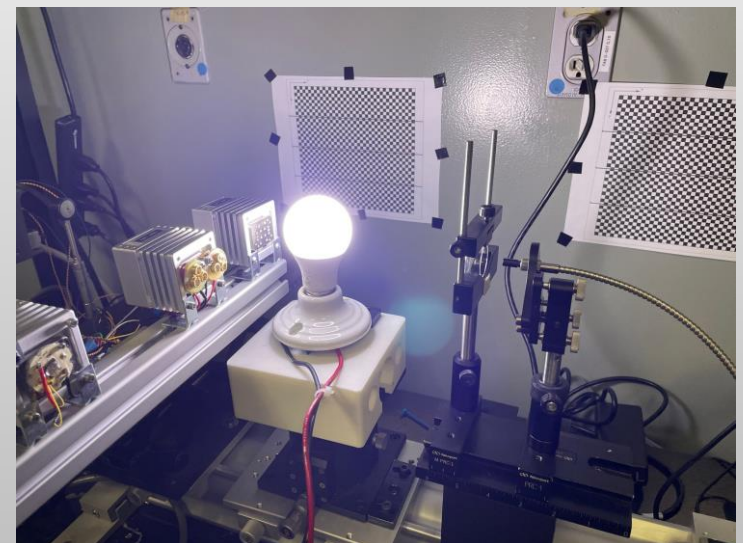
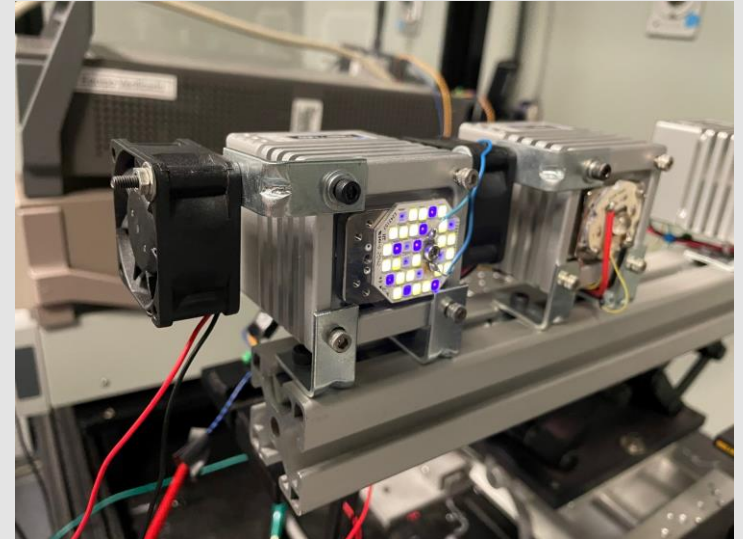
VERIFICATION OF NEW PRODUCTS



