

Luminaire Testing and Approval at INDOT

Road School 2017

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High Pressure Sodium to Solid State



to



■ Initial concerns with Solid State:

- Light Output, Reliability, Cost
- These concerns have been addressed

→ *INDOT is going to Solid State*

Approved Materials List

- **Approved Materials List- Quality**
- **Simplifies**
 - Design Effort
 - Shop Drawing submissions for contractors
 - Future Maintenance



Approved Lists

- **List comprised of 5 sub-lists**
 - High Mast, 1000 Watt HPS equivalents
 - High Lumen Roadway = 400 Watt HPS
 - Low Lumen Roadway = 250 Watt HPS
 - Low Lumen-Low Mounting Height Roadway
 - Underpass, = 150 Watt HPS
- **For each list models approved will:**
 - Provide adequate light output
 - Use significantly less energy than HPS



Testing Procedure for Approval

■ Indiana Test Method 957

- Basis for luminaire evaluation and approval
- Adopted summer of 2016, revised last month

Indiana Test Methods or Procedures Index

Documents on this page will be opened as a PDF file or be downloaded to your computer depending on your personal settings.

Indiana Test Methods Or Procedures Index			
ITM No.	Effective Date	Contact Person	Title
ITM 955	07/11/13	M. Pelham	Procedure for Evaluation and Approved List Requirements for Automated Assistance Devices
ITM 956	04/26/16	D. Boruff	Procedure for Evaluation and Approval List Requirements for Portable Traffic Signals
ITM 957	02/14/17	D. Boruff	Procedure for Evaluation and Approval List Requirements for Solid State Luminaires



■ **First Step: Documentation Review**

- Manufacturer provided Lab Reports & Certifications required
- Must be prepared by a Nationally Recognized or Accredited Lab (NVLAP)

Demonstrates that INDOT specifications are met or exceeded

ITM 957 (cont.)

■ Lab Testing

- Purdue Northwest- Office of Energy Efficiency & Reliability
- Work will include checks of:
 - Lumen Depreciation
 - Power Quality, eg. harmonic distortion
 - Heat dissipation- essential for LEDs & driver

Confirms performance and quality



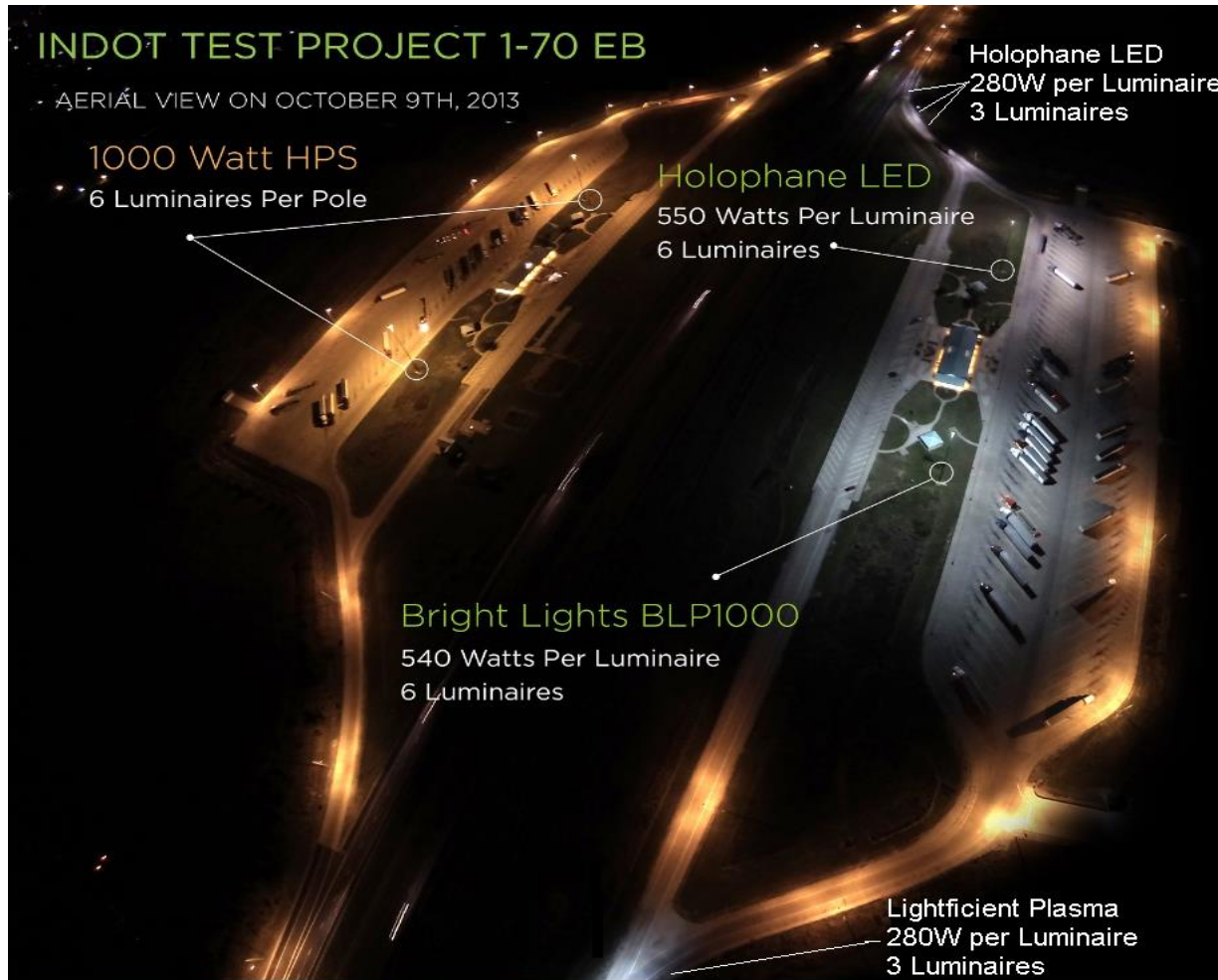
ITM 957 (cont.)

■ Field Testing

- Performance Checks of:
 - Light Output
 - Correlated Color Temperature
 - Power Consumption
 - Ease of Installation
 - Reliability
- Various Locations w/ existing lighting
 - Current demo sites
 - New locations, e.g. I-74 & Ronald Reagan Parkway, I-65 near downtown Indy



Towards the New Technology



I-70
Hancock
County
Rest Area
circa 2013