Supplemental Section

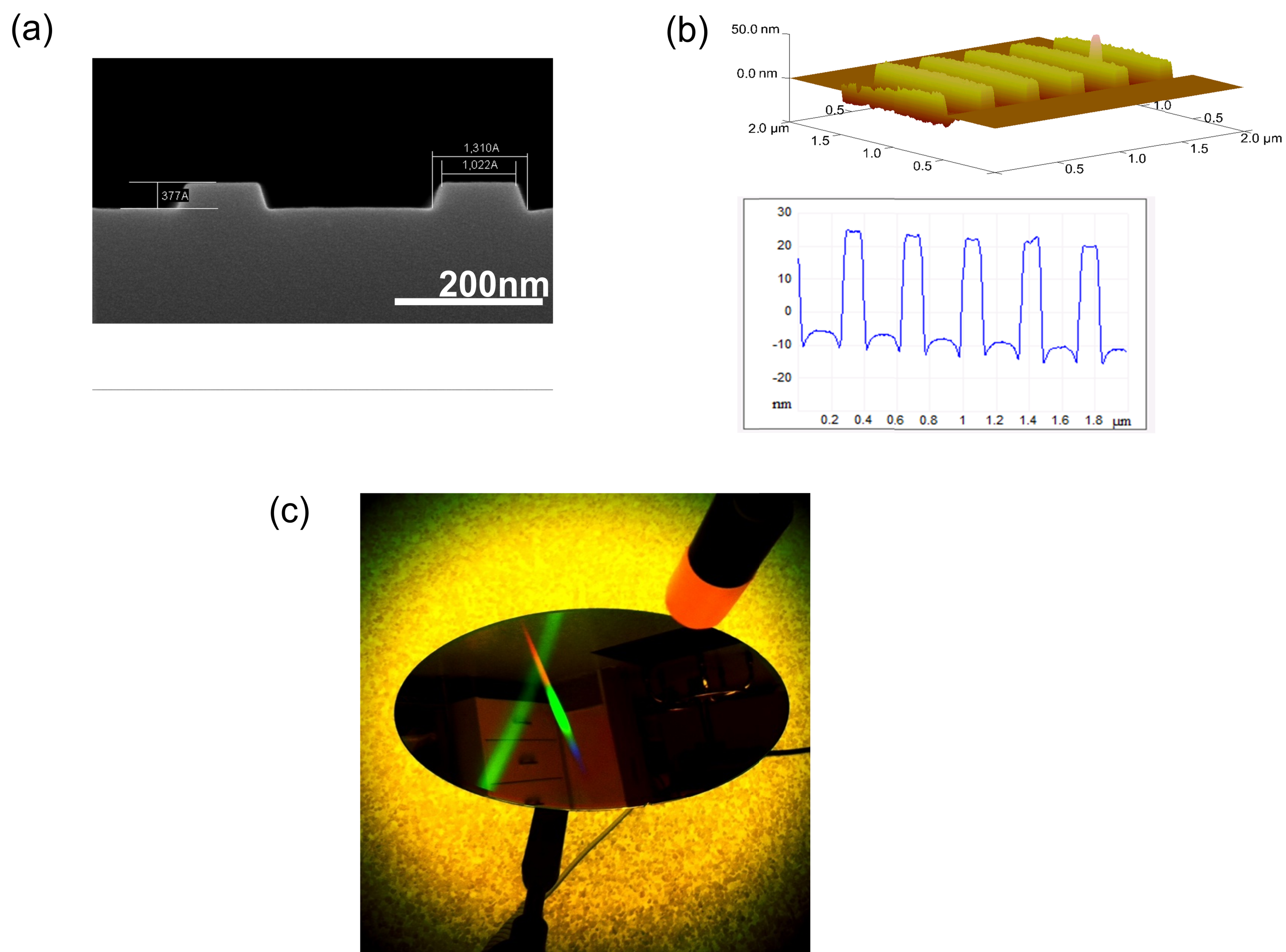

Figure S1 (a) Cross-sectional SEM image of two periods of the PC grating in SiO_2 and before the TiO_2 coating. Measured grating depth of 37.7nm and grating line width of 131nm. (b) Atomic force micrograph of device after TiO_2 coating with a measured period of 352 ± 7nm and grating depth of 37 ± 1.8nm. (c) PC grating patterned on an 8” wafer. Individual devices are diced to 1” x 0.5” pieces.

