



On the Bright Side: A Lighting Retrofit Plan for Self-Storage Facilities

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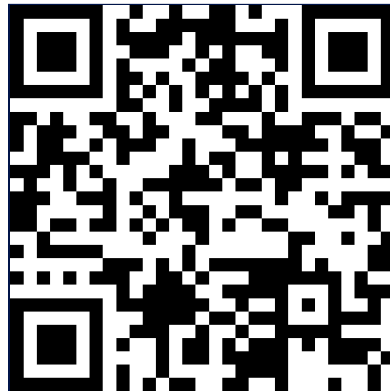


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Why This Session Matters Now



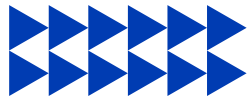
Energy remains one of the largest controllable operating expenses.



Lighting directly affects safety, security, and tenant confidence.



Facilities are expected to perform better without adding complexity.



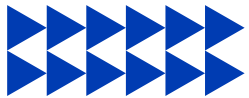
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What You'll Take Away Today

- Evaluate lighting issues that drive costs, risks and complaints.
- Implement the recommended lighting standards across your facility.
- Follow a proven step-by-step process LED retrofit roadmap.
- Lower your project cost and speed up ROI with utility rebates.
- Deliver consistent results across multiple sites with turnkey execution.



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Retrofit Playbook at a Glance

1 ONSITE LIGHTING AUDIT

Detailed walkthrough to assess system, its usage patterns and energy waste.



2

PROJECT ROI & SOLUTIONS

Identify US LED solutions for the project while estimating rebates and projected energy savings.



3

PROJECT TIMELINE & LOGISTICS

After approval, project management executes schedules, equipment delivery and more.



4

TURNKEY INSTALLATION

Coordinated, code-compliant installation and recycling without disruptions.



5

FINAL PROJECT INSPECTION & ADJUSTMENTS

Post-install check and fine-tuning to ensure peak performance and satisfaction.



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Let's Start With the Baseline

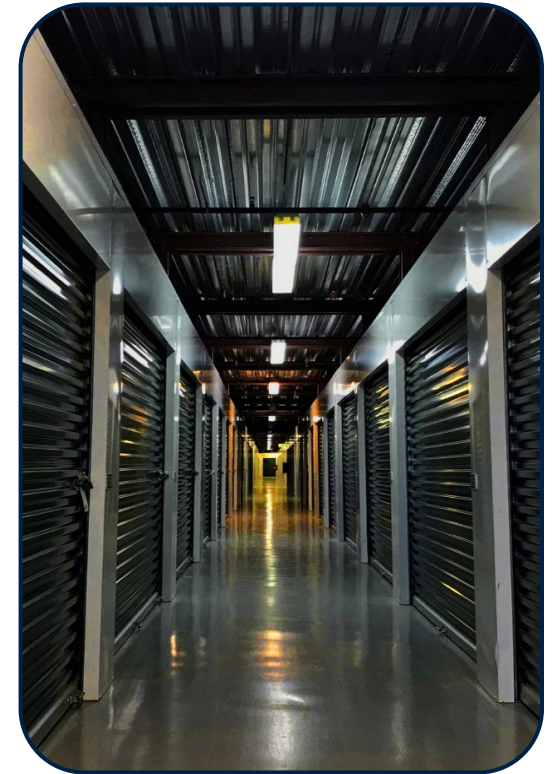
- Ask yourself: **What is the reality of your facility?**
- Take inventory of your lighting by area, not just by fixture type.
- Document failures, dark spots, maintenance issues, and controls opportunities.
- Some typical audit focus areas:
 - Technology, wattage, quantities, mounting heights
 - Electrical and voltage conditions
 - Hours of operation by area
 - Existing light levels and visibility

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Hidden Cost of 'Good Enough' Lighting

- Inefficient technology, like fluorescents, create higher energy bills and replacement issues.
- Under-lighting increases tenant complaints and safety/security risks at night.
- Over-lighting wastes energy, increases costs.
- Inconsistent light levels create liability and negatively impact business reputation.
- Lighting maintenance associated with replacements adds up quietly over time.



