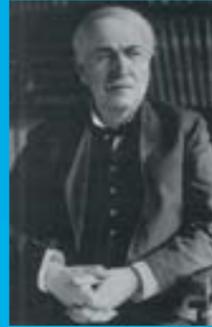


# A history of making history

For more than 125 years, one name has led the way in lighting technology. The GE brand is easily identified for our distinguished heritage and our dedication to quality, forward-thinking products. As the inventor of the very first commercially practical incandescent light, as well as the very latest in long-lasting, energy-efficient designs, GE can provide a solution for your toughest lighting challenges.



- **1878**  
Thomas Edison invented the first commercially practical incandescent lamp
- **1909**  
William D. Coolidge improves upon the carbon filament by creating a more-efficient ductile tungsten filament
- **1938**  
GE invents the first fluorescent lamp
- **1959**  
GE invents the first halogen lamp
- **1961**  
GE introduces the Lucalox® lamp
- **1986**  
GE invents a metal halide lamp that is used to light the Statue of Liberty
- **1990**  
GE invents HIR™ technology
- **2001**  
GE reinvents the light bulb with the GE Reveal® line and a redesigned compact fluorescent bulb
- **2006**  
GE introduces a new lens and reflector-precise optic to create a smoother beam and make halogen lamps more efficient
- **2007**  
GE introduces the most energy-efficient PAR38 on the market—HIR™ Plus—which replaces a higher-wattage standard PAR38 and saves as much as 54% in energy costs

## Why choose GE halogen?

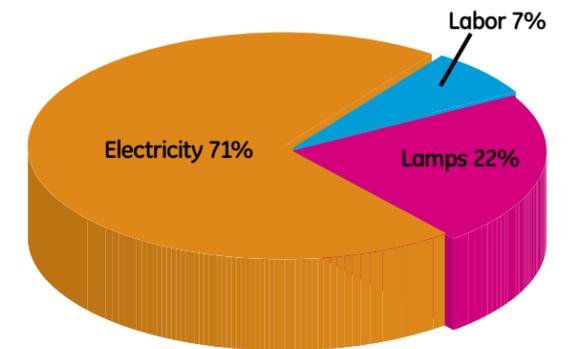
When it comes to energy savings, halogen lighting is the smart choice. Halogen not only offers the highest Color Rendering Index (CRI) to provide crisp, white light and a pleasant tone, but also provides a cost-efficient alternative to incandescent bulbs. These bulbs are available in a wide range of sizes and lumen packages to fit a variety of lighting applications. GE HIR™ Plus also delivers the highest energy efficiency and longest life of all products in the GE halogen product line, without compromising quality and quantity of light.

## Lighting Cost Comparison

Product information	Current lamp	Replacement lamp
Product	Halogen Plus	HIR™ Plus
Description	100PAR/H	67PAR/HIR+
Watts	100	67
Life	2,000	4,200
Lumens	1,500	1,500
Annual lamp changes	2.2	1.05

Annual operating costs	Current lamp	Replacement lamp	Savings
<b>Labor</b> (lamp changes x labor cost)	\$ 4.50	\$ 2.14	<b>\$ 2.36</b>
<b>Energy</b> (\$/kWh x watts x hrs./1000)	\$45.00	\$30.15	<b>\$14.85</b>
<b>Total operating cost</b>	\$49.50	\$32.29	<b>\$17.21</b> per socket

Assumes labor cost to replace a lamp: \$2.00  
Assumes energy rate (\$/kWh): \$0.10  
Assumes annual burning hours: 4,500



Photography by: © 2007 Lawrence Anderson/ESTO



Photography by: Blake Marvin—HKS, Inc.



Photography by: Peter Esko with Spectrum Engineers



## PAR38, PAR30 & PAR20 lamps

Standard PAR38, PAR30 and PAR20 halogen lamps provide an excellent balance of lumens, energy efficiency and product life. Each features precise beam control, improved optical performance and minimal stray light. Plus, all GE halogen lamps are mercury-free.

