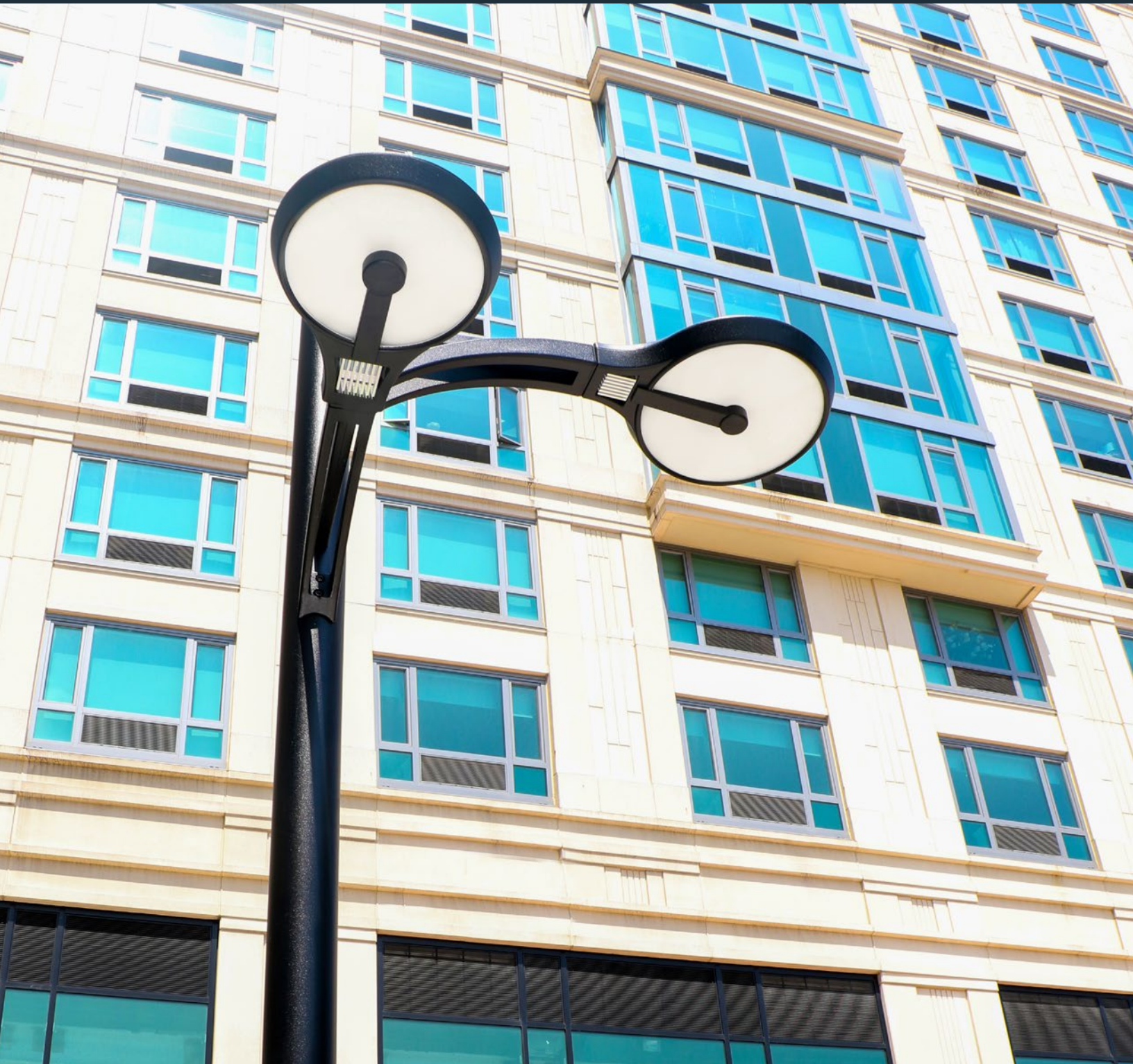


 Sternberg Flight



The Towne Centre of Cliffside Park, New Jersey, is a \$140 million, 13-story luxury apartment building featuring a unique blend of retail and office space, with an underground parking lot. The project also features a one-acre plaza with outdoor seating. Located in the central business district, The Centre at Cliffside Park offers an upscale quality of life for local residents.

Sternberg's Flight is utilized in configurations using the 20" FL630 with unswept arms, along with 14" FL530's in mid-mount. Flight was ideal for the plaza because of its ability to take glare out of the environment by utilizing Sternberg's SoftVue™ lens, in conjunction with an indirect COB and highly efficient reflectors. The result is a sleekly styled fixture that produces exceptional delivered efficacy in standard CCTs as warm as 2700K.



