

NEW BRUNSWICK ELECTRICAL

Lighting

Pot lights, ceiling fans, dimmer switches, and LED
lighting

15 Expert Answers from Electric IQ

newbrunswickelectrical.com/construction-brain

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What accent lighting works best in a living room?

The best accent lighting for living rooms combines multiple layers to create warmth and visual interest.

Table lamps, floor lamps, and wall sconces provide the most versatile and effective accent lighting, while LED strip lights and pot lights can add modern touches.

Table and floor lamps are your most flexible accent lighting options. They create pools of warm light that define seating areas and add cozy ambiance. Look for lamps with fabric or paper shades that diffuse light softly, avoiding harsh direct illumination. Position them at different heights throughout the room - a tall floor lamp in a corner, table lamps on side tables or consoles, and perhaps a smaller accent lamp on a bookshelf.

Wall sconces work beautifully for accent lighting, especially when you want to highlight artwork or architectural features. They free up table space while providing targeted illumination. In New Brunswick homes with traditional architecture, sconces can complement period details while adding functional lighting. However, installing new sconces requires running electrical circuits, which means **TSANB permits and a licensed electrician** - this isn't DIY territory.

LED strip lighting offers modern accent options, particularly behind TVs, under floating shelves, or along crown molding. These create subtle background glow and can often be controlled with smart switches. For permanent installations that require new circuits, you'll need an electrician and proper permits.

Pot lights with dimmer controls can provide excellent accent lighting when properly positioned. Rather than flooding the room with light, strategically placed pot lights can wash walls, highlight artwork, or create reading nooks. Installing new pot lights requires cutting into ceilings and running new circuits - definitely electrician work in New Brunswick, with TSANB permits required.

Smart lighting controls are increasingly popular for accent lighting. Dimmer switches, smart bulbs, and lighting control systems let you adjust brightness and even color temperature throughout the day. A licensed electrician can install proper dimmer switches compatible with LED bulbs - not all dimmers work with all LED types.

For the **warmest, most inviting accent lighting**, choose bulbs in the 2700K-3000K range (warm white). Avoid cool daylight bulbs in living spaces - they feel harsh and institutional. LED bulbs now offer excellent warm light while using minimal electricity.

Safety considerations: If you're adding new circuits for sconces, pot lights, or permanent strip lighting, this requires electrical work by a licensed contractor. Even replacing basic switches with dimmers should be done carefully - always shut off the circuit breaker first, and if you're unsure about wire compatibility, consult an electrician.

Next steps: Start with plug-in options like table and floor lamps to experiment with placement and lighting levels. For permanent installations requiring new circuits, New Brunswick Electrical can match you with local electricians who specialize in residential lighting upgrades and smart home installations.

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Q2

How do I add under-cabinet lighting to my kitchen without opening the walls?

You can add under-cabinet kitchen lighting without opening walls using plug-in LED strip lights or puck lights connected to existing countertop outlets — no electrical work required for the basic approach.

Easiest option: Plug-in LED strip lights

LED light strips with adhesive backing are the simplest under-cabinet lighting solution:

- Stick the LED strip to the underside of the cabinet, toward the front edge (hides the strip from view)
- Run the low-profile power cord down the inside of the cabinet, through the back panel, or along the wall to a countertop outlet
- Use a cord channel or paintable cord cover for a clean look
- Cost: \$30-\$80 for a complete kitchen run
- **No electrician needed, no permit needed**

Better option: Hardwired LED puck lights or light bars

For a cleaner, more permanent installation:

- LED puck lights mount to the underside of cabinets with screws

- Light bars provide continuous, even illumination (better than individual pucks)
- A licensed electrician runs wire from a nearby switch or outlet through the wall to a new switch location
- The switch can be placed inside a cabinet or on the wall — some electricians can fish wire without opening walls using flexible drill bits
- Cost: \$500-\$1,200 installed

- **Requires a licensed electrician and TSANB permit**

Wireless options:

- **Battery-powered LED puck lights:** Stick-on installation, rechargeable via USB. No wiring at all. Good for renters or minimal commitment. Cost: \$20-\$50 for a set
- **Motion-activated under-cabinet lights:** Turn on when you reach under the cabinet. Battery or rechargeable. \$15-\$40 per unit

Light temperature for kitchens: Choose **3000-4000K (neutral white)** for kitchen task lighting. The warm 2700K lights popular for living rooms make food preparation difficult — you need clear, bright light for chopping and cooking. Avoid cool 5000K+ which feels harsh and clinical.

NB kitchen considerations:

- Many older NB kitchens have limited outlets on countertops. If you have only 1-2 outlets, adding more before tackling under-cabinet lighting makes sense
- If you're planning a kitchen renovation, have the electrician rough in under-cabinet wiring while the walls are open — it's the cheapest time to add it
- CEC requires countertop outlets every 1.8 metres in kitchens. If your NB home doesn't meet this standard, upgrading outlets and adding under-cabinet lighting together is cost-effective

DIY tip for the plug-in approach: Run the cord inside the cabinet through a small hole drilled in the cabinet bottom near the back wall. This hides the cord completely while still plugging into a countertop outlet. Use a 1/2" spade bit and grommet for a clean finish.

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Q3

What type of lighting is best for a workshop or garage in cold New Brunswick conditions?

LED shop lights are the clear winner for NB garages and workshops — they start instantly in sub-zero temperatures, use less power, and last 50,000+ hours compared to fluorescents that struggle below 0°C.

Why LEDs dominate in NB garages:

Fluorescent tubes — the old garage standard — perform terribly in cold:

- Below 10°C they take minutes to reach full brightness
- Below 0°C they may flicker, strobe, or refuse to start entirely
- Below -10°C (common in unheated NB garages from November to March) they're essentially useless
- They contain mercury, making disposal an environmental concern

LED shop lights:

- Instant full brightness at -40°C
- Actually MORE efficient in cold temperatures
- No warm-up period — flip the switch, full light immediately
- Last 50,000+ hours vs 20,000 for T8 fluorescents
- Use 40-60% less electricity

Recommended lighting levels:

| Space Use | Lumens per sq ft | A 20x20 Garage Needs | |-----|-----|-----| |
Parking/storage | 20-30 | 8,000-12,000 lumens | | General workshop | 50-75 | 20,000-30,000 lumens | | Detailed
work (woodworking, electrical) | 75-100 | 30,000-40,000 lumens |

Best fixtures for NB garages:

- **LED shop lights (4-foot linkable):** The workhorse. \$25-\$50 each, 4,000-5,000 lumens per fixture. Link 4-6 together on one circuit. Hang from chains or mount flush to ceiling. Most popular option

- **LED wraparound fixtures:** Cleaner look than bare shop lights. Good for finished garages. \$30-\$60 each, vapor-tight options available for damp garages
- **LED high bay lights:** For garages with tall ceilings (10+ feet). Very bright (10,000-20,000 lumens each), industrial look. \$50-\$120 each
- **Portable LED work lights:** Supplement fixed lighting for focused tasks. Magnetic base, rechargeable, 1,000-3,000 lumens. \$40-\$80

Electrical considerations for NB workshops:

- **Dedicated lighting circuit:** A workshop with 6-8 LED shop lights draws minimal power (under 3 amps total), but a dedicated circuit prevents lights from going dark when a power tool trips a shared breaker
- **Multiple switching zones:** Wire the lighting in 2-3 zones — you don't need the whole shop lit up when working in one corner
- **Outlet height:** Install outlets at workbench height (42") AND at standard height (12"). Run dedicated 20-amp circuits for power tools
- **240V outlet:** If you use a table saw, welder, or air compressor, you'll need a dedicated 240V outlet

Colour temperature for workshops:

- **5000K (daylight):** Best for general workshop use — closest to natural daylight, best colour rendering for seeing what you're working on
- **4000K (cool white):** Good compromise if 5000K feels too harsh
- Avoid 3000K (warm white) for workshops — too yellow for detail work

Installation: Basic plug-in LED shop lights hung from ceiling hooks are pure DIY. Adding dedicated circuits, switches, or 240V outlets requires a licensed electrician and TSANB permit. Budget \$500-\$1,500 for professional electrical work in a workshop setup.

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What type of lighting is best for a home office to reduce eye strain in New Brunswick?

With remote work becoming a permanent fixture for many New Brunswick professionals — particularly in tech, government, and bilingual service roles across Moncton, Fredericton, and Saint John — proper home office lighting is no longer a nice-to-have. Poor lighting causes eye strain, headaches, fatigue, and reduced productivity. Here's how to set up lighting that keeps your eyes comfortable through long work days, especially during NB's dark winter months.

