BICRON ◆ NE has recently introduced a pelletized version of their popular TLD-100, 600, and 700 Lithium Fluoride-based thermoluminescence dosemeters (TLDs). These materials can be used unmounted or in card and ring formats for radiation protection dosimetry. Unmounted applications include radiotherapy, diagnostics, beam characterization, and quality assurance.

The former manufacturing process included purifying, growing doped LiF, grinding, blending, pressing, slicing, and dicing. The new process eliminates the last four steps, replacing them with a pelletizing process. This process transforms the material directly from a powder to its final form. This new process provides the benefits of better batch uniformity on the order of less than 5% and excellent dimensional consistency of better than 2%.

This paper describes the testing that was performed for the purpose of accepting the pelletized material as a directly interchangeable substitute for the same material produced by the former process. Tests performed include Reproducibility, Batch Homogeneity, Linearity, Detection Threshold, and Light Sensitivity.