

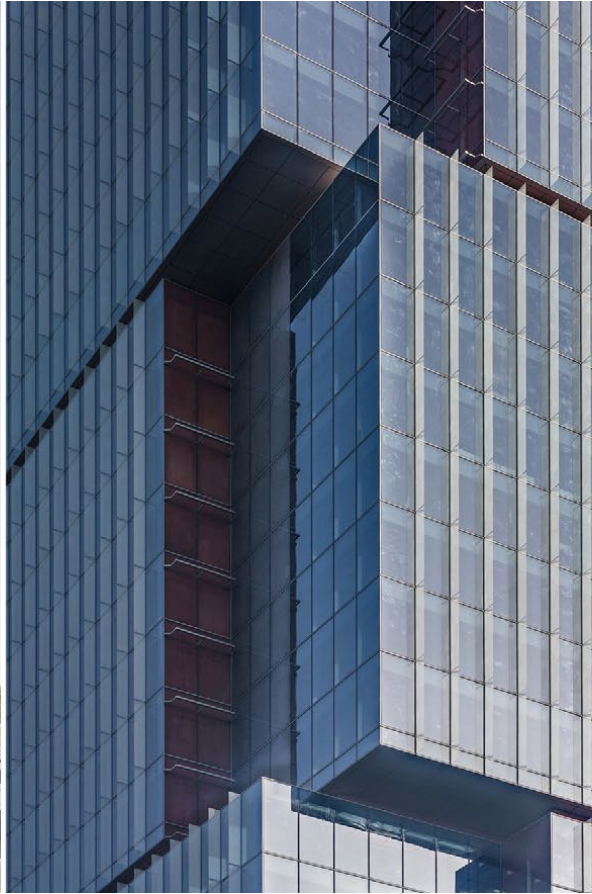
# One Lux Studio Illuminates the Al Hilal Bank Tower

The exterior lighting for the Al Hilal Bank's skyscraper in Abu Dhabi highlights the structure's box-like volumes, while showcasing the client's signature branded color.

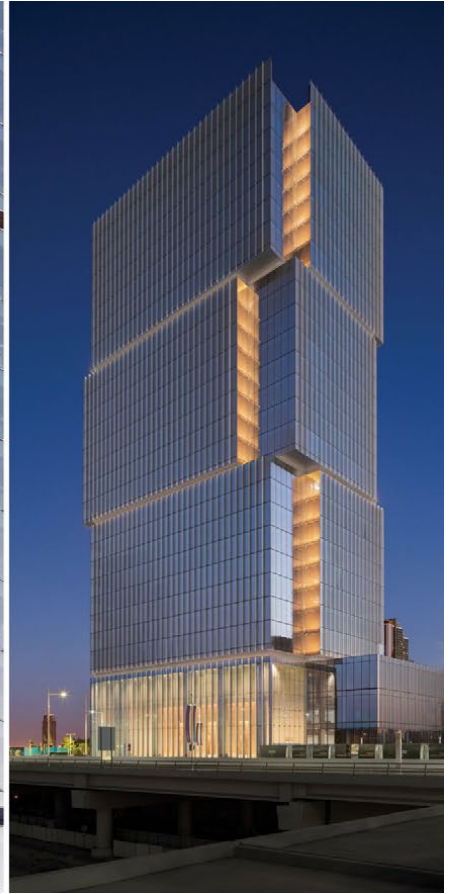
By Belinda Lanks



A Daytime view



A closeup view of the building's intricately arranged volumes



A Nighttime view

The defining feature of the Al Hilal Bank's new office tower, designed by Chicago-headquartered architectural firm Goettsch Partners, is its shifting masses as it rises 24 stories on Abu Dhabi's Al Maryah Island in the United Arab Emirates. Three cube-shaped volumes sit on top of a podium, stacked like offset blocks. To highlight the reveals between the glass-and-steel boxes, Goettsch enlisted New York-based lighting design firm One Lux Studio to discreetly illuminate the forms, and to accentuate the "push and pull" effect at the building's recessed corners with illuminated vertical bands of orange-colored glass, the client's signature color.

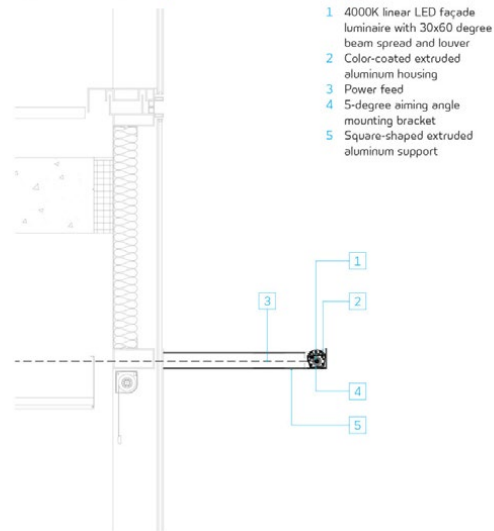
Lighting the volumes' offsets proved relatively simple; this was accomplished using a concealed 4000K 10W grazing fixture dimmed to 70 percent to achieve the desired intensity. Illuminating the orange glass at the corners of the structure, however, was trickier. Glass does not glow unless it contains a medium that accepts light, says One Lux partner Stephen Margulies. His solution, in collaboration with the architects, was to add an orange frit to the glass that was designed to not rankle the tenants. "You wouldn't want a nice, beautiful corner office, and then have an orange-colored glass on the majority of the façade," says Goettsch principal Scott Seyer.

