$$\Psi_{65} = C_1 \left(|002u\rangle + |00u2\rangle - |020u\rangle + |02u0\rangle - |0u02\rangle + |0u20\rangle + |200u\rangle - |20u0\rangle + |2u00\rangle + |u002\rangle - |u020\rangle + |u200\rangle\right)$$

$$C_1 = \frac{1}{2\sqrt{3}}$$