



landscapeforms

360 Solar

Innovative. Versatile. Off Grid.

There are moments when necessity and innovation converge—when knowledge and engineering advance to meet a pressing need, driving breakthroughs that redefine what's possible. This is one of those moments. Introducing 360 Solar by Landscape Forms, a lighting solution that fulfills the promise of solar technology, bringing together performance and design for lighting solutions untethered from the grid.

360 Solar was designed to support sustainability and resiliency objectives while addressing site challenges, including environmentally sensitive areas, brownfield site developments, geographically remote locations, waterfront and maritime placements, and more. A multiyear collaboration with the Netherlands-based solar technology firm Soluxio Lighting, 360 Solar is a marvel of integration, engineering excellence, and design ingenuity, redefining modern solar lighting.





Visually, the most telling innovation of 360 Solar is its slim cylindrical profile. A highly efficient solar array wraps vertically around the pole, converting sunlight into electric power. Completely self-contained, the system also offers unprecedented off-grid flexibility. The wrap-around solar array is augmented with intelligent autonomous control and a high-energy density battery, which as a system maintains efficiency in the full range of North American climatic conditions. 360 Solar sets a new standard for adaptability, ease of use, and aesthetics, fulfilling the promise of solar without the compromises demanded by flat-panel arrays.





Efficient. Powerful. Resilient.

The sleek verticality incorporates advanced solar cells fused to a tempered glass sleeve that surrounds the carrier pole. In addition to its sophisticated aesthetic, the array's solar cells are far more efficient than the industry standard. The 360-degree vertical exposure catches sunlight throughout the day and is capable of capturing significant amounts of energy even in low-light, low-angle, and overcast conditions, assisted by Maximum Power Point Tracking (MPPT) technology.

The curved solar array is engineered to be impervious to moisture. Its modular design allows for multi-panel stacks on a single pole for greater power generation. This flexibility seamlessly lends itself to a variety of requirements, including higher wattage luminaires (up to 60W), powering ancillary devices (such as cameras and WAPs, for example) or simply providing illumination in particularly challenging northern climates. The verticality of its configuration also makes the system stronger, more resilient to extreme weather and high winds, and naturally more resistant to the accumulation of debris, dust, and snow, ensuring reliable performance in diverse conditions at almost any latitude.

Features

Advanced Glass Panel Array: The cylindrical arrays are naturally more resistant to wind, hail, snow, dust, and sand that degrade flat panel performance, allowing for better, more consistent solar absorption.

Durable & Resistant: The system's solar cells are fused to glass using a unique process pioneered by Soluxio, locking out moisture and extending field performance.

Optimized Solar Irradiance: The arrays capture sunlight from multiple angles for maximum efficiency. The vertical panels boast a 24 percent efficiency rating, far exceeding the industry standard of 15 to 18 percent.

4-Channel MPPT per Array: Each collector includes 4-channel MPPT technology, which optimizes the efficiency of each array regardless of the angle of sun, partial shading, or climatic conditions.







Smart. Integrated. Adaptive.

In addition to its high-efficiency panel design, 360 Solar boasts a highly intelligent and autonomous control system that continuously monitors and manages solar irradiance to maximize field performance. Powered by self-learning edge computing capabilities and an integrated GPS locator, the system tracks anticipated solar irradiance and responds in real time to changing conditions. The on-board intelligence ensures year-round optimization.

The ultimate 'set-it and forget-it' system, 360 Solar has integrated cutting-edge technology that transforms how lighting systems learn and adapt to their environments. No apps or hands-on technician-led programming is required. As soon as the unit is assembled, it begins a five-day autonomous powering up protocol to establish its baselines. Every pole is internet-enabled, feeding data to system engineers. The cables connecting the control unit to each solar array and the luminaire are connectorized, simplifying installation, maintenance, repair, and replacement.

The optional, cloud-based dashboard makes vital statistics available to authorized users. System software and algorithm upgrades are also enabled remotely, ensuring the system continually operates at peak efficiency.

Features

Autonomous Control: Driven by sophisticated edge-computing capabilities, 360 Solar monitors its environment and adapts autonomously to optimize performance.

