

INSTALLER AND INSPECTOR QUICK-REFERENCE: 2025 NRCA-LTI-05-A

Institutional Tuning Power Adjustment Factor (PAF)

Purpose and Scope

Institutional tuning is the process of adjusting the maximum light output of lighting systems to support visual needs or save energy. Institutional tuning differs from personal tuning in that the control strategy is implemented at the institutional rather than the individual user level, and maximum light level adjustments are available only to authorized personnel.

Completion of this acceptance test certifies that lighting systems receiving the institutional tuning power adjustment factor (PAF) comply with section 140.6(a)2J or §170.2(e)2Bx, and Reference Nonresidential Appendix NA7.6.4.

Test Trigger

This test is required when institutional tuning controls are installed to qualify for a PAF in nonresidential and multi-family lighting systems.

Relevant Energy Code References and Required Compliance Documents

Title 24, Part 6 of the California Building Standards Code, Building Energy Efficiency Standards (Energy Code) sections 130.4(a), 140.6(a)2J, 170.2(e)2Bx, 160.5(e)1; Reference Nonresidential Appendix NA7.6.4; NRCC-LTI-E, LMCC-LTI-E.

Who Can Perform the Test

This test must be performed by an acceptance test technician certified by a CEC-approved Acceptance Test Technician Certification Provider, using compliance document NRCA-LTI-05-A.

Recommended Tools

- Light meter (luminance or foot-candle meter)
- Hand-held amperage meter or power meter
- Logging light meter or power meter

Estimated Time to Complete Test

Construction inspection: 0.25 to 0.5 hours.

Functional testing: 0.5 to 1 hours, depending on the number of controlled luminaires.

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Potential Issues and Cautions

Luminaires that qualify for other PAFs may also qualify for the institutional tuning PAF. However, PAFs may only be added together if permitted in Table 140.6-A and 170.2-L of the Energy Code.

Inspection Enforcement

- Verify that the construction inspection and functional testing items in NRCA-LTI-05-A are marked with "Complies."
- Verify the contact information of the acceptance test technician is complete with the acceptance test technician certification identification.
- Verify that all declaration statements on the last page of the NRCA-LTI-05-A are complete and that the document is signed.
- All NRCA forms for Lighting Controls must have a water mark logo from a certified Lighting Controls ATTCP Provider.

Acceptance Criteria

To qualify for a PAF, the tuned lighting system shall comply with the following requirements:

- The lighting controls shall limit the maximum light output or maximum power draw of the controlled lighting to 85 percent or less of full light output or full power draw.
- The means of setting the limit must be accessible only to authorized personnel.
- The setting of the limit must be verified by the acceptance test.
- The construction documents must specify which lighting systems have their maximum light output or maximum power draw set to no greater than 85 percent of full light output or full power draw.

Follow the **Construction Inspection** and **Functional Testing** instructions on NRCA-LTI-05-A.