The Flight

Flight is an exciting LED luminaire designed specifically for street, area and site applications. Within its simple round housing resides an array of features, pushing the edge of today's technology. It is available in two sizes 20" and 14".



The Flight Bollard

The decorative FL300LED Bollard is a small scale contemporary unit matching the styling of the Flight product line. The FL300LED is an aluminum bollard featuring a one piece cylindrical body which flares out in one direction and tapers in the other direction offering a very unique design. (Pictured at three angles.) It is available in heights ranging from 36" to 60" tall.

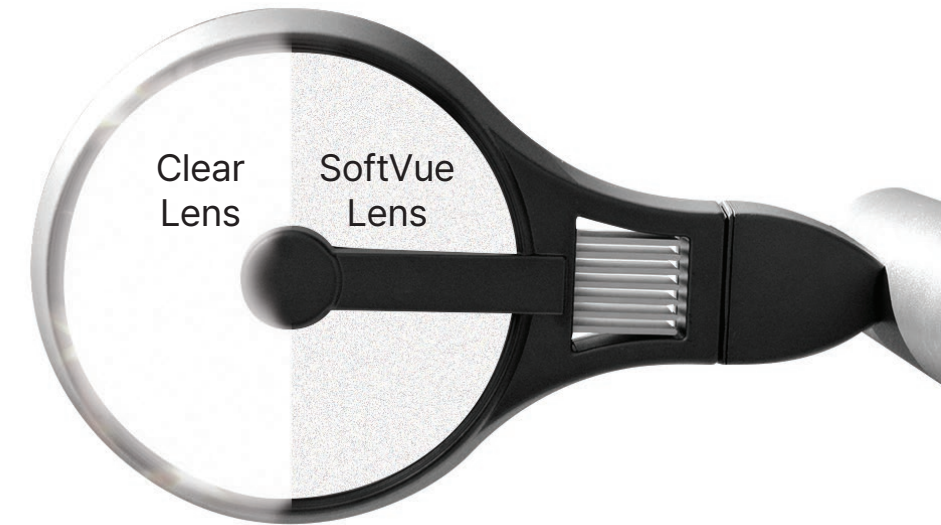


Flight's SoftVue™ Lens Technology

Sternberg's SoftVue™ lens gives performance and visual comfort with LED optical systems.

The widespread and growing adoption of solid state technology has truly revolutionized both our living and working environments. LEDs have become more commonplace in our homes and offices, as well as public spaces such as parking lots, retail centers, sports venues, etc. While many advantages are derived from LED, one aspect that has become a serious issue is the excessive **glare** being introduced into these spaces. The effect of glare goes beyond discomfort, often impeding our ability to clearly, comfortably, and safely perceive what is around us. Several years ago, Sternberg aggressively tackled this issue and introduced our revolutionary SoftVue™ lens options, which can reduce glare by upwards of 76% while minimally affecting the directionality of the LED optical system.

Today, Sternberg has upped the ante with Flight, a fixture specifically developed to virtually eliminate glare from areas with high pedestrian traffic, such as campuses, parks, outdoor retail centers, walking & riding pathways, and residential streets. Flight was designed to take glare out of the equation – and out of the environment – by utilizing our SoftVue™ lens in conjunction with an indirect COB and highly efficient reflectors. The result is a sleekly styled fixture that produces exceptional delivered efficacy in standard CCTs as warm as 2700K. Flight is our response to industry demand for an architectural LED area light that does not come at the cost of sacrificing efficiency or visual comfort.



