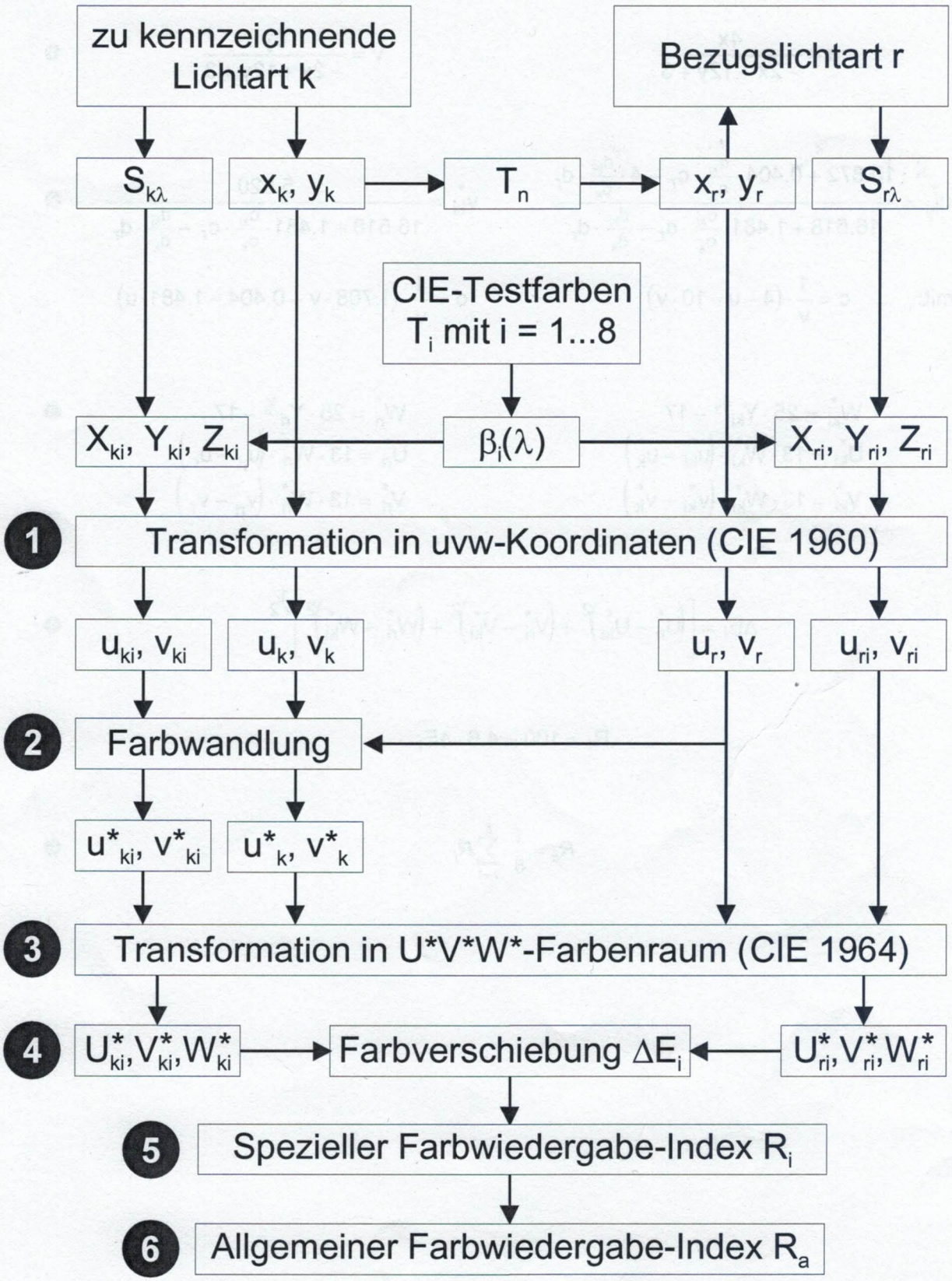
Allgemeiner Farbwiedergabeindex R_a



Allgemeiner Farbwiedergabeindex R_a (Fortsetzung)

$$u = \frac{4x}{-2x + 12y + 3} \qquad v = \frac{6y}{-2x + 12y + 3} \quad ❶$$

$$u^*_{ki} = \frac{10.872 + 0.404 \cdot \frac{c_{ki}}{c_k} \cdot c_r - 4 \cdot \frac{d_{ki}}{d_k} \cdot d_r}{16.518 + 1.481 \cdot \frac{c_{ki}}{c_k} \cdot c_r - \frac{d_{ki}}{d_k} \cdot d_r} \qquad v^*_{ki} = \frac{5.520}{16.518 + 1.481 \cdot \frac{c_{ki}}{c_k} \cdot c_r - \frac{d_{ki}}{d_k} \cdot d_r} \quad ❷$$

mit: $\quad c = \frac{1}{v} \cdot (4 - u - 10 \cdot v) \qquad d = \frac{1}{v} \cdot (1.708 \cdot v + 0.404 - 1.481 \cdot u)$

$$W^*_{ki} = 25 \cdot Y_{ki}^{1/3} - 17 \qquad W^*_{ri} = 25 \cdot Y_{ri}^{1/3} - 17 \quad ❸$$
$$U^*_{ki} = 13 \cdot W^*_{ki} \cdot (u^*_{ki} - u^*_k) \qquad U^*_{ri} = 13 \cdot W^*_{ri} \cdot (u_{ri} - u_r)$$
$$V^*_{ki} = 13 \cdot W^*_{ki} \cdot (v^*_{ki} - v^*_k) \qquad V^*_{ri} = 13 \cdot W^*_{ri} \cdot (v_{ri} - v_r)$$

$$\Delta E_i = \left[(U^*_{ri} - U^*_{ki})^2 + (V^*_{ri} - V^*_{ki})^2 + (W^*_{ri} - W^*_{ki})^2 \right]^{1/2} \quad ❹$$

$$R_i = 100 - 4.6 \cdot \Delta E_i \quad ❺$$

$$R_a = \frac{1}{8} \cdot \sum_{i=1}^{8} R_i \quad ❻$$