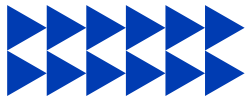
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Common Issues We See

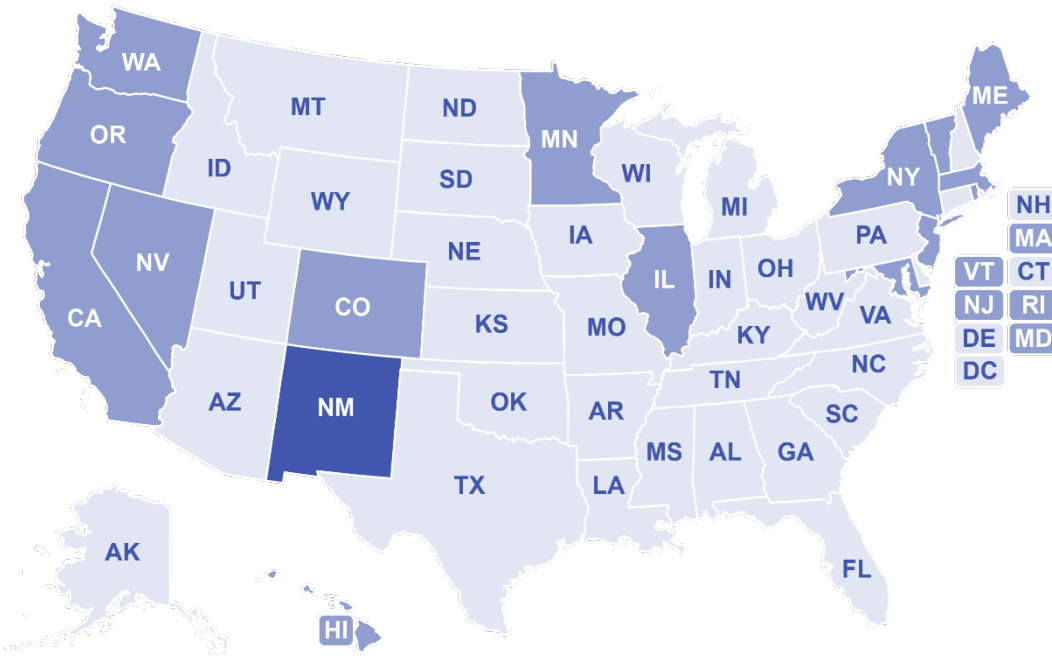
- Legacy fluorescent or high-intensity discharge HID fixtures still in daily use
- Old twist timers still in daily use, or no controls available
- Lights running 24/7 in low-traffic areas
- Exterior shadowing in or around gates, drive aisles and units
- Inconsistent, mixed color temperatures across the same site
- Mixed lamp or fixture types across the same site



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Risk of Fluorescent Phaseouts



States have enacted bans on T8/T12 linear pin and screw-in compact fluorescent lamps.

Operational Impact

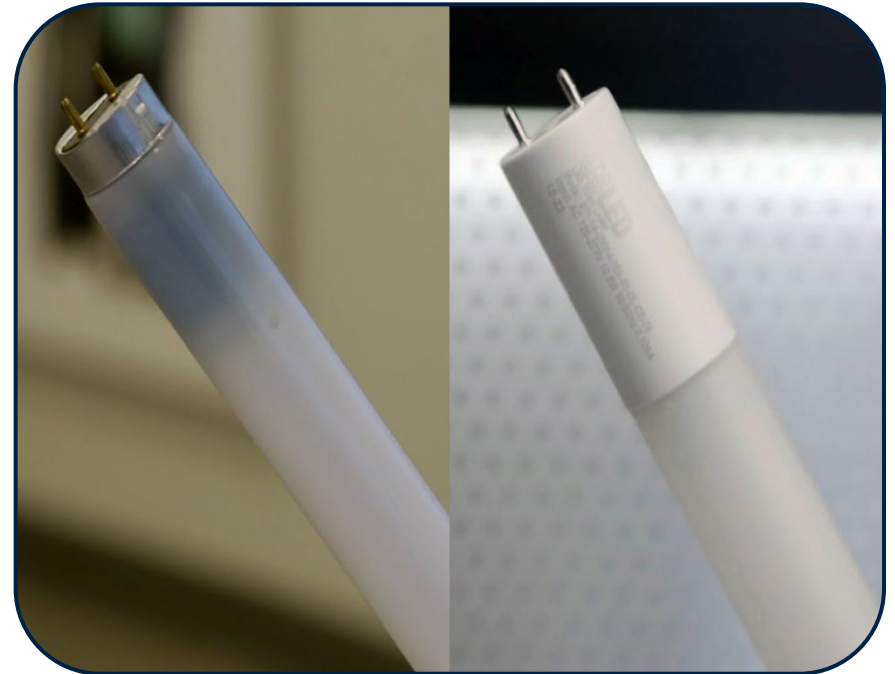
- Shrinking availability
- Rising component prices
- Unpredictable maintenance
- Inconsistent lighting
- Reduced safety and security

