



ISON™ Class **LED Solutions**

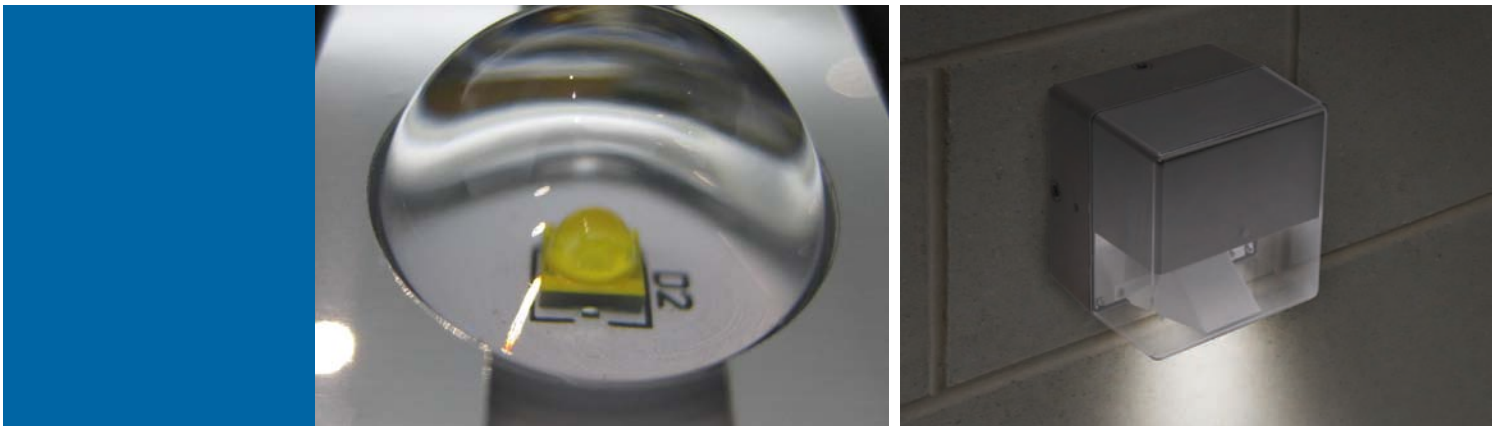




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1. Energy-efficient Lighting