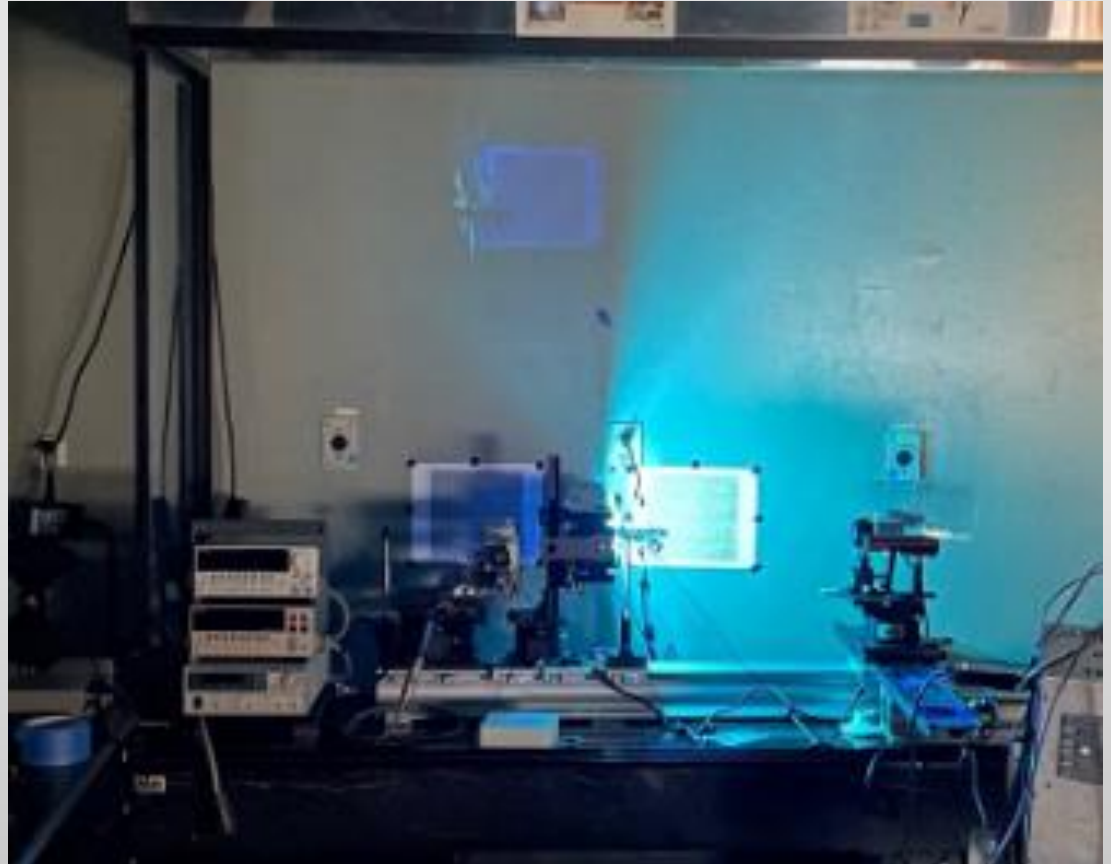
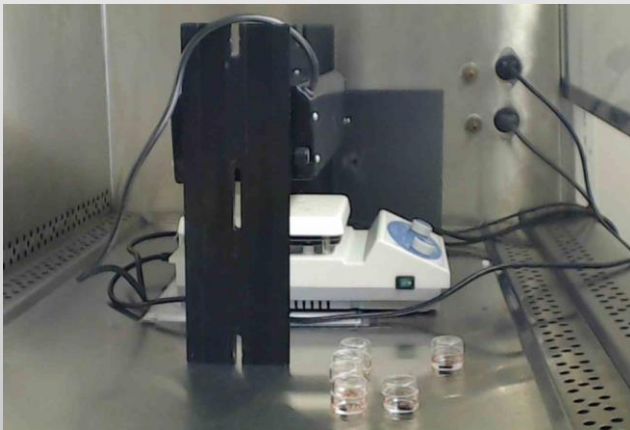
USING BLUE LIGHT IN PASSIVE DISINFECTION



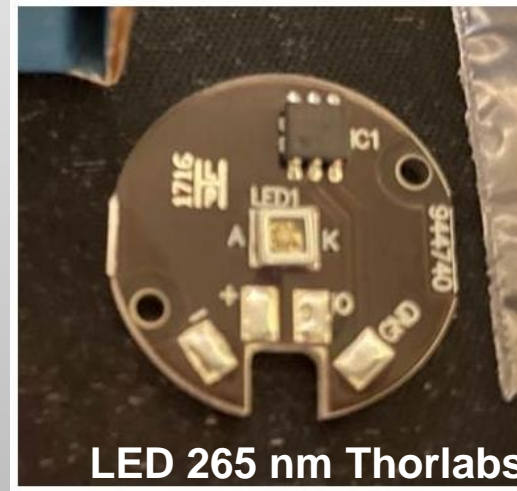
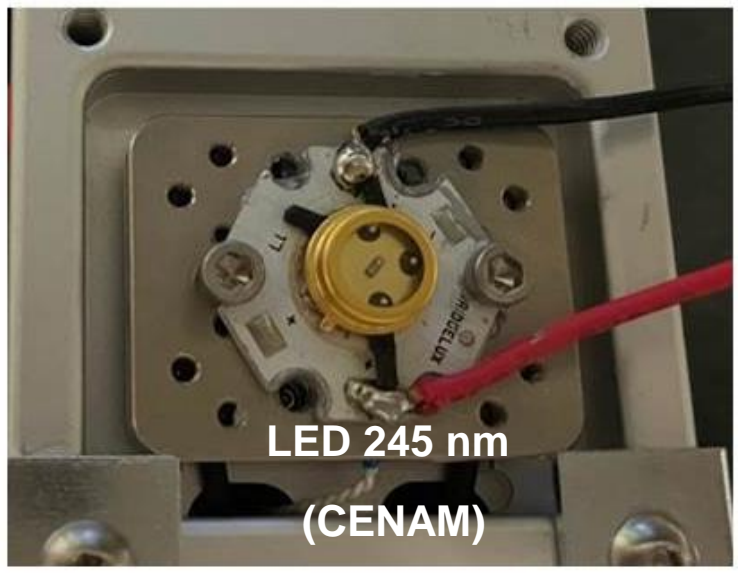
Blue light as a passive disinfection method



