

genesys

Light. Recreated.

gHID

Background



Atlanta, GA

The Home Depot, the world's largest home improvement retailer, sought an energy efficient alternative to optimize its existing HID lighting infrastructure. Home Depot's main objectives were to reduce both energy and operating costs; however, maintaining the overall light quality at their retail stores was equally critical to ensure all safety, customer satisfaction and brand standards were exceeded.

Genesys managed the installation of its patented gHID retrofit solution in all exterior fixtures at several of Home Depot's retail stores near Atlanta, GA. Post-installation energy consumption was reduced more than 72% on average and is delivering approximately \$10,000 in annual energy savings per location.

These results were achieved while measurably improving the overall light quality at each location without the disruption, unnecessary waste or prohibitive cost associated with other energy efficient lighting technologies. Home Depot, a leader in an extremely competitive industry, recognized that gHID offers superior value across every metric that matters and chose Genesys as its lighting partner to deliver savings without sacrifice.

Before: 1000W MH
\$13,860 electricity cost / year



After: gHID 320W
\$3,944 electricity cost / year



\$15 Million

in annual
energy savings
nationwide

72%

energy savings
and a brighter,
whiter light

Immediate Benefits. Simple and Efficient

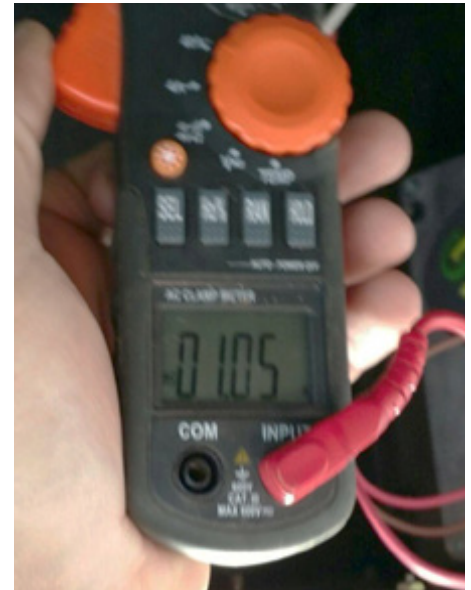
- **Dramatic energy savings.** 72%+ energy reduction of HID lighting energy costs
- **Compelling ROI.** 1 year payback
- **Immediate impact.** Quick installation using existing fixtures; zero business disruption
- **Improved light quality.** Higher CRI (brighter and whiter light)
- **Reduced maintenance costs.** Lamp life extended 2-3x; ballast life extended 3-4x
- **True sustainability.** Market leading energy efficiencies without replacing existing fixtures

Energy Savings

Before gHID (1000W)
2.74 Amps



After gHID (320W)
1.05 Amps



Meter Readings

Before		After
1	# Lights on circuit	1
480	Volts	277
2.74	Amps	1.05
1,315	Total Watts (Amps x Volts)	291
78% Savings (1,315W - 291W) / 1,315 W		

Home Depot Install Summary

# Fixtures at Location	47
Existing HID Lamp Wattage	1000
gHID Lamp Wattage	320
gHID Wattage Savings	>72%
Operating Hours	7 Hours/Day
Estimated cost per kWh*	\$0.10
Pre-retrofit HID Annual Lighting Usage (kWh)	141,276
gHID Annual Lighting Usage (kWh)	39,616
gHID Annual Energy Savings (kWh)	101,661
Pre-retrofit HID Annual Lighting Cost	\$14,128
gHID Annual Lighting Cost	\$3,962
gHID Annual Energy Cost Savings	\$10,166
Projected Maintenance Savings**	\$2,350
gHID Total Annual Savings	\$12,516

* Based on average electricity rate in GA

** Assumes annual maintenance savings of \$50 per fixture

Light Quality

At multiple Home Depot locations around Atlanta, Genesys installed its 320W gHID ballasts along with standard metal halide lamps to replace existing 1000W lamps (HPS and MH). In addition to delivering greater than 70% savings in energy consumption and cost, the light quality is now significantly whiter and brighter, which improves nighttime vision and safety.

Before: 1000W HPS



After: gHID 320W



Human vision has three primary modes: photopic vision (used in well-lit conditions), scotopic vision (used in low light conditions), and mesopic vision (combination of photopic and scotopic). Nighttime vision is generally dominated by scotopic or mesopic mechanisms; this is why scotopic measurements are so important for parking lot lighting conditions. For this reason, we always measure both the photopic and scotopic foot-candles at a location. The data presented below demonstrate that gHID provides the same average photopic foot-candles and 2.5x the scotopic foot-candles for substantially better vision in parking lots at night.

Foot-Candle Measurements														
Area	1		2		3		4		5		6		Average	
	P	S	P	S	P	S	P	S	P	S	P	S	P	S
Original 1000W HPS readings	11.1	9.4	0.3	0.3	0.2	0.2	0.1	0.1	10.8	6.8	0.7	0.6	3.86	2.90
gHID 320W readings	10.7	21.4	0.9	2.9	0.3	0.6	0.2	0.4	7.1	12.4	3.9	5.9	3.85	7.26