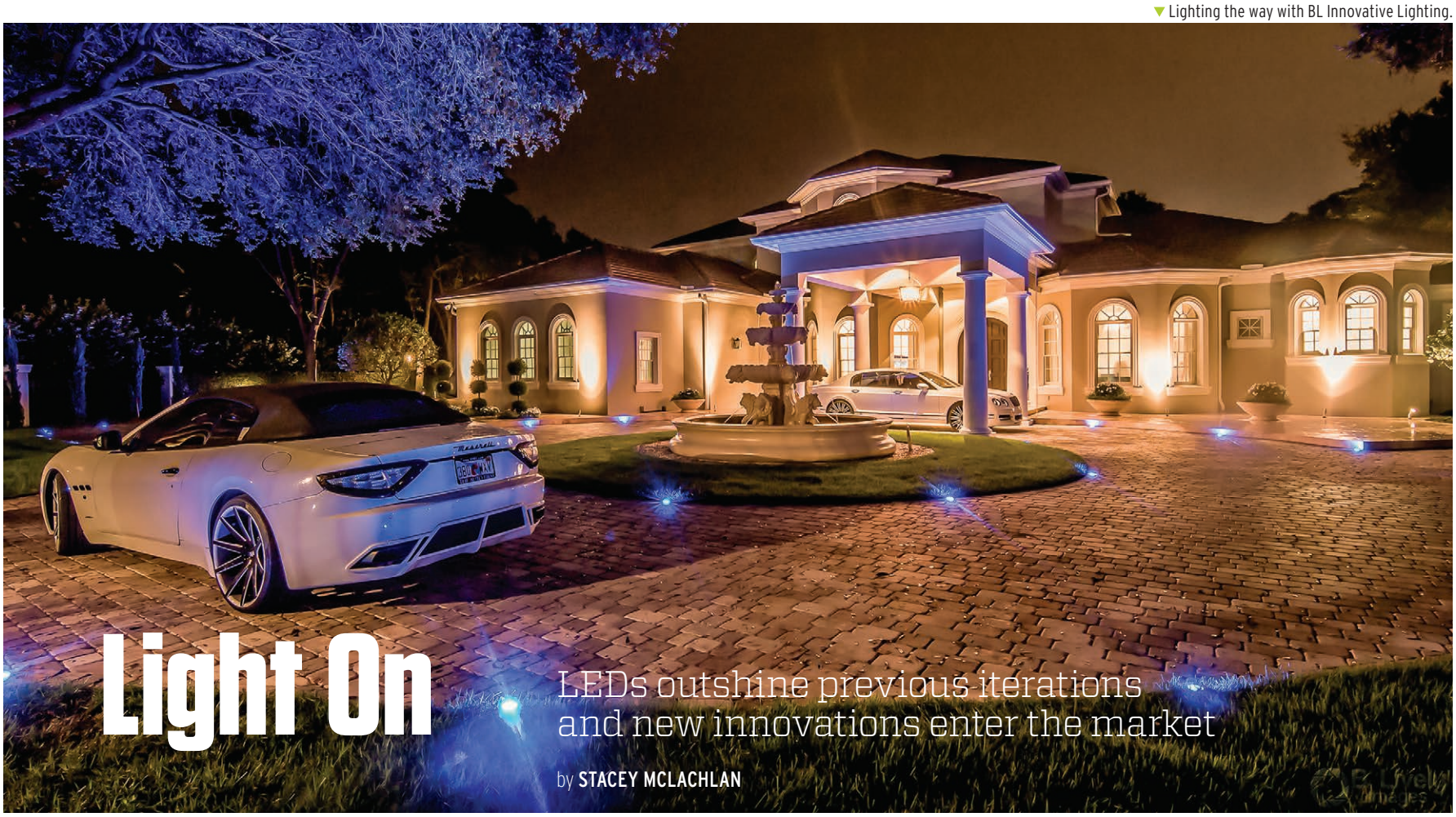
▼ Lighting the way with BL Innovative Lighting.



Light On

LEDs outshine previous iterations and new innovations enter the market

by **STACEY MCLACHLAN**

When you talk about lighting today, you're talking about LEDs. While a few years ago, they may have only come into the conversation when talk veered to sustainability, today's LEDs are more than just a token energy-efficient element of a project; they're designed to perform beautifully and look great doing it.

There's plenty of reasons that LEDs are the light of choice right now. Ben Rajewski, engineer at Williams Engineering Canada, credits the ever increasing popularity of LEDs not just to the high efficiency, but to the low maintenance requirements, too. "Almost all projects, from small restaurants to massive recreation centres are going with the majority of the fixtures as LED, and this will continue." But there's likely a top-down pressure at play in this as well, as the new National Energy Code of Canada for Buildings (NECB) that comes into effect in Alberta on November 1 has everyone shifting towards energy efficiency.

But even for those who aren't feeling the pressure from the NECB, the affordability of new LED lamps make it the preferred option. "Now that the LED lamp prices are at a reasonable level, many are shifting towards the technology," says Rajewski.

And this is only going to get better over time, says Emma Cronin, marketing coordinator for Nemetz (S/A) & Associates Ltd., as performance ramps up substantially with each new generation. "There's been a constant improvement of LED in terms of better performance with lower energy consumption."

"LED is the tech of today," agrees Barry Fagen, president at Peerless Electric Company Ltd. "It's a total shift to LED." That shift is moving beyond the bulb and into the design of the fixture itself. "It's merging," explains Fagen. "We're supplying integrated board and circuits." Where you're currently able to swap out an incandescent for a more energy-efficient option, in the future, things might not be so easy. "If you had a table lamp and wanted it to be warmer or brighter, you bought a new lightbulb – now you buy a whole fixture," says Fagen.