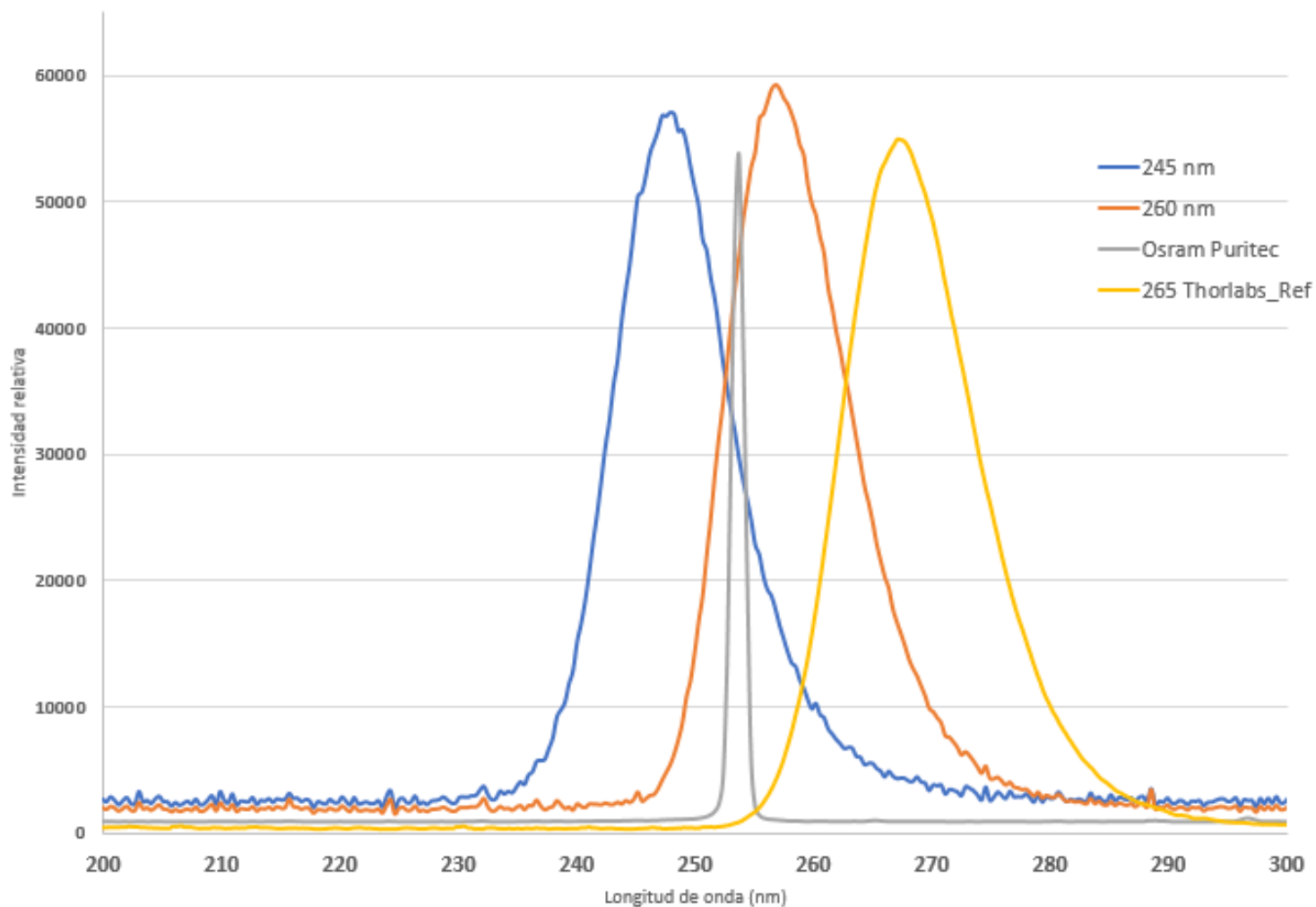
REAL EFFICACY OF UV RADIATION VS COVID-19



