

City of Boulder

Boulder Building Performance Program | Lighting Compliance Overview

Proving Compliance

There are several steps to complying with the one-time BPO Lighting Compliance requirement:

1. Determining if your Exterior Lighting Controls are Compliant with the 2017 City of Boulder Energy Conservation Code (COBECC).
2. Determining if your Exterior Lighting Power is Compliant with 2012 International Energy Conservation Code (IECC)

Determining if Interior Lighting Power is Compliant with the 2017 City of Boulder Energy Conservation Code
 Determining if your Interior Time Switch and Occupancy Sensor Controls are Compliant with the 2017 City of Boulder Energy Conservation Code

To show compliance in each of the 4 areas outlined above, you must work with a qualified lighting contractor or PE to submit the appropriate documentation. The Table below illustrates the required submittals.

Compliance Submittal Guidance Chart

	<i>Fully Upgraded and Permitted Lighting Already in Place (with a permit issued after March 1, 2014)</i>	<i>Permit Unavailable or No Upgrade Necessary (already in compliance)</i>	<i>Partially Upgraded or Unsure</i>
Outdoor Lighting			
Power	COMCheck Certification*	COMCheck Certification*	COMCheck Certification*
Controls	Indicate controls scheme on Lighting Submission Form	Indicate controls scheme on Lighting Submission Form	Indicate controls scheme on Lighting Submission Form
Interior Lighting			
Power	Submit COBECC permit number or copy of Certificate of Occupancy	Work with a PE or qualified lighting contractor to complete "Interior Lighting Compliance Form"	Work with a PE or qualified lighting contractor to complete "Interior Lighting Compliance Form"
Controls	N/A	Indicate controls scheme per room on "Interior Lighting Compliance Form"	Indicate controls scheme per room on "Interior Lighting Compliance Form"
Occupancy Sensors	N/A	Indicate on "Interior Lighting Compliance Form"	Indicate on "Interior Lighting Compliance Form"

*COMCheck is The US Department of Energy's Commercial Building Energy Code Compliance Vehicle at <https://www.energycodes.gov/comcheck>

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How do I find the right Lighting Contractor to perform this work?

The work can be performed by any qualified individual either internal or external to the organization; however, verification that the work meets the requirements must be certified by someone carrying professional engineering license issued by the State of Colorado or a [what we accept for lighting]. When considering hiring a contractor to perform this work, the following qualifications should be considered:

- Have a staff member with one of the following certifications: CLEP (Certified Lighting Energy Professional, PE or LC (Lighting Consultant) (alternative certifications will be approved on a case-by-case basis)
- Have at least 5 years of experience performing lighting audits and upgrades
- Have specific experience with LED lighting and controls
- Have an understanding of and experience in the 2017 City of Boulder Energy Conservation Code, the 2012 International Energy Conservation Code and COMCheck
- Have completed at least 5 interior and/or exterior lighting projects since the inception of the 2017 City of Boulder Energy Conservation Code

The City of Boulder has posted a list of pre-screened lighting contractors that meet the above qualifications.

What is a Lighting Audit?

A lighting audit is a room-by-room assessment of the types, voltage/wattage, and functionality of lighting fixtures and controls that currently exist in your building.

Although we do not have a REQUIRED format for the lighting audit submittal, we would highly advise you to work with your contractor to insure that, at a minimum, your audit includes:

- power density calculations (using our Interior Lighting Compliance Form or ComCheck for Exterior Lighting)
- drawings
- fixture counts
- light readings
- If your building is NOT in compliance, the audit should include a turnkey solution that includes: a detailed room by room solution list, photometric drawings, energy savings with rebates, project timeline and cost of installation.

This seems like it could get expensive. Is there any information or support around some of the costs of auditing and/or upgrading lighting?

Lighting upgrades are not only some of the best investments with the fastest paybacks for building owners; but they offer the ongoing longer-term benefits of lower utility bills, better quality lighting and

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reduced maintenance costs! Payback periods can be made even faster with the addition of rebates from your local utility provider and other municipal rebate opportunities.

There are a variety of methods available to you, the building owner, to support the costs of performing lighting audits and any required upgrades.

Rebates are currently available through [Xcel Energy](#) to defray the cost of your project. You may also receive support through [Boulder County's Partners for a Clean Environment](#) (PACE).

Stand-alone lighting audits typically cost \$0.02-\$0.06 per square foot depending on the complexity of the facility. This may be offered at no cost when your contractor is also performing the lighting upgrade.

Once your contractor has determined that your building will need lighting upgrades to meet compliance requirements, your audit SHOULD include a list of potential rebates available to you to lower the cost of your equipment purchases. Often, lighting contractors will submit rebate applications on your behalf to lower the total contracted cost of your upgrades.

If you own several buildings within the City of Boulder, you may consider asking your lighting contractor for a set cost per square foot for the entire portfolio to perform lighting audits.

Some lighting contractors offer financing mechanisms, such as performance contracting, paying for Lighting as a Service or financing through a contractor/bank arrangement.