



nLight® Quick Reference Guide for New York City 2020 Energy Conservation Code Commercial Lighting and Electrical Control Requirements

IECC 2018 Path

The chart below is an overview of the Code Requirements for Common Building Spaces. Please use this information as a guide. For specific code requirements please refer to the NYC 2020 ECC code.

About this guide: The scope of this guide includes lighting controls for interior and exterior applications, as required for new construction, additions, and alterations that replace >=10% of the luminaires in a space.
Exceptions: Continuously lit security or emergency areas; interior exit stairways and ramps, and exit passageways; emergency egress lighting that is normally off.

	Control Requirement & Code Provision	Code Summary	Space Type												
			Classroom, Lecture Hall, Training Room	Conference, Meeting, Multipurpose Room	Copy/Print Rooms	Lounges/ Break Rooms	Enclosed Office <= 200 sq.ft	Enclosed Office > 200sq.ft or Open Office < 300 sq. ft	Restroom	Storage	Locker	Janitorial Closets	Corridor/ Transition Area	Enclosed Space <= 300 sq.ft	Spaces not called out in C405.2.1
Manual Controls	Manual On C405.2.1.1(2) & C405.2.5	Areas shall incorporate a local manual control to allow occupants to turn fixtures on.	✓	✓		✓	✓	✓ ₃		✓ ₃	✓ ₃	✓ ₃		✓ ₃	
	Manual Off C405.2.1.1(3) & C405.2.5	Areas shall incorporate a local manual control to allow occupants to turn fixtures off.	✓	✓	✓	✓	✓	✓	✓ ₂	✓	✓	✓	✓ ₂	✓	
	Light Reduction C405.2.2.2	Spaces shall have a manual control that allows the occupant to reduce the connected lighting load uniformly by not less than 50%.													✓
Time-Switch	Time-Switch Controls (via System Controller) C405.2.2.1	Each area of the building not provided with occupant sensor controls shall be provided with time switch controls. These areas must also be provided with a manual override switch.													✓
Occupant Sensor Controls	Auto-On to 100% C405.2.1.1(2) Exception 1	Automatically controlled spaces are allowed to turn on to full.							✓				✓		
	Auto-On to <= 50% C405.2.1.1(2)	Automatically controlled spaces must be controlled to automatically turn the lighting on to not more than 50% power.			✓			✓ ₃		✓	✓ ₃	✓ ₃		✓ ₃	
	Auto-Off	Fixtures must automatically turn off within 15 minutes of all occupants leaving the space.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Additional Controls	Daylight Responsive Controls C405.2.3.1	Daylight-responsive controls shall be provided within each space with sidelight and toplight daylight zones totaling > 100W.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

- Notes:
- This summary is for general information purposes only and is provided without any warranty as to accuracy, completeness, or otherwise. The user should read the applicable code sections for more complete and detailed descriptions of code requirements and exceptions and should consult with a professional engineer or other competent advisor before making any decision or taking any action based on this summary.
 - While energy code is required, safety may preclude the use of manual controls in these spaces.
 - Spaces shall either be manual-on or controlled to automatically turn on the lighting to not more than 50% power.

Other Lighting Control Requirements

C405.2.1.3 - Occupant sensor control function in open plan office areas, cafeteria dining areas, and fast food dining areas

Occupant sensor controls in all other open plan office spaces, cafeteria dining spaces, and fast food dining spaces shall comply with all of the following:

- The controls shall be configured so that general lighting can be controlled separately in control zones with floor areas not greater than 600 ft2 (55m2) within the open plan office or dining space.
- The controls shall automatically turn off general lighting in all control zones within 15 minutes after all occupants have left the open plan office space or dining space.
- The controls shall be configured so that general lighting power in each control zone is reduced by not less than 80% of the full zone general lighting power in a reasonably uniform illumination pattern within 15 minutes of all occupants leaving that control zone. Control functions that switch control zone lights completely off when the zone is vacant meet this requirement.
- The controls shall be configured such that any daylight responsive control will activate open plan office space general lighting or control zone general lighting.

C405.2.1.4 - Occupant sensor control function for egress illumination

In new buildings, luminaires serving the exit access and providing means of egress illumination required by the New York City Building Code, including luminaires that function as both normal and emergency means of egress illumination shall be controlled by a combination of listed emergency relay and occupancy sensors, or signal from another building control system, that automatically reduces the lighting power by 50% when unoccupied for a period longer than 15 minutes.

C405.2.1.2 - Warehouses

Occupant sensor control function in warehouses. In warehouses, the lighting in aisleways and open areas shall be controlled with occupant sensors that automatically reduce lighting power by not less than 50% when the areas are unoccupied. The occupant sensors shall control lighting in each aisleway independently and shall not control lighting beyond the aisleway being controlled by the sensor.

C405.2.6.5 - Parking Garage

Outdoor parking area lighting control. Luminaires serving outdoor parking areas and having a rated input wattage of greater than 78W and a mounting height of 24 feet (7.3 m) or less above the ground shall be controlled to automatically reduce the power of each luminaire by a minimum of 50% when no activity has been detected in the area illuminated by the controlled luminaires for a time of no longer than 15 minutes. No more than 1500 W of lighting power shall be controlled together.

C405.2.6 - Exterior Lighting Controls

Exterior lighting systems shall be provided with controls that comply with Sections C405.2.6.1 through C405.2.6.5. Decorative lighting systems shall comply with Sections C405.2.6.1, C405.2.6.2 and C405.2.6.4.

Exceptions:

- Lighting for covered vehicle entrances and exits from buildings and parking structures where required for eye adaptation.
- Lighting controlled from within dwelling units.

C405.2.6.1 Daylight shutoff. Lights shall be automatically turned off when daylight is present and satisfies the lighting needs.

C405.2.6.2 Decorative lighting shutoff. Building façade and landscape lighting shall automatically shut off from not later than 1 hour after business closing to not earlier than 1 hour before business opening.

C405.2.6.3 Lighting setback. Lighting that is not controlled in accordance with Section C405.2.6.2 shall be controlled so that the total wattage of such lighting is automatically reduced by not less than 50% by selectively switching off or dimming luminaires at one of the following times:

- From not later than midnight to not earlier than 6 a.m.
- From not later than one hour after business closing to not earlier than one hour before business opening.
- During any time where activity has not been detected for 15 minutes or more.

C405.2.6.4 Exterior time-switch control function. Time-switch controls for exterior lighting shall comply with the following:

- They shall have a clock capable of being programmed for not fewer than 7 days.
- They shall be capable of being set for seven different day types per week.
- They shall incorporate an automatic holiday setback feature.
- They shall have program backup capabilities that prevent the loss of program and time settings for a period of not less than 10 hours in the event that power is interrupted.