Effects of Gravity

Vertical distance H (mm) fallen by a neutron of wavelength λ (Å) in horizontal distance L (m) is

$$H = \frac{gm^2}{2h^2}\lambda^2 L^2 \approx 3.13\times10^{-4}\lambda^2 L^2$$

	Neutron fall H (mm)			
	L=5m	10m	20m	30m
λ (Å)				
2	0.03	0.13	0.5	1.1
4	0.13	0.50	2.0	4.5
6	0.28	1.13	4.5	10.1
8	0.50	2.00	8.0	18.0
10	0.78	3.13	12.5	28.2

Differences between H for λ_{MIN} and λ_{MAX} are important, for intermediate baffles in collimation.