This Solstice, Skylight at Fulton Center Hub Will Get Its Day in the Sun

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Building Blocks

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Druids, take note.

On the summer solstice, clouds permitting, the Fulton Center in Lower Manhattan will be filled with more sunshine than has ever before reached its interior.

Rays of sunlight will burnish Sky Reflector-Net — the 79-foot-high convex tracery of aluminum panels and stainless steel cables in the Fulton Center atrium — for more than nine hours on Sunday, between 7:50 a.m. and 5 p.m. (At the winter solstice, by contrast, direct sunlight hits the net for only 70 minutes.)

From 12:15 p.m. until 3:30 p.m., the rays will penetrate about 40 feet below sidewalk level to recesses on the lowest level of the center.

The $1.4 billion Fulton Center, New York’s newest transportation hub, was opened in November by the Metropolitan Transportation Authority, 11 years after the project began, at almost twice the originally estimated budget. It was designed to untangle the tortuous connections among the 2, 3, 4, 5, A, C, J, R and Z subway lines.

This is its first summer solstice.

“The one thing we have to hope is that it’s sunny,” said Matt Franks, a lighting expert with the engineering firm Arup, which worked on Fulton Center with Grimshaw Architects and James Carpenter Design Associates.
Even without cloudless skies, the building has been designed to admit abundant natural light. There is a strongly practical reason.

"It is intuitive in wayfinding for people to get off at a station and go up toward the light," said Craig Covil, a principal in Arup. You don’t need an exit sign when passengers can follow dappled pools of natural illumination, whether sharply etched by the sun or diffused because of clouds overhead.

But the designers also hoped from the outset to tap into something more cosmic.

"We’ve always looked at this as a kind of calendar, a seasonal thing," said Richard Kress, the design director at James Carpenter Design Associates.

Look closely at the circular skylight in the atrium and you will see a series of arcs formed by 88 glass blades. The angle of each blade has been calibrated to direct sunlight down to the concourses at certain hours of the day and times of the year.

As a poetic bonus, the patterns trace the sun’s route through the sky, said Zak Kostura, a structural engineer at Arup. The shallower arcs express the trajectory of its wintertime journey; the longer arcs express its summertime path.

Furthermore, a straight line drawn through the apogees of the arcs exactly describes a true north-south axis — something that lower Broadway does not do.

So, in this mixing bowl of mass-transit transience, the skylight subtly conveys the presence of an immutable reality.

That can further be discerned in the asymmetrical net. Its long side is on the north, creating a much larger reflective surface for sunlight, which comes principally from the south. The skylight itself is tilted toward the south.

"We always used the term that it was trying to reach out to the sun," Paulo Faria, an associate principal at Grimshaw, said.

Give New Yorkers a new open space, and they will colonize it as they see fit. This is true at Fulton Center, which has 11 ½-inch-deep steel mullions at the base of the glass walls along Broadway and Fulton Street. The horizontal surface of these mullions is 13 ½ inches off the floor, making for an almost ideal bench.

And that is how people have been using them since the center opened.

"It is an unexpected, wonderful consequence," Nico Dando-Haenisch, the project manager at Grimshaw, said. To bear the weight of enormous panes of glass, he said, the mullions had to be as large as they are. Seeing the public gravitate toward them heartened the architects, who had hoped for a plazalike setting.
At the moment, the largely empty areas around the atrium feel like a quiet anteroom, just beyond the clatter of Lower Manhattan. But the tension between public and private interests has yet to play out fully at Fulton Center.

Westfield, an enormous international shopping center operator that also controls the space at the World Trade Center Transportation Hub, is designated as the developer of 63,000 square feet of commercial space at Fulton Center. That is 3,000 square feet more than the amount given to public circulation.

Most conspicuous among the 50 digital advertising billboards that are already being operated by Westfield Brand Ventures is a ring of LEDs, two and a half feet high and 82 feet in diameter. For the time being, the hot pink of a T Mobile campaign competes with the cool blues, grays and silvers of the “Sky Reflector-Net.”

The designers said they understood the need for the nonfarebox revenue that commercial leases would produce. They said the space would be more appealing when enlivened by diners and shoppers in addition to straphangers.

And, as Andrew Whalley, the deputy chairman of Grimshaw, said, “The ring works with the geometry of the building.”

Whether anyone will call it Storehenge remains to be seen.

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