LIGHTING SOLUTIONS FOR DATA CENTERS

LANTANA

70,000+ LED light fixtures installed

powered by 6500+ distributed low voltage systems

illuminating more than 30 million sq ft of data centers nationwide

LANTANA's high-performance, energy-efficient LED fixtures and accompanying remote driver units offer distinct data center construction and operations advantages. LANTANA LED fixtures dissipate heat without excessive temperature gains and withstand ambient operating temperatures of 0°- 80 °C (32° - 176°F)

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THE CHALLENGE: INSTALLATION COST ESCALATION

As demand and backlog dramatically increase, construction of new data centers continues to experience delays and cost escalations of building materials because of supply chain disruptions and the increasing skilled labor shortage. The scarcity of materials continues to plague the industry causing higher prices and longer lead times. The average age of skilled electricians is increasing as younger generations lack interest in pursuing careers in trades resulting in labor shortages and higher costs.

THE LANTANA SOLUTION:

LANTANA's lighting solutions are **saving data centers millions** on wiring, piping, and skilled labor. **LANTANA's Remote LED fixtures**, **Remote Driver Unit**, and **Power Over Ethernet (PoE) fixtures** reduce material, conducting, and labor costs with less wiring and conduit and simplified installation. Instead of a journeyman or skilled electrician running conduit or line voltage to each fixture individually, a distributed low voltage system centralizes line voltage to a single remote location. From there, a low-voltage technician runs a low-voltage cable from the LED driver to the fixture in the data hall aisles or other locations.

LANTANA fixtures and RDUs are manufactured in the US and Canada, qualifying for either BAA or TAA. Localization of the supply chain mitigated most disruptions during the pandemic. Lead times currently are 2-8 weeks, depending upon project size. LANTANA is a nimble and innovative company that works directly with on-site teams to further evolve and develop products by incorporating feedback directly into future product revisions. LANTANA has the unique ability to fulfill on-site needs that may expand beyond the standard catalog of products.

THE CHALLENGE: RISING CONSUMPTION & ENERGY COSTS

Demand for capacity is multiplying at an unprecedented rate, and high-performance computing (HPC) is causing an increase in data rack density. Servers, storage racks, and networking devices require increasing amounts of energy as computing density increases. Historically, server racks required 3-5kw of power; today, contemporary servers range from 10kw per rack to 50kw. According to the United States Department of Energy's Annual Energy Outlook, 2020, **one hyperscale data center can require as much electricity as 80,000 US households.** Server electricity is only a portion of the necessary consumption as energy costs escalate depending upon the type of cooling systems, including adiabatic, hot/cold aisle, free cooling, or liquid cooling.

THE LANTANA SOLUTION:

Designed for hot and cold aisle applications, **LANTANA LED fixtures** are among the most efficient sold in the market based on heat ratings, efficacy, configuration and controllability, and lumen maintenance. LANTANA Lighting solutions are DLC listed, offering owners energy savings and rebates.

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THE CHALLENGE: DIMINISHED RETURNS

Light fixtures not designed to withstand hot aisle heat conditions or lack the quality for resiliency and longevity offer limited short-term savings. These savings are ultimately negated and result in long-term cost increases from downtime in electrical circuits, increased maintenance, and more frequent refreshes.

THE LANTANA SOLUTION:

LANTANA LED light fixtures include a 10-year warranty and offer an exceptional lifespan to reduce maintenance and refresh costs with an extremely low failure rate for savings throughout the lifecycle. Future refresh is significantly more cost-effective to move low voltage cabling versus rewiring line voltage and conduit.

Lumen Maintenance
122° F 24 Hours per Day

TM-21 L70 - 238,600 Hours / 54 Years
TM-21 L80 - 149,700 Hours / 34 Years
TM-21 L90 - 71,400 Hours / 16 Years

THE CHALLENGE: IMPAIRED SAFETY, MAINTENANCE & OPERATIONS

No windows and flat black equipment cabinets offer very little reflective light. Improper light placement can cast unnecessary shadows impairing visual perception and making servicing the equipment difficult, setting up potentially dangerous situations. Even something as simple as changing an LED driver could cause significant damage as maintenance crews navigate sensitive equipment to service the fixtures.

