



## GreenStar LED

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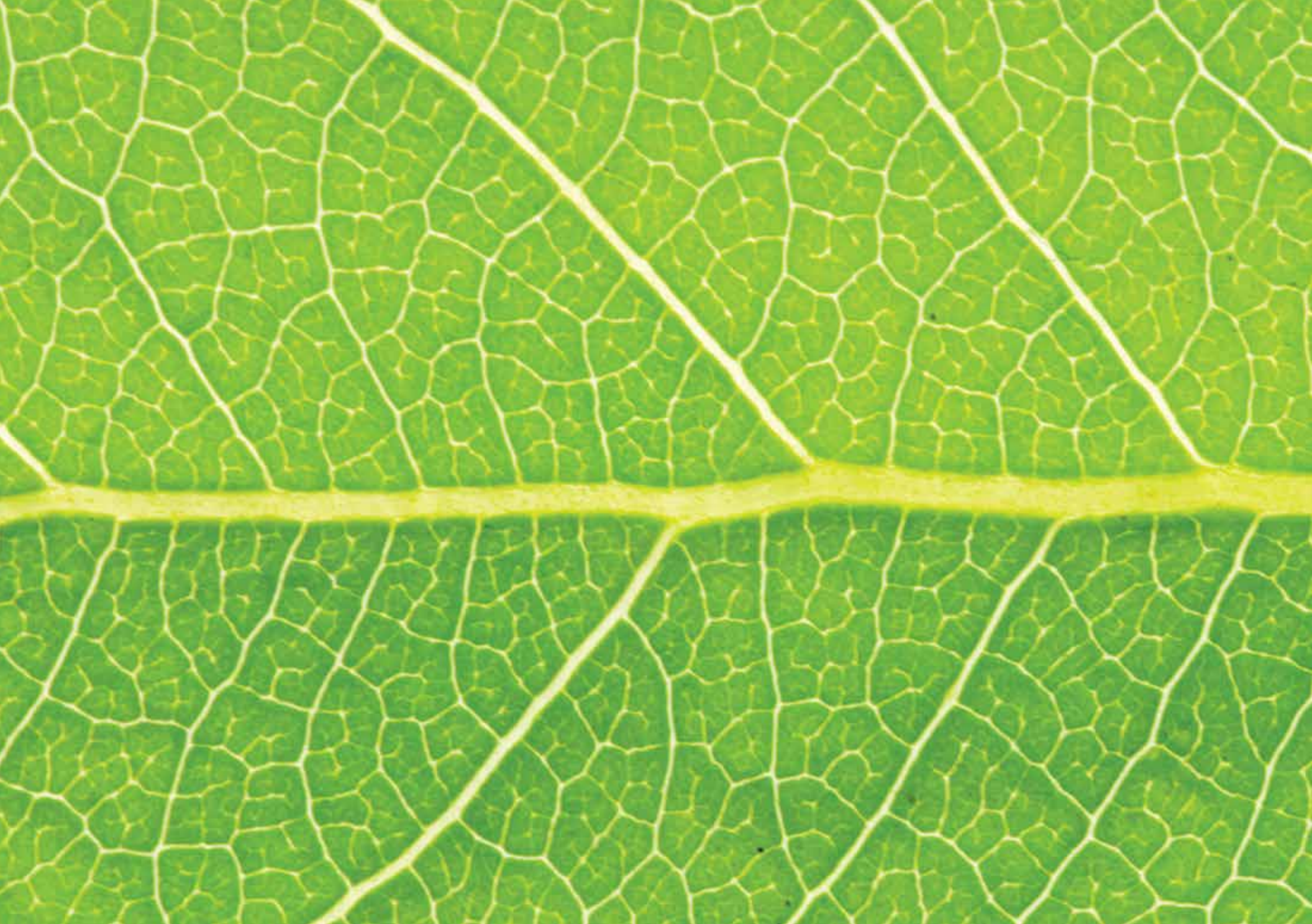


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**GREENSTAR**





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“With the Galaxy series lights you can expect years of trouble-free performance.”

# GALAXY/ASTRO

Sleek, versatile street and area luminaire

The Galaxy/Astro fixtures use Philips Lumileds LUXEON® R light-emitting diodes (LEDs). It offers best-in-class light output and efficacy at actual solution operating conditions. The design also includes Texas Instruments driver components, special high-performance lenses designed by Ledil as well as other top quality parts.