LED & Fluorescent fixtures

2. InteLite® Controls

Energy Management Control System

3. Apollo® Solar Light Pipe

Professional grade daylighting device

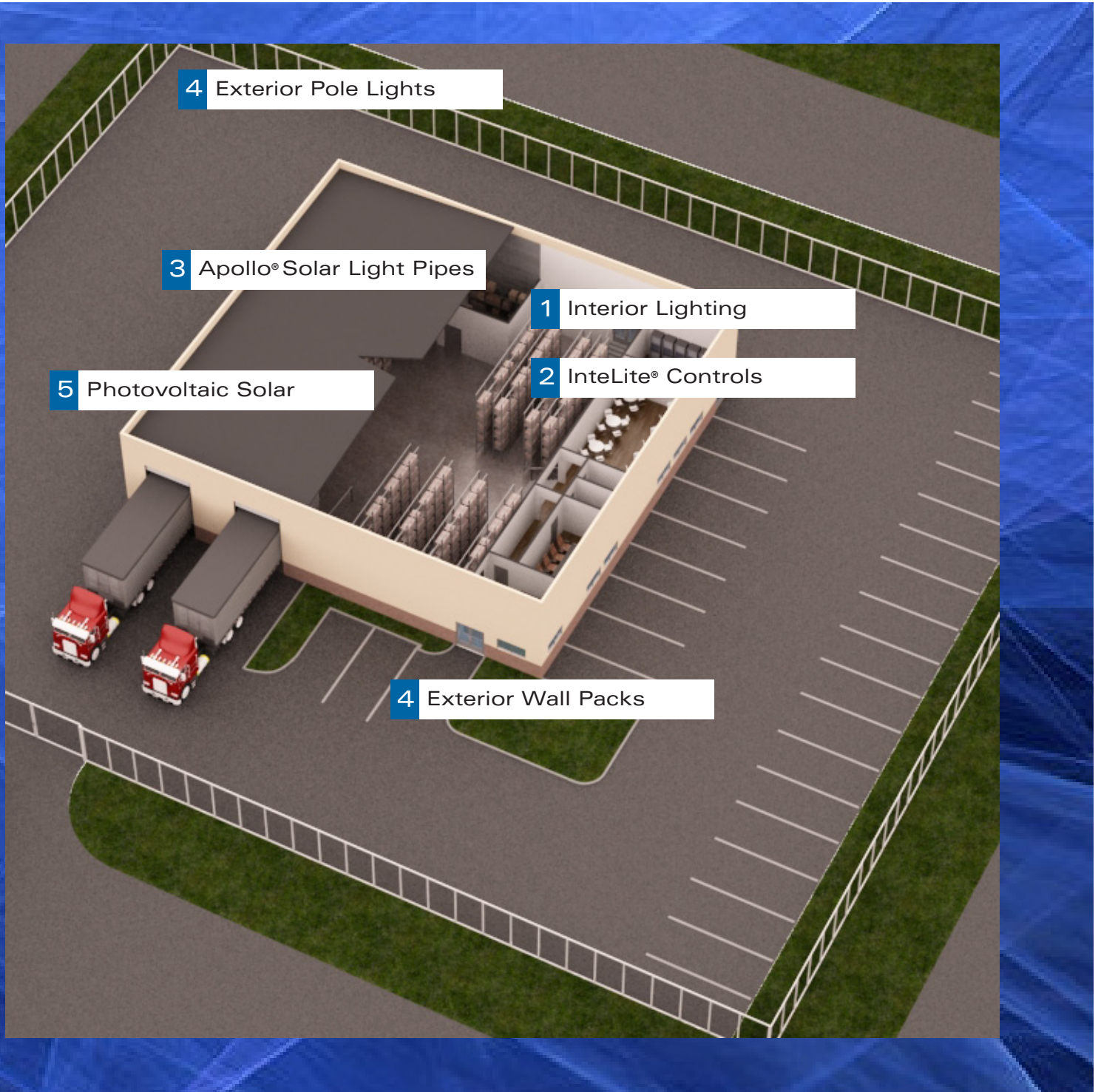
4. Exterior Lighting

LED & Fluorescent fixtures

5. Photovoltaic Solar

Renewable energy through solar panels

Orion Energy Systems deploys an advanced, full-range energy management strategy that can take customers to net zero electrical grid usage for significant portions of the day. Included in Orion's all-encompassing approach are its advanced fluorescent and LED lighting platforms, the Apollo® Solar Light Pipe, photovoltaic rooftop solar panels, wind turbines and thermal storage – all metered or controlled via the Smart Grid with Orion's InteLite® Integrated System.



1

lighting is one of the most important drivers of electricity costs

To reduce lighting expense, you have these options:

- Lower the fixture wattage
- Reduce fixture-on time
- Optimize light output for operations
- Reduce maintenance costs
- Longer lasting technology

You've probably done some of these already. Take advantage of all of the above to reduce your energy costs for lighting. Even companies that did lighting retrofits only 2 years ago have upgraded to Orion's new smart grid compatible Intelite[®] and advanced ISON[™] Class LED products.

2

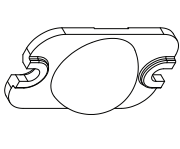
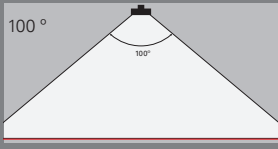
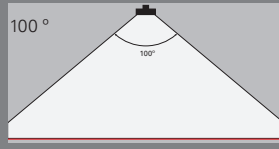
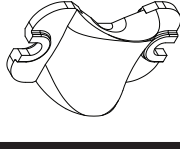


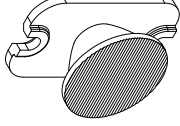
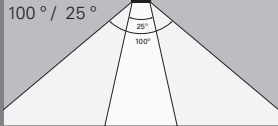
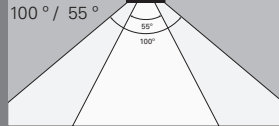
why LED ?