Why NB Home Offices Need Special Attention

New Brunswick's latitude (approximately 46°N) means dramatic seasonal daylight variation:

- **Summer:** 15+ hours of daylight, sunrise by 5:30 AM
- **Winter:** Under 9 hours of daylight, sunrise after 7:45 AM and sunset by 4:30 PM

From November through February, most of your work day happens in darkness or very low natural light. Your artificial lighting has to compensate entirely — and poorly chosen lighting during these months leads to the classic "winter home office fatigue" that many NB remote workers experience.

The Three Layers of Home Office Lighting

Layer 1: Ambient (General) Lighting

Ambient lighting provides overall room illumination so your eyes aren't straining against a dark background while looking at a bright screen.

Best options:

- **Recessed LED pot lights** at 4000K (neutral white) — the best choice for even, shadow-free coverage. Plan for **one 6-inch fixture per 25–35 square feet**. A 10×12 foot office needs 3–4 pot lights.
- **LED panel lights** (surface-mount or suspended) — excellent for offices with drop ceilings or low ceilings common in NB basements
- **LED flush-mount fixtures** — a single high-output fixture (3,000–4,000 lumens) works for smaller offices

Key specification: 4000K colour temperature. This neutral white balances productivity and comfort. Avoid 5000K+ (too blue/clinical for prolonged use) and avoid 2700K (too warm/drowsy for focused work).

Target brightness: 300–500 lux at desk level per workplace lighting standards. You can measure this with a free smartphone lux meter app (reasonably accurate for planning purposes).

Important: dimmer switches. Install your ambient lights on a dimmer so you can adjust brightness based on time of day and natural light available. During bright summer afternoons, you'll want less artificial light; during dark January mornings, you'll want full brightness.

Layer 2: Task Lighting

Task lighting provides focused, adjustable light directly on your work surface — keyboard, documents, and writing area.

Best options:

- **LED desk lamp with adjustable colour temperature and brightness** — the single most impactful lighting upgrade for a home office
- Look for: **adjustable arm** (so you can position the light exactly where needed), **colour temperature range of 3000–5000K** (adjust warmer in evening, cooler during focused work), **brightness control** (dimming), and **anti-glare diffuser**
- **LED monitor light bar** (BenQ ScreenBar or similar) — mounts on top of your monitor, illuminates your desk without creating screen glare. These are specifically designed for computer work and are excellent. Cost: **\$80–\$150**.

Recommended products available in Canada:

- BenQ ScreenBar (\$130–\$150) — the gold standard for monitor-mounted task lighting
- BenQ ScreenBar Halo (\$200–\$230) — adds backlight behind the monitor
- Ikea TERTIAL (\$15) + LED bulb — budget option, fully adjustable
- TaoTronics LED desk lamp (\$40–\$70) — good mid-range with colour temperature adjustment

Positioning: Place the task light **to the side** of your dominant hand (left side if right-handed) to minimize shadows when writing. For a monitor light bar, centre it on your main monitor.

Layer 3: Bias and Accent Lighting

Bias lighting reduces the contrast between your bright monitor and the dark wall behind it — one of the primary causes of eye strain during computer work.

Best options:

- **LED strip behind the monitor** — attach an LED strip to the back of your monitor so it casts a soft glow on the wall behind. Use **6500K (daylight)** for colour-accurate work (design, photography) or **4000K** for general office use.
- **Bias lighting kits** — purpose-built LED strips designed for monitor backlighting. Cost: **\$15–\$40** on Amazon.ca.
- **Wall-wash accent lighting** — indirect light aimed at the wall behind your workspace reduces the "cave effect" of a dark room with a bright screen.

Bias lighting doesn't need to be bright — **50–100 lumens** is sufficient. The goal is to raise the ambient light level behind the monitor so your pupils don't constantly adjust between the bright screen and dark surroundings.

Avoiding Common Eye Strain Triggers

Screen glare from overhead lights: If recessed lights or a ceiling fixture reflects off your monitor, you'll squint all day. Position your desk so that overhead lights are **beside or behind you relative to the screen** — not directly above the monitor. Use matte screen protectors if glare persists.

Window glare: In NB, the low winter sun angle (especially December–January) can create intense glare. Position your desk so windows are to the **side** of your monitor — not behind you (screen glare) and not in front of you (direct glare into your eyes). Use adjustable blinds to control sunlight.

Flickering lights: Old fluorescent tubes flicker at 60Hz — invisible to most people consciously but fatiguing over hours. If your NB home office is in a basement with old fluorescent fixtures, replace them with **LED panels or LED tube retrofits**. LEDs operate at much higher frequencies with no perceptible flicker. Cost to replace a 4-foot fluorescent fixture with LED: **\$30–\$60 DIY** or **\$80–\$150 with electrician**.

Uneven lighting: A single desk lamp in an otherwise dark room forces your eyes to constantly adjust between the bright desk and dark surroundings. This is the most common home office lighting mistake. Always use ambient room lighting **in addition to** task lighting.

Electrical Requirements

Most home office lighting upgrades are minor electrical work:

No permit needed:

- Adding a desk lamp or monitor light bar (plug-in)
- Replacing an existing ceiling fixture with a new one (same wiring)
- Adding LED strip bias lighting (plug-in USB or 12V adapter)
- Swapping a standard switch for a dimmer switch (same box, same wiring)

TSANB permit needed:

- Adding new recessed pot lights (new wiring)
- Adding a new ceiling fixture where none exists (new circuit)
- Adding dedicated outlets for desk equipment (new circuit)

Dedicated office circuit: If your home office draws significant power (desktop computer, multiple monitors, printer, space heater), consider a **dedicated 20-amp circuit**. This prevents the annoyance of tripping a shared circuit breaker and provides cleaner power for sensitive electronics. Cost: **\$200–\$400** for an electrician to run a new circuit.

Cost Summary

| Upgrade | Cost | Impact on Eye Strain | |-----|-----|-----| | LED desk lamp (adjustable) | \$40–\$150 | High | | Monitor light bar (BenQ) | \$80–\$230 | Very high | | LED bias lighting strip | \$15–\$40 | High | | Dimmer switch for overhead lights | \$20–\$40 DIY / \$80–\$150 installed | Medium | | Recessed pot lights (4 fixtures) | \$600–\$1,200 installed | High | | Replace fluorescent with LED | \$30–\$60 DIY / \$80–\$150 installed | Medium |

Best value starting point: A quality **LED desk lamp or monitor light bar (\$40–\$150) plus LED bias lighting (\$15–\$40)** transforms a home office for under \$200. Add ambient overhead lighting improvements when budget allows.

The 20-20-20 Rule (Bonus Tip)

No amount of perfect lighting replaces good screen habits. The **20-20-20 rule** — every 20 minutes, look at something 20 feet away for 20 seconds — reduces eye strain caused by sustained close focus. Proper lighting makes this easier by ensuring distant objects in your room are visible (not lost in darkness), giving your eyes a real focal-length change when you look away from the screen.

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What kind of lighting is best for a finished basement in New Brunswick?

Basement lighting in New Brunswick requires a different approach than above-grade rooms because you're dealing with low ceilings, zero natural light, and moisture concerns that are particular to our Maritime climate. The right lighting design makes a basement feel bright and inviting rather than dark and cave-like.

Understanding NB Basement Challenges

New Brunswick basements have characteristics that directly affect lighting choices:

Low ceiling height: Many NB homes, particularly those built in the 1970s–1990s in Moncton, Saint John, and Fredericton, have basement ceilings of **7 to 7.5 feet** — sometimes less after accounting for a dropped ceiling to hide ductwork and pipes. Every inch of headroom matters, so flush-mount or recessed lighting is essential.

No natural light: Unlike main-floor rooms where windows supplement artificial lighting, most New Brunswick basements have either small above-grade windows or no windows at all. Your lighting has to do 100% of the work, which means you need more fixtures producing more lumens than you'd use upstairs.

Moisture and humidity: Maritime climate means higher baseline humidity, and basements are the dampest part of the house — especially during spring snowmelt (March through May) and during humid summer months. Light fixtures need to tolerate moisture without corroding, and electrical connections must be properly rated.

