Injection HL (from run III optics). $E = 0.45$ TeV. $N_b \simeq 2.3 \times 10^{11}$ ppb, $\beta^*_{x,1} = 10$ m, $\beta^*_{y,1} = 10$ m, polarity IP$_{2/8}$ = 1/1, phase_change = 0. $\sigma_z = 7.61$ cm, $\varepsilon_n = 2.5$ μm, $Q' = 15.0$, $I_{MO} = -45$ A, $C^- = 0.001$ 25ns_2452b_2440_1952_2240_248bpi_12inj. Bunch 1130.