

CHANGE

WITHOUT COMPROMISE™

EnhanceLite™ LED Lamps



 **LEDnovation**
Driving the future of light

Claims are easy.

Other LED lamp manufacturers are quick to claim they have the brightest and/or most efficient lamps but when you dig down deep and look at the data, not many companies can back these claims up. **LEDnovation CAN!**

“We don’t make misleading claims because we don’t have to.”

Performance is what matters.

All of our lamps are rigorously tested in worst case scenarios to ensure top notch performance. Additionally, all of our spec data is backed by third party LM79, LM80 and in-situ temperature test data. We don’t make misleading claims because we don’t have to!

PAR38 COMPETITIVE ANALYSIS

| | Competitor A | Competitor B | Competitor C | LEDnovation |
|------------------------|--------------|--------------|--------------|--------------------|
| Wattage | 18 | 11 | 17 | 19 |
| Lumens | 850 | 565 | 705 | 950 |
| Equivalency* | 75W Halogen | 65W Halogen | 70W Halogen | 90W Halogen |
| CCT | 3000K | 2700K | 3000K | 3000K |
| CRI | 85 | 93 | 81 | 83 |
| Efficacy | 47 lm/W | 50 lm/W | 42 lm/W | 50 lm/W |
| Beam Angle/CBCP | 25° / 3,474 | 18° / 4,465 | 13° / 7,528 | 27° / 3,550 |

*Equivalency claims are based on beam angle and CBCP and determined by using the ENERGY STAR® Integral LED Lamp Center Beam Intensity Benchmark Tool (<http://www.drintl.com/htmlmail/Energystar/Dec09/ESIntLampCenterBeamTool.zip>).

You get what you pay for.

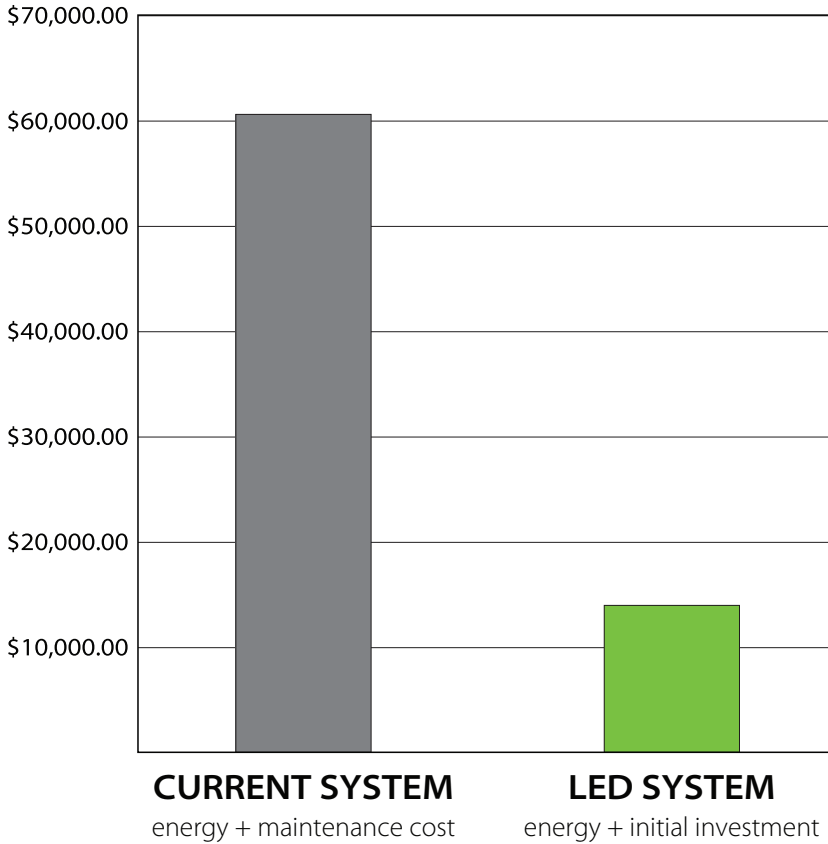
If you base your buying decision purely on cost you WILL be let down. The only way to ensure 50,000 hour lamp life, lamp to lamp color consistency and uniform light output over the life of the lamp is to start with the best design and utilize quality components. We do just that and back it up with our **BRIGHT FOR LIFE™** 5 Year Warranty. This warranty covers lumen depreciation, color shift as well as any issues with premature end of life.

Savings Today. Savings Tomorrow.

