

Dialight's DuroSite™ LED High Bay Lighting Helps Frontline International Meet "Green" Sustainability Goals

As a company specializing in cooking oil management solutions, Frontline International is rapidly growing a "green" business in producing equipment for recycling oil as alternative renewable fuels. Dialight's highly energy efficient DuroSite Series LED High Bay lighting fixtures are helping them meet customer expectations for environmentally responsible sustainable practices.



New Dialight DuroSite Series LED lighting in the Frontline Manufacturing facility

Frontline International, Inc. is a leading global supplier of commercial restaurant equipment for managing cooking oil. Their OilCare™ solutions safely and efficiently contain, dispense, filter and transport oil for initial fresh oil use and immediate on-premise recycling. Frontline's customers include large restaurant chains, hotels, commercial food processing companies, institutions and universities around the world.

The "green" side of their business, focuses on manufacturing and warehousing commercial kitchen equipment that efficiently recycles used cooking oil for use as renewable alternative fuels; this has grown steadily to the point where now all of the equipment they produce is geared toward recycling. As the company expanded, many of their eco-conscious customers began asking about the sustainability and environmental impact of Frontline's own operations.

According to company president John Palazzo, Frontline felt compelled to explore ways to make their operations more environmentally friendly. "Sixty percent of our operation is assembly work, manufacturing the equipment. So as part of our initial sustainability initiative, one of the first places we looked to improve our practices was in our manufacturing facilities."

A robust, highly energy efficient “green” solution

At the time, Frontline was in the early stages of designing a new plant facility. In their other facility, they had been using fluorescent and incandescent lighting for the assembly areas. This required a large number of fixtures to get the bright light needed for assembly operations, and energy consumption was enormous. Palazzo and his team began investigating alternative lighting options to reduce the amount of energy that would be required to light their new plant. They evaluated high pressure sodium lights, newer fluorescent technologies and LED lighting solutions. They decided that LED lighting was the optimum eco-friendly solution.

After comparing several LED lighting solutions, Frontline chose Dialight’s High Bay LED lighting fixtures for several key reasons: their robust design and construction, their high energy efficiency, hands-free minimal maintenance and low total cost of ownership over time. Frontline felt they would be ideally suited for their high-ceiling manufacturing and warehouse facilities.

At the forefront of LED lighting technology

With unique highly efficient 11,600 lumens (77lm/w), the Dialight DuroSite Series LED High Bay fixtures combine the latest in (Cree® XLamp® XP-G LED) high brightness LED technology, precision optics and next generation thermal management practices. The DuroSite High Bay fixtures are able to deliver ultra-bright clear white light uniformly across the facility’s assembly floor.

Even though Frontline’s new facility is approximately three times the size of its other manufacturing facility, they were able to significantly downsize the number of lighting fixtures needed in the new plant. They now get brighter illumination with fewer lights running on far less electricity, which not only lowers energy consumption and costs but reduces their carbon footprint, as well, in keeping with their sustainability initiative.

Dialight LED Lighting Features & Benefits

- ▷ 80% lumen maintenance after 60,000 hours
- ▷ 77lm/w (LM-79) certified
- ▷ Significant energy savings
- ▷ Instant on/off
- ▷ Maintenance free
- ▷ Mercury free
- ▷ Superior light quality
- ▷ Dark Sky Compliant
- ▷ No heat or UV
- ▷ Simple installation

Typical Applications

- ▷ Warehouse
- ▷ Manufacturing
- ▷ Cold Storage
- ▷ Canopy
- ▷ Gymnasium
- ▷ Tunnels



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- John Palazzo

John Palazzo, Frontline Company President, discusses the improvements made with the Dialight DuroSite Series LED High Bay fixtures.

Improving safety, efficiency, and environment for employees

“Our employees love the new brightly lit facility, joking that it makes the old plant feel like a dungeon,” commented Palazzo. “It was very important for us to make sure we had enough lumens to make the workplace ergonomic for our employees. The Dialight High Bay overhead fixtures are a huge improvement, providing light bright enough for assembly work at waist level and even at floor level. The ultra-bright illumination not only expedites assembly work, it also makes the work environment much safer for our workers.”



