2d.) FOU: $|g| = \sqrt{(1-\sigma+\sigma\cos\beta)^2 + (\sigma\sin\beta)^2}$

LW: $|g| = \sqrt{(1-\sigma^2+\sigma^2\cos\beta)^2 + (\sigma\sin\beta)^2}$

$|g| = .9999972602\ldots$

$.9999972602 = \sqrt{(1-.5+.5\cos h)^2 + (.5\sin h)^2}$

$.9999945204 = (.5+.5\cos(h))^2 + (.5\sin(h))^2$

$\boxed{h = .0043}$

$2\pi/h$

This h will require 1462 points in each dimension.

In 3D, our number of points becomes N^3. Lax-Wendroff becomes advantageous as you add dimensions because the number of required points is significantly lower.