GE halogen PAR38 HIR™ Plus offers the highest-lumen-per-watt product on the market. These lamps are 54% more efficient than standard PAR38s and offer a significant savings opportunity over the life of the product.

### Maximize energy savings with GE HIR™ Plus lamps

Standard	HIR™ Plus—excellent energy savings with GE HIR™ Plus lamps			
	HIR™ Plus Wattage	Energy Savings*	Energy Savings in Dollars	Increased Life
120WPAR38	83W	37W	\$15.50	1.7x
90WPAR38	60W	30W	\$12.60	1.7x
75WPAR38	48W	27W	\$11.34	1.7x
60WPAR38	45W	15W	\$6.30	1.4x
75WPAR30	48W	27W	\$11.34	1.4x

### Excellent energy savings with GE HIR™ lamps

Standard	HIR™—excellent energy savings with GE HIR™ lamps			
	HIR™ Wattage	Energy Savings*	Energy Savings in Dollars	Increased Life
120WPAR38	100W	20W	\$6.00	1.5x
90WPAR38	70W	20W	\$6.00	1.2x
75WPAR38	60W	15W	\$4.50	1.2x
60WPAR38	50W	10W	\$3.00	1.4x

### Longer life with GE HIR™ XL 6,000 hours life lamps

Standard	HIR™ XL—longer life with GE HIR™ XL 6,000 hour life lamps			
	HIR™ XL Wattage	Energy Savings*	Energy Savings in Dollars	Increased Life
120WPAR38	90W**	30W	\$18.00	3x
90WPAR38	90W	0W	\$0.00	3x
60WPAR38	55W	5W	\$3.00	2x
50WPAR38	45W	5W	\$3.00	3x
50WPAR30LN	45W	5W	\$3.00	2x

\*Energy saving at 10¢ @ kWh over the life of the lamp  
\*\*Slight loss of light—2%

### An example of savings

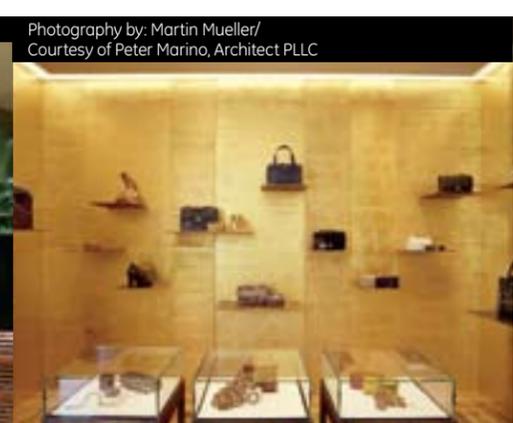
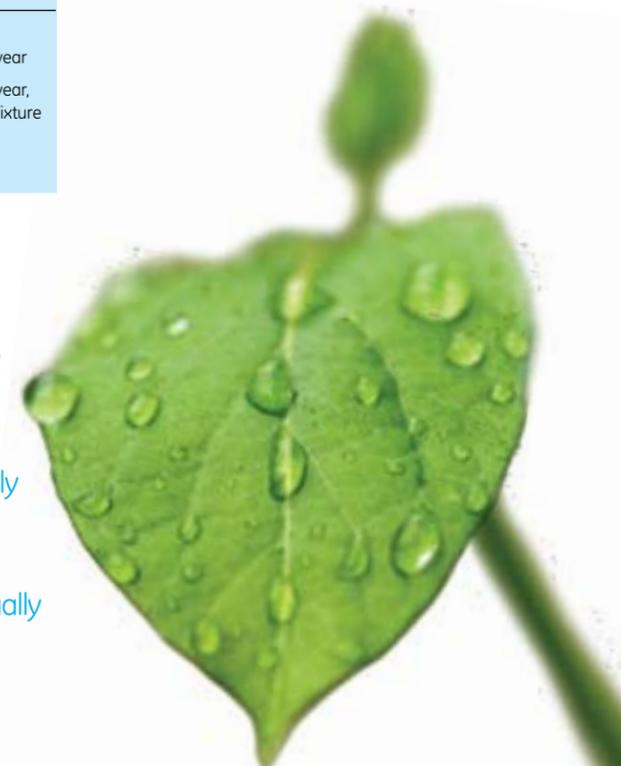
A furniture store with a 100,000-square-foot showroom uses 4,000 standard halogen 75-watt lamps. The reason this store has chosen halogen is for its crisp, white light and the option to dim the lighting. To conserve energy, the store maintains full power when customers are in the showroom, then dims the lights after everyone has left.

