

CAL-AIR Industrial Shop and ALTO® Universal T8 Lamps

A • C A S E • S T U D Y

CAL-AIR, based in Whittier, California, specifies lighting and energy-efficient solutions for many of their more than 10,000 customers. According to CAL-AIR, it has annual revenues that rank them among the top specialty mechanical contractors in the U.S., and the top in California. So when they chose Philips Lighting's ALTO® Universal 850 T8 fluorescent lamps to upgrade their own pipe and sheet metal fabrication shop, it was like a double endorsement.

Replacing 59 one-lamp 400-watt metal halide high-bay fixtures one for one with six-lamp 2' x 4' fixtures of ALTO Universal T8 850 lamps (5000K) and high-output electronic ballasts **yielded significantly more light output while reducing energy and maintenance costs. Because of the improved light quality, the new lighting system also increased productivity, improved shop fabrication safety, and provided a cooler, quieter, more comfortable shop environment.**

CAL-AIR maintains its own pipe and sheet metal fabrication shop to ensure that all materials meet precise engineering specifications for its clients. Founded in 1953 as industrial/commercial air conditioning specialists, the company's current 1200 employee-owners pull out all the stops to maintain CAL-AIR's reputation for superior construction, quality control and customer service.

"Bending and cutting pipe and sheet metal requires high-quality maintained light," explains Dann Vail, Energy Services Developer and Head of CAL-AIR's Southern California Lighting Division. "Although metal halide lamps technically have the same average rated life, their lumen depreciation was severe and unacceptable. We had to relamp at half life and spot relamp often. In comparison, **Philips Universal T8 lamps deliver 95 percent lumen maintenance and one-third more life on instant-start ballasts.**"

Not only has CAL-AIR reduced Cost of Ownership through savings on maintenance, energy (from 458 to 228 total system watts) and materials, but productivity is up and errors are down. Bob Barragan, Shop Superintendent observes, "More sheet metal and piping are coming out per hour." And Rich Chronister, Safety Director, reports no loss-time shop accidents since the retrofit. "The workers just love it," Vail concludes. "Even the fork lift operator is reading bar codes faster and stocking more efficiently."



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Safety Director



CAL-AIR's Pipe and Sheet Metal Fabrication Shop taken at the same time of day (note open door, back right).

PHILIPS

PHILIPS LIGHTING MEETS THE CHALLENGE

CAL-AIR's 18,625 square-foot facility operates 16 hours a day in two eight-hour shifts. With fixtures spaced 20 feet apart and one lamp per fixture, a metal halide failure created a dark spot requiring immediate spot relamping. Worker downtime, lift rentals, material replacement and labor costs contributed to excessive maintenance costs, safety issues and frequent disruptions.

Now CAL-AIR will relamp only once at 80 percent of rated average life or when 10 percent of the lamps have failed. CAL-AIR plans to do this easily in a few hours during the "third shift," when the plant is quiet, making maintenance safer, more efficient and less expensive.

"Philips ALTO® Universal T8 lamps offer dependable lumen output and outstanding color rendition (86 CRI)," Vail says. "This quality daylight source combined with six-lamp-per-fixture redundancy and high ballast factor generate a true daylight color with better contrast, definition and sharpness. This is enhancing worker performance while giving us twice the light for half the energy."

Vail is also impressed with the lamp's hardiness. "A ballast factor of 1.2, driving the lamp 20 percent harder, isn't affecting its life. We built in six-lamp-per-fixture redundancy allowing for single-lamp failures but so far, 20 months after installation, not a single lamp has failed."

Environmental comfort and safety also improved. Less glare is generated by the diffuse six-lamp 2' x 4' system compared to the old one-lamp point source that left an impression on the workers' eyes. It's cooler. The heat load has also been cut in half. It's quieter. Silent high-frequency electronic ballasts have replaced the former ballast hum.

And finally, Philips ALTO Universal T8 lamps are TCLP*-compliant, containing less mercury than any other T8 fluorescent lamp in the industry up to 60" in length which are not TCLP-compliant. CAL-AIR is happy with the lamps' superior lighting quality, hardy performance, and the win-win result of lower costs, higher productivity and an enhanced shop environment.

BENEFITS OF ALTO® UNIVERSAL T8 LAMPS

□ Philips Exclusive Universal Design

The only T8 lamps to deliver full rated average life on all T8 ballast types (Instant Start, Rapid Start, Programmed Start and Hybrid ballasts)

□ Environmentally Responsible

- Low mercury: TCLP*-compliant
- Energy-efficient
- Long life

□ Sustainable Lighting Solution

Less mercury and fewer lamps in landfills, combined with energy efficiency, reduces the impact on the environment


□ Green End-Caps®

Our Green End-Caps mean you are using environmentally-responsible lamps

□ 95% Lumen Maintenance

□ Enhanced CRI

–86 CRI for TL80 lamps



Green End-Caps are a registered trademark of Philips Electronics North America Corporation.

* The TCLP is the US EPA's Toxicity characteristic Leaching Procedure.

