

Elite Airport Lighting Equipment Certification Program

IESALC Government Contacts Subcommittee
Fall 2023

Brad DeGrave
Program Administrator



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Information about Elite



Elite Electronic Engineering, Inc.

Providing electromagnetic compatibility (EMC) and environmental (ENV) stress testing services since 1954



- Family-owned business with 90 employees
- 75,000 ft² campus in Downers Grove, IL
- Administrative, Testing, Certification, and full machine shop on campus
- ISO 17025 Testing Accreditation
- ISO 17065 Certification Body Accreditation



Photometric Capabilities

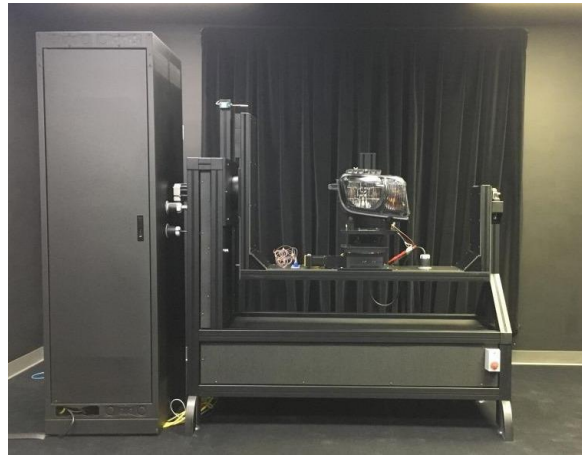
Full-service test and certification facility for aviation, automotive, military, electronics, and heavy equipment industries

Photometric Capabilities

- Luminous Flux (lumen)
- Luminous Intensity (Cd)
- Effective Intensity (Cd)
- NIR Radiant Intensity (W/sr)
- Chromaticity / Color

Key Equipment

- Type A Goniometer / 64 ft Distance
- 2-meter Integrating Sphere
- Portable Spectroradiometers
- Steady / Flashing Measurements



Purpose of the ALECP Program

- **Intended for equipment funded by airport improvement program**
- **Enhance safety by:**
 - Ensuring lighting equipment meets, or exceeds, standards for safety, performance, and quality
 - Provide standardization of visual cues

Third Party Certification Body Roles

- **Per 150/5345-53D, All Third-Party Certification Bodies:**
 - Are accepted by the FAA to certify all L-types
 - Issue initial and revised Certificate of Conformance
 - Approve test plans and ensure test locations follow ISO17025
 - Evaluate equipment per -53D and respective Advisory Circulars
 - Ensure manufacturers maintain a suitable quality control program
 - Review modifications to equipment
 - Notify FAA of new and rescinded certificates