As you can see on the chart below, this furniture store will save approximately \$48,600 in energy each year by switching to HIR™ Plus lamps. And these mercury-free lamps are also helping protect the environment by reducing the same amount of carbon dioxide, sulfur dioxide and nitrogen oxide as planting 93 acres of trees or removing 65 cars from the road.

	Existing system	Proposed system
	75-watt Halogen 4,000 fixtures 1,050 Lumens	<b>HIR™ Plus</b> 48-watt Halogen 4,000 fixtures 970 Lumens
Watts per fixture	75	48
KiloWatt load	300	192
Energy cost (per year)	<b>\$135,000</b>	<b>\$86,400</b>
Energy rate (\$/kWh): \$0.10 Annual burning hours: 4,500	<b>\$48,600</b> per year <b>\$12.15</b> per year, per fixture <b>saved!</b>	

### Environmental impact of lighting upgrade

- Carbon Dioxide (CO<sub>2</sub>) emissions reduced by **748,440 lbs.** annually
- Sulfur Dioxide (SO<sub>2</sub>) emissions reduced by **2,937 lbs.** annually
- Nitrogen Oxide (NO, NO<sub>2</sub>) emissions reduced by **1,442 lbs.** annually
- 349,736 lbs. of **coal not burned** annually
- Atmospheric mercury contamination avoided by **7,554 mg.** annually
- Equivalent to **93 acres of forest** added
- Equivalent to **65 cars removed** from the road



## MR16 lamps

GE's exclusive ConstantColor® Precise™ MR16 lamps offer consistent color quality for up to 6,000 hours. These lamps create a rich, vibrant color and control UV light without the light fading or discoloration. Plus, a cooler beam is created as 66% of the heat passes through the back of the reflector.

Halogen Precise™ IR energy-saving MR16 lamps are designed to reduce energy by up to 26%\* while still delivering UV control, covered glass to allow for open fixture applications and a long 5,000-hour life.

### Maximize energy savings with GE HIR™ MR16 lamps

HIR™ MR16				
Standard	HIR™ MR16 Wattage	Energy Savings**	Energy Savings in Dollars	Increased Life
Q75MR16	50W	25W	\$12.50	2.5x
Q50MR16	37W	13W	\$6.50	2.5x
Q35MR16	20W	15W	\$7.50	2.5x

### Industry-leading quality of light with ConstantColor® MR16

ConstantColor® MR16			
Standard	ConstantColor® MR16 Wattage	Lumen Maintenance	Increased Life
Q20MR16	20W	90%	1.5x
Q35MR16	35W	90%	2.5x
Q42MR16	42W	90%	1.75x
Q50MR16	20W	90%	3x
Q71MR16	35W	90%	2x



\*As compared to standard MR16 lamps  
\*\*Energy saving at 10¢ @ KWH over the life of the lamp

### Testimonial

Although it measures just 12 feet by 16 feet, one room at the Cakebread Cellars Winery is of particular importance. Because it is here visitors to the family-owned vintner can examine, taste and enjoy Cakebread wine. "The owners, Jack and Dolores Cakebread, wanted the illumination in the Tasting Room to be respectful of the architectural form and rural setting of the winery," said Ivan Hawtof, principal—Hawtof Associates, Lighting Consultants. "Both they and I wanted to create an environment where the visitor's five senses were in balance."

Hawtof chose 50-watt narrow-beam ConstantColor® Precise™ MR16 lamps to paint light across the Tasting Room bar. His design provides ample illumination for both the examination and accenting of the wine—without casting unnecessary shadows on the visitors' faces.

