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ALECP Engineering Review Letter

May 2, 2017

Intertek Report No. 102850379CRT-002ER
Intertek Project No. G102850379

Mr. Warren Hyland
Luminaerospace, LLC
6652 Larsh Dr.
Denver, CO 80221
whyland@luminaerospace.com

Ph: 303-888-5121

Subject: Engineering Review of LED L-861T(L) linear light bar product design concept

Dear Mr. Hyland,

This letter report represents the results of the review of the above referenced product design concept to the requirements contained in the following standards:

FAA AC 150/5345-46E
FAA EB67D

SECTION 1: SUMMARY

PO Number: signed quote number Qu-00738614
PO Date: quote signed 16 November 2016
Submitted material: Linear Lighting Technical Details dated 4/18/17

SECTION 2: SUBMITTAL PURPOSE

The submitted product design concept describes an LED L-861T(L) blue elevated taxiway edge light with two horizontal linear bar light sources. The horizontal linear light bars are illuminated with internal LED light sources. The light bars are typically 6 to 12 inches in length. The submitted material was reviewed to determine if fundamental non-compliances existed with the product design concept, and to determine what qualification testing would be required for certification under the Airport Lighting Equipment Certification Program.

SECTION 3: REVIEW RESULT SUMMARY

No design requirement from the applicable FAA specifications was noted that would prevent the certification of an elevated taxiway edge light with horizontal linear light bar light sources. Certification of a product implementing this design concept could only happen upon successful completion of all FAA specified tests noted below and auditing of the manufacturer's quality system. This does not apply to retro-fitting of light fixtures in the field, or to the light source components alone. Only the complete L-861T(L) taxiway edge light fixture can be certified.

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SECTION 4: REQUIRED QUALIFICATION TESTING

The required qualification tests are outlined in the below tables. This list of required tests is based on a newly designed complete LED L-861T(L) taxiway edge light product with the referenced horizontal linear light bar design concept.

TEST	FAA AC150/5345-46E reference	Rationale
Visual Exam	3.4.2, 3.6.1, 3.7, 3.7.2, 3.8, 3.9, 3.10, 3.11	The complete LED L-861T(L) elevated taxiway edge light fixture with the horizontal linear light bar light sources must meet all specified requirements. Compliance must be determined by testing of samples representative of production units.
Photometry	4.3	
High Temperature	4.6.1	
Low Temperature	4.6.2	
Rain	4.6.3	
Salt Fog	4.6.4	
Yield Device	4.6.5	
Solar radiation	4.6.6	
Wind	4.6.7	
Insulation resistance	4.6.10	

TEST	FAA EB67D reference	Rationale
Intensity Ratios	1.0	The complete LED L-861T(L) elevated taxiway edge light fixture with the horizontal linear light bar light sources must meet all specified requirements. Compliance must be determined by testing of samples representative of production units.
Chromaticity	2.1.2	
LED High Temperature	2.2	
Accelerated Life	2.4a	
LED Junction Temperature	2.4b	
Power factor	2.5.1	
Multiple Light Devices	2.6	
Fixture Daytime Viewing	2.8	
Electromagnetic Emissions	2.11	
Surge Protection	2.12	

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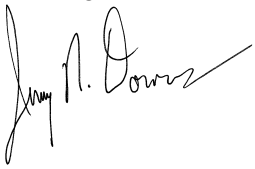
SECTION 5: PROJECT STATUS & ACTION

Issuance of this letter report completes the engineering review covered by Intertek Project No. G102850379.

If there are any questions regarding the results contained in this letter, or any of the other services offered by Intertek, please do not hesitate to contact me.

Completed by:	Jeremy N. Downs, P.E.
Title:	Staff Engineer
Signature:	
Date	2 May 2017

Attachments: None