Efficient lighting becomes a business priority when it can positively influence a company's bottom line. While a number of LED-based lamps have recently come to market, none have demonstrated the full array of characteristics that would allow them to be considered both a compromise-free and cost-effective alternative to the inefficient and environmentally unsound incandescent and halogen lamp. We're pleased to point to the EnhanceLite line as the type of solution which makes a strong business case for LED lighting.

“Efficient lighting becomes a business priority when it can positively influence a company's bottom line.”

TOTAL LIFE CYCLE COST



TOTAL COST OF OWNERSHIP

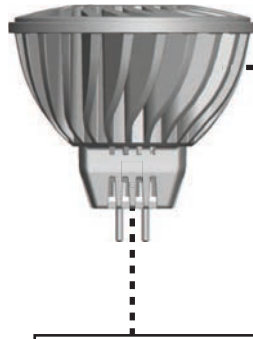
| | |
|--|---------------------|
| Total Maintenance Savings (lamp cost + labor cost) | \$20,385.00 |
| Total Energy Savings | \$32,731.00 |
| Initial Investment | \$6,375.00 |
| Total Life Cycle Savings | \$46,741.00 |
| Break Even Point | 14.92 months |
| ROI | 733.19% |
| Years before you will need to replace a LEDnovation lamp | 9.78 years |
| kWh's of electricity saved | 327,310 |
| Passenger vehicles taken off the road | 46.4 |

Assumptions: 10¢ per kWh, 14 hr/day, \$2.50 per lamp labor cost, typical retail application with mixture of MR16, PAR20, PAR30, & PAR38 lamp types.

The EnhanceLite™ LED Lamp Line

LEDnovation™ has meticulously engineered every element of these lamps, from intricate heat management to custom-designed driver electronics and optics, to finally enable a legitimate replacement lamp without compromising on the quality of light, reliability or lifetime.

ADVANCED OPTICS Our optics are designed to put light where you want it in the most efficient way possible. The EnhanceLite™ lamp line utilizes proprietary, patent pending optics that are 90% efficient, making our lamps the brightest and most efficient in the industry.



MAKING IT FIT Unlike most MR16 LED lamp offerings, EnhanceLite™ MR16 lamps fully conform to the ANSI standard form factor to assure compatibility with existing fixtures.

ANSI STANDARD FORM FACTOR As self-contained systems, LED replacement lamps internally house electronic and optical components. To fit these components and meet the desired thermal performance, many LED lamp manufacturers exceed the standard ANSI form factor for the lamp which it's intended to replace. This often results in lamps that hang out of or simply do not fit the fixture they are intended for. LEDnovation engineers design all EnhanceLite LED lamps to fit within the respective ANSI form factor.

| | |
|-----------------------|------------|
| Average Illuminance | 35 fc |
| Number of Luminaires | 30 |
| Number of Columns [X] | 6 |
| Number of Rows [Y] | 5 |
| Column Spacing [X] | 5.00 ft |
| Row Spacing [Y] | 4.00 ft |
| Column Start [X] | 2.50 ft |
| Row Start [Y] | 2.00 ft |
| Power Density | 3.70 W/ft² |



75W Halogen PAR30

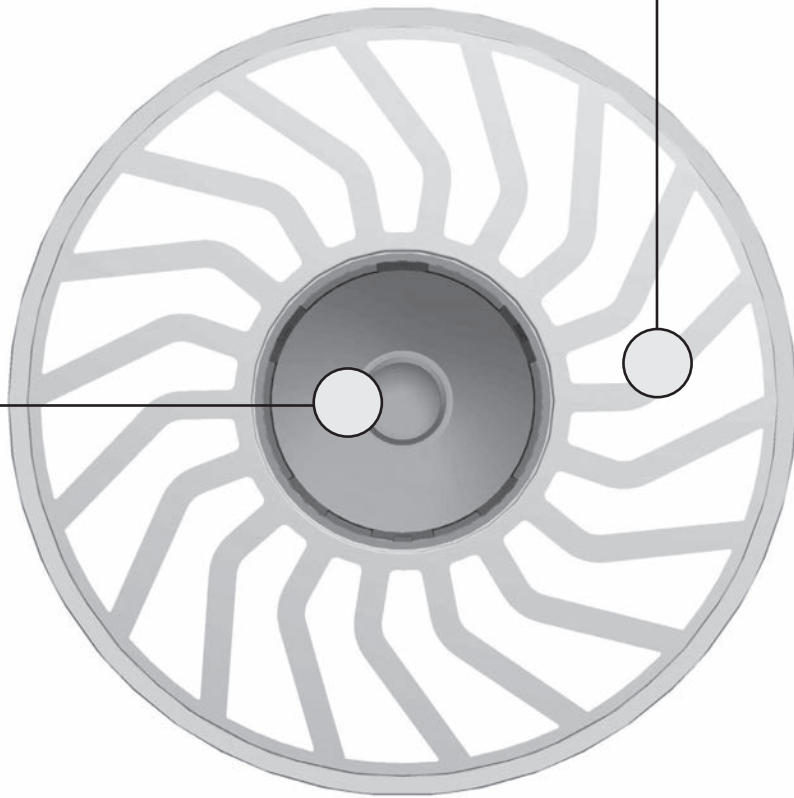
| | |
|-----------------------|------------|
| Average Illuminance | 35 fc |
| Number of Luminaires | 30 |
| Number of Columns [X] | 6 |
| Number of Rows [Y] | 5 |
| Column Spacing [X] | 5.00 ft |
| Row Spacing [Y] | 4.00 ft |
| Column Start [X] | 2.50 ft |
| Row Start [Y] | 2.00 ft |
| Power Density | 0.75 W/ft² |



