Askey–Wilson polynomials and lozenge tilings of a hexagon with a triangular hole

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Ciucu, Eisenkölbl and Krattenthaler proved and conjectured some enumeration results for lozenge tilings of a hexagon with a triangular hole near the center. We generalize these results to weighted enumerations, where the location of the hole is arbitrary. The proof uses quadratic transformations for Askey–Wilson polynomials.