Theoretical Values

* DC Voltage

$V_{DC} \approx V_{peak} - 2V_D$

$V_{peak} = 28.3V$; $V_D = .7V$

$V_{DC} \approx 28.3 - 1.4 = \boxed{26.9V}$

* Load Current

$$I_{Load} = \frac{V_{DC}}{R_L}$$

$V_{DC} = 26.9$; $R_L = 510\,\Omega$

$$I_{Load} = \frac{26.9}{510} = \boxed{0.0530 \approx 53\,mA}$$

* Ripple Voltage

$$\Delta V_r = \frac{I_{Load}}{f_r \times C}$$

$I_{Load} = 52mA$; $f_r = 120\,Hz$; $C = 470\mu F$

$$\Delta V_r = \frac{0.0530}{120 \times 470 \times 10^{-6}} = \boxed{0.922\,V_{pp}}$$