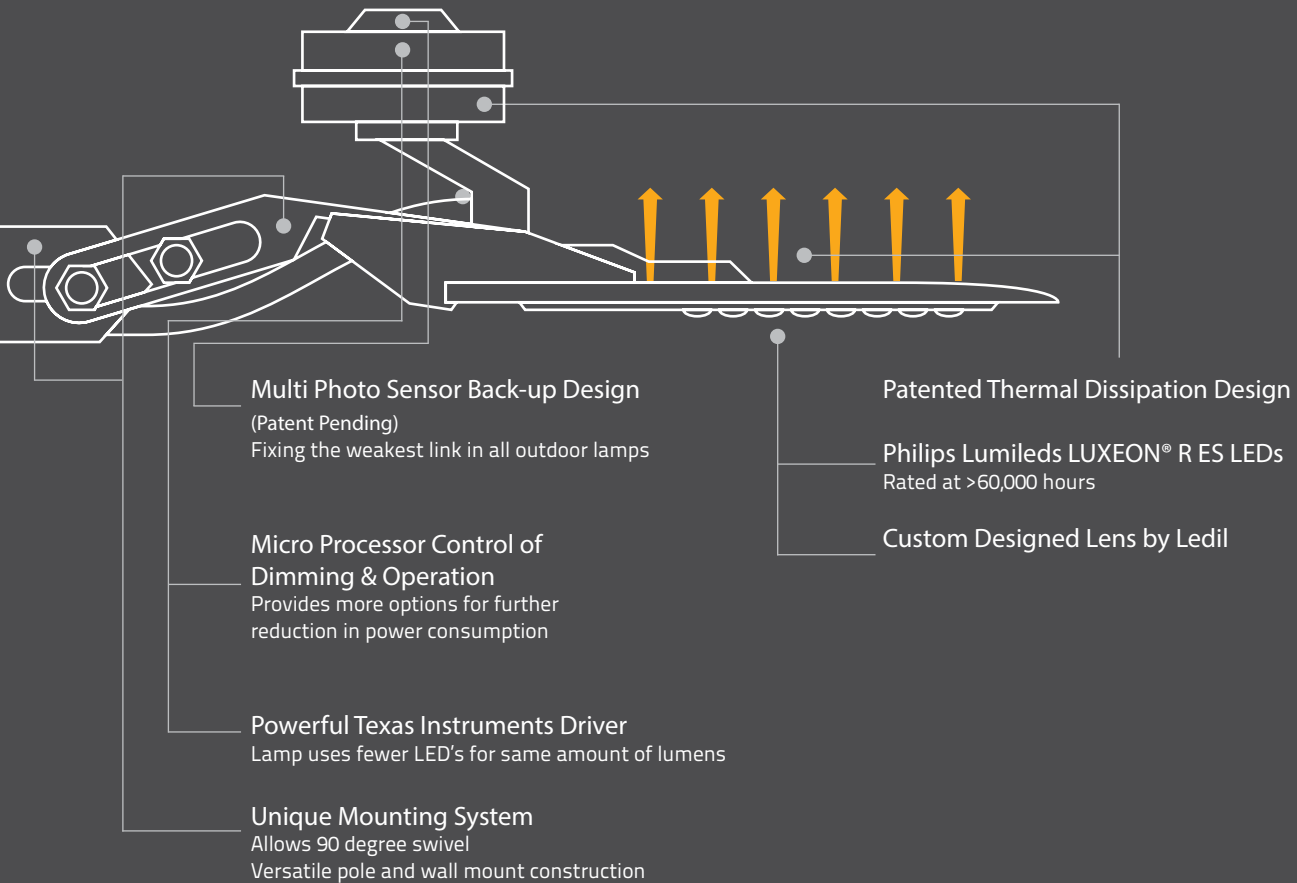
IES files and detailed features can be found at <http://greenstarled.com>

- Better light color than HPS
- No mercury, No UV
- Lowest life cycle cost of any technology
- Up to 95 L/W
- 60,000+ hour life
- CRI of 70-75
- Digital photocell for ambient on/off dimming
- Uses 60-80% less power



Astro model

Separated power supply provides improved heat management



Traditional cobra head design traps heat inside, shortening the life of the LED



# THE DIFFERENCE

- Advanced heat dissipation technologies for long-term reliability
  - Separated power supply provides better thermal management
  - “Zero air gap” LED mounting assures thorough transfer to heat exchange surface
  - Metal core printed circuit board delivers superior heat exchange
- Embedded Multi-Function Microprocessor
  - Fixture turns on/off and dims intelligently based on ambient light levels
- Modular construction for ease of field maintenance
- Driver components by Texas Instruments
- Lightning and surge protection embedded
- Full cut-off reduces light pollution
- Certifications: ETL (to UL standards), CE, RoHS, NOM, meets IP65, IESNA, Dark Sky
- Unique futuristic appearance

