The emission spectrum of ReN has been reinvestigated in the visible region using a Fourier transform spectrometer. Two new bands have been located at 22110 and 22224 cm$^{-1}$ and assigned as the 0$^+$ - A1 and 0$^-$ - A1 transitions. From the rotational analysis of these bands it has been concluded that the current 0$^+$ - A1 transition and the [24,7]0$^+$ - X0$^+$ transition observed previously by Balfour et al. [J. Mol. Spectrosc. 183, 113-118 (1997)] have an upper state in common. This assignment provides $T_{00} = 2596$ cm$^{-1}$ for the A1 state. It is likely that the A1 and X0$^+$ states are two components of the $^3\Sigma^-$ ground state.