No App Required: Its self-learning protocol enacted over the first 5 days of operation combines GPS-located solar irradiance and sunrise/sunset information with readings from the solar panels to develop a sustainable energy use plan. No app required.

Seamless Design Integration: The control unit (including battery) is integrated directly into the pole housing, a reliable plug-and-play solution that ensures easy installation and maintenance.

Secure Install: The control unit is behind a lockable handhole and independently lockable into the pole, providing an extra measure of operational security.

Diverse Product Applications: Landscape Forms is offering the 360 Solar option in a variety of product lines, including LEO, Torres, Ashbery, and Northport, ensuring broad applicability across a range of design styles and project needs.

LED Light & Driver Benefit: 360 Solar's high efficiency DC-based luminaires have been optimized for solar applications to maximize light output while minimizing system losses.



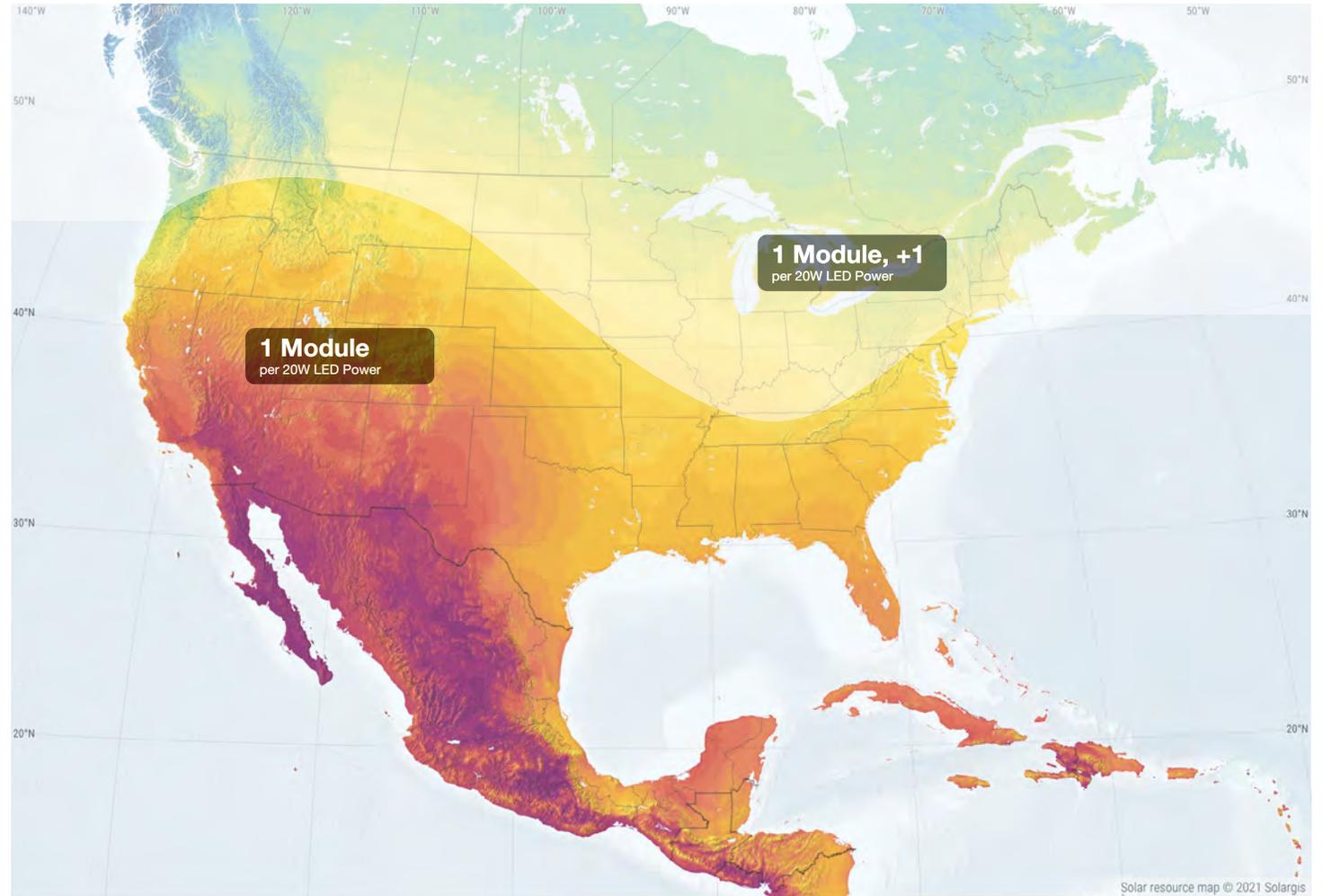




Will It Work Here?

In response to the question—but will it work here?—the answer is ‘yes’. The lithium nickel-manganese-cobalt (Li-NMC) battery is engineered to withstand extremes of both heat and cold, with operating tolerances of up to -5° and $+140^{\circ}$ F. The verticality of the panels ensures the system performs and adapts to low light environments in northern latitudes as easily as it does to hot equatorial climates. Onboard edge computing capabilities monitor and manage battery performance, avoiding deep discharge and vastly extending the system’s lifecycle.

