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EXHIBIT A

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FEDERAL TRADE COMMISSION

15
16 UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA

17
18 **FEDERAL TRADE COMMISSION,**

19 Plaintiff,

20 v.

21 **LIGHTS OF AMERICA, INC.,**
a California Corporation;

22 **USMAN VAKIL,**
an individual; and

23 **FAROOQ VAKIL,**
an individual,

24 Defendants.
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Case No. SACV10-01333 JVS (MLGx)

**AMENDED COMPLAINT FOR
PERMANENT INJUNCTIVE AND
OTHER RELIEF**

1 Plaintiff, the Federal Trade Commission (“FTC”), for its Complaint
2 alleges:

- 3 1. The FTC brings this action under Sections 5(a)(1) and 13(b) of the Federal
4 Trade Commission Act (“FTC Act”), 15 U.S.C. §§ 45(a)(1) and 53(b), to
5 obtain a permanent injunction, rescission or reformation of contracts,
6 restitution, the refund of monies paid, disgorgement of ill-gotten monies,
7 and other equitable relief, against Defendants Lights of America, Inc.,
8 Usman Vakil, and Farooq Vakil (collectively “Defendants”) for engaging
9 in deceptive acts or practices in connection with the advertising and sale of
10 lighting products, in or affecting commerce, in violation of Section 5(a) of
11 the FTC Act, 15 U.S.C. § 45(a).

12 **JURISDICTION AND VENUE**

- 13 2. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331,
14 1337(a), and 1345, and 15 U.S.C. §§ 45(a) and 53(b).
- 15 3. Venue is proper in this district under 28 U.S.C. § 1391(b)-(c), and 15
16 U.S.C. § 53(b).
- 17 4. At all times relevant to this Amended Complaint, the alleged acts and
18 practices of Defendants have been in or affecting commerce, as
19 “commerce” is defined in Section 4 of the FTC Act, 15 U.S.C. § 44.

20 **PLAINTIFF**

- 21 5. The FTC is an independent agency of the United States Government
22 created by statute. 15 U.S.C. §§ 41-58. The FTC enforces Section 5(a) of
23 the FTC Act, 15 U.S.C. § 45(a), which prohibits unfair or deceptive acts or
24 practices in or affecting commerce.
- 25 6. The FTC is authorized to initiate federal district court proceedings, by its
26 own attorneys, to enjoin violations of the FTC Act and to secure such
27 equitable relief as may be appropriate in each case, including rescission or
28 reformation of contracts, restitution, the refund of monies paid, and the

1 disgorgement of ill-gotten monies. 15 U.S.C. § 53(b).

2 **DEFENDANTS**

3 7. Defendant Lights of America, Inc. ("LOA") is a California corporation
4 with its principal place of business at 611 Reyes Drive, Walnut, CA 91789.
5 LOA transacts or has transacted business in this district and throughout the
6 United States.

7 8. Defendant Usman Vakil founded LOA in 1978 and has been a senior
8 executive with the Company since that time. Currently, Usman Vakil is
9 LOA's Chairman of the Board of Directors and President. Usman Vakil
10 has a 51 percent ownership interest in LOA. Defendant Usman Vakil
11 transacts or has transacted business in this district and throughout the
12 United States.

13 9. Defendant Farooq Vakil has been a senior executive with LOA since at
14 least 1993. Currently, Farooq Vakil is LOA's Secretary and Executive
15 Vice President. Farooq Vakil has a 49 percent ownership interest in LOA.
16 Defendant Farooq Vakil transacts or has transacted business in this district
17 and throughout the United States.

18 **DEFENDANTS' COURSE OF CONDUCT**

19 10. Since at least February 2008 and continuing thereafter, Defendants have
20 advertised, marketed, promoted, distributed, offered for sale, or sold light
21 emitting diode ("LED") lamps to retailers for sale to consumers. These
22 LED lamps are screw light bulbs that can be used in households in place of
23 incandescent bulbs. Properly manufactured LED lamps typically produce
24 more light output (*i.e.*, lumens, a measure of brightness) with less wattage
25 (*i.e.*, energy use) than traditional incandescent bulbs.

26 11. Defendants sold their LED lamps through retailers located throughout the
27 United States and Canada, including Walmart, Sam's Club, ACE
28 Hardware, Costco, Kroger, as well as through other retail businesses.

Consumers also could purchase Defendants' LED lamps from the Internet websites of numerous retailers, such as Amazon.com, Sam's Club, and ACE Hardware through at least October 2010.

12. Defendants advertised, marketed, promoted, distributed, offered for sale, or sold their LED lamps using claims: (1) comparing their LED lamps to incandescent watt bulbs; (2) identifying the light output in lumens of their LED lamps; and (3) stating that their LED lamps would last a specified number of hours.

13. From February 2008 through August 2009, Defendants sold at least [REDACTED] in LED lamps making all or some of the claims described in Paragraph 12. Defendants continued to sell LED lamps after August 2009, making all or some of the claims described in Paragraph 12.

14. Defendants created, prepared, disseminated, or caused to be disseminated product packaging, product brochures, and other promotional materials that contained the claims identified in Paragraph 12, including, but not limited to, the attached Exhibits 1 to 3:

a. Lights of America Packaging (Exhibit 1)

REPLACES 40 WATTS	USES ONLY 1.5 WATTS
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Save \$112**
In Energy Cost Per Bulb
90%
More Efficient
(Compared to incandescent
and halogen bulbs)
30,000 Hour Life
(Life Rating of LED's)

"You'll never change your bulbs again."***

[The asterisks after "Save \$112" and "You'll never change your

bulbs again” refer consumers to text appearing on the back of the package in very small print.]

**Based on the lifetime operating cost difference of a 40W bulb when compared to a 2.5W LED Bulb operated 4 hours per day 365 days per year at \$0.10 kwh over 30,000 hrs.

***Statement based on the minimum # of times the led [sic] bulb needs to be changed.

b. Lights of America Packaging (Exhibit 2)

Light Output: 201 lumens
Rated Life: 20,000 hours
Energy Used: 3.5 Watts
Color of Light: 5600K(Daylight)

[Graphic: picture of a large LED light bulb equal to ten small incandescent light bulbs arranged in a pyramid.]

LASTS 10 TIMES LONGER
[graphic described above]
than 2,000 hour incandescent bulbs

c. Lights of America Product Brochure (Exhibit 3 at FTC00162)

Accent SPECIFICATIONS
Bulb

WATTAGE: 4W
INCANDESCENT CAMPARISON [sic]: 45W
COLOR TEMP: 3500K
BULB LIFE HOURS: 30,000
HEAT FREE TECHNOLOGY

INCANDESCENT WATT BULB COMPARISON

15. In numerous instances, Defendants represented that their LED lamps would provide light output equivalent to a particular watt incandescent bulb. For example, Defendants claimed that their LED lamps use low wattage and either replace or are comparable to higher watt incandescent bulbs.

16. The claims described in Paragraph 15 appeared on product packaging for Defendants’ LED lamps. Those representations included, but are not limited to, the following claims for the models listed below:

a. 2001LED10-65K Replaces 25 watts, uses only 1 watt

- 1 Replaces 20 watts, uses only 1 watt
- 2 b. 2001LED53IN-65K Replaces 25 watts, uses only 1 watt
- 3 Replaces 20 watts, uses only 1 watt
- 4 c. 2001LEDE53OUT-65K Replaces 25 watts, uses only 1 watt
- 5 Replaces 20 watts, uses only 1 watt
- 6 d. 2001LEDE26-65K Replaces 25 watts, uses only 1 watt
- 7 Replaces 20 watts, uses only 1 watt
- 8 e. 2002LEDP30-65K Replaces 45 watts, uses only 3.5 watts
- 9 f. 2002LEDR30-65K Replaces 45 watts, uses only 3.5 watts
- 10 g. 2003LEDP38-65K Replaces 45 watts, uses only 5 watts
- 11 h. 2004LEDDL-35K Replaces 45 watts, uses only 3.5 watts
- 12 Replaces 40 watts, uses only 4 watts
- 13 i. 2025LED-30K Replaces 40 watts, uses only 1.5 watts
- 14 j. 2025LED-65K Replaces 40 watts, uses only 1.5 watts
- 15 k. 2025LEDE12-30K Replaces 40 watts, uses only 1.5 watts
- 16 l. 2025LEDE12-65K Replaces 40 watts, uses only 1.5 watts
- 17 m. 2026LED-30K Replaces 40 watts, uses only 1.5 watts
- 18 n. 2026LED-65K Replaces 40 watts, uses only 1.5 watts

19 17. The claims described in Paragraph 15 also appeared in product brochures
20 disseminated to retailers throughout the United States. Those
21 representations included, but are not limited to, the following claims for
22 the models listed below:

- 23 a. 2001LED10-65K Wattage: 1W, Incandescent Comparison:
24 25W
- 25 Wattage: 1W, Incandescent Comparison:
26 20W
- 27 b. 2001LED53IN-65K Wattage: 1W, Incandescent Comparison:
28 25W

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- Wattage: 1W, Incandescent Comparison:
20W
- c. 2001LED53OUT-65K Wattage: 1W, Incandescent Comparison:
25W
Wattage: 1W, Incandescent Comparison:
20W
- d. 2001LEDE26-65K Wattage: 1W, Incandescent Comparison:
25W
Wattage: 1W, Incandescent Comparison:
20W
- e. 2002LEDP30-65K Wattage: 3.5W, Incandescent Comparison:
45W
- f. 2002LEDR30-65K Wattage: 3.5W, Incandescent Comparison:
45W
- g. 2003LEDP38-65K Wattage: 5W, Incandescent Comparison:
45W
- h. 2004LEDDL-35K Wattage: 3.5W, Incandescent Comparison:
45W
Wattage: 4W, Incandescent Comparison:
45W
- i. 2025LED-30K Wattage: 1.5W, Incandescent Comparison:
40W
- j. 2025LED-65K Wattage: 1.5W, Incandescent Comparison:
40W
- k. 2025LEDE12-30K Wattage: 1.5W, Incandescent Comparison:
40W
- l. 2025LEDE12-65K Wattage: 1.5W, Incandescent Comparison:
40W

- 1 m. 2026LED-30K Wattage: 1.5W, Incandescent Comparison:
2 40W
- 3 n. 2026LED-65K Wattage: 1.5W, Incandescent Comparison:
4 40W

5 18. In addition to the “incandescent comparison [sic]” claims described in
6 Paragraph 17 above, Defendants’ product brochures included pictures of
7 product packaging that indicated that their LED lamp “replaces” a much
8 higher wattage incandescent bulb and “uses only” a much lower wattage
9 than that bulb.

