



SternbergLighting

ESTABLISHED 1923 / EMPLOYEE OWNED

flight



www.sternberglighting.com

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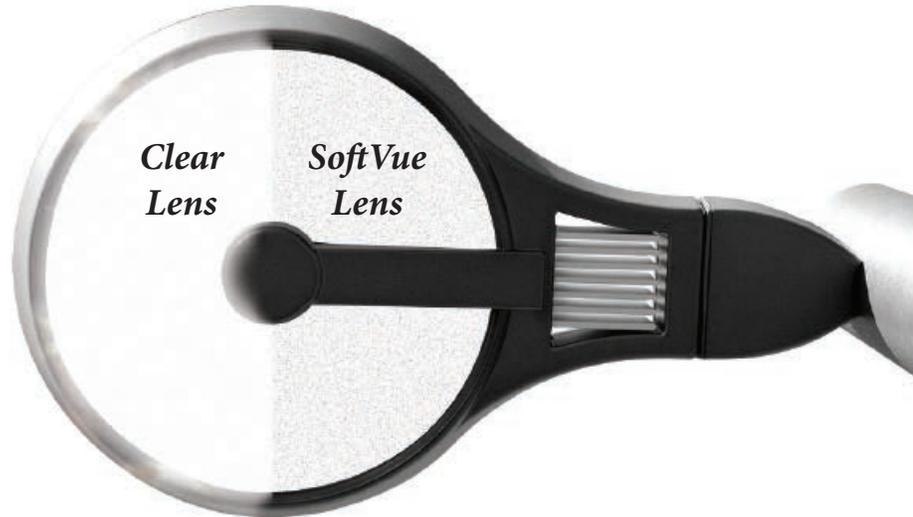


SoftVue™ Lens Technology

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.

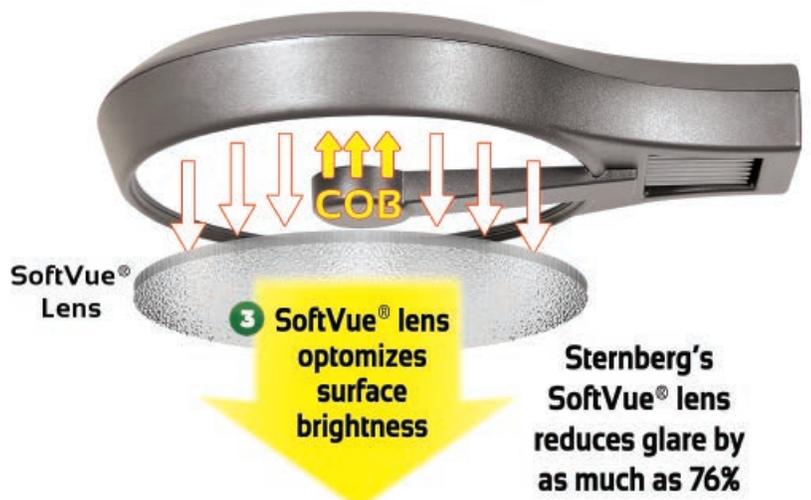


How Flight **REDUCES GLARE**

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



- 2 Light from COB emits upward and reflects back down to coverage area.



10 reasons to choose *flight*

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



flight

Whether mounted in a single or a multi-tiered configuration, the smooth dynamic shape of Flight inspires the imagination to soar!