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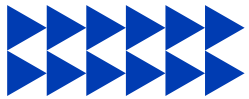


Why the Fluorescent Phaseouts?

- Fluorescent lamps contain toxins, like mercury, creating disposal concerns.
- Lower efficiency compared to modern LED lighting solutions
- Policy alignment with long-term energy-reduction goals



A comparison between a fluorescent lamp (left) and LED



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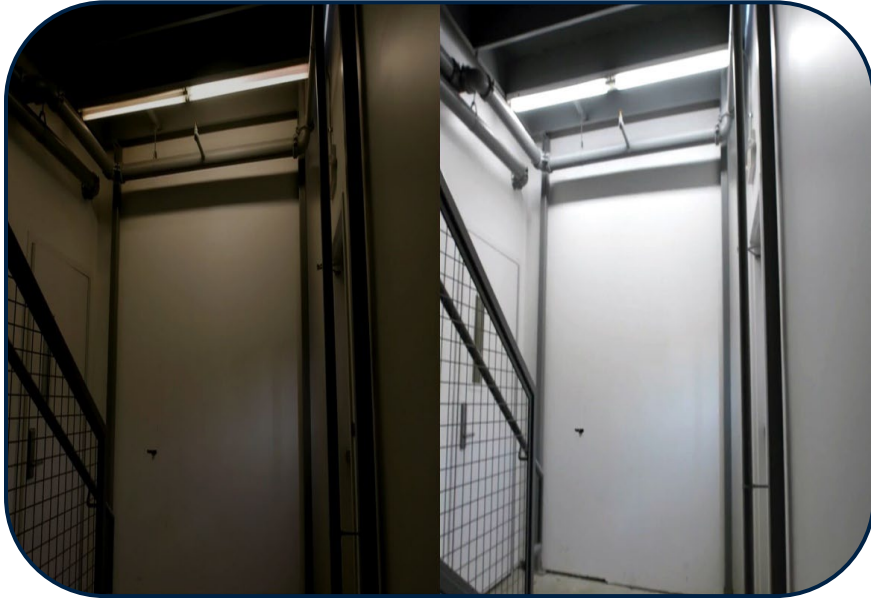
What This Means for Operators

- Vendors can no longer legally sell them or shipments blocked to states that prohibit manufacture, sale and distribution
- Longer lead times for replacements (if even possible)
- Emergency failures are harder to resolve
- Mixed systems increase maintenance complexity
- Potential audit penalties and compliance issues that affect insurance renewals or future property sales
- Pricing volatility (fluorescent fixtures and components)

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Why Upgrade Now, Not Later



*A stairwell using fluorescent lighting (left)
and LED lighting*

- Planned upgrades reduce disruption to operations
- Improved efficiency with immediate financial impact
- Lighting maintenance virtually eliminated
- Consistent illumination and standardization for portfolio
- Improved safety and security
- Supports environmental and sustainability goals

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Interior-Lighting Retrofit Standards

Hallways and Corridors

- Uniform end-to-end light distribution
- Support cameras and wayfinding
- Use sensors where applicable

Unit Lighting

- Consistent CCT across units
- Avoid fixtures that run continuously (sensors)

Key Considerations

- Mounting height
- Fixture spacing
- Ceiling conditions
- Voltage/emergency



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Interior-Lighting Retrofit Standards

Stairwells/Elevators

- Treat as safety-critical zones.
- Maintain visibility, no dark transitions.