10 19. A typical 20-watt incandescent bulb’s light output is 150 lumens. A typical
11 25-watt incandescent bulb’s light output is 200 lumens. A typical 40-watt
12 incandescent bulb’s light output is 450 lumens. A typical 45-watt
13 incandescent bulb’s light output is 510 lumens.

14 20. Defendants’ own testing, as well as testing done by the Department of
15 Energy, however, demonstrated that in numerous instances, Defendants’
16 LED lamps produced significantly less light output than a typical
17 incandescent light bulb at the wattage represented in Defendants’
18 promotional materials.

19 **Defendants’ Testing Results**

20 21. Defendants began selling their LED lamps as early as February 2008, but
21 did not procure any testing for many, if not all, models until December
22 2008. Defendants produced testing results from Lighting Sciences, Inc.
23 (“LSI”) for ten of the fourteen LED lamp models identified in Paragraphs
24 16-17 for which Defendants made watt equivalency claims. Defendants’
25 testing for the ten LED models did not substantiate Defendants’ watt
26 equivalency claims. In fact, the LSI testing results contradicted
27 Defendants’ claims.

28 22. The lumen output identified in the LSI testing results are below the light

1 output for a typical incandescent watt bulb to which Defendants compared
 2 these models.

3	<u>Model</u>	Watt	Typical	LSI
4		Equivalency	Light	Testing
5		<u>Claim</u>	<u>Output</u>	<u>Results/Date</u>
6			(in lumens)	(in lumens)
7	a. 2001LEDE26-65K	20/25 Watts	150/200	30.6
8	b. 2002LEDR30-65K	45 Watts	510	172
9	c. 2003LEDP38-65K	45 Watts	510	282
10	d. 2004LEDDL-35K	40/45 Watts	450/510	201/(3-26-2009)
11	e. 2025LED-30K	40 Watts	450	41/(12-17-2008)
12	f. 2025LED-65K	40 Watts	450	76/(12-17-2008)
13	g. 2025LEDE12-30K	40 Watts	450	76/(12-17-2008)
14	h. 2025LEDE12-65K	40 Watts	450	74/(12-17-2008)
15	i. 2026LED-30K	40 Watts	450	43/(12-17-2008)
16	j. 2026LED-65K	40 Watts	450	84/(12-17-2008)

17 23. LOA did not have any testing that measured the lumen output of the
 18 following LED lamps:

- 19 a. 2001LED10-65K
- 20 b. 2001LED53IN-65K
- 21 c. 2001LEDE53OUT-65K
- 22 d. 2002LEDP30-65K

23 **CALiPER Testing**

24 24. The Department of Energy (“DOE”) conducted testing of several of
 25 Defendants’ LED lamps through its Commercially Available LED Product
 26 Evaluation and Reporting Program (“CALiPER”), an independent testing
 27 program that evaluates the performance of LED lamps. DOE purchases
 28 LED lamps from retail stores, conducts tests, shares the results with the

1 manufacturers and invites them to comment, makes the reports available to
 2 the public, and releases Summary Reports on its website. See
 3 www1.eere.energy.gov/buildings/ssl/caliper_faq.html#01.

4 25. In August 2008 and in June 2009, DOE conducted CALiPER testing on six
 5 of Defendants' LED lamp models. This testing showed that Defendants'
 6 LED lamps produced less light output than the incandescent watt bulbs to
 7 which Defendants' LED lamps were compared.

8 <u>Model</u>	9 <u>Watt</u>	10 <u>Typical</u>	11 <u>CALiPER</u>
	12 <u>Equivalency</u>	13 <u>Light</u>	14 <u>Testing/</u>
	15 <u>Claim</u>	16 <u>Output</u>	17 <u>Date</u>
		18 (in lumens)	19 (in lumens)
20 a. 2001LED53OUT	21 20/25 Watts	22 150/200	23 26.8-29.9/
24 -65k			25 August 2008
26 b. 2003LEDP38-65K	27 45 Watts	28 510	122-177/
			August 2008
29 c. 2004LEDDL-35K	30 45 Watts	31 510	32 140-143/August
			33 2008
34 d. 2002LEDR30-65K	35 45 Watts	36 510	37 179-189/June
			38 2009
39 e. 2003LEDP38-65K	40 45 Watts	41 510	42 268-302/June
			43 2009
44 f. 2025LEDE12-30K	45 40 Watts	46 450	47 66-67/June 2009

23 26. On September 18, 2008, DOE sent the testing results described in
 24 Paragraph 25.a-c to Usman Vakil. On September 22, 2009, DOE sent the
 25 testing results described in Paragraph 25.d-f to Usman Vakil.

26 27. In September 2008, DOE published the Summary Report for the August
 27 2008 testing round that included the testing of the Defendants' LED lamps.
 28 In October 2009, DOE published the Summary Report for the June 2009

1 testing round that included testing of the Defendants' LED lamps. DOE
2 distributed the September 2008 and October 2009 Summary Reports via a
3 DOE email listserve that included LOA's Vice President of Sales and
4 Marketing, Brian Halliwell, as well as other senior LOA employees.

5 28. In summarizing the results from the 2008 round of testing that included
6 LOA LED products and other manufacturers' products, DOE explained that
7 "[i]n almost every case where product literature compares an SSL [LED]
8 product to traditional products, the comparisons are highly overstated and
9 misleading." See U.S. Dep't of Energy, *CALiPER Summary Report, DOE*
10 *Solid-State Lighting CALiPER Program, Summary of Results: Round 6 of*
11 *Product Testing* at 20 (Sept. 2008).

12 29. From February 2008 until at least August 2009, Defendants made watt
13 equivalency claims, including but not limited to those identified in
14 Paragraphs 16-17, in their promotional materials for most, if not all, LOA
15 LED lamps. Defendants continued to make these claims even after
16 receiving test results that contradicted their claims.

17 30. For at least ten months after receiving the 2008 CALiPER test results from
18 DOE, Defendants made claims that their LED lamps used low wattage, but
19 replaced significantly higher wattage incandescent bulbs, including but not
20 limited to the claims identified in Paragraph 16, on most, if not all, of their
21 product packaging.

22 31. As recently as December 8, 2010, models 2002LEDR30-65K,
23 2003LEDP38-65K, and 2025LEDE12-30K were being sold on the Internet
24 at Amazon.com with incandescent bulb watt equivalency claims like those
25 in Paragraphs 16-17. In October 2010, models 2003LEDP38-65K,
26 2004LEDDL, and 2026LEDE26-30K were being sold on the Internet at
27 Sam's Club with incandescent bulb watt equivalency claims like those in
28 Paragraphs 16-17.

32. Defendants received consumer complaints about the light output of numerous LOA LED lamp models. Those complaints included, but are not limited to, complaints about the light output of the following models: 2002LEDR30-65K, 2003LEDP38-65K, 2004LEDDL, 2025LEDE12-30K, and 2026LEDE26-30K. Each of these models had at least [REDACTED] in sales from February 2008 through August 2009. Each of these models continued to be sold after August 2009.

LIGHT OUTPUT

33. In numerous instances, Defendants represented that their LED lamps provided a specific level of light output in lumens. Those representations appeared on product packaging and included, but are not limited to, the following claims for the models listed below:

- a. 2025LED-30K Light Output: 88 lumens
- b. 2025LED-65K Light Output: 113 lumens
- c. 2025LEDE12-65K Light Output: 113 lumens
- d. 2026LED-30K Light Output: 81 and 90 lumens
- e. 2004LEDDL-35K Light Output: 201 lumens
- f. 2025LEDE12-30K Light Output: 76 lumens and 90 lumens

34. In numerous instances, Defendants’ LED lamps produced significantly less lumens than Defendants represented on their product packaging.

35. In numerous instances, the Defendants’ own testing, from LSI, did not support Defendants’ representations regarding their LED lamps’ lumens.

<u>Model</u>	<u>Lumen Claim</u>	<u>LSI Testing Results</u> (in lumens)
a. 2025LED-30K	86	41
b. 2025LED-65K	113	76
c. 2025LEDE12-65K	113	74
d. 2026LED-30K	81 and 90	43

36. In August 2008 and in June 2009, DOE conducted CALiPER testing on several of Defendants' LED lamp models. This testing showed that Defendants' lumen output representations detailed in Paragraph 33.e-f were false and unsubstantiated.

<u>Model</u>	<u>Lumen Claim</u>	<u>CALiPER Testing</u> (in lumens)
a. 2004LEDDL-35K	201	140 and 143
b. 2025LEDE12-30K	76 and 90	66-67

37. Defendants made lumen representations in their promotional materials for LED lamps from July 2009 until at least August 2010.

LIFETIME CLAIMS

38. In numerous instances, Defendants represented that their LED lamps would last tens of thousands of hours, usually providing a specific number of hours.

39. These lifetime claims appeared on product packaging for all LED models Defendants sold between February 2008 through August 2009 and for numerous models sold after August 2009. The representations included, but are not limited to, the following claims for the models listed below:

a. 2001LED53OUT-65K 30,000 Hour Life (Life rating of LED's);
"You'll never change your bulbs again."

b. 2001LEDE26-65K 30,000 Hour Life (Life rating of LED's);
"You'll never change your bulbs
again."***

Rated Life: 20,000 hours; **LASTS 10
TIMES LONGER** [*graphic: picture of a
large LED light bulb equal to 10 small
incandescent light bulbs*] than 3,000 hour
incandescent bulbs.

