

Analysis of Field installation for Insect Debris

Subject: Analysis of Field Installation for Insect Debris

Scope: Early adopters of the Clearlight have raised the question of the impact of insect debris on the performance of the Evluma Clearlight and in particular, the effect on the Nuventix cooler.

Inquiry: To what degree does the Clearlight attract insects and how will insect debris affect performance?

Result of Analysis:

A Narrow Optic Clearlight (serial # EV5120810198) Rev A was selected from a field trial in upstate New York after having been energized from 04/09 to 09/09 in a rural environment. After examining the luminaire retrieved from the field, Evluma found that while there was insect debris present, it did not interfere with the operation of the luminaire. The Nuventix high velocity air channels, where most of the heat transfer occurs, were insect-free and functioned correctly. The thermal performance of the sample luminaire was tested and shown to be within specification. The lumen depreciation of the frosted acrylic optic was – 4.2% caused by the undisturbed accumulation of dust and insect deposits.

Conclusion:

When the luminaire is in operation it appears that the force of the air expelled by the jets is sufficient to prevent the channels and adjacent heatsink fins from becoming clogged.



Photograph of the test lamp received from the field and prior to testing in the Evluma lab.

Insect debris accumulation will vary according to region and installation site. Evluma will continue to evaluate insect debris conditions and will provide periodic updates.

