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Premium Package





A two-pronged approach for the showroom floor consists of CMH cylinder-style fixtures and LED spotlights, which combine to create contrast and a halo effect around the autos. In the background, LED striplights “float” the media wall, and LED panels backlight the wall behind the reception desk.

Fueled by LEDs and some playful accents, a Mercedes-Benz dealer trades up from the tired old method of high-bay auto showroom lighting

BY PAUL TARRICONE

Everything needs a tune-up every once in a while, even a Mercedes-Benz. So when a Seattle-area dealership hired Studio Lux to revamp the lighting for its 47,800-sq ft showroom, the firm used the project as an opportunity to tinker with Mercedes’s company-wide standards for showroom lighting. “There was a list of recommended fixtures and dated directives for illuminances—for example, 70 footcandles in offices—that was generated out of Germany and didn’t translate well,” says James Sultan, a senior lighting designer for the Seattle-based practice.

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Studio Lux took the evaluation a step further, says firm founder and principal Christopher Thompson, “visiting other dealerships designed per the Mercedes specs that were not done well. There was one light source from high-bays and the cars were lighted with no contrast.” Adds Sultan: “The lighting in a lot of automobile dealerships is not designed by lighting designers. People are so concerned with getting a lot of light down [on the floor] but not exceeding code, so they stick a lot of high-bays up there without understanding retail design and what makes a product sell.”

But every teacher needs a willing student, and Studio Lux was fortunate that its client, Barrier Mercedes-Benz of Bellevue, WA, took lighting design almost as seriously as the automotive business. “The owner was aware of the importance of lighting—being in the Seattle market where in February at 4:00 in the afternoon it’s pitch black out,” says Thompson. As a result, the design team’s pre-project critique extended beyond footcandles and source selection to the overall design philosophy for showrooms—i.e., the need to create “layers, focal points and to emphasize car lines.” This is what distinguishes “lighting engineering from lighting design,” says Thompson, and Barrier Motors was quick to embrace those ideas. “The process of educating the client was one of the most pleasurable parts of the project. They were like a sponge.”

Indeed, the lessons learned have now been applied to the remodeled dealership unveiled in 2011 after six months of construction. As is the case with a Mercedes, aesthetics and performance both tell the tale. The glass-enclosed “jewel box” uses 30 percent less energy than required by the Washington state code and 41 percent



Custom-designed LED disk lights of varying sizes create visual interest in the VIP lounge.

less than the ASHRAE/IESNA 90.1-2001 allowance, enabling the project to qualify for a federal tax rebate. Light sources include LED (roughly 80 percent), fluorescent and ceramic metal halide. On the showroom floor, contrast was the most critical part of the design. “The base color temperature in the showroom is 3,000K, with 4,000K spotlights for the cars to make them pop even more. They sit in a halo of light,” says Sultan.

KEEN ON LEDs

Before the renovation, the facility had been equipped with outdated recessed metal halide fixtures. Barrier Mercedes-Benz had become “conscious of green technologies” and was determined to use LEDs “after reading an article about a Lexus deal-

ership in Florida that had used LED high-bays for a service garage due to their longevity and decreased power consumption,” recalls Sultan. At that time, LEDs had not commonly been used in auto showroom environments and product data was sketchy. “The challenge we faced was in the metrics used to evaluate performance—color and beam spread. When you’re not familiar with a product you lean on photometric data, and in the LED world a lot of that was missing or not to be trusted,” says Thompson. “This forced us to do a lot of mock-ups.”

LEDs fixtures meant lower operating costs but a higher first cost, so they were reserved for high-profile areas. “If we’re going to spend the money for LEDs, we want them where the world can see them,”



In the conference room, the LED pendants match the adjacent truss work.

says Thompson, which included the showroom, offices and conference room, the VIP lounge and the boutique area.

The fixture vocabulary for the LED luminaires is varied—a far cry from the pure high-bay approach. “By embracing a technology that allowed us to work below code restrictions, we had some energy to play with and were able to add back some accent lighting. There were areas where we could use some tricks,” says Sultan. For example, behind the reception desk, LED light panels backlight a blue feature wall, while nearby, LED striplights make a media wall appear to float.

To illuminate the VIP lounge overlooking the showroom, designers used multi-sized LED disks (a custom product from

Maxlite) along with recessed downlights (Lightolier). Display lighting is adjusted to avoid glare in the space. LED disks, downlights and wall washers also light the boutique, with halogen spotlights used within display cases, and fluorescent wall sconces bracketing an elevator.

Office lighting consists of 2-ft by 2-ft LED basketed troffers, while LED downlights and wall washers provide passageway and accent lighting. The 45-W LED troffers provide 30 percent more light than T5HO lamps and use 20 percent less energy. In the conference room, 30-W LED pendants, selected to match adjacent truss work, illuminate the conference table; 39-W LED downlights and wall washers provide the ambient and accent lighting.

The hub, naturally, is the showroom floor, where the autos sit in pools of light, spotlighted to an average of 75 fc, from 30-W LED spotlights (Philips Color Kinetics) with four beam spreads (8-23 deg). Cylinder lights (150-W CMH) provide the ambient illumination. “The automobiles are like sculptures,” Thompson says. “We’re using tools that allow us to showcase them as works of art.” The spots bring out “the speckle in the paint and the ornamentation on the hoods.”

DUE FOR SERVICE

The higher first-cost for LEDs precluded their use in back-of-house areas (where fluorescent was the source) and in the service areas (lighted by CMH).

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LEDs were used mostly where the “world can see them,” meaning CMH fixtures were the workhorse in the service area.



The glass façade makes both daylight control and attractive electric lighting critical—especially in a city where overcast skies are the norm.

Still, Studio Lux sought out the most state-of-the-art sources. “Even though we were using conventional technologies, we were still looking at the latest technologies,” says Sultan. The most prominent examples were two CMH high-bays, both Holophane with Philips MasterColor Elite lamps. The 315-W CMH high-bays illumi-

nate the service drive-through; 210-W CHM high-bays provide more than 45 fc (average maintained) on the service-area floor, with direct and reflected light into the engine compartments.

Studio Lux also worked from the outside in, assessing how the glass façade, electric light, natural light and the Seattle sky would

coalesce. “We sat in on many meetings about the selection of glass for the storefront—a Starfire glass—and offered our opinion on how it would affect the color of natural light,” says Thompson. In addition, a Lutron dimming system (Quantum) allows the interior light to be adjusted based on the amount of exterior light available.

Finally, while the showroom is a visually appealing jewel box for Seattle’s clientele, one question is whether the space can eventually drive design innovation in other Mercedes dealerships. That’s already happening, says Thompson. Awareness “has resonated all the way up the food chain. Mercedes has brought in dealers from all over the world to see the dealership.” ■

METRICS THAT MATTER

Mercedes-Benz of Bellevue

Watts per sq ft: .82 (complies w/ ASHRAE/IESNA 90.1-2010)

Illuminance Levels: showroom = 30 fc (ambient), 75 fc average (on autos); offices = 37 fc; service drive-in area = 45 fc; service garage = 69 fc; auto pick-up = 37 fc; customer lounges = 39 fc

Lamp Types = 16

Fixture Types = 18

THE DESIGNERS



Christopher Thompson is founder and principal of Studio Lux, LLC, which has offices in Seattle, Los Angeles and London. He is the recipient of more than a dozen industry awards and honors, as well as an AIA citation.



James Sultan, LC, Member IES (1985), is senior lighting designer with Studio Lux.