1 c. 2002LEDP30-65K 30,000 Hour Life (Life rating of LED's);
2 "You'll never change your bulbs again."
3 Rated Life: 20,000 hours; **LASTS 10**
4 **TIMES LONGER** [*graphic: picture of a*
5 *large LED light bulb equal to 10 small*
6 *incandescent light bulbs*] than 2,000 hr
7 incandescent bulbs.

8 d. 2002LEDR30-65K 30,000 Hour Life (Life rating of LED's);
9 "You'll never change your bulbs again."
10 30,000 Hour Life (Life rating of LED's);
11 **LASTS 15 TIMES LONGER** [*graphic:*
12 *picture of a large LED light bulb equal to*
13 *15 small incandescent light bulbs*] than
14 2,000 hour incandescent bulbs.
15 Rated Life: 20,000 hours; **LASTS 10**
16 **TIMES LONGER** [*graphic: picture of a*
17 *large LED light bulb equal to 10 small*
18 *incandescent light bulbs*] than 2,000 hr
19 incandescent bulbs.

20 e. 2003LEDP38-65K 30,000 Hour Life (Life rating of LED's);
21 "You'll never change your bulbs
22 again."***
23 **LASTS 10 TIMES LONGER** [*graphic:*
24 *picture of a large LED light bulb equal to*
25 *10 small incandescent light bulbs*] than
26 3,000 hour incandescent bulbs.
27 Rated Life: 20,000 hours; **LASTS 10**
28 **TIMES LONGER** [*graphic: picture of a*

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f. 2004LEDDL-35K

large LED light bulb equal to 10 small incandescent light bulbs] than 2,000 hour incandescent bulbs.

30,000 Hour Life (Life rating of LED's);
"You'll never change your bulbs again."***

Rated Life: 30,000 Hours; **LASTS 20 TIMES LONGER** [*graphic: picture of a large LED light bulb equal to 20 small incandescent light bulbs*] than 1,500 hour incandescent bulbs.

Rated Life: 20,000 hours; **LASTS 10 TIMES LONGER** [*graphic: picture of a large LED light bulb equal to 10 small incandescent light bulbs*] than 2,000 hour incandescent bulbs

g. 2025LED-30K

30,000 Hour Life (Life rating of LED's);
"You'll never change your bulbs again."***

Rated Life: 30,000 hours; **LASTS 15 TIMES LONGER** [*graphic: picture of a LED light bulb equal to 15 small incandescent light bulbs*] than 2,000 hour incandescent bulbs.

h. 2025LED-65K

30,000 Hour Life (Life rating of LED's);
"You'll never change your bulbs again."***

Rated Life: 30,000 hours; **LASTS 15**

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i. 2025LEDE12-30K

TIMES LONGER [*graphic: picture of a LED light bulb equal to 15 small incandescent light bulbs*] than 2,000 hour incandescent bulbs.

30,000 Hour Life (Life rating of LED's);
"You'll never change your bulbs again."***

Rated Life: 30,000 hours; **LASTS 15 TIMES LONGER** [*graphic: picture of a LED light bulb equal to 15 small incandescent light bulbs*] than 2,000 hour incandescent bulbs.

Rated Life: 20,000 hours; **LASTS 10 TIMES LONGER** [*graphic: picture of a LED light bulb equal to 10 small incandescent light bulbs*] than 2,000 hour incandescent bulbs.

j. 2025LEDE12-65K

30,000 Hour Life (Life rating of LED's);
"You'll never change your bulbs again."***

Rated Life: 30,000 hours; **LASTS 15 TIMES LONGER** [*graphic: picture of a LED light bulb equal to 15 small incandescent light bulbs*] than 2,000 hour incandescent bulbs.

k. 2025TLEDE12-30K

Rated Life: 20,000 hours; **LASTS 10 TIMES LONGER** [*graphic: picture of a LED light bulb equal to 10 small*

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l. 2026LED-30K

incandescent light bulbs] than 2,000 hour
incandescent bulbs.

30,000 Hour Life (Life rating of LED's);
"You'll never change your bulbs
again."***

Rated Life: 30,000 hours; **LASTS 15
TIMES LONGER** [*graphic: picture of a
LED light bulb equal to 15 small
incandescent light bulbs*] than 2,000 hour
incandescent bulbs.

m. 2026LED-65K

30,000 Hour Life (Life rating of LED's);
"You'll never change your bulbs
again."***

Rated Life: 30,000 hours; **LASTS 10
TIMES LONGER** [*graphic: picture of a
LED light bulb equal to 10 small
incandescent light bulbs*] than 3,000 hour
incandescent bulbs.

n. 2035LED-30K

Rated Life: 20,000 hours; **LASTS 10
TIMES LONGER** [*graphic: picture of a
LED light bulb equal to 10 small
incandescent light bulbs*] than 2,000 hour
incandescent bulbs.

[*The asteriks in the above quotations refer to the following sentence appearing
on the packaging.*]

***Statement based on the minimum # of
times the led [sic] bulb needs to be
changed.

1 40. Representations regarding lifetime claims also appeared in Defendants’
2 product brochures. These representations included, but are not limited to,
3 the lifetime claims for the models listed below:

- 4 a. 2001LED10-65K BULB LIFE HOURS: 30,000
- 5 b. 2001LED53IN-65K BULB LIFE HOURS: 30,000
- 6 c. 2001LED53OUT-65K BULB LIFE HOURS: 30,000
- 7 d. 2001LEDE26-65K BULB LIFE HOURS: 30,000
- 8 e. 2002LEDP30-65K BULB LIFE HOURS: 30,000
- 9 f. 2002LEDR30-65K BULB LIFE HOURS: 30,000
- 10 g. 2003LEDP38-65K BULB LIFE HOURS: 30,000
- 11 h. 2004LEDDL-35K BULB LIFE HOURS: 30,000
- 12 i. 2025LED-30K BULB LIFE HOURS: 30,000
- 13 j. 2025LED-65K BULB LIFE HOURS: 30,000
- 14 k. 2025LEDE12-30K BULB LIFE HOURS: 30,000
- 15 l. 2025LEDE12-65K BULB LIFE HOURS: 30,000
- 16 m. 2026LED-30K BULB LIFE HOURS: 30,000
- 17 n. 2026LED-65K BULB LIFE HOURS: 30,000

18 41. Defendants did not test any of their individual LED lamp models to
19 support their lifetime claims. At most, Defendants tested the diodes used
20 in their LED lamps. The diode is the light emitting component of an LED
21 lamp. It is only one part of an integrated LED lamp and testing only the
22 diode cannot substantiate lifetime claims. Defendants knew the
23 importance of testing the integrated LED lamp itself. Defendants’ product
24 brochure explains that the “quality and efficiency of LED products still
25 varies widely” because diodes are “sensitive to thermal and electrical
26 conditions” and they must be “carefully integrated into lighting fixtures.”
27 *See Exhibit 3 at FTC00158.*

28 42. In 2009, DOE’s CALiPER program conducted testing to evaluate the

lifetime claims for Defendants’ models 2002LEDR30-65K, 2003LEDP38-65K, and 2025LEDE12-30K by testing six samples of each model. DOE sent these results to Usman Vakil on September 22, 2009.

43. LED lamps do not fail in the same manner as incandescent bulbs. LED lamp light output decreases over time and LED lamp lifetime is defined by how long it provides an acceptable light output. LED lamp life is defined by the operating time for the LED lamp to reach two performance criteria, L70 and L50. Alliance for Solid-State Illumination Systems and Technologies (“ASSIST”), Lighting Research Center, Rensselaer Polytechnic Institute, *LED Life for General Lighting: Life Definition*, Vol. 1, Issue 1 at 4 (2005). In most cases, industry practice measures general lighting products LED lamp lifetime by calculating the number of hours before the LED lamp light output depreciates by 30 percent. This is generally referred to as the L70 measurement, *i.e.*, the number of hours of operation until the light output reaches 70 percent of initial light output.
44. In some cases, industry practice measures lighting products’ LED lamp lifetime by calculating the number of hours before the LED lamp light output depreciates by 50 percent. This is generally referred to as the L50 measurement, *i.e.*, the number of hours of operation until the light output reaches 50 percent of initial light output.

45. The actual number of lifetime hours for the Defendants’ CALiPER tested LED lamps using the L70 lumen depreciation measurement were:

<u>Model</u>	<u>Lifetime Claim</u> (in hours)	CALiPER Tested L70 <u>Lifetime</u> (in hours)
a. 2002LEDR30-65K	30,000	380
b. 2003LEDP38-65K	30,000	270
c. 2025LEDE12-30K	30,000	110

1 46. The actual number of lifetime hours for the Defendants’ CALiPER tested
2 LED lamps using the L50 lumen depreciation measurement were:

<u>Model</u>	<u>Lifetime Claim</u> (in hours)	<u>CALiPER Tested L50</u> <u>Lifetime</u> (In hours)
a. 2002LEDR30-65K	30,000	600
b. 2003LEDP38-65K	30,000	435
c. 2025LEDE12-30K	30,000	230

3
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9 47. The results in Paragraphs 45 and 46 demonstrate the falsity of Defendants’
10 lifetime claims under either the L70 or L50 measurement.

11 48. The 2009 DOE CALiPER testing concluded that LOA’s LED model:

- 12 a. 2002LEDR30-65K’s light output depreciated approximately 70
13 percent from its initial light output after 1,000 hours;
- 14 b. 2003LEDP38-65K’s light output depreciated approximately 78
15 percent from its initial light output after 1,000 hours; and
- 16 c. 2025LEDE12-30K’s light output depreciated approximately 90
17 percent from its initial light output after 1,000 hours.

18 49. DOE characterized the light output depreciation identified in Paragraphs
19 45, 46, and 48, as “exceedingly poor long-term performance” and the
20 results do “not appear typical across products on the market.” *See* U.S.
21 Dep’t of Energy, *CALiPER Summary Report, DOE Solid-State Lighting*
22 *CALiPER Program, Summary of Results: Round 9 of Product Testing* at p.
23 28 (Oct. 2009).