THE LANTANA SOLUTION:

Protect sensitive equipment and workers with the **LANTANA Remote Driver Unit (RDU)**. The distributed low voltage power system centralizes access to drivers offering maintenance crews access to drivers safely away from sensitive equipment, protecting themselves, and potentially saving the company from costly damage. Servicing drivers and lighting systems off-site in the RDU eliminates downtime while working on electrical circuits within aisles.

LANTANA Remote LED light fixtures deliver up to 148.6 lumens per watt and provide 75% direct and 25% indirect light that illuminates the space evenly, especially cable trays. Utilizing a remote driver fixture removes the largest single heat source on an LED fixture. This enables placement of these fixtures in high-temperature conditions and servicing of the driver (the most likely point of failure) off-site from the fixture itself. High CRI values allow maintenance and operations to easily identify individual colors and service cabling.

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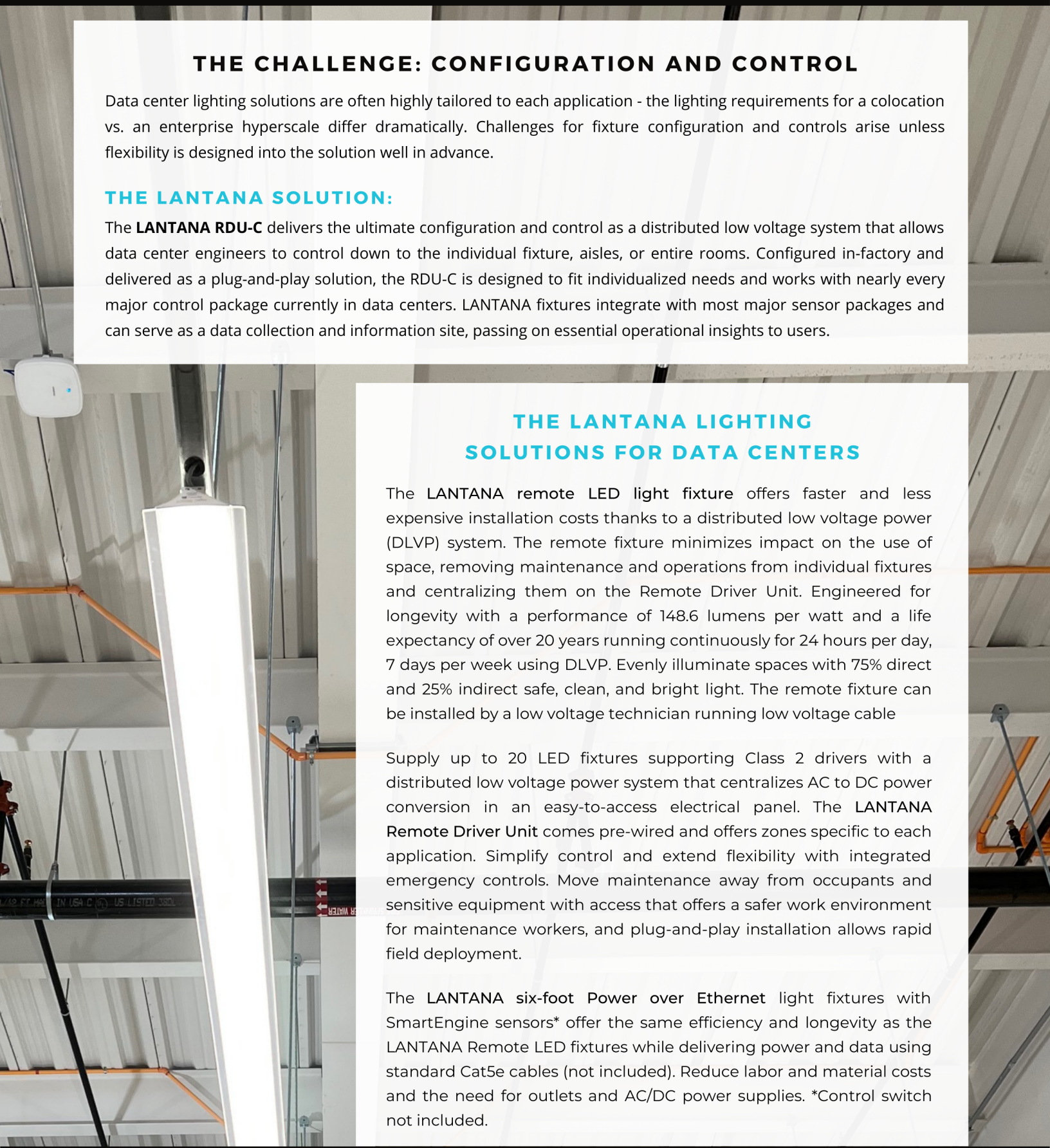