LED Advantages	ISON™ Class Advantages
Highly energy efficient	More light and more energy efficient than competition
Extremely long life	Superior color performance
Durable and reliable – large operating temperature range and vibration resistance	Thoroughly vetted, tested technology
Small size, directional lighting, instant on, no restrike issues, fully dimmable	High bay fixtures are smart grid/building compatible via InteLite® controls
	Made in USA

3

application specific optic combinations

Unique optics and arrays designed for optimum illumination for your specific lighting requirements.

GENERAL	G3 Optics for general open areas	
		
AISLE	A3 Optic for standard applications	
		
AISLE PLUS	A4 Optics with G3 Optics for wider aisles or taller ceilings	
		



4

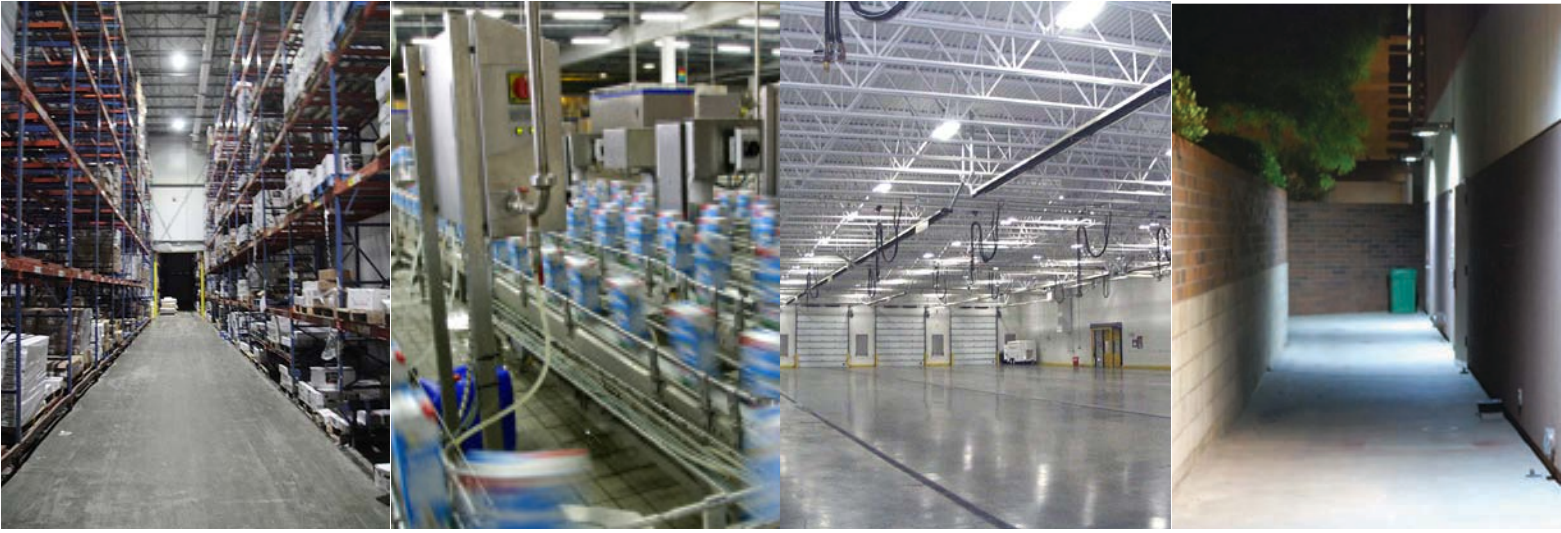
certifications & validation

- Made in our USA manufacturing facility with the world's best chips, drivers and controls
- UL, NEC and Design Lights™ Consortium approved
- 70 Orion patents held or pending on lighting and energy related technology



MADE IN USA





application specific design

Orion's ISON™ Class LED offers a variety of designs that are specific to your environment and application. Regardless of your application, Orion's mission is the same - providing you the most and best quality of light for the least amount of energy input. The following pages are some examples of various applications our ISON Class LED is applied.



