3.4.17

First zeros at $\pm \varphi_1 = 2\cos^{-1}\left(\frac{1}{x_0}\cos\left[\frac{\pi}{2(N-1)}\right]\right)$

or $\pm u_1 = \frac{\lambda}{2\pi d} \cdot 2\cos^{-1}\left(\frac{1}{x_0}\cos\left[\frac{\pi}{2(N-1)}\right]\right)$

$$\Rightarrow \boxed{BWNN(u) = \frac{2}{\pi}\cdot\frac{\lambda}{d}\cos^{-1}\left(\frac{1}{x_0}\cos\left[\frac{\pi}{2(N-1)}\right]\right)}$$

$$\text{with } x_0 = \cosh\left(\frac{1}{N-1}\cosh^{-1}(R)\right)$$

$$R = 10^{(-SL/20)}$$