

When Lighting Innovation Forces Industry Change

The Evolution of LED Lighting: From Obscurity to Global Dominance

Early Discovery

Oleg Losev studies and documents light emission from semiconductors, essentially creating the first primitive LEDs

1920s-
1930s

Commercial Applications

LEDs become commercially available in indicator lights (electronics, calculators) and early digital displays ... colors expand slightly but suffer from low brightness, high cost and limited applications

1970s

Early Adoption

White LEDs enter the market for applications like flashlights and specialty lighting, demonstrating energy efficiency and long lifespan

1990s-
2000s

Tipping Point

Mass adoption begins as LEDs replace traditional incandescent and fluorescent lighting and major companies scale production

2010s

LED Lighting 2.0

Lighting designed for the life of a building is introduced by Linmore through its LifeTime LED® featuring the ReLuma® Module

2026

1950s-
1960s

First Practical LEDs

Advances in semiconductor physics (Bell Labs and others) set the stage. Nick Holonyak (the father of the LED) develops the first visible-spectrum LED

1980s

Efficiencies Emerge

Better semiconductor materials improve brightness and reliability. LEDs used more widely in consumer electronics and automotive indicators, but are still not viable for general lighting

1993

Breakthrough

Shuji Nakamura develops the high-brightness blue LED at Nichia Corporation. This is the critical breakthrough because it enables LEDs to be used for real illumination, not just indicators

2020

Market Dominance and Smart Living

LEDs become the default global lighting standard, integrated with smart home systems and IoT