Offices/Restrooms

- Comfortable lighting for staff and customers during operating hours
- CCT consistency with adjacent spaces

Key Considerations

- Mounting height
- Fixture spacing
- Ceiling conditions
- Voltage/emergency



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Exterior-Lighting Retrofit Standards

Perimeter/Fence Lines

- Eliminate shadows along edges
- Maintain uniform coverage
- Support camera visibility and line of sight

Drive Aisles

- Consistent illumination for traffic and wayfinding
- Eliminate dark areas and bright hot spots



Key Considerations

- Mounting locations
- Building placements
- Pole spacing
- Light spill
- Neighbors

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Exterior-Lighting Retrofit Standards

Gate Entrance/Access Points

- Clear visibility for keypads and cameras
- Reliable operation for night access

Signage/Wayfinding

- Ensure sign lighting aligns with the rest of the site while maintaining brand standards



Key Considerations

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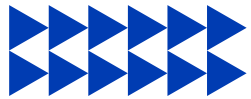
Lighting Controls the Right Way

Where Controls Work Best

- Interior hallways with intermittent traffic
- Low-use areas, including individual units
- Secondary stairwells

Mistakes to Avoid

- Sensor timing that shuts off too quickly
- Overcomplicating controls for staff
- Inconsistent by area



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Lighting Controls the Right Way

Control Strategies That Make Sense

- Occupancy sensors with proper time delays
- Multi-step dimming for egress stairways
- Photocells for exterior dusk-to-dawn control
- Scheduling predictable usage patterns
- Zone control vs. luminaire level lighting control

Mistakes to Avoid

- Sensor timing that shuts off too quickly
- Overcomplicating controls for staff
- Inconsistent by area



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Step 1: Lighting Audit and Scope

Primary goal: Define the lighting project with an audit that evaluates existing fixtures, operating patterns and site conditions.

What must be confirmed by area:

- **Electrical conditions:** Input voltage, circuits and panels
- **Existing fixtures:** Technology, wattage and quantities
- **Physical constraints:** Ceiling heights, mounting and access
- **Prioritize zones:** Safety and security concerns, failures, dark areas, maintenance issues, and tenant complaints
- Hours of operation and maps

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Step 2: Project ROI and Solutioning


Primary goal: Identify LED solutions based on the audit findings, with projected energy savings and available rebates

Key considerations:

- Project solutioning based on environment and usage
- Photometric layouts ensures Illuminating Engineering Society (IES) standards are met
- Balance performance, reliability and energy use
- Standardize fixture types and correlated color temperature (CCT) across portfolio
- Prioritize locations with greatest payback with rebates
- Warranty coverage and lifecycle expectations

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Step 3: Project Timeline and Logistics

Primary goal: Dedicated project management finalizes the schedule, manufacturing and material delivery

Planning priorities:

- Develop phased installation strategy by area
- Establish clear communication plan with onsite manager
- Access coordination – gate codes and afterhours
- Material staging and site readiness
- Weather exposure for exterior work

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Step 4: Turnkey Installation

Primary goal: Deliver coordinated, code-compliant installation and recycling with minimal disruption to operations.

Critical functions:

- Confirm new fixture placement, spacing and coverage.
- Set controls properly for each fixture by area.
- Removal of legacy fixtures, lamps and components
- Recycling, clean-up and disposal documentation in accordance with local and state requirements

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Step 5: Final Project Inspection

Primary Goal: Conduct a post-install walkthrough and fine-tune to ensure optimal performance and satisfaction.

Walk-through priorities:

- Validate light levels, visibility and fixture operation.
- Confirm controls perform as intended.
- Identify and resolve punch list items.
- Deliver closeout documents including fixture schedule, warranty information and datasheets.