Best Lighting Types for NB Basements

Recessed (Pot) Lights — The Top Choice

Recessed LED lights are the most popular basement lighting option for good reason:

- **Zero clearance below ceiling** — critical when headroom is limited
- **Even light distribution** — when properly spaced, eliminates dark spots and shadows
- **Modern, clean look** — no visible fixtures hanging down
- **LED versions run cool** — important in insulated ceiling cavities

Specifications:

- Use **4-inch or 6-inch recessed LED fixtures** (6-inch is more common for basements)
- Choose **IC-rated (insulation contact)** fixtures if insulation is above
- Plan for one 6-inch recessed light per **25–35 square feet** of floor space
- A 600 sq ft basement needs approximately **18–24 recessed lights**

- Select **4000K colour temperature** (neutral white) for general living areas — it's bright without being clinical
- Use **3000K (warm white)** for bedrooms and media rooms
- Each fixture: 800–1,100 lumens (equivalent to a 60–75W incandescent)

Cost:

- LED recessed fixtures: **\$15–\$40 each** (Moncton Kent, Home Hardware, or electrical supply houses)
- Installation by electrician: **\$75–\$150 per fixture** (includes cutting the hole, running wire, connecting)
- Full basement (20 fixtures): **\$2,000–\$4,000** installed

LED Panel Lights — Great for Drop Ceilings

If your basement has a suspended (drop) ceiling with 2x4 or 2x2 grid:

- **LED flat panel lights** replace fluorescent troffer fixtures directly in the ceiling grid
- **Only 1–2 inches thick** — much thinner than old fluorescent fixtures
- Produce bright, even, shadow-free light
- A 2x4 LED panel produces **4,000–5,000 lumens** — equivalent to two old fluorescent tubes but brighter and more even
- Plan for one 2x4 panel per **80–100 square feet**, or one 2x2 panel per **40–50 square feet**

Cost:

- 2x4 LED panel: **\$40–\$80 each**
- Installation (replacement of existing fluorescent): **\$50–\$100 per fixture**
- New installation with wiring: **\$100–\$200 per fixture**

LED Strip Lighting — For Accent and Task Areas

LED strip lights work well as supplementary lighting:

- **Under-cabinet strips** in a basement kitchenette or bar area
- **Cove lighting** installed in a tray or shelf above the perimeter of a room — creates a soft, indirect glow that makes the ceiling feel higher
- **Toe-kick lighting** along basement stairways for safe navigation at night
- **Behind-TV bias lighting** in media rooms to reduce eye strain

Cost: **\$30–\$100** per room for quality LED strip kits, plus **\$100–\$200** for electrician installation if hardwired.

Surface-Mount LED Fixtures

For basements without a drop ceiling and where recessed lights aren't practical (solid concrete ceiling, exposed joists you don't want to modify):

- **Slim surface-mount LED discs** — profile of only 1–1.5 inches, nearly as streamlined as recessed
- **LED wraparound fixtures** — 4-foot linear fixtures that mount flat to the ceiling, good for utility areas, workshops, and laundry rooms
- **LED flush-mount dome lights** — traditional look but with LED efficiency

Lighting Layout by Room Type

Open living/rec room (400+ sq ft):

- 12–16 recessed lights on 2–3 separate circuits
- Dimmer switches on all circuits (allows mood lighting for movie nights)
- Add LED strip cove lighting for ambient effect
- Total lumens target: **8,000–12,000 lumens**

Basement bedroom:

- 4–6 recessed lights at 3000K (warm)
- Dimmer switch essential
- Bedside wall sconces or table lamp outlets on switched circuit
- CEC requires a **smoke alarm** and **egress window** in any basement bedroom
- Total lumens target: **3,000–4,000 lumens**

Bathroom:

- 2–3 recessed lights rated for **damp/wet locations**
- Vanity light bar above mirror: **3000–4000K**, minimum 1,600 lumens
- Exhaust fan with integrated LED light (dual function)
- All bathroom circuits must be **GFCI-protected** per CEC
- Total lumens target: **2,500–3,500 lumens**

Laundry/utility room:

- 2 LED wraparound fixtures (4-foot) — bright, practical, inexpensive
- Task lighting over folding area

- Moisture-resistant fixtures rated for damp locations
- Total lumens target: **4,000–6,000 lumens**

Home office:

- 4–6 recessed lights at **4000K** (neutral white aids concentration)
- Desk task lamp on a dedicated outlet
- Avoid placing recessed lights directly above the computer monitor (creates screen glare)
- Total lumens target: **3,000–5,000 lumens**

Electrical Requirements and Code

Circuits: The Canadian Electrical Code requires basement lighting to be on **separate circuits from outlets**.

Plan for:

- At least 1 dedicated 15-amp lighting circuit per 600 sq ft
- Dimmer-compatible LED fixtures if you want dimming capability
- Bathroom and kitchen lighting on GFCI-protected circuits

Switches: CEC requires a light switch at **every entrance to a room** and at **both the top and bottom of stairs** (3-way switches). This is non-negotiable for TSANB inspection.

Smoke and CO detectors: TSANB requires **interconnected smoke detectors** in every basement bedroom and in the hallway outside bedrooms, plus **CO detectors** if there's any fuel-burning appliance. While not strictly a lighting requirement, your electrician will address this during the same project.

TSANB permit: Any new basement lighting circuits require an electrical permit and inspection. Cost: **\$75–\$150** for the permit.

Cost Summary

Basement Size	Recessed Lights	Estimated Cost (installed)
Small (300 sq ft)	10–12 fixtures	\$1,200–\$2,500
Medium (600 sq ft)	18–22 fixtures	\$2,500–\$4,500
Large (1,000 sq ft)	28–35 fixtures	\$4,000–\$7,000

Prices include fixtures, wiring, switches, dimmers, TSANB permit, and electrician labour. Costs at the higher end of these ranges account for more complex layouts with multiple zones, accent lighting, and bathroom/kitchen circuits.

Energy Efficiency

Modern LED basement lighting is remarkably efficient. A fully lit 600 sq ft basement with 20 LED recessed fixtures uses approximately **200–300 watts** — less than four old incandescent bulbs. At NB Power's rates, running your basement lights for 6 hours daily costs roughly **\$5–\$8 per month**. This is a fraction of what the old four-tube fluorescent fixtures common in 1980s NB basements consumed.

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Q6

How do I install under-cabinet kitchen lighting?

Under-Cabinet Kitchen Lighting Installation Guide

Under-cabinet lighting is one of the most impactful kitchen upgrades — it eliminates the shadows cast by upper cabinets on your countertop workspace and adds a warm ambiance to the kitchen. Here's how to do it in your New Brunswick home.

Types of Under-Cabinet Lighting

LED strip lights (tape lights)

- Thin, flexible adhesive-backed LED strips
- Very even, continuous light with no hot spots
- Available in warm white (2700K–3000K), neutral (4000K), and colour-changing (RGB)
- Can be cut to exact lengths at marked intervals
- Require a driver (transformer) to convert 120V to 12V or 24V DC

- Cost: \$15–\$40 per metre for quality strips, plus \$20–\$50 for the driver

LED light bars (linear fixtures)

- Rigid aluminium housings with integrated LEDs
- Professional appearance with built-in diffuser lens (no LED dots visible)
- Linkable — connect multiple bars end-to-end
- Available in plug-in or hardwired versions
- Cost: \$30–\$80 per bar (12–24 inches each)

LED puck lights

- Small round fixtures (2–3 inch diameter) mounted individually
- Create pools of focused light rather than even illumination
- Good for highlighting specific areas but can create uneven lighting with dark spots between pucks
- Available in battery, plug-in, or hardwired
- Cost: \$10–\$25 per puck

For most NB kitchens, LED strip lights or light bars provide the best results. Strips offer the most even illumination; bars look more finished and are easier to install.

Plug-In vs. Hardwired

Plug-in installation (DIY):

- The driver or light bar plugs into an existing outlet (usually inside or below an upper cabinet)
- No electrical work required
- No TSANB permit needed
- Wire/cord may be visible unless carefully routed behind cabinets
- Can use a simple toggle switch, remote, or smart plug for on/off control
- Cost: \$50–\$200 in materials

Hardwired installation (electrician recommended):

- Connected directly to a junction box behind the cabinets
- Controlled by a wall switch (can include a dimmer)
- No visible cords or plugs — cleaner appearance
- Requires running new wiring from a switch to the cabinet locations
- TSANB permit required if new wiring is run

- Cost: \$300–\$800 (materials + electrician labour)

DIY Plug-In Installation Steps

For LED strip lights:

- **Measure your cabinet lengths** — measure each section of upper cabinet that needs lighting. Order strip lights to cover the full length.
- **Choose mounting location** — mount the strip at the front edge of the cabinet bottom (lights your work surface) or toward the back (lights the backsplash). Front-mounted provides better task lighting.
- **Clean the surface** — wipe the mounting area with isopropyl alcohol for strong adhesive bond. The adhesive backing on LED strips fails quickly on dusty or greasy surfaces.
- **Install an aluminium channel (optional but recommended)** — a U-shaped aluminium channel (\$10–\$20 per metre) with a frosted diffuser cover gives a professional look, protects the strip, and eliminates visible LED dots. Mount the channel with screws or adhesive.
- **Apply the LED strip** — peel the adhesive backing and press the strip into the channel or directly onto the cabinet bottom. Cut at the marked cut lines (every 50–100mm on most strips).
- **Connect the driver** — plug the strip's connector into the LED driver. Place the driver inside an upper cabinet or on top of the cabinets (out of sight).
- **Route the power cord** — run the driver's power cord to the nearest outlet. Inside-cabinet outlets (common in NB kitchens for microwaves and range hoods) work well. Use cable clips to keep the cord tidy.
- **Add a switch** — options:
 - Inline rocker switch on the cord (\$3–\$5) - Wireless remote switch (\$15–\$30) - Smart plug (\$15–\$25) for voice or app control - Touch dimmer module (\$10–\$20) for brightness control

Colour Temperature Matters

This is the most common mistake homeowners make. Mismatched colour temperatures between under-cabinet lights and overhead lights look terrible.