Distribution / Storage

Hospitality

Commercial / Industrial

Office & Retail

Gas Stations C-Stores

Hospitality

Recessed downlight LED Retrofit

- Fits in existing recessed can housing
- 15W, 20W (120-277v, replace 18-56W Fluorescent)
- UL, Energy Star (pending)



Recessed downlight LED

- Standard recessed can for use in new construction or when retrofit not practical
- 15W, 20W (120-277v, replace 20-75W Fluorescent)
- UL, Energy Star



Cost to Operate

Based on 100 fixtures operating 24/7/365 at \$0.10 kWh rate.



EXISTING

CFL

75 watts

\$ 6,570
annual operating cost

PROPOSED

LED downlight

20 watts

\$ 1,750
annual operating cost

RESULTS

48,480
kwh reduced

\$ 4,818
annual savings



C-Stores

Canopy Retrofit

- Fits in existing canopy housing
- 123W (120-277v, replace 320-400W Metal Halide)
- Superior optical performance
- UL Wet Tested, IP 65, DLC, IDA - International Dark-sky pending



Cost to Operate

Based on a 14 fixtures with 4,380 annual operating hours at \$0.10 kWh rate.

EXISTING	PROPOSED	RESULTS
HID	LED Canopy	
465 watts	123 watts	20,971 kwh reduced
\$ 204 annual operating cost	\$ 54 annual operating cost	\$ 2,097 annual savings





C/I

Commercial and Industrial

Permanently drive down costs with an astounding 100,000+ hours of rated life expectancy for standard ISON fixtures and 150,000+ hours for the ISON Cold Storage fixtures. These will be the last fixtures you will install for decades to come.

Orion has retrofitted millions of square feet with ISON™ Class LED products. Facility managers are extremely pleased with the results and the owners are thrilled with the reductions in their lighting expense.



Cost to Operate

Based on a 100,000 sq. ft. facility operating 24/7/365 with 250 fixtures at \$0.10 kWh rate.



HID

\$140,532

465 w 8,760 hrs



HIF Fluorescent with motion control

\$31,250

221 w 1,752 hrs

74 w 7,008 hrs



ISON Class LED with Intelite®

\$7,435

123 w 1,752 hrs

APPLICATION SPECIFIC DESIGNS

engineered specifically for the commercial, industrial, distribution and cold storage environments.

Cold Storage High Bay

- Optimum performance in cooler and freezer; UL Damp Listed
- 150,000+ hour lifespan
- 123W, (120-277v, 347-480v, replace 320-400W) Metal Halide)
- 170W High output (120-277v, 347-480v, replace 1,000W Metal Halide)

High Bay

- Ideal replacement for HID and T5 or T8 fixtures
- 123W, (120-277v, 347-480v, replace 320-400W) Metal Halide)
- 170W High output (120-277v, 347-480v, replace 1,000W Metal Halide)

VaporTight

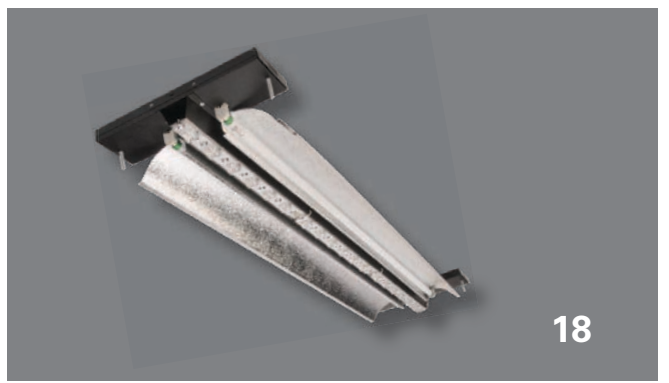
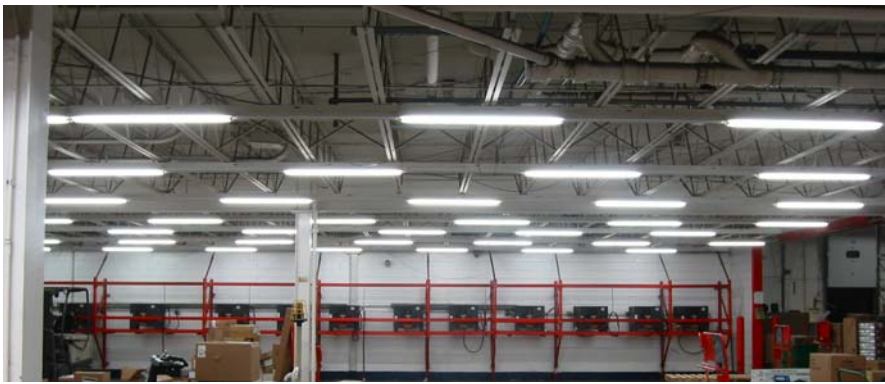
- Designed to perform optimally in wet environments
- 123W (120-277v, replace T12 Fluorescent)
- UL Wet Tested, IP 65 & 67, DLC

