LIGHTING CONTROL ACCEPTANCE DOCUMENT

CERTIFICATE OF ACCEPTANCE		NRCA-LTI-02-A
Lighting Control Acceptance Document		(Page 1 of 5)
Project Name:	Enforcement Agency:	Permit Number:
Project Address:	City:	Zip Code:

Note: For more than 3 spaces attach additional sets of pages 2 through 5, as required.	Enforcement Agency Use: Checked by/Date

Automatic Shut-off Controls: Automatic Time Switch Control and Occupant Sensor	
Intent:	*Lights are turned off or set to a lower level when not needed per Section 110.9(a) & 130.1(c).*

Guidance

This acceptance test compliance document must be filled out for all newly-installed lighting control systems of the following types:

I. Automatic Time Switch Controls
II. Occupancy Sensors
III. Partial-OFF occupancy sensors
IV. Partial-ON occupancy sensors
V. Occupancy Sensors serving small zones in large open plan offices (only if used to claim a Power Adjustment Factor)

For automatic daylighting controls use acceptance test compliance document NRCA-LTI-03-A; for demand responsive lighting controls, use acceptance test compliance doucment NRCA-LTI-04-A.

The tests on this certificate are required by Section 140.6(a)2 and 130.4(a) of the 2016 Building Energy Efficiency Standards . The tests themselves are described in Sections 140.6(a)2 and in Reference Appendix NA7.6.

A. Construction Inspection

Fill out Section A to cover spaces 1 through 3 that are functionally tested under Section B. Make as many copies of pages 2-5 as are required to test all spaces in the building, and attach to page 1.

Instruments needed to perform tests include, but are not limited to: hand-held amperage meter, power meter, or light meter

01	**Automatic Time Switch Controls Construction Inspection—confirm for all listed in Section B**	
a.	All automatic time switch controls are programmed for (check all):	
		Weekdays
		Weekend
		Holidays
b.	Document for the owner automatic time switch programming (check all):	
		Weekdays settings
		Weekend settings
		Holidays settings
		Set-up settings
		Preference program setting
		Verify the correct time and date is properly set in the time switch
		Verify the battery is installed and energized
		Override time limit is no more than 2 hours
		Occupant Sensors and Automatic Time Switch Controls have been certified to the Energy Commission in accordance with the applicable provision in Section 110.9 of the Standards, and model numbers for all such controls are listed on the Commission database as Certified Appliance and Control Devices
02	**Occupancy Sensor Construction Inspection—confirm for all listed in Section B**	
		Occupancy sensors are not located within 4 feet of any HVAC diffuser
		Ultrasonic occupancy sensors do not emit audible sound 5 feet from source

Not to be used for compliance. Contact ATTCP for valid compliance document.

B. Functional Testing of Lighting Controls
Representative Spaces Selected
For every space in the building, conduct functional tests 1 through 5 below if applicable. If there are several geometrically similar spaces that use the same lighting controls, test only one space and list in the cells below which "untested spaces" are represented by that tested space.
EXCEPTION: For buildings with up to seven (7) occupancy sensors, all occupancy sensors shall be tested. (NA7.6.2.3)

	01	Tested space/ room name:_____ Space Type (office, corridor, etc)_____ Untested areas/rooms _____
	02	Tested space/ room name:_____ Space Type (office, corridor, etc)_____ Untested areas/rooms _____
	03	Tested space/ room name:_____ Space Type (office, corridor, etc)_____ Untested areas/rooms _____

Functional Tests		Tested Space Number		
Confirm compliance (Yes/No) for all control system types (1-5) present in each space:				
01. Automatic Time Switch Controls		**1**	**2**	**3**
Step 1: Simulate occupied condition				
a.	All lights can be turned on and off by their respective area control switch			
b.	Verify the switch only operates lighting in the ceiling-height partitioned area in which the switch is located			
Step 2: Simulate unoccupied condition				
a.	All lighting, including emergency and egress lighting, turns off. Exempt lighting may remain on per Section 130.1(c)1 and 130.1(a)1.			
b.	Manual override switch controls only the lights in the selected ceiling height partitioned space where the override switch is located and the lights remain on no longer than 2 hours (unless serving public areas and override switch is captive key type).			
Step 3: System returned to initial operating conditions				
02. Occupancy Sensors		**1**	**2**	**3**
Step 1: Simulate an unoccupied condition				
a.	Lights controlled by occupancy sensors turn off within a maximum of 20 minutes from start of an unoccupied condition per Standard Section 110.9(b)			
b.	The occupant sensor does not trigger a false "on" from movement in an area adjacent to the controlled space or from HVAC operation			
Step 2: Simulate an occupied condition				
a.	Status indicator or annunciator operates correctly			
b.	Lights controlled by occupancy sensors turn on immediately upon an occupied condition *OR* sensor indicates space is "occupied" and lights may be turned on manually			
Step 3: System returned to initial operating conditions				

