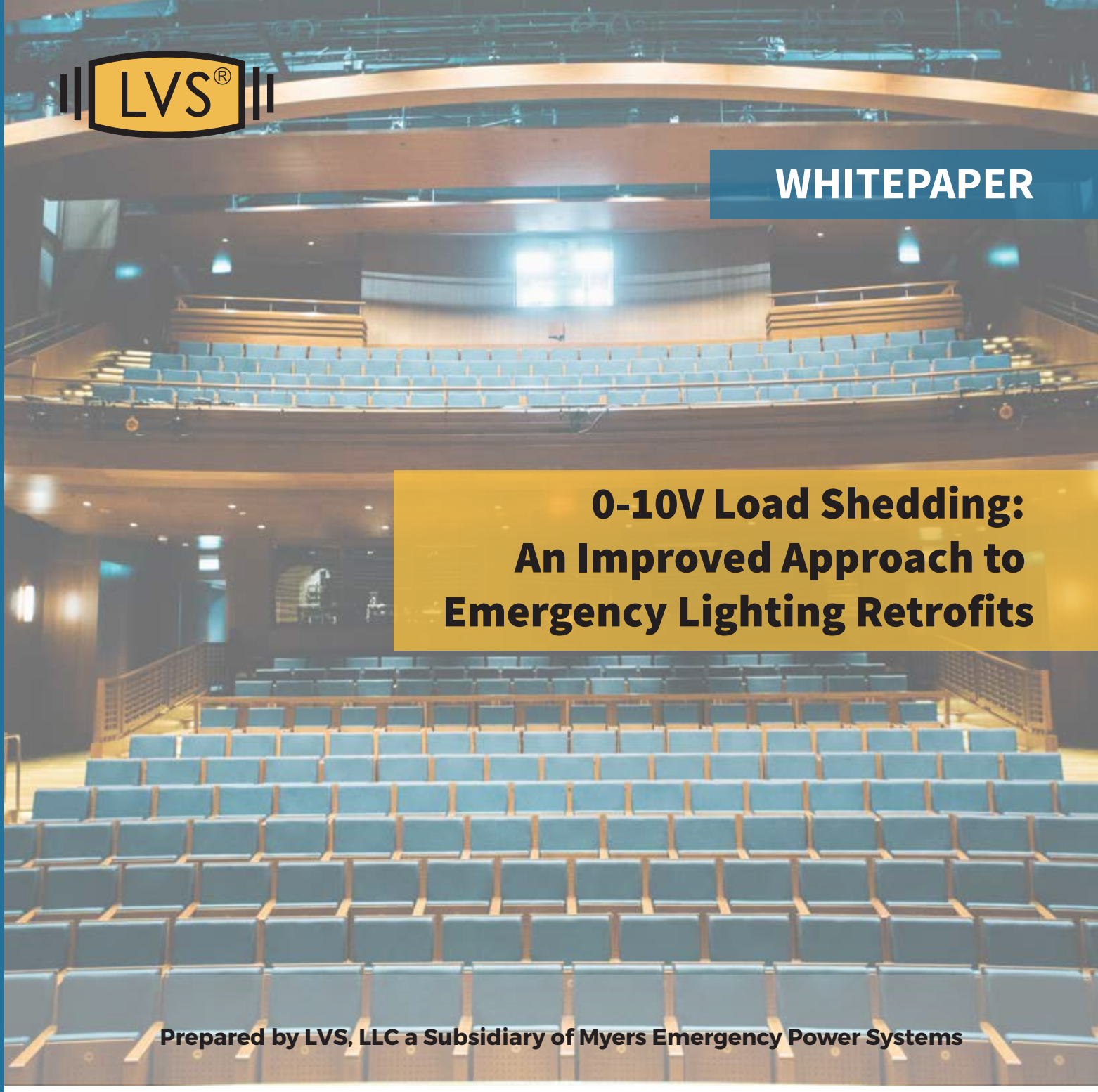


WHITEPAPER

0-10V Load Shedding: An Improved Approach to Emergency Lighting Retrofits

Prepared by LVS, LLC a Subsidiary of Myers Emergency Power Systems

What is 0-10V Load Shedding?