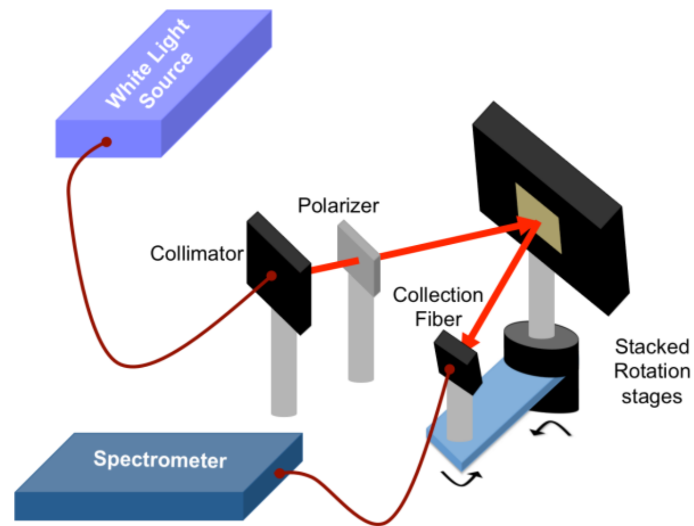

Figure S2 (a) Schematic of the optical setup used to characterize the reflection efficiency of the Si PCs. Reflection and transmission efficiency measurements of a plastic-based, transparent PC (b) at normal incidence and (c) off-normal. In using this setup, good agreement was observed between the reflection and transmission profiles with slightly lower efficiencies in the reflection spectra.

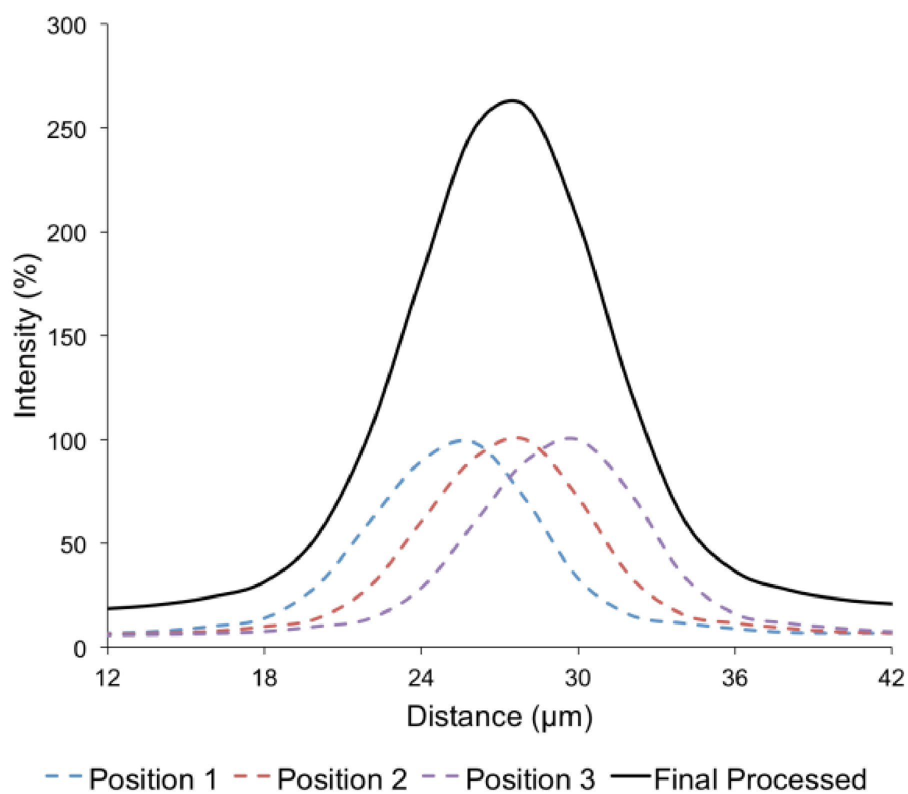

Figure S3 A graph depicting the signal distribution in the focused direction of the illuminating line as it steps through three adjacent positions on the sample. The positions are 2 µm apart. The black curve indicates the summation of all three curves at each pixel that is 2um wide.