Third Party Certification Body Guideline



ISO 17065:2012



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FAA AC 150/5345-53D Para 3



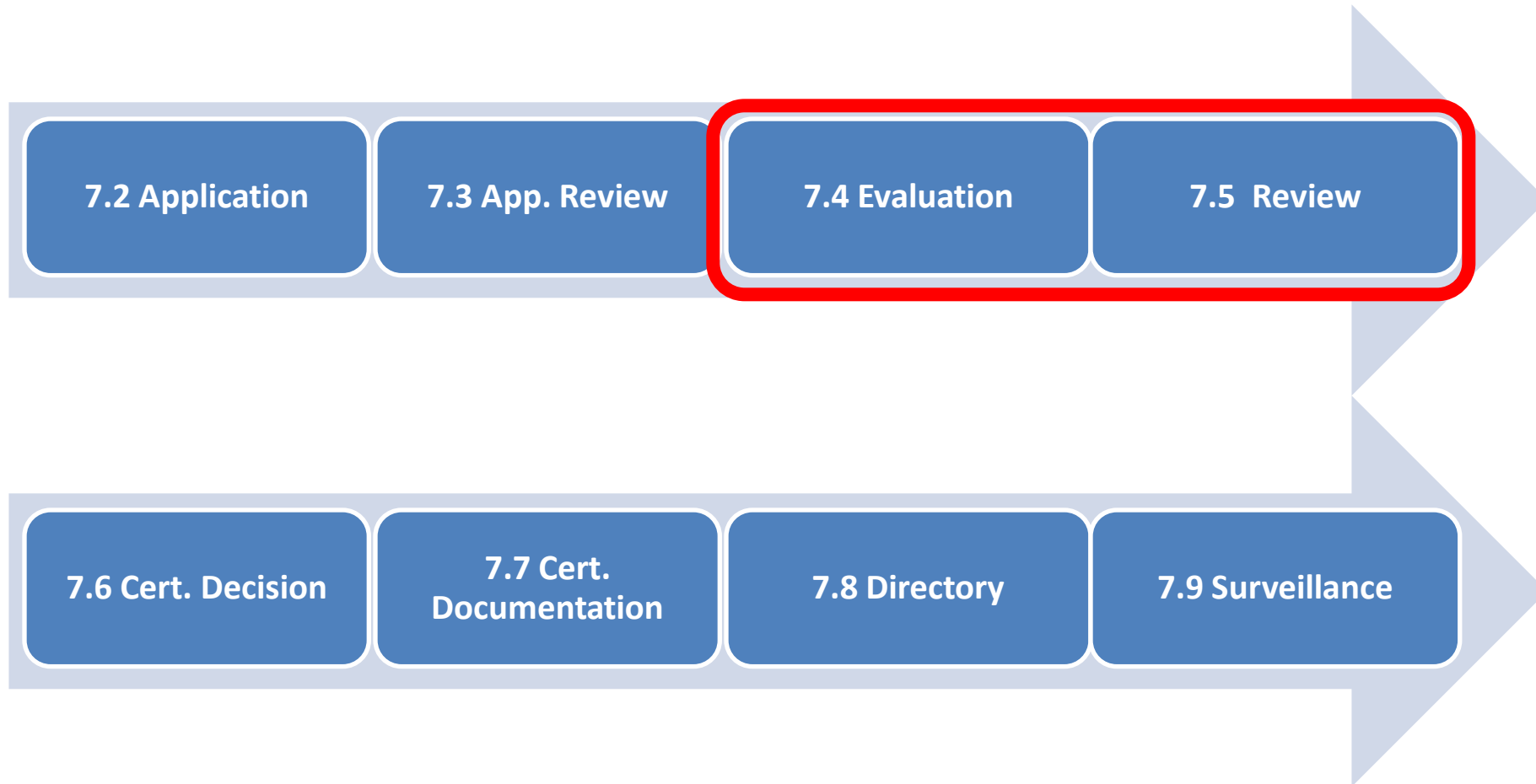
Procedures. ...The third-party certification body under the procedures contained in Appendix 2, Third Party Certification Program and Procedures *evaluates* equipment.

Qualification Tests

The tests may be conducted at the third-party certifier laboratory, or witnessed by the third-party certifier at the manufacturer's laboratory, or at a third-party laboratory. All testing laboratories utilized must conform to the requirements of the ISO/IEC Guide 17025, “General Requirements for the Competence of Testing and Testing Laboratories.” ... Only test data collected after contact with the third-party certifier may be utilized toward certification of equipment.

Evaluation as Part of the ISO17065 Process

ISO 17065:2012



Compliance vs. Certification

- **Compliance:** tested unit passes required tests per AC
- **Certification:** is the ongoing process and involves a review of compliance tests to ensure all requirements were met through testing
- **Impartiality:** evaluators (testers) are not part of any other certification activity

Types of Evaluation for Compliance

- **All evaluations must follow ISO17025 requirements**
 - At the third-party certifier lab
 - At the manufacturer's lab
 - At an independent third-party lab
- **Third-party Certifier's role**
 - Ensures proper requirements are met throughout testing

Change to Advisory Circulars

- **Currently looking at draft AC's and incorporating changes into current test plan**
 - Example -46E Horizontal shear test
 - First test to current standard: 3,000 lbs.
 - Re-test at future standard: 11,000 lbs.
 - Done to eliminate the need for retest after AC is released

Current Program Statistics

- **Accepted by FAA in August 2020**
- **5 Licensed Manufacturing Facilities**
 - (1 Pending)
- **5 Certificate Issued**
 - (3 Pending)

Key ALECP Personnel at Elite

Certification Staff



Brad DeGrave
FAA Program Administrator
Sr. Mechanical Engineer



Mark Gabalewicz
Certification Specialist
Sr. Mechanical Engineer



Kevin Halpin
Project Engineer
FAA Technical Sales Lead



Robert Bugielski
Technical Sales
Quality Manager
Sr. EMC Engineer



Michael Cosentino
Business Development Manager

For follow up questions

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