

# Notebook Privacy LCD



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## Introduction

With 60% of employees taking their work outside of office walls, HP Sure View integrated privacy screen helps users work confidently from any location without fear of data on the screen being exposed to prying eyes. HP Sure View eliminates the need to carry additional tools to guard sensitive information. Users simply press the fn+F2 (or F2) key to immediately transition the PC to privacy mode, which reduces off-angle viewing capability, making it difficult for others to view information on the screen. This feature is available **at the time of purchase** as an option with the HP EliteBook 840 G3/G4, HP EliteBook 1040 G3, and HP EliteBook x360 1030 G2.

## Feature Controls

### Enable/Disable Privacy Mode

- To enable privacy mode, press fn+F2 (or F2 for x360 1030) keys.
- The white LED on the F2 key will illuminate when privacy mode is ON.
- To disable privacy mode, press fn+F2 (or F2 for x360 1030) keys.
- No LED will be visible when privacy mode is OFF.

### Quickly Enable Highest Privacy Level

- If privacy mode was originally off, pressing fn+p keys enables privacy mode and sets the privacy level to maximum.
- If privacy mode was originally on, pressing fn+p keys sets the privacy level to maximum.
- The white LED on the F2 key will illuminate when privacy mode is ON.
- To disable privacy mode, press fn+F2 (or F2 for x360 1030) keys.

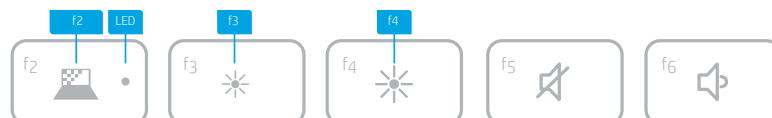
### Setting Privacy Level – HP EliteBook 840 G3/G4, 1040 G3

- To increase the privacy level, press fn+f5 keys until the desired level is achieved. This is useful in darker environments.
- To decrease the privacy level, press fn+f6 keys until the desired level is achieved. This is useful in brighter environments.
- The system will remember the last used privacy level.



### Setting Privacy Level – HP EliteBook x360 1030 G2

- To increase the privacy level, press f3 keys until the desired level is achieved. This is useful in darker environments.
- To decrease the privacy level, press f4 keys until the desired level is achieved. This is useful in brighter environments.
- The system will remember the last used privacy level.



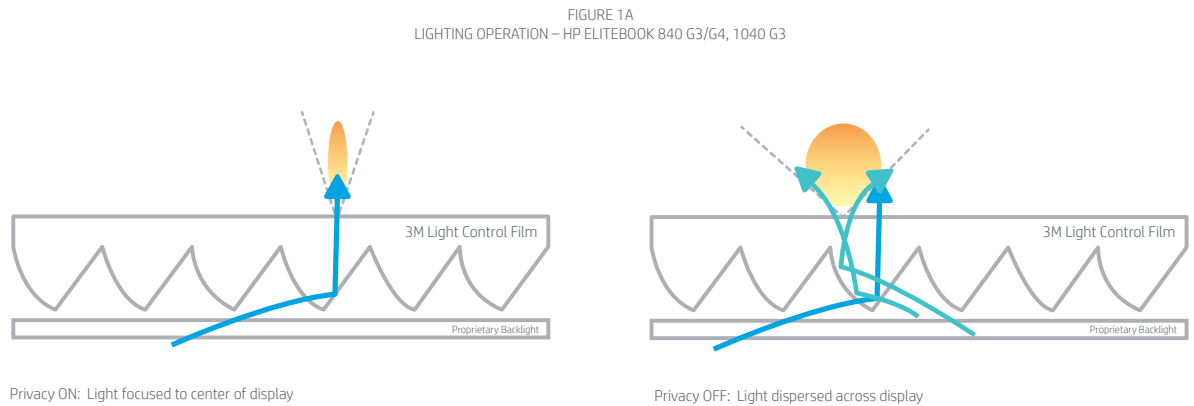
## Technology Summary

### Design

HP Sure View uses a unique system & LCD module design to achieve the switchable privacy function. There are three key pieces that comprise the technology. These three pieces have been designed to work together as a single entity to enable an in-system switchable privacy solution.

