## **INSTITUIONAL TUNING PAF** 20222025-CEC-NRCA-LTI-

Project Name and Address	Authority Having Jurisdiction
Name: Project Name	Enforcement Agency: Agency
Address: Project Address	Permit Number: Permit Number
City, Zip Code: City, Zip Code	Permit Application Date: Date

☐ Construction inspection and functional testing comply ☐ Does not comply	Submitted to AHJ: Date
---	------------------------

Intent:

This document is used to demonstrate compliance with acceptance requirements in §130.4(a)7 and §160.5(e)1G, and Reference Nonresidential Appendix NA7.6.4 for lighting systems receiving the institutional tuning power adjustment factor (PAF). Attach additional sets of pages 1 through 4, as required, for all systems that must be tested.

## Indicate functional testing methods used for this project:

Check box if observations of systems were taken during institutional tuning (Tables A and B-1 of this document should be completed).
Check box if verification of systems already tuned (Tables A and B-2 of this document should be completed).

**Table A: Construction Inspection** 

		•	Code
Step	Entry	Item	Reference
1		The construction documents specify which lighting systems shall have their maximum light output or maximum power draw set to no greater than 85 percent of full light output or full power draw.	NA7.6.4.1(a)
2		The controls or the methods of controlling the maximum output of luminaires is such that the maximum light output of the controlled lighting system can be limited, and that normal operation of the controlled lighting does not override the maximum light output.	NA7.6.4.1(b)
3		The controls are not readily accessible to unauthorized personnel.	NA7.6.4.1(c) §140.6(a)2Jii §170.2(e)2Bx b
N/A	Pass Fail	Construction Inspection Compliance.	N/A

## **INSTITUIONAL TUNING PAF** 20222025-CEC-NRCA-LTI-

**Observation of Systems During Institutional Tuning** 

Building: Enter Value Floor: Enter Value Control/tag: Value Room: Enter Value

Table B-1: Functional Testing Method 1 - Observation of Systems During Institutional

Tuning			
Step	Entry	Functional Test	Code Reference
N/A	Yes No	Space is representative of sample. If sampling method is used, attach a page listing untested controls in sample.	NA7.6.4
1	No Entry	<b>Determination of light output or maximum power prior to institutional tuning</b> (Current measurements may be used instead of power measurements to show power reduction.)	NA7.6.4.2.1, Step 1
1.1	No Entry	Set all lighting controls to provide maximum output of the tested system without applying the limits specified for institutional tuning.	NA7.6.4.2.1, Step 1(a)
1.2	Enter Value	Measure the full light output at a location where the illuminance is due to the controlled lighting and enter the value in footcandles (fc). <b>OR</b> Measure the power of the controlled lighting and enter the value in watts (W). (If current measurements are being used, enter the measured current in amperes (A).)	NA7.6.4.2.1, Step 1(b)
2	No Entry	Institutional tuning and post-tuning measurement	NA7.6.4.2.1, Step 2
2.1	Enter Value	Apply the limits specified for institutional tuning to the lighting system. Do not alter any other control settings.	NA7.6.4.2.1, Step 2(a) §140.6(a)2Jiii §170.2(e)2Bx c
2.2	Enter Value	Measure the light output at the same location as in Step 1.2 and enter the value in footcandles (fc).  OR Measure the power of the same circuit as in Step 1.2 and enter the value in watts (W). (If current measurements are being used, enter the measured current in amperes (A).)	NA7.6.4.2.1, Step 2(b)
2.3	Enter Value	Calculate ratio of the light or power output of the system after institutional tuning to the light or power output of the system before institutional tuning and enter the value in %. ([Step 2.2 / Step 1.2] x 100)	N/A
2.4	☐ Yes ☐ No	The light output or power after institutional tuning is 85% or less of the light output or power before institutional tuning. (Step 2.3 ≤ 85%).	NA7.6.4.2.1, Step 2(c), §140.6(a)2Ji §170.2(e)2Bx a

## **INSTITUIONAL TUNING PAF** 20222025-CEC-NRCA-LTI-

Step	Entry	Functional Test	Code Reference
N/A	Pass Fail	Functional Testing Compliance.	N/A