0-10V Load Shedding is a technology that permits setting emergency lighting to a pre-determined level, automatically, upon loss of normal power. Rather than driving emergency lighting to 100%, which has been the traditional approach over the last 2 decades, this method enables a specifier to find the right balance between light output, and emergency power consumption/demand.

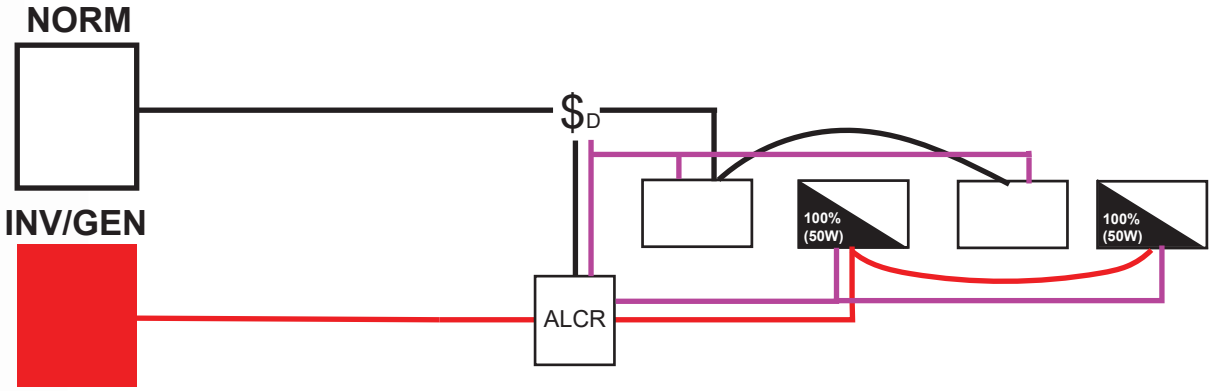
I Thought Code Required Emergency Lighting to Come on at 100% (Full) Brightness?

No, the code requires that the path of egress be provided with a minimum and average foot candle level, automatically, regardless of previous level/setting. It permits less than full light output, as long as that level can be set at installation and verified by the AHJ as providing an acceptable level of light.

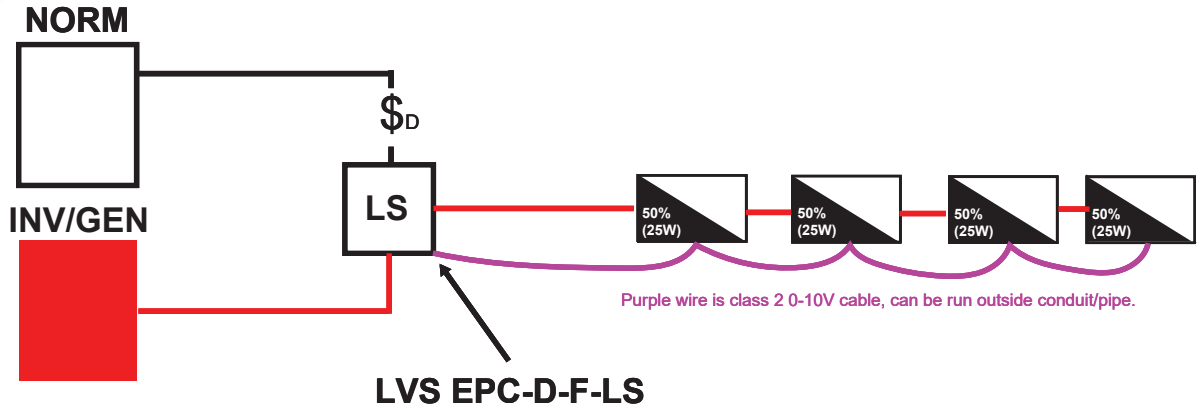
What are Some of the Benefits of 0-10V Load Shedding?

