



**RELIANT**  
ELECTRICAL AND AUTOMATION INC.

• LIGHTING DESIGN GUIDE

# Light Smarter. Live Better.

Your complete guide to ambient, task, and accent lighting — plus linear LED systems, circadian automation, and color-changing smart control for modern homes in Fresno and the Central Valley.

## FOUNDATION

# The Three Layers of Lighting

Every beautifully lit space combines three distinct types of lighting working together. Remove any layer and the room loses depth, function, or character. Master all three and any space transforms.



## Ambient Lighting

The foundation layer. Ambient light provides general, even illumination that establishes the room's overall brightness and emotional tone. It's the first thing you design — everything else builds on it.

- Cove & indirect linear LED lighting
- Recessed downlights
- Large pendants & chandeliers
- Surface-mount ceiling fixtures

**Spec:** 150–300 lux · 2700–3000K · Always on a dimmer



## Task Lighting

Focused, purposeful light exactly where work happens. Task lighting reduces eye strain, sharpens focus, and ensures activities like cooking, reading, and working are safe and comfortable.

- Under-cabinet kitchen lighting
- Reading lamps & desk lights
- Vanity & mirror lighting
- Island & peninsula pendants

**Spec:** 500+ lux · 4000–5000K · On independent switches



## Accent Lighting

Drama, depth, and dimension. Accent light creates contrast and shadow to reveal texture, highlight artwork and architecture, and give every space its unique character and visual personality.

- Wall grazing & uplighting
- Art & display lighting
- Shelf, joinery & cove lighting
- Toe kick & stair lighting

**Spec:** 100–200 lux · 2700–3500K · CRI 90+ recommended

## TECHNIQUE

# Creating Drama with Shadow

Great lighting is not about brightness — it's about contrast. Flat, even light removes all depth. Strategic shadow reveals texture and makes architecture feel intentional.

## 01

### Wall Grazing

Linear light positioned 2–4 inches from a textured surface rakes across it at a near-parallel angle, casting dramatic shadow lines that reveal the full three-dimensional quality of stone, brick, plaster, or wood paneling.

Best on: stone feature walls, brick, wood slats, textured plaster, concrete

## 02

### Architectural Uplighting

Light directed upward against walls, columns, or architectural elements reverses our natural expectation of light from above — creating mystery, height, and a sense of grandeur that transforms ordinary rooms.

Best on: columns, fireplace surrounds, tall cabinetry, exterior walls

## 03

### Backlighting & Silhouetting

Placing LED linear strips behind objects — shelves, panels, TV surrounds, headboards — creates a soft glow and the illusion of depth. Backlighting is one of the most impactful effects possible in residential design.

Best on: floating shelves, TV walls, bed headboards, glass cabinets

## 04

### Cove Washing

Linear LEDs tucked into ceiling coffers or dropped soffits wash the ceiling with soft, diffuse light that eliminates glare entirely. The ceiling appears to float — a signature of luxury residential design.

Best on: living rooms, bedrooms, hallways, dining rooms

## 05

### Shadow Layering

Multiple light sources positioned at different angles create overlapping shadows of varying depth. The result is a room that feels sculpted, as if the architecture and lighting were designed as a single unified composition.

Best on: any room combining cove + accent + task layers

## 06

### The Rule of Contrast

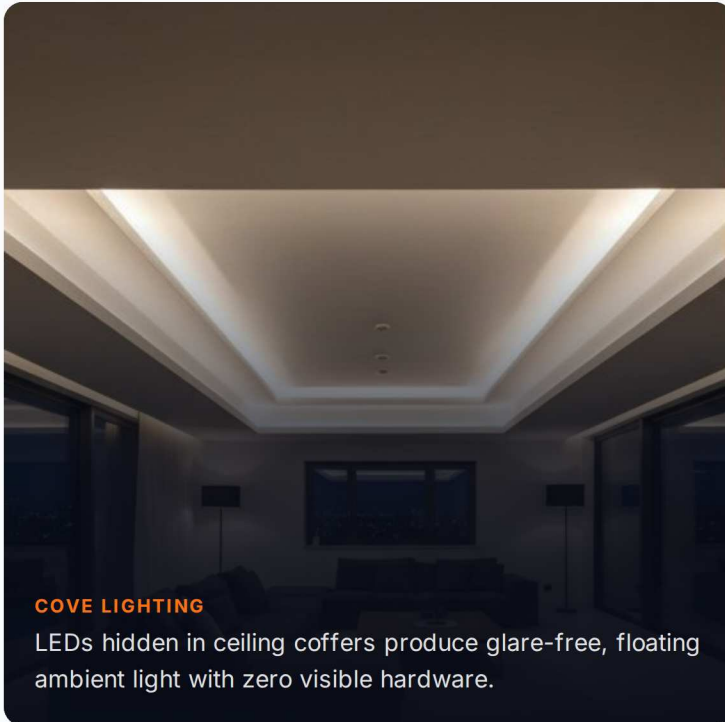
Every dramatic space has a ratio of dark to light. Aim for roughly 70% of the room to remain in relative shadow, with 30% intentionally lit. This creates the visual hierarchy that makes spaces feel curated rather than over-lit.