**Verification of Systems Already Tuned**Building: Enter Value Floor: Enter Value Room: Enter Value Control/tag: Value

Table B-2: Functional Testing Method 2 - Verification of Systems Already Tuned

iubic b z	Code			
Step	Entry	Functional Test	Reference	
N/A	Yes or No	Space is representative of sample. If sampling method is used, attach a page listing untested controls in sample.	NA7.6.4	
1	No Entry	Measurement of tuned lighting system (Current measurements may be used instead of power measurements to show power reduction.)	NA7.6.4.2.2, Step 1	
1.1	No Entry	Set all lighting controls except institutional tuning controls to provide maximum output of tested system. Controls set to maximum light output include but not limited to manual dimmers, multilevel occupant sensing controls, and automatic daylighting controls.	NA7.6.4.2.2, Step 1(a), §140.6(a)2Jiii §170.2(e)2Bx C	
1.2	Enter Value	Measure the full light output at a location where most of the illuminance is due to the controlled lighting and enter the value in footcandles (fc). <b>OR</b> Measure the power of the controlled lighting and enter the value in watts (W). (If current measurements are being used, enter the measured current in amperes (A).)	NA7.6.4.2.2, Step 1(b)	
2	No Entry	Measurement of lighting system with institutional tuning overridden	NA7.6.4.2.2, Step 2	
2.1	No Entry	Reset institutional tuning controls to allow full light output. Set all lighting controls to provide maximum output of tested system including but not limited to institutional tuning controls, manual dimmers, multilevel occupant sensing controls, and automatic daylighting controls.	NA7.6.4.2.2, Step 2(a)	
2.2	Enter Value	Measure the light output at the same location as in Step 1.2 and enter the value in footcandles (fc).  OR Measure the power of the same circuit as in Step 1.2 and enter the value in watts (W). (If current measurements are being used, enter the measured current in amperes (A).)	NA7.6.4.2.2, Step 2(b)	

Step	Entry	Functional Test	Code Reference
2.3	Enter Value	Calculate ratio of the light or power output of the system after institutional tuning to the light or power output of the system before institutional tuning and enter the value in %. ([Step 1.2 / Step 2.2] x 100)	N/A
2.4	☐ Yes ☐ No	The light output or power after institutional tuning is 85% or less of the light output or power before institutional tuning. (Step 2.3 ≤ 85%)-	NA7.6.4.2.2, Step 2(c), §140.6(a)2Ji §170.2(e)2Bx a
3	No Entry	If the tested system passes the test in (Step 2.4 = Y), restore institutional tuning settings.	NA7.6.4.2.2, Step 3(a)
N/A	Pass Fail	Functional Testing Compliance.	N/A

Declaration Statement	Signatory
Document Author I assert that this Certificate of Acceptance documentation is accurate and complete.	Name Company Name Author Signature Date Signed
Field Technician I certify the following under penalty of perjury, under the laws of the State of California: The information provided on this Certificate of Acceptance is true and correct. I am the person who performed the acceptance verification reported on this Certificate of Acceptance (Field Technician). The construction or installation identified on this Certificate of Acceptance complies with the applicable acceptance requirements indicated in the plans and specifications approved by the enforcement agency and conforms to the applicable acceptance requirements and procedures specified in Reference Nonresidential Appendix NA7. I have confirmed that the Certificate(s) of Installation for the construction or installation identified on this Certificate of Acceptance has been completed and signed by the responsible builder/installer and has been posted or made available with the building permit(s) issued for the building.	Name Company Name ATT No.: ATT Cert. No. Title Phone Signature Date Signed
Responsible Person  I assert the following under penalty of perjury, under the laws of the State of California:  I am the Field Technician, or the Field Technician is acting on my behalf as my employee or my agent and I have reviewed the information provided on this Certificate of Acceptance. I am eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Acceptance and attest to the declarations in this statement (responsible acceptance person). The information provided on this Certificate of Acceptance substantiates that the construction or installation identified on this Certificate of Acceptance complies with the acceptance requirements indicated in the plans and specifications approved by the enforcement agency and conforms to the applicable acceptance requirements and procedures specified in Reference Nonresidential Appendix NA7. I have confirmed that the Certificate(s) of Installation for the construction or installation identified on this Certificate of Acceptance has been completed and is posted or made available with the building permit(s) issued for the building. I understand that a completed, signed copy of this Certificate of Acceptance shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections, and I will take the necessary steps to ensure this requirement is accomplished. I understand that a signed copy of this Certificate of Acceptance is required to be included with the documentation the builder provides to the building owner at occupancy, and I will take the necessary steps to ensure this requirement is accomplished.	Name Company Name Lic. No.: License No. Title Phone Signature Date Signed