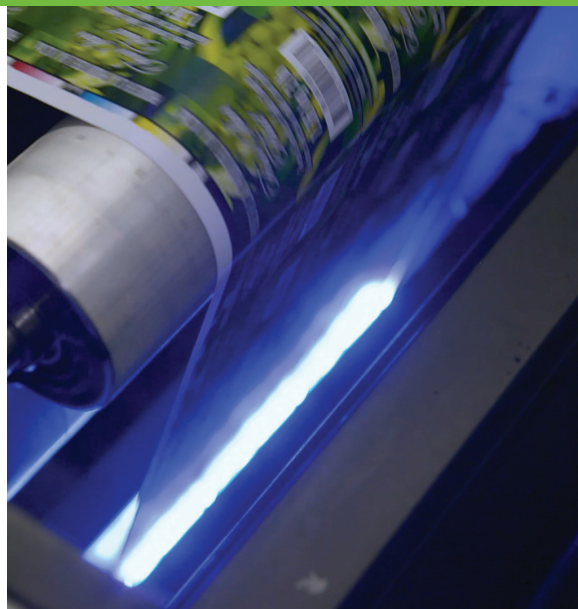


Central Valley Labels, Inc. Boosts Throughput and Uptime with Phoseon® UV LED Curing Systems

By transitioning to UV LED technology, Central Valley Labels cut production times by 50%, increased press uptime, and significantly reduced maintenance and energy costs.



CASE STUDY
April 2026

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APPLICATION OVERVIEW

Central Valley Labels, Inc. (CVL) has been a supplier of agricultural, industrial, warehousing, promotional and retail packaging labels for over 25 years. The company prints high-quality and high-resolution labels in a wide variety of shapes, material and sizes to meet a comprehensive range of specific labeling application such as agricultural labels, bags for fresh fruits, sleeves and bands for fruits, point-of-purchase displays, brochures and more.

To stay ahead in the competitive market for flexographic printing, CVL was the first business in California to purchase a Mark Andy P3 Series 13" and P4 flexographic printing presses with Phoseon® LED curing technology. The company quickly discovered that the Phoseon UV LED curing helped it achieve higher production throughput and more uptime while at the same time reducing maintenance and energy costs.



Higher Production Throughput

With Phoseon UV LED curing systems, CVL's presses can operate at speeds of up to 700 feet per minute while maintaining precise registration across all types of artwork, from full-process color graphics to spot-color applications. The company has also implemented fast-curing UV LED inks, further streamlining production and improving overall efficiency.

Prior to adopting UV LED technology, CVL averaged approximately 15,000 labels per hour using conventional UV arc lamps. After transitioning to Phoseon UV LED curing, production increased dramatically to 25,000–28,000 labels per hour. The combination of higher press speeds, consistent print quality, and reliable curing has effectively reduced production times for many label jobs by as much as 50%, delivering significant time and cost savings for both CVL and its customers.

Today, CVL's production facility is optimized for high-efficiency manufacturing, enabling press operators to produce large volumes of labels within a single shift and complete multimillion-label orders with exceptionally fast turnaround times. The increased productivity and workflow efficiencies achieved through UV LED curing have even allowed the company to eliminate night shifts, reducing labor costs while maintaining outstanding customer service and responsiveness.



Increased Uptime

Before the transition to UV LED lamps, CVL used the traditional mercury curing process. On a typical day with multiple press runs, print technicians had to stop the presses several times a day to clean equipment between runs of different media. As a result, the presses were in production only 70 percent of the time; the remaining 30 percent of time was spent changing inks or cleaning the equipment between runs, resulting in a lot of unproductive downtime.

UV inks don't require the attention when ink colors are changed, and different media can be run on the same press without the need for time-consuming cleaning of equipment, greatly reducing downtime. Operators can run the machines day in and day out without having to stop, which increases the amount of time the presses are running to 90 percent, a substantial uptime gain with a proportional rise in operational savings.

In addition, the old UV mercury arc lamps would take up to 30 minutes each run to reach temperatures necessary to effectively cure UV inks, whereas the new UV LED lamps are ready to work within minutes. UV LED lamps are also fully dimmable, with their intensity coordinated to match the running speed of the press by the onboard printer controller.

Reduced Waste with Significant Operational Costs Savings

Before switching to Phoseon UV LED curing technology, CVL was spending close to \$40,000 to \$50,000 per year on UV bulb replacement for their old UV mercury presses. When the company switched to the Phoseon UV LED solution, that expense was eliminated.

Traditional UV mercury arc lamps typically last between 500 to 2,000 hours and begin degrading from the first second they are powered. Thus, they must be replaced every few weeks. Properly engineered UV LED systems, on the other hand, have demonstrated lifetimes between 20,000 and 70,000 hours with degradation of less than 15 to 20 percent of peak output over that period. They operate for many years without replacement, and the only maintenance is keeping the emitting window, optics, reflectors and air filters clean.

In addition, UV LED solutions are healthier for employees as they do not generate mercury and ozone gases, nor do they emit UVB and UVC wavelengths. All of which make for a safer operating environment.

Expendable Operations Flexibility

UV LED technology significantly reduces the amount of heat transferred to the substrate, giving CVL greater flexibility to print on a wide range of materials, from thermal transfer and semi-gloss papers to BOPP films, without concerns about drying performance or substrate distortion. By adopting Phoseon UV LED curing systems for flexographic printing, CVL has achieved faster press speeds, increased throughput, higher yields, and lower operating and maintenance costs, resulting in improved profitability. The low-heat output of UV LED systems also enables the use of thinner, more heat-sensitive substrates that can be challenging for conventional curing methods.

In addition, UV LED-curable inks are designed to perform consistently across a broad range of media, eliminating the need for multiple ink sets and reducing press downtime associated with ink changes and equipment cleaning between jobs. The result is a more efficient production process, enhanced print quality, and greater consistency. With Phoseon UV LED solutions, CVL can deliver superior-quality labels and packaging to its customers while improving overall operational efficiency.



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Excelitas is at the forefront of addressing many of the relevant megatrends impacting the world today, including precision medicine, industrial automation, artificial intelligence, and connected devices (IoT).



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Phoseon Case Study_Central Valley Labels_2026.04