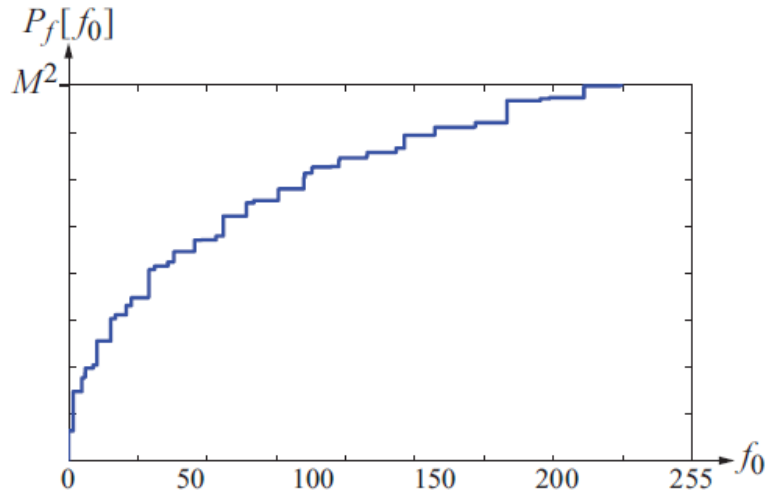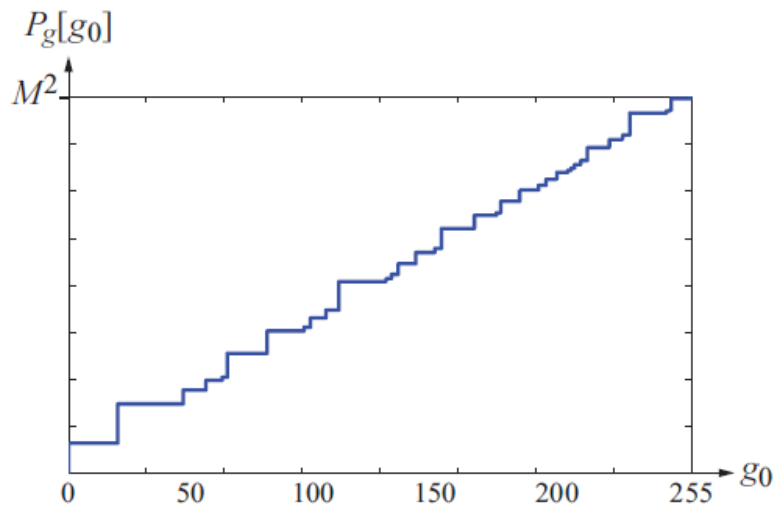**Concept Question 5-5:** What is the purpose for using histogram equalization?

Histogram equalizations spreads pixel values over the entire range of the output device. This brightens a dim image.

(b) CDF $P_f[f_0]$

(b) CDF $P_g[g_0]$

Figure 5-10 CDF for an $(M \times M)$ image before and after application of the histogram-equalization algorithm given by Eq. (5.42).