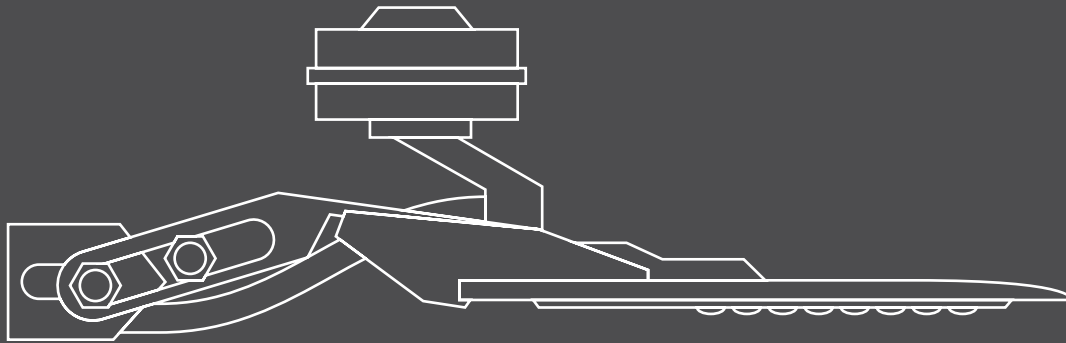


	ASTRO			GALAXY					
Galaxy/Astro Models	AS18	AS24	AS36	GL42	GL48	GL54	GL60	GL66	GL72
Number of LED	18	24	36	42	48	54	60	66	72
Typical Lumens	3,750	5,000	7,500	7,500	8,550	9,600	10,650	11,775	12,825
Power Consumption	43W	57W	83W	96W	109W	123W	137W	150W	164W
HID Equivalent	100W	150W	250W	250W	250W	300W	400W	400W	500W

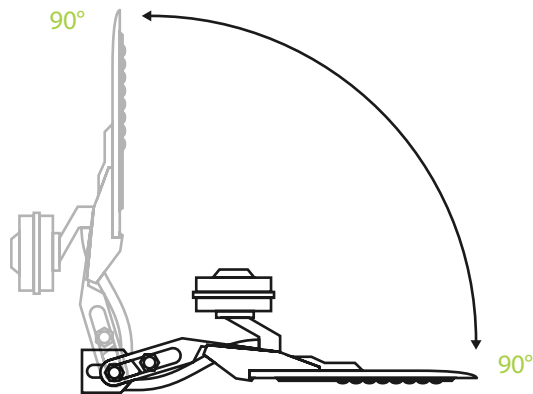
GreenStar has custom made lenses to suit various applications and delivered light requirements. All you need to do is provide your pole height, pole to pole distance and maximum/minimum Foot Candle/LUX requirements and our applications engineers will do the rest to recommend the most optimum configuration for maximum energy efficiency.

## THE MODELS



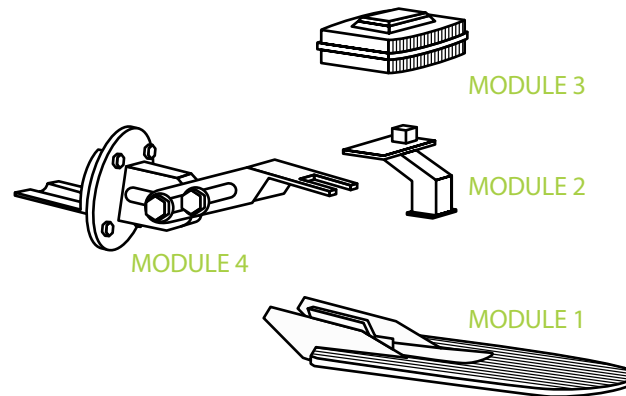


# THE FIXTURE



Thanks to our patented unique 90° swivel mounting hardware, the fixtures are suitable for highways, streets, sports areas, ranches, work areas, security, parking as well as many other applications. The Galaxy/Astro also comes standard with a pole mount which can be removed for wall mounting.

Galaxy/Astro also have an option to use an arm with a junction box, terminal block and a external surge arrestor. (+55° to -5°)



Modular construction for ease of field maintenance.



# GALAXY / ASTRO

## Electrical

Input Line Voltage	90-285 VAC standard / 400-500 VAC optional
Frequency Range	50/60Hz
Power Factor (PF)	>0.95
Surge/Spike Protection	10 KV, MOVs & Arc Tubes
Total Harmonic Distortion (Thd)	<10%
Forward Current	700mAmps

## Optics

Light Source	Philips Lumileds® LUXEON R >60,000 hours
Color Temperature (°Kelvin)	4,100 K or 6,000 K
Custom Design Lens Source	Ledil
Delivered Light Efficiency	>90%
Beam Pattern	Ultra-Wide (Type III/Type IV Hybrid)
Light Delivery Rating	Cutoff (Dark Sky certified)

## Ratings

Operating Temperature	-40C to +50C; -40F to +122F
Certifications	ETL (to UL standards), CE, RoHS, NOM, FIDE, meets IP65, IESNA, Dark Sky

## Mchanics

Dimensions	922 x 280 x 264 mm / 36.2 x 11 x 10.4 in
Weight	10.5 Kgs / 23.1 lbs
Casing Material	Aluminum alloy
Lens Material	High-impact optic quality PMMA
Mounting	1.25" to 3" Round Arm & Wall Mount standard



# RTL / ATL

Utility grade luminare

The RTL is our second generation of roadway and area lighting fixtures. Designed mainly for heavy duty and utility applications, it performs at over 90 L/W, counts on a tool-less entry arm with terminal block, can use a NEMA photocell as well as Greenstar's proprietary digital photo control, and a variety of optics (II, III, IV, V).