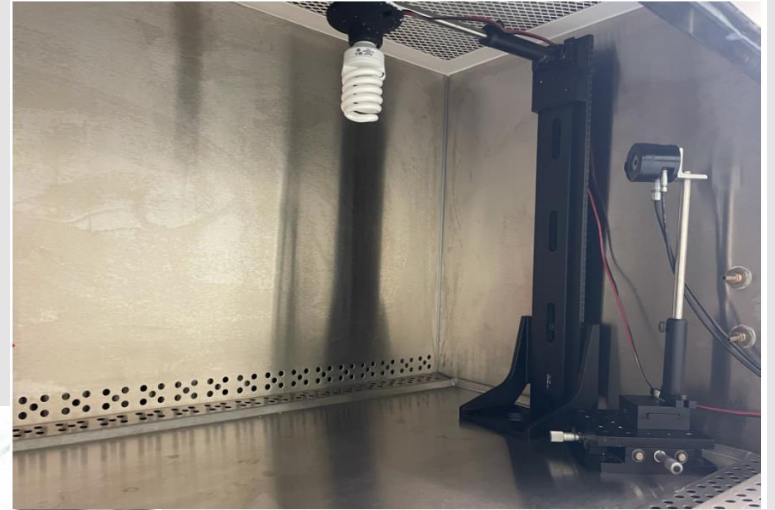
LED UV SOURCES APPLICATIONS



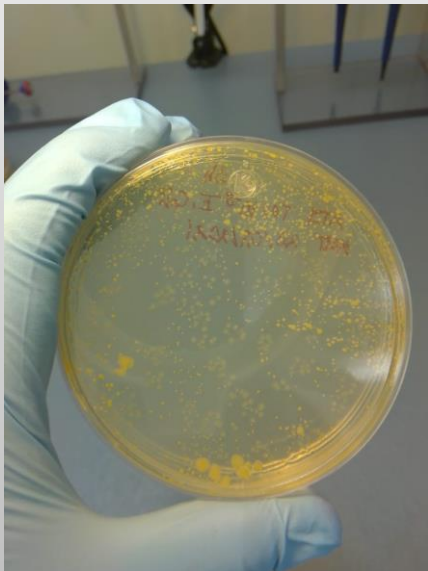
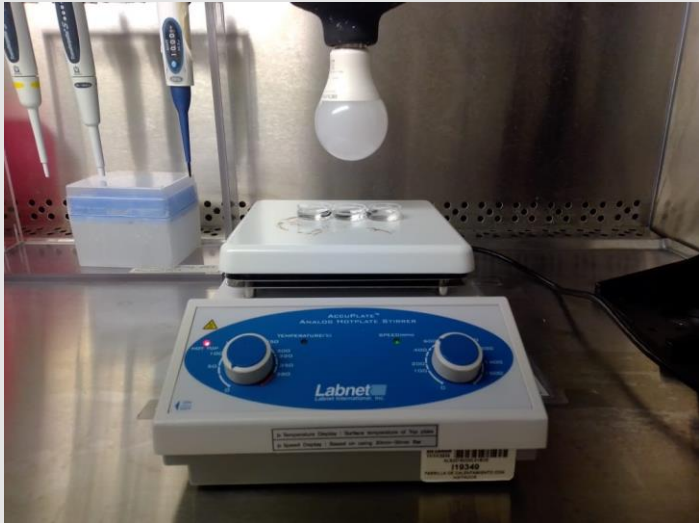
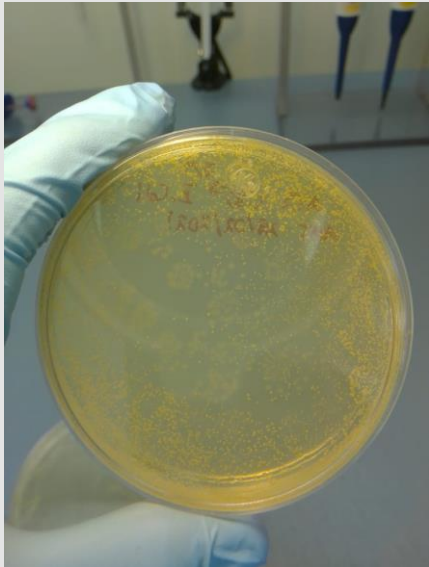
Espectros Prototipos 1-4 ACQ