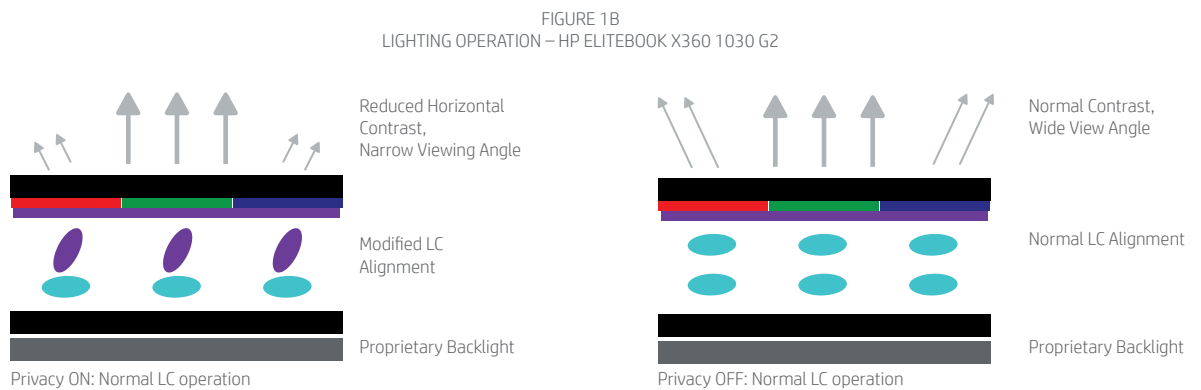
- Proprietary backlight
- 3M™ Light Control Film [HP EliteBook 840 G3/G4, 1040 G3] or Proprietary Panel [HP EliteBook x360 1030 G2]
- System level hardware & logic controls

**Figure 1.** Provides insight into the unique panel architectures used to alter the viewing angle.



With **HP Sure View ON**, the proprietary backlight focuses one light source through the light control film towards the middle of the display thus enabling a viewing cone (illustrated in Figure 4) that makes screen content easily visible to those who are centered in front of the notebook.

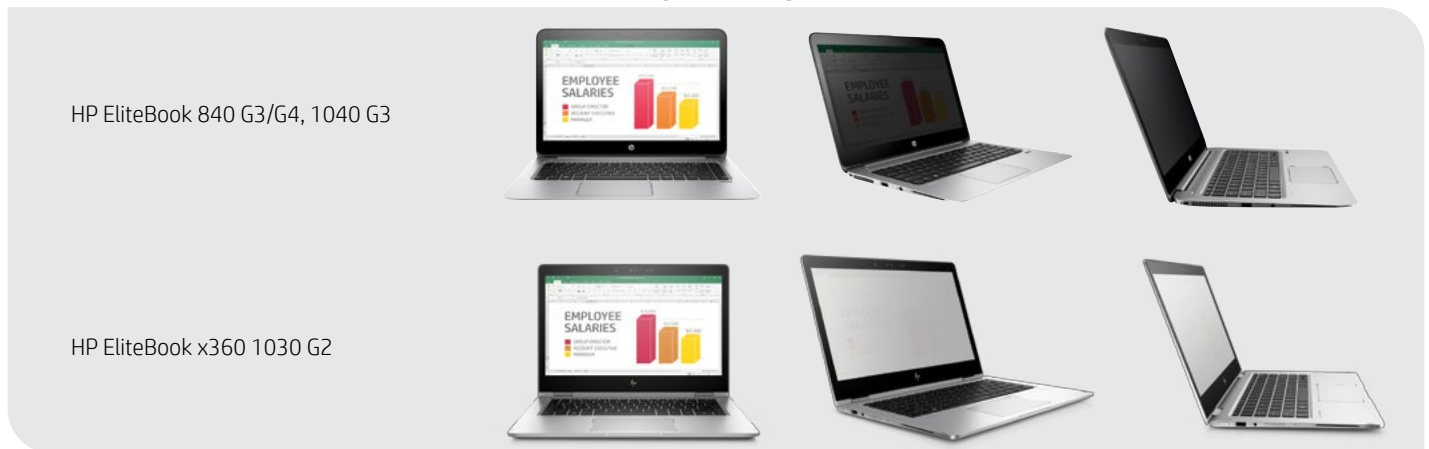
With **HP Sure View OFF**, the proprietary backlight uses two light sources to disperse light across all areas of the display which allows screen content to be easily viewed from any position.