Note: Lumen output is rounded.

Model	Drive Current (mA)	Input Watts	Input Current (A)			Distribution Type	4000K		5700K	
			120V	240V	277V		Lumens	Efficacy (LPW)	Lumens	Efficacy (LPW)
24 LEDs	350	27	0.23	0.11	0.10	II III IV V	2,900 2,900 2,850 2,800	107 107 106 104	3,000 2,900 2,900 2,900	111 107 107 107
	700	54	0.45	0.23	0.19	II III IV V	4,900 4,900 4,850 4,800	91 91 90 89	5,200 5,000 4,900 4,850	96 93 91 90
36 LEDs	350	40	0.33	0.17	0.14	II III IV V	4,300 4,300 4,200 4,100	108 108 105 103	4,500 4,400 4,300 4,200	113 110 108 105
	700	79	0.66	0.33	0.29	II III IV V	7,500 7,200 7,200 7,000	95 91 91 89	7,600 7,400 7,300 7,300	96 94 92 92
48 LEDs	350	53	0.44	0.22	0.19	II III IV V	5,800 5,800 5,700 5,600	109 109 108 106	5,900 5,900 5,900 5,800	111 111 111 109
	700	106	0.88	0.44	0.38	II III IV V	9,900 9,600 9,550 9,500	93 91 90 90	10,100 9,900 9,800 9,700	95 93 92 92
60 LEDs	350	67	0.56	0.28	0.24	II III IV V	7,000 7,000 7,000 6,900	104 104 104 103	7,300 7,200 7,200 7,100	109 107 107 106
	700	133	1.11	0.55	0.48	II III IV V	12,100 12,000 12,000 11,700	91 90 90 88	12,400 12,200 12,100 12,000	93 92 91 90
72 LEDs	350	81	0.68	0.34	0.29	II III IV V	8,400 8,500 8,300 8,200	104 105 102 101	8,900 8,700 8,600 8,400	110 107 106 104
	700	155	1.29	0.65	0.56	II III IV V	14,400 14,500 14,500 14,100	93 94 94 91	14,600 14,900 14,800 14,500	94 96 95 94

# The Models

RTL Series fixtures from GreenStar continue our tradition of quality and performance while better serving specific roadway and area segments. Count on this line to include the best GreenStar and Toshiba Lighting have come together to build.

# RTL/ATL

## Electrical

Input Voltage	110-277 VAC - 50-60 Hz
Power Factor	>0.95
Surge Protection	10 KV, Total Harmonic Distortion
Harmonic Distortion	<10%
Forward Current	700 mAmps
Dimming Control	0-10V compatible

## Optics

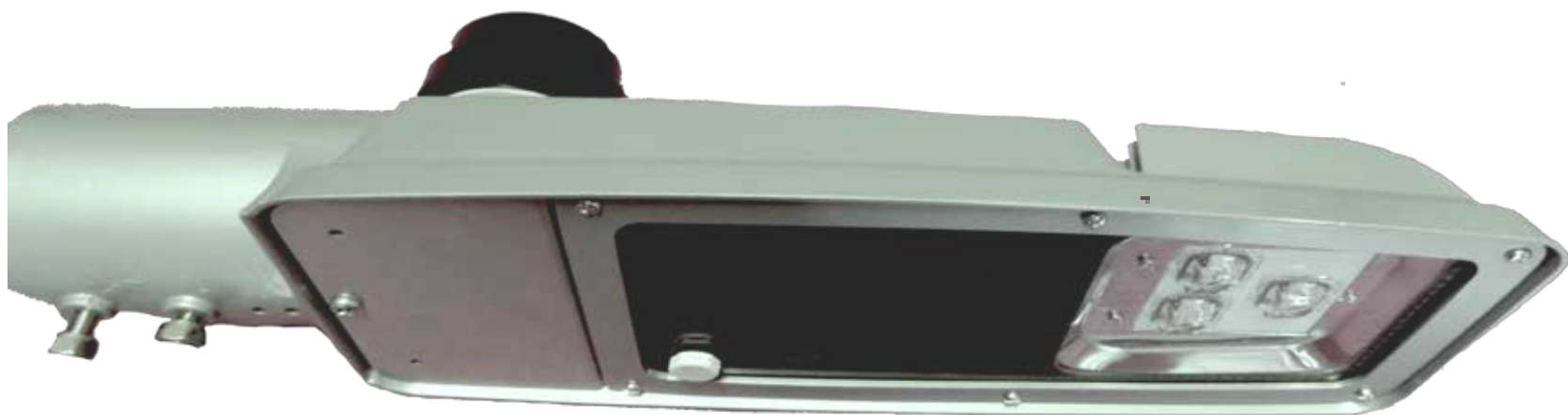
Light Source	Philips Lumileds® LUXEON R >60,000 hours
Color Temperature (Kelvin)	4,100 K , 6,000 K
Optics Design	Ledil
Light Efficacy	>90%
Patterns	Full Cutoff/ Zero Uplight

