

## QSG/QSN System Onsite Startup

### Model number LSC-OS-SU-QS

#### Visit Timing/Scheduling

- If purchased, startup includes one onsite visit occurring between the hours of 7 AM and 5 PM Monday through Friday, not including Lutron Holidays. Note that a visit may span multiple days, depending on the size of the system. The Lutron scheduling personnel will provide an estimated duration of the startup visit.
- Non-Standard startup is available for an additional charge. Examples of Non-Standard startup are as follows:
  - Visits occurring outside of normal business hours or on weekends and holidays
  - Phased construction projects where complete startup and training cannot be accomplished on one visit
- Visit must be scheduled at least fifteen (15) business days prior to desired date. Shorter lead-times may result in expedite fees.

#### Contractor Responsibilities

##### Prior to visit

- Install and wire system per specification, including the termination of all low voltage wires. Note: Bypass jumpers (if applicable) should be left in place until startup.
- E-mail Lutron at [www.lutron.com/scheduling](http://www.lutron.com/scheduling) or call at 1.800.523.9466 to schedule startup with at least fifteen (15) business days notice.
- Ensure that all controlled switchlegs are fully lamped, powered and have been tested prior to startup date.
- Coordinate training schedule with owner's rep to coincide with startup visit.

##### During visit

- A person from the installing agency who is familiar with the installation must be present for the visit.
- EC will provide the Lutron startup agent with a sequence of operations. If no control functionality is included, controls will be programmed according to written instructions from end user or end user's representative, contractor, or will be based upon the following rules:
  - Motion sensors:
    - o In spaces with a wall control, motion sensors will be set up as a vacancy sensor (only automatically turning off the lights) with 15-minute +/- 1-minute timeout.
    - o In spaces without a wall control, motion sensors will be set up as occupancy sensors (automatically turning the lights on and off) with a 15-minute +/- 1-minute timeout.
  - Daylight sensors:
    - o Calibrated in such a manner to provide 40 fc +/- 5 fc 3 ft (91 cm) off the floor at a specific point in the room, typically the center of a desk or directly under a fixture. Note the consistency of light distribution throughout the space is highly dependent upon fixture design and placement.
  - Wall controls:
    - o One button – Toggle lights on and off.
    - o Two button – Top button will turn lights on and bottom button will turn lights off.
    - o More than two buttons.
      - For Dimmed zones: Top buttons will set the lights to different levels. Bottom button will turn the lights off.

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- Timeclock settings:
  - o Lights on the Lutron® system on the building's exterior will turn on at sunset and turn off at sunrise.
  - Sequence of Operations may include, but is not limited to the following:
    - Zoning/grouping of fixtures and/or circuits
    - Scene levels
    - Occupancy behavior
    - Timeclock operations
    - Daylighting set point
    - Wallstation functionality
- EC will provide at their expense any ladders, lifts, scaffolding, etc., required to reach any Lutron® gear. Return visits due to inaccessible equipment will result in additional charges.
- EC will correct any installation issues with Lutron® gear or loads during the startup visit.

### Standard Start-Up Includes

- Lutron will send a factory-certified technician or technicians to the job site for startup.
- A Lutron agent will audit the installation to ensure that the system is installed to Lutron specification.
- Load circuits are tested and verified, and authorization will be given to remove bypass jumpers, if applicable.
- Lutron agent will assist EC in troubleshooting installation issues and will direct the EC on their resolution.
- System will be configured as follows:
  - Proper load-type will be selected
    - o If load type cannot be confirmed or if loads are improperly installed, jumper may be left in or load type may be set to switch only.
  - Sequence of ops
    - o Sequence of Operations may include, but is not limited to the following:
      - Zoning/grouping of fixtures and/or circuits
      - Scene levels
      - Occupancy behavior
      - Timeclock operations
      - Daylighting set point
      - Wallstation functionality
- All controls will be tested for proper operation.
- Occupancy sensors will be tested and roughly calibrated.
  - If a sensor is not installed in accordance with Lutron procedures, Lutron will not continue startup activities for that sensor until the installation issues are corrected.
  - Final calibration is the responsibility of the EC/End User since it is dependant on furniture placement, HVAC operation, and space usage. Lutron will not fine-tune occupancy sensors to detect minor movements in the space or to not detect motion that contributes to false-trips.
- Daylight sensors will be tested and calibrated per the sequence of operations.
  - If a sensor is not installed in accordance with Lutron procedures, Lutron will not continue startup activities for that sensor until the installation issues are corrected.
  - Daylight harvesting performance is very dependant on objects and finishes in the space, window treatments, and weather conditions. Changes to the space after calibration may necessitate adjustment to the system. Return visits to adjust daylighting are not included in standard startup.