THE CHALLENGE: CONFIGURATION AND CONTROL

Data center lighting solutions are often highly tailored to each application - the lighting requirements for a colocation vs. an enterprise hyperscale differ dramatically. Challenges for fixture configuration and controls arise unless flexibility is designed into the solution well in advance.

THE LANTANA SOLUTION:

The **LANTANA RDU-C** delivers the ultimate configuration and control as a distributed low voltage system that allows data center engineers to control down to the individual fixture, aisles, or entire rooms. Configured in-factory and delivered as a plug-and-play solution, the RDU-C is designed to fit individualized needs and works with nearly every major control package currently in data centers. LANTANA fixtures integrate with most major sensor packages and can serve as a data collection and information site, passing on essential operational insights to users.

THE LANTANA LIGHTING SOLUTIONS FOR DATA CENTERS

The **LANTANA remote LED light fixture** offers faster and less expensive installation costs thanks to a distributed low voltage power (DLVP) system. The remote fixture minimizes impact on the use of space, removing maintenance and operations from individual fixtures and centralizing them on the Remote Driver Unit. Engineered for longevity with a performance of 148.6 lumens per watt and a life expectancy of over 20 years running continuously for 24 hours per day, 7 days per week using DLVP. Evenly illuminate spaces with 75% direct and 25% indirect safe, clean, and bright light. The remote fixture can be installed by a low voltage technician running low voltage cable

Supply up to 20 LED fixtures supporting Class 2 drivers with a distributed low voltage power system that centralizes AC to DC power conversion in an easy-to-access electrical panel. The **LANTANA Remote Driver Unit** comes pre-wired and offers zones specific to each application. Simplify control and extend flexibility with integrated emergency controls. Move maintenance away from occupants and sensitive equipment with access that offers a safer work environment for maintenance workers, and plug-and-play installation allows rapid field deployment.

The **LANTANA six-foot Power over Ethernet** light fixtures with SmartEngine sensors* offer the same efficiency and longevity as the LANTANA Remote LED fixtures while delivering power and data using standard Cat5e cables (not included). Reduce labor and material costs and the need for outlets and AC/DC power supplies. *Control switch not included.

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OPTICS

- Dual finish acrylic lens providing naturally diffused light
- Efficiency up to 148.6 Lumens/Watt
- Full range dimming 0 - 10V
- Ambient operating temp: 0°- 80°C / 32° - 176°F
- 25% Indirect / 75% Direct

POWER OPTIONS

- Remote Class 2 Driver
- Power-over-Ethernet
- Remote Driver Unit

LUMEN MAINTENANCE

(CALCULATED AT 55° C)

- TM-21 L70 hours – 238,600 - 24 hr/day
- TM-21 L80 hours – 149,700 - 24 hr/day
- TM-21 L90 hours – 71,400 - 24 hr/day

COLORS TEMPS

- Within 3-4 McAdams
- 3000K, 3500K, 4000K, 5000K, 6500K
- Static Circadian
- Tunable White

CONSTRUCTION

- Extruded anodized aluminum spine
- Acrylic co-molded diffusing housing
- White plastic endcaps
- Custom colors available

EMERGENCY OPTIONS

- UL 924 listed
- RDU optional emergency controls

FIXTURE OPTIONS

- Remote 4', 6', 8'
- Power over Ethernet (PoE) 6'

MOUNTING

- Pendant
- Unistrut
- Surface Mounting

WARRANTY

- 10 years for light fixtures

CERTIFICATIONS

UL CERTIFIED · BAA 25.101 COMPLIANT · DLC LISTED · EFFICIENCY STANDARDS T24

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