## Ratings

Operating Temperature	-25C +40C; -13F +104F
Standards and Certifications	ETL (UL1598), CE, RoHS, IP66, LM79, Dark sky

## Mechanics

Dimensions	22"x10"x5" in models RTL2/RTL3 27x10x5" in models RTL4/RTL6/RTL7
Weight	21 lbs (9.5kg) in models RTL2/RTL3; 27 lbs (12.2kg) in models RTL4,RTL6,RTL7
Body	Aluminum alloy and PC
Materials Used in Optics	High light transmission PMMA lenses.
Mounting	-5° to +5° adjustable steps in the RTL arm







# CORONA

Latest Generation of residential roadway luminaire

The Corona is Green Star new fixture series with its sleek, modern design and its compact and light structure 6.7 lbs, 3kg (Corona 2 and 3).

This new fixture achieves an easy connection thanks to its foot long AC cable with Tyco connectors.

\*IES files and detailed features can be found at <http://greenstarled.com>

- Ideal for 70W-150W HID street and security light replacements
- IP66 rated
- Type II, III or V optics
- CRI of 70-75
- Built-in, 10kv driver surge protection in addition to field replaceable surge arrestor
- Flat, tempered glass cover (IK08 impact rating)

Model	Drive Current (mA)	Input Watts	Input Current (A)			Distribution type	4000K and 5700K	
			120V	240V	277V		Lumens	Efficacy (LPW)
CN2	1,050	27	0.23	0.11	0.10	II III V	2,430	90
CN3	1,050	40	0.33	0.17	0.14	II III V	3,600	90
CN4**	1,050	55	0.46	0.23	0.20	II III V	4,950	90
CN6**	1,050	80	0.67	0.33	0.29	II III V	7,200	90

\*\*CN4 and CN6 available soon.

The Corona comes in a silver colored, powder coated, corrosion resistant paint finish. It has a flat, tempered glass cover (IK08 impact rating) with moisture controlling W.L. Gore vents and achieves IP66 rating. It can be specified with or without a NEMA receptacle as well as with type II, III or V optics.

## The Models

# Corona



## Electrical

Input Voltage	90-285 VAC - 50-60 Hz
Power Factor	>0.95
Surge Protection	10 KV, MOVs, Arc Tubes
Harmonic Distortion	<10%
Forward Current	1,050 mAmps
Dimming Control	0-10V compatible

## Optics

Light Source	Philips Lumileds® LUXEON M >60,000 hours
Color Temperature (Kelvin)	4,100 K , 6,000 K
Optics Design	Ledil
Light Efficacy	>90%
Patterns	Full Cutoff/ Zero Uplight

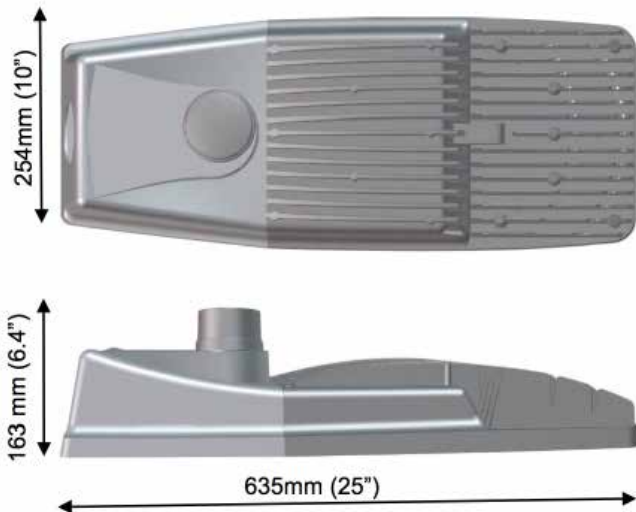
## Ratings

Operating Temperature	-40C +50C; -40F +122F
Standards and Certifications	ETL (UL1598), CE, RoHS, NOM, FIDE, IP66, LM79, Dark sky

## Mechanics

Dimensions	17"x3.4"x6"
Weight	6.7 lbs (3kg) in models CN2/CN3
Body	Die Cast Aluminum
Materials Used in Optics	High light transmission PMMA lenses. Tempered glass cover with Gore vent
Mounting	Mounts to a horizontal arm with a splitfitter mount





Ideal for wide range of 250W-400W HID applications, including: Roadway, Area, Parking, Commercial and Retail settings with a sleek, Modern design and a tool-less entry with 4-bolt/2-bracket slipfit with leveling steps for mounting to 1-1/4" to 2" (1-5/8" to 2-3/8" O.D.) Horizontal pole arm. Square pole mount option available soon. The new Avenger also has a easy connection achieved with three position terminal block and is IP66 rated.

