

The Fabulous
Lighting Maven
Unexpectedly Illuminating

ACTION-ORIENTED PEARLS OF WISDOM FOR INDUSTRIAL MANAGERS AND CONTRACTORS
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Dear Reader:

On/off, stepped switching, stepped dimming, or continuous dimming .. which approach does the Facilities Manager select? The answer depends on what type of area is being illuminated, and how the Manager wants the fixtures to behave over various, changing operating conditions. Reference [PNNL's Dimming LEDs with Phase-Cut Dimmers](#) for help in this regard.

DIMMING & SWITCHING

On/Off Switching – This is just like it sounds, with the fixtures simply switched either on or off. Dimmable drives are not needed in a fixture to accomplish this.

Stepped Switching – This combines an occupancy sensor, a timer, and customizable three-step dimming switches 1) On: 100%, 2) Dimmed: 50%, 30%, 20% or 10% output, 3) Off to easily configure your desired settings during installation. When the control senses movement, it raises the fixture's light level to 100% output and remains at full brightness as long as it senses movement. When movement is no longer detected, once the set period of time expires, the fixture will dim down to the selected dimming level (50%, 30%, 20% or 10% light output). Then, depending on your selected timer settings, the fixture can either remain at this dimmed level for an amount of time, or turn completely off after a set period of inactivity, great for conference rooms, offices, restrooms, etc.

Stepped Dimming - This is essentially the same strategy as above, although typically deployed with a networked controls system, without the elapsed-time switches above that typically fit into a standard wall-switch box. The stepped approach above is programmed into the system remotely, then managed via gateways, or at times as a result of direct communication with each individual, addressable fixture.

Continuous Dimming - Continuous dimming enables light levels to be raised or lowered over a specified range, and the change in lighting state is virtually unnoticeably smooth, using an automatic energy-saving control strategy. It is ideally suited for applications where the goals are more precise response from the control system – often with daylight harvesting as a feature - and limited irritation among room occupants. Continuous dimming is often expressed as a percentage of relative output.

Our [Energy Services Company](#) typically finds that a robust lighting controls system provides about a 20% premium in terms of additional impact on energy savings to be derived from a new install, as compared to what the LED fixtures would generate without the controls. A comprehensive cost/benefit analysis would compare this benefit to the system's additional cost.



U.S. Power is an industrial energy services company that specializes in the reduction of energy consumption across a broad array of manufacturing and food processing facilities located in Michigan, Ohio, Indiana, Illinois and Wisconsin. In addition, the company publishes a useful curation of lighting-oriented information from the marketplace, and consolidates it into this concise, twice per month letter known as The Fabulous Lighting Maven, distributed to Facilities Managers throughout the nation.

While the company prides itself in its diversity, it owns and operates a niche lighting contracting firm as well, known as U.S. Power Vision, LLC. With a core business in and around industrial LED lighting, it keeps itself and its clients at the cutting edge of illuminating technologies, all aimed at providing – from the eyes to the fingertips – exceptional illumination, superb control and intuitive simplicity.

YOUR MORNING GRIN

When it's darkest,
people see the stars.
When you're not looking up though,
you'll need some light.

We do light.

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*Building and Managing a Suite of
The Most Productive and Admired
LED Lighting Systems on Earth*

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