

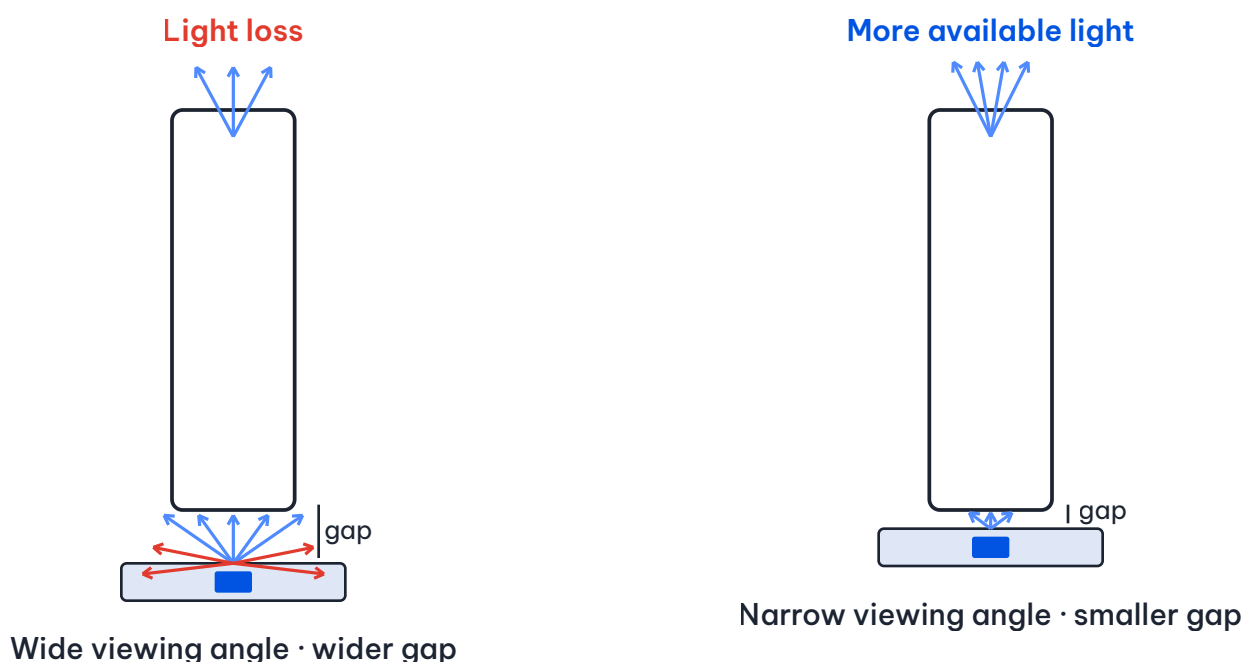
Light Pipes — Light Loss Prevention

Understanding and minimizing light bleed

Light loss occurs when light meant to travel through the light pipe escapes before reaching the exit the point where the end-user actually sees it. It is also called **light bleeding**.

Controlling it matters: less loss means a **brighter, more uniform indication** and better daylight visibility, reached at **lower LED drive current**. Two design levers reduce it: **narrowing the LED's viewing angle** so more light is aimed into the pipe, and **minimizing the gap** between the source and the pipe entrance.

How geometry drives light loss



Design takeaway: A narrow-angle LED coupled close to the pipe entrance delivers noticeably more light to the panel than a wide-angle LED set back with a larger air gap.

Featured VCC light pipe series

LFB 3 MM PRESS FIT	LPC 4 MM LOW PROFILE	LFC 5 MM PRESS FIT
0.116" (3 mm) panel mounting hole - Diffused rigid; frosted soft-glow surface - Crushable ribs simplify install 120° viewing angle - Works with through-hole & SMD LEDs - Lengths 0.125" – 1.000" - Clear polycarbonate UL 94-V0 · RoHS	0.171" (4.3 mm) panel mounting hole - Low-profile Fresnel, near-flush design - With or without crushable ribs 160° viewing angle - Works with through-hole & SMD LEDs - Lengths 0.200" – 2.000" - Clear acrylic optical grade · RoHS	0.156" (4 mm) panel mounting hole - Diffused rigid; frosted soft-glow surface - Crushable ribs simplify install 120° viewing angle - Works with through-hole & SMD LEDs - Lengths 0.125" – 1.000" - Clear polycarbonate UL 94-V0 · RoHS