The vertical alignment of the array provides even weight distribution, lower EPA exposure, and a superior aesthetic. Serviceable components are located behind a lockable handhole near the base, making maintenance access easier, and the verticality of the array makes it naturally resistant to theft. Area light luminaires on a diverse range of Landscape Forms lines have been upgraded to high-efficiency LEDs, allowing for 360 Solar application to Ashbery, Northport, Torres, and Leo.



GHI: Long-term average of global horizontal irradiation, period 1999-2020



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Engineered for Extremes: The tempered glass cylinder is impervious to UV and offers greatly reduced drag. The hard, ultra-smooth glass surface naturally repels dust and dirt accumulation, and the verticality of the array minimizes snow and other debris, maximizing efficiency over time.

Advanced AI Control: Driven by sophisticated, self-learning, edge-computing capabilities, 360 Solar manages the operation of the lighting system based on challenging and variable environmental conditions.

Optimized Battery Chemistry: 360 Solar utilizes NMC batteries that are highly resilient to hot and cold temperature extremes (-5° and +140° F).





A Dynamic Partnership

360 Solar is the culmination of a dynamic multiyear partnership between Landscape Forms and Soluxio Lighting. Among the most innovative and celebrated leaders in the solar lighting industry, Soluxio has built its reputation on innovative approaches to integrating solar technology into diverse applications and environments, meeting a perfect complement in Landscape Forms.

Landscape Forms is the industry leader in integrated collections of high-design site furniture, structures, accessories, and advanced LED lighting. Since its founding in 1969 Landscape Forms has earned a reputation for design excellence, high quality, craft manufactured products, and exceptional service.