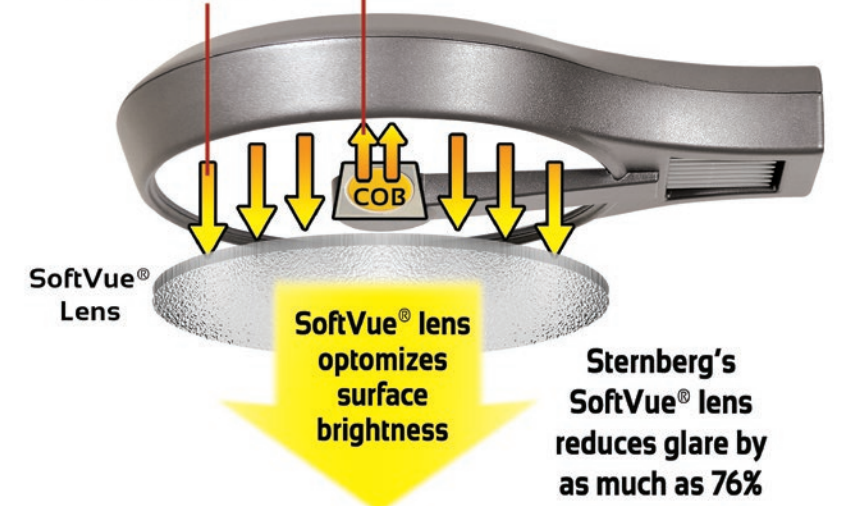
How Flight Reduces Glare



Flight uses COB (Chip On Board), technology with multi-LED chips packaged together as one lighting module.

Light from COB emits upward.

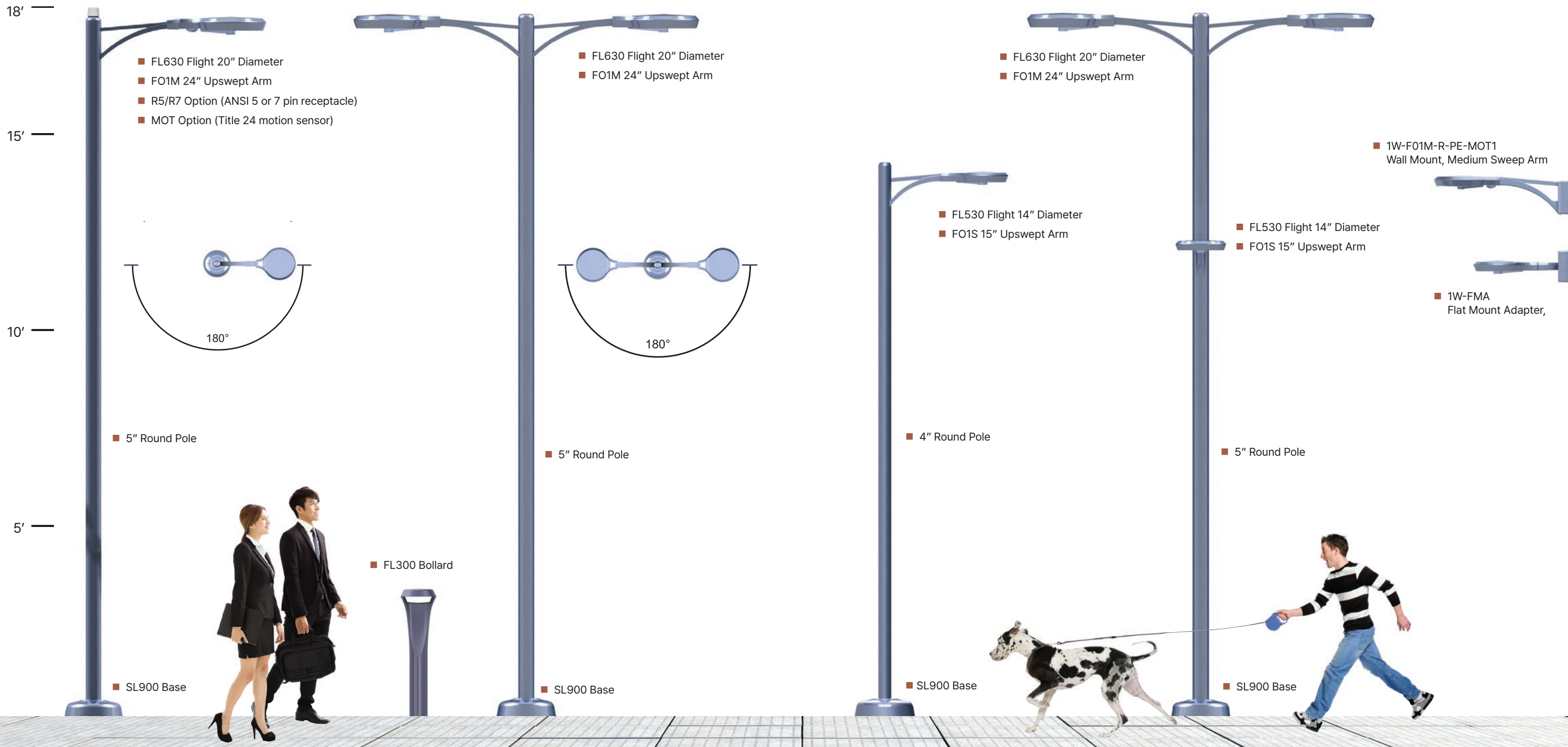
Light then reflects back down to coverage area.



