

**PALF.**  
Palmeta Fotovoltáica

# PALF: Modular Photovoltaic Tile

**SELF-SUFFICIENT LIGHTING SYSTEM USING RECYCLED PLASTIC AND SOLAR ENERGY FOR CRITICAL CAMPUS AREAS**

## KEY WORDS

SOLAR LIGHTING,  
MODULAR  
PHOTOVOLTAIC TILE,  
RECYCLED PLASTIC

## DESCRIPTION

PALF is a modular, self-sufficient lighting system developed by the LEMAA team to improve visibility and perceived safety in critical areas of the USACH campus. It uses photovoltaic cells mounted on recycled plastic bases, requires no grid connection or invasive works, and is scalable. It won first place in the “Luz Verde” category of USACH Sostenible and has a pilot with two 8,000-lumen solar luminaires.

## POTENTIAL BENEFITS OR IMPACTS

Improved lighting, safety, and user experience for the university community;  
Replicable modular solution without extra structures or grid connection;  
Use of recycled polymers and renewable energy (lower footprint).

## TECHNOLOGY MATURITY LEVEL (TRL)

TRL 4: laboratory validation

## AREA OF APPLICATION

Plastics  
Urban/campus lighting  
Solar energy

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