Soluxio[®]
Lighting





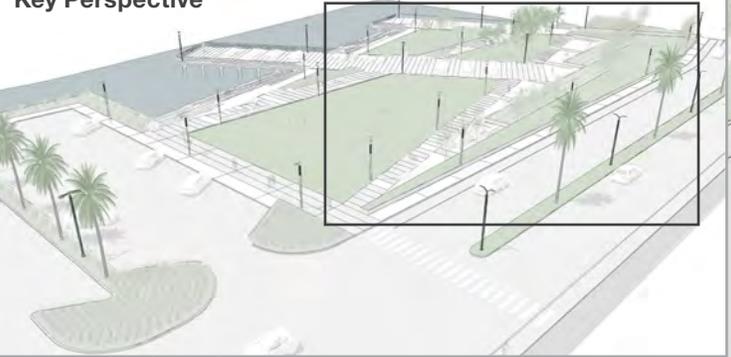
Waterfront Park

Application Examples





Key Perspective

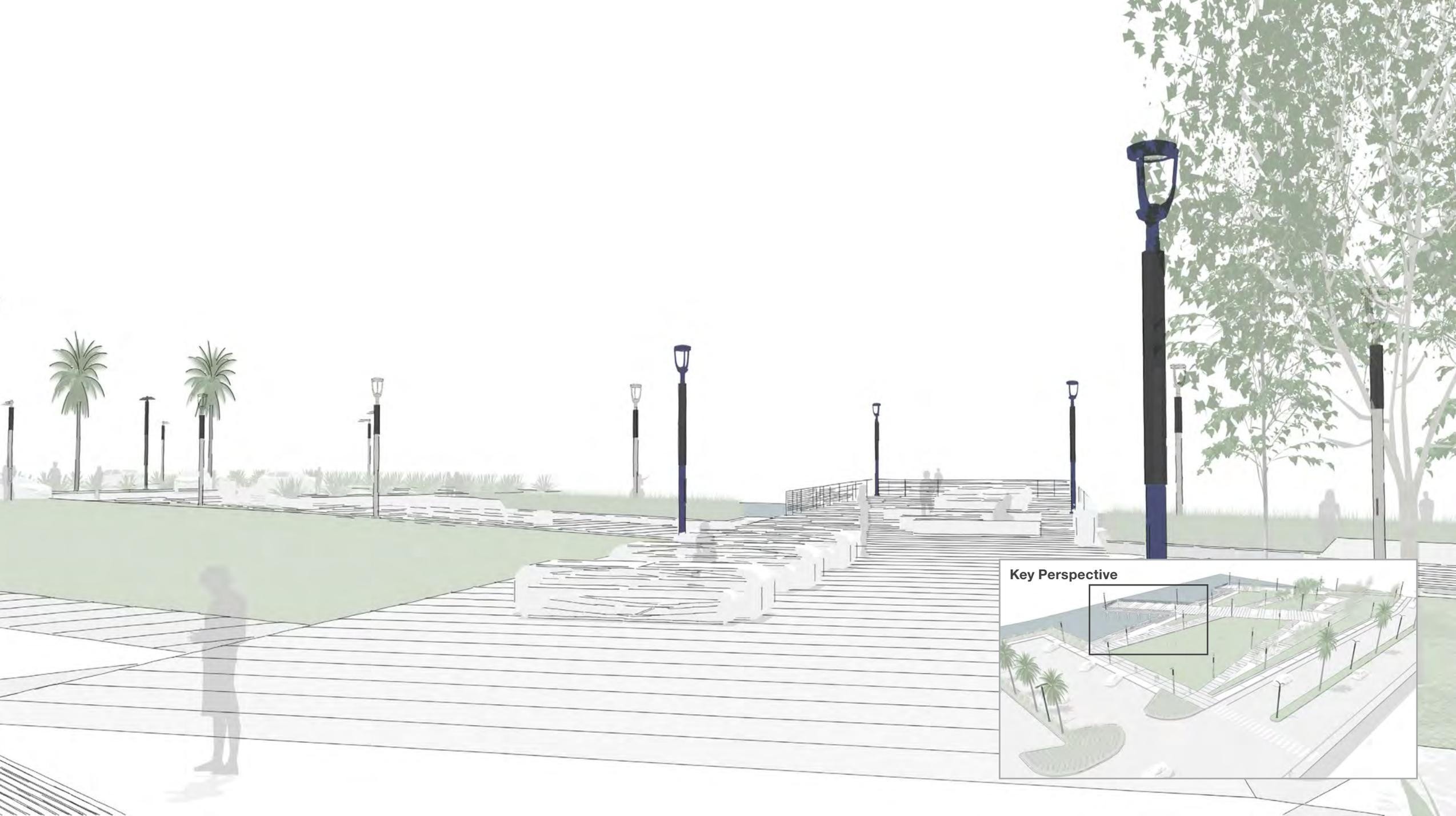






Key Perspective





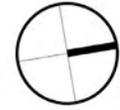
Key Perspective



Key