- **Match your existing kitchen lighting** — if your pot lights or pendants are 3000K (soft white), use 3000K under-cabinet strips
- **2700K (warm white):** Cozy, yellowish, good for traditional kitchens

- **3000K (soft white):** The most popular — warm but bright enough for food prep. **Recommended for most NB kitchens.**
- **4000K (neutral white):** Brighter, slightly clinical. Good if the under-cabinet lights are your primary task lighting.
- **Avoid 5000K+ (daylight)** for under-cabinet — too harsh and contrasts poorly with warmer overhead lighting

Dimming

Dimmable under-cabinet lighting lets you use full brightness for cooking and lower brightness for ambient evening lighting. For LED strips, you need:

- A dimmable LED driver (not all drivers are dimmable)
- A compatible dimmer — either inline, remote, or wall-mounted
- PWM (pulse width modulation) dimmers work best with LED strips — they don't cause the flickering that TRIAC dimmers can

For hardwired light bars, use an LED-compatible wall dimmer (\$30–\$60).

Costs Summary

Approach	Materials	Labour	Total
DIY plug-in LED strips (12 ft of cabinets)	\$60–\$150	\$0	\$60–\$150
DIY plug-in LED light bars (4 bars)	\$120–\$320	\$0	\$120–\$320
Hardwired LED strips + wall dimmer	\$80–\$200	\$300–\$600	\$380–\$800
Hardwired LED light bars + wall dimmer	\$150–\$350	\$300–\$600	\$450–\$950

NB Tip

With New Brunswick's short winter days and long dark evenings, under-cabinet lighting serves double duty as task lighting and ambient room lighting. Many NB homeowners leave under-cabinet lights on (at low brightness via dimmer) as evening mood lighting instead of harsh overhead pot lights — it makes the kitchen feel warmer and more inviting during those 4:30 PM sunsets from November through February.

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What is the best way to light a dark hallway or stairway in my NB home?

Lighting Dark Hallways and Stairways in New Brunswick Homes

Dark hallways and stairways are a common problem in NB homes — especially in split-levels, bungalows, and older two-storey homes where architects gave these transitional spaces minimal attention. Good lighting improves both safety and the feel of your home.

Stairway Lighting Requirements (CEC)

The Canadian Electrical Code requires:

- **Every stairway must have a light** controlled by wall switches
- **Three-way switches** at the top AND bottom of every stairway (so you can turn the light on or off from either end)
- **Adequate illumination** on every tread — shadows on stairs cause falls

If your NB home's stairway lacks a light fixture or doesn't have 3-way switches, bringing it up to code is straightforward and improves safety significantly.

Hallway and Stairway Lighting Options

1. Flush-mount or semi-flush ceiling fixtures The standard approach. Mounted on the ceiling at regular intervals along the hallway or at the landing of a stairway.

- Best for: Hallways with 8-foot ceilings (standard NB bungalows and split-levels)
- Spacing: One fixture every 2.5–3 metres for even illumination
- Cost: \$30–\$100 per fixture + \$100–\$200 installation each (for new locations requiring wiring)
- For replacement (same location): \$0 labour (DIY) or \$75–\$150 per fixture (electrician)

2. Recessed pot lights The modern standard. Disappear into the ceiling for a clean, unobtrusive look. Excellent for hallways where any protrusion feels crowded.

- Best for: Any hallway, especially those with lower ceilings where a flush mount still feels intrusive
- Spacing: 4-inch pot lights every 1.2–1.5 metres (a typical 4-metre hallway needs 3–4 lights)
- Cost: \$150–\$300 per light installed (retrofit into existing ceiling)
- Dimmer recommended: Lets you keep hallway lights at low brightness overnight

3. Wall sconces Mounted on the wall at eye level or above, directing light up, down, or both. Add architectural character to plain hallways.

- Best for: Hallways in older or character homes where ceiling fixtures don't suit the style
- Spacing: Every 2–3 metres, alternating sides for visual interest
- Height: 150–170 cm from floor to centre of fixture
- Cost: \$50–\$200 per sconce + \$200–\$400 installation each (new junction box required in most cases)
- TSANB permit required for new wiring

4. LED step lights / stair lights Small fixtures recessed into the wall at every second or third stair tread, or into the stair riser. Provide low-level illumination of each step without flooding the stairway with bright light.

- Best for: Stairways used at night (especially by children or elderly family members)
- Cost: \$30–\$60 per light + \$150–\$300 each installed (require wiring in the wall)
- Often used in combination with an overhead stairway light
- Can be connected to a motion sensor for automatic activation

5. Motion-sensor night lights The simplest solution — plug into existing hallway outlets. No wiring required.

- Best for: Quick fix, nighttime navigation, children's hallways
- Cost: \$10–\$25 each
- Battery or plug-in options
- Not a substitute for proper hallway lighting but excellent as supplementary nighttime lighting

6. LED strip lighting (indirect/cove lighting) Hidden LED strips along the top of the wall (cove), along the baseboard, or under a stairway handrail. Creates ambient illumination without any visible fixtures.

- Best for: Modern aesthetics, architectural interest, nighttime ambient lighting
- Cost: \$100–\$400 for a typical hallway (DIY) or \$300–\$800 installed
- Looks dramatic and can be dimmed or colour-tuned

Switch Options

Three-way switches (stairways): Code-required for stairways. Allow light control from both ends. If your stairway only has a switch at one end, an electrician can add a 3-way switch at the other end for \$200–\$400.

Motion sensors (\$25–\$50 per switch): Replace a standard switch with a motion-sensor switch. The light turns on automatically when someone enters the hallway and off after a set time (1–15 minutes adjustable). Excellent for hallways and stairways — no fumbling for switches in the dark.

Smart switches (\$40–\$80 per switch): Control lights by voice, app, or automation. Set schedules (auto-dim at 10 PM), create motion-triggered automations, or integrate with your smart home system.

Dimmer switches (\$25–\$60 per switch): Essential for hallway pot lights. Full brightness during the day, 10–20% brightness at night for safe navigation without waking the household.

Costs for Common NB Scenarios

| Scenario | Cost | |-----|-----| | Replace 2 existing hallway fixtures with LED flush-mounts (DIY) | \$60–\$200 | | Install 4 recessed pot lights in a hallway (new, electrician) | \$600–\$1,200 | | Add 3-way switch to stairway (electrician) | \$200–\$400 | | Install 6 LED stair lights in risers (electrician) | \$900–\$1,800 | | Add motion-sensor switch (DIY) | \$25–\$50 | | LED strip under handrail (DIY) | \$50–\$150 |

NB Home-Specific Tips

Split-level stairways: NB has thousands of split-level homes from the 1960s–1980s. These typically have 2–3 half-flights of stairs with small landings. Each landing needs at least one light, and 3-way switches should be at the top and bottom of the full stairway. Budget for 3–4 fixtures to properly light a split-level stairway.

Low basement ceilings: NB basement stairways often have 6.5–7 foot clearance. Use ultra-slim recessed fixtures (less than 1 inch depth) or wall-mounted options rather than any hanging fixture that reduces headroom.

Dark hallways in centre-hall plans: Many older NB homes have central hallways with no windows. Make these halls feel less like tunnels with warm-toned lighting (3000K), adequate brightness (300+ lumens per fixture), and light-coloured paint to reflect light.

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How do I install a ceiling fan where there is only a light fixture?

Installing a Ceiling Fan Where a Light Fixture Exists

Replacing a light fixture with a ceiling fan is a popular upgrade in New Brunswick homes — fans improve air circulation in summer and can push warm air down from the ceiling in winter (reverse mode), which is especially useful in NB homes with high heating costs.

The Critical First Step: Check the Electrical Box

This is the most important part of the project. A ceiling fan weighs 7–25 kg and generates dynamic forces (vibration, torque) as it spins. Standard light fixture boxes are NOT rated for fans.

How to check your box:

- Turn off the breaker for the circuit
- Remove the existing light fixture
- Look at the electrical box in the ceiling
- Check for markings: "Suitable for Fan Support," "Fan Rated," or a weight rating of 35 lbs (16 kg) or more

Types of boxes you might find:

Box Type	Fan-Rated?	Action Needed
Plastic round box nailed to joist side	Usually NO	Replace with fan-rated box
Metal octagon box nailed to joist	Sometimes	Check for fan rating stamp
Metal pancake box screwed to joist bottom	Usually YES if fan-rated model	Verify rating
Fan brace box (bar spanning between joists)	YES	Ready for fan installation
Old work box with ears/tabs only	NO	Replace — these grip only the drywall

Replacing the Box (If Not Fan-Rated)

If you have attic access above: This is the easiest scenario. Remove the old box from above, install a fan-rated metal box directly to a ceiling joist with structural screws.