A 35-watt spot ConstantColor® Precise™ MR16 lamp was added as a "blush of light" focused on the wine rack and display adjacent to the bar. The winery got the comfortable look and fresh ambiance it requested and the lighting designer the constant white light he needed, plus no light loss over the life of the lamp. "Everybody was so pleased with the Tasting Room," Hawtof noted proudly, "I then used various beam spreads of the 20- and 35-watt versions of the same lamp to illuminate approximately 20 trees, a 10-foot-tall waterfall and other garden stock adjacent to the Tasting Room."

	Ordinary MR16	GE ConstantColor® PRECISE™
10 hours		
3,000 hours		
6,000 hours	4,000 hour rated lamp	

Photography by: Martin van Koolbergen, AIA, IALD, LC, LEED® AP

Photography by: Jody Pritchard

Photography by: Anne Kustner Lighting Design, Ltd.



Watts	Order Code	Description	Volts	Case Qty	Rated Life (hrs)	Initial Lumens	Initial Color Temp	CBCP
<b>Halogen PAR38 Lamps</b>								
<b>HIR® Plus(+)</b>								
45	90512	45PAR/HR+/SP10	120	12	4200	870	2750	14100
45	90513	45PAR/HR+/FL25	120	12	4200	870	2750	3500
48	90515	48PAR/HR+/SP10	120	12	4200	970	2750	155000
48	90519	48PAR/HR+/FL25	120	12	4200	970	2750	38000
55	71446	55PAR/HR+/SP10	120	12	4200	1120	2750	175000
55	71598	55PAR/HR+/FL25	120	12	4200	1120	2750	4100
60	90520	60PAR/HR+/SP10	120	12	4200	1260	2800	19000
60	90529	60PAR/HR+/FL25	120	12	4200	1260	2800	47000
67	90601	67PAR/HR+/SP10	120	12	4200	1500	2750	22000
67	90602	67PAR/HR+/FL25	120	12	4200	1500	2800	5000
83	90605	83PAR/HR+/SP10	120	12	4200	2030	2850	30000
83	90606	83PAR/HR+/FL25	120	12	4200	2030	2850	7000
<b>HIR® Silv-IR</b>								
50	46168	50PAR/HR/S/SP10	120	12	4000	800	2750	140000
50	46167	50PAR/HR/S/FL25	120	12	4000	800	2750	3400
60	46165	60PAR/HR/S/SP10	120	12	4000	1050	2800	170000
60	46166	60PAR/HR/S/FL25	120	12	4000	1050	2800	28000
<b>HIR® Plus(+) (UltraLong Life)</b>								
53	76142	53PAR/HR+/SP10XL	120	12	8400	940	2700	15000
53	76143	53PAR/HR+/FL25XL	120	12	8400	940	2700	3700
<b>HIR XL® (UltraLong Life)</b>								
45	40793	45PAR/HR/SP12XL	120	6	6000	600	2680	7000
45	40790	45PAR/HR/FL40XL	120	6	6000	600	2680	1300
55	40794	55PAR/HR/SP12XL	120	6	6000	800	2680	9000
55	40792	55PAR/HR/FL40XL	120	6	6000	800	2680	2000
90	40795	90PAR/HR/SP12XL	120	6	6000	1470	2800	17000
90	40791	90PAR/HR/FL40XL	120	6	6000	1470	2800	28000
<b>HIR®</b>								