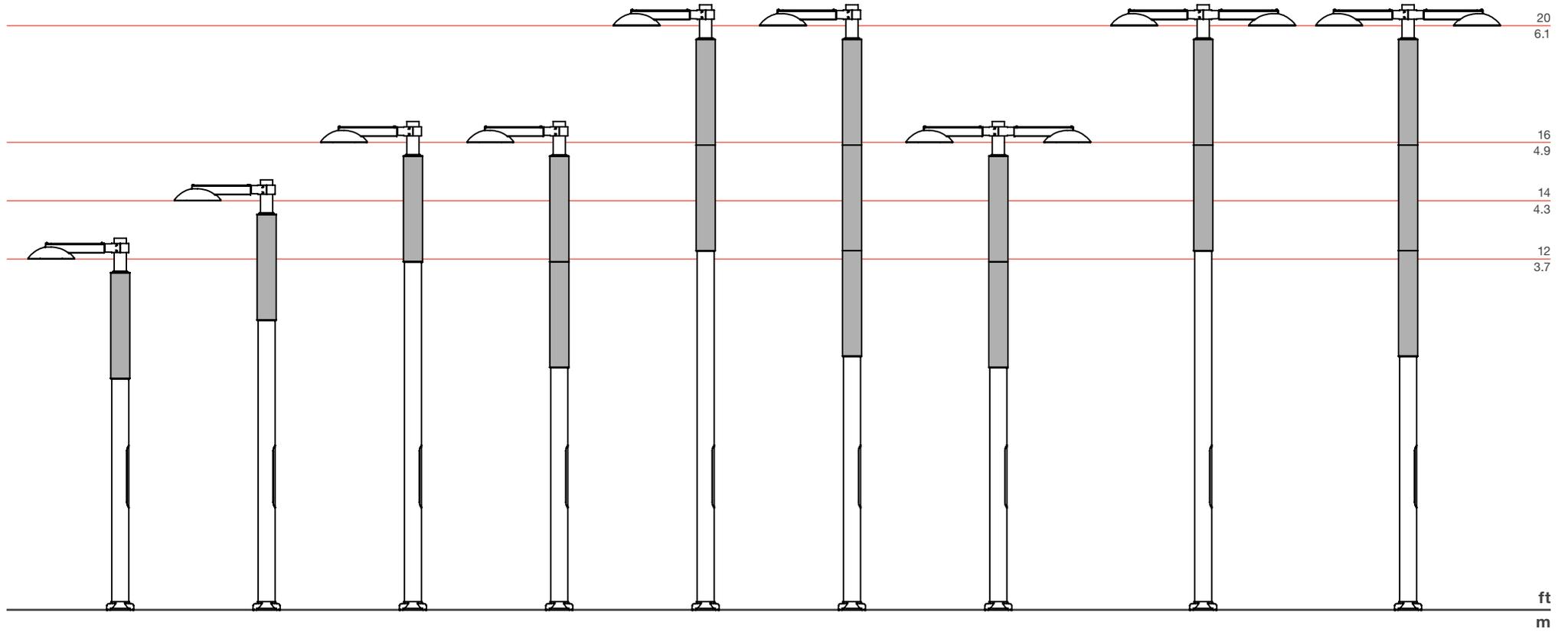
- 20ft Pole, Leo Double, 3-Cell (40W, T4)
- 16ft Pole, Leo, 2-Cell (20W, T2)
- 20ft Pole, Torres Double, 3-Cell (40W, T4)
- 16ft Pole, Torres, 2-Cell (20W, T2)
- 16ft Pole, Northport, 2-Cell (40W, T4)
- 16ft Pole, Northport, 2-Cell (20W, T2)