T12 LED Retrofit

- Lower cost alternative to NEW LED fixture
- 120-277v, 347-480v, replace Fluorescent

Hybrid

- Lower cost alternative to an all LED fixture for aisle applications
- 145W (120-277v, 347-480v, replace 320-400W Metal Halide)



distribution / storage



US Foods

“The savings going away from HID are significant, and the quality of light is much better. But when looking at changing from fluorescent to LED, it’s a bit of a mind-set change. The up-front cost for LED is a bit more, but when you factor in the longer life of the product, that’s where the additional savings come in.”

John Jepsen

*Director of Energy Management
US Foods*

Energy. Smarter.™

Orion can take you beyond traditional solutions with truly ground-breaking advances using our wireless smart grid compatible Intelite® controls along with Orion high-intensity fluorescent and ISON™ Class LED products.

Achieve maximum operational cost reduction and greatly increase fixture longevity, especially when used with Smart Grid/building compatible Intelite controls. That’s when ISON really shines.



11 US Food freezer facilities,
throughout the United States.



Outdoor

Wallpack Retrofit

- Fits in existing wallpack housing
- 15W (120-277v, replace 50-100W)
- UL, DLC
- Fast, easy installation

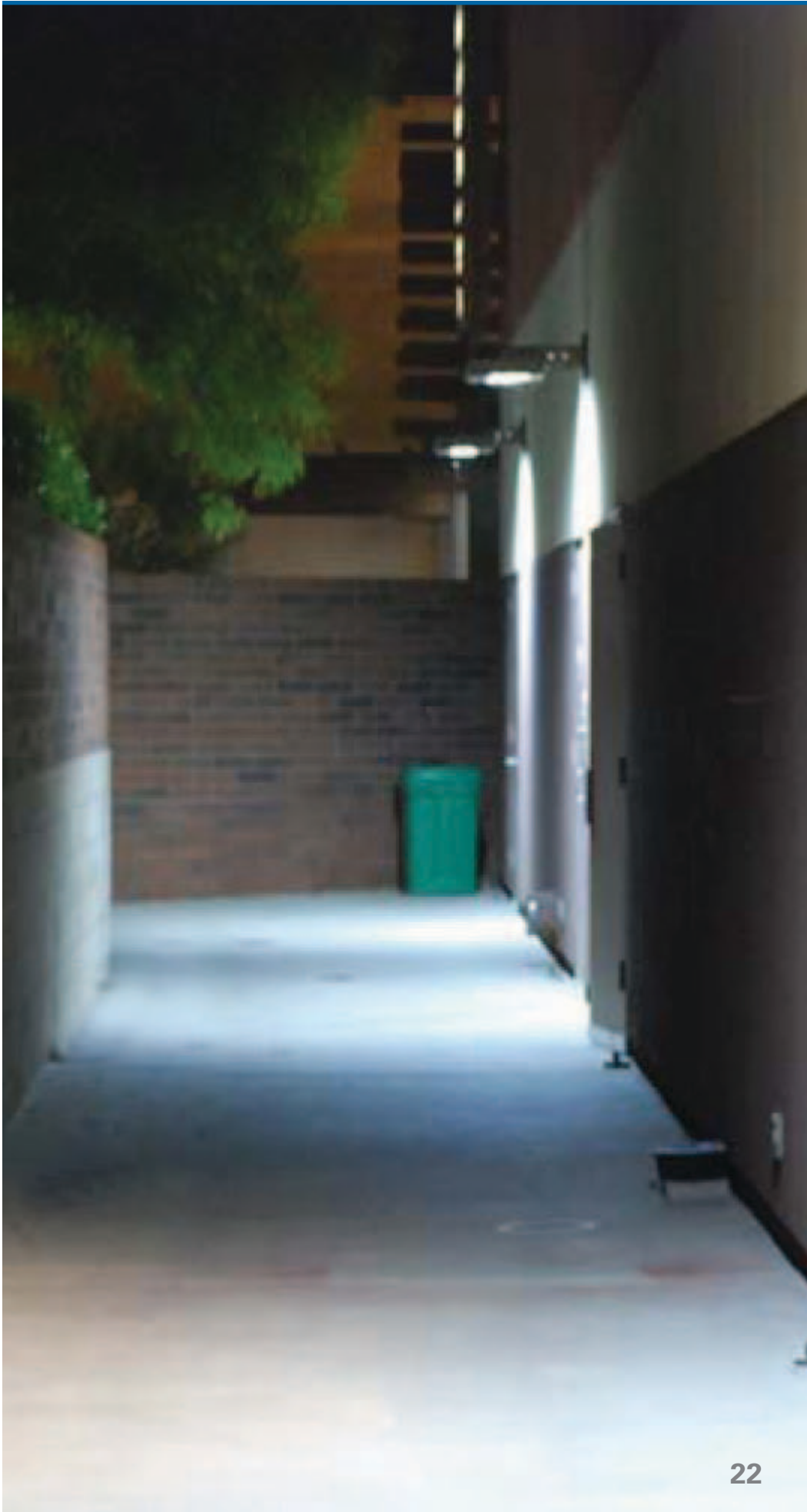


Cost to Operate

Based on 10 fixtures with 4,380 annual operating hours at \$0.10 kWh rate.



EXISTING	PROPOSED	RESULTS
HID	LED Wallpack	
50 watts	15 watts	1,883 kwh reduced
\$ 25 annual operating cost	\$ 7 annual operating cost	\$ 188 annual savings





TRUSTED SUPPLIER

Orion's 30-acre campus is home to a 70,000 square-foot technology center and a state-of-the-art, 266,000 square-foot manufacturing plant. Together, they form the epicenter of the world's leading energy solutions; a place where innovative ideas are brought to life through "Made in the USA" manufacturing, extensive environmental UL testing and the industry's most rigorous quality control.



Environmental Test Chamber