BIOLOGICAL EVALUATION

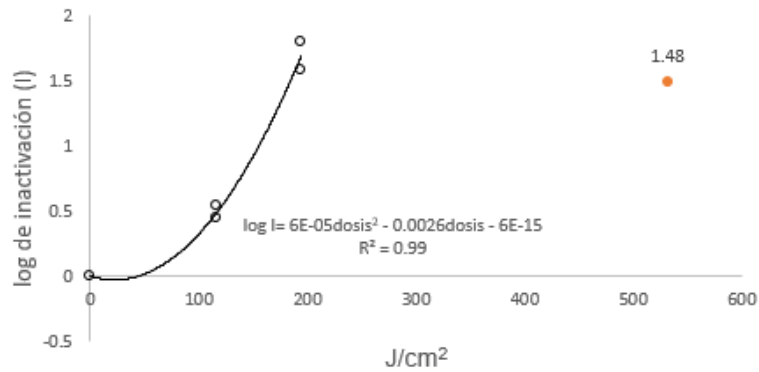


BIOLOGICAL EVALUATION

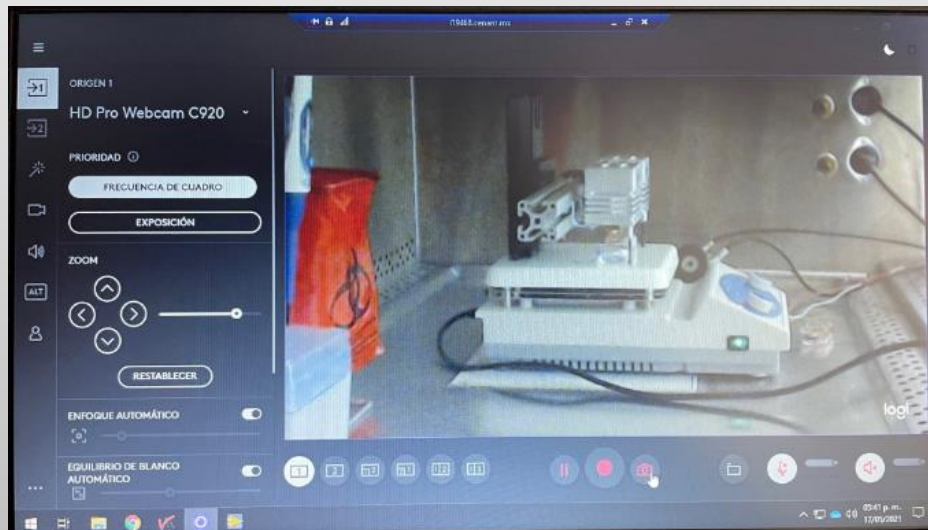
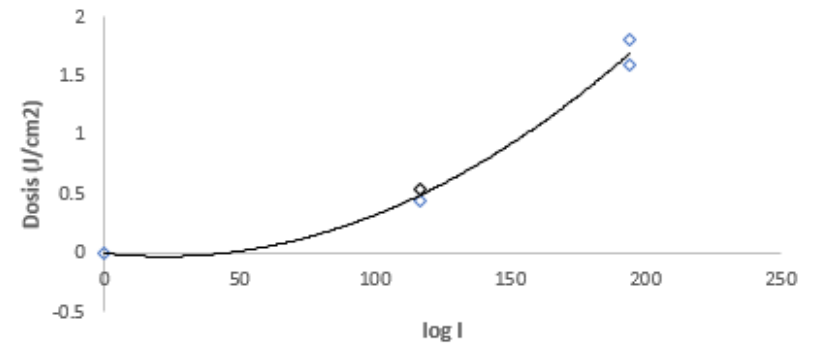


REAL DOSE FOR VIRUS DESACTIVATION

Dose - response for E. Coli Blue lighth



Dose - response fungus-bacteria Blue light



PROJECT FOR MEXICAN AIRCRAFT INDUSTRY

Project

Development and in vitro validation of a prototype system for disinfection of modular UV-C sources for direct application in sanitation of aircraft cabins



