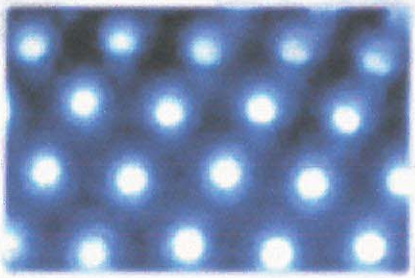
Kirk-Rudy

Innovation in inkjet printing and product handling solutions

Selling the Benefits and Advantages of UV LED over a Traditional Mercury UV Curing Process



	UV LED	Mercury Lamp
1. Lifetime (on time)	> 20,000 Hours	500-2,000 hour bulb life
2. Environmental	Mercury Free Ozone Free	Mercury Waste Ozone Generation
3. Health and Safety	UV-A wavelength only	UV-A, UV-B, UV-C, and IR
4. Input Power Requirements	Small (50% less than Mercury)	Large
5. Maintenance	Minimal	Bulb Replacement Reflector Cleaning.
6. On / Off	Instant	Minutes (warm up & cool down)
7. Heat	60˚ C	350 ˚ C
8. Thin Substrates (heat Sensitive)	Lower thermal risk	Potential for heat deformation

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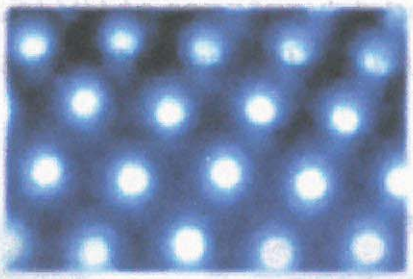

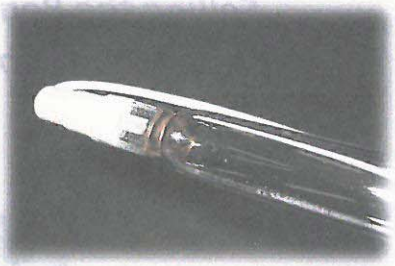

UV LED **Mercury Lamp**

9. Integration	**Simple** **No Ventilation needed** **Minimal safety protection required**	**Proper Ventilation and exhaust needed.** **Adequate health and safety protection required**
10. Light Source Footprint	**Small and compact**	**Larger lamp assemble Exhaust system.**
11. Maximum UV energy	**19% conversion efficiency** **10% more power** **47% less input power**	**9% conversion efficiency**
12. Consistent Uniformity	**Gradual slope of Irradiance degradation.** **Uniform intensity across the full length.**	**EOL rapid drop off** **Degradation of the bulb inconsistent**
13. RoHos Considerations	**unaffected**	**In 2016 the Mercury exemption expires**
14. Cost of Ownership	**Initial cost higher. COI better than Mercury**	**Initial cost lower, COI poor in comparison**