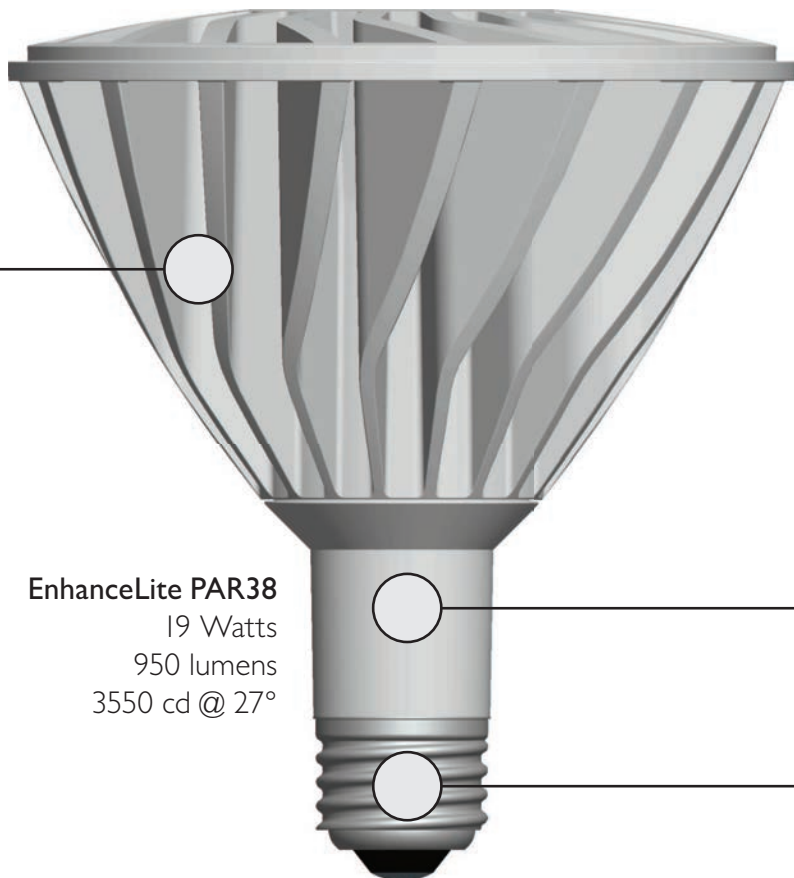
14W EnhanceLite PAR30

1 for 1 replacement comparison using an IES photometric file shows identical illuminance levels while dramatically reducing the power density of the space.

HEAT SINK EnhanceLite LED lamps utilize heat sinks made of high grade aluminum to effectively and efficiently dissipate heat away from the LED. We have conducted extensive thermal testing on all of our lamps and other key components (driver, capacitors, etc.) by placing the LED lamps in simulated "worst case scenarios" to ensure long term reliability. Our testing has determined that it's not the LEDs that will fail first but the capacitors. Due to this extra care has been taken in sizing and sourcing these components to ensure long term reliability.



HIGH EFFICIENCY DRIVER A low efficiency driver means less lumens out of the lamp. Most companies buy "off the shelf" drivers with efficiencies of 50-70%. This simply wasn't good enough for us, so we design our own proprietary driver. Our drivers are at least 90% efficient with a power factors >0.9. In addition, our drivers have been designed to allow the lamps to be dimmed down to 5% on standard incandescent dimmers without the flicker usually associated with dimming LED lamps.