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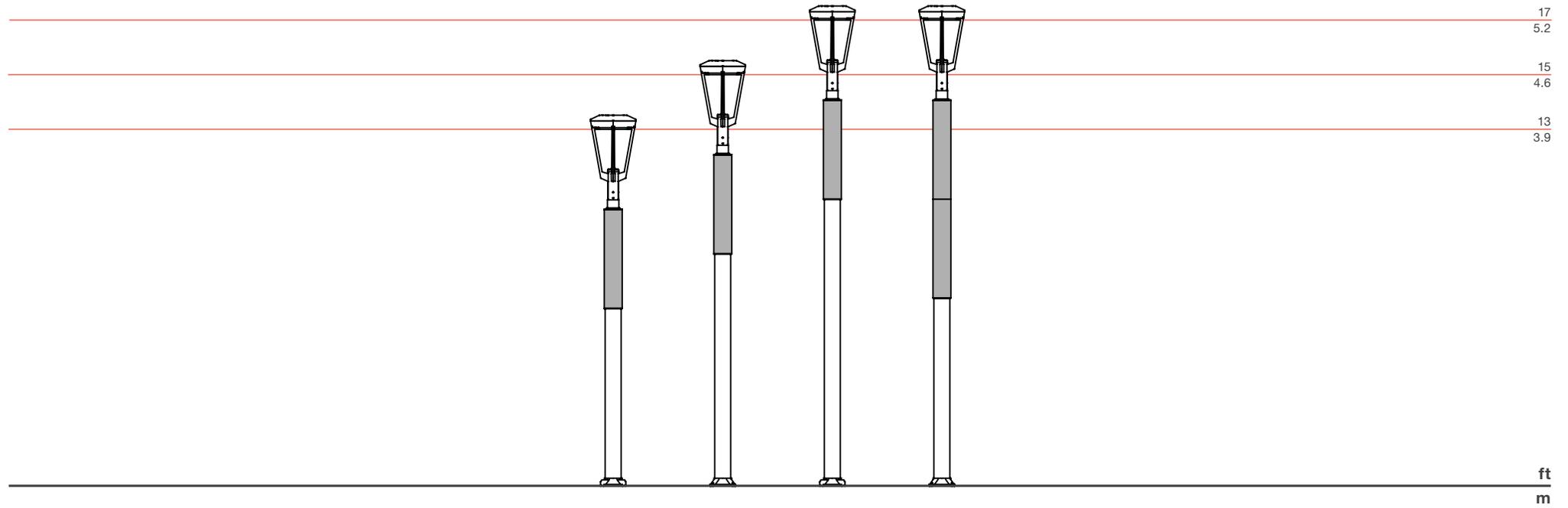
Statement of Line