24 50. DOE further noted that out of the fifteen LED lamp products tested to date,
25 which included three LOA lamps and twelve from other manufacturers, the
26 LOA lamps “are the only products which have exhibited light output
27 falling below 95% of initial light output within the first 1000 hours.” *Id.*

28 51. Defendants received numerous consumer complaints about the lifetime of

1 many of their LED lamp models. Those complaints included, but are not
2 limited to, complaints about the lifetime of the following models:
3 2002LEDR30-65K, 2003LEDP38-65K, 2004LEDDL, 2025LEDE12-30K,
4 and 2026LEDE26-30K. Each of these models had at least [REDACTED] in
5 sales from February 2008 through August 2009.

6 52. In October 2009, LOA agreed to provide refunds to Costco customers who
7 had purchased certain LED lamp models. In a letter sent to consumers at
8 that time, LOA stated that it was providing refunds because of test results
9 “indicating that the life rating on the package is incorrect and that the
10 actual life of the product is less than that which is stated on the package.”

11 53. Each of the models identified in Paragraph 51 continued to be sold after
12 August 2009. Eleven months later, in August 2010, models 2002LEDR30-
13 65K, 2003LEDP38-65K, 2004LEDDL, and 2025LEDE12-30K, were
14 being sold on the Internet at Amazon.com with representations that they
15 lasted 30,000 hours. Fourteen months later, in October 2010, models
16 2003LEDP38-65K, 2004LEDDL, and 2026LEDE26-30K were being sold
17 on the Internet at Sam’s Club with representations that they lasted 30,000
18 hours.

19 **ROLE OF THE INDIVIDUAL DEFENDANTS**

20 **Usman Vakil**

21 54. Usman Vakil is an owner and officer of LOA. In this capacity, he has the
22 authority to control the acts of LOA. At all times relevant to this Amended
23 Complaint, acting individually or in concert with others, he has formulated,
24 directed, controlled, had authority to control, or participated in the acts or
25 practices set forth in this Amended Complaint and knew or should have
26 known that the acts or practices described herein were deceptive.

27 55. Usman Vakil was involved in LOA’s LED business since LOA started
28 distributing the lamps to retailers. For example, on April 29, 2008, Usman

1 Vakil received an email from an LOA employee describing LOA's planned
2 distribution of LED lamps. In this email the employee also suggested that
3 an LOA employee attend a DOE EnergyStar Workshop regarding solid-
4 state lighting.

5 56. In September 2008, Usman Vakil received from DOE the results of
6 CALiPER tests conducted on three of Defendants' LED lamp models.

7 These tests determined the lamps' light output. The test results showed
8 that the watt equivalency representations that appeared on the lamps'
9 packaging and in the product brochures were false or unsubstantiated.

10 57. In September 2008, Usman Vakil sent a letter to DOE in response. The
11 letter did not contest DOE's test results and acknowledged that DOE
12 evaluated some of Defendants' LED lamps. Usman Vakil's letter further
13 stated that the Defendants' LED lamps were selling well at Walmart stores.
14 Usman Vakil sent a copy of the letter to the President of Walmart.

15 58. After September 2008, Defendants continued to make watt equivalency
16 claims for the models DOE tested.

17 59. On July 31, 2009, Usman Vakil received an email from an LOA employee
18 discussing incorrect information on LED bulb packaging about the watts
19 the LED lamp uses and replaces. In a separate email among LOA
20 employees, sent on July 31, 2009, a senior LOA employee stated that he
21 was "with Usman at 1:10 PM . . . discussing how we need to sticker our
22 packaging" to correct these inaccuracies.

23 60. After July 2009, Defendants continued to make watt equivalency claims
24 for LED models that were false or unsubstantiated.

25 61. On August 9, 2009, Usman Vakil received an email from an LOA
26 employee discussing the results of lifetime testing of certain diodes used in
27 Defendants' LED lamps. The author of this email stated that "[t]hese
28 evaluations are based on very limited data, but this is the best we have."

1 62. These tests do not substantiate Defendants' claims about the lifetime hours
2 of their LED lamps. The tests do not evaluate the Defendants' actual LED
3 lamps and merely extrapolate how the lamps would perform based on
4 limited data about the diodes.

5 63. After August 2009, Defendants continued to make lifetime claims for their
6 LED lamps that were false or unsubstantiated.

7 64. In September 2009, Usman Vakil received from DOE the results of
8 CALiPER tests conducted on three of Defendants' LED lamp models.
9 These tests determined the lamps' light output and lifetime. The test
10 results contradicted lifetime representations that appeared on the LED
11 lamps' packaging or in the product brochures.

12 65. After September 2009, Defendants continued to make lifetime claims for
13 their LED lamps that were false or unsubstantiated.

14 66. As late as July 2009, seventeen months after Defendants began marketing
15 and selling LED lamps, a senior LOA employee sent an email that was
16 copied to Usman Vakil discussing packaging claims, DOE's Lighting Facts
17 label program, the need to follow all rules and regulations and further
18 stating that "as we have discussed we need to sets [sic] policies and
19 procedures of what needs to be done before going into production."

20 67. As an owner and high ranking LOA corporate officer, Usman Vakil failed
21 to establish, implement, and maintain procedures to ensure that the claims
22 for Defendants' LED lamps were true and substantiated prior to
23 dissemination.

24 68. Usman Vakil knew that the claims for Defendants' LED lamps were false
25 or unsubstantiated, was recklessly indifferent to the truth or falsity of such
26 claims, or was aware of a high probability that the claims were fraudulent
27 and intentionally avoided the truth.
28

Farooq Vakil

1
2 69. Farooq Vakil is an owner and officer of LOA. In this capacity, he has the
3 authority to control the acts of LOA. At all times relevant to this Amended
4 Complaint, acting individually or in concert with others, he has formulated,
5 directed, controlled, had authority to control, or participated in the acts or
6 practices set forth in this Amended Complaint and knew or should have
7 known that the acts or practices described herein were deceptive.

8 70. Farooq Vakil was involved in LOA's LED business since LOA started
9 distributing the lamps to retailers. For example, on April 29, 2008, Farooq
10 Vakil received an email from an LOA employee describing LOA's planned
11 distribution of LED lamps. In this email the employee also suggested that
12 an LOA employee attend a DOE EnergyStar Workshop regarding solid-
13 state lighting.

14 71. On September 25, 2008, Farooq Vakil received an email that attached
15 Usman Vakil's response to a letter from James Brodrick of DOE regarding
16 the September 2008 CALiPER test results. Usman Vakil's letter
17 acknowledged that DOE evaluated some of Defendants' LED lamps.
18 Usman Vakil's letter further stated that the Defendants' LED lamps were
19 selling well at Walmart stores.

20 72. On July 16, 2009, Farooq Vakil sent an email to numerous LOA
21 employees stating that he is the "central spokesman for all matters relating
22 to EnergyStar, DOE, and EPA." He further stated that "[a]ll information
23 relating to these agencies is to be directed to me."

24 73. On July 23, 2009, Farooq Vakil sent an email to certain LOA employees
25 discussing the lifetime testing for its LED lamps and whether the lamps
26 would meet upcoming EnergyStar standards.

27 74. On July 28, 2009, Farooq Vakil sent an email to certain LOA employees
28 requesting changes to packaging for a certain LED lamp model so that

1 certain wording was more prominent.

2 75. On July 31, 2009, Farooq Vakil received an email from an LOA employee
3 discussing incorrect information on LED lamp packaging about the watts
4 the LED lamp uses and replaces.

5 76. On July 31, 2009, Farooq Vakil sent an email to various LOA employees
6 concerning correspondence from DOE regarding LED lamp labels. DOE
7 stated that LOA's LED lamp labels resembled DOE's energy facts label,
8 but had not been approved by DOE.

9 77. On August 9, 2009, Farooq Vakil received an email from an LOA
10 employee discussing the results of lifetime testing of certain diodes used in
11 Defendants' LED lamps. The author of this email stated that "[t]hese
12 evaluations are based on very limited data, but this is the best we have."

13 78. These tests do not substantiate Defendants' claims about the lifetime of
14 their LED lamps. The tests do not evaluate the Defendants' actual LED
15 lamps and merely extrapolate how the lamps would perform based on
16 limited data about the diodes.

17 79. On August 10, 2009, Farooq Vakil sent an email to various LOA
18 employees discussing LED lifetime claims. In this email Farooq Vakil
19 acknowledged that LOA needed to have adequate support for its lifetime
20 claims. He further stated that LOA might need to qualify its claims, such
21 as by stating "'based on preliminary tests, we believe -----'."

22 80. After August 2009, Defendants continued to make lifetime claims for their
23 LED lamps that were false or unsubstantiated.

24 81. In a September 2009 email to James Brodrick at DOE, Farooq Vakil
25 discussed his direct involvement in developing the "replaces" watt
26 equivalency claims on Defendants' LED lamp packaging.

27 82. As late as July 2009, seventeen months after Defendants began marketing
28 and selling LED lamps, a senior LOA employee sent Farooq Vakil an

1 email discussing packaging claims, DOE's Lighting Facts label program,
2 the need to follow all rules and regulations and further stating that "as we
3 have discussed we need to sets [sic] policies and procedures of what needs
4 to be done before going into production."

5 83. As an owner and high ranking LOA corporate officer, Farooq Vakil failed
6 to establish, implement, and maintain procedures to ensure that the claims
7 for Defendants' LED lamps were true and substantiated prior to
8 dissemination.

9 84. Farooq Vakil knew that the claims for Defendants' LED lamps were false
10 or unsubstantiated, was recklessly indifferent to the truth or falsity of such
11 claims, or was aware of a high probability that the claims were fraudulent
12 and intentionally avoided the truth.

13 **DEFENDANTS' CFL LITIGATION**

14 85. Defendants are aware of the importance of light output and lifetime claims
15 on product packaging for light bulbs.

16 86. Defendants have previously been involved in litigation involving light
17 output and lifetime claims for their compact fluorescent lightbulbs
18 ("CFLs").