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

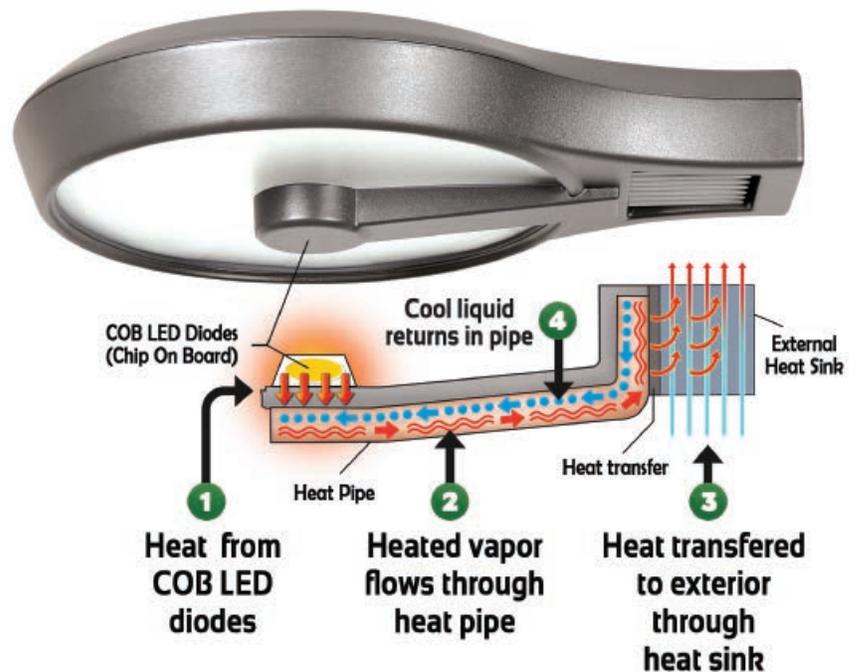
What is a Heat Pipe?

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.

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.

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.