Modern LEDs are certainly more varied than the options of the early days, a response to the increasing demands from homeowners and architects for more energy-efficient lighting that still looks great. "There's dim to warm LEDs, and dynamic whites," says Cronin. Or, if you can't choose, tunable white LED fixtures allow tuning the white colour temperature of the fixture from the warm white spectrum to the cool blue-white spectrum.

Rajewski notes that architects are increasingly asking for fixtures with a high colour rendering index (CRI), concerned with the overall quality of the light, and not just at the lumen output numbers. "Glare and colour consistency are now being analyzed carefully to ensure that clients are being provided with high-quality, comfortable lighting for whatever space they are in," says Rajewski. "Overall the emphasis on quality lighting has increased dramatically as everyone has become more familiar with LED technology."

▲ Shockwave video lighting system from Saco Technologies.

Realistically, while we could just reduce the amount of lights overall or replace everything with hyper-efficient bulbs, we still need our light to be functional and beautiful. "The mantra is 'LED! LED! LED!' There are places they're wonderful, but there are also places they're not – they're not a one-size-fits-all solution," says Betty Lou Pacey, president of BL Innovative Lighting. "You need a certain amount of lighting for path areas, and you want to have the right kind of lighting and the right amount of lighting so you don't think the lipstick you thought was red is now orange." A control system offers the best for day-to-day use, while still greatly improving efficiency – the best of both worlds. "The only way you can maintain levels for usability while also conserve energy is controllable lighting," Pacey points out.

But the real next big thing in lighting may have nothing to do with bulbs at all. "We're at a time where lighting and video technology are starting to converge," says Jonathan Labbee, EVP and CMO of Saco Technologies. "High-speed video protocols open up a myriad of opportunities." Because when a pixel from a video screen is used to illuminate a space, it has a precision and speed that a standard bulb can't offer.

Saco invented the LED video screen, so it's no surprise that the company is at the forefront here with their line of Shockwave video lighting systems. Not only does it dim more smoothly than a typical LED light – which often has awkward stepping – it also provides opportunities for interactivity. "It's something that I think is a natural evolution of things," says Labbee. With these lights, motion sensors or light can trigger colour change, and perishable information (like time, temperature or the score of something) can also be used as an input. "Say you're in a sports bar, if your favourite team scores, the light could display the team colours," he says. "It becomes kind of live. At the end of the day, it's all about driving the user experience."

▲ Lighting as big bold statement pieces from Ocean Pacific Lighting.

Task lighting is also becoming increasingly important as our general population ages, and there is a need for lighting both at home and in institutions to accommodate diminishing eyesight. "These are areas where the science of light needs to apply. There's always new trends and products, but the more important thing to remember is that lighting is for people, and that lights should be functional for people," says Pacey.

"We're seeing a huge shift towards increased lighting controls," agrees Rajewski. "Lighting control not only allows the occupant to dim or adjust the lighting levels to suit the needs of the space, but can actively save huge amounts of energy through methods such as vacancy and occupancy control, daylight harvesting and photocell/time clock control." By putting in automatic measures like these, energy can be saved with little time or work. Control is also a huge part of the new NECB, so this shift is only going to get stronger.

The dimmer systems you know today are also rapidly evolving: though uncommon now, in a few years, we may all have the systems in place to control our home lighting right from our smartphones. Fagen notes that in the future, hardware light switches may not exist anymore, period. "You might use velcro to install it, and move it around as you'd like," he explains. "There won't be any hardware one day. That's what it's coming to . . . control and versatility, through your smartphone, computer or control systems."

Brittany Rudder, showroom manager at Ocean Pacific Lighting, has already seen more tech-savvy customers come in requesting wireless options for switches and dimmers. "And we've got more tech-savvy customers than ever before," she notes. Ocean Pacific's line of Legrand dimmers and switches are also proving to be quite popular, thanks to their clean, customizable look that fits with both modern style and modern function.

That trend towards modern homes is reflected in fixture styles as well. "Even when it comes to using crystal, it's more contemporary, not traditional," says Rudder. That being said, the scale and look all depends on the home: some customers want big bold statement pieces in their custom homes, while those living in ultra-modern spaces with oversized windows might prefer the lights blend in to avoid blocking their view.

When it comes to finishes, its looking like the gold rush is making its way west. "Gold has been making a comeback for a few years, and now it's starting to make an impact in B.C.," says Rudder. "Matching things has fallen by the wayside. It's all about mixed metals." The key to this look is to incorporate some unifying element to pull the look together – a consistent shape or finish. "Basically all the rules went out the window," says Rudder. "People are really making it their own." Because while lighting is very much about function, it is – and has always been – about personal taste, too. "Lighting is like jewellery – you either want to make a statement or have it tie-in, but it's the extra touch to the home."

From LED developments to dimmer technology to the development of wireless systems, things are moving at an unprecedented rate – though maybe not as fast as some other parts of the world. "Look at Europe, they're five to 10 years ahead of us," Fagen notes. "At the Light + Building Show in Frankfurt every year, it's a showcase of technology and style, while North Americans are still asking: 'how much is it?'"

But even with the lag, it's still a great time to be in the lighting game. "The lighting industry is at an exciting place in history," says Rajewski. "Technology keeps getting better while the need for increased control and energy efficiency continues to grow. The focus on reliable, quality energy-efficient lighting fixtures and design is high and lighting designs continue to get better." **A**