50	40937	50PAR/HR/SP6	120	12	3000	800	2810	20000
50	12396	50PAR/HR/SP9	120	12	3000	800	2810	16000
50	12397	50PAR/HR/FL25	120	12	3000	800	2810	3400
50/46	22850	50PAR/HR/FL25	130/120	12	3000/6000	800/600	2810	3400
60	18627	60PAR/HR/SP10	120	12	3000	1050	2850	17000
60/54	18629	60PAR/HR/SP10	130/120	12	3000/6000	1050/800	2850	17000
60	11878	60PAR/HR/FL30-6PK	120	6	3000	1050	2850	28000
60	18626	60PAR/HR/FL30	120	12	3000	1050	2850	28000
60/54	18628	60PAR/HR/FL30	130/120	12	3000/6000	1050/800	2850	28000
60	10467	60PAR/HR/FL40	120	12	3000	1050	2850	17000
60	20947	60PAR/HR/WFL	120	12	3000	1050	2850	1100
60/54	20948	60PAR/HR/WFL	130/120	12	3000/6000	1050/800	2850	1100
70	46367	70PAR/HR/SP10	120	12	3000	1260	2900	19000
70/64	46369	70PAR/HR/SP10	130/120	12	3000/6000	1260/950	2900	19000
70	46368	70PAR/HR/FL25	120	12	3000	1260	2900	47000
70/64	46370	70PAR/HR/FL25	130/120	12	3000/6000	1260/950	2900	47000
70	16239	70PAR/HR/FL25-60	120	6	3000	1260	2900	47000
80	27216	80PAR/HR/SP10	120	12	3000	1500	2900	22000
80	27217	80PAR/HR/SP12	120	12	3000	1500	2900	175000
80	27218	80PAR/HR/FL25	120	12	3000	1500	2900	5000
100	18635	100PAR/HR/SP10	120	12	3000	2030	2900	30000
100	11885	100PAR/HR/SP10K	120	6	3000	2030	2900	30000
100/88	18636	100PAR/HR/SP10	130/120	12	3000/6000	2030/1470	2900	30000
100	10883	100PAR/HR/FL25-6F	120	6	3000	2030	2900	7000
100	18631	100PAR/HR/FL25	120	12	3000	2030	2900	7000
100/88	18633	100PAR/HR/FL25	130/120	12	3000/6000	2030/1470	2900	7000
100	10473	100PAR/HR/FL40	120	12	3000	2030	2900	3400
<b>Halogen Plus</b>								
45	17470	45PAR/H/SP10	120	6	2500	540	2750	8000
45/40	16229	45PAR/H/SP10	130/120	12	2500/5000	540/410	2750	8000
45	17471	45PAR/H/FL256PK	120	6	2500	540	2750	2000
45/40	16231	45PAR/H/FL25	130/120	12	2500/5000	540/410	2750	2000
60	25266	60PAR/H/SP10	120	12	3000	800	2800	13000
60	25269	60PAR/H/FL25	120	12	3000	800	2800	3200
60/54	25271	60PAR/H/FL25	130/120	12	3000/6000	800/608	2800	3200
75	14751	75PAR/H/SP9-6PK	120	6	2500	1050	2850	18000
75	14748	75PAR/H/FL25-6PK	120	6	2500	1050	2850	4000
75/66	21389	75PAR/H/FL25	130/120	12	2500/5000	1050/800	2850	4000
90	17450	90PAR/H/SP10	120	6	2500	1310	2900	20000
90/79	13311	90PAR/H/SP10	130/120	12	2500/5000	1310/1000	2900	20000
90	17451	90PAR/H/FL25-6PK	120	6	2500	1310	2900	47000
90/79	13308	90PAR/H/FL25	130/120	12	2500/5000	1310/1000	2900	47000
90	25727	90PAR/H/WFL-120V	120	12	2500	1310	2900	2475

