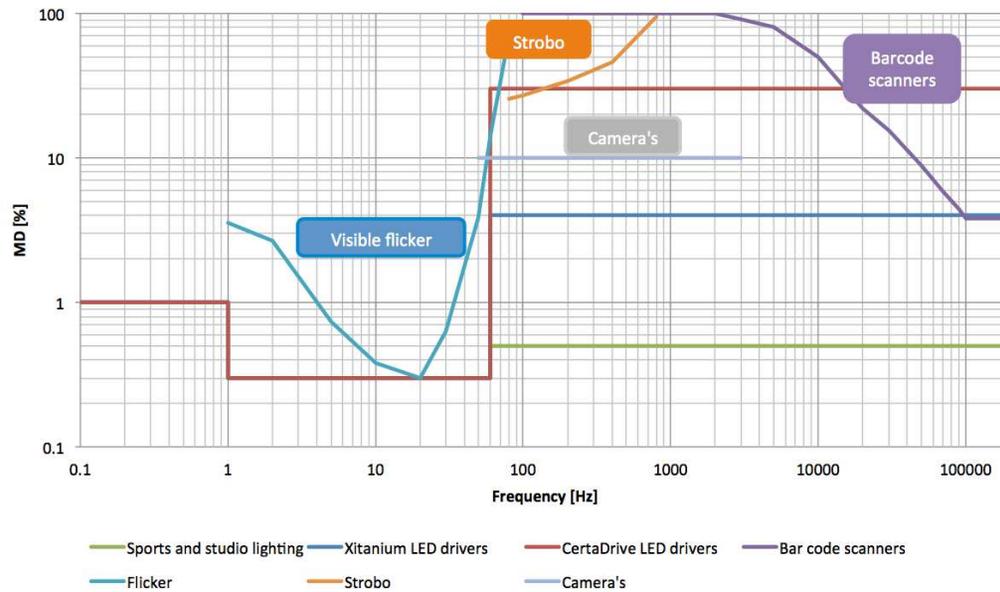


Xitanium LED drivers

Camera & scanner friendly due to low ripple



PHILIPS

Linear LED drivers / AM versus PWM dimming

Flicker & noise free dimming

Amplitude Modulation (AM) dimming vs Pulse With Modulation (pwm)

Amplitude Modulation Dimming



- + High efficiency
- + Flicker free light
- Color shifts at low levels
- Brightness tolerances at very low levels

PWM Dimming



- + Lowest color shifts
- + No brightness tolerances
- Low efficiency
- Risk of flicker and stroboscopic effects
- Risk of audible noise

Conclusion:

- The potential negative effects for AM dimming are mainly light quality related but the risk in real applications is very limited. Apart from that flicker, stroboscopic/camera effects and audible noise are real dissatisfiers.
- The higher efficiency of AM dimming is an important specification that should not be compromised with the limited potential light quality effects.
- In addition, with AM dimming efficiency increases up to 30%