Frontline’s electrical contractors were skeptical at first of the decision to install LED fixtures, Palazzo said. “But once they saw the Dialight DuroSite Series LED High Bay fixtures and started working with them, they were impressed with how quickly and easily the fixtures installed, and how bright their illumination was. In fact, they brought in light meters that verified the even distribution of clear, white high quality light throughout the facility, even in remote corners. Now they’re recommending Dialight LED lighting solutions to their other customers.”

Maintenance free & long life LED lighting fixtures

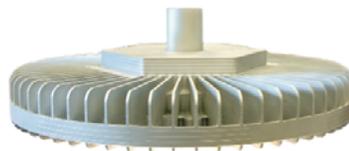
Another benefit that Frontline likes is that the Dialight DuroSite High Bay fixtures are virtually maintenance free. The LED lights sustain approximately 80% lumen capacity over 60,000 operating hours and last for an average of ten years. This reduces maintenance burden and equipment replacement costs, and their maintenance staff doesn’t have to risk injury from changing high ceiling-mounted bulbs.

A stakeholder-focused organization, Frontline International is dedicated to sustainability initiatives that benefit associates, customers and community -- from responsible manufacturing techniques through compliance with industry standards, workplace safety, energy conservation and protecting the natural environment. They plan to use Dialight’s energy efficient, ergonomic LED lighting solutions, like the High Bay overhead lighting fixtures, to help them continue to achieve their “green” sustainability goals.

Traditional High Bay fixture



Dialight’s DuroSite LED High Bay fixture



Frontline Installation

Project Snapshot

- ▷ 11,200 square feet
- ▷ 23’ & 25’ mounting heights
- ▷ 59 DuroSite Series LED High Bay fixtures



In addition to the massive energy savings, Dialight’s fixture is also much lighter and low profile than traditional high bays

***Dialight DuroSite Series LED High Bay Fixture Competitive Analysis**
 (less than 1 year payback period)

Fixture Type	Dialight DuroSite Series LED High Bay (150W)	(6) T5HO Fluorescent (324W)	Metal Halide (400W)	High Pressure Sodium (400W)
Total System Wattage	150W	389W	480W	480W
Avg. Lamp Life	60,000	30,000	20,000	24,000
Annual Energy Savings		\$13,500	\$18,771	\$18,771
Lifetime Relamp & Maintenance Savings		\$19,706	\$29,559	\$29,559
Annual kWh Savings		123,486 kWh	170,646 kWh	170,646 kWh
Annual CO₂ Emission Reduction (in tons)		106	146	146

**All figures are typical and based on calculations provided by the United States Environmental Protection Agency*

About Frontline International

Frontline International, Inc. is a leading global supplier of equipment that safely and efficiently dispenses, contains, monitors, extracts, transports and filters cooking oil for immediate on-premise recycling and use. The company’s mission is to manufacture the best commercial, institutional and industrial cooking oil management solutions available. Founded in 2000, Ohio-based Frontline grew from being a regional expert to become a foodservice equipment provider of choice among restaurant, hotel/hospitality, entertainment and other segments around the globe. Today, Frontline continues its commitment to stakeholder values and the on-going development of new standard and custom product offerings including waste oil, fresh oil and filtration solutions that work smarter, safer and simpler. Visit www.frontlineii.com for more information.

About Dialight

Dialight (LSE: DIA.L) defines the current state of LED lighting technology with continuous innovations in light output, efficacy and reliability for their complete line of high-specification lighting fixtures specifically designed for industrial, commercial, hazardous location, transportation & infrastructure applications. These results are directly related to the company’s ongoing commitment to advancing solid-state lighting products that vastly reduce maintenance, improve safety, ease disposal, and are more environmentally friendly – thereby helping to reduce CO2 emissions, the dominant GHG contributor to global warming. The company is headquartered in the UK with operations in the USA, UK, Germany and Mexico. More information about the company, its LED products and solid-state lighting technologies can be found at www.dialight.com

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