See [gelighting.com](http://gelighting.com) for complete halogen offering.

GE has a policy of continuous improvement of its products and reserves the right to change materials and specifications without notice.



**GE Consumer & Industrial**  
Lighting  
General Electric Company  
[gelighting.com](http://gelighting.com)

Watts	Order Code	Description	Volts	Case Qty	Rated Life (hrs)	Initial Lumens	Initial Color Temp	CBCP
<b>Halogen Compact PAR Lamps</b>								
<b>Compact HIR® XL</b>								
45	41545	45PAR30HR/SP9XL	120	15	6000	620	2680	9750
45	41547	45PAR30HR/FL25X	120	15	6000	620	2680	2025
45	41550	45PAR30HR/FL35X	120	15	6000	620	2680	1125
50	19902	50PAR30/HR/SP9	120	15	4000	825	2810	15000
50	19901	50PAR30HR/FL25	120	15	4000	825	2810	3200
50/46	21533	50PAR30HR/FL25	130/120	15	3000/6000	825/620	2810	3200
50	19900	50PAR30/HR/FL35	120	15	4000	825	2810	2700
50/46	19903	50PAR30/HR/FL35	130/120	15	3000/6000	825/320	2810	2700
<b>HIR® Plus Compact PAR30 Long Neck and Short Neck</b>								
48	73546	48PAR30/L/HR+/FL	120	6	4200	850	2750	2500
48	74779	48PAR30/LN/HR+/SP10	120	6	4200	850	2750	9500
48	76127	48PAR30+/SP10	120	6	4200	840	2775	10200
48	76126	48PAR30+/FL30	120	6	4200	840	2775	2600
<b>Compact PAR30 Long Neck</b>								
50	14940	50PAR30L/H/SP10	120	6	3000	580	2800	7500
50/46	11117	50PAR30L/H/SP10	130/120	15	3000/6000	580/460	2800	7500
50	11116	50PAR30L/H/FL40	120	15	3000	580	2800	1100
50/46	11123	50PAR30L/H/FL40	130/120	15	3000/6000	580/460	2800	1100
50	14941	50PAR30L/H/WFL	120	6	3000	630	2800	880
75	11124	75PAR30L/H/SP10	120	15	3000	940	2830	13000
75/66	11129	75PAR30L/H/SP10	130/120	15	3000/6000	940/714	2830	13000
75	14943	75PAR30L/H/FL25	120	6	3000	940	2830	38000
75/66	11131	75PAR30L/H/FL25	130/120	15	3000/6000	940/714	2830	38000
75	16393	75PAR30L/H/WFL	120	6	3000	1050	2830	620
<b>Compact PAR30 Lamps</b>								
50	14023	50PAR30/H/SP10	120	6	3000	630	2800	8200
50/46	17870	50PAR30/H/SP10	130/120	15	3000/6000	630/500	2800	8200
50	17871	50PAR30/H/FL25	120	15	3000	630	2800	2300
50/46	17872	50PAR30/H/FL25	130/120	15	3000/6000	630/500	2800	2300
50	14022	50PAR30/H/FL35	120	6	3000	630	2800	1400
50/46	17874	50PAR30/H/FL35	130/120	15	3000/6000	630/500	2800	1400
60	27212	60PAR30/H/NSP9	120	15	3000	800	2800	11000
60	40167	60PAR30/H/FL25	120	15	3000	800	2800	29000
60	27214	60PAR30/H/FL35	120	15	3000	800	2800	17000
75	14802	75PAR30/H/SP10	120	6	3000	1030	2830	13000
75/66	18056	75PAR30/H/SP10	130/120	15	3000/6000	1030	2830	13000
75	18057	75PAR30/H/FL25	120	15	3000	1030	2830	38000
75	14779	75PAR30/H/FL35	120	6	3000	1030	2830	2400
75/66	18060	75PAR30/H/FL35	130/120	15	3000/6000	1030/790	2830	2400
<b>Compact PAR20 Lamps</b>								
35	85476	35PAR20/H/F25-PQ1/	120	6	1500	260	2700	520
50	14927	50PAR20/H/SP10	120	6	3000	570	2800	6000
50/46	17866	50PAR20/H/SP10	130/120	15	3000/6000	570/498	2800	6000
50	14928	50PAR20H/FL25	120	6	3000	570	2800	1500
50/46	17868	50PAR20H/FL25	130/120	15	3000/6000	570/498	2800	1500
<b>MR</b>								
<b>ConstantColor® Precise™ Cover Glass MR16</b>								
20	20858	Q20MR16C/CG15ES	12	20	5000		2900	3150
20	20857	Q20MR16C/CG40BA	12	20	5000		2900	475
35	20864	Q35MR16C/CG12	12	20	5000		3000	7500
35	20860	Q35MR16C/CG20	12	20	5000		3000	3200
35	20859	Q35MR16C/CG40	12	20	5000		3000	9000
35	41487	Q35MR16C/CG40	24	20	4000		29	