Leo



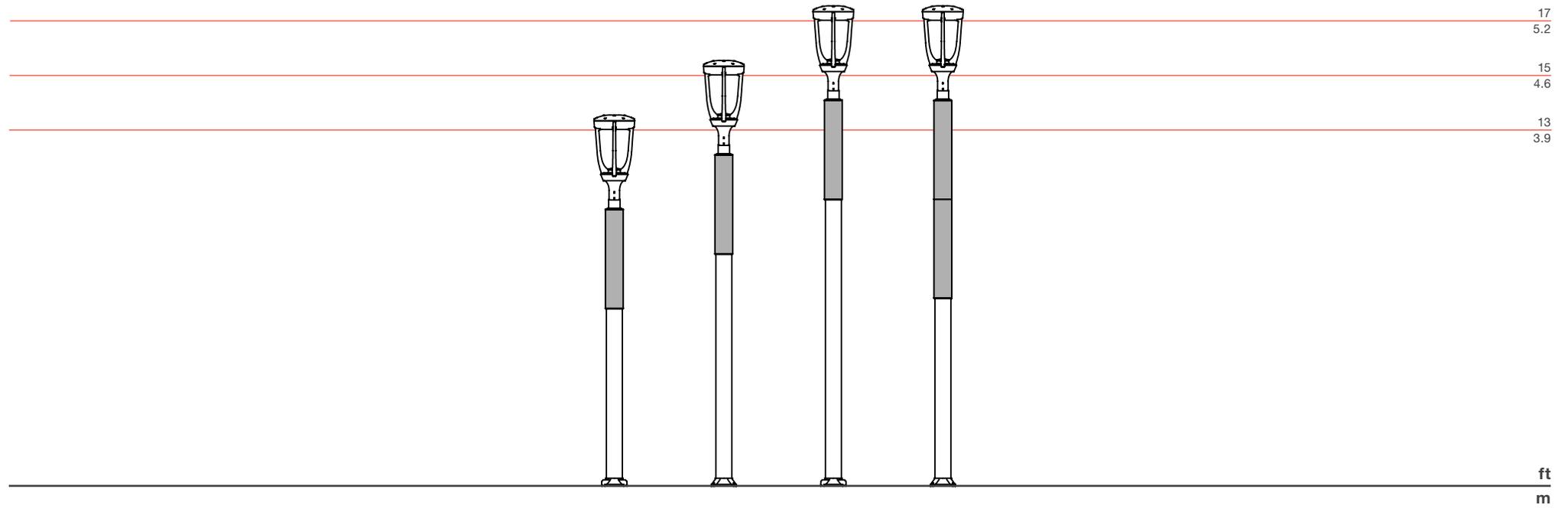
Statement of Line

Ashbery



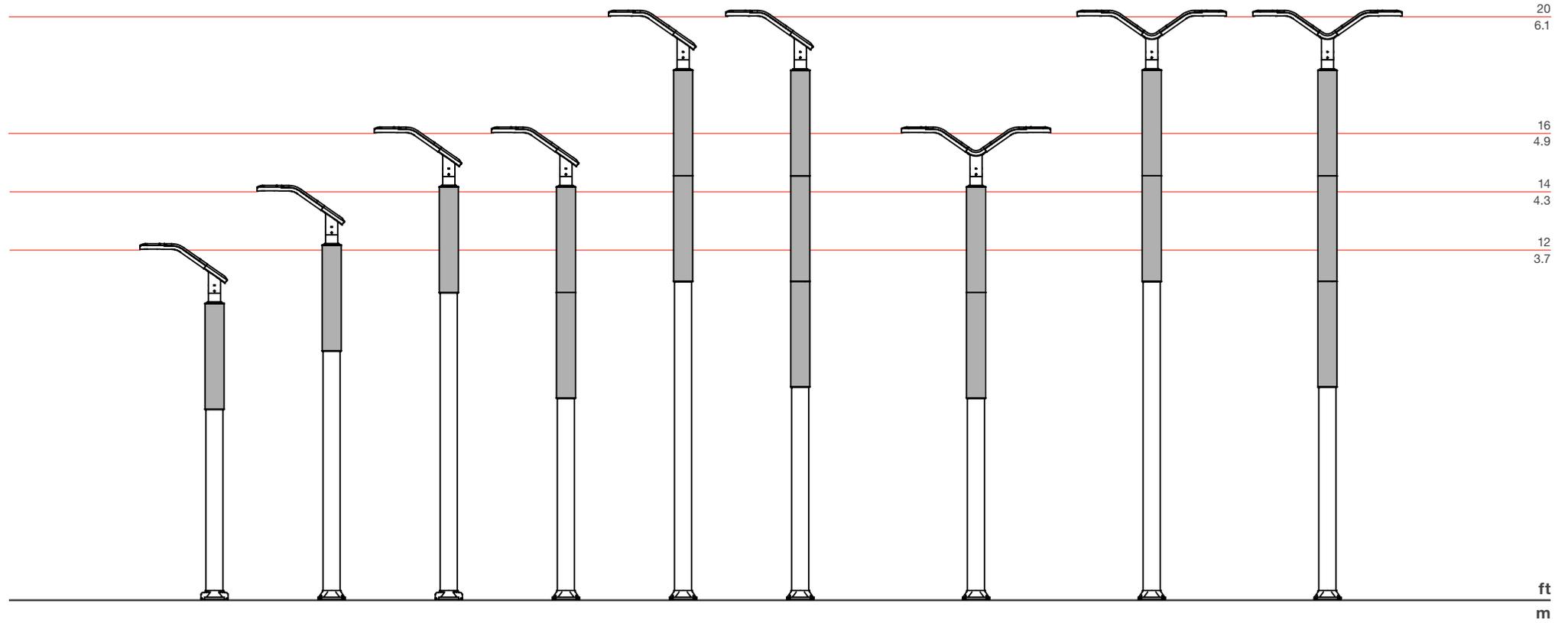
Statement of Line

Northport



Statement of Line

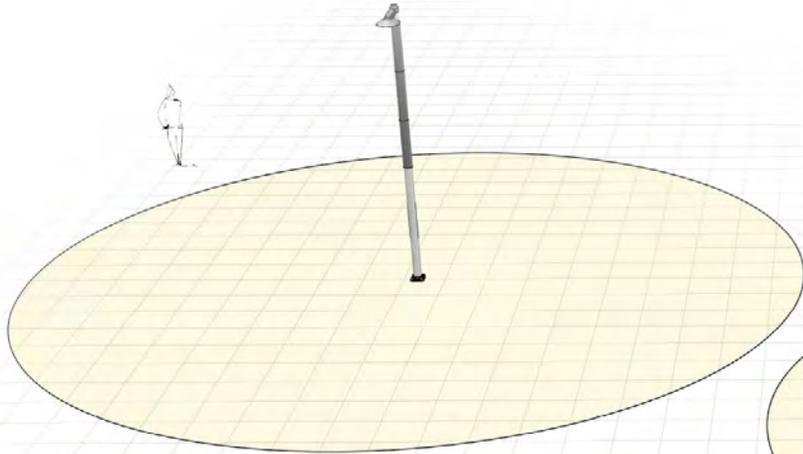
Torres



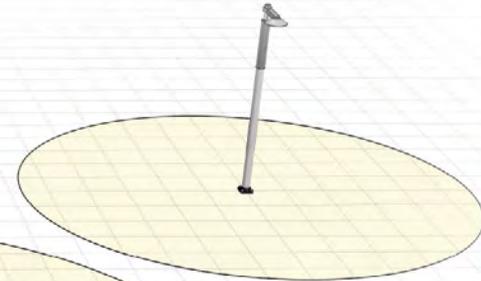
Polar Plots

Leo, Type V

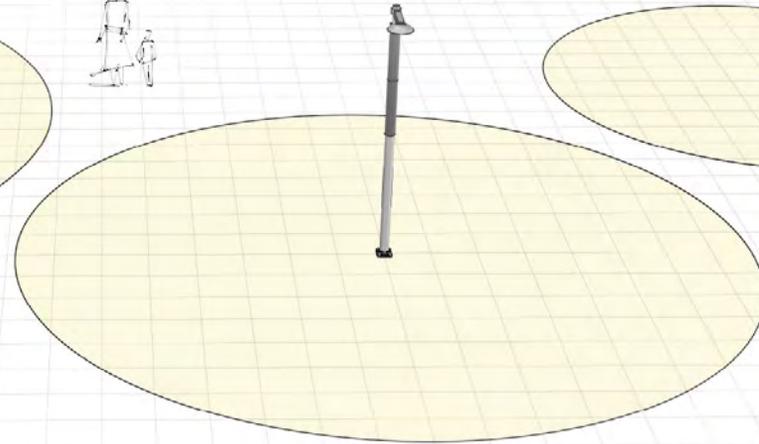
20', Triple Module, 60 W



14', Single Module, 20 W



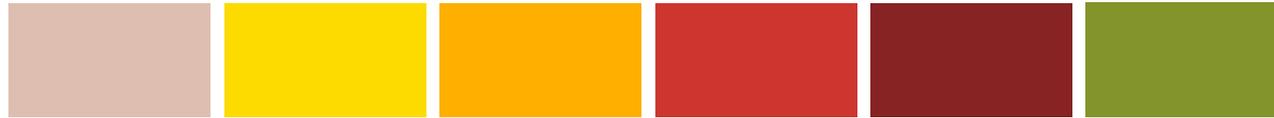
16', Double Module, 40 W



Plot lines represent 1.0fc, grid spacing is 3'

Materials

Vivid Series - Powdercoated Metal (Fine Texture)



Clay

Lemon

Mango

Chili

Loll Apple Red

Loll Leaf Green



Moss

Forest

Loll Navy Blue

Neutral Series - Powdercoated Metal



Silver Metallic

Mercury Metallic

Steel Metallic

Bronze Metallic

Titanium Metallic

Gloss Black



Gloss White

Architectural Series - Powdercoated Metal (Fine Texture)



Fog

Obsidian

Matte Black

Terra

Nutmeg

Onyx



Sage

Blue Ash

Dusk



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