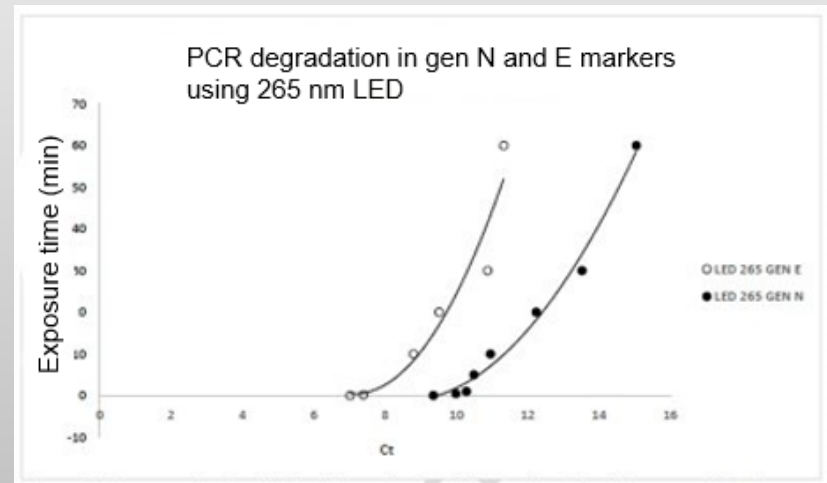
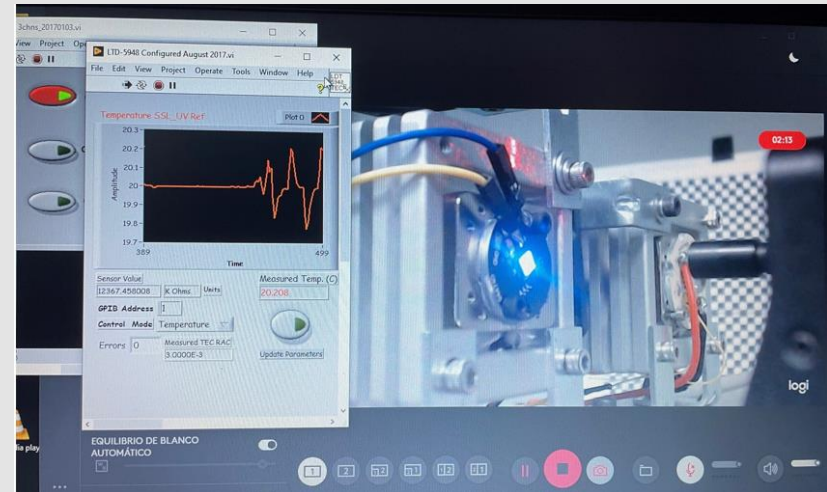
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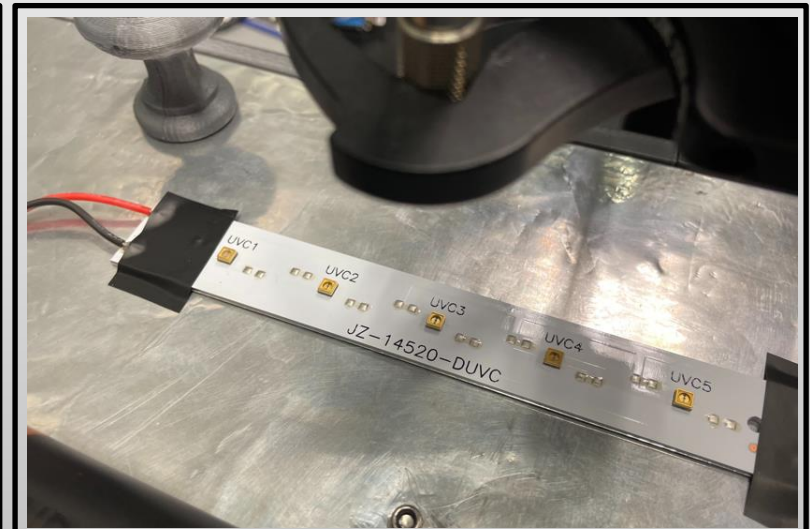
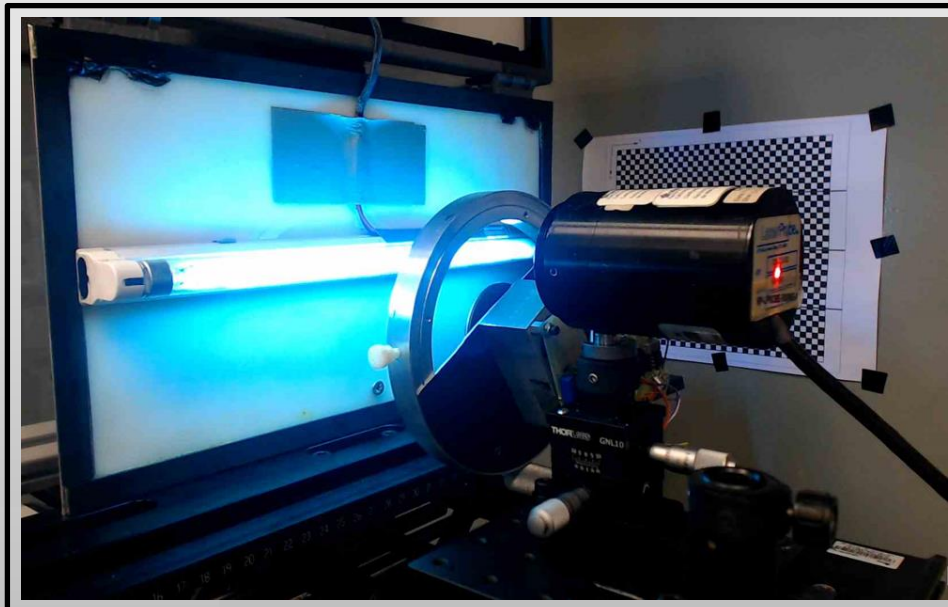
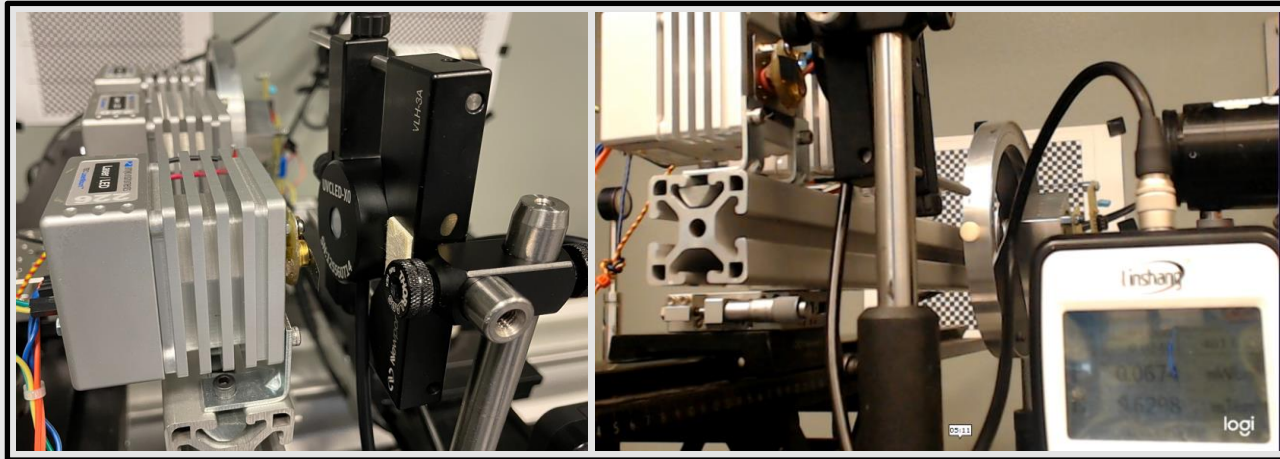
Para el:



Con el soporte de:

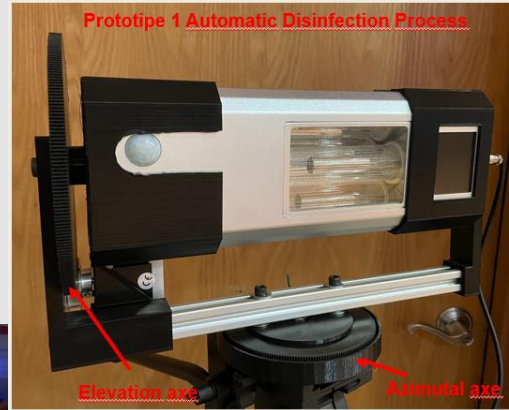
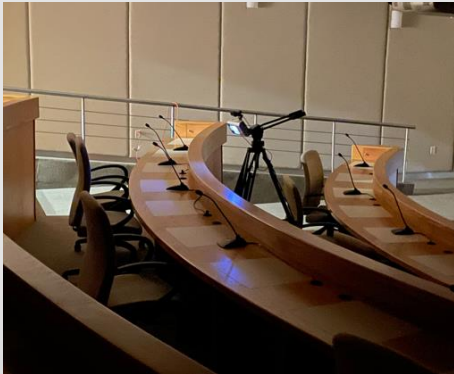


KNOWLEDGE TRANSFER TO UNIVERSITIES (UNAM, MEX)



APPLIED PROJECTS IN CENAM

Disinfection of public spaces using deep UVC (222 nm excimer lamps)



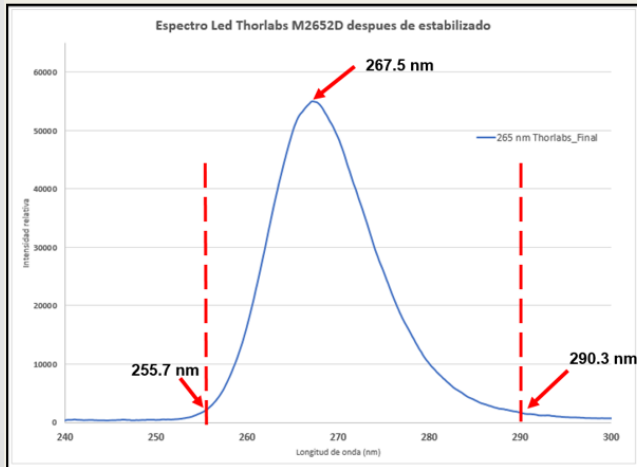
Challenges:

- Deep UVC dose recommendations
- Automatic disinfection process
- Translation system design
- Transfer results at Mexican industry