- Cost: \$10–\$25 for the box
- Time: 30–60 minutes
- Skill level: Intermediate DIY

If there's no access above (finished floor or roof above): Use a retrofit fan brace — a telescoping metal bar that slides through the existing box hole and expands to span between joists.

- Remove the old box
- Insert the brace through the hole
- Rotate the bar to extend it until both ends press firmly against the joists
- Tighten the set screws to lock it in place
- Attach the fan-rated box to the brace
- Cost: \$20–\$40 for the brace and box kit
- Time: 30–60 minutes
- Skill level: Intermediate DIY
- Brands: Westinghouse Saf-T-Brace, Hubbell fan brace

If you're not comfortable doing this yourself, a licensed electrician charges \$150–\$350 for box replacement and fan installation in most NB communities.

Wiring Considerations

Single switch (most common in NB homes): The existing light switch controls both the fan motor and the light. You'll use pull chains on the fan to independently control the light and fan speed, or install a fan remote receiver inside the fan canopy.

Upgrading to separate control: For separate wall control of the fan and light, you need either:

- A **wireless fan remote** (\$25–\$50, included with many fans) — no rewiring needed. The remote receiver goes in the fan canopy.
- A **smart fan switch** (\$50–\$80) that controls fan speed and light from one gang box — no new wiring needed.
- **Two separate wall switches** — requires running a 3-conductor cable (14/3 NMD90) from the switch box to the ceiling box. This means new wiring, which requires a TSANB permit and a licensed electrician. Cost: \$200–\$500.

Ceiling Height and Fan Size

Minimum ceiling height: The fan blades must be at least 2.1 metres (7 feet) above the floor. In NB homes with standard 8-foot ceilings, use a flush-mount (hugger) fan or a very short downrod. If your ceiling is 7.5 feet (common in older NB bungalow basements), a ceiling fan may not be practical.

Fan size by room:

| Room Size | Fan Diameter | |-----|-----| | Up to 75 sq ft (bathroom, small bedroom) | 29–36 inches | | 76–144 sq ft (bedroom, office) | 36–42 inches | | 144–225 sq ft (living room, master bedroom) | 44–52 inches | | 225–400 sq ft (large living room, open concept) | 52–60 inches | | 400+ sq ft | Two fans or 60+ inch industrial style |

Installation Steps

- **Turn off the breaker** and verify power is off with a voltage tester
- **Remove the existing light fixture**
- **Verify or replace the electrical box** (fan-rated required)
- **Assemble the fan** according to manufacturer instructions (partially — don't attach blades yet)
- **Mount the fan bracket** to the ceiling box
- **Hang the motor** on the bracket hook (most fans have a hook for hands-free wiring)
- **Connect wires:** black to black (or black fan + blue light to black supply), white to white, ground to ground
- **If using a remote receiver:** wire it between the supply and the fan motor per the receiver instructions
- **Tuck wires into the canopy** and secure the canopy to the bracket
- **Attach fan blades** (much easier to do after the motor is mounted)
- **Install the light kit** if separate
- **Restore power** and test all speeds and the light

Costs in New Brunswick

| Item | Cost | |-----|-----| | Ceiling fan (quality model) | \$100–\$400 | | Fan-rated box or brace kit | \$15–\$40 | | Fan remote (if not included) | \$25–\$50 | | DIY total | \$140–\$490 | | Electrician installation (fan + box) | \$200–\$450 | | Electrician + separate switch wiring | \$400–\$700 |

NB Winter Tip

Most ceiling fans have a reverse switch (usually on the motor housing). In **winter mode (clockwise rotation at low speed)**, the fan pushes warm air that collects at the ceiling back down into the living space without creating a drafty wind chill effect. In NB homes with baseboard or radiant heat where warm air stratifies at the ceiling, this can noticeably improve comfort and reduce heating costs by keeping the thermostat setting lower.

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Q9

What kind of lighting is best for a kitchen renovation in New Brunswick?

Kitchen Lighting Guide for New Brunswick Renovations

Kitchen lighting in a renovation isn't just about picking fixtures — it's about layering different types of light to create a functional workspace that's also comfortable for daily living. Here's what works best and what it costs in NB.

The Three Layers of Kitchen Lighting

1. Ambient (general) lighting This is your overall room illumination. The most popular options for NB kitchen renovations:

- **Recessed LED pot lights:** The dominant choice in modern kitchens. Install 4-inch or 6-inch IC-rated fixtures in a grid pattern. A typical 10×12 kitchen needs 6–8 pot lights for even coverage. Cost: \$150–\$300 per light installed (retrofit into existing ceiling) or \$75–\$150 per light in new construction with open ceiling access.
- **Flush or semi-flush ceiling fixtures:** Good for kitchens with low ceilings (common in NB bungalows and split-levels built in the 1960s–1980s). One or two quality LED fixtures can light the whole room. Cost: \$100–\$400 per fixture plus \$100–\$200 installation.

2. Task lighting Focused light where you work — counters, stove, sink.

- **Under-cabinet LED strips or puck lights:** Essential for countertop task lighting. Eliminate shadows cast by upper cabinets. Hardwired LED strips (\$15–\$30 per linear foot installed) look cleaner than plug-in options. A typical kitchen with 12 linear feet of upper cabinets: \$350–\$800 installed.

- **Pendant lights over island/peninsula:** Both functional and decorative. Usually 2–3 pendants spaced 24–30 inches apart, hung 30–36 inches above the counter surface. Cost: \$100–\$500 per pendant plus \$150–\$250 each for installation (new junction box and wiring if not existing).

3. Accent lighting Decorative touches that add warmth and visual interest.

- **In-cabinet LED lighting:** Inside glass-front cabinets to highlight dishes or glassware. Low-voltage LED tape, often plug-in. Cost: \$50–\$200 DIY, \$200–\$500 hardwired professionally.
- **Toe-kick lighting:** LED strips under base cabinets at floor level. Creates a floating effect and provides subtle nighttime navigation. Cost: \$200–\$500 installed.
- **Above-cabinet lighting:** LED strips on top of upper cabinets that wash light up the wall/ceiling. Cost: \$150–\$400 installed.

Electrical Requirements

A properly wired kitchen renovation in New Brunswick includes:

- **Dedicated lighting circuits** — separate from your 20-amp small appliance counter circuits. Typically 1–2 fifteen-amp circuits handle all kitchen lighting.
- **Dimmer switches** — essential for pot lights and pendants. LED-compatible dimmers cost \$30–\$60 each. Consider separate dimmers for pot lights, pendants, and under-cabinet lights so you can control each layer independently.
- **Switch locations** — plan for switches at every entry point to the kitchen. Three-way switches for rooms with multiple entrances.

Colour Temperature Matters

LED colour temperature is measured in Kelvin (K):

- **2700K (warm white):** Cozy, yellowish light similar to incandescent. Good for eating areas.
- **3000K (soft white):** Slightly brighter, still warm. The most popular choice for NB kitchens — warm enough for comfort, bright enough for cooking.
- **3500K (neutral):** Clean, balanced light. Good if your kitchen doubles as a workspace.
- **4000K+ (cool/daylight):** Clinical feel. Too harsh for most residential kitchens but fine for task lighting under cabinets.

Pick one colour temperature for all fixtures — mixing 2700K pot lights with 4000K under-cabinet lights creates a jarring mismatch.

Total Kitchen Lighting Costs in NB

| Package | What's Included | Cost Range | |-----|-----|-----| | Basic | 6 pot lights + 1 pendant + switches | \$1,500–\$3,000 | | Mid-range | 8 pot lights + 2–3 pendants + under-cabinet + dimmers | \$3,000–\$6,000 | | High-end | 8+ pot lights + pendants + under-cabinet + toe-kick + in-cabinet + accent + smart dimmers | \$6,000–\$12,000+ |

Permits and Coordination

New circuits for kitchen lighting require a TSANB electrical permit. If you're doing a full kitchen renovation, the electrical work should be coordinated with your general contractor's schedule:

- Demolition
- Electrical rough-in (new circuits, junction boxes positioned for planned fixture locations)
- TSANB rough-in inspection
- Drywall, paint, cabinets, counters, backsplash
- Electrical trim (install fixtures, switches, under-cabinet lights)
- TSANB final inspection

Give your electrician your final kitchen layout with cabinet dimensions, island location, and fixture selections BEFORE rough-in. Moving a junction box after drywall is expensive and disruptive.

NB Tip

New Brunswick's short winter days (sunrise after 8 AM, sunset before 5 PM from November through February) mean your kitchen lighting works hard for 14+ hours a day in winter. Invest in quality LED fixtures with high CRI (90+) for true colour rendering — you'll appreciate it every time you cook under artificial light, which in NB is most of the year.