# AVENGER

Latest generation of utility grade LED luminaires

- Flat, tempered glass cover (IK08 impact rating)
- Photo control options: None, NEMA photocell, or digital
- Photo sensor with automatic ambient dimming
- 0-10V dimming compatible
- Type II, III, or V optics available
- CRI of 70-75
- Field replaceable LED board and drivers
- 10kV surge protection with additional external, field-replaceable surge arrestor
- Weight planned to be less than 20 lbs (9Kg)
- Moisture controlling W.L Gore vents



Model	AV08	AV12
Number of LEDs	8	12
Lumens	9,000	14,500
Power	100W	150W
Equivalent HID	250W	400W

The avenger has several photo control options such as None, NEMA photocell, or digital, also it comes in types II, III or V distributions and has a flat, tempered glass cover (IK08 impact rating). This new fixture from Green Star has a CRI of 70-75 and a 10kV surge protection with additional external, field-replaceable surge arrestor.

## The Models

# Avenger

## Electrical

Input Voltage	90-285 VAC - 50-60 Hz
Power Factor	>0.95
Surge Protection	10 KV, MOVs and Arc Tubes
Harmonic Distortion	<10%
Forward Current	1,050 mAmps
Dimming Control	0-10V compatible

## Optics

Light Source	Philips Lumileds® LUXEON M >60,000 hours
Color Temperature (Kelvin)	4,100 K , 6,000 K
Optics Design	Ledil
Light Efficacy	>90%
Patterns	II, III, IV and V
Light Cutoff	Full Cutoff/Zero Uplight

## Ratings

Operating Temperature	-40C to +50C; -40F to +122F
Standards and Certifications	ETL (UL1598), CE, RoHS, NOM, FIDE, IP66, LM79, Dark Sky

## Mechanics

Weight	Weight planned to be less than 20 lbs (9Kg)
Body	Die Cast Aluminum
Materials Used in Optics	High light transmission PMMA lenses. Tempered glass cover with Gore vent
Mounting	Mounts to horizontal arm (1.25" - 2") with 2-bracket/4-bolt system





# SOLARIS

Warehouse/canopy LED luminaire

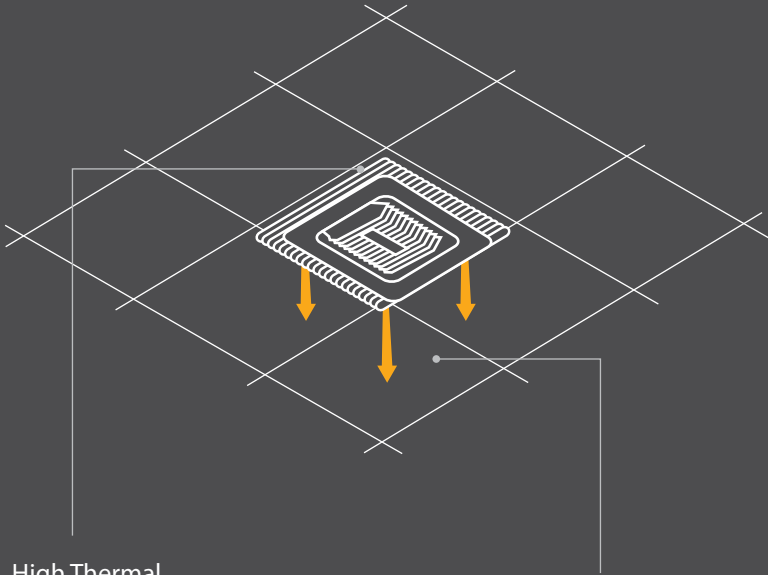
In keeping with its tradition of breaking  
The market barriers through innovation  
And technology, Green Star presents the  
Solaris series fixture for canopies, cold storage,  
warehouses, etc.

The Solaris features an exciting and  
Stylish design with clever orientation of  
Uniform and brilliant illumination to  
the target area.