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03. Partial Off Occupancy Sensor		**1**	**2**	**3**
Step 1: Simulate an unoccupied condition				
a.	Lights go to partial off state within a maximum of 20 minutes from start of an unoccupied condition per Standard Section 110.9(a)			
b.	The occupant sensor does not trigger a false "on" from movement in an area adjacent to the controlled space or from HVAC operation. For library book stacks or warehouse aisle, activity beyond the stack or aisle shall not activate the lighting in the aisle or stack.			
c.	In the partial off state, lighting shall consume no more than 50% of installed lighting power, or: • No more than 60% of installed lighting power for metal halide or high pressure sodium lighting in warehouses. • No more than 60% of installed lighting power for corridors and stairwells in which the installed lighting power is 80% or less of the value allowed under the Area Category Method. Light level may be used as a proxy for lighting power when measurements are taken			
Step 2: Simulate an occupied condition				
a.	The occupant sensing controls shall turn lights fully ON in each separately controlled areas, Immediately upon an occupied condition			
04. Partial On Occupancy Sensors		**1**	**2**	**3**
Step 1. -Simulate an occupied condition. Verify partial on operation.				
a.	Immediately upon an occupied condition, the first stage activates between 50 to 70% of the lighting automatically.			
b.	After the first stage occurs, manual switches allow an occupant to activate the alternate set of lights, activate 100% of the lighting power, and manually deactivate all of the lights.			
Step 2. Simulate an unoccupied condition				
a.	Both stages (automatic on and manual on) lights turn off within a maximum of 20 minutes from start of an unoccupied condition per Standard Section 110.9(a)			
b.	The occupant sensor does not trigger a false "on" from movement in an area adjacent to the controlled space or from HVAC operation.			

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	05. Additional test for Occupancy Sensors Serving Small Zones in Office Spaces Larger than 250 ft^2, to Qualify for a Power Adjustment Factor (PAF)	**1**	**2**	**3**
First, complete Functional Test 2 (above) for each controlled zone				
Step 1. Verify area served and compare actual PAF with claimed PAF. Refer to Functional Test II.				
a.	Area served by controlled lighting (ft^2)			
b.	Enter PAF corresponding to controlled area from line (a) above (<125 ft^{2}for PAF=0.4, 126-250 ft^{2}for PAF=0.3, 251-500 ft^{2}for PAF=0.2).			
c.	Enter PAF claimed for occupant sensor control in this space from the Certificate of Compliance.			
d.	The PAF corresponding to the controlled area (line b), is greater than or equal to the PAF claimed in the compliance documentation (line c).			
e.	Sensors shall not trigger in response to movement in adjacent walkways or workspaces.			
f.	All steps are conducted in Functional Test 2 "Occupancy Sensor (On Off Control)" and all answers are Yes.			

C. Testing Results	**PASS / FAIL**	**PASS / FAIL**	**PASS / FAIL**
1 Automatic Time Switch Controls (all answers must be Yes).			
2 Occupancy Sensor (On Off Control) (all answers must be Yes).			
3 Partial Off Occupancy Sensor (all answers must be Yes). For warehouses, library book stacks, corridors, stairwells in nonresidential buildings must also be accompanied by passing Test I or Test II.			
4 Partial On Occupant Sensor for PAF (all answers must be Yes).			
5 Occupant Sensor serving small zones for PAF (all answers must be Yes). Also must pass Test II.			

D. Evaluation	
☐	PASS: All applicable **Construction Inspection** responses are complete and all applicable **Equipment Testing Requirements** responses are positive (Y - yes).

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Acceptance documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Documentation Author Company Name:	Date Signed:
Address:	CEA/ATT Certification Identification (If applicable):
City/State/Zip:	Phone:

FIELD TECHNICIAN'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Acceptance is true and correct.
2. I am the person who performed the acceptance verification reported on this Certificate of Acceptance (Field Technician).
3. 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.
4. 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.

Field Technician Name:	Field Technician Signature:	
Field Technician Company Name:	Position with Company (Title):	
Address:	ATT Certification Identification (if applicable):	
City/State/Zip:	Phone:	Date Signed:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. 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.
2. 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).
3. 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.
4. 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.
5. I will ensure 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. 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.

Responsible Acceptance Person Name:	Responsible Acceptance Person Signature:	
Responsible Acceptance Person Company Name:	Position with Company (Title):	
Address:	CSLB License:	
City/State/Zip:	Phone:	Date Signed:

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