19 87. Specifically, in June 2000, LOA sued Consumers Union in California state
20 court due to a Consumer Reports magazine article stating that LOA's CFLs
21 did not "provide as much light, nor do they last as long as the package
22 claims." Complaint, *Lights of America, Inc. v. I & I Group, Inc.,*
23 *Consumers Union of United States, Inc. et al.*, Case No. KC033419, 2000
24 CA Sup. Ct. Pleadings LEXIS 71 at *17 (Cal. Sup. Ct., Los Angeles
25 County, June 29, 2000).

26 88. Defendants sought to have Consumers Union retract its article. LOA's
27 complaint was dismissed and the appeal denied.
28

1 **VIOLATIONS OF THE FTC ACT**

2 89. Section 5(a) of the FTC Act, 15 U.S.C. § 45(a), prohibits unfair or
3 deceptive acts or practices in or affecting commerce. As set forth below,
4 Defendants have engaged in unlawful practices in connection with the
5 marketing and sale of LED lamps.

6 **FALSE OR UNSUBSTANTIATED CLAIMS**
7 **IN VIOLATION OF SECTION 5 OF THE FTC ACT**

8 **Count I**

9 90. Through the means described in Paragraphs 10-84 above, in connection
10 with the advertising, marketing, promotion, offering for sale, sale, or
11 distribution of LED lamps, Defendants have represented, expressly or by
12 implication, that their LED lamps will provide light output equivalent to
13 particular watt incandescent light bulbs.

14 91. The representations set forth in Paragraph 90 are false or were not
15 substantiated at the time the representations were made. Therefore, the
16 making of the representations set forth in Paragraph 90, above, constitutes
17 a deceptive act or practice, in or affecting commerce, in violation of
18 Section 5(a) of the FTC Act, 15 U.S.C. § 45(a).

19 **Count II**

20 92. Through the means described in Paragraphs 10-84 above, in connection
21 with the advertising, marketing, promotion, offering for sale, sale, or
22 distribution of LED lamps, Defendants have represented, expressly or by
23 implication, that their LED lamps will provide a purported level of light
24 output in lumens.

25 93. The representations set forth in Paragraph 92 are false or were not
26 substantiated at the time the representations were made. Therefore, the
27 making of the representations set forth in Paragraph 92, above, constitutes
28 a deceptive act or practice, in or affecting commerce, in violation of

1 Section 5(a) of the FTC Act, 15 U.S.C. § 45(a).

2 **Count III**

3 94. Through the means described in Paragraphs 10-84 above, in connection
4 with the advertising, marketing, promotion, offering for sale, sale, or
5 distribution of LED lamps, Defendants have represented, expressly or by
6 implication, that their LED lamps will last a specified number of hours.

7 95. The representations set forth in Paragraph 94 are false or were not
8 substantiated at the time the representations were made. Therefore, the
9 making of the representations set forth in Paragraph 94, above, constitutes
10 a deceptive act or practice, in or affecting commerce, in violation of
11 Section 5(a) of the FTC Act, 15 U.S.C. § 45(a).

12 **CONSUMER INJURY**

13 96. Consumers throughout the United States have suffered and continue to
14 suffer substantial consumer injury as a result of Defendants' violations of
15 the FTC Act. In addition, Defendants have been unjustly enriched as a
16 result of their unlawful acts or practices. Absent injunctive relief by this
17 Court, Defendants are likely to continue to injure consumers, reap unjust
18 enrichment, and harm the public interest.

19 **THIS COURT'S POWER TO GRANT RELIEF**

20 97. Section 13(b) of the FTC Act, 15 U.S.C. § 53(b), empowers this Court to
21 grant injunctive and such other relief as the Court may deem appropriate to
22 halt and redress violations of any provision of law enforced by the FTC.
23 The Court, in the exercise of equitable jurisdiction, may award ancillary
24 relief, including rescission or reformation of contracts, restitution, the
25 refund of monies paid, and the disgorgement of ill-gotten monies, to
26 prevent and remedy any violation of any provision of law enforced by the
27 FTC.

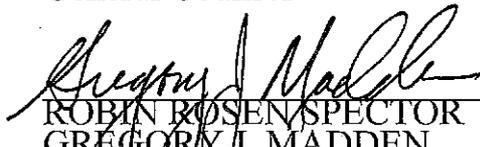
PRAYER FOR RELIEF

- 1
- 2 98. Wherefore, the FTC, pursuant to Section 13(b) of the FTC Act, 15 U.S.C.
- 3 § 53(b), and the Court’s equitable powers, requests that the Court:
- 4 a. Enter a permanent injunction to prevent future violations of the FTC
- 5 Act by Defendants;
- 6 b. Award such relief as the Court finds necessary to redress injury to
- 7 consumers resulting from Defendants’ violations of the FTC Act,
- 8 including but not limited to, rescission or reformation of contracts,
- 9 restitution, the refund of monies paid, and the disgorgement of ill-
- 10 gotten monies; and
- 11 c. Award Plaintiff the costs of bringing this action, as well as such
- 12 other and additional relief as the Court may determine to be just and
- 13 proper.

Respectfully submitted,

WILLARD K. TOM
General Counsel

Dated: 2/4/11



 ROBIN ROSEN SPECTOR
 GREGORY J. MADDEN
 Federal Trade Commission
 600 Pennsylvania Avenue, NW
 Room M-8102B
 Washington, DC 20580
 (202) 326-3740 (tel.) (Spector)
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 Federal Trade Commission
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 (310) 824-4343 (tel.)
 (310) 824-4380 (fax)
 sprocter@ftc.gov

EXHIBIT 1

EXHIBIT 2

LightS of America

RECESSED • TRACK

LED $\frac{1}{5}$ "

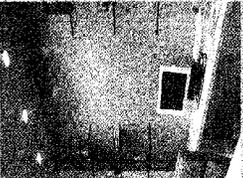
- Mercury Free -

Light Output: 203 lumens
 Rated Life: 20,000 hours
 Energy Used: 3.5 Watts
 Color of Light: 5600K (Daylight)

LASTS 10 TIMES LONGER

LED
 than 2,000 hours with incandescent bulbs

Use Indoors
 Recessed Lighting



LightS of America

RECESSED • TRACK

LED $\frac{1}{5}$ "

- Mercury Free -

Color Temperature
 7700K 5600K

Efficiency: Lumens Per Watt: 61
 CRI (Color Rendering Index): 77

NOTE: This product may cause interference with radios, televisions, telephones or remote controls. If interference occurs, please contact your retailer, away from device or plug into another outlet.

CAUTION: Risk of fire or shock exists if this product is not installed properly. Do not touch the light fixture or emergency exit lights. Not recommended for use in US, WLF, Mexico, Philippines, and Vietnam. Control device, maximum operating temperature: 5-50°C.

THREE YEAR LIMITED WARRANTY

Lights of America (LOA) warrants that this product will be free from defect in material and workmanship for a period of three (3) years from the date of purchase and gross invoice or must be purchased from an LOA authorized retailer or seller. The limited warranty is contingent upon normal use, handling, and storage of the product in reasonable conditions without alteration or modification. Defective products under warranty should be returned with the original proof of purchase and original package to the nearest LOA office. Please refer to the website www.lightsofamerica.com for details.

© 2009 LIGHTS OF AMERICA, Inc
 Walnut, CA 91769
www.lightsofamerica.com
 P/N: 2004LEDL-35K-8
 7 85277 20040 9 (58)

LED

Accent

ANNUAL OPERATING COST CHART:

WARRANTY PERIOD	10c	10c	12c	16c
Annual Operating Cost	\$.31	\$.38*	\$.43	\$.61

*Based on 1000 hours of use per year. The actual operating cost will vary based on the number of hours used per year.

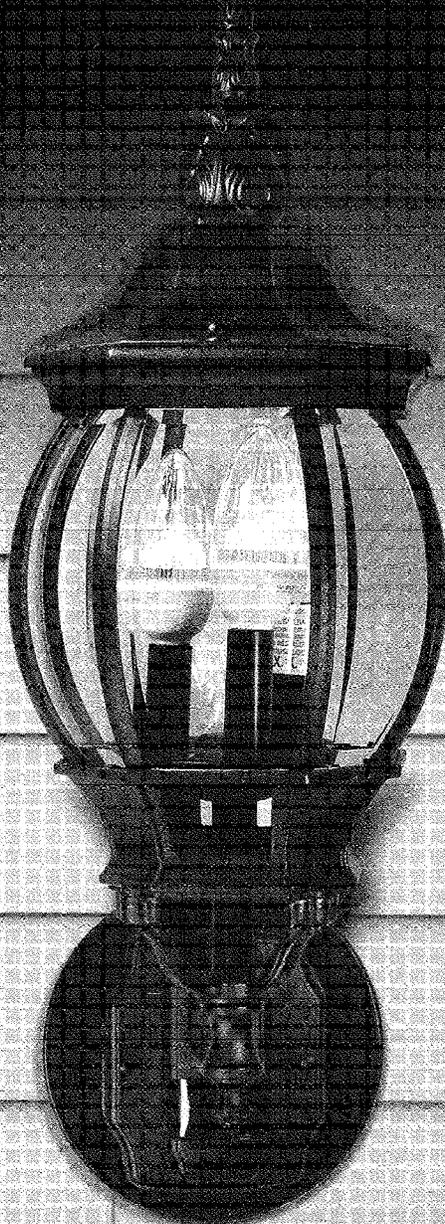
2004: 9/16/09

EXHIBIT 3

Lights of America
★

**MERCURY
FREE**

LED LIGHT BULBS



BROCHURE

INNOVATION • QUALITY • ENERGY SAVING

LED TECHNOLOGY

LED technology continues to develop rapidly as a general light source. As more LED products and light fixtures are introduced on the market, what do retailers, energy efficiency advocates, and consumers need to know to make informed buying decisions?

Are LEDs ready for general lighting?

The number of white light LED products available on the market continues to grow, including portable desk/task lights, recessed downlights, retail display lights, and outdoor fixtures for street, parking lot, path, and other area lighting. Some of these products perform very well, but the quality and energy efficiency of LED products still varies widely, for several reasons:

1. LED technology continues to change and evolve very quickly. New generations of LED devices become available approximately every 4 to 6 months.
2. Lighting fixture manufacturers face a learning curve in applying LEDs. Because they are sensitive to thermal and electrical conditions, LEDs must be carefully integrated into lighting fixtures. Few lighting fixture manufacturers are equipped to do this well today.
3. Important differences in LED technology compared to other light sources have created a gap in the industry standards and test procedures that underpin all product comparisons and ratings. New standards, test procedures, and ENERGY STAR criteria are coming soon. In the meantime, product comparison is a fairly laborious, one-at-a-time task.