With **HP Sure View ON**, the panel electronics adjust the LC molecule structure in such a way as to reduce the contrast ratio in the horizontal direction thus enabling a viewing cone (illustrated in Figure 4) that makes screen content easily visible to those who are centered in front of the notebook.

With **HP Sure View OFF**, the panel electronics operate normally which allows screen content to be easily viewed from any position.

FIGURE 2  
PRIVACY EXPERIENCE



**Figure 2.** Is representative of the privacy experience on the HP EliteBook products.

#### **Privacy mode performance and viewing region**

HP Sure View technology reduces off-angle viewing capability in the privacy region, defined as being outside the user's 90 degree viewing cone (illustrated in Figure 4). Figure 3 indicates the level of achievable privacy as a function of the user's viewing position and compares it to the sharing mode (when HP Sure View is disabled) viewing region. As the user's viewing position moves outward from the center axis, the level of privacy increases and the panel content becomes more difficult to read. Figure 3 also demonstrates the wider and more visible sharing mode viewing region.

FIGURE 3A  
PRIVACY AND NON-PRIVACY VIEWING REGIONS – HP ELITEBOOK 840 G3/G4, 1040 G3

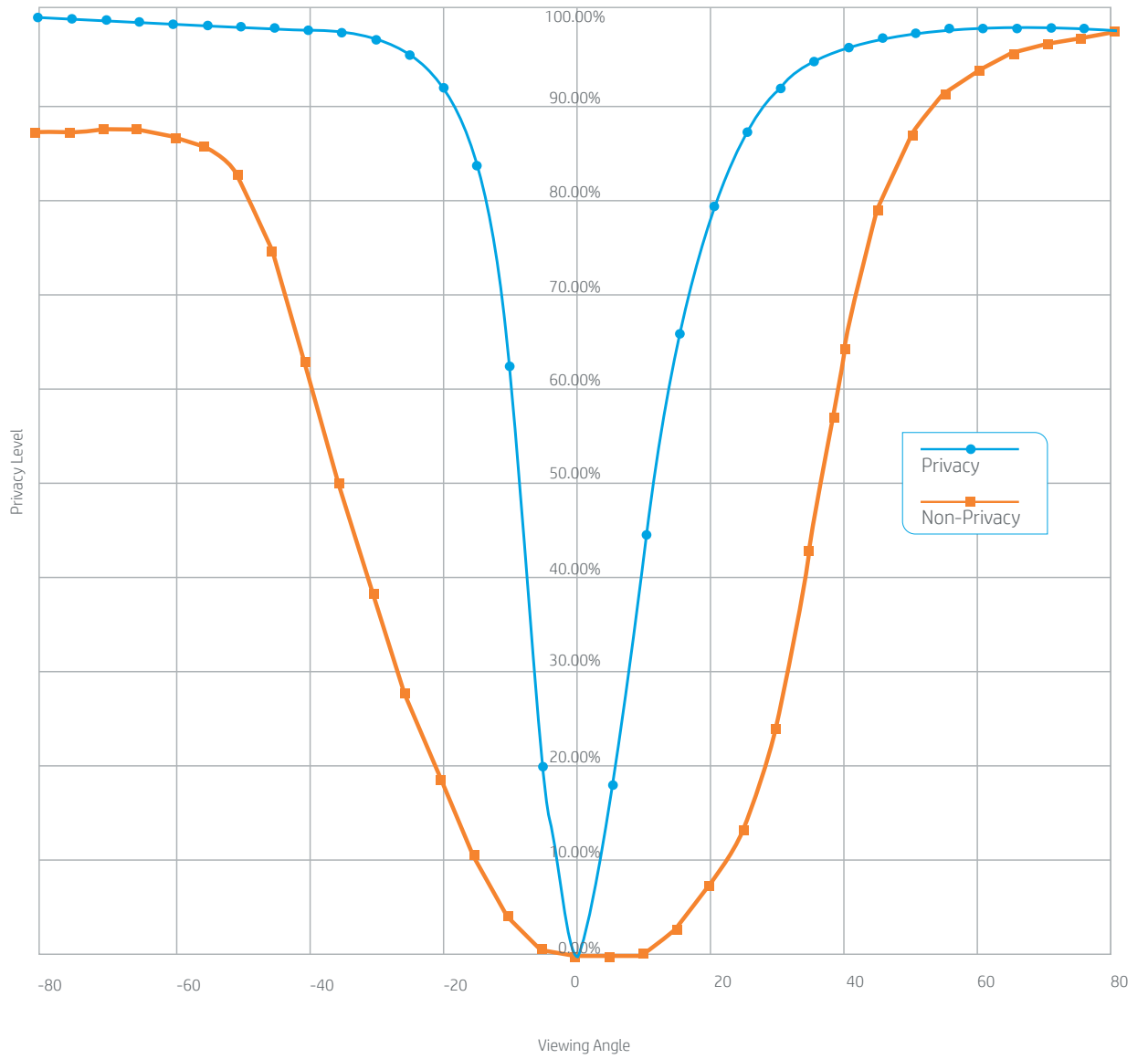


FIGURE 3B  
PRIVACY AND NON-PRIVACY VIEWING REGIONS – HP ELITEBOOK X360 1030 G2

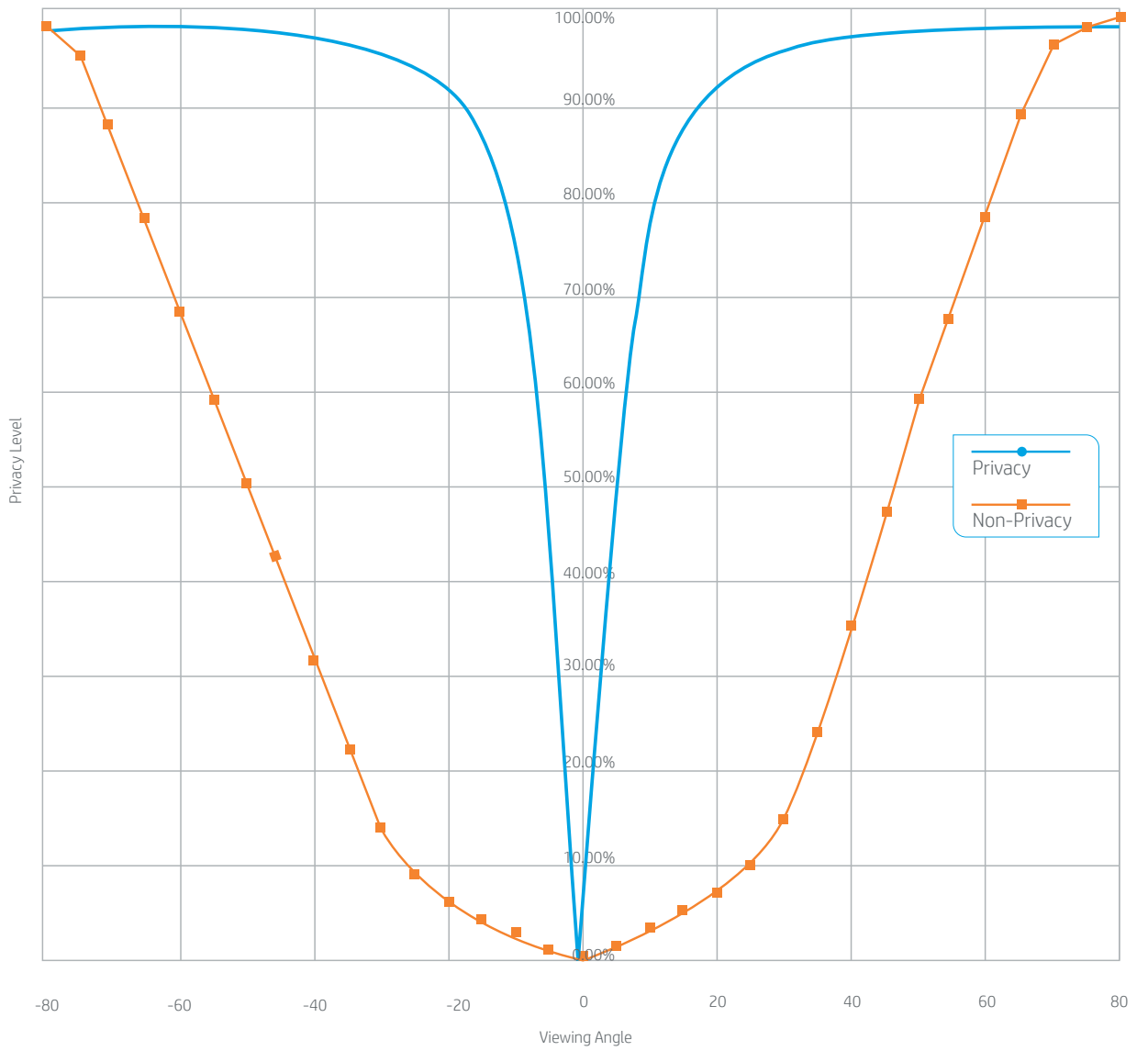
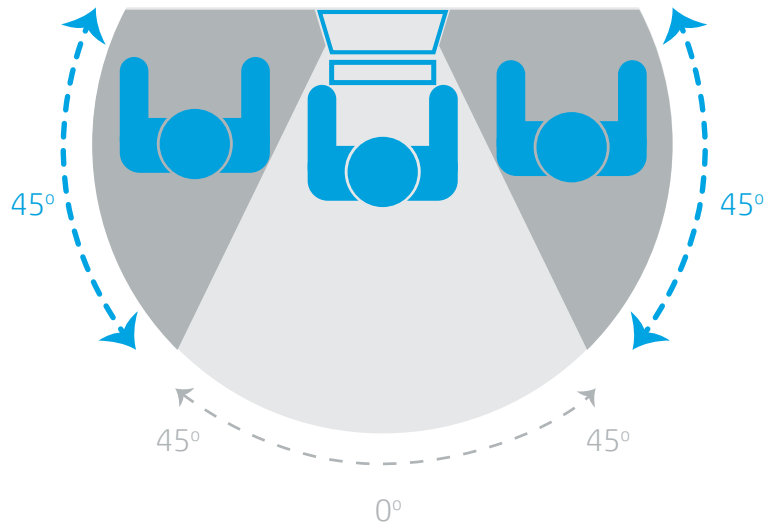


FIGURE 4  
USER VIEWING CONE VS MINIMUM PRIVACY REGION



#### Battery Life

Battery life in general will vary by platform and system configuration. The same is true with HP Sure View. To better understand platform specific battery life, please refer to the individual program QuickSpecs.

#### Benefits of HP Sure View

HP Sure View was developed for users that value instant privacy and security while on the go. Key benefits of HP Sure View include:

- Always available solution that is built into the display and never needs replacing
- Convenient to enable and disable privacy with the touch of a button
- Easily share screen content with colleagues without needing to remove an external privacy filter

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