After evaluating a range of options printed on clear acetate, the designers decided on a double-sided frit: orange on the exterior and black on the interior, which yielded an unobtrusive tint visible from inside the space. The team also decided on a frit density of 40 percent and, after experimenting with various light intensities, the addition of a 10W LED luminaire. "There was this constant loop we were going through, because the less frit we had, the less light we needed," says Margulies. "But the less surface area we had, the more light we needed." The next step was to find the color temperature that, in combination with the fritted glass, would render Al Hilal's exact shade of orange. (Another round of mock-ups determined that to be 4000K.)

Determining how to install the fixtures also posed some challenges. One Lux Studio developed a system of bracketed fixtures—suspended on every floor—for the building’s curtainwall. The question then became where on the curtainwall to affix the luminaires so that they wouldn’t shine light into the offices. When placed at the floor line, the fixtures were visible to occupants, so the lighting designers positioned them at the base of the spandrels and attached them with 0.2-inch angling brackets 2 feet from the façade. Luminosity and three-dimensional studies determined the optimal distance of the fixtures from the building, with the result striking the right balance “between the best technical response and the desired architectural effect,” says Seyer. To ensure that the fixtures would be aimed correctly—One Lux Studio would not be on site to do this—Margulies specified that the brackets be locked at a five-degree upward tilt to prevent them from being misaimed. “It was kind of like lighting a picture on the wall,” he says, “but instead of hanging it [the luminaire] down toward the picture, we were pointing it up.”

According to Margulies, focusing the exterior lighting on the building’s major feature—the boxes and their recessed edges—produced a deceptively simple branding scheme for the client, Al Hilal, that “looks like it was developed as part of the architecture, as opposed to something that was just laid over it.” The effect is even more pronounced at night, when the subtle fixtures serve a dual purpose of accenting the bank’s identity while articulating the building’s unique structure. •

VERTICAL LIGHTING DETAIL AT FAÇADE



Legend

- 1 4000K linear LED façade luminaire with 30x60 degree beam spread and louver
- 2 Color-coated extruded aluminum housing
- 3 Power feed
- 4 5-degree aiming angle mounting bracket
- 5 Square-shaped extruded aluminum support



The building’s lobby.

Details

Project: Al Hilal Bank Tower, Abu Dhabi, United Arab Emirates  
 • Client: Al Hilal Bank, Abu Dhabi • Architect: Goettsch Partners, Chicago • Lighting Designer: One Lux Studio, New York • Structural Engineer: DeSimone Consulting Engineers, New York • M/E Engineer: Environmental Systems Design (ESD Global), Chicago • Project Size: 87,570 square meters (942,600 square feet) • Project and Lighting Costs: Withheld • Watts per Square Foot: 3.16 • Code Compliance: Estidama | Pearl

Manufacturers

Bartco Lighting: 49W per square meter 3000K T5 fluorescent uplight, staggered in lobby • Kurt Versen (Hubbell): 167W 3000K metal halide fixture with 20 degree beam spread in lobby; 23W 4000K LED downlights in typical offices; 80W 3000K metal halide downlight at arcade and bridge vestibule; 44W 3000K metal halide wallwashers and downlights in lobby; and 23W 4000K LED downlight in prayer room • GE Lighting: 4W per module 3000K LED fixture in lobby, elevator lobby, and backlit glass • Lucifer Lighting: 18W 4000K LED fixture in restrooms, downlight at bridge elevator cab • Philips Color Kinetics: 4000K LED facade lighting: linear fixture with 30x60 degree beam spread with louver mounted to metal housing projected from facade, and linear 90x60 degree beam spread with glare shield • Philips Lightolier: Linear slot fixture at typical office with 63W per 1200mm long 4000K T5 fluorescent • **Specialty Lighting: 104W per square meter 3000K linear covelight at lobby** • XAL: 26W 3000K recessed LED slot fixture in lobby • Zumtobel: 72W 4000K recessed fluorescent fixtures at security rooms and back-of-house spaces

Photographers

Lester Ali (Daytime view, Closeup, Lobby)  
 Tom Rossiter (Nighttime view)