Are LEDs energy-efficient?

The best white LED products can meet or exceed the efficiency of compact fluorescent lamps (CFLs). However, many white LEDs currently available in consumer products are only marginally more efficient than incandescent lamps. The best warm white LEDs available today can produce about 45-50 lumens per watt (lm/W). In comparison, incandescent lamps typically produce 12-15 lm/W; CFLs produce at least 50 lm/W. Performance of white LEDs continues to improve rapidly.

However, LED device efficacy doesn't tell the whole story. Good LED system and luminaire design is imperative to energy-efficient LED lighting fixtures. For example, a new LED recessed downlight combines multicolored high efficiency LEDs, excellent thermal management, and sophisticated optical design to produce more than 700 lumens using only 12 watts, for a luminaire efficacy of 60 lm/W. Conversely, poorly-designed luminaires using even the best LEDs may be no more efficient than incandescent lighting.



THE LED EXPERIENCE

Background

What makes LEDs different from other light sources? LEDs are semiconductor devices, while incandescent, fluorescent, and high-intensity discharge (HID) lamps are all based on glass enclosures containing a filament or electrodes, with fill gases and coatings of various types.

LED lighting starts with a tiny chip (most commonly about 1 mm) comprising layers of semi-conducting material. LED packages may contain just one chip or multiple chips, mounted on heat-conducting material and usually enclosed in a lens or encapsulant. The resulting device, typically around 7 to 9 mm on a side, can produce 30 to 150 lumens each, and can be used separately or in arrays. LED devices are mounted on a circuit board and attached to a lighting fixture, architectural structure, or even a "light bulb" package.

Cold temperature operation

Cold temperatures present a challenge for fluorescent lamps. At low temperatures, higher voltage is required to start fluorescent lamps, and luminous flux is decreased. A non-amalgam CFL, for example, will drop to 50% of full light output at 0°C. The use of amalgam (an alloy of mercury and other metals, used to stabilize and control mercury pressure in the lamp) in CFLs largely addresses this problem, allowing the CFL to maintain light output over a wide temperature range (-17°C to 65°C). The trade-off is that amalgam lamps have a noticeably longer "run-up" time to full brightness, compared to non-amalgam lamps. In contrast, LED performance inherently increases as operating temperatures drop. This makes LEDs a natural fit for grocery store refrigerated and freezer cases, cold storage facilities, and outdoor applications. In fact, DOE testing of an LED refrigerated case light measured 5% higher efficacy at -5°C, compared to operation at 25°C.

Instant on

Fluorescent lamps, especially those containing amalgam, do not provide full brightness immediately upon being turned on. Fluorescents using amalgam can take three minutes or more to reach their full light output. HID lamps have longer warm up times, from several minutes for metal halide to 10 minutes or more for sodium lamps. HID lamps also have a "re-strike" time delay; if turned off they must be allowed to cool down before turning on again, usually for 10-20 minutes. Newer pulse-start HID ballasts provide faster restrike times of 2-8 minutes. LEDs, in contrast, come on at full brightness almost instantly, with no re-strike delay. This characteristic of LEDs is notable in vehicle brake lights, where they come on 170 to 200 milliseconds faster than standard incandescent lamps, providing an estimated 19 feet of additional stopping distance at highway speeds (65mph). In general illumination applications, instant on can be desirable for safety and convenience.



MERCURY FREE

LED LIGHT BULBS

MR-16

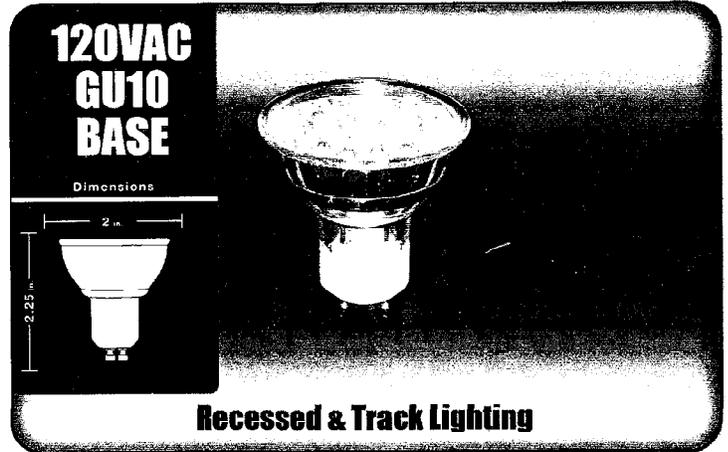
SPECIFICATIONS

- WATTAGE: 1W
- INCANDESCENT COMPARISON: 20W
- COLOR TEMP: 6500K
- BULB LIFE HOURS: 30,000
- HEAT FREE LED TECHNOLOGY
- ARRAY

ITEM DESCRIPTION

LED MR-16 ACCENT BULB, INDOOR GU10

<u>MODEL#</u>	<u>PCS/INNER</u>
2001LED10-65K-24	3
<u>UPC</u>	<u># OF INNERS</u>
755277-200102	8
<u>1 2 OF 5</u>	<u>PCS/MASTER</u>
10755277200109	24



Recessed & Track Lighting



MR-16

SPECIFICATIONS

- WATTAGE: 1W
- INCANDESCENT COMPARISON: 20W
- COLOR TEMP: 6500K
- BULB LIFE HOURS: 30,000
- HEAT FREE LED TECHNOLOGY
- ARRAY

ITEM DESCRIPTION

LED MR-16 ACCENT BULB, OUTDOOR GU5.3

<u>MODEL#</u>	<u>PCS/INNER</u>
2001LED53OUT-65K-24	3
<u>UPC</u>	<u># OF INNERS</u>
755277-200133	8
<u>1 2 OF 5</u>	<u>PCS/MASTER</u>
10755277200130	24



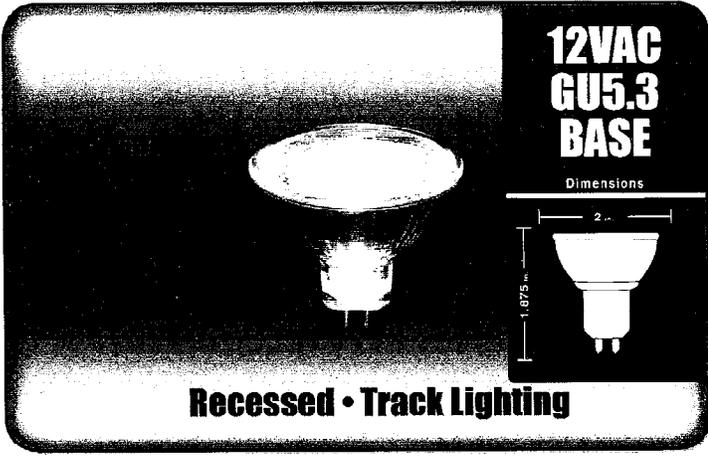
Landscape Outdoor Lighting



Lights of America

LED LIGHT BULBS

MERCURY FREE



SPECIFICATIONS

MR-16

- WATTAGE: 1W
- INCANDESCENT COMPARISON: 20W
- COLOR TEMP: 6500K
- BULB LIFE HOURS: 30,000
- HEAT FREE LED TECHNOLOGY
- ARRAY

ITEM DESCRIPTION

LED MR-16 ACCENT BULB, INDOOR GU5.3



MODEL#
2001LED53IN-65K-24

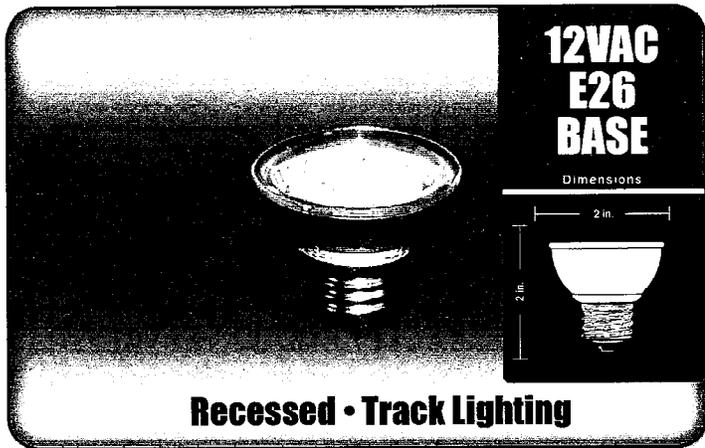
UPC
755277-200126

1 2 OF 5
10755277200123

PCS/INNER
3

OF INNERS
8

PCS/MASTER
24



SPECIFICATIONS

MR-16

- WATTAGE: 1W
- INCANDESCENT COMPARISON: 20W
- COLOR TEMP: 6500K
- BULB LIFE HOURS: 30,000
- HEAT FREE LED TECHNOLOGY
- ARRAY