IES files and detailed features can be found at  
<http://greenstarled.com>

- High Thermal Dissipation
- Design Key to Extending Life
- High Drive Current Design  
Requiring Fewer LEDs and Lenses
- High Intensity LED  
Providing Brighter Lighting
- Micro-Controller Powered
- Rugged and Durable

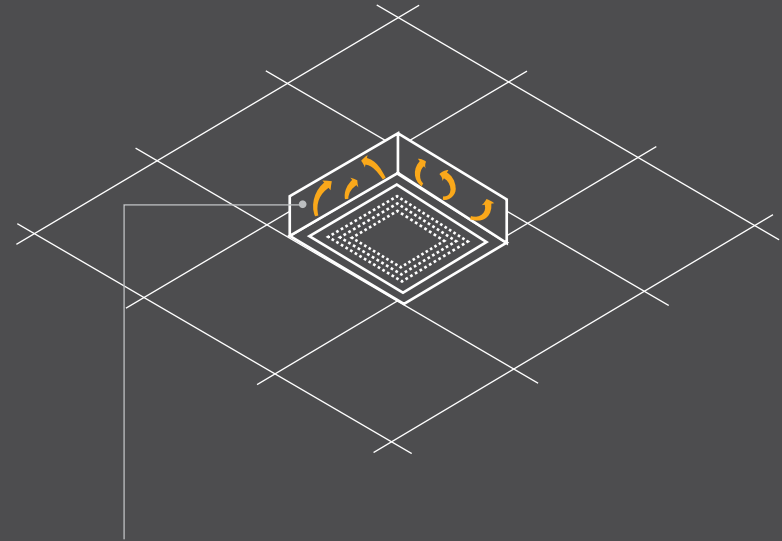
## Conservation is a form of Alternative Energy



High Thermal  
Dissipation Design extends  
the LED life to 12-14 years by  
removing heat.

Heat drawn down and away  
from canopy and LEDs

- Saves Energy
- Saves Money
- Saves Maintenance
- Ideal for Extreme  
Temperatures Applications



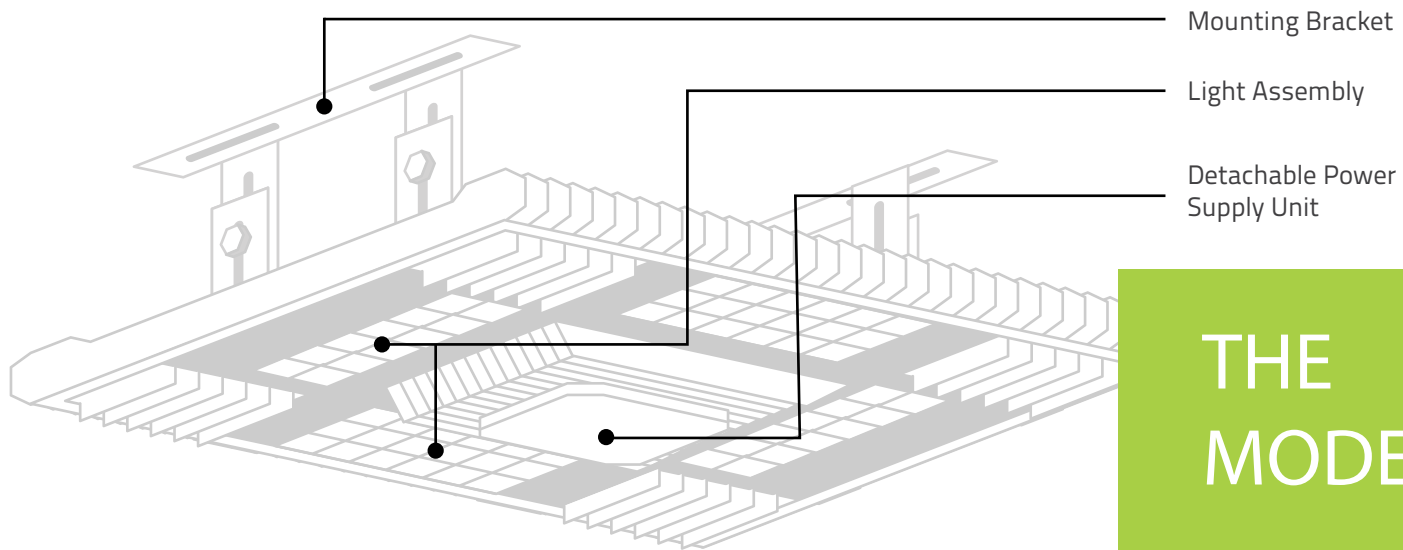
In a traditional canopy light, heat  
gets trapped in overhead space thus  
shortening the life of the LED.

Research has shown that decreased LED  
efficacy is tied directly to inadequate heat  
management



# THE DIFFERENCE

- Superior heat dissipation technology keeps LEDs well below manufacturer recommended operating temperatures, providing extended life.
- 700mA drive current. Delivers most light using fewest LEDs, lowering cost and opening more design options.
- Precision refractor optics. Advanced technology (no reflectors) delivers a uniform pattern of bright light and high lumen output.
- Quality components and manufacturing extended life E-caps, metal core printed circuit boards and conformal coating are examples of the higher quality care we put in each light which pays off in extended life and durability.
- World recognized partners. Our key partners, Philips Lumileds, Texas Instruments and Ledi, are all well known for quality and innovation, delivering peace of mind.
- Best return on investment. By maximizing the efficiency of our components through design, we are able to provide more light with fewer LEDs and lenses.