FUTURE WORK ABOUT UV RADIATION IN CENAM

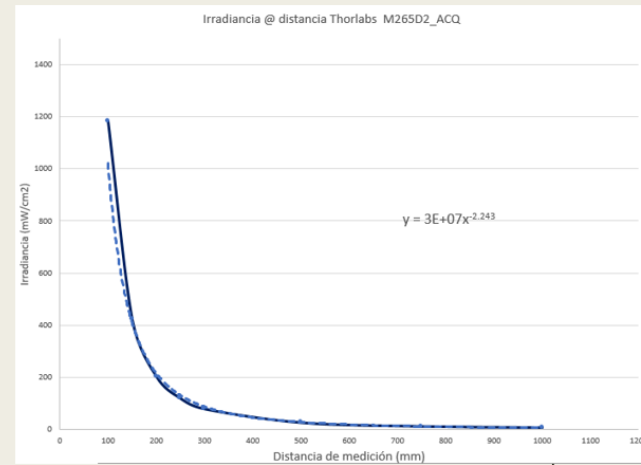


Measurement values after test

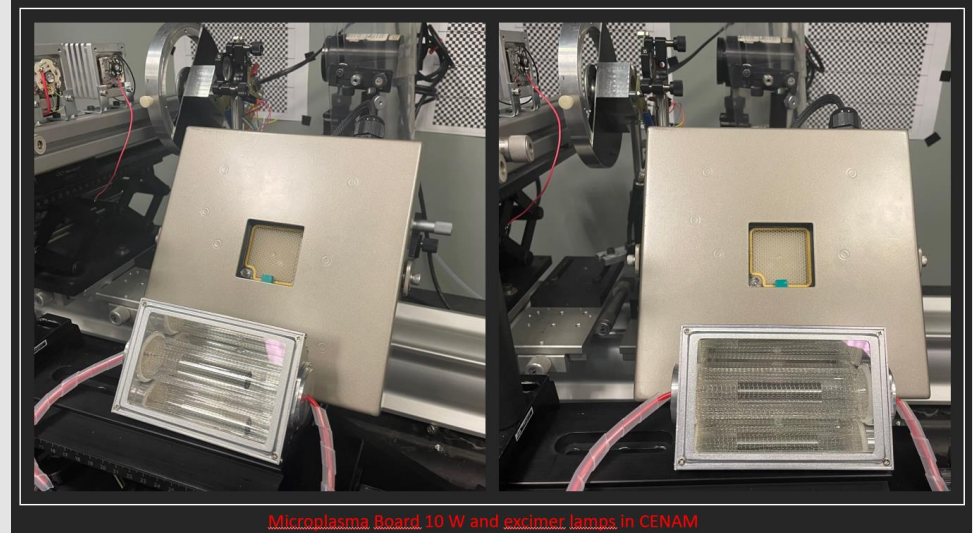
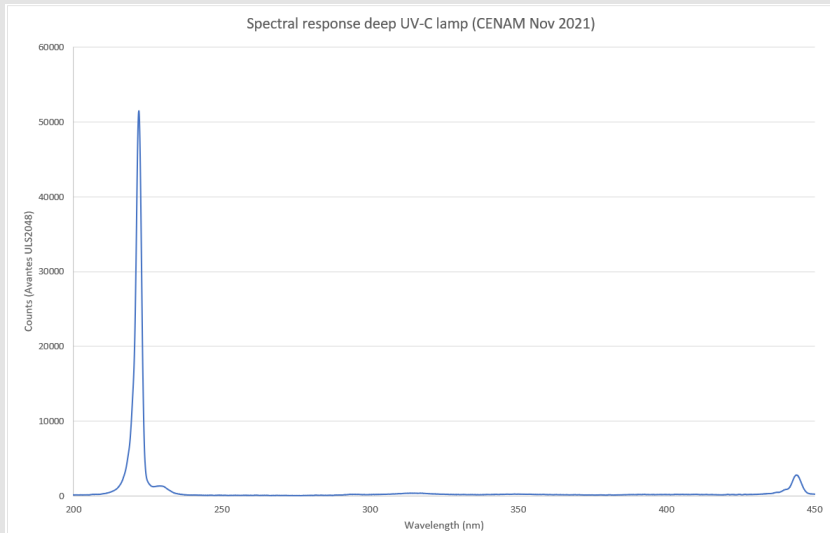


Spectral response

Distance (mm)	Irradiance ($\mu\text{W}/\text{cm}^2$)	U (%) con $k=2$
100.00	1185.20	1.47
150.00	422.69	1.49
200.00	203.45	1.49
250.00	118.83	1.50
300.00	78.19	1.52
500.00	25.67	1.65
750.00	11.26	1.78
1000.00	6.70	1.85



FUTURE WORK ABOUT UV RADIATION IN CENAM



This is a reminder that "UV Metrology: Evaluation of UVC Technologies for UV Radiation Disinfection" will begin in 1 Hour on:

Tue, Oct 26, 2021 7:30 AM - 11:30 AM CDT

Add to Calendar: [Outlook® Calendar](#) | [Google Calendar™](#) | [iCal®](#)

M.C Esther Castro and M.C. Mauricio Maldonado
Bioanalysis Division in CENAM

Eng. Alexis A. Garcia and Eng. Daniel Rosas
Optical Division in CENAM

Thank you