ITEM DESCRIPTION

LED MR-16 ACCENT BULB, INDOOR E26



MODEL#
2001LEDE26-65K-24

UPC
755277-200119

1 2 OF 5
10755277200116

PCS/INNER
3

OF INNERS
8

PCS/MASTER
24

Lights of America

MERCURY FREE

LED LIGHT BULBS

Accent Bulb

SPECIFICATIONS

- WATTAGE: 4W
- INCANDESCENT COMPARISON: 45W
- COLOR TEMP: 3500K
- BULB LIFE HOURS: 30,000
- HEAT FREE TECHNOLOGY

ITEM DESCRIPTION

LED ACCENT DOWNLIGHT BULB

MODEL#

2004LEDDL-35K-8

UPC

755277-200409

1 2 OF 5

10755277200406

PCS/INNER

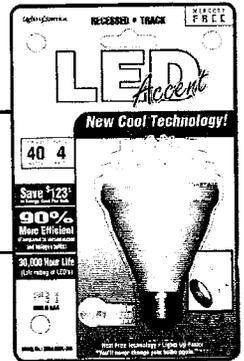
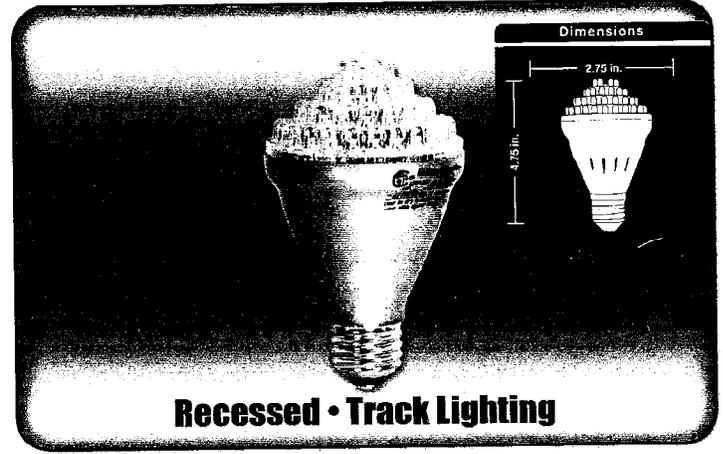
3

OF INNERS

8

PCS/MASTER

24



Check Register Bulb

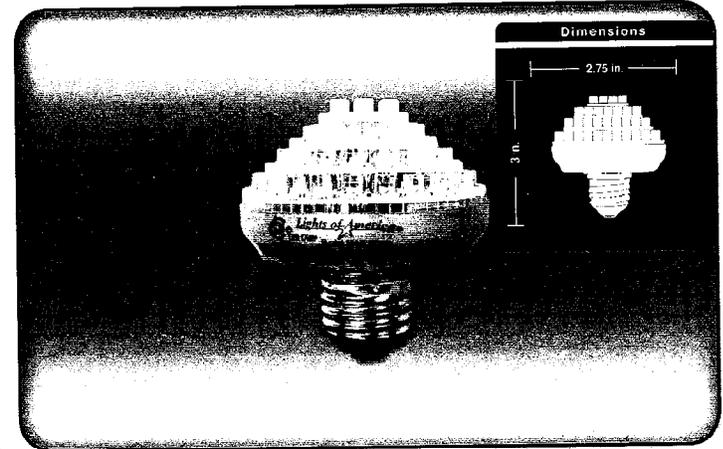
SPECIFICATIONS

- WATTAGE: 4W
- INCANDESCENT COMPARISON: 40W
- COLOR TEMP: 6500K
- BULB LIFE HOURS: 30,000
- HEAT FREE TECHNOLOGY

ITEM DESCRIPTION

LED CHECK REGISTER BULB

- MODEL# 2004LEDGR-65K-12

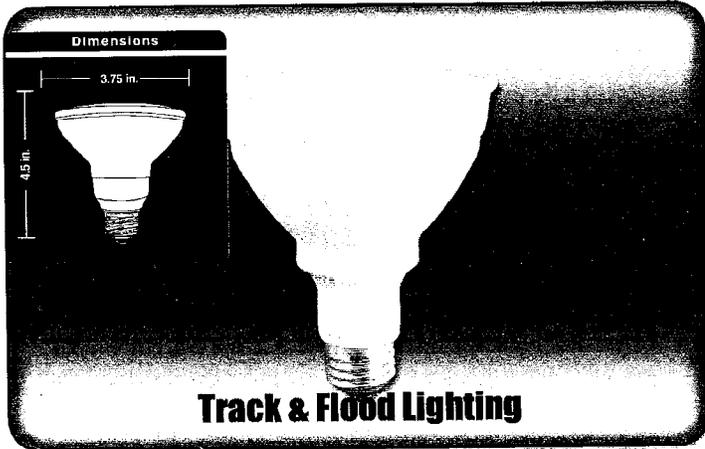


Lights of America

LED LIGHT BULBS

#999

MERCURY FREE



SPECIFICATIONS

PAR-30

- WATTAGE: 3.5W
- INCANDESCENT COMPARISON: 45W
- COLOR TEMP: 3000K OR 6500K
- BULB LIFE HOURS: 30,000
- HEAT FREE TECHNOLOGY

ITEM DESCRIPTION

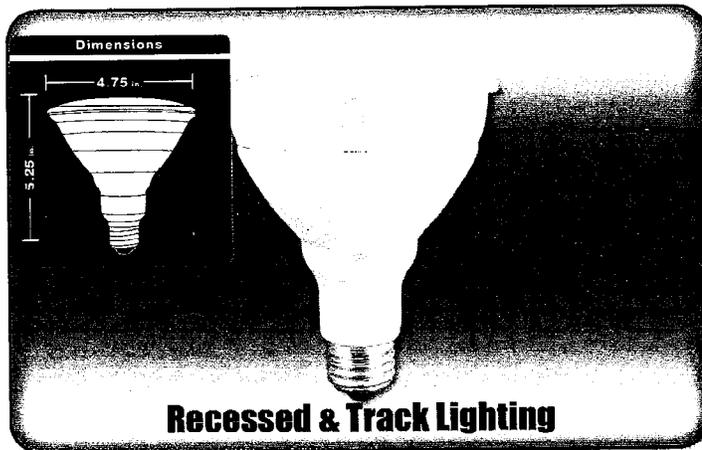
LED PAR 30 ACCENT FLOOD - INDOOR/ OUTDOOR

3000K

MODEL#
2002LEDP30-30K-8
UPC
N/A
I Z OF S
N/A
PCS/INNER
2
OF INNERS
4
PCS/MASTER
8

6500K

MODEL#
2002LEDP30-65K-8
UPC
755277-200201
I Z OF S
10755277200222
PCS/INNER
2
OF INNERS
4
PCS/MASTER
8



SPECIFICATIONS

R-30

- WATTAGE: 3.5W
- INCANDESCENT COMPARISON: 45W
- COLOR TEMP: 3000K OR 6500K
- BULB LIFE HOURS: 30,000
- HEAT FREE TECHNOLOGY

ITEM DESCRIPTION

LED R30 ACCENT BULB - INDOOR/OUTDOOR

3000K

MODEL#
2002LEDR30-30K-8
UPC
755277-200218
I Z OF S
10755277200215
PCS/INNER
2
OF INNERS
4
PCS/MASTER
8

6500K

MODEL#
2002LEDR30-65K-8
UPC
755277-200218
I Z OF S
10755277200215
PCS/INNER
2
OF INNERS
4
PCS/MASTER
8



Lights of America

MERCURY FREE

LED LIGHT BULBS

PAR-38

SPECIFICATIONS

- WATTAGE: 5W
- INCANDESCENT COMPARISON: 45W
- COLOR TEMP: 3000K OR 6500K
- BULB LIFE HOURS: 30,000
- HEAT FREE TECHNOLOGY

ITEM DESCRIPTION

LED PAR 38 ACCENT FLOOD - INDOOR/OUTDOOR

MODEL#

2003LEDP38-65K-8

UPC

755277-200300

1 2 OF 5

10755277200207

PCS/INNER

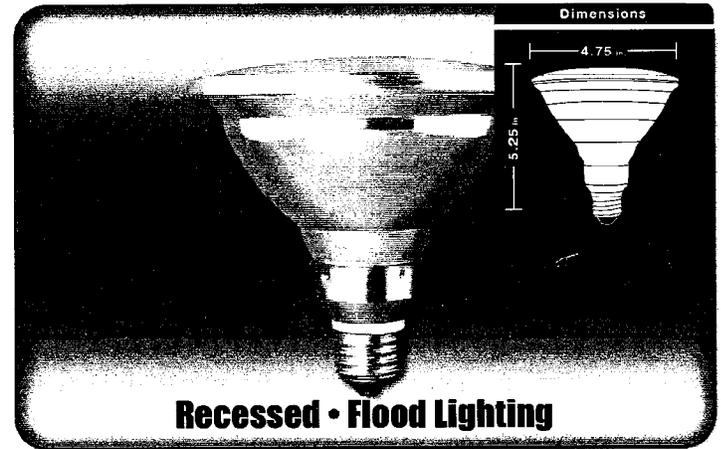
2

OF INNERS

4

PCS/MASTER

8



Decor Flametip

SPECIFICATIONS

- WATTAGE: 1.5W
- INCANDESCENT COMPARISON: 40W
- COLOR TEMP: 3000K OR 6500K
- BULB LIFE HOURS: 30,000
- HEAT FREE TECHNOLOGY

ITEM DESCRIPTION

LED ACCENT CANDELABRA

3000K

MODEL#

2025LEDE12-30K-24

UPC

755277-202502

1 2 OF 5

10755277202509

PCS/INNER

3

OF INNERS

8

PCS/MASTER

24

6500K

MODEL#

2025LEDE12-65K-24

UPC

755277-202519

1 2 OF 5

10755277202516

PCS/INNER

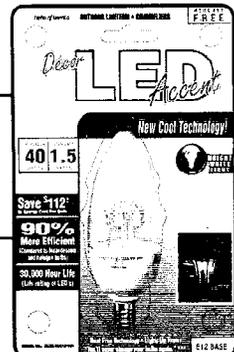
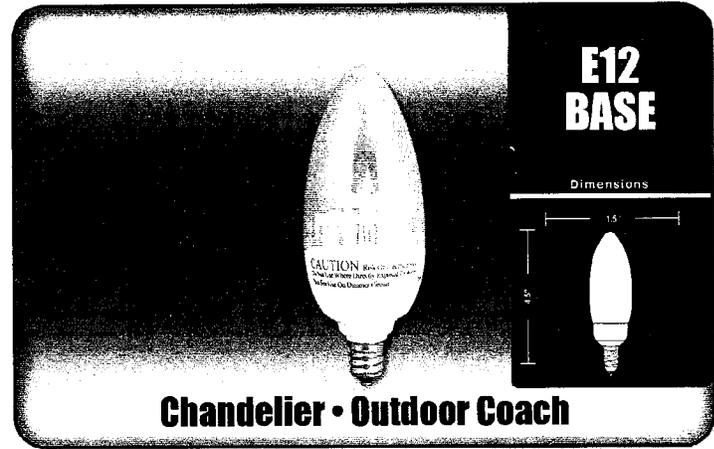
3