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What are the best LED bulbs for cold garages and barns in New Brunswick?

Best LED Lighting for Cold Garages and Barns in New Brunswick

Standard LED bulbs and fluorescent tubes struggle in New Brunswick's cold winter temperatures. Garages, barns, workshops, and outbuildings can drop well below -20°C , and choosing the wrong lighting means dim, flickering, or completely non-functional lights when you need them most.

Why Cold Temperatures Affect Lighting

Fluorescent tubes are the worst performers in cold. They rely on mercury vapour ionization, which slows dramatically below 0°C . A T8 fluorescent tube at -20°C might produce only 20–30% of its rated light output, flicker constantly, and take 10+ minutes to reach full brightness. Many won't start at all below -25°C .

Standard LED bulbs perform better than fluorescent in cold but some consumer-grade LEDs have driver circuits that struggle below -20°C . The LED chip itself actually performs better in cold (less heat degradation), but cheap driver electronics can fail.

Cold-rated LEDs are specifically designed with components rated for extreme temperatures, typically -40°C to $+50^{\circ}\text{C}$. These are what you want for unheated NB buildings.

Recommended Options

For overhead garage/barn lighting:

- **LED shop lights (4-foot linkable)** — \$30–\$60 each
 - Look for: operating temperature rated to -40°C , 4,000–5,000 lumens, 5000K daylight colour - Brands: Feit Electric, Metalux, Lithonia - Install 2–3 in a standard 2-car garage for excellent coverage - Linkable models let you daisy-chain multiple fixtures on one circuit
- **LED high bay lights** — \$40–\$100 each
 - Best for barns, large workshops, or garages with high ceilings (10+ feet) - 10,000–20,000+ lumens depending on model - UFO-style high bay LEDs are compact and very bright - Make sure they're rated for cold operation — check the spec sheet for minimum operating temperature
- **Deformable/adjustable LED garage lights** — \$25–\$50 each
 - Screw into a standard E26 light socket — no rewiring needed - 6,000–10,000 lumens from three or four adjustable panels - Check operating temperature — many budget models from Amazon are only rated to -10°C

For task lighting and workbenches:

- **LED vapour-tight fixtures** — \$30–\$70 each

- Sealed enclosure protects against dust, moisture, and cold - Ideal for barns where hay dust, moisture, and animal environments are factors - IP65 or IP66 rated models handle wash-down cleaning - 4,000–8,000 lumens typical

For exterior barn/garage lighting:

- **LED wall pack or barn lights** — \$40–\$120 each

- Dusk-to-dawn photocell models turn on automatically - Look for -40°C rating and IP65 minimum for NB weather - 3,000–8,000 lumens for security lighting around buildings

What to Look For on the Spec Sheet

| Specification | What You Need | |-----|-----| | Operating temperature | **-40°C to +50°C minimum** | | Lumens | 4,000+ per fixture for general lighting | | Colour temperature | 4000K (neutral white) or 5000K (daylight) for work areas | | CRI (Colour Rendering Index) | 80+ for general use, 90+ if doing detail work | | IP rating | IP44 minimum (indoor), IP65+ for barn/outdoor use | | Lifespan | 50,000+ hours (13+ years at 10 hours/day) |

Costs and Energy Savings

Replacing four old 4-foot fluorescent fixtures (32W × 2 tubes each = 256W total) with four LED shop lights (40W each = 160W total) in a NB garage:

- **Fixture cost:** \$120–\$240 total
- **Energy savings:** 96W reduction × 4 hours/day × 365 days = 140 kWh/year
- **Dollar savings:** ~\$17/year at NB Power's residential rate
- **Real benefit:** Instant-on full brightness at -30°C instead of 10 minutes of flickering

Installation Notes for NB

- **Older barns and garages** may have limited circuits. Four LED shop lights draw only 160 watts total — far less than the old fluorescent or incandescent fixtures they replace, so circuit capacity is rarely an issue.
- **If adding new circuits** to an outbuilding, a TSANB electrical permit is required. Wire run from the house panel to a detached garage or barn must be buried NMWU cable (minimum 18-inch depth) or overhead with proper clearance.
- **Barns with livestock** should use vapour-tight fixtures and ensure all wiring is protected from animal contact. The CEC has specific requirements for agricultural buildings — your electrician should be familiar with Section

22.

- **Motion-sensor models** are excellent for barns and outbuildings where lights are frequently left on. Many LED fixtures now include built-in motion sensors with adjustable sensitivity and timer settings.

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Q11

How much does it cost to install recessed LED lights in New Brunswick?

Recessed LED Lighting Installation Costs in New Brunswick

Recessed LED lights (also called pot lights or can lights) are one of the most popular electrical upgrades in New Brunswick homes. Here's what to expect for pricing in 2025–2026.

Per-Light Costs

Most licensed electricians in New Brunswick charge per light installed:

- **New construction (open ceiling):** \$75–\$150 per light, including the fixture and wiring
 - **Retrofit into existing ceiling:** \$150–\$300 per light, depending on attic access and insulation
 - **IC-rated fixtures** (required when insulation contacts the housing): add \$15–\$30 per fixture over non-IC models
- A typical kitchen installation of **6 recessed LED lights** runs \$900–\$1,800 total. A full basement with 8–12 lights might cost \$1,200–\$3,600.

What Affects the Price

Ceiling access is the biggest cost factor. If your electrician can access the space above from an attic or unfinished floor above, installation is straightforward. Cathedral ceilings, concrete ceilings in basements, and finished ceilings with no access above require cutting and patching, which adds \$50–\$100 per light.

Existing wiring matters too. If the circuit has capacity and a junction box is nearby, wiring each light takes less time. Running a new circuit from the panel adds \$300–\$600 for the home run.

Dimmer switches are a common add-on. A quality LED-compatible dimmer costs \$30–\$60 for the switch, plus \$75–\$150 for installation if new wiring is needed. Make sure the dimmer is rated for LED — using an old incandescent dimmer causes flickering and can shorten LED life.

LED vs. Older Technologies

Modern LED recessed fixtures use 8–15 watts each compared to 65 watts for the old BR30 incandescent floods they replace. For a room with 6 lights running 4 hours daily, that's roughly:

- **LED (12W each):** ~\$25/year at NB Power's residential rate of ~\$0.12/kWh
- **Incandescent (65W each):** ~\$137/year

The LED fixtures also last 25,000–50,000 hours, so you won't be changing bulbs for 15–20 years under normal use.

Permit Requirements

In New Brunswick, installing new light fixtures on existing circuits doesn't always require a permit, but **adding a new circuit to your panel does require a TSANB electrical permit**. Your electrician should advise whether a permit is needed based on the scope of work. Any work involving new wiring behind walls or ceilings should be done by a TSANB-licensed electrician.

Getting Quotes

Contact 2–3 licensed electricians in your area — whether you're in Moncton, Saint John, Fredericton, or a smaller community like Sussex or Oromocto. Ask for an itemized quote that separates fixture cost, labour, and any permit fees. Most electricians can complete a 6-light kitchen installation in half a day.

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Q12

What kind of outdoor lighting is best for harsh New Brunswick winters?

Best Outdoor Lighting for New Brunswick's Harsh Winter Conditions

New Brunswick's winters are brutal on outdoor electrical fixtures — heavy wet snow, ice storms, salt air along the Fundy coast, freeze-thaw cycles that can swing 20°C in a single day, and temperatures dropping to -30°C or colder in the interior. Choosing the right outdoor lighting isn't just about aesthetics — it's about durability, safety, and reliability through 5-6 months of challenging conditions.

Key Specifications for New Brunswick Outdoor Lighting

IP Rating — Minimum IP65

The Ingress Protection rating tells you how well a fixture resists moisture and debris. For New Brunswick conditions:

- **IP44** — Splash-resistant only. **Not recommended** for any exposed outdoor location in the Maritimes. Fine for covered porches only.
- **IP65** — Dust-tight and protected against water jets. The **minimum standard** for wall-mounted fixtures, pathway lights, and any fixture exposed to rain and snow.
- **IP67** — Can survive temporary submersion. **Recommended** for ground-level fixtures, recessed pathway lights, and any location that may be buried under snow or standing water during spring melt.
- **IP68** — Continuous submersion rated. Necessary for underwater pond lighting or fixtures in low-lying areas prone to flooding.

Temperature Rating

Not all fixtures are rated for extreme cold. Look for fixtures tested to **-40°C** or lower. LED fixtures generally perform better in cold weather than any other lighting technology — they actually become slightly more efficient as temperatures drop. However, cheap LED drivers (the electronic component that regulates power) can fail in

extreme cold if they use low-quality capacitors.