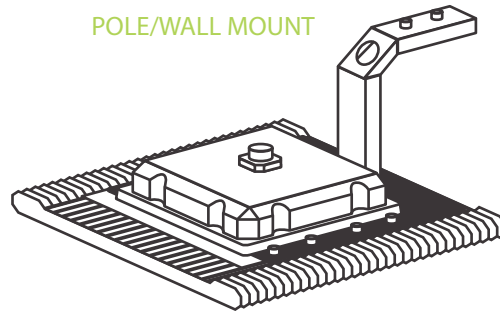


## THE MODELS

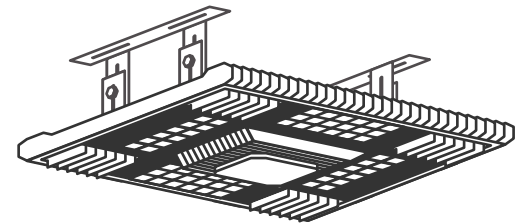
Model	SL36	SL48	SL60	SL72
Number of LED	36	48	60	72
Typical Lumens	8,091	10,230	12,555	15,624
Power Consumption	87W	110W	135W	168W
HID Equivalent	150-200W	200-250W	250-300W	300-400W

# THE FIXTURE

POLE/WALL MOUNT



SUSPENDED MOUNT



# SOLARIS

## Electrical

Input Line Voltage	90-285 VAC standard
Frequency Range	50/60Hz
Power Factor(PF)	>0.95
Surge/Spike Protection	10 KV, MOVs & Arc Tubes
Total Harmonic Distortion ( Thd)	<10%
Forward Current	700mAmps

## Optics

Light Source	Philips Lumileds® LUXEON R >60,000 hours
Color Temperature (°Kelvin)	4,100 K to 6,000 K
Custom Design Lens Source	Ledil
Delivered Light Efficiency	>90%
Beam Pattern	Type V
Light Delivery Rating	Cutoff (Dark Sky certified)

## Ratings

Operating Temperature	-40C to +50C; -40F to +122F
Certifications	ETL (to UL standards), CE, RoHS, meets IP65, IESNA

## Mechanics

Dimensions	406.4 x 419.1 x 120.65 mm / 16 x 16.5 x 4.75 in
Weight	8.2 Kgs / 18 lbs
Casing Material	Aluminum alloy
Lens Material	High-impact optic quality PMMA
Mounting	Suspended & Pole/Wall Mount

PL10  
LED10

PL15  
LED15

GreenStar Engineering  
GSCB05M-L18V03

PL11

LED11

PL14

LED14

PL12

PL13





# VEGA

Flood and area LED luminaire

- Flat, tempered glass cover (IK08 impact rating)
- Ideal for 250w and 400w HID floodlight replacements
- Small, Sleek, Modern design
- U-Bracket for versatile mounting
- Rear connection box for use with waterproof threaded conduits
- Silver color, powder coated, corrosion resistant paint finish
- Moisture controlling W.L. Gore vents
- IP66 rated
- 0-10V dimmable
- CRI of 70-75
- Built-in, 10kv driver surge protection in addition to field replaceable surge arrestor
- Weighs only 13.3 lbs (6kg)
- 5 yr. limited warranty

Model	VE16	VE20
Number of LEDs	16	20
Lumens	9,000	13,500
Power	100W	150W
Equivalent HID	250W	400W

The Vega is our main LED floodlight and it will be in the market soon. It uses Luxeon M ES high efficiency LEDs, has a versatile U-Bracket mount for floor, pole, or wall mounting, it also has a flat, tempered glass cover (IK08 impact rating) and is IP66 rated.

## The Models

# Vega

## Electrical

Input Voltage	90-285 VAC - 50-60 Hz
Power Factor	>0.95
Surge Protection	10 KV, MOVs, Arc Tubes
Harmonic Distortion	<10%
Forward Current	2,100 mAmps
Dimming Control	0-10V compatible

## Optics

Light Source	Cree XML II Generation
Color Temperature (Kelvin)	4,100 K , 5,700 K
Optics	Type V
Light Efficacy	>90%
Patterns	Regular (no secondary optics) , Wide rectangular

## Ratings

Operating Temperature	-40C a +50C; -40F a +122F
Standards and Certifications	ETL (UL1598), CE, RoHS, NOM, FIDE, IP66, LM79

## Mechanics

Dimensions	13.03"h x 10.4"l x 4.49"w (331mm x 255mm x 277.5mm)
Weight	13.3 lbs / 6kg
Body	Die Cast Aluminum
Materials Used in Optics	High light transmission PMMA lenses. Tempered glass cover with Gore vent
Mounting	U-Bracket mount for floor, pole, or wall mounting



## OUR PARTNERS







GreenStar Manufacturing &  
Warehouse Center  
San Antonio, TX



**GreenStar Innovation Center**  
Gurgaon, India (near New Delhi)

