L3 Luminaire Level Lighting Controls (LLLC) Efficiency Requirements

Eligible controls must be installed on a new LED fixture or LED Level 2 retrofit kit (see below). LLLC requires that luminaries must be individually addressable with a sensor on each fixture, and each fixture must have a minimum of two control strategies. One of the two strategies must be a sensor-based strategy.

1. Sensor-based occupancy sensing (on/off and/or dimming)
2. Sensor-based daylight harvesting with continuous dimming.
3. High-end trim tuning (not applicable for exterior applications or interior applications with daylight harvesting)
4. Advanced scheduling/zoning tuning
5. Personal tuning with continuous dimming (interior only)

Additional Requirements:

- Must employ a DLC LLLC Listed Networked Control System
- Utilize control strategies appropriate to the space
- Controls need to be DLC and LLLC listed for category of use (example: exterior fixtures must use controls approved under exterior category)
- Exterior must employ occupancy sensing AND advanced scheduling/zoning
- All control strategies must be implemented by the Networked Lighting Control System
- Must be fully operational prior to submitting Final Application to Idaho Power
- Written operating control strategies is required and a demonstration of the operating control strategies may be required.

LED Level 2 Retrofit Kit

- Replaces the entire optic system of luminaire (light source, optics and reflective panel)
- Mounts to an existing fixture and fully conceals the interior of the existing housing (example: remove existing lamp holders and eliminate any visible openings resulting with their removal)
- Exposed LEDs, tubes, channels, bar-style components, basic lens or diffusers are not eligible in this category
- Strip fixture kit must have factory-provided lens

Lighting Controls Strategy Definitions

LLLC
Each fixture is individually addressable with occupancy sensor and/or ambient light sensor installed in each luminaire. The components can be an independent control system or provided by the luminaire manufacturer.

High-end Trim
The capability to set the maximum light output to a less-than-maximum state of an individual or group of luminaires at the time of installation or commissioning. High-end trim must be field reconfigurable. This capability is not dimming occupancy and is also distinct from automatic compensation for lumen depreciation, which automatically increases output as a system operates over time. Projects incorporating high-end trim less than 20% need Idaho Power's review and approval.

Advanced Scheduling/Zoning
Advanced scheduling is the capability to automatically affect the operation of lighting equipment based on time of day via networked means. Example: Retail application has scheduled dimming to 30% when the store closes to customers. Zoning is the capability to group luminaires and form unique lighting control zones for a control strategy via networked means.

Occupancy Sensing
The capability to affect the operation of lighting equipment based upon detecting the presence or absence of people in a space or exterior environment.

Daylight Harvesting
The capability to automatically affect the operation of lighting equipment based on the amount of daylight and/or ambient light that is present in a space or area.

Personal Tuning
The capability for individual users to adjust to their personal preferences, via networked means, the illuminated environment of a light fixture or group of light fixtures in a specific task area. The publicly available information must clearly describe a control interface for use by a single individual who does not have access to system-wide settings.

Additional Lighting Control Definitions
designlights.org/lighting-controls/qualify-a-system/technical-requirements/