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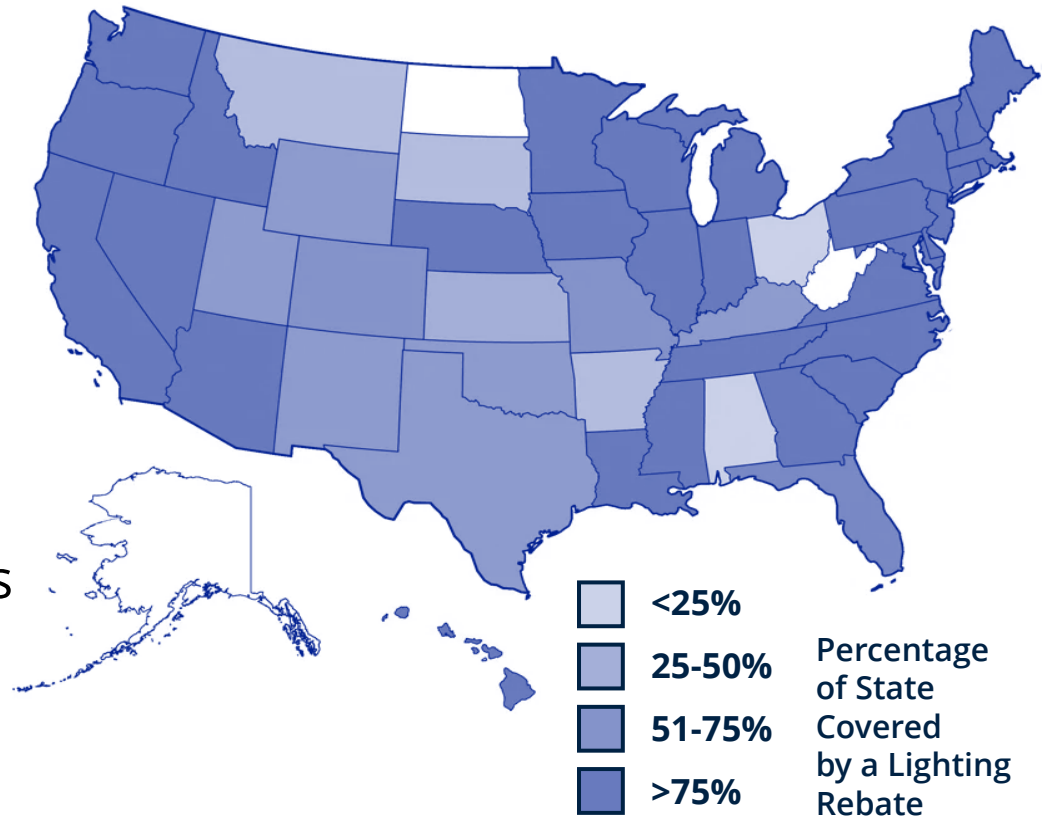
Incentives Improve Project ROI

Reduce Net Project Cost

- Utility rebates and regional incentives offset upfront costs.
- Programs vary by location and product eligibility.
- Instant, prescriptive and custom rebate options

Multi-Site Portfolio Tip

Prioritize sites with the largest rebates and immediate energy savings for quicker payback.



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Common Rebate Pitfalls

- Rebate requirements not identified early before the project
- Specified LED solutions that don't meet efficiency or DesignLights Consortium criteria
- Missing required pre-approval or pre-inspection steps
- Incomplete or inaccurate rebate documentation
- Installation completed before the rebate approval (where applicable)
- Missed utility-submission deadlines
- Lack of coordination across multiple sites

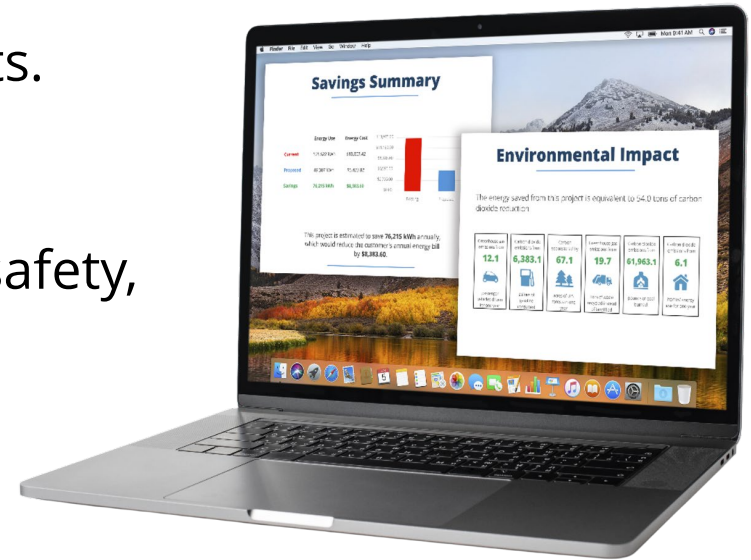
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Building the Business Case

Translate lighting upgrades into business value.

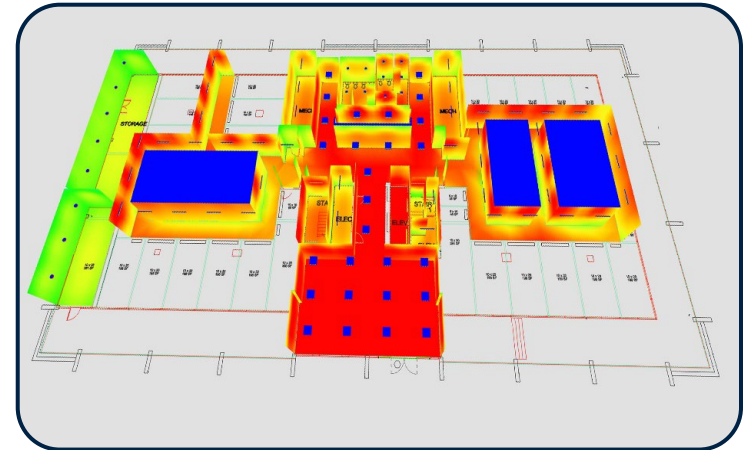
- Focus on total cost of ownership.
- Compare planned upgrades against increased reactive-maintenance costs.
- Immediate energy savings gained from reduced wattage and run time
- Operational value tied to improved safety, security and tenant confidence
- Better long-term property value



Lighting Consistency at Scale

Eliminate the hassle of vendor coordination.

- Work with an experienced lighting provider for self-storage facilities (single site or portfolio).
- One accountable partner from audit to installation to closeout
- Single point of contact for project management and timelines
- Consistent installation and outcome across multiple sites



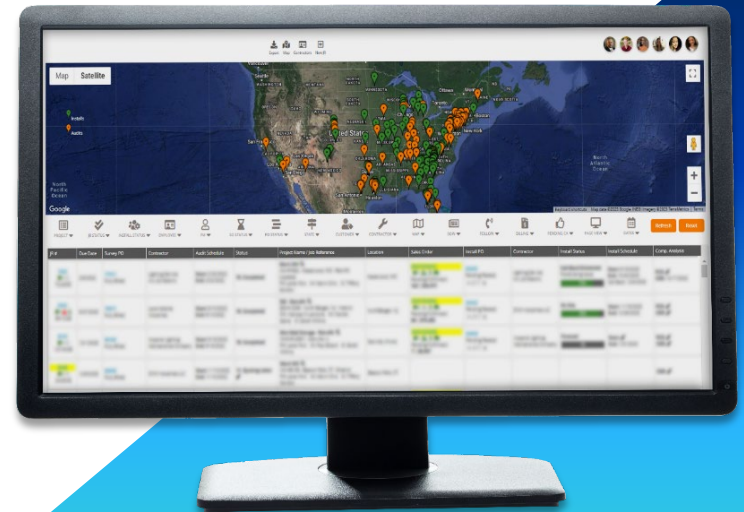
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Manage Multi-Site Lighting Programs

Consistent Results Across Your Portfolio

- Standardized lighting specifications for a coherent look and brand feel.
- Coordinate a rollout schedules based on geography, ROI and other factors.
- Real-time centralized reporting, progress tracking and rebate management



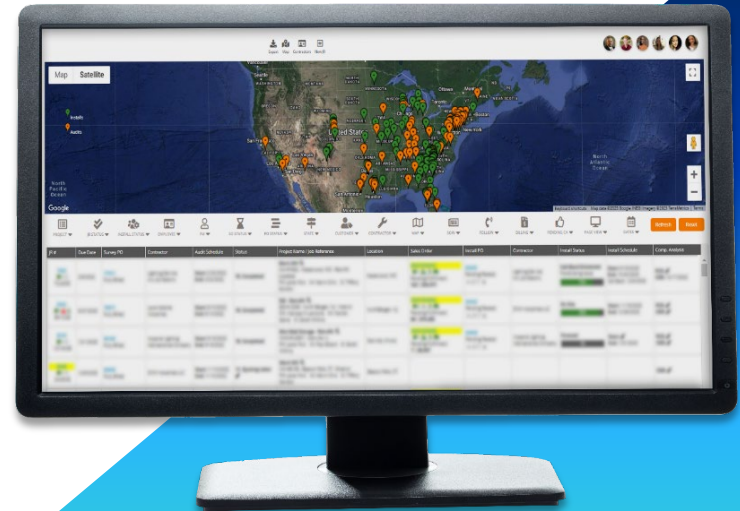
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Manage Multi-Site Lighting Programs

