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Radon Plateout on Copper to iLUMINAtE Background Levels in the Super Cryogenic Dark Matter Experiment MAYISHA NAKIB, MATTHEW BRUEMMER, JODI COOLEY, SILVIA SCORZA, Southern Methodist Univ — The Laboratory for Ultra-pure Material, Isotope and Neutron Assessment (LUMINA) at Southern Methodist University houses one of only five existing UltraLo 1800 production model alpha counters made commercially available by XIA LLC. The instrument has an electron drift chamber with a 707 cm² or 1800 cm² counting region which is determined by selecting the inner electrode size. The SMU team operating this device is part of SuperCDMS materials and screening working group, and uses the alpha counter to study the background rates from the decay of radon in materials used to construct the SuperCDMS experiment. We will present updated thorium-230 calibration of the instrument along with results from initial studies on copper samples exposed to thorium sources in our lab in order to understand radon plateout, on copper and optimal storage conditions for copper.

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