$$\phi_{X,i}^{LBSS3} = \phi_{i-1} \left(\frac{X_i^2 - X_i X_{i+1} - X_i X_{i+2} + X_{i+1} X_{i+2}}{(X_{i-1} - X_i)(X_{i-1} - X_{i+1})(X_{i-1} - X_{i+2})} \right)$$
$$+ \phi_{i+1} \left(\frac{X_i^2 - X_i X_{i-1} - X_i X_{i+2} + X_{i-1} X_{i+2}}{(X_{i+1} - X_{i-1})(X_{i+1} - X_i)(X_{i+1} - X_{i+2})} \right)$$
$$+ \phi_{i+2} \left(\frac{X_i^2 - X_i X_{i-1} - X_i X_{i+1} + X_{i-1} X_{i+1}}{(X_{i+2} - X_i)(X_{i+2} - X_{i+1})(X_{i+2} - X_{i-1})} \right)$$
$$+ \phi_i \left(\frac{1}{(X_i - X_{i-1})} + \frac{1}{(X_i - X_{i+1})} + \frac{1}{(X_i - X_{i+2})} \right),$$