Tip: start by eliminating light, not adding it

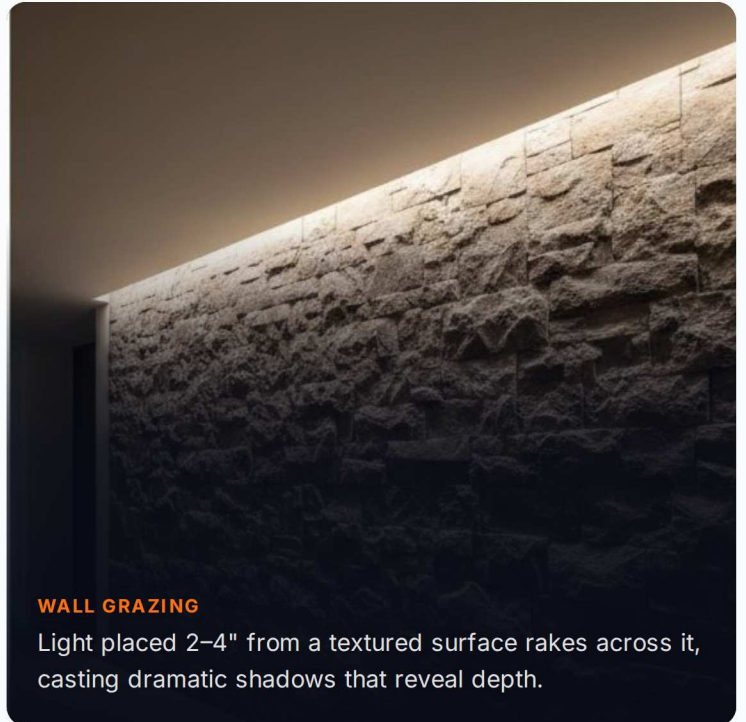
## TECHNOLOGY

# Architectural **Linear** LED Lighting

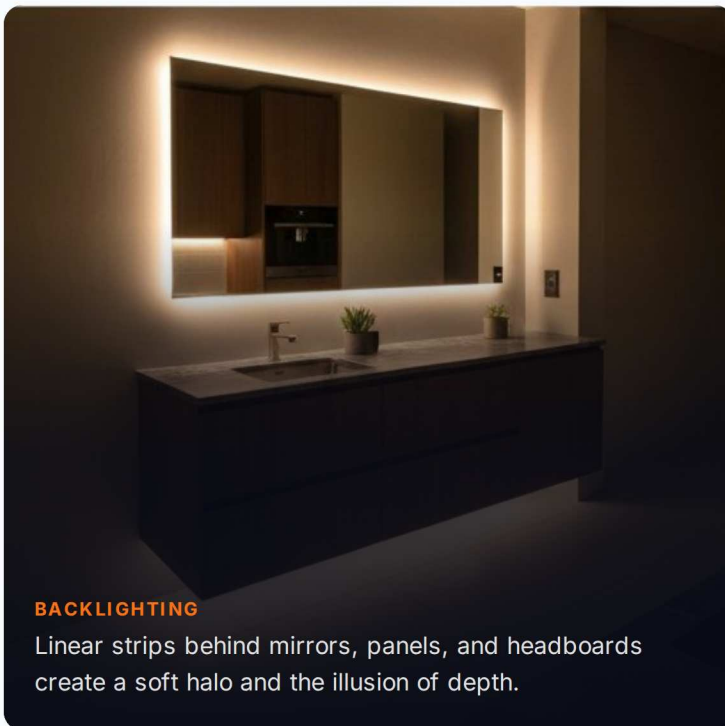
Linear LED is the most versatile tool in modern lighting design. Unlike point sources, it can be hidden, shaped, and directed to illuminate architecture without interrupting it.