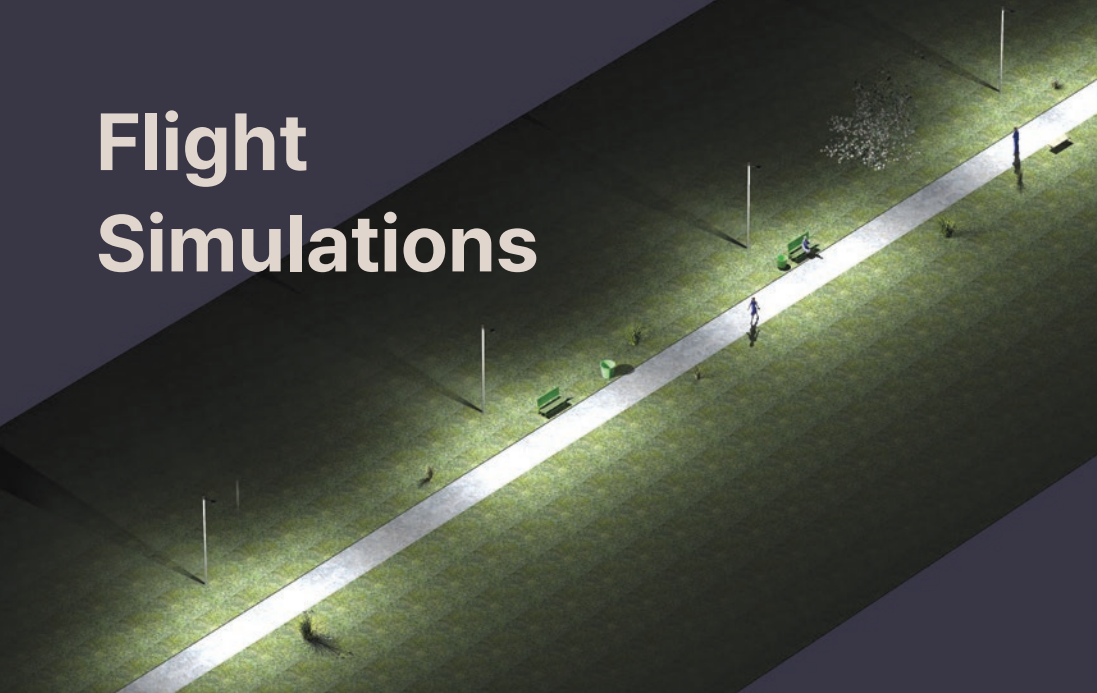
Why Choose Flight?

- COB (Chip on Board), requiring fewer LEDs, circuit boards, and related material.
- Patented Heat Pipe integration for unparalleled thermal management in the most challenging environments.
- Indirect optical system produces impressive lumen output and efficacy, while mitigating glare by eliminating direct view of LED.
- SoftVue™ lens option significantly reduces glare when lower mounting heights bring the light source closer to eye level.
- Highly efficient Type 3 and Type 5 optics designed to maximize spacing while providing exceptional uniformity.
- Standard CCTs include 2700K, 3000K, 4000K or 5000K, with minimum CRI of 70.
- IP66 rated, protecting the fixture from intrusion by water, dust, or other particulates.
- L70 rating > 100,000 hrs at maximum wattage, per IES TM-21.
- Engineered and manufactured to perform in environments ranging from -40°C (-40°F) to +50°C (122°F).

Flight Configurations



Flight Simulations



All of the simulations are using a SV2 lens.

PATHWAY

USING: FL530-1L40T3-MDL07-SV1- 41w
 20' MH, 75' spacing
 Illuminance (Fc)
 Average = 1.73
 Maximum = 2.97
 Minimum = 0.45
 Avg/Min = 3.84
 Max/Min = 6.60



TWO LANE RESIDENTIAL

RP8: Local Road, with Low Pedestrian Conflict
 USING: FL630-1L40T3-MDL12-SV2 - 66w
 20' MH, 195' staggered spacing
 Illuminance (Fc)
 Average = 1.05
 Maximum = 4.26
 Minimum = 0.18
 Avg/Min = 5.83
 Max/Min = 23.67



COURTYARD

USING: FL530-1L40T3-MDL07-SV2 - 41w
 15' MH,
 Illuminance (Fc)
 Average = 3.15
 Maximum = 5.76
 Minimum = 0.94
 Avg/Min = 3.35
 Max/Min = 6.13