Material Selection

New Brunswick's combination of salt air, moisture, and freeze-thaw is exceptionally hard on metals:

- **Marine-grade aluminum** (powder-coated) — Best overall choice. Resists corrosion, lightweight, durable. Expect 15-20+ years of service.
- **Solid copper or brass** — Develops a natural patina that actually protects against further corrosion. Excellent for coastal Saint John, Shediac, and Fundy-area homes. Premium price (\$100-\$400 per fixture) but lasts 30+ years.
- **304 stainless steel** — Good corrosion resistance but can develop surface rust in high-salt environments. Use 316 marine-grade stainless for coastal locations.
- **Painted steel** — **Avoid for New Brunswick exteriors.** Chips from ice impact expose bare metal to moisture and salt, leading to rapid rust. Even "rust-resistant" painted steel fixtures rarely last more than 3-5 years in Maritime conditions.
- **Plastic/polycarbonate** — Budget-friendly and completely rust-proof, but becomes brittle in extreme cold and can crack from ice impact. UV degradation is also a concern. Acceptable for temporary or seasonal use only.

Best Outdoor Lighting Types for New Brunswick

1. LED Wall Packs and Bulkhead Lights — Best for entrances and garages

Wall-mounted LED fixtures with sealed housings are the workhorses of Maritime outdoor lighting. Look for:

- Full-cutoff design (directs light downward, reduces light pollution and glare on icy surfaces)
- Integrated LED (no bulb to replace in a frozen fixture housing)
- 3000K-4000K colour temperature (warm enough to be welcoming, bright enough for safety)
- Photocell included (auto on/off with daylight — saves energy and you never have to remember the switch)

Cost: \$40-\$150 per fixture. Installation on existing wiring: \$75-\$150 per fixture.

2. LED Post Lights — Best for driveways and walkways

Post-mounted lights along driveways and walkways serve double duty in winter — they illuminate paths for safety and act as visual markers for snowplow operators showing where the driveway edge is.

- Choose posts rated for ground installation with concrete footings below the frost line (4 feet / 1.2 metres in most of New Brunswick, 5 feet in northern regions like Edmundston and Campbellton)

- Run underground wiring in approved conduit (minimum 18 inches deep for direct-burial cable under the CEC, but 24 inches is recommended in New Brunswick due to deep frost penetration)
- Consider bollard-style lights if your area gets heavy snowfall — they're harder to hit with a snowblower than traditional post lanterns

Cost: \$100-\$400 per post light. Installation including underground wiring: \$300-\$600 per light.

3. LED Soffit and Recessed Lights — Best for covered areas

Recessed soffit lights mounted under eaves and overhangs are ideal for New Brunswick because they're protected from direct snow and ice loading. They provide excellent illumination for entrances, decks, and parking areas without protruding fixtures that can be damaged by ice falling from the roof.

- Use IC-rated (insulation contact) fixtures suitable for insulated ceilings
- Wet-location rated (not just "damp" rated) even under soffits — wind-driven Maritime rain and snow reaches everywhere
- 4-6 inch trim size with a narrow beam angle for targeted illumination

Cost: \$25-\$75 per fixture. Installation: \$75-\$125 per fixture.

4. Solar-Powered Path Lights — Use cautiously in New Brunswick

Solar path lights are popular for their zero wiring cost, but they have significant limitations in New Brunswick:

- Winter daylight hours in December/January are only 8-9 hours, and many of those are overcast — solar panels don't charge adequately
- Snow covering the solar panel renders the light useless until cleared
- Battery performance drops sharply below -10°C — expect 50-70% reduced runtime
- Budget solar lights (\$5-\$15 each) rarely last more than one New Brunswick winter

If you want solar, invest in **commercial-grade solar fixtures** (\$75-\$200 each) with separate solar panels mounted at an angle that sheds snow, lithium iron phosphate (LiFePO4) batteries rated for -20°C operation, and at minimum 8 hours of runtime. Even then, expect reduced performance from November through February.

Electrical Considerations

GFCI protection is mandatory for all outdoor receptacles and lighting circuits under the Canadian Electrical Code. In New Brunswick, GFCI protection for outdoor circuits prevents shock hazards from wet conditions and snow melt. Use weather-resistant GFCI receptacles with in-use covers for any outdoor outlet.

Underground wiring for landscape and pathway lighting must use approved direct-burial cable (NMWU or wire in conduit) at proper depth. Getting this right the first time avoids costly re-excavation — particularly important if you're landscaping in New Brunswick's rocky terrain.

Timer and photocell controls save significant energy. A dusk-to-dawn photocell (\$10-\$20) on your outdoor lighting eliminates the need to remember switches and adjusts automatically to New Brunswick's wildly varying daylight hours — from 16+ hours in June to barely 8 hours in December.

Total Budget for Outdoor Lighting Upgrade

For a typical New Brunswick home:

- **2 wall lights** (front and back entrance): \$200-\$500 installed
- **4 pathway/driveway lights** (with underground wiring): \$1,500-\$3,000 installed
- **4-6 soffit lights** (covered areas): \$400-\$900 installed
- **Photocell/timer controls**: \$50-\$150
- **TSANB permit**: \$50-\$75

Total: \$2,200-\$4,625 for a professional installation that will last 15-20+ years in Maritime conditions. This is one outdoor upgrade where investing in quality upfront saves money long-term — replacing cheap corroded fixtures every 2-3 years costs more in the long run.

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What is the best lighting layout for a kitchen renovation in New Brunswick?

Best Kitchen Lighting Layout for New Brunswick Renovations

Kitchen lighting is one of the most impactful and cost-effective upgrades in any New Brunswick kitchen renovation. A well-designed lighting layout transforms both the functionality and feel of the space — critical in a province where winter darkness stretches from 4:30 PM to 7:30 AM for months. Getting the electrical rough-in right during renovation saves expensive retrofit work later.

The Three-Layer Lighting Approach

Professional kitchen designers and electricians in New Brunswick consistently recommend a three-layer approach: **ambient (general), task, and accent lighting**. Each layer serves a different purpose and is controlled on separate circuits or switches.

Layer 1: Ambient/General Lighting

This provides overall illumination for the entire kitchen. The goal is uniform, shadow-free light at a comfortable brightness.

- **Recessed pot lights (most popular):** 4-inch or 6-inch LED recessed fixtures installed in a grid pattern across the ceiling. Spacing rule: place fixtures at half the ceiling height apart. For a standard 8-foot New Brunswick kitchen ceiling, that's roughly 4 feet between lights. A 10x12 foot kitchen typically needs 6-8 recessed lights.
- **LED panel lights:** Flat, flush-mount panels (1x1 or 1x2 foot) provide even, glare-free light. Increasingly popular in modern Maritime kitchen designs.
- **Semi-flush fixtures:** A single or pair of decorative fixtures work well in smaller kitchens common in older Moncton and Saint John homes where ceiling height is limited.

Electrical requirement: Dedicated 15-amp lighting circuit. Budget: \$600-\$1,200 for 6-8 recessed LED fixtures installed (including electrical box cut-ins, wiring, and trim).

Layer 2: Task Lighting

Directed light exactly where you work — countertops, sink, stove, and prep areas. This is the most important functional layer.

- **Under-cabinet LED strips or puck lights:** The single most valuable kitchen lighting upgrade. Eliminates shadows cast by upper cabinets onto your work surface. Hardwired LED strips (\$15-\$30 per linear foot installed)

are preferred over plug-in options for a clean look. For a kitchen with 12 linear feet of upper cabinets, expect \$400-\$800 installed.

- **Pendant lights over island/peninsula:** Typically 2-3 pendants spaced 24-30 inches apart, hung 30-36 inches above the counter surface. These need a dedicated switch. Budget: \$150-\$400 per pendant plus \$200-\$400 for the electrical box and wiring.
- **Recessed light over sink:** A single directed recessed light centered over the sink is standard. If you have a window above the sink, the recessed light compensates during New Brunswick's dark winter mornings and evenings.

Electrical requirement: Under-cabinet lighting typically runs on its own 15-amp circuit with a dedicated switch. Island pendants can share the general lighting circuit or have their own switch.

Layer 3: Accent Lighting

Decorative lighting that adds depth and visual interest.

- **In-cabinet lighting:** LED strips inside glass-front cabinets highlight dishware and add ambient warmth. Low voltage (12V or 24V) with a transformer.
- **Above-cabinet lighting:** LED rope lights or strips on top of cabinets that don't reach the ceiling, creating an upward glow that makes the ceiling feel higher — particularly effective in the 8-foot ceiling kitchens common in New Brunswick bungalows and split-levels.
- **Toe-kick lighting:** LED strips along the base of cabinets provide a subtle night-light effect and modern look. Surprisingly practical for midnight kitchen trips without blinding overhead lights.

Electrical requirement: Low-voltage accent lighting typically runs from a single transformer on a 15-amp circuit. Budget: \$200-\$600 for a full accent package.