**COVE LIGHTING**

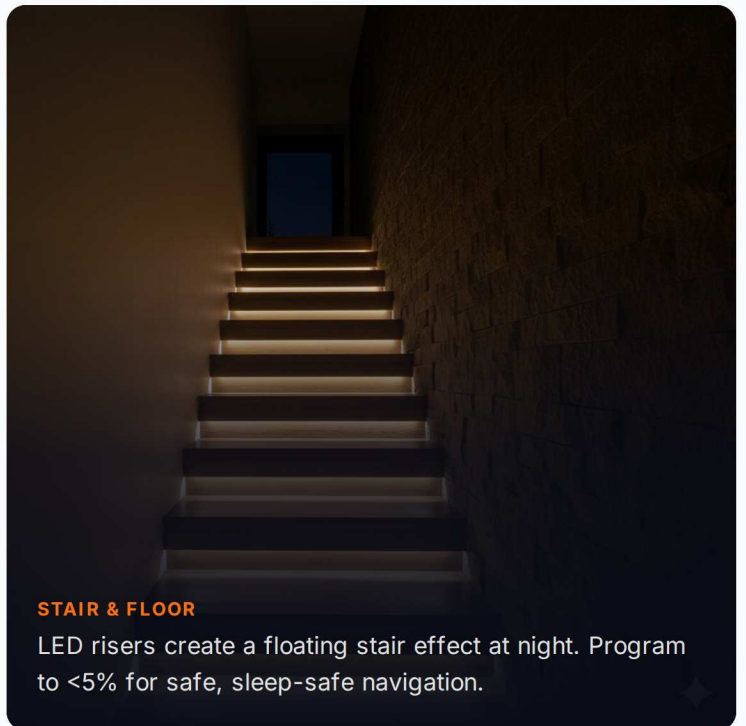
LEDs hidden in ceiling coffers produce glare-free, floating ambient light with zero visible hardware.

**WALL GRAZING**

Light placed 2–4" from a textured surface rakes across it, casting dramatic shadows that reveal depth.

**BACKLIGHTING**

Linear strips behind mirrors, panels, and headboards create a soft halo and the illusion of depth.

**STAIR & FLOOR**

LED risers create a floating stair effect at night. Program to <5% for safe, sleep-safe navigation.

**PROFILE****Diffuser vs. Bare Strip**

Always use a diffuser cover for cove and ambient applications — bare strips create hot spots visible across the room.

**IP RATING****Match to the Environment**

Dry: IP20 · Bathrooms: IP44 min ·  
Outdoor & pool: IP65+. Water ingress into LED drivers is the #1 failure mode.

**CRI****Specify CRI 90+**

CRI measures color accuracy vs. sunlight. CRI 90+ for all living spaces. CRI 95+ for vanity, makeup, and art.

HEALTH & WELLBEING

# Circadian Smart Lighting

Light is your body's primary timekeeper. Tunable smart lighting shifts color temperature through the day — boosting alertness in the morning and supporting deep sleep at night.

YOUR DAILY LIGHT CYCLE

**6am**

WAKE

**4500–5000K**

Bright cool light suppresses melatonin and triggers cortisol.

**10am**

FOCUS

**4000–4500K**

Neutral white maintains productivity all morning.

**2pm**

AFTERNOON

**3500–4000K**

Warmer tones ease the afternoon.

**6pm**

EVENING

**2700–3000K**

Warm light begins melatonin production.

**9pm**

WIND DOWN

**1800–2200K**

Deep amber signals the body to prepare for sleep.

