



## Transform virtually any flexo press with the Illumina LED Retrofit System by Fujifilm



### Boost productivity and reduce cost with UV-LED Curing Technology

The Illumina LED Retrofit System converts any traditional UV or waterbase flexo press to LED-UV curing, typically in less than a day and enjoy these incredible productivity and cost-saving benefits:

- Ultra low temperature provides reduced operating costs and improves press productivity
- High-dosage and dwell time increases production speeds, curing time and adhesion
- The industry's lowest energy consumption available for initial production or by retrofit
- Additional savings and benefits including environmental aspects, reduced labor and waste

## FUJIFILM UV-LED has the power to revolutionize the flexo industry.

Fujifilm's UV-LED curing system is the most efficient on the market, enabling flexo printers to increase production speeds, reduce operating costs and enter new markets with their existing presses.

This innovative breakthrough technology is a UV-LED curing system that can convert virtually any traditional UV or waterbase flexo press to UV-LED curing, or can be installed on a new flexo press. When Illumina is combined with Fujifilm's 300 Series UV/LED inks specifically designed to optimize performance, printers enjoy a seamless solution.

In contrast to conventional LED systems, the Illumina COLDCURE system generates almost no heat. This allows production of even high percentage shrink films without the investment and maintenance of chill drum systems. Reduced heat also allows 60% faster registration of thin film substrates, saving material and labor costs, and further increasing productivity. Heat reduction also extends the life of the LED lights as heat is the primary cause of LED light degradation.



REDUCE  
UTILITY  
ENERGY  
COST BY  
**80%**  
TO  
**95%**

### Low Energy Requirements

UV-LED is an instant on/off process, dramatically lowering the energy usage and stress on lamp bulbs experienced in conventional "always-on" UV mercury lamp curing. UV-LED also eliminates the costs generated by cooling air blowers, ozone extraction and heat makeup systems.

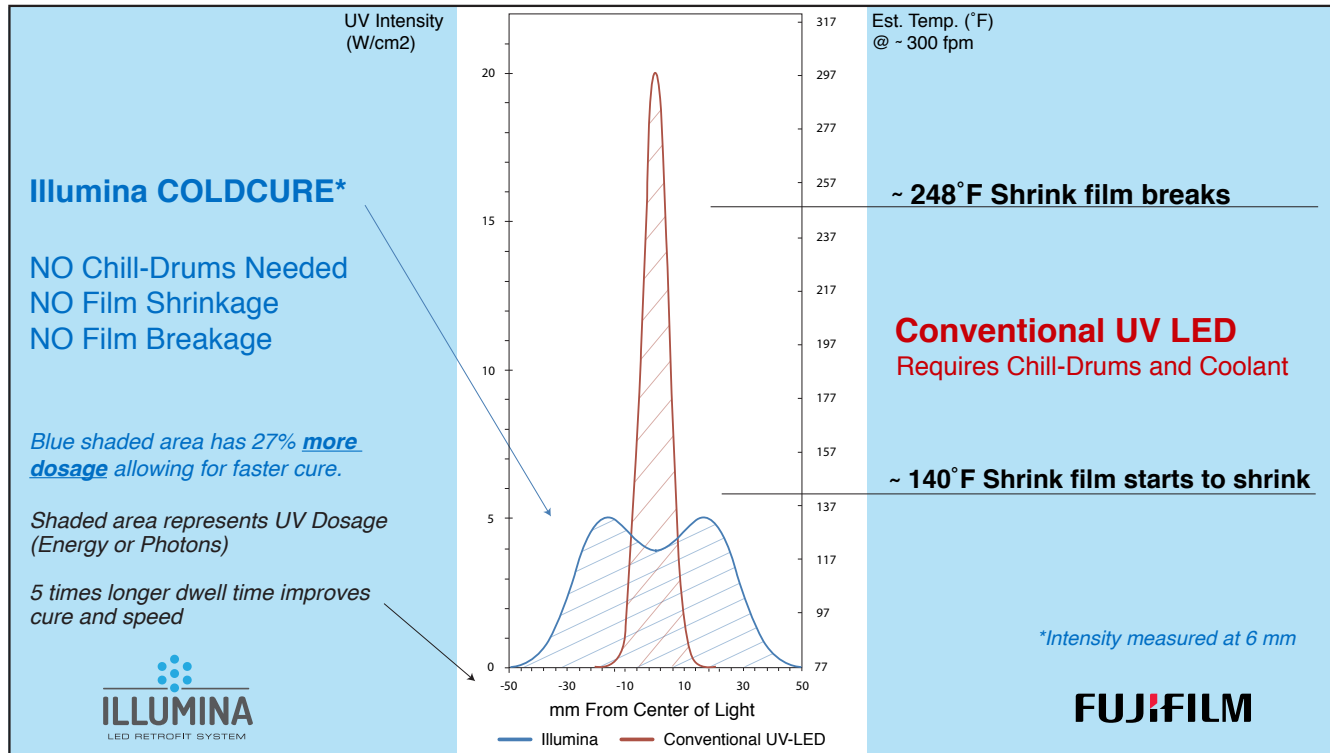
Illumina employs additional patented and patent-pending technology to achieve even greater savings, resulting in significant savings per press per year:

- 80-95% less energy than convention UV arc
- 50% less energy than conventional LED
- Eliminates cost of exhaust system
- Reduces ambient air cooling costs
- Qualifies for energy reduction rebates in many localities

Illumina's ultra-efficient design takes full advantage of the latest LED ink technology, including the breakthrough Fujifilm 300 Series flexo ink system that performs under both UV-LED and conventional UV-arc curing.

Illumina also provides the longest operating lifetime of any LED-curing technology on the market. The system's higher efficiency, combined with a patented heat dissipation system, dramatically reduces chip degradation over time. The result is a lamp life expectancy that is more than 20 times that of traditional UV mercury lamps.

# UV-LED Energy Profile for Flexo Printing



As illustrated in the chart above, the UV dosage of the Illumina COLDCURE process is below the 140°F indicator line where shrink film begins to shrink, so heat and its effects are taken out of the equation. The COLDCURE benefits of Ultra Low Temperature plus High Dosage and Dwell Time are numerous.

## Ultra Low Temperature Advantages

- Prints heat sensitive films without chill drum rollers
- Eliminates condensation issues
- Lengthens life of LED lights
- Eliminates substrate distortion to improve registration
- Improved substrate stability resulting in controlled ramp-up speed
- Eliminates post print curl of laminated labels

## High Dosage and Dwell Time Benefits

- 30% to 50% faster production speeds than conventional UV
- 100% faster than waterbase printing on paper substrates
- Improved adhesion range on variable substrates



## Annual Average Operating Cost Comparison

Category	Elements Included	UV Arc Lamp	Illumina
<b>Replacement Parts</b>	Reflectors, lamps	\$6,400	\$0
<b>Maintenance Expense</b>	Shutter operating, ductwork, plenum, filter for cooling agent	\$1,450	\$50
<b>Utility Costs</b>	UV lamps, cooling air blower, ozone extraction system, heat makeup air power	\$23,375	\$1,300
<b>TOTAL ANNUAL COSTS PER PRESS</b>		<b>\$31,225</b>	<b>\$1,350</b>

### Other Savings and Benefits

- Reduce material waste and labor cost by 60%
- Eliminate noise from exhaust system
- Lower odor ink than UV or waterbase
- Small equipment footprint
- Eliminate VOC and Mercury as required with conventional UV arc

### Remove any remaining guesswork with inks designed specifically for UV-LED systems.

Fujifilm's 300 Series flexo and rotary screen inks were developed in conjunction with the Illumina COLDCURE system to optimize the performance of the system. A full range of inks including adhesives, coatings, expanded gamut process colors, fluorescents, metallics and extended life pigment inks are available. By knowing that the inks will work seamlessly with the Illumina system, printers can experience low risk and easy conversion to UV-LED.

Fujifilm is the only LED system AND ink package provider in the industry, both supported with our world-class service organization.



### Get up to speed in one day. See the difference right away.

A typical Illumina retrofit takes less than a day followed by ink and substrate testing. By the second day, you'll be in full UV-LED production mode. Illumina sets a new standard for flexo printing speed on standard paper and film stock, so you can make up for the limited downtime in almost no time at all.

To learn more about the benefits of the Illumina LED Retrofit System, contact your Fujifilm representative or call/email us using the information below.

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Value from Innovation

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