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- Timeclocks will be programmed as follows:
  - Lutron will set up the system location, daylight savings, and time of day in preparation for event programming.
  - Lutron will program timeclock events as per the approved submittal drawings or written instructions from end user or end users representative, contractor in that order of priority. Absent written instructions, no timeclock events will be programmed.
- End user will be trained on overall system operation and maintenance.
  - Standard training is completed during the startup visit. If a separate visit is required, please order LSC-TRAINING.
  - Video recording equipment and media are not provided by Lutron for training sessions. The training session may be recorded by others.

#### Items not included in standard on site startup

- Lutron service technicians will not perform work on non-Lutron® equipment. Lutron agents will cooperate with other manufacturers on integration of equipment by others.
- Programming or other system changes that are requested to be performed counter to the approved submittal drawings must be approved in writing via the proper channels.
- Field wiring changes or corrections that delay the startup process such that additional time is required for Lutron to complete the startup in the allotted time will result in additional charges.
- Replacement of controls damaged due to miswires or incorrect installation or any other related issue not covered under the Lutron warranty is the responsibility of the installer.

#### Additional Service Offerings

**Additional items that are not included with Onsite Startup, but may be purchased—check your quote to verify an item has been included with your quote. The quantity of the items listed below on the BOM will determine how many days are included with this item.**

- LSC-AF-VISIT - Onsite Scene and Level Tuning visit with design team or end user. This visit is typically coordinated by the construction team, that includes designers, Lutron, and end user to set up light levels and adjust fixtures.
- LSC-SYSOPT - System Optimization Visit with end user. This visit is coordinated by the EC or end user to optimize the system performance to specific project details.
- LSC-LEED-DOC - System Performance-Verification Documentation that describes the pre-functional tests, functional tests, and test results.
- LSC-WALK - Start-up agent or design team System Performance-Verification Walkthrough visit. The construction team and the agent requiring the walk-through coordinate this visit. This visit is for any type of additional walk-through that is required for job completion.
- LSC-SILV/GOLD/PLAT-IW - These are Technology Support Plan numbers for the system per the specification. Warranty information is supplied within the submittal documentation.
- LSC-TRAINING - Customer-Site Solution Training visit for additional time on the job for training the end user. The EC or the end user typically coordinates this visit.
- LSC-AH-SU - After Hours Startup. If normal business hours are not acceptable for Startup, After Hours Startup can be purchased.
- LSC-SENS-LT - Sensor Layout and Tuning Service. Ensures that the Lutron® sensors are properly positioned and programmed.

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**Additional items listed below may be charged for additional costs incurred.**

- LSC-SITE-RDY-CHG - Site ready charge. Jobsite not ready.
- LSC-SRVC-OVERRUN - Charge for additional time/manpower required due to contractor turnover issues.
- LSC-CHANGE-ORDER - Charge for a change in sequence of operation after the commissioning has begun.
- LSC-INT-SUPPORT - System and Network Integration Consultation to provide onsite support to the System Integrator or IT Professional related to difficulties integrating to the Lutron® lighting control system.

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**QSG/QSN Training— Typical Agenda (duration—approximately 1 hour):**

- Review system with end user (control location and function)
- Discuss system model numbers
- Discuss Lutron lexicon— what is a zone, scene, fade rate, etc.
- Review QSG controller functions
  - How to add/replace a ballast
  - How to set a scene
  - How to adjust fade rate
  - How to make a temporary scene
  - How to set light loads
  - How to change light levels
- Review QSN Panel and Functions
  - How to add/replace ballasts
  - How to modify scene settings
  - How to modify daylighting
  - How to set up occupancy
  - How to program wall controls
- Load schedule
- Troubleshooting the system
- Preventive maintenance
- *iPod* software (if applicable)
- Timeclock options
  - Real Time
  - Astronomic
- Review warranty
- Review Service and Support Guide | Lighting Control System

**NOTE:** All topics may not be relevant to every system.

iPod is a trademark of Apple Inc.

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