0-10V Load Shedding offers numerous benefits to an emergency lighting system design, including:

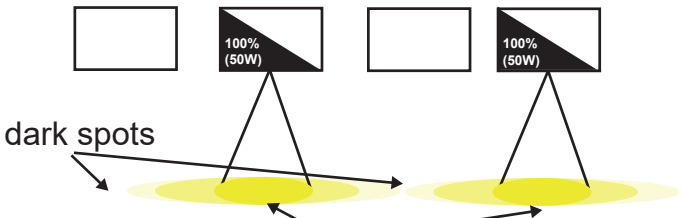
Reduced Field Wiring: Consider a room with 4 luminaires, 50W per luminaire. The specifier determines that 2 luminaires at full brightness will provide the necessary emergency light output. Because central emergency systems, including generators and inverters, require separate wiring, the contractor must separate the emergency and normal luminaires in separate conduit/wiring.



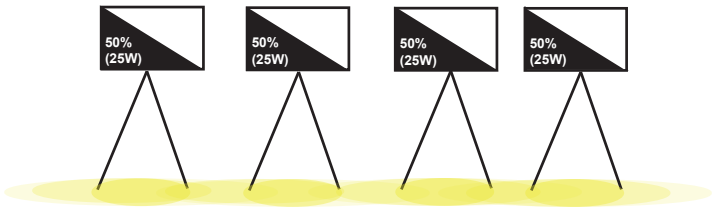
The LVS EPC-D-F-LS Load Shedding device replaces a traditional ALCR or BCELTS and allows a designer to put all 4 luminaires on the emergency power source, at 50% power, resulting in the same power demand, more even light distribution, and less field-wiring (no separation of circuits downstream of the load shed device). All lights will illuminate at the same level of reduced brightness.



Uniform Light Distribution: In the above example, the emergency lighting is more evenly distributed when using load shedding. This helps with compliance to min/max ratios, as well as improving occupany safety and comfort, particularly where furniture, racking, and shelving may limit the ability of fixtures to light a floor space.

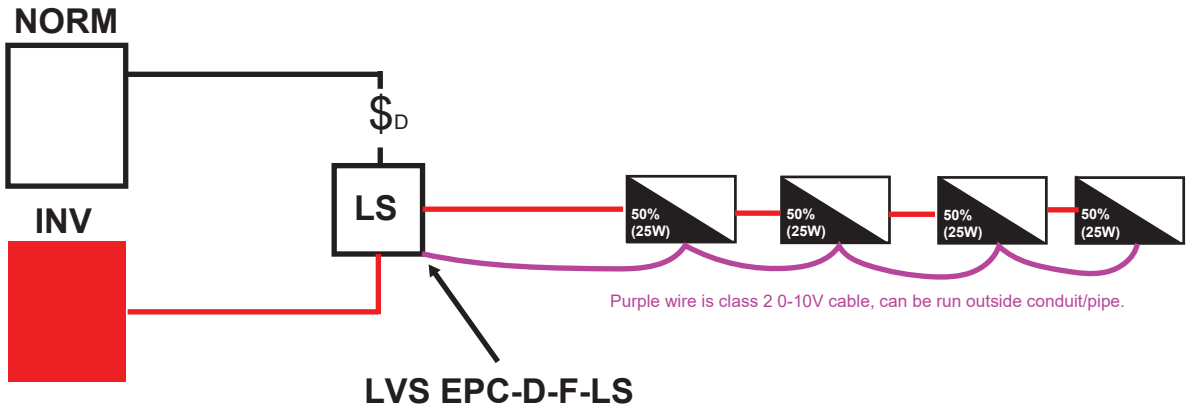


bright spots
without 0-10V load shedding



uniform illumination
with 0-10V load shedding

Retrofit Lighting: This solution is also ideal for retrofit applications, where existing field-wiring must be used, and additional wiring costs may be prohibitively expensive. A common application is an existing fixture run with no emergency lighting. Emergency lighting can be added with a central inverter with no change to the line voltage field wiring. Only Class 2 0-10V cable needs to be added. The EPC-D-F-LS accomodates larger circuits at dimmed lighting levels without the need for rewiring.



Note: for retrofit applications with existing battery packs, a line voltage load shedding method can be used, which eliminates the need for a new 0-10V wiring run, contact LVS for wiring diagram.

For more information about Load Shedding or any LVS product, please contact us at TechSupport@lvscontrols.com or visit www.lvscontrols.com/epc-d-f-ls.php.