**1800K**  
Candlelight  
Bedtime

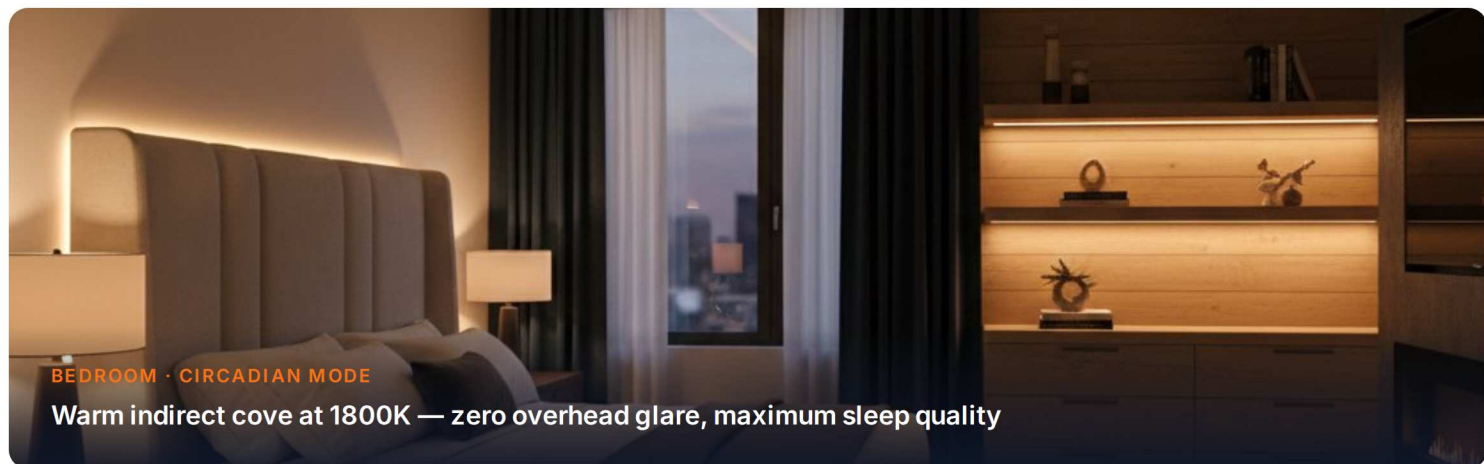
**2700K**  
Warm White  
Living rooms

**3000K**  
Soft White  
Kitchens

**4000K**  
Cool White  
Task areas

**5000K**  
Daylight  
Workshops

**6500K**  
Cool Daylight  
Commercial



## SMART CONTROL

# Lighting Scenes & Automation

Through systems like Control4 LUX, Lutron Caséta, or Savant, every zone in your home can be automated with scenes — adjusting brightness, color temperature, and timing automatically.



## Good Morning

Gradual sunrise ramp over 30 minutes. Cool, bright light in kitchen and hallways energizes the household for the day ahead.

Kitchen / Breakfast	80%
Hallways	60%
Color Temp	4500K



## Dinner

Warm, intimate dimming for entertaining. Pendants low over the table, accents on art and architecture, zero overhead glare.

Dining Pendants	35%
Accent Lighting	55%
Color Temp	2700K



## Movie Mode

Near-dark with soft bias lighting behind the TV. Reduces eye strain, improves perceived screen contrast, and signals immersion.

Room Ambient	8%
TV Bias Light	15%
Color Temp	2200K



## Focus Mode

Full-brightness cool task light over the work zone. Surrounding areas dimmed to reduce distraction without eliminating context.

Desk Task Light	100%
Room Ambient	30%
Color Temp	5000K



## Relax

Soft, layered warmth for unwinding. Cove at low levels, accents on art and architecture — no harsh overhead sources active.

Cove / Indirect	25%
Accent Lights	40%
Color Temp	2700K



## Sleep Path

Motion-activated toe-kick and stair lighting at near-zero levels. Allows safe navigation at night without disrupting melatonin production.

Path Lighting	2%
All Other Zones	0%
Color Temp	1800K



## Voice Control

Works with Alexa, Google Assistant, and Siri. Set scenes hands-free from anywhere in the home.



## Scheduling

Automatic sunrise/sunset, circadian ramps, and away-mode security schedules — all set and forget.



## Whole-Home Integration

Integrates with shades, HVAC, security, and audio through Control4, Savant, or Lutron ecosystems.



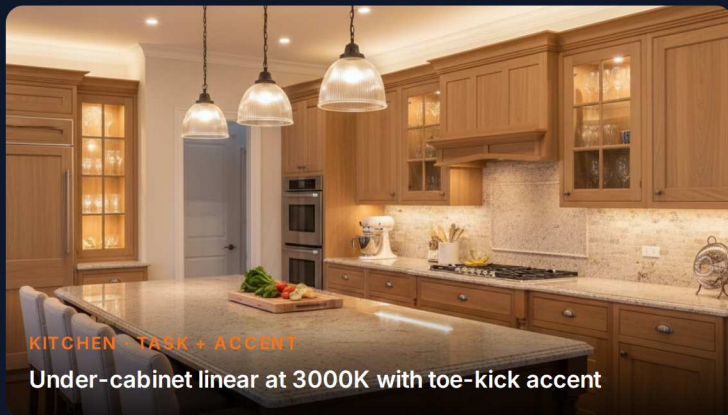
## Color Changing

RGBW and tunable white LED systems allow any color or temperature, per zone, on demand or automated.