OF INNERS

8

PCS/MASTER

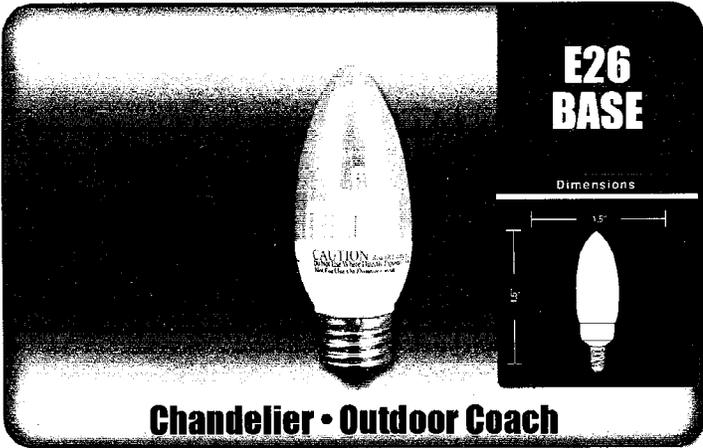
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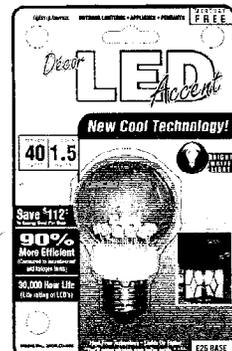
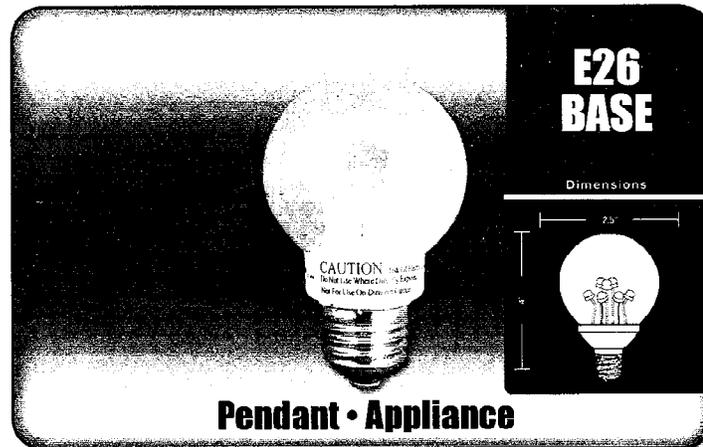
Lights of America

LED LIGHT BULBS

MERCURY FREE



<u>SPECIFICATIONS</u>		Decor Flametip
<ul style="list-style-type: none"> • WATTAGE: 1.5W • INCANDESCENT COMPARISON: 40W • COLOR TEMP: 3000K OR 6500K • BULB LIFE HOURS: 30,000 • HEAT FREE TECHNOLOGY 		
<u>ITEM DESCRIPTION</u>		
LED ACCENT CANDELABRA		
3000K	6500K	
<u>MODEL#</u>	<u>MODEL#</u>	
2025LED-30K-24	2025LED-65K-24	
<u>UPC</u>	<u>UPC</u>	
755277-202571	755277-202588	
<u>1 2 OF 5</u>	<u>1 2 OF 5</u>	
10755277202578	10755277202585	
<u>PCS/INNER</u>	<u>PCS/INNER</u>	
3	3	
<u># OF INNERS</u>	<u># OF INNERS</u>	
8	8	
<u>PCS/MASTER</u>	<u>PCS/MASTER</u>	
24	24	

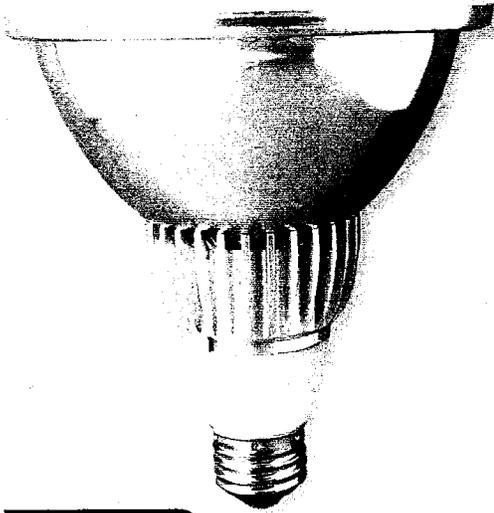


<u>SPECIFICATIONS</u>		Accent Mini-Globe
<ul style="list-style-type: none"> • WATTAGE: 1.5W • INCANDESCENT COMPARISON: 40W • COLOR TEMP: 3000K OR 6500K • BULB LIFE HOURS: 30,000 • HEAT FREE TECHNOLOGY 		
<u>ITEM DESCRIPTION</u>		
LED ACCENT MINI GLOBE		
3000K	6500K	
<u>MODEL#</u>	<u>MODEL#</u>	
2026LED-30K-24	2026LED-65K-24	
<u>UPC</u>	<u>UPC</u>	
755277-202670	755277202687	
<u>1 2 OF 5</u>	<u>1 2 OF 5</u>	
10755277202677	10755277202684	
<u>PCS/INNER</u>	<u>PCS/INNER</u>	
3	3	
<u># OF INNERS</u>	<u># OF INNERS</u>	
8	8	
<u>PCS/MASTER</u>	<u>PCS/MASTER</u>	
24	24	

Lights of America

New for 2009

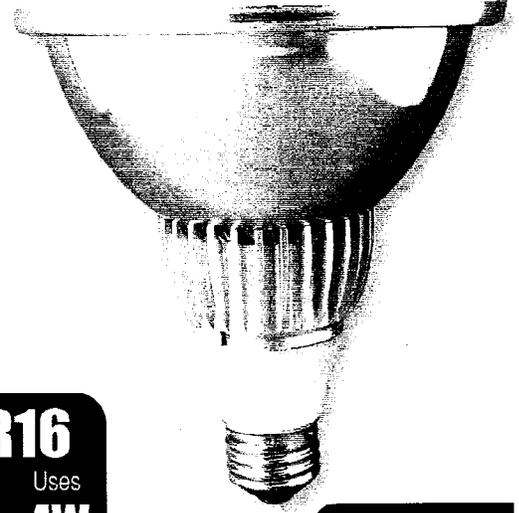
POWER LED LIGHT BULBS



R40
Replaces Uses
90W 12W



MR16
Replaces Uses
35W 4W



P38
Replaces Uses
90W 12W



R30
Replaces Uses
65W 8W



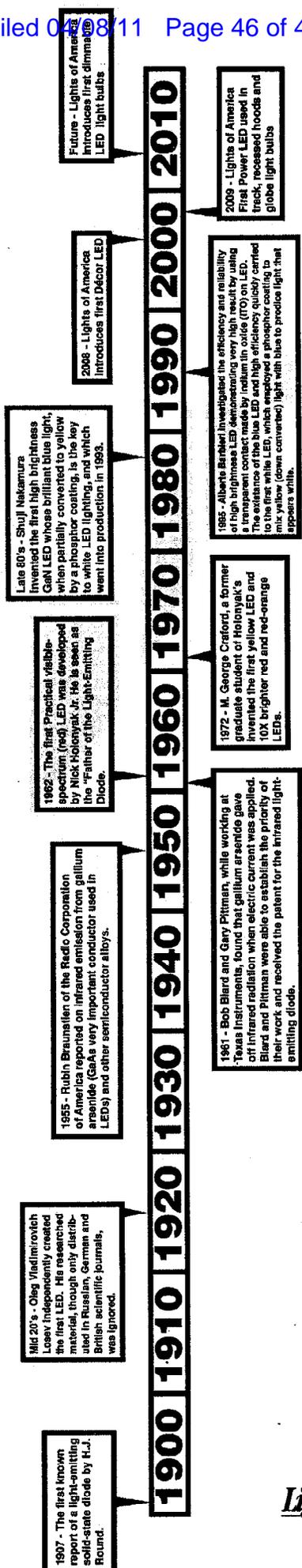
P30
Replaces Uses
65W 8W



R20
Replaces Uses
50W 6W

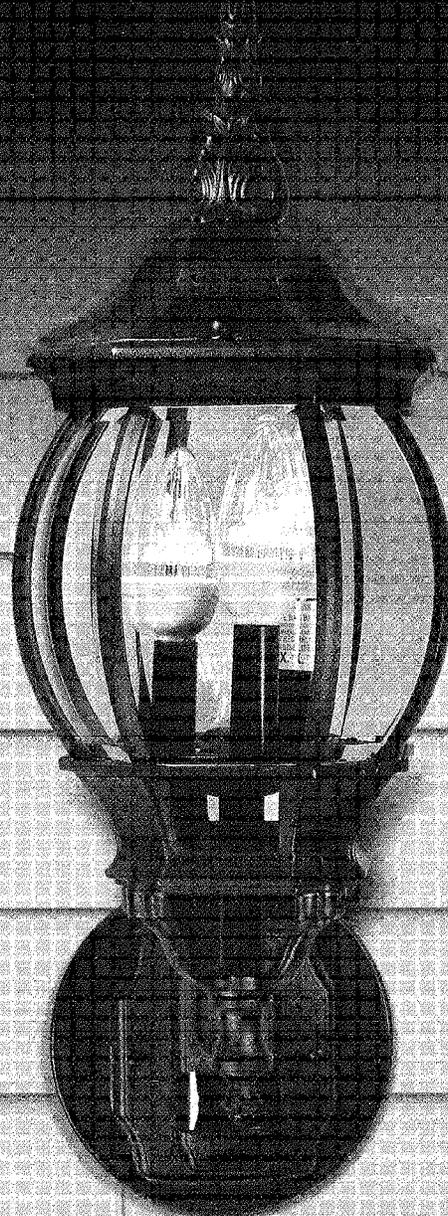
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