Recommended Layout by Kitchen Size

Small kitchen (8x10 or galley style — common in older NB homes):

- 4 recessed pot lights on dimmer: \$400-\$700
- Under-cabinet LED strip (8 linear feet): \$250-\$500
- 1 pendant or flush mount over sink: \$150-\$300
- Total electrical: \$800-\$1,500

Medium kitchen (10x12 — standard NB suburban):

- 6 recessed pot lights on dimmer: \$600-\$1,000
- Under-cabinet LED strips (12 linear feet): \$400-\$800

- 2 pendants over island: \$400-\$800
- Accent lighting package: \$200-\$400
- Total electrical: \$1,600-\$3,000

Large kitchen (12x16+ — newer builds, open concept):

- 8-10 recessed pot lights on dimmers: \$800-\$1,400
- Under-cabinet LED strips (16+ linear feet): \$500-\$1,000
- 3 pendants over island: \$600-\$1,200
- Accent lighting (in-cabinet, toe-kick, above-cabinet): \$400-\$800
- Total electrical: \$2,300-\$4,400

Electrical Code Requirements (CEC + NB Specifics)

Your electrician must ensure the kitchen lighting meets Canadian Electrical Code requirements:

- **Minimum 2 lighting circuits** for kitchens (CEC recommendation to avoid total darkness if one circuit trips)
- **GFCI protection** for any outlet within 1.5 metres of a sink — this affects under-cabinet outlets used for plug-in LED strips
- **AFCI protection** on kitchen circuits in new construction (CEC 2018+)
- **Separate circuits for countertop receptacles** — kitchen counter outlets must be on dedicated 20-amp split circuits, separate from lighting
- **TSANB permit required** for all new kitchen electrical work during renovation

Switches and Controls

The switch layout is as important as the fixture layout:

- **Dimmer switches** on all ambient lighting — allows you to set bright task-level light for cooking and dim ambient light for entertaining. LED-compatible dimmers cost \$25-\$50 each.
- **Separate switches** for each layer — ambient, task, and accent should be independently controllable. A 3-gang or 4-gang switch plate by the main kitchen entry is standard.
- **3-way switches** if the kitchen has two entrances — control lights from either doorway. Common in open-concept New Brunswick renovations where the kitchen connects to both living room and dining room.
- **Smart switches** (\$40-\$60 each) allow voice control, scheduling, and scenes — particularly useful in kitchen lighting where you might want a "cooking" setting (all bright), "dining" setting (pendants up, pots dimmed), and

"night" setting (accent only).

Colour Temperature Matters

For New Brunswick kitchens, choose **3000K (warm white)** for ambient and accent lighting. This provides a warm, inviting tone without the harsh clinical feel of 4000K-5000K. For task lighting over counters and food prep areas, **3500K-4000K** provides better colour rendering for food — you can actually see whether your salmon is cooked properly.

Avoid mixing colour temperatures within the same sight line — it looks inconsistent and cheap. If your ambient lights are 3000K, your under-cabinet lights should be 3000K-3500K, not 5000K.

Planning During Renovation

The most cost-effective time to install proper kitchen lighting is during the renovation when walls and ceilings are open. Running wires through open stud bays takes minutes; fishing them through finished walls and ceilings takes hours. If you're already renovating your New Brunswick kitchen, budget 15-20% of your total renovation cost for electrical and lighting — this typically means \$1,500-\$4,000 for a mid-range kitchen renovation.

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Q14

How many pot lights do I need for a finished basement rec room in New Brunswick?

The general rule is one 4-inch pot light for every 16 to 20 square feet of basement space, or one 6-inch pot light for every 24 to 36 square feet. For a typical 600 square foot basement rec room in a New Brunswick home,

you're looking at 10 to 14 four-inch LED pot lights or 8 to 10 six-inch LED pot lights for even, comfortable lighting.

Basement lighting needs are different from above-grade rooms because basements have no natural light. You need to compensate for the lack of windows with more fixtures and higher total lumens than you'd use in a living room or bedroom upstairs.

Calculating the right number for your space. Start with the room dimensions. Multiply length by width to get square footage. For a basement rec room, you want about 20 to 30 lumens per square foot. A typical LED pot light produces 600 to 900 lumens. So for a 600 square foot room at 25 lumens per square foot, you need 15,000 total lumens. Divided by 750 lumens per fixture, that's 20 lights — but that assumes evenly distributed general lighting. In practice, you can reduce this to 10 to 14 by spacing them strategically and supplementing with task lighting in specific areas.

Spacing and layout matter as much as quantity. Place pot lights in a grid pattern with 4 to 6 feet between fixtures and 2 to 3 feet from walls. Avoid placing lights directly above where a TV will be mounted — the glare is distracting. Put pot lights on separate circuits or dimmer zones so you can control the lighting for movies, games, or general use. A row of pot lights over a bar area or pool table can be on its own switch.

LED pot lights are the only sensible choice for New Brunswick basements. Older incandescent pot lights generate significant heat, which is a concern with insulation contact in ceiling cavities. LED pot lights run cool, use 75 percent less energy, and last 25,000 to 50,000 hours. For basement installations, use IC-rated (insulation contact) LED pot lights that are safe to install in insulated ceilings. Most modern LED pot lights are IC-rated by default, but verify before purchasing.

New Brunswick code requirements for basement lighting. Your finished basement needs AFCI-protected circuits for all living areas (rec rooms, bedrooms) under the current CEC. Bathroom lighting requires a separate GFCI-protected circuit. Stairway lighting must have 3-way switches at both the top and bottom of the stairs. And all pot lights must be properly rated for the type of ceiling they're installed in — IC-rated for insulated ceilings, which is nearly always the case in New Brunswick basements where you're insulating between the basement ceiling joists.

Cost for basement pot light installation in New Brunswick. Each LED pot light costs \$20 to \$50 for the fixture, plus \$100 to \$175 for installation including wiring. For 12 pot lights with dimmer switches on two circuits, expect to pay \$1,800 to \$3,000 total. Add a TSANB permit (\$150 to \$250) since you're running new circuits. Many electricians offer package pricing for basement lighting that brings the per-light cost down.

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Q15

How do I install dimmer switches for my LED pot lights without buzzing or flickering?

The key to flicker-free LED dimming is using a dimmer switch specifically rated for LED lights and ensuring your LED pot lights are dimmable and compatible with that specific dimmer. The buzzing and flickering that plagues many LED dimmer installations comes from incompatibility between the dimmer and the LED driver, not from a defective product.

Why LEDs buzz and flicker with the wrong dimmer. Traditional dimmer switches were designed for incandescent bulbs, which are purely resistive loads — they respond smoothly to voltage changes. LED pot lights contain electronic drivers that convert AC power to DC, and these drivers are sensitive to how the dimmer chops up the electrical waveform. An older leading-edge dimmer designed for incandescent bulbs sends a waveform that confuses LED drivers, causing the rapid on-off cycling that you perceive as flicker, and the mechanical vibration of components that you hear as buzz.

The fix: use an LED-rated dimmer. Look for dimmers specifically labelled as "LED compatible" or "CL rated" (CL stands for CFL/LED). Major brands like Lutron Caseta, Leviton Decora Smart, and Legrand all make excellent LED dimmers. The Lutron Caseta is particularly popular with electricians in New Brunswick because it works reliably with almost every LED brand and offers both wired and wireless options.

Compatibility is brand-specific. Even with an LED-rated dimmer, not every LED pot light works perfectly with every dimmer. Most major dimmer manufacturers publish compatibility lists on their websites — check that your specific LED pot light model is listed. If you're buying new pot lights and a dimmer together, ask the supplier to confirm compatibility or stick with a known good combination.

Minimum load matters. Many LED dimmers have a minimum wattage requirement — typically 10 to 40 watts. If you're dimming only two or three 9-watt LED pot lights (27 watts total), you might be below the dimmer's minimum load, causing flicker at low brightness levels. Solutions include adding more fixtures to the circuit, choosing a dimmer with a lower minimum load rating, or installing a dummy load (a small device that adds wattage without producing light).

Installation considerations in New Brunswick. Replacing a standard switch with a dimmer is one of the few electrical tasks a homeowner can legally do in New Brunswick without a TSANB permit — provided you're replacing an existing switch in the same location on an existing circuit. Turn off the breaker first, confirm the power is off with a voltage tester, and follow the dimmer's installation instructions. Most LED dimmers require a neutral wire connection, which is present in newer homes but may be missing in older New Brunswick homes. If there's no neutral wire in your switch box, you'll need either a no-neutral dimmer (like certain Lutron models) or an electrician to run a neutral wire.

Practical tips for best results. Always dim LED lights to about 10 to 15 percent minimum — dimming below that often causes flicker regardless of the dimmer quality. If you're installing multiple pot lights on one dimmer, use the same brand and model for all fixtures on that circuit. And buy one dimmer and one pot light to test compatibility before committing to a full room's worth of fixtures and installation.

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