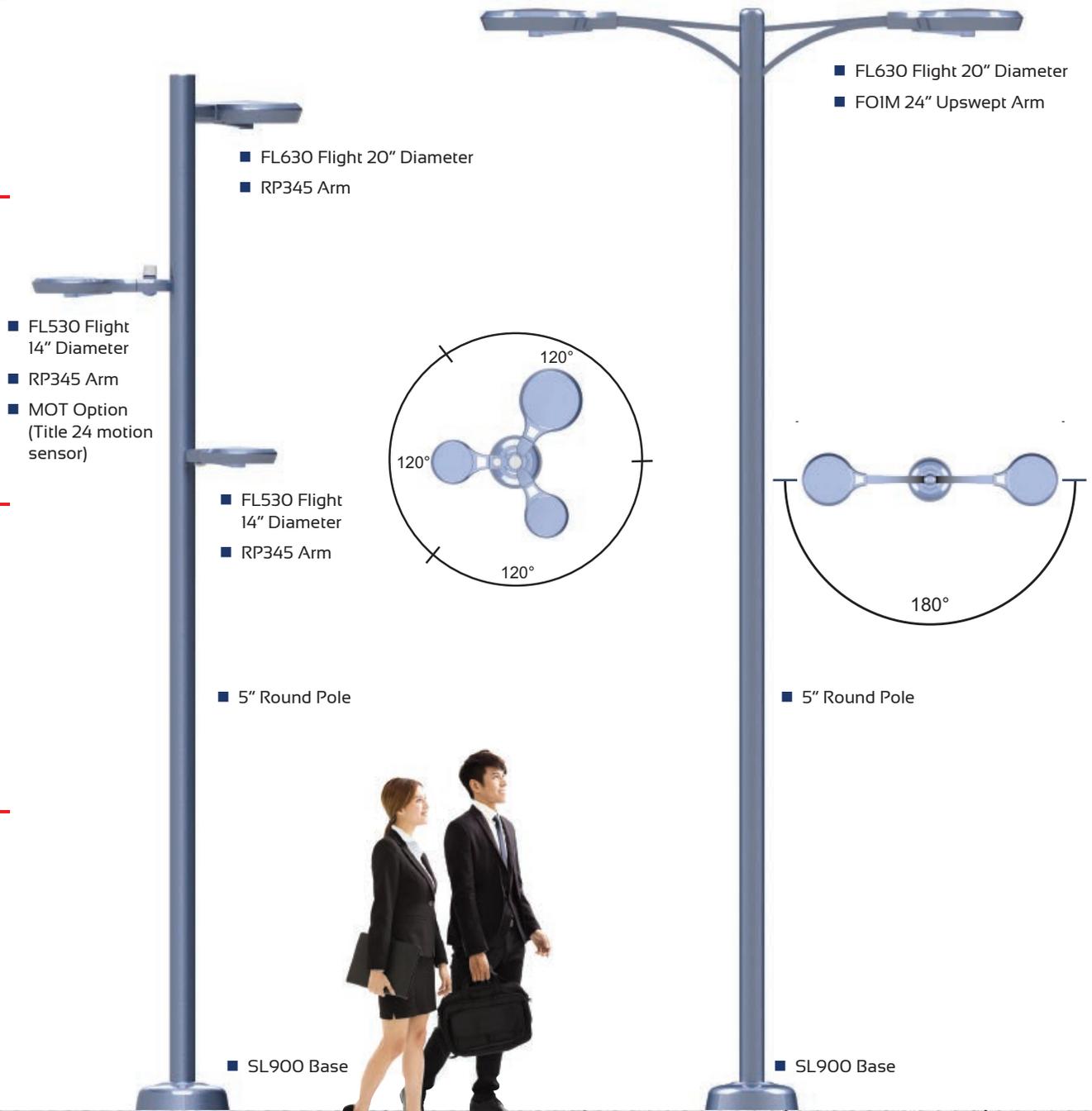
Flight Configurations

18' —

15' —

10' —

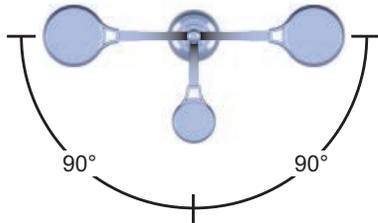
5' —



- FL630 Flight 20" Diameter
- FOIM 24" Upswept Arm

- IW-FOIM-R-PE-MOT1
Wall Mount, Medium Sweep Arm

- FL530 Flight 14" Diameter
- FOIS 15" Upswept Arm



- 5" Round Pole

- FL300 Bollard

- SL900 Base

Flight Configurations *Continued*

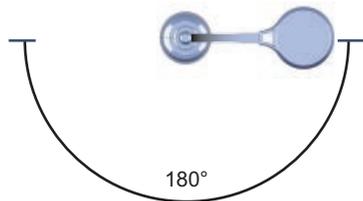
18'

15'

10'

5'

- FL630 Flight 20" Diameter
- FOIM 24" Upswept Arm
- R5/R7 Option (ANSI 5 or 7 pin receptacle)
- MOT Option (Title 24 motion sensor)



- 5" Round Pole

- SL900 Base

- FL530 Flight 14" Diameter
- FOIS 15" Upswept Arm

- 4" Round Pole

- SL900 Base

- IW-FMA
Flat Mount Adapter,
Wall Mount

- FL300 Bollard



Flight Simulations

All of the simulations are using a SV2 lens.



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

Flight Simulations

All of the simulations are using a SV2 lens.



2 LANE RESIDENTIAL

RP8: Local Road, with Low Pedestrian Conflict

USING: FL630-1L40T3-MDL12-SV2 – 66w

20' MH, 195' staggered spacing

Illuminance (Fc)

