

**Innovative Product List
Product Evaluation Report**

**Evaluation of the SolarCap Infinity SolarCap
In-Roadway Light Assembly**

November 20, 2014 (report approval date)

Version 1.0

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Acronym and Abbreviation List

IPL.....	Innovative Product List
FDOT	Florida Department of Transportation
TERL	Traffic Engineering Research Laboratory

FDOT-TERL Innovative Product List Product Evaluation Report:
 Evaluation of the SolarCap Infinity SolarCap In-Roadway Light Assembly

Company Name:	SolarCap Infinity
Company Contact Name (Title):	Wael Majdalawi, PE, PTOE
Model Evaluated:	SolarCap Road Marker
Product Type:	In-Roadway Light Assembly
Product Series:	YH-DD1
Test Laboratory:	N/A
Specification ¹ (Effective Date):	Developmental Spec 707 (effective 10/06/2014)
IPL Application Received Date:	4/29/2014
Sample Received Date:	4/29/2014
Evaluation Completed Date:	11/20/2014
FDOT-TERL Lead Evaluator:	Carl Morse
Other FDOT-TERL Evaluator(s):	Matthew DeWitt
Report Approver: (for Evaluation Failed/Request for Information)	Jeff Morgan
Report Approver: (for Approval Recommended or Denied)	Alan EI-Urfali
Evaluation Results:	<input checked="" type="checkbox"/> Approval Recommended <input type="checkbox"/> Evaluation Failed/Request for Information <input type="checkbox"/> Approval Denied
Sample Status:	<input type="checkbox"/> Company must retrieve sample within 60 calendar days of notification via this report ² <input checked="" type="checkbox"/> Company must leave sample at FDOT-TERL

¹ with allowed variations documented in this report

² FDOT-TERL reserves the right to dispose of unclaimed sample past deadline

I. Purpose and Summary of Testing

FDOT-TERL performs material and functional evaluations to ensure that all traffic control products sold and deployed on transportation projects within the state of Florida meet FDOT requirements. Anyone intending to sell, or any public body or official intending to install, a traffic control product (as described in *Florida Statute 316.0745*) within the state of Florida must follow FDOT's approval process.

This report presents findings discovered during product evaluation. The report will be updated as needed, and serves as a record of events and tool to assist the applicant/supplier in resolving issues encountered during the evaluation.

The evaluated sample is shown in **Figure 1**.



Figure 1: SolarCap Infinity SolarCap

II. Findings During Evaluation

1. Visible Vertical Light Output (Dev. 707-2.5)

The light produced by the IIRPM must only be visible from the direction(s) of traffic that it is intended to guide. No light produced by the IIRPM should be visible when viewed from a height of 3.5 feet above the pavement at a distance of 20 feet from the opposite quadrant or side quadrants of the IIRPM's LED projection quadrant. (see **Figure 2**). Please provide IIRPM that restricts vertical light emission from unit.

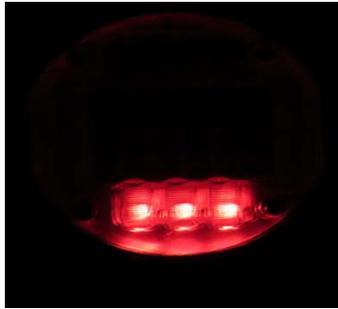


Figure 2: Visible Vertical Light Output

SolarCap Infinity response (7/31/2014): SolarCap provided a new design change which incorporates light shields to prevent light from escaping the unit in a vertical direction. (See figures 2 & 3).



Figure 3: New Design

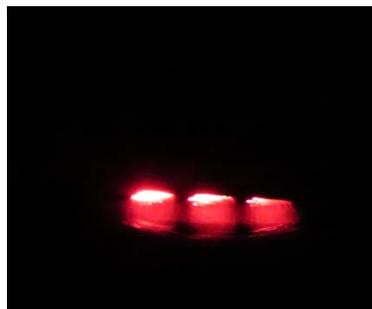


Figure 4: New Design (Lighted)

FDOT-TERL response (11/20/2014):

No action is required by **SolarCap Infinity**. *This item has been resolved.*

III. Additional Requirements

For future listing on the FDOT Approved Product List, an independent lab report must be provided that indicates the following requirements are met:

- 1) Compressive strength of the IIRPM exceeds 30,000 pounds.
- 2) Color (wavelength) meets the requirement of the pavement marking for which they supplement or substitute.
- 3) The IIRPM has minimum light luminous intensity levels as follows:

Color	Minimum Intensity
White	50.0 lux
Yellow	10.0 lux
Red	15.0 lux
Blue	1.0 lux

(Intensity levels must meet the requirements mentioned above for at least 16 hours of continuous duty without sunlight)