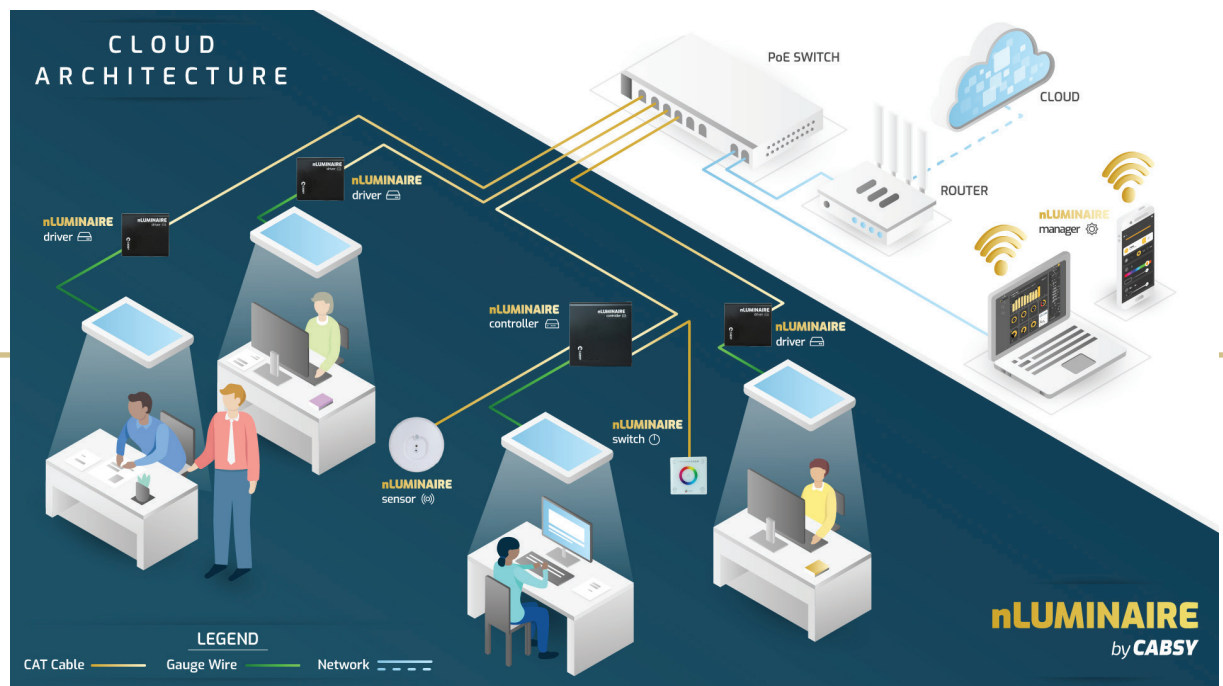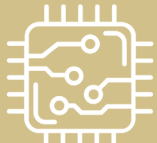# nLUMINAIRE
## CONTROL SUITE

## HOW IT WORKS

**nLUMINAIRE Control Suite** is an intelligent, self-tuning, power over ethernet (PoE), networked lighting control (NLC) solution. Incorporating smart devices and software, nLUMINAIRE powers, controls and monitors lighting that conforms to individual needs, while simultaneously enhancing utilization and lowering overall energy consumption.

## Infrastructure

The Suite is easily deployed with any star topology network infrastructure, and its interoperability enables it to work with any network switch that supports PoE technology. Plus, nLUMINAIRE is also compatible with any third-party LED lighting fixture and can be implemented in either upcoming lighting installations or existing LED lighting fixtures in renovation or upgrade situations.



CLOUD ARCHITECTURE

PoE SWITCH

CLOUD

ROUTER

**nLUMINAIRE** manager

**nLUMINAIRE** driver

**nLUMINAIRE** driver

**nLUMINAIRE** controller

**nLUMINAIRE** driver

**nLUMINAIRE** switch

**nLUMINAIRE** sensor

**nLUMINAIRE** *by* **CABSY**

LEGEND

CAT Cable —— Gauge Wire —— Network - - - -

## Hardware Connectivity

At the heart of the nLUMINAIRE Control Suite is the nController, which is directly connected with the PoE switch via a single CAT5e cable (or higher) using a dedicated RJ-45 input port to transmit power and data.

The nController has multiple port options to connect a single LED lighting fixture, nSensor and nSwitch. White LED fixture can be connected in two ways: in case of RJ-45 enabled, then the LED fixture is connected to the nController via a dedicated RJ-45 port; otherwise a gauge-wired LED fixture is connected through a two-pole dry contact. Alternatively, RGB LED fixture can be connected through an assigned, four-pole dry contact. Finally, the nSensor and nSwitch are directly linked with the nController through two additional RJ-45 ports specifically allocated to them.

Next, the nDriver is available in two different models: The first can power a constant current, white LED lighting fixture, while the second can power a constant voltage, RGB LED lighting fixture. Both models are directly connected with the PoE switch via a single CAT5e cable (or higher) using a dedicated RJ-45 input port to transmit power and data. Here again, the constant current, white LED lighting fixture can be connected in two ways: in case of RJ-45 enabled, the LED fixture is connected to the nDriver via a dedicated RJ-45 port; otherwise a gauge-wired LED fixture is connected thrwough a two-pole dry contact. Similarly, a constant voltage RGB LED lighting fixture can be connected through an assigned four-pole dry contact. Note that up to five nDrivers can be grouped and associated with a single nController to provide unified control of a group of LED lighting fixtures.

## Connecting to nManager

Once all nLUMINAIRE Control Suite devices are properly connected, the nController and nDriver obtains IP addresses from DHCP under the designated VLAN, and the devices are verified and configured by the nManager. Then, the nController will establish a secure connection with and supply power to the connected LED lighting fixture, as well as the nSensor and nSwitch. At the same time, each nDriver powers its connected LED light fixture. At this point, all nLUMINAIRE Control Suite devices are now discovered, registered and displayed in the nManager application.

Meanwhile, the nManager application provides the interface to all management, configuration, status and reporting for the LED lighting system — from the entire building down to a single LED lighting fixture, whether it's hosted on the on-premise nGateway or cloud-based. Then, after the hardware installation is completed, the installation information is imported into the nManager application; this provides a complete view of all lighting control components and their locations within the building.

## Functionality

Centralized configuration of every nController, nDriver, nSensor and nSwitch is handled through the nManager application and can be pushed to each device separately or to a set of devices (depending on their location and grouping, or the entire building). Configuration parameters are also stored locally in the nController, nDriver, nSensor and nSwitch.

Then, each connected device forwards real-time data to the nManager application for the monitoring and reporting of a variety of data points, including energy usage, manual override status, occupancy status, light level, luminaire status, sensor data and more. More precisely, the status of all lighting control components and luminaires is forwarded to the nManager application and displayed in dashboards. Immediate adjustments to lighting are also made by assessing the level of daylight available using daylight harvesting and then dimming or brightening light levels as appropriate. Any lighting parameters can also be temporarily overridden with the physical nSwitch or any of the applications via nManager or nManager Mobile (available for iOS or Android mobile devices).
By utilizing the intuitive capabilities of the nLUMINAIRE Control Suite, any LED lighting network can become not only powered by PoE technology, but also managed and controlled in the most smart, secure and simple way.

# nLUMINAIRE

## *by* **CABSY**