REAL INSTALLATIONS

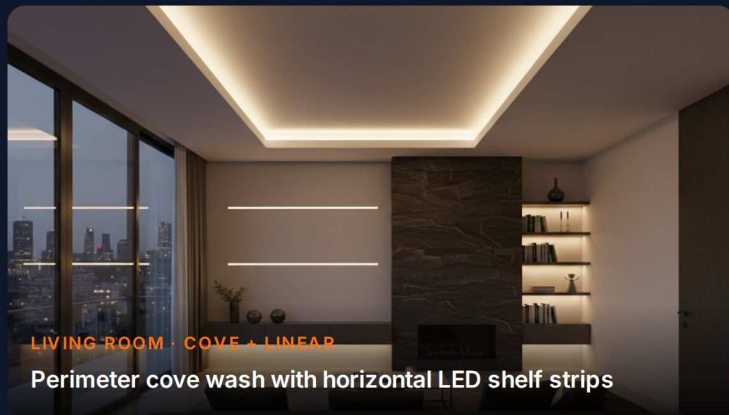
# What Great Lighting Looks Like

Cove washing, under-cabinet task, wall grazing, and circadian bedroom lighting — these techniques from this guide in action.



KITCHEN · TASK + ACCENT

Under-cabinet linear at 3000K with toe-kick accent



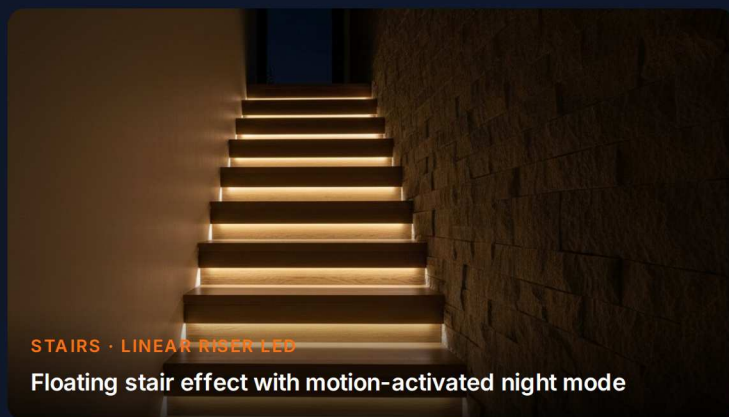
LIVING ROOM · COVE + LINEAR

Perimeter cove wash with horizontal LED shelf strips



BEDROOM · CIRCADIAN COVE

Indirect cove at 1800K with backlit floating shelves



STAIRS · LINEAR RISER LED

Floating stair effect with motion-activated night mode

OUR DESIGN PROCESS

01

**Architecture Review**

Site walk & plan review

02

**Lighting Concept**

Layer strategy & zones

03

**Fixture Selection**

Spec & product sourcing

04

**Automation Design**

Scenes & programming

05

**Install & Commission**

Full install & handoff

## 5 Lighting Mistakes to Avoid

These are the most common lighting errors we see in homes across Fresno and the Central Valley — and how to fix them.

01

### Too Many Downlights

A grid of recessed cans creates flat, harsh light with no depth. Replace half with indirect sources and install dimmers on everything.

02

### No Accent Layer

Skipping accent lighting leaves spaces feeling institutional. Even one wall wash or shelf light changes the entire atmosphere of a room.

03

### Mixed Color Temps

2700K and 5000K in the same room creates visual chaos. Choose one color temperature family per space and stay consistent throughout.

04

### No Dimming

Fixed-brightness lighting eliminates flexibility entirely. Dimmers aren't optional — they are the single most impactful upgrade in any home.

05

### No Lighting Plan

Lighting added after construction is always a compromise. Design it before framing — it's 10x cheaper to move conduit than a finished ceiling.

## Ready to Design Your Lighting?

Our team specializes in architectural lighting design, linear LED systems, smart home automation, and luxury residential installations across Fresno, Clovis, Madera, and the Central Valley.



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Fresno · Clovis · Madera · Central Valley



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