Sternberg's Patented COB/Heat Pipe Thermal Management

Heat Pipes are one of the most efficient ways to move heat, or thermal energy, away from a heat source like Chip On Board light emitting diodes. These two-phase systems are typically used to cool areas or materials, even in outer space. Heat pipes were first used by Los Alamos National Laboratory to supply

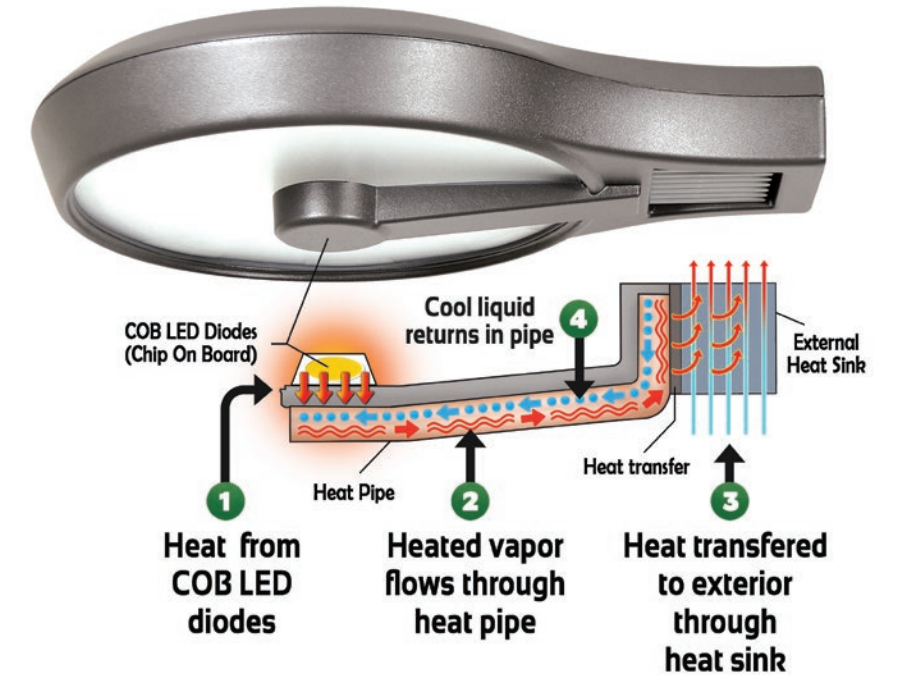
heat to and remove waste heat from energy conversion systems. Today, heat pipes are used in a variety of applications from outer space to your pocket. Heat pipes are present in the cooling and heat transfer systems found in computers, cell phones, and satellite systems.

What is a Heat Pipe?

A heat pipe is a simple tool, but how it works is quite ingenious. These devices are sealed vessels that are evacuated and backfilled with a working fluid, typically in a small amount. The pipes use a combination of evaporation and condensation of this working fluid to transfer heat in an extremely efficient way.

The most common type is cylindrical in cross-section. Cool working fluid moves through the tube from the colder side (condenser) to the hotter side (evaporator) where it vaporizes. This vapor then moves to the condenser's heat sink, bringing thermal energy along with it. The working fluid condenses, releasing its latent heat in the condenser, and then repeats the cycle to continuously remove heat from the system during operation.

How Flight's Heat Pipe Thermal Management Works



Flight Optics: COB (Chip On Board)

Chip On Board technology brings a compact LED array to a decorative product that gives superior point source control while providing less surface brightness. The result is excellent light output, efficiency, and visual comfort. The COB light source is mounted in an indirect orientation. The LED emitter delivers light by means of a segmented, image duplicating, specular reflector system mounted in an upper housing.

Finally, surface brightness is made comfortable for the eye by the use of Softvue™ lens material. Flight optics deliver uniform IES light distribution patterns for site, area, pathway, and street applications.

Lutheran Manor Apartments & Wellness Center in Bethlehem, PA, offers housing for seniors and persons with a mobility disability.

The outside sitting area and accessible pathways are comfortably illuminated by Sternberg's Flight. Utilizing configurations with both twin and single 20" FL630's on unswept arms, along with Flight FL300 bollards accenting park bench areas.





Located in Roselle, Illinois
Engineered, Tested and Assembled in the USA!

Sternberg has created a legacy of old world craftsmanship that dates back to the company's inception in 1923. The work ethic and product innovations that made the early Sternberg company successful are still being practiced by our employees today. Our dedicated staff, attention to detail, and quality production processes are what make Sternberg a world class company.

Sternberg serves the municipal, landscape, higher education and commercial markets providing efficient and cost effective lighting solutions to the outdoor market.



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