Es.n4) il reticolo di diffrazione con 13500 linee/pollice

$$\sin\theta = m\frac{\lambda}{d} \qquad m = 1,2,3,.....$$

Reticolo di diffrazione con 13500 linee/pollice $d = \dfrac{1}{13500\dfrac{linee}{2,54cm}} = \dfrac{25,4mm}{13500linee} = \dfrac{25,4\cdot10^{-3}m}{13500} = 1,88\cdot10^{-6}m$

Luce laser colore: blu $\lambda = 405nm$

m=1	$\theta_1 = \sin^{-1}\left(m\frac{\lambda}{d}\right) = \sin^{-1}\left(1\frac{405\cdot10^{-9}m}{1,88\cdot10^{-6}m}\right) = \sin^{-1}(0,215)$	$\theta_1 = 12,4°$
m=2	$\theta_1 = \sin^{-1}\left(m\frac{\lambda}{d}\right) = \sin^{-1}\left(2\frac{405\cdot10^{-9}m}{1,88\cdot10^{-6}m}\right) = \sin^{-1}(0,43)$	$\theta_2 = 25,52°$
m=3	$\theta_1 = \sin^{-1}\left(m\frac{\lambda}{d}\right) = \sin^{-1}\left(3\frac{405\cdot10^{-9}m}{1,88\cdot10^{-6}m}\right) = \sin^{-1}(0,65)$	$\theta_3 = 40,6°$
m=4	$\theta_1 = \sin^{-1}\left(m\frac{\lambda}{d}\right) = \sin^{-1}\left(4\frac{405\cdot10^{-9}m}{1,88\cdot10^{-6}m}\right) = \sin^{-1}(0,86)$	$\theta_4 = 59,3°$
m=5	$\theta_1 = \sin^{-1}\left(m\frac{\lambda}{d}\right) = \sin^{-1}\left(5\frac{405\cdot10^{-9}m}{1,88\cdot10^{-6}m}\right) = \sin^{-1}(1,07)$	Massimo 4 frange