Value to Operators and TPMs

- Easier budgeting and forecasting
- Consistent tenant experience
- Predictable pricing and timeline
- Reduced operational burden



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Real-World Lighting Example

Challenges before the retrofit

- Deteriorating fluorescent lighting
- Inefficient HVAC usage
- Poor visibility and safety issues
- High operational costs

Choosing the smarter fix

- Ultra-long-life LED lighting
- AI-driven HVAC and lighting controls
- Line-of-sight monitoring
- Performance tracking

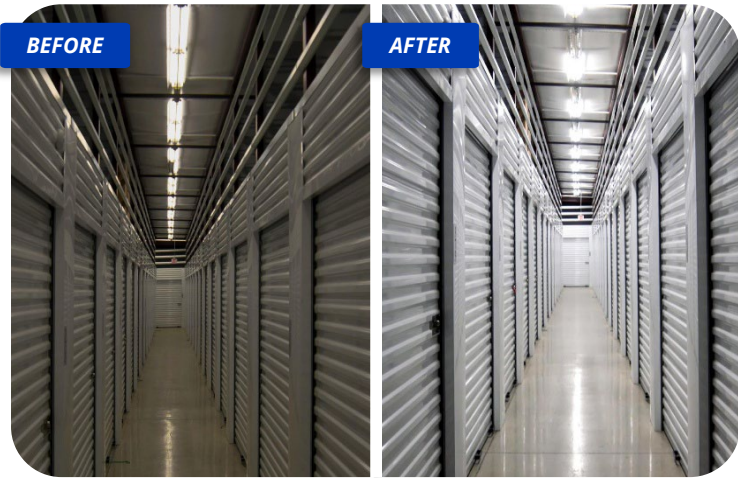


Storage Sense, Irving, Texas
82,000 square feet

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Impact Beyond the Bottom Line



462,511 kWh

Annual Energy
Reduction

\$64,751.54

Annual Energy
Savings

323 Metric Tons

of CO2 Equivalent
Eliminated

>1 Year ROI

Energy, Maintenance
and Tax Savings

- Safe and secure environment for tenants
- Lower maintenance workload
- Supports net-zero goals
- Avoids \$377K solar project to offset the previous demand

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Pro Tips for Lighting Retrofits

Proven Practices for Delivering a Successful Lighting Retrofit

- Start with a complete onsite audit.
- Prioritize long-life LED solutions that makes sense for project goals.
- Capitalize on utility rebates and tax deductions where applicable.
- Choose an experienced partner, not just a supplier.

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Pro Tips for Lighting Retrofits

What should operators and technical program managers prioritize for best results?

- Define portfolio-wide goals. What's the WHY?
- Standardize on specifications and plan early for rebate opportunities.
- Work with a partner experienced with self-storage lighting projects.
- Take time for the final walk-through.

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Common Questions and Answers

- How disruptive is a lighting retrofit?
- How long does a typical retrofit take?
- Can upgrades be phased across multiple sites at the same time?
- How do you handle facilities with mixed-lighting systems?
- What should we prioritize if budget is limited?

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Final Takeaways

- Lighting upgrades start with documented onsite audits.
- Consistent lighting standards reduce cost, risk and complaints.
- Planned LED retrofits are easier than reactive replacements long-term.
- Utility rebates, incentives and tax deductions reward early planning.
- Turnkey execution simplifies projects and delivers predictable results.

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What to Do Next

- Walk your facility at night and note problem areas.
- Identify areas still relying on fluorescent or legacy technologies.
- Prioritize lighting for safety, security and visibility.
- Start planning before failures force decisions.

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FEEDBACK!



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