EnhanceLite PAR38
19 Watts
950 lumens
3550 cd @ 27°



SCREW IN REPLACEMENT LAMP No need to re-wire a fixture. Simply remove the existing lamp and replace it with an equivalent EnhanceLite LED lamp. With lamps equivalent up to a 90W halogen you no longer need to sacrifice quality of light, reliability or lifetime in order to dramatically reduce energy and maintenance costs.



Chaner's



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ENHANCELITE™ LED LAMP SPECIFICATIONS

| Lamp Type | Power (W) | Lumen Output | Beam Angle | CBCP (cd) | Efficacy (lm/W) | CCT (K) | CRI | Voltage | Base Type | Rated Life (hrs) | Dimmable | Model No. |
|---|-----------|--------------|------------|-----------|-----------------|---------------------|-----|------------------|-----------|------------------|----------|-----------------------|
|  MR16 | 3.9 | 250 | 27° | 1,100 | 64 | 3000K Warm White | 81 | 12 VAC | GU 5.3 | 50,000 | YES | LED-MR16-20-12WD-INF |
| | 6.0 | 324 | 27° | 1,420 | 54 | | | | | | | LED-MR16-35-12WD-INF |
|  PAR20 | 3.5 | 230 | 27° | 800 | 66 | 3000K Warm White | 83 | 90-135 VAC, 60Hz | E26 | 50,000 | YES | LED-PAR20-35-1WD-INF |
| | 5.9 | 372 | 27° | 1,300 | 63 | | | | | | | LED-PAR20-50-1WD-INF |
| | 3.5 | 215 | 35° | 506 | 61 | | | | | | | LED-PAR20-35-1WD-IF |
| | 5.9 | 355 | 35° | 815 | 60 | | | | | | | LED-PAR20-50-1WD-IF |
|  PAR30 (Short Neck) | 7.9 | 490 | 27° | 1,690 | 62 | 3000K Warm White | 83 | 90-135 VAC, 60Hz | E26 | 50,000 | YES | LED-PAR30S-50-1WD-INF |
| | 14.3 | 750 | 27° | 2,600 | 52 | | | | | | | LED-PAR30S-75-1WD-INF |
| | 7.9 | 474 | 35° | 1,066 | 60 | | | | | | | LED-PAR30S-50-1WD-IF |
| | 14.3 | 740 | 35° | 1,680 | 52 | | | | | | | LED-PAR30S-75-1WD-IF |
|  PAR30 (Long Neck) | 7.9 | 490 | 27° | 1,690 | 62 | 3000K Warm White | 83 | 90-135 VAC, 60Hz | E26 | 50,000 | YES | LED-PAR30L-50-1WD-INF |
| | 14.3 | 750 | 27° | 2,600 | 52 | | | | | | | LED-PAR30L-75-1WD-INF |
| | 7.9 | 474 | 35° | 1,066 | 60 | | | | | | | LED-PAR30L-50-1WD-IF |
| | 14.3 | 740 | 35° | 1,680 | 52 | | | | | | | LED-PAR30L-75-1WD-IF |
|  PAR38 | 13.5 | 760 | 27° | 2,645 | 56 | 3000K Warm White | 83 | 90-135 VAC, 60Hz | E26 | 50,000 | YES | LED-PAR38-75-1WD-INF |
| | 19.0 | 950 | 27° | 3,550 | 50 | | | | | | | LED-PAR38-90-1WD-INF |
| | 13.5 | 710 | 35° | 1,700 | 53 | | | | | | | LED-PAR38-75-1WD-IF |
| | 19.0 | 870 | 35° | 2,285 | 46 | | | | | | | LED-PAR38-90-1WD-IF |
|  A19 | 6.1 | 615 | n/a | n/a | 101 | 2700K Warm White | >90 | 90-135 VAC, 60Hz | E26 | 50,000 | YES | LEDH-A19-60-1-27D-I |
| | 8.2 | 762 | n/a | n/a | 93 | | | | | | | LEDH-A19-75-1-27D-I |
| | 9.9 | 850 | n/a | n/a | 86 | | | | | | | LEDH-A19-100-1-27D-I |
|  A19 | 3.8 | 345 | n/a | n/a | 90 | 3500K Neutral White | 85 | 90-135 VAC, 60Hz | E26 | 50,000 | NO | LED-A19-40-1N-I |
| | 7.6 | 600 | n/a | n/a | 79 | | | | | | | LED-A19-60-1N-I |
| | 9.8 | 700 | n/a | n/a | 71 | | | | | | | LED-A19-75-1N-I |

All LEDnovation lamp models are tested for photometric performance in accredited third-party labs according to IES LM-79 requirements, with reports available online at www.lednovation.com

DESIGNED AND MANUFACTURED IN THE USA