Our sophisticated Environmental Test Chamber was the first of its kind in the industry. Extreme conditions are replicated within the chamber, including temperatures ranging from -60° F to +185° F. This sophisticated chamber gives Orion a tremendous product development advantage as we continue to create products that are as durable as they are innovative.

Quality Control

No one in the industry takes quality control more seriously than Orion. Every step in our manufacturing process is designed to meet rigorous quality standards. In the end, every fixture we manufacture is plugged in and extensively tested before being packaged to ship.

On-site UL (Underwriters Laboratory) Testing

At Orion, we conduct our own UL witness testing on-site in a lab that is UL approved to test for mechanical, electrical and thermal certification. Since we don't have to send fixtures to UL labs in other states or Canada, our innovative fixtures receive faster certification.



ISON™ Class LED Products



Energy. Smarter.™

Orion has delivered significant savings to some of the best-known, toughest customers on the planet. Not just once – some companies have installed Orion technology over one hundred times.

Orion Energy Systems leads the way with innovative Apollo® daylighting, high-intensity fluorescent and ISON™ Class LED platforms for interior and exterior lighting, InteLite® wireless controls and energy management systems, thermal storage, solar photovoltaic and wind turbines.

Since 2001, Orion has delivered these results:

- **\$1.8 billion** saved by our customers
- **145 of the Fortune 500** are customers
- **8,477 facilities** completed
- **758 MW** permanently displaced from the electrical grid (more than a traditional coal power plant)
- **23 billion kWh** saved
- **15.3 million tons of CO₂** prevented from entering the atmosphere

Call **800.660.9340** today and learn how you can dramatically reduce your energy costs—without compromise and with no financial or technology risk.



97 facilities



20 facilities



378 facilities



44 facilities



111 facilities



32 facilities



163 facilities



92 facilities

Includes ABID facilities



Orion Energy Systems Inc. www.oesx.com

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Made in USA

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