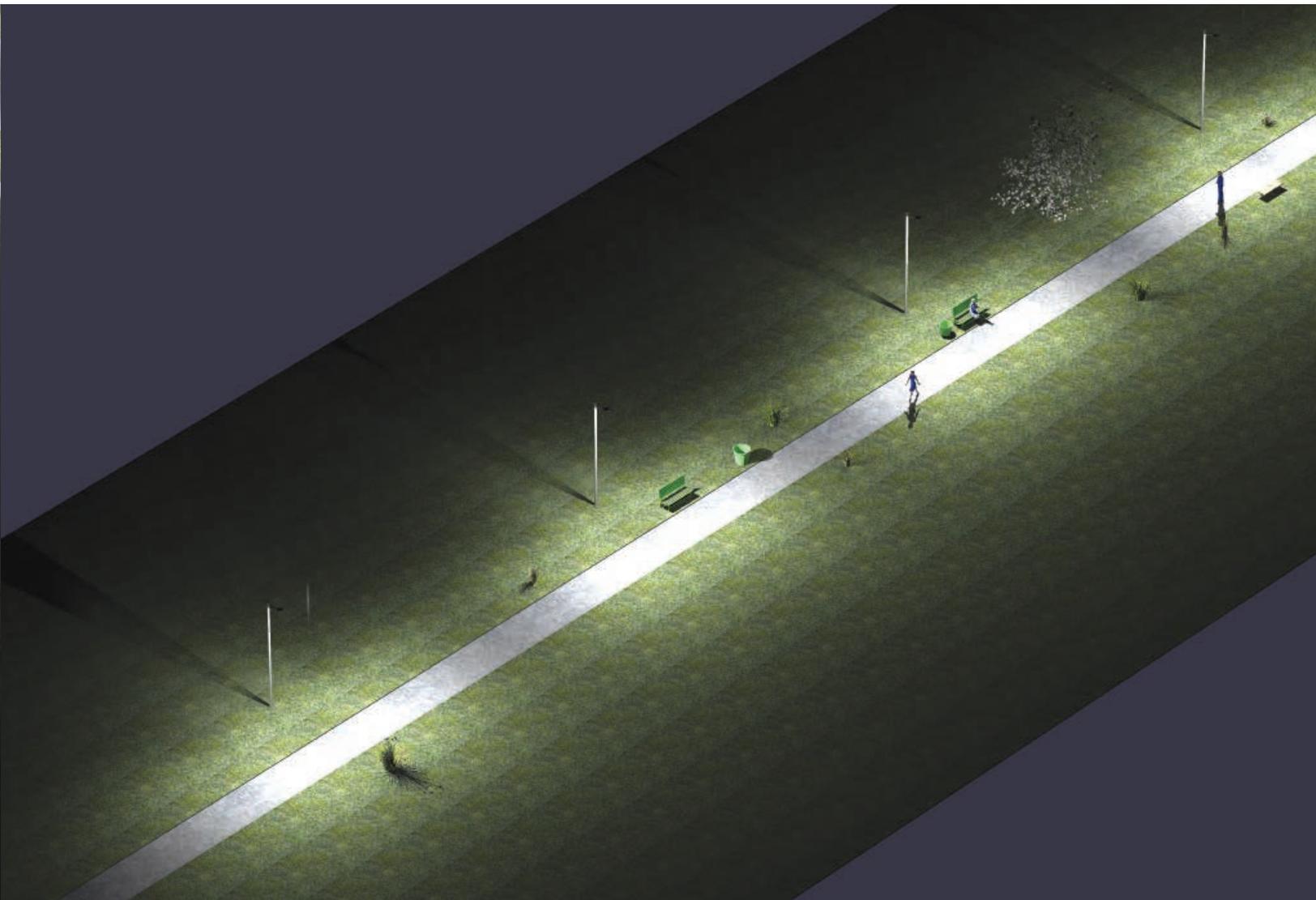
Average = 1.05

Maximum = 4.26

Minimum = 0.18

Avg/Min = 5.83

Max/Min = 23.67



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

flight

Since 1923, Sternberg Lighting has maintained its position as a leader in the street lighting industry by utilizing the latest technological advancements.

Today, our energy efficient LED street lighting luminaires have set a new standard for municipalities, universities, utilities and commercial entities seeking significant energy and maintenance savings.

Sternberg Lighting is a US manufacturer located in Roselle, IL and is employee owned.



- ✓ *Employee Owned!*
- ✓ *Made in The USA!*



See our complete catalog online at:
www.sternberglighting.com

