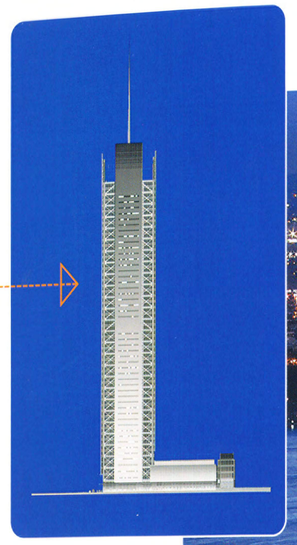

OVI principals, Enrique Peiniger and Jean Sundin. Sundin is looking into a lux-meter — a tool that allows measuring the amount of light that falls on a selected surface area — to make sure that the facade is uniformly illuminated.

The extremely narrow beam of the spotlights has to reach the top of the skyscraper, at the same time being focused very precisely to ensure even illumination on the facade. This is achieved by attaching to the spotlights a laser-aiming device — a military item converted to peaceful use. The know-how was proposed by Peiniger, who used a similar method for lighting the 82m-high US Air Force Memorial.

Renzo Piano's ingenious response to the district regulations that demand coloured illumination for the facades. The architect insisted on using white light only, but painted the luminaires in the standard New York taxi yellow. Pictured are the working moments in Erco's factory in Luedenscheid (Germany): examining colour samples in order to mix the right hue of yellow — and receiving a batch of freshly-painted spotlight housings.

PROJECT: THE NEW YORK TIMES BUILDING // LOCATION: NEW YORK CITY
ARCHITECTURE: RENZO PIANO BUILDING WORKSHOP
LIGHTING DESIGN: OFFICE FOR VISUAL INTERACTION // INFO: WWW.OVIINC.COM
LIGHTING MANUFACTURER: ERCO // INFO: WWW.ERCO.COM

Conceived by Renzo Piano Building Workshop, the glass skyscraper of the New York Times (NYT) Building is draped with a screen of thin ceramic tubes, forming an airy facade that reflects subtle changes in natural light throughout the day. Nighttime lighting reinforces the structure's elegance by casting precisely gradated light on its facades, brightest at the base and tapering to a soft glow at the summit. From a distance, this gives the tower a sensation of soaring lightness on the city skyline. The lighting scenario was formulated by the architect, and actualized by Jean Sundin, Enrique Peiniger and their team at OVI (Office for Visual Interaction).

The NYT building is located in the Times Square District, named after the newspaper's 1904 headquarters. The iconic area has become identified with its lit and animated advertisements, and district construction regulations stipulate the need for «visual excitement». Piano and OVI proposed their own version of visual excitement: instead of using coloured light, as required, they painted exterior luminaires taxicab yellow — to animate the facade without detracting from its dignified architectural style.

The lighting plan was composed in relation to the city's major skyscrapers. At an early stage, illumination levels of the Empire State, Chrysler, and other iconic buildings on the skyline were measured. Based on these figures, ideal lighting levels for the new structure were calculated to give it definitive presence, without rendering it an overpowering beacon of light. A key lighting goal was to play up the tower's elegance by creating a subtle gradation of light across the entire surface of its facades. Tightly focused beams of light are deployed at the building's notched-out corners, highlighting the exposed structural cross-bracing. This careful, disciplined application of light contrasts the brash floodlighting common for tall structures. Creating a controlled gradation of light across the facade was particularly challenging since the building has no ledges or setbacks on which to conceal lighting equipment. Numerous lighting studies, calculations, computer simulations, testing and full-size mock-ups were undertaken to determine the best way to achieve the desired lighting effects. A brightness ratio of 3:1, from bottom to top, was eventually chosen, and aiming angles and positions of luminaries established at the building's base and atop the podium *(see the rendering on the previous spread)*. For optimal lighting conditions, OVI also placed a number of fixtures on adjacent buildings owned by the Port Authority of New York.

Having to to choose from multiple floodlight types, OVI defined an evaluation matrix, which included such criteria as integral cabling, optics technology, locking mechanisms (important for precise adjustments of the light beam), and visual qualities. Sample luminaires from competing companies were test-mounted on the building, allowing the client to compare their performance and power consumption. Typically, different fixtures, lamp types and wattages are mixed in order to light a building exterior. OVI developed a scheme where floodlighting could be achieved with a single family of fixtures — all produced by the competition winner Erco — and a single lamp type. In combination with varying optical reflector systems, they created the desired wall-wash effect for the entire height of the facade. Narrow beam optics aimed to the top of the building give a long throw of light, while narrow beams with spread-lenses illuminate the mid-levels, and wide floods cast light on the base of the building. Metal halide lamps were selected for their exceptionally long life of 10.000+ hours, and a warm, neutral-white 3000K colour temperature complementing the building's off-white ceramic screen. Using only one lamp wattage streamlines the maintenance process, helping preserve the integrity of the lighting program in the long run.

OVI's lighting scheme is a pioneer in energy efficiency: illuminated with 250-watt metal halides paired with the latest precision optics, the entire exterior of the NYT Building employs 80% less energy than lighting for the spire of the Empire State Building alone.