

ARCHITECTURAL RECORD

Tracy Metz. For architectural record

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‘Broken Light’ heals the street

The Atjehstraat was just an ordinary street in Katendrecht, a hardscrabble neighborhood of Rotterdam’s former harbor area where immigrants and young people have taken the place of sailors and prostitutes. Now it is a special street, thanks to the ‘Broken Light’ project of artist and light designer Rudolf Teunissen and his firm Daglicht & Vorm (daylight and form).

In the evenings the sidewalks are covered in a wavy, underwater-like pattern of soft light; strips of light like pilasters highlight the facades of the rental apartments. The lighting creates an evening-time atmosphere of peace and tranquility.

‘Broken Light’ originated in 2006 as part of an overall cleanup and refurbishment of the neighborhood of Katendrecht, for which the municipality commissioned a group of artists to create public art. They, in turn, put out a call for lighting designs that would evoke the erstwhile gaiety in Katendrecht’s former bars and brothels. Teunissen worked in conjunction with Max industrial designers to develop a scheme that would enhance Atjehstraat’s public spaces, with its generic no-frills public housing from the seventies. His intention is to combine streetlighting and illumination in a way that brings the horizontal and vertical planes together into one unified space. ‘This project is about using light to reconquer public space.’

To do this he removed the existing lighting and installed 18 new streetlights with custom-designed projection units, nine on each side of the street between the trees, which are 49 feet apart. Half of the poles also contain upgraded standard streetlights for traffic illumination. Each projection unit is mounted at a height of 20 feet and contains a 50-Watt metal-halide high-pressure gas discharge lamp with high color-rendering properties. These lamps also transform 80 percent of the energy into light rather than heat. A series of mirrors inside the fixtures distribute the light, which is then projected through one vertical and one horizontal projector as wavy patterns on the sidewalk and stripes on the building facades.

The energy use on this stretch of block—492 feet long and 66 feet wide, 48,438-square feet all told—is 1.5 Kilowatt. That is actually fifty percent more than normal streetlights in Rotterdam consume, but a greater surface area is lit. Additionally, most streetlights are oriented towards cars rather than pedestrians, who are blinded by them. “Here the construction of the fixture prevents glare for all the various users,” says Teunissen.

The poles are firmly anchored in the ground so that they won’t shake or sag, otherwise the stripes of light might be projected over the windows rather than over the

walls. At first the occupants were worried that they would be staring directly into the lights, so Teunissen rented an apartment and set up two test lightpoles so that everyone could come see the effect. "Now they are all proud of their street," he says.

Light in a public space is usually only used for safety reasons or to promote commercial messages. 'Broken Light' is also about the visual quality of darkness, which is usually associated with danger. Here it is about contrast and about the aesthetic and sensual value of light, says Teunissen. "The effect is a combination of streetlighting and illumination," he adds. "Most urban illumination is used for buildings that already stand out." Instead, 'Broken Light' has rejuvenated an ordinary street and given it not only an identity, but also a source of pride.

Tracy Metz



SLIDE SHOW

Photo © Hans Wilschut

Broken Light

Daglicht & Vorm

Rotterdam, The Netherlands

By Tracy Metz

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Broken Light originated in 2006 as part of a cleanup and refurbishment of Katendrecht, for which the municipality commissioned a group of artists to create public art. They, in turn, put out a call for lighting designs that would evoke the erstwhile gaiety in the neighborhood's former bars and brothels. Teunissen worked in conjunction with Max industrial designers to develop a scheme that would enhance Atjehstraat's public spaces, with its generic no-frills public housing from the 1970s. His intent: to combine streetlighting and illumination in a way that brings the horizontal and vertical planes together into one unified space. According to Teunissen, "This project is about using light to reconquer public space."

To do this he removed the existing streetlighting and installed 18 new poles with custom-designed projection fixtures, nine on each side of the street between trees that are 49 feet apart. Half of the poles also contain upgraded standard lights for traffic illumination. Each projection unit is mounted at a height of 20 feet and contains a 50-watt metal-halide high-pressure gas-discharge lamp with high color-rendering properties. These lamps also transform 80 percent of their energy into light rather than heat. A series of mirrors inside the fixtures distributes the light, which is then projected through one vertical and one horizontal projector as wavy patterns on the sidewalk and stripes on the building facades.

In terms of energy use, the blocklong stretch—492 feet long and 66 feet wide, 48,438 square feet all told—consumes 1.5 kilowatts per hour. That is actually 50 percent more than typical streetlights in Rotterdam, but it covers a greater surface area. Additionally, most streetlights are oriented toward cars rather than pedestrians, who are blinded by them. “Here the construction of the fixture prevents glare for all the various users,” says Teunissen.

The poles are firmly anchored in the ground so that they won’t shake or sag; otherwise the stripes of light might be projected onto the windows rather than the walls. At first, the building occupants worried that they would be staring directly into the lights. So Teunissen rented an apartment and set up two test light poles to demonstrate the effect. “Now they are all proud of their street,” he says.

In public spaces, light is most often used to create a safe environment or for commercial purposes. While Broken Light deals with the visual quality of darkness often associated with danger, it establishes contrasts and engages the aesthetic and sensual value of light. “Most urban illumination is used for buildings that already stand out,” says Teunissen. Instead, Broken Light has rejuvenated an ordinary street and given it not only a new identity but also a source of pride.

Lighting Designer: Daglicht & Vorm —Rudolf Teunissen, Marinus Van Der Voorden

Consultants: Max Designers (industrial design); Modernista (streetlight calculation); Alanod (reflector efficiency)

Client: City of Rotterdam (DSPS/De Player; Center Arts; Pact op Zuid Rotterdam)

Size: 48,438 square feet

Completion Date: November 2010

Netherlands-based author and journalist Tracy Metz is an international correspondent for RECORD.

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[rteunissen](#) wrote:

common on T Larson: Thanks!



common on Aleci and David: Contact us by our site www.brokenlight.org. We are developing lightsystems and find companys whome will deliver the luminares now. common on PSaucerman: Even better. the fotos now may look marketingwise slim architecture but is not. Regards Rudolf Teunissen

9/3/2012 4:31 PM CDT

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[tlarsonthewriter](#) wrote:



Very inventive. This lighting programme gives the street a sense of animation, a city-that-never-sleeps quality — and, in doing so, it makes the street feel safer to walk on, too, in contrast to its slut-and-sailor days. Gefeliciteerd! Proficiat!

8/16/2012 7:51 PM CDT

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[Aleci](#) wrote:



Would be VERY helpful and valuable to have the overall cost for this project ! Also, who paid for it ?

8/16/2012 4:47 PM CDT

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[psaucerman](#) wrote:



Nice and compelling story. But the neighborhood hardly looks "hardscrabble." Rows of Mercedes and other newer cars, ample healthy trees, clean and well-tended buildings. Wonder what this lighting project would do in a truly hard-scrabble street.

8/16/2012 4:12 PM CDT

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[plgcorp](#) wrote:

need data sheet and prices of the broken lighy



Max Designers (industrial design); Modernista (streetlight calculation